



# MICHIGAN DRILL & CUTTING TOOLS

MANUFACTURER OF QUALITY **MADE IN USA**  TOOLS

## 50<sup>th</sup> ANNIVERSARY EDITION

Including products from our well-known brands:



Approved Performance Tooling



LAVALLEE & IDE



over  
**100,000**  
STYLES & SIZES  
OF TOOLS IN STOCK



**Hy Ash** - President & Founder

**F**rom all of us at Michigan Drill & Cutting Tools, we send our sincere thank you to the thousands of customers who have continued to support us.

Our 50<sup>th</sup> year anniversary is being celebrated with the introduction of this unique catalog. It is the summation of our long-standing vision to build a company that maintains a large stocked selection of hard-to-find items, in addition to marketplace standard sizes.

This is the first catalog in our history that encapsulates all of our brands under one cover. It also expands our product offering and includes additional sizes that were not previously offered. We believe this book to be one of the most comprehensive selections of industrial cutting tools in the marketplace today.

**MANUFACTURING  
IN THE U.S.A.**  
*Since 1967*



Twist Drills, Taps,  
Reamers, Indexable Tooling,  
& Machine Accessories



OUR PORTFOLIO OF BRANDS:



Drills, Taps, End Mills



Indexable Tooling



World Renowned Reamers

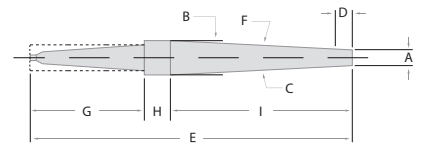


Work Holding



Precision Tools

**SPECIALS  
MADE-TO-PRINT**



**CUTTING TOOL  
ALTERATIONS**

With 6 stocking locations, we are able to ship from one of the largest inventories of cutting tools worldwide

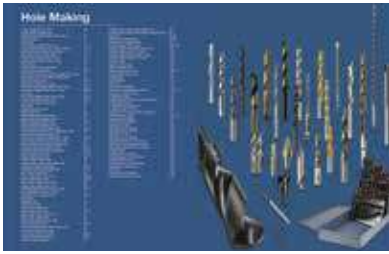




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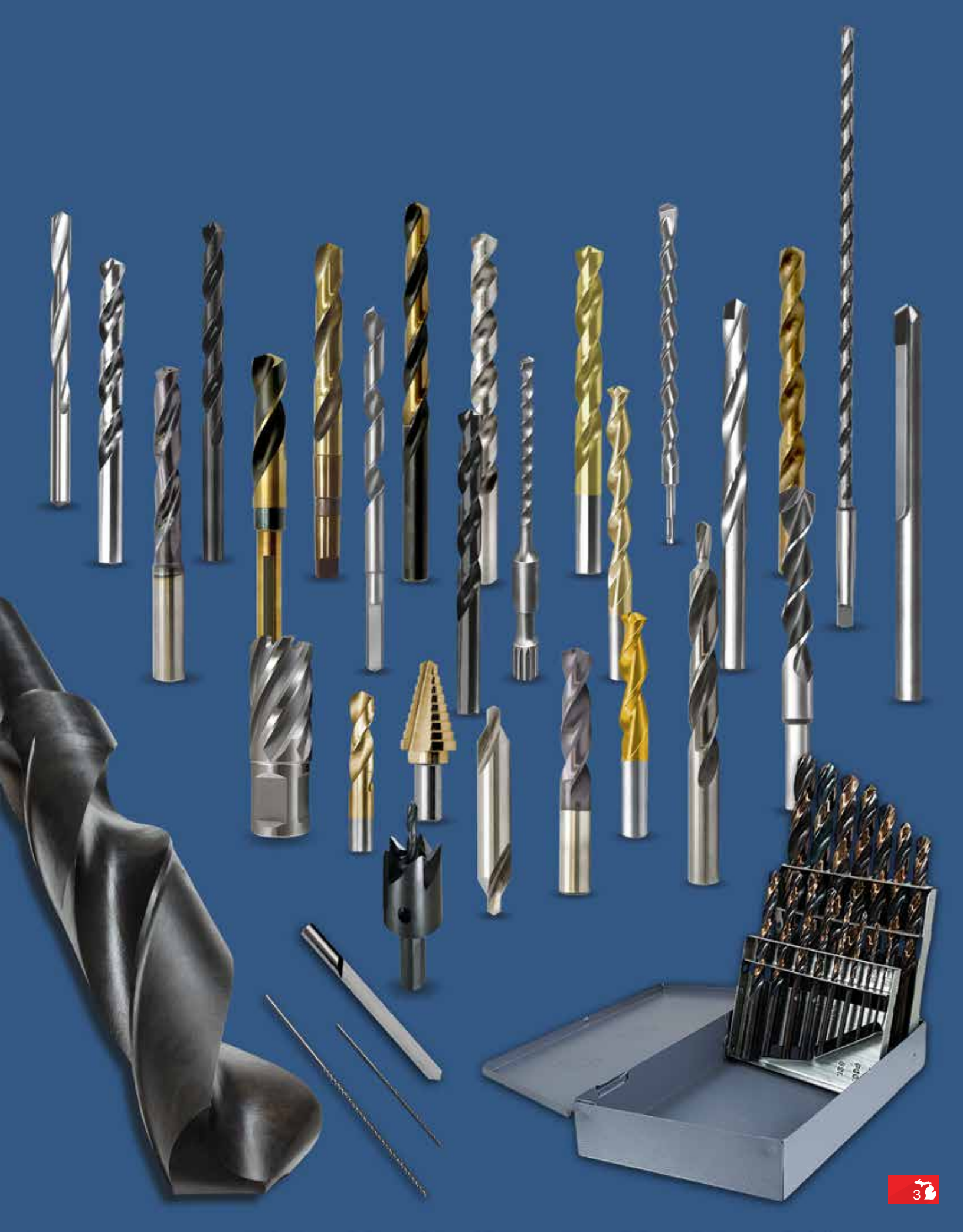
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# Jobber Length Drills

High Speed Steel – General Purpose, 118° Point

## List No. 300 – Oxide Finish

Creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow.

## List No. 300A – Bright Finish

Better chip ejection in low carbon, non-ferrous materials.

## List No. 300T – Titanium Nitride Coated

For added wear resistance and better lubricity of tool surface which increases tool life and productivity.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide 300	Bright 300A	TiN 300T
1/64	.0156	3/16	3/4	12	2.08	2.08	4.03
1/32	.0312	1/2	1-3/8	12	1.16	1.16	4.03
3/64	.0469	3/4	1-3/4	12	1.00	1.00	4.03
1/16	.0625	7/8	1-7/8	12	1.04	1.04	2.59
5/64	.0781	1	2	12	1.04	1.04	2.59
3/32	.0938	1-1/4	2-1/4	12	1.04	1.04	2.59
7/64	.1094	1-1/2	2-5/8	12	1.08	1.08	2.63
1/8	.1250	1-5/8	2-3/4	12	1.02	1.02	3.27
9/64	.1406	1-3/4	2-7/8	12	1.19	1.19	3.56
5/32	.1562	2	3-1/8	12	1.21	1.21	3.56
11/64	.1719	2-1/8	3-1/4	12	1.31	1.31	3.70
3/16	.1875	2-5/16	3-1/2	12	1.47	1.47	4.15
13/64	.2031	2-7/16	3-5/8	12	1.61	1.61	4.37
7/32	.2188	2-1/2	3-3/4	12	1.80	1.80	4.58
15/64	.2344	2-5/8	3-7/8	12	1.95	1.95	4.77
1/4	.2500	2-3/4	4	12	1.97	1.97	4.81
17/64	.2656	2-7/8	4-1/8	12	2.48	2.48	7.52
9/32	.2812	2-15/16	4-1/4	6	2.56	2.56	7.66
19/64	.2969	3-1/16	4-3/8	6	2.96	2.96	7.85
5/16	.3125	3-3/16	4-1/2	6	3.17	3.17	8.18
21/64	.3281	3-5/16	4-5/8	6	3.63	3.63	10.36
11/32	.3438	3-7/16	4-3/4	6	4.05	4.05	10.86
23/64	.3594	3-1/2	4-7/8	6	4.56	4.56	11.47
3/8	.3750	3-5/8	5	6	4.54	4.54	11.95

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide 300	Bright 300A	TiN 300T
25/64	.3906	3-3/4	5-1/8	6	5.34	5.34	14.39
13/32	.4062	3-7/8	5-1/4	6	5.48	5.48	14.59
27/64	.4219	3-15/16	5-3/8	6	6.09	6.09	14.67
7/16	.4375	4-1/16	5-1/2	6	6.33	6.33	15.46
29/64	.4531	4-3/16	5-5/8	6	7.08	7.08	16.23
15/32	.4688	4-5/16	5-3/4	6	7.52	7.52	16.75
31/64	.4844	4-3/8	5-7/8	6	8.20	8.20	17.38
1/2	.5000	4-1/2	6	6	8.20	8.20	17.38
33/64	.5156	4-13/16	6-5/8	1	14.32	14.32	31.45
17/32	.5312	4-13/16	6-5/8	1	14.74	14.74	32.41
35/64	.5469	4-13/16	6-5/8	1	16.25	16.25	35.77
9/16	.5625	4-13/16	6-5/8	1	16.68	16.68	36.71
37/64	.5781	4-13/16	6-5/8	1	17.07	17.07	37.55
19/32	.5938	5-3/16	7-1/8	1	17.52	17.52	38.61
39/64	.6094	5-3/16	7-1/8	1	18.77	18.77	41.30
5/8	.6250	5-3/16	7-1/8	1	18.43	18.43	40.52
41/64	.6406	5-3/16	7-1/8	1	20.11	20.11	41.58
21/32	.6562	5-3/16	7-1/8	1	21.08	21.08	45.54
43/64	.6719	5-5/8	7-5/8	1	22.79	22.79	47.52
11/16	.6875	5-5/8	7-5/8	1	22.79	22.79	47.52
23/32	.7188	5-5/8	7-5/8	1	29.03	29.03	52.14
47/64	.7344	5-5/8	7-5/8	1	29.94	29.94	56.10
3/4	.7500	5-5/8	7-5/8	1	29.94	29.94	56.10

## Fractional Sets

Size	Finish	Pieces	Set No.	Price
1/16 – 1/4 by 64 <sup>ths</sup>	Oxide	13	307G	21.71
1/16 – 1/4 by 64 <sup>ths</sup>	Bright	13	307GB	21.71
1/16 – 1/4 by 64 <sup>ths</sup>	TiN	13	307TG	55.29
1/16 – 1/2 by 32 <sup>nds</sup>	Oxide	15	307R	56.73
1/16 – 1/2 by 32 <sup>nds</sup>	Bright	15	307RB	56.73
1/16 – 1/2 by 32 <sup>nds</sup>	TiN	15	307TR	143.98
1/16 – 3/8 by 64 <sup>ths</sup>	Oxide	21	307S	51.15
1/16 – 3/8 by 64 <sup>ths</sup>	Bright	21	307SY	51.15
1/16 – 3/8 by 64 <sup>ths</sup>	TiN	21	307TS	138.95
1/16 – 1/2 by 64 <sup>ths</sup>	Oxide	29	307F	105.60
1/16 – 1/2 by 64 <sup>ths</sup>	Bright	29	307FB	105.60
1/16 – 1/2 by 64 <sup>ths</sup>	TiN	29	307TF	265.82

All sets are supplied in Huot metal index



## Wire Gauge Sets

Sizes	Finish	Pieces	Set No.	Price
1 – 60	Oxide	60	307W	87.17
1 – 60	Bright	60	307WB	87.17
1 – 60	TiN	60	307TW	226.22
61 – 80	Oxide	20	307V	38.17
61 – 80	Bright	20	307VB	38.17

All sets are supplied in Huot metal index



# Jobber Length Drills

High Speed Steel – General Purpose, 118° Point

## List No. 300 – Oxide Finish

Creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow.

## List No. 300A – Bright Finish

Better chip ejection in low carbon, non-ferrous materials.

## List No. 300T – Titanium Nitride Coated

For added wear resistance and better lubricity of tool surface which increases tool life and productivity.



### Wire Gauge Sizes

Package Quantity: 12 drills				Price Each		
Size	Dec. Equiv.	Flute Length	Overall Length	Oxide 300	Bright 300A	TiN 300T
1	.2280	2-5/8	3-7/8	2.16	2.16	5.05
2	.2210	2-5/8	3-7/8	2.18	2.18	5.05
3	.2130	2-1/2	3-3/4	2.03	2.03	4.80
4	.2090	2-1/2	3-3/4	1.99	1.99	4.80
5	.2055	2-1/2	3-3/4	1.99	1.99	4.80
6	.2040	2-1/2	3-3/4	1.99	1.99	4.80
7	.2010	2-7/16	3-5/8	1.74	1.74	4.51
8	.1990	2-7/16	3-5/8	1.76	1.76	4.51
9	.1960	2-7/16	3-5/8	1.76	1.76	4.51
10	.1935	2-7/16	3-5/8	1.64	1.64	4.51
11	.1910	2-5/16	3-1/2	1.61	1.61	4.37
12	.1890	2-5/16	3-1/2	1.62	1.62	4.37
13	.1850	2-5/16	3-1/2	1.59	1.59	4.33
14	.1820	2-3/16	3-3/8	1.59	1.59	4.33
15	.1800	2-3/16	3-3/8	1.59	1.59	4.33
16	.1770	2-3/16	3-3/8	1.59	1.59	4.33
17	.1730	2-3/16	3-3/8	1.59	1.59	4.33
18	.1695	2-1/8	3-1/4	1.32	1.32	3.99
19	.1660	2-1/8	3-1/4	1.31	1.31	3.99
20	.1610	2-1/8	3-1/4	1.18	1.18	3.99
21	.1590	2-1/8	3-1/4	1.21	1.21	3.87
22	.1570	2	3-1/8	1.22	1.22	3.87
23	.1540	2	3-1/8	1.20	1.20	3.85
24	.1520	2	3-1/8	1.20	1.20	3.85
25	.1495	1-7/8	3	1.15	1.15	3.78
26	.1470	1-7/8	3	1.16	1.16	3.78
27	.1440	1-7/8	3	1.16	1.16	3.78
28	.1405	1-3/4	2-7/8	1.06	1.06	3.68
29	.1360	1-3/4	2-7/8	1.06	1.06	3.68
30	.1285	1-5/8	2-3/4	1.05	1.05	3.68
31	.1200	1-5/8	2-3/4	1.05	1.05	2.99
32	.1160	1-5/8	2-3/4	1.05	1.05	2.99
33	.1130	1-1/2	2-5/8	1.05	1.05	2.99
34	.1110	1-1/2	2-5/8	1.05	1.05	2.99
35	.1100	1-1/2	2-5/8	1.05	1.05	2.99
36	.1065	1-7/16	2-1/2	1.05	1.05	2.99
37	.1040	1-7/16	2-1/2	1.05	1.05	2.99
38	.1015	1-7/16	2-1/2	1.05	1.05	2.99
39	.0995	1-3/8	2-3/8	1.05	1.05	2.99
40	.0980	1-3/8	2-3/8	1.05	1.05	2.99
41	.0960	1-3/8	2-3/8	1.05	1.05	2.84
42	.0935	1-1/4	2-1/4	1.05	1.05	2.84
43	.0890	1-1/4	2-1/4	1.05	1.05	2.84
44	.0860	1-1/8	2-1/8	1.05	1.05	2.84
45	.0820	1-1/8	2-1/8	1.05	1.05	2.84
46	.0810	1-1/8	2-1/8	1.05	1.05	2.84
47	.0785	1	2	1.05	1.05	2.84
48	.0760	1	2	1.05	1.05	2.84
49	.0730	1	2	1.05	1.05	2.84

Package Quantity: 12 drills				Price Each		
Size	Dec. Equiv.	Flute Length	Overall Length	Oxide 300	Bright 300A	TiN 300T
50	.0700	1	2	1.05	1.05	2.84
51	.0670	1	2	1.05	1.05	2.84
52	.0635	7/8	1-7/8	1.05	1.05	2.84
53	.0595	7/8	1-7/8	1.05	1.05	2.84
54	.0550	7/8	1-7/8	1.05	1.05	2.84
55	.0520	7/8	1-7/8	1.05	1.05	2.84
56	.0465	3/4	1-3/4	1.05	1.05	2.84
57	.0430	3/4	1-3/4	1.05	1.05	2.84
58	.0420	11/16	1-5/8	1.08	1.08	2.84
59	.0410	11/16	1-5/8	1.08	1.08	2.84
60	.0400	11/16	1-5/8	1.08	1.08	2.84
61	.0390	11/16	1-5/8	1.22	1.22	2.90
62	.0380	5/8	1-1/2	1.22	1.22	2.90
63	.0370	5/8	1-1/2	1.22	1.22	2.90
64	.0360	5/8	1-1/2	1.22	1.22	2.90
65	.0350	5/8	1-1/2	1.22	1.22	2.90
66	.0330	1/2	1-3/8	1.22	1.22	2.90
67	.0320	1/2	1-3/8	1.22	1.22	2.90
68	.0310	1/2	1-3/8	1.22	1.22	2.90
69	.0292	1/2	1-3/8	1.25	1.25	2.97
70	.0280	3/8	1-1/4	1.25	1.25	2.97
71	.0260	3/8	1-1/4	1.56	1.56	3.76
72	.0250	5/16	1-1/8	1.56	1.56	3.76
73	.0240	5/16	1-1/8	1.56	1.56	3.76
74	.0225	1/4	1	1.56	1.56	3.76
75	.0210	1/4	1	1.77	1.77	3.76
76	.0200	3/16	7/8	1.77	1.77	3.76
77	.0180	3/16	7/8	2.05	2.05	3.76
78	.0160	3/16	7/8	2.05	2.05	3.76
79	.0145	1/8	3/4	2.44	2.44	3.98
80	.0135	1/8	3/4	2.44	2.44	3.98
81	.0130	3/32	3/4	—	4.36	—
82	.0125	3/32	3/4	—	4.36	—
83	.0120	3/32	3/4	—	4.80	—
84	.0115	3/32	3/4	—	4.80	—
85	.0110	5/64	3/4	—	4.80	—
86	.0105	5/64	3/4	—	5.15	—
87	.0100	5/64	3/4	—	5.15	—
88	.0095	5/64	3/4	—	7.23	—
89	.0091	1/16	3/4	—	7.23	—
90	.0087	1/16	3/4	—	7.23	—
91	.0083	1/16	3/4	—	7.23	—
92	.0079	1/16	3/4	—	7.23	—
93	.0075	1/16	3/4	—	7.23	—
94	.0071	1/16	3/4	—	9.83	—
95	.0067	1/16	3/4	—	9.83	—
96	.0063	3/64	3/4	—	9.83	—
97	.0059	3/64	3/4	—	10.89	—

## Pin Chuck Set

### Set No. PV30

Designed for holding small drills. One Pin Chuck with 3 interchangeable collets.



Interchangeable Collets	Price
0 - 1/32, 1/32 - 1/16, 1/16 - 3/32	9.69

## Micro Chuck

### Set No. PV10



Description	Price
Suitable for 61-80 drills. Can be held in any 1/8 or 3/16 collet or larger adjustable drill chuck.	7.67



# Jobber Length Drills

**High Speed Steel – General Purpose, 118° Point**

## List No. 300 – Oxide Finish

Creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow.

## List No. 300A – Bright Finish

Better chip ejection in low carbon, non-ferrous materials.

## List No. 300T – Titanium Nitride Coated

For added wear resistance and better lubricity of tool surface which increases tool life and productivity.



### Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide 300	Bright 300A	TiN 300T
A	.2340	2-5/8	3-7/8	12	2.47	2.47	5.15
B	.2380	2-3/4	4	12	2.47	2.47	5.15
C	.2420	2-3/4	4	12	2.47	2.47	5.15
D	.2460	2-3/4	4	12	2.47	2.47	5.15
E	.2500	2-3/4	4	12	1.97	1.97	4.81
F	.2570	2-7/8	4-1/8	12	2.62	2.62	7.52
G	.2610	2-7/8	4-1/8	12	2.95	2.95	7.52
H	.2660	2-7/8	4-1/8	12	2.95	2.95	7.52
I	.2720	2-7/8	4-1/8	6	2.95	2.95	7.52
J	.2770	2-7/8	4-1/8	6	3.17	3.17	7.52
K	.2810	2-15/16	4-1/4	6	3.50	3.50	7.52
L	.2900	2-15/16	4-1/4	6	3.50	3.50	7.52
M	.2950	3-1/16	4-3/8	6	3.70	3.70	7.87

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide 300	Bright 300A	TiN 300T
N	.3020	3-1/16	4-3/8	6	3.70	3.70	8.20
O	.3160	3-3/16	4-1/2	6	3.74	3.74	8.20
P	.3230	3-5/16	4-5/8	6	4.22	4.22	9.24
Q	.3320	3-7/16	4-3/4	6	4.22	4.22	9.24
R	.3390	3-7/16	4-3/4	6	4.51	4.51	9.24
S	.3480	3-1/2	4-7/8	6	4.78	4.78	9.24
T	.3580	3-1/2	4-7/8	6	5.44	5.44	11.95
U	.3680	3-5/8	5	6	5.44	5.44	11.95
V	.3770	3-5/8	5	6	5.59	5.59	13.76
W	.3860	3-3/4	5-1/8	6	5.78	5.78	14.42
X	.3970	3-3/4	5-1/8	6	7.00	7.00	14.55
Y	.4040	3-7/8	5-1/4	6	7.87	7.87	14.85
Z	.4130	3-7/8	5-1/4	6	8.38	8.38	15.64

### Letter Sets

Sizes	Finish	Pieces	Set No.	Price
A – Z Letter Sizes	Oxide	26	307L	121.86
A – Z Letter Sizes	Bright	26	307LB	121.86
A – Z Letter Sizes	TiN Coated	26	307TL	250.40

All sets are supplied in Huot metal index



### Combination Sets

Sizes	Finish	Pieces	Set No.	Price
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 60 Wire Gauge	Oxide	115	307X	329.52
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 60 Wire Gauge	Bright	115	307XB	329.52
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 60 Wire Gauge	TiN	115	307TX	745.49
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 80 Wire Gauge	Oxide	135	307Y	372.09
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 80 Wire Gauge	Bright	135	307YB	372.09

All sets are supplied in Huot metal index



### Tool Crib Sets

Sizes	Finish	Pieces	Set No.	Price
1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2	Oxide	19	307J	58.01
1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2	Bright	19	307JB	58.01

All sets are supplied in Huot metal index



# Tanged Jobber Length Drills

Automotive Series – High Speed

List No. 350 – Oxide Finish, 118° Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

## Fractional & Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/8	.1250	1-5/8	2-3/4	12	1.30
3.20mm	.1260	1-5/8	2-3/4	12	1.32
3.30mm	.1299	3	5-3/8	12	3.30
3.50mm	.1378	1-3/4	2-7/8	12	1.32
9/64	.1406	1-3/4	2-7/8	12	1.39
5/32	.1562	2	3-1/8	12	1.53
11/64	.1719	2-1/8	3-1/4	12	1.76
3/16	.1875	2-5/16	3-1/2	12	1.95
13/64	.2031	2-7/16	3-5/8	12	2.20
7/32	.2188	2-1/2	3-3/4	12	2.44
15/64	.2344	2-5/8	3-7/8	12	2.71
6.10mm	.2402	2-3/4	4	12	3.10
1/4	.2500	2-3/4	4	12	2.77
17/64	.2656	2-7/8	4-1/8	12	3.37
9/32	.2812	2-15/16	4-1/4	6	3.67
7.25mm	.2854	2-15/16	4-1/4	6	4.39
19/64	.2969	3-1/16	4-3/8	6	4.01
5/16	.3125	3-3/16	4-1/2	6	4.25
21/64	.3281	3-5/16	4-5/8	6	4.82
11/32	.3438	3-7/16	4-3/4	6	4.90
9.00mm	.3543	3-1/2	4-7/8	6	7.39
23/64	.3594	3-1/2	4-7/8	6	5.70

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/8	.3750	3-5/8	5	6	5.84
25/64	.3906	3-3/4	5-1/8	6	6.58
13/32	.4062	3-7/8	5-1/4	6	6.63
27/64	.4219	3-15/16	5-3/8	6	7.73
11.00mm	.4331	4-1/16	5-1/2	6	8.25
7/16	.4375	4-1/16	5-1/2	6	7.77
29/64	.4531	4-3/16	5-5/8	6	9.30
15/32	.4688	4-5/16	5-3/4	6	9.52
31/64	.4844	4-3/8	5-7/8	6	10.34
1/2	.5000	4-1/2	6	6	9.99
33/64	.5156	4-13/16	6-5/8	1	17.83
17/32	.5312	4-13/16	6-5/8	1	18.81
35/64	.5469	4-13/16	6-5/8	1	20.53
9/16	.5625	4-13/16	6-5/8	1	21.01
37/64	.5781	4-13/16	6-5/8	1	22.06
19/32	.5938	5-3/16	7-1/8	1	21.93
39/64	.6094	5-3/16	7-1/8	1	23.98
5/8	.6250	5-3/16	7-1/8	1	23.76
41/64	.6406	5-3/16	7-1/8	1	25.31
21/32	.6562	5-3/16	7-1/8	1	25.08
43/64	.6719	5-5/8	7-5/8	1	29.19
11/16	.6875	5-5/8	7-5/8	1	28.88

For use in split sleeve drill drivers (see page 58)

## Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1	.2280	2-5/8	3-7/8	12	2.81
2	.2210	2-5/8	3-7/8	12	2.81
3	.2130	2-1/2	3-3/4	12	2.51
4	.2090	2-1/2	3-3/4	12	2.51
5	.2055	2-1/2	3-3/4	12	2.51
6	.2040	2-1/2	3-3/4	12	2.51
7	.2010	2-7/16	3-5/8	12	2.24
8	.1990	2-7/16	3-5/8	12	2.24
9	.1960	2-7/16	3-5/8	12	2.24
10	.1935	2-7/16	3-5/8	12	2.24
11	.1910	2-5/16	3-1/2	12	2.11
12	.1890	2-5/16	3-1/2	12	2.11
13	.1850	2-5/16	3-1/2	12	2.11
14	.1820	2-3/16	3-3/8	12	2.11
15	.1800	2-3/16	3-3/8	12	2.11
16	.1770	2-3/16	3-3/8	12	2.11
17	.1730	2-3/16	3-3/8	12	2.11
18	.1695	2-1/8	3-1/4	12	1.83

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
19	.1660	2-1/8	3-1/4	12	1.83
20	.1610	2-1/8	3-1/4	12	1.83
21	.1590	2-1/8	3-1/4	12	1.83
22	.1570	2	3-1/8	12	1.83
23	.1540	2	3-1/8	12	1.83
24	.1520	2	3-1/8	12	1.67
25	.1495	1-7/8	3	12	1.67
26	.1470	1-7/8	3	12	1.58
27	.1440	1-7/8	3	12	1.58
28	.1405	1-3/4	2-7/8	12	1.43
29	.1360	1-3/4	2-7/8	12	1.39
30	.1285	1-5/8	2-3/4	12	1.31
32	.1160	1-5/8	2-3/4	12	1.31
37	.1040	1-7/16	2-1/2	12	1.31
43	.0890	1-1/4	2-1/4	12	1.31
46	.0810	1-1/8	2-1/8	12	1.31
48	.0760	1	2	12	1.31
50	.0700	1	2	12	1.31

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	2-5/8	3-7/8	12	3.14
B	.2380	2-3/4	4	12	3.14
C	.2420	2-3/4	4	12	3.14
D	.2460	2-3/4	4	12	3.14
E	.2500	2-3/4	4	12	2.77
F	.2570	2-7/8	4-1/8	12	3.37
G	.2610	2-7/8	4-1/8	12	3.83
H	.2660	2-7/8	4-1/8	12	3.83
I	.2720	2-7/8	4-1/8	6	3.83
J	.2770	2-7/8	4-1/8	6	3.96
K	.2810	2-15/16	4-1/4	6	3.96
L	.2900	2-15/16	4-1/4	6	4.82
M	.2950	3-1/16	4-3/8	6	4.82

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	3-1/16	4-3/8	6	4.82
O	.3160	3-3/16	4-1/2	6	4.82
P	.3230	3-5/16	4-5/8	6	5.12
Q	.3320	3-7/16	4-3/4	6	5.12
R	.3390	3-7/16	4-3/4	6	5.12
S	.3480	3-1/2	4-7/8	6	6.17
T	.3580	3-1/2	4-7/8	6	6.73
U	.3680	3-5/8	5	6	6.73
V	.3770	3-5/8	5	6	7.23
W	.3860	3-3/4	5-1/8	6	7.23
X	.3970	3-3/4	5-1/8	6	8.75
Y	.4040	3-7/8	5-1/4	6	8.75
Z	.4130	3-7/8	5-1/4	6	9.57

We can tang any other style of straight shank drill at a moderate cost.



# BRONCO BIT®

## Black & Gold

### Jobber Length Drills

High Speed Steel



List No. 315 – 135° Split Point, Heavy Duty

- Improved lubricity of the drill, due to a special oxide and gold finish.
- Centers quickly with 135° split point.
- Heavy duty construction allows for hand held jobs or shop production.

#### Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/64	.0156	3/16	3/4	12	1.31
1/16	.0625	7/8	1-7/8	12	1.10
5/64	.0781	1	2	12	1.10
3/32	.0938	1-1/4	2-1/4	12	1.10
7/64	.1094	1-1/2	2-5/8	12	1.23
1/8	.1250	1-5/8	2-3/4	12	1.23
9/64	.1406	1-3/4	2-7/8	12	1.34
5/32	.1562	2	3-1/8	12	1.36
11/64	.1719	2-1/8	3-1/4	12	1.45
3/16	.1875	2-5/16	3-1/2	12	1.61
13/64	.2031	2-7/16	3-5/8	12	1.78
7/32	.2188	2-1/2	3-3/4	12	2.02
15/64	.2344	2-5/8	3-7/8	12	2.18
1/4	.2500	2-3/4	4	12	2.27
17/64	.2656	2-7/8	4-1/8	12	2.86

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
9/32	.2812	2-15/16	4-1/4	6	3.15
19/64	.2969	3-1/16	4-3/8	6	3.41
5/16	.3125	3-3/16	4-1/2	6	3.59
21/64	.3281	3-5/16	4-5/8	6	4.92
11/32	.3438	3-7/16	4-3/4	6	4.36
23/64	.3594	3-1/2	4-7/8	6	5.08
3/8	.3750	3-5/8	5	6	5.04
25/64	.3906	3-3/4	5-1/8	6	6.03
13/32	.4062	3-7/8	5-1/4	6	6.05
27/64	.4219	3-15/16	5-3/8	6	7.04
7/16	.4375	4-1/16	5-1/2	6	6.78
29/64	.4531	4-3/16	5-5/8	6	7.77
15/32	.4688	4-5/16	5-3/4	6	8.23
31/64	.4844	4-3/8	5-7/8	6	8.72
1/2	.5000	4-1/2	6	6	8.72

#### Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	2.37
2	.2210	2-5/8	3-7/8	2.37
3	.2130	2-1/2	3-3/4	2.16
4	.2090	2-1/2	3-3/4	2.16
5	.2055	2-1/2	3-3/4	2.16
6	.2040	2-1/2	3-3/4	2.16
7	.2010	2-7/16	3-5/8	1.98
8	.1990	2-7/16	3-5/8	1.85
9	.1960	2-7/16	3-5/8	1.85
10	.1935	2-7/16	3-5/8	1.85
11	.1910	2-5/16	3-1/2	1.78
12	.1890	2-5/16	3-1/2	1.78
13	.1850	2-5/16	3-1/2	1.69
14	.1820	2-3/16	3-3/8	1.69
15	.1800	2-3/16	3-3/8	1.69
16	.1770	2-3/16	3-3/8	1.69
17	.1730	2-3/16	3-3/8	1.69
18	.1695	2-1/8	3-1/4	1.40
19	.1660	2-1/8	3-1/4	1.40
20	.1610	2-1/8	3-1/4	1.40
21	.1590	2-1/8	3-1/4	1.40
22	.1570	2	3-1/8	1.40
23	.1540	2	3-1/8	1.40
24	.1520	2	3-1/8	1.40
25	.1495	1-7/8	3	1.40
26	.1470	1-7/8	3	1.40
27	.1440	1-7/8	3	1.40
28	.1405	1-3/4	2-7/8	1.25
29	.1360	1-3/4	2-7/8	1.25
30	.1285	1-5/8	2-3/4	1.16

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
31	.1200	1-5/8	2-3/4	1.25
32	.1160	1-5/8	2-3/4	1.25
33	.1130	1-1/2	2-5/8	1.25
34	.1110	1-1/2	2-5/8	1.25
35	.1100	1-1/2	2-5/8	1.25
36	.1065	1-7/16	2-1/2	1.25
37	.1040	1-7/16	2-1/2	1.25
38	.1015	1-7/16	2-1/2	1.25
39	.0995	1-3/8	2-3/8	1.25
40	.0980	1-3/8	2-3/8	1.25
41	.0960	1-3/8	2-3/8	1.25
42	.0935	1-1/4	2-1/4	1.25
43	.0890	1-1/4	2-1/4	1.25
44	.0860	1-1/8	2-1/8	1.25
45	.0820	1-1/8	2-1/8	1.25
46	.0810	1-1/8	2-1/8	1.25
47	.0785	1	2	1.25
48	.0760	1	2	1.25
49	.0730	1	2	1.25
50	.0700	1	2	1.25
51	.0670	1	2	1.25
52	.0635	7/8	1-7/8	1.25
53	.0595	7/8	1-7/8	1.25
54	.0550	7/8	1-7/8	1.25
55	.0520	7/8	1-7/8	1.25
56	.0465	3/4	1-3/4	1.25
57	.0430	3/4	1-3/4	1.25
58	.0420	11/16	1-5/8	1.25
59	.0410	11/16	1-5/8	1.25
60	.0400	11/16	1-5/8	1.25

\* Sizes with decimal equivalent smaller than .0625 are not split point.

#### Sets

Size	Pcs.	Description	Set No.	Price
1/16 - 1/2 by 64 <sup>ths</sup>	29	Fractional Set	315F	123.82
1 - 60	60	Wire Gauge Set	315W	100.08

All sets are supplied in Huot metal index





# BLIZZARD BIT

Premium Proprietary High Speed Steel

STAYS COOLER, LASTS LONGER!



PREMIUM  
PROPRIETARY  
STEEL

## List No. 300Q – HD Jobber Length, 135° Split Point

- Out performs all other high speed steel 135° split point heavy duty drills.
- Made of proprietary steel that keeps the drill cooler than all other high speed steels.
- Runs at higher feeds and speeds than other high speed steel drills.
- Priced at high speed but performs similarly to cobalt.
- Improved lubricity of the drill, due to a special oxide and gold finish.
- Heavy duty construction allows for hand held jobs or shop production.



MICHIGAN  
DRILL & CUTTING TOOLS

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1/16	.0625	7/8	1-7/8	12	1.58
5/64	.0781	1	2	12	1.76
3/32	.0938	1-1/4	2-1/4	12	1.76
7/64	.1094	1-1/2	2-5/8	12	1.76
1/8	.1250	1-5/8	2-3/4	12	2.03
9/64	.1406	1-3/4	2-7/8	12	2.03
5/32	.1562	2	3-1/8	12	2.30
11/64	.1719	2-1/8	3-1/4	12	2.35
3/16	.1875	2-5/16	3-1/2	12	2.75
13/64	.2031	2-7/16	3-5/8	12	3.07
7/32	.2188	2-1/2	3-3/4	12	3.38
15/64	.2344	2-5/8	3-7/8	12	3.57
1/4	.2500	2-3/4	4	12	3.84
17/64	.2656	2-7/8	4-1/8	12	4.69
9/32	.2812	2-15/16	4-1/4	6	5.65

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
19/64	.2969	3-1/16	4-3/8	6	6.10
5/16	.3125	3-3/16	4-1/2	6	6.29
21/64	.3281	3-5/16	4-5/8	6	6.92
11/32	.3438	3-7/16	4-3/4	6	7.70
23/64	.3594	3-1/2	4-7/8	6	8.60
3/8	.3750	3-5/8	5	6	8.68
25/64	.3906	3-3/4	5-1/8	6	10.17
13/32	.4062	3-7/8	5-1/4	6	10.49
27/64	.4219	3-15/16	5-3/8	6	11.57
7/16	.4375	4-1/16	5-1/2	6	12.48
29/64	.4531	4-3/16	5-5/8	6	14.28
15/32	.4688	4-5/16	5-3/4	6	14.64
31/64	.4844	4-3/8	5-7/8	6	14.64
1/2	.5000	4-1/2	6	6	15.33

### Sets

Sizes	Pcs.	Set No.	Price Each
1/16 — 1/4 by 64 <sup>ths</sup>	13	307GQ	38.43
1/16 — 3/8 by 64 <sup>ths</sup>	21	307SQ	99.06

Sizes	Pcs.	Set No.	Price Each
1/16 — 1/2 by 64 <sup>ths</sup>	29	307FQ	202.66
1/16 — 1/2 by 32 <sup>nds</sup>	15	307RQ	111.15

All sets are supplied in Huot metal index



# ProductionMax

Jobber Length, Double Margin Drill



## List No. 314 – Black & Gold finish, 118° Split Point

## List No. 314T – TiN Coated, 118° Split Point

- For drilling close tolerance holes
- Eliminates reaming in some applications.
- Precision hole drilling
- 118° split point for reduced thrust, quick centering.
- Produces straighter, rounder holes with up to 300% tighter hole tolerances.
- Not recommended for hand held drilling.



MICHIGAN  
DRILL & CUTTING TOOLS

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					B & G 314	TiN 314T
1/16*	.0625	7/8	1-7/8	12	1.76	3.88
5/64*	.0781	1	2	12	1.76	3.88
3/32*	.0938	1-1/4	2-1/4	12	1.76	3.88
7/64*	.1094	1-1/2	2-5/8	12	1.84	4.04
1/8*	.1250	1-5/8	2-3/4	12	2.02	4.44
9/64*	.1406	1-3/4	2-7/8	12	2.23	4.91
5/32*	.1562	2	3-1/8	12	2.32	5.11
11/64*	.1719	2-1/8	3-1/4	12	2.49	5.48
3/16	.1875	2-5/16	3-1/2	12	2.67	5.88
13/64	.2031	2-7/16	3-5/8	12	3.14	6.91
7/32	.2188	2-1/2	3-3/4	12	3.30	7.26
15/64	.2344	2-5/8	3-7/8	12	3.55	7.80
1/4	.2500	2-3/4	4	12	3.68	8.10
17/64	.2656	2-7/8	4-1/8	12	4.70	10.33
9/32	.2812	2-15/16	4-1/4	6	5.05	11.11

\* Not double margin.

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					B & G 314	TiN 314T
19/64	.2969	3-1/16	4-3/8	6	5.64	12.41
5/16	.3125	3-3/16	4-1/2	6	5.91	13.01
21/64	.3281	3-5/16	4-5/8	6	6.54	14.39
11/32	.3438	3-7/16	4-3/4	6	7.25	15.94
23/64	.3594	3-1/2	4-7/8	6	8.06	17.74
3/8	.3750	3-5/8	5	6	8.56	18.83
25/64	.3906	3-3/4	5-1/8	6	9.46	20.81
13/32	.4062	3-7/8	5-1/4	6	9.85	21.66
27/64	.4219	3-15/16	5-3/8	6	10.82	23.80
7/16	.4375	4-1/16	5-1/2	6	11.41	25.11
29/64	.4531	4-3/16	5-5/8	6	12.66	27.86
15/32	.4688	4-5/16	5-3/4	6	13.68	30.10
31/64	.4844	4-3/8	5-7/8	6	14.21	31.27
1/2	.5000	4-1/2	6	6	14.51	31.91

### Sets

Sizes	Pcs.	Set No.	Price Each
1/16 — 1/4 by 64 <sup>ths</sup>	13	314S13	38.77
1/16 — 3/8 by 64 <sup>ths</sup>	21	314S21	96.48

Sizes	Pcs.	Set No.	Price Each
1/16 — 1/2 by 64 <sup>ths</sup>	29	314S29	199.14
1/16 — 1/2 by 32 <sup>nds</sup>	15	314S15	96.48

All sets are supplied in Huot metal index



# MDX<sup>®</sup> Jobber Length Drills

## High Speed Steel & Titanium Nitride Coated (TiN)

These drills are used for general purpose applications at a lower cost.

- List No. **X300** – 118° Point, H.S. Oxide Finish
- List No. **X300A** – 118° Point, H.S. Bright Finish
- List No. **X300T** – 118° Point, TiN Coated



HOLE MAKING

### Fractional Sizes

Size	Flute Length	Overall Length	Pkg. Qty.	Price Each		
				Oxide X300	Bright X300A	TiN X300T
1/64	3/16	3/4	12	.98	.98	—
1/32	1/2	1-3/8	12	.60	.60	1.74
3/64	3/4	1-3/4	12	.57	.57	1.40
1/16	7/8	1-7/8	12	.59	.59	1.39
5/64	1	2	12	.59	.59	1.39
3/32	1-1/4	2-1/4	12	.59	.59	1.39
7/64	1-1/2	2-5/8	12	.61	.61	1.42
1/8	1-5/8	2-3/4	12	.61	.61	1.44
9/64	1-3/4	2-7/8	12	.68	.68	1.78
5/32	2	3-1/8	12	.69	.69	1.80
11/64	2-1/8	3-1/4	12	.75	.75	2.06
3/16	2-5/16	3-1/2	12	.84	.84	2.37
13/64	2-7/16	3-5/8	12	.92	.92	2.49
7/32	2-1/2	3-3/4	12	1.02	1.02	2.61
15/64	2-5/8	3-7/8	12	1.11	1.11	2.72
1/4	2-3/4	4	12	1.12	1.12	2.75
17/64	2-7/8	4-1/8	12	1.41	1.41	3.97
9/32	2-15/16	4-1/4	6	1.46	1.46	4.02
19/64	3-1/16	4-3/8	6	1.68	1.68	4.31
5/16	3-3/16	4-1/2	6	1.87	1.87	4.53
21/64	3-5/16	4-5/8	6	2.07	2.07	5.90
11/32	3-7/16	4-3/4	6	2.31	2.31	6.19
23/64	3-1/2	4-7/8	6	2.60	2.60	6.54
3/8	3-5/8	5	6	2.66	2.66	6.65

Size	Flute Length	Overall Length	Pkg. Qty.	Price Each		
				Oxide X300	Bright X300A	TiN X300T
25/64	3-3/4	5-1/8	6	3.04	3.04	7.83
13/32	3-7/8	5-1/4	6	3.13	3.13	7.96
27/64	3-15/16	5-3/8	6	3.47	3.47	8.36
7/16	4-1/16	5-1/2	6	3.61	3.61	8.51
29/64	4-3/16	5-5/8	6	4.03	4.03	9.25
15/32	4-5/16	5-3/4	6	4.28	4.28	9.55
31/64	4-3/8	5-7/8	6	4.50	4.50	9.79
1/2	4-1/2	6	6	4.53	4.53	9.91
33/64	4-13/16	6-5/8	1	8.16	8.16	—
17/32	4-13/16	6-5/8	1	8.40	8.40	—
35/64	4-13/16	6-5/8	1	9.26	9.26	—
9/16	4-13/16	6-5/8	1	9.51	9.51	—
37/64	4-13/16	6-5/8	1	9.73	9.73	—
19/32	5-3/16	7-1/8	1	9.99	9.99	—
39/64	5-3/16	7-1/8	1	10.70	10.70	—
5/8	5-3/16	7-1/8	1	10.50	10.50	—
41/64	5-3/16	7-1/8	1	11.46	11.46	—
21/32	5-3/16	7-1/8	1	12.02	12.02	—
43/64	5-5/8	7-5/8	1	12.99	12.99	—
11/16	5-5/8	7-5/8	1	12.99	12.99	—
45/64	5-5/8	7-5/8	1	17.50	—	—
47/64	5-5/8	7-5/8	1	17.50	17.50	—
3/4	5-5/8	7-5/8	1	17.50	—	—
49/64	5-5/8	7-5/8	1	22.75	—	—

### Wire Gauge Sizes

Package Quantity: 12 drills

Size	Flute Length	Overall Length	Price Each		
			Oxide X300	Bright X300A	TiN X300T
1	2-5/8	3-7/8	1.23	1.23	3.01
2	2-5/8	3-7/8	1.25	1.25	3.06
3	2-1/2	3-3/4	1.12	1.12	2.73
4	2-1/2	3-3/4	1.14	1.14	2.78
5	2-1/2	3-3/4	1.14	1.14	2.78
6	2-1/2	3-3/4	1.14	1.14	2.78
7	2-7/16	3-5/8	.99	.99	2.43
8	2-7/16	3-5/8	1.00	1.00	2.46
9	2-7/16	3-5/8	1.00	1.00	2.46
10	2-7/16	3-5/8	.99	.99	2.40
11	2-5/16	3-1/2	.92	.92	2.30
12	2-5/16	3-1/2	.92	.92	2.30
13	2-5/16	3-1/2	.90	.90	2.22
14	2-3/16	3-3/8	.90	.90	2.22
15	2-3/16	3-3/8	.90	.90	2.22
16	2-3/16	3-3/8	.90	.90	2.22
17	2-3/16	3-3/8	.90	.90	2.22
18	2-1/8	3-1/4	.75	.75	1.70
19	2-1/8	3-1/4	.75	.75	1.83
20	2-1/8	3-1/4	.75	.75	1.83
21	2-1/8	3-1/4	.69	.69	1.90
22	2	3-1/8	.69	.69	1.70
23	2	3-1/8	.69	.69	1.68
24	2	3-1/8	.69	.69	1.68
25	1-7/8	3	.65	.65	1.62
26	1-7/8	3	.66	.66	1.62
27	1-7/8	3	.66	.66	1.62
28	1-3/4	2-7/8	.61	.61	1.47
29	1-3/4	2-7/8	.60	.60	1.47
30	1-5/8	2-3/4	.60	.60	1.47

Size	Flute Length	Overall Length	Price Each		
			Oxide X300	Bright X300A	TiN X300T
31	1-5/8	2-3/4	.60	.60	1.47
32	1-5/8	2-3/4	.60	.60	1.47
33	1-1/2	2-5/8	.60	.60	1.47
34	1-1/2	2-5/8	.60	.60	1.47
35	1-1/2	2-5/8	.60	.60	1.47
36	1-7/16	2-1/2	.59	.59	1.47
37	1-7/16	2-1/2	.60	.60	1.47
38	1-7/16	2-1/2	.60	.60	1.47
39	1-3/8	2-3/8	.60	.60	1.47
40	1-3/8	2-3/8	.60	.60	1.47
41	1-3/8	2-3/8	.58	.58	1.47
42	1-1/4	2-1/4	.60	.60	1.47
43	1-1/4	2-1/4	.58	.58	1.43
44	1-1/8	2-1/8	.58	.58	1.43
45	1-1/8	2-1/8	.60	.60	1.47
46	1-1/8	2-1/8	.60	.60	1.47
47	1	2	.60	.60	1.47
48	1	2	.60	.60	1.47
49	1	2	.60	.60	1.47
50	1	2	.60	.60	1.47
51	1	2	.60	.60	1.47
52	7/8	1-7/8	.60	.60	1.47
53	7/8	1-7/8	.60	.60	1.47
54	7/8	1-7/8	.51	.51	1.47
55	7/8	1-7/8	.60	.60	1.47
56	3/4	1-3/4	.60	.60	1.47
57	3/4	1-3/4	.60	.60	1.47
58	11/16	1-5/8	.61	.61	1.47
59	11/16	1-5/8	.61	.61	1.47
60	11/16	1-5/8	.61	.61	1.47

Continued on Next Page ▶

# MDX<sup>®</sup> Jobber Length Drills

## High Speed Steel & Titanium Nitride Coated (TiN)

These drills are used for general purpose applications at a lower cost.

List No. **X300** – 118° Point, H.S. Oxide Finish

List No. **X300A** – 118° Point, H.S. Bright Finish

List No. **X300T** – 118° Point, TiN Coated



### Wire Gauge Sizes

Package Quantity: 12 drills

Size	Flute Length	Overall Length	Price Each	
			Oxide X300	Bright X300A
61	11/16	1-5/8	.65	.65
62	5/8	1-1/2	.65	.65
63	5/8	1-1/2	.65	.65
64	5/8	1-1/2	.65	.65
65	5/8	1-1/2	.65	.65
66	1/2	1-3/8	.65	.65
67	1/2	1-3/8	.65	.65
68	1/2	1-3/8	.65	.65
69	1/2	1-3/8	.71	.71
70	3/8	1-1/4	.71	.71

Size	Flute Length	Overall Length	Price Each	
			Oxide X300	Bright X300A
71	3/8	1-1/4	.89	.89
72	5/16	1-1/8	.89	.89
73	5/16	1-1/8	.89	.89
74	1/4	1	.89	.89
75	1/4	1	.89	.89
76	3/16	7/8	.89	.89
77	3/16	7/8	.89	.89
78	3/16	7/8	.89	.89
79	1/8	3/4	1.06	1.06
80	1/8	3/4	1.06	1.06

### Letter Sizes

Size	Flute Length	Overall Length	Package Quantity	Price Each		
				Oxide X300	Bright X300A	TiN X300T
A	2-5/8	3-7/8	12	1.41	1.41	3.20
B	2-3/4	4	12	1.41	1.41	3.20
C	2-3/4	4	12	1.41	1.41	3.20
D	2-3/4	4	12	1.41	1.41	3.20
E	2-3/4	4	12	1.12	1.12	2.75
F	2-7/8	4-1/8	12	1.49	1.49	4.15
G	2-7/8	4-1/8	12	1.68	1.68	4.40
H	2-7/8	4-1/8	12	1.68	1.68	4.40
I	2-7/8	4-1/8	6	1.68	1.68	4.40
J	2-7/8	4-1/8	6	1.81	1.81	4.70
K	2-15/16	4-1/4	6	1.99	1.99	4.80
L	2-15/16	4-1/4	6	1.99	1.99	4.80
M	3-1/16	4-3/8	6	2.11	2.11	5.10

Size	Flute Length	Overall Length	Package Quantity	Price Each		
				Oxide X300	Bright X300A	TiN X300T
N	3-1/16	4-3/8	6	2.11	2.11	5.10
O	3-3/16	4-1/2	6	2.13	2.13	5.10
P	3-5/16	4-5/8	6	2.40	2.40	5.90
Q	3-7/16	4-3/4	6	2.40	2.40	5.90
R	3-7/16	4-3/4	6	2.57	2.57	6.30
S	3-1/2	4-7/8	6	2.73	2.73	6.50
T	3-1/2	4-7/8	6	3.10	3.10	6.80
U	3-5/8	5	6	3.10	3.10	6.80
V	3-5/8	5	6	3.19	3.19	6.85
W	3-3/4	5-1/8	6	3.29	3.29	8.10
X	3-3/4	5-1/8	6	3.99	3.99	8.60
Y	3-7/8	5-1/4	6	4.48	4.48	9.00
Z	3-7/8	5-1/4	6	4.77	4.77	9.70

### Sets

Sizes	Description	Finish	Pcs.	Set No.	Price
1/16 — 1/2 by 64 <sup>ths</sup>	H.S. Fractional	Oxide	29	<b>X307F</b>	72.70
1/16 — 1/2 by 64 <sup>ths</sup>	H.S. Fractional	Bright	29	<b>X307FB</b>	72.70
1/16 — 1/2 by 64 <sup>ths</sup>	H.S. Fractional	TiN Coated	29	<b>X307TF</b>	154.81
1/16 — 3/8 by 64 <sup>ths</sup>	H.S. Fractional	Oxide	21	<b>X307S</b>	41.78
1/16 — 3/8 by 64 <sup>ths</sup>	H.S. Fractional	Bright	21	<b>X307SB</b>	41.78
1/16 — 3/8 by 64 <sup>ths</sup>	H.S. Fractional	TiN Coated	21	<b>X307TS</b>	72.72
1/16 — 1/4 by 64 <sup>ths</sup>	H.S. Fractional	Oxide	13	<b>X307G</b>	18.25
1/16 — 1/4 by 64 <sup>ths</sup>	H.S. Fractional	Bright	13	<b>X307GB</b>	18.25
No. 1 — 60	H.S. Wire Gauge	Oxide	60	<b>X307W</b>	59.60
No. 1 — 60	H.S. Wire Gauge	Bright	60	<b>X307WB</b>	59.60
No. 1 — 60	H.S. Wire Gauge	TiN Coated	60	<b>X307TW</b>	123.80
No. 61 — 80	H.S. Wire Gauge	Oxide	20	<b>X307V</b>	19.86
No. 61 — 80	H.S. Wire Gauge	Bright	20	<b>X307VB</b>	19.86
A — Z	H.S. Letter	Oxide	26	<b>X307L</b>	79.65
A — Z	H.S. Letter	Bright	26	<b>X307LB</b>	79.65
1/16 — 1/2 by 64 <sup>ths</sup> A — Z, & No. 1 — 60	H.S. Combination	Oxide	115	<b>X307X</b>	220.72
1/16 — 1/2 by 64 <sup>ths</sup> A — Z, & No. 1 — 60	H.S. Combination	Bright	115	<b>X307XB</b>	220.72
1/16 — 1/2 by 64 <sup>ths</sup> A — Z, & No. 1 — 60	H.S. Combination	TiN Coated	115	<b>X307TX</b>	428.82



All sets are supplied in metal index



# Aircraft Jobber Length Drills

High Speed Steel – Oxide Finish



HOLE MAKING

List No. **300SA** – Type “A”, 118° Split Point,  
**Standard Web Construction**

Type “A” drills are made with 118° split points and a standard web construction which allows easier penetration than Type “B”.

List No. **300SB** – Type “B”, 135° Split Point  
**Heavy Duty Web Construction**

Type “B” drills are made with a heavy web construction and may be used with heavier feeds in harder materials. Because of torsional strength and a 135° split point, this drill is popular in hand held drilling applications to reduce breakage and eliminate skidding or walking.



## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					Type A 300SA	Type B 300SB
1/64	.0156	3/16	3/4	12	—	1.49
1/32	.0312	1/2	1-3/8	12	—	1.49
3/64	.0469	3/4	1-3/4	12	1.31	1.31
1/16	.0625	7/8	1-7/8	12	1.16	1.16
5/64	.0781	1	2	12	1.17	1.17
3/32	.0938	1-1/4	2-1/4	12	1.25	1.25
7/64	.1094	1-1/2	2-5/8	12	1.29	1.29
1/8	.1250	1-5/8	2-3/4	12	1.31	1.31
9/64	.1406	1-3/4	2-7/8	12	1.45	1.45
5/32	.1562	2	3-1/8	12	1.55	1.55
11/64	.1719	2-1/8	3-1/4	12	1.64	1.64
3/16	.1875	2-5/16	3-1/2	12	1.88	1.88
13/64	.2031	2-7/16	3-5/8	12	1.97	1.97
7/32	.2188	2-1/2	3-3/4	12	2.08	2.08
15/64	.2344	2-5/8	3-7/8	12	2.34	2.34
1/4	.2500	2-3/4	4	12	2.44	2.44

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					Type A 300SA	Type B 300SB
17/64	.2656	2-7/8	4-1/8	12	2.90	2.90
9/32	.2812	2-15/16	4-1/4	6	3.07	3.07
19/64	.2969	3-1/16	4-3/8	6	3.56	3.56
5/16	.3125	3-3/16	4-1/2	6	3.86	3.86
21/64	.3281	3-5/16	4-5/8	6	4.29	4.29
11/32	.3438	3-7/16	4-3/4	6	4.61	4.61
23/64	.3594	3-1/2	4-7/8	6	5.35	5.35
3/8	.3750	3-5/8	5	6	5.61	5.61
25/64	.3906	3-3/4	5-1/8	6	6.27	6.27
13/32	.4062	3-7/8	5-1/4	6	6.40	6.40
27/64	.4219	3-15/16	5-3/8	6	7.33	7.33
7/16	.4375	4-1/16	5-1/2	6	7.50	7.50
29/64	.4531	4-3/16	5-5/8	6	8.57	8.57
15/32	.4688	4-5/16	5-3/4	6	8.98	8.98
31/64	.4844	4-3/8	5-7/8	6	9.42	9.42
1/2	.5000	4-1/2	6	6	9.74	9.74

Sizes with decimal equivalent smaller than .0625 are not split point.

## Wire Gauge Sizes

Package Quantity: 12 drills

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Type A 300SA	Type B 300SB
1	.2280	2-5/8	3-7/8	2.44	2.44
2	.2210	2-5/8	3-7/8	2.44	2.44
3	.2130	2-1/2	3-3/4	2.31	2.31
4	.2090	2-1/2	3-3/4	2.31	2.31
5	.2055	2-1/2	3-3/4	2.31	2.31
6	.2040	2-1/2	3-3/4	2.31	2.31
7	.2010	2-7/16	3-5/8	1.98	1.98
8	.1990	2-7/16	3-5/8	2.05	2.05
9	.1960	2-7/16	3-5/8	2.05	2.05
10	.1935	2-7/16	3-5/8	2.05	2.05
11	.1910	2-5/16	3-1/2	1.93	1.93
12	.1890	2-5/16	3-1/2	1.93	1.93
13	.1850	2-5/16	3-1/2	1.88	1.88
14	.1820	2-3/16	3-3/8	1.88	1.88
15	.1800	2-3/16	3-3/8	1.88	1.88
16	.1770	2-3/16	3-3/8	1.88	1.88
17	.1730	2-3/16	3-3/8	1.88	1.88
18	.1695	2-1/8	3-1/4	1.55	1.55
19	.1660	2-1/8	3-1/4	1.55	1.55
20	.1610	2-1/8	3-1/4	1.51	1.51
21	.1590	2-1/8	3-1/4	1.51	1.51
22	.1570	2	3-1/8	1.51	1.51
23	.1540	2	3-1/8	1.51	1.51
24	.1520	2	3-1/8	1.51	1.51
25	.1495	1-7/8	3	1.51	1.51
26	.1470	1-7/8	3	1.51	1.51
27	.1440	1-7/8	3	1.41	1.41
28	.1405	1-3/4	2-7/8	1.33	1.33
29	.1360	1-3/4	2-7/8	1.33	1.33
30	.1285	1-5/8	2-3/4	1.24	1.24

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Type A 300SA	Type B 300SB
31	.1200	1-5/8	2-3/4	1.33	1.33
32	.1160	1-5/8	2-3/4	1.33	1.33
33	.1130	1-1/2	2-5/8	1.33	1.33
34	.1110	1-1/2	2-5/8	1.33	1.33
35	.1100	1-1/2	2-5/8	1.33	1.33
36	.1065	1-7/16	2-1/2	1.33	1.33
37	.1040	1-7/16	2-1/2	1.33	1.33
38	.1015	1-7/16	2-1/2	1.33	1.33
39	.0995	1-3/8	2-3/8	1.33	1.33
40	.0980	1-3/8	2-3/8	1.29	1.29
41	.0960	1-3/8	2-3/8	1.33	1.33
42	.0935	1-1/4	2-1/4	1.33	1.33
43	.0890	1-1/4	2-1/4	1.33	1.33
44	.0860	1-1/8	2-1/8	1.33	1.33
45	.0820	1-1/8	2-1/8	1.33	1.33
46	.0810	1-1/8	2-1/8	1.33	1.33
47	.0785	1	2	1.33	1.33
48	.0760	1	2	1.33	1.33
49	.0730	1	2	1.33	1.33
50	.0700	1	2	1.33	1.33
51	.0670	1	2	1.33	1.33
52	.0635	7/8	1-7/8	1.33	1.33
53	.0595	7/8	1-7/8	1.33	1.33
54	.0550	7/8	1-7/8	1.33	1.33
55	.0520	7/8	1-7/8	1.33	1.33
56	.0465	3/4	1-3/4	1.33	1.33
57	.0430	3/4	1-3/4	1.33	1.33
58	.0420	11/16	1-5/8	1.33	1.33
59	.0410	11/16	1-5/8	1.33	1.33
60	.0400	11/16	1-5/8	1.33	1.33

Sizes with decimal equivalent smaller than .0625 are not split point.

# Aircraft Jobber Length Drills

High Speed Steel – Oxide Finish



List No. **300SA** – Type “A”, 118° Split Point,  
Standard Web Construction



List No. **300SB** – Type “B”, 135° Split Point  
Heavy Duty Web Construction



## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					Type A 300SA	Type B 300SB
A	.2340	2-5/8	3-7/8	12	2.90	2.90
B	.2380	2-3/4	4	12	2.90	2.90
C	.2420	2-3/4	4	12	2.90	2.90
D	.2460	2-3/4	4	12	2.90	2.90
E	.2500	2-3/4	4	12	2.44	2.44
F	.2570	2-7/8	4-1/8	12	2.97	2.97
G	.2610	2-7/8	4-1/8	12	3.44	3.44
H	.2660	2-7/8	4-1/8	12	3.63	3.63
I	.2720	2-7/8	4-1/8	6	3.63	3.63
J	.2770	2-7/8	4-1/8	6	3.83	3.83
K	.2810	2-15/16	4-1/4	6	4.09	4.09
L	.2900	2-15/16	4-1/4	6	4.22	4.22
M	.2950	3-1/16	4-3/8	6	4.22	4.22

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					Type A 300SA	Type B 300SB
N	.3020	3-1/16	4-3/8	6	4.22	4.22
O	.3160	3-3/16	4-1/2	6	4.22	4.22
P	.3230	3-5/16	4-5/8	6	4.88	4.88
Q	.3320	3-7/16	4-3/4	6	5.02	5.02
R	.3390	3-7/16	4-3/4	6	5.37	5.37
S	.3480	3-1/2	4-7/8	6	5.91	5.91
T	.3580	3-1/2	4-7/8	6	6.27	6.27
U	.3680	3-5/8	5	6	6.27	6.27
V	.3770	3-5/8	5	6	6.44	6.44
W	.3860	3-3/4	5-1/8	6	6.78	6.78
X	.3970	3-3/4	5-1/8	6	8.03	8.03
Y	.4040	3-7/8	5-1/4	6	9.82	9.82
Z	.4130	3-7/8	5-1/4	6	9.82	9.82

## Sets

Size	Point Angle	Pieces	Set No.	Price
1/16 – 1/4 by 64 <sup>ths</sup>	Type “B” 135°	13	307GH	27.78
1/16 – 1/2 by 32 <sup>nds</sup>	Type “B” 135°	15	307RH	77.04
1/16 – 3/8 by 64 <sup>ths</sup>	Type “B” 135°	21	307SH	67.03
1/16 – 1/2 by 64 <sup>ths</sup>	Type “B” 135°	29	307FH	131.24
1/16 – 1/2 by 64 <sup>ths</sup>	Type “A” 118°	29	307FHA	131.24
1 – 60	Type “B” 135°	60	307WH	106.39
A – Z Letter Sizes	Type “B” 135°	26	307LD	141.12
1/16 – 1/2 by 64 <sup>ths</sup> , A – Z Letter, & 1 – 60 Wire	Type “B” 135°	115	307XH	385.50



All sets are supplied in a Huot metal index

# TiCN Coated Aircraft Jobber Length Drills

High Speed Steel



List No. **300SBTN** – Titanium Carbonitride Coated  
Type “B”, 135° Split Point, Heavy Duty Web Construction



Size	Flute Length	Overall Length	Price Each
1/16	7/8	1-7/8	2.94
5/64	1	2	2.94
3/32	1-1/4	2-1/4	2.94
7/64	1-1/2	2-5/8	3.14
1/8	1-5/8	2-3/4	3.19
9/64	1-3/4	2-7/8	3.65
5/32	2	3-1/8	4.09
11/64	2-1/8	3-1/4	4.24
3/16	2-5/16	3-1/2	4.50
13/64	2-7/16	3-5/8	5.48
7/32	2-1/2	3-3/4	5.86
15/64	2-5/8	3-7/8	6.25
1/4	2-3/4	4	6.37
17/64	2-7/8	4-1/8	9.24
9/32	2-15/16	4-1/4	9.17

Size	Flute Length	Overall Length	Price Each
19/64	3-1/16	4-3/8	10.22
5/16	3-3/16	4-1/2	10.51
21/64	3-5/16	4-5/8	11.38
11/32	3-7/16	4-3/4	11.98
23/64	3-1/2	4-7/8	13.06
3/8	3-5/8	5	12.92
25/64	3-3/4	5-1/8	17.00
13/32	3-7/8	5-1/4	16.73
27/64	3-15/16	5-3/8	18.46
7/16	4-1/16	5-1/2	18.55
29/64	4-3/16	5-5/8	20.24
15/32	4-5/16	5-3/4	20.64
31/64	4-3/8	5-7/8	21.66
1/2	4-1/2	6	21.39
35/64	4-13/16	6-5/8	43.00

## High Speed Oxide Finish & Cobalt

List No. **X300SB** – 135° Split Point, H.D. Web Construction

These drills are made with a heavy web construction and may be used with heavier feeds in harder materials, because of torsional strength and a 135° split point, this drill is popular in hand held drilling applications to reduce breakage and eliminate skidding or walking.



List No. **X300C** – Cobalt, 135° Split Point, H.D.

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



### Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. X300SB	Cobalt X300C
3/64	.0469	3/4	1-3/4	12	.76	1.20
1/16	.0625	7/8	1-7/8	12	.83	1.16
5/64	.0781	1	2	12	.83	1.14
3/32	.0938	1-1/4	2-1/4	12	.83	1.14
7/64	.1094	1-1/2	2-5/8	12	.86	1.20
1/8	.1250	1-5/8	2-3/4	12	.87	1.39
9/64	.1406	1-3/4	2-7/8	12	.92	1.43
5/32	.1562	2	3-1/8	12	.94	1.63
11/64	.1719	2-1/8	3-1/4	12	.97	1.74
3/16	.1875	2-5/16	3-1/2	12	1.14	1.97
13/64	.2031	2-7/16	3-5/8	12	1.29	2.26
7/32	.2188	2-1/2	3-3/4	12	1.41	2.46
15/64	.2344	2-5/8	3-7/8	12	1.51	2.63
1/4	.2500	2-3/4	4	12	1.53	2.74
17/64	.2656	2-7/8	4-1/8	12	1.95	3.29
9/32	.2812	2-15/16	4-1/4	6	2.12	3.43

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. X300SB	Cobalt X300C
19/64	.2969	3-1/16	4-3/8	6	2.34	4.07
5/16	.3125	3-3/16	4-1/2	6	2.46	4.38
21/64	.3281	3-5/16	4-5/8	6	2.71	4.87
11/32	.3438	3-7/16	4-3/4	6	3.04	5.23
23/64	.3594	3-1/2	4-7/8	6	3.35	6.23
3/8	.3750	3-5/8	5	6	3.54	6.11
25/64	.3906	3-3/4	5-1/8	6	3.96	6.84
13/32	.4062	3-7/8	5-1/4	6	4.13	7.20
27/64	.4219	3-15/16	5-3/8	6	4.59	7.91
7/16	.4375	4-1/16	5-1/2	6	4.76	8.10
29/64	.4531	4-3/16	5-5/8	6	5.33	9.83
15/32	.4688	4-5/16	5-3/4	6	5.64	9.94
31/64	.4844	4-3/8	5-7/8	6	5.97	10.83
1/2	.5000	4-1/2	6	6	6.04	11.09
35/64	.5468	4-3/16	6-5/8	1	—	28.00
9/16	.5625	4-13/16	6-5/8	1	—	32.00

Sizes with decimal equivalent smaller than .0625 are not split point.

### Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. X300SB	Cobalt X300C
1	.2280	2-5/8	3-7/8	1.59	3.19
2	.2210	2-5/8	3-7/8	1.59	3.19
3	.2130	2-1/2	3-3/4	1.50	3.00
4	.2090	2-1/2	3-3/4	1.50	3.00
5	.2055	2-1/2	3-3/4	1.50	3.00
6	.2040	2-1/2	3-3/4	1.50	3.00
7	.2010	2-7/16	3-5/8	1.29	2.56
8	.1990	2-7/16	3-5/8	1.33	2.56
9	.1960	2-7/16	3-5/8	1.33	2.56
10	.1935	2-7/16	3-5/8	1.33	2.56
11	.1910	2-5/16	3-1/2	1.25	2.56
12	.1890	2-5/16	3-1/2	1.25	2.49
13	.1850	2-5/16	3-1/2	1.22	2.30
14	.1820	2-3/16	3-3/8	1.22	2.30
15	.1800	2-3/16	3-3/8	1.22	2.30
16	.1770	2-3/16	3-3/8	1.22	2.24
17	.1730	2-3/16	3-3/8	1.22	2.24
18	.1695	2-1/8	3-1/4	1.01	2.09
19	.1660	2-1/8	3-1/4	1.01	2.03
20	.1610	2-1/8	3-1/4	.98	2.03
21	.1590	2-1/8	3-1/4	.98	2.03
22	.1570	2	3-1/8	.98	2.03
23	.1540	2	3-1/8	.98	2.03
24	.1520	2	3-1/8	.98	2.03
25	.1495	1-7/8	3	—	1.80
26	.1470	1-7/8	3	.98	1.80
27	.1440	1-7/8	3	.92	1.80
28	.1405	1-3/4	2-7/8	.86	1.80
29	.1360	1-3/4	2-7/8	—	1.80
30	.1285	1-5/8	2-3/4	.81	1.52

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. X300SB	Cobalt X300C
31	.1200	1-5/8	2-3/4	.86	1.52
32	.1160	1-5/8	2-3/4	.86	1.52
33	.1130	1-1/2	2-5/8	.86	1.41
34	.1110	1-1/2	2-5/8	—	1.41
35	.1100	1-1/2	2-5/8	.86	1.41
36	.1065	1-7/16	2-1/2	.86	1.41
37	.1040	1-7/16	2-1/2	.86	1.41
38	.1015	1-7/16	2-1/2	.86	1.32
39	.0995	1-3/8	2-3/8	.86	1.32
40	.0980	1-3/8	2-3/8	.84	1.32
41	.0960	1-3/8	2-3/8	.86	1.32
42	.0935	1-1/4	2-1/4	—	1.32
43	.0890	1-1/4	2-1/4	—	1.32
44	.0860	1-1/8	2-1/8	—	1.32
45	.0820	1-1/8	2-1/8	.86	1.32
46	.0810	1-1/8	2-1/8	—	1.32
47	.0785	1	2	—	1.32
48	.0760	1	2	—	1.32
49	.0730	1	2	—	1.32
50	.0700	1	2	—	1.32
51	.0670	1	2	—	1.32
52	.0635	7/8	1-7/8	—	1.32
53	.0595	7/8	1-7/8	—	1.32
54	.0550	7/8	1-7/8	—	1.32
55	.0520	7/8	1-7/8	—	1.32
56	.0465	3/4	1-3/4	—	1.38
57	.0430	3/4	1-3/4	—	1.38
58	.0420	11/16	1-5/8	—	1.38
59	.0410	11/16	1-5/8	—	1.38
60	.0400	11/16	1-5/8	—	1.33

Sizes with decimal equivalent smaller than .0625 are not split point.





# Heavy Duty Jobber Length Drills

High Speed Oxide Finish & Cobalt

List No. **X300SB** – 135° Split Point, H.D. Web Construction

These drills are made with a heavy web construction and may be used with heavier feeds in harder materials, because of torsional strength and a 135° split point, this drill is popular in hand held drilling applications to reduce breakage and eliminate skidding or walking.

List No. **X300C** – Cobalt, 135° Split Point, H.D.

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. X300SB	Cobalt X300C
A	.234	2-5/8	3-7/8	12	—	3.22
B	.238	2-3/4	4	12	—	3.35
C	.242	2-3/4	4	12	1.89	3.60
D	.246	2-3/4	4	12	—	3.77
E	.250	2-3/4	4	12	1.53	2.77
F	.257	2-7/8	4-1/8	12	1.93	3.32
G	.261	2-7/8	4-1/8	12	2.24	3.35
H	.266	2-7/8	4-1/8	12	—	4.04
I	.272	2-7/8	4-1/8	6	2.36	3.53
J	.277	2-7/8	4-1/8	6	—	3.77
K	.281	2-15/16	4-1/4	6	2.66	3.77
L	.290	2-15/16	4-1/4	6	2.96	4.28
M	.295	3-1/16	4-3/8	6	3.05	4.55

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. X300SB	Cobalt X300C
N	.302	3-1/16	4-3/8	6	3.05	4.55
O	.316	3-3/16	4-1/2	6	3.27	5.38
P	.323	3-5/16	4-5/8	6	—	5.33
Q	.332	3-7/16	4-3/4	6	3.39	5.52
R	.339	3-7/16	4-3/4	6	3.49	5.52
S	.348	3-1/2	4-7/8	6	3.84	6.77
T	.358	3-1/2	4-7/8	6	4.08	6.77
U	.368	3-5/8	5	6	4.08	6.77
V	.377	3-5/8	5	6	—	8.02
W	.386	3-3/4	5-1/8	6	—	7.47
X	.397	3-3/4	5-1/8	6	—	7.47
Y	.404	3-7/8	5-1/4	6	5.21	7.91
Z	.413	3-7/8	5-1/4	6	6.85	9.24

## Sets

Size	Description	Pieces	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	High Speed	29	<b>X307FH</b>	87.98
1/16 – 1/2 by 64 <sup>ths</sup>	Cobalt	29	<b>X307CF</b>	144.54
A – Z	Cobalt	26	<b>X307CL</b>	144.28
No. 1 – 60	Cobalt	60	<b>X307CW</b>	121.34
1/16 – 1/2 by 64 <sup>ths</sup> , A – Z, No. 1 – 60	Cobalt	115	<b>X307CX</b>	413.94



All sets are supplied in Huot metal index

# Hex Shank Quick Change Drills

High Speed Steel

List No. **300QR** – 135° Split Point, Jobber Length

Specially designed for hand held drill and impact tools.

Recommended for use in hard metal drilling application and stainless steel.



Watch our instructional videos on [www.MichiganDrill.com/videos](http://www.MichiganDrill.com/videos)

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/16	.0625	7/8	1-7/8	12	4.00
3/32	.0938	1-1/4	2-1/4	12	4.00
7/64	.1094	1-1/2	2-5/8	12	3.69
1/8	.1250	1-5/8	2-3/4	12	3.69
5/32	.1562	2	3-1/8	12	4.10
3/16	.1875	2-5/16	3-1/2	12	4.62
7/32	.2188	2-1/2	3-3/4	12	5.85
1/4	.2500	2-3/4	4	12	5.85

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
9/32	.2812	2-15/16	4-1/4	6	6.00
5/16	.3125	3-3/16	4-1/2	6	6.80
11/32	.3438	3-7/16	4-3/4	6	6.60
3/8	.3750	3-5/8	5	6	7.10
13/32	.4062	3-7/8	5-1/4	6	8.30
7/16	.4375	4-1/16	5-1/2	6	9.75
15/32	.4688	4-5/16	5-3/4	6	10.25
1/2	.5000	4-1/2	6	6	10.95

## Quick Release Adapter

Fast adapter quick change chuck 1/4"



Tool No. **QC300R**  
Price: 19.95



# Cobalt Jobber Length Drills

Cobalt Heavy Duty – 135° Split Point - Type J



List No. **300C** – Super Cobalt

Cobalt drills display higher red hardness and are especially effective in drilling tough, high tensile strength materials like stainless steels, titanium, and inconel.



## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1/64	.0156	3/16	3/4	12	2.78
1/32	.0312	1/2	1-3/8	12	2.40
3/64	.0469	3/4	1-3/4	12	1.91
1/16	.0625	7/8	1-7/8	12	1.75
5/64	.0781	1	2	12	1.78
3/32	.0938	1-1/4	2-1/4	12	1.82
7/64	.1094	1-1/2	2-5/8	12	1.97
1/8	.1250	1-5/8	2-3/4	12	2.24
9/64	.1406	1-3/4	2-7/8	12	2.38
5/32	.1562	2	3-1/8	12	2.63
11/64	.1719	2-1/8	3-1/4	12	2.83
3/16	.1875	2-5/16	3-1/2	12	3.14
13/64	.2031	2-7/16	3-5/8	12	3.63
7/32	.2188	2-1/2	3-3/4	12	3.93
15/64	.2344	2-5/8	3-7/8	12	4.16
1/4	.2500	2-3/4	4	12	4.29
17/64	.2656	2-7/8	4-1/8	12	5.18
9/32	.2812	2-15/16	4-1/4	6	5.61
19/64	.2969	3-1/16	4-3/8	6	6.73
5/16	.3125	3-3/16	4-1/2	6	7.19
21/64	.3281	3-5/16	4-5/8	6	8.12
11/32	.3438	3-7/16	4-3/4	6	8.84

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
23/64	.3594	3-1/2	4-7/8	6	10.00
3/8	.3750	3-5/8	5	6	10.69
25/64	.3906	3-3/4	5-1/8	6	11.78
13/32	.4062	3-7/8	5-1/4	6	12.34
27/64	.4219	3-15/16	5-3/8	6	13.53
7/16	.4375	4-1/16	5-1/2	6	13.86
29/64	.4531	4-3/16	5-5/8	6	16.40
15/32	.4688	4-5/16	5-3/4	6	17.62
31/64	.4844	4-3/8	5-7/8	6	18.35
1/2	.5000	4-1/2	6	6	18.48
33/64	.5156	4-13/16	6-5/8	1	39.40
17/32	.5312	4-13/16	6-5/8	1	44.88
35/64	.5469	4-13/16	6-5/8	1	47.52
9/16	.5625	4-13/16	6-5/8	1	51.15
37/64	.5781	4-13/16	6-5/8	1	52.73
19/32	.5938	5-3/16	7-1/8	1	53.06
39/64	.6094	5-3/16	7-1/8	1	56.23
5/8	.6250	5-3/16	7-1/8	1	56.73
41/64	.6406	5-3/16	7-1/8	1	59.33
21/32	.6562	5-3/16	7-1/8	1	62.70
43/64	.6719	5-5/8	7-5/8	1	67.39
11/16	.6875	5-5/8	7-5/8	1	68.64

Sizes with decimal equivalent smaller than .0625 are not split point.

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
A	.2340	2-5/8	3-7/8	12	4.82
B	.2380	2-3/4	4	12	5.13
C	.2420	2-3/4	4	12	5.13
D	.2460	2-3/4	4	12	5.39
E	.2500	2-3/4	4	12	4.29
F	.2570	2-7/8	4-1/8	12	5.29
G	.2610	2-7/8	4-1/8	12	5.64
H	.2660	2-7/8	4-1/8	12	5.85
I	.2720	2-7/8	4-1/8	6	5.95
J	.2770	2-7/8	4-1/8	6	6.40
K	.2810	2-15/16	4-1/4	6	6.50
L	.2900	2-15/16	4-1/4	6	7.16
M	.2950	3-1/16	4-3/8	6	7.77

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
N	.3020	3-1/16	4-3/8	6	7.91
O	.3160	3-3/16	4-1/2	6	8.57
P	.3230	3-5/16	4-5/8	6	9.03
Q	.3320	3-7/16	4-3/4	6	9.04
R	.3390	3-7/16	4-3/4	6	9.04
S	.3480	3-1/2	4-7/8	6	10.92
T	.3580	3-1/2	4-7/8	6	11.13
U	.3680	3-5/8	5	6	11.45
V	.3770	3-5/8	5	6	11.95
W	.3860	3-3/4	5-1/8	6	11.95
X	.3970	3-3/4	5-1/8	6	12.84
Y	.4040	3-7/8	5-1/4	6	13.19
Z	.4130	3-7/8	5-1/4	6	13.84

## Fractional & Letter Sets

Size	Material	Pieces	Set No.	Price
1/16 – 1/4 by 64 <sup>ths</sup>	Cobalt	13	307CG	42.80
1/16 – 1/2 by 32 <sup>nds</sup>	Cobalt	15	307CR	129.43
1/16 – 3/8 by 64 <sup>ths</sup>	Cobalt	21	307CS	111.16
1/16 – 1/2 by 64 <sup>ths</sup>	Cobalt	29	307CF	233.57
A – Z Letter Sizes	Cobalt	26	307CL	230.18

All sets are supplied in Huot metal index



# Cobalt Jobber Length Drills

Cobalt Heavy Duty – 135° Split Point - Type J



List No. **300C** – Super Cobalt

Cobalt drills display higher red hardness and are especially effective in drilling tough, high tensile strength materials like stainless steels, titanium, and inconel.



## Wire Gauge Sizes

Package Quantity: 12 drills

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	4.55
2	.2210	2-5/8	3-7/8	4.55
3	.2130	2-1/2	3-3/4	4.29
4	.2090	2-1/2	3-3/4	4.29
5	.2055	2-1/2	3-3/4	4.29
6	.2040	2-1/2	3-3/4	4.29
7	.2010	2-7/16	3-5/8	3.66
8	.1990	2-7/16	3-5/8	3.66
9	.1960	2-7/16	3-5/8	3.66
10	.1935	2-7/16	3-5/8	3.66
11	.1910	2-5/16	3-1/2	3.66
12	.1890	2-5/16	3-1/2	3.56
13	.1850	2-5/16	3-1/2	3.29
14	.1820	2-3/16	3-3/8	3.29
15	.1800	2-3/16	3-3/8	3.29
16	.1770	2-3/16	3-3/8	3.21
17	.1730	2-3/16	3-3/8	3.21
18	.1695	2-1/8	3-1/4	2.99
19	.1660	2-1/8	3-1/4	2.89
20	.1610	2-1/8	3-1/4	2.89
21	.1590	2-1/8	3-1/4	2.89
22	.1570	2	3-1/8	2.89
23	.1540	2	3-1/8	2.89
24	.1520	2	3-1/8	2.89
25	.1495	1-7/8	3	2.56
26	.1470	1-7/8	3	2.56
27	.1440	1-7/8	3	2.56
28	.1405	1-3/4	2-7/8	2.56
29	.1360	1-3/4	2-7/8	2.56
30	.1285	1-5/8	2-3/4	2.18
31	.1200	1-5/8	2-3/4	2.18
32	.1160	1-5/8	2-3/4	2.18
33	.1130	1-1/2	2-5/8	2.01
34	.1110	1-1/2	2-5/8	2.01
35	.1100	1-1/2	2-5/8	2.01
36	.1065	1-7/16	2-1/2	2.01
37	.1040	1-7/16	2-1/2	2.01
38	.1015	1-7/16	2-1/2	1.88
39	.0995	1-3/8	2-3/8	1.88
40	.0980	1-3/8	2-3/8	1.88

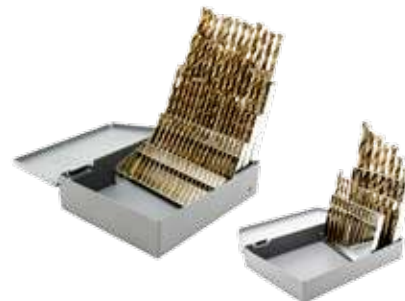
Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
41	.0960	1-3/8	2-3/8	1.88
42	.0935	1-1/4	2-1/4	1.88
43	.0890	1-1/4	2-1/4	1.88
44	.0860	1-1/8	2-1/8	1.88
45	.0820	1-1/8	2-1/8	1.88
46	.0810	1-1/8	2-1/8	1.88
47	.0785	1	2	1.88
48	.0760	1	2	1.88
49	.0730	1	2	1.88
50	.0700	1	2	1.88
51	.0670	1	2	1.88
52	.0635	7/8	1-7/8	1.88
53	.0595	7/8	1-7/8	1.88
54	.0550	7/8	1-7/8	1.88
55	.0520	7/8	1-7/8	1.88
56	.0465	3/4	1-3/4	1.98
57	.0430	3/4	1-3/4	1.98
58	.0420	11/16	1-5/8	1.98
59	.0410	11/16	1-5/8	1.98
60	.0400	11/16	1-5/8	1.98
61	.0390	11/16	1-5/8	2.19
62	.0380	5/8	1-1/2	2.19
63	.0370	5/8	1-1/2	2.19
64	.0360	5/8	1-1/2	2.19
65	.0350	5/8	1-1/2	2.19
66	.0330	1/2	1-3/8	2.33
67	.0320	1/2	1-3/8	2.33
68	.0310	1/2	1-3/8	2.33
69	.0292	1/2	1-3/8	2.62
70	.0280	3/8	1-1/4	2.62
71	.0260	3/8	1-1/4	2.62
72	.0250	5/16	1-1/8	2.77
73	.0240	5/16	1-1/8	2.77
74	.0225	1/4	1	2.77
75	.0210	1/4	1	3.46
76	.0200	3/16	7/8	3.46
77	.0180	3/16	7/8	4.49
78	.0160	3/16	7/8	4.49
79	.0145	1/8	3/4	4.49
80	.0135	1/8	3/4	4.49

Sizes with decimal equivalent smaller than .0625 are not split point.

## Wire Gauge & Combination Sets

Sizes	Material	Pieces	Set No.	Price
1 – 60 Wire Gauge	Cobalt	60	<b>307CW</b>	169.87
61 – 80 Wire Gauge	Cobalt	20	<b>307CV</b>	68.29
1/16 – 1/2 by 64ths, A – Z Letter, and 1 – 60 Wire Gauge	Cobalt	115	<b>307CX</b>	638.57
1/16, 5/64, 3/32, 1/8, #29, #25, 5/32, #21, 3/16, #7, 7/32, 1/4, F, 5/16, U, 3/8, 27/64, 7/16, 1/2	Cobalt	19	<b>307CJ</b>	118.80

All sets are supplied in Huot metal index





# Cobalt Aircraft Type "D" Drills

## Jobber Length – Short Flute



**MICHIGAN**  
DRILL & CUTTING TOOLS

### List No. 319C – 135° Split Point

Designed for handling the higher thrust loads when drilling tough high tensile and heat resistant alloy steels like stainless steels, titanium, and inconel. Due to its heavy web 135° split point, short flute and jobber length construction, it provides for a more rigid tool, eliminating vibration, and flexing.



### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
3/64	.0469	3/4	1-3/4	2.80
1/16	.0625	5/8	1-7/8	2.80
5/64	.0781	11/16	2	2.91
3/32	.0938	3/4	2-1/4	2.95
7/64	.1094	13/16	2-5/8	3.23
1/8	.1250	7/8	2-3/4	3.66
5/32	.1562	1	3-1/8	4.64
11/64	.1719	1-1/16	3-1/4	4.78
3/16	.1875	1-1/8	3-1/2	5.07
7/32	.2188	1-1/4	3-3/4	6.69
15/64	.2344	2-5/8	3-7/8	7.10

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/4	.2500	1-3/8	4	7.44
9/32	.2812	1-1/2	4-1/4	9.40
19/64	.2969	1-9/16	4-3/8	10.76
5/16	.3125	1-5/8	4-1/2	12.09
11/32	.3438	1-11/32	4-3/4	14.03
21/64	.3281	1-11/16	4-5/8	14.80
3/8	.3750	1-13/16	5	16.95
7/16	.4375	2-1/16	5-1/2	23.54
15/32	.4688	2-1/8	5-3/4	28.72
31/64	.4844	2-3/16	5-7/8	31.31
1/2	.5000	2-1/4	6	28.83

### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	1-5/16	3-7/8	8.49
D	.2460	1-3/8	4	9.20
F	.2570	1-7/16	4-1/8	9.70
G	.2610	1-7/16	4-1/8	10.40
J	.2770	1-1/2	4-1/8	11.02

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
L	.2900	1-9/16	4-1/4	12.51
O	.3160	1-11/16	4-1/2	13.99
P	.3230	1-11/16	4-5/8	14.80
V	.3770	1-7/8	5	21.82
X	.3970	1-15/16	5-1/8	21.82

### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1-5/16	3-7/8	8.42
2	.2210	1-5/16	3-7/8	8.42
3	.2130	1-1/4	3-3/4	7.66
5	.2055	1-1/4	3-3/4	7.66
8	.1990	1-3/16	3-5/8	5.93
9	.1960	1-3/16	3-5/8	5.93
10	.1935	1-3/16	3-5/8	5.93
11	.1910	1-3/16	3-1/2	5.93
13	.1850	1-1/8	3-1/2	5.72
17	.1730	1-1/8	3-3/8	5.04
18	.1695	1-1/16	3-1/4	4.56
20	.1610	1-1/16	3-1/4	4.53
21	.1590	1-1/16	3-1/4	4.53
23	.1540	1	3-1/8	4.53

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
24	.1520	1	3-1/8	4.53
27	.1440	1	3	4.10
30	.1285	15/16	2-3/4	3.45
31	.1200	7/8	2-3/4	3.45
35	.1100	7/8	2-5/8	3.23
39	.0995	13/16	2-3/8	3.02
40	.0980	13/16	2-3/8	2.80
43	.0890	3/4	2-1/4	3.12
46	.0810	3/4	2-1/8	3.12
47	.0785	3/4	2	3.12
48	.0760	11/16	2	3.12
49	.0730	11/16	2	3.12
50	.0700	11/16	2	2.91
55	.0520	5/8	1-7/8	2.91

Sizes with decimal equivalent smaller than .0625 are not split point.

# Aircraft Routers



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Straight Aircraft Router

List No. 606 – Left Hand Helix, Right Hand Cut



Used for cutting, trimming and routing around openings in fuselage, windows, door sills, and plexi-glass. Capable of cutting without the need for drilling first. Fast chip ejection and high stock removal.

Size	Length of Cut	Overall Length	Price Each
1/4	9/16	2-3/8	2.70
5/16	9/16	2-3/8	5.75

## Tapered Aircraft Router

List No. 608 – Right Hand Helix, Right Hand Cut



Used for profiling and routing in aluminum, hard rubber, and plastic. High rake design for better cutting performance.

Size	Small End	Large End	Length of Cut	Overall Length	Price Each
1	.0810	.0980	13/16	2"	3.00
2	.1100	.1280	7/8	2-1/4	3.00
3	.1650	.1875	1-1/16	2-1/2	3.50
4	.2240	.2500	1-1/4	3-3/4	5.00

# Coated Heavy Duty Jobber Drills

High Speed Steel & Cobalt



## Heavy Duty, 135° Split Point

List No. **300SBT** – TiN Coated

List No. **300SBTA** – TiAlN Coated

## Cobalt, 135° Split Point

List No. **300CT** – TiN Coated

List No. **300CTA** – TiAlN Coated

### Fractional Sizes

Size	Flute Length	Overall Length	Price Each			
			Heavy Duty		Cobalt	
			TiN 300SBT	TiAlN 300SBTA	TiN 300CT	TiAlN 300CTA
1/64	3/16	3/4	2.94	3.60	5.20	3.50
1/32	1/2	1-3/8	2.94	3.60	3.90	4.40
3/64	3/4	1-3/4	2.94	3.30	3.50	3.90
1/16	7/8	1-7/8	2.56	2.94	3.12	3.59
5/64	1	2	2.56	2.94	3.12	3.59
3/32	1-1/4	2-1/4	2.56	2.94	3.12	3.59
7/64	1-1/2	2-5/8	2.73	3.14	3.25	3.73
1/8	1-5/8	2-3/4	2.78	3.19	3.71	4.27
9/64	1-3/4	2-7/8	3.18	3.65	3.78	4.34
5/32	2	3-1/8	3.56	4.09	4.08	4.69
11/64	2-1/8	3-1/4	3.69	4.24	4.26	4.90
3/16	2-5/16	3-1/2	3.92	4.50	5.31	6.11
13/64	2-7/16	3-5/8	4.77	5.48	6.66	7.65
7/32	2-1/2	3-3/4	5.10	5.86	7.03	8.07
15/64	2-5/8	3-7/8	5.44	6.25	7.35	8.45
1/4	2-3/4	4	5.54	6.37	7.63	8.77
17/64	2-7/8	4-1/8	8.05	9.24	10.28	11.82
9/32	2-15/16	4-1/4	7.98	9.17	10.59	12.18

Size	Flute Length	Overall Length	Price Each			
			Heavy Duty		Cobalt	
			TiN 300SBT	TiAlN 300SBTA	TiN 300CT	TiAlN 300CTA
19/64	3-1/16	4-3/8	8.89	10.22	11.98	13.77
5/16	3-3/16	4-1/2	9.15	10.51	12.49	14.35
21/64	3-5/16	4-5/8	9.90	11.38	13.34	15.33
11/32	3-7/16	4-3/4	10.42	11.98	14.21	16.34
23/64	3-1/2	4-7/8	11.36	13.06	16.27	18.71
3/8	3-5/8	5	11.24	12.92	15.62	17.95
25/64	3-3/4	5-1/8	14.79	17.00	19.69	22.64
13/32	3-7/8	5-1/4	14.91	16.73	20.26	23.29
27/64	3-15/16	5-3/8	16.06	18.46	21.69	24.93
7/16	4-1/16	5-1/2	16.13	18.55	22.02	25.33
29/64	4-3/16	5-5/8	17.60	20.24	25.12	28.88
15/32	4-5/16	5-3/4	17.95	20.64	25.46	29.27
31/64	4-3/8	5-7/8	18.84	21.66	26.02	29.91
1/2	4-1/2	6	18.60	21.39	25.83	29.69
33/64	4-13/16	6-5/8	—	35.75	64.00	69.00
17/32	4-13/16	6-5/8	—	—	—	69.00
35/64	4-13/16	6-5/8	—	39.00	64.00	69.00
5/8	5-3/16	7-1/8	—	—	—	77.50

### Wire Gauge Sizes

Size	Flute Length	Overall Length	Price Each			
			Heavy Duty		Cobalt	
			TiN 300SBT	TiAlN 300SBTA	TiN 300CT	TiAlN 300CTA
1	2-5/8	3-7/8	5.28	6.07	7.73	8.88
2	2-5/8	3-7/8	5.28	6.07	7.73	8.88
3	2-1/2	3-3/4	5.09	5.84	7.50	7.71
4	2-1/2	3-3/4	5.15	5.92	7.50	7.71
5	2-1/2	3-3/4	5.15	5.92	7.50	7.71
6	2-1/2	3-3/4	4.84	5.56	7.50	7.71
7	2-7/16	3-5/8	4.84	5.56	5.71	6.57
8	2-7/16	3-5/8	4.84	5.56	5.71	6.57
9	2-7/16	3-5/8	4.84	5.56	5.71	6.57
10	2-7/16	3-5/8	4.84	5.56	5.71	6.57
11	2-5/16	3-1/2	4.66	5.35	5.71	6.57
12	2-5/16	3-1/2	4.66	5.35	5.71	6.57
13	2-5/16	3-1/2	4.61	5.31	5.46	6.28
14	2-3/16	3-3/8	4.61	5.31	5.46	6.28
15	2-3/16	3-3/8	4.60	5.29	5.46	6.28
16	2-3/16	3-3/8	4.61	5.31	5.46	6.28
17	2-3/16	3-3/8	4.61	5.31	5.46	6.28
18	2-1/8	3-1/4	4.18	4.80	5.42	6.23
19	2-1/8	3-1/4	4.14	4.76	5.42	6.23
20	2-1/8	3-1/4	4.14	4.76	5.42	6.23
21	2-1/8	3-1/4	3.96	4.55	5.41	6.22
22	2	3-1/8	3.99	4.58	5.41	6.22
23	2	3-1/8	3.96	4.55	5.41	6.22
24	2	3-1/8	3.96	4.55	5.41	6.22
25	1-7/8	3	3.63	4.17	5.11	5.88
26	1-7/8	3	3.63	4.17	5.09	5.84

Size	Flute Length	Overall Length	Price Each			
			Heavy Duty		Cobalt	
			TiN 300SBT	TiAlN 300SBTA	TiN 300CT	TiAlN 300CTA
27	1-7/8	3	3.62	4.16	5.09	5.84
28	1-3/4	2-7/8	3.44	3.95	4.54	5.18
29	1-3/4	2-7/8	3.44	3.95	4.54	5.11
30	1-5/8	2-3/4	3.44	3.95	4.50	4.90
31	1-5/8	2-3/4	3.44	3.95	4.45	4.86
32	1-5/8	2-3/4	3.44	3.95	4.27	4.75
33	1-1/2	2-5/8	3.44	3.95	4.23	4.75
34	1-1/2	2-5/8	3.44	3.95	4.13	4.75
35	1-1/2	2-5/8	3.44	3.95	4.13	4.70
36	1-7/16	2-1/2	3.44	3.95	4.10	4.70
37	1-7/16	2-1/2	3.44	3.95	4.10	4.54
38	1-7/16	2-1/2	3.44	3.95	3.95	4.54
39	1-3/8	2-3/8	3.44	3.95	3.95	4.54
40	1-3/8	2-3/8	3.44	3.95	3.95	4.54
41	1-3/8	2-3/8	3.44	3.95	3.95	4.54
42	1-1/4	2-1/4	3.44	3.95	3.95	4.54
43	1-1/4	2-1/4	3.44	3.95	3.95	4.54
44	1-1/8	2-1/8	3.44	3.95	3.95	4.54
45	1-1/8	2-1/8	3.44	3.95	3.95	4.54
46	1-1/8	2-1/8	3.44	3.95	3.95	4.54
47	1	2	3.44	3.95	3.95	4.54
48	1	2	3.44	3.95	3.95	4.54
49	1	2	3.44	3.95	3.95	4.54
50	1	2	3.44	3.95	3.95	4.54
51	1	2	3.44	3.95	3.95	4.54
52	7/8	1-7/8	3.44	3.95	3.95	4.54

### Sets

Size	Point Angle	Pieces	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	TiN Coated Type "B" 135°	29	<b>307THF</b>	276.19
1 – 60	TiN Coated Type "B" 135°	60	<b>307THW</b>	182.04

All sets are supplied in a Huot metal index



# Metric Jobber Length Drills

## High Speed & Cobalt

### List No. 301 – H.S. Oxide Finish, 118° Point

Creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow.

### List No. 301A – H.S. Bright Finish, 118° Point

Better chip ejection in low carbon, non-ferrous materials.

### List No. 301C – Super Cobalt, HD 135° Split Point

Cobalt drills are used in drilling tough, high tensile strength materials like stainless steels, titanium, and inconel.



HOLE MAKING

Size mm	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide Finish 301	Bright Finish 301A	Super Cobalt 301C
.15	.0059	3/64	3/4	12	8.08	8.08	—
.16	.0063	3/64	3/4	12	—	8.08	—
.17	.0067	1/16	3/4	12	—	7.31	—
.18	.0071	1/16	3/4	12	—	7.31	—
.19	.0075	1/16	3/4	12	5.81	5.81	—
.20	.0079	1/16	3/4	12	—	5.81	—
.21	.0083	3/32	3/4	12	—	5.81	—
.22	.0087	1/16	3/4	12	—	5.81	—
.23	.0091	3/32	3/4	12	5.81	5.81	—
.24	.0094	3/32	3/4	12	—	5.81	—
.25	.0098	5/64	3/4	12	—	4.59	—
.26	.0102	5/64	3/4	12	—	4.59	—
.27	.0106	5/64	3/4	12	—	4.15	—
.28	.0110	5/64	3/4	12	—	4.15	—
.29	.0114	5/64	3/4	12	4.15	4.15	—
.30	.0118	3/32	3/4	12	—	4.15	—
.32	.0126	3/32	3/4	12	4.15	4.15	—
.34	.0134	5/32	3/4	12	—	4.15	—
.35	.0138	1/8	3/4	12	—	4.15	—
.36	.0142	5/32	3/4	12	—	4.15	—
.38	.0150	3/16	3/4	12	—	4.15	—
.40	.0158	3/16	7/8	12	—	4.15	—
.42	.0165	3/16	7/8	12	—	4.15	—
.44	.0173	3/16	7/8	12	—	4.15	—
.45	.0177	3/16	7/8	12	—	4.15	—
.46	.0181	3/16	7/8	12	—	4.15	—
.48	.0189	3/16	7/8	12	4.15	4.15	—
.50	.0197	3/16	7/8	12	4.15	4.15	—
.55	.0217	1/4	1	12	2.52	2.52	—
.60	.0236	5/16	1-1/8	12	2.52	2.52	—
.65	.0256	3/8	1-1/4	12	2.52	2.52	—
.70	.0276	3/8	1-1/4	12	2.01	2.01	—
.75	.0295	1/2	1-3/8	12	1.80	1.80	—
.80	.0315	1/2	1-3/8	12	1.80	1.80	—
.85	.0335	5/8	1-1/2	12	1.80	1.80	—
.90	.0355	5/8	1-1/2	12	1.80	1.80	—
.95	.0374	5/8	1-1/2	12	1.80	1.80	—
1.00	.0394	11/16	1-5/8	12	1.80	1.80	3.02
1.05	.0413	11/16	1-5/8	12	1.80	1.80	3.15
1.10	.0433	3/4	1-3/4	12	1.89	1.29	3.15
1.15	.0453	3/4	1-3/4	12	1.89	—	3.15
1.20	.0472	7/8	1-7/8	12	1.89	1.89	3.15
1.25	.0492	7/8	1-7/8	12	1.89	1.89	3.15
1.30	.0512	7/8	1-7/8	12	1.89	1.89	3.15
1.35	.0531	7/8	1-7/8	12	1.89	1.89	3.15
1.40	.0551	7/8	1-7/8	12	1.89	1.89	3.15
1.45	.0571	7/8	1-7/8	12	1.89	1.89	3.15
1.50	.0591	7/8	1-7/8	12	1.89	1.89	3.15
1.55	.0610	7/8	1-7/8	12	1.89	1.89	3.15
1.60	.0630	7/8	1-7/8	12	1.89	1.89	3.15
1.65	.0650	1	2	12	1.89	1.89	3.15
1.70	.0669	1	2	12	1.89	1.89	3.15
1.75	.0689	1	2	12	1.89	1.89	3.15
1.80	.0709	1	2	12	1.89	1.89	3.15
1.85	.0728	1	2	12	2.08	—	3.15
1.90	.0748	1	2	12	2.08	2.08	3.15
1.95	.0768	1	2	12	2.08	2.08	3.15

Size mm	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide Finish 301	Bright Finish 301A	Super Cobalt 301C
2.00	.0787	1-1/8	2-1/8	12	1.58	1.58	2.84
2.05	.0807	1-1/8	2-1/8	12	2.25	2.25	3.15
2.10	.0827	1-1/8	2-1/8	12	1.89	1.89	3.15
2.15	.0846	1-1/8	2-1/8	12	1.89	1.89	3.15
2.20	.0866	1-1/4	2-1/4	12	1.89	1.89	3.15
2.25	.0886	1-1/4	2-1/4	12	1.89	1.89	3.15
2.30	.0906	1-1/4	2-1/4	12	1.89	1.89	3.15
2.35	.0925	1-1/4	2-1/4	12	1.89	1.89	3.15
2.40	.0945	1-3/8	2-3/8	12	1.89	1.89	3.15
2.45	.0965	1-3/8	2-3/8	12	2.25	2.25	3.15
2.50	.0984	1-3/8	2-3/8	12	1.89	1.89	2.88
2.60	.1024	1-7/16	2-1/2	12	1.89	1.89	3.15
2.70	.1063	1-7/16	2-1/2	12	1.89	1.89	3.15
2.75	.1083	1-1/2	2-5/8	12	2.25	—	3.96
2.80	.1102	1-1/2	2-5/8	12	2.25	2.25	3.51
2.90	.1142	1-5/8	2-3/4	12	2.25	2.25	3.51
3.00	.1181	1-5/8	2-3/4	12	1.76	1.76	3.33
3.10	.1220	1-5/8	2-3/4	12	2.25	2.25	3.51
3.20	.1260	1-5/8	2-3/4	12	1.98	1.98	3.51
3.25	.1280	1-5/8	2-3/4	12	2.25	2.25	3.51
3.30	.1299	1-3/4	2-7/8	12	1.98	1.98	3.51
3.40	.1339	1-3/4	2-7/8	12	2.07	2.07	3.51
3.50	.1378	1-3/4	2-7/8	12	1.79	1.79	3.51
3.60	.1417	1-7/8	3	12	2.25	2.25	4.23
3.70	.1457	1-7/8	3	12	2.25	2.25	4.23
3.75	.1476	1-7/8	3	12	2.39	2.39	4.23
3.80	.1496	1-7/8	3	12	2.39	—	4.23
3.90	.1535	2	3-1/8	12	2.81	2.81	4.23
4.00	.1575	2-1/8	3-1/4	12	1.98	1.98	4.23
4.10	.1614	2-1/8	3-1/4	12	2.39	2.39	4.23
4.20	.1654	2-1/8	3-1/4	12	2.39	2.39	4.23
4.25	.1673	2-1/8	3-1/4	12	2.57	2.57	4.23
4.30	.1693	2-1/8	3-1/4	12	2.61	2.61	4.23
4.40	.1732	2-3/16	3-3/8	12	2.79	2.79	4.77
4.50	.1772	2-3/16	3-3/8	12	2.39	2.39	4.23
4.60	.1811	2-3/16	3-3/8	12	2.79	2.79	4.77
4.70	.1850	2-5/16	3-1/2	12	2.97	2.97	4.77
4.75	.1870	2-5/16	3-1/2	12	2.97	2.97	5.22
4.80	.1890	2-5/16	3-1/2	12	2.97	2.97	5.49
4.90	.1929	2-7/16	3-5/8	12	2.97	2.97	5.49
5.00	.1969	2-7/16	3-5/8	12	2.61	2.61	5.49
5.10	.2008	2-7/16	3-5/8	12	3.33	3.33	6.12
5.20	.2047	2-1/2	3-3/4	12	3.33	3.33	6.48
5.25	.2067	2-1/2	3-3/4	12	3.33	3.33	6.75
5.30	.2087	2-1/2	3-3/4	12	3.33	3.33	6.75
5.40	.2126	2-1/2	3-3/4	12	3.33	3.33	6.75
5.50	.2165	2-1/2	3-3/4	12	3.33	3.33	5.67
5.55	.2185	2-1/2	3-3/4	12	4.10	—	—
5.60	.2205	2-5/8	3-7/8	12	3.42	3.42	6.75
5.70	.2244	2-5/8	3-7/8	12	3.42	3.42	6.75
5.75	.2264	2-5/8	3-7/8	12	3.48	3.48	7.47
5.80	.2283	2-5/8	3-7/8	12	3.48	3.48	6.75
5.90	.2323	2-5/8	3-7/8	12	3.48	3.48	6.75
5.95	.2343	2-5/8	3-7/8	12	4.23	—	—
6.00	.2362	2-3/4	4	12	3.11	3.11	6.12
6.10	.2402	2-3/4	4	12	3.69	—	7.65
6.20	.2441	2-3/4	4	12	3.69	3.69	7.65

Cobalt sizes with decimal equivalent smaller than .0625 are not split point.

# Metric Jobber Length Drills

## High Speed & Cobalt

List No. **301** – H.S. Oxide Finish, 118° Point  
Creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow.

List No. **301A** – H.S. Bright Finish, 118° Point  
Better chip ejection in low carbon, non-ferrous materials.

List No. **301C** – Super Cobalt, HD 135° Split Point  
Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



Size mm	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide Finish 301	Bright Finish 301A	Super Cobalt 301C
6.25	.2461	2-3/4	4	12	4.05	4.05	7.65
6.30	.2480	2-3/4	4	12	4.05	4.05	7.65
6.40	.2520	2-7/8	4-1/8	12	4.05	4.05	7.65
6.50	.2559	2-7/8	4-1/8	12	3.69	3.69	7.65
6.60	.2598	2-7/8	4-1/8	12	4.05	4.05	7.65
6.70	.2638	2-7/8	4-1/8	12	4.05	4.05	7.65
6.75	.2657	2-7/8	4-1/8	12	4.25	—	8.64
6.80	.2677	2-7/8	4-1/8	12	4.25	4.25	7.65
6.90	.2717	2-7/8	4-1/8	12	4.86	4.86	8.91
7.00	.2756	2-7/8	4-1/8	12	4.05	4.05	7.65
7.10	.2795	2-15/16	4-1/4	12	4.86	4.86	9.18
7.20	.2835	2-15/16	4-1/4	12	4.86	4.86	10.26
7.25	.2854	2-15/16	4-1/4	12	5.22	5.22	11.25
7.30	.2874	2-15/16	4-1/4	12	5.22	—	11.25
7.40	.2913	3-1/16	4-3/8	12	5.22	5.22	11.25
7.50	.2953	3-1/16	4-3/8	6	5.04	5.04	9.09
7.60	.2992	3-1/16	4-3/8	6	5.85	5.85	12.06
7.65	.3012	3-1/16	4-3/8	6	9.65	—	—
7.70	.3031	3-3/16	4-1/2	6	5.85	—	12.06
7.75	.3051	3-3/16	4-1/2	6	5.85	—	12.06
7.80	.3071	3-3/16	4-1/2	6	5.85	5.85	12.06
7.85	.3091	3-3/16	4-1/2	6	6.21	6.21	12.06
7.90	.3110	3-3/16	4-1/2	6	5.85	5.85	12.06
8.00	.3150	3-3/16	4-1/2	6	5.70	5.70	9.77
8.10	.3189	3-5/16	4-5/8	6	6.39	6.39	11.70
8.20	.3228	3-5/16	4-5/8	6	6.39	6.39	12.78
8.25	.3248	3-5/16	4-5/8	6	7.29	7.29	12.78
8.30	.3268	3-5/16	4-5/8	6	7.29	7.29	12.78
8.40	.3307	3-7/16	4-3/4	6	7.38	7.38	13.86
8.50	.3346	3-7/16	4-3/4	6	6.39	6.39	11.52
8.60	.3386	3-7/16	4-3/4	6	7.38	—	13.86
8.70	.3425	3-7/16	4-3/4	6	7.38	7.38	13.86
8.75	.3445	3-1/2	4-7/8	6	8.91	—	13.86
8.80	.3465	3-1/2	4-7/8	6	7.65	—	16.79
8.90	.3504	3-1/2	4-7/8	6	7.65	7.65	16.79
9.00	.3543	3-1/2	4-7/8	6	7.65	7.65	12.78
9.10	.3583	3-1/2	4-7/8	6	8.10	8.10	16.65
9.20	.3622	3-5/8	5	6	8.10	8.10	16.65
9.25	.3642	3-5/8	5	6	8.37	8.37	16.65
9.30	.3661	3-5/8	5	6	8.37	8.37	16.65
9.40	.3701	3-5/8	5	6	8.37	—	16.65
9.50	.3740	3-5/8	5	6	7.64	7.64	13.86
9.60	.3780	3-3/4	5-1/8	6	9.18	9.18	19.26
9.70	.3819	3-3/4	5-1/8	6	9.18	9.18	19.26
9.75	.3839	3-3/4	5-1/8	6	9.18	9.18	19.26
9.80	.3858	3-3/4	5-1/8	6	9.18	—	19.26
9.90	.3898	3-3/4	5-1/8	6	9.23	—	19.26
10.00	.3937	3-3/4	5-1/8	6	9.45	9.45	16.02

Size mm	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					Oxide Finish 301	Bright Finish 301A	Super Cobalt 301C
10.10	.3976	3-3/4	5-1/4	6	11.25	—	—
10.20	.4016	3-7/8	5-1/4	6	9.63	9.63	17.91
10.30	.4055	3-7/8	5-1/4	6	12.06	12.06	—
10.40	.4094	3-7/8	5-1/4	6	12.06	12.06	—
10.50	.4134	3-15/16	5-3/8	6	9.41	9.41	18.54
10.60	.4173	3-15/16	5-3/8	6	11.62	—	—
10.70	.4213	3-15/16	5-3/8	6	12.06	12.06	—
10.80	.4252	4-1/16	5-1/2	6	12.06	12.06	19.35
10.90	.4291	4-1/16	5-1/2	6	12.06	—	—
11.00	.4331	4-1/16	5-1/2	6	10.08	10.08	19.35
11.10	.4370	4-1/16	5-1/2	6	14.31	14.31	—
11.20	.4409	4-3/16	5-5/8	6	12.51	—	22.28
11.25	.4429	4-3/16	5-5/8	6	14.31	14.31	23.94
11.30	.4449	4-3/16	5-5/8	6	14.31	14.31	—
11.40	.4488	4-3/16	5-5/8	6	14.31	—	—
11.50	.4528	4-3/16	5-5/8	6	11.25	11.25	23.94
11.60	.4567	4-3/16	5-5/8	6	16.65	—	—
11.70	.4606	4-3/16	5-5/8	6	16.65	16.65	—
11.80	.4646	4-3/16	5-5/8	6	13.28	—	24.75
11.90	.4685	4-3/16	5-5/8	6	16.65	16.65	—
12.00	.4724	4-3/8	5-7/8	6	12.51	12.51	24.75
12.10	.4764	4-3/8	5-7/8	6	16.65	16.65	—
12.20	.4803	4-3/8	5-7/8	6	13.46	13.46	25.65
12.25	.4823	4-3/8	5-7/8	6	16.65	—	—
12.30	.4843	4-3/8	5-7/8	6	16.65	16.65	—
12.40	.4882	4-3/8	5-7/8	6	16.65	—	—
12.50	.4921	4-1/2	6	6	13.32	13.32	25.65
12.60	.4961	4-1/2	6	1	25.38	25.38	—
12.70	.5000	4-1/2	6	1	25.38	—	—
12.75	.5020	4-1/2	6	1	25.38	25.38	—
12.80	.5039	4-1/2	6	1	23.31	23.31	—
12.90	.5079	4-1/2	6	1	25.38	25.38	—
13.00	.5118	4-1/2	6	1	23.36	23.36	33.82
13.50	.5315	4-13/16	6-5/8	1	27.09	—	36.00
13.80	.5433	4-13/16	6-5/8	1	28.08	—	—
14.00	.5512	4-13/16	6-5/8	1	28.08	—	38.65
14.50	.5709	4-13/16	6-5/8	1	29.97	—	39.50
15.00	.5906	5-3/16	7-1/8	1	29.88	—	39.50
15.25	.6004	5-3/16	7-1/8	1	33.03	—	—
15.50	.6102	5-3/16	7-1/8	1	35.28	—	46.00
16.00	.6299	5-3/16	7-1/8	1	37.44	—	52.00
16.50	.6496	5-3/16	7-1/8	1	42.12	42.12	59.00
17.00	.6693	5-5/8	7-5/8	1	43.47	43.47	69.00
17.50	.6890	5-5/8	7-5/8	1	44.91	44.91	69.75
18.00	.7087	5-5/8	7-5/8	1	50.00	50.00	—
19.00	.7480	5-5/8	7-5/8	1	54.72	—	—
19.50	.7677	5-5/8	7-5/8	1	57.38	—	—
20.00	.7874	5-5/8	7-5/8	1	61.80	—	—

## Metric Sets

Description	Pcs.	Oxide Finish		Bright Finish		Cobalt	
		Set No.	Price	Set No.	Price	Set No.	Price
1.00mm – 6.00 by .5mm	11	<b>307MA</b>	33.88	<b>307MAB</b>	33.88	<b>307CMA</b>	54.22
1.00mm – 10.00 by .5mm	19	<b>307MB</b>	85.60	<b>307MBB</b>	85.60	<b>307CMB</b>	146.60
1.00mm – 13.00 by .5mm	25	<b>307MD</b>	169.67	<b>307MDB</b>	169.67	<b>307CMD</b>	294.86

All sets are supplied in Huot metal index





# Metric Heavy Duty Jobber Length Drill

High Speed Steel – Oxide Finish



**MICHIGAN**  
DRILL & CUTTING TOOLS

## List No. 301SB – Type “B”, 135° Split Point, Heavy Duty Web Construction

Type “B” drills are made with a heavy web construction and may be used with heavier feeds in harder materials. Because of torsional strength and a 135° split point, this drill is popular in hand held drilling applications to reduce breakage and eliminate skidding or walking.

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1.00	.0394	11/16	1-5/8	12	2.10
1.05	.0413	11/16	1-5/8	12	2.10
1.10	.0433	3/4	1-3/4	12	2.10
1.15	.0453	3/4	1-3/4	12	2.10
1.20	.0472	7/8	1-7/8	12	2.10
1.25	.0492	7/8	1-7/8	12	2.10
1.30	.0512	7/8	1-7/8	12	2.10
1.35	.0531	7/8	1-7/8	12	2.10
1.40	.0551	7/8	1-7/8	12	2.10
1.45	.0571	7/8	1-7/8	12	2.10
1.50	.0591	7/8	1-7/8	12	2.10
1.55	.0610	7/8	1-7/8	12	2.10
1.60	.0630	7/8	1-7/8	12	2.10
1.65	.0650	1	2	12	2.10
1.70	.0669	1	2	12	2.10
1.75	.0689	1	2	12	2.18
1.80	.0709	1	2	12	2.18
1.85	.0728	1	2	12	2.18
1.90	.0748	1	2	12	2.18
1.95	.0768	1	2	12	2.18
2.00	.0787	1-1/8	2-1/8	12	2.18
2.05	.0807	1-1/8	2-1/8	12	2.18
2.15	.0846	1-1/8	2-1/8	12	2.18
2.20	.0866	1-1/4	2-1/4	12	2.18
2.30	.0906	1-1/4	2-1/4	12	2.18
2.35	.0925	1-1/4	2-1/4	12	2.18
2.40	.0945	1-3/8	2-3/8	12	2.35
2.45	.0965	1-3/8	2-3/8	12	2.35
2.50	.0984	1-3/8	2-3/8	12	2.35
2.70	.1063	1-7/16	2-1/2	12	2.35
2.80	.1102	1-7/16	2-1/2	12	2.35
2.90	.1142	1-5/8	2-3/4	12	2.35
3.00	.1181	1-5/8	2-3/4	12	2.35
3.10	.1220	1-5/8	2-3/4	12	2.60
3.20	.1260	1-5/8	2-3/4	12	2.60
3.25	.1280	1-3/4	2-7/8	12	2.60
3.30	.1299	1-3/4	2-7/8	12	2.60
3.40	.1339	1-3/4	2-7/8	12	2.60
3.50	.1378	1-3/4	2-7/8	12	2.60
3.60	.1417	1-7/8	3	12	2.60
3.70	.1457	1-7/8	3	12	2.60
3.75	.1477	1-7/8	3	12	2.75
3.80	.1496	1-7/8	3	12	2.75
3.90	.1535	2	3-1/8	12	3.00
4.00	.1575	2-1/8	3-1/4	12	3.00
4.10	.1614	2-1/8	3-1/4	12	3.00
4.20	.1654	2-1/8	3-1/4	12	3.00
4.30	.1693	2-1/8	3-1/4	12	3.00
4.40	.1732	2-3/16	3-3/8	12	3.12
4.50	.1772	2-3/16	3-3/8	12	3.12
4.60	.1811	2-3/16	3-3/8	12	3.12
4.70	.1850	2-5/16	3-1/2	12	3.12
5.00	.1969	2-7/16	3-5/8	12	3.12
5.10	.2008	2-7/16	3-5/8	12	3.66
5.20	.2047	2-1/2	3-3/4	12	3.66

Size mm	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
5.40	.2126	2-1/2	3-3/4	12	3.66
5.50	.2165	2-1/2	3-3/4	12	3.66
5.60	.2205	2-5/8	3-7/8	12	3.98
5.80	.2283	2-5/8	3-7/8	12	3.98
5.90	.2323	2-5/8	3-7/8	12	3.98
6.00	.2362	2-3/4	4	12	3.98
6.20	.2441	2-3/4	4	12	4.46
6.30	.2480	2-3/4	4	12	4.46
6.40	.2520	2-7/8	4-1/8	12	4.46
6.50	.2559	2-7/8	4-1/8	12	4.55
6.60	.2598	2-7/8	4-1/8	12	4.65
6.80	.2677	2-7/8	4-1/8	12	4.81
6.90	.2717	2-7/8	4-1/8	12	5.35
7.00	.2756	2-7/8	4-1/8	12	5.35
7.10	.2795	2-15/16	4-1/4	12	5.35
7.20	.2835	2-15/16	4-1/4	12	5.35
7.25	.2855	2-15/16	4-1/4	12	6.19
7.30	.2874	2-15/16	4-1/4	12	6.19
7.40	.2913	3-1/16	4-3/8	12	6.19
7.50	.2953	3-1/16	4-3/8	6	6.34
7.60	.2992	3-1/16	4-3/8	6	6.34
7.70	.3031	3-3/16	4-1/2	6	6.34
7.80	.3071	3-3/16	4-1/2	6	6.44
7.90	.3110	3-3/16	4-1/2	6	6.73
8.00	.3150	3-3/16	4-1/2	6	6.73
8.10	.3189	3-5/16	4-5/8	6	6.93
8.20	.3228	3-5/16	4-5/8	6	6.93
8.30	.3268	3-5/16	4-5/8	6	7.82
8.40	.3307	3-7/16	4-3/4	6	7.82
8.50	.3346	3-7/16	4-3/4	6	7.82
8.60	.3386	3-7/16	4-3/4	6	7.82
8.70	.3425	3-7/16	4-3/4	6	8.67
8.80	.3465	3-1/2	4-7/8	6	8.67
8.90	.3504	3-1/2	4-7/8	6	8.77
9.00	.3543	3-1/2	4-7/8	6	8.77
9.10	.3583	3-1/2	4-7/8	6	9.16
9.20	.3622	3-5/8	5	6	9.16
9.30	.3661	3-5/8	5	6	9.31
9.40	.3701	3-5/8	5	6	9.31
9.50	.3740	3-5/8	5	6	9.31
9.60	.3780	3-3/4	5-1/8	6	10.40
9.70	.3819	3-3/4	5-1/8	6	10.49
9.80	.3858	3-3/4	5-1/8	6	10.59
9.90	.3898	3-3/4	5-1/8	6	10.69
10.00	.3937	3-3/4	5-1/8	6	10.69
10.20	.4016	3-7/8	5-1/4	6	10.79
10.50	.4134	3-15/16	5-3/8	6	10.85
10.80	.4252	4-1/16	5-1/2	6	13.25
11.00	.4331	4-1/16	5-1/2	6	13.25
11.50	.4528	4-1/16	5-1/2	6	13.25
12.00	.4724	4-3/8	5-7/8	6	13.82
12.20	.4803	4-3/8	5-7/8	6	15.74
12.50	.4921	4-1/2	6	6	16.04
13.00	.5118	4-1/2	6	1	26.60

Sizes with decimal equivalent smaller than .0625 are not split point.

# Metric Left Hand Jobber Length Drill

High Speed Steel



List No. **X301LH** – 118° Point

- Can be used as screw extractor for drilling out broken studs or fasteners.
- For use in left hand spindle rotation on screw machines and drill heads.



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
.50	.0197	3/16	7/8	12	5.27
.60	.0236	5/16	1-1/8	12	5.27
.70	.0276	3/8	1-1/4	12	5.63
.80	.0315	1/2	1-3/8	12	5.63
1.00	.0394	11/16	1-5/8	12	6.12
1.10	.0433	3/4	1-3/4	12	8.61
1.15	.0453	3/4	1-3/4	12	8.42
1.30	.0512	7/8	1-7/8	12	7.72
1.40	.0551	7/8	1-7/8	12	7.38
1.50	.0591	7/8	1-7/8	12	4.75
1.60	.0630	7/8	1-7/8	12	6.84
1.70	.0669	1	2	12	6.66
1.80	.0709	1	2	12	6.50
1.90	.0748	1	2	12	6.40
2.00	.0787	1-1/8	2-1/8	12	4.90
2.10	.0827	1-1/8	2-1/8	12	6.12
2.20	.0866	1-1/4	2-1/4	12	6.12
2.30	.0906	1-1/4	2-1/4	12	6.12
2.35	.0925	1-1/4	2-1/4	12	6.12
2.40	.0945	1-3/8	2-3/8	12	6.12
2.50	.0984	1-3/8	2-3/8	12	4.90
2.60	.1024	1-7/16	2-1/2	12	6.24
2.70	.1063	1-7/16	2-1/2	12	6.24
2.80	.1102	1-1/2	2-5/8	12	6.40
2.90	.1142	1-5/8	2-3/4	12	6.40
3.00	.1181	1-5/8	2-3/4	12	5.10
3.10	.1220	1-5/8	2-3/4	12	6.40
3.40	.1339	1-3/4	2-7/8	12	6.76
3.50	.1378	1-5/8	2-7/8	12	5.50
3.60	.1417	1-7/8	3	12	6.66
3.70	.1457	1-7/8	3	12	6.66
3.80	.1496	1-7/8	3	12	7.55
4.00	.1575	2-1/8	3-1/4	12	6.00
4.10	.1614	2-1/8	3-1/4	12	7.38
4.30	.1693	2-1/8	3-1/4	12	8.61
4.40	.1732	2-3/16	3-3/8	12	8.61
4.50	.1772	2-3/16	3-3/8	12	8.85
4.60	.1811	2-3/16	3-3/8	12	9.11
4.70	.1850	2-5/16	3-1/2	12	9.46
4.80	.1890	2-5/16	3-1/2	12	9.65
4.90	.1929	2-7/16	3-5/8	12	9.65
5.00	.1969	2-7/16	3-5/8	12	10.27
5.10	.2008	2-7/16	3-5/8	12	10.35
5.30	.2087	2-1/2	3-3/4	12	10.54
5.40	.2126	2-1/2	3-3/4	12	10.54
5.50	.2165	2-1/2	3-3/4	12	11.48
5.60	.2205	2-5/8	3-7/8	12	10.88
5.70	.2244	2-5/8	3-7/8	12	10.88
5.80	.2283	2-5/8	3-7/8	12	11.22
5.90	.2323	2-5/8	3-7/8	12	11.22
6.00	.2362	2-3/4	4	12	12.29
6.10	.2402	2-3/4	4	12	12.29

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
6.20	.2441	2-3/4	4	12	12.62
6.30	.2480	2-3/4	4	12	14.04
6.40	.2520	2-7/8	4-1/8	12	14.04
6.50	.2559	2-7/8	4-1/8	12	15.00
6.60	.2598	2-7/8	4-1/8	12	15.72
6.70	.2638	2-7/8	4-1/8	12	15.72
6.80	.2677	2-7/8	4-1/8	12	17.54
6.90	.2717	2-7/8	4-1/8	12	17.54
7.00	.2756	2-7/8	4-1/8	12	14.50
7.10	.2795	2-15/16	4-1/4	12	18.95
7.20	.2835	2-15/16	4-1/4	12	18.95
7.30	.2874	2-15/16	4-1/4	12	19.31
7.40	.2913	3-1/16	4-3/8	12	19.31
7.50	.2953	3-1/16	4-3/8	6	21.40
7.60	.2992	3-1/16	4-3/8	6	21.40
7.70	.3031	3-3/16	4-1/2	6	21.40
7.80	.3071	3-3/16	4-1/2	6	21.94
7.90	.3110	3-3/16	4-1/2	6	21.94
8.00	.3150	3-3/16	4-1/2	6	14.66
8.10	.3189	3-5/16	4-5/8	6	22.83
8.20	.3228	3-5/16	4-5/8	6	22.83
8.30	.3268	3-5/16	4-5/8	6	23.86
8.40	.3307	3-7/16	4-3/4	6	23.86
8.50	.3346	3-7/16	4-3/4	6	25.01
8.60	.3386	3-7/16	4-3/4	6	25.45
8.70	.3425	3-7/16	4-3/4	6	25.45
8.80	.3465	3-1/2	4-7/8	6	25.97
8.90	.3504	3-1/2	4-7/8	6	25.97
9.00	.3543	3-1/2	4-7/8	6	18.88
9.10	.3583	3-1/2	4-7/8	6	26.31
9.20	.3622	3-5/8	5	6	26.49
9.30	.3661	3-5/8	5	6	26.85
9.40	.3701	3-5/8	5	6	27.20
9.50	.3740	3-5/8	5	6	28.08
9.60	.3780	3-3/4	5-1/8	6	28.54
9.70	.3819	3-3/4	5-1/8	6	28.95
9.80	.3858	3-3/4	5-1/8	6	29.82
10.00	.3937	3-3/4	5-1/8	6	30.29
10.50	.4134	3-15/16	5-3/8	6	31.59
11.00	.4331	4-1/16	5-1/2	6	29.22
11.50	.4528	4-3/16	5-5/8	6	33.33
12.00	.4724	4-3/8	5-7/8	6	35.98
12.50	.4921	4-1/2	6	6	39.49
13.00	.5118	4-1/2	6	1	43.88
13.50	.5315	4-13/16	6-5/8	1	43.88
14.00	.5512	4-13/16	6-5/8	1	44.75
15.00	.5906	5-3/16	7-1/8	1	46.50
15.50	.6102	5-3/16	7-1/8	1	47.37
16.00	.6299	5-3/16	7-1/8	1	48.26
17.50	.6890	5-5/8	7-5/8	1	50.88
18.00	.7087	5-5/8	7-5/8	1	52.65
19.00	.7480	5-5/8	7-5/8	1	54.41

# Left Hand Drills

## Jobber Length – High Speed Steel

List No. **300LH** – 118° Point

- Can be used as screw extractor for drilling out broken studs or fasteners.
- For use in left hand spindle rotation on screw machines and drill heads.



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1/64	.0156	3/16	3/4	12	7.25
1/32	.0312	1/2	1-3/8	12	5.45
3/64	.0469	3/4	1-3/4	12	3.42
1/16	.0625	7/8	1-7/8	12	3.42
5/64	.0781	1	2	12	3.62
3/32	.0938	1-1/4	2-1/4	12	3.62
7/64	.1094	1-1/2	2-5/8	12	3.62
1/8	.1250	1-5/8	2-3/4	12	3.62
9/64	.1406	1-3/4	2-7/8	12	3.63
5/32	.1562	2	3-1/8	12	3.89
11/64	.1719	2-1/8	3-1/4	12	4.22
3/16	.1875	2-5/16	3-1/2	12	4.29
13/64	.2031	2-7/16	3-5/8	12	4.68
7/32	.2188	2-1/2	3-3/4	12	4.95
15/64	.2344	2-5/8	3-7/8	12	6.48
1/4	.2500	2-3/4	4	12	6.24

### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1	.2280	2-5/8	3-7/8	12	7.25
2	.2210	2-5/8	3-7/8	12	7.25
3	.2130	2-1/2	3-3/4	12	6.53
4	.2090	2-1/2	3-3/4	12	6.53
5	.2055	2-1/2	3-3/4	12	6.53
6	.2040	2-1/2	3-3/4	12	6.53
7	.2010	2-7/16	3-5/8	12	6.07
8	.1990	2-7/16	3-5/8	12	6.07
9	.1960	2-7/16	3-5/8	12	6.07
10	.1935	2-7/16	3-5/8	12	6.07
11	.1910	2-5/16	3-1/2	12	6.07
12	.1890	2-5/16	3-1/2	12	6.07
13	.1850	2-5/16	3-1/2	12	5.87
14	.1820	2-3/16	3-3/8	12	5.87
15	.1800	2-3/16	3-3/8	12	5.87
16	.1770	2-3/16	3-3/8	12	5.87
17	.1730	2-3/16	3-3/8	12	5.87
18	.1695	2-1/8	3-1/4	12	5.54
19	.1660	2-1/8	3-1/4	12	5.54
20	.1610	2-1/8	3-1/4	12	4.98
21	.1590	2-1/8	3-1/4	12	4.98
22	.1570	2	3-1/8	12	4.98
23	.1540	2	3-1/8	12	4.98
24	.1520	2	3-1/8	12	4.98
25	.1495	1-7/8	3	12	4.29
26	.1470	1-7/8	3	12	4.29
27	.1440	1-7/8	3	12	4.29
28	.1405	1-3/4	2-7/8	12	4.29
29	.1360	1-3/4	2-7/8	12	4.29
30	.1285	1-5/8	2-3/4	12	4.29
31	.1200	1-5/8	2-3/4	12	4.29
32	.1160	1-5/8	2-3/4	12	4.29
33	.1130	1-1/2	2-5/8	12	4.29
34	.1110	1-1/2	2-5/8	12	4.29
35	.1100	1-1/2	2-5/8	12	4.29
36	.1065	1-7/16	2-1/2	12	4.09
37	.1040	1-7/16	2-1/2	12	4.09
38	.1015	1-7/16	2-1/2	12	4.09
39	.0995	1-3/8	2-3/8	12	4.09
40	.0980	1-3/8	2-3/8	12	4.09

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
17/64	.2656	2-7/8	4-1/8	12	6.93
9/32	.2812	2-15/16	4-1/4	6	7.13
19/64	.2969	3-1/16	4-3/8	6	7.92
5/16	.3125	3-3/16	4-1/2	6	8.58
21/64	.3281	3-5/16	4-5/8	6	9.24
11/32	.3438	3-7/16	4-3/4	6	9.81
23/64	.3594	3-1/2	4-7/8	6	11.85
3/8	.3750	3-5/8	5	6	12.00
25/64	.3906	3-3/4	5-1/8	6	13.63
13/32	.4062	3-7/8	5-1/4	6	14.72
27/64	.4219	3-15/16	5-3/8	6	15.97
7/16	.4375	4-1/16	5-1/2	6	16.10
29/64	.4531	4-3/16	5-5/8	6	19.04
15/32	.4688	4-5/16	5-3/4	6	19.52
31/64	.4844	4-3/8	5-7/8	6	21.38
1/2	.5000	4-1/2	6	6	21.77

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
41	.0960	1-3/8	2-3/8	12	4.09
42	.0935	1-1/4	2-1/4	12	4.09
43	.0890	1-1/4	2-1/4	12	4.09
44	.0860	1-1/8	2-1/8	12	4.09
45	.0820	1-1/8	2-1/8	12	4.09
46	.0810	1-1/8	2-1/8	12	4.09
47	.0785	1	2	12	4.09
48	.0760	1	2	12	4.09
49	.0730	1	2	12	4.09
50	.0700	1	2	12	4.09
51	.0670	1	2	12	4.09
52	.0635	7/8	1-7/8	12	4.09
53	.0595	7/8	1-7/8	12	4.29
54	.0550	7/8	1-7/8	12	4.29
55	.0520	7/8	1-7/8	12	4.29
56	.0465	3/4	1-3/4	12	4.29
57	.0430	3/4	1-3/4	12	4.29
58	.0420	11/16	1-5/8	12	4.29
59	.0410	11/16	1-5/8	12	4.29
60	.0400	11/16	1-5/8	12	4.29
61	.0390	11/16	1-5/8	12	4.79
62	.0380	5/8	1-1/2	12	6.61
63	.0370	5/8	1-1/2	12	6.61
64	.0360	5/8	1-1/2	12	6.61
65	.0350	5/8	1-1/2	12	6.61
66	.0330	1/2	1-3/8	12	6.61
67	.0320	1/2	1-3/8	12	6.61
68	.0310	1/2	1-3/8	12	6.61
69	.0292	1/2	1-3/8	12	7.46
70	.0280	3/8	1-1/4	12	7.46
71	.0260	3/8	1-1/4	12	7.46
72	.0250	5/16	1-1/8	12	7.46
73	.0240	5/16	1-1/8	12	7.46
74	.0225	1/4	1	12	7.46
75	.0210	1/4	1	12	7.46
76	.0200	3/16	7/8	12	7.46
77	.0180	3/16	7/8	12	7.46
78	.0160	3/16	7/8	12	7.46
79	.0145	1/8	3/4	12	8.55
80	.0135	1/8	3/4	12	8.55

# Left Hand Drills

## Jobber Length – High Speed Steel

List No. **300LH** – 118° Point

- Can be used as screw extractor for drilling out broken studs or fasteners.
- For use in left hand spindle rotation on screw machines and drill heads.



### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
A	.2340	2-5/8	3-7/8	12	8.71
B	.2380	2-3/4	4	12	8.71
C	.2420	2-3/4	4	12	8.71
D	.2460	2-3/4	4	12	8.71
E	.2500	2-3/4	4	12	6.24
F	.2570	2-7/8	4-1/8	12	9.64
G	.2610	2-7/8	4-1/8	12	9.64
H	.2660	2-7/8	4-1/8	12	9.64
I	.2720	2-7/8	4-1/8	6	9.64
J	.2770	2-7/8	4-1/8	6	9.64
K	.2810	2-15/16	4-1/4	6	9.64
L	.2900	2-15/16	4-1/4	6	10.92
M	.2950	3-1/16	4-3/8	6	10.92



Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
N	.3020	3-1/16	4-3/8	6	10.92
O	.3160	3-3/16	4-1/2	6	12.54
P	.3230	3-5/16	4-5/8	6	13.86
Q	.3320	3-7/16	4-3/4	6	13.86
R	.3390	3-7/16	4-3/4	6	13.86
S	.3480	3-1/2	4-7/8	6	16.83
T	.3580	3-1/2	4-7/8	6	16.83
U	.3680	3-5/8	5	6	16.83
V	.3770	3-5/8	5	6	18.41
W	.3860	3-3/4	5-1/8	6	18.41
X	.3970	3-3/4	5-1/8	6	18.41
Y	.4040	3-7/8	5-1/4	6	19.60
Z	.4130	3-7/8	5-1/4	6	21.65

### Sets

#### Left Hand Drill Sets

Sizes	Description	Pcs.	Set No.	Price
1/16" – 1/4" by 64 <sup>ths</sup>	Fractional	13	<b>307GL</b>	61.81
1/16" – 1/2" by 32 <sup>nds</sup>	Fractional	15	<b>307RL</b>	151.78
1/16" – 3/8" by 64 <sup>ths</sup>	Fractional	21	<b>307SL</b>	141.27
1/16" – 1/2" by 64 <sup>ths</sup>	Fractional	29	<b>307FL</b>	283.27
A – Z	Letter	26	<b>307LL</b>	346.77
1 – 60	Wire Gauge	60	<b>307WL</b>	305.41

All sets are supplied in metal index



# Mechanics Length Drills

## High Speed Steel

List No. **316** – 135° Split Point, **Black & Gold**

Supplied in black & gold high speed steel with 135° split point. Drill Sizes 3/16 to 1/2 have three equal flats on shank.



Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1/16	.0625	7/8	1-7/8	12	1.05
5/64	.0781	1	2	12	1.05
3/32	.0938	1-1/4	2-1/4	12	1.11
7/64	.1094	1-5/16	2-3/8	12	1.20
1/8	.1250	1-7/16	2-1/2	12	1.29
9/64	.1406	1-9/16	2-5/8	12	1.41
5/32	.1562	1-11/16	2-3/4	12	1.62
11/64	.1719	1-13/16	2-7/8	12	1.74
3/16	.1875	1-7/8	3	12	2.01
13/64	.2031	1-15/16	3-1/8	12	2.13
7/32	.2188	2	3-1/4	12	2.31
15/64	.2344	2-1/16	3-3/8	12	2.49
1/4	.2500	2	3-1/2	12	2.55
17/64	.2656	2-1/8	3-5/8	12	2.70
9/32	.2812	2-1/4	3-3/4	6	3.33

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
19/64	.2969	2-3/8	3-7/8	6	3.87
5/16	.3125	2-1/2	4	6	3.90
21/64	.3281	2-9/16	4-1/16	6	4.41
11/32	.3438	2-5/8	4-1/8	6	4.80
23/64	.3594	2-11/16	4-3/16	6	5.07
3/8	.3750	2-11/16	4-1/4	6	5.31
25/64	.3906	2-3/4	4-5/16	6	6.03
13/32	.4062	2-13/16	4-3/8	6	6.54
27/64	.4219	2-7/8	4-7/16	6	6.69
7/16	.4375	2-15/16	4-1/2	6	7.35
29/64	.4531	3	4-5/8	6	7.68
15/32	.4688	3-1/8	4-3/4	6	9.15
31/64	.4844	3-1/4	4-7/8	6	9.42
1/2	.5000	3-3/8	5	6	9.57

Sizes with decimal equivalent smaller than .0625 are not split point.

### Sets

Size	Pcs.	Description	Set No.	Price
1/16 - 1/2 by 64 <sup>ths</sup>	29	Fractional Set	<b>316F</b>	134.28

Supplied in Huot Bit Buddy.



Case No. **CZ316**  
Bit Buddy Case only: \$16.50



# Parabolic Flute Jobber Length Drills

## High Speed Steel

Parabolic drills are for deep hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials.

List No. **300PF** – High Speed Steel, 135° Split Point

List No. **300PFT** – TiN Coated, 135° Split Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

### Fractional Size

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
1/16	.0625	7/8	1-7/8	12	1.78	3.06
5/64	.0781	1	2	12	1.81	3.09
3/32	.0938	1-1/4	2-1/4	12	1.81	3.09
7/64	.1094	1-1/2	2-5/8	12	1.97	3.25
1/8	.1250	1-5/8	2-3/4	12	2.00	3.28
9/64	.1406	1-3/4	2-7/8	12	2.06	3.34
5/32	.1562	2	3-1/8	12	2.11	3.39
11/64	.1719	2-1/8	3-1/4	12	2.46	3.74
3/16	.1875	2-5/16	3-1/2	12	2.55	3.83
13/64	.2031	2-7/16	3-5/8	12	2.97	5.53
7/32	.2188	2-1/2	3-3/4	12	3.21	5.77
15/64	.2344	2-5/8	3-7/8	12	3.60	5.88
1/4	.2500	2-3/4	4	12	3.72	8.61
17/64	.2656	2-7/8	4-1/8	12	4.42	9.08
9/32	.2812	2-15/16	4-1/4	6	4.42	9.12
19/64	.2969	3-1/16	4-3/8	6	5.34	10.01
5/16	.3125	3-3/16	4-1/2	6	5.70	10.14
21/64	.3281	3-5/16	4-5/8	6	6.50	10.67
11/32	.3438	3-7/16	4-3/4	6	7.12	11.06
23/64	.3594	3-1/2	4-7/8	6	8.26	13.28
3/8	.3750	3-5/8	5	6	8.12	13.74

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
25/64	.3906	3-3/4	5-1/8	6	9.50	16.52
13/32	.4062	3-7/8	5-1/4	6	9.50	16.98
27/64	.4219	3-15/16	5-3/8	6	10.86	17.51
7/16	.4375	4-1/16	5-1/2	6	10.90	18.04
29/64	.4531	4-3/16	5-5/8	6	12.80	19.23
15/32	.4688	4-5/16	5-3/4	6	13.14	19.75
31/64	.4844	4-3/8	5-7/8	6	14.26	20.12
1/2	.5000	4-1/2	6	6	13.82	20.40
33/64	.5156	4-13/16	6-5/8	1	26.93	43.58
17/32	.5312	4-13/16	6-5/8	1	27.80	44.45
35/64	.5469	4-13/16	6-5/8	1	28.05	44.70
9/16	.5625	4-13/16	6-5/8	1	28.91	45.56
37/64	.5781	4-13/16	6-5/8	1	29.19	45.84
19/32	.5938	5-3/16	7-1/8	1	29.85	46.50
39/64	.6094	5-3/16	7-1/8	1	31.15	47.80
5/8	.6250	5-3/16	7-1/8	1	32.21	48.86
41/64	.6406	5-3/16	7-1/8	1	32.47	54.97
21/32	.6562	5-3/16	7-1/8	1	33.73	56.23
43/64	.6719	5-5/8	7-5/8	1	35.44	57.94
11/16	.6875	5-5/8	7-5/8	1	36.40	58.90

### Wire Gauge Sizes

Package Quantity: 12 drills

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. 300PF	TiN 300PFT
1	.2280	2-5/8	3-7/8	3.89	6.45
2	.2210	2-5/8	3-7/8	3.89	6.45
3	.2130	2-1/2	3-3/4	3.52	6.08
4	.2090	2-1/2	3-3/4	3.52	6.08
5	.2055	2-1/2	3-3/4	3.52	6.08
6	.2040	2-1/2	3-3/4	3.52	6.08
7	.2010	2-7/16	3-5/8	3.14	4.82
8	.1990	2-7/16	3-5/8	3.14	4.82
9	.1960	2-7/16	3-5/8	3.14	4.82
10	.1935	2-7/16	3-5/8	3.14	4.82
11	.1910	2-5/16	3-1/2	3.00	4.68
12	.1890	2-5/16	3-1/2	3.00	4.68
13	.1850	2-5/16	3-1/2	3.00	4.68
14	.1820	2-3/16	3-3/8	3.00	4.68
15	.1800	2-3/16	3-3/8	3.00	4.68
16	.1770	2-3/16	3-3/8	3.00	4.68
17	.1730	2-3/16	3-3/8	3.00	4.68
18	.1695	2-1/8	3-1/4	2.44	4.12
19	.1660	2-1/8	3-1/4	2.44	4.12
20	.1610	2-1/8	3-1/4	2.44	4.12
21	.1590	2-1/8	3-1/4	2.28	3.96
22	.1570	2	3-1/8	2.28	3.96
23	.1540	2	3-1/8	2.18	3.86
24	.1520	2	3-1/8	2.18	3.86
25	.1495	1-7/8	3	2.18	3.86
26	.1470	1-7/8	3	2.18	3.86

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. 300PF	TiN 300PFT
27	.1440	1-7/8	3	2.18	3.86
28	.1405	1-3/4	2-7/8	2.01	3.69
29	.1360	1-3/4	2-7/8	2.01	3.69
30	.1285	1-5/8	2-3/4	2.01	3.69
31	.1200	1-5/8	2-3/4	2.01	3.69
32	.1160	1-5/8	2-3/4	2.01	3.69
33	.1130	1-1/2	2-5/8	2.01	3.69
34	.1110	1-1/2	2-5/8	2.01	3.69
35	.1100	1-1/2	2-5/8	2.01	3.69
36	.1065	1-7/16	2-1/2	2.01	3.69
37	.1040	1-7/16	2-1/2	2.01	3.69
38	.1015	1-7/16	2-1/2	2.01	3.69
39	.0995	1-3/8	2-3/8	2.01	3.69
40	.0980	1-3/8	2-3/8	2.01	3.69
41	.0960	1-3/8	2-3/8	2.01	3.69
42	.0935	1-1/4	2-1/4	2.01	3.69
43	.0890	1-1/4	2-1/4	2.01	3.69
44	.0860	1-1/8	2-1/8	2.01	3.69
45	.0820	1-1/8	2-1/8	2.01	3.69
46	.0810	1-1/8	2-1/8	2.01	3.69
47	.0785	1	2	2.01	3.69
48	.0760	1	2	2.01	3.69
49	.0730	1	2	2.01	3.69
50	.0700	1	2	2.01	3.69
51	.0670	1	2	2.01	3.69
52	.0635	7/8	1-7/8	2.01	3.69

# Parabolic Flute Jobber Length Drills

## High Speed Steel

Parabolic drills are for deep hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials.

List No. **300PF** – High Speed Steel, 135° Split Point

List No. **300PFT** – TiN Coated, 135° Split Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
A	.2340	2-5/8	3-7/8	12	4.15	9.47
B	.2380	2-3/4	4	12	4.79	10.11
C	.2420	2-3/4	4	12	4.79	10.11
D	.2460	2-3/4	4	12	5.39	10.71
E	.2500	2-3/4	4	12	3.29	8.61
F	.2570	2-7/8	4-1/8	12	4.75	10.07
G	.2610	2-7/8	4-1/8	12	4.79	10.11
H	.2660	2-7/8	4-1/8	12	5.39	10.64
I	.2720	2-7/8	4-1/8	6	5.04	10.36
J	.2770	2-7/8	4-1/8	6	5.39	10.64
K	.2810	2-15/16	4-1/4	6	5.39	10.64
L	.2900	2-15/16	4-1/4	6	6.12	11.44
M	.2950	3-1/16	4-3/8	6	6.49	11.81

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
N	.3020	3-1/16	4-3/8	6	6.49	11.81
O	.3160	3-3/16	4-1/2	6	7.17	12.49
P	.3230	3-5/16	4-5/8	6	7.62	12.94
Q	.3320	3-7/16	4-3/4	6	7.89	13.21
R	.3390	3-7/16	4-3/4	6	7.89	13.21
S	.3480	3-1/2	4-7/8	6	9.67	16.15
T	.3580	3-1/2	4-7/8	6	9.67	16.15
U	.3680	3-5/8	5	6	9.67	18.27
V	.3770	3-5/8	5	6	10.68	19.28
W	.3860	3-3/4	5-1/8	6	10.68	19.28
X	.3970	3-3/4	5-1/8	6	10.68	19.28
Y	.4040	3-7/8	5-1/4	6	11.30	19.90
Z	.4130	3-7/8	5-1/4	6	12.30	20.90

## Metric Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
1.50	.0591	7/8	1-7/8	12	2.59	3.85
1.90	.0748	1	2	12	2.59	3.85
2.00	.0787	1	2-1/8	12	2.59	3.85
2.15	.0846	1-1/8	2-1/8	12	2.70	3.96
2.30	.0906	1-1/4	2-1/4	12	2.59	3.85
2.40	.0945	1-3/8	2-3/8	12	2.59	3.85
2.45	.0965	1-3/8	2-3/8	12	2.59	3.85
2.50	.0984	1-3/8	2-3/8	12	2.59	4.28
2.70	.1063	1-7/16	2-1/2	12	2.70	4.39
3.00	.1181	1-5/8	2-3/4	12	2.59	4.28
3.20	.1260	1-5/8	2-3/4	12	2.85	4.54
3.50	.1378	1-3/4	2-7/8	12	2.85	5.28
3.90	.1535	2	3-1/8	12	3.01	5.44
4.00	.1575	2-1/8	3-1/4	12	3.01	5.44
4.20	.1654	2-1/8	3-1/4	12	3.20	5.63
4.50	.1772	2-3/16	3-3/8	12	3.40	5.83
5.00	.1968	2-7/16	3-5/8	12	3.83	7.92
5.10	.2008	2-7/16	3-5/8	12	4.29	8.38
5.20	.2047	2-1/2	3-3/4	12	4.03	8.12
5.40	.2126	2-1/2	3-3/4	12	4.29	8.38
5.50	.2165	2-1/2	3-3/4	12	4.29	8.38
5.60	.2205	2-5/8	3-7/8	12	4.55	8.64
6.00	.2362	2-3/4	4	12	4.92	9.01
6.50	.2559	2-7/8	4-1/8	12	5.27	9.36
6.70	.2638	2-7/8	4-1/8	12	5.54	9.63

Sizes with decimal equivalent smaller than .0625 are not split point.

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 300PF	TiN 300PFT
6.80	.2677	2-7/8	4-1/8	12	5.54	11.71
6.90	.2717	3-3/4	5-1/8	12	6.05	12.22
7.00	.2756	2-7/8	4-1/8	12	6.05	12.22
7.10	.2795	2-15/16	4-1/4	6	6.30	13.70
7.50	.2953	2-7/8	4-3/8	6	6.30	13.70
8.00	.3150	3-1/16	4-1/2	6	6.57	13.97
8.10	.3189	3-5/16	4-5/8	6	7.11	14.51
8.20	.3228	3-3/16	4-5/8	6	7.11	14.51
8.50	.3346	3-5/16	4-3/4	6	7.59	14.99
8.60	.3386	3-7/16	4-3/4	6	8.14	15.54
8.70	.3425	3-7/16	4-3/4	6	8.25	15.65
9.00	.3543	3-7/16	4-7/8	6	8.25	15.65
9.20	.3622	3-5/8	5	6	8.48	15.88
9.50	.3740	3-1/2	5	6	8.48	15.88
10.00	.3937	3-5/8	5-1/8	6	10.08	20.03
10.50	.4134	3-3/4	5-3/8	6	12.08	23.65
11.00	.4331	3-15/16	5-1/2	6	12.44	24.01
11.50	.4528	4-1/16	5-5/8	6	12.87	24.44
12.00	.4724	4-3/8	5-7/8	6	13.85	25.42
12.50	.4921	4-1/2	6	6	14.24	25.81
13.00	.5118	4-1/2	6	1	22.37	33.94
13.50	.5315	4-13/16	6-5/8	1	27.86	41.05
14.00	.5512	4-13/16	6-5/8	1	27.86	41.05
15.50	.6102	5-3/16	7-1/8	1	30.76	47.36
16.00	.6299	5-3/16	7-1/8	1	33.66	50.26

## Sets

Size	Pcs.	Description	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	29	H.S.	<b>307FP</b>	182.73
1/16 – 1/2 by 64 <sup>ths</sup>	29	TiN Coated	<b>307PFT</b>	303.76

All sets are supplied in Huot metal index



# Fast Spiral Jobber Length Drills

## High Speed Steel

List No. **300F** – Bright Finish, 118° Point

These drills are designed primarily for drilling in nonferrous materials such as aluminum, zinc die cast, and some plastics. They are successfully used in mild steel deep holes where chip packing occurs with standard helix drills.



### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
1/64	.0156	3/16	3/4	12	2.31
1/32	.0312	1/2	1-3/8	12	1.85
3/64	.0469	3/4	1-3/4	12	1.49
1/16	.0625	7/8	1-7/8	12	1.51
5/64	.0781	1	2	12	1.51
3/32	.0938	1-1/4	2-1/4	12	1.51
7/64	.1094	1-1/2	2-5/8	12	1.55
1/8	.1250	1-5/8	2-3/4	12	1.44
9/64	.1406	1-3/4	2-7/8	12	1.58
5/32	.1562	2	3-1/8	12	1.49
11/64	.1719	2-1/8	3-1/4	12	1.95
3/16	.1875	2-5/16	3-1/2	12	2.18
13/64	.2031	2-7/16	3-5/8	12	2.41
7/32	.2188	2-1/2	3-3/4	12	2.71
15/64	.2344	2-5/8	3-7/8	12	2.90
1/4	.2500	2-3/4	4	12	2.97

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
17/64	.2656	2-7/8	4-1/8	12	3.72
9/32	.2812	2-15/16	4-1/4	6	4.02
19/64	.2969	3-1/16	4-3/8	6	4.23
5/16	.3125	3-3/16	4-1/2	6	4.47
21/64	.3281	3-5/16	4-5/8	6	5.54
11/32	.3438	3-7/16	4-3/4	6	6.06
23/64	.3594	3-1/2	4-7/8	6	7.26
3/8	.3750	3-5/8	5	6	7.26
25/64	.3906	3-3/4	5-1/8	6	8.45
13/32	.4062	3-7/8	5-1/4	6	8.45
27/64	.4219	3-15/16	5-3/8	6	9.09
7/16	.4375	4-1/16	5-1/2	6	9.42
29/64	.4531	4-3/16	5-5/8	6	9.82
15/32	.4688	4-5/16	5-3/4	6	10.56
31/64	.4844	4-3/8	5-7/8	6	11.09
1/2	.5000	4-1/2	6	6	11.35

### Wire Gauge Sizes

Package Quantity: 12 drills

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	3.17
2	.2210	2-5/8	3-7/8	3.17
3	.2130	2-1/2	3-3/4	2.97
4	.2090	2-1/2	3-3/4	2.97
5	.2055	2-1/2	3-3/4	2.97
6	.2040	2-1/2	3-3/4	2.97
7	.2010	2-7/16	3-5/8	2.44
8	.1990	2-7/16	3-5/8	2.44
9	.1960	2-7/16	3-5/8	2.44
10	.1935	2-7/16	3-5/8	2.44
11	.1910	2-5/16	3-1/2	2.44
12	.1890	2-5/16	3-1/2	2.44
13	.1850	2-5/16	3-1/2	2.30
14	.1820	2-3/16	3-3/8	2.30
15	.1800	2-3/16	3-3/8	2.30
16	.1770	2-3/16	3-3/8	2.30
17	.1730	2-3/16	3-3/8	2.30
18	.1695	2-1/8	3-1/4	1.97
19	.1660	2-1/8	3-1/4	1.97
20	.1610	2-1/8	3-1/4	1.97
21	.1590	2-1/8	3-1/4	1.82
22	.1570	2	3-1/8	1.82
23	.1540	2	3-1/8	1.69
24	.1520	2	3-1/8	1.69
25	.1495	1-7/8	3	1.69
26	.1470	1-7/8	3	1.69
27	.1440	1-7/8	3	1.69
28	.1405	1-3/4	2-7/8	1.58
29	.1360	1-3/4	2-7/8	1.58
30	.1285	1-5/8	2-3/4	1.58
31	.1200	1-5/8	2-3/4	1.58
32	.1160	1-5/8	2-3/4	1.58
33	.1130	1-1/2	2-5/8	1.58
34	.1110	1-1/2	2-5/8	1.58
35	.1100	1-1/2	2-5/8	1.58
36	.1065	1-7/16	2-1/2	1.58
37	.1040	1-7/16	2-1/2	1.58
38	.1015	1-7/16	2-1/2	1.58
39	.0995	1-3/8	2-3/8	1.58
40	.0980	1-3/8	2-3/8	1.51

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
41	.0960	1-3/8	2-3/8	1.44
42	.0935	1-1/4	2-1/4	1.44
43	.0890	1-1/4	2-1/4	1.44
44	.0860	1-1/8	2-1/8	1.52
45	.0820	1-1/8	2-1/8	1.52
46	.0810	1-1/8	2-1/8	1.52
47	.0785	1	2	1.52
48	.0760	1	2	1.52
49	.0730	1	2	1.52
50	.0700	1	2	1.52
51	.0670	1	2	1.52
52	.0635	7/8	1-7/8	1.52
53	.0595	7/8	1-7/8	1.45
54	.0550	7/8	1-7/8	1.45
55	.0520	7/8	1-7/8	1.45
56	.0465	3/4	1-3/4	1.45
57	.0430	3/4	1-3/4	1.45
58	.0420	11/16	1-5/8	1.45
59	.0410	11/16	1-5/8	1.45
60	.0400	11/16	1-5/8	1.45
61	.0390	11/16	1-5/8	1.83
62	.0380	5/8	1-1/2	1.83
63	.0370	5/8	1-1/2	1.83
64	.0360	5/8	1-1/2	1.83
65	.0350	5/8	1-1/2	1.83
66	.0330	1/2	1-3/8	1.83
67	.0320	1/2	1-3/8	1.83
68	.0310	1/2	1-3/8	1.83
69	.0292	1/2	1-3/8	1.83
70	.0280	3/8	1-1/4	1.83
71	.0260	3/8	1-1/4	2.25
72	.0250	5/16	1-1/8	2.13
73	.0240	5/16	1-1/8	2.13
74	.0225	1/4	1	2.13
75	.0210	1/4	1	2.31
76	.0200	3/16	7/8	2.31
77	.0180	3/16	7/8	2.51
78	.0160	3/16	7/8	2.51
79	.0145	1/8	3/4	2.81
80	.0135	1/8	3/4	2.81

# Fast Spiral Jobber Length Drills

## High Speed Steel

List No. **300F** – Bright Finish, 118° Point

These drills are designed primarily for drilling in nonferrous materials such as aluminum, zinc die cast, and some plastics. They are successfully used in mild steel deep holes where chip packing occurs with standard helix drills.



**MADE IN USA**



**MICHIGAN DRILL & CUTTING TOOLS**

### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
A	.2340	2-5/8	3-7/8	12	3.66
B	.2380	2-3/4	4	12	3.66
C	.2420	2-3/4	4	12	3.66
D	.2460	2-3/4	4	12	3.66
E	.2500	2-3/4	4	12	2.97
F	.2570	2-7/8	4-1/8	12	3.76
G	.2610	2-7/8	4-1/8	12	4.29
H	.2660	2-7/8	4-1/8	12	4.29
I	.2720	2-7/8	4-1/8	6	4.29
J	.2770	2-7/8	4-1/8	6	4.60
K	.2810	2-15/16	4-1/4	6	5.15
L	.2900	2-15/16	4-1/4	6	5.15
M	.2950	3-1/16	4-3/8	6	5.58

Size	Decimal Equivalent	Flute Length	Overall Length	Package Quantity	Price Each
N	.3020	3-1/16	4-3/8	6	5.58
O	.3160	3-3/16	4-1/2	6	5.58
P	.3230	3-5/16	4-5/8	6	6.11
Q	.3320	3-7/16	4-3/4	6	6.33
R	.3390	3-7/16	4-3/4	6	6.47
S	.3480	3-1/2	4-7/8	6	7.06
T	.3580	3-1/2	4-7/8	6	7.56
U	.3680	3-5/8	5	6	7.56
V	.3770	3-5/8	5	6	7.91
W	.3860	3-3/4	5-1/8	6	7.91
X	.3970	3-3/4	5-1/8	6	8.95
Y	.4040	3-7/8	5-1/4	6	9.61
Z	.4130	3-7/8	5-1/4	6	10.27

### Sets

Size	Pcs.	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	29	<b>307FF</b>	154.44

All sets are supplied in Huot metal index



# Vent Drills

## High Speed – Fast Spiral

List No. **380** – Bright Finish, 118° Point

To drill vent holes in tire molds and to clean the vent holes after tire production.



**MADE IN USA**



**MICHIGAN DRILL & CUTTING TOOLS**

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
77	.0180	1	2	5.20
74	.0225	1	2	5.33
74	.0225	1	3	5.70
73	.0240	5/8	1-1/2	5.20
.7mm	.0276	1-3/8	2-3/4	5.50
69	.0292	5/8	3	6.00
69	.0292	2	3	6.00
68	.0320	2	6	9.00
61	.0390	3/8	1-3/8	5.20
61	.0390	5/8	3	6.00
61	.0390	3	4-1/2	7.00
60	.0400	1-1/2	2-1/2	5.00
60	.0400	5/8	3	5.60
60	.0400	3	4	6.50
60	.0400	4	6	9.50
59	.0410	5/8	3	5.60
59	.0410	1	3-1/2	6.00
59	.0410	2	5	9.00
58	.0420	2	3	5.60
58	.0420	3	4	6.50
57	.0430	2	3	5.60
57	.0430	2-1/2	3-1/2	6.10

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
57	.0430	3	4	6.50
57	.0430	4	6	9.50
56	.0465	3/8	1-3/4	4.90
3/64	.0469	2	3	5.70
55	.0520	5/8	3	5.60
55	.0520	1-3/4	3	5.70
55	.0520	2-1/4	3	5.90
55	.0520	1	3-1/2	6.00
55	.0520	3	4	6.75
55	.0520	1-1/2	4-1/4	7.00
55	.0520	2-1/2	4-1/2	7.50
55	.0520	3	5	9.00
55	.0520	3-1/2	5	9.50
55	.0520	3-1/2	6-1/4	10.00
55	.0520	4-1/2	7	11.80
54	.0550	5/8	3	5.60
54	.0550	4	6	9.50
54	.0550	1	4	7.00
1.5mm	.0591	2	6	9.50
1.5mm	.0591	4	6	9.50
1/16	.0625	2-1/2	3-1/2	6.20
1/16	.0625	3	4	6.75

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
1/16	.0625	3	4-1/2	8.00
1/16	.0625	3-1/2	5	8.50
1/16	.0625	4	6	9.90
1/16	.0625	5	7	11.80
1/16	.0625	4	8	14.00
52	.0635	4	5	8.50
52	.0635	4	6	10.25
51	.0670	2	3	6.20
51	.0670	4	6	10.25
50	.0700	3	4	7.20
50	.0700	2-1/2	4-1/2	8.10
50	.0700	3	5	9.00
50	.0700	4	6	10.25
49	.0730	4	6	10.25
45	.0820	2	3	7.20
45	.0820	3	4	7.90
45	.0820	4	6	10.25
45	.0820	6	8	14.00
3/32	.0938	2	3-1/4	5.90
3/32	.0938	3	4	8.50
3/32	.0938	4	6	10.50
3/32	.0938	6	8	14.00



# Slow Spiral Jobber Length Drills

## High Speed Steel

List No. **300L** – Bright Finish, 118° Point

Slow spiral drills are designed for applications in brass, fiberglass, hard rubber and plastics.

The open flute design allows the greatest volume of chip removal with high feed rates. They are also successfully used in shallow hole drilling of aluminum and magnesium alloys and die cast parts.



**MICHIGAN**  
DRILL & CUTTING TOOLS

### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/64	.0156	3/16	3/4	12	3.56
1/32	.0312	1/2	1-3/8	12	2.29
3/64	.0469	3/4	1-3/4	12	2.24
1/16	.0625	7/8	1-7/8	12	2.11
5/64	.0781	1	2	12	2.15
3/32	.0938	1-1/4	2-1/4	12	1.91
7/64	.1094	1-1/2	2-5/8	12	1.95
1/8	.1250	1-5/8	2-3/4	12	1.95
9/64	.1406	1-3/4	2-7/8	12	2.31
5/32	.1562	2	3-1/8	12	2.47
11/64	.1719	2-1/8	3-1/4	12	2.64
3/16	.1875	2-5/16	3-1/2	12	2.81
13/64	.2031	2-7/16	3-5/8	12	3.63
7/32	.2188	2-1/2	3-3/4	12	3.76
15/64	.2344	2-5/8	3-7/8	12	4.29
1/4	.2500	2-3/4	4	12	3.63

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
17/64	.2656	2-7/8	4-1/8	12	5.74
9/32	.2812	2-15/16	4-1/4	6	5.87
19/64	.2969	3-1/16	4-3/8	6	6.27
5/16	.3125	3-3/16	4-1/2	6	6.27
21/64	.3281	3-5/16	4-5/8	6	7.92
11/32	.3438	3-7/16	4-3/4	6	7.92
23/64	.3594	3-1/2	4-7/8	6	10.89
3/8	.3750	3-5/8	5	6	8.35
25/64	.3906	3-3/4	5-1/8	6	9.83
13/32	.4062	3-7/8	5-1/4	6	9.93
27/64	.4219	3-15/16	5-3/8	6	11.22
7/16	.4375	4-1/16	5-1/2	6	11.45
29/64	.4531	4-3/16	5-5/8	6	12.24
15/32	.4688	4-5/16	5-3/4	6	13.18
31/64	.4844	4-3/8	5-7/8	6	16.42
1/2	.5000	4-1/2	6	6	13.53

### Fractional Sets

Size	Pcs.	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	29	307SFL	204.89

All sets are supplied in Huot metal index



### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	2-5/8	3-7/8	12	4.44
B	.2380	2-3/4	4	12	4.44
C	.2420	2-3/4	4	12	4.44
D	.2460	2-3/4	4	12	4.44
E	.2500	2-3/4	4	12	3.63
F	.2570	2-7/8	4-1/8	12	6.23
G	.2610	2-7/8	4-1/8	12	6.52
H	.2660	2-7/8	4-1/8	12	6.73
I	.2720	2-7/8	4-1/8	6	7.79
J	.2770	2-7/8	4-1/8	6	7.79
K	.2810	2-15/16	4-1/4	6	7.79
L	.2900	2-15/16	4-1/4	6	8.18
M	.2950	3-1/16	4-3/8	6	8.18

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	3-1/16	4-3/8	6	8.48
O	.3160	3-3/16	4-1/2	6	9.23
P	.3230	3-5/16	4-5/8	6	9.23
Q	.3320	3-7/16	4-3/4	6	9.23
R	.3390	3-7/16	4-3/4	6	9.57
S	.3480	3-1/2	4-7/8	6	10.53
T	.3580	3-1/2	4-7/8	6	10.53
U	.3680	3-5/8	5	6	10.53
V	.3770	3-5/8	5	6	11.10
W	.3860	3-3/4	5-1/8	6	12.54
X	.3970	3-3/4	5-1/8	6	12.54
Y	.4040	3-7/8	5-1/4	6	14.15
Z	.4130	3-7/8	5-1/4	6	14.15

## Electronic Digital Calipers

Rugged construction of stainless steel with no rack, no pinion, and no glass scale.

- 5 Digit high contrast display
- Accuracy .001"
- Inch / Metric switch
- SPC Output
- Floating "Zero" reference point
- Four way measurement
- Resolution ± .0005" / 0.01mm
- Includes: fitted case / battery



Tool No. **PR7251006** - 6" Caliper Price: **\$68.00**  
See precision tool section for more

# Slow Spiral Jobber Length Drills

## High Speed Steel

List No. **300L** – Bright Finish, 118° Point

Slow spiral drills are designed for applications in brass, fiberglass, hard rubber and plastics. The open flute design allows the greatest volume of chip removal with high feed rates. They are also successfully used in shallow hole drilling of aluminum and magnesium alloys and die cast parts.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Wire Gauge Sizes

Package Quantity: 12 drills

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	4.49
2	.2210	2-5/8	3-7/8	4.49
3	.2130	2-1/2	3-3/4	4.49
4	.2090	2-1/2	3-3/4	4.36
5	.2055	2-1/2	3-3/4	4.36
6	.2040	2-1/2	3-3/4	4.36
7	.2010	2-7/16	3-5/8	3.95
8	.1990	2-7/16	3-5/8	3.95
9	.1960	2-7/16	3-5/8	3.95
10	.1935	2-7/16	3-5/8	3.95
11	.1910	2-5/16	3-1/2	3.95
12	.1890	2-5/16	3-1/2	3.95
13	.1850	2-5/16	3-1/2	3.56
14	.1820	2-3/16	3-3/8	3.56
15	.1800	2-3/16	3-3/8	3.56
16	.1770	2-3/16	3-3/8	3.56
17	.1730	2-3/16	3-3/8	3.56
18	.1695	2-1/8	3-1/4	3.56
19	.1660	2-1/8	3-1/4	2.94
20	.1610	2-1/8	3-1/4	2.94
21	.1590	2-1/8	3-1/4	2.94
22	.1570	2	3-1/8	2.94
23	.1540	2	3-1/8	2.77
24	.1520	2	3-1/8	2.77
25	.1495	1-7/8	3	2.77
26	.1470	1-7/8	3	2.77
27	.1440	1-7/8	3	2.77
28	.1405	1-3/4	2-7/8	2.31
29	.1360	1-3/4	2-7/8	2.14
30	.1285	1-5/8	2-3/4	2.14
31	.1200	1-5/8	2-3/4	2.14
32	.1160	1-5/8	2-3/4	2.14
33	.1130	1-1/2	2-5/8	2.14
34	.1110	1-1/2	2-5/8	2.14
35	.1100	1-1/2	2-5/8	2.14
36	.1065	1-7/16	2-1/2	2.14
37	.1040	1-7/16	2-1/2	2.14
38	.1015	1-7/16	2-1/2	2.14
39	.0995	1-3/8	2-3/8	2.14
40	.0980	1-3/8	2-3/8	2.14

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
41	.0960	1-3/8	2-3/8	2.14
42	.0935	1-1/4	2-1/4	2.14
43	.0890	1-1/4	2-1/4	2.14
44	.0860	1-1/8	2-1/8	2.14
45	.0820	1-1/8	2-1/8	2.14
46	.0810	1-1/8	2-1/8	2.14
47	.0785	1	2	2.14
48	.0760	1	2	2.14
49	.0730	1	2	2.14
50	.0700	1	2	2.14
51	.0670	1	2	2.14
52	.0635	7/8	1-7/8	2.14
53	.0595	7/8	1-7/8	2.14
54	.0550	7/8	1-7/8	2.14
55	.0520	7/8	1-7/8	2.14
56	.0465	3/4	1-3/4	2.26
57	.0430	3/4	1-3/4	2.26
58	.0420	11/16	1-5/8	2.26
59	.0410	11/16	1-5/8	2.26
60	.0400	11/16	1-5/8	2.26
61	.0390	11/16	1-5/8	2.81
62	.0380	5/8	1-1/2	2.81
63	.0370	5/8	1-1/2	2.81
64	.0360	5/8	1-1/2	2.81
65	.0350	5/8	1-1/2	2.81
66	.0330	1/2	1-3/8	2.81
67	.0320	1/2	1-3/8	2.81
68	.0310	1/2	1-3/8	2.81
69	.0292	1/2	1-3/8	2.96
70	.0280	3/8	1-1/4	2.96
71	.0260	3/8	1-1/4	3.63
72	.0250	5/16	1-1/8	3.63
73	.0240	5/16	1-1/8	3.63
74	.0225	1/4	1	3.63
75	.0210	1/4	1	3.63
76	.0200	3/16	7/8	3.63
77	.0180	3/16	7/8	3.63
78	.0160	3/16	7/8	3.63
79	.0145	1/8	3/4	4.22
80	.0135	1/8	3/4	4.22

## Drill Gauge

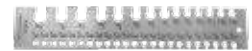
- Made of heavy gage carbon steel.
- Hole sizes and decimal equivalents permanently etched.



Tool No.	For Drill Sizes	Price
<b>CZG26</b>	A – Z	8.50
<b>CZG60</b>	1 – 60	12.00
<b>CZG29</b>	1/16 – 1/2 by 64 <sup>th</sup> s	8.50
<b>CZGSET</b>	Set of above 3	29.00
<b>CZG30</b>	1/2 – 1" by 64 <sup>th</sup> s	22.00
<b>CZGM25</b>	1 mm - 13mm	8.50

## Wire Gauge

- Popular gage for iron wire, hot and cold rolled sheet steel.
- Made from bright finished and polished hardened stainless steel.
- Gauge have a convenient decimal equivalent of each number.
- Clear permanently etched graduations in USA Standard.



Order No.	Description	Price
<b>PR1660400</b>	Rectangular	20.80
<b>PR1660300</b>	Round	20.80

# Drill and Reamer Blanks

## M2 – High Speed Steel

Made from hardened (Rc 63-65) M2 grade High Speed Steel and ground, these drill and reamer blanks can be used as punches, gauges, pins or ground for special tools.

### List No. 950D – Drill Blanks

up to 1/2" + .0000/ - .0003, over 1/2" + .0000/ - .0005

### List No. 950R – Reamer Blanks

+ .0002/ - .0000, up to 1/2" - over 1/2" + .0005/ - .0000



### Fractional Sizes

Size	Decimal Equivalent	Overall Length	Pkg. Qty	Price Each	
				Drill Blank 950D	Reamer Blank 950R
1/64	.0156	3/4	12	1.74	2.37
1/32	.0312	1-3/8	12	1.74	2.37
3/64	.0469	1-3/4	12	1.89	2.58
1/16	.0625	1-7/8	12	1.83	2.50
5/64	.0781	2	12	1.95	2.66
3/32	.0938	2-1/4	12	1.89	2.58
7/64	.1094	2-5/8	12	1.95	2.66
1/8	.1250	2-3/4	12	1.85	2.52
9/64	.1406	2-7/8	12	1.95	2.66
5/32	.1562	3-1/8	12	2.14	2.92
11/64	.1719	3-1/4	12	2.14	2.92
3/16	.1875	3-1/2	12	2.40	3.27
13/64	.2031	3-5/8	12	3.13	4.27
7/32	.2188	3-3/4	12	3.15	4.30
15/64	.2344	3-7/8	12	3.54	4.83
1/4	.2500	4	12	3.66	4.99
17/64	.2656	4-1/8	12	4.15	5.66
9/32	.2812	4-1/4	6	4.48	6.11
19/64	.2969	4-3/8	6	4.98	6.79
5/16	.3125	4-1/2	6	4.88	6.65
21/64	.3281	4-5/8	6	5.64	7.69
11/32	.3438	4-3/4	6	6.05	8.25
23/64	.3594	4-7/8	6	6.80	9.27
3/8	.3750	5	6	7.13	9.72
25/64	.3906	5-1/8	6	7.77	10.60
13/32	.4062	5-1/4	6	8.42	11.48
27/64	.4219	5-3/8	6	9.43	12.86
7/16	.4375	5-1/2	6	10.38	14.15
29/64	.4531	5-5/8	6	10.94	14.92
15/32	.4688	5-3/4	6	11.12	15.16
31/64	.4844	5-7/8	6	12.61	17.20
1/2	.5000	6	6	12.71	17.33

Size	Decimal Equivalent	Overall Length	Pkg. Qty	Price Each	
				Drill Blank 950D	Reamer Blank 950R
33/64	.5156	6	1	22.24	—
17/32	.5312	6	1	23.32	34.07
35/64	.5469	6	1	22.24	—
9/16	.5625	6	1	24.29	35.49
37/64	.5781	6	1	27.85	—
19/32	.5938	6	1	27.85	40.69
39/64	.6094	6	1	27.34	—
5/8	.6250	6	1	27.34	39.94
41/64	.6406	6	1	32.21	—
21/32	.6562	6	1	32.21	47.06
43/64	.6719	6	1	35.30	—
11/16	.6875	6	1	35.30	51.57
45/64	.7031	6	1	35.30	—
23/32	.7188	6	1	35.30	51.57
47/64	.7344	6	1	36.58	—
3/4	.7500	6	1	36.58	53.44
49/64	.7656	6	1	39.92	—
25/32	.7812	6	1	39.92	—
51/64	.7969	6	1	42.52	—
13/16	.8125	6	1	42.52	62.12
53/64	.8281	6	1	47.18	—
27/32	.8438	6	1	47.18	—
55/64	.8594	6	1	50.07	—
7/8	.8750	6	1	50.07	73.15
57/64	.8906	6	1	54.48	—
29/32	.9062	6	1	54.48	—
59/64	.9219	6	1	57.82	—
15/16	.9375	6	1	57.82	84.48
61/64	.9531	6	1	60.13	—
31/32	.9688	6	1	60.13	—
63/64	.9844	6	1	63.36	92.57
1	1.0000	6	1	63.36	92.57

### Letter Sizes

Size	Decimal Equivalent	Overall Length	Pkg. Qty	Price Each	
				Drill Blank 950D	Reamer Blank 950R
A	.2340	3-7/8	12	3.70	5.05
B	.2380	4	12	3.70	5.05
C	.2420	4	12	3.70	5.05
D	.2460	4	12	3.70	5.05
E	.2500	4	12	3.66	4.99
F	.2570	4-1/8	12	4.12	5.62
G	.2610	4-1/8	12	4.12	5.62
H	.2660	4-1/8	12	4.12	5.62
I	.2720	4-1/8	6	4.44	6.05
J	.2770	4-1/8	6	4.44	6.05
K	.2810	4-1/4	6	4.59	6.26
L	.2900	4-1/4	6	4.59	6.26
M	.2950	4-3/8	6	5.12	6.98

Size	Decimal Equivalent	Overall Length	Pkg. Qty	Price Each	
				Drill Blank 950D	Reamer Blank 950R
N	.3020	4-3/8	6	5.12	6.98
O	.3160	4-1/2	6	5.06	6.90
P	.3230	4-5/8	6	5.45	7.43
Q	.3320	4-3/4	6	5.45	7.43
R	.3390	4-3/4	6	6.17	8.41
S	.3480	4-7/8	6	7.03	9.59
T	.3580	4-7/8	6	7.03	9.59
U	.3680	5	6	7.46	10.17
V	.3770	5	6	7.46	10.17
W	.3860	5-1/8	6	8.09	11.03
X	.3970	5-1/8	6	8.09	11.03
Y	.4040	5-1/4	6	8.75	11.93
Z	.4130	5-1/4	6	8.75	11.93

# Drill and Reamer Blanks

## M2 – High Speed Steel



Made from hardened (Rc 63-65) M2 grade High Speed Steel and ground, these drill and reamer blanks can be used as punches, gauges, pins or ground for special tools.

### List No. 950D – Drill Blanks

up to 1/2" + .0000/ – .0003, over 1/2" + .0000/ – .0005

### List No. 950R – Reamer Blanks

+ .0002/ – .0000, up to 1/2" – over 1/2" + .0005/ – .0000



### Wire Gauge Sizes

Size	Decimal Equivalent	Overall Length	Pkg. Qty.	Price Each	
				Drill Blank 950D	Reamer Blank 950R
1	.2280	3-7/8	12	3.02	4.12
2	.2210	3-7/8	12	3.02	4.12
3	.2130	3-3/4	12	3.02	4.12
4	.2090	3-3/4	12	3.02	4.12
5	.2055	3-3/4	12	3.02	4.12
6	.2040	3-3/4	12	2.90	3.95
7	.2010	3-5/8	12	2.90	3.95
8	.1990	3-5/8	12	2.90	3.95
9	.1960	3-5/8	12	2.90	3.95
10	.1935	3-5/8	12	2.90	3.95
11	.1910	3-1/2	12	2.30	3.14
12	.1890	3-1/2	12	2.30	3.14
13	.1850	3-1/2	12	2.30	3.14
14	.1820	3-3/8	12	2.30	3.14
15	.1800	3-3/8	12	2.30	3.14
16	.1770	3-3/8	12	2.04	2.78
17	.1730	3-3/8	12	2.04	2.78
18	.1695	3-1/4	12	2.04	2.78
19	.1660	3-1/4	12	2.04	2.78
20	.1610	3-1/4	12	2.04	2.78
21	.1590	3-1/4	12	2.04	2.78
22	.1570	3-1/8	12	2.04	2.78
23	.1540	3-1/8	12	2.04	2.78
24	.1520	3-1/8	12	2.04	2.78
25	.1495	3	12	2.04	2.78
26	.1470	3	12	1.82	2.48
27	.1440	3	12	1.82	2.48
28	.1405	2-7/8	12	1.82	2.48
29	.1360	2-7/8	12	1.82	2.48
30	.1285	2-3/4	12	1.82	2.48
31	.1200	2-3/4	12	1.82	2.48
32	.1160	2-3/4	12	1.82	2.48
33	.1130	2-5/8	12	1.82	2.48
34	.1110	2-5/8	12	1.82	2.48
35	.1100	2-5/8	12	1.82	2.48
36	.1065	2-1/2	12	1.82	2.48
37	.1040	2-1/2	12	1.82	2.48
38	.1015	2-1/2	12	1.82	2.48
39	.0995	2-3/8	12	1.82	2.48
40	.0980	2-3/8	12	1.82	2.48
41	.0960	2-3/8	12	2.31	3.15
42	.0935	2-1/4	12	2.31	3.15
43	.0890	2-1/4	12	2.31	3.15
44	.0860	2-1/8	12	2.31	3.15
45	.0820	2-1/8	12	2.31	3.15
46	.0810	2-1/8	12	2.31	3.15

Size	Decimal Equivalent	Overall Length	Pkg. Qty.	Price Each	
				Drill Blank 950D	Reamer Blank 950R
47	.0785	2	12	2.31	3.15
48	.0760	2	12	2.31	3.15
49	.0730	2	12	2.31	3.15
50	.0700	2	12	2.31	3.15
51	.0670	2	12	2.31	3.15
52	.0635	1-7/8	12	2.31	3.15
53	.0595	1-7/8	12	2.31	3.15
54	.0550	1-7/8	12	2.31	3.15
55	.0520	1-7/8	12	2.31	3.15
56	.0465	1-3/4	12	2.31	3.15
57	.0430	1-3/4	12	2.31	3.15
58	.0420	1-5/8	12	2.31	3.15
59	.0410	1-5/8	12	2.31	3.15
60	.0400	1-5/8	12	2.31	3.15
61	.0390	1-5/8	12	2.31	3.15
62	.0380	1-1/2	12	2.31	3.15
63	.0370	1-1/2	12	2.31	3.15
64	.0360	1-1/2	12	2.31	3.15
65	.0350	1-1/2	12	2.31	3.15
66	.0330	1-3/8	12	2.31	3.15
67	.0320	1-3/8	12	2.31	3.15
68	.0310	1-3/8	12	2.31	3.15
69	.0292	1-3/8	12	2.31	3.15
70	.0280	1-1/4	12	2.31	3.15
71	.0260	1-1/4	12	2.31	3.15
72	.0250	1-1/8	12	2.31	3.15
73	.0240	1-1/8	12	2.31	3.15
74	.0225	1	12	2.31	3.15
75	.0210	1	12	2.31	3.15
76	.0200	7/8	12	2.31	3.15
77	.0180	7/8	12	2.31	3.15
78	.0160	7/8	12	2.31	3.15
79	.0145	3/4	12	2.31	3.15
80	.0135	3/4	12	2.31	3.15
81	.0130	3/4	12	2.60	—
82	.0125	3/4	12	2.60	—
83	.0120	3/4	12	2.60	—
84	.0115	3/4	12	2.60	—
85	.0110	3/4	12	2.60	—
86	.0105	3/4	12	2.60	—
87	.0100	3/4	12	2.60	—
90	.0087	3/4	12	2.60	—
92	.0079	3/4	12	2.60	—
95	.0067	3/4	12	2.60	—
97	.0059	3/4	12	2.60	—

### Sets

Size	Description	Pieces	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	Drill Blank Set	29	950SF	175.00
1/16 – 1/2 by 64 <sup>ths</sup>	Reamer Blank Set	29	950SR	235.00
A – Z	Drill Blank Set	26	950SL	162.11
1 – 60	Drill Blank Set	60	950SW	150.60
61 – 80	Drill Blank Set	20	950ST	55.50
1/16 – 1/2 by 64 <sup>ths</sup> , A – Z, 1 – 60	Drill Blank Set	115	950SX	496.48



All sets are supplied in Huot metal index



# Metric Drill Blanks

## M2 – High Speed Steel

Made from hardened (Rc 63-65) M2 grade High Speed Steel and ground, these drill blanks can be used as punches, gauges, pins or ground for special tools.

### List No. 950D – Drill Blanks

up to 12.70mm + .0000/ – .0003", over 12.70mm + .0000/ – .0005"



Size	Dec. Equiv.	Overall Length	Pkg. Qty.	Price Each
.50	.0197	7/8	12	4.18
.60	.0236	1-1/8	12	4.18
.75	.0295	1-3/8	12	4.18
1.00	.0394	1-5/8	12	3.37
1.05	.0413	1-5/8	12	3.37
1.10	.0433	1-3/4	12	3.37
1.15	.0453	1-3/4	12	3.37
1.20	.0472	1-7/8	12	3.37
1.25	.0492	1-7/8	12	3.37
1.30	.0512	1-7/8	12	3.37
1.40	.0551	1-7/8	12	3.37
1.45	.0571	1-7/8	12	3.37
1.50	.0590	1-7/8	12	3.37
1.55	.0610	1-7/8	12	3.37
1.60	.0630	1-7/8	12	3.37
1.65	.0650	2	12	3.56
1.70	.0669	2	12	3.56
1.75	.0689	2	12	3.56
1.80	.0709	2	12	3.56
1.85	.0728	2	12	3.56
1.90	.0748	2	12	3.56
1.95	.0768	2	12	3.56
2.00	.0787	2-1/8	12	3.56
2.05	.0807	2-1/8	12	3.56
2.10	.0827	2-1/8	12	3.56
2.15	.0846	2-1/8	12	3.56
2.20	.0866	2-1/4	12	3.56
2.25	.0886	2-1/4	12	3.56
2.30	.0905	2-1/4	12	3.56
2.35	.0925	2-1/4	12	3.56
2.40	.0945	2-3/8	12	3.56
2.45	.0964	2-3/8	12	3.56
2.50	.0984	2-3/8	12	3.56
2.60	.1024	2-1/2	12	3.56
2.70	.1063	2-1/2	12	3.56
2.75	.1083	2-5/8	12	3.56
2.80	.1102	2-5/8	12	3.56
2.90	.1142	2-3/4	12	3.56
3.00	.1181	2-3/4	12	3.56
3.10	.1220	2-3/4	12	3.56
3.20	.1260	2-3/4	12	3.56
3.25	.1279	2-3/4	12	3.72
3.30	.1299	2-7/8	12	3.72
3.40	.1338	2-7/8	12	3.72
3.50	.1378	2-7/8	12	3.72
3.60	.1417	3	12	3.72
3.70	.1457	3	12	4.16
3.75	.1476	3	12	4.16
3.80	.1496	3-1/8	12	4.16
3.90	.1535	3-1/8	12	4.16
4.00	.1575	3-1/4	12	4.16
4.10	.1614	3-1/4	12	4.16
4.20	.1653	3-1/4	12	4.16
4.25	.1673	3-1/4	12	4.16
4.30	.1693	3-1/4	12	4.16
4.40	.1732	3-3/8	12	4.27
4.50	.1772	3-3/8	12	4.27

Size	Dec. Equiv.	Overall Length	Pkg. Qty.	Price Each
4.60	.1811	3-3/8	12	4.27
4.70	.1850	3-1/2	12	4.27
4.75	.1870	3-1/2	12	4.27
4.80	.1890	3-1/2	12	4.27
4.90	.1929	3-5/8	12	5.25
5.00	.1969	3-5/8	12	5.25
5.10	.2008	3-5/8	12	5.25
5.20	.2047	3-3/4	12	5.25
5.25	.2067	3-3/4	12	5.25
5.30	.2087	3-3/4	12	5.25
5.40	.2126	3-3/4	12	5.25
5.50	.2165	3-7/8	12	5.85
5.60	.2205	3-7/8	12	5.85
5.70	.2244	3-7/8	12	5.85
5.75	.2264	3-7/8	12	5.85
5.80	.2283	3-7/8	12	5.85
5.90	.2323	3-7/8	12	5.85
6.00	.2362	4	12	6.23
6.10	.2401	4	12	6.23
6.20	.2441	4	12	6.23
6.25	.2461	4	12	6.23
6.30	.2480	4	12	6.23
6.40	.2520	4-1/8	12	6.53
6.50	.2559	4-1/8	12	6.53
6.60	.2598	4-1/8	12	6.53
6.70	.2638	4-1/8	12	6.53
6.80	.2677	4-1/8	12	6.53
6.90	.2716	4-1/8	12	6.53
7.00	.2756	4-1/8	12	6.53
7.10	.2795	4-1/4	12	6.83
7.20	.2835	4-1/4	12	6.83
7.30	.2874	4-1/4	12	6.83
7.40	.2913	4-3/8	12	6.83
7.50	.2953	4-3/8	6	7.80
7.60	.2992	4-3/8	6	7.80
7.70	.3031	4-1/2	6	7.80
7.80	.3071	4-1/2	6	7.80
7.90	.3110	4-1/2	6	7.80
8.00	.3150	4-1/2	6	7.80
8.10	.3189	4-5/8	6	8.48
8.20	.3228	4-5/8	6	8.48
8.30	.3268	4-5/8	6	8.48
8.40	.3307	4-3/4	6	9.45
8.50	.3346	4-3/4	6	9.45
8.60	.3386	4-3/4	6	9.45
8.70	.3425	4-3/4	6	9.45
8.80	.3464	4-7/8	6	10.43
8.90	.3504	4-7/8	6	10.43
9.00	.3543	4-7/8	6	10.43
9.10	.3583	4-7/8	6	10.43
9.20	.3655	5	6	11.40
9.30	.3661	5	6	11.40
9.40	.3701	5	6	11.40
9.50	.3740	5	6	11.40
9.60	.3779	5-1/8	6	12.00
9.70	.3819	5-1/8	6	12.00
9.80	.3858	5-1/8	6	12.00

Size	Dec. Equiv.	Overall Length	Pkg. Qty.	Price Each
9.90	.3898	5-1/8	6	12.00
10.00	.3937	5-1/8	6	12.00
10.10	.3976	5-1/4	6	12.98
10.20	.4016	5-1/4	6	12.98
10.30	.4055	5-1/4	6	12.98
10.40	.4094	5-1/4	6	12.98
10.50	.4134	5-3/8	6	14.33
10.60	.4173	5-3/8	6	14.33
10.70	.4212	5-3/8	6	14.33
10.80	.4252	5-1/2	6	16.28
10.90	.4291	5-1/2	6	16.28
11.00	.4331	5-1/2	6	16.28
11.10	.4370	5-1/2	6	16.28
11.20	.4409	5-5/8	6	16.88
11.30	.4449	5-5/8	6	16.88
11.40	.4488	5-5/8	6	16.88
11.50	.4527	5-5/8	6	16.88
11.60	.4567	5-3/4	6	17.25
11.70	.4606	5-3/4	6	17.25
11.80	.4646	5-3/4	6	17.25
11.90	.4685	5-3/4	6	17.25
12.00	.4724	5-7/8	6	19.50
12.10	.4764	5-7/8	6	19.50
12.20	.4803	5-7/8	6	19.50
12.30	.4842	5-7/8	6	19.50
12.40	.4882	5-7/8	6	19.50
12.50	.4921	6	6	20.78
12.60	.4961	6	1	20.78
12.70	.5000	6	1	20.78
12.80	.5039	6	1	24.38
12.90	.5079	6	1	26.33
13.00	.5118	6	1	28.89
13.50	.5315	6	1	31.20
14.00	.5512	6	1	31.80
14.50	.5709	6	1	34.73
15.00	.5906	6	1	35.10
15.50	.6102	6	1	38.63
16.00	.6299	6	1	39.60
16.50	.6496	6	1	42.23
17.00	.6693	6	1	45.75
17.50	.6890	6	1	46.73
18.00	.7087	6	1	49.35
18.50	.7283	6	1	51.30
19.00	.7480	6	1	51.30
19.50	.7677	6	1	55.20
20.00	.7874	6	1	56.18
20.50	.8071	6	1	57.15
21.00	.8268	6	1	61.05
21.50	.8465	6	1	62.33
22.00	.8661	6	1	64.28
22.50	.8858	6	1	68.85
23.00	.9055	6	1	71.55
23.50	.9252	6	1	72.08
24.00	.9449	6	1	75.66
24.50	.9646	6	1	77.25
25.00	.9843	6	1	81.83
25.40	1.0000	6	1	81.83

### Sets

Size	Description	Pieces	Set No.	Price
1.00 – 13.00 by .50mm	Drill Blank Set	25	950SD	256.30



All sets are supplied in Huot metal index

# Half Round Jobber Drills

## High Speed Steel

### List No. 300HR – 118° Point

These drills allow greater chip clearance and have less tendency to run out in deep hole drilling operations. As a result, hole sizes are more accurate.

They can be used in drilling brass, copper, hard rubber, fiberglass and other materials.



The open flute design allows the greatest volume of chip removal with high feed rates.

They are also successfully used in shallow hole drilling of aluminum and magnesium alloys and die cast parts.

### Fractional & Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
3/64	.0469	3/4	1-3/4	7.20
1/16	.0625	7/8	1-7/8	7.65
5/64	.0781	1	2	7.65
3/32	.0938	1-1/4	2-1/4	7.65
7/64	.1094	1-1/2	2-5/8	8.15
1/8	.1250	1-5/8	2-3/4	8.67
9/64	.1406	1-3/4	2-7/8	9.70
5/32	.1562	2	3-1/8	10.60
11/64	.1719	2-1/8	3-1/4	10.90
3/16	.1875	2-5/16	3-1/2	12.10
13/64	.2031	2-7/16	3-5/8	13.80
7/32	.2188	2-1/2	3-3/4	15.50
15/64	.2344	2-5/8	3-7/8	16.50
B	.2380	2-3/4	4	22.00
1/4	.2500	2-3/4	4	19.50
G	.2610	2-7/8	4	34.00
17/64	.2656	2-7/8	4-1/8	27.00
I	.2720	2-7/8	4-1/8	37.00
9/32	.2812	2-15/16	4-1/4	29.70

### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	13.50
2	.2210	2-5/8	3-7/8	13.50
3	.2130	2-1/2	3-3/4	12.60
4	.2090	2-1/2	3-3/4	12.60
5	.2055	2-1/2	3-3/4	12.60
6	.2040	2-1/2	3-3/4	12.60
7	.2010	2-7/16	3-5/8	11.70
8	.1990	2-7/16	3-5/8	11.70
9	.1960	2-7/16	3-5/8	11.70
10	.1935	2-7/16	3-5/8	11.70
11	.1910	2-5/16	3-1/2	11.70
12	.1890	2-5/16	3-1/2	11.70
13	.1850	2-5/16	3-1/2	9.90
14	.1820	2-3/16	3-3/8	9.90
15	.1800	2-3/16	3-3/8	9.90
16	.1770	2-3/16	3-3/8	9.90
17	.1730	2-3/16	3-3/8	9.90
18	.1695	2-1/8	3-1/4	9.39
19	.1660	2-1/8	3-1/4	9.39
20	.1610	2-1/8	3-1/4	9.39
21	.1590	2-1/8	3-1/4	9.39
22	.1570	2	3-1/8	9.39
23	.1540	2	3-1/8	9.00
24	.1520	2	3-1/8	9.00
25	.1495	1-7/8	3	9.00
26	.1470	1-7/8	3	9.00
27	.1440	1-7/8	3	9.00
28	.1405	1-3/4	2-7/8	9.00
29	.1360	1-3/4	2-7/8	9.00
30	.1285	1-5/8	2-3/4	9.00
31	.1200	1-5/8	2-3/4	8.10
32	.1160	1-5/8	2-3/4	8.10
33	.1130	1-1/2	2-5/8	8.10
34	.1110	1-1/2	2-5/8	8.10

### Sets

Size	Pcs.	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	29	307FHR	1066.92

All sets are supplied in Huot metal index



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
L	.2900	2-15/16	4-1/4	39.50
M	.2950	3-1/16	4-3/8	41.00
19/64	.2969	3-1/16	4-3/8	31.50
5/16	.3125	3-3/16	4-1/2	36.00
O	.3160	3-1/16	4-1/2	47.00
21/64	.3281	3-5/16	4-5/8	40.50
Q	.3320	3-7/16	4-3/4	52.00
11/32	.3438	3-7/16	4-3/4	45.00
T	.3580	3-1/2	4-7/8	57.70
23/64	.3594	3-1/2	4-7/8	49.50
3/8	.3750	3-5/8	5	53.10
25/64	.3906	3-3/4	5-1/8	56.70
13/32	.4062	3-7/8	5-1/4	61.20
27/64	.4219	3-15/16	5-3/8	68.40
7/16	.4375	4-1/16	5-1/2	71.10
29/64	.4531	4-3/16	5-5/8	76.50
15/32	.4688	4-5/16	5-3/4	80.10
31/64	.4844	4-3/8	5-7/8	88.20
1/2	.5000	4-1/2	6	91.80

# Standard Step Drills

High Speed Steel



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

An essential tool for every tool room. One tool does two jobs in a single pass. They can be sharpened repeatedly and are easily modified for any special length-of-step.

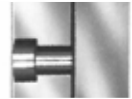
Special Step Drills available. Please inquire.

HOLE MAKING

## For Drilling and Counterboring Cap Screw Clearance Holes

List No. 371 – Jobber Length

List No. 471 – Taper Length



Screw Size	Minor Diameter	Major Diameter	Step Length	Jobber Length 371			Taper Length 471		
				Flute Length	Overall Length	Price Each	Flute Length	Overall Length	Price Each
No. 4	.136	7/32	3/8	2-1/2	3-3/4	15.38	—	—	—
No. 5	.141	.228	3/8	2-5/8	3-7/8	16.17	—	—	—
No. 6	.150	1/4	1/2	2-3/4	4	17.12	3-3/4	6-1/8	23.96
No. 8	.178	"L"	1/2	2-15/16	4-1/4	19.60	4	6-3/8	35.18
No. 10	.204	"Q"	5/8	3-7/16	4-3/4	21.45	4-1/8	6-1/2	36.30
1/4	9/32	13/32	11/16	3-7/8	5-1/4	24.75	4-3/8	7	40.26
5/16	11/32	1/2	3/4	4-1/2	6	32.87	4-3/4	7-3/4	45.54
3/8	13/32	19/32	7/8	5-3/16	7-1/8	52.54	4-7/8	8-3/4	63.82
7/16	15/32	11/16	1	5-5/8	7-5/8	62.70	—	—	—
1/2	17/32	25/32	1	3-1/4	5-1/8*	86.46	6	9-7/8	95.30
5/8	21/32	31/32	1	3-7/8	5-7/8*	115.50	6-3/8	11	127.78

\*Shorter than Jobber Length.

## For Drilling and Countersinking 82° Flat Head Machine Screw Clearance Holes

List No. 372 – Jobber Length



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
No. 4	.116	15/64	3/8	2-5/8	3-7/8	16.58
No. 5	.128	F	3/8	2-7/8	4-1/8	17.34
No. 6	.142	9/32	1/2	2-15/16	4-1/4	18.15
No. 8	.169	Q	1/2	3-7/16	4-3/4	21.44
No. 10	.196	W	5/8	3-3/4	5-1/8	23.41

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
1/4	.257	1/2	11/16	4-1/2	6	28.97
5/16	.320	5/8	3/4	5-3/16	7-1/8	45.42
3/8	.383	3/4	7/8	3-1/8	5*	62.93
7/16	.446	13/16	1	3-3/8	5-1/4*	81.97
1/2	.510	7/8	1	3-1/2	5-1/2*	90.45

\*Shorter than Jobber Length.

## For Drilling 45° Chamfered Holes To-Be-Tapped (To produce approx. 70% thread)

List No. 370 – Jobber Length

List No. 470 – Taper Length



Screw Size	Minor Diameter	Major Diameter	Step Length	Jobber Length 370			Taper Length 470		
				Flute Length	Overall Length	Price Each	Flute Length	Overall Length	Price Each
4-40	.089	.1285	3/8	1-5/8	2-3/4	14.55	3	5-3/8	21.82
5-40	.101	9/64	1/2	1-3/4	2-7/8	15.31	3	5-3/8	22.90
6-32	.109	5/32	1/2	2	3-1/8	15.50	3	5-3/8	23.41
8-32	.136	3/16	1/2	2-5/16	3-1/2	15.88	3-3/8	5-3/4	23.60
8-36	.136	3/16	1/2	2-5/16	3-1/2	16.13	3-3/8	5-3/4	24.04
10-24	.152	1/4	5/8	2-3/4	4	16.89	3-3/4	6-1/8	26.50
10-32	.161	1/4	5/8	2-3/4	4	16.89	3-3/4	6-1/8	26.50
12-24	.179	9/32	11/16	2-15/16	4-1/4	19.61	—	—	—
1/4-20	.204	21/64	13/16	3-5/16	4-5/8	20.81	4-1/8	6-1/2	30.02
1/4-28	.218	21/64	13/16	3-5/16	4-5/8	21.19	4-1/8	6-1/2	30.68
5/16-18	.261	13/32	15/16	3-7/8	5-1/4	23.72	4-3/8	7	33.65
5/16-24	.272	13/32	15/16	3-7/8	5-1/4	24.04	4-3/8	7	34.47
3/8-16	.316	31/64	1	4-3/8	5-7/8	31.37	4-3/4	7-3/4	48.71
3/8-24	.339	31/64	1	4-3/8	5-7/8	31.94	4-3/4	7-3/4	48.71
7/16-14	.375	17/32	1-1/16	4-13/16	6-5/8	54.68	4-3/4	8	59.84
7/16-20	.390	17/32	1-1/16	4-13/16	6-5/8	54.68	4-3/4	8	59.84
1/2-13	.437	5/8	1-1/16	5-3/16	7-1/8	63.13	4-7/8	8-3/4	72.74
1/2-20	.452	5/8	1-1/16	5-3/16	7-1/8	63.89	4-7/8	8-3/4	72.74
5/8-11	.531	3/4	1-1/16	5-5/8	7-5/8	79.57	—	—	—

# Cobalt Standard Step Drills

An essential tool for every tool room. One tool does two jobs in a single pass. They can be sharpened repeatedly and are easily modified for any special length-of-step.



## For Drilling and Counterboring Cap Screw Clearance Holes

List No. **371C** – Jobber Length

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
No. 6	.150	1/4	1/2	2-3/4	4	30.82
No. 8	.178	L	1/2	2-15/16	4-1/4	35.29
No. 10	.204	Q	5/8	3-7/16	4-3/4	38.61
1/4	9/32	13/32	11/16	3-7/8	5-1/4	44.55



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
5/16	11/32	1/2	3/4	4-1/2	6	59.16
3/8	13/32	19/32	7/8	5-3/16	7-1/8	94.57
7/16	15/32	11/16	1	5-5/8	7-5/8	112.86
1/2	17/32	25/32	1	3-1/4	5-1/8*	155.63

\*Shorter than Jobber Length.

## For Drilling and Countersinking 82° Flat Head Machine Screw Clearance Holes

List No. **372C** – Jobber Length

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
No. 6	.142	9/32	1/2	2-15/16	4-1/4	32.67
No. 8	.169	Q	1/2	3-7/16	4-3/4	38.60
No. 10	.196	W	5/8	3-3/4	5-1/8	42.13
1/4	.257	1/2	11/16	4-1/2	6	52.14



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
5/16	.320	5/8	3/4	5-3/16	7-1/8	81.74
3/8	.383	3/4	7/8	3-1/8	5*	113.28
7/16	.446	13/16	1	3-3/8	5-1/4*	147.55
1/2	.510	7/8	1	3-1/2	5-1/2*	162.81

\*Shorter than Jobber Length.

## For Drilling 45° Chamfered Holes

**To-Be-Tapped** (To produce approx. 70% thread)

List No. **370C** – Jobber Length

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
6-32	.1096	5/32	1/2	2	3-1/8	27.90
8-32	.1356	3/16	1/2	2-5/16	3-1/2	28.60
10-24	.1521	1/4	5/8	2-3/4	4	30.39
10-32	.1616	1/4	5/8	2-3/4	4	30.39



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
12-24	.1781	9/32	11/16	2-15/16	4-1/4	35.30
1/4-20	.2045	21/64	13/16	3-5/16	4-5/8	37.46
5/16-18	.2619	13/32	15/16	3-7/8	5-1/4	42.69
3/8-16	.3181	31/64	1	4-3/8	5-7/8	56.47

## Sets

Size	Pcs.	Description	High Speed		Cobalt	
			Set No.	Price	Set No.	Price
No. 6 – 3/8 NC screw sizes	6	Cap Screw, Jobber Length	371S	172.45	371CS	307.12
No. 6 – 3/8 NC screw sizes	6	Cap Screw, Taper Length	471S	249.18	—	—
No. 6 – 3/8 NC screw sizes	6	Flat Head Screw, Jobber Length	372S	204.44	372CS	364.68
6-32, 8-32, 10-24, 1/4-20, 5/16-18, 3/8-16	6	Tap Drill, Jobber Length	370S	128.29	370CS	227.63
6-32, 8-32, 10-24, 1/4-20, 5/16-18, 3/8-16	6	Tap Drill, Taper Length	470S	191.01	—	—
3mm – 10mm Screw Sizes	6	Metric Cap Screw, Jobber Length	371MS	196.76	—	—
3mm – 10mm Tap Sizes	6	Metric Tap Drill, Jobber Length	370MS	135.84	—	—

All sets are supplied in wood block





# Metric Standard Step Drills

High Speed Steel



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

## For Drilling and Counterboring Cap Screw Clearance Holes

List No. **371M** – Jobber Length



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
3.00	.146	1/4	3/8	2-3/4	4	18.41
4.00	.189	5/16	1/2	3-3/16	4-1/2	23.62
5.00	.228	3/8	5/8	3-5/8	5	26.73
6.00	.268	7/16	5/8	4-1/16	5-1/2	29.37
8.00	.346	9/16	3/4	4-13/16	6-5/8	37.29

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
10.00	.425	11/16	7/8	5-5/8	7-5/8	57.22
12.00	.504	3/4	1	5-5/8	7-5/8	69.16
14.00	.581	7/8	1	3-1/2	5-1/2*	93.60
16.00	.659	1	1	4	6*	128.37

\*Shorter than Jobber Length.

## For Drilling 45° Chamfered Holes

**To-Be-Tapped** (To produce approx. 70% thread)

List No. **370M** – Jobber Length

Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
3x0.50	.098	5/32	1/2	2	3-1/8	16.38
4x0.70	.130	13/64	1/2	2-7/16	3-5/8	17.64
5x0.80	.165	1/4	5/8	2-3/4	4	18.07
6x1.00	.197	19/64	11/16	3-1/16	4-3/8	20.86
8x1.25	.266	13/32	15/16	3-7/8	5-1/4	25.23



Screw Size	Minor Diameter	Major Diameter	Step Length	Flute Length	Overall Length	Price Each
10x1.50	.335	1/2	1	4-1/2	6	33.54
12x1.75	.406	19/32	1-1/16	5-3/16	7-1/8	66.43
14x2.00	.472	11/16	1-1/16	5-5/8	7-5/8	75.83
16x2.00	.551	3/4	1-1/16	5-5/8	7-5/8	84.69

# Self Starting Step Drills

High Speed Steel & Titanium Nitride Coated

This drill has an exclusive single radial concave flute that allows drilling of round holes in thin materials. For use in drilling copper, brass, aluminum, thin steels, plastic, laminates, and drilling hard or abrasive materials.



- Multiple diameters in one tool
- Can be used to deburr holes
- Can be used to enlarge holes



**MDX**  
SUPERIOR IMPORT

## Fractional Sizes

Size Range	Step Increments	No. of Steps	Shank Size	High Speed		TiN Coated	
				Tool No.	Price	Tool No.	Price
1/8-1/2	32 <sup>nds</sup>	13	1/4	<b>SSD1</b>	14.85	<b>SSD1T</b>	19.80
3/16-1/2	16 <sup>ths</sup>	6	1/4	<b>SSD2</b>	14.85	<b>SSD2T</b>	19.80
1/4-3/4	16 <sup>ths</sup>	9	3/8	<b>SSD3</b>	26.91	<b>SSD3T</b>	35.78
3/16-7/8	16 <sup>ths</sup>	12	3/8	<b>SSD4</b>	31.50	<b>SSD4T</b>	42.75
1/4-1-3/8	8 <sup>ths</sup>	10	1/2	<b>SSD5</b>	56.48	<b>SSD5T</b>	75.38

## Metric Sizes

Size Range	Step Increments	No. of Steps	Shank Size	H.S. Tool No.	Price	Tin Coated Tool No.	Price
4mm - 12mm	1mm	9	1/4	<b>SSDM1</b>	14.85	<b>SSDM1T</b>	20.07
4mm - 12mm	2mm	5	1/4	<b>SSDM2</b>	14.90	<b>SSDM2T</b>	20.07
6mm - 18mm	2mm	7	3/8	<b>SSDM3</b>	26.91	<b>SSDM3T</b>	35.78
4mm - 22mm	2mm	10	3/8	<b>SSDM4</b>	31.50	<b>SSDM4T</b>	42.75

## Sets

Sizes	Description	Pcs.	Set No.	Price
SSD1, SSD2, SSD3	Fractional High Speed Steel Set	3	<b>SSDS</b>	56.70
SSD1T, SSD2T, SSD3T	Fractional Tin Coated Set	3	<b>SSDST</b>	75.60
SSDM1, SSDM2, SSDM3	Metric High Speed Steel Set	3	<b>SSDMS</b>	56.70
SSDM1T, SSDM2T, SSDM3T	Metric Tin Coated Set	3	<b>SSDMST</b>	75.60



All sets are supplied in wood block

# Special Step Drill Quotation Form



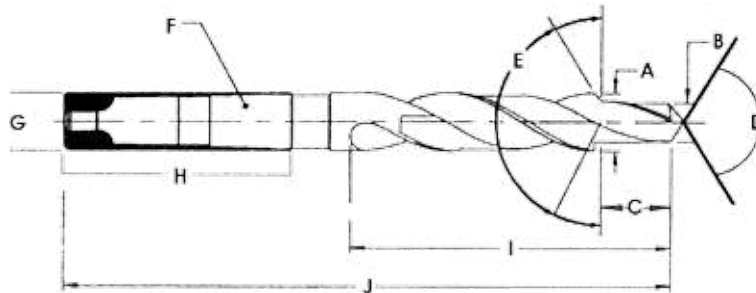
We maintain a special facility that is equipped with machines specifically designed for drill and reamer modification. We are also equipped with specialized machinery to manufacture non-standard drills or reamers to print. By maintaining a large inventory of high speed and cobalt steels, we are able to reduce overall delivery time.

## Drill Modifications

▣ <b>Tangling</b>	No minimum quantities required
▣ <b>Flats</b>	3-Equal, whistle notches, use-em-up, keeper, driving
▣ <b>Grinding</b>	Form relief, O.D., Centerless
▣ <b>Step drills and step reamers</b>	
▣ <b>Pointing</b>	Split point, brad and spur, fishtail, radion, notched, four facet, and other popular point geometries
▣ <b>Titanium nitride coating and ferrous oxide surface treating</b>	

## Requesting a quote for special step drills is as easy as 1, 2, 3

1. Make a copy of this form.
2. Fill in the specifications.
3. Fax or email to your Distributor.



A- _____	Major diameter	I- _____	Flute Length
B- _____	Minor diameter (+000 - .002) Unless otherwise specified	J- _____	Overall Length
C- _____	Step length (+/- .015) Unless otherwise specified	<b>Finish:</b>	Bright: _____ Oxide: _____ Coated: _____ Other: _____
D- _____	Point angle	<b>Helix:</b>	Standard: _____ Fast: _____ Slow: _____ Other: _____
E- _____	Included angle	<b>Tool Material:</b>	High Speed: _____ Cobalt: _____ Other: _____
F- _____	Morse Taper Number (If requested as Taper Shank)	<b>Quantity:</b>	_____
G- _____	Shank Diameter (If different from A)	<b>Right Hand Cut</b> <input type="checkbox"/>	<b>Left Hand Cut</b> <input type="checkbox"/>
H- _____	Length of shank if reduced		

Other dimensions not given to be per manufacturer's standards

# NC/CNC Spotting Drills

High Speed Steel, Cobalt, & TiN Coated

These drills are used for perfect alignment of the follow-on tool.

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



## Standard Length

### 82° Point

- List No. **311** – High Speed
- List No. **311C** – Cobalt
- List No. **311T** – TiN Coated

### 90° Point

- List No. **309** – High Speed
- List No. **309C** – Cobalt
- List No. **309T** – TiN Coated

### 120° Point

- List No. **310** – High Speed
- List No. **310C** – Cobalt
- List No. **310T** – TiN Coated

Size	Decimal Equivalent	Overall Length	Flute Length	Price Each								
				82° Point			90° Point			120° Point		
				H.S. 311	Cobalt 311C	TiN Coated 311T	H.S. 309	Cobalt 309C	TiN Coated 309T	H.S. 310	Cobalt 310C	TiN Coated 310T
1/8	.1250	1-7/8	1/2	14.92	40.66	31.56	14.48	37.53	28.60	14.92	40.61	31.56
5/32	.1562	2-1/16	9/16	16.52	45.06	34.83	16.08	41.70	31.78	16.92	39.35	34.93
3/16	.1875	2-3/16	9/16	17.42	46.10	36.81	16.32	44.91	33.80	17.42	40.26	36.81
1/4	.2500	2-1/2	3/4	17.52	47.16	37.05	17.32	43.60	34.25	17.52	41.18	37.05
3/8	.3750	3-1/8	1-1/8	18.86	50.76	38.89	18.64	47.00	36.85	18.86	44.33	39.89
1/2	.5000	3-3/4	1-3/8	24.16	65.08	51.09	23.86	60.22	47.15	24.16	56.84	51.09
5/8	.6250	4-3/8	1-5/8	31.30	84.40	62.36	31.56	79.61	62.36	31.30	73.71	66.19
3/4	.7500	5	1-7/8	40.24	108.56	85.01	39.82	100.40	78.72	40.24	94.82	85.08
1	1.0000	6	2-1/4	67.97	183.26	143.73	67.22	169.52	132.90	67.94	160.07	143.73

## Long Length

### 90° Point

- List No. **309L** – High Speed
- List No. **309LT** – TiN Coated

### 120° Point

- List No. **310L** – High Speed
- List No. **310LT** – TiN Coated



Size	Decimal Equivalent	Overall Length	Flute Length	Price Each			
				90° Point		120° Point	
				H.S. 309L	TiN Coated 309LT	H.S. 310L	TiN Coated 310LT
1/4	.2500	4	3/4	25.32	50.03	25.84	51.08
3/8	.3750	5	1-1/8	26.56	52.50	27.16	53.69
1/2	.5000	6	1-3/8	33.16	65.53	33.94	67.09
5/8	.6250	7	1-5/8	42.42	83.85	43.56	86.11
3/4	.7500	8	1-7/8	56.96	112.61	58.10	114.86
1	1.0000	8	2-1/4	72.54	143.40	74.00	146.30

## Extra Long Length

### 90° Point

- List No. **309XL** – High Speed
- List No. **309XLT** – TiN Coated

### 120° Point

- List No. **310XL** – High Speed
- List No. **310XLT** – TiN Coated



Size	Decimal Equivalent	Overall Length	Flute Length	Price Each			
				90° Point		120° Point	
				H.S. 309XL	TiN Coated 309XLT	H.S. 310XL	TiN Coated 310XLT
1/4	.2500	6	3/4	35.18	69.44	36.14	71.42
3/8	.3750	7	1-1/8	37.00	73.15	37.62	74.35
1/2	.5000	8	1-3/8	44.92	88.79	45.70	90.34
5/8	.6250	9	1-5/8	58.78	116.23	58.74	118.10
3/4	.7500	10	1-7/8	76.56	151.36	77.76	153.73
1	1.0000	10	2-1/4	93.74	185.32	95.48	188.78

# NC/CNC Spotting Drills

High Speed Steel, Cobalt, & TiN Coated

These drills are used for perfect alignment of the follow-on tool.



## Metric Sizes

## Standard Length

### 90° Point

- List No. **309** – High Speed
- List No. **309C** – Cobalt
- List No. **309T** – TiN Coated

### 120° Point

- List No. **310** – High Speed
- List No. **310C** – Cobalt
- List No. **310T** – TiN Coated



Size	Decimal Equivalent	Overall Length	Flute Length	Price Each					
				90° Point			120° Point		
				H.S. 309	Cobalt 309C	TiN Coated 309T	H.S. 310	Cobalt 310C	TiN Coated 310T
4.00	.1575	2-1/16	15/32	18.90	36.10	27.42	19.66	37.18	28.50
5.00	.1969	2-3/8	19/32	—	37.70	—	—	38.81	—
6.00	.2362	2-19/32	5/8	20.07	38.76	30.02	21.54	39.92	31.22
8.00	.3150	3-1/8	13/16	22.50	40.56	32.64	23.40	44.76	33.94
10.00	.3937	3-1/2	1	27.90	53.24	40.46	29.02	54.84	42.08
12.00	.4724	4	1-3/16	31.50	54.86	45.68	32.76	56.52	47.52
14.00	.5512	4-1/2	1-3/8	35.10	69.26	50.90	36.52	71.34	52.94
16.00	.6299	4-1/2	1-3/8	40.50	77.46	58.74	42.12	79.78	61.08
18.00	.7087	5-1/8	1-1/2	46.80	110.09	67.86	48.68	94.50	70.58

## Sets

Sizes	Pcs.	Description	Length	Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 82° Point	Standard Length	<b>311S</b>	200.00
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	Cobalt – 82° Point	Standard Length	<b>311CS</b>	539.22
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 90° Point	Standard Length	<b>309S</b>	198.42
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	Cobalt – 90° Point	Standard Length	<b>309CS</b>	500.35
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 120° Point	Standard Length	<b>310S</b>	200.00
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	Cobalt – 120° Point	Standard Length	<b>310CS</b>	470.95
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 90° Point	Long Length	<b>309LS</b>	256.96
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 120° Point	Long Length	<b>310LS</b>	262.60
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 90° Point	Extra Long Length	<b>309XLS</b>	346.18
1/4, 3/8, 1/2, 5/8, 3/4, 1	6	High Speed – 120° Point	Extra Long Length	<b>310XLS</b>	351.44
6, 8, 10, 12, 14, 16 mm	6	High Speed – 90° Point	Standard Length	<b>309SM</b>	177.57
6, 8, 10, 12, 14, 16 mm	6	Cobalt – 90° Point	Standard Length	<b>309CSM</b>	334.14
6, 8, 10, 12, 14, 16 mm	6	High Speed – 120° Point	Standard Length	<b>310SM</b>	185.36
6, 8, 10, 12, 14, 16 mm	6	Cobalt – 120° Point	Standard Length	<b>310CSM</b>	347.16



All sets are supplied in wood block

# Solid Carbide NC Spotting Drills

Designed for fast and accurate spotting on NC machines.

These drills are very rigid allowing higher speeds and feeds

List No. **C809** – 90° Point

List No. **C810** – 120° Point



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				90° C809	120° C810
1/8	.1250	9/16	1-1/2	17.06	17.06
3/16	.1875	3/4	2	22.05	22.05
1/4	.2500	1	2-1/2	29.25	29.25

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				90° C809	120° C810
3/8	.3750	1	2-1/2	53.10	53.10
1/2	.5000	1-1/6	3	80.01	80.01
3/4	.7500	1-1/2	4	212.04	212.04



# Screw Machine Length Drills

## High Speed Steel

Screw machine drills are popular in the automotive and construction industries. Their short flute and overall length provide maximum rigidity. They are often used in a screw machine set-up where spindle clearance is limited.

List No. **600** – Bright Finish, 118° Point

List No. **600A** – Oxide Finish, 135° Split Point (NAS 907 Type C)

List No. **600J** – Oxide Finish, 118° Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

Drill Size	Shank Diameter
Up to 1" inclusive	Same as Drill Diameter
Over 1 to 1-1/4 inclusive	1"
Over 1-1/4 to 1-1/2 inclusive	1-1/4
Over 1-1/2 to 2-1/2 inclusive	1-1/2

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					118° Bright 600	135° Oxide 600A	118° Oxide 600J
3/64	.0469	1/2	1-3/8	12	1.14	1.32*	1.14
1/16	.0625	5/8	1-5/8	12	1.06	1.18	1.06
5/64	.0781	11/16	1-11/16	12	1.06	1.18	1.06
3/32	.0938	3/4	1-3/4	12	1.06	1.18	1.06
7/64	.1094	13/16	1-13/16	12	1.06	1.18	1.06
1/8	.1250	7/8	1-7/8	12	1.06	1.18	1.06
9/64	.1406	15/16	1-15/16	12	1.06	1.18	1.06
5/32	.1562	1	2-1/16	12	1.21	1.27	1.21
11/64	.1719	1-1/16	2-1/8	12	1.30	1.52	1.30
3/16	.1875	1-1/8	2-3/16	12	1.33	1.52	1.33
13/64	.2031	1-3/16	2-1/4	12	1.49	1.58	1.49
7/32	.2188	1-1/4	2-3/8	12	1.73	1.95	1.73
15/64	.2344	1-5/16	2-7/16	12	1.80	1.98	1.80
1/4	.2500	1-3/8	2-1/2	12	2.01	2.10	2.01
17/64	.2656	1-7/16	2-5/8	12	2.19	2.44	2.19
9/32	.2812	1-1/2	2-11/16	6	2.32	2.74	2.32
19/64	.2969	1-9/16	2-3/4	6	2.54	2.90	2.54
5/16	.3125	1-5/8	2-13/16	6	2.74	3.30	2.74
21/64	.3281	1-11/16	2-15/16	6	3.03	3.35	3.03
11/32	.3438	1-11/16	3	6	3.40	3.76	3.40
23/64	.3594	1-3/4	3-1/16	6	3.97	4.35	3.97
3/8	.3750	1-13/16	3-1/8	6	4.13	4.53	4.13
25/64	.3906	1-7/8	3-1/4	6	4.59	5.13	4.59
13/32	.4062	1-15/16	3-5/16	6	4.80	5.51	4.80
27/64	.4219	2	3-3/8	6	5.27	5.94	5.27
7/16	.4375	2-1/16	3-7/16	6	5.35	6.20	5.35
29/64	.4531	2-1/8	3-9/16	6	6.43	7.26	6.43
15/32	.4688	2-1/8	3-5/8	6	6.71	7.55	6.71
31/64	.4844	2-3/16	3-11/16	6	7.05	8.42	7.05
1/2	.5000	2-1/4	3-3/4	6	6.92	8.42	6.92
33/64	.5156	2-3/8	3-7/8	1	15.50	—	15.50
17/32	.5312	2-3/8	3-7/8	1	15.93	19.01	15.93
35/64	.5469	2-1/2	4	1	16.91	—	16.91
9/16	.5625	2-1/2	4	1	16.60	19.73	16.60
37/64	.5781	2-5/8	4-1/8	1	19.37	—	19.37
19/32	.5938	2-5/8	4-1/8	1	19.00	22.51	19.00
39/64	.6094	2-3/4	4-1/4	1	19.52	—	19.52
5/8	.6250	2-3/4	4-1/4	1	19.18	23.69	19.18
41/64	.6406	2-7/8	4-1/2	1	22.43	—	22.43
21/32	.6562	2-7/8	4-1/2	1	22.02	29.01	22.02
43/64	.6719	2-7/8	4-5/8	1	24.88	—	24.88
11/16	.6875	2-7/8	4-5/8	1	24.42	29.01	24.42
45/64	.7031	3	4-3/4	1	27.74	—	27.74
23/32	.7188	3	4-3/4	1	26.75	29.70	26.75
47/64	.7344	3-1/8	5	1	29.28	—	29.28
3/4	.7500	3-1/8	5	1	28.23	32.93	28.23
49/64	.7656	3-1/4	5-1/8	1	32.24	—	32.24
25/32	.7812	3-1/4	5-1/8	1	31.08	—	31.08
51/64	.7969	3-3/8	5-1/4	1	33.93	—	33.93
13/16	.8125	3-3/8	5-1/4	1	32.72	—	32.72
53/64	.8281	3-1/2	5-3/8	1	35.93	—	35.93
27/32	.8438	3-1/2	5-3/8	1	34.64	—	34.64
55/64	.8594	3-1/2	5-1/2	1	37.21	46.51	37.21
7/8	.8750	3-1/2	5-1/2	1	35.88	—	35.88
57/64	.8906	3-5/8	5-5/8	1	38.64	—	38.64
29/32	.9062	3-5/8	5-5/8	1	37.26	—	37.26
59/64	.9219	3-3/4	5-3/4	1	42.59	—	42.59
15/16	.9375	3-3/4	5-3/4	1	41.07	—	41.07
61/64	.9531	3-7/8	5-7/8	1	46.32	—	46.32

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				118° Bright 600	118° Oxide 600J
31/32	.9688	3-7/8	5-7/8	44.66	44.66
63/64	.9844	4	6	48.06	48.06
1	1.0000	4	6	46.34	46.34
1-1/64	1.0156	4	6-1/4	79.20	79.20
1-1/32	1.0312	4	6-1/4	79.20	79.20
1-3/64	1.0469	4	6-1/4	86.13	86.13
1-1/16	1.0625	4	6-1/4	57.81	57.81
1-5/64	1.0781	4	6-3/8	95.70	95.70
1-3/32	1.0938	4	6-3/8	95.70	95.70
1-7/64	1.1094	4	6-3/8	97.68	97.68
1-1/8	1.1250	4	6-3/8	65.50	65.50
1-9/64	1.1406	4	6-5/8	99.66	99.66
1-5/32	1.1562	4-1/4	6-5/8	105.47	105.47
1-11/64	1.1719	4-1/4	6-5/8	108.50	108.50
1-3/16	1.1875	4-1/4	6-5/8	75.90	75.90
1-13/64	1.2031	4-3/8	6-3/4	116.64	116.64
1-7/32	1.2188	4-3/8	6-3/4	116.64	116.64
1-15/64	1.2344	4-3/8	6-3/4	122.10	122.10
1-1/4	1.2500	4-3/8	6-3/4	83.09	83.09
1-17/64	1.2656	4-3/8	7	132.76	132.76
1-9/32	1.2812	4-3/8	7	132.76	132.76
1-19/64	1.2969	4-3/8	7	141.90	141.90
1-5/16	1.3125	4-3/8	7	118.80	118.80
1-21/64	1.3281	4-1/2	7-1/8	158.40	158.40
1-11/32	1.3438	4-1/2	7-1/8	162.76	162.76
1-23/64	1.3594	4-1/2	7-1/8	168.30	168.30
1-3/8	1.3750	4-1/2	7-1/8	126.03	126.03
1-25/64	1.3906	4-3/4	7-3/8	174.24	174.24
1-13/32	1.4062	4-3/4	7-3/8	174.24	174.24
1-27/64	1.4219	4-3/4	7-3/8	244.20	244.20
1-7/16	1.4375	4-3/4	7-3/8	135.81	135.81
1-29/64	1.4531	4-7/8	7-1/2	180.84	180.84
1-15/32	1.4688	4-7/8	7-1/2	180.84	180.84
1-31/64	1.4844	4-7/8	7-1/2	184.80	184.80
1-1/2	1.5000	4-7/8	7-1/2	140.25	140.25
1-17/32	1.5312	4-7/8	7-3/4	191.40	191.40
1-9/16	1.5625	4-7/8	7-3/4	158.40	158.40
1-19/32	1.5938	4-7/8	7-3/4	241.36	241.36
1-5/8	1.6250	4-7/8	7-3/4	178.53	178.53
1-21/32	1.6562	5-1/8	8	257.40	257.40
1-11/16	1.6875	5-1/8	8	205.00	205.00
1-23/32	1.7188	5-1/8	8	270.60	270.60
1-3/4	1.7500	5-1/8	8	211.20	211.20
1-25/32	1.7812	5-3/8	8-1/4	290.40	290.40
1-13/16	1.8125	5-3/8	8-1/4	231.00	231.00
1-27/32	1.8438	5-3/8	8-1/4	313.61	313.61
1-7/8	1.8750	5-3/8	8-1/4	237.93	237.93
1-29/32	1.9062	5-5/8	8-1/2	317.13	317.13
1-15/16	1.9375	5-5/8	8-1/2	254.10	254.10
1-31/32	1.9688	5-5/8	8-1/2	323.40	323.40
2	2.0000	5-5/8	8-1/2	263.67	263.67
2-1/16	2.0625	5-5/8	8-1/2	316.80	316.80
2-1/8	2.1250	5-5/8	8-1/2	326.70	326.70
2-3/16	2.1875	5-5/8	8-1/2	348.48	348.48
2-1/4	2.2500	5-5/8	8-1/2	376.20	376.20
2-5/16	2.3125	5-5/8	8-1/2	402.60	402.60
2-3/8	2.3750	5-5/8	8-1/2	408.54	408.54
2-7/16	2.4375	5-5/8	8-1/2	495.00	495.00
2-1/2	2.5000	5-5/8	8-1/2	537.24	537.24

\* 3/64 furnished with 135° point — NOT split.

# Screw Machine Length Drills

## High Speed Steel

List No. **600** – Bright Finish, 118° Point

List No. **600A** – Oxide Finish, 135° Split Point (NAS 907 Type C)

List No. **600J** – Oxide Finish, 118° Point



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

### Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				118° Bright 600	135° Oxide 600A	118° Oxide 600J
1	.2280	1-5/16	2-7/16	2.05	2.18	2.05
2	.2210	1-5/16	2-7/16	2.05	2.18	2.05
3	.2130	1-1/4	2-3/8	1.88	2.18	1.88
4	.2090	1-1/4	2-3/8	1.88	2.18	1.88
5	.2055	1-1/4	2-3/8	1.88	2.18	1.88
6	.2040	1-1/4	2-3/8	1.88	2.18	1.88
7	.2010	1-3/16	2-1/4	1.65	1.74	1.65
8	.1990	1-3/16	2-1/4	1.65	1.74	1.65
9	.1960	1-3/16	2-1/4	1.65	1.74	1.65
10	.1935	1-3/16	2-1/4	1.65	1.74	1.65
11	.1910	1-3/16	2-1/4	1.65	1.74	1.65
12	.1890	1-3/16	2-1/4	1.65	1.74	1.65
13	.1850	1-1/8	2-3/16	1.65	1.74	1.65
14	.1820	1-1/8	2-3/16	1.65	1.74	1.65
15	.1800	1-1/8	2-3/16	1.65	1.74	1.65
16	.1770	1-1/8	2-3/16	1.65	1.74	1.65
17	.1730	1-1/8	2-3/16	1.65	1.74	1.65
18	.1695	1-1/16	2-1/8	1.65	1.74	1.65
19	.1660	1-1/16	2-1/8	1.65	1.74	1.65
20	.1610	1-1/16	2-1/8	1.65	1.74	1.65
21	.1590	1-1/16	2-1/8	1.65	1.74	1.65
22	.1570	1-1/16	2-1/8	1.65	1.74	1.65
23	.1540	1	2-1/16	1.65	1.74	1.65
24	.1520	1	2-1/16	1.65	1.74	1.65
25	.1495	1	2-1/16	1.39	1.50	1.39
26	.1470	1	2-1/16	1.39	1.50	1.39
27	.1440	1	2-1/16	1.39	1.50	1.39
28	.1405	15/16	1-15/16	1.27	1.31	1.27
29	.1360	15/16	1-15/16	1.27	1.31	1.27
30	.1285	15/16	1-15/16	1.27	1.31	1.27
31	.1200	7/8	1-7/8	1.27	1.31	1.27

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				118° Bright 600	135° Oxide 600A	118° Oxide 600J
32	.1160	7/8	1-7/8	1.27	1.31	1.27
33	.1130	7/8	1-7/8	1.27	1.31	1.27
34	.1110	7/8	1-7/8	1.27	1.31	1.27
35	.1100	7/8	1-7/8	1.27	1.31	1.27
36	.1065	13/16	1-13/16	1.27	1.31	1.27
37	.1040	13/16	1-13/16	1.27	1.31	1.27
38	.1015	13/16	1-13/16	1.27	1.31	1.27
39	.0995	13/16	1-13/16	1.27	1.31	1.27
40	.0980	13/16	1-13/16	1.27	1.31	1.27
41	.0960	13/16	1-13/16	1.29	1.31	1.29
42	.0935	3/4	1-3/4	1.29	1.31	1.29
43	.0890	3/4	1-3/4	1.29	1.31	1.29
44	.0860	3/4	1-3/4	1.29	1.31	1.29
45	.0820	3/4	1-3/4	1.29	1.31	1.29
46	.0810	3/4	1-3/4	1.29	1.31	1.29
47	.0785	3/4	1-3/4	1.29	1.31	1.29
48	.0760	11/16	1-11/16	1.29	1.31	1.29
49	.0730	11/16	1-11/16	1.29	1.31	1.29
50	.0700	11/16	1-11/16	1.29	1.31	1.29
51	.0670	11/16	1-11/16	1.29	1.31	1.29
52	.0635	11/16	1-11/16	1.29	1.31	1.29
53	.0595	5/8	1-5/8	1.29	1.31*	1.29
54	.0550	5/8	1-5/8	1.29	1.31*	1.29
55	.0520	5/8	1-5/8	1.29	1.31*	1.29
56	.0465	1/2	1-3/8	1.29	1.31*	1.29
57	.0430	1/2	1-3/8	1.29	1.31*	1.29
58	.0420	1/2	1-3/8	1.29	1.31*	1.29
59	.0410	1/2	1-3/8	1.29	1.31*	1.29
60	.0400	1/2	1-3/8	1.29	1.31*	1.29
61	.0390	1/2	1-1/4	1.75	—	1.75

\* Sizes with decimal equivalent smaller than .0625 are not split point.

### Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					118° Bright 600	135° Oxide 600A	118° Oxide 600J
A	.2340	1-5/16	2-7/16	12	2.41	2.77	2.41
B	.2380	1-3/8	2-1/2	12	2.41	2.77	2.41
C	.2420	1-3/8	2-1/2	12	2.41	2.77	2.41
D	.2460	1-3/8	2-1/2	12	2.41	2.77	2.41
E	.2500	1-3/8	2-1/2	12	2.01	2.01	2.01
F	.2570	1-7/16	2-5/8	12	2.55	2.61	2.55
G	.2610	1-7/16	2-5/8	12	2.77	3.10	2.77
H	.2660	1-1/2	2-11/16	12	2.77	3.10	2.77
I	.2720	1-1/2	2-11/16	6	2.77	3.27	2.77
J	.2770	1-1/2	2-11/16	6	3.04	3.56	3.04
K	.2810	1-1/2	2-11/16	6	3.20	3.81	3.20
L	.2900	1-9/16	2-3/4	6	3.20	3.81	3.20
M	.2950	1-9/16	2-3/4	6	3.50	4.06	3.50

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					118° Bright 600	135° Oxide 600A	118° Oxide 600J
N	.3020	1-5/8	2-13/16	6	3.50	4.06	3.50
O	.3160	1-11/16	2-15/16	6	3.50	4.29	3.50
P	.3230	1-11/16	2-15/16	6	3.89	4.55	3.89
Q	.3320	1-11/16	3	6	3.89	4.55	3.89
R	.3390	1-11/16	3	6	3.89	4.55	3.89
S	.3480	1-3/4	3-1/16	6	4.54	5.28	4.54
T	.3580	1-3/4	3-1/16	6	5.20	6.07	5.20
U	.3680	1-13/16	3-1/8	6	5.20	6.07	5.20
V	.3770	1-7/8	3-1/4	6	5.61	6.07	5.61
W	.3860	1-7/8	3-1/4	6	5.79	6.32	5.79
X	.3970	1-15/16	3-5/16	6	6.67	7.82	6.67
Y	.4040	1-15/16	3-5/16	6	7.99	9.24	7.99
Z	.4130	2	3-3/8	6	8.75	9.57	8.75

### Sets

Sizes	Pieces	118° Bright Finish		135° Oxide Finish	
		Set No.	Price	Set No.	Price
1/16 – 1/4 x 64 <sup>ths</sup>	13	<b>607GB</b>	23.48	<b>607G</b>	29.00
1/16 – 3/8 x 64 <sup>ths</sup>	21	<b>607SB</b>	56.05	<b>607S</b>	62.30
1/16 – 1/2 x 64 <sup>ths</sup>	29	<b>607FB*</b>	107.17	<b>607F</b>	119.30
Wire Sizes 1 – 60	60	<b>607WB</b>	105.80	<b>607W</b>	110.13
A – Z	26	<b>607LB</b>	128.87	<b>607L</b>	137.94
1/16 – 1/2 x 64 <sup>ths</sup> , 1 – 60, & A – Z	115	<b>607XB</b>	336.34	<b>607X</b>	367.87

\* Available in 118°: **607FJ** (1/16 – 1/2 x 64<sup>ths</sup>, 29 pcs. \$107.17)

All sets are supplied in Huot metal index



# MDX<sup>®</sup> Screw SUPERIOR IMPORT Machine Length Drills

High Speed Steel



List No. X600

Drill Size	Shank Diameter
Up to 1" inclusive	Same as Drill Diameter
Over 1 to 1-1/4 inclusive	1"
Over 1-1/4 to 1-1/2 inclusive	1-1/4"
Over 1-1/2 to 2" inclusive	1-1/2"



## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/64	.0469	1/2	1-3/8	12	.74
1/16	.0625	5/8	1-5/8	12	.69
5/64	.0781	11/16	1-11/16	12	.69
3/32	.0938	3/4	1-3/4	12	.69
7/64	.1094	13/16	1-13/16	12	.69
1/8	.1250	7/8	1-7/8	12	.69
9/64	.1406	15/16	1-15/16	12	.69
5/32	.1563	1	2-1/16	12	.79
11/64	.1719	1-1/16	2-1/8	12	.84
3/16	.1875	1-1/8	2-3/16	12	.86
13/64	.2031	1-3/16	2-1/4	12	.96
7/32	.2188	1-1/4	2-3/8	12	1.12
15/64	.2344	1-5/16	2-7/16	12	1.17
1/4	.2500	1-3/8	2-1/2	12	1.31
17/64	.2656	1-7/16	2-5/8	12	1.43
9/32	.2813	1-1/2	2-11/16	6	1.51
19/64	.2969	1-9/16	2-3/4	6	1.65
5/16	.3125	1-5/8	2-13/16	6	1.78
21/64	.3281	1-11/16	2-15/16	6	1.97
11/32	.3438	1-11/16	3	6	2.21
23/64	.3594	1-3/4	3-1/16	6	2.58
3/8	.3750	1-13/16	3-1/8	6	2.68
25/64	.3906	1-7/8	3-1/4	6	2.98
13/32	.4063	1-15/16	3-5/16	6	3.12
27/64	.4219	2	3-3/8	6	3.43
7/16	.4375	2-1/16	3-7/16	6	3.48
29/64	.4531	2-1/8	3-9/16	6	4.18
15/32	.4688	2-1/8	3-5/8	6	4.36
31/64	.4844	2-3/16	3-11/16	6	4.58
1/2	.5000	2-1/4	3-3/4	6	4.50
33/64	.5156	2-3/8	3-7/8	1	10.08
17/32	.5313	2-3/8	3-7/8	1	10.36
35/64	.5469	2-1/2	4	1	10.99
9/16	.5625	2-1/2	4	1	10.79
37/64	.5781	2-5/8	4-1/8	1	12.59
19/32	.5938	2-5/8	4-1/8	1	12.35
39/64	.6094	2-3/4	4-1/4	1	12.69
5/8	.6250	2-3/4	4-1/4	1	12.47
41/64	.6406	2-7/8	4-1/2	1	14.58
21/32	.6563	2-7/8	4-1/2	1	14.32
43/64	.6719	2-7/8	4-5/8	1	16.17
11/16	.6875	2-7/8	4-5/8	1	15.87
45/64	.7031	3	4-3/4	1	18.03
23/32	.7188	3	4-3/4	1	17.38
47/64	.7344	3-1/8	5	1	19.03
3/4	.7500	3-1/8	5	1	18.35
49/64	.7656	3-1/4	5-1/8	1	20.96
25/32	.7813	3-1/4	5-1/8	1	20.20
51/64	.7969	3-3/8	5-1/4	1	22.06
13/16	.8125	3-3/8	5-1/4	1	21.27
53/64	.8281	3-1/2	5-3/8	1	23.36
27/32	.8438	3-1/2	5-3/8	1	22.52
55/64	.8594	3-1/2	5-1/2	1	24.19
7/8	.8750	3-1/2	5-1/2	1	23.32
57/64	.8906	3-5/8	5-5/8	1	25.11
29/32	.9063	3-5/8	5-5/8	1	24.22
59/64	.9219	3-3/4	5-3/4	1	27.68
15/16	.9375	3-3/4	5-3/4	1	26.69
61/64	.9531	3-7/8	5-7/8	1	30.11

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
31/32	.9688	3-7/8	5-7/8	1	29.03
63/64	.9844	4	6	1	31.24
1	1.0000	4	6	1	30.12
1-1/64	1.0156	4	6-1/4	1	46.00
1-1/32	1.0313	4	6-1/4	1	46.00
1-3/64	1.0469	4	6-1/4	1	46.00
1-1/16	1.0625	4	6-1/4	1	37.57
1-3/32	1.0938	4	6-3/8	1	46.00
1-7/64	1.1094	4	6-3/8	1	59.07
1-1/8	1.1250	4	6-3/8	1	42.58
1-9/64	1.1406	4-1/4	6-5/8	1	62.70
1-5/32	1.1563	4-1/4	6-5/8	1	44.16
1-3/16	1.1875	4-1/4	6-5/8	1	49.39
1-1/4	1.2500	4-3/8	6-3/4	1	65.89
1-17/64	1.2656	4-3/8	6-3/4	1	82.01
1-9/32	1.2812	4-3/8	7	1	84.50
1-19/64	1.2969	4-3/8	7	1	86.00
1-5/16	1.3125	4-3/8	7	1	70.24
1-21/64	1.3281	4-3/8	7	1	86.00
1-23/64	1.3594	4-1/2	7-1/8	1	90.00
1-3/8	1.3750	4-1/2	7-1/8	1	75.31
1-25/64	1.3906	4-1/2	7-1/8	1	98.66
1-13/32	1.4063	4-3/4	7-3/8	1	85.76
1-27/64	1.4219	4-3/4	7-3/8	1	98.66
1-7/16	1.4375	4-3/4	7-3/8	1	85.76
1-29/64	1.4531	4-3/4	7-3/8	1	98.66
1-15/32	1.4688	4-3/4	7-1/2	1	98.75
1-31/64	1.4844	4-3/4	7-1/2	1	102.48
1-1/2	1.5000	4-7/8	7-1/2	1	79.40
1-33/64	1.5156	4-7/8	7-1/2	1	109.21
1-17/32	1.5313	4-7/8	7-3/4	1	102.48
1-35/64	1.5469	4-7/8	7-3/4	1	119.52
1-9/16	1.5625	4-7/8	7-3/4	1	89.71
1-37/64	1.5781	4-7/8	7-3/4	1	130.46
1-39/64	1.6094	4-7/8	7-3/4	1	130.46
1-5/8	1.6250	4-7/8	7-3/4	1	100.65
1-41/64	1.6406	4-7/8	7-3/4	1	151.75
1-43/64	1.6719	4-7/8	7-3/4	1	151.75
1-11/16	1.6875	5-1/8	8	1	115.08
1-45/64	1.7031	5-1/8	8	1	195.09
1-23/32	1.7188	5-1/8	8	1	195.09
1-47/64	1.7344	5-1/8	8	1	204.60
1-3/4	1.7500	5-1/8	8	1	119.22
1-49/64	1.7656	5-1/8	8	1	224.66
1-25/32	1.7813	5-3/8	8-1/4	1	224.66
1-51/64	1.7969	5-3/8	8-1/4	1	231.26
1-13/16	1.8125	5-3/8	8-1/4	1	130.81
1-53/64	1.8281	5-3/8	8-1/4	1	242.68
1-27/32	1.8438	5-3/8	8-1/4	1	242.68
1-55/64	1.8594	5-3/8	8-1/4	1	250.98
1-7/8	1.8750	5-3/8	8-1/4	1	134.53
1-57/64	1.8906	5-3/8	8-1/4	1	261.23
1-29/32	1.9063	5-5/8	8-1/2	1	261.23
1-59/64	1.9219	5-5/8	8-1/2	1	261.23
1-15/16	1.9375	5-5/8	8-1/2	1	142.71
1-61/64	1.9531	5-5/8	8-1/2	1	266.46
1-31/32	1.9688	5-5/8	8-1/2	1	261.14
1-63/64	1.9844	5-5/8	8-1/2	1	271.78
2	2.0000	5-5/8	8-1/2	1	149.95

# MDX<sup>®</sup> Screw SUPERIOR IMPORT Machine Length Drills

High Speed Steel



List No. X600



HOLE MAKING

## Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1	.2280	1-5/16	2-7/16	12	1.21
2	.2210	1-5/16	2-7/16	12	1.21
3	.2130	1-1/4	2-3/8	12	1.15
4	.2090	1-1/4	2-3/8	12	1.15
5	.2055	1-1/4	2-3/8	12	1.15
6	.2040	1-1/4	2-3/8	12	1.15
7	.2010	1-3/16	2-1/4	12	.95
8	.1990	1-3/16	2-1/4	12	.95
9	.1960	1-3/16	2-1/4	12	.95
10	.1935	1-3/16	2-1/4	12	.95
11	.1910	1-3/16	2-1/4	12	.95
12	.1890	1-3/16	2-1/4	12	.95
13	.1850	1-1/8	2-3/16	12	.95
14	.1820	1-1/8	2-3/16	12	.95
15	.1800	1-1/8	2-3/16	12	.95
16	.1770	1-1/8	2-3/16	12	.95
17	.1730	1-1/8	2-3/16	12	.95
18	.1695	1-1/16	2-1/8	12	.82
19	.1660	1-1/16	2-1/8	12	.82
20	.1610	1-1/16	2-1/8	12	.82
21	.1590	1-1/16	2-1/8	12	.79
22	.1570	1-1/16	2-1/8	12	.79
23	.1540	1	2-1/16	12	.79
24	.1520	1	2-1/16	12	.79
25	.1495	1	2-1/16	12	.77
26	.1470	1	2-1/16	12	.77
27	.1440	1	2-1/16	12	.67
28	.1405	15/16	1-15/16	12	.67
29	.1360	15/16	1-15/16	12	.67
30	.1285	15/16	1-15/16	12	.67

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
31	.1200	7/8	1-7/8	12	.67
32	.1160	7/8	1-7/8	12	.67
33	.1130	7/8	1-7/8	12	.67
34	.1110	7/8	1-7/8	12	.67
35	.1100	7/8	1-7/8	12	.67
36	.1065	13/16	1-13/16	12	.67
37	.1040	13/16	1-13/16	12	.67
38	.1015	13/16	1-13/16	12	.67
39	.0995	13/16	1-13/16	12	.67
40	.0980	13/16	1-13/16	12	.67
41	.0960	13/16	1-13/16	12	.67
42	.0935	3/4	1-3/4	12	.67
43	.0890	3/4	1-3/4	12	.67
44	.0860	3/4	1-3/4	12	.67
45	.0820	3/4	1-3/4	12	.67
46	.0810	3/4	1-3/4	12	.67
47	.0785	3/4	1-3/4	12	.67
48	.0760	11/16	1-11/16	12	.67
49	.0730	11/16	1-11/16	12	.67
50	.0700	11/16	1-11/16	12	.67
51	.0670	11/16	1-11/16	12	.67
52	.0635	11/16	1-11/16	12	.67
53	.0595	5/8	1-5/8	12	.67
54	.0550	5/8	1-5/8	12	.67
55	.0520	5/8	1-5/8	12	.67
56	.0465	1/2	1-3/8	12	.67
57	.0430	1/2	1-3/8	12	.67
58	.0420	1/2	1-3/8	12	.67
59	.0410	1/2	1-3/8	12	.67
60	.0400	1/2	1-3/8	12	.67

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	1-5/16	2-7/16	12	1.45
B	.2380	1-3/8	2-1/2	12	1.45
C	.2420	1-3/8	2-1/2	12	1.45
D	.2460	1-3/8	2-1/2	12	1.45
E	.2500	1-3/8	2-1/2	12	1.31
F	.2570	1-7/16	2-5/8	12	1.59
G	.2610	1-7/16	2-5/8	12	1.68
H	.2660	1-1/2	2-11/16	12	1.68
I	.2720	1-1/2	2-11/16	6	1.68
J	.2770	1-1/2	2-11/16	6	1.83
K	.2810	1-1/2	2-11/16	6	1.95
L	.2900	1-9/16	2-3/4	6	1.95
M	.2950	1-9/16	2-3/4	6	2.13

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	1-5/8	2-13/16	6	2.13
O	.3160	1-11/16	2-15/16	6	2.19
P	.3230	1-11/16	2-15/16	6	2.41
Q	.3320	1-11/16	3	6	2.41
R	.3390	1-11/16	3	6	2.41
S	.3480	1-3/4	3-1/16	6	2.81
T	.3580	1-3/4	3-1/16	6	3.24
U	.3680	1-13/16	3-1/8	6	3.24
V	.3770	1-7/8	3-1/4	6	3.41
W	.3860	1-7/8	3-1/4	6	3.58
X	.3970	1-15/16	3-5/16	6	4.17
Y	.4040	1-15/16	3-5/16	6	4.95
Z	.4130	2	3-3/8	6	4.95

## Sets

Size	Pieces	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	29	X607F	62.70
1 – 60	60	X607W	48.91
A – Z	26	X607L	63.50



All sets are supplied in metal index



# TiN Coated Screw Machine Length Drills

High Speed Steel

List No. **600T** – Titanium Nitride Coated, 118° Point



**MADE IN  
USA**



**MICHIGAN  
DRILL & CUTTING TOOLS**

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/64	.0469	1/2	1-3/8	12	2.54
1/16	.0625	5/8	1-5/8	12	2.51
5/64	.0781	11/16	1-11/16	12	2.51
3/32	.0938	3/4	1-3/4	12	2.51
7/64	.1094	13/16	1-13/16	12	2.51
1/8	.1250	7/8	1-7/8	12	2.51
9/64	.1406	15/16	1-15/16	12	3.76
5/32	.1562	1	2-1/16	12	3.95
11/64	.1719	1-1/16	2-1/8	12	4.07
3/16	.1875	1-1/8	2-3/16	12	4.12
13/64	.2031	1-3/16	2-1/4	12	4.28
7/32	.2188	1-1/4	2-3/8	12	4.57
15/64	.2344	1-5/16	2-7/16	12	4.72
1/4	.2500	1-3/8	2-1/2	12	4.77
17/64	.2656	1-7/16	2-5/8	12	6.83

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
9/32	.2812	1-1/2	2-11/16	6	6.90
19/64	.2969	1-9/16	2-3/4	6	7.26
5/16	.3125	1-5/8	2-13/16	6	7.43
21/64	.3281	1-11/16	2-15/16	6	9.95
11/32	.3438	1-11/16	3	6	10.26
23/64	.3594	1-3/4	3-1/16	6	11.09
3/8	.3750	1-13/16	3-1/8	6	11.17
25/64	.3906	1-7/8	3-1/4	6	13.25
13/32	.4062	1-15/16	3-5/16	6	13.36
27/64	.4219	2	3-3/8	6	14.12
7/16	.4375	2-1/16	3-7/16	6	14.03
29/64	.4531	2-1/8	3-9/16	6	15.85
15/32	.4688	2-1/8	3-5/8	6	16.08
31/64	.4844	2-3/16	3-11/16	6	16.65
1/2	.5000	2-1/4	3-3/4	6	16.34

## Wire Gauge Sizes

12 drills per package

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
1	.2280	1-5/16	2-7/16	4.76
2	.2210	1-5/16	2-7/16	4.76
3	.2130	1-1/4	2-3/8	4.63
4	.2090	1-1/4	2-3/8	4.63
5	.2055	1-1/4	2-3/8	4.63
6	.2040	1-1/4	2-3/8	4.63
7	.2010	1-3/16	2-1/4	4.26
8	.1990	1-3/16	2-1/4	4.26
9	.1960	1-3/16	2-1/4	4.26
10	.1935	1-3/16	2-1/4	4.26
11	.1910	1-3/16	2-1/4	4.26
12	.1890	1-3/16	2-1/4	4.26
13	.1850	1-1/8	2-3/16	4.26
14	.1820	1-1/8	2-3/16	4.26
15	.1800	1-1/8	2-3/16	4.26
16	.1770	1-1/8	2-3/16	4.26
17	.1730	1-1/8	2-3/16	4.26
18	.1695	1-1/16	2-1/8	4.02
19	.1660	1-1/16	2-1/8	4.02
20	.1610	1-1/16	2-1/8	4.02
21	.1590	1-1/16	2-1/8	3.95

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
22	.1570	1-1/16	2-1/8	3.95
23	.1540	1	2-1/16	3.95
24	.1520	1	2-1/16	3.95
25	.1495	1	2-1/16	3.89
26	.1470	1	2-1/16	3.89
27	.1440	1	2-1/16	3.89
28	.1405	15/16	1-15/16	3.75
29	.1360	15/16	1-15/16	3.75
30	.1285	15/16	1-15/16	3.75
31	.1200	7/8	1-7/8	2.49
32	.1160	7/8	1-7/8	2.49
33	.1130	7/8	1-7/8	2.49
34	.1110	7/8	1-7/8	2.49
35	.1100	7/8	1-7/8	2.49
36	.1065	13/16	1-13/16	2.49
37	.1040	13/16	1-13/16	2.49
38	.1015	13/16	1-13/16	2.49
39	.0995	13/16	1-13/16	2.49
40	.0980	13/16	1-13/16	2.49
41	.0960	13/16	1-13/16	2.49
42	.0935	3/4	1-3/4	2.49

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
43	.0890	3/4	1-3/4	2.49
44	.0860	3/4	1-3/4	2.49
45	.0820	3/4	1-3/4	2.49
46	.0810	3/4	1-3/4	2.49
47	.0785	3/4	1-3/4	2.49
48	.0760	11/16	1-11/16	2.49
49	.0730	11/16	1-11/16	2.49
50	.0700	11/16	1-11/16	2.49
51	.0670	11/16	1-11/16	2.49
52	.0635	11/16	1-11/16	2.49
53	.0595	5/8	1-5/8	2.49
54	.0550	5/8	1-5/8	2.49
55	.0520	5/8	1-5/8	2.49
56	.0465	1/2	1-3/8	2.49
57	.0430	1/2	1-3/8	2.49
58	.0420	1/2	1-3/8	2.49
59	.0410	1/2	1-3/8	2.49
60	.0400	1/2	1-3/8	2.49
61	.0390	1/2	1-1/4	2.59

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	1-5/16	2-7/16	12	4.98
B	.2380	1-3/8	2-1/2	12	4.98
C	.2420	1-3/8	2-1/2	12	4.98
D	.2460	1-3/8	2-1/2	12	4.98
E	.2500	1-3/8	2-1/2	12	4.77
F	.2570	1-7/16	2-5/8	12	5.50
G	.2610	1-7/16	2-5/8	12	5.90
H	.2660	1-1/2	2-11/16	12	5.90
I	.2720	1-1/2	2-11/16	6	6.15

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
J	.2770	1-1/2	2-11/16	6	6.30
K	.2810	1-1/2	2-11/16	6	6.30
L	.2900	1-9/16	2-3/4	6	6.30
M	.2950	1-9/16	2-3/4	6	6.70
N	.3020	1-5/8	2-13/16	6	6.70
O	.3160	1-11/16	2-15/16	6	6.70
P	.3230	1-11/16	2-15/16	6	7.15
Q	.3320	1-11/16	3	6	7.15
R	.3390	1-11/16	3	6	7.15

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
S	.3480	1-3/4	3-1/16	6	7.88
T	.3580	1-3/4	3-1/16	6	8.16
U	.3680	1-13/16	3-1/8	6	8.16
V	.3770	1-7/8	3-1/4	6	8.55
W	.3860	1-7/8	3-1/4	6	8.90
X	.3970	1-15/16	3-5/16	6	9.45
Y	.4040	1-15/16	3-5/16	6	10.95
Z	.4130	2	3-3/8	6	12.70

## Sets

Sizes	Pieces	Description	Set No.	Price
1/16 – 1/2 x 64 <sup>ths</sup>	29	TiN Coated, 118° Point	<b>607TF</b>	255.86
1/16 – 1/2 x 64 <sup>ths</sup>	29	TiN Coated, 135° Split Point	<b>607THF</b>	281.45



All sets are supplied in Huot metal index

# Metric Screw Machine Length Drill

High Speed Steel



List No. **600M** – 118° Point Right Hand

List No. **X600MLH** – 118° Point Left Hand

Size mm	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				600M	X600MLH
1.00	.0394	1/2	1-3/8	2.03	—
1.05	.0413	1/2	1-3/8	2.03	—
1.20	.0472	5/8	1-5/8	2.03	3.30
1.25	.0492	5/8	1-5/8	2.03	—
1.30	.0512	5/8	1-5/8	2.03	3.30
1.40	.0551	5/8	1-5/8	2.03	—
1.45	.0571	5/8	1-5/8	2.03	—
1.50	.0591	5/8	1-5/8	2.03	3.30
1.55	.0610	11/16	1-11/16	2.03	—
1.60	.0630	11/16	1-11/16	2.03	3.30
1.65	.0650	11/16	1-11/16	2.03	3.30
1.70	.0669	11/16	1-11/16	2.03	3.30
1.75	.0689	11/16	1-11/16	2.03	—
1.80	.0709	11/16	1-11/16	2.03	3.30
1.90	.0748	11/16	1-11/16	2.03	3.30
1.95	.0768	11/16	1-11/16	2.03	—
2.00	.0787	3/4	1-3/4	2.03	—
2.05	.0807	3/4	1-3/4	2.03	—
2.10	.0827	3/4	1-3/4	2.03	3.30
2.15	.0846	3/4	1-3/4	2.07	—
2.40	.0945	13/16	1-13/16	2.07	—
2.50	.0984	13/16	1-13/16	2.07	—
2.60	.1024	13/16	1-13/16	2.07	3.70
2.70	.1063	13/16	1-13/16	2.12	—
2.80	.1102	13/16	1-13/16	2.12	3.95
2.90	.1142	7/8	1-7/8	2.12	3.95
3.00	.1181	7/8	1-7/8	2.12	3.95
3.20	.1260	7/8	1-1/8	2.12	3.95
3.25	.1280	7/8	1-1/8	2.12	—
3.30	.1299	15/16	1-15/16	2.12	3.95
3.40	.1339	15/16	1-15/16	2.12	—
3.50	.1378	15/16	1-15/16	2.12	—
3.60	.1417	1	2-1/16	2.12	3.95
3.70	.1457	1	2-1/16	2.12	3.95
3.80	.1496	1	2-1/16	2.12	3.95
3.90	.1535	1	2-1/16	2.12	3.95
4.00	.1575	1	2-1/16	2.12	3.95
4.10	.1614	1-1/16	2-1/8	2.43	4.20
4.15	.1624	1-1/16	2-1/8	2.80	—
4.20	.1654	1-1/16	2-1/8	2.43	4.20
4.25	.1673	1-1/16	2-1/8	2.43	—
4.30	.1693	1-1/16	2-1/8	2.43	4.20
4.40	.1732	1-1/8	2-3/16	2.48	4.20
4.50	.1772	1-1/8	2-3/16	2.48	—
4.60	.1811	1-1/8	2-3/16	2.66	4.90
4.70	.1850	1-1/8	2-3/16	2.66	—
4.80	.1890	1-1/8	2-3/16	2.70	5.00
4.90	.1929	1-1/8	2-3/16	2.70	5.00
5.00	.1969	1-3/16	2-1/4	2.70	5.00
5.10	.2008	1-3/16	2-1/4	2.75	—
5.30	.2087	1-1/4	2-3/8	3.29	5.90
5.40	.2126	1-1/4	2-3/8	3.29	5.90
5.50	.2165	1-1/4	2-3/8	3.38	6.00

Sizes with decimal equivalent smaller than .0625 are not split point.

Size mm	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				600M	X600MLH
5.60	.2205	1-5/16	2-7/16	3.38	—
5.80	.2283	1-5/16	2-7/16	3.38	6.00
5.90	.2323	1-5/16	2-7/16	3.38	—
6.00	.2362	1-5/16	2-7/16	3.38	6.00
6.10	.2402	1-5/16	2-7/16	3.51	6.20
6.40	.2520	1-3/8	2-1/2	3.51	6.20
6.50	.2559	1-7/16	2-5/8	3.51	6.20
6.60	.2598	1-7/16	2-5/8	3.87	6.32
6.75	.2657	1-7/16	2-5/8	3.87	6.32
6.90	.2717	1-7/16	2-5/8	3.87	6.32
7.00	.2756	1-7/16	2-5/8	3.87	6.32
7.10	.2795	1-1/2	2-11/16	4.41	6.00
7.30	.2874	1-1/2	2-11/16	4.86	7.20
7.40	.2913	1-9/16	2-3/4	4.86	7.20
7.50	.2953	1-9/16	2-3/4	4.86	7.20
7.60	.2992	1-9/16	2-3/4	5.40	9.80
7.70	.3031	1-5/8	2-13/16	5.40	9.80
7.90	.3110	1-5/8	2-13/16	5.40	9.80
8.00	.3150	1-11/16	2-15/16	5.40	9.80
8.10	.3189	1-11/16	2-15/16	5.85	10.10
8.20	.3228	1-11/16	2-15/16	5.85	10.10
8.30	.3268	1-11/16	2-15/16	5.85	10.10
8.40	.3307	1-11/16	2-15/16	5.85	—
8.50	.3346	1-11/16	3	5.85	10.10
8.60	.3386	1-11/16	3	7.38	13.15
8.70	.3425	1-11/16	3	7.38	13.15
8.80	.3465	1-3/4	3-1/16	8.55	15.85
8.90	.3504	1-3/4	3-1/16	8.55	15.85
9.00	.3543	1-3/4	3-1/16	8.55	15.85
9.10	.3583	1-13/16	3-1/8	8.55	15.85
9.30	.3661	1-13/16	3-1/8	8.55	15.85
9.40	.3701	1-13/16	3-1/8	8.55	15.85
9.50	.3740	1-13/16	3-1/8	8.55	15.85
9.60	.3780	1-7/8	3-1/4	8.55	15.85
9.80	.3858	1-7/8	3-1/4	8.64	15.93
9.90	.3898	1-7/8	3-1/4	8.64	15.93
10.00	.3937	1-7/8	3-1/4	8.64	—
10.25	.4035	2	3-3/8	9.40	—
10.50	.4134	2	3-3/8	9.40	16.40
11.50	.4528	2-1/8	3-9/16	11.34	—
11.80	.4646	2-1/8	3-9/16	12.15	—
12.20	.4803	2-3/16	3-11/16	12.47	—
12.50	.4921	2-1/4	3-3/4	12.47	—
14.00	.5512	2-1/2	4	—	84.00
15.50	.6102	2-9/32	4-1/2	48.00	—
17.00	.6693	2-1/2	5-3/4	59.00	—
17.50	.6890	2-1/2	5-3/4	65.00	—
18.50	.7283	2-1/2	5-3/4	69.50	—
20.00	.7874	2-1/2	5-3/4	74.00	—
24.00	.9449	4	6	72.00	—
33.00	1.2992	3-1/2	7	211.00	—

List No. **X600M** – 118° Point Right Hand

Size mm	Flute Length	Overall Length	Price Each
13.50	2-1/8	4-3/16	29.00
14.20	2-1/8	4-3/16	31.20
15.75	2-3/16	4-1/2	32.17
16.00	2-3/16	4-1/2	32.17
16.25	2-3/16	4-1/2	33.15
16.75	2-1/4	4-1/2	33.15
17.25	2-1/2	4-13/16	35.42
17.75	2-1/2	1-13/16	39.90
19.50	2-1/2	5-1/8	42.00
20.00	2-1/2	5-1/8	45.00
20.25	2-1/2	5-1/8	46.00

Size mm	Flute Length	Overall Length	Price Each
20.75	2-3/4	5-1/8	46.50
21.25	2-3/4	5-1/8	46.50
21.75	2-3/4	5-1/2	47.00
22.00	2-3/4	5-1/2	47.00
22.25	2-3/4	5-1/2	47.00
24.00	2-3/4	5-1/2	48.60
24.25	2-3/4	5-1/2	48.60
25.25	3	6-1/8	49.07
25.50	3	6-1/8	87.42
26.00	3	6-1/8	87.42
27.50	3-1/8	6-3/8	102.00

Size mm	Flute Length	Overall Length	Price Each
28.50	3-1/4	6-1/8	105.30
29.00	3-1/4	6-5/8	125.00
29.25	3-1/4	6-5/8	138.50
31.00	3-5/16	6-13/16	144.00
31.50	3-5/16	6-13/16	147.87
33.00	3-1/2	7	152.00
34.00	3-1/2	7	158.00
35.00	3-1/2	7	162.50
37.50	3-15/16	7-3/16	169.95
38.00	3-15/16	7-3/16	177.12
39.00	3-15/16	7-3/16	189.75



# Cobalt Screw Machine Length Drills

List No. **600C** – Heavy Duty, 135° Split Point

The short flute length and overall length provides maximum rigidity drilling in stainless steels and other tough alloys, castings and forgings.



## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/64	.0469	1/2	1-3/8	12	3.38
1/16	.0625	5/8	1-5/8	12	2.21
5/64	.0781	11/16	1-11/16	12	2.21
3/32	.0938	3/4	1-3/4	12	2.25
7/64	.1094	13/16	1-13/16	12	2.48
1/8	.1250	7/8	1-7/8	12	2.66
9/64	.1406	15/16	1-15/16	12	2.88
5/32	.1562	1	2-1/16	12	3.11
11/64	.1719	1-1/16	2-1/8	12	3.42
3/16	.1875	1-1/8	2-3/16	12	4.05
13/64	.2031	1-3/16	2-1/4	12	4.46
7/32	.2188	1-1/4	2-3/8	12	4.68
15/64	.2344	1-5/16	2-7/16	12	5.13
1/4	.2500	1-3/8	2-1/2	12	5.49
17/64	.2656	1-7/16	2-5/8	12	6.21
9/32	.2812	1-1/2	2-11/16	6	6.75
19/64	.2969	1-9/16	2-3/4	6	7.92
5/16	.3125	1-5/8	2-13/16	6	8.32
21/64	.3281	1-11/16	2-15/16	6	9.60
11/32	.3438	1-11/16	3	6	9.99
23/64	.3594	1-3/4	3-1/16	6	11.57
3/8	.3750	1/2	3-1/8	6	11.57
25/64	.3906	5/8	3-1/4	6	12.92
13/32	.4062	11/16	3-5/16	6	13.46
27/64	.4219	3/4	3-3/8	6	15.27
7/16	.4375	13/16	3-7/16	6	15.49
29/64	.4531	7/8	3-9/16	6	18.36
15/32	.4688	15/16	3-5/8	6	18.36
31/64	.4844	1	3-11/16	6	18.92
1/2	.5000	1-1/16	3-3/4	6	19.26
33/64	.5156	1-1/8	3-7/8	1	49.32
17/32	.5312	1-3/16	3-7/8	1	49.32

Sizes with decimal equivalent smaller than .0625 are not split point.

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
35/64	.5469	1-1/4	4	1	50.58
9/16	.5625	1-5/16	4	1	58.03
37/64	.5781	1-3/8	4-1/8	1	68.91
19/32	.5938	1-7/16	4-1/8	1	66.46
39/64	.6094	1-1/2	4-1/4	1	69.62
5/8	.6250	1-9/16	4-1/4	1	67.16
41/64	.6406	1-5/8	4-1/2	1	79.97
21/32	.6562	1-11/16	4-1/2	1	77.10
43/64	.6719	1-11/16	4-5/8	1	88.57
11/16	.6875	1-3/4	4-5/8	1	85.41
45/64	.7031	3	4-3/4	1	96.17
23/32	.7188	3	4-3/4	1	92.73
47/64	.7344	3-1/8	5	1	101.50
3/4	.7500	3-1/8	5	1	97.88
49/64	.7656	3-1/4	5-1/8	1	108.11
25/32	.7812	3-1/4	5-1/8	1	108.11
51/64	.7969	3-3/8	5-1/4	1	114.66
13/16	.8125	3-3/8	5-1/4	1	114.66
53/64	.8281	3-1/2	5-3/8	1	122.85
27/32	.8438	3-1/2	5-3/8	1	122.85
55/64	.8594	3-1/2	5-1/2	1	125.63
7/8	.8750	3-1/2	5-1/2	1	125.63
57/64	.8906	3-5/8	5-5/8	1	130.64
29/32	.9062	3-5/8	5-5/8	1	130.64
59/64	.9219	3-3/4	5-3/4	1	143.98
15/16	.9375	3-3/4	5-3/4	1	143.98
61/64	.9531	3-7/8	5-7/8	1	156.43
31/32	.9688	3-7/8	5-7/8	1	156.43
63/64	.9844	4	6	1	163.64
1	1.0000	4	6	1	163.64
1-5/16	1.3125	4-3/8	7	1	295.00
1-3/8	1.3750	4-1/2	7-1/8	1	312.50

3/4" and larger are furnished with notched point.

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	1-5/16	2-7/16	12	6.21
B	.2380	1-3/8	2-1/2	12	6.47
C	.2420	1-3/8	2-1/2	12	6.47
D	.2460	1-3/8	2-1/2	12	6.47
E	.2500	1-3/8	2-1/2	12	5.49
F	.2570	1-7/16	2-5/8	12	6.84
G	.2610	1-7/16	2-5/8	12	6.84
H	.2660	1-1/2	2-11/16	12	7.34
I	.2720	1-1/2	2-11/16	6	7.34
J	.2770	1-1/2	2-11/16	6	7.34
K	.2810	1-1/2	2-11/16	6	7.47
L	.2900	1-9/16	2-3/4	6	8.55
M	.2950	1-9/16	2-3/4	6	8.55

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	1-5/8	2-13/16	6	9.45
O	.3160	1-11/16	2-15/16	6	10.35
P	.3230	1-11/16	2-15/16	6	10.35
Q	.3320	1-11/16	3	6	11.25
R	.3390	1-11/16	3	6	11.25
S	.3480	1-3/4	3-1/16	6	13.77
T	.3580	1-3/4	3-1/16	6	13.77
U	.3680	1-13/16	3-1/8	6	13.77
V	.3770	1-7/8	3-1/4	6	15.26
W	.3860	1-7/8	3-1/4	6	15.71
X	.3970	1-15/16	3-5/16	6	16.11
Y	.4040	1-15/16	3-5/16	6	16.11
Z	.4130	2	3-3/8	6	17.96

## Sets

Sizes	Pieces	Set No.	Price
1/16 – 1/4 x 64 <sup>ths</sup>	13	<b>607CG</b>	44.10
1/16 – 1/2 x 64 <sup>ths</sup>	29	<b>607CF</b>	268.76
A – Z	26	<b>607CL</b>	256.50
1 – 60	60	<b>607CW</b>	216.77
1/16 – 1/2 x 64 <sup>ths</sup> , A – Z, 1 – 60	115	<b>607CX</b>	666.90



All sets are supplied in Huot metal index

# Cobalt Screw Machine Length Drills

List No. **600C** – Heavy Duty, 135° Split Point

The short flute length and overall length provides maximum rigidity drilling in stainless steels and other tough alloys, castings and forgings.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Wire Gauge Sizes

12 drills per package

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1-5/16	2-7/16	5.85
2	.2210	1-5/16	2-7/16	5.85
3	.2130	1-1/4	2-3/8	5.85
4	.2090	1-1/4	2-3/8	5.31
5	.2055	1-1/4	2-3/8	5.31
6	.2040	1-1/4	2-3/8	5.31
7	.2010	1-3/16	2-1/4	4.41
8	.1990	1-3/16	2-1/4	4.41
9	.1960	1-3/16	2-1/4	4.41
10	.1935	1-3/16	2-1/4	4.41
11	.1910	1-3/16	2-1/4	4.41
12	.1890	1-3/16	2-1/4	4.41
13	.1850	1-1/8	2-3/16	4.28
14	.1820	1-1/8	2-3/16	4.28
15	.1800	1-1/8	2-3/16	4.28
16	.1770	1-1/8	2-3/16	4.28
17	.1730	1-1/8	2-3/16	4.28
18	.1695	1-1/16	2-1/8	3.51
19	.1660	1-1/16	2-1/8	3.51
20	.1610	1-1/16	2-1/8	3.51
21	.1590	1-1/16	2-1/8	3.51
22	.1570	1-1/16	2-1/8	3.51
23	.1540	1	2-1/16	3.51
24	.1520	1	2-1/16	3.51
25	.1495	1	2-1/16	3.24
26	.1470	1	2-1/16	3.24
27	.1440	1	2-1/16	3.24
28	.1405	15/16	1-15/16	3.24
29	.1360	15/16	1-15/16	3.24
30	.1285	15/16	1-15/16	2.61

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
31	.1200	7/8	1-7/8	2.61
32	.1160	7/8	1-7/8	2.61
33	.1130	7/8	1-7/8	2.61
34	.1110	7/8	1-7/8	2.61
35	.1100	7/8	1-7/8	2.61
36	.1065	13/16	1-13/16	2.61
37	.1040	13/16	1-13/16	2.61
38	.1015	13/16	1-13/16	2.38
39	.0995	13/16	1-13/16	2.38
40	.0980	13/16	1-13/16	2.38
41	.0960	13/16	1-13/16	2.38
42	.0935	3/4	1-3/4	2.38
43	.0890	3/4	1-3/4	2.38
44	.0860	3/4	1-3/4	2.38
45	.0820	3/4	1-3/4	2.38
46	.0810	3/4	1-3/4	2.38
47	.0785	3/4	1-3/4	2.38
48	.0760	11/16	1-11/16	2.38
49	.0730	11/16	1-11/16	2.38
50	.0700	11/16	1-11/16	2.38
51	.0670	11/16	1-11/16	2.38
52	.0635	11/16	1-11/16	2.38
53	.0595	5/8	1-5/8	2.38
54	.0550	5/8	1-5/8	2.38
55	.0520	5/8	1-5/8	2.38
56	.0465	1/2	1-3/8	2.38
57	.0430	1/2	1-3/8	2.59
58	.0420	1/2	1-3/8	2.59
59	.0410	1/2	1-3/8	2.59
60	.0400	1/2	1-3/8	2.59

Sizes with decimal equivalent smaller than .0625 are not split point.

# TiAlN Coated Cobalt Screw Machine Drills

List No. **600CTA** – TiAlN Coated Cobalt, 135° Split Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/16	.0625	5/8	1-5/8	12	3.09
5/64	.0781	11/16	1-11/16	12	3.09
3/32	.0938	3/4	1-3/4	12	3.15
7/64	.1094	13/16	1-13/16	12	3.47
1/8	.1250	7/8	1-7/8	12	3.72
9/64	.1406	15/16	1-15/16	12	4.03
5/32	.1562	1	2-1/16	12	4.35
11/64	.1719	1-1/16	2-1/8	12	4.79
3/16	.1875	1-1/8	2-3/16	12	5.67
13/64	.2031	1-3/16	2-1/4	12	6.24
7/32	.2188	1-1/4	2-3/8	12	6.55
15/64	.2344	1-5/16	2-7/16	12	7.18
1/4	.2500	1-3/8	2-1/2	12	7.69

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
9/32	.2812	1-1/2	2-11/16	6	9.45
5/16	.3125	1-5/8	2-13/16	6	11.65
T	.3580	1-3/4	3-1/16	6	14.90
3/8	.3750	1-13/16	3-1/8	6	16.20
7/16	.4375	2-1/16	3-7/16	6	21.69
1/2	.5000	2-1/4	3-3/4	6	26.96
33/64	.5156	2-3/8	3-7/8	1	69.05
17/32	.5312	2-3/8	3-7/8	1	69.05
9/16	.5625	2-1/2	4	1	81.24
5/8	.6250	2-3/4	4-1/4	1	94.02
21/32	.6562	2-7/8	4-1/2	1	107.94
43/64	.6719	2-7/8	4-5/8	1	124.00
3/4	.7500	3-1/8	5	1	137.03



# Metric Cobalt Screw Machine Length Drills



List No. **600MC** – Heavy Duty, 135° Split Point

The short flute length and overall length provides maximum rigidity drilling in Stainless Steels and other tough alloys, castings and forgings.



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1.00	.0394	1/2	1-3/8	12	4.55
1.40	.0551	1/2	1-3/8	12	4.55
1.50	.0591	1/2	1-3/8	12	4.55
1.70	.0669	7/16	1-3/8	12	4.55
1.75	.0589	7/16	1-7/16	12	4.55
2.00	.0787	15/32	1-1/2	12	4.55
2.05	.0807	15/32	1-1/2	12	4.55
2.50	.0984	1/2	1-9/16	12	4.66
2.70	.1063	5/8	1-13/16	12	4.76
2.80	.1102	5/8	1-13/16	12	4.76
3.00	.1181	5/8	1-13/16	12	4.76
3.20	.1260	23/32	1-13/16	12	4.76
3.40	.1339	25/32	2-1/16	12	4.76
3.50	.1378	25/32	2-1/16	12	4.76
3.80	.1496	7/8	2-5/32	12	4.76
4.00	.1575	7/8	2-5/32	12	4.76
4.10	.1614	7/8	2-5/32	12	5.47
4.20	.1654	7/8	2-5/32	12	5.47
4.30	.1693	15/16	2-9/32	12	5.47
4.40	.1732	15/16	2-9/32	12	5.57
4.50	.1772	15/16	2-9/32	12	5.57
5.00	.1969	1-1/32	2-7/16	12	6.08
5.40	.2126	1-3/32	2-19/32	12	7.39
5.50	.2165	1-3/32	2-19/32	12	7.60
5.80	.2283	1-3/32	2-19/32	12	7.60
6.00	.2362	1-3/32	2-19/32	12	7.60

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
6.50	.2559	1-7/32	2-3/4	12	7.90
6.80	.2677	1-11/32	2-29/32	12	8.71
7.00	.2756	1-11/32	2-29/32	12	8.71
7.10	.2795	1-11/32	2-29/32	12	9.93
7.40	.2913	1-11/32	2-29/32	12	10.94
7.50	.2953	1-11/32	2-29/32	6	10.94
7.60	.2992	1-15/32	3-1/8	6	12.15
7.90	.3110	1-15/32	3-1/8	6	12.15
8.00	.3150	1-15/32	3-1/8	6	12.15
8.10	.3189	1-15/32	3-1/8	6	13.17
8.20	.3228	1-15/32	3-1/8	6	13.17
8.40	.3307	1-15/32	3-1/8	6	13.17
8.50	.3346	1-15/32	3-1/8	6	13.17
8.60	.3386	1-15/32	3-1/8	6	14.62
8.70	.3425	1-9/16	3-5/16	6	16.61
8.80	.3465	1-9/16	3-5/16	6	16.61
9.00	.3543	1-9/16	3-5/16	6	19.24
9.10	.3583	1-9/16	3-5/16	6	19.24
9.90	.3898	1-11/16	3-1/2	6	19.44
10.00	.3937	1-11/16	3-1/2	6	19.44
10.50	.4134	1-11/16	3-1/2	6	21.14
11.50	.4528	1-7/8	3-3/4	6	25.52
11.80	.4646	1-7/8	3-3/4	6	27.34
12.20	.4803	2-1/64	4-1/64	6	28.04
12.50	.4921	2-1/64	4-1/64	6	28.04
14.00	.5512	2-1/2	4	6	69.00

Sizes with decimal equivalent smaller than .0625 are not split point.

# Parabolic Flute Screw Machine Drills

High Speed Steel & Titanium Nitride Coated



List No. **600PF** – H.S. 135° Split Point

List No. **600PFT** – TiN Coated 135° Split Point

Parabolic drills are for hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 600PF	TiN Coated 600PFT
1/16	.0625	5/8	1-5/8	12	3.42	4.70
5/64	.0781	11/16	1-11/16	12	3.10	4.38
3/32	.0938	3/4	1-3/4	12	3.42	4.70
7/64	.1094	13/16	1-13/16	12	3.42	4.70
1/8	.1250	7/8	1-7/8	12	3.74	5.02
9/64	.1406	15/16	1-15/16	12	4.10	5.38
5/32	.1562	1	2-1/16	12	4.10	5.38
11/64	.1719	1-1/16	2-1/8	12	5.31	6.59
3/16	.1875	1-1/8	2-3/16	12	5.05	6.33
13/64	.2031	1-3/16	2-1/4	12	5.58	8.14
7/32	.2188	1-1/4	2-3/8	12	6.53	9.09
15/64	.2344	1-5/16	2-7/16	12	6.79	9.35
1/4	.2500	1-3/8	2-1/2	12	7.69	10.25
17/64	.2656	1-7/16	2-5/8	12	8.32	12.88
9/32	.2812	1-1/2	2-11/16	6	9.52	14.08

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 600PF	TiN Coated 600PFT
19/64	.2969	1-9/16	2-3/4	6	10.73	15.29
5/16	.3125	1-5/8	2-13/16	6	10.73	15.29
21/64	.3281	1-11/16	2-15/16	6	11.78	16.34
11/32	.3438	1-11/16	3	6	11.78	16.34
23/64	.3594	1-3/4	3-1/16	6	14.82	19.42
3/8	.3750	1-13/16	3-1/8	6	12.46	17.06
25/64	.3906	1-7/8	3-1/4	6	16.67	24.95
13/32	.4062	1-15/16	3-5/16	6	19.30	27.58
27/64	.4219	2	3-3/8	6	23.45	31.73
7/16	.4375	2-1/16	3-7/16	6	23.45	31.73
29/64	.4531	2-1/8	3-9/16	6	24.61	32.89
15/32	.4688	2-1/8	3-5/8	6	23.45	31.73
31/64	.4844	2-3/16	3-11/16	6	23.45	31.73
1/2	.5000	2-1/4	3-3/4	6	25.56	33.84
23/32	.3594	2-1/4	3-3/4	1	79.00	102.00

# Parabolic Flute Screw Machine Drills

High Speed Steel & Titanium Nitride Coated



List No. **600PF** – H.S. 135° Split Point  
List No. **600PFT** – TiN Coated 135° Split Point

Parabolic drills are for hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials.



## Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. 600PF	TiN Coated 600PFT
1	.2280	1-5/16	2-7/16	7.54	9.35
2	.2210	1-5/16	2-7/16	7.54	9.35
3	.2130	1-1/4	2-3/8	6.90	8.77
4	.2090	1-1/4	2-3/8	6.90	8.77
5	.2055	1-1/4	2-3/8	6.20	8.14
6	.2040	1-1/4	2-3/8	6.20	8.14
7	.2010	1-3/16	2-1/4	6.20	8.14
8	.1990	1-3/16	2-1/4	6.20	8.14
9	.1960	1-3/16	2-1/4	5.61	6.59
10	.1935	1-3/16	2-1/4	5.61	6.59
11	.1910	1-3/16	2-1/4	5.61	6.59
12	.1890	1-3/16	2-1/4	5.61	6.59
13	.1850	1-1/8	2-3/16	5.61	6.59
14	.1820	1-1/8	2-3/16	5.90	6.95
15	.1800	1-1/8	2-3/16	5.90	6.95
16	.1770	1-1/8	2-3/16	5.61	6.59
17	.1730	1-1/8	2-3/16	5.61	6.59
18	.1695	1-1/16	2-1/8	5.14	5.91
19	.1660	1-1/16	2-1/8	5.14	5.91
20	.1610	1-1/16	2-1/8	4.56	5.38
21	.1590	1-1/16	2-1/8	4.56	5.38
22	.1570	1-1/16	2-1/8	4.56	5.38
23	.1540	1	2-1/16	4.56	5.38
24	.1520	1	2-1/16	4.15	5.02
25	.1495	1	2-1/16	4.15	5.02
26	.1470	1	2-1/16	4.26	5.11
27	.1440	1	2-1/16	4.26	5.11
28	.1405	15/16	1-15/16	4.56	5.38
29	.1360	15/16	1-15/16	4.38	5.22
30	.1285	15/16	1-15/16	4.15	5.02

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				H.S. 600PF	TiN Coated 600PFT
31	.1200	7/8	1-7/8	4.15	5.02
32	.1160	7/8	1-7/8	3.80	4.70
33	.1130	7/8	1-7/8	3.80	4.70
34	.1110	7/8	1-7/8	3.80	4.70
35	.1100	7/8	1-7/8	3.80	4.70
36	.1065	13/16	1-13/16	3.80	4.70
37	.1040	13/16	1-13/16	3.44	4.38
38	.1015	13/16	1-13/16	3.44	4.38
39	.0995	13/16	1-13/16	3.44	4.38
40	.0980	13/16	1-13/16	3.44	4.38
41	.0960	13/16	1-13/16	3.44	4.38
42	.0935	3/4	1-3/4	3.44	4.38
43	.0890	3/4	1-3/4	3.44	4.38
44	.0860	3/4	1-3/4	3.44	4.38
45	.0820	3/4	1-3/4	3.44	4.38
46	.0810	3/4	1-3/4	3.44	4.38
47	.0785	3/4	1-3/4	3.44	4.38
48	.0760	11/16	1-11/16	3.44	4.38
49	.0730	11/16	1-11/16	3.44	4.38
50	.0700	11/16	1-11/16	3.33	4.28
51	.0670	11/16	1-11/16	3.33	4.28
52	.0635	11/16	1-11/16	3.44	4.38
53	.0595	5/8	1-5/8	3.33	4.28
54	.0550	5/8	1-5/8	3.33	4.28
55	.0520	5/8	1-5/8	3.44	4.38
56	.0465	1/2	1-3/8	3.33	4.28
57	.0430	1/2	1-3/8	3.86	4.75
58	.0420	1/2	1-3/8	3.86	4.75
59	.0410	1/2	1-3/8	3.33	4.28
60	.0400	1/2	1-3/8	3.33	4.28

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 600PF	TiN Coated 600PFT
A	.2340	1-5/16	2-7/16	12	7.89	9.66
B	.2380	1-3/8	2-1/2	12	7.89	9.66
C	.2420	1-3/8	2-1/2	12	8.54	10.25
D	.2460	1-3/8	2-1/2	12	9.24	10.88
E	.2500	1-3/8	2-1/2	12	7.69	10.25
F	.2570	1-7/16	2-5/8	12	8.89	12.56
G	.2610	1-7/16	2-5/8	12	9.24	12.88
H	.2660	1-1/2	2-11/16	12	9.24	12.88
I	.2720	1-1/2	2-11/16	6	8.89	12.56
J	.2770	1-1/2	2-11/16	6	10.16	13.70
K	.2810	1-1/2	2-11/16	6	10.16	13.70
L	.2900	1-9/16	2-3/4	6	11.50	14.91
M	.2950	1-9/16	2-3/4	6	10.80	14.28

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 600PF	TiN Coated 600PFT
N	.3020	1-5/8	2-13/16	6	12.49	15.80
O	.3160	1-11/16	2-15/16	6	12.49	15.80
P	.3230	1-11/16	2-15/16	6	12.49	15.80
Q	.3320	1-11/16	2-15/16	6	13.09	16.34
R	.3390	1-11/16	2-15/16	6	14.43	17.55
S	.3480	1-3/4	3-1/16	6	15.77	18.75
T	.3580	1-3/4	3-1/16	6	17.05	19.95
U	.3680	1-13/16	3-1/8	6	17.05	19.95
V	.3770	1-7/8	3-1/4	6	18.47	23.10
W	.3860	1-7/8	3-1/4	6	18.47	23.10
X	.3970	1-15/16	3-5/16	6	20.80	27.00
Y	.4040	1-15/16	3-5/16	6	21.44	27.58
Z	.4130	2	3-3/8	6	21.44	27.58

# Left Hand Screw Machine Length Drills

High Speed Steel



List No. **600LH** – 118° Point

For use in left hand spindle rotation on screw machines and drill heads.  
 Can use as screw extractor for drilling out broken studs or fasteners.  
 The shorter, rigid drills minimize deflection when heavy feed rates are used.

Drill Size	Shank Diameter
Up to 1" inclusive	Same as Drill Diameter
Over 1 to 1-1/4 inclusive	1"
Over 1-1/4 to 1-1/2 inclusive	1-1/4
Over 1-1/2 to 2-1/2 inclusive	1-1/2

## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/32	.0312	1/8	1	12	6.50
3/64	.0469	1/2	1-3/8	12	3.15
1/16	.0625	5/8	1-5/8	12	2.88
5/64	.0781	11/16	1-11/16	12	2.93
3/32	.0938	3/4	1-3/4	12	2.94
7/64	.1094	13/16	1-13/16	12	3.00
1/8	.1250	7/8	1-7/8	12	3.06
9/64	.1406	15/16	1-15/16	12	3.17
5/32	.1562	1	2-1/16	12	3.42
11/64	.1719	1-1/16	2-1/8	12	3.64
3/16	.1875	1-1/8	2-3/16	12	3.70
13/64	.2031	1-3/16	2-1/4	12	4.67
7/32	.2188	1-1/4	2-3/8	12	4.80
15/64	.2344	1-5/16	2-7/16	12	5.32
1/4	.2500	1-3/8	2-1/2	12	5.38
17/64	.2656	1-7/16	2-5/8	12	6.69
9/32	.2812	1-1/2	2-11/16	6	6.79
19/64	.2969	1-9/16	2-3/4	6	7.42
5/16	.3125	1-5/8	2-13/16	6	7.47
21/64	.3281	1-11/16	2-15/16	6	8.88
11/32	.3438	1-11/16	3	6	10.33
23/64	.3594	1-3/4	3-1/16	6	12.11
3/8	.3750	1-13/16	3-1/8	6	12.58
25/64	.3906	1-7/8	3-1/4	6	14.23
13/32	.4062	1-15/16	3-5/16	6	14.51
27/64	.4219	2	3-3/8	6	16.07
7/16	.4375	2-1/16	3-7/16	6	16.29
29/64	.4531	2-1/8	3-9/16	6	17.77
15/32	.4688	2-1/8	3-5/8	6	19.51
31/64	.4844	2-3/16	3-11/16	6	20.04
1/2	.5000	2-1/4	3-3/4	6	20.04
33/64	.5156	2-3/8	3-7/8	1	39.16
17/32	.5312	2-3/8	3-7/8	1	39.16
35/64	.5469	2-1/2	4	1	39.16
9/16	.5625	2-1/2	4	1	39.16
37/64	.5781	2-5/8	4-1/8	1	46.76
19/32	.5938	2-5/8	4-1/8	1	46.76
39/64	.6094	2-3/4	4-1/4	1	49.18
5/8	.6250	2-3/4	4-1/4	1	49.18
41/64	.6406	2-7/8	4-1/2	1	49.62
21/32	.6562	2-7/8	4-1/2	1	49.62
43/64	.6719	2-7/8	4-5/8	1	57.64
11/16	.6875	2-7/8	4-5/8	1	57.64
45/64	.7031	3	4-3/4	1	64.65
23/32	.7188	3	4-3/4	1	69.20
47/64	.7344	3-1/8	5	1	69.20
3/4	.7500	3-1/8	5	1	83.60
49/64	.7656	3-1/4	5-1/8	1	83.60
25/32	.7812	3-1/4	5-1/8	1	86.80
51/64	.7969	3-3/8	5-1/4	1	86.80
13/16	.8125	3-3/8	5-1/4	1	89.88
53/64	.8281	3-1/2	5-3/8	1	89.88
27/32	.8438	3-1/2	5-3/8	1	91.70
55/64	.8594	3-1/2	5-1/2	1	91.70
7/8	.8750	3-1/2	5-1/2	1	94.06
57/64	.8906	3-5/8	5-5/8	1	94.06
29/32	.9062	3-5/8	5-5/8	1	95.26
59/64	.9219	3-3/4	5-3/4	1	95.26
15/16	.9375	3-3/4	5-3/4	1	101.42

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
61/64	.9531	3-7/8	5-7/8	1	101.42
31/32	.9688	3-7/8	5-7/8	1	103.84
63/64	.9844	4	6	1	103.84
1	1.0000	4	6	1	100.98
1-1/64	1.0156	4	6-1/4	1	138.60
1-1/32	1.0312	4	6-1/4	1	125.40
1-3/64	1.0469	4	6-1/4	1	141.90
1-1/16	1.0625	4	6-1/4	1	133.32
1-5/64	1.0781	4	6-3/8	1	155.10
1-3/32	1.0938	4	6-3/8	1	155.10
1-7/64	1.1094	4	6-3/8	1	163.02
1-1/8	1.1250	4	6-3/8	1	145.10
1-9/64	1.1406	4-1/4	6-5/8	1	165.00
1-5/32	1.1562	4-1/4	6-5/8	1	151.80
1-11/64	1.1719	4-1/4	6-5/8	1	182.82
1-3/16	1.1875	4-1/4	6-5/8	1	147.84
1-13/64	1.2031	4-3/8	6-3/4	1	191.40
1-7/32	1.2188	4-3/8	6-3/4	1	198.10
1-15/64	1.2344	4-3/8	6-3/4	1	198.10
1-1/4	1.2500	4-3/8	6-3/4	1	189.10
1-17/64	1.2656	4-3/8	6-3/4	1	217.80
1-9/32	1.2812	4-3/8	7	1	211.79
1-19/64	1.2969	4-3/8	7	1	222.39
1-5/16	1.3125	4-3/8	7	1	222.39
1-21/64	1.3281	4-3/8	7	1	231.00
1-11/32	1.3438	4-1/2	7-1/8	1	222.39
1-23/64	1.3594	4-1/2	7-1/8	1	231.00
1-3/8	1.3750	4-1/2	7-1/8	1	231.00
1-25/64	1.3906	4-1/2	7-1/8	1	250.80
1-13/32	1.4062	4-3/4	7-3/8	1	250.80
1-27/64	1.4219	4-3/4	7-3/8	1	262.02
1-7/16	1.4375	4-3/4	7-3/8	1	254.10
1-29/64	1.4531	4-3/4	7-3/8	1	271.26
1-15/32	1.4688	4-7/8	7-1/2	1	273.90
1-31/64	1.4844	4-7/8	7-1/2	1	280.50
1-1/2	1.5000	4-7/8	7-1/2	1	269.94
1-33/64	1.5156	4-7/8	7-1/2	1	297.00
1-17/32	1.5312	4-7/8	7-3/4	1	315.48
1-35/64	1.5469	4-7/8	7-3/4	1	258.06
1-9/16	1.5625	4-7/8	7-3/4	1	307.56
1-37/64	1.5781	4-7/8	7-3/4	1	325.25
1-19/32	1.5938	4-7/8	7-3/4	1	331.32
1-39/64	1.6094	4-7/8	7-3/4	1	335.94
1-5/8	1.6250	4-7/8	7-3/4	1	320.10
1-41/64	1.6406	4-7/8	7-3/4	1	341.22
1-21/32	1.6562	5-1/8	8	1	347.01
1-43/64	1.6719	5-1/8	8	1	363.00
1-11/16	1.6875	5-1/8	8	1	346.50
1-45/64	1.7031	5-1/8	8	1	379.50
1-23/32	1.7188	5-1/8	8	1	379.50
1-47/64	1.7344	5-1/8	8	1	392.70
1-3/4	1.7500	5-1/8	8	1	370.92
1-49/64	1.7656	5-1/8	8	1	395.34
1-25/32	1.7812	5-3/8	8-1/4	1	395.34
1-51/64	1.7969	5-3/8	8-1/4	1	402.60
1-13/16	1.8125	5-3/8	8-1/4	1	397.32
1-53/64	1.8281	5-3/8	8-1/4	1	435.60
1-27/32	1.8438	5-3/8	8-1/4	1	435.60
1-55/64	1.8594	5-3/8	8-1/4	1	448.80

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# Left Hand Screw Machine Length Drills

High Speed Steel



List No. **600LH** – 118° Point

For use in left hand spindle rotation on screw machines and drill heads.  
Can use as screw extractor for drilling out broken studs or fasteners.  
The shorter, rigid drills minimize deflection when heavy feed rates are used.

Drill Size	Shank Diameter
Up to 1" inclusive	Same as Drill Diameter
Over 1 to 1-1/4 inclusive	1"
Over 1-1/4 to 1-1/2 inclusive	1-1/4
Over 1-1/2 to 2-1/2 inclusive	1-1/2

## Fractional Sizes

*Continued*

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1-7/8	1.8750	5-3/8	8-1/4	1	425.04
1-57/64	1.8906	5-3/8	8-1/4	1	446.81
1-29/32	1.9062	5-5/8	8-1/2	1	446.81
1-59/64	1.9219	5-5/8	8-1/2	1	447.81
1-15/16	1.9375	5-5/8	8-1/2	1	436.32

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1-61/64	1.9531	5-5/8	8-1/2	1	449.53
1-31/32	1.9688	5-5/8	8-1/2	1	445.90
1-63/64	1.9844	5-5/8	8-1/2	1	451.36
2	2.0000	5-5/8	8-1/2	1	451.36

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	1-5/16	2-7/16	12	7.01
B	.2380	1-3/8	2-1/2	12	7.01
C	.2420	1-3/8	2-1/2	12	7.01
D	.2460	1-3/8	2-1/2	12	7.01
E	.2500	1-3/8	2-1/2	12	5.38
F	.2570	1-7/16	2-5/8	12	7.89
G	.2610	1-7/16	2-5/8	12	8.59
H	.2660	1-1/2	2-11/16	12	8.66
I	.2720	1-1/2	2-11/16	6	8.66
J	.2770	1-1/2	2-11/16	6	9.24
K	.2810	1-1/2	2-11/16	6	9.71
L	.2900	1-9/16	2-3/4	6	9.71
M	.2950	1-9/16	2-3/4	6	10.56

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	1-5/8	2-13/16	6	10.56
O	.3160	1-11/16	2-15/16	6	10.56
P	.3230	1-11/16	2-15/16	6	12.17
Q	.3320	1-11/16	3	6	12.17
R	.3390	1-11/16	3	6	12.17
S	.3480	1-3/4	3-1/16	6	13.99
T	.3580	1-3/4	3-1/16	6	16.48
U	.3680	1-13/16	3-1/8	6	16.48
V	.3770	1-7/8	3-1/4	6	18.37
W	.3860	1-7/8	3-1/4	6	18.37
X	.3970	1-15/16	3-5/16	6	21.53
Y	.4040	1-15/16	3-5/16	6	24.96
Z	.4130	2	3-3/8	6	24.96

## Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1	.2280	1-5/16	2-7/16	12	5.93
2	.2210	1-5/16	2-7/16	12	5.93
3	.2130	1-1/4	2-3/8	12	5.62
4	.2090	1-1/4	2-3/8	12	5.62
5	.2055	1-1/4	2-3/8	12	5.62
6	.2040	1-1/4	2-3/8	12	5.62
7	.2010	1-3/16	2-1/4	12	4.80
8	.1990	1-3/16	2-1/4	12	4.83
9	.1960	1-3/16	2-1/4	12	4.83
10	.1935	1-3/16	2-1/4	12	4.83
11	.1910	1-3/16	2-1/4	12	4.67
12	.1890	1-3/16	2-1/4	12	4.67
13	.1850	1-1/8	2-3/16	12	4.42
14	.1820	1-1/8	2-3/16	12	4.42
15	.1800	1-1/8	2-3/16	12	4.42
16	.1770	1-1/8	2-3/16	12	4.42
17	.1730	1-1/8	2-3/16	12	4.42
18	.1695	1-1/16	2-1/8	12	3.95
19	.1660	1-1/16	2-1/8	12	3.95
20	.1610	1-1/16	2-1/8	12	3.95
21	.1590	1-1/16	2-1/8	12	3.76
22	.1570	1-1/16	2-1/8	12	3.76
23	.1540	1	2-1/16	12	3.76
24	.1520	1	2-1/16	12	3.76
25	.1495	1	2-1/16	12	3.48
26	.1470	1	2-1/16	12	3.48
27	.1440	1	2-1/16	12	3.48
28	.1405	15/16	1-15/16	12	3.35
29	.1360	15/16	1-15/16	12	3.35
30	.1285	15/16	1-15/16	12	3.35

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
31	.1200	7/8	1-7/8	12	3.35
32	.1160	7/8	1-7/8	12	3.35
33	.1130	7/8	1-7/8	12	3.35
34	.1110	7/8	1-7/8	12	3.35
35	.1100	7/8	1-7/8	12	3.35
36	.1065	13/16	1-13/16	12	3.35
37	.1040	13/16	1-13/16	12	3.35
38	.1015	13/16	1-13/16	12	3.35
39	.0995	13/16	1-13/16	12	3.35
40	.0980	13/16	1-13/16	12	3.35
41	.0960	13/16	1-13/16	12	3.35
42	.0935	3/4	1-3/4	12	3.35
43	.0890	3/4	1-3/4	12	3.35
44	.0860	3/4	1-3/4	12	3.35
45	.0820	3/4	1-3/4	12	3.35
46	.0810	3/4	1-3/4	12	3.35
47	.0785	3/4	1-3/4	12	3.35
48	.0760	11/16	1-11/16	12	3.35
49	.0730	11/16	1-11/16	12	3.35
50	.0700	11/16	1-11/16	12	3.35
51	.0670	11/16	1-11/16	12	3.53
52	.0635	11/16	1-11/16	12	3.53
53	.0595	5/8	1-5/8	12	3.53
54	.0550	5/8	1-5/8	12	3.53
55	.0520	5/8	1-5/8	12	3.53
56	.0465	1/2	1-3/8	12	3.53
57	.0430	1/2	1-3/8	12	3.53
58	.0420	1/2	1-3/8	12	3.53
59	.0410	1/2	1-3/8	12	3.53
60	.0400	1/2	1-3/8	12	3.53

# Taper Length Drills

High Speed, Cobalt & TiAIN Coated

Used in production drilling, these drills have the same flute length as taper shank drills.

List No. **400** – High Speed Steel, 118° Point.

List No. **410C** – Super Cobalt, HD, 135° Split Point

List No. **410CTA** – TiAIN Coated Cobalt, HD, 135° Split Point



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

HOLE MAKING

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each		
					H.S. 400	Cobalt 410C	TiAIN 410CTA
1/64	.0156	5/16	1-1/2	12	6.26	16.11	—
1/32	.0312	3/4	2	12	4.57	12.42	—
3/64	.0469	1-1/8	2-1/4	12	3.50	7.16	—
1/16	.0625	1-3/4	3	12	3.47	6.29	10.24
5/64	.0781	2	3-3/4	12	3.56	8.15	12.07
3/32	.0938	2-1/4	4-1/4	12	3.80	8.53	15.46
7/64	.1094	2-1/2	4-5/8	12	3.97	10.95	17.88
1/8	.1250	2-3/4	5-1/8	12	4.16	10.83	17.76
9/64	.1406	3	5-3/8	12	4.89	13.29	20.22
5/32	.1562	3	5-3/8	12	4.89	14.40	21.33
11/64	.1719	3-3/8	5-3/4	12	5.35	14.40	21.33
3/16	.1875	3-3/8	5-3/4	12	5.35	14.40	21.33
13/64	.2031	3-5/8	6	12	5.76	16.65	23.56
7/32	.2188	3-5/8	6	12	6.37	16.65	28.05
15/64	.2344	3-3/4	6-1/8	12	6.49	17.37	29.13
1/4	.2500	3-3/4	6-1/8	12	5.71	16.47	27.87
17/64	.2656	3-7/8	6-1/4	12	7.04	21.51	37.95
9/32	.2812	3-7/8	6-1/4	6	6.98	20.34	36.78
19/64	.2969	4	6-3/8	6	7.33	21.51	37.59
5/16	.3125	4	6-3/8	6	7.39	20.34	36.78
21/64	.3281	4-1/8	6-1/2	6	8.18	24.75	41.19
11/32	.3438	4-1/8	6-1/2	6	8.18	23.85	40.29
23/64	.3594	4-1/4	6-3/4	6	9.62	29.25	45.69
3/8	.3750	4-1/4	6-3/4	6	9.62	27.00	43.44
25/64	.3906	4-3/8	7	6	10.05	30.33	54.52
13/32	.4062	4-3/8	7	6	10.05	28.30	52.49
27/64	.4219	4-5/8	7-1/4	6	10.84	32.85	57.04
7/16	.4375	4-5/8	7-1/4	6	10.95	30.70	54.89
29/64	.4531	4-3/4	7-1/2	6	12.26	37.26	61.45
15/32	.4688	4-3/4	7-1/2	6	12.90	37.35	61.45
31/64	.4844	4-3/4	7-3/4	6	14.26	41.18	65.34
1/2	.5000	4-3/4	7-3/4	6	14.77	38.49	62.68
33/64	.5156	4-3/4	8	1	19.25	65.55	83.37
17/32	.5312	4-3/4	8	1	19.06	63.22	81.04
35/64	.5469	4-7/8	8-1/4	1	20.24	70.84	—
9/16	.5625	4-7/8	8-1/4	1	20.04	68.30	97.10
37/64	.5781	4-7/8	8-3/4	1	23.65	82.33	—
19/32	.5938	4-7/8	8-3/4	1	23.65	79.85	—
39/64	.6094	4-7/8	8-3/4	1	24.48	82.33	111.13
5/8	.6250	4-7/8	8-3/4	1	24.24	79.85	108.65
41/64	.6406	5-1/8	9	1	29.50	93.41	—
21/32	.6562	5-1/8	9	1	28.16	96.30	125.82
43/64	.6719	5-3/8	9-1/4	1	34.65	106.76	—
11/16	.6875	5-3/8	9-1/4	1	33.51	107.10	—
45/64	.7031	5-5/8	9-1/2	1	36.48	117.35	—
23/32	.7188	5-5/8	9-1/2	1	34.83	121.50	151.02
47/64	.7344	5-7/8	9-3/4	1	39.24	123.54	153.06
3/4	.7500	5-7/8	9-3/4	1	36.74	128.70	158.22
49/64	.7656	6	9-7/8	1	43.08	134.10	—
25/32	.7812	6	9-7/8	1	41.14	140.27	—
51/64	.7969	6-1/8	10	1	46.34	151.00	—
13/16	.8125	6-1/8	10	1	43.82	142.20	—
53/64	.8281	6-1/8	10	1	50.13	153.45	—
27/32	.8438	6-1/8	10	1	46.56	155.72	—
55/64	.8594	6-1/8	10	1	52.65	158.28	—
7/8	.8750	6-1/8	10	1	48.92	158.28	—
57/64	.8906	6-1/8	10	1	54.87	162.00	—
29/32	.9062	6-1/8	10	1	50.96	171.24	—

Cobalt sizes under 1/16" furnished with 135° point, NOT Split

Cobalt sizes over 1/2" furnished with notched point.

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400	Cobalt 410C
59/64	.9219	6-1/8	10-3/4	1	59.70	179.10
15/16	.9375	6-1/8	10-3/4	1	55.45	179.10
61/64	.9531	6-3/8	11	1	65.86	198.00
31/32	.9688	6-3/8	11	1	61.17	198.00
63/64	.9844	6-3/8	11	1	68.66	201.60
1	1.0000	6-3/8	11	1	63.76	201.60
1-1/64	1.0156	6-1/2	11-1/8	1	90.49	—
1-1/32	1.0312	6-1/2	11-1/8	1	83.27	—
1-3/64	1.0469	6-5/8	11-1/4	1	93.59	—
1-1/16	1.0625	6-5/8	11-1/4	1	89.40	—
1-5/64	1.0781	6-7/8	11-1/2	1	100.41	—
1-3/32	1.0938	6-7/8	11-1/2	1	92.35	—
1-7/64	1.1094	7-1/8	11-3/4	1	104.21	—
1-1/8	1.1250	7-1/8	11-3/4	1	95.82	—
1-9/64	1.1406	7-1/4	11-7/8	1	104.89	—
1-5/32	1.1562	7-1/4	11-7/8	1	104.89	—
1-11/64	1.1719	7-3/8	12	1	112.93	—
1-3/16	1.1875	7-3/8	12	1	112.39	—
1-13/64	1.2031	7-1/2	12-1/8	1	117.38	—
1-7/32	1.2188	7-1/2	12-1/8	1	117.38	—
1-15/64	1.2344	7-7/8	12-1/2	1	121.95	—
1-1/4	1.2500	7-7/8	12-1/2	1	121.95	—
1-17/64	1.2656	8-1/2	14-1/8	1	148.50	—
1-9/32	1.2812	8-1/2	14-1/8	1	139.10	—
1-19/64	1.2969	8-5/8	14-1/4	1	155.00	—
1-5/16	1.3125	8-5/8	14-1/4	1	144.21	—
1-21/64	1.3281	8-3/4	14-3/8	1	161.70	—
1-11/32	1.3438	8-3/4	14-3/8	1	149.62	—
1-23/64	1.3594	8-7/8	14-1/2	1	165.00	—
1-3/8	1.3750	8-7/8	14-1/2	1	155.26	—
1-25/64	1.3906	9	14-5/8	1	175.56	—
1-13/32	1.4062	9	14-5/8	1	164.02	—
1-27/64	1.4219	9-1/8	14-3/4	1	181.50	—
1-7/16	1.4375	9-1/8	14-3/4	1	169.09	410.00
1-29/64	1.4531	9-1/4	14-7/8	1	197.34	—
1-15/32	1.4688	9-1/4	14-7/8	1	183.55	—
1-1/2	1.5000	9-3/8	15	1	189.57	—
1-35/64	1.5469	9-5/8	16-5/8	1	229.68	—
1-9/16	1.5625	9-5/8	15-1/4	1	212.32	—
1-19/32	1.5938	9-7/8	15-5/8	1	254.10	—
1-5/8	1.6250	9-7/8	15-5/8	1	239.94	—
1-11/16	1.6875	10-1/8	16	1	293.70	—
1-23/32	1.7188	10-1/8	16-1/4	1	300.30	—
1-47/64	1.7344	10-1/8	16-1/4	1	328.00	—
1-3/4	1.7500	10-1/2	16-1/4	1	288.86	—
1-49/64	1.7656	10-1/2	16-1/4	1	330.00	—
1-25/32	1.7813	10-1/2	16-1/4	1	343.20	—
1-13/16	1.8125	10-1/2	16-1/4	1	356.40	—
1-55/64	1.8594	10-3/8	16-1/4	1	372.90	—
1-7/8	1.8700	10-5/8	16-1/4	1	393.03	—
1-59/64	1.9219	10-3/8	16-5/8	1	440.00	—
1-15/16	1.9375	10-3/4	16-5/8	1	409.07	—
1-31/32	1.9688	10-3/8	17-1/4	1	422.40	—
1-63/64	1.9844	10-3/8	17-1/4	1	442.20	—
2	2.0000	10-3/4	17-1/4	1	446.95	—
2-1/8	2.1250	10-1/4	17-3/8	1	475.20	—
2-9/64	2.1406	10-1/4	17-3/8	1	488.40	—
2-1/4	2.2500	10-1/8	17-3/8	1	495.00	—

Sizes with decimal equivalent smaller than .0625 are not split point.



# Taper Length Drills

High Speed, Cobalt & TiAlN Coated

Used in production drilling, these drills have the same flute length as Taper Shank drills.

List No. **400** – High Speed Steel, 118° Point.

List No. **410C** – Super Cobalt, HD, 135° Split Point

List No. **410CTA** – TiAlN Coated Cobalt, HD, 135° Split Point



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

## Wire Gauge Sizes

Package Quantity: 12 drills

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				H.S. 400	Cobalt 410C	TiAlN 410CTA
1	.2280	3-3/4	6-1/8	9.17	21.38	30.84
2	.2210	3-3/4	6-1/8	9.17	21.38	30.84
3	.2130	3-5/8	6	9.17	21.38	30.84
4	.2090	3-5/8	6	9.17	21.38	30.84
5	.2055	3-5/8	6	9.17	21.38	30.84
6	.2040	3-5/8	6	9.17	21.38	30.84
7	.2010	3-5/8	6	8.71	19.98	29.20
8	.1990	3-5/8	6	8.71	19.62	28.78
9	.1960	3-5/8	6	8.71	19.62	28.78
10	.1935	3-5/8	6	8.71	19.62	28.78
11	.1910	3-5/8	6	8.71	19.62	28.78
12	.1890	3-5/8	6	8.71	19.62	25.90
13	.1850	3-3/8	5-3/4	8.25	19.62	25.90
14	.1820	3-3/8	5-3/4	8.25	19.62	25.90
15	.1800	3-3/8	5-3/4	8.25	19.62	25.90
16	.1770	3-3/8	5-3/4	8.25	18.36	24.43
17	.1730	3-3/8	5-3/4	8.25	18.36	24.43
18	.1695	3-3/8	5-3/4	8.25	18.36	24.43
19	.1660	3-3/8	5-3/4	8.25	18.36	24.43
20	.1610	3-3/8	5-3/4	8.25	18.36	24.43
21	.1590	3-3/8	5-3/4	8.25	18.36	24.43
22	.1570	3-3/8	5-3/4	8.25	18.36	24.43
23	.1540	3	5-3/8	8.25	18.36	24.43
24	.1520	3	5-3/8	8.25	18.36	24.43
25	.1495	3	5-3/8	7.82	18.36	24.43
26	.1470	3	5-3/8	7.82	18.36	24.43
27	.1440	3	5-3/8	7.82	18.36	24.43
28	.1405	3	5-3/8	7.82	17.55	23.48
29	.1360	3	5-3/8	7.82	17.55	23.48
30	.1285	3	5-3/8	7.89	17.55	23.48
31	.1200	2-3/4	5-1/8	7.89	17.55	23.48
32	.1160	2-3/4	5-1/8	7.89	17.55	23.48
33	.1130	2-3/4	5-1/8	7.89	17.55	23.48
34	.1110	2-3/4	5-1/8	7.89	17.55	23.48
35	.1100	2-3/4	5-1/8	7.89	17.55	23.48
36	.1065	2-1/2	4-5/8	6.34	16.07	21.75
37	.1040	2-1/2	4-5/8	6.34	16.07	21.75
38	.1015	2-1/2	4-5/8	6.34	16.07	21.75
39	.0995	2-1/2	4-5/8	6.34	16.07	21.75
40	.0980	2-1/2	4-5/8	6.34	15.03	19.31

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				H.S. 400	Cobalt 410C	TiAlN 410CTA
41	.0960	2-1/2	4-5/8	6.34	15.03	19.31
42	.0935	2-1/4	4-1/4	4.95	15.03	19.31
43	.0890	2-1/4	4-1/4	4.95	15.03	19.31
44	.0860	2-1/4	4-1/4	4.95	15.03	19.31
45	.0820	2-1/4	4-1/4	4.95	15.03	19.31
46	.0810	2-1/4	4-1/4	4.95	15.03	19.31
47	.0785	2-1/4	4-1/4	4.95	15.03	19.31
48	.0760	2	3-3/4	5.40	13.35	18.10
49	.0730	2	3-3/4	5.40	13.35	18.10
50	.0700	2	3-3/4	5.40	13.35	18.10
51	.0670	2	3-3/4	5.40	13.35	18.10
52	.0635	2	3-3/4	5.40	13.35	18.10
53	.0595	1-3/4	3	5.40	13.35	18.10
54	.0550	1-3/4	3	5.40	13.35	18.10
55	.0520	1-3/4	3	5.40	13.35	18.10
56	.0465	1-1/8	2-1/4	5.40	13.35	18.10
57	.0430	1-1/8	2-1/4	5.40	13.35	18.10
58	.0420	1-1/8	2-1/4	5.40	13.35	18.10
59	.0410	1-1/8	2-1/4	5.40	13.35	18.10
60	.0400	1-1/8	2-1/4	5.40	13.35	18.10
61	.0390	1-1/8	2-1/4	5.40	—	—
62	.0380	3/4	2	5.40	—	—
63	.0370	3/4	2	5.40	—	—
64	.0360	3/4	2	5.40	—	—
65	.0350	3/4	2	5.40	—	—
66	.0330	3/4	2	5.40	—	—
67	.0320	3/4	2	5.40	—	—
68	.0310	3/4	2	5.40	15.48	—
69	.0292	3/4	2	5.40	15.48	—
70	.0280	3/4	2	5.40	15.48	—
71	.0260	3/4	2	5.40	—	—
72	.0250	5/16	1-1/2	5.40	—	—
73	.0240	5/16	1-1/2	5.40	—	—
74	.0225	5/16	1-1/2	5.40	—	—
75	.0210	5/16	1-1/2	5.40	—	—
76	.0200	5/16	1-1/2	5.61	—	—
77	.0180	5/16	1-1/2	5.61	—	—
78	.0160	5/16	1-1/2	5.61	15.48	—
79	.0145	5/16	1-1/2	5.61	15.48	—
80	.0135	5/16	1-1/2	5.61	15.48	—

Sizes with decimal equivalent smaller than .0625 are not split point.

## Sets

Sizes	Description	Pcs.	Set No.	Price
1/16 – 1/2 by 64 <sup>ths</sup>	Fractional H.S.	29	<b>407F</b>	252.20
1/16 – 1/2 by 64 <sup>ths</sup>	Fractional Cobalt	29	<b>407CF</b>	661.39
33/64 – 3/4 by 64 <sup>ths</sup>	Fractional H.S.	16	<b>407B</b>	546.92
49/64 – 1 by 64 <sup>ths</sup>	Fractional H.S.	16	<b>407C</b>	978.07
A – Z	Letter H.S.	26	<b>407L</b>	361.90
1 – 60	Wire Gauge H.S.	60	<b>407W</b>	461.82

All sets are supplied in Huot metal index



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# Taper Length Drills

High Speed, Cobalt & TiAlN Coated

Used in production drilling, these drills have the same flute length as Taper Shank drills.

List No. **400** – High Speed Steel, 118° Point.

List No. **410C** – Super Cobalt, HD, 135° Split Point

List No. **410CTA** – TiAlN Coated Cobalt, HD, 135° Split Point



## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				H.S. 400	Cobalt 410C	TiAlN Cobalt 410CTA
A	.2340	3-3/4	6-1/8	10.23	24.75	36.16
B	.2380	3-3/4	6-1/8	10.23	24.75	36.16
C	.2420	3-3/4	6-1/8	10.23	25.92	37.33
D	.2460	3-3/4	6-1/8	10.23	25.92	37.33
E	.2500	3-3/4	6-1/8	5.71	16.47	27.88
F	.2570	3-7/8	6-1/4	10.82	31.05	47.08
G	.2610	3-7/8	6-1/4	11.87	31.05	47.08
H	.2660	3-7/8	6-1/4	11.87	31.05	47.08
I	.2720	3-7/8	6-1/4	11.87	32.40	48.43
J	.2770	3-7/8	6-1/4	11.87	32.40	48.43
K	.2810	3-7/8	6-1/4	11.87	32.40	48.43
L	.2900	4	6-3/8	11.87	34.02	50.05
M	.2950	4	6-3/8	11.99	34.02	50.05

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each		
				H.S. 400	Cobalt 410C	TiAlN Cobalt 410CTA
N	.3020	4	6-3/8	11.99	34.74	50.77
O	.3160	4-1/8	6-1/2	11.99	34.74	50.77
P	.3230	4-1/8	6-1/2	11.99	35.91	51.94
Q	.3320	4-1/8	6-1/2	11.99	35.91	51.94
R	.3390	4-1/8	6-1/2	13.00	36.90	52.93
S	.3480	4-1/4	6-3/4	14.78	40.50	56.53
T	.3580	4-1/4	6-3/4	14.78	43.20	59.23
U	.3680	4-1/4	6-3/4	15.95	45.45	61.48
V	.3770	4-3/8	7	15.95	45.45	61.48
W	.3860	4-3/8	7	16.59	45.45	61.48
X	.3970	4-3/8	7	16.59	45.45	61.48
Y	.4040	4-3/8	7	17.75	49.50	71.05
Z	.4130	4-5/8	7-1/4	19.17	49.50	71.05

# Metric Taper Length Drills

High Speed Steel

List No. **401** – General Purpose, 118° Point

Taper length drills have longer flute and overall length than Jobber length drills.



Tanged sizes available. Please Inquire

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
1.00	.0394	1-1/8	2-1/4	12	4.86
1.05	.0413	1-1/8	2-1/4	12	6.75
1.10	.0433	1-1/8	2-1/4	12	6.75
1.15	.0453	1-1/8	2-1/4	12	6.75
1.20	.0472	1-3/4	3	12	5.58
1.25	.0492	1-3/4	3	12	5.58
1.30	.0512	1-3/4	3	12	5.58
1.35	.0531	1-3/4	3	12	6.75
1.40	.0551	1-3/4	3	12	5.58
1.45	.0571	1-3/4	3	12	7.65
1.50	.0591	1-3/4	3	12	5.58
1.55	.0610	1-3/4	3	12	7.65
1.60	.0630	2	3-3/4	12	6.75
1.65	.0650	2	3-3/4	12	7.65
1.70	.0669	2	3-3/4	12	6.75
1.75	.0689	2	3-3/4	12	7.65
1.80	.0709	2	3-3/4	12	6.75
1.85	.0728	2	3-3/4	12	7.65
1.90	.0748	2	3-3/4	12	6.75
1.95	.0768	2	3-3/4	12	7.65
2.00	.0787	2-1/4	4-1/4	12	7.11
2.05	.0807	2-1/4	4-1/4	12	9.00
2.10	.0827	2-1/4	4-1/4	12	7.65
2.15	.0846	2-1/4	4-1/4	12	8.55
2.20	.0866	2-1/4	4-1/4	12	7.65
2.25	.0886	2-1/4	4-1/4	12	9.00
2.30	.0906	2-1/4	4-1/4	12	7.65
2.35	.0925	2-1/4	4-1/4	12	10.62
2.40	.0945	2-1/2	4-5/8	12	9.81
2.45	.0965	2-1/2	4-5/8	12	10.62
2.50	.0984	2-1/2	4-5/8	12	9.81
2.60	.1024	2-1/2	4-5/8	12	10.80

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
2.70	.1063	2-1/2	4-5/8	12	10.80
2.80	.1102	2-3/4	5-1/8	12	10.80
2.90	.1142	2-3/4	5-1/8	12	10.80
3.00	.1181	2-3/4	5-1/8	12	9.09
3.10	.1220	2-3/4	5-1/8	12	10.08
3.20	.1260	3	5-3/8	12	11.21
3.30	.1299	3	5-3/8	12	11.21
3.40	.1339	3	5-3/8	12	12.06
3.50	.1378	3	5-3/8	12	11.21
3.60	.1417	3	5-3/8	12	12.51
3.70	.1457	3	5-3/8	12	12.51
3.80	.1496	3	5-3/8	12	12.51
3.90	.1535	3	5-3/8	12	13.05
4.00	.1575	3-3/8	5-3/4	12	11.21
4.10	.1614	3-3/8	5-3/4	12	13.05
4.20	.1654	3-3/8	5-3/4	12	11.21
4.30	.1693	3-3/8	5-3/4	12	13.05
4.40	.1732	3-3/8	5-3/4	12	13.05
4.50	.1772	3-3/8	5-3/4	12	11.21
4.60	.1811	3-3/8	5-3/4	12	12.60
4.70	.1850	3-3/8	5-3/4	12	16.20
4.80	.1890	3-5/8	6	12	14.04
4.90	.1929	3-5/8	6	12	14.04
5.00	.1969	3-5/8	6	12	13.05
5.10	.2008	3-5/8	6	12	16.20
5.20	.2047	3-5/8	6	12	16.20
5.25	.2067	3-5/8	6	12	16.20
5.30	.2087	3-5/8	6	12	16.20
5.40	.2126	3-5/8	6	12	16.20
5.50	.2165	3-5/8	6	12	13.05
5.60	.2205	3-3/4	6-1/8	12	14.81
5.70	.2244	3-3/4	6-1/8	12	14.81

Continued on Next Page ▶

# Metric Taper Length Drills

High Speed Steel



List No. 401 – General Purpose, 118° Point *Continued*

Taper length drills have longer flute and overall length than Jobber length drills.



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
5.80	.2283	3-3/4	6-1/8	12	16.20
5.90	.2323	3-3/4	6-1/8	12	16.20
6.00	.2362	3-3/4	6-1/8	12	13.05
6.10	.2402	3-3/4	6-1/8	12	19.80
6.20	.2441	3-3/4	6-1/8	12	19.80
6.30	.2480	3-3/4	6-1/8	12	19.80
6.40	.2520	3-7/8	6-1/4	12	16.20
6.50	.2559	3-7/8	6-1/4	12	16.20
6.80	.2677	3-7/8	6-1/4	12	17.10
7.00	.2756	3-7/8	6-1/4	12	17.10
7.20	.2835	4	6-3/8	6	17.46
7.50	.2953	4	6-3/8	6	17.46
7.80	.3071	4	6-3/8	6	18.90
8.00	.3150	4-1/8	6-1/2	6	19.58
8.20	.3228	4-1/8	6-1/2	6	21.24
8.50	.3346	4-1/8	6-1/2	6	21.24
8.80	.3465	4-1/4	6-3/4	6	25.36
9.00	.3543	4-1/4	6-3/4	6	22.50
9.20	.3622	4-1/4	6-3/4	6	24.75
9.40	.3701	4-1/4	6-3/4	6	28.60
9.50	.3740	4-1/4	6-3/4	6	24.75
9.80	.3858	4-3/8	7	6	26.10
10.00	.3937	4-3/8	7	6	24.75
10.20	.4016	4-3/8	7	6	26.10
10.50	.4134	4-5/8	7-1/4	6	26.10
10.80	.4252	4-5/8	7-1/4	6	30.15
11.00	.4331	4-5/8	7-1/4	6	26.10
11.20	.4409	4-3/4	7-1/2	6	26.10
11.25	.4429	4-3/4	7-1/2	6	30.15
11.50	.4528	4-3/4	7-1/2	6	30.15
11.80	.4646	4-3/4	7-1/2	6	35.96
12.00	.4724	4-3/4	7-3/4	6	31.50
12.20	.4803	4-3/4	7-3/4	6	36.90
12.50	.4921	4-3/4	7-3/4	6	31.50
12.80	.5039	4-3/4	8	1	47.70
13.00	.5118	4-3/4	8	1	44.10
13.20	.5197	4-3/4	8	1	61.20
13.50	.5315	4-3/4	8	1	51.30
13.80	.5433	4-7/8	8-1/4	1	61.20
14.00	.5512	4-7/8	8-1/4	1	51.30
14.25	.5610	4-7/8	8-1/4	1	67.50
14.50	.5709	4-7/8	8-3/4	1	61.20
14.75	.5807	4-7/8	8-3/4	1	67.50
15.00	.5906	4-7/8	8-3/4	1	62.10
15.25	.6004	4-7/8	8-3/4	1	73.80
15.50	.6102	4-7/8	8-3/4	1	63.90
15.75	.6201	4-7/8	8-3/4	1	73.80
16.00	.6299	5-1/8	9	1	71.55

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
16.25	.6398	5-1/8	9	1	80.10
16.50	.6496	5-1/8	9	1	73.80
16.75	.6594	5-3/8	9-1/4	1	89.10
17.00	.6693	5-3/8	9-1/4	1	84.60
17.25	.6791	5-3/8	9-1/4	1	92.70
17.50	.6890	5-5/8	9-1/2	1	89.10
17.75	.6988	5-5/8	9-1/2	1	103.50
18.00	.7087	5-5/8	9-1/2	1	92.70
18.50	.7283	5-7/8	9-3/4	1	103.50
19.00	.7480	5-7/8	9-3/4	1	105.30
19.50	.7677	6	9-7/8	1	109.80
20.00	.7874	6-1/8	10	1	116.10
20.50	.8071	6-1/8	10	1	121.50
21.00	.8268	6-1/8	10	1	124.20
21.50	.8465	6-1/8	10	1	130.50
22.00	.8661	6-1/8	10	1	130.50
22.50	.8858	6-1/8	10	1	134.10
23.00	.9055	6-1/8	10	1	136.80
23.50	.9252	6-1/8	10-3/4	1	148.50
24.00	.9449	6-3/8	11	1	162.00
24.50	.9646	6-3/8	11	1	171.00
25.00	.9843	6-3/8	11	1	171.00
25.50	1.0039	6-1/2	11-1/8	1	199.80
26.00	1.0236	6-1/2	11-1/8	1	207.00
26.50	1.0433	6-5/8	11-1/4	1	216.00
27.00	1.0630	6-5/8	11-1/4	1	225.00
27.50	1.0827	6-7/8	11-1/2	1	234.00
28.00	1.1024	7-1/8	11-3/4	1	243.00
28.50	1.1220	7-1/8	11-3/4	1	247.50
29.00	1.1417	7-1/4	11-7/8	1	261.00
29.50	1.1614	7-3/8	12	1	269.10
30.00	1.1811	7-3/8	12	1	279.00
30.50	1.2008	7-1/2	12-1/8	1	288.00
31.00	1.2205	7-7/8	12-1/2	1	295.20
31.50	1.2402	7-7/8	12-1/2	1	324.00
32.00	1.2598	8-1/2	14-1/8	1	351.00
32.50	1.2795	8-1/2	14-1/8	1	360.00
33.00	1.2992	8-5/8	14-1/4	1	373.50
33.50	1.3189	8-3/4	14-3/8	1	382.50
34.00	1.3386	8-3/4	14-3/8	1	389.70
34.50	1.3583	8-7/8	14-1/2	1	399.60
35.00	1.3780	9	14-5/8	1	405.00
35.50	1.3976	9	14-5/8	1	414.00
36.00	1.4173	9-1/8	14-3/4	1	432.00
36.50	1.4370	9-1/8	14-3/4	1	445.50
37.00	1.4567	9-1/4	14-7/8	1	459.90
37.50	1.4764	9-3/8	15	1	490.50
38.00	1.4961	9-3/8	15	1	512.10

List No. X401 – General Purpose, 118° Point

Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each
1.60	3.99	2.45	6.37	3.30	6.72	4.40	7.80	5.40	9.72
1.75	4.59	2.50	6.37	3.40	6.72	4.50	7.80	5.50	9.72
1.85	4.59	2.60	6.37	3.50	6.72	4.60	7.80	5.60	9.72
2.00	4.59	2.70	6.37	3.60	7.50	4.70	9.72	6.00	9.72
2.05	5.40	2.80	6.37	3.70	7.50	4.80	9.72	7.00	10.20
2.10	5.40	2.90	6.37	4.00	7.50	4.90	9.72	7.75	14.00
2.15	5.40	3.00	6.37	4.10	7.80	5.00	9.72	7.90	15.00
2.30	5.40	3.10	6.37	4.20	7.80	5.10	9.72	9.40	16.80
2.40	5.40	3.20	6.37	4.30	7.80	5.20	9.72	9.60	19.00

Dimensions and package quantities same as List No. 401



**MDX**  
SUPERIOR IMPORT

# Tanged Taper Length Drills

We feature the only complete range of tanged Taper Length Drills

## Automotive Long Series – High Speed Steel

List No. **450** – Oxide Finish, 118° Point

These long series drills are used in applications where extended drill length is needed to produce deeper holes. The tanged shanks are for use in positive drive split sleeve drill drivers.



HOLE MAKING

Size	Dec. Equiv.	Flute Length	Overall Length	Package Quantity	Price Each
1/8	.1250	2-3/4	5-1/8	12	6.53
30	.1285	3	5-3/8	12	10.08
29	.1360	3	5-3/8	12	10.08
28	.1405	3	5-3/8	12	10.08
9/64	.1406	3	5-3/8	12	8.10
27	.1440	3	5-3/8	12	10.08
26	.1470	3	5-3/8	12	10.08
25	.1495	3	5-3/8	12	10.08
24	.1520	3	5-3/8	12	10.08
23	.1540	3	5-3/8	12	10.08
5/32	.1562	3	5-3/8	12	8.10
22	.1570	3-3/8	5-3/4	12	10.08
21	.1590	3-3/8	5-3/4	12	10.08
20	.1610	3-3/8	5-3/4	12	10.08
19	.1660	3-3/8	5-3/4	12	10.08
18	.1695	3-3/8	5-3/4	12	10.08
11/64	.1719	3-3/8	5-3/4	12	8.10
17	.1730	3-3/8	5-3/4	12	10.08
16	.1770	3-3/8	5-3/4	12	10.08
15	.1800	3-3/8	5-3/4	12	10.08
14	.1820	3-3/8	5-3/4	12	10.08
13	.1850	3-3/8	5-3/4	12	10.08
3/16	.1875	3-3/8	5-3/4	12	8.10
12	.1890	3-5/8	6	12	11.07
11	.1910	3-5/8	6	12	11.07
10	.1935	3-5/8	6	12	11.07
9	.1960	3-5/8	6	12	11.07
8	.1990	3-5/8	6	12	11.07
7	.2010	3-5/8	6	12	11.07
13/64	.2031	3-5/8	6	12	9.27
6	.2040	3-5/8	6	12	11.43
5	.2055	3-5/8	6	12	11.43
4	.2090	3-5/8	6	12	11.43
3	.2130	3-5/8	6	12	11.43
7/32	.2188	3-5/8	6	12	9.27
2	.2210	3-3/4	6-1/8	12	11.43
1	.2280	3-3/4	6-1/8	12	11.43
A	.2340	3-3/4	6-1/8	12	14.40
15/64	.2344	3-3/4	6-1/8	12	9.27
B	.2380	3-3/4	6-1/8	12	14.40
C	.2420	3-3/4	6-1/8	12	14.40
D	.2460	3-3/4	6-1/8	12	14.40
1/4	.2500	3-3/4	6-1/8	12	9.36
F	.2570	3-7/8	6-1/4	12	13.95
G	.2610	3-7/8	6-1/4	12	15.75
17/64	.2656	3-7/8	6-1/4	12	11.70
H	.2660	3-7/8	6-1/4	12	16.11
I	.2720	3-7/8	6-1/4	6	16.11
J	.2770	3-7/8	6-1/4	6	16.11

Size	Dec. Equiv.	Flute Length	Overall Length	Package Quantity	Price Each
K	.2810	3-7/8	6-1/4	6	16.11
9/32	.2812	3-7/8	6-1/4	6	11.43
L	.2900	4	6-3/8	6	17.24
M	.2950	4	6-3/8	6	17.24
19/64	.2969	4	6-3/8	6	11.03
N	.3020	4	6-3/8	6	17.55
5/16	.3125	4	6-3/8	6	11.25
O	.3160	4-1/8	6-1/2	6	17.55
P	.3230	4-1/8	6-1/2	6	17.55
21/64	.3281	4-1/8	6-1/2	6	14.04
Q	.3320	4-1/8	6-1/2	6	17.55
R	.3390	4-1/8	6-1/2	6	17.55
11/32	.3438	4-1/8	6-1/2	6	14.04
S	.3480	4-1/4	6-3/4	6	17.55
T	.3580	4-1/4	6-3/4	6	17.55
23/64	.3594	4-1/4	6-3/4	6	14.91
U	.3680	4-1/4	6-3/4	6	19.13
3/8	.3750	4-1/4	6-3/4	6	14.39
V	.3770	4-3/8	7	6	19.13
W	.3860	4-3/8	7	6	19.13
25/64	.3906	4-3/8	7	6	16.11
X	.3970	4-3/8	7	6	19.58
Y	.4040	4-3/8	7	6	19.58
13/32	.4062	4-3/8	7	6	15.57
Z	.4130	4-5/8	7-1/4	6	19.58
27/64	.4219	4-5/8	7-1/4	6	16.81
7/16	.4375	4-5/8	7-1/4	6	16.11
29/64	.4531	4-3/4	7-1/2	6	20.61
15/32	.4688	4-3/4	7-1/2	6	20.88
31/64	.4844	4-3/4	7-3/4	6	21.60
1/2	.5000	4-3/4	7-3/4	6	20.88
33/64	.5156	4-3/4	8	1	31.95
17/32	.5312	4-3/4	8	1	30.78
35/64	.5469	4-7/8	8-1/4	1	33.75
9/16	.5625	4-7/8	8-1/4	1	32.40
37/64	.5781	4-7/8	8-3/4	1	41.22
19/32	.5938	4-7/8	8-3/4	1	39.78
39/64	.6094	4-7/8	8-3/4	1	40.95
5/8	.6250	4-7/8	8-3/4	1	40.95
41/64	.6406	5-1/8	9	1	52.20
21/32	.6562	5-1/8	9	1	46.80
43/64	.6719	5-3/8	9-1/4	1	52.20
11/16	.6875	5-3/8	9-1/4	1	50.40
45/64	.7031	5-5/8	9-1/2	1	53.64
23/32	.7188	5-5/8	9-1/2	1	55.71
3/4	.7500	5-7/8	9-3/4	1	53.78
15/16	.9375	6-1/8	10-3/4	1	83.21
31/32	.9688	6-3/8	11	1	87.75

## 1MT & 2MT Split Sleeve Drill Drivers

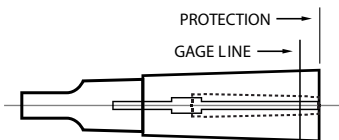
For Straight Shank Tools

List No. **SST1** – #1 Morse Taper

Sizes Available (Inside Diameter)	Price Each
1/16 – 3/8 by 64 <sup>ths</sup> , 1 – 55 Wire Sizes, & A – U letter sizes	39.00

List No. **SST2** – #2 Morse Taper

Sizes Available (Inside Diameter)	Price Each
7/64 – 9/16 by 64 <sup>ths</sup> , 1 – 42 Wire Sizes, & A – Z letter sizes	43.00



# Tanged Taper Length Heavy Duty Drills



## Automotive Long Series – High Speed Steel



List No. **452** – Oxide Finish, Long Flute 118° Point

These drills are designed with a heavy duty web and are recommended for drilling steel forgings, tough alloy steels and other difficult to machine materials. The shanks are tanged and may be used in A.S.A. split sleeve drill drivers. The flute length is longer for deeper holes and more regrinds. Drill diameters over 1/2" have reduced shanks.



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

Size	Decimal Equivalent	Overall Length	Flute Length	Shank Diameter	Sleeve Size	Package Quantity	Price Each
9/64	.1406	5-3/8	3-5/8	9/64	1	12	8.91
5/32	.1562	5-3/8	3-3/4	5/32	1	12	10.99
11/64	.1719	5-3/4	4-1/8	11/64	1	12	11.00
3/16	.1875	5-3/4	4-1/8	3/16	1	12	11.40
13/64	.2031	6	4-3/8	13/64	1	12	11.52
7/32	.2188	6	4-3/8	7/32	1	12	13.23
15/64	.2344	6-1/8	4-13/16	15/64	1	12	14.40
1/4	.2500	6-1/8	4-13/16	1/4	1	12	15.08
17/64	.2656	6-1/4	5	17/64	1	12	15.66
9/32	.2812	6-1/4	5	9/32	1	6	16.92
19/64	.2969	6-3/8	5-1/8	19/64	1	6	17.55
5/16	.3125	6-3/8	5-1/8	5/16	1	6	18.05
21/64	.3281	6-1/2	5-1/4	21/64	2	6	19.35
11/32	.3438	6-1/2	5-1/4	11/32	2	6	19.35
23/64	.3594	6-3/4	5-3/8	23/64	2	6	19.90
3/8	.3750	6-3/4	5-3/8	3/8	2	6	19.90
25/64	.3906	7	5-5/8	25/64	2	6	18.45
13/32	.4062	7	5-5/8	13/32	2	6	19.90
27/64	.4219	7-1/4	5-11/16	27/64	2	6	24.03
10.8mm	.4252	7-1/4	5-11/16	27/64	2	6	24.03
7/16	.4375	7-1/4	5-11/16	7/16	2	6	24.03
29/64	.4531	7-1/2	5-3/4	29/64	2	6	26.97
15/32	.4688	7-1/2	5-3/4	15/32	2	6	28.62
31/64	.4844	7-3/4	5-3/4	31/64	2	6	31.05
12.4mm	.4882	7-3/4	5-3/4	31/64	2	6	31.05
1/2	.5000	7-3/4	5-3/4	1/2	2	6	31.05
33/64	.5156	8	6	1/2	2	1	44.82
17/32	.5312	8	6	1/2	2	1	49.50
35/64	.5469	8-1/4	6-1/4	1/2	2	1	53.91
9/16	.5625	8-1/4	6-1/4	1/2	2	1	53.91
37/64	.5781	8-3/4	6-1/2	1/2	2	1	58.60
14.75mm	.5807	8-3/4	6-1/2	1/2	2	1	66.00
19/32	.5938	8-3/4	6-1/2	1/2	2	1	60.44
39/64	.6094	8-3/4	6-1/2	1/2	2	1	62.10
5/8	.6250	8-3/4	6-1/2	1/2	2	1	70.02
41/64	.6406	9	6-3/4	5/8	3	1	73.89
21/32	.6562	9	6-3/4	5/8	3	1	73.89
43/64	.6719	9-1/4	6-7/8	5/8	3	1	76.63
11/16	.6875	9-1/4	6-7/8	5/8	3	1	76.63
45/64	.7031	9-1/2	7	5/8	3	1	78.48
23/32	.7188	9-1/2	7-1/8	5/8	3	1	78.48
3/4	.7500	9-3/4	7-3/8	3/4	3	1	85.00
51/64	.7969	10	7-3/4	3/4	3	1	89.84
7/8	.8750	10	7-3/4	3/4	3	1	93.96
1-1/64	1.0156	11-1/8	8-1/8	15/16	4	1	126.00
1-3/32	1.0938	11-1/2	8-1/2	15/16	4	1	151.20

## 3MT & 4MT Split Sleeve Drill Drivers

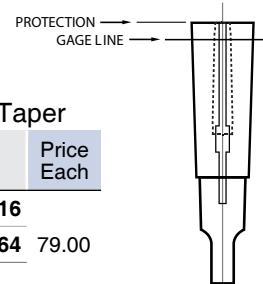
For Straight Shank Tools

List No. **SST3** – #3 Morse Taper

Size (Inside Diameter)								Price Each
25/64	13/32	27/64	7/16	29/64	15/32	31/64	1/2	47.00
33/64	17/32	35/64	9/16	37/64	19/32	39/64	5/8	
41/64	21/32	11/16	45/64	23/32	3/4			

List No. **SST4** – #4 Morse Taper

Size (Inside Diameter)						Price Each
1/2	19/32	5/8	21/32	11/16		79.00
3/4	25/32	13/16	27/32	55/64		
7/8	15/16	1				





# Fast Spiral Taper Length Drills

High Speed Steel

List No. **400F** – Bright Finish, 118° Point

These drills have been especially designed for use through long bushings or where extra length is required. They are recommended for drilling deep holes in nonferrous materials such as aluminum, zinc die cast, magnesium, copper and some plastics.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
3/64	.0469	1-1/8	2-1/4	12	4.37
1/16	.0625	1-3/4	3	12	4.30
5/64	.0781	2	3-3/4	12	4.30
3/32	.0938	2-1/4	4-1/4	12	4.65
7/64	.1094	2-1/2	4-5/8	12	6.46
1/8	.1250	2-3/4	5-1/8	12	7.85
9/64	.1406	3	5-3/8	12	8.64
5/32	.1562	3	5-3/8	12	8.54
11/64	.1719	3-3/8	5-3/4	12	10.14
3/16	.1875	3-3/8	5-3/4	12	9.58
13/64	.2031	3-5/8	6	12	10.99
7/32	.2188	3-5/8	6	12	10.39
15/64	.2344	3-3/4	6-1/8	12	11.93
1/4	.2500	3-3/4	6-1/8	12	11.25
17/64	.2656	3-7/8	6-1/4	12	12.33
9/32	.2812	3-7/8	6-1/4	6	11.77
19/64	.2969	4	6-3/8	6	12.69

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
5/16	.3125	4	6-3/8	6	12.13
21/64	.3281	4-1/8	6-1/2	6	13.98
11/32	.3438	4-1/8	6-1/2	6	13.34
23/64	.3594	4-1/4	6-3/4	6	15.92
3/8	.3750	4-1/4	6-3/4	6	14.77
25/64	.3906	4-3/8	7	6	17.51
13/32	.4062	4-3/8	7	6	16.58
27/64	.4219	4-5/8	7-1/4	6	20.27
7/16	.4375	4-5/8	7-1/4	6	18.81
29/64	.4531	4-3/4	7-1/2	6	23.03
15/32	.4688	4-3/4	7-1/2	6	21.79
31/64	.4844	4-3/4	7-3/4	6	24.79
1/2	.5000	4-3/4	7-3/4	6	23.44
39/64	.6094	4-7/8	8-3/4	1	49.10
5/8	.6250	4-7/8	8-3/4	1	50.50
11/16	.6875	5-3/8	9-1/4	1	52.70
27/32	.8438	6-1/8	10	1	78.00

## Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
1	.2280	3-3/4	6-1/8	12	12.26
2	.2210	3-3/4	6-1/8	12	12.26
3	.2130	3-5/8	6	12	11.83
4	.2090	3-5/8	6	12	11.83
5	.2055	3-5/8	6	12	11.83
6	.2040	3-5/8	6	12	11.83
7	.2010	3-5/8	6	12	11.83
8	.1990	3-5/8	6	12	11.94
9	.1960	3-5/8	6	12	11.94
10	.1935	3-5/8	6	12	11.94
11	.1910	3-5/8	6	12	11.94
12	.1890	3-5/8	6	12	11.94
13	.1850	3-3/8	5-3/4	12	11.78
14	.1820	3-3/8	5-3/4	12	11.78
15	.1800	3-3/8	5-3/4	12	11.78
16	.1770	3-3/8	5-3/4	12	11.78
17	.1730	3-3/8	5-3/4	12	11.78
18	.1695	3-3/8	5-3/4	12	11.78
19	.1660	3-3/8	5-3/4	12	11.03
20	.1610	3-3/8	5-3/4	12	11.03
21	.1590	3-3/8	5-3/4	12	11.02
22	.1570	3-3/8	5-3/4	12	10.85
23	.1540	3	5-3/8	12	10.85
24	.1520	3	5-3/8	12	10.85
25	.1495	3	5-3/8	12	10.74
26	.1470	3	5-3/8	12	10.74
27	.1440	3	5-3/8	12	10.74
28	.1405	3	5-3/8	12	10.74
29	.1360	3	5-3/8	12	10.74
30	.1285	3	5-3/8	12	10.74

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
31	.1200	2-3/4	5-1/8	12	10.46
32	.1160	2-3/4	5-1/8	12	10.46
33	.1130	2-3/4	5-1/8	12	10.46
34	.1110	2-3/4	5-1/8	12	10.46
35	.1100	2-3/4	5-1/8	12	10.46
36	.1065	2-1/2	4-5/8	12	7.86
37	.1040	2-1/2	4-5/8	12	7.86
38	.1015	2-1/2	4-5/8	12	7.86
39	.0995	2-1/2	4-5/8	12	6.89
40	.0980	2-1/2	4-5/8	12	6.89
41	.0960	2-1/2	4-5/8	12	6.89
42	.0935	2-1/4	4-1/4	12	6.50
43	.0890	2-1/4	4-1/4	12	6.50
44	.0860	2-1/4	4-1/4	12	6.50
45	.0820	2-1/4	4-1/4	12	6.50
46	.0810	2-1/4	4-1/4	12	6.50
47	.0785	2-1/4	4-1/4	12	6.50
48	.0760	2	3-3/4	12	5.55
49	.0730	2	3-3/4	12	5.55
50	.0700	2	3-3/4	12	5.55
51	.0670	2	3-3/4	12	5.55
52	.0635	2	3-3/4	12	5.55
53	.0595	1-3/4	3	12	5.55
54	.0550	1-3/4	3	12	5.55
55	.0520	1-3/4	3	12	5.55
56	.0465	1-1/8	2-1/4	12	5.55
57	.0430	1-1/8	2-1/4	12	5.55
58	.0420	1-1/8	2-1/4	12	5.55
59	.0410	1-1/8	2-1/4	12	5.55
60	.0400	1-1/8	2-1/4	12	5.55

# Fast Spiral Taper Length Drills

High Speed Steel

List No. **400F** – Bright Finish, 118° Point

These drills have been especially designed for use through long bushings or where extra length is required. They are recommended for drilling deep holes in nonferrous materials such as aluminum, zinc die cast, magnesium, copper and some plastics.



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	3-3/4	6-1/8	12	17.66
B	.2380	3-3/4	6-1/8	12	17.66
C	.2420	3-3/4	6-1/8	12	17.66
D	.2460	3-3/4	6-1/8	12	17.66
E	.2500	3-3/4	6-1/8	12	11.25
F	.2570	3-7/8	6-1/4	12	17.84
G	.2610	3-7/8	6-1/4	12	17.84
H	.2660	3-7/8	6-1/4	12	18.47
I	.2720	3-7/8	6-1/4	6	17.84
J	.2770	3-7/8	6-1/4	6	17.84
K	.2810	3-7/8	6-1/4	6	19.23
L	.2900	4	6-3/8	6	19.26
M	.2950	4	6-3/8	6	19.26

Size	Decimal Equivalent	Flute Length	Overall Length	Pkg. Qty.	Price Each
N	.3020	4-1/8	6-1/2	6	20.53
O	.3160	4-1/8	6-1/2	6	20.53
P	.3230	4-1/8	6-1/2	6	20.53
Q	.3320	4-1/8	6-1/2	6	20.53
R	.3390	4-1/8	6-1/2	6	20.53
S	.3480	4-1/4	6-3/4	6	23.33
T	.3580	4-1/4	6-3/4	6	22.37
U	.3680	4-1/4	6-3/4	6	22.37
V	.3770	4-3/8	7	6	24.19
W	.3860	4-3/8	7	6	24.19
X	.3970	4-3/8	7	6	25.77
Y	.4040	4-3/8	7	6	25.77
Z	.4130	4-5/8	7-1/4	6	25.77

# Parabolic Flute Taper Length Drills

High Speed Steel

List No. **400PF** – 135° Split Point

List No. **400PFT** – TiN Coated, 135° Split Point

Used for deep hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
1/16	.0625	1-3/4	3	12	3.60	7.08
5/64	.0781	2	3-3/4	12	5.06	7.16
3/32	.0938	2-1/4	4-1/4	12	6.03	8.13
7/64	.1094	2-1/2	4-5/8	12	6.53	9.35
1/8	.1250	2-3/4	5-1/8	12	7.44	10.26
9/64	.1406	3	5-3/8	12	9.93	13.98
5/32	.1562	3	5-3/8	12	8.99	13.04
11/64	.1719	3-3/8	5-3/4	12	10.55	14.60
3/16	.1875	3-3/8	5-3/4	12	8.98	14.05
13/64	.2031	3-5/8	6	12	12.10	18.91
7/32	.2188	3-5/8	6	12	13.03	19.84
15/64	.2344	3-3/4	6-1/8	12	13.05	19.86
1/4	.2500	3-3/4	6-1/8	12	11.07	17.88
17/64	.2656	3-7/8	6-1/4	12	10.44	24.60
9/32	.2812	3-7/8	6-1/4	6	12.97	23.26
19/64	.2969	4	6-3/8	6	14.82	25.11
5/16	.3125	4	6-3/8	6	12.97	25.30
21/64	.3281	4-1/8	6-1/2	6	15.14	27.47
11/32	.3438	4-1/8	6-1/2	6	15.14	27.47

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
23/64	.3594	4-1/4	6-3/4	6	18.10	30.43
3/8	.3750	4-1/4	6-3/4	6	17.64	29.97
25/64	.3906	4-3/8	7	6	18.72	35.31
13/32	.4062	4-3/8	7	6	18.98	35.57
27/64	.4219	4-5/8	7-1/4	6	18.29	37.58
7/16	.4375	4-5/8	7-1/4	6	16.80	38.46
29/64	.4531	4-3/4	7-1/2	6	23.87	43.16
15/32	.4688	4-3/4	7-1/2	6	24.04	43.33
31/64	.4844	4-3/4	7-3/4	6	26.07	45.36
1/2	.5000	4-3/4	7-3/4	6	25.94	45.23
33/64	.5156	4-3/4	8	1	39.69	58.89
17/32	.5312	4-3/4	8	1	40.55	59.75
9/16	.5625	4-7/8	8-1/4	1	42.37	61.57
19/32	.5938	4-7/8	8-3/4	1	48.85	68.05
5/8	.6250	4-7/8	8-3/4	1	51.53	70.73
21/32	.6562	5-1/8	9	1	37.60	84.64
11/16	.6875	5-3/8	9-1/4	1	66.57	91.25
23/32	.7188	5-5/8	9-1/2	1	70.47	95.15
3/4	.7500	5-7/8	9-3/4	1	76.95	101.63

# Parabolic Flute Taper Length Drills

High Speed Steel

List No. **400PF** – 135° Split Point

List No. **400PFT** – TiN Coated, 135° Split Point

Used for deep hole drilling at higher feed rates in aluminum alloys and other low to medium tensile strength materials



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
1	.2280	3-3/4	6-1/8	12	11.45	18.26
2	.2210	3-3/4	6-1/8	12	11.45	18.26
3	.2130	3-5/8	6	12	11.07	17.88
4	.2090	3-5/8	6	12	11.07	17.88
5	.2055	3-5/8	6	12	11.07	17.88
6	.2040	3-5/8	6	12	11.07	17.88
8	.1990	3-5/8	6	12	11.07	17.88
10	.1935	3-5/8	6	12	11.07	17.88
11	.1910	3-5/8	6	12	11.07	17.88
12	.1890	3-5/8	6	12	11.07	17.88
13	.1850	3-3/8	5-3/4	12	10.03	14.08
14	.1829	3-3/8	5-3/4	12	10.03	14.08
15	.1800	3-3/8	5-3/4	12	10.03	14.08
16	.1770	3-3/8	5-3/4	12	10.03	14.08
17	.1730	3-3/8	5-3/4	12	10.03	14.08
18	.1695	3-3/8	5-3/4	12	10.03	14.08
19	.1660	3-5/8	5-3/4	12	10.03	14.08
20	.1610	3-3/8	5-3/4	12	10.03	14.08
21	.1590	3-3/8	5-3/4	12	11.03	15.08
22	.1570	3-3/8	5-3/4	12	11.03	15.08
23	.1540	3	5-3/8	12	10.03	14.08
24	.1520	3	5-3/8	12	11.03	15.08

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
25	.1495	3	5-3/8	12	11.03	15.08
26	.1470	3	5-3/8	12	11.03	15.08
27	.1440	3	5-3/8	12	11.03	15.08
28	.1405	3	5-3/8	12	11.03	15.08
29	.1360	3	5-3/8	12	10.03	14.08
30	.1285	3	5-3/8	12	10.03	14.08
31	.1200	2-3/4	5-1/8	12	8.17	12.22
32	.1160	2-3/4	5-1/8	12	8.17	12.22
33	.1130	2-3/4	5-1/8	12	9.43	13.48
34	.1110	2-3/4	5-1/8	12	9.43	13.48
35	.1100	2-3/4	5-1/8	12	8.17	12.22
36	.1065	2-1/2	4-5/8	12	8.17	12.22
37	.1040	2-1/2	4-5/8	12	7.62	11.67
38	.1015	2-1/2	4-5/8	12	7.93	11.98
39	.0995	2-1/2	4-5/8	12	7.62	11.67
40	.0980	2-1/2	4-5/8	12	7.62	11.67
43	.0890	2-1/4	4-1/4	12	6.63	10.68
45	.0820	2-1/4	4-1/4	12	6.63	10.68
48	.0760	2	3-3/4	12	6.07	8.17
49	.0730	2	3-3/4	12	6.07	8.17
51	.0670	2	3-3/4	12	5.57	7.67
52	.0635	2	3-3/4	12	6.07	8.17

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
F	.2570	3-7/8	6-1/4	12	15.04	21.85
H	.2660	3-7/8	6-1/4	12	15.04	21.85
J	.2770	3-7/8	6-1/4	6	15.04	21.85
K	.2811	3-7/8	6-1/4	6	15.04	21.85
L	.2900	4	6-3/8	6	16.30	23.11

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each	
					H.S. 400PF	TiN Coated 400PFT
M	.2950	4	6-3/8	6	16.30	23.11
N	.3020	4-1/8	6-1/2	6	16.30	23.11
P	.3230	4-1/8	6-1/2	6	16.65	23.46
U	.3680	4-1/4	6-3/4	6	18.63	30.94
Z	.4130	4-5/8	7-1/4	6	20.12	36.71

## Metric Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each 400PF
2.20	.0866	2-1/4	4-1/4	12	7.84
2.80	.1102	2-3/4	5-1/8	12	8.98
3.00	.1181	2-3/4	5-1/8	12	8.98
3.20	.1260	3	5-3/8	12	10.33
4.00	.1575	3-3/8	5-3/4	12	12.66
4.20	.1654	3-3/8	5-3/4	12	12.66
4.30	.1693	3-3/8	5-3/4	12	13.50
5.20	.2047	3-5/8	6	12	14.52
6.20	.2441	3-3/4	6-1/8	12	16.40
6.60	.2548	3-7/8	6-1/4	12	16.40

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each 400PF
6.80	.2677	3-7/8	6-1/4	12	16.40
6.90	.2717	3-7/8	6-1/4	12	15.56
7.00	.2756	3-7/8	6-1/4	12	15.56
7.20	.2835	4	6-3/8	6	17.78
7.30	.2874	4	6-3/8	6	17.78
8.00	.3150	4-1/8	6-1/2	6	18.17
8.50	.3346	4-1/8	6-1/2	6	16.40
9.50	.4740	4-1/4	6-3/4	6	21.00
9.60	.3780	4-3/8	7	6	22.46
12.00	.4724	4-3/4	7-3/4	6	27.70

# MDX<sup>®</sup> Taper Length Drills

SUPERIOR IMPORT  
High Speed Steel



List No. X400

## Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
1/64	.0156	5/16	1-1/2	12	4.07
1/32	.0312	3/4	2	12	2.97
3/64	.0469	1-1/8	2-1/4	12	1.40
1/16	.0625	1-3/4	3	12	1.45
5/64	.0781	2	3-3/4	12	1.71
3/32	.0938	2-1/4	4-1/4	12	2.04
7/64	.1094	2-1/2	4-5/8	12	2.58
1/8	.1250	2-3/4	5-1/8	12	2.62
9/64	.1406	3	5-3/8	12	3.18
5/32	.1562	3	5-3/8	12	3.18
11/64	.1719	3-3/8	5-3/4	12	3.21
3/16	.1875	3-3/8	5-3/4	12	3.18
13/64	.2031	3-5/8	6	12	3.74
7/32	.2188	3-5/8	6	12	3.71
15/64	.2344	3-3/4	6-1/8	12	3.74
1/4	.2500	3-3/4	6-1/8	12	3.71
17/64	.2656	3-7/8	6-1/4	12	4.58
9/32	.2812	3-7/8	6-1/4	6	4.53
19/64	.2969	4	6-3/8	6	4.64
5/16	.3125	4	6-3/8	6	4.59
21/64	.3281	4-1/8	6-1/2	6	5.31
11/32	.3438	4-1/8	6-1/2	6	5.27
23/64	.3594	4-1/4	6-3/4	6	6.26
3/8	.3750	4-1/4	6-3/4	6	6.20
25/64	.3906	4-3/8	7	6	6.53
13/32	.4062	4-3/8	7	6	6.47
27/64	.4219	4-5/8	7-1/4	6	7.05
7/16	.4375	4-5/8	7-1/4	6	7.11
29/64	.4531	4-3/4	7-1/2	6	7.97
15/32	.4688	4-3/4	7-1/2	6	8.38
31/64	.4844	4-3/4	7-3/4	6	8.83
1/2	.5000	4-3/4	7-3/4	6	8.75
33/64	.5156	4-3/4	8	1	12.51
17/32	.5312	4-3/4	8	1	12.39
35/64	.5469	4-7/8	8-1/4	1	13.15
9/16	.5625	4-7/8	8-1/4	1	13.03
37/64	.5781	4-7/8	8-3/4	1	15.38
19/32	.5938	4-7/8	8-3/4	1	15.38
39/64	.6094	4-7/8	8-3/4	1	15.91
5/8	.6250	4-7/8	8-3/4	1	15.75
41/64	.6406	5-1/8	9	1	19.18
21/32	.6562	5-1/8	9	1	18.31
43/64	.6719	5-3/8	9-1/4	1	22.53
11/16	.6875	5-3/8	9-1/4	1	21.78
45/64	.7031	5-5/8	9-1/2	1	23.71
23/32	.7188	5-5/8	9-1/2	1	22.64
47/64	.7344	5-7/8	9-3/4	1	25.50
3/4	.7500	5-7/8	9-3/4	1	23.89
49/64	.7656	6	9-7/8	1	28.00



Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
25/32	.7812	6	9-7/8	1	26.74
51/64	.7969	6-1/8	10	1	30.12
13/16	.8125	6-1/8	10	1	28.48
53/64	.8281	6-1/8	10	1	32.58
27/32	.8438	6-1/8	10	1	30.27
55/64	.8594	6-1/8	10	1	34.23
7/8	.8750	6-1/8	10	1	31.80
57/64	.8906	6-1/8	10	1	35.66
29/32	.9062	6-1/8	10	1	33.13
59/64	.9219	6-1/8	10-3/4	1	38.81
15/16	.9375	6-1/8	10-3/4	1	36.04
61/64	.9531	6-3/8	11	1	42.81
31/32	.9688	6-3/8	11	1	39.76
63/64	.9844	6-3/8	11	1	44.63
1	1.0000	6-3/8	11	1	41.45
1-1/64	1.0156	6-1/2	11-1/8	1	58.82
1-1/32	1.0312	6-1/2	11-1/8	1	51.99
1-3/64	1.0469	6-5/8	11-1/4	1	60.83
1-1/16	1.0625	6-5/8	11-1/4	1	53.76
1-5/64	1.0781	6-7/8	11-1/2	1	65.26
1-3/32	1.0938	6-7/8	11-1/2	1	57.68
1-7/64	1.1094	7-1/8	11-3/4	1	67.74
1-1/8	1.1250	7-1/8	11-3/4	1	57.15
1-9/64	1.1406	7-1/4	11-7/8	1	68.18
1-5/32	1.1562	7-1/4	11-7/8	1	65.16
1-11/64	1.1719	7-3/8	12	1	73.41
1-3/16	1.1875	7-3/8	12	1	66.97
1-13/64	1.2031	7-1/2	12-1/8	1	75.60
1-7/32	1.2188	7-1/2	12-1/8	1	68.96
1-15/64	1.2344	7-7/8	12-1/2	1	78.63
1-1/4	1.2500	7-7/8	12-1/2	1	71.74
1-9/32	1.2812	8-1/2	14-1/8	1	83.27
1-5/16	1.3125	8-5/8	14-1/4	1	89.66
1-11/32	1.3438	8-3/4	14-3/8	1	92.24
1-3/8	1.3750	8-7/8	14-1/2	1	96.17
1-13/32	1.4062	9	14-5/8	1	100.43
1-7/16	1.4375	9-1/8	14-3/4	1	104.79
1-15/32	1.4688	9-1/4	14-7/8	1	109.14
1-1/2	1.5000	9-3/8	15	1	117.47
1-35/64	1.5469	9-5/8	15	1	155.00
1-9/16	1.5625	9-5/8	15-1/4	1	131.45
1-37/64	1.5781	9-7/8	15-5/8	1	168.50
1-5/8	1.6250	9-7/8	15-5/8	1	148.42
1-11/16	1.6875	10-1/8	16	1	171.45
1-3/4	1.7500	10-1/2	16-1/4	1	178.85
1-13/16	1.8125	10-1/2	16-1/4	1	213.36
1-7/8	1.8700	10-5/8	16-1/4	1	238.21
1-15/16	1.9375	10-3/4	16-5/8	1	241.53
2	2.0000	10-3/4	17-1/4	1	246.25

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
A	.2340	3-3/4	6-1/8	12	6.53
B	.2380	3-3/4	6-1/8	12	6.53
C	.2420	3-3/4	6-1/8	12	6.53
G	.2610	3-7/8	6-1/4	12	7.46
H	.2660	3-7/8	6-1/4	12	7.46
I	.2720	3-7/8	6-1/4	6	7.46
J	.2770	3-7/8	6-1/4	6	7.46
K	.2810	3-7/8	6-1/4	6	7.46
L	.2900	4	6-3/8	6	7.99

Size	Dec. Equiv.	Flute Length	Overall Length	Pkg. Qty.	Price Each
M	.2950	4	6-3/8	6	7.99
P	.3230	4-1/8	6-1/2	6	8.14
Q	.3320	4-1/8	6-1/2	6	8.30
R	.3390	4-1/8	6-1/2	6	8.57
S	.3480	4-1/4	6-3/4	6	8.57
W	.3860	4-3/8	7	6	9.01
X	.3970	4-3/8	7	6	9.29
Y	.4040	4-3/8	7	6	9.29
Z	.4130	4-3/8	7-1/4	6	9.29

HOLE MAKING

# Aircraft Extension Drills

High Speed & Cobalt – Split Point



HOLE MAKING

## 6" Overall Length

List No. **906** – High Speed Steel

List No. **906C** – Cobalt

## 12" Overall Length

List No. **912** – High Speed Steel

List No. **912C** – Cobalt



**MICHIGAN**  
DRILL & CUTTING TOOLS

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.

Size	Dec. Equiv.	Flute Length	Price Each			
			High Speed		Cobalt	
			6" OAL 906	12" OAL 912	6" OAL 906C	12" OAL 912C
73	.0240	3/16	10.50	—	—	—
69	.0292	1/2	9.77	—	—	—
68	.0310	1/2	9.77	—	—	—
67	.0320	1/2	9.77	—	—	—
66	.0330	1/2	9.77	—	—	—
65	.0350	5/8	9.77	—	—	—
64	.0360	5/8	9.77	—	—	—
63	.0370	5/8	9.77	—	—	—
62	.0380	5/8	9.77	—	—	—
61	.0390	11/16	9.77	—	—	—
60	.0400	11/16	7.19	11.37	14.40	—
59	.0410	11/16	7.19	11.37	14.40	—
58	.0420	11/16	7.19	11.37	14.40	—
57	.0430	3/4	7.19	10.56	14.40	—
56	.0465	3/4	5.91	10.56	14.40	—
3/64	.0469	3/4	5.64	11.20	14.40	—
55	.0520	7/8	5.91	10.56	14.40	—
54	.0550	7/8	5.91	10.56	14.40	—
53	.0595	7/8	5.91	10.56	14.40	—
1/16	.0625	7/8	3.07	9.08	6.75	21.15
52	.0635	7/8	3.47	9.98	7.65	21.15
51	.0670	1	3.47	9.98	7.65	21.15
50	.0700	1	3.14	10.69	7.65	21.15
49	.0730	1	3.47	10.69	7.65	21.15
48	.0760	1	3.47	10.69	7.65	21.15
5/64	.0781	1	3.07	9.08	6.75	21.15
47	.0785	1	3.47	10.69	7.65	21.15
46	.0810	1-1/8	3.47	10.69	7.65	21.15
45	.0820	1-1/8	3.47	10.69	7.65	21.15
44	.0860	1-1/8	3.47	10.69	7.65	21.15
43	.0890	1-1/4	3.47	10.69	7.65	21.15
42	.0935	1-1/4	2.77	9.98	6.12	21.15
3/32	.0938	1-1/4	2.61	9.41	5.85	15.16
41	.0960	1-3/8	2.77	9.98	6.12	21.15
40	.0980	1-3/8	2.61	8.18	5.76	15.21
39	.0995	1-3/8	3.20	9.97	6.12	18.90
38	.1015	1-7/16	3.20	9.97	6.12	18.90
37	.1040	1-7/16	3.20	9.97	6.12	18.90
36	.1065	1-7/16	3.20	9.97	6.12	18.90
7/64	.1094	1-1/2	2.61	9.41	5.85	15.16
35	.1100	1-1/2	3.20	9.97	6.30	18.90
34	.1110	1-1/2	3.30	9.97	6.30	18.90
33	.1130	1-1/2	3.30	9.97	6.30	18.90
32	.1160	1-5/8	3.30	9.97	6.30	18.90
31	.1200	1-5/8	3.30	8.18	6.30	18.90
1/8	.1250	1-5/8	2.61	7.46	5.22	15.16
30	.1285	1-5/8	2.61	8.18	5.85	15.21
29	.1360	1-3/4	3.27	9.17	7.07	15.66
28	.1405	1-3/4	3.27	9.17	8.10	18.90
9/64	.1406	1-3/4	3.17	7.85	7.11	15.93
27	.1440	1-7/8	3.27	9.17	8.10	18.90
26	.1470	1-7/8	3.52	9.97	8.10	18.90
25	.1495	1-7/8	3.52	9.97	8.10	18.90
24	.1520	2	3.52	9.97	8.10	18.90

Size	Dec. Equiv.	Flute Length	Price Each			
			High Speed		Cobalt	
			6" OAL 906	12" OAL 912	6" OAL 906C	12" OAL 912C
23	.1540	2	3.52	9.97	8.10	18.90
5/32	.1562	2	3.17	7.85	6.53	15.93
22	.1570	2	3.52	9.97	8.10	18.90
21**	.1590	2-1/8	3.30	7.36	7.07	15.66
20	.1610	2-1/8	3.30	7.36	7.07	15.66
19	.1660	2-1/8	3.63	9.90	8.55	18.90
18	.1695	2-1/8	3.83	9.90	8.55	18.90
11/64	.1719	2-1/8	3.40	8.55	7.01	16.56
17	.1730	2-3/16	3.83	9.90	8.55	18.90
16	.1770	2-3/16	3.83	9.90	8.55	18.90
15	.1800	2-3/16	3.83	9.90	8.55	18.90
14	.1820	2-3/16	3.83	9.90	8.55	18.90
13	.1850	2-5/16	3.83	9.14	9.00	18.90
3/16	.1875	2-5/16	3.40	8.55	7.01	16.56
12	.1890	2-5/16	3.83	9.90	9.00	18.90
11	.1910	2-5/16	3.83	9.90	8.23	18.90
10	.1935	2-7/16	4.09	8.84	8.23	16.56
9	.1960	2-7/16	4.29	9.90	10.35	22.50
8	.1990	2-7/16	4.29	9.90	10.35	22.50
7	.2010	2-7/16	4.29	9.90	10.35	22.50
13/64	.2031	2-7/16	4.13	9.57	8.60	20.12
6	.2040	2-1/2	4.59	10.89	10.35	22.50
5	.2055	2-1/2	4.59	10.89	10.35	22.50
4	.2090	2-1/2	4.59	11.48	10.35	22.50
3	.2130	2-1/2	4.59	11.48	10.35	21.02
7/32	.2188	2-1/2	4.13	9.57	8.96	20.12
2	.2210	2-5/8	4.79	11.48	10.35	21.02
1	.2280	2-5/8	4.79	11.48	10.35	21.02
A	.2340	2-5/8	7.59	16.93	13.39	—
15/64	.2344	2-5/8	4.49	10.30	10.03	21.06
B	.2380	2-3/4	7.59	16.93	13.39	—
C	.2420	2-3/4	7.59	16.93	13.39	—
D	.2460	2-3/4	7.59	16.93	13.39	29.79
1/4	.2500	2-3/4	4.29	9.60	10.76	21.06
F	.2570	2-7/8	7.39	16.17	17.78	34.37
G	.2610	2-7/8	12.21	16.93	—	—
17/64	.2656	2-7/8	9.57	12.71	23.40	28.94
H	.2660	2-7/8	13.07	18.48	—	—
I	.2720	2-7/8	13.07	17.13	—	35.82
J	.2770	2-7/8	13.07	18.48	—	—
K	.2810	2-15/16	13.07	19.80	27.00	—
9/32	.2812	2-15/16	9.90	12.71	27.00	34.18
L	.2900	2-15/16	15.84	24.42	—	—
M	.2950	3-1/16	15.84	24.42	—	—
19/64	.2969	3-1/16	11.00	14.42	29.90	36.40
N	.3020	3-1/16	17.82	25.74	—	—
5/16	.3125	3-3/16	11.94	15.64	31.70	37.94
O	.3160	3-3/16	19.14	27.72	—	42.00
P	.3230	3-5/16	19.14	27.72	—	—
21/64	.3281	3-5/16	12.90	16.62	—	39.83
Q	.3320	3-7/16	19.14	29.04	—	46.80
R	.3390	3-7/16	21.12	30.03	37.80	—
11/32	.3438	3-7/16	12.82	16.62	33.75	39.70
S	.3480	3-1/2	22.44	31.68	41.40	—

\* Sizes with decimal equivalent smaller than .0625 are not split point.

\*\*Fast spiral also available from stock.



# Aircraft Extension Drills

High Speed & Cobalt – Split Point



## 6" Overall Length

List No. **906** – High Speed Steel  
List No. **906C** – Cobalt



## 12" Overall Length

List No. **912** – High Speed Steel  
List No. **912C** – Cobalt



Size	Dec. Equiv.	Flute Length	Price Each			
			High Speed		Cobalt	
			6" OAL 906	12" OAL 912	6" OAL 906C	12" OAL 912C
T	.3580	3-1/2	22.44	31.68	—	—
23/64	.3594	3-1/2	14.40	18.48	35.32	47.85
U	.3680	3-5/8	22.44	31.68	43.20	57.33
3/8	.3750	3-5/8	14.66	19.14	35.55	47.85
V	.3770	3-5/8	24.42	33.66	—	—
W	.3860	3-3/4	24.42	33.66	—	—
25/64	.3906	3-3/4	17.25	21.00	39.00	51.48
X	.3970	3-3/4	24.42	34.98	—	—
Y	.4040	3-7/8	24.42	34.98	—	—

Size	Dec. Equiv.	Flute Length	Price Each			
			High Speed		Cobalt	
			6" OAL 906	12" OAL 912	6" OAL 906C	12" OAL 912C
13/32	.4062	3-7/8	17.25	21.62	—	51.48
Z	.4130	3-7/8	27.72	37.62	—	—
27/64	.4219	3-15/16	18.94	22.44	—	56.25
7/16	.4375	4-1/16	18.94	22.44	—	56.25
29/64	.4531	4-3/16	20.79	25.15	—	56.25
15/32	.4688	4-5/16	21.58	27.16	—	58.05
31/64	.4844	4-3/8	21.78	27.64	—	58.05
1/2	.5000	4-1/2	22.24	27.64	38.70	59.49

## USA Sets

Sizes	Description	Pcs.	Set No.	Price
1/16 – 1/4 by 64 <sup>ths</sup>	H.S. - 6" OAL	13	<b>906SF-2</b>	55.36
1/16 – 1/4 by 64 <sup>ths</sup>	Cobalt - 6" OAL	13	<b>906CG</b>	107.74
1/16 – 1/4 by 64 <sup>ths</sup>	H.S. - 12" OAL	13	<b>912SF-2</b>	127.99
1/16 – 3/8 by 64 <sup>ths</sup>	H.S. - 6" OAL	21	<b>906SF</b>	156.90
1/16 – 1/2 by 64 <sup>ths</sup>	H.S. - 6" OAL	29	<b>906SFA</b>	315.00
1/16 – 1/2 by 64 <sup>ths</sup>	H.S. - 12" OAL	29	<b>912SF</b>	448.92
1/16 – 1/2 by 64 <sup>ths</sup>	Cobalt - 12" OAL	29	<b>912CSF</b>	1006.32
A - Z	H.S. - 6" OAL	26	<b>906SL</b>	439.00
A - Z	H.S. - 12" OAL	26	<b>912SL</b>	654.55
1 - 60	H.S. - 6" OAL	60	<b>906SW</b>	239.71
1 - 60	H.S. - 12" OAL	60	<b>912SW</b>	613.31



All sets are supplied in Metal Stand

List No. **X906** – 6" Overall Length, H.S.  
List No. **X912** – 12" Overall Length, H.S.



Size	Dec. Equiv.	Flute Length	Price Each	
			6" OAL X906	12" OAL X912
1/16	.0625	1	2.03	4.83
50	.0700	1	2.10	6.60
49	.0730	1	2.10	6.60
48	.0760	1	2.10	6.60
5/64	.0781	1	2.03	4.83
47	.0785	1	2.10	6.60
46	.0810	1-1/8	2.10	6.60
45	.0820	1-1/8	2.10	6.60
44	.0860	1-1/8	2.10	6.60
43	.0890	1-1/4	2.10	6.60
42	.0935	1-1/4	1.82	6.60
3/32	.0938	1-1/4	1.82	6.60
41	.0960	1-3/8	1.82	6.60
40	.0980	1-3/8	1.82	6.60
38	.1015	1-7/16	1.89	5.53
37	.1040	1-7/16	1.89	5.53
36	.1065	1-7/16	1.89	5.53
7/64	.1094	1-1/2	1.89	5.53
35	.1100	1-1/2	1.89	5.53
34	.1110	1-1/2	1.89	5.53
33	.1130	1-1/2	1.89	5.53
32	.1160	1-5/8	1.89	5.53
31	.1200	1-5/8	1.89	5.53

Size	Dec. Equiv.	Flute Length	Price Each	
			6" OAL X906	12" OAL X912
1/8	.1250	1-5/8	1.89	5.53
30	.1285	1-5/8	1.89	5.53
29	.1360	1-3/4	2.31	6.23
28	.1405	1-3/4	2.31	6.23
9/64	.1406	1-3/4	2.31	5.00
27	.1440	1-3/4	2.31	6.23
26	.1470	1-3/4	2.31	6.23
25	.1495	1-7/8	2.31	6.23
24	.1520	2	2.31	6.23
23	.1540	2	2.31	6.23
5/32	.1562	2	2.31	5.00
22	.1570	2	2.31	6.23
21**	.1590	2-1/8	2.31	5.00
20	.1610	2-1/8	2.31	5.00
19	.1660	2-1/8	2.59	6.65
18	.1695	2-1/8	2.59	6.65
11/64	.1719	2-1/8	2.59	6.65
17	.1730	2-3/16	2.59	6.65
16	.1770	2-3/16	2.59	6.65
15	.1800	2-3/16	2.59	6.65
14	.1820	2-3/16	2.59	6.65
13	.1850	2-5/16	2.59	6.65
3/16	.1875	2-5/16	2.59	6.65

Size	Dec. Equiv.	Flute Length	Price Each	
			6" OAL X906	12" OAL X912
12	.1890	2-5/16	2.59	6.65
11	.1910	2-5/16	2.59	6.65
10	.1935	2-7/16	2.80	7.63
9	.1960	2-7/16	2.94	7.63
5	.2055	2-1/2	3.01	7.63
4	.2090	2-1/2	3.01	7.63
3	.2130	2-1/2	3.01	7.63
7/32	.2188	2-1/2	3.01	6.65
2	.2210	2-5/8	3.36	7.91
15/64	.2344	2-5/8	3.22	7.14
1/4	.2500	2-3/4	3.22	7.14
9/32	.2812	2-15/16	5.90	8.61
19/64	.2969	3-1/16	6.60	9.44
5/16	.3125	3-3/16	7.20	10.15
11/32	.3438	3-7/16	7.63	11.13
23/64	.3594	3-1/2	7.80	11.88
3/8	.3750	3-5/8	8.05	12.25
25/64	.3906	3-3/4	9.55	14.15
13/32	.4062	3-7/8	10.20	14.77
7/16	.4375	4-1/16	10.95	15.54
29/64	.4531	4-3/16	12.29	17.41
31/64	.4844	4-3/8	13.30	18.69
1/2	.5000	4-1/2	13.30	18.69

\*\*Fast spiral also available from stock.

# Extra Length Drills

High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.



## 6" Overall Length

List No. 208A – 4" Flute Length

Size	Decimal Equivalent	Price Each
1.5mm	.0591	8.50
1/16	.0625	7.82
50	.0700	8.50
5/64	.0781	7.82
3/32	.0938	7.82
38	.1015	9.38
37	.1040	9.38

Extensive Offering

Exclusively from Michigan Drill

The world's largest and most extensive inventory of USA manufactured extra long straight shank drills!

Size	Decimal Equivalent	Price Each
7/64	.1094	7.82
34	.1110	9.38
33	.1130	9.38
1/8	.1250	7.82
9/64	.1406	8.25
27	.1440	9.90
26	.1470	9.90

Size	Decimal Equivalent	Price Each
25	.1495	9.90
23	.1540	9.90
5/32	.1562	8.25
4mm	.1575	10.30
11/64	.1719	8.58
3/16	.1875	8.58
7	.2010	10.30

## 8" Overall Length

List No. 208 – 5-1/2" Flute Length

Size	Decimal Equivalent	Price Each
1/16	.0625	14.82
45	.0820	17.78
3/32	.0938	14.82
37	.1040	17.78
7/64	.1094	14.82
3mm	.1181	17.78
1/8	.1250	13.15
30	.1285	15.65
9/64	.1406	14.32
27	.1440	18.50
5/32	.1562	14.88
21	.1590	21.50
11/64	.1719	15.65
4.5mm	.1772	21.50
13	.1850	21.50



Size	Decimal Equivalent	Price Each
3/16	.1875	16.14
12	.1890	21.50
5mm	.1969	21.50
7	.2010	21.50
13/64	.2031	16.14
4	.2090	21.50
7/32	.2188	16.14
15/64	.2344	16.14
6mm	.2362	21.50
1/4	.2500	16.14
6.50mm	.2559	23.00
F	.2570	19.07
17/64	.2656	16.14
9/32	.2812	16.14
19/64	.2969	19.07

Size	Decimal Equivalent	Price Each
5/16	.3125	17.16
21/64	.3281	19.17
11/32	.3438	18.04
S	.3480	25.75
23/64	.3594	20.12
3/8	.3750	18.70
25/64	.3906	21.38
13/32	.4062	21.38
27/64	.4219	25.74
7/16	.4375	22.11
29/64	.4531	25.74
15/32	.4688	25.74
12.00mm	.4724	34.50
31/64	.4844	30.16
1/2	.5000	26.07

## 9" Overall Length

List No. 209 – 6-1/2" Flute Length

Size	Decimal Equivalent	Price Each
11/64	.1719	17.20
6.00mm	.2362	24.65
19/64	.2969	24.65
5/16	.3125	20.54
8.00mm	.3150	26.00
8.20mm	.3228	26.75



Size	Decimal Equivalent	Price Each
11/32	.3438	24.65
23/64	.3594	22.10
U	.3680	29.90
9.40mm	.3701	29.90
25/64	.3906	23.03
27/64	.4219	28.12

Size	Decimal Equivalent	Price Each
7/16	.4375	28.12
29/64	.4531	29.04
15/32	.4688	29.04
31/64	.4844	31.02
1/2	.5000	31.02
17/32	.5312	38.94

## 10" Overall Length

List No. 208B – 7-1/2" Flute Length

Size	Decimal Equivalent	Price Each
3mm	.1181	19.40
1/8	.1250	14.85
9/64	.1406	18.32
5/32	.1562	18.81
4mm	.1575	21.77
11/64	.1719	18.81
3/16	.1875	18.81
13/64	.2031	19.73
7/32	.2188	19.73
15/64	.2344	20.53
1/4	.2500	20.53
6.50mm	.2559	23.00
17/64	.2656	21.56



Size	Decimal Equivalent	Price Each
9/32	.2812	22.77
19/64	.2969	22.77
5/16	.3125	22.77
8mm	.3150	28.03
21/64	.3281	23.36
11/32	.3438	23.36
S	.3480	31.81
23/64	.3594	23.91
U	.3680	31.81
3/8	.3750	24.52
25/64	.3906	25.08
10mm	.3937	31.81
13/32	.4062	25.08

Size	Decimal Equivalent	Price Each
27/64	.4219	28.91
11mm	.4331	32.67
7/16	.4375	29.04
29/64	.4531	30.69
15/32	.4688	30.69
12.00mm	.4724	38.50
31/64	.4844	32.67
1/2	.5000	32.67
17/32	.5312	41.25
35/64	.5469	45.28
9/16	.5625	45.28
37/64	.5781	48.00
5/8	.6250	51.48

# Extra Length Drills

High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.



## 12" Overall Length

List No. 212 – 9" Flute Length

Extensive Offering

Exclusively from Michigan Drill

The world's largest and most extensive inventory of USA manufactured extra long straight shank drills!

Size	Decimal Equivalent	Price Each
7/64	.1094	18.15
1/8	.1250	17.42
9/64	.1406	19.14
5/32	.1562	21.65
11/64	.1719	21.65
3/16	.1875	21.65
13/64	.2031	22.11
7/32	.2188	22.44
15/64	.2344	23.03
D	.2460	28.00
1/4	.2500	23.03
17/64	.2656	23.95
9/32	.2812	23.95
19/64	.2969	24.75
5/16	.3125	24.75
21/64	.3281	25.41
11/32	.3438	25.41
23/64	.3594	28.38
U	.3680	34.68
3/8	.3750	28.38

Size	Decimal Equivalent	Price Each
25/64	.3906	29.70
13/32	.4062	29.70
27/64	.4219	32.01
7/16	.4375	32.01
29/64	.4531	37.11
15/32	.4688	37.11
31/64	.4844	38.36
1/2	.5000	38.36
33/64	.5156	49.83
17/32	.5312	49.83
35/64	.5469	52.64
9/16	.5625	52.64
37/64	.5781	55.37
19/32	.5938	55.37
39/64	.6094	59.17
5/8	.6250	59.17
41/64	.6406	64.68
21/32	.6562	64.68
43/64	.6719	68.64
11/16	.6875	68.64

Size	Decimal Equivalent	Price Each
45/64	.7031	71.94
23/32	.7188	71.94
47/64	.7344	75.90
3/4	.7500	75.90
49/64	.7656	82.50
25/32	.7812	82.50
51/64	.7969	86.13
13/16	.8125	86.13
53/64	.8281	94.38
27/32	.8438	94.38
55/64	.8594	97.68
7/8	.8750	97.68
57/64	.8906	106.26
29/32	.9062	106.26
59/64	.9219	110.88
15/16	.9375	110.88
61/64	.9531	114.84
31/32	.9688	114.84
63/64	.9844	118.14
1	1.0000	118.14

## 15" Overall Length

List No. 215 – 11" Flute Length

Size	Decimal Equivalent	Price Each
3/16	.1875	42.75
7/32	.2188	42.75
15/64	.2344	44.10
1/4	.2500	44.10
9/32	.2812	49.50
5/16	.3125	52.02
11/32	.3438	53.73
3/8	.3750	56.12
13/32	.4062	58.75
11mm	.4331	66.42

Size	Decimal Equivalent	Price Each
7/16	.4375	61.20
29/64	.4531	66.60
15/32	.4688	66.60
1/2	.5000	71.69
17/32	.5312	79.92
9/16	.5625	82.91
19/32	.5938	85.68
5/8	.6250	88.00
21/32	.6562	99.86
11/16	.6875	110.66

Size	Decimal Equivalent	Price Each
23/32	.7188	121.86
3/4	.7500	134.10
25/32	.7812	139.64
51/64	.7969	157.16
13/16	.8125	169.31
7/8	.8750	169.31
15/16	.9375	143.10
1	1.0000	185.17

## 18" Overall Length

List No. 218 – 12" Flute Length

Size	Decimal Equivalent	Price Each
7/64	.1094	58.05
1/8	.1250	58.05
5/32	.1562	58.05
3/16	.1875	53.87
13/64	.2031	53.87
7/32	.2188	58.05
15/64	.2344	58.05
1/4	.2500	58.05
17/64	.2656	58.05
9/32	.2812	62.91
19/64	.2969	62.91
5/16	.3125	64.94
21/64	.3281	71.82
11/32	.3438	71.82
23/64	.3594	71.82
3/8	.3750	71.82
25/64	.3906	76.50
13/32	.4062	76.50
27/64	.4219	79.65
11 mm	.4331	85.00

Size	Decimal Equivalent	Price Each
7/16	.4375	79.65
29/64	.4531	85.50
15/32	.4688	85.50
31/64	.4844	89.10
1/2	.5000	89.10
33/64	.5156	109.44
17/32	.5312	109.44
35/64	.5469	111.60
9/16	.5625	111.60
37/64	.5781	114.21
19/32	.5938	114.21
39/64	.6094	115.88
5/8	.6250	115.88
41/64	.6406	130.50
21/32	.6562	130.50
43/64	.6719	138.60
11/16	.6875	138.60
45/64	.7031	151.20
23/32	.7188	151.20
47/64	.7344	160.02

Size	Decimal Equivalent	Price Each
3/4	.7500	160.02
49/64	.7656	175.50
25/32	.7812	175.50
51/64	.7969	184.50
13/16	.8125	184.50
53/64	.8281	196.20
27/32	.8438	196.20
55/64	.8594	202.50
7/8	.8750	202.50
57/64	.8906	208.80
29/32	.9062	208.80
59/64	.9219	216.00
15/16	.9375	216.00
61/64	.9531	225.00
31/32	.9688	225.00
63/64	.9844	234.00
1	1.0000	234.00
1-1/8	1.1250	259.20
1-3/16	1.1875	279.00
1-1/4	1.2500	324.00

# Extra Length Drills

High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.



## 24" Overall Length

List No. 224 – 18" Flute Length

**Extensive Offering**

**Exclusively from Michigan Drill**

The world's largest and most extensive inventory of **USA manufactured** extra long straight shank drills!

Size	Decimal Equivalent	Price Each
1/4	.2500	89.10
5/16	.3125	92.70
3/8	.3750	95.40
13/32	.4062	110.00
7/16	.4375	121.50
1/2	.5000	126.36
9/16	.5625	185.00
19/32	.5938	198.00

Size	Decimal Equivalent	Price Each
39/64	.6094	198.00
5/8	.6250	198.00
21/32	.6562	225.00
11/16	.6875	235.71
3/4	.7500	252.59
25/32	.7812	278.24
13/16	.8125	281.49
27/32	.8438	293.76

Size	Decimal Equivalent	Price Each
7/8	.8750	301.86
15/16	.9375	314.82
31/32	.9688	320.00
1	1.0000	324.23
1-1/16	1.0625	342.00
1-1/8	1.1250	349.43
1-3/16	1.1875	369.00
1-1/4	1.2500	450.45

## 48" Overall Length

List No. 248 – 5-1/2" Flute Length

Size	Decimal Equivalent	Price Each
1/4	.2500	74.70
5/16	.3125	80.10
3/8	.3750	89.10

Size	Decimal Equivalent	Price Each
7/16	.4375	100.80
1/2	.5000	111.60
9/16	.5625	148.50

Size	Decimal Equivalent	Price Each
5/8	.6250	158.40
11/16	.6875	179.10
3/4	.7500	216.00

Sizes 9/16" and larger come with 1/2" reduced shank.

## 1/2" Shank Extra Length Drills

List No. 212X – 12" OAL, 9" FLT

List No. 218X – 18" OAL, 12" FLT

Size	Decimal Equivalent	Price Each	
		12" OAL 212X	18" OAL 218X
33/64	.5156	74.16	117.90
17/32	.5312	74.16	117.90
35/64	.5469	78.75	120.60
9/16	.5625	78.75	120.60
37/64	.5781	82.35	124.65
19/32	.5938	82.35	124.65
39/64	.6094	89.10	126.00
5/8	.6250	89.10	126.00
41/64	.6406	99.00	141.30
21/32	.6562	99.00	141.30
43/64	.6719	103.50	148.50
11/16	.6875	103.50	148.50
45/64	.7031	108.90	162.90
23/32	.7188	108.90	162.90
47/64	.7344	116.10	170.10
3/4	.7500	116.10	170.10
49/64	.7656	121.50	186.30

Size	Decimal Equivalent	Price Each	
		12" OAL 212X	18" OAL 218X
25/32	.7812	121.50	186.30
51/64	.7969	130.95	196.20
13/16	.8125	130.95	196.20
53/64	.8281	144.00	206.10
27/32	.8438	144.00	206.10
55/64	.8594	146.70	214.20
7/8	.8750	146.70	214.20
57/64	.8906	157.50	220.50
29/32	.9062	157.50	220.50
59/64	.9219	162.00	229.50
15/16	.9375	162.00	238.50
61/64	.9531	171.00	243.00
31/32	.9688	171.00	243.00
63/64	.9844	175.50	243.00
1	1.0000	175.50	256.50
1-1/4	1.2500	228.15	—

## Sets

Sizes	OAL	Description	Pcs.	Set No.	Price Each
1/8" to 3/8" by 64ths	8"	H.S. Straight Shank	17	208ES	293.24
3/16" to 1/2" by 64ths	10"	H.S. Straight Shank	21	208BES	529.18
1/8" to 1/2" by 64 <sup>ths</sup>	12"	H.S. Straight Shank	25	212ES	681.46
17/32" to 1" by 32 <sup>nds</sup>	12"	H.S. 1/2" Shank	16	212XES	1981.00
3/16" to 1/2" by 32 <sup>nds</sup>	18"	H.S. Straight Shank	11	218ES	782.21
17/32" to 1" by 32 <sup>nds</sup>	18"	H.S. 1/2" Shank	16	218XES	2893.25

All sets are supplied in Metal Stand



# Metric Extra Length Drills

High Speed Steel – 118° Point



## 12" Overall Length

List No. **212M**– 9" Flute Length

**Extensive Offering**

**Exclusively from Michigan Drill**

The world's largest and most extensive inventory of **USA manufactured** extra long straight shank drills!

Size	Decimal Equivalent	Price Each
3.00	.1181	29.88
4.00	.1575	32.31
5.00	.1969	35.60
6.00	.2362	37.13
6.50	.2559	38.33
7.00	.2756	38.33
8.00	.3150	41.90
8.50	.3346	43.20

Size	Decimal Equivalent	Price Each
9.00	.3543	43.20
9.20	.3622	45.00
9.50	.3740	45.00
10.00	.3937	47.16
10.50	.4134	50.94
11.00	.4331	53.10
12.00	.4724	58.95
13.00	.5118	74.48

Size	Decimal Equivalent	Price Each
13.80	.5433	80.10
14.00	.5512	80.10
15.00	.5906	85.05
16.00	.6299	97.20
17.00	.6693	102.60
17.50	.6890	116.55
20.00	.7874	130.50
22.50	.8858	161.10

### Sets

Sizes	OAL	Pcs.	Set No.	Price Each
3.00, 4.00, 5.00, 6.00, 7.00, 8.00, 9.00, 10.00, 11.00, 12.00	12"	10	<b>212MS</b>	420.00

All sets are supplied in Metal Stand



# Cobalt Extra Length Drills

Straight Shank, 135° Split Point



List No. **208C** – 8" OAL, 5-1/2" FLT

List No. **212C** – 12" OAL, 9" FLT

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



Size	Decimal Equivalent	Price Each	
		8" OAL 208C	12" OAL 212C
3/32	.0938	35.55	—
7/64	.1094	32.40	—
1/8	.1250	32.40	40.50
9/64	.1406	34.20	43.25
5/32	.1562	34.20	43.25
11/64	.1718	35.78	44.10
3/16	.1875	35.78	44.10
13/64	.2031	36.50	48.60
7/32	.2188	37.62	48.60
1/4	.2500	37.62	48.60
17/64	.2656	38.70	55.80
9/32	.2812	42.30	55.80
19/64	.2969	43.20	56.70

Size	Decimal Equivalent	Price Each	
		8" OAL 208C	12" OAL 212C
5/16	.3125	43.20	56.70
11/32	.3438	50.54	62.10
3/8	.3750	50.54	62.10
13/32	.4062	53.46	64.80
27/64*	.4219	58.50	69.30
7/16	.4375	58.50	69.30
1/2	.5000	65.00	80.10
17/32	.5312	—	103.50
9/16	.5625	—	108.00
5/8	.6250	—	121.50
43/64	.6719	—	142.20
11/16	.6875	—	142.20
3/4	.7500	—	155.70

\* Available in 9" OAL. Price: \$85.00

### Sets

Sizes	OAL	Description	Pcs.	Set No.	Price Each
1/8" to 3/8" by 16 <sup>ths</sup>	8"	Cobalt Straight Shank	5	<b>208CS</b>	209.50
1/8" to 1/2" by 16 <sup>ths</sup>	12"	Cobalt Straight Shank	7	<b>212CS</b>	414.80

All sets are supplied with wood block





# Reduced Shank Drills

High Speed Steel & Cobalt

## 1/2" Standard Shank - Silver & Deming

List No. **303** – High Speed Steel, 118° Point

List No. **303C** – Cobalt, 135° Notched Point

Heavy web permits use at higher speeds in hardened stainless, heat treated and high temperature alloys.

## 1/2" Flatted Shank - Silver & Deming

3-Equal flats for positive more rigid Holding in 3-jaw chucks

List No. **303F** – High Speed Steel, 118° Point

List No. **303CF** – Cobalt, 135° Notched Point



**MICHIGAN**  
DRILL & CUTTING TOOLS

### Fractional Sizes

6" Overall Length, 3" Flute Length

Size	Dec. Equiv.	Price Each			
		Standard Shank		Flatted Shank	
		H.S. 303	Cobalt 303C	H.S. 303F	Cobalt 303CF
5/16	.3125	16.17	—	—	—
3/8	.3750	16.17	—	—	—
29/64	.4531	16.17	—	—	—
15/32	.4688	16.17	—	—	—
1/2	.5000	18.81	33.93	25.66	39.33
33/64	.5156	18.81	41.94	26.77	47.34
17/32	.5312	19.64	41.94	27.45	46.98
35/64	.5469	19.86	43.38	28.46	48.78
9/16	.5625	19.86	43.38	27.68	48.78
37/64	.5781	21.33	46.44	30.57	51.84
19/32	.5938	21.33	46.44	29.74	51.84
39/64	.6094	22.35	49.37	30.35	54.77
5/8	.6250	22.35	49.37	30.35	54.77
41/64	.6406	23.85	55.40	31.85	60.80
21/32	.6562	23.85	55.40	31.85	60.80
43/64	.6719	24.78	58.46	32.87	63.86
11/16	.6875	24.78	58.46	32.87	63.86
45/64	.7031	25.11	62.51	33.11	67.91
23/32	.7188	25.11	62.51	33.11	67.91
47/64	.7344	27.34	62.51	35.34	67.91
3/4	.7500	27.34	62.51	35.34	67.91
49/64	.7656	29.18	70.65	37.18	76.10
25/32	.7812	29.18	70.65	37.18	76.05
51/64	.7969	34.21	73.98	42.21	79.38
13/16	.8125	31.67	73.98	39.67	79.38
53/64	.8281	35.41	80.55	43.41	85.95
27/32	.8438	32.84	80.55	40.84	85.95
55/64	.8594	36.76	80.55	46.37	85.95
7/8	.8750	32.84	79.61	40.84	85.01
57/64	.8906	38.37	84.83	46.37	90.23
29/32	.9062	36.66	84.83	44.66	90.23
59/64	.9219	41.06	84.83	49.06	90.23
15/16	.9375	41.06	84.83	49.06	90.23
61/64	.9531	43.40	94.68	51.40	100.08
31/32	.9688	39.06	94.68	49.06	100.08
63/64	.9844	43.48	102.92	51.48	108.32

\* 3/4" and larger are furnished with notched point.

Size	Dec. Equiv.	Price Each			
		Standard Shank		Flatted Shank	
		H.S. 303	Cobalt 303C	H.S. 303F	Cobalt 303CF
1	1.0000	42.50	102.92	50.59	108.32
1-1/64	1.0156	57.92	—	65.92	—
1-1/32	1.0312	57.92	131.72	65.92	137.12
1-3/64	1.0469	57.92	—	65.92	—
1-1/16	1.0625	49.44	142.16	57.44	147.56
1-5/64	1.0781	57.92	—	65.92	—
1-3/32	1.0938	57.92	151.97	65.92	157.37
1-7/64	1.1094	61.65	—	69.65	—
1-1/8	1.1250	58.22	161.73	66.22	167.13
1-9/64	1.1406	61.60	179.10	69.65	203.40
1-5/32	1.1562	64.40	169.65	72.40	175.05
1-11/64	1.1719	69.34	—	77.34	—
1-3/16	1.1875	64.49	177.39	72.49	182.79
1-13/64	1.2031	70.86	—	78.86	—
1-7/32	1.2188	70.86	186.93	78.86	192.33
1-15/64	1.2344	82.16	—	90.16	—
1-1/4	1.2500	70.86	196.47	78.86	201.87
1-17/64	1.2656	98.00	—	106.00	—
1-9/32	1.2812	98.00	277.43	106.00	282.83
1-19/64	1.2969	106.00	—	114.00	—
1-5/16	1.3125	106.00	277.43	114.00	282.83
1-21/64	1.3281	106.00	—	114.00	—
1-11/32	1.3438	106.00	281.48	114.00	286.88
1-23/64	1.3594	107.50	—	115.50	—
1-3/8	1.3750	106.00	281.48	114.00	286.88
1-25/64	1.3906	116.24	—	124.24	—
1-13/32	1.4062	112.27	304.16	120.27	309.56
1-27/64	1.4219	119.83	—	127.83	—
1-7/16	1.4375	124.30	304.16	132.73	309.56
1-29/64	1.4531	124.30	—	132.73	—
1-15/32	1.4688	130.39	310.23	138.39	315.63
1-31/64	1.4844	130.39	—	138.39	—
1-1/2	1.5000	139.44	310.23	147.44	315.63
1-9/16	1.5265	208.43	—	218.43	—
1-5/8	1.6250	250.00	—	260.00	—
1-3/4	1.7500	280.00	—	290.00	—

### Fractional Sets



Sizes	Pcs.	Shank	Holder Type	High Speed Steel		Cobalt	
				Set No.	Price Each	Set No.	Price Each
9/16" – 1" by 16ths	8	Standard	Metal Index	<b>303SA</b>	278.43	<b>303CA</b>	591.06
9/16" – 1" by 16ths	8	Flatted	Metal Index	<b>303FSA</b>	342.40	<b>303FCA</b>	634.26
14.00, 15.00, 16.00, 17.00, 18.00, 20.00, 22.00, 24.00	8	Standard	Wood Block	<b>303M8</b>	366.76	—	—
1-1/16" – 1-1/2" by 16ths	8	Standard	Wood Block	<b>303SB</b>	728.70	<b>303CB</b>	1863.05
1-1/16" – 1-1/2" by 16ths	8	Flatted	Wood Block	<b>303FSB</b>	793.13	<b>303FCB</b>	1906.25
9/16" – 1" by 16ths, 1-1/8" and 1-1/4"	10	Standard	Wood Block	<b>303SJ</b>	385.48	<b>303CS</b>	927.26
9/16" – 1" by 16ths, 1-1/8" and 1-1/4"	10	Flatted	Wood Block	<b>303FSJ</b>	465.48	<b>303FCS</b>	1000.00
17/32" – 3/4" by 32nds, 13/16", 7/8", 15/16", 31/32" and 1"	13	Standard	Wood Block	<b>303SD</b>	385.39	<b>303CD</b>	870.03
17/32" – 3/4" by 32nds, 13/16", 7/8", 15/16", 31/32" and 1"	13	Flatted	Wood Block	<b>303FSD</b>	491.61	<b>303FCD</b>	994.00
33/64 – 1" by 64ths	32	Standard	Wood Block	<b>303SE</b>	978.58	<b>303CE</b>	2208.56
1/2" – 1" by 64ths	33	Standard	Metal Stand	<b>303SG</b>	1017.68	<b>303CG</b>	2262.49
1/2" – 1" by 64ths	33	Flatted	Metal Stand	<b>303SF</b>	1286.25	<b>303FCG</b>	2440.38

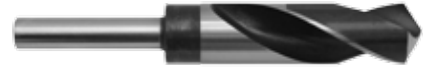
# Silver & Deming Drills

High Speed Steel



## Metric 1/2" Shank 6" overall with 3" flute length

List No. **303M** – High Speed Steel, 118° Point



Size	Decimal Equivalent	Price Each
13.00	.5118	30.60
13.50	.5315	31.05
14.00	.5512	32.40
14.50	.5709	33.75
15.00	.5906	34.65
15.50	.6102	34.65
15.75	.6201	37.35
16.00	.6299	37.35
16.50	.6496	38.16
17.00	.6693	38.16
17.50	.6890	40.05
18.00	.7087	40.68
18.50	.7283	44.10
19.00	.7480	44.10
19.50	.7677	47.25

Size	Decimal Equivalent	Price Each
20.00	.7874	51.75
20.50	.8071	55.80
21.00	.8268	57.60
21.50	.8465	58.05
22.00	.8661	58.05
22.50	.8858	61.65
23.00	.9055	61.65
23.50	.9252	66.15
24.00	.9449	66.60
24.50	.9646	66.60
25.00	.9843	74.25
25.50	1.0039	89.10
26.00	1.0236	89.10
26.50	1.0433	90.90
27.00	1.0630	94.50

Size	Decimal Equivalent	Price Each
27.50	1.0827	94.50
28.00	1.1024	98.10
28.50	1.1220	98.10
29.00	1.1417	103.50
29.50	1.1614	107.10
30.00	1.1811	107.10
30.50	1.2007	111.60
31.00	1.2205	126.00
32.00	1.2598	152.55
33.00	1.2992	166.50
34.00	1.3386	172.80
35.00	1.3779	179.10
36.00	1.4173	193.50
37.00	1.4567	207.00
38.00	1.4961	213.30

## Black & Gold 1/2" Shank 6" overall with 3" flute length • with 3 equal flats

List No. **303B** – H.S., 135° Split Point up to 3/4"; Notched for larger sizes



Size	Decimal Equivalent	Price Each
17/32	.5312	29.48
35/64	.5469	30.51
9/16	.5625	29.73
19/32	.5938	31.76
5/8	.6250	32.39
21/32	.6562	33.90
11/16	.6875	34.89

Size	Decimal Equivalent	Price Each
23/32	.7188	35.16
3/4	.7500	37.39
25/32	.7813	39.23
13/16	.8125	41.72
27/32	.8438	42.89
7/8	.8750	42.89
29/32	.9063	46.71

Size	Decimal Equivalent	Price Each
15/16	.9375	51.09
31/32	.9688	51.09
1	1.0000	52.64
1-1/16	1.0625	59.49
1-1/8	1.1250	68.22
1-3/16	1.1875	74.54
1-1/4	1.2500	80.90

## 1/2" Standard Shank 6" overall with 3" flute length

List No. **X303** – High Speed Steel, 118° Point



Size	Decimal Equivalent	Price Each
33/64	.5156	8.91
17/32	.5313	8.91
35/64	.5469	9.83
9/16	.5625	9.83
37/64	.5781	10.58
19/32	.5938	10.58
39/64	.6094	11.04
5/8	.6250	11.04
41/64	.6406	11.86
21/32	.6563	11.86
43/64	.6719	12.47
11/16	.6875	12.47
45/64	.7031	12.67
23/32	.7188	12.67
47/64	.7344	13.40
3/4	.7500	13.40
49/64	.7656	14.43
25/32	.7813	14.43
51/64	.7969	15.05
13/16	.8125	15.05
53/64	.8281	15.84
27/32	.8438	15.84

Size	Decimal Equivalent	Price Each
55/64	.8594	16.04
7/8	.8750	16.04
57/64	.8906	17.34
29/32	.9063	17.34
59/64	.9219	17.99
15/16	.9375	17.99
61/64	.9531	19.40
31/32	.9688	19.40
63/64	.9844	21.34
1	1.0000	21.34
1-1/64	1.0156	24.95
1-1/32	1.0312	25.52
1-3/64	1.0469	25.52
1-1/16	1.0625	25.52
1-5/64	1.0781	26.18
1-3/32	1.0938	27.30
1-7/64	1.1094	27.72
1-1/8	1.1250	28.69
1-9/64	1.1406	28.69
1-5/32	1.1562	28.69
1-11/64	1.1719	31.22
1-3/16	1.1875	31.50

Size	Decimal Equivalent	Price Each
1-13/64	1.2031	33.13
1-7/32	1.2188	34.23
1-15/64	1.2344	34.23
1-1/4	1.2500	34.23
1-17/64	1.2656	39.38
1-9/32	1.2812	39.38
1-19/64	1.2969	42.02
1-5/16	1.3125	42.02
1-21/64	1.3281	45.74
1-11/32	1.3438	45.74
1-23/64	1.3594	47.98
1-3/8	1.3750	47.98
1-25/64	1.3906	49.90
1-13/32	1.4062	49.90
1-27/64	1.4219	53.31
1-7/16	1.4375	53.31
1-29/64	1.4531	55.02
1-15/32	1.4688	55.02
1-31/64	1.4844	58.01
1-1/2	1.5000	58.01
1-15/16	1.9375	168.00

## 1/2" MDX Sets

Sizes	Pcs.	Set No.	Price
9/16 – 1" by 16 <sup>ths</sup>	8	<b>X303SA</b>	123.35
1-1/16 – 1-1/2" by 16 <sup>ths</sup>	8	<b>X303SB</b>	328.38
17/32 – 3/4" by 32 <sup>nds</sup> , 13/16 – 1" by 16 <sup>ths</sup> , & 31/32	13	<b>X303SD</b>	186.57
33/64 – 1" by 64 <sup>ths</sup>	32	<b>X303SE</b>	467.65



All sets are supplied in wood stand

# Reduced Shank Drills

High Speed Steel & Cobalt



HOLE MAKING

## 1/4" Shank – Metal Working

List No. **304** – High Speed Steel, 118° Point  
List No. **304P** – High Speed Steel, 135° Split Point



Size	Dec. Equiv.	Price Each	
		118° Point 304	135° Split 304P
17/64	.2656	5.26	5.79
9/32	.2812	5.26	5.79
19/64	.2969	5.81	6.39
5/16	.3125	5.45	6.00
P	.3230	8.75	—
21/64	.3281	6.30	6.93

Size	Dec. Equiv.	Price Each	
		118° Point 304	135° Split 304P
Q	.3320	9.40	—
11/32	.3438	6.24	6.86
23/64	.3594	7.59	8.35
3/8	.3750	6.99	7.69
25/64	.3906	8.91	9.80
13/32	.4062	8.13	8.94

Size	Dec. Equiv.	Price Each	
		118° Point 304	135° Split 304P
27/64	.4219	9.57	10.53
7/16	.4375	9.11	10.02
29/64	.4531	12.67	13.94
15/32	.4688	10.40	11.44
31/64	.4844	12.87	14.16
1/2	.5000	10.80	11.88

## Maintenance 1/4" Shank

List No. **X304** – High Speed Steel, 118° Point



Size	Decimal Equivalent	Price Each
17/64	.2656	3.63
9/32	.2812	4.13
19/64	.2969	4.13
5/16	.3125	4.13
21/64	.3281	4.43
11/32	.3438	4.90

Size	Decimal Equivalent	Price Each
23/64	.3594	5.22
3/8	.3750	5.26
25/64	.3906	6.24
13/32	.4062	5.69
27/64	.4219	6.70
7/16	.4375	6.38

Size	Decimal Equivalent	Price Each
29/64	.4531	7.95
15/32	.4688	7.28
31/64	.4844	8.09
1/2	.5000	7.56

## 3/8" Shank – Metal Working

List No. **308** – H.S., 118° Point  
List No. **308B** – H.S., 118° Notched Point  
List No. **308PF** – Parabolic Flute H.S., 135° Split Point  
List No. **X308** – MDX H.S. Import  
List No. **308T** – TiN Coated, 135° Split Point  
List No. **308C** – Cobalt, 135° Notched Point



Size	Price Each					
	H.S. 308	Notched 308B	Parabolic 308PF	H.S. X308	TiN 308T	Cobalt 308C
25/64	9.17	13.75	16.51	6.75	19.81	22.46
13/32	9.17	13.75	16.51	6.75	19.81	22.95
27/64	9.81	14.72	17.66	7.50	20.45	26.30
7/16	9.20	13.80	16.56	7.50	19.84	26.91
29/64	11.64	17.45	20.95	9.00	22.28	29.16
15/32	11.21	16.82	20.18	9.00	21.85	29.66
31/64	11.64	17.45	20.95	9.50	22.28	30.15
1/2	10.91	16.36	19.64	9.50	21.55	30.15
33/64	20.26	—	—	—	—	45.45
17/32	20.26	—	—	13.50	—	47.25
35/64	22.90	—	—	—	—	48.56
9/16	21.55	31.50	—	14.80	—	48.56

Size	Price Each			
	H.S. 308	Notched 308B	H.S. X308	Cobalt 308C
37/64	24.75	—	—	48.56
19/32	22.77	—	16.70	50.64
39/64	27.85	—	17.40	52.60
5/8	25.59	32.00	18.00	52.60
41/64	28.02	—	19.95	—
21/32	28.02	—	19.95	56.80
43/64	29.05	—	—	—
11/16	29.05	37.00	21.00	58.73
45/64	29.56	—	—	61.30
23/32	29.56	—	21.00	61.30
47/64	31.89	—	—	62.77
3/4	33.20	39.00	23.50	62.77

## 3/8" Shank Sets

Sizes	Description	Pieces	Set No.	Price
1/16" – 3/8" and 25/64" – 1/2" by 64ths	H.S. 3/8" Shank	29	<b>308A</b>	164.60
3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 5/8	H.S. 3/8" Shank	8	<b>308D</b>	119.04
1/4" Reduced Shank	118° Point	29	<b>304A</b>	151.80

All sets are supplied in wood block



## 1/2" Shank – Hole Enlarging Core Drill

List No. **422R** – 2" Flute Length, 4 Flute 4" Overall Length



Size	Decimal Equivalent	Price Each
9/16	.5625	39.00
9/16*	.5625	49.00
5/8	.6250	49.00
11/16	.6875	59.00
23/32	.7188	65.00

Size	Decimal Equivalent	Price Each
3/4	.7500	70.00
13/16	.8125	78.00
7/8	.8750	82.00
15/16	.9375	89.00
1	1.0000	97.00

Size	Decimal Equivalent	Price Each
1-1/16	1.0625	100.00
1-1/8	1.1250	109.00
1-3/16	1.1875	112.00
1-1/4	1.2500	115.00
1-1/2	1.5000	230.00



\* 9/16 4-7/8 Overall Length

# 3/4" Reduced Shank Drills

High Speed Steel & Cobalt

All Sizes 6" overall with 3" flute length

## Boring Mill & Screw Machine

List No. **306** – High Speed Steel, 118° Point

List No. **306C** – Cobalt, 135° Notched Point



Size	Decimal Equivalent	Price Each	
		H.S. 306	Cobalt 306C
25/32	.7812	50.74	74.25
13/16	.8125	53.17	77.13
53/64	.8281	62.92	—
27/32	.8438	57.20	81.63
55/64	.8594	65.13	—
7/8	.8750	59.21	84.96
57/64	.8906	67.23	—
29/32	.9062	61.12	92.88
59/64	.9219	72.06	—
15/16	.9375	65.51	99.45
61/64	.9531	74.83	—
31/32	.9688	68.03	105.03
63/64	.9844	76.41	—
1	1.0000	69.51	109.08
1-1/64	1.0156	91.48	—
1-1/32	1.0312	83.16	140.04
1-3/64	1.0469	91.48	—
1-1/16	1.0625	83.16	148.62
1-5/64	1.0781	97.53	—
1-3/32	1.0938	88.66	160.74
1-7/64	1.1094	102.02	—
1-1/8	1.1250	92.74	166.61
1-9/64	1.1406	103.97	—
1-5/32	1.1562	94.52	173.00
1-11/64	1.1719	114.14	—
1-3/16	1.1875	103.76	189.05
1-13/64	1.2031	123.40	—
1-7/32	1.2188	112.18	193.86
1-15/64	1.2344	125.84	—

Size	Decimal Equivalent	Price Each	
		H.S. 306	Cobalt 306C
1-1/4	1.2500	114.40	202.68
1-17/64	1.2656	141.50	—
1-9/32	1.2812	128.64	281.03
1-19/64	1.2968	147.07	—
1-5/16	1.3125	133.70	281.03
1-11/32	1.3438	142.50	283.50
1-3/8	1.3750	148.03	283.50
1-13/32	1.4062	156.40	306.27
1-7/16	1.4375	164.96	306.27
1-15/32	1.4688	171.83	315.54
1-1/2	1.5000	194.39	315.54
1-17/32	1.5312	213.05	—
1-9/16	1.5625	208.43	346.50
1-19/32	1.5938	247.84	—
1-5/8	1.6250	231.75	387.00
1-21/32	1.6562	283.55	—
1-11/16	1.6875	265.84	394.34
1-23/32	1.7188	294.16	—
1-3/4	1.7500	268.72	449.91
1-25/32	1.7812	319.91	—
1-13/16	1.8125	301.16	494.82
1-27/32	1.8438	327.61	—
1-7/8	1.8750	307.65	517.29
1-29/32	1.9062	343.75	—
1-15/16	1.9375	323.30	539.72
1-31/32	1.9688	366.36	—
1-63/64	1.9844	366.36	—
2	2.0000	335.54	575.64
2-3/8	2.3750	375.00	—

## 3/4" Shank Sets

Sizes	Description	Pieces	Set No.	Price
1", 1-1/8, 1-1/4, 1-3/8, 1-1/2	H.S. 3/4" Shank	5	<b>306A</b>	562.50
1", 1-1/4, 1-1/2, 1-3/4, 2"	H.S. 3/4" Shank	5	<b>306B</b>	989.54
1", 1-1/8, 1-1/4, 1-3/8, 1-1/2	Cobalt 3/4" Shank	5	<b>306D</b>	1084.39
1", 1-1/4, 1-1/2, 1-3/4, 2"	Cobalt 3/4" Shank	5	<b>306E</b>	1665.81



All sets are supplied in wood block

## Maintenance 3/4" Shank All Sizes 6" overall with 3" flute length

List No. **X306** – High Speed Steel, 118° Point



Size	Decimal Equivalent	Price Each
25/32	.7812	19.53
13/16	.8125	21.14
27/32	.8438	21.14
7/8	.8750	23.52
29/32	.9062	23.87
15/16	.9375	26.25
31/32	.9688	27.55
1	1.0000	29.54
1-1/32	1.0312	36.05
1-1/16	1.0625	37.09
1-3/32	1.0938	38.99
1-7/64	1.1094	42.50
1-1/8	1.1250	39.22
1-5/32	1.1562	41.86
1-3/16	1.1875	41.86
1-13/64	1.2031	69.00

Size	Decimal Equivalent	Price Each
1-7/32	1.2188	45.55
1-1/4	1.2500	52.85
1-17/64	1.2656	65.00
1-9/32	1.2812	57.85
1-5/16	1.3125	58.73
1-11/32	1.3438	65.52
1-23/64	1.3594	79.00
1-3/8	1.3750	66.43
1-13/32	1.4062	72.80
1-7/16	1.4375	73.29
1-29/64	1.4531	92.00
1-15/32	1.4688	77.77
1-1/2	1.5000	80.07
1-17/32	1.5312	93.59
1-9/16	1.5625	95.57
1-19/32	1.5938	97.02

Size	Decimal Equivalent	Price Each
1-39/64	1.6094	115.00
1-5/8	1.6250	99.38
1-21/32	1.6562	108.50
1-43/64	1.6719	137.00
1-11/16	1.6875	110.00
1-45/64	1.7031	138.00
1-23/32	1.7188	116.69
1-3/4	1.7500	118.00
1-25/32	1.7812	124.32
1-13/16	1.8125	138.88
1-27/32	1.8438	129.43
1-7/8	1.8750	130.59
1-29/32	1.9062	140.07
1-15/16	1.9375	142.00
1-31/32	1.9688	145.53
2	2.0000	155.00



# Threaded Shank Adapter Drills



High Speed Steel & Cobalt

## 1/4-28 Threaded Shank – 135° Split Point

National Aerospace Standard (NAS965).

Generally used in portable angle drilling tools, or offset drills and allow access to space-restricted areas. Threading provides a secure fit in the tool holder.



### Stub Series

List No. **602** – High Speed Steel

List No. **602C** – Cobalt

Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each	
				H.S. 602	Cobalt 602C
58	.0420	1/4	1/2	5.62	—
57	.0430	5/16	1/2	5.62	—
54	.0550	5/16	1/2	5.62	—
53	.0595	5/16	1/2	5.62	—
50	.0700	5/16	1/2	5.62	6.23
40	.0980	5/16	1/2	4.52	5.50
1/8	.1250	5/16	1/2	4.64	5.62
30	.1285	5/16	9/16	4.76	5.74
29	.1360	5/16	9/16	4.82	5.80
28	.1405	5/16	9/16	4.82	5.80
27	.1440	5/16	9/16	4.88	5.86
5/32	.1562	5/16	9/16	4.88	5.86
21	.1590	5/16	9/16	4.88	5.86
20	.1610	5/16	9/16	4.88	5.86
19	.1660	5/16	9/16	4.88	5.86
18	.1690	5/16	9/16	4.88	—
17	.1730	5/16	9/16	5.25	—
16	.1770	5/16	9/16	5.50	6.47
13	.1850	5/16	9/16	5.62	6.59

\* O.A.L. Not including threads

Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each	
				H.S. 602	Cobalt 602C
3/16	.1875	5/16	9/16	5.74	6.72
12	.1890	5/16	9/16	5.80	6.78
11	.1910	5/16	9/16	5.86	6.84
10	.1935	5/16	9/16	5.86	6.84
9	.1960	5/16	5/8	5.95	—
7	.2010	5/16	5/8	—	6.96
6	.2040	5/16	5/8	5.98	6.96
5	.2055	5/16	5/8	5.98	6.96
3	.2130	5/16	5/8	6.04	7.02
7/32	.2188	5/16	5/8	6.11	7.08
15/64	.2344	5/16	5/8	—	7.69
1/4	.2500	5/16	5/8	6.72	7.94
6.40mm	.2520	5/16	5/8	6.96	—
F	.2570	5/16	5/8	7.02	8.31
17/64	.2656	5/16	5/8	7.60	—
9/32	.2812	5/16	5/8	7.94	10.01
5/16	.3125	5/16	5/8	12.20	—
21/64	.3281	5/16	5/8	13.74	18.32
11/32	.3438	5/16	5/8	15.27	18.56

### Short Series

List No. **603** – High Speed Steel

List No. **603C** – Cobalt

Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each	
				H.S. 603	Cobalt 603C
60	.0400	9/16	1	5.62	—
1/16	.0625	9/16	1	5.62	—
52	.0635	9/16	1	5.62	—
50	.0700	9/16	1	5.62	6.11
5/64	.0781	9/16	1	5.62	—
42	.0935	9/16	1	5.62	—
3/32	.0938	9/16	1	5.62	—
41	.0960	9/16	1	5.13	—
40	.0980	9/16	1	4.52	5.50
39	.0995	9/16	1	4.58	—
38	.1015	9/16	1	4.58	5.56
36	.1065	9/16	1	4.58	5.56
7/64	.1094	9/16	1	4.58	—
35	.1100	9/16	1	4.58	—
33	.1130	9/16	1	4.64	—
32	.1160	9/16	1	4.64	—
31	.1200	9/16	1	4.64	—
1/8	.1250	9/16	1	4.64	5.62
30	.1285	9/16	1-1/4	4.76	5.74
29	.1360	9/16	1-1/4	4.82	5.80
28	.1405	9/16	1-1/4	4.82	5.80
9/64	.1406	9/16	1-1/4	4.82	5.80
27	.1440	9/16	1-1/4	4.88	5.86
26	.1470	9/16	1-1/4	4.88	5.86
24	.1520	9/16	1-1/4	4.88	—
5/32	.1562	9/16	1-1/4	4.88	5.86
22	.1570	9/16	1-1/4	4.88	5.86
21	.1590	9/16	1-1/4	4.88	5.86
20	.1610	9/16	1-1/4	4.88	5.86
19	.1660	9/16	1-1/4	5.01	5.98
18	.1695	9/16	1-1/4	5.50	—
11/64	.1719	9/16	1-1/4	5.50	6.59

\* O.A.L. Not including threads



Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each	
				H.S. 603	Cobalt 603C
17	.1730	9/16	1-1/4	5.56	6.72
16	.1770	9/16	1-1/4	5.62	6.78
15	.1800	9/16	1-1/4	5.92	—
4.60mm	.1811	9/16	1-1/4	6.00	—
14	.1820	9/16	1-1/4	5.92	—
13	.1850	9/16	1-1/4	5.92	6.84
3/16	.1875	9/16	1-1/4	5.98	7.14
12	.1890	9/16	1-1/4	6.11	7.14
11	.1910	9/16	1-1/4	6.11	7.14
10	.1935	9/16	1-1/4	6.11	7.14
9	.1960	9/16	1-1/4	6.23	7.33
8	.1990	9/16	1-1/4	6.29	7.39
6	.2040	9/16	1-1/4	6.35	7.45
5	.2055	9/16	1-1/4	6.41	7.51
7/32	.2188	9/16	1-1/4	6.53	7.76
2	.2210	9/16	1-1/4	6.72	7.81
1	.2280	9/16	1-1/4	6.72	7.81
15/64	.2344	9/16	1-1/4	6.96	8.43
B	.2380	9/16	1-1/4	7.33	8.79
C	.2420	9/16	1-1/4	7.45	—
D	.2460	9/16	1-1/4	7.45	9.65
1/4	.2500	9/16	1-1/4	7.57	9.65
F	.2570	9/16	1-1/4	7.94	9.77
G	.2610	9/16	1-1/4	8.55	9.89
H	.2660	9/16	1-1/4	8.55	9.89
J	.2770	9/16	1-1/4	9.16	—
9/32	.2812	9/16	1-1/4	9.16	10.99
5/16	.3125	9/16	1-1/4	—	18.00
O	.3160	9/16	1-1/4	17.09	—
21/64	.3281	9/16	1-1/4	14.89	19.54
11/32	.3438	9/16	1-1/4	15.99	19.66
3/8	.3750	9/16	1-1/4	16.12	20.15



# Threaded Shank Adapter Drills

High Speed Steel & Cobalt

1/4-28 Threaded Shank – 135° Split Point

**Long Series** 2-1/8" Overall Length\*

List No. **604** – High Speed Steel

List No. **604C** – Cobalt

Size	Decimal Equivalent	Flute Length	Price Each	
			H.S. 604	Cobalt 604C
1/16	.0625	7/8	6.47	7.39
51	.0670	7/8	—	7.39
50	.0700	7/8	6.47	7.39
49	.0730	7/8	6.47	—
48	.0760	7/8	6.47	—
5/64	.0781	7/8	6.47	7.39
46	.0810	7/8	6.86	—
45	.0820	7/8	6.86	—
43	.0890	7/8	6.86	7.79
42	.0935	7/8	6.86	—
3/32	.0938	7/8	6.86	—
41	.0960	7/8	6.86	—
40	.0980	7/8	4.95	6.07
39	.0995	7/8	5.15	—
38	.1015	7/8	5.15	6.20
7/64	.1094	7/8	5.15	6.20
35	.1100	7/8	5.15	—
34	.1110	7/8	5.21	—
33	.1130	7/8	5.28	—
32	.1160	7/8	5.28	—
31	.1200	7/8	5.41	—
1/8	.1250	7/8	5.41	6.47
30	.1285	7/8	5.54	6.47
29	.1360	1-1/8	5.61	6.53
28	.1405	1-1/8	5.61	6.53
9/64	.1406	1-1/8	5.61	6.53
27	.1440	1-1/8	5.68	6.60
26	.1470	1-1/8	5.74	—
25	.1495	1-1/8	5.81	—
24	.1520	1-1/8	5.94	6.93
23	.1540	1-1/8	5.94	6.93
5/32	.1562	1-1/8	5.94	6.93
21	.1590	1-1/8	5.94	6.93
20	.1610	1-1/8	5.94	6.93
19	.1660	1-1/8	6.07	7.13
18	.1695	1-1/8	6.14	7.26

\* O.A.L. Not including threads

**Extra Long Series** 3" Overall Length\*

List No. **605** – High Speed Steel

Size	Decimal Equivalent	Flute Length	Price Each
3/32	.0938	1-1/4	11.56
30	.1285	1-5/8	8.20
5/32	.1562	2	9.75
20	.1610	2	8.91
3/16	.1875	2-5/16	10.22

\* O.A.L. Not including threads

**10-32 Threaded Shank – 135° Split Point**

List No. **609** – High Speed Steel

Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each
10	.1935	1-5/8	2-1/4	7.46
11	.1910	9/16	1-1/4	6.60
13	.1850	9/16	1-1/4	6.41
20	.1610	9/16	1-1/4	5.28
20	.1610	1-1/4	2	5.95

\* O.A.L. Not including threads



Size	Decimal Equivalent	Flute Length	Price Each	
			H.S. 604	Cobalt 604C
11/64	.1719	1-1/8	6.20	7.52
17	.1730	1-1/8	6.40	7.66
16	.1770	1-1/8	6.47	7.79
15	.1800	1-1/8	6.53	7.85
14	.1820	1-1/8	6.73	8.05
13	.1850	1-1/8	6.86	8.18
3/16	.1875	1-1/8	7.00	8.32
12	.1890	1-1/8	7.13	8.38
11	.1910	1-1/8	7.39	8.58
10	.1935	1-1/8	7.46	8.65
8	.1990	1-1/8	7.52	8.71
13/64	.2031	1-1/8	7.59	—
5	.2055	1-1/8	7.59	8.91
4	.2090	1-1/8	7.66	—
3	.2130	1-1/8	7.66	9.11
7/32	.2188	1-1/8	7.79	9.90
2	.2210	1-1/8	7.85	10.56
15/64	.2340	1-1/8	—	10.60
C	.2420	1-1/8	7.92	10.69
D	.2460	1-1/8	8.45	10.82
1/4	.2500	1-1/8	8.51	10.82
6.40mm	.2520	1-1/8	9.00	—
H	.2660	1-1/8	9.24	—
F	.2570	1-1/8	9.24	—
I	.2720	1-1/8	9.24	—
J	.2770	1-1/8	9.37	—
K	.2811	1-1/8	9.37	—
9/32	.2812	1-1/8	9.37	—
M	.2950	1-1/8	9.90	—
5/16	.3125	1-1/8	13.20	13.86
O	.3160	1-1/8	14.52	17.16
21/64	.3281	1-1/8	18.48	21.12
R	.3390	1-1/8	19.14	22.44
11/32	.3438	1-1/8	19.80	26.14
3/8	.3750	1-1/8	20.13	25.74
W	.3860	1-1/8	21.12	—



Size	Decimal Equivalent	Flute Length	Price Each
11	.1910	2-5/16	10.22
7/32	.2188	2-5/16	11.50
F	.2570	2-5/16	12.80
19/64	.2969	2-5/16	20.10
5/16	.3125	2-5/16	21.26



Size	Decimal Equivalent	Flute Length	Overall Length*	Price Each
21	.1590	1-3/8	1-15/16	5.95
30	.1285	1/2	1	4.60
30	.1285	9/16	1-1/4	5.16
1/8	.1250	3/4	1	5.02
40	.0980	1-3/8	1-15/16	4.97

# Body Drills

## High Speed Steel & Cobalt



Body Drills are intended primarily for use in hand held, air, or electric drill motors, in sheet metal, thin wall tubing, or any other shallow hole drilling. Because of their short flute design and heavy web construction, they are considerably more rigid and durable than Jobber or Screw Machine lengths. Breakage is significantly reduced or eliminated and tool life is greatly increased.

### Single End

#### List No. 650S – Style S, 135° Split Point

Used in hand or machine drilling without guide bushings, and where burring is not a problem. This point centers quickly and may be used successfully in tougher, harder materials.

#### List No. 650F – Style F, Fishtail Point

Used in hand drilling thin material or machine drilling where the ratio of hole size to material thickness is very large, and where burr free holes are desired. A guide bushing must be used to center the drill point.



Size	Dec. Equiv.	Price Each					
		2" OAL		2-1/2" OAL		3" OAL	
		Style S	Style F	Style S	Style F	Style S	Style F
3/64	.0469	1.20	2.07	1.35	2.22	—	—
47	.0785	1.40	2.27	—	—	—	—
44	.0860	1.47	2.34	—	—	—	—
3/32	.0938	1.47	2.34	—	—	1.65	2.55
40	.0980	—	—	1.50	2.40	—	—
36	.1065	1.49	2.36	1.56	2.43	—	—
7/64	.1094	—	—	—	—	1.75	2.62
32	.1160	—	—	—	—	1.75	2.62
31	.1200	1.72	2.59	—	—	—	—
1/8	.1250	1.72	2.59	1.76	2.64	1.84	2.71
3.25	.1280	1.75	2.62	—	—	—	—
30	.1285	1.72	2.59	1.76	2.64	1.84	2.71
3.30mm	.1299	—	—	—	—	2.01	2.88
29	.1360	1.75	2.62	—	—	2.01	2.89
28	.1405	1.75	2.62	1.94	2.81	2.01	2.89
9/64	.1406	1.75	2.62	1.94	2.81	2.01	2.89
27	.1440	1.85	2.72	—	—	—	—
26	.1470	1.97	2.84	—	—	2.20	3.08
25	.1495	1.97	2.84	2.22	3.10	2.30	3.17
24	.1520	—	—	2.30	3.18	—	—
5/32	.1562	1.97	2.84	2.30	3.18	2.33	3.20
23	.1540	—	—	—	—	2.33	3.20
22	.1570	—	—	—	—	2.33	3.20
21	.1590	2.15	3.02	—	—	2.43	3.30
20	.1610	2.15	3.02	—	—	2.43	3.30
18	.1695	2.15	—	2.33	3.20	2.55	3.42

Size	Dec. Equiv.	Price Each							
		2" OAL		2-1/2" OAL		3" OAL		4" OAL	
		Style S	Style F	Style S	Style F	Style S	Style F	Style S	Style F
11/64	.1719	—	—	—	—	2.55	3.42	—	—
16	.1770	2.15	3.02	—	—	—	—	—	—
13	.1850	2.15	3.02	—	—	—	—	—	—
3/16	.1875	2.15	3.02	2.37	3.24	2.55	3.42	—	—
11	.1910	2.30	3.18	—	—	—	—	—	—
8	.1990	2.30	3.18	—	—	—	—	—	—
13/64	.2031	—	—	2.71	3.58	—	—	—	—
7/32	.2188	—	—	2.84	3.72	3.08	3.95	—	—
15/64	.2344	2.86	3.74	2.93	3.81	—	—	—	—
6.00mm	.2362	2.86	3.74	—	—	—	—	—	—
6.20mm	.2441	3.00	4.15	—	—	—	—	—	—
1/4	.2500	2.86	4.03	2.84	4.01	3.32	4.49	3.56	4.73
F	.2570	—	—	3.23	4.40	3.65	4.82	—	—
6.70mm	.2638	3.00	4.15	—	—	—	—	—	—
17/64	.2656	—	—	—	—	3.83	5.00	—	—
7.00mm	.2795	—	—	3.50	4.67	—	—	5.00	5.85
7.10mm	.2795	3.40	4.25	—	—	—	—	—	—
9/32	.2812	3.40	4.25	—	—	4.39	5.56	—	—
5/16	.3125	—	—	3.50	4.65	4.39	5.56	—	—
11/32	.3438	3.20	4.30	3.80	4.95	5.54	6.71	—	—
3/8	.3750	—	—	—	—	6.62	7.79	—	—
10.00mm	.3937	—	—	—	—	6.00	7.17	—	—
13/32	.4062	—	—	—	—	7.66	9.23	8.50	9.67
27/64	.4219	—	—	—	—	8.10	9.27	8.80	9.97
7/16	.4375	6.50	7.65	—	—	8.24	9.81	—	—
12.40mm	.4881	6.75	7.90	—	—	—	—	—	—

### Double End

#### List No. 655S – High Speed Steel, 135° Split Point



Size	Dec. Equiv.	Price Each	Size	Dec. Equiv.	Price Each	Size	Dec. Equiv.	Price Each	Size	Dec. Equiv.	Price Each
1/16	.0625	1.81	30	.1285	1.91	20	.1610	2.48	7	.2010	2.97
50	.0700	1.81	9/64	.1406	1.98	4.10mm	.1614	2.48	7/32	.2188	3.35
5/64	.0781	1.81	27	.1440	2.08	4.20mm	.1654	2.48	D	.2460	4.50
3/32	.0938	1.81	26	.1470	2.08	11/64	.1719	2.48	1/4	.2500	3.99
7/64	.1094	1.81	25	.1495	2.15	3/16	.1875	2.60	17/64	.2656	4.95
31	.1200	1.81	5/32	.1562	2.15	4.90mm	.1929	2.60	9/32	.2812	5.21
1/8	.1250	1.91	4.00mm	.1575	2.48	5.00mm	.1969	2.88	19/64	.2969	5.94
3.30mm	.1260	1.91	21	.1590	2.48	5.10mm	.2008	2.97	5/16	.3125	6.27

#### List No. 655SC – Cobalt, 135° Split Point

#### List No. 655T – TiN Coated, 135° Split Point

#### List No. X655S – High Speed, Premium Import

#### List No. X655ST – TiN Coated, Premium Import



Size	Decimal Equivalent	Price Each			
		Made in USA		Premium Import	
		Cobalt 655SC	TiN Coated 655T	H.S. X655S	TiN Coated X655ST
1/8	.1250	2.97	3.75	.99	1.35
30	.1285	2.97	3.75	.99	1.35

# Sheeters Drills

High Speed Steel



## List No. 670S – 135° Long Sweep Split Point

These drills are commonly used in drilling automotive and truck bodies, metal building and other sheet metal applications. The 135° long sweep split point insures easy centering while the short overall length reduces breakage in hand held drilling operations.



Size	Overall Length	Price Each
5/32	4-1/2	4.37
#10	3-3/4	4.68
#10	4-1/8	4.91
#8	1-3/8	2.59
#8	3-5/8	4.26
#8	4-1/2	4.68

Size	Overall Length	Price Each
7/32	6	6.84
#1	2-1/4	3.03
#1	3	3.34
#1	3-5/8	4.19
#1	3-7/8	4.46
#1	4-1/2	5.13

Size	Overall Length	Price Each
#1	6	6.92
#1	7-1/4	8.52
.231	3	3.62
.231	4-1/2	5.38

# Paddle/Spade Bits

## List No. 610 – 1/4" Hex Shank

Wood Spade Bits are designed for boring holes quickly through all types of hard and soft woods, including plywood. They perform best at high RPM speeds and are easy to resharpen. Fully polished and heat treated with six ground flats on 1/4" Shank. Wood spade bits are also known as paddle bits.

Grooved Point



Size	Price Each
1/4	2.00
5/16	2.00
3/8	2.00
7/16	2.12
1/2	2.12

Size	Price Each
9/16	2.12
5/8	2.39
11/16	2.41
3/4	2.50
13/16	2.58

Size	Price Each
7/8	2.60
15/16	2.65
1	3.00
1-1/8	3.45
1-1/4	3.45

Size	Price Each
1-3/8	3.45
1-1/2	3.45

# Brad & Spur Point Drills

High Speed Steel

## List No. 317

Brad and Spur Point Drills are used primarily in wood. The Brad Point tip ensures an easy and accurate start while the spurs cut a clean, smooth hole, especially at breakthrough.



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/8	.1250	1-7/16	2-1/2	5.58
5/32	.1562	1-11/16	2-3/4	5.60
3/16	.1875	1-7/8	3	5.98
13/64	.2031	1-5/16	3-1/8	6.25
7/32	.2188	2	3-1/4	6.50
1/4	.2500	2	3-1/2	7.98
17/64	.2656	2-1/8	3-5/8	9.20
9/32	.2812	2-1/4	3-3/4	8.85

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
19/64	.2969	2-3/8	3-7/8	9.28
5/16	.3125	2-1/2	4	9.28
3/8	.3750	3-5/8	5	13.00
27/64	.4219	2-7/8	4-7/16	22.70
7/16	.4375	2-15/16	4-1/2	24.12
15/32	.4688	3-1/8	4-3/4	24.95
31/64	.4844	3-1/4	4-7/8	25.28
1/2	.5000	3-3/8	5	25.28

## 3/8" Reduced Shank

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
29/64	.4531	4-3/16	5-5/8	24.95
15/32	.4688	4-5/16	5-3/4	24.95
31/64	.4844	4-3/8	5-7/8	25.28
1/2	.5000	4-1/2	6	25.28

## 1/2" Reduced Shank

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
17/32	.5312	3	6	32.47
9/16	.5625	3	6	34.32
5/8	.6250	3	6	39.78
11/16	.6875	3	6	45.16
3/4	.7500	3	6	47.60

# Taper Shank Drill

High Speed Steel – Oxide Finish

Made to fit American Standard (Morse) taper shank holders.



**MICHIGAN**  
DRILL & CUTTING TOOLS

Featuring the largest and most extensive stock of  
USA made taper shank drills in the world



HOLE MAKING

## Standard Shank

List No. 200 – 118° Point

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
1/16	.0625	1-1/4	4-5/8	1	16.50
5/64	.0781	1-3/8	4-3/4	1	16.50
3/32	.0938	1-3/8	4-3/4	1	16.50
7/64	.1094	1-5/8	4-7/8	1	16.50
1/8	.1250	1-7/8	5-1/8	1	14.14
9/64	.1406	2-1/8	5-3/8	1	14.14
5/32	.1562	2-1/8	5-3/8	1	14.14
11/64	.1719	2-1/2	5-3/4	1	14.14
3/16	.1875	2-1/2	5-3/4	1	14.14
13/64	.2031	2-3/4	6	1	14.14
7/32	.2188	2-3/4	6	1	14.14
15/64	.2344	2-7/8	6-1/8	1	14.14
1/4	.2500	2-7/8	6-1/8	1	14.14
17/64	.2656	3	6-1/4	1	14.57
9/32	.2812	3	6-1/4	1	14.57
19/64	.2969	3-1/8	6-3/8	1	14.57
5/16	.3125	3-1/8	6-3/8	1	14.57
21/64	.3281	3-1/4	6-1/2	1	19.42
11/32	.3438	3-1/4	6-1/2	1	19.42
23/64	.3594	3-1/2	6-3/4	1	19.42
3/8	.3750	3-1/2	6-3/4	1	19.42
25/64	.3906	3-5/8	7	1	20.51
13/32	.4062	3-5/8	7	1	20.63
27/64	.4219	3-7/8	7-1/4	1	21.24
7/16	.4375	3-7/8	7-1/4	1	21.24
29/64	.4531	4-1/8	7-1/2	1	25.07
15/32	.4688	4-1/8	7-1/2	1	25.07
31/64	.4844	4-3/8	8-1/4	2	25.07
1/2	.5000	4-3/8	8-1/4	2	22.32
33/64	.5156	4-5/8	8-1/2	2	25.73
17/32	.5312	4-5/8	8-1/2	2	25.73
35/64	.5469	4-7/8	8-3/4	2	27.58
9/16	.5625	4-7/8	8-3/4	2	25.73
37/64	.5781	4-7/8	8-3/4	2	29.46
19/32	.5938	4-7/8	8-3/4	2	28.94
39/64	.6094	4-7/8	8-3/4	2	28.94
5/8	.6250	4-7/8	8-3/4	2	28.94
41/64	.6406	5-1/8	9	2	31.88
21/32	.6562	5-1/8	9	2	31.88
43/64	.6719	5-3/8	9-1/4	2	34.21
11/16	.6875	5-3/8	9-1/4	2	32.27
45/64	.7031	5-5/8	9-1/2	2	35.63
23/32	.7188	5-5/8	9-1/2	2	35.63
47/64	.7344	5-7/8	9-3/4	2	37.84
3/4	.7500	5-7/8	9-3/4	2	36.04
49/64	.7656	6	9-7/8	2	45.49
25/32	.7812	6	9-7/8	2	47.25
51/64	.7969	6-1/8	10-3/4	3	49.81
13/16	.8125	6-1/8	10-3/4	3	48.33
53/64	.8281	6-1/8	10-3/4	3	53.71
27/32	.8438	6-1/8	10-3/4	3	53.71
55/64	.8594	6-1/8	10-3/4	3	55.85
7/8	.8750	6-1/8	10-3/4	3	52.60
57/64	.8906	6-1/8	10-3/4	3	57.23
29/32	.9062	6-1/8	10-3/4	3	56.57
59/64	.9219	6-1/8	10-3/4	3	58.19
15/16	.9375	6-1/8	10-3/4	3	58.19
61/64	.9531	6-3/8	11	3	62.65
31/32	.9688	6-3/8	11	3	62.65
63/64	.9844	6-3/8	11	3	63.99
1	1.0000	6-3/8	11	3	58.74

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
1-1/64	1.0156	6-1/2	11-1/8	3	69.04
1-1/32	1.0312	6-1/2	11-1/8	3	71.51
1-3/64	1.0469	6-5/8	11-1/4	3	77.47
1-1/16	1.0625	6-5/8	11-1/4	3	73.00
1-5/64	1.0781	6-7/8	12-1/2	4	83.67
1-3/32	1.0938	6-7/8	12-1/2	4	83.67
1-7/64	1.1094	7-1/8	12-3/4	4	86.99
1-1/8	1.1250	7-1/8	12-3/4	4	85.44
1-9/64	1.1406	7-1/4	12-7/8	4	92.20
1-5/32	1.1562	7-1/4	12-7/8	4	92.20
1-11/64	1.1719	7-3/8	13	4	93.23
1-3/16	1.1875	7-3/8	13	4	93.23
1-13/64	1.2031	7-1/2	13-1/8	4	99.77
1-7/32	1.2188	7-1/2	13-1/8	4	99.77
1-15/64	1.2344	7-7/8	13-1/2	4	108.81
1-1/4	1.2500	7-7/8	13-1/2	4	105.50
1-17/64	1.2656	8-1/2	14-1/8	4	125.45
1-9/32	1.2812	8-1/2	14-1/8	4	128.70
1-19/64	1.2969	8-5/8	14-1/4	4	133.56
1-5/16	1.3125	8-5/8	14-1/4	4	128.70
1-21/64	1.3281	8-3/4	14-3/8	4	138.09
1-11/32	1.3438	8-3/4	14-3/8	4	138.09
1-23/64	1.3594	8-7/8	14-1/2	4	141.08
1-3/8	1.3750	8-7/8	14-1/2	4	141.08
1-25/64	1.3906	9	14-5/8	4	144.96
1-13/32	1.4062	9	14-5/8	4	144.96
1-27/64	1.4219	9-1/8	14-3/4	4	150.12
1-7/16	1.4375	9-1/8	14-3/4	4	150.12
1-29/64	1.4531	9-1/4	14-7/8	4	157.23
1-15/32	1.4688	9-1/4	14-7/8	4	157.23
1-31/64	1.4844	9-3/8	15	4	162.03
1-1/2	1.5000	9-3/8	15	4	162.03
1-33/64	1.5156	9-3/8	16-3/8	5	262.88
1-17/32	1.5312	9-3/8	16-3/8	5	208.56
1-35/64	1.5469	9-5/8	16-5/8	5	276.46
1-9/16	1.5625	9-5/8	16-5/8	5	208.56
1-37/64	1.5781	9-7/8	16-7/8	5	276.46
1-19/32	1.5938	9-7/8	16-7/8	5	208.56
1-39/64	1.6094	10	17	5	283.80
1-5/8	1.6250	10	17	5	214.50
1-41/64	1.6406	10-1/8	17-1/8	5	297.20
1-21/32	1.6562	10-1/8	17-1/8	5	227.70
1-43/64	1.6719	10-1/8	17-1/8	5	323.57
1-11/16	1.6875	10-1/8	17-1/8	5	234.30
1-45/64	1.7031	10-1/8	17-1/8	5	323.57
1-23/32	1.7188	10-1/8	17-1/8	5	247.50
1-47/64	1.7344	10-1/8	17-1/8	5	337.00
1-3/4	1.7500	10-1/8	17-1/8	5	247.50
1-49/64	1.7656	10-1/8	17-1/8	5	343.70
1-25/32	1.7812	10-1/8	17-1/8	5	260.70
1-51/64	1.7969	10-1/8	17-1/8	5	353.43
1-13/16	1.8125	10-1/8	17-1/8	5	276.67
1-53/64	1.8281	10-1/8	17-1/8	5	373.30
1-27/32	1.8438	10-1/8	17-1/8	5	276.67
1-55/64	1.8594	10-3/8	17-3/8	5	386.36
1-7/8	1.8750	10-3/8	17-3/8	5	276.67
1-57/64	1.8906	10-3/8	17-3/8	5	389.40
1-29/32	1.9062	10-3/8	17-3/8	5	287.10
1-59/64	1.9219	10-3/8	17-3/8	5	405.68
1-15/16	1.9375	10-3/8	17-3/8	5	297.00
1-61/64	1.9531	10-3/8	17-3/8	5	435.92

# Taper Shank Drill

High Speed Steel – Oxide Finish

Made to fit American Standard (Morse) taper shank holders.



Featuring the largest and most extensive stock of USA made taper shank drills in the world

## Standard Shank *Continued*

List No. 200 – 118° Point

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
1-31/32	1.9688	10-3/8	17-3/8	5	307.56
1-63/64	1.9844	10-3/8	17-3/8	5	455.52
2	2.0000	10-3/8	17-3/8	5	307.56
2-1/64	2.0156	10-3/8	17-3/8	5	518.23
2-1/32	2.0312	10-3/8	17-3/8	5	487.22
2-3/64	2.0469	10-1/4	17-3/8	5	523.22
2-1/16	2.0625	10-1/4	17-3/8	5	459.36
2-3/32	2.0938	10-1/4	17-3/8	5	523.22
2-1/8	2.1250	10-1/4	17-3/8	5	468.70
2-5/32	2.1562	10-1/4	17-3/8	5	534.60
2-3/16	2.1875	10-1/4	17-3/8	5	480.80
2-7/32	2.2188	10-1/8	17-3/8	5	534.60
2-1/4	2.2500	10-1/8	17-3/8	5	494.56
2-17/64	2.6560	10-1/8	17-3/8	5	587.80
2-9/32	2.2812	10-1/8	17-3/8	5	587.80
2-19/64	2.2969	10-1/8	17-3/8	5	610.00
2-5/16	2.3125	10-1/8	17-3/8	5	561.30
2-21/64	2.3281	10-1/8	17-3/8	5	693.08
2-11/32	2.3438	10-1/8	17-3/8	5	693.08
2-3/8	2.3750	10-1/8	17-3/8	5	607.73
2-25/64	2.3906	11-1/4	18-3/4	5	726.40
2-13/32	2.4062	11-1/4	18-3/4	5	726.40
2-7/16	2.4375	11-1/4	18-3/4	5	653.65
2-29/64	2.4531	11-1/4	18-3/4	5	735.62
2-15/32	2.4688	11-1/4	18-3/4	5	726.40
2-1/2	2.5000	11-1/4	18-3/4	5	653.65
2-17/32	2.5312	11-7/8	19-1/2	5	810.57
2-9/16	2.5625	11-7/8	19-1/2	5	779.20
2-37/64	2.5781	11-7/8	19-1/2	5	876.56



Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
2-19/32	2.5938	11-7/8	19-1/2	5	858.07
2-5/8	2.6250	11-7/8	19-1/2	5	779.30
2-21/32	2.6562	12-3/4	20-3/8	5	1050.32
2-11/16	2.6875	12-3/4	20-3/8	5	858.07
2-23/32	2.7188	12-3/4	20-3/8	5	938.85
2-3/4	2.7500	12-3/4	20-3/8	5	891.00
2-25/32	2.7812	13-3/8	21-1/8	5	1047.82
2-51/64	2.7969	13-3/8	21-1/8	5	1180.00
2-13/16	2.8125	13-3/8	21-1/8	5	938.85
2-27/32	2.8438	13-3/8	21-1/8	5	1110.29
2-55/64	2.8594	13-3/8	21-1/8	5	1138.08
2-7/8	2.8750	13-3/8	21-1/8	5	1047.82
2-29/32	2.9062	13-3/8	21-1/8	5	1148.47
2-15/16	2.9375	14	21-3/4	5	1110.29
2-31/32	2.9688	14	21-3/4	5	1432.86
3	3.0000	14	21-3/4	5	1148.47
3-1/16	3.0625	14-5/8	24-1/2	6	1432.86
3-1/8	3.1250	14-5/8	24-1/2	6	1518.00
3-3/16	3.1875	14-5/8	24-1/2	6	1634.16
3-1/4	3.2500	15-1/2	25-1/2	6	1634.16
3-5/16	3.3125	15-1/2	25-1/2	6	1806.75
3-3/8	3.3750	15-1/2	25-1/2	6	1931.82
3-7/16	3.4375	15-1/2	25-1/2	6	2430.45
3-1/2	3.5000	16-3/8	26-1/2	6	2430.45
3-5/8	3.6250	16-3/8	26-1/2	6	2517.90
3-3/4	3.7500	16-3/8	26-1/2	6	3085.50
3-7/8	3.8750	16-3/8	26-1/2	6	3557.40
3-15/16	3.9375	16-3/8	26-1/2	6	3887.40
4	4.0000	17-1/2	27-1/2	6	3887.40

## Sets

Sizes	No. of Pcs.	Description	Set No.	Price
33/64 — 3/4 by 64 <sup>ths</sup>	16	H.S. Standard Shank	200A	569.70
49/64 — 1 by 64 <sup>ths</sup>	16	H.S. Standard Shank	200B	1003.96

All sets are supplied in metal index



## Shank Larger than Standard

List No. 202 – 118° Point

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
21/64	.3281	3-1/2	7-3/8	2	29.05
23/64	.3594	3-1/2	7-3/8	2	29.05
3/8	.3750	3-1/2	7-3/8	2	25.74
25/64	.3906	3-5/8	7-1/2	2	26.60
13/32	.4062	3-5/8	7-1/2	2	26.60
27/64	.4219	3-7/8	7-3/4	2	27.46
7/16	.4375	3-7/8	7-3/4	2	27.46
29/64	.4531	4-1/8	8	2	32.93
15/32	.4688	4-1/8	8	2	32.93
17/32	.5313	4-5/8	8-1/2	3	32.93
19/32	.5938	5-1/8	9-3/4	3	43.62
41/64	.6406	5-1/8	9-3/4	3	43.62
21/32	.6562	5-1/8	9-3/4	3	43.62



Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
43/64	.6719	5-3/8	10	3	46.81
11/16	.6875	5-3/8	10	3	45.84
45/64	.7031	5-5/8	10-1/4	3	50.66
23/32	.7188	5-5/8	10-1/4	3	50.66
47/64	.7344	5-7/8	10-1/2	3	54.83
3/4	.7500	5-7/8	10-1/2	3	51.47
49/64	.7656	6	10-5/8	3	60.96
25/32	.7812	6	10-5/8	3	61.81
1	1.0000	6-3/8	12	4	82.44
1-1/32	1.0312	6-1/2	12-1/8	4	92.91
1-3/64	1.0469	6-1/2	12-1/8	4	100.66
1-1/16	1.0625	6-5/8	12-1/4	4	97.09



# Taper Shank Drill

High Speed Steel – Oxide Finish

Made to fit American Standard (Morse) taper shank holders.



Featuring the largest and most extensive stock of  
USA made taper shank drills in the world

## Shank Smaller than Standard

List No. 203 – 118° Point

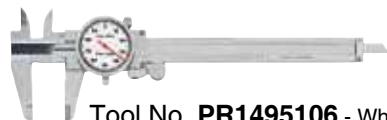


Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
31/64	.4844	4-3/8	7-3/4	1	26.16
1/2	.5000	4-3/8	7-3/4	1	22.84
33/64	.5156	4-5/8	8	1	28.70
17/32	.5312	4-5/8	8	1	28.70
35/64	.5469	4-7/8	8-1/4	1	30.66
9/16	.5625	4-7/8	8-1/4	1	28.77
37/64	.5781	4-7/8	8-1/4	1	32.51
19/32	.5938	4-7/8	8-1/4	1	42.90
39/64	.6094	4-7/8	8-1/4	1	48.00
5/8	.6250	4-7/8	8-1/4	1	48.00
21/32	.6562	5-1/8	8-1/2	1	43.23
51/64	.7969	6-1/8	10	2	61.26
13/16	.8125	6-1/8	10	2	56.74
53/64	.8281	6-1/8	10	2	65.67
27/32	.8438	6-1/8	10	2	65.67
55/64	.8594	6-1/8	10	2	69.30
7/8	.8750	6-1/8	10	2	69.30
57/64	.8906	6-1/8	10	2	74.26
29/32	.9062	6-1/8	10	2	74.26
1	1.0000	6-1/4	10-1/8	2	80.52
1-5/64	1.0781	6-7/8	11-1/2	3	108.90
1-3/32	1.0938	6-7/8	11-1/2	3	108.90
1-7/64	1.1094	7-1/8	11-3/4	3	112.20
1-1/8	1.1250	7-1/8	11-3/4	3	111.57
1-9/64	1.1406	7-1/4	11-7/8	3	124.74
1-5/32	1.1562	7-1/4	11-7/8	3	124.74
1-11/64	1.1719	7-3/8	12	3	121.44
1-3/16	1.1875	7-3/8	12	3	121.44
1-13/64	1.2031	7-1/2	12-1/8	3	137.81
1-7/32	1.2188	7-1/2	12-1/8	3	137.81
1-15/64	1.2344	7-7/8	12-1/2	3	137.81
1-1/4	1.2500	7-7/8	12-1/2	3	131.34
1-9/32	1.2812	8-1/2	13-1/8	3	174.90
1-5/16	1.3125	8-5/8	13-1/4	3	181.83
1-11/32	1.3438	8-3/4	13-3/8	3	185.06
1-3/8	1.3750	8-7/8	13-1/2	3	195.16
1-25/64	1.3906	9	13-5/8	3	220.00
1-13/32	1.4062	9	13-5/8	3	203.65
1-7/16	1.4375	9-1/8	13-3/4	3	203.65
1-15/32	1.4688	9-1/4	13-7/8	3	222.02
1-1/2	1.5000	9-3/8	14	3	222.02
1-33/64	1.5156	9-3/8	15	4	262.88
1-17/32	1.5312	9-3/8	15	4	239.58
1-35/64	1.5469	9-5/8	15-1/4	4	276.46
1-9/16	1.5625	9-5/8	15-1/4	4	239.58
1-37/64	1.5781	9-7/8	15-1/2	4	276.46
1-19/32	1.5938	9-7/8	15-1/2	4	241.98
1-39/64	1.6094	10	15-5/8	4	283.80
1-5/8	1.6250	10	15-5/8	4	250.18
1-41/64	1.6406	10-1/8	15-3/4	4	297.20
1-21/32	1.6562	10-1/8	15-3/4	4	271.00
1-43/64	1.6719	10-1/8	15-3/4	4	323.57
1-11/16	1.6875	10-1/8	15-3/4	4	274.96
1-45/64	1.7031	10-1/8	15-3/4	4	323.57
1-23/32	1.7188	10-1/8	15-3/4	4	303.18

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
1-47/64	1.7344	10-3/8	16-1/4	4	337.00
1-3/4	1.7500	10-3/8	16-1/4	4	306.90
1-49/64	1.7656	10-3/8	16-1/4	4	343.70
1-25/32	1.7812	10-3/8	16-1/4	4	309.54
1-51/64	1.7969	10-3/8	16-1/4	4	353.43
1-13/16	1.8125	10-3/8	16-1/4	4	328.68
1-53/64	1.8281	10-3/8	16-1/4	4	373.30
1-27/32	1.8438	10-3/8	16-1/4	4	349.84
1-55/64	1.8594	10-1/2	16-1/2	4	386.36
1-7/8	1.8750	10-1/2	16-1/2	4	349.84
1-57/64	1.8906	10-1/2	16-1/2	4	389.40
1-29/32	1.9062	10-1/2	16-1/2	4	360.00
1-59/64	1.9219	10-5/8	16-5/8	4	405.68
1-15/16	1.9375	10-5/8	16-5/8	4	382.47
1-61/64	1.9531	10-5/8	16-5/8	4	435.92
1-31/32	1.9688	10-5/8	16-5/8	4	446.82
1-63/64	1.9844	10-5/8	16-5/8	4	455.52
2	2.0000	10-5/8	16-5/8	4	374.66
2-1/64	2.0156	10-5/8	16-5/8	4	550.00
2-1/32	2.0312	10-3/8	16-1/4	4	487.22
2-1/16	2.0625	10-1/4	16-1/4	4	487.22
2-5/64	2.0781	10-1/4	16-1/4	4	590.00
2-3/32	2.0938	10-1/4	16-1/4	4	523.22
2-1/8	2.1250	10-1/4	16-1/4	4	523.22
2-9/64	2.1406	10-1/4	16-1/4	4	680.00
2-5/32	2.1562	10-1/4	16-1/4	4	534.60
2-11/64	2.1719	10-1/4	16-1/4	4	720.00
2-3/16	2.1875	10-1/4	16-1/4	4	534.60
2-7/32	2.2188	10-1/8	16-1/8	4	534.60
2-15/64	2.2344	10-1/8	16-1/8	4	740.00
2-1/4	2.2500	10-1/8	16-1/8	4	534.60
2-9/32	2.2812	10-1/8	16-1/8	4	587.80
2-5/16	2.3125	10-1/8	16-1/8	4	587.80
2-11/32	2.3438	10-1/8	16-1/8	4	693.08
2-3/8	2.3750	10-1/8	16-1/8	4	693.08
2-13/32	2.4062	11-1/4	17-1/4	4	726.40
2-7/16	2.4375	11-1/4	17-1/4	4	726.40
2-15/32	2.4688	11-1/4	17-1/4	4	726.40
2-31/64	2.4844	11-1/4	17-1/4	4	850.00
2-1/2	2.5000	11-1/4	17-1/4	4	726.40
2-5/8	2.6250	11-7/8	18	4	779.20
2-3/4	2.7500	12-3/4	19-1/8	4	917.52
3-1/16	3.0625	14-1/4	22	5	1432.86
3-1/8	3.1250	14-1/4	22	5	1518.00
3-3/16	3.1875	14-1/4	22	5	1634.16
3-1/4	3.2500	15-1/4	23	5	1634.16
3-5/16	3.3125	15-1/4	23	5	1806.75
3-3/8	3.3750	15-1/4	23	5	1931.82
3-7/16	3.4375	15-1/4	23	5	2430.45
3-1/2	3.5000	16-1/4	24	5	2430.45
3-5/8	3.6250	16-1/4	24	5	2517.90
3-3/4	3.7500	16-1/4	24	5	3085.50
3-7/8	3.8750	16-1/4	24	5	3557.40
4	4.0000	16-1/2	24-1/4	5	3887.40

## 6" Dial Caliper

Of stainless steel, hardened throughout with satin-chrome finish. Suitable for outside, inside, depth and step measurement. Thumb roll. Direct reading in .001" or .02mm with adjustable dial setting and locknut. Covered rack for longer life. Fitted case. .100" or 2mm per revolution.



Tool No. **PR1495106** - White face dial Price: **\$36.00**  
 Tool No. **PR1495206** - Black face dial Price: **\$36.00**  
 See precision tool section for more

# Taper Shank Drills

High Speed Steel – Oxide Finish

List No. 200 – 118° Point, #1 Morse Taper

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	2-7/8	6-1/8	18.07
B	.2380	2-7/8	6-1/8	18.07
C	.2420	2-7/8	6-1/8	18.07
D	.2460	2-7/8	6-1/8	16.03
E	.2500	2-7/8	6-1/8	14.14
F	.2570	3	6-1/4	15.89
G	.2610	3	6-1/4	18.94
H	.2660	3	6-1/4	18.94
I	.2720	3	6-1/4	18.94
J	.2770	3	6-1/4	17.48
K	.2810	3	6-1/4	19.88
L	.2900	3-1/8	6-3/8	19.88
M	.2950	3-1/8	6-3/8	19.88



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	3-1/8	6-3/8	19.88
O	.3160	3-1/4	6-1/2	23.58
P	.3230	3-1/4	6-1/2	23.58
Q	.3320	3-1/4	6-1/2	24.74
R	.3390	3-1/4	6-1/2	27.21
S	.3480	3-1/2	6-3/4	28.51
T	.3580	3-1/2	6-3/4	28.51
U	.3680	3-1/2	6-3/4	28.51
V	.3770	3-5/8	7	30.05
W*	.3860	3-5/8	7	30.05
X	.3970	3-5/8	7	30.98
Y	.4040	3-5/8	7	30.98
Z	.4130	3-7/8	7-1/4	32.37

\*Available in #1 & #2 Morse Taper. Please specify when ordering.

## Wire Gauge Sizes

Flute length and overall length are approximately the same as corresponding decimal size.

Size	Decimal Equivalent	Price Each
1	.2280	17.42
2	.2210	17.42
3	.2130	17.42
4	.2090	17.42
5	.2055	17.42
6	.2040	17.42
7	.2010	16.63
8	.1990	16.63
9	.1960	16.63
10	.1935	16.63

Size	Decimal Equivalent	Price Each
11	.1910	16.63
12	.1890	16.63
13	.1850	16.63
14	.1820	16.63
15	.1800	16.63
16	.1770	16.63
17	.1730	16.63
18	.1695	16.63
19	.1660	16.63
20	.1610	15.61

Size	Decimal Equivalent	Price Each
21	.1590	15.61
22	.1570	15.61
23	.1540	15.61
24	.1520	15.61
25	.1495	15.61
26	.1470	15.61
27	.1440	15.61
28	.1405	15.61
29	.1360	15.61
30	.1285	15.61

Size	Decimal Equivalent	Price Each
31	.1200	15.61
35	.1100	15.61
37	.1040	15.61
39	.0995	15.61
40	.0980	15.61
41	.0960	15.61
44	.0860	15.61
46	.0810	15.61
47	.0785	15.61
50	.0700	15.61

# Stub Length Taper Shank Drills

High Speed Steel – Oxide Finish

List No. 200ST – 118° Point

Because of their short overall and flute length, stub length taper shank drills are recommended for use in boring mills, screw machines and lathes or where short projection is required.



## Fractional Sizes

5" approximate flute length

Size	Decimal Equivalent	Approx. OAL	Morse Taper No.	Price Each
2	2.0000	11	4	300.36
2	2.0000	12	5	309.36
2-1/16	2.0625	11	4	329.18
2-1/16	2.0625	12	5	339.05
2-1/8	2.1250	11	4	357.01
2-1/8	2.1250	12	5	367.68
2-3/16	2.1875	11	4	385.15
2-3/16	2.1875	12	5	396.69
2-1/4	2.2500	11	4	399.42
2-1/4	2.2500	12	5	411.40
2-5/16	2.3125	11	4	412.49
2-5/16	2.3125	12	5	424.05
2-3/8	2.3750	11	4	427.01
2-3/8	2.3750	12	5	439.84
2-7/16	2.4375	12	4	468.69
2-7/16	2.4375	12	5	468.69
2-1/2	2.5000	11	4	481.12

Size	Decimal Equivalent	Approx. OAL	Morse Taper No.	Price Each
2-1/2	2.5000	12	5	494.87
2-9/16	2.5625	12	4	533.92
2-9/16	2.5625	12	5	533.92
2-5/8	2.6250	12	4	533.92
2-5/8	2.6250	12	5	533.92
2-11/16	2.6875	12	4	606.06
2-3/4	2.7500	12	4	606.06
2-3/4	2.7500	12	5	606.06
2-13/16	2.8125	12	4	701.94
2-7/8	2.8750	12	5	701.94
2-15/16	2.9375	12	4	785.27
3	3.0000	12	5	785.27
3-1/8	3.1250	12	5	1320.00
3-1/4	3.2500	12	5	1485.00
3-3/8	3.3750	12	5	2057.00
3-1/2	3.5000	12	5	2310.00
3-3/4	3.7500	12	5	2543.20

# Metric Taper Shank Drills

High Speed Steel – Oxide Finish



List No. **200M** – 118° Point

Made to fit American Standard (Morse) taper shank holders.



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

HOLE MAKING

Size mm	Decimal Equivalent	Morse Taper No.	Flute Length	Overall Length	Price Each
3.00	.1181	1	1-7/8	5-1/8	14.85
3.20	.1260	1	1-7/8	5-1/8	15.51
3.50	.1378	1	2-1/8	5-3/8	15.51
3.80	.1496	1	2-1/8	5-3/8	15.51
4.00	.1575	1	2-1/8	5-3/8	15.51
4.20	.1654	1	2-1/2	5-3/4	15.51
4.50	.1772	1	2-1/2	5-3/4	13.14
4.80	.1890	1	2-1/2	5-3/4	13.14
5.00	.1969	1	2-3/4	6	13.14
5.20	.2047	1	2-3/4	6	13.14
5.50	.2165	1	2-3/4	6	13.14
5.80	.2283	1	2-7/8	6-1/8	13.14
6.00	.2362	1	2-7/8	6-1/8	13.14
6.20	.2441	1	2-7/8	6-1/8	13.14
6.50	.2559	1	3	6-1/4	13.14
6.80	.2677	1	3	6-1/4	14.85
7.00	.2756	1	3	6-1/4	14.85
7.20	.2835	1	3-1/8	6-3/8	15.89
7.40	.2913	1	3-1/8	6-3/8	19.80
7.50	.2953	1	3-1/8	6-3/8	15.89
7.80	.3071	1	3-1/8	6-3/8	18.07
8.00	.3150	1	3-1/4	6-1/2	21.44
8.20	.3228	1	3-1/4	6-1/2	22.70
8.50	.3346	1	3-1/4	6-1/2	22.70
8.80	.3465	1	3-1/2	6-3/4	25.92
9.00	.3543	1	3-1/2	6-3/4	25.92
9.20	.3622	1	3-1/2	6-3/4	25.92
9.50	.3740	1	3-1/2	6-3/4	27.57
9.70	.3819	1	3-5/8	7	27.57
9.80	.3858	1	3-5/8	7	27.57
10.00	.3937	1	3-5/8	7	28.17
10.20	.4016	1	3-5/8	7	28.17
10.25	.4075	1	3-5/8	7	32.00
10.50	.4134	1	3-7/8	7-1/4	29.37
10.80	.4252	1	3-7/8	7-1/4	29.37
11.00	.4331	1	3-7/8	7-1/4	29.37
11.20	.4409	1	4-1/8	7-1/2	31.35
11.50	.4528	1	4-1/8	7-1/2	31.35
11.80	.4646	1	4-1/8	7-1/2	31.35
12.00	.4724	2	4-3/8	8-1/4	31.35
12.20	.4803	2	4-3/8	8-1/4	37.69
12.50	.4921	2	4-3/8	8-1/4	37.69
12.80	.5039	2	4-5/8	8-1/2	37.69
13.00	.5118	2	4-5/8	8-1/2	37.69
13.20	.5197	2	4-5/8	8-1/2	42.24
13.50	.5315	2	4-5/8	8-1/2	42.24
13.80	.5433	2	4-7/8	8-3/4	42.24
14.00	.5512	2	4-7/8	8-3/4	42.24
14.25	.5610	2	4-7/8	8-3/4	45.87
14.50	.5709	2	4-7/8	8-3/4	45.87
14.75	.5807	2	4-7/8	8-3/4	45.87
15.00	.5906	2	4-7/8	8-3/4	45.87
15.25	.6004	2	4-7/8	8-3/4	48.05
15.50	.6102	2	4-7/8	8-3/4	48.05
15.75	.6201	2	4-7/8	8-3/4	50.16
16.00	.6299	2	5-1/8	9	50.16
16.25	.6398	2	5-1/8	9	50.16
16.50	.6496	2	5-1/8	9	51.74
16.75	.6594	2	5-3/8	9-1/4	51.74
17.00	.6693	2	5-3/8	9-1/4	51.74
17.25	.6791	2	5-3/8	9-1/4	56.10
17.50	.6890	2	5-5/8	9-1/2	56.48
18.00	.7087	2	5-5/8	9-1/2	56.48
18.50	.7283	2	5-5/8	9-1/2	60.14
19.00	.7480	2	5-7/8	9-3/4	60.14
19.50	.7677	2	6	9-7/8	75.37

Size mm	Decimal Equivalent	Morse Taper No.	Flute Length	Overall Length	Price Each
20.00	.7874	3	6-1/8	10-3/4	75.37
20.50	.8071	3	6-1/8	10-3/4	81.41
21.00	.8268	3	6-1/8	10-3/4	81.41
21.50	.8465	3	6-1/8	10-3/4	87.48
22.00	.8661	3	6-1/8	10-3/4	87.48
22.50	.8858	3	6-1/8	10-3/4	90.51
23.00	.9055	3	6-1/8	10-3/4	90.51
23.50	.9252	3	6-1/8	10-3/4	93.08
24.00	.9449	2	6-3/8	10-3/4	93.08
24.00	.9449	3	6-3/8	11	93.08
24.50	.9646	3	6-3/8	11	97.15
25.00	.9843	3	6-3/8	11	97.15
25.50	1.0039	3	6-1/2	11-1/8	102.33
26.00	1.0236	3	6-1/2	11-1/8	102.33
26.50	1.0433	3	6-5/8	11-1/4	124.19
27.00	1.0630	3	6-5/8	11-1/4	124.19
27.50	1.0827	4	6-7/8	12-1/2	128.76
28.00	1.1024	4	7-1/8	12-3/4	128.76
28.50	1.1220	4	7-1/8	12-3/4	138.75
29.00	1.1417	4	7-1/4	12-7/8	142.38
29.50	1.1614	4	7-3/8	13	145.58
30.00	1.1811	4	7-3/8	13	145.58
30.50	1.2008	4	7-1/2	13-1/8	158.43
31.00	1.2205	4	7-7/8	13-1/2	158.43
31.50	1.2402	4	7-7/8	13-1/2	181.61
32.00	1.2598	4	8-1/2	14-1/8	181.61
32.50	1.2795	4	8-1/2	14-1/8	205.08
33.00	1.2992	4	8-5/8	14-1/4	208.40
33.50	1.3189	4	8-3/4	14-3/8	214.20
34.00	1.3386	4	8-3/4	14-3/8	214.20
34.50	1.3583	4	8-7/8	14-1/2	231.05
35.00	1.3780	4	9	14-5/8	231.05
35.50	1.3976	4	9	14-5/8	244.28
36.00	1.4173	4	9-1/8	14-3/4	244.28
36.50	1.4370	4	9-1/8	14-3/4	260.98
37.00	1.4567	4	9-1/4	14-7/8	260.98
37.50	1.4764	4	9-3/8	15	270.97
38.00	1.4961	4	9-3/8	15	270.97
38.50	1.5157	5	9-5/8	16-5/8	363.09
39.00	1.5354	5	9-5/8	16-5/8	339.99
39.50	1.5551	5	9-7/8	16-7/8	363.09
40.00	1.5748	5	9-7/8	16-7/8	339.99
41.00	1.6142	5	10	17	363.09
41.50	1.6338	5	10-1/8	17-1/8	409.48
42.00	1.6535	5	10-1/8	17-1/8	389.81
42.50	1.6732	5	10-1/8	17-1/8	455.74
43.00	1.6929	5	10-1/8	17-1/8	389.81
43.50	1.7125	5	10-1/8	17-1/8	455.74
44.00	1.7323	5	10-1/8	17-1/8	455.74
44.50	1.7519	5	10-1/8	17-1/8	455.74
45.00	1.7717	5	10-1/8	17-1/8	455.74
46.00	1.8110	5	10-1/8	17-1/8	521.41
47.00	1.8504	5	10-3/8	17-3/8	495.09
48.00	1.8898	5	10-3/8	17-3/8	508.66
49.00	1.9291	5	10-3/8	17-3/8	508.66
50.00	1.9685	5	10-3/8	17-3/8	508.66
51.00	2.0079	5	10-3/8	17-3/8	593.99
55.00	2.1653	5	10-3/8	17-3/8	718.74
57.00	2.2441	5	10-3/8	17-3/8	751.41
59.00	2.3228	5	10-3/8	17-3/8	806.95
60.00	2.3622	5	11-7/8	19-1/2	1143.45
65.00	2.5591	5	11-7/8	19-1/2	1143.45
66.00	2.5984	5	11-7/8	19-1/2	1196.94
69.00	2.7165	5	12-3/4	20-3/8	1437.70
70.00	2.7559	5	13-3/8	21-1/8	1519.23
72.00	2.8346	5	13-3/8	21-1/8	1578.23

# Cobalt Taper Shank Drills

Super Cobalt – Heavy Duty



## List No. 210C – 135° Notched Point

These premium cobalt drills exhibit greater toughness, abrasion resistance, and higher red hardness than the standard high speed drills.

Cobalt drills are used in drilling tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.



HOLE MAKING

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
1/4	.2500	2-7/8	6-1/8	1	26.10
17/64	.2656	3	6-1/4	1	34.83
9/32	.2812	3	6-1/4	1	30.60
19/64	.2969	3-1/8	6-3/8	1	34.83
5/16	.3125	3-1/8	6-3/8	1	30.60
21/64	.3281	3-1/4	6-1/2	1	36.90
11/32	.3438	3-1/4	6-1/2	1	35.10
23/64	.3594	3-1/2	6-3/4	1	46.80
23/64	.3594	3-1/2	7-3/8	2	46.80
3/8	.3750	3-1/2	6-3/4	1	43.20
3/8	.3750	3-1/2	7-3/8	2	43.20
25/64	.3906	3-5/8	7-1/2	2	49.50
13/32	.4062	3-5/8	7-1/2	2	46.80
10.50mm	.4134	3-7/8	7-3/4	2	66.50
27/64	.4219	3-7/8	7-3/4	2	52.20
7/16	.4375	3-7/8	7-3/4	2	52.20
29/64	.4531	4-1/8	8	2	55.80
15/32	.4688	4-1/8	8	2	55.80
31/64	.4844	4-3/8	8-1/4	2	61.20
1/2	.5000	4-3/8	8-1/4	2	58.50
33/64	.5156	4-5/8	8-1/2	2	67.50
17/32	.5312	4-5/8	8-1/2	2	67.50
35/64	.5469	4-7/8	8-3/4	2	71.10
9/16	.5625	4-7/8	8-3/4	2	67.50
37/64	.5781	4-7/8	8-3/4	2	72.90
19/32	.5938	4-7/8	8-3/4	2	71.10
39/64	.6094	4-7/8	8-3/4	2	82.80
5/8	.6250	4-7/8	10	2	99.22
41/64	.6406	5-1/8	9-3/4	3	94.50
21/32	.6562	5-1/8	9-3/4	3	87.30
43/64	.6719	5-3/8	10	3	99.00
11/16	.6875	5-3/8	10	3	94.50
45/64	.7031	5-5/8	10-1/4	3	106.20
23/32	.7188	5-5/8	10-1/4	3	99.00
47/64	.7344	5-7/8	10-1/2	3	109.80
3/4	.7500	5-7/8	10	2	113.09
3/4	.7500	5-7/8	10-1/2	3	109.80
49/64	.7656	6	9-7/8	2	121.50
49/64	.7656	6	10-5/8	3	117.00
25/32	.7812	6	9-7/8	2	121.50
25/32	.7812	6	10-5/8	3	117.00
51/64	.7969	6-1/8	10-3/4	3	124.20
13/16	.8125	6-1/8	10	2	130.50
13/16	.8125	6-1/8	10-3/4	3	124.20
53/64	.8281	6-1/8	10-3/4	3	152.10
27/32	.8438	6-1/8	10-3/4	3	142.20
55/64	.8594	6-1/8	10-3/4	3	152.10
7/8	.8750	6-1/8	10-3/4	3	142.20
22.50mm	.8858	6-1/8	10	2	185.00
57/64	.8906	6-1/8	10-3/4	3	169.20

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
29/32	.9062	6-1/8	10-3/4	3	169.20
59/64	.9219	6-1/8	10-3/4	3	175.50
15/16	.9375	6-1/8	10-3/4	3	148.41
24.00mm	.9448	6-1/8	10-3/4	2	193.19
61/64	.9531	6-3/8	11	3	167.99
31/32	.9688	6-3/8	11	3	167.99
63/64	.9844	6-3/8	11	3	167.99
1	1.0000	6-3/8	11	3	167.99
1-1/64	1.0156	6-1/2	12-1/8	4	220.87
1-1/32	1.0312	6-1/2	12-1/8	4	220.87
1-3/64	1.0469	6-5/8	12-1/4	4	200.80
1-1/16	1.0625	6-5/8	12-1/4	4	200.80
1-5/64	1.0781	6-7/8	12-1/2	4	222.60
1-3/32	1.0938	6-7/8	12-1/2	4	222.60
1-7/64	1.1094	7-1/8	12-3/4	4	235.13
1-1/8	1.1250	7-1/8	12-3/4	4	235.13
1-9/64	1.1406	7-1/4	12-7/8	4	274.06
1-5/32	1.1562	7-1/4	12-7/8	4	274.06
1-11/64	1.1719	7-3/8	13	4	274.08
1-3/16	1.1875	7-3/8	12	3	274.08
1-3/16	1.1875	7-3/8	13	4	274.08
1-13/64	1.2031	7-1/2	13-1/8	4	287.84
1-7/32	1.2188	7-1/2	13-1/8	4	287.84
1-15/64	1.2344	7-7/8	13-1/2	4	312.30
1-1/4	1.2500	7-7/8	13-1/2	4	312.30
1-17/64	1.2656	8-1/2	14-1/8	4	335.70
1-9/32	1.2812	8-1/2	14-1/8	4	335.70
1-19/64	1.2969	8-5/8	14-1/4	4	365.88
1-5/16	1.3125	8-5/8	14-1/4	4	365.88
1-5/16	1.3125	8-5/8	15-7/8	5	365.88
1-21/64	1.3281	8-3/4	14-3/8	4	360.90
1-11/32	1.3438	8-3/4	14-3/8	4	360.90
1-23/64	1.3594	8-7/8	14-1/2	4	392.49
1-3/8	1.3750	8-7/8	14-1/2	4	392.49
1-3/8	1.3750	8-7/8	15-7/8	5	392.49
1-25/64	1.3906	9	14-5/8	4	388.80
1-13/32	1.4062	9	14-5/8	4	462.85
1-27/64	1.4219	9-1/8	14-3/4	4	462.85
1-7/16	1.4375	9-1/8	14-3/4	4	462.85
1-7/16	1.4375	9-1/8	16-1/8	5	462.85
1-29/64	1.4531	9-1/4	14-7/8	4	467.10
1-15/32	1.4688	9-1/4	14-7/8	4	467.10
1-31/64	1.4844	9-3/8	15	4	496.98
1-1/2	1.5000	9-3/8	15	4	458.10
1-1/2	1.5000	9-3/8	16-3/8	5	458.10
1-5/8	1.6250	10	17	5	594.00
1-3/4	1.7500	10-1/8	17-1/8	5	738.00
1-13/16	1.8125	10-1/8	17-1/8	5	823.50
2	2.0000	10-3/8	17-3/8	5	895.50
2-3/4	2.7500	12-3/4	20-3/8	5	1440.00

### Sets

Sizes	No. of Pcs.	Set No.	Price
33/64 — 3/4 by 64 <sup>ths</sup>	16	210CA	1508.40
49/64 — 1 by 64 <sup>ths</sup>	16	210CB	2532.20

All sets are supplied in Huot metal index



# MDX<sup>®</sup> Taper Shank Drill

High Speed Steel – Oxide Finish



Made to fit American Standard (Morse) taper shank holders.

## Standard Shank

List No. X200 – 118° Point



HOLE MAKING

Size	Flute Length	Overall Length	Morse Taper No.	Price Each
1/8	1-7/8	5-1/8	1	7.06
9/64	2-1/8	5-3/8	1	7.42
5/32	2-1/8	5-3/8	1	7.13
11/64	2-1/2	5-3/4	1	7.42
3/16	2-1/2	5-3/4	1	7.42
13/64	2-3/4	6	1	7.42
7/32	2-3/4	6	1	7.42
15/64	2-7/8	6-1/8	1	7.80
1/4	2-7/8	6-1/8	1	7.80
17/64	3	6-1/4	1	8.10
9/32	3	6-1/4	1	8.10
19/64	3-1/8	6-3/8	1	8.28
5/16	3-1/8	6-3/8	1	8.28
21/64	3-1/4	6-1/2	1	8.28
11/32	3-1/4	6-1/2	1	8.66
23/64	3-1/2	6-3/4	1	9.59
3/8	3-1/2	6-3/4	1	9.13
25/64	3-5/8	7	1	9.93
13/32	3-5/8	7	1	9.22
27/64	3-7/8	7-1/4	1	10.59
7/16	3-7/8	7-1/4	1	10.03
29/64	4-1/8	7-1/2	1	11.66
15/32	4-1/8	7-1/2	1	11.72
31/64	4-3/8	8-1/4	2	13.17
1/2	4-3/8	8-1/4	2	11.98
33/64	4-5/8	8-1/2	2	14.36
17/32	4-5/8	8-1/2	2	13.40
35/64	4-7/8	8-3/4	2	15.63
9/16	4-7/8	8-3/4	2	14.61
37/64	4-7/8	8-3/4	2	16.60
19/32	4-7/8	8-3/4	2	15.71
39/64	4-7/8	8-3/4	2	17.36
5/8	4-7/8	8-3/4	2	15.96
41/64	5-1/8	9	2	19.13
21/32	5-1/8	9	2	17.81
43/64	5-3/8	9-1/4	2	20.53
11/16	5-3/8	9-1/4	2	18.54
45/64	5-5/8	9-1/2	2	21.38
23/32	5-5/8	9-1/2	2	19.85
47/64	5-7/8	9-3/4	2	22.70
3/4	5-7/8	9-3/4	2	21.63
49/64	6	9-7/8	2	27.29
25/32	6	9-7/8	2	26.09
51/64	6-1/8	10-3/4	3	29.88
13/16	6-1/8	10-3/4	3	26.75
53/64	6-1/8	10-3/4	3	31.18
27/32	6-1/8	10-3/4	3	29.02
55/64	6-1/8	10-3/4	3	32.26
7/8	6-1/8	10-3/4	3	29.69
57/64	6-1/8	10-3/4	3	32.97
29/32	6-1/8	10-3/4	3	31.71
59/64	6-1/8	10-3/4	3	33.38
15/16	6-1/8	10-3/4	3	29.82
61/64	6-3/8	11	3	34.29
31/32	6-3/8	11	3	32.74
63/64	6-3/8	11	3	36.41
1	6-3/8	11	3	33.31
1-1/64	6-1/2	11-1/8	3	41.42
1-1/32	6-1/2	11-1/8	3	36.62
1-3/64	6-5/8	11-1/4	3	43.53
1-1/16	6-5/8	11-1/4	3	38.25
1-5/64	6-7/8	12-1/2	4	50.21
1-3/32	6-7/8	12-1/2	4	45.23

Size	Flute Length	Overall Length	Morse Taper No.	Price Each
1-7/64	7-1/8	12-3/4	4	52.20
1-1/8	7-1/8	12-3/4	4	47.02
1-9/64	7-1/4	12-7/8	4	55.32
1-5/32	7-1/4	12-7/8	4	49.20
1-11/64	7-3/8	13	4	55.94
1-3/16	7-3/8	13	4	51.23
1-13/64	7-1/2	13-1/8	4	59.86
1-7/32	7-1/2	13-1/8	4	55.13
1-15/64	7-7/8	13-1/2	4	65.29
1-1/4	7-7/8	13-1/2	4	57.64
1-17/64	8-1/2	14-1/8	4	75.27
1-9/32	8-1/2	14-1/8	4	71.88
1-19/64	8-5/8	14-1/4	4	80.14
1-5/16	8-5/8	14-1/4	4	72.34
1-21/64	8-3/4	14-3/8	4	82.86
1-11/32	8-3/4	14-3/8	4	77.17
1-23/64	8-7/8	14-1/2	4	84.65
1-3/8	8-7/8	14-1/2	4	77.59
1-25/64	9	14-5/8	4	86.97
1-13/32	9	14-5/8	4	83.83
1-27/64	9-1/8	14-3/4	4	90.08
1-7/16	9-1/8	14-3/4	4	83.87
1-29/64	9-1/4	14-7/8	4	94.73
1-15/32	9-1/4	14-7/8	4	90.31
1-31/64	9-3/8	15	4	97.22
1-1/2	9-3/8	15	4	89.19
1-33/64	9-3/8	16-3/8	5	125.14
1-17/32	9-3/8	16-3/8	5	104.07
1-35/64	9-5/8	16-5/8	5	133.06
1-9/16	9-5/8	16-5/8	5	108.00
1-37/64	9-7/8	16-7/8	5	141.77
1-19/32	9-7/8	16-7/8	5	117.78
1-39/64	10	17	5	148.50
1-5/8	10	17	5	116.66
1-41/64	10-1/8	17-1/8	5	158.20
1-21/32	10-1/8	17-1/8	5	126.67
1-43/64	10-1/8	17-1/8	5	164.34
1-11/16	10-1/8	17-1/8	5	128.59
1-45/64	10-1/8	17-1/8	5	169.69
1-23/32	10-1/8	17-1/8	5	136.26
1-47/64	10-1/8	17-1/8	5	163.35
1-3/4	10-1/8	17-1/8	5	137.71
1-25/32	10-1/8	17-1/8	5	144.45
1-51/64	10-1/8	17-1/8	5	191.00
1-13/16	10-1/8	17-1/8	5	146.78
1-53/64	10-1/8	17-1/8	5	217.80
1-27/32	10-1/8	17-1/8	5	154.75
1-55/64	10-1/8	17-1/8	5	217.80
1-7/8	10-3/8	17-3/8	5	153.59
1-57/64	10-3/8	17-3/8	5	217.80
1-29/32	10-3/8	17-3/8	5	161.83
1-59/64	10-5/8	17-3/8	5	173.49
1-15/16	10-3/8	17-3/8	5	217.80
1-61/64	10-3/8	17-3/8	5	161.83
1-31/32	10-3/8	17-3/8	5	178.22
1-63/64	10-3/8	17-3/8	5	227.04
2	10-3/8	17-3/8	5	171.61
2-1/64	10-3/8	17-3/8	5	197.87
2-1/32	10-3/8	17-3/8	5	197.87
2-3/64	10-1/4	17-3/8	5	197.87
2-1/16	10-1/4	17-3/8	5	181.61
2-5/64	10-1/4	17-3/8	5	227.04
2-3/32	10-1/4	17-3/8	5	228.29



# MDX<sup>®</sup> Taper Shank Drill

High Speed Steel



## Standard Shank

List No. **X200** – 118° Point

Size	Flute Length	Overall Length	Morse Taper No.	Price Each
2-7/64	10-1/4	17-3/8	5	256.08
2-1/8	10-1/4	17-3/8	5	244.49
2-9/64	10-1/4	17-3/8	5	261.21
2-5/32	10-1/4	17-3/8	5	244.49
2-11/64	10-1/4	17-3/8	5	277.20
2-3/16	10-1/4	17-3/8	5	257.86
2-13/64	10-1/4	17-3/8	5	310.00
2-7/32	10-1/8	17-3/8	5	257.86
2-1/4	10-1/8	17-3/8	5	270.93
2-17/64	10-1/8	17-3/8	5	315.00
2-9/32	10-1/8	17-3/8	5	270.93
2-19/64	10-1/8	17-3/8	5	315.00
2-5/16	10-1/8	17-3/8	5	270.93
2-21/64	10-1/8	17-3/8	5	315.00
2-11/32	10-1/8	17-3/8	5	270.93
2-3/8	10-1/8	17-3/8	5	257.93
2-13/32	11-1/4	18-3/4	5	322.41
2-27/64	11-1/4	18-3/4	5	387.00
2-7/16	11-1/4	18-3/4	5	315.81
2-15/32	11-1/4	18-3/4	5	345.03
2-31/64	11-1/4	18-3/4	5	426.00
2-1/2	11-1/4	18-3/4	5	388.59
2-17/32	11-7/8	19-1/2	5	430.00
2-9/16	11-7/8	19-1/2	5	403.20
2-19/32	12	19-1/2	5	446.78



Size	Flute Length	Overall Length	Morse Taper No.	Price Each
2-5/8	11-7/8	19-1/2	5	425.50
2-21/32	12-3/4	20-3/8	5	457.68
2-11/16	12-3/4	20-3/8	5	435.89
2-45/64	12-3/4	20-3/8	5	519.00
2-23/32	12-3/4	20-3/8	5	492.03
2-3/4	12-3/4	20-3/8	5	468.60
2-25/32	13-5/8	21-1/8	5	536.72
2-13/16	13-3/8	21-1/8	5	514.95
2-27/32	13-5/8	21-1/8	5	554.58
2-55/64	13-5/8	21-1/8	5	595.00
2-7/8	13-3/8	21-1/8	5	534.73
2-29/32	14-1/8	21-3/4	5	561.38
2-15/16	14-1/8	21-3/4	5	554.58
2-31/32	14-1/8	21-3/4	5	675.00
3	14-1/8	21-3/4	5	594.92
3-1/16	14-5/8	24-1/2	6	671.22
3-1/8	14-5/8	24-1/2	6	710.00
3-3/16	14-5/8	24-1/2	6	799.00
3-1/4	15-1/2	25-1/2	6	818.40
3-5/16	15-1/2	25-1/2	6	924.00
3-3/8	15-1/2	25-1/2	6	1056.00
3-7/16	15-1/2	25-1/2	6	1240.80
3-1/2	16-3/8	26-1/2	6	1313.40
3-3/4	16-3/8	26-1/2	6	1960.20
4	17-1/2	27-1/2	6	2903.27

## Shank Larger than Standard

List No. **X202** – 118° Point

Size	Flute Length	Overall Length	Morse Taper No.	Price Each
3/8	3-1/2	7-3/8	2	13.50
25/64	3-5/8	7-1/2	2	14.86
13/32	3-5/8	7-1/2	2	14.06
27/64	3-7/8	7-3/4	2	14.88
7/16	3-7/8	7-3/4	2	16.16
29/64	4-1/8	8	2	16.17
15/32	4-1/8	8	2	16.08
41/64	5-1/8	9-3/4	3	28.35
21/32	5-1/8	9-3/4	3	27.17
43/64	5-3/8	10	3	30.43
11/16	5-3/8	10	3	29.79



Size	Flute Length	Overall Length	Morse Taper No.	Price Each
45/64	5-5/8	10-1/4	3	32.93
23/32	5-5/8	10-1/4	3	31.95
47/64	5-7/8	10-1/2	3	35.64
3/4	5-7/8	10-1/2	3	33.46
49/64	6	10-5/8	3	39.63
25/32	6	10-5/8	3	36.78
1	6-3/8	12	4	53.59
1-1/64	6-1/2	12-1/8	4	58.61
1-1/32	6-1/2	12-1/8	4	60.40
1-3/64	6-5/8	12-1/4	4	66.00
1-1/16	6-5/8	12-1/4	4	63.11

## Metric Standard Shank

List No. **X200M** – 118° Point

Size	Morse Taper No.	Price Each	Size	Morse Taper No.	Price Each	Size	Morse Taper No.	Price Each	Size	Morse Taper No.	Price Each
5.00	1	10.50	9.00	1	16.50	14.75	2	32.00	21.00	2	59.00
5.30	1	10.50	9.50	1	18.50	15.00	2	34.00	21.25	2	61.00
5.60	1	10.50	10.00	1	19.00	15.25	2	36.00	21.50	2	61.00
6.00	1	10.50	10.50	1	19.00	15.40	2	38.00	22.00	2	61.00
6.20	1	11.80	11.00	1	19.00	15.50	2	38.00	23.25	3	74.50
6.75	1	11.80	11.50	1	21.20	15.75	2	39.50	23.90	3	74.50
6.80	1	11.80	12.00	1	25.50	16.00	2	40.00	25.25	3	81.85
7.00	1	12.20	12.20	1	26.38	16.25	2	40.00	25.50	3	82.50
7.20	1	12.20	12.50	1	26.38	17.00	2	43.00	29.00	3	99.00
7.50	1	12.20	12.75	1	30.00	17.75	2	59.00	29.50	3	102.00
7.75	1	14.50	12.80	1	30.00	18.00	2	59.00	30.50	3	110.90
7.80	1	14.50	13.00	1	30.00	19.00	2	59.00	31.00	3	110.90
8.00	1	17.00	13.20	1	30.00	19.25	2	59.00	31.50	3	127.00
8.20	1	18.16	13.50	1	30.00	19.40	2	59.00	45.25	4	327.00
8.25	1	18.16	13.80	1	30.00	19.50	2	59.00	46.00	4	365.00
8.50	1	18.04	14.25	2	32.00	20.00	2	59.00	49.00	4	356.00
8.80	1	18.90	14.50	2	32.00	20.75	2	59.00	49.50	4	356.00



# MDX<sup>®</sup> Taper Shank Drill

SUPERIOR IMPORT  
High Speed Steel



Made to fit American Standard (Morse) taper shank holders.

HOLE MAKING

## Shank Smaller than Standard

List No. **X203** – 118° Point



Size	Flute Length	Overall Length	Morse Taper No.	Price Each
31/64	4-3/8	7-3/4	1	17.01
1/2	4-3/8	7-3/4	1	14.85
33/64	4-5/8	8	1	18.65
17/32	4-5/8	8	1	17.13
35/64	4-7/8	8-1/4	1	19.93
9/16	4-7/8	8-1/4	1	18.70
37/64	4-7/8	8-1/4	1	21.13
5/8	4-7/8	8-1/4	1	24.00
51/64	6-1/8	10	2	36.48
13/16	6-1/8	10	2	33.34
53/64	6-1/8	10	2	38.83
27/32	6-1/8	10	2	35.66
55/64	6-1/8	10	2	40.50
7/8	6-1/8	10	2	36.64
57/64	6-1/8	10	2	41.76
29/32	6-1/8	10	2	38.35
15/16	6-1/8	10	2	39.40
61/64	6-3/8	10-1/4	2	40.89
31/32	6-3/8	10-1/4	2	39.34
63/64	6-3/8	10-1/4	2	43.01
1	6-3/8	10-1/4	2	49.61
1-5/64	6-7/8	11-1/2	3	64.63
1-3/32	6-7/8	11-1/2	3	58.25
1-7/64	7-1/8	11-3/4	3	74.14
1-1/8	7-1/8	11-3/4	3	60.51
1-9/64	7-1/4	11-7/8	3	69.70
1-5/32	7-1/4	11-7/8	3	65.91
1-11/64	7-3/8	12	3	71.97
1-3/16	7-3/8	12	3	67.25
1-13/64	7-1/2	12-1/8	3	77.23
1-7/32	7-1/2	12-1/2	3	72.22
1-15/64	7-7/8	12-1/2	3	84.18
1-1/4	7-7/8	12-1/2	3	79.27
1-17/64	8-1/2	13-1/8	3	85.77
1-9/32	8-1/2	13-1/8	3	85.77
1-19/64	8-5/8	13-1/4	3	87.56
1-5/16	8-5/8	13-1/4	3	95.50
1-21/64	8-3/4	13-3/8	3	91.41
1-23/64	8-7/8	13-1/2	3	97.34
1-3/8	8-7/8	13-1/2	3	103.34
1-25/64	9	13-5/8	3	105.40
1-13/32	9	13-5/8	3	105.40
1-27/64	9-1/8	13-3/4	3	111.38
1-7/16	9-1/8	13-3/4	3	113.98
1-29/64	9-1/4	13-7/8	3	124.37
1-15/32	9-1/4	13-7/8	3	124.37
1-31/64	9-3/8	14	3	120.00
1-1/2	9-3/8	14	3	120.00
1-33/64	9-3/8	15	4	135.60
1-17/32	9-3/8	15	4	126.77
1-35/64	9-5/8	15-1/4	4	144.27
1-9/16	9-5/8	15-1/4	4	135.66
1-37/64	9-7/8	15-1/2	4	153.31
1-19/32	9-7/8	15-1/2	4	145.00
1-39/64	10	15-5/8	4	159.21
1-5/8	10	15-5/8	4	148.28
1-41/64	10-1/8	15-3/4	4	171.63
1-21/32	10-1/8	15-3/4	4	166.12
1-43/64	10-1/8	15-3/4	4	178.15
1-11/16	10-1/8	15-3/4	4	166.24
1-45/64	10-1/8	15-3/4	4	183.49
1-23/32	10-1/8	15-3/4	4	170.06
1-47/64	10-3/8	16-1/4	4	183.49
1-3/4	10-3/8	16-1/4	4	161.33

Size	Flute Length	Overall Length	Morse Taper No.	Price Each
1-25/32	10-3/8	16-1/4	4	177.90
1-51/64	10-3/8	16-1/4	4	197.93
1-13/16	10-3/8	16-1/4	4	177.90
1-53/64	10-3/8	16-1/4	4	212.78
1-27/32	10-3/8	16-1/4	4	189.55
1-55/64	10-1/2	16-1/2	4	231.13
1-7/8	10-1/2	16-1/2	4	189.55
1-57/64	10-1/2	16-1/2	4	231.13
1-29/32	10-1/2	16-1/2	4	203.77
1-59/64	10-1/2	16-1/2	4	244.49
1-15/16	10-5/8	16-5/8	4	203.77
1-61/64	10-5/8	16-5/8	4	257.48
1-31/32	10-5/8	16-5/8	4	207.31
1-63/64	10-5/8	16-5/8	4	257.48
2	10-5/8	16-5/8	4	201.98
2-1/32	10-5/8	16-5/8	4	244.49
2-1/16	10-5/8	16-5/8	4	244.49
2-3/32	10-5/8	16-5/8	4	244.49
2-7/64	10-5/8	16-5/8	4	277.25
2-1/8	10-5/8	16-5/8	4	244.49
2-5/32	10-5/8	16-5/8	4	268.93
2-3/16	10-5/8	16-5/8	4	257.86
2-13/64	10-5/8	16-5/8	4	332.09
2-1/4	10-5/8	16-5/8	4	270.93
2-17/64	10-5/8	16-5/8	4	332.09
2-9/32	10-5/8	16-5/8	4	299.90
2-19/64	10-5/8	16-5/8	4	321.90
2-5/16	10-5/8	16-5/8	4	298.02
2-21/64	10-5/8	16-5/8	4	366.68
2-11/32	10-5/8	16-5/8	4	327.36
2-3/8	10-5/8	16-5/8	4	379.68
2-25/64	10-5/8	16-5/8	4	440.15
2-13/32	11-1/4	18	4	391.18
2-7/16	11-1/4	18	4	391.18
2-15/32	11-1/4	18	4	420.00
2-1/2	11-1/4	18	4	430.00
2-17/32	12	18-3/4	4	455.00
2-9/16	12	18-3/4	4	455.00
2-19/32	12	18-3/4	4	475.20
2-21/32	12-7/8	19-3/8	4	530.64
2-11/16	12-7/8	19-3/8	4	530.64
2-23/32	12-7/8	19-3/8	4	557.04
2-25/32	12-7/8	19-3/8	4	591.70
2-13/16	13-5/8	20-1/8	4	601.26
2-27/32	13-5/8	20-1/8	4	627.40
2-29/32	13-5/8	20-1/8	4	659.34
2-15/16	14-1/8	20-3/4	4	686.40
2-31/32	14-1/8	20-3/4	4	718.41
3	14-1/8	20-3/4	4	760.00
3-5/32	15-1/4	23	5	937.20
3-7/32	15-1/4	23	5	982.08
3-9/32	15-1/4	23	5	1040.82
3-5/16	16-1/4	24	5	1040.82
3-11/32	16-1/4	24	5	1118.04
3-3/8	16-1/4	24	5	1267.20
3-13/32	16-1/4	24	5	1148.40
3-7/16	16-1/4	24	5	1364.88
3-15/32	17-1/4	25	5	1364.88
3-11/16	17-1/2	26	5	1650.00
3-3/4	17-1/2	26	5	1782.00
3-13/16	17-1/2	26	5	1914.00
3-7/8	17-1/2	26	5	2145.00
3-15/16	17-1/2	26	5	2376.00
4	17-1/2	26	5	2633.40

# Titanium Nitride Coated Taper Shank Drills

High Speed Steel

List No. 200T – 118° Point

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
7/32	.2188	2-3/4	6	1	24.55
5/16	.3125	3-1/8	6-3/8	1	35.63
21/64	.3281	3-1/4	6-1/2	1	37.22
11/32	.3438	3-1/4	6-1/2	1	37.22
3/8	.3750	3-1/2	6-3/4	1	37.22
13/32	.4062	3-5/8	7	1	41.00
27/64	.4219	3-7/8	7-1/4	1	42.33
7/16	.4375	3-7/8	7-1/4	1	40.59
29/64	.4531	4-1/8	7-1/2	1	45.54
15/32	.4688	4-1/8	7-1/2	1	46.90
1/2	.5000	4-3/8	8-1/4	2	47.92
33/64	.5156	4-5/8	8-1/2	2	57.22
17/32	.5313	4-5/8	8-1/2	2	53.06
35/64	.5469	4-7/8	8-3/4	2	61.02
9/16	.5625	4-7/8	8-3/4	2	58.81
37/64	.5781	4-7/8	8-3/4	2	67.63
19/32	.5938	4-7/8	8-3/4	2	63.32
39/64	.6094	4-7/8	8-3/4	2	72.82
5/8	.6250	4-7/8	8-3/4	2	64.15
41/64	.6406	5-1/8	9	2	73.92
21/32	.6563	5-1/8	9	2	71.28
43/64	.6719	5-3/8	9-1/4	2	73.66
11/16	.6875	5-3/8	9-1/4	2	73.66
23/32	.7188	5-5/8	9-1/2	2	79.20
3/4	.7500	5-7/8	9-3/4	2	86.33



Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
49/64	.7656	6	9-7/8	2	99.28
25/32	.7813	6	9-7/8	2	102.96
51/64	.7969	6-1/8	10-3/4	3	106.44
13/16	.8125	6-1/8	10-3/4	3	107.71
53/64	.8281	6-1/8	10-3/4	3	123.87
27/32	.8438	6-1/8	10-3/4	3	115.63
7/8	.8750	6-1/8	10-3/4	3	118.80
29/32	.9063	6-1/8	10-3/4	3	126.72
59/64	.9219	6-1/8	10-3/4	3	130.33
15/16	.9375	6-1/8	10-3/4	3	120.38
31/32	.9688	6-3/8	11	3	130.68
63/64	.9844	6-3/8	11	3	144.14
1	1.0000	6-3/8	11	3	133.06
1-1/32	1.0313	6-1/2	11-1/8	3	146.52
1-1/16	1.0625	6-5/8	11-1/4	3	152.06
1-3/32	1.0938	6-7/8	12-1/2	4	180.58
1-1/8	1.1250	7-1/8	12-3/4	4	187.70
1-5/32	1.1563	7-1/4	12-7/8	4	198.00
1-3/16	1.1875	7-3/8	13	4	205.92
1-7/32	1.2188	7-1/2	13-1/8	4	221.76
1-1/4	1.2500	7-7/8	13-1/2	4	229.68
1-9/32	1.2813	8-1/2	13-1/8	3	240.00
1-5/16	1.3125	8-5/8	14-1/4	4	289.87
1-3/8	1.3750	8-7/8	14-1/2	4	308.88
1-1/2	1.5000	9-3/8	15	4	356.40

Other sizes available, Please inquire.

# Fast Spiral Taper Shank Drills

High Speed Steel

List No. 200F

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
1/8	.1250	1-7/8	5-1/8	1	24.75
9/64	.1406	2-1/8	5-3/8	1	24.75
5/32	.1562	2-1/8	5-3/8	1	24.75
18	.1695	2-1/2	5-3/4	1	29.10
11/64	.1719	2-1/2	5-3/4	1	24.75
3/16	.1875	2-1/2	5-3/4	1	24.75
9	.1960	2-3/4	6	1	29.10
13/64	.2031	2-3/4	6	1	24.75
7/32	.2188	2-3/4	6	1	24.75
1	.2280	2-3/4	6	1	30.49
15/64	.2344	2-7/8	6-1/8	1	24.75
C	.2420	2-7/8	6-1/8	1	27.80
1/4	.2500	2-7/8	6-1/8	1	24.75
F	.2570	3	6-1/4	1	27.81
G	.2610	3	6-1/4	1	33.15
17/64	.2656	3	6-1/4	1	25.50
I	.2720	3	6-1/4	1	33.15
J	.2770	3	6-1/4	1	30.59
19/64	.2969	3-1/8	6-3/8	1	25.50
N	.3020	3-1/8	6-3/8	1	34.79
5/16	.3125	3-1/8	6-3/8	1	33.99
21/64	.3281	3-1/4	6-1/2	1	33.99



Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
Q	.3320	3-1/4	6-1/2	1	43.30
R	.3390	3-1/4	6-1/2	1	47.62
11/32	.3438	3-1/4	6-1/2	1	33.99
S	.3480	3-1/2	6-3/4	1	49.89
23/64	.3594	3-1/2	6-3/4	1	33.99
3/8	.3750	3-1/2	6-3/4	1	33.99
25/64	.3906	3-5/8	7	1	35.89
Y	.4040	3-7/8	7-1/4	1	54.20
27/64	.4219	3-7/8	7-1/4	1	37.17
29/64	.4531	4-1/8	7-1/2	1	43.87
31/64	.4844	4-3/8	8-1/4	2	43.87
1/2	.5000	4-3/8	8-1/4	2	43.87
19/32	.5938	4-7/8	8-3/4	2	50.65
5/8	.6250	4-7/8	8-3/4	2	50.65
23/32	.7188	5-5/8	9-1/2	2	62.35
47/64	.7344	5-7/8	9-3/4	2	76.00
25/32	.7812	6	9-7/8	2	82.69
51/64	.7969	6-1/8	10-3/4	3	87.17
27/32	.8438	6-1/8	10-3/4	3	93.99
7/8	.8750	6-1/8	10-3/4	3	92.54
57/64	.8906	6-1/8	10-3/4	3	100.15
59/64	.9219	6-1/8	10-3/4	3	101.83

# Extra Long Taper Shank Drills



High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.

**Extensive Offering**

The world's largest and most extensive inventory

**Exclusively**  
from Michigan Drill

of **USA manufactured** extra long taper shank drills!

## 8" Overall Length List No. 108

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1/8	.1250	1	5	47.96
9/64	.1406	1	5	50.29
5/32	.1562	1	5	50.29
#20	.1610	1	5	56.10
11/64	.1719	1	5	50.29
3/16	.1875	1	5	50.29
13/64	.2031	1	5	50.29
#3	.2130	1	5	56.10
7/32	.2188	1	5	50.29
15/64	.2344	1	5	50.29
A	.2340	1	5	58.50
1/4	.2500	1	5	50.29
F	.2570	1	5	61.38
17/64	.2656	1	5	54.48

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
9/32	.2812	1	5	54.48
L	.2900	1	5	61.38
19/64	.2969	1	5	54.45
N	.3020	1	5	61.38
5/16	.3125	1	5	54.45
5/16	.3125	2	4	54.45
21/64	.3281	1	5	61.22
11/32	.3438	1	5	61.22
23/64	.3594	1	5	62.96
3/8	.3750	1	5	62.96
13/32	.4062	1	5	66.64
7/16	.4375	1	5	66.64
29/64	.4531	1	5	69.30
15/32	.4688	1	5	69.30

## 10" Overall Length List No. 110

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
5/32	.1562	1	7	57.82
11/64	.1719	1	7	59.00
3/16	.1875	1	7	60.94
13/64	.2031	1	7	60.94
7/32	.2188	1	7	60.94
15/64	.2344	1	7	60.94
1/4	.2500	1	7	60.94
F	.2570	1	7	76.56
9/32	.2812	1	7	66.49
19/64	.2969	1	7	66.49
21/64	.3281	1	7	72.03
T	.3580	1	7	76.56
23/64	.3594	1	7	74.05
3/8	.3750	1	7	74.05
13/32	.4062	1	7	76.56
27/64	.4219	1	7	78.87

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
7/16	.4375	1	7	78.87
29/64	.4531	1	7	86.61
15/32	.4688	1	7	83.48
15/32	.4688	2	6	86.00
31/64	.4844	2	6	95.59
1/2	.5000	1	7	92.23
1/2	.5000	2	6	92.23
33/64	.5156	2	6	95.59
17/32	.5312	2	6	92.23
35/64	.5469	1	7	93.54
35/64	.5469	2	6	93.54
9/16	.5625	2	6	93.54
37/64	.5781	2	6	98.21
19/32	.5938	2	6	94.76
39/64	.6093	2	6	100.98
5/8	.6250	2	6	100.98

## 12" Overall Length List No. 112

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1/8	.1250	1	9	68.51
9/64	.1406	1	9	69.50
5/32	.1562	1	9	69.50
11/64	.1719	1	9	69.50
3/16	.1875	1	9	69.50
13/64	.2031	1	9	71.08
7/32	.2188	1	9	71.08
A	.2340	1	9	79.20
15/64	.2344	1	9	71.08
1/4	.2500	1	9	71.08
F	.2570	1	9	82.50
17/64	.2656	1	9	77.81
9/32	.2812	1	9	77.81
19/64	.2969	1	9	77.81
5/16	.3125	1	9	77.81
21/64	.3281	1	9	84.74
11/32	.3438	1	9	84.74
23/64	.3594	1	9	87.12
3/8	.3750	1	9	87.12
25/64	.3906	1	9	91.48

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
13/32	.4062	1	9	91.48
27/64	.4219	1	9	94.64
7/16	.4375	1	9	94.64
29/64	.4531	1	9	101.89
15/32	.4688	1	9	98.21
31/64	.4844	2	8	112.46
1/2	.5000	2	8	108.50
33/64	.5156	2	8	112.46
17/32	.5312	2	8	108.90
35/64	.5469	2	8	114.05
9/16	.5625	2	8	110.05
37/64	.5781	2	8	115.59
19/32	.5938	2	8	111.47
39/64	.6094	2	8	123.27
5/8	.6250	2	8	118.79
5/8	.6250	3	7	122.10
41/64	.6406	2	8	127.12
21/32	.6562	2	8	127.12
43/64	.6719	2	8	138.60
11/16	.6875	2	8	138.60

# Extra Long Taper Shank Drills



High Speed Steel – 118° Point

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The world's largest and most extensive inventory of **USA manufactured**

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extra long taper shank drills!

## 12" Overall Length List No. 112 ▶ Continued

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
45/64	.7031	2	8	147.71
23/32	.7188	2	8	147.71
47/64	.7344	2	8	153.61
3/4	.7500	2	8	153.61
49/64	.7656	2	8	162.20
49/64	.7656	3	7	162.20
25/32	.7812	2	8	162.20
25/32	.7812	3	7	162.20
51/64	.7969	3	7	171.19
13/16	.8125	3	7	171.19

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
53/64	.8281	3	7	171.19
27/32	.8438	3	7	171.19
55/64	.8594	3	7	171.19
7/8	.8750	3	7	171.19
57/64	.8906	3	7	188.18
29/32	.9062	3	7	188.18
59/64	.9219	3	7	194.36
15/16	.9375	3	7	194.36
31/32	.9688	3	7	203.62
1	1.0000	3	7	205.13

## 14" Overall Length List No. 114

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
3/16	.1875	1	11	82.00
1/4	.2500	1	11	82.00
5/16	.3125	2	10	99.00
25/64	.3906	1	11	110.48
25/64	.3906	2	10	110.48
7/16	.4375	1	11	110.48
29/64	.4531	1	11	110.48
15/32	.4688	1	11	110.48
15/32	.4688	2	10	110.48
31/64	.4844	2	10	112.15
1/2	.5000	2	10	112.15
33/64	.5156	1	11	113.26
33/64	.5156	2	10	113.26
17/32	.5312	2	10	117.93
35/64	.5469	1	11	123.16
9/16	.5625	2	10	123.16
37/64	.5781	2	10	123.16
19/32	.5938	2	10	123.16
39/64	.6094	2	10	129.89
5/8	.6250	2	10	129.89
41/64	.6406	2	10	139.19
21/32	.6562	2	10	139.19

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
43/64	.6719	2	10	150.28
11/16	.6875	2	10	150.28
45/64	.7031	2	10	152.46
23/32	.7188	2	10	152.46
47/64	.7344	2	10	165.53
3/4	.7500	2	10	165.53
49/64	.7656	2	10	173.45
25/32	.7812	2	10	173.45
20.50mm	.8071	3	9	188.77
27/32	.8438	3	9	179.78
7/8	.8750	3	9	199.58
22.50mm	.8858	3	9	225.00
57/64	.8906	3	9	199.58
29/32	.9062	3	9	204.00
61/64	.9531	3	9	210.00
31/32	.9688	3	9	217.01
63/64	.9844	3	9	217.01
1	1.0000	3	9	221.00
1-3/32	1.0938	3	10	226.00
1-5/32	1.1562	3	10	230.05
1-11/64	1.1719	3	10	235.00
1-3/16	1.1875	3	9	234.30

## 15" Overall Length List No. 115

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
3/16	.1875	1	12	92.66
13/64	.2031	1	12	92.66
7/32	.2188	1	12	92.66
15/64	.2344	1	12	92.66
1/4	.2500	1	12	92.66
17/64	.2656	1	12	97.81
9/32	.2812	1	12	97.81
19/64	.2969	1	12	102.96
5/16	.3125	1	12	102.96
21/64	.3281	1	12	108.11
11/32	.3438	1	12	108.11
23/64	.3594	1	12	120.46
3/8	.3750	1	12	120.46
25/64	.3906	1	12	120.46
13/32	.4062	1	12	120.46
27/64	.4219	1	12	120.46
7/16	.4375	1	12	120.46
29/64	.4531	1	12	123.55

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
15/32	.4688	1	12	123.55
15/32	.4688	2	11	125.33
31/64	.4844	2	11	125.33
1/2	.5000	2	11	125.33
33/64	.5156	1	12	130.68
33/64	.5156	2	11	125.33
17/32	.5312	2	11	125.33
35/64	.5469	1	12	127.12
35/64	.5469	2	11	127.12
9/16	.5625	2	11	127.12
37/64	.5781	2	11	128.90
19/32	.5938	2	11	128.90
39/64	.6094	2	11	137.57
5/8	.6250	2	11	137.57
41/64	.6406	2	11	147.31
21/32	.6562	2	11	147.31
43/64	.6719	2	11	161.41
11/16	.6875	2	11	161.41

Continued on Next Page ▶



# Extra Long Taper Shank Drills



High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.

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The world's largest and most extensive inventory of **USA manufactured**

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extra long taper shank drills!

HOLE MAKING

## 15" Overall Length List No. 115 ▶ Continued

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
45/64	.7031	2	11	166.91
23/32	.7188	2	11	166.91
47/64	.7344	2	11	178.87
3/4	.7500	2	11	178.87
49/64	.7656	2	11	188.69
25/32	.7812	2	11	188.69
51/64	.7969	3	10	188.69
13/16	.8125	3	10	188.69
53/64	.8281	3	10	188.69
27/32	.8438	3	10	188.69
55/64	.8594	3	10	188.69
7/8	.8750	3	10	188.69
57/64	.8906	3	10	212.45
29/32	.9062	3	10	212.45
59/64	.9219	3	10	212.45
15/16	.9375	3	10	223.34
61/64	.9531	3	10	226.63
31/32	.9688	3	10	226.63
63/64	.9844	3	10	229.48

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1	1.0000	3	10	229.48
1-1/64	1.0156	3	10	230.59
1-1/32	1.0312	3	10	230.59
1-3/64	1.0469	3	10	234.83
1-1/16	1.0625	3	10	230.59
1-5/64	1.0781	4	9	247.10
1-3/32	1.0938	4	9	247.10
1-7/64	1.1094	4	9	247.10
1-1/8	1.1250	4	9	247.10
1-9/64	1.1406	4	9	252.05
1-5/32	1.1562	3	10	252.05
1-5/32	1.1562	4	9	252.05
1-11/64	1.1719	4	9	254.83
1-3/16	1.1875	3	10	254.83
1-3/16	1.1875	4	9	254.83
1-7/32	1.2188	4	9	270.27
1-15/64	1.2344	4	9	270.27
1-1/4	1.2500	4	9	270.27
1-13/32	1.4062	4	9	360.60

## 18" Overall Length List No. 118

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1/4	.2500	1	15	120.78
17/64	.2656	1	15	122.76
9/32	.2812	1	15	122.76
19/64	.2969	1	15	125.93
5/16	.3125	1	15	125.93
21/64	.3281	1	15	130.68
11/32	.3438	1	15	130.68
23/64	.3594	1	15	136.62
3/8	.3750	1	15	136.62
25/64	.3906	1	15	136.62
13/32	.4062	1	15	136.62
27/64	.4219	1	15	136.62
7/16	.4375	1	15	136.62
29/64	.4531	1	15	136.62
15/32	.4688	1	15	136.62
31/64	.4844	2	14	136.62
1/2	.5000	2	14	136.62
33/64	.5156	2	14	136.62
17/32	.5312	2	14	136.62
35/64	.5469	2	14	138.60
9/16	.5625	2	14	138.60
37/64	.5781	2	14	140.18
19/32	.5938	2	14	140.18
39/64	.6094	2	14	150.28
5/8	.6250	2	14	150.28
41/64	.6406	2	14	161.37
21/32	.6562	2	14	161.37
43/64	.6719	2	14	176.89
11/16	.6875	2	14	176.89
45/64	.7031	2	14	190.36
23/32	.7188	2	14	190.36
47/64	.7344	2	14	196.38
3/4	.7500	2	14	196.38
49/64	.7656	2	14	206.95
25/32	.7812	2	14	206.95

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
51/64	.7969	2	14	206.95
51/64	.7969	3	13	206.95
13/16	.8125	3	13	206.95
53/64	.8281	3	13	216.02
27/32	.8438	3	13	216.02
55/64	.8594	3	13	223.74
7/8	.8750	3	13	223.74
57/64	.8906	3	13	231.58
29/32	.9062	3	13	231.58
59/64	.9219	3	13	235.46
15/16	.9375	3	13	235.46
61/64	.9531	3	13	239.34
31/32	.9688	3	13	239.34
63/64	.9844	3	13	252.94
1	1.0000	3	13	252.94
1-1/64	1.0156	3	13	252.94
1-1/32	1.0312	3	13	274.35
1-3/64	1.0469	3	13	274.35
1-1/16	1.0625	3	13	274.35
1-5/64	1.0781	4	12	277.20
1-3/32	1.0938	4	12	277.20
1-7/64	1.1094	4	12	277.20
1-1/8	1.1250	4	12	277.20
1-9/64	1.1406	4	12	308.29
1-5/32	1.1562	4	12	308.29
1-11/64	1.1719	4	12	308.88
1-3/16	1.1875	4	12	308.88
1-13/64	1.2031	4	12	324.32
1-7/32	1.2188	4	12	324.32
1-15/64	1.2344	4	12	324.32
1-1/4	1.2500	4	12	324.32
1-17/64	1.2656	4	12	380.16
1-9/32	1.2813	4	12	367.09
1-5/16	1.3125	4	12	367.09
1-11/32	1.3438	4	12	411.25

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# Extra Long Taper Shank Drills



High Speed Steel – 118° Point

These drills are utilized in deep hole or long reach drilling applications in many kinds of materials. For fixed spindle use.



Extensive Offering

The world's largest and most extensive inventory of USA manufactured

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extra long taper shank drills!

## 18" Overall Length List No. 118 ▶ Continued

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-23/64	1.3594	4	12	411.25
1-3/8	1.3750	4	12	411.25
1-13/32	1.4062	4	12	423.72
1-27/64	1.4219	4	12	423.72
1-7/16	1.4375	4	12	423.72
1-15/32	1.4688	4	12	459.36
1-1/2	1.5000	4	12	459.36
1-17/32	1.5312	5	10	511.63

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-9/16	1.5625	5	10	511.63
1-19/32	1.5938	5	10	537.21
1-5/8	1.6250	5	10	545.69
1-11/16	1.6875	5	10	582.12
1-3/4	1.7500	5	10	653.40
1-13/16	1.8125	5	10	720.72
1-7/8	1.8750	5	10	790.02
1-29/32	1.9062	5	10	790.02

## 20" Overall Length List No. 120

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
25/64	.3906	1	14-1/2	170.00
13/32	.4062	1	14-1/2	170.00
31/64	.4843	2	16	170.00
33/64	.5156	2	16	174.24
17/32	.5312	2	16	174.24
35/64	.5469	3	15	178.20
9/16	.5625	2	16	178.20
19/32	.5938	2	16	178.20
5/8	.6250	2	16	193.45
21/32	.6562	2	16	213.05
13/16	.8125	3	15	228.89
27/32	.8438	3	15	236.81
7/8	.8750	3	15	253.44
29/32	.9062	3	15	257.40
15/16	.9375	3	15	257.40
31/32	.9688	3	15	276.41
1-1/64	1.0156	3	15	290.00
1-1/16	1.0625	3	15	300.17

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-3/32	1.0938	4	14	316.01
1-1/8	1.1250	4	14	316.01
1-5/32	1.1562	4	14	368.28
1-3/16	1.1875	4	14	368.28
1-13/64	1.2031	4	14	368.28
1-7/32	1.2188	4	14	368.28
1-1/4	1.2500	4	14	368.28
1-9/32	1.2812	4	14	429.83
1-21/64	1.3281	3	15	464.90
1-11/32	1.3438	4	14	464.90
1-3/8	1.3750	4	14	464.90
1-13/32	1.4062	4	14	495.00
1-7/16	1.4375	4	14	495.00
1-15/32	1.4688	4	14	514.80
1-3/4	1.7500	5	13	720.72
1-25/32	1.7812	5	13	831.60
2-3/16	2.1875	4	14	1280.00

## 24" Overall Length List No. 124

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
3/8	.3750	1	21	191.66
25/64	.3906	1	21	191.66
13/32	.4062	1	21	191.66
27/64	.4219	1	21	191.66
7/16	.4375	1	21	191.66
29/64	.4531	1	21	191.66
15/32	.4688	1	21	191.66
31/64	.4844	2	20	191.66
1/2	.5000	2	20	191.66
33/64	.5156	2	20	199.15
17/32	.5312	2	20	199.15
35/64	.5469	2	20	199.15
9/16	.5625	2	20	199.15
37/64	.5781	2	20	199.15
19/32	.5938	2	20	199.15
39/64	.6094	2	20	199.15
5/8	.6250	2	20	199.15
41/64	.6406	2	20	199.15
21/32	.6562	2	20	199.15
43/64	.6719	2	20	210.51
11/16	.6875	2	20	210.51
45/64	.7031	2	20	217.56
23/32	.7188	2	20	217.56
47/64	.7344	2	20	229.86
3/4	.7500	2	20	229.86
49/64	.7656	2	20	237.20

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
25/32	.7812	2	20	237.20
51/64	.7969	3	19	249.76
13/16	.8125	3	19	249.76
53/64	.8281	3	19	287.45
27/32	.8438	3	19	287.45
55/64	.8594	3	19	300.54
7/8	.8750	3	19	300.54
57/64	.8906	3	19	300.54
29/32	.9062	3	19	300.54
59/64	.9219	3	19	313.02
15/16	.9375	3	19	313.02
61/64	.9531	3	19	344.97
31/32	.9688	3	19	344.97
63/64	.9844	3	19	351.32
1	1.0000	3	19	351.32
1-1/64	1.0156	3	19	360.33
1-1/32	1.0312	3	19	360.33
1-3/64	1.0469	3	19	360.33
1-1/16	1.0625	3	19	360.33
1-5/64	1.0781	4	18	395.95
1-3/32	1.0938	4	18	395.95
1-1/8	1.1250	4	18	395.95
1-9/64	1.1406	4	18	426.02
1-5/32	1.1562	4	18	426.02
1-11/64	1.1719	4	18	442.02
1-3/16	1.1875	4	18	442.02

Continued on Next Page ▶

# Extra Long Taper Shank Drills

High Speed Steel – 118° Point



HOLE MAKING

## 24" Overall Length List No. 124 ▶ Continued

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-13/64	1.2031	4	18	447.13
1-7/32	1.2188	3	19	447.13
1-7/32	1.2188	4	18	447.13
1-15/64	1.2344	4	18	447.13
1-1/4	1.2500	4	18	447.13
1-17/64	1.2656	4	18	506.29
1-9/32	1.2812	3	19	530.00
1-9/32	1.2812	4	18	506.29
1-5/16	1.3125	4	18	506.29
1-11/32	1.3438	4	18	566.28
1-23/64	1.3594	4	18	566.28
1-3/8	1.3750	4	18	566.28
1-25/64	1.3906	4	18	585.45
1-13/32	1.4062	4	18	585.45
1-7/16	1.4375	4	18	585.45
1-15/32	1.4688	4	18	634.67
1-1/2	1.5000	4	18	634.67
1-17/32	1.5312	4	18	695.00
1-9/16	1.5625	4	18	705.24
1-9/16	1.5625	5	17	705.24
1-19/32	1.5938	4	18	705.24
1-5/8	1.6250	4	18	705.24
1-5/8	1.6250	5	17	705.24
1-21/32	1.6562	4	18	803.25
1-11/16	1.6875	4	18	803.25
1-11/16	1.6875	5	17	803.25
1-23/32	1.7188	4	18	898.21
1-3/4	1.7500	4	18	898.21
1-3/4	1.7500	5	17	898.21
1-25/32	1.7812	4	18	993.17

The world's largest and most extensive inventory of USA manufactured extra long taper shank drills!

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-25/32	1.7812	5	17	993.17
1-13/16	1.8125	4	18	993.17
1-13/16	1.8125	5	17	993.17
1-27/32	1.8438	4	18	1102.94
1-7/8	1.8750	4	18	1102.94
1-7/8	1.8750	5	17	1102.94
1-29/32	1.9062	4	18	1211.84
1-15/16	1.9375	4	18	1211.84
1-15/16	1.9375	5	17	1211.84
1-31/32	1.9688	4	18	1313.77
2	2.0000	4	18	1313.77
2	2.0000	5	17	1313.77
2-1/16	2.0625	5	17	1415.70
2-3/32	2.0938	5	17	1415.70
2-1/8	2.1250	5	17	1415.70
2-3/16	2.1875	5	17	1555.96
2-7/32	2.2188	5	17	1694.88
2-1/4	2.2500	5	17	1555.96
2-5/16	2.3125	5	17	1696.23
2-3/8	2.3750	5	17	1696.23
2-7/16	2.4375	5	17	1810.35
2-1/2	2.5000	5	17	1810.35
2-9/16	2.5625	5	17	1924.48
2-5/8	2.6250	5	17	1924.48
2-11/16	2.6875	5	17	2083.91
2-3/4	2.7500	5	17	2083.91
2-13/16	2.8125	5	17	2243.34
2-7/8	2.8750	5	17	2243.34
2-15/16	2.9375	5	17	2563.07
3	3.0000	5	17	2563.07

## 30" Overall Length List No. 130

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
3/4	.7500	2	26	316.01
13/16	.8125	3	25	372.24
7/8	.8750	3	25	426.89
15/16	.9375	3	25	461.74
1	1.0000	3	25	508.46
1-1/32	1.0312	3	25	508.46
1-1/16	1.0625	3	25	508.46
1-3/32	1.0937	4	24	580.54
1-1/8	1.1250	4	24	580.54
1-3/16	1.1875	4	24	632.81
1-13/64	1.2031	4	24	685.08
1-1/4	1.2500	4	24	685.08
1-5/16	1.3125	4	24	777.74
1-11/32	1.3438	4	24	812.20
1-3/8	1.3750	4	24	846.65
1-7/16	1.4375	4	24	871.20
1-1/2	1.5000	4	24	949.61
1-9/16	1.5625	5	23	1060.49
1-5/8	1.6250	5	23	1060.49
1-11/16	1.6875	5	23	1172.16
1-3/4	1.7500	5	23	1172.16

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-13/16	1.8125	5	23	1312.34
1-13/16	1.8125	4	24	1312.34
1-7/8	1.8750	5	23	1312.34
1-15/16	1.9375	4	24	1451.74
1-15/16	1.9375	5	23	1451.74
2	2.0000	5	23	1492.92
2-1/16	2.0625	5	23	1647.36
2-1/8	2.1250	5	23	1647.36
2-3/16	2.1875	5	23	1767.74
2-1/4	2.2500	5	23	1767.74
2-5/16	2.3125	5	23	1928.52
2-3/8	2.3750	5	23	1928.52
2-7/16	2.4375	5	23	2058.41
2-1/2	2.5000	5	23	2058.41
2-5/8	2.6250	5	23	2185.13
2-3/4	2.7500	5	23	2367.29
2-7/8	2.8750	5	23	2501.93
3	3.0000	5	23	2914.56
3-1/8	3.1250	5	23	3310.56
3-3/8	3.3750	5	23	5358.67
3-1/2	3.5000	5	23	6842.88

## 36" Overall Length List No. 136

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
1-1/2	1.5000	4	30	1167.41
1-3/4	1.7500	5	29	1440.65
2	2.0000	5	29	1928.52
2-1/8	2.1250	5	29	2251.66
2-3/8	2.3750	5	29	2699.14

Size	Decimal Equivalent	Morse Taper No.	Flute Length	Price Each
2-1/2	2.5000	5	29	2699.14
2-5/8	2.6250	5	29	3060.29
2-3/4	2.7500	5	29	3569.54
3	3.0000	5	29	4359.96
3-1/8	3.1250	5	29	4359.96

# Oil Hole Straight Shank Drills

High Speed Steel – 118° Notched Point



## Regular Length

List No. **499** – Standard Spiral

List No. **499SL** – Slow Spiral



Size	Dec. Equiv.	Approx. Flute Length	Overall Length	Price Each	
				Spiral 499	Slow Spiral 499SL
1/8	.1250	2-1/2	4-7/8	265.86	—
9/64	.1406	3	5-1/8	265.86	—
11/64	.1719	3-3/8	5-3/4	265.86	—
3/16	.1875	3-3/8	5-3/4	265.86	—
15/64	.2344	3-3/8	5-3/4	265.86	265.86
1/4*	.2500	1-3/4	4-5/16	265.86	265.86
17/64	.2656	3-7/8	6-1/4	265.86	—
9/32	.2812	4	6-3/8	265.86	265.86
19/64	.2969	4	6-3/8	265.86	265.86
5/16	.3125	4	6-3/8	265.86	265.86
21/64	.3281	4-1/8	6-1/2	265.86	—
11/32	.3438	4-1/8	6-1/2	265.86	—
23/64	.3594	4-1/4	6-3/4	265.86	—
3/8	.3750	4-1/4	6-3/4	264.64	264.64
25/64	.3906	4-3/8	7	269.58	269.58
13/32	.4062	4-3/8	7	269.58	269.58
27/64	.4219	4-5/8	7-1/4	279.44	279.44
7/16	.4375	4-5/8	7-1/4	279.44	279.44
29/64	.4531	4-7/8	7-1/2	285.32	285.32
15/32	.4688	4-7/8	7-1/2	285.32	285.32
31/64	.4844	5	7-3/4	288.95	288.95
1/2	.5000	5	7-3/4	288.95	288.95
33/64	.5156	5-1/4	8	293.20	293.20
17/32	.5312	5-1/4	8	293.20	293.20
35/64	.5469	5-3/8	8-1/4	300.08	300.08
14mm	.5512	5-3/8	8-1/4	315.00	—
9/16	.5625	5-3/8	8-1/4	300.08	300.08
37/64	.5781	5-5/8	8-1/2	303.44	303.44
19/32	.5938	5-5/8	8-1/2	303.44	303.44
39/64	.6094	5-3/4	8-3/4	318.11	318.11
5/8	.6250	5-3/4	8-3/4	318.11	318.11
41/64	.6406	5-7/8	9	318.11	318.11
21/32	.6562	5-7/8	9	318.11	318.11
43/64	.6719	6	9-1/4	325.32	325.32
11/16	.6875	6	9-1/4	325.32	325.32
45/64	.7031	6-3/16	9-1/2	333.79	333.79
23/32	.7188	6-3/16	9-1/2	333.79	333.79
47/64	.7344	6-3/8	9-3/4	356.89	356.89
3/4	.7500	6-3/8	9-3/4	356.89	356.89
49/64	.7656	6-1/2	9-7/8	363.01	363.01
25/32	.7812	6-1/2	9-7/8	363.01	363.01
51/64	.7969	6-5/8	10	371.51	371.51
13/16	.8125	6-5/8	10	371.51	371.51
53/64	.8281	6-3/4	10-1/4	378.86	378.86
27/32	.8438	6-3/4	10-1/4	378.86	378.86
55/64	.8594	7	10-1/2	410.15	410.15
7/8	.8750	7	10-1/2	410.15	410.15
57/64	.8906	7	10-5/8	439.43	439.43

\* TIN Coated

Specials can be made to print. Please inquire.

Size	Dec. Equiv.	Approx. Flute Length	Overall Length	Price Each	
				Spiral 499	Slow Spiral 499SL
29/32	.9062	7	10-5/8	439.43	439.43
59/64	.9219	7	10-3/4	469.81	469.81
15/16	.9375	7	10-3/4	469.81	469.81
61/64	.9531	7-1/8	10-7/8	492.77	492.77
31/32	.9688	7-1/8	10-7/8	492.77	492.77
63/64	.9844	7-3/16	11	517.21	517.21
1	1.0000	7-3/16	11	517.21	517.21
1-1/64	1.0156	7-5/16	11-1/8	546.17	—
1-1/32	1.0312	7-5/16	11-1/8	546.17	—
1-3/64	1.0469	7-3/8	11-1/4	568.27	568.27
1-1/16	1.0625	7-3/8	11-1/4	568.27	568.27
1-5/64	1.0781	7-5/8	11-1/2	591.22	—
1-3/32	1.0938	7-5/8	11-1/2	591.22	591.22
1-7/64	1.1094	7-7/8	11-3/4	621.43	—
1-1/8	1.1250	7-7/8	11-3/4	621.43	621.43
1-9/64	1.1406	8	11-7/8	651.92	—
1-5/32	1.1562	8	11-7/8	651.92	651.92
1-11/64	1.1719	8-1/8	12	682.29	—
1-3/16	1.1875	8-1/8	12	682.29	682.29
1-13/64	1.2031	8-1/8	12-1/8	712.54	—
1-7/32	1.2188	8-1/8	12-1/8	712.54	—
1-15/64	1.2344	8-1/2	12-1/2	741.75	—
1-1/4	1.2500	8-1/2	12-1/2	741.75	741.75
1-17/64	1.2656	9-1/4	14-1/8	789.50	—
1-9/32	1.2812	9-1/4	14-1/8	789.50	—
1-19/64	1.2969	9-1/4	14-1/4	823.01	—
1-5/16	1.3125	9-1/4	14-1/4	823.01	823.01
1-21/64	1.3281	9-1/2	14-3/8	876.03	—
1-11/32	1.3438	9-1/2	14-3/8	876.03	—
1-23/64	1.3594	9-1/2	14-1/2	923.92	—
1-3/8	1.3750	9-1/2	14-1/2	923.92	923.92
1-13/32	1.4062	9-1/2	14-5/8	1034.29	—
1-7/16	1.4375	9-1/8	14-3/4	1034.29	1034.29
1-29/64	1.4531	9-1/8	14-3/4	1119.12	—
1-15/32	1.4688	9-1/8	14-7/8	1119.12	—
1-1/2	1.5000	9-5/8	15	1119.12	1119.12
1-9/16	1.5625	9-5/8	15-1/4	1240.58	—
1-5/8	1.6250	9-7/8	15-5/8	1342.70	—
1-11/16	1.6875	10	15-3/4	1525.25	—
1-3/4	1.7500	10-1/2	16-1/4	1611.23	—
1-13/16	1.8125	10-1/2	16-1/4	1624.40	—
1-27/32	1.8438	10-3/4	16-5/8	2014.88	—
1-7/8	1.8750	10-3/4	16-1/2	1786.37	—
1-55/64	1.8938	10-3/4	17-3/8	1918.51	—
1-15/16	1.9375	10-3/4	16-5/8	1918.51	—
1-31/32	1.9688	10-3/4	16-5/8	2014.88	—
2	2.0000	10-3/4	16-5/8	2014.88	—
2-5/8	2.6250	11	19-1/2	2880.00	—

## Extra Length

List No. **499X**



Size	Decimal Equivalent	Approx. Flute Length	Overall Length	Price Each
13/64	.2031	4-3/4	7-1/8	392.04
15/64	.2344	5-1/8	7-1/2	260.79
17/64	.2656	5-1/2	7-7/8	481.85
9/32	.2812	5-1/2	7-7/8	481.85
19/64	.2969	5-7/8	8-1/4	481.85
5/16	.3125	5-7/8	8-1/4	481.85
21/64	.3281	6-1/4	8-5/8	491.83
23/64	.3594	6-3/8	8-7/8	491.83
3/8	.3750	6-3/8	8-7/8	303.66

Size	Decimal Equivalent	Approx. Flute Length	Overall Length	Price Each
11mm	.4331	7-1/2	10	510.00
7/16	.4375	7	9-5/8	507.80
31/64	.4844	7-1/2	10-1/4	525.10
1/2	.5000	7-1/2	10-1/4	331.50
9/16	.5625	8-1/2	12	610.00
3/4	.7500	8-1/2	12	656.38
25/32	.7812	8-1/2	12	665.00
20mm	.7874	7-1/2	12	680.00
1-1/16	1.0625	9	13	740.00

# Oil Hole Taper Shank Drills

High Speed Steel

List No. 299 – 118° Notched Point

Oil Hole Drills feature coolant passages throughout the length of the body. These allow a coolant (air, oil, or vapor mist) to reach the cutting edges. The resulting flow cools and lubricates the cutting edges and also aids in the extraction of chips.



## Standard Length

Specials can be made to print. Please inquire.

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
1/4	.2500	2-7/8	7	2	425.33
17/64	.2656	3	7-1/8	2	425.33
19/64	.2986	3-1/8	7-1/4	2	425.33
5/16	.3125	3-1/8	7-1/4	2	425.33
21/64	.3281	3-1/2	7-5/8	2	425.33
23/64	.3594	3-1/2	7-5/8	2	425.33
3/8	.3750	3-1/2	7-5/8	2	425.33
25/64	.3906	3-5/8	8	2	425.33
13/32	.4062	3-5/8	8	2	425.33
27/64	.4219	3-7/8	8-1/8	2	425.33
7/16	.4375	3-7/8	8-3/8	2	425.33
7/16	.4375	3-7/8	8-1/2	3	425.33
29/64	.4531	4-1/8	8-3/4	2	425.33
15/32	.4688	4-1/8	8-3/4	3	398.67
31/64	.4844	4-3/8	9	3	398.67
1/2	.5000	4-3/8	9	3	398.67
33/64	.5156	4-5/8	9-1/4	3	398.67
17/32	.5312	4-5/8	9-1/4	3	398.67
35/64	.5469	4-7/8	9-1/2	3	398.67
9/16	.5625	4-7/8	9-1/2	3	356.74
37/64	.5781	4-7/8	9-1/2	3	398.67
19/32	.5938	4-7/8	9-1/2	3	356.74
39/64	.6094	4-7/8	9-1/2	3	356.74
5/8	.6250	4-7/8	9-1/2	3	356.74
41/64	.6406	5-1/8	9-3/4	3	356.74
21/32	.6562	5-1/8	9-3/4	3	357.32
43/64	.6719	5-3/8	10	3	362.30
11/16	.6875	5-3/8	10	3	362.30
45/64	.7031	5-5/8	10-1/4	3	367.29
23/32	.7188	5-5/8	10-1/4	3	367.29
47/64	.7344	5-7/8	10-1/2	3	367.29
3/4	.7500	5-7/8	10	2	367.29
3/4	.7500	5-7/8	10-1/2	3	367.29
49/64	.7656	6	10-5/8	3	370.88
25/32	.7812	6	10-5/8	3	370.88
51/64	.7969	6-1/8	10-3/4	3	370.88
13/16	.8125	6-1/8	10-3/4	3	370.88
53/64	.8281	6-1/8	10-3/4	3	403.60
27/32	.8438	6-1/8	10-3/4	3	403.60
55/64	.8594	6-1/8	10-3/4	3	403.60
7/8	.8750	6-1/8	10-3/4	3	403.60
57/64	.8906	6-1/8	10-3/4	3	404.81
29/32	.9062	6-1/8	10-3/4	3	404.81
59/64	.9219	6-1/8	10-3/4	3	404.81

Size	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	Price Each
15/16	.9375	6-1/8	10-3/4	3	404.81
61/64	.9531	6-3/8	11	3	477.32
31/32	.9688	6-3/8	11	3	477.32
63/64	.9844	6-3/8	11	3	477.32
1	1.0000	6-3/8	11	3	477.32
1-1/64	1.0156	6-1/2	11-1/8	3	517.07
1-1/32	1.0312	6-1/2	11-1/8	3	517.07
1-3/64	1.0469	6-5/8	11-1/4	3	517.07
1-1/16	1.0625	6-5/8	11-1/4	3	517.07
1-1/16	1.0625	6-5/8	12-1/4	4*	517.07
1-5/64	1.0781	6-7/8	12-1/2	4	610.78
1-3/32	1.0938	6-7/8	12-1/2	4	610.78
1-7/64	1.1094	7-1/8	12-3/4	4	668.05
1-1/8	1.1250	7-1/8	12-3/4	4	668.05
1-9/64	1.1406	7-1/4	12-7/8	4	668.05
1-5/32	1.1562	7-1/4	12-7/8	4	668.05
1-11/64	1.1719	7-3/8	13	4	672.17
1-3/16	1.1875	7-3/8	13	4	672.17
1-13/64	1.2031	7-1/2	13-1/8	4	764.89
1-7/32	1.2188	7-1/2	13-1/8	4	764.89
1-15/64	1.2344	7-7/8	13-1/2	4	764.89
1-1/4	1.2500	7-7/8	13-1/2	4	764.89
1-17/64	1.2656	8-1/2	14-1/8	4	929.77
1-9/32	1.2812	8-1/2	14-1/8	4	929.77
1-19/64	1.2969	8-5/8	14-1/4	4	1000.33
1-5/16	1.3125	8-5/8	14-1/4	4	1000.33
1-21/64	1.3281	8-3/4	14-3/8	4	1000.33
1-11/32	1.3438	8-3/4	14-3/8	4	1000.33
1-23/64	1.3594	8-7/8	14-1/2	4	1107.28
1-3/8	1.3750	8-7/8	14-1/2	4	1107.28
1-25/64	1.3906	9	14-5/8	4	1107.28
1-13/32	1.4062	9	14-5/8	4	1107.28
1-27/64	1.4219	9-1/8	14-3/4	4	1107.28
1-7/16	1.4375	9-1/8	14-3/4	4	1107.28
1-15/32	1.4688	9-1/4	14-7/8	4	1155.86
1-1/2	1.5000	9-3/8	15	4	1155.86
1-9/16	1.5625	9-5/8	15-1/4	4	1210.83
1-5/8	1.6250	10	15-5/8	4	1302.24
1-11/16	1.6875	10-1/8	15-3/4	4	1530.71
1-3/4	1.7500	10-1/8	16	4	1576.40
1-13/16	1.8125	10-1/8	17-1/8	5	1644.90
1-7/8	1.8750	10-3/8	17-3/8	5	1736.33
1-15/16	1.9375	10-3/8	17-3/8	5	1839.11
2	2.0000	10-3/8	17-3/8	5	1884.81

\*Shank larger than standard.

## Coolant Inducer Sockets

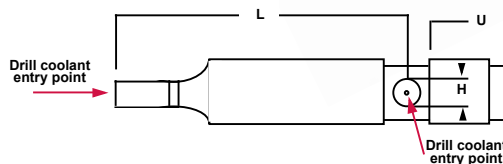
List No. 299H – Taper Shank

For use with taper shank Oil Hole Drills.

These sockets have a free spinning collar where an oil line can be connected to feed the drill with coolant while rotating.



Morse Taper Hole & Shank Size	Overall Length	Price
2	6-7/8	188.76
3	8-1/2	230.75
4	10-1/2	513.11
5	13-3/4	987.87



Taper	L	H	U
#2 M.T.S.	2-3/16	5/32	3/8
#3 M.T.S.	2-27/32	5/32	1/2
#4 M.T.S.	3-5/8	7/32	5/8
#5 M.T.S.	4-3/4	9/32	3/4



# Oil Hole Taper Shank Extra Length Drills



High Speed Steel – 118° Notched Point

List No. **295** – 10-1/2" Overall Length, 6" Flute Length  
List No. **296** – 12-1/2" Overall Length, 8" Flute Length  
List No. **297** – 14-1/2" Overall Length, 10" Flute Length



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**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Dec. Equiv.	Morse Taper No.	Price Each		
			10-1/2" OAL 6" Flute <b>295</b>	12-1/2" OAL 8" Flute <b>296</b>	14-1/2" OAL 10" Flute <b>297</b>
7/16	.4375	3	437.59	—	—
31/64	.4844	3	437.59	—	—
1/2	.5000	3	437.59	475.70	565.98
33/64	.5156	3	437.59	475.70	565.98
17/32	.5312	3	437.59	475.70	565.98
9/16	.5625	3	—	475.70	565.98
19/32	.5938	2	—	—	565.98
19/32	.5938	3	—	475.70	565.98
5/8	.6250	3	—	475.70	565.98
41/64	.6406	3	—	475.70	565.98
21/32	.6562	3	—	475.70	565.98
11/16	.6875	3	—	475.70	565.98
23/32	.7188	2	—	—	565.98
23/32	.7188	3	—	475.70	565.98
47/64	.7344	3	—	475.70	565.98
3/4	.7500	3	—	475.70	565.98
49/64	.7656	3	—	499.41	588.29
25/32	.7812	3	—	499.51	587.35

Size	Dec. Equiv.	Morse Taper No.	Price Each	
			12-1/2" OAL 8" Flute <b>296</b>	14-1/2" OAL 10" Flute <b>297</b>
13/16	.8125	3	499.51	587.35
27/32	.8438	3	512.24	604.17
7/8	.8750	3	518.78	604.17
57/64	.8906	3	540.00	—
29/32	.9062	3	518.78	615.43
15/16	.9375	3	518.78	615.43
31/32	.9688	3	546.35	638.71
63/64	.9844	3	593.93	691.64
1	1.0000	3	593.93	691.64
1-1/64	1.0156	3	602.00	703.37
1-1/32	1.0312	3	615.58	715.14
1-1/16	1.0625	3	—	715.14
1-5/64	1.0781	3	—	715.14
1-3/32	1.0938	3	615.58	715.14
1-1/8*	1.1250	4	—	896.99
1-3/16*	1.1875	4	—	962.22
1-1/4*	1.2500	4	—	1067.19
1-5/16*	1.3125	4	—	1150.00

\*15-1/2 Overall

# Oil Hole Solid Carbide TiAlN Coated Straight Shank



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS



## Regular Length

List No. **C499** – 140° Point

Size	Dec. Equiv.	Flute Length	OAL	Price Each
3.00mm	.1181	24	63	84.70
3.30mm	.1299	32	69	84.70
4.20mm	.1654	38	80	92.55
5.00mm	.1969	38	80	99.64
5.50mm	.2165	40	82	99.64
6.50mm	.2559	48	91	104.57
17/64	.2656	48	91	116.69
6.80mm	.2677	48	91	117.48
7.00mm	.2756	48	91	117.48
9/32	.2812	50	95	117.48
19/64	.2696	50	95	117.48
5/16	.3125	50	95	117.48
8.00mm	.3150	48	91	117.48
21/64	.3281	51	101	138.42
11/32	.3438	51	101	138.42
8.80mm	.3465	51	101	146.43

Size	Dec. Equiv.	Flute Length	OAL	Price Each
9.00mm	.3543	51	101	138.42
3/8	.3750	51	101	146.43
25/64	.3906	51	101	180.75
10.00mm	.3937	55	103	180.75
13/32	.4062	63	121	184.80
10.50mm	.4134	60	120	192.19
27/64	.4219	60	120	192.19
10.80mm	.4252	60	120	192.19
7/16	.4375	63	121	192.19
29/64	.4531	63	121	198.95
15/32	.4688	63	121	198.95
12.00mm	.4724	66	120	198.95
31/64	.4844	76	127	272.27
12.50mm	.4921	72	126	272.27
1/2	.5000	75	127	272.27
13.00mm	.5118	72	126	272.27

Size	Dec. Equiv.	Flute Length	OAL	Price Each
33/64	.5156	75	127	330.62
17/32	.5313	75	127	330.62
35/64	.5469	75	127	330.62
23/64	.3594	75	127	330.62
9/16	.5625	75	127	330.62
14.50	.5709	80	140	366.08
37/64	.5781	80	140	366.08
19/32	.5938	80	140	391.25
39/64	.6094	80	140	391.25
5/8	.6250	80	140	391.25
21/32	.6563	90	150	486.20
43/64	.6719	90	150	486.20
11/16	.6875	90	150	486.20
45/64	.7031	100	160	486.20
23/32	.7188	100	160	565.14
3/4	.7500	100	160	565.14

## Long Length Length

List No. **C499L** – 140° Point

Size	Dec. Equiv.	Flute Length	OAL	Price Each
3.50mm	.1378	34	72	113.08
3.80mm	.1496	43	81	113.08
4.20mm	.1654	43	81	124.20
4.50mm	.1772	43	81	124.20
4.80mm	.1890	57	95	135.00
5.00mm	.1890	57	95	135.00
5.50mm	.2165	57	95	135.00
6.00mm	.2362	57	95	135.00

Size	Dec. Equiv.	Flute Length	OAL	Price Each
6.50mm	.2559	76	114	140.00
6.80mm	.2677	76	114	140.00
7.00mm	.2677	76	114	140.00
7.50mm	.2953	76	114	140.00
8.50mm	.3346	95	142	197.00
8.80mm	.3465	95	142	197.00
9.00mm	.3543	95	142	197.00
9.50mm	.3740	95	142	197.00

Size	Dec. Equiv.	Flute Length	OAL	Price Each
10.00mm	.3937	95	142	197.00
10.20mm	.4016	114	162	259.00
10.50mm	.4134	114	162	259.00
10.80mm	.4252	114	162	259.00
11.00mm	.4331	114	162	259.00
11.50mm	.4528	114	162	267.00
12.00mm	.4724	114	162	267.00
12.50mm	.4921	133	178	367.00

# Core Drills

High Speed Steel – Oxide Finish



Used to enlarge and straighten cored or drilled holes. Because of their rigidity, these tools generate closer tolerance holes and a better finish than standard drills. They may be used to enlarge holes as small as 70-80% of the tool diameter.

Additional 64th sizes available on request



HOLE MAKING

## Straight Shank – 45° Chamfer End

List No. **421** – Three Flute

List No. **422** – Four Flute

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				3 - Flute 421	4 - Flute 422
#10	.1935	3-5/8	6	—	29.50
13/64	.2031	3-5/8	6	—	21.00
7/32	.2188	3-5/8	6	24.50	—
15/64	.2344	3-3/4	6-1/8	—	24.50
1/4	.2500	3-3/4	6-1/8	26.50	24.50
17/64	.2656	3-7/8	6-1/4	28.46	26.00
9/32	.2812	3-7/8	6-1/4	29.00	26.50
19/64	.2969	4	6-3/8	30.40	27.00
5/16	.3125	4	6-3/8	30.40	27.00
21/64	.3281	4-1/8	6-1/2	—	28.80
11/32	.3438	4-1/8	6-1/2	32.00	29.97
23/64	.3594	4-1/4	6-3/4	33.90	30.36
3/8	.3750	4-1/4	6-3/4	35.17	31.00
10mm	.3937	4-3/8	7	63.90	—
13/32	.4062	4-3/8	7	36.44	32.40
27/64	.4219	4-5/8	7-1/4	39.20	33.50
10.75mm	.4232	4-5/8	7-1/4	58.00	—
7/16	.4375	4-5/8	7-1/4	41.00	34.60
11.75mm	.4626	4-3/4	7-1/2	66.15	—
29/64	.4531	4-3/4	7-1/2	—	36.30
15/32	.4688	4-3/4	7-1/2	44.10	36.65
31/64	.4844	4-3/4	7-3/4	46.20	37.40
1/2	.5000	4-3/4	7-3/4	46.20	39.92
33/64	.5156	4-3/4	8	—	51.50
17/32	.5312	4-3/4	8	49.65	46.00
9/16*	.5625	4-7/8	8-1/4	52.60	49.00
19/32	.5938	4-7/8	8-3/4	57.78	55.00
39/64	.6094	4-7/8	8-3/4	—	80.40
15.75mm	.6201	4-7/8	8-3/4	81.50	—
5/8	.6250	4-7/8	8-3/4	69.36	62.80
41/64	.6406	5-1/8	9	83.00	81.70
21/32	.6562	5-1/8	9	72.00	68.00
43/64	.6719	5-3/8	9-1/4	86.00	84.00
11/16	.6875	5-3/8	9-1/4	76.45	72.00
23/32	.7188	5-5/8	9-1/2	79.99	77.60
47/64	.7344	5-7/8	9-3/4	—	98.75
3/4	.7500	5-7/8	9-3/4	89.68	83.50
49/64	.7656	6	9-7/8	—	98.75
25/32	.7812	6	9-7/8	117.14	101.00

\*9/16 with 1/2" Shank in stock \$56.50 each

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				3 - Flute 421	4 - Flute 422
51/64	.7969	6-1/8	10	126.68	122.50
13/16	.8125	6-1/8	10	126.68	117.75
53/64	.8281	6-1/8	10	—	155.00
27/32	.8438	6-1/8	10	144.78	122.87
7/8	.8750	6-1/8	10	119.64	117.75
57/64	.8906	6-1/8	10	157.87	130.40
29/32	.9062	6-1/8	10	130.41	125.00
15/16	.9375	6-1/8	10-3/4	149.60	138.00
61/64	.9531	6-3/8	11	—	163.28
31/32	.9688	6-3/8	11	179.55	155.50
1	1.0000	6-3/8	11	169.00	148.60
1-1/32	1.0312	6-1/2	11-1/8	202.41	202.41
1-1/16	1.0625	6-5/8	11-1/4	222.16	216.45
1-3/32	1.0938	6-7/8	11-1/2	—	225.40
1-1/8	1.1250	7-1/8	11-3/4	259.92	234.54
1-5/32	1.1562	7-1/4	11-7/8	261.00	239.13
1-3/16	1.1875	7-3/8	12	239.13	239.13
1-7/32	1.2188	7-1/2	12-1/2	252.40	252.40
1-15/64	1.2344	7-7/8	12-1/2	—	365.00
1-1/4	1.2500	7-7/8	12-1/2	372.00	277.50
1-9/32	1.2812	8-1/4	14-1/8	342.68	315.36
1-19/64	1.2969	8-5/8	14-1/4	—	350.00
1-5/16	1.3125	8-5/8	14-1/4	324.54	324.54
1-11/32	1.3438	8-3/4	14-3/8	369.90	350.00
1-3/8	1.3750	8-7/8	14-1/2	379.10	360.22
1-13/32	1.4062	9-1/8	14-5/8	—	368.50
1-7/16	1.4375	9-1/8	14-3/4	425.15	384.00
1-15/32	1.4688	9-1/4	14-7/8	428.04	399.00
1-1/2	1.5000	9-3/8	15	441.45	420.50
1-9/16	1.5625	9-5/8	15-1/4	362.34	493.16
1-39/64	1.6094	9-5/8	15-1/4	549.00	—
1-5/8	1.6250	9-7/8	15-5/8	—	549.00
1-21/32	1.6562	9-7/8	15-5/8	675.00	—
1-11/16	1.6875	10-1/8	16	—	630.00
1-3/4	1.7500	10-1/2	16-1/4	—	660.11
1-49/64	1.7656	10-1/2	16-1/4	—	730.00
1-13/16	1.8125	10-1/2	16-1/4	428.00	722.00
1-27/32	1.8438	10-5/8	16-1/4	855.00	—
1-7/8	1.8750	10-5/8	16-1/4	—	715.45



## Carbide Tipped Taper Shank

List No. **CT522** – Four Flute

Size	Dec. Equiv.	Length of Carbide	Flute Length	Overall Length	Morse Taper No.	Price Each
1/2	.5000	3/4	4-3/8	8-1/4	2	118.86
17/32	.5312	3/4	4-3/8	8-1/4	2	119.63
9/16	.5625	3/4	4-3/8	8-1/4	2	119.63
19/32	.5938	3/4	4-3/8	8-1/4	2	125.28
5/8	.6250	3/4	4-3/8	8-1/4	2	125.28
21/32	.6562	3/4	4-3/8	8-1/4	2	126.88
11/16	.6875	7/8	4-3/8	8-1/4	2	128.08
3/4	.7500	7/8	4-3/8	8-1/4	2	128.08
25/32	.7812	7/8	4-3/8	8-1/4	2	131.85
13/16	.8125	7/8	4-7/8	9-1/2	3	134.06
27/32	.8438	7/8	4-7/8	9-1/2	3	141.75
7/8	.8750	7/8	4-7/8	9-1/2	3	141.75
15/16	.9375	7/8	4-7/8	9-1/2	3	142.72
31/32	.9688	7/8	4-7/8	9-1/2	3	146.60

Size	Dec. Equiv.	Length of Carbide	Flute Length	Overall Length	Morse Taper No.	Price Each
1	1.0000	7/8	4-7/8	9-1/2	3	146.60
1-1/32	1.0312	7/8	4-7/8	9-1/2	3	152.12
1-1/16	1.0625	7/8	4-7/8	9-1/2	3	154.11
1-3/32	1.0938	1	4-7/8	10-1/2	4	179.93
1-1/8	1.1250	1	4-7/8	10-1/2	4	189.71
1-5/32	1.1562	1	4-7/8	10-1/2	4	195.20
1-3/16	1.1875	1	4-7/8	10-1/2	4	201.53
1-1/4	1.2500	1	4-7/8	10-1/2	4	202.82
1-9/32	1.2812	1	4-7/8	10-1/2	4	217.91
1-5/16	1.3125	1	4-7/8	10-1/2	4	223.35
1-3/8	1.3750	1	4-7/8	10-1/2	4	233.70
1-7/16	1.4375	1	4-7/8	10-1/2	4	245.69
1-15/32	1.4688	1	4-7/8	10-1/2	4	258.27
1-1/2	1.5000	1	4-7/8	10-1/2	4	258.27

# Core Drills

High Speed Steel – Oxide Finish



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Taper Shank – 45° Chamfer End

List No. **521** – Three Flute

List No. **522** – Four Flute



Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each	
					3 - Flute 521	4 - Flute 522
7/32	.2188	2-3/4	6	1	38.64	—
1/4	.2500	2-7/8	6-1/8	1	38.64	36.30
9/32	.2812	3	6-1/4	1	45.64	43.69
19/64	.2969	3-1/8	6-3/8	1	52.07	52.07
5/16	.3125	3-1/8	6-3/8	1	45.54	—
21/64	.3281	3-1/4	6-1/2	1	53.46	53.46
21/64	.3281	3-1/4	7-3/8	2	66.00	—
R	.3390	3-1/4	6-1/2	1	69.14	—
11/32	.3438	3-1/4	6-1/2	1	47.39	—
23/64	.3594	3-1/2	6-3/4	1	53.33	51.16
3/8	.3750	3-1/2	6-3/4	1	47.62	45.92
25/64	.3906	3-5/8	7	1	59.90	58.70
13/32	.4062	3-5/8	7	1	54.19	52.36
27/64	.4219	3-7/8	7-1/4	1	61.71	59.80
7/16	.4375	3-7/8	7-1/4	1	59.50	54.47
29/64	.4531	4-1/8	7-1/2	1	66.00	64.90
15/32	.4688	4-1/8	7-1/2	1	60.80	55.52
31/64	.4844	4-3/8	8-1/4	2	67.46	65.93
1/2	.5000	4-3/8	8-1/4	2	56.73	46.20
33/64	.5156	4-5/8	8-1/2	2	—	71.28
17/32	.5312	4-5/8	8-1/2	2	64.83	58.61
35/64	.5469	4-7/8	8-3/4	2	85.00	80.85
9/16	.5625	4-7/8	8-3/4	2	69.50	65.67
37/64	.5781	4-7/8	8-3/4	2	89.10	85.14
19/32	.5938	4-7/8	8-3/4	2	79.75	72.21
39/64	.6094	4-7/8	8-3/4	2	89.10	85.14
5/8	.6250	4-7/8	8-3/4	2	82.72	76.45
41/64	.6406	5-1/8	9	2	89.87	86.04
21/32	.6562	5-1/8	9	2	86.04	78.78
43/64	.6719	5-3/8	9-1/4	2	96.00	94.00
11/16	.6875	5-3/8	9-1/4	2	87.38	82.10
45/64	.7031	5-5/8	9-1/2	2	98.60	92.40
23/32	.7188	5-5/8	9-1/2	2	92.12	87.81
47/64	.7344	5-5/8	9-3/4	2	110.00	99.13
3/4	.7500	5-7/8	9-3/4	2	96.19	91.74
49/64	.7656	6	9-7/8	2	—	104.94
25/32	.7812	6	9-7/8	2	106.21	98.95
51/64	.7969	6-1/8	10-3/4	3	—	110.88
13/16	.8125	6-1/8	10-3/4	3	110.96	105.40
53/64	.8281	6-1/8	10-3/4	3	118.98	115.50
27/32	.8438	6-1/8	10	2	129.00	—
27/32	.8438	6-1/8	10-3/4	3	115.36	111.40
55/64	.8594	6-1/8	10-3/4	3	122.10	116.82
7/8	.8750	6-1/8	10-3/4	3	120.00	116.00
57/64	.8906	6-1/8	10-3/4	3	145.00	117.48
29/32	.9062	6-1/8	10-3/4	3	122.17	117.43
59/64	.9219	6-1/8	10-3/4	3	135.00	131.34
15/16	.9375	6-1/8	10-3/4	3	124.28	117.92
61/64	.9531	6-3/8	11	3	145.00	132.00
31/32	.9688	6-3/8	11	3	137.46	131.52
63/64	.9844	6-3/8	11	3	—	148.50
1	1.0000	6-3/8	11	3	138.93	132.46
1-1/64	1.0156	6-1/2	11-1/8	3	175.00	165.00
1-1/32	1.0312	6-1/2	11-1/8	3	153.95	148.67
1-3/64	1.0469	6-5/8	11-1/4	3	—	182.16
1-1/16	1.0625	6-5/8	11-1/4	3	171.60	165.04
1-5/64	1.0781	6-7/8	11-1/2	3	196.00	184.80
1-3/32	1.0938	6-7/8	11-1/2	3	—	182.16
1-3/32	1.0938	6-7/8	12-1/2	4	185.65	177.69
1-1/8	1.1250	7-1/8	12-3/4	4	190.74	184.29
1-9/64	1.1406	7-1/4	12-7/8	4	—	202.72
1-5/32	1.1562	7-1/4	12-7/8	4	194.70	184.90
1-3/16	1.1875	7-3/8	12	3	197.34	—
1-3/16	1.1875	7-3/8	13	4	197.34	184.90
1-13/64	1.2031	7-1/2	13-1/8	4	217.80	209.88

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each	
					3 - Flute 521	4 - Flute 522
1-7/32	1.2188	7-1/2	13-1/8	4	208.23	197.45
1-15/64	1.2344	7-7/8	13-1/2	4	245.00	234.30
1-1/4	1.2500	7-7/8	13-1/2	4	227.70	223.48
1-17/64	1.2656	8-1/2	14-1/8	4	260.70	250.41
1-9/32	1.2812	8-1/2	14-1/8	4	254.36	238.15
1-5/16	1.3125	8-5/8	14-1/4	4	264.40	254.43
1-11/32	1.3438	8-3/4	13-3/8	3	—	285.00
1-11/32	1.3438	8-3/4	14-3/8	4	271.85	263.63
1-23/64	1.3594	8-7/8	14-1/2	4	299.04	289.99
1-3/8	1.3750	8-7/8	14-1/2	4	290.99	278.12
1-25/64	1.3906	9	14-5/8	4	349.00	—
1-13/32	1.4062	9	14-5/8	4	303.80	291.05
1-27/64	1.4219	9-1/8	14-3/4	4	—	320.16
1-7/16	1.4375	9-1/8	14-3/4	4	313.90	303.14
1-29/64	1.4531	9-1/4	14-7/8	4	—	333.45
1-15/32	1.4688	9-1/4	14-7/8	4	329.48	314.03
1-1/2	1.5000	9-3/8	15	4	343.91	329.84
1-33/64	1.5156	9-3/8	16-3/8	5	—	419.10
1-17/32	1.5312	9-3/8	16-3/8	5	392.70	379.76
1-35/64	1.5469	9-5/8	16-5/8	5	425.70	419.10
1-9/16	1.5625	9-5/8	16-5/8	5	409.20	393.16
1-37/64	1.5781	9-7/8	16-7/8	5	—	463.98
1-19/32	1.5938	9-7/8	16-7/8	5	449.20	429.45
1-39/64	1.6094	10	17	5	482.00	475.86
1-5/8	1.6250	10	17	5	475.86	443.06
1-21/32	1.6562	10-1/8	17-1/8	5	485.10	470.25
1-43/64	1.6719	10-1/8	17-1/8	5	514.80	—
1-11/16	1.6875	10-1/8	17-1/8	5	501.71	487.85
1-45/64	1.7031	10-1/8	17-1/8	5	545.00	536.64
1-23/32	1.7188	10-1/8	17-1/8	5	505.69	489.19
1-47/64	1.7344	10-1/8	17-1/8	5	527.34	522.00
1-3/4	1.7500	10-1/8	17-1/8	5	530.00	518.68
1-49/64	1.7656	10-1/8	17-1/8	5	—	585.00
1-25/32	1.7812	10-1/8	17-1/8	5	570.00	540.62
1-13/16	1.8125	10-1/8	17-1/8	5	580.00	555.98
1-27/32	1.8438	10-1/8	17-1/8	5	—	600.60
1-7/8	1.8750	10-3/8	17-3/8	5	676.50	653.40
1-29/32	1.9062	10-3/8	17-3/8	5	742.50	693.00
1-15/16	1.9375	10-3/8	16-7/8	4	—	719.40
1-15/16	1.9375	10-3/8	17-3/8	5	750.00	719.40
1-31/32	1.9688	10-3/8	17-3/8	5	759.00	726.00
2	2.0000	10-3/8	17-3/8	5	670.00	627.00
2-1/32	2.0312	10-3/8	17-3/8	5	—	759.00
2-1/16	2.0625	10-1/4	17-3/8	5	780.63	775.50
2-3/32	2.0938	10-1/4	17-3/8	5	—	812.00
2-1/8	2.1250	10-1/4	17-3/8	5	—	759.00
2-5/32	2.1562	10-1/4	17-3/8	5	—	825.00
2-3/16	2.1875	10-1/4	17-3/8	5	—	970.20
2-1/4	2.2500	10-1/8	17-3/8	5	962.45	957.00
2-9/32	2.2812	10-1/8	17-3/8	5	—	1052.70
2-5/16	2.3125	10-1/8	17-3/8	5	1195.00	1089.00
2-11/32	2.3437	10-1/8	17-3/8	5	1300.00	1197.90
2-3/8	2.3750	10-1/8	17-3/8	5	1150.00	1056.00
2-13/32	2.4062	11-1/4	18-3/4	5	—	1498.00
2-7/16	2.4375	11-1/4	18-3/4	5	—	1254.00
2-1/2	2.5000	11-1/4	18-3/4	5	—	1221.00
2-17/32	2.5312	11-7/8	19-1/2	5	—	1608.00
2-9/16	2.5625	11-7/8	19-1/2	5	—	1303.50
2-5/8	2.6250	11-7/8	19-1/2	5	—	1320.00
2-11/16	2.6875	12-3/4	20-3/8	5	—	1336.50
2-3/4	2.7500	12-3/4	20-3/8	5	—	1643.40
2-13/16	2.8125	13-3/8	21-1/8	5	—	1630.20
2-7/8	2.8750	13-3/8	21-1/8	5	1800.00	1640.10
2-15/16	2.9375	14	21-3/4	5	—	1914.00
3	3.0000	14	21-3/4	5	1979.34	1979.34

HOLE MAKING

# Machine Tool Accessories



HOLE MAKING

## Morse Taper Sleeves

For adapting Morse Taper shank tools to machine spindles having large Morse Taper holes. Available with hardened tang or hardened and ground throughout.



## Morse Taper Extension Sockets

Used to increase or decrease the Morse Taper spindle capacity or to increase Morse Taper spindle projection.



Morse Taper No.		Overall Length	Morse Taper Sleeves				Morse Taper Extension Socket		
Internal	External		Hard Tang Only		Hardened & Ground		Overall Length	Tool No.	Price Each
		Tool No.	Price Each	Tool No.	Price Each				
0	1	3-3/8	—	—	TSH01	17.50	—	—	—
0	2	3-1/2	TS02	12.70	TSH02	17.50	—	—	—
1	1	—	—	—	—	—	6-1/4	ES11	15.60
1	2	3-9/16	TS12	8.10	TSH12	13.19	6-1/4	ES12	15.60
1	3	3-15/16	TS13	12.70	TSH13	17.32	6-7/8	ES13	19.00
1	4	4-7/8	TS14	19.65	TSH14	27.90	7-1/2	ES14	22.74
1	5	6-1/8	TS15	24.75	TSH15	42.53	9-1/16	ES15	33.08
2	1	—	—	—	—	—	6-1/4	ES21	18.16
2	2	—	—	—	—	—	6-7/8	ES22	18.20
2	3	4-7/16	TS23	9.17	TSH23	17.63	7-5/8	ES23	18.20
2	4	4-7/8	TS24	17.00	TSH24	30.02	8-1/2	ES24	26.12
2	5	6-1/8	TS25	34.30	TSH25	42.53	9-3/4	ES25	33.08
3	1	—	—	—	—	—	7-1/4	ES31	22.61
3	2	—	—	—	—	—	7-3/4	ES32	22.62
3	3	—	—	—	—	—	8-1/2	ES33	22.62
3	4	5-3/8	TS34	14.31	TSH34	30.04	9-1/2	ES34	22.62
3	5	6-1/8	TS35	24.75	TSH35	42.50	10-1/2	ES35	35.37
3	6	8-1/2	TS36	67.41	—	—	—	—	—
4	2	—	—	—	—	—	8-1/2	ES42	34.64
4	3	—	—	—	—	—	9-1/2	ES43	34.64
4	4	—	—	—	—	—	10-1/2	ES44	34.64
4	5	6-5/8	TS45	32.63	TSH45	42.50	11-7/8	ES45	43.25
4	6	8-5/8	TS46	62.18	TSH46	121.59	14	ES46	98.63
4	7	11-1/2	TS47	390.00	TSH47	470.00	—	—	—
5	3	—	—	—	—	—	10-1/2	ES53	77.27
5	4	—	—	—	—	—	11-3/8	ES54	77.27
5	5	—	—	—	—	—	13-3/4	ES55	80.93
5	6	8-5/8	TS56	67.41	TSH56	131.90	15-3/8	ES56	98.63
6	4	—	—	—	—	—	14-1/2	ES64	264.84
6	5	—	—	—	—	—	16	ES65	355.30
6	6	—	—	—	—	—	17	ES66	395.00
6	7	11-1/2	TS67	398.00	TSH67	620.00	—	—	—

## Solid & Hardened Sockets with Morse Taper Holes

Ground Throughout. For adapting tools with Morse Taper shanks to machines with straight holes.



Size	Morse Taper No.	Outside Diameter	Solid Sockets		Hardened Sockets		Size	Morse Taper No.	Outside Diameter	Solid Sockets		Hardened Sockets	
			Tool No.	Price Each	Tool No.	Price Each				Tool No.	Price Each	Tool No.	Price Each
1	1	1	SS11S	15.69	SS11	18.83	11	3	1-3/4	SS113S	28.35	SS113	34.02
2	1	1-1/4	SS21S	19.24	SS21	23.09	12	3	2	SS123S	30.90	SS123	37.08
3	1	1-1/2	SS31S	17.99	SS31	21.58	13	4	1-1/2	SS134S	30.90	SS134	37.08
4	2	1	SS42S	17.99	SS42	21.58	14	4	1-3/4	SS144S	33.65	SS144	40.38
5	2	1-1/4	SS52S	19.72	SS52	23.66	15	4	2*	SS154S	35.81	SS154	42.97
6	2	1-1/2	SS62S	20.94	SS62	25.13	15A	4	2-1/2	—	—	SS154A	49.00
7	2	1-3/4	SS72S	22.89	SS72	27.47	16	5	2-1/4	SS165S	62.57	SS165	75.09
8	2	2	SS82S	24.04	SS82	28.85	17	5	2-1/2	SS175S	62.57	SS175	75.09
9	3	1-1/4	SS93S	24.04	SS93	28.85	18	6	3-1/4	SS186S	99.96	SS186	119.95
10	3	1-1/2	SS103S	25.94	SS103	31.12	19	6	3-1/2	—	—	SS196	119.95

## Drill Drifts or Center Key Drop Forged and Hardened.

Taper No.	Tool No.	Price
1	DD1	4.10
2	DD2	4.96
3	DD3	5.48
4, 5, 6	DD4	8.48

### Sets

Sizes	No. of Pcs.	Set No.	Price
1, 2, 3, 4	4	DD14	22.46



Used for removing taper shank tools from sleeves or spindles.



# NMTB Quick Change Tooling

Hardened and Ground Throughout



## Fits Erickson Style Holders

These quick change adapters are designed to interchange with Erickson style holders and all No. 30 and No. 40 standard milling machine tapers.

This tooling will also fit holders and spindles commonly used on the Bridgeport® Series I and Series II CNC milling machines and other similar milling machines.

## Morse Taper Adapters

Morse Taper I.D.	No. 30 Taper		No. 40 Taper	
	Tool No.	Price Each	Tool No.	Price Each
1	QCM3-1	94.38	—	—
2	QCM3-2	122.98	QCM4-2	125.84
3	QCM3-3	122.98	QCM4-3	125.84
4	QCM3-4	134.42	QCM4-4	138.71
5	—	—	QCM4-5	177.32



# Machine Tool Accessories

High Precision – Heat Treated



## Brown & Sharpe Taper Sleeves

Tanged Style "A"

Threaded for Draw Bar Style "B"

For adapting tools with either Brown and Sharpe or Morse taper shanks to machines having Brown and Sharpe or Morse taper spindles

Tanged Style "A"



Threaded for Draw Bar Style "B"



Inside Taper	Outside Taper	Tanged "A"		Threaded "B"	
		Tool No.	Price Each	Tool No.	Price Each
4	7	TSB47	133.36	—	—
5	7	TSB57	133.36	TSB57B	133.36
5	9	TSB59	133.36	TSB59B	133.36
5	10	TSB510	145.87	—	—
7	9	TSB79	133.36	TSB79B	133.36
7	10	TSB710	158.44	TSB710B	158.44
7	11	TSB711	200.57	TSB711B	200.57
9	10	TSB910	162.46	TSB910B	162.46
9	11	TSB911	216.63	TSB911B	216.63
10	11	TSB1011	216.63	TSB1011B	216.63
10	12	TSB1012	326.99	TSB1012B	326.99
11	12	TSB1112	332.97	TSB1112B	332.97

## Brown & Sharpe → Brown & Sharpe

4	7	TSB47	133.36	—	—
5	7	TSB57	133.36	TSB57B	133.36
5	9	TSB59	133.36	TSB59B	133.36
5	10	TSB510	145.87	—	—
7	9	TSB79	133.36	TSB79B	133.36
7	10	TSB710	158.44	TSB710B	158.44
7	11	TSB711	200.57	TSB711B	200.57
9	10	TSB910	162.46	TSB910B	162.46
9	11	TSB911	216.63	TSB911B	216.63
10	11	TSB1011	216.63	TSB1011B	216.63
10	12	TSB1012	326.99	TSB1012B	326.99
11	12	TSB1112	332.97	TSB1112B	332.97

## Morse Taper → Brown & Sharpe

1	9	TSMB19	102.37	—	—
1	10	TSMB110	110.26	—	—
2	9	TSMB29	113.31	TSMB29B	113.31
2	10	TSMB210	118.13	—	—
3	9	TSMB39	122.33	TSMB39B	122.33
3	10	TSMB310	130.41	TSMB310B	130.41
3	11	TSMB311	168.43	TSMB311B	168.43
4	9	—	—	TSMB49B	136.40
4	10	TSMB410	140.39	TSMB410B	140.39
4	11	TSMB411	168.43	TSMB411B	168.43
4	12	—	—	TSMB412B	292.50
5	12	TSMB512	292.50	TSMB512B	292.50

## Brown & Sharpe → Morse Taper

5	3	TSBM53	126.00	—	—
7	3	TSBM73	148.47	TSBM73B	148.47
7	4	TSBM74	158.44	TSBM74B	158.44
9	4	TSBM94	160.44	TSBM94B	160.44
9	5	TSBM95	165.00	—	—
10	5	TSBM105	316.90	TSBM105B	316.90



## R-8 Morse Taper and Brown & Sharpe Adapters

Inside Taper	Tool No.	Price Each
#1 Morse	R8M1	64.35
#2 Morse	R8M2	64.35
#3 Morse	R8M3	73.45
#7 B&S	R8BS7	116.00



## Nylon Drill Sleeves – Morse Taper

Tool No.	Inside Taper	Outside Taper	Price Each
TSN12	1	2	2.48
TSN23	2	3	3.16
TSN34	3	4	3.74
TSN45	4	5	6.63



# Carbide Tipped Drills

High Speed Steel Body

## Jobber Length

List No. **CT830** – 118° Point

These Carbide Tipped Drills are designed for drilling abrasive and nonferrous materials such as castings, hard rubber and copper alloys. They are NOT recommended for drilling steel or other ferrous materials.



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**MICHIGAN**  
DRILL & CUTTING TOOLS



### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/8	.1250	1-5/8	2-3/4	13.62
9/64	.1406	1-3/4	2-7/8	14.41
5/32	.1562	2	3-1/8	14.41
11/64	.1719	2-1/8	3-1/4	15.38
3/16	.1875	2-5/16	3-1/2	15.38
13/64	.2031	2-7/16	3-5/8	16.78
7/32	.2188	2-1/2	3-3/4	16.78
15/64	.2344	2-5/8	3-7/8	18.48
1/4	.2500	2-3/4	4	18.12
17/64	.2656	2-7/8	4-1/8	21.76
9/32	.2812	2-15/16	4-1/4	21.35
19/64	.2969	3-1/16	4-3/8	23.51
5/16	.3125	3-3/16	4-1/2	23.09
21/64	.3281	3-5/16	4-5/8	24.99
11/32	.3438	3-7/16	4-3/4	24.52
23/64	.3594	3-1/2	4-7/8	26.57
3/8	.3750	3-5/8	5	26.06
25/64	.3906	3-3/4	5-1/8	28.91
13/32	.4062	3-7/8	5-1/4	28.41

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
27/64	.4219	3-15/16	5-3/8	31.35
7/16	.4375	4-1/16	5-1/2	30.78
29/64	.4531	4-3/16	5-5/8	35.24
15/32	.4688	4-5/16	5-3/4	34.62
31/64	.4844	4-3/8	5-7/8	39.44
1/2	.5000	4-1/2	6	38.70
33/64	.5156	4-13/16	6-5/8	59.40
17/32	.5312	4-13/16	6-5/8	59.40
35/64	.5469	4-13/16	6-5/8	60.05
9/16	.5625	4-13/16	6-5/8	60.05
37/64	.5781	4-13/16	6-5/8	66.26
19/32	.5938	5-3/16	7-1/8	64.31
39/64	.6094	5-3/16	7-1/8	76.08
5/8	.6250	5-3/16	7-1/8	72.83
41/64	.6406	5-3/16	7-1/8	84.05
21/32	.6562	5-3/16	7-1/8	74.04
43/64	.6719	5-5/8	7-5/8	96.47
11/16	.6875	5-5/8	7-5/8	75.52
3/4	.7500	5-5/8	7-5/8	96.47

### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	2-5/8	3-7/8	19.73
B	.2380	2-3/4	4	19.73
C	.2420	2-3/4	4	19.73
D	.2460	2-3/4	4	19.73
E	.2500	2-3/4	4	18.84
F	.2570	2-7/8	4-1/8	22.31
G	.2610	2-7/8	4-1/8	22.64
H	.2660	2-7/8	4-1/8	22.64
I	.2720	2-7/8	4-1/8	22.64
J	.2770	2-7/8	4-1/8	22.33
K	.2810	2-15/16	4-1/4	22.33
L	.2900	2-15/16	4-1/4	22.33
M	.2950	3-1/16	4-3/8	23.59

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	3-1/16	4-3/8	23.59
O	.3160	3-3/16	4-1/2	23.59
P	.3230	3-5/16	4-5/8	25.13
Q	.3320	3-7/16	4-3/4	25.13
R	.3390	3-7/16	4-3/4	26.13
S	.3480	3-1/2	4-7/8	26.67
T	.3580	3-1/2	4-7/8	26.67
U	.3680	3-5/8	5	26.67
V	.3770	3-5/8	5	27.23
W	.3860	3-3/4	5-1/8	29.68
X	.3970	3-3/4	5-1/8	29.68
Y	.4040	3-7/8	5-1/4	29.68
Z	.4130	3-7/8	5-1/4	34.18

### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	2-5/8	3-7/8	17.16
2	.2210	2-5/8	3-7/8	17.16
3	.2130	2-1/2	3-3/4	16.28
4	.2090	2-1/2	3-3/4	16.28
5	.2055	2-1/2	3-3/4	16.28
6	.2040	2-1/2	3-3/4	16.28
7	.2010	2-7/16	3-5/8	16.28
8	.1990	2-7/16	3-5/8	16.28
9	.1960	2-7/16	3-5/8	16.28
10	.1935	2-7/16	3-5/8	16.28
11	.1910	2-5/16	3-1/2	16.28
12	.1890	2-5/16	3-1/2	16.28
13	.1850	2-5/16	3-1/2	15.38
14	.1820	2-3/16	3-3/8	15.38
15	.1800	2-3/16	3-3/8	15.38
16	.1770	2-3/16	3-3/8	15.38
17	.1730	2-3/16	3-3/8	15.38

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
18	.1695	2-1/8	3-1/4	15.38
19	.1660	2-1/8	3-1/4	15.38
20	.1610	2-1/8	3-1/4	15.38
21	.1590	2-1/8	3-1/4	15.38
22	.1570	2	3-1/8	15.38
23	.1540	2	3-1/8	14.55
24	.1520	2	3-1/8	14.55
25	.1495	1-7/8	3	14.55
26	.1470	1-7/8	3	14.55
27	.1440	1-7/8	3	14.55
28	.1405	1-3/4	2-7/8	14.55
29	.1360	1-3/4	2-7/8	14.28
30	.1285	1-5/8	2-3/4	13.85
31	.1200	1-5/8	2-3/4	13.85
32	.1160	1-5/8	2-3/4	13.85
33	.1130	1-5/8	2-3/4	13.85

# Carbide Tipped Drills

High Speed Steel Body

## Jobber Length

List No. **CT830** – 118° Point

These Carbide Tipped Drills are designed for drilling abrasive and nonferrous materials such as castings, hard rubber and copper alloys. They are NOT recommended for drilling steel or other ferrous materials.



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### Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price
3.00	.1181	1-5/8	2-3/4	21.79
3.10	.1220	1-5/8	2-3/4	23.20
3.20	.1260	1-5/8	2-3/4	23.20
3.30	.1299	1-3/4	2-7/8	23.20
3.50	.1378	1-3/4	2-7/8	23.20
4.00	.1575	2-1/8	3-1/4	24.61
4.50	.1772	2-3/16	3-3/8	24.61
5.00	.1969	2-7/16	3-5/8	25.62
5.50	.2165	2-1/2	3-3/4	25.92
6.00	.2362	2-3/4	4	26.62
6.40	.2520	2-7/8	4-1/8	28.06
6.50	.2559	2-7/8	4-1/8	28.06
7.00	.2756	2-7/8	4-1/8	29.13

Size	Decimal Equivalent	Flute Length	Overall Length	Price
7.50	.2953	3-1/16	4-3/8	30.37
8.00	.3150	3-3/16	4-1/2	32.13
8.50	.3346	3-7/16	4-3/4	33.19
9.00	.3543	3-1/2	4-7/8	34.31
9.50	.3740	3-5/8	5	35.13
10.00	.3937	3-3/4	5-1/8	37.31
10.50	.4134	3-15/16	5-3/8	40.44
11.00	.4331	4-1/16	5-1/2	42.72
11.50	.4528	4-3/16	5-5/8	42.72
12.00	.4724	4-3/8	5-7/8	52.16
12.50	.4921	4-1/2	6	60.13
13.00	.5118	4-1/2	6	66.90

## Taper Shank

List No. **CT820** – 118° Point

Provides excellent wear resistance when cutting aluminum castings, bronze, cast and ductile irons, fiberglass, hard plastics and other non ferrous materials. NOT recommended for steel applications.



Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper	Price Each
1/8	.1250	1-7/8	5-1/8	1	38.04
9/64	.1406	2-1/8	5-3/8	1	38.04
5/32	.1563	2-1/8	5-3/8	1	40.08
11/64	.1719	2-1/2	5-3/4	1	40.79
3/16	.1875	2-1/2	5-3/4	1	40.79
13/64	.2031	2-3/4	6	1	43.12
7/32	.2188	2-3/4	6	1	43.12
15/64	.2344	2-7/8	6-1/8	1	47.50
1/4	.2500	2-7/8	6-1/8	1	47.50
17/64	.2656	3	6-1/4	1	49.38
9/32	.2813	3	6-1/4	1	48.48
19/64	.2969	3-1/8	6-3/8	1	49.38
5/16	.3125	3-1/8	6-3/8	1	48.48
21/64	.3281	3-1/4	6-1/2	1	62.75
11/32	.3438	3-1/4	6-1/2	1	61.61
23/64	.3594	3-1/2	6-3/4	1	62.75
3/8	.3750	3-1/2	6-3/4	1	61.61
25/64	.3906	3-5/8	7	1	72.84
13/32	.4063	3-5/8	7	1	71.50
27/64	.4219	3-7/8	7-1/4	1	72.84
7/16	.4375	3-7/8	7-1/4	1	71.50
29/64	.4531	4-1/8	7-1/2	1	88.07
15/32	.4688	4-1/8	7-1/2	1	86.47
31/64	.4844	4-3/8	8-1/4	2	88.07
1/2	.5000	4-3/8	8-1/4	2	90.79
33/64	.5156	4-5/8	8-1/2	2	98.59
17/32	.5313	4-5/8	8-1/2	2	95.07
35/64	.5469	4-7/8	8-3/4	2	99.93
9/16	.5625	4-7/8	8-3/4	2	96.36
37/64	.5781	4-7/8	8-3/4	2	104.59
19/32	.5938	4-7/8	8-3/4	2	100.87
39/64	.6094	4-7/8	8-3/4	2	119.03
5/8	.6250	4-7/8	8-3/4	2	114.77
41/64	.6406	5-1/8	9	2	126.20
21/32	.6563	5-1/8	9	2	121.69
43/64	.6719	5-3/8	9-1/4	2	122.27

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper	Price Each
11/16	.6875	5-3/8	9-1/4	2	117.90
45/64	.7031	5-5/8	9-1/2	2	125.57
23/32	.7188	5-5/8	9-1/2	2	121.10
47/64	.7344	5-7/8	9-3/4	2	128.17
3/4	.7500	5-7/8	9-3/4	2	123.60
49/64	.7656	6	9-7/8	2	133.94
25/32	.7813	6-1/8	9-7/8	2	135.26
51/64	.7969	6-1/8	10-3/4	3	138.34
13/16	.8125	6-1/8	10-3/4	3	146.77
53/64	.8281	6-1/8	10-3/4	3	157.93
27/32	.8438	6-1/8	10-3/4	3	157.21
55/64	.8594	6-1/8	10-3/4	3	148.86
7/8	.8750	6-1/8	10-3/4	3	148.86
57/64	.8906	6-1/8	10-3/4	3	152.75
29/32	.9063	6-1/8	10-3/4	3	152.75
59/64	.9219	6-1/8	10-3/4	3	159.46
15/16	.9375	6-1/8	10-3/4	3	159.46
61/64	.9531	6-3/8	11	3	171.13
31/32	.9688	6-3/8	11	3	168.70
63/64	.9844	6-3/8	11	3	171.13
1	1.0000	6-3/8	11	3	165.99
1-1/32	1.0313	6-1/2	11-1/8	3	205.20
1-3/64	1.0469	6-5/8	11-1/4	3	215.00
1-1/16	1.0625	6-5/8	11-1/4	4	207.90
1-5/64	1.0781	6-7/8	12-1/2	4	216.00
1-3/32	1.0938	6-7/8	12-1/2	4	225.00
1-1/8	1.1250	7-1/8	12-3/4	4	230.58
1-9/64	1.1406	7-1/4	12-7/8	4	266.22
1-5/32	1.1563	7-1/4	12-7/8	4	261.00
1-11/64	1.1719	7-3/8	13	4	268.97
1-3/16	1.1875	7-3/8	13	4	263.70
1-13/64	1.2031	7-1/2	13-1/8	4	284.67
1-7/32	1.2188	7-1/2	13-1/8	4	279.00
1-15/64	1.2344	7-7/8	13-1/2	4	288.25
1-1/4	1.2500	7-7/8	13-1/2	4	282.60

# Carbide Tipped Drills

High Speed Steel Body



HOLE MAKING

## Taper Length

List No. **CT840** – 118° Point

Provides excellent wear resistance when cutting aluminum castings, bronze, cast and ductile irons, fiberglass, hard plastics and other non ferrous materials. NOT recommended for steel applications.



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
3/32	.0938	2-5/8	5-1/8	24.34
1/8	.1250	2-3/4	5-1/8	25.52
9/64	.1406	3	5-3/8	25.52
5/32	.1563	3	5-3/8	26.89
11/64	.1719	3-3/8	5-3/4	27.36
#13	.1850	3-3/8	5-3/4	27.36
3/16	.1875	3-3/8	5-3/4	27.36
#10	.1935	3-5/8	6	28.93
#7	.2010	3-5/8	6	28.93
13/64	.2031	3-5/8	6	28.93
7/32	.2188	3-5/8	6	28.93
15/64	.2344	3-3/4	6-1/8	33.27
C	.2420	3-3/4	6-1/8	33.46
1/4	.2500	3-3/4	6-1/8	32.67
F	.2570	3-7/8	6-1/4	34.34
17/64	.2656	3-7/8	6-1/4	37.34
9/32	.2813	3-7/8	6-1/4	36.65
L	.2900	4	6-3/8	49.00
19/64	.2969	4	6-3/8	40.30
5/16	.3125	4	6-3/8	39.56
21/64	.3281	4-1/8	6-1/2	44.37
11/32	.3438	4-1/8	6-1/2	43.58
23/64	.3594	4-1/4	6-3/4	48.69
3/8	.3750	4-1/4	6-3/4	47.80
25/64	.3906	4-3/8	7	53.62
13/32	.4063	4-3/8	7	52.64
27/64	.4219	4-5/8	7-1/4	61.72
7/16	.4375	4-5/8	7-1/4	60.60
29/64	.4531	4-3/4	7-1/2	65.56
15/32	.4688	4-3/4	7-1/2	64.36
31/64	.4844	4-3/4	7-3/4	71.40
1/2	.5000	4-3/4	7-3/4	70.11

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
33/64	.5156	4-3/4	8	92.00
17/32	.5313	4-3/4	8	90.76
35/64	.5469	4-7/8	8-1/4	95.05
9/16	.5625	4-7/8	8-1/4	91.65
37/64	.5781	4-7/8	8-1/4	100.31
19/32	.5938	4-7/8	8-3/4	98.55
39/64	.6094	4-7/8	8-3/4	115.56
5/8	.6250	4-7/8	8-3/4	111.44
41/64	.6406	5-1/8	8-3/4	119.88
21/32	.6563	5-1/8	9	115.60
43/64	.6719	5-3/8	9	121.94
11/16	.6875	5-3/8	9-1/4	117.59
45/64	.7031	5-5/8	9-1/4	123.29
23/32	.7188	5-5/8	9-1/2	120.14
47/64	.7344	5-7/8	9-1/2	125.34
3/4	.7500	5-7/8	9-3/4	122.79
49/64	.7656	6	9-3/4	138.09
25/32	.7813	6	9-7/8	132.93
51/64	.7969	6-1/8	9-7/8	138.68
13/16	.8125	6-1/8	10	133.57
53/64	.8281	6-1/8	10	138.68
27/32	.8438	6-1/8	10	133.57
55/64	.8594	6-1/8	10	146.47
7/8	.8750	6-1/8	10	147.50
57/64	.8906	6-1/8	10	152.75
29/32	.9062	6-1/8	10	170.31
59/64	.9219	6-1/8	10-3/4	152.64
15/16	.9375	6-1/8	10-3/4	155.30
61/64	.9531	6-3/8	11	160.25
31/32	.9687	6-3/8	11	181.02
63/64	.9844	6-3/8	11	164.28
1	1.0000	6-3/8	11	167.58

## Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
4.00	.1575	3	5-3/8	26.81
5.00	.1969	3-5/8	6	29.07
5.50	.2165	3-5/8	6	32.35
6.00	.2362	3-3/4	6-1/8	34.67
6.30	.2480	3-3/4	6-1/8	36.70
6.50	.2559	3-7/8	6-1/4	38.52
7.00	.2756	3-7/8	6-1/4	40.06
7.50	.2953	4	6-3/8	43.14
8.00	.3150	4-1/8	6-1/2	44.68

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
8.50	.3346	4-1/8	6-1/2	46.22
9.00	.3543	4-1/4	6-3/4	46.99
9.40	.3701	4	6-3/4	47.87
9.50	.3740	4-1/4	6-3/4	55.47
10.50	.4134	4-5/8	7-1/4	65.48
12.00	.4724	5-1/2	7-1/4	70.43
12.50	.4921	4-3/4	7-3/4	76.26
14.00	.5512	4-7/8	8-1/4	100.15
15.00	.5906	4-7/8	8-3/4	114.01

## Sets

Description	Sizes	Pcs.	Set No.	Price
Jobber Length	1/8" to 1/2" by 32 <sup>nds</sup>	13	<b>CT830SR</b>	413.53
Jobber Length	1/8" to 1/2" by 64 <sup>ths</sup>	25	<b>CT830SF</b>	799.16
Taper Length	33/64" to 3/4" by 64 <sup>ths</sup>	14	<b>CT840S</b>	1692.53
Taper Shank	33/64" to 3/4" by 64 <sup>ths</sup>	14	<b>CT820S</b>	1735.45



All sets are supplied in metal index

# Carbide Tipped Drills

High Speed Steel Body



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Die Drills

List No. **CT850**

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/16*	0.0625	5/8	1-5/8	17.10
5/64*	0.0781	11/64	1-11/16	17.10
3/32*	0.0938	3/4	1-3/4	19.35
7/64*	0.1094	13/16	1-13/16	19.35
1/8*	0.1250	7/8	1-7/8	19.35
9/64*	0.1406	15/16	1-15/16	20.66
5/32*	0.1563	1	2-1/16	23.85
11/64	0.1719	1-1/2	3-1/2	35.98
3/16	0.1875	1-1/2	3-1/2	35.98
13/64	0.2031	1-3/4	3-3/4	37.11
7/32	0.2188	1-3/4	3-3/4	37.11
15/64	0.2344	2	4	38.45
1/4	0.2500	2	4	38.45
17/64	0.2656	2-1/4	4-1/4	40.62
9/32	0.2813	2-1/4	4-1/4	40.62
19/64	0.2969	2-1/2	4-1/2	42.47
5/16	0.3125	2-1/2	4-1/2	42.47
21/64	0.3281	2-3/4	4-3/4	45.76
11/32	0.3438	2-3/4	4-3/4	45.76
23/64	0.3594	3	5	48.72
3/8	0.3750	3	5	48.72

\* Solid Carbide



• Designed specifically for drilling hardened ferrous materials in the range of 45 to 65 Rockwell C.

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
25/64	0.3906	3	5-1/4	56.82
13/32	0.4063	3	5-1/4	56.84
27/64	0.4219	3	5-1/2	66.02
7/16	0.4375	3	5-1/2	66.02
29/64	0.4531	3-1/4	5-3/4	72.58
15/32	0.4688	3-1/4	5-3/4	72.58
31/64	0.4844	3-1/2	6	85.08
1/2	0.5000	3-1/2	6	85.08
17/32	0.5313	3-1/2	6	102.73
9/16	0.5625	3-1/2	6	102.73
19/32	0.5938	4	7	112.09
5/8	0.6250	4	7	112.09
21/32	0.6563	4-1/2	7-1/2	118.07
11/16	0.6875	4-1/2	7-1/2	121.38
23/32	0.7188	4-3/4	8	129.60
3/4	0.7500	4-3/4	8	130.73
13/16	0.8125	4-3/4	8	225.00
7/8	0.8750	4-3/4	8	234.00
15/16	0.9375	4-3/4	8	259.20
1	1.0000	4-3/4	8	269.10

## Straight Flute Drills

List No. **CT860**



For drilling and center drilling hardened heat treated steel up to 65 RC. The special point design provides a free cutting action that minimizes heat and produces a smooth hole finish.

Size	Decimal Equivalent	Flute Length	Overall Length	Approx. RPM	Price Each
1/8	0.1250	1/2	3	2000	52.51
5/32	0.1563	1/2	3	1800	56.75
3/16	0.1875	3/4	3-1/4	1600	49.19
13/64	0.2031	3/4	3	1600	52.20
7/32	0.2188	1-1/4	3-1/4	1400	50.18
15/64	0.2344	1-3/8	3-1/2	1300	51.50
1/4	0.2500	1-1/2	3-1/2	1200	52.51
17/64	0.2656	1-3/4	3-3/4	1200	56.00
19/64	0.2969	1-3/4	3-3/4	1200	60.20
5/16	0.3125	1-3/4	3-3/4	1000	55.31
21/64	0.3281	2	4	1000	57.00
11/32	0.3438	2	4	1000	57.00



Excellent choice for machinists, locksmiths, mechanics, and automotive applications.

Size	Decimal Equivalent	Flute Length	Overall Length	Approx. RPM	Price Each
23/64	0.3594	1-7/8	3-7/8	900	57.00
3/8	0.3750	2	4	800	59.62
25/64	0.3906	2	4	800	71.30
13/32	0.4063	2	4	800	71.30
27/64	0.4219	2	4	800	84.00
7/16	0.4375	2-1/4	4-1/2	800	79.79
29/64	0.4531	2-1/4	4-1/2	700	85.93
15/32	0.4688	2-1/2	4-1/2	700	96.49
31/64	0.4844	2-1/2	4-1/2	700	96.49
1/2	0.5000	2-1/2	5	700	96.49
5/8	0.6250	2-1/2	5	700	121.13

Use of cutting fluid is recommended.

## Sets

Sizes	Pcs.	Set No.	Price
1/4, 5/16, 3/8, 1/2	4	<b>CT860S</b>	265.00



## Screw Machine Length

List No. **CT600** – 118° Point

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/8	0.1250	7/8	1-7/8	22.05
9/64	0.1406	15/16	1-15/16	23.85
5/32	0.1563	1	2-1/16	24.98
11/64	0.1719	1-1/16	2-1/8	26.78
3/16	0.1875	1-1/8	2-3/16	26.78
13/64	0.2031	1-3/16	2-1/4	26.96
7/32	0.2188	1-1/4	2-3/8	26.96
15/64	0.2344	1-5/16	2-7/16	28.80
1/4	0.2500	1-3/8	2-1/2	28.80
17/64	0.2656	1-7/16	2-5/8	34.65
9/32	0.2813	1-1/2	2-11/16	34.65
19/64	0.2969	1-9/16	2--3/4	36.40
5/16	0.3125	1-5/8	2-13/16	38.25
21/64	0.3281	1-11/16	2-15/16	40.80

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
11/32	0.3438	1-11/16	3	40.80
23/64	0.3594	1-3/4	3-1/16	41.90
3/8	0.3750	1-13/16	3-1/8	42.53
25/64	0.3906	1-7/8	3-1/4	44.66
13/32	0.4063	1-15/16	3-5/16	44.66
27/64	0.4219	2	3-3/8	49.95
7/16	0.4375	2-1/16	3-7/16	49.95
29/64	0.4531	2-1/8	3-9/16	57.80
15/32	0.4688	2-1/8	3-5/8	57.80
31/64	0.4844	2-3/16	3-11/16	62.96
1/2	0.5000	2-1/4	3-3/4	62.96
9/16	0.5625	2-1/2	4	95.00
37/64	0.5781	2-5/8	4-1/8	107.00
13/16	0.8125	3-3/8	6-1/4	135.00



# Carbide Tipped Composite Drills



Ideal for drilling bowling balls, plastic composites, plasters, and other similar non-metallic materials.



## Silver and Deming

List No. **CT810**

1/2" Straight Shank, 3-7/8" Flute, 6-1/4" Overall Length



Size	Decimal Equivalent	Price Each	Size	Decimal Equivalent	Price Each	Size	Decimal Equivalent	Price Each
7/16	.4375	33.97	25/32	.7812	35.42	63/64	.9844	46.17
1/2	.5000	33.97	13/16	.8125	36.05	1	1.0000	47.76
9/16	.5625	33.97	27/32	.8438	36.69	1-1/64	1.0156	49.97
5/8	.6250	35.42	7/8	.8750	37.64	1-1/32	1.0312	51.87
21/32	.6562	35.42	29/32	.9062	39.85	1-1/16	1.0625	53.13
11/16	.6875	35.42	15/16	.9375	41.75	1-3/32	1.0938	55.66
23/32	.7188	35.42	61/64	.9531	43.01	1-1/8	1.1250	57.56
3/4	.7500	35.42	31/32	.9688	44.28	1-1/4	1.2500	60.72

## Taper Shank

List No. **CT811**

#2 Morse Taper Shank, 4-1/8" Flute, 7-1/2" Overall Length



Size	Decimal Equivalent	Price Each	Size	Decimal Equivalent	Price Each	Size	Decimal Equivalent	Price Each
5/8	.6250	39.60	13/16	.8125	50.60	1	1.0000	64.90
21/32	.6562	50.50	27/32	.8438	62.04	1-1/32	1.0312	92.40
11/16	.6875	51.29	7/8	.8750	63.36	1-1/16	1.0625	78.10
23/32	.7188	44.88	61/64	.9531	55.84	1-3/32	1.0938	95.04
3/4	.7500	58.34	31/32	.9688	73.92	1-1/4	1.2500	93.50
25/32	.7812	59.40	63/64	.9844	75.90			

## Sets

Sizes	Pcs.	Shank	Set No.	Price
5/8" to 1-1/8" by 32 <sup>nds</sup>	17	1/2" Shank	<b>CT810S</b>	594.00
5/8" to 1-1/4" by 32 <sup>nds</sup> (Except 29/32, 15/16, & 1-1/8)	15	#2 Morse Taper	<b>CT811S</b>	1292.56
7/16" to 1-1/8" by 32 <sup>nds</sup> , & 61/64", 63/64", & 1-1/64"	23	1/2" Shank	<b>CT810L</b>	966.41

All sets are supplied in wood block



# Carbide Tipped Glass & Tile Drills



List No. **CT898**

For drilling glass, tiles, ceramics and other hard, fragile materials without chipping or cracking the material. Liquid coolant recommended.



Size	Overall Length	Price Each	Size	Overall Length	Price Each
1/8	2-1/2	7.92	3/8	3	16.17
5/32	2-1/2	8.42	7/16	3-1/2	17.50
3/16	2-1/2	9.08	1/2	3	18.81
1/4	2-1/2	9.90	9/16	4	24.50
5/16	2-1/2	11.12	5/8	4	31.00



# Carbide Tipped Masonry Drills

## Straight Shank



List No. **CT890** – 4" OAL, Regular Helix

List No. **CT891** – 6" OAL, Regular Helix

List No. **CT892** – 12" OAL, Regular Helix

List No. **CT893** – 18" OAL, Regular Helix

List No. **CT890F** – 4" OAL, Fast Helix

List No. **CT891F** – 6" OAL, Fast Helix

List No. **CT892F** – 12" OAL, Fast Helix

For drilling brick, stone, slate, marble, cement, concrete, carbon, asphalt, plaster and wallboard. These drills may be used in portable electric drills, drill presses, or other fixed spindle machine tools.



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DRILL & CUTTING TOOLS

Size	Shank Size	Price Each						
		4" OAL CT890	4" OAL CT890F	6" OAL CT891	6" OAL CT891F	12" OAL CT892	12" OAL CT892F	18" OAL CT893
1/8	1/8	3.29*	3.29*	3.47	—	8.18	—	13.20
5/32	5/32	3.47*	—	—	—	—	—	—
11/64	11/64	3.47*	3.47*	—	—	—	—	—
4.50mm	4.50mm	3.53	—	—	—	—	—	—
3/16	3/16	3.53	3.53	3.56	3.56	8.42	—	13.90
7/32	7/32	3.63	—	3.70	—	—	—	—
5.50mm	5.50mm	3.53	—	—	—	—	—	—
15/64	15/64	3.70	3.70*	—	—	—	—	—
1/4	1/4	3.70	3.70	3.70	3.70	8.55	8.55	13.17
9/32	1/4	3.80	—	4.13	—	—	—	—
5/16	1/4	3.86	3.86	4.29	4.29	9.08	9.08	14.85
3/8	1/4	4.16	4.16	4.42	4.42	10.23	10.23	—
3/8	5/16	—	—	—	—	—	—	15.84
3/8	3/8	—	4.16	4.42	—	10.23	—	15.84
7/16	1/4	4.75	4.75	4.72	4.72	12.21	—	—
7/16	3/8	—	—	4.72	4.72	12.21	12.21	19.01
15/32	1/4	—	—	5.12	—	—	—	—
1/2	1/4	4.82	4.82	5.12	5.12	12.47	12.47	—
1/2	3/8	—	—	5.12	5.12	12.47	12.47	19.47
9/16	3/8	—	—	7.10	7.10	—	—	—
9/16	1/2	—	—	7.10	7.10	14.19	—	22.44
5/8	1/4	6.80	—	—	—	—	—	—
5/8	3/8	6.80	—	8.25	—	15.68	15.68	23.76
5/8	1/2	—	—	8.25	8.25	15.68	—	23.76
11/16	1/2	—	—	9.01	9.01	18.41	—	27.72
3/4	1/2	—	—	9.74	9.74	18.81	18.81**	28.38
7/8	1/2	—	—	12.38	12.38	22.37	—	34.32
31/32	1/2	—	—	15.18	—	—	—	—
1	1/2	—	—	15.18	15.18	25.74	25.74	38.94
1-1/8	1/2	—	—	21.78	—	32.34	—	55.44
1-1/4	1/2	—	—	28.38	—	—	—	58.74
1-3/8	1/2	—	—	38.28	—	51.48	—	82.50
1-1/2	1/2	—	—	39.27	—	—	—	75.90

\*\* 3/8" Shank \* 3" Overall Length

## Sets

Sizes	Description	Container	Pcs.	Set No.	Price
1/4, 5/16, 3/8, 1/2	Regular Helix – 4" OAL	Polytube	4	<b>CT890S</b>	16.50
3/16, 1/4, 5/16, 3/8, 1/2, 5/8*	Regular Helix – 4" OAL	Polytube	6	<b>CT890S-6</b>	28.32
1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	Regular Helix – 6" OAL	Polytube	7	<b>CT891S-7</b>	29.28
1/4, 5/16, 3/8, 1/2, 5/8, 3/4	Regular Helix – 6" OAL	Polytube	6	<b>CT891S-6</b>	35.52
1/4, 5/16, 3/8, 7/16, 1/2	Contains one of each size drill in H.S. 1/4 shank & Carbide Tipped Masonry	Wood Block	10	<b>304B</b>	60.08

\*5/8 by 6" O.A.L.

## Carbide Tipped Masonry Drills MDX

Size	Price Each	
	4" OAL XCT890	6" OAL XCT891
1/4	1.80	2.10
5/16	1.90	2.25
3/8	2.10	2.45

# Carbide Tipped Standard "A" Drills

## Taper Shank

List No. **CT884**

Use in rotary hammer drills with "A" taper chucks or adapters.



Size	Price Each			
	4-1/2" OAL	6" OAL	9" OAL	12" OAL
3/16	7.82*	8.10	—	—
1/4	8.82**	9.18	—	14.32
5/16	9.24	10.14	—	—
3/8	9.68	11.26	12.38	16.02
7/16	10.80	12.78	—	—

\* 3/16 – 3-5/8" OAL

\*\* 1/4 – 4" OAL

Size	Price Each		
	6" OAL	9" OAL	12" OAL
1/2	13.06	15.12	19.80
9/16	—	16.08	—
5/8	15.54	20.26	26.10
3/4	19.80	24.76	31.06
7/8	—	34.98	—



**MADE IN USA**

# Hammer Drills

Carbide Tipped



HOLE MAKING

## SDS - Max Masonry

List No. **CT886MX** – 5 Slot Shank

Extra heavy duty Slot Drive System to maximize performance.



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Approximate Flute Length	Approximate Overall Length	Price Each
3/8	7	13	58.46
1/2	7	13	59.40
1/2	16	21	73.72
9/16	7	13	67.32
9/16	16	21	89.55
5/8	7	13	71.55
5/8	12	18	85.73
5/8	16	21	91.35
5/8	18	23-1/2	99.93
5/8	24	30	149.75
5/8	30	36	152.10
5/8	42	48	266.18
11/16	18	23-1/2	105.63
3/4	7	13	71.78
3/4	12	18	91.45
3/4	16	21	92.70
3/4	18	23-1/2	82.32
3/4	24	30	144.50
3/4	30	36	170.55
3/4	42	48	298.46
13/16	18	23-1/2	125.99
27/32	7	13	83.25
27/32	18	23-1/2	139.99
7/8	7	13	83.25
7/8	12	18	87.83
7/8	16	21	114.76
7/8	18	23-1/2	139.99

Size	Approximate Flute Length	Approximate Overall Length	Price Each
7/8	30	36	268.38
1	7	13	89.10
1	12	18	93.37
1	16	21	108.90
1	18	23-1/2	136.74
1	30	36	195.75
1	42	48	332.14
1-1/16	18	23-1/2	157.25
1-1/8	7	13	89.75
1-1/8	12	18	119.27
1-1/8	16	21	127.98
1-1/8	18	23-1/2	165.24
1-1/4	9	15	140.36
1-1/4	16	21	152.10
1-1/4	18	23-1/2	175.44
1-1/4	30	36	249.79
1-3/8	12	18	179.53
1-3/8	18	23-1/2	201.64
1-1/2	9	15	185.22
1-1/2	16	21	217.80
1-1/2	18	23-1/2	222.21
1-1/2	30	36	416.52
1-1/2	42	48	515.16
1-9/16	18	23-1/2	267.23
1-5/8	18	23-1/2	263.39
1-3/4	18	23-1/2	272.03
2	18	23-1/2	290.84

# Impact Hammer Drills

Carbide Tipped



List No. **CT880** – Percussion Type

For use in hammer drills equipped with 3-Jawed Jacobs Type Chuck.



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Size	Shank Diameter	Flute Length	Overall Length	Price Each
1/8	1/8	1-1/2	3	3.40
1/8	1/8	4-1/2	6	4.78
5/32	9/64	1-1/2	3	4.78
11/64	9/64	1-1/2	3	4.78
3/16	3/16	1-1/2	3	3.40
3/16	3/16	4	6	3.78
3/16	3/16	6	8	5.36
7/32	7/32	2-1/2	4	3.78
1/4	1/4	2-1/2	4	3.54
1/4	1/4	2-1/2	6	4.46
1/4	1/4	12	13	11.26
1/4	1/4	16-1/2	18	13.06
9/32	1/4	2-1/2	4	4.46
5/16	1/4	2-1/2	4	4.16
5/16	1/4	4	6	4.96
5/16	1/4	12	13	10.36
3/8	1/4	2-1/2	4	5.20
3/8	1/4	4-1/2	6	5.76
3/8	3/8	12	13	10.80
3/8	3/8	18-1/2	20	14.18
3/8	3/8	22-1/2	24	19.80

Size	Shank Diameter	Flute Length	Overall Length	Price Each
7/16	3/8	4-1/2	6	6.76
1/2	3/8	4-1/2	6	7.02
1/2	3/8	12	13-1/2	13.06
9/16	1/2	4-1/2	6	8.46
9/16	3/8	12	13-1/2	15.12
5/8	1/2	4	6	9.46
5/8	1/2	12	13-1/2	16.08
5/8	1/2	16-1/2	18	19.80
11/16	1/2	4-1/2	6	11.70
3/4	1/2	4-1/2	6	12.60
3/4	1/2	12	13-1/2	18.90
7/8	1/2	4-1/2	6	15.62
7/8	1/2	12	13-1/2	20.80
7/8	1/2	16-1/2	18	27.42
1	1/2	4-1/2	6	18.90
1	1/2	12	13-1/2	25.66
1	1/2	6-1/2	18	34.66
1-1/8	1/2	12	13-1/2	28.36
1-1/8	1/2	16-1/2	18	34.98
1-1/4	1/2	4-1/2	6	29.26
1-1/2	1/2	4-1/2	6	37.80

# Rotary Hammer Drills

Carbide Tipped



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## SDS - Plus Masonry

List No. **CT886** – 4 Slot Shank

The versatile Slot Drive System fits all rotary hammer drills that specify an SDS - PLUS shank. Positive drive slots will deliver maximum drilling torque and hammering energy for faster drilling.



Size	Approximate Flute Length	Approximate Overall Length	Price Each
5/32	2	4-5/8	6.76
5/32	4	6-5/8	7.38
5/32	6	8-5/8	11.96
3/16	2	4-5/8	7.59
3/16	4	6-5/8	7.78
3/16	6	8-5/8	10.40
3/16	8	10-5/8	14.20
3/16	12	14-5/8	21.79
3/16	14	16-5/8	50.35
7/32	2-1/2	4-3/4	7.10
7/32	4	6-5/8	8.75
7/32	6	8-5/8	11.74
7/32	8	10-1/4	14.91
7/32	12	14-5/8	24.85
7/32	14	16-5/8	30.74
6mm	6	8-1/4	10.80
1/4	2	4-5/8	7.92
1/4	4	6-5/8	8.62
1/4	6	8-5/8	10.80
1/4	9	11-5/8	14.41
1/4	9-5/8	12-1/4	15.23
1/4	12	14-5/8	20.52
1/4	14	16-5/8	21.62
1/4	18	20-5/8	44.44
9/32	6	8-5/8	12.81
5/16	4	6-5/8	11.25
5/16	7-1/2	9-3/4	14.38
5/16	10	12-5/8	20.25
8mm	3-1/2	6-1/4	11.25
3/8	4	6-5/8	10.53
3/8	8	10-5/8	15.22
3/8	10	12-5/8	20.25
3/8	18	20-5/8	31.50
3/8	22	24	38.34
3/8	34	36	68.44
10mm	5-1/2	8	15.53
7/16	4	6-5/8	14.85
7/16	10	12-5/8	20.52
7/16	16	18-5/8	29.70
1/2	4	6-5/8	12.96
1/2	8	10-5/8	15.53
1/2	10	12-5/8	24.75

Size	Approximate Flute Length	Approximate Overall Length	Price Each
1/2	14	16-5/8	26.76
1/2	16	18-5/8	28.80
1/2	22	24	35.92
1/2	36	38	88.72
13mm	3	6-1/4	19.35
9/16	4	6-3/4	19.35
9/16	7-7/8	10-1/8	23.54
9/16	10	12-3/4	26.10
9/16	16	18-3/4	35.10
5/8	4	6-3/4	21.60
5/8	7	9-3/4	23.04
5/8	10	12-3/4	32.40
5/8	15	18-3/4	44.10
5/8	22	24	65.07
5/8	34	36	127.18
11/16	4	6-3/4	30.60
11/16	10	12-3/4	43.18
11/16	16	18-3/4	65.30
3/4	4	6-3/4	28.80
3/4	7	9-3/4	36.72
3/4	10	12-3/4	42.12
3/4	16	18-3/4	52.20
3/4	22	24	86.95
3/4	34	36	140.78
13/16	10	12-3/4	53.24
27/32	6	8-3/4	56.78
27/32	10	12	70.43
7/8	4	6-3/4	30.60
7/8	7	9-3/4	53.10
7/8	10	12-3/4	59.74
7/8	14	16-3/4	62.10
7/8	16	18-3/4	73.23
7/8	21	24	105.69
1	8	10-3/4	63.38
1	10-1/4	13-1/8	68.47
1	16	18-3/4	77.74
1	22	25	105.82
1	28	30	143.00
1-1/8	10	12-3/4	85.36
1-1/8	16	18-3/4	94.52
1-1/4	10	12-3/4	113.80

## Spline Shank Bits

List No. **CT887**

Heavy duty spline shanks to fit popular hammer drills.



Size	Price Each		
	12" OAL 6" Flute Length	18" OAL 12" Flute Length	23-1/2" OAL 18" Flute Length
3/8	35.92	42.76	52.24
7/16	43.16	—	—
1/2	38.26	43.88	51.98
9/16	40.28	46.14	54.16
5/8	42.30	48.16	55.08
11/16	45.00	—	65.36
3/4	46.80	51.12	28.24

Size	Price Each		
	12" OAL 6" Flute Length	18" OAL 12" Flute Length	23-1/2" OAL 18" Flute Length
27/32	—	53.18	58.86
7/8	49.50	55.14	61.20
1	56.26	63.00	70.88
1-1/8	62.62	71.11	82.80
1-1/4	—	84.38	91.68
1-3/8	93.94	104.96	111.72
1-1/2	—	110.26	122.86

HOLE MAKING

# Solid Carbide Drills



## Standard Length

List No. **C800** – 118° Point

Solid Carbide Drills are designed for drilling abrasive materials when drilling accuracy must be maintained. They are also used in high temperature drilling applications. Solid Carbide Drills are used for drilling cast iron, aluminum, copper, plastics, bronze and other similar materials. Solid Carbide drills are NOT recommended for drilling steel.



## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/64	.0156	1/4	1-1/4	16.88
1/32	.0312	5/16	1-1/4	13.73
3/64	.0469	3/4	1-1/2	11.90
1/16	.0625	3/4	1-1/2	11.90
5/64	.0781	7/8	1-3/4	12.64
3/32	.0938	1	2	13.90
7/64	.1094	1-1/4	2-1/4	15.47
1/8	.1250	1-1/4	2-1/4	16.03
9/64	.1406	1-3/8	2-1/2	17.99
5/32	.1562	1-3/8	2-1/2	20.18
11/64	.1719	1-5/8	2-3/4	22.51
3/16	.1875	1-5/8	2-3/4	23.94
13/64	.2031	1-3/4	3	27.20
7/32	.2188	1-3/4	3	29.91
15/64	.2344	2	3-1/4	33.53
1/4	.2500	2	3-1/4	35.96
17/64	.2656	2-1/8	3-1/2	39.57
9/32	.2812	2-1/8	3-1/2	41.44

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
19/64	.2969	2-3/8	3-3/4	45.99
5/16	.3125	2-3/8	3-3/4	48.66
21/64	.3281	2-1/2	4	53.96
11/32	.3438	2-1/2	4	58.47
23/64	.3594	2-3/4	4-1/4	66.62
3/8	.3750	2-3/4	4-1/4	70.25
25/64	.3906	2-7/8	4-1/2	82.80
13/32	.4062	2-7/8	4-1/2	90.05
27/64	.4219	2-7/8	4-1/2	95.43
7/16	.4375	2-7/8	4-1/2	103.50
29/64	.4531	3	4-3/4	115.29
15/32	.4688	3	4-3/4	124.22
31/64	.4844	3	4-3/4	127.80
1/2	.5000	3	4-3/4	127.80
17/32	.5312	4	6	175.50
9/16	.5625	4	6	216.00
5/8	.6250	4	6	256.50
3/4	.7500	4	6	333.00

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	2	3-1/4	32.94
B	.2380	2	3-1/4	35.64
C	.2420	2	3-1/4	35.64
D	.2460	2	3-1/4	35.64
E	.2500	2	3-1/4	35.96
F	.2570	2	3-1/4	42.12
G	.2610	2-1/8	3-1/2	42.89
H	.2660	2-1/8	3-1/2	43.42
I	.2720	2-1/8	3-1/2	43.01
J	.2770	2-1/8	3-1/2	44.08
K	.2810	2-1/8	3-1/2	44.55
L	.2900	2-1/8	3-1/2	44.85
M	.2950	2-3/8	3-3/4	47.02

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	2-3/8	3-3/4	50.00
O	.3160	2-3/8	3-3/4	55.76
P	.3230	2-3/8	3-3/4	55.76
Q	.3320	2-1/2	4	59.05
R	.3390	2-1/2	4	60.88
S	.3480	2-1/2	4	63.24
T	.3580	2-3/4	4-1/4	67.50
U	.3680	2-3/4	4-1/4	77.40
V	.3770	2-3/4	4-1/4	82.89
W	.3860	2-7/8	4-1/2	82.89
X	.3970	2-7/8	4-1/2	89.41
Y	.4040	2-7/8	4-1/2	92.92
Z	.4130	2-7/8	4-1/2	101.70

## Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1.50	.0591	3/4	1-1/2	14.85
2.00	.0787	7/8	1-3/4	15.13
2.50	.0984	1	2	17.99
3.00	.1181	1-1/4	2-1/4	19.47
3.50	.1378	1-3/8	2-1/2	21.45
4.00	.1575	1-3/8	2-1/2	25.28
4.50	.1772	1-5/8	2-3/4	28.11
5.00	.1969	1-3/4	3	31.79
5.50	.2165	1-3/4	3	35.68
6.00	.2362	2	3-1/4	43.44
6.50	.2559	2	3-1/4	50.82

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
7.00	.2756	2-1/8	3-1/2	52.57
7.50	.2953	2-3/8	3-3/4	56.21
8.00	.3150	2-3/8	3-3/4	68.16
8.50	.3346	2-1/2	4	74.40
9.00	.3543	2-1/2	4	82.50
9.50	.3740	2-3/4	4-1/4	94.49
10.00	.3937	2-7/8	4-1/2	109.27
10.50	.4134	2-7/8	4-1/2	116.61
11.00	.4331	2-7/8	4-1/2	126.47
11.50	.4528	3	4-3/4	140.91
12.00	.4724	3	4-3/4	156.10

# Solid Carbide Drills



## Standard Length

List No. **C800** – 118° Point

Solid Carbide Drills are designed for drilling abrasive materials when drilling accuracy must be maintained. They are also used in high temperature drilling applications. Solid Carbide Drills are used for drilling cast iron, aluminum, copper, plastics, bronze and other similar materials. Solid Carbide drills are NOT recommended for drilling steel.



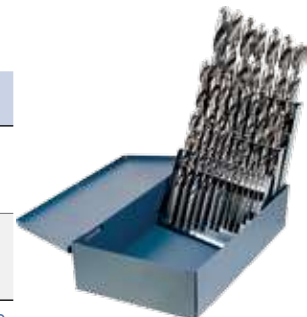
## Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1-3/4	3	31.84
2	.2210	1-3/4	3	31.34
3	.2130	1-3/4	3	29.36
4	.2090	1-3/4	3	28.65
5	.2055	1-3/4	3	27.89
6	.2040	1-3/4	3	27.54
7	.2010	1-3/4	3	26.48
8	.1990	1-3/4	3	26.08
9	.1960	1-3/4	3	25.58
10	.1935	1-5/8	2-3/4	24.85
11	.1910	1-5/8	2-3/4	24.47
12	.1890	1-5/8	2-3/4	24.09
13	.1850	1-5/8	2-3/4	23.75
14	.1820	1-5/8	2-3/4	24.09
15	.1800	1-5/8	2-3/4	23.90
16	.1770	1-5/8	2-3/4	23.00
17	.1730	1-5/8	2-3/4	22.62
18	.1695	1-5/8	2-3/4	22.05
19	.1660	1-5/8	2-3/4	22.52
20	.1610	1-3/8	2-1/2	21.25
21	.1590	1-3/8	2-1/2	21.33
22	.1570	1-3/8	2-1/2	20.68
23	.1540	1-3/8	2-1/2	20.33
24	.1520	1-3/8	2-1/2	19.62
25	.1495	1-3/8	2-1/2	18.56
26	.1470	1-3/8	2-1/2	18.35
27	.1440	1-3/8	2-1/2	17.98
28	.1405	1-3/8	2-1/2	17.80
29	.1360	1-3/8	2-1/2	17.42
30	.1285	1-1/4	2-1/4	16.76
31	.1200	1-1/4	2-1/4	16.56
32	.1160	1-1/4	2-1/4	16.37
33	.1130	1-1/4	2-1/4	16.05
34	.1110	1-1/4	2-1/4	16.05
35	.1100	1-1/4	2-1/4	15.50
36	.1065	1-1/4	2-1/4	14.99
37	.1040	1-1/4	2-1/4	14.99
38	.1015	1-1/4	2-1/4	14.99
39	.0995	1-1/4	2-1/4	14.72
40	.0980	1	2	14.21

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
41	.0960	1	2	14.21
42	.0935	1	2	13.70
43	.0890	1	2	13.70
44	.0860	1	2	13.70
45	.0820	7/8	1-3/4	13.15
46	.0810	7/8	1-3/4	13.15
47	.0785	7/8	1-3/4	12.58
48	.0760	7/8	1-3/4	12.58
49	.0730	7/8	1-3/4	12.58
50	.0700	7/8	1-3/4	12.58
51	.0670	3/4	1-1/2	11.86
52	.0635	3/4	1-1/2	11.86
53	.0595	3/4	1-1/2	11.86
54	.0550	3/4	1-1/2	12.08
55	.0520	3/4	1-1/2	12.08
56	.0465	3/4	1-1/2	12.08
57	.0430	3/4	1-1/2	12.08
58	.0420	3/4	1-1/2	12.08
59	.0410	3/4	1-1/2	12.08
60	.0400	3/4	1-1/2	12.08
61	.0390	5/8	1-1/2	13.01
62	.0380	5/8	1-1/2	13.01
63	.0370	5/8	1-1/2	13.01
64	.0360	5/8	1-1/2	13.01
65	.0350	5/8	1-1/2	13.01
66	.0330	5/16	1-1/4	13.82
67	.0320	5/16	1-1/4	13.82
68	.0310	5/16	1-1/4	13.82
69	.0292	5/16	1-1/4	13.82
70	.0280	5/16	1-1/4	13.82
71	.0260	5/16	1-1/4	13.82
72	.0250	5/16	1-1/4	13.82
73	.0240	1/4	1-1/4	16.20
74	.0225	1/4	1-1/4	16.20
75	.0210	1/4	1-1/4	16.20
76	.0200	1/4	1-1/4	16.20
77	.0180	1/4	1-1/4	17.10
78	.0160	1/4	1-1/4	17.10
79	.0145	1/4	1-1/4	17.10
80	.0135	1/4	1-1/4	17.10

## Sets

Sizes	Pcs.	Description	Set No.	Price
1/8" to 1/4" by 64 <sup>ths</sup>	9	Standard Length	<b>C800SC</b>	233.50
1/16" to 1/4" by 64 <sup>ths</sup>	13	Standard Length	<b>C800SG</b>	287.41
1/16" to 1/2" by 32 <sup>nds</sup>	15	Standard Length	<b>C800SR</b>	828.46
1/16" to 1/2" by 64 <sup>ths</sup>	29	Standard Length	<b>C800SF</b>	1584.90



All sets are supplied in metal case



# Solid Carbide Drills



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Screw Machine Length

List No. **C600** – 118° Point

Solid Carbide Drills are designed for drilling abrasive materials when drilling accuracy must be maintained. They are also used in high temperature drilling applications. Solid Carbide Drills are used for drilling cast iron, aluminum, copper, plastics, bronze and other similar materials. Solid Carbide drills are NOT recommended for drilling steel.



### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/32	.0312	3/8	1-1/8	12.85
3/64	.0469	1/2	1-1/2	12.85
1/16	.0625	5/8	1-5/8	12.85
5/64	.0781	11/16	1-11/16	12.85
3/32	.0938	3/4	1-3/4	12.85
7/64	.1094	13/16	1-13/16	12.85
1/8	.1250	7/8	1-7/8	11.61
9/64	.1406	15/16	1-15/16	13.77
5/32	.1562	1	2-1/16	15.39
11/64	.1719	1-1/16	2-1/8	19.44
3/16	.1875	1-1/8	2-3/16	20.36
13/64	.2031	1-3/16	2-1/4	22.03
7/32	.2188	1-1/4	2-3/8	22.03
15/64	.2344	1-5/16	2-7/16	29.97
1/4	.2500	1-3/8	2-1/2	29.97
17/64	.2656	1-7/16	2-5/8	32.35
9/32	.2812	1-1/2	2-11/16	34.45
19/64	.2969	1-9/16	2-3/4	37.48

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
5/16	.3125	1-5/8	2-13/16	37.48
21/64	.3281	1-11/16	2-15/16	42.66
11/32	.3438	1-11/16	3	46.12
23/64	.3594	1-3/4	3-1/16	50.33
3/8	.3750	1-13/16	3-1/8	50.33
25/64	.3906	1-7/8	3-1/4	58.75
13/32	.4062	1-15/16	3-5/16	65.12
27/64	.4219	2	3-3/8	72.68
7/16	.4375	2-1/16	3-7/16	72.68
29/64	.4531	2-1/8	3-9/16	87.16
15/32	.4688	2-1/8	3-5/8	91.53
31/64	.4844	2-3/16	3-11/16	91.53
1/2	.5000	2-1/4	3-3/4	91.53
9/16	.5625	2-1/2	4	107.41
5/8	.6250	2-3/4	4-1/4	141.22
11/16	.6875	2-7/8	4-5/8	160.29
3/4	.7500	3-1/8	5	192.47

### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1-5/16	2-7/16	31.65
2	.2210	1-5/16	2-7/16	30.98
3	.2130	1-1/4	2-3/8	29.97
4	.2090	1-1/4	2-3/8	31.79
5	.2055	1-1/4	2-3/8	28.56
6	.2040	1-1/4	2-3/8	28.56
7	.2010	1-3/16	2-1/4	27.32
8	.1990	1-3/16	2-1/4	26.58
9	.1960	1-3/16	2-1/4	25.23
10	.1935	1-3/16	2-1/4	25.23
11	.1910	1-3/16	2-1/4	25.23
12	.1890	1-3/16	2-1/4	23.96
13	.1850	1-1/8	2-3/16	24.49
14	.1820	1-1/8	2-3/16	24.06
15	.1800	1-1/8	2-3/16	23.96
16	.1770	1-1/8	2-3/16	23.79
17	.1730	1-1/8	2-3/16	23.52
18	.1695	1-1/16	2-1/8	22.98
19	.1660	1-1/16	2-1/8	21.91
20	.1610	1-1/16	2-1/8	21.54
21	.1590	1-1/16	2-1/8	20.70
22	.1570	1	2-1/16	20.03
23	.1540	1	2-1/16	20.03
24	.1520	1	2-1/16	19.49
25	.1495	1	2-1/16	18.82
26	.1470	1	2-1/16	18.55
27	.1440	1	2-1/16	18.28
28	.1405	15/16	1-15/16	18.11
29	.1360	15/16	1-15/16	17.20
30	.1285	15/16	1-15/16	17.04

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
31	.1200	7/8	1-7/8	15.15
32	.1160	7/8	1-7/8	15.15
33	.1130	7/8	1-7/8	14.88
34	.1110	7/8	1-7/8	14.88
35	.1100	7/8	1-7/8	14.48
36	.1065	13/16	1-13/16	14.21
37	.1040	13/16	1-13/16	14.08
38	.1015	13/16	1-13/16	13.94
39	.0995	13/16	1-13/16	13.68
40	.0980	13/16	1-13/16	13.68
41	.0960	13/16	1-13/16	12.97
42	.0935	3/4	1-3/4	12.87
43	.0890	3/4	1-3/4	12.60
44	.0860	3/4	1-3/4	12.43
45	.0820	3/4	1-3/4	12.33
46	.0810	3/4	1-3/4	11.89
47	.0785	3/4	1-3/4	11.89
48	.0760	11/16	1-11/16	11.89
49	.0730	11/16	1-11/16	11.59
50	.0700	11/16	1-11/16	11.52
51	.0670	11/16	1-11/16	11.36
52	.0635	11/16	1-11/16	11.36
53	.0595	1/2	1-1/2	11.09
54	.0550	1/2	1-1/2	11.09
55	.0520	1/2	1-1/2	10.99
56	.0465	1/2	1-1/2	10.99
57	.0430	1/2	1-1/2	10.99
58	.0420	1/2	1-1/2	10.99
59	.0410	1/2	1-1/2	10.99
60	.0400	1/2	1-1/2	10.99

# Solid Carbide Drills



## Screw Machine Length

List No. **C600** – 118° Point

### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	1-5/16	2-7/16	33.00
B	.2380	1-3/8	2-1/2	34.61
C	.2420	1-3/8	2-1/2	34.88
D	.2460	1-3/8	2-1/2	34.88
E	.2500	1-3/8	2-1/2	29.97
F	.2570	1-7/16	2-5/8	40.72
G	.2610	1-7/16	2-5/8	42.74
H	.2660	1-1/2	2-11/16	43.81
I	.2720	1-1/2	2-11/16	43.81
J	.2770	1-1/2	2-11/16	44.52
K	.2810	1-1/2	2-11/16	49.39
L	.2900	1-9/16	2-3/4	51.11
M	.2950	1-9/16	2-3/4	52.21



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	1-5/8	2-13/16	53.02
O	.3160	1-11/16	2-15/16	54.63
P	.3230	1-11/16	2-15/16	55.17
Q	.3320	1-11/16	3	57.22
R	.3390	1-11/16	3	58.83
S	.3480	1-3/4	3-1/16	61.92
T	.3580	1-3/4	3-1/16	68.17
U	.3680	1-13/16	3-1/8	71.13
V	.3770	1-7/8	3-1/4	72.21
W	.3860	1-15/16	3-1/4	73.99
X	.3970	1-15/16	3-5/16	80.47
Y	.4040	1-15/16	3-5/16	88.44
Z	.4130	2	3-3/8	90.89

## Straight Flute

List No. **C801** – 140° Split Point

Designed for drilling hardened, treated and abrasive materials.  
These drills penetrate most work pieces easily with minimal deflection.

### Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
3/64	.0469	1/2	1-1/2	9.36
1/16	.0625	5/8	1-5/8	10.80
5/64	.0781	11/16	1-11/16	10.80
3/32	.0938	3/4	1-3/4	11.56
7/64	.1094	13/16	1-13/16	12.06
1/8	.1250	7/8	1-7/8	12.38
9/64	.1406	15/16	1-15/16	14.30
5/32	.1562	1	2-1/16	15.40
11/64	.1719	1-1/16	2-1/8	19.36
3/16	.1875	1-1/8	2-3/16	20.12
13/64	.2031	1-3/16	2-1/4	21.76
7/32	.2188	1-1/4	2-3/8	21.76
15/64	.2344	1-5/16	2-7/16	29.48
1/4	.2500	1-3/8	2-1/2	24.86
17/64	.2656	1-7/16	2-5/8	35.20



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
9/32	.2812	1-1/2	2-11/16	37.84
19/64	.2969	1-9/16	2-3/4	41.90
5/16	.3125	1-5/8	2-13/16	37.84
21/64	.3281	1-11/16	2-15/16	46.30
11/32	.3438	1-11/16	3	51.46
23/64	.3594	1-3/4	3-1/16	57.60
3/8	.3750	1-13/16	3-1/8	47.26
25/64	.3906	1-7/8	3-1/4	65.98
13/32	.4062	1-15/16	3-5/16	72.88
27/64	.4219	2	3-3/8	80.26
7/16	.4375	2-1/16	3-7/16	75.54
29/64	.4531	2-1/8	3-9/16	97.08
15/32	.4688	2-1/8	3-5/8	101.88
31/64	.4844	2-3/16	3-11/16	101.88
1/2	.5000	2-1/4	3-3/4	92.70

### Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	1-5/16	2-7/16	27.55
B	.2380	1-3/8	2-1/2	29.46
C	.2420	1-3/8	2-1/2	29.57
D	.2461	1-3/8	2-1/2	29.90
E	.2500	1-3/8	2-1/2	24.86
F	.2570	1-7/16	2-5/8	38.86
G	.2610	1-7/16	2-5/8	39.42
H	.2660	1-1/2	2-11/16	41.89
I	.2720	1-1/2	2-11/16	41.89
J	.2770	1-1/2	2-11/16	41.89
K	.2810	1-1/2	2-11/16	41.89
L	.2900	1-9/16	2-3/4	43.34
M	.2950	1-9/16	2-3/4	43.34

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	1-5/8	2-13/16	43.34
O	.3160	1-11/16	2-15/16	47.82
P	.3230	1-11/16	2-15/16	47.82
Q	.3320	1-11/16	3	49.28
R	.3390	1-11/16	3	52.30
S	.3480	1-3/4	3-1/16	54.10
T	.3580	1-3/4	3-1/16	57.57
U	.3680	1-3/4	3-1/16	59.81
V	.3770	1-7/8	3-1/4	64.29
W	.3860	1-7/8	3-1/4	65.74
X	.3970	1-15/16	3-5/16	77.28
Y	.4040	1-15/16	3-5/16	77.50
Z	.4130	2	3-3/8	78.40

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# Solid Carbide Drills

## Straight Flute ▶ Continued

List No. **C801** – 140° Split Point

Designed for drilling hardened, treated and abrasive materials.  
These drills penetrate most work pieces easily with minimal deflection.



### Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1-5/16	2-7/16	24.42
2	.2210	1-5/16	2-7/16	24.08
3	.2130	1-1/4	2-3/8	23.07
4	.2090	1-1/4	2-3/8	22.62
5	.2055	1-1/4	2-3/8	21.50
6	.2040	1-1/4	2-3/8	21.28
7	.2010	1-3/16	2-1/4	20.94
8	.1990	1-3/16	2-1/4	21.73
9	.1960	1-3/16	2-1/4	21.28
10	.1935	1-3/16	2-1/4	21.28
11	.1910	1-3/16	2-1/4	19.49
12	.1890	1-3/16	2-1/4	19.15
13	.1850	1-1/8	2-3/16	18.70
14	.1820	1-1/8	2-3/16	18.59
15	.1800	1-1/8	2-3/16	18.37
16	.1770	1-1/8	2-3/16	18.14
17	.1730	1-1/8	2-3/16	17.92
18	.1695	1-1/16	2-1/8	16.91
19	.1660	1-1/16	2-1/8	16.91
20	.1610	1-1/16	2-1/8	16.80
21	.1590	1-1/16	2-1/8	16.58
22	.1570	1-1/16	2-1/8	16.35
23	.1540	1	2-1/16	15.57
24	.1520	1	2-1/16	15.01
25	.1495	1	2-1/16	15.01
26	.1470	1	2-1/16	15.01
27	.1440	1	2-1/16	14.78
28	.1405	15/16	1-15/16	14.78
29	.1360	15/16	1-15/16	14.11
30	.1285	15/16	1-15/16	12.99

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
31	.1200	7/8	1-7/8	14.45
32	.1160	7/8	1-7/8	14.45
33	.1130	7/8	1-7/8	14.45
34	.1110	7/8	1-7/8	14.45
35	.1100	7/8	1-7/8	14.00
36	.1065	13/16	1-13/16	14.00
37	.1040	13/16	1-13/16	14.56
38	.1015	13/16	1-13/16	14.22
39	.0995	13/16	1-13/16	14.22
40	.0980	13/16	1-13/16	13.33
41	.0960	13/16	1-13/16	13.33
42	.0935	3/4	1-3/4	12.88
43	.0890	3/4	1-3/4	12.88
44	.0860	3/4	1-3/4	12.88
45	.0820	3/4	1-3/4	12.21
46	.0810	3/4	1-3/4	12.21
47	.0785	3/4	1-3/4	12.21
48	.0760	11/16	1-11/16	12.21
49	.0730	11/16	1-11/16	11.76
50	.0700	11/16	1-11/16	11.76
51	.0670	11/16	1-11/16	11.76
52	.0635	11/16	1-11/16	11.76
53	.0595	1/2	1-1/2	12.21
54	.0550	1/2	1-1/2	12.21
55	.0520	1/2	1-1/2	12.21
56	.0465	1/2	1-1/2	12.21
57	.0430	1/2	1-1/2	11.42
58	.0420	1/2	1-1/2	11.42
59	.0410	1/2	1-1/2	11.42
60	.0400	1/2	1-1/2	11.42

### Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1.50	.0591	13	38	10.43
2.00	.0787	19	44	11.10
2.50	.0984	21	46	12.53
3.00	.1181	22	48	14.48
3.50	.1378	24	49	13.88
4.00	.1575	27	54	16.73
4.50	.1772	29	56	18.53
5.00	.1968	30	57	20.85
5.50	.2165	32	60	24.15
6.00	.2362	33	62	25.50
6.50	.2559	35	64	33.45

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
7.00	.2756	38	68	35.10
7.50	.2953	40	70	36.83
8.00	.3150	41	71	38.18
8.50	.3346	43	76	45.45
9.00	.3543	44	78	49.73
9.50	.3740	46	79	55.20
10.00	.3937	48	83	60.98
10.50	.4134	51	86	74.03
11.00	.4331	52	87	76.28
11.50	.4528	54	90	80.33
12.00	.4724	54	92	84.30

## Spade Drills

List No. **C802** – 118° Point

Designed for thin sheet metal and shallow hole drilling.



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/32	.0312	3/16	1-1/2	19.20
3/64	.0469	7/32	1-1/2	22.08
55	.0520	7/32	1-1/2	22.05
1/16	.0625	5/16	1-1/2	9.64
5/64	.0781	5/16	1-1/2	10.90
3/32	.0938	3/8	1-1/2	9.64
7/64	.1094	7/16	1-1/2	13.28
1/8	.1250	7/16	1-1/2	8.26
9/64	.1406	1/2	2	15.74
5/32	.1562	15/32	2	15.30
11/64	.1719	9/16	2	21.30

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
3/16	.1875	9/16	2	15.30
7/32	.2188	19/32	2	23.94
1/4	.2500	11/16	2	15.30
9/32	.2812	3/4	2-1/2	20.46
5/16	.3125	7/8	2-1/2	20.46
11/32	.3438	15/16	2-1/2	25.06
3/8	.3750	1	2-1/2	25.06
13/32	.4062	1	2-1/2	34.88
7/16	.4375	1-1/16	2-1/2	34.88
15/32	.4688	1-3/32	2-1/2	37.40
1/2	.5000	1-1/8	3	38.47

# 3-Flute Solid Carbide Drills

Jobber Length - 150° Point



List No. **C803**

- 150° point for better penetration in heavy-duty applications.
- Solid carbide drills allow for higher feed rates than H.S. & Cobalt.
- 3-Flute design for smoother finish.



HOLE MAKING

## Fractional Size

Cutter Diameter	Flute Length	Overall Length	Price Each
1/16	3/4	1-1/2	19.55
5/64	7/8	1-3/4	20.65
3/32	1	2	23.40
7/64	1-1/4	2-1/4	25.69
1/8	1-1/4	2-1/4	26.42
9/64	1-3/8	2-1/2	31.67
5/32	1-3/8	2-1/2	33.29
11/64	1-5/8	2-3/4	39.01
3/16	1-5/8	2-3/4	39.01
13/64	1-3/4	3	47.53
7/32	1-3/4	3	48.46
15/64	2	3-1/4	57.83
1/4	2	3-1/4	57.16
17/64	2-1/8	3-1/2	61.48
9/32	2-1/8	3-1/2	65.54
19/64	2-3/8	3-3/4	72.76

Cutter Diameter	Flute Length	Overall Length	Price Each
5/16	2-3/8	3-3/4	76.62
21/64	2-1/2	4	85.14
11/32	2-1/2	4	94.05
23/64	2-3/4	4-1/4	102.40
3/8	2-3/4	4-1/4	109.48
25/64	2-7/8	4-1/2	126.64
13/32	2-7/8	4-1/2	140.85
27/64	2-7/8	4-1/2	153.96
7/16	2-7/8	4-1/2	166.81
29/64	3	4-3/4	181.05
15/32	3	4-3/4	194.79
31/64	3	4-3/4	200.77
1/2	3	4-3/4	207.38
9/16	3-1/4	5	381.64
5/8	4-1/4	6	447.33
3/4	4-1/4	6	587.98

## Letter Size

Cutter Diameter	Flute Length	Overall Length	Price Each
A	2	3-1/4	72.82
B	2	3-1/4	74.94
C	2	3-1/4	75.37
D	2	3-1/4	77.34
E	2	3-1/4	57.16
F	2	3-1/4	81.81
G	2-1/8	3-1/2	84.77
H	2-1/8	3-1/2	85.35
I	2-1/8	3-1/2	86.80
J	2-1/8	3-1/2	89.15
K	2-1/8	3-1/2	90.28
L	2-1/8	3-1/2	93.93
M	2-3/8	3-3/4	97.41

Cutter Diameter	Flute Length	Overall Length	Price Each
N	2-3/8	3-3/4	103.18
O	2-3/8	3-3/4	109.21
P	2-3/8	3-3/4	112.93
Q	2-1/2	4	120.29
R	2-1/2	4	123.74
S	2-1/2	4	131.95
T	2-3/4	4-1/4	136.68
U	2-3/4	4-1/4	143.55
V	2-3/4	4-1/4	155.15
W	2-7/8	4-1/2	163.01
X	2-7/8	4-1/2	177.83
Y	2-7/8	4-1/2	183.98
Z	2-7/8	4-1/2	228.23

## Wire Size

Cutter Diameter	Flute Length	Overall Length	Price Each
1	1-3/4	3	66.99
2	1-3/4	3	59.91
3	1-3/4	3	57.51
4	1-3/4	3	54.87
5	1-3/4	3	54.87
6	1-3/4	3	54.14
7	1-3/4	3	52.26
8	1-3/4	3	52.26
9	1-3/4	3	52.26
10	1-5/8	2-3/4	49.10
11	1-5/8	2-3/4	48.31
12	1-5/8	2-3/4	47.53
13	1-5/8	2-3/4	46.40
14	1-5/8	2-3/4	45.88
15	1-5/8	2-3/4	45.88
16	1-5/8	2-3/4	44.83
17	1-5/8	2-3/4	43.59
18	1-5/8	2-3/4	41.50
19	1-5/8	2-3/4	41.50
20	1-3/8	2-1/2	39.85

Cutter Diameter	Flute Length	Overall Length	Price Each
21	1-3/8	2-1/2	39.85
22	1-3/8	2-1/2	39.06
23	1-3/8	2-1/2	37.50
24	1-3/8	2-1/2	36.74
25	1-3/8	2-1/2	36.71
26	1-3/8	2-1/2	36.71
27	1-3/8	2-1/2	34.28
28	1-3/8	2-1/2	34.28
29	1-3/8	2-1/2	34.28
30	1-1/4	2-1/4	31.64
31	1-1/4	2-1/4	30.36
32	1-1/4	2-1/4	30.10
33	1-1/4	2-1/4	29.58
34	1-1/4	2-1/4	29.58
35	1-1/4	2-1/4	28.51
36	1-1/4	2-1/4	28.25
37	1-1/4	2-1/4	28.25
38	1-1/4	2-1/4	28.25
39	1-1/4	2-1/4	27.20
40	1	2	26.68

Cutter Diameter	Flute Length	Overall Length	Price Each
41	1	2	26.16
42	1	2	25.84
43	1	2	25.32
44	1	2	25.32
45	7/8	1-3/4	24.27
46	7/8	1-3/4	23.75
47	7/8	1-3/4	23.75
48	7/8	1-3/4	23.75
49	7/8	1-3/4	23.03
50	7/8	1-3/4	22.62
51	3/4	1-1/2	22.42
52	3/4	1-1/2	22.42
53	3/4	1-1/2	22.42
54	3/4	1-1/2	22.42
55	3/4	1-1/2	22.50
56	3/4	1-1/2	23.03
57	3/4	1-1/2	24.07
58	3/4	1-1/2	24.07
59	3/4	1-1/2	24.07
60	3/4	1-1/2	24.07

# Bonding Bits

High Speed Steel & Cobalt



Recommended for tough alloyed rails



HOLE MAKING

## Cobalt/Nitride Coated – 145° Notched Point

- List No. **366** – Cobalt, Flatted Shank
- List No. **366R** – Cobalt, Round Shank
- List No. **366N** – Nitride Coated Cobalt, Flatted Shank
- List No. **366RN** – Nitride Coated Cobalt, Round Shank



Diameter	Flute Length	Overall Length	Price Each			
			Cobalt		N. Coated Cobalt	
			Flatted	Round	Flatted 366N	Round 366RN
3/8	1-3/4	3	15.59	13.76	17.15	14.63

## H.S. Rail Web Type – 135° Split Point

- List No. **363** – Flatted Shank
- List No. **363R** – Round Shank



Diameter	Flute Length	Overall Length	Price Each	
			Flatted 363	Round 363R
3/8	1-1/2	3	7.61	6.25

## H.S. Rail Head Type – 118° Point

- List No. **364** – Flatted Shank
- List No. **364R** – Round Shank



Diameter	Flute Length	Overall Length	Price Each	
			Flatted 364	Round 364R
3/8	1"	3	7.61	6.25

## H.S. Universal Type – 118° Point

- List No. **365** – Flatted Shank
- List No. **365R** – Round Shank



Diameter	Flute Length	Overall Length	Price Each	
			Flatted 365	Round 365R
3/8	1-3/4	3	7.61	6.25

# Tie Boring Bits

High Speed Steel

## Single Flute

- List No. **380F** – 90° Point, Flatted Shank
- List No. **380R** – 90° Point, Round Shank

Diameter	Flute Length	Overall Length	Price Each	
			Flatted 380F	Round 380R
9/16	6-3/8	9-3/8	39.80	36.83
5/8	6-3/8	9-3/8	49.77	46.79



The single flute design can be used successfully in hand-held drill motor applications with less operator fatigue. The tool acts in a screw-like movement, feeding itself into the material while removing maximum chip volume.

## Two Flute

- List No. **370F** – 70° Point, Flatted Shank
- List No. **370R** – 70° Point, Round Shank
- List No. **390F** – 90° Point, Flatted Shank
- List No. **390R** – 90° Point, Round Shank
- List No. **390SS** – 90° Point, Set Screw



These tools are specifically designed for drilling spike holes in wooden ties. They combine ease of penetration with rapid chip removal in deep hole, hardwood drilling.

Diameter	Flute Length	Overall Length	Price Each				
			70° Point		90° Point		
			Flatted 370F	Round 370R	Flatted 390F	Round 390R	Set Screw 390SS
9/16	6-3/8	9-3/8	38.93	36.83	41.26	38.49	41.27
5/8	6-3/8	9-3/8	51.82	48.51	51.82	48.51	—
3/4	6-3/8	9-3/8	—	—	74.21	72.14	—



# Track Bits

High Speed Steel & Nitride



The flat beaded track bit is the leading tool for rail drilling in America, offered in single end or in cost savings double end style. Both are standard, off-the-shelf items for immediate delivery.

Nitride Coating creates a surface super-hardness which results in increased tool life when drilling alloyed hard rail. Tool life is reported to be 300% or more depending on rail material and site cutting conditions.

## Track Bit Tip Protector

For sizes over 1"

Tool No. 330 Price: 27.20



## Single End

List No. 332 – High Speed Steel

List No. 332N – Nitride Coated

Diameter	Overall Length	Price Each	
		High Speed 332	Nitride Coated 332N
5/8	6-1/4	38.38	46.26
11/16	6-1/4	38.38	46.26
13/16	6-1/4	39.33	46.26
1	6-1/4	46.14	52.94
1-1/16	6-1/4	47.30	55.36
1-1/8	6-1/4	48.43	56.56
1-3/16	6-1/4	52.69	59.49



Diameter	Overall Length	Price Each	
		High Speed 332	Nitride Coated 332N
1-1/4	6-1/4	53.58	62.82
1-5/16	6-1/4	56.13	65.63
1-3/8	6-1/4	56.83	66.30
1-7/16	6-1/4	65.20	73.94
1-1/2	6-1/4	63.81	74.34
1-9/16	6-1/4	71.84	83.18

## Double End

List No. 333 – High Speed Steel

List No. 333N – Nitride Coated

Diameter	Overall Length	Price Each	
		High Speed 333	Nitride Coated 333N
13/16	6-1/4	51.07	57.26
15/16	6-1/4	53.94	61.18
1	6-1/4	56.29	67.74
1-1/16	6-1/4	58.45	69.02
1-1/8	6-1/4	58.94	70.22
1-3/16	6-1/4	64.45	73.87



Diameter	Overall Length	Price Each	
		High Speed 333	Nitride Coated 333N
1-1/4	6-1/4	65.42	75.39
1-5/16	6-1/4	68.54	78.72
1-3/8	6-1/4	71.65	82.11
1-7/16	6-1/4	77.34	88.03
1-1/2	6-1/4	80.77	92.42

## Rail Drills

List No. 334 – Cobalt Heavy Duty Slow

Spiral Oxide Finish 130° Point

Diameter	Flute	Overall Length	Price Each
1/16	9/16	1-7/8	2.90
50	3/4	2	2.90
40	1-7/8	6	6.50
30	3/4	2-3/4	3.70
27	1-1/4	3	3.90
26	1-1/4	3	3.90
3/16	1-5/8	3-1/2	4.24
12	1-1/2	3-1/2	6.40



Diameter	Flute	Overall Length	Price Each
10	2	3-1/2	6.70
13/64	1-1/2	3-5/8	6.90
1/4	1-1/4	4	6.22
1/4	2	6	9.40
19/64	2	4-3/8	10.70
27/64	2-1/2	5-1/2	18.92
29/64	2-1/2	5-3/4	24.00
15/32	2-1/8	5-3/4	25.50

# Dual Auger (Stud) Bits

Premium Tool Steel

List No. 618 – 5" Flute Length, 7-7/8" Overall Length

Dual Auger Stud Bits are designed for use in a hand brace or a 3/8" or larger electric power drill and are used for fast and accurate boring in soft or hard woods. Single flute design with single cutter, an outlining spur, and a self-feeding fast pitch screw point.

1/4" Hex Shank  
Fast Screw Point  
Self-Feeding Point



Size	Price Each	Size	Price Each
1/4	8.89	5/8	11.79
5/16	8.89	11/16	13.76
3/8	8.89	3/4	13.76
7/16	9.45	13/16	15.82
1/2	9.45	7/8	15.82
9/16	11.79	15/16	19.61

Size	Price Each
1	19.61
1-1/8	21.97
1-1/4	28.71
1-3/8	32.97
1-1/2	35.85

SET Sizes
1/4, 3/8, 1/2, 5/8, 3/4, 1
Description
6pc Set
Set No. 618S
Price: 59.00

# Combined Drills & Countersinks

High Speed Steel, TiN Coated, Cobalt, & Solid Carbide

Combined drills and countersinks are used when locating an accurate center hole is required to assure the precision and quality of subsequent machining operations.



HOLE MAKING



## Plain Type – 118° Point

List No. **585U** – H.S. 60° Countersink Angle

List No. **585UTC** – TiN Coated 60° Countersink Angle

List No. **585CU** – Cobalt 60° Countersink Angle

List No. **585SC** – Solid Carbide 60° Countersink Angle

List No. **582SC** – Solid Carbide 82° Countersink Angle

List No. **590SC** – Solid Carbide 90° Countersink Angle

Size	Body Diameter	Countersink Angle				Price Each					
		Drill Diameter and Length	Overall Length	Pkg.* Qty	60°				82°	90°	
					High Speed 585U	TiN Coated 585UTC	Cobalt 585CU	Solid Carbide 585SC	Solid Carbide 582SC	Solid Carbide 590SC	
000	1/8	.020	1-1/4	12	9.47	53.28	—	—	—	—	
00	1/8	.025	1-1/4	12	9.47	13.28	—	22.06	23.16	23.16	
0	1/8	1/32	1-1/4	12	9.47	13.28	—	22.06	23.16	—	
1	1/8	3/64	1-1/4	12	6.60	10.41	15.94	18.90	19.85	19.85	
2	3/16	5/64	1-7/8	12	6.92	10.73	16.20	29.60	31.08	31.08	
3	1/4	7/64	2	12	7.19	14.84	17.00	35.28	37.04	37.04	
4	5/16	1/8	2-1/8	12	7.41	15.06	17.44	48.42	50.84	50.84	
4-1/2	3/8	9/64	2-1/2	6	10.22	17.87	24.20	—	—	—	
5	7/16	3/16	2-3/4	6	11.74	21.40	32.54	73.44	77.11	77.11	
6	1/2	7/32	3	6	17.69	27.35	43.64	106.24	111.55	111.55	
7	5/8	1/4	3-1/4	1	25.58	41.96	64.40	123.12	—	—	
8	3/4	5/16	3-1/2	1	35.30	62.39	80.50	174.96	—	—	
9	7/8	11/32	3-5/8	1	66.84	98.97	—	—	—	—	
10	1	3/8	3-3/4	1	87.73	119.86	—	—	—	—	

\*1 piece per package for all solid carbide sizes.

List No. **585** – H.S. 60° Angle

List No. **585LH** – H.S. Left Hand 60° Angle

List No. **585TC** – TiN Coated 60° Angle

List No. **585C** – Cobalt 60° Angle

List No. **582** – H.S. 82° Angle

List No. **590** – H.S. 90° Angle



Size	Body Diameter	Countersink Angle				Price Each					
		Drill Diameter and Length	Overall Length	Pkg. Qty	60°				82°	90°	
					High Speed 585	H.S. Left Hand 585LH	TiN Coated 585TC	Cobalt 585C	High Speed 582	High Speed 590	
000	1/8	.020	1-1/4	12	4.42	—	8.23	—	—	—	
00	1/8	.025	1-1/4	12	4.42	—	8.23	—	—	—	
0	1/8	1/32	1-1/4	12	4.42	—	8.23	—	—	—	
1	1/8	3/64	1-1/4	12	3.70	4.65	7.51	13.50	9.18	9.18	
2	3/16	5/64	1-7/8	12	3.70	4.65	7.51	13.77	9.41	9.41	
3	1/4	7/64	2	12	3.74	4.70	11.39	14.44	9.72	9.72	
4	5/16	1/8	2-1/8	12	3.85	4.83	11.50	14.81	10.13	10.13	
4-1/2	3/8	9/64	2-1/2	6	5.08	—	12.73	22.46	—	—	
5	7/16	3/16	2-3/4	6	5.74	7.18	15.40	27.57	15.44	15.44	
6	1/2	7/32	3	6	8.62	10.77	18.28	37.08	23.31	23.31	
7	5/8	1/4	3-1/4	1	12.50	15.65	28.78	47.93	31.95	31.95	
8	3/4	5/16	3-1/2	1	17.40	21.77	44.49	68.40	45.23	45.23	
9	7/8	11/32	3-5/8	1	32.67	—	64.80	—	—	—	
10	1	3/8	3-3/4	1	42.70	—	74.83	—	—	—	

## Sets

Sizes	Pcs.	Description	Set No.	Price
No. 1 – 5	5	H.S. Made in USA – 60°	<b>585UP5</b>	46.27
No. 1 – 5	5	H.S. Premium Import – 60°	<b>585P5</b>	27.14
No. 1 – 8	8	H.S. Made in USA – 60°	<b>585UP8</b>	118.43
No. 1 – 8	8	H.S. Premium Import – 60°	<b>585P8</b>	56.55
No. 1 – 5	5	TiN Coated, Made in USA – 60°	<b>585PTIN</b>	45.05
No. 1 – 5	5	Cobalt, Made in USA – 60°	<b>585CUP</b>	105.53
No. 1 – 5	5	Cobalt, Premium Import – 60°	<b>585CP</b>	90.50
No. 1 – 5	5	Solid Carbide, Made in USA – 60°	<b>585SC5</b>	212.05
No. 1 – 5	5	Solid Carbide, Made in USA – 82°	<b>582SC5</b>	222.23
No. 1 – 5	5	Solid Carbide, Made in USA – 90°	<b>590SC5</b>	222.23



# Combined Drills & Countersinks

## High Speed Steel & Solid Carbide

Combined drills and countersinks are used when locating an accurate center hole is required to assure the precision and quality of subsequent machining operations.



### Long Series

Long Combined Drills and Countersinks are used for producing center holes where the extra length is required to access difficult to reach areas.



List No. **589U** – High Speed Steel, 60° Countersink Angle

List No. **589SC** – Solid Carbide, 60° Countersink Angle



Size	Body Diameter	Drill Diameter	Overall Length	Price Each	
				High Speed 589U	Solid Carbide 589SC
00	1/8	.025	5	—	36.20
1	1/8	3/64	3	11.70	—
1	1/8	3/64	4	14.96	—
1	1/8	3/64	5	20.80	43.73
1	1/8	3/64	6	27.25	—
2	3/16	5/64	4	16.40	—
2	3/16	5/64	5	21.10	46.24
2	3/16	5/64	6	27.35	—
3	1/4	7/64	4	17.30	—
3	1/4	7/64	5	22.75	48.02
3	1/4	7/64	6	27.60	—
4	5/16	1/8	4	19.20	—
4	5/16	1/8	5	24.60	50.50

Size	Body Diameter	Drill Diameter	Overall Length	Price Each	
				High Speed 589U	Solid Carbide 589SC
4	5/16	1/8	6	28.30	—
4-1/2	3/8	9/64	4	21.55	—
4-1/2	3/8	9/64	5	25.50	—
4-1/2	3/8	9/64	6	37.70	—
5	7/16	3/16	4	25.20	—
5	7/16	3/16	5	29.20	—
5	7/16	3/16	6	32.80	—
6	1/2	7/32	5	31.60	—
6	1/2	7/32	6	39.90	—
6	1/2	7/32	7	49.25	—
7	5/8	1/4	6	70.50	—
8	3/4	5/16	6	76.00	—

List No. **589** – 60° Countersink Angle, Premium Import



Size	Body Diameter	Drill Diameter	Overall Length	Price Each
1	1/8	3/64	3	9.00
1	1/8	3/64	4	10.30
1	1/8	3/64	5	15.50
1	1/8	3/64	6	20.50
2	3/16	5/64	3	11.60
2	3/16	5/64	4	12.30
2	3/16	5/64	5	15.83
2	3/16	5/64	6	20.52
3	1/4	7/64	4	12.98
3	1/4	7/64	5	17.07
3	1/4	7/64	6	20.70
4	5/16	1/8	4	14.40
4	5/16	1/8	5	18.45
4	5/16	1/8	6	21.23

Size	Body Diameter	Drill Diameter	Overall Length	Price Each
4-1/2	3/8	9/64	4	16.17
4-1/2	3/8	9/64	5	19.13
4-1/2	3/8	9/64	6	28.28
5	7/16	3/16	4	18.90
5	7/16	3/16	5	21.90
5	7/16	3/16	6	24.60
6	1/2	7/32	4	22.80
6	1/2	7/32	5	23.70
6	1/2	7/32	6	29.90
6	1/2	7/32	7	36.84
7	5/8	1/4	5	51.00
7	5/8	1/4	6	52.88
8	3/4	5/16	6	57.00

### Bell Type

Bell Type reduces the risk of damaging the 60° center hole.

List No. **587** – 60° Countersink Angle

Size	Body Dia.	Drill Dia. and Length	Overall Length	Bell Dia.	Pkg. Qty.	Price Each
11	1/8	3/64	1-1/4	.1000	12	5.61
12	3/16	1/16	1-7/8	.1500	12	5.61
13	1/4	3/32	2	.2000	12	5.87
14	5/16	7/64	2-1/8	.2500	12	5.87
15	7/16	5/32	2-3/4	.3500	12	9.57



Size	Body Dia.	Drill Dia. and Length	Overall Length	Bell Dia.	Pkg. Qty.	Price Each
16	1/2	3/16	3	.4000	6	12.87
17	5/8	7/32	3-1/4	.5000	1	18.15
18	3/4	1/4	3-1/2	.6000	1	25.08
20	1	3/8	3-3/4	.8000	1	48.18

### Sets

Sizes	Pcs.	Description	Set No.	Price
No. 11 – 15	5	High Speed Steel, Bell Type	<b>587B</b>	28.04



All sets are supplied in wood block

# Combined Drills & Countersinks

High Speed Steel

## Metric Plain Type

List No. **585M** – 60° Countersink Angle



Size	Body Diameter	Drill Diameter and Length	Overall Length	Price Each
.80	.1240	.0315	1	9.00
1.00	.1240	.0394	1-1/4	9.00
1.25	.1240	.0492	1-1/4	9.00
1.60	.1575	.0630	1-5/16	8.55
2.00	.1969	.0787	1-9/16	9.54
2.50	.2480	.0984	1-3/4	10.80

Size	Body Diameter	Drill Diameter and Length	Overall Length	Price Each
3.15	.3150	.1240	2	13.23
4.00	.3937	.1575	2-1/4	22.59
5.00	.4921	.1969	2-1/2	31.23
6.30	.6299	.2480	2-3/4	45.72
8.00	.7874	.3150	3-1/8	71.10
10.00	.9843	.3937	4	82.75

## Carbide Tipped

These drills are used for center drilling hardened high speed steel in the range up to 65R.

List No. **CT870** – 60° Countersink Angle, 120° Point



Size	Body Diameter	Drill Diameter	Overall Length	Price Each
4-1	5/16	3/32	2-1/8	66.02
4-2	5/16	1/8	2-1/8	66.02

Size	Body Diameter	Drill Diameter	Overall Length	Price Each
6-1	1/2	7/32	3	84.33
6-2	1/2	9/32	3	84.33

# Spotting & Centering Drills

High Speed Steel

These drills are used for starting and centering screw machine operations. Their short flute and overall length increase rigidity while minimizing runout. To provide greater rigidity, these drills are made with short overall and flute lengths.



## Spotting & Centering

List No. **302** – Right Hand, 118° Point

List No. **302LH** – Left Hand, 118° Point



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				Right Hand 302	Left Hand 302LH
3/8	.3750	1	2	8.82	13.06
7/16	.4375	1	2	17.28	17.74
1/2	.5000	1	2	15.48	19.04
9/16	.5625	1-1/8	2-1/4	24.57	—
5/8	.6250	1-1/8	2-1/4	24.57	29.70
3/4	.7500	1-1/8	2-1/4	35.01	41.40

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				Right Hand 302	Left Hand 302LH
7/8	.8750	1-1/4	2-1/2	50.31	58.50
1	1.0000	1-1/4	2-1/2	56.52	62.78
1-1/4	1.2500	2	4	112.50	138.40
1-1/2	1.5000	2-1/2	5	175.50	189.00
1-3/4	1.7500	2-3/4	5-1/2	265.50	289.80
2	2.0000	3-3/4	6	315.00	—

## Center Drills

List No. **580** – 118° Point



Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
#56	.0465	3/8	1-3/16	1.78
#54	.0550	9/16	1-1/4	1.78
#53	.0595	9/16	1-1/4	1.78
1/16*	.0625	3/8	1-3/16	1.78
5/64	.0781	3/4	1-1/4	1.78
3/32	.0938	3/4	1-1/4	1.95
#40	.0980	3/4	1-1/4	1.95
7/64	.1094	3/4	1-1/4	1.95
1/8	.1250	3/4	1-1/4	1.65
#30	.1285	3/4	1-1/4	1.72
#28	.1405	1	1-1/2	2.57
9/64	.1406	3/4	1-1/4	2.57

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
5/32	.1562	1	1-1/2	2.87
#21	.1590	1	1-1/2	2.87
#20	.1610	1	1-1/2	2.87
11/64	.1719	1	1-1/2	2.87
3/16	.1875	1	1-1/2	2.87
13/64	.2031	1	1-1/2	2.87
#5	.2055	1	1-1/2	2.87
7/32	.2188	1	1-1/2	2.87
15/64	.2344	1	1-1/2	3.50
1/4	.2500	1	1-1/2	3.20
9/32	.2812	1	1-1/2	4.46
5/16	.3125	1	1-1/2	5.28

\*This size is available in Cobalt, Price Each \$4.86

# Huot® Metal Cases



## Jobber Length Indexes

Description	Pieces Per Set	Case No.	Price Each
Fractional 1/16 — 1/2 by 64ths	29	<b>CZ29</b>	12.30
Fractional Import 1/16 — 1/2 by 64ths	29	<b>XCZ29</b>	5.95
Fractional 1/16 — 1/4 by 64ths	13	<b>CZ13</b>	6.49
Fractional 1/16 — 3/8 by 64ths	21	<b>CZ21</b>	10.25
Fractional 1/64 — 1/4 by 64ths	16	<b>CZ16</b>	18.50
Fractional 1/16 — 1/2 by 32nds	15	<b>CZ15</b>	9.25
Fractional 1/16 — 1/4 by 64ths and 9/32 1/2 by 32nds	21	<b>CZ21A</b>	12.00
Letter A — Z	26	<b>CZ26</b>	12.30
Wire Gauge 1 — 60	60	<b>CZ60</b>	10.60
Wire Gauge 1 — 80	80	<b>CZ80</b>	36.45
Wire Gauge 61 — 80	20	<b>CZ20</b>	7.15
Metric 1.0mm — 5.9 mm by .1mm	50	<b>CZM50</b>	13.90
Metric 1.0mm — 6.0 mm by .5mm	11	<b>CZM11</b>	8.95
Metric 1.0mm — 7.0 mm by .5mm	13	<b>CZM13</b>	9.25
Metric 1.0mm — 10.0 mm by .5mm	19	<b>CZM19</b>	12.50
Metric 1.0mm — 13.0 mm by .5mm	25	<b>CZM25</b>	12.50
Metric 6.0mm — 10.0 mm by .1mm	41	<b>CZM41</b>	42.53

## Screw Machine Length Indexes

Description	Pcs.	Case No.	Price Each
Fractional 1/16 — 1/2 by 64ths	29	<b>CZ29S</b>	19.76
Fractional 1/16 — 3/8 by 64ths	21	<b>CZ21S</b>	16.50
Fractional 1/16 — 1/4 by 64ths	13	<b>CZ13S</b>	9.83
Letter A — Z	26	<b>CZ26S</b>	22.50
Wire Gauge 1 — 60	60	<b>CZ60S</b>	18.20
Metric 1.0mm — 13.0 mm by .5mm	25	<b>CZM25S</b>	23.80

## 1/2" Shank - Silver and Deming indexes

Description	Pcs.	Case No.	Price Each
1/2" Shank — S&D 9/16 — 1" by 16ths	8	<b>CZ303</b>	36.00

## Reamer Indexes

Description	Pcs.	Case No.	Price Each
Fractional 1/16 — 1/2 by 64ths	29	<b>CZ129</b>	32.50
Letter A — Z	26	<b>CZ126</b>	32.50
Wire Gauge 1 — 60	60	<b>CZ160</b>	38.50
Over and Under .1240 — .5010	14	<b>CZ112</b>	32.50
Dowel Pin .1230 — .4995	14	<b>CZ114</b>	32.50
Metric 1.0mm — 13.0 mm by .5mm	25	<b>CZ125</b>	44.00

## Screw Extractor Index

Description	Pcs.	Case No.	Price Each
1-5 Screw Extractor and Matching Drill	10	<b>CZ10</b>	8.07



## Taper Length Indexes

Size	Description	Pieces Per Set	Case No.	Price Each
Fractional 1/16 — 1/2 by 64ths		29	<b>CZT29</b>	36.50
Letter A — Z		26	<b>CZT26</b>	36.50
Wire Gauge 1 — 60		60	<b>CZT60</b>	47.12

## Taper Length / Taper Shank Indexes

Size	Description	Pieces Per Set	Case No.	Price Each
Fractional 33/64 — 3/4 by 64ths		16	<b>CZA16</b>	113.40
Fractional 49/64 — 1" by 64ths		16	<b>CZB16</b>	122.85

## Combination Indexes

Description	Length	Pcs.	Case No.	Price Each
1/16—1/2 by 64ths, A—Z, 1—60	Jobber	115	<b>CZ115</b>	49.14
1/16—1/2 by 64ths, A—Z, 1—80	Jobber	135	<b>CZ135</b>	56.00
Import 1/16—1/2 by 64ths, A—Z, 1—60	Jobber	115	<b>XCZ115</b>	24.50
1/16—1/2 by 64ths, 1—80, 1mm — 13mm by .5mm	Jobber	134	<b>CZ134</b>	56.00
(1to 2.5 by .05), (2.6 to 10 by .1), 10.2, 10.5, 10.8, 11, 11.2, 11.5, 11.8, 12, 12.2, 12.5, 12.8, 13	Metric Jobber	118	<b>CZM118</b>	171.45
1/16 — 1/2 by 64ths, A—Z, 1—60	Screw Machine	115	<b>CZ115S</b>	56.95

## Tap Indexes

Description	Pcs.	Case No.	Price Each
NC and NF 1/4-20 To 1/2-20	10	<b>CZTD10</b>	16.74
10 Taps 0-80 to 12-28, 9 Taps 1/64 to 12-24	19	<b>CZTD19</b>	16.74
NC 4-40 to 5/8-11	10	<b>CZT10</b>	21.00



## Tap and Drill Indexes

Description	Pieces Per Set	Case No.	Price Each
NC 6-32 to 1/2-13 Taps, #36 to 27/64 Drills Holds 9 Drills and 9 Taps	18	<b>CZTD18</b>	14.00
NF 6-40 to 1/2-20 Taps, #33 to 1/2 Drills Holds 9 Drills and 9 Taps	18	<b>CZTD99</b>	14.00
Combination of both models above in case; holds 18 Drills and 18 Taps	36	<b>CZTD36</b>	54.60
2.5mmX.45 to 12.0mmX1.75 Taps, 2.05mm to 10.2 Drills. Holds 9 Drills and 9 Taps	18	<b>CZTD99M</b>	15.02



# Huot® Dispenser Cabinets and Drill Displays



## Jobber Length Cabinets

Size	Description	Part No.	Price Each
Fractional	1/16— 1/2 by 64ths Jobber	<b>CZD1</b>	105.00
Wire Gauge	1 — 60 Jobber	<b>CZD2</b>	127.50
Letter	A — Z Jobber	<b>CZD3</b>	109.00
Metric	1.0mm — 13.0mm by .5mm Jobber	<b>CZD4</b>	121.50
Metric	1.0mm — 6.9mm by .1mm Jobber	<b>CZD5</b>	154.00
Combination	1/16 — 1/2 by 64ths, A—Z, 1—60	<b>CZD6</b>	610.40
Taper Lng/Shk	1/8 — 1" by 64ths	<b>CZD57</b>	630.00
Fractional	1/16-1/2 — by 64ths Stubs	<b>CZD15</b>	117.60
Wire Gauge	1 — 60 Stubs	<b>CZD16</b>	138.60
Silver and Deming	33/64 — 1-1/2	<b>CZD303</b>	920.00



## Tap Dispenser Cabinets - All Steel

Size	Description	Part No.	Price Each
Metric	3mm — 24.00mm	<b>CZD7</b>	129.50
Fractional	1/4-20 — 1"-14 by 64ths	<b>CZD8</b>	117.60
Machine Screw	2-56 — 12-28	<b>CZD9</b>	154.00
Combination NC & NF taps	1/4 to 1-1/2, 2-56 to 12-28, 2.5mm—30mm	<b>CZD19</b>	630.00
Combination	1/4-20 to 1-14 (T, B, P) 2-56—12-28 (T, B, P) & spiral point	<b>CZD21</b>	630.00
Tap/Drill Comb.	6-32 to 1/2-20, #36 to 29/64 Taps and Corresponding Drills	<b>CZD20</b>	126.00

## End Mill Dispenser Cabinets - All Steel

Size	Description	Part No.	Price Each
Two Flute	Single and Double End 1/16 to 1"	<b>CZD10</b>	529.00
Four Flute	Single and Double End 1/16 to 1"	<b>CZD11</b>	529.00
Two and Four Flute	Single and Double End 1/8 to 1"	<b>CZD12</b>	129.00



## Reamer Dispenser - All Steel

Description	Part No.	Price Each
Fractional 1/16— 1/2 by 64ths	<b>CZD410</b>	134.40
Wire Gauge 1 — 60	<b>CZD420</b>	138.60
Letter A — Z	<b>CZD425</b>	126.00
Over & Under, Dowel .124 - .501, .123 - .4995	<b>CZD430</b>	126.00

## Master Carbide Insert Dispenser Cabinets All Steel



Description	Part No.	Price Each
Triangle, Square, Diamond, and Round	<b>CZD14</b>	659.00



## Carbide Bur Stand & Dispenser - All steel

Description	Part No.	Price Each
Bur Stand Holds 24 pcs. 1/4 Shank	<b>CZB24</b>	15.25
Cylindrical, Ball, Cone, Tree/Pointed, Oval, Cone/Flat end, Tree/Rad	<b>CZD132</b>	126.00



## Point of Purchase Drill and Tap Display Countertop Displays

Size	Description	Part No.	Price Each
Fractional	1/16— 1/2 by 64ths	<b>CZD60</b>	232.00
Letter	A — Z	<b>CZD70</b>	245.00
Wire Gauge	1 — 60	<b>CZD80</b>	336.00
Tap and Die	4 - 40 — 3/4, 1/8 Pipe	<b>CZD90</b>	277.00

# Huot<sup>®</sup> Metal Stands



## Drill Stands

Description	Pieces Per Stand	Part No.	Price Each
Standard Shank Stand			
Fractional 1/16 — 1/2 by 64ths	29	<b>CZ829</b>	11.21
Fractional 1/2 — 1" by 64ths	33	<b>CZ833</b>	55.60
Letter A — Z	26	<b>CZ826</b>	11.21
1/2" Shank - Silver and Deming			
Frac. 1/2 — 1" by 64ths for 1/2" Shanks	33	<b>CZ833S</b>	50.70

## Collet Stands - Heavy Duty Steel

Description	Pieces Per Stand	Part No.	Price Each
5C Collet Stands Wood Stand Holds 18 5C Collets	18	<b>BLK5C</b>	51.76
5C Collet Stands Metal Stand Holds 30 5C Collets	30	<b>CZ5C</b>	50.40
R8 Collet Stands Wood Stand Holds 14 R8 Collets	14	<b>BLKR8</b>	47.40
R-8 Collet Stands Metal Stand Holds 16 R-8 Collets	16	<b>CZR8</b>	50.40



## 5" SIMPLE SINE PLATES

All parts made of hardened tool steel and ground to highest accuracy. Squareness and parallelism are within .0002" per 5". Many 1/4"-20 holes to facilitate clamping. Two end rails included on 1715205, one end rail on 1715105. .200" step built into gage block roll so that gage blocks over .200" can be used to set very small angles. 5" distance between center rolls is accurate within .0002". All models have an offset hinge for added stability. 1715205 has 2 T-slots in top plate for 1/4" T-bolts.



Dimensions	Order No.	Price
3 1/4 x 6 x 1 7/8	PR1715105	\$250.00
5 x 6 x 2 7/16	PR1715205	\$290.00

## PRECISION TILTING ROTARY TABLES

- Accuracy: 45 seconds
- 10 second vernier reading
- Gear ratio 90:1
- Extra deep coolant channel.
- Dual positive action locks
- Low table profile
- Satin chrome dials
- Gear drive immersed in oil
- Optional dividing plates and tailstock



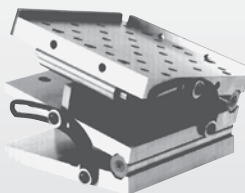
### Maximum Variation Specifications (inches/second)

Clamping surface flatness (concave)	.0006"
Cylindrical center bore concentricity	.0008"
Taper center bore concentricity	.0008"
Surface to base parallelism	.0008"
Surface to angle face parallelism	.0004"
Surface to center slot squareness	.0008"

## 5" COMPOUND SINE PLATE

Similar to simple sine plates above but with two offset hinges for added stability.

6 x 12 plate, 1715555 has 3/8"-16 tapped holes, 5" and 10" distance between center rolls accurate within .0002", and weighs 75 lbs.



Dimensions	Order No.	Price
6 x 6 x 3	PR1715505	\$970.00
6 x 12 x 4 3/16	PR1715555	\$1500.00

Dimensions	Order No.	Price
10" Tilting Rotary Table	J3500010	\$1755.00
12" Tilting Rotary Table	J3500012	\$2020.00
Dividing Plates (10", 12")	J3500013	\$162.00
Adjustable Tailstock 10"	J3500110	\$190.00
Adjustable Tailstock 12"	J3500112	\$231.00

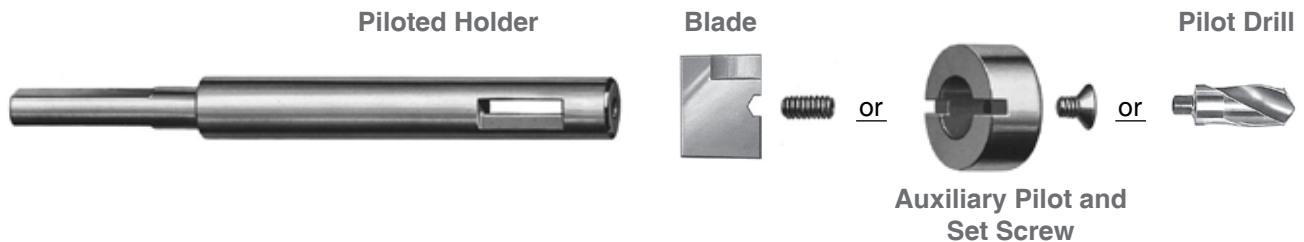
Table Outer Dia.	Table Height	Center Height	Base	Taper Hole	Weight	Order No.
9.81	8.07	5.51	10x12	MT-3	172	J3500010
12.6	10.04	6.89	13x15	MT-4	293	J3500012

# The Multi-Tool™ System



A simple and easy to use system for producing accurate holes at an economical cost!

- Produces accurate holes in a wide variety of machine tools from fixed or portable, light duty, low horsepower equipment to heavy duty applications in CNC lathes and machining centers
- For drilling, boring, spotfacing, counterboring, and back counterboring applications from 13/32" to 4" in diameter
- May replace costly larger diameter drills
- A wide range of shank styles allows for easy adaptability throughout any shop
- Blades are available in high speed steel, cobalt, carbide indexable & titanium nitride coating for machining a wide range of material
- Blades can be modified for machining special step diameters or special diameters
- Standard sets available from stock
- A preferred choice for most machine shop, maintenance department, and light production hole-making applications



## Sets

Sets are available in both the 3/4" Pilot "D" Series for general purpose applications and the 1" Pilot "E" Series for those heavy duty job requirements.



# The Multi-Tool™ System

Select the same cutting speeds and feed rates for Multi-Tool Blades as you would for drills of the same size.



## High Speed Standard Blade\*

*\*May be TiN Coated for extended life*



For General Purpose Applications on Ferrous and Non-Ferrous Materials  
Available in Standard "D" Series and Heavy Duty "E" Series

## High Speed Combination Blade\*

*\*May be TiN Coated for extended life*



**Requires a reverse spindle**

For Forward and Backward Counterbore and Spotface Applications  
Available in Standard "D" Series and Heavy Duty "E" Series

## S-Type Blade



For Large Diameter Holes (3-3/4" to 6-1/4")  
Heavy Duty "E" Series Only

## Cobalt Standard Blade



For General Purpose Applications on Abrasive & Difficult-to-Machine Materials  
Heavy Duty "E" Series Only

## Cobalt Combination Blade



**Requires a reverse spindle**

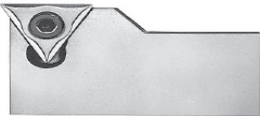
For Forward and Backward Counterbore & Spotface Applications on Abrasive & Difficult-to-Machine Materials  
Heavy Duty "E" Series Only

## Special Order Chamfering Blade



For Holes up to 4"  
Available in Standard "D" Series and Heavy Duty "E" Series

## Adjustable Diameter Carbide Indexable Blade



For Use as a Single Point Cutting Tool or Boring Bar  
Heavy Duty "E" Series Only

## Fixed Diameter Carbide Indexable Blade



For Higher Surface Speeds in Boring and Counterboring  
Heavy Duty "E" Series Only

## Special Order Multi-Diameter Blade



For Multi-Diameter Geometries in a Single Pass  
Available in Standard "D" Series and Heavy Duty "E" Series

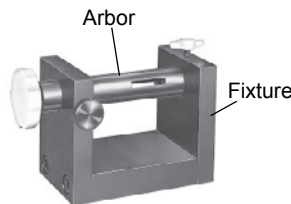
## Blade Grinding Fixtures

Blade Grinding Fixtures make regrinding and blade modification simple while maintaining accuracy!

### Resizing Fixture

Tool No.	Price Each
<b>BRF2</b>	116.99

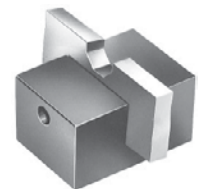
This fixture is designed for resizing blades up to 3" in diameter while maintaining concentricity. Standard blades can be modified to special diameters. The correct back taper is built into the fixture. Made with two index stops, the blade O.D. is relieved on the same set up after grinding the O.D. to desired size on any surface grinder.



### Resharpener Fixture

Tool No.	Price Each
<b>BRF1</b>	29.25

The Resharpener Fixture accommodates all blade diameters and thicknesses. The correct end tooth relief angle is built into the fixture making resharpener simple, accurate, and inexpensive on any surface grinder.



### Arbors

Description	Tool No.	Price Each
Arbor for "D" Series Blades	<b>BRF2D</b>	52.00
Arbor for "E" Series Blades	<b>BRF2E</b>	52.00

### Replacement Parts

Description	Tool No.	Price Each
Sets Screw for BRF1	<b>Part SS1032-516</b>	.46

Replacement parts for Resizing Fixture and arbors are available. Please inquire



# The Multi-Tool™ System "D"

Exclusively By  Approved Performance Tooling




 Watch our instructional videos on [www.MichiganDrill.com/videos](http://www.MichiganDrill.com/videos)


HOLE MAKING

## "D" Piloted Holders


- 1/2" Reduced Shank w/ 3 Equal Flats**      **DH1**




3/4"
- 5/8" Diameter Shank\* - 21/32" Pilot**      **DH20**




21/32"
- 3/4" Lathe Shank w/ 4 (5/8") Sq. Flats\*\***      **DHS23**




3/4"
- 3/4" Straight Shank**      **DH23**




3/4"
- 3/4" Diameter Shank\* - 13/16" Pilot**      **DH24**



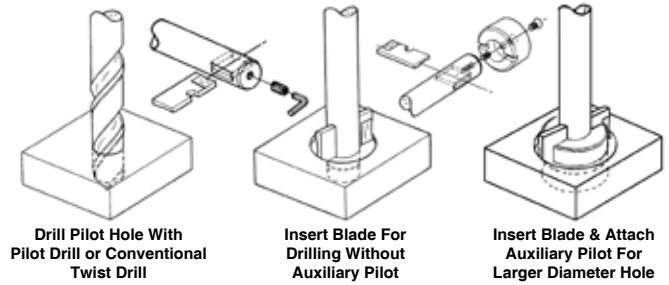
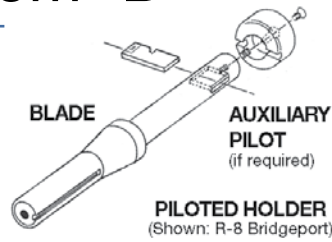
13/16"
- No. 2 Morse Taper Shank**      **DH2T**



3/4"
- R-8 Bridgeport Shank**      **DHR8**



3/4"



With the use of auxiliary pilots, holes may be drilled up to 2-1/2" diameters in steel while maintaining optimum rigidity with low horsepower.

**Step 1** Drill first pilot hole with a conventional 3/4" twist drill or the 3/4" Multi-Tool threaded pilot drill.

**Step 2 For Finish Hole 1-1/2" or Less**  
Insert finish size blade into piloted holder and drill hole to size.

**For Finish Hole Over 1-1/2" to 2"**  
Insert 1-1/2" blade in piloted holder and enlarge hole to 1-1/2". Next, insert finish size blade into holder, attach 1-1/2" auxiliary pilot and drill hole to size.

**For Finish Hole Over 2"**  
Insert 1-1/2" blade in piloted holder and enlarge hole to 1-1/2". Next, insert 2" blade in piloted holder, attach 1-1/2" auxiliary pilot, and enlarge hole to 2". Finally, insert finish size blade into holder, attach 2" auxiliary pilot and drill hole to size.

**Note:** When drilling certain *non-ferrous* metals, it may be possible to drill up to a 2-1/2" hole in one pass without the use of one or both auxiliary pilots.

**Cutting fluids are always required when machining metals (except for cast iron) for safe operation and longer tool life. Select the appropriate fluid for the material to be machined.**

Select the same cutting speeds and feed rates as you would for drills of same size.

Shank Style	Pilot Diameter	Overall Length	Depth of Cut	Tool No.	Price Each
1/2" Reduced Shank – with 3 Equal Flats	3/4	6	4	<b>DH1</b>	84.24
5/8" Diameter Shank*	21/32	7-1/2	5-1/4	<b>DH20</b>	73.07
3/4" Lathe Shank – with 4 (5/8") Sq. flats**	3/4	7-1/2	5-1/4	<b>DHS23</b>	102.38
3/4" Straight Shank	3/4	7-1/2	5-1/4	<b>DH23</b>	82.52
3/4" Shank*	13/16	7-1/2	5-1/4	<b>DH24</b>	102.38
#2 Morse Taper Shank	3/4	7-1/2	4-3/8	<b>DH2T</b>	90.51
R-8 Bridgeport Shank	3/4	8-1/4	4	<b>DHR8</b>	146.13

\* DH20 and DH24 are not offered in 3/4" pilot diameter and cannot be used with pilot drill or auxiliary pilot.

\*\* DHS23 is designed for use in tool post with power feed

## Auxiliary Pilots

### D Series Standard Duty

For Producing Holes in Steel  
Larger than 1-1/2" in Diameter



Diameter	Blade Dia. Range	Tool No.	Price Each
1-1/2"	1-17/32" – 2"	<b>DX15</b>	31.40
2"	2-1/32" – 2-1/2"	<b>DX20</b>	34.37

## Holder & Auxiliary Screws

Description	Tool No.	Price Each
Set Screw for "D" Series Holders	<b>Part SS51624-38</b>	0.75
Auxiliary Pilot Screw for "D" Series	<b>Part CF51624-58</b>	0.75



# The Multi-Tool™ "D" Blades

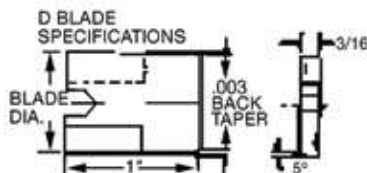
Exclusively  
By



## Standard H.S. Blades

D Series – 3/16" Thick

From 1-17/32" – 1-1/2" Auxiliary Pilot DX15 Required  
From 2-1/32" – 2" Auxiliary Pilot DX20 Required



Blade Diameter	Tool No.	Price Each
7/8	<b>DB28</b>	25.53
29/32	<b>DB29</b>	25.79
15/16	<b>DB30</b>	25.79
31/32	<b>DB31</b>	27.08
63/64	<b>DB315</b>	27.08
1	<b>DB32</b>	27.08
1-1/64	<b>DB325</b>	27.85
1-1/32	<b>DB33</b>	27.85
1-3/64	<b>DB335</b>	27.85
1-1/16	<b>DB34</b>	27.85
1-3/32	<b>DB35</b>	28.38
1-7/64	<b>DB355</b>	28.38
1-1/8	<b>DB36</b>	28.38
1-9/64	<b>DB365</b>	29.07
1-5/32	<b>DB37</b>	29.07
1-3/16	<b>DB38</b>	29.07
1-7/32	<b>DB39</b>	29.67
1-1/4	<b>DB40</b>	29.67
1-9/32	<b>DB41</b>	30.50

Blade Diameter	Tool No.	Price Each
1-5/16	<b>DB42</b>	30.50
1-11/32	<b>DB43</b>	30.86
1-3/8	<b>DB44</b>	30.86
1-13/32	<b>DB45</b>	31.38
1-7/16	<b>DB46</b>	31.38
1-15/32	<b>DB47</b>	31.99
1-31/64	<b>DB475</b>	31.99
1-1/2	<b>DB48</b>	31.99
1-17/32	<b>DB49</b>	32.59
1-9/16	<b>DB50</b>	32.59
1-19/32	<b>DB51</b>	33.32
1-5/8	<b>DB52</b>	33.32
1-21/32	<b>DB53</b>	33.94
1-11/16	<b>DB54</b>	33.94
1-23/32	<b>DB55</b>	34.32
1-47/64	<b>DB555</b>	34.32
1-3/4	<b>DB56</b>	34.32
1-25/32	<b>DB57</b>	34.72
1-13/16	<b>DB58</b>	34.72

Blade Diameter	Tool No.	Price Each
1-27/32	<b>DB59</b>	35.89
1-7/8	<b>DB60</b>	35.89
1-29/32	<b>DB61</b>	36.97
1-15/16	<b>DB62</b>	36.97
1-31/32	<b>DB63</b>	37.48
2	<b>DB64</b>	37.48
2-1/32	<b>DB65</b>	39.25
2-1/16	<b>DB66</b>	39.25
2-3/32	<b>DB67</b>	41.09
2-1/8	<b>DB68</b>	41.09
2-5/32	<b>DB69</b>	42.39
2-3/16	<b>DB70</b>	42.39
2-7/32	<b>DB71</b>	42.94
2-1/4	<b>DB72</b>	42.94
2-5/16	<b>DB74</b>	43.85
2-3/8	<b>DB76</b>	45.05
2-7/16	<b>DB78</b>	46.42
2-1/2	<b>DB80</b>	47.63

## Multi-Tool™ "D" Sets



### Standard Duty "D" Series

Set Type	Pieces	H.S. D Series Blades	Set No.	Price Each
1/2" Reduced Shank	<ul style="list-style-type: none"> <li>DH1 - 3/4" Piloted Holder, 1/2" Shank*</li> <li>3/4" H.S. Silver and Deming 1/2" Shank Drill*</li> <li>#6 Combination Drill and Countersink*</li> <li>5/32" Hex Wrench</li> </ul> <p>*These tools are 6" overall for quick single set up</p>	15/16", 1", 1-1/16", 1-1/8", 1-3/16", 1-1/4", 1-5/16", 1-3/8", 1-7/16", 1-1/2"	<b>DS1</b>	506.81
Straight Shank	<ul style="list-style-type: none"> <li>DH23 - 3/4" Piloted Holder, Straight Shank</li> <li>3/4" H.S. Twist Drill Straight Shank</li> <li>DX15 – 1-1/2" Auxiliary Pilot</li> <li>DX20 – 2" Auxiliary Pilot</li> <li>5/32" and 3/16 Hex Wrenches</li> </ul>	1-1/4", 1-5/16", 1-3/8", 1-1/2", 1-5/8", 1-3/4", 1-7/8" 2", 2-1/8", 2-1/4", 2-3/8", 2-1/2"	<b>DS2</b>	626.41
Taper Shank	<ul style="list-style-type: none"> <li>DH2T - 3/4" Piloted Holder, #2 M.T. Shank</li> <li>3/4" High Speed Twist Drill, #2 M.T. Shank</li> <li>DX15 – 1-1/2" Auxiliary Pilot</li> <li>DX20 – 2" Auxiliary Pilot</li> <li>5/32" and 3/16" Hex Wrenches</li> </ul>	1-1/4", 1-5/16", 1-3/8", 1-1/2", 1-5/8", 1-3/4", 1-7/8", 2", 2-1/8", 2-1/4", 2-3/8", 2-1/2"	<b>DS3</b>	641.36

### H.S. Pilot Drills Threaded Shank, 118° Point

Flute Length	OAL.	Dia.	Thread	Tool No.	Price Each
2"	2-3/4	3/4	5/16-24	<b>DBP34</b>	77.36



This drill was specially designed for the Multi-Tool piloted holder. It allows single-positioning, one pass operations. Two flats on drill barrel for easy removal.

# The Multi-Tool™ System "E"

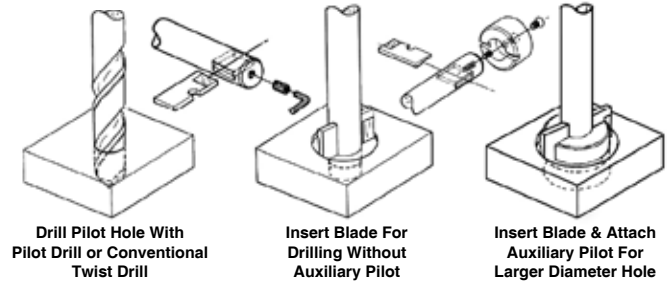
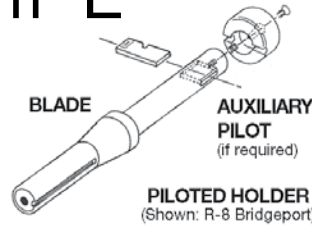
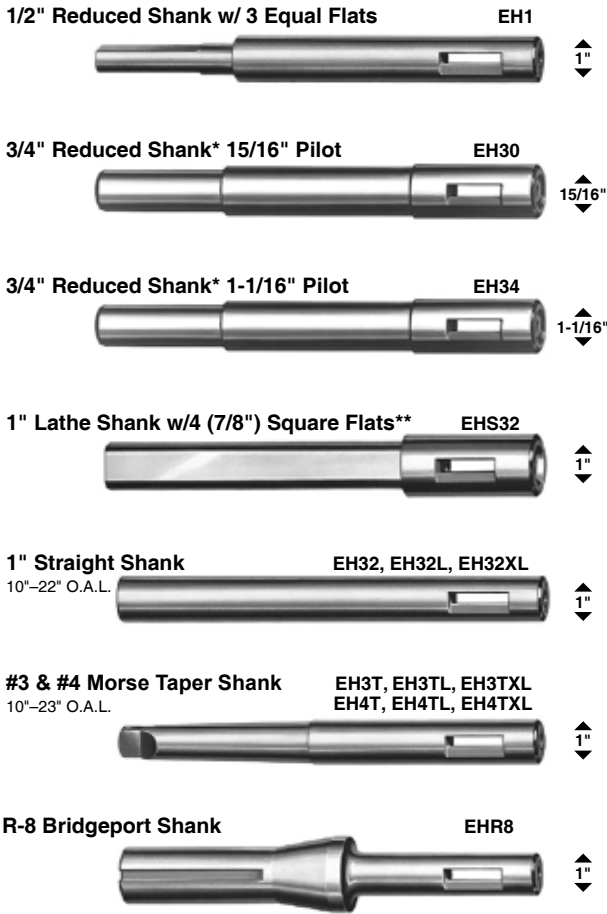
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HOLE MAKING

## "E" Piloted Holders



With the use of auxiliary pilots, holes may be drilled up to 3" diameters in steel and up to 4" diameters in non-ferrous material while maintaining optimum rigidity with low horsepower.

**Step 1** Drill first pilot hole with a conventional 1" twist drill or the 1" Multi-Tool threaded pilot drill.

**Step 2 For Finish Hole 2" or Less**  
Insert finish size blade into piloted holder and drill hole to size.

### For Finish Hole Over 2" to 2-1/2"

Insert 2" blade in piloted holder and enlarge hole to 2". Next, insert 2-1/2" blade in piloted holder, attach 2" auxiliary pilot, and enlarge hole to 2-1/2". Finally, insert finish size blade into holder, attach 2-1/2" auxiliary pilot and drill hole to size.

**Note:** When drilling certain *non-ferrous* metals, it may be possible to drill up to a 4" hole in one pass without the use of one or both auxiliary pilots.

**Cutting fluids are always required when machining metals (except for cast iron) for safe operation and longer tool life. Select the appropriate fluid for the material to be machined.**

\* EH30 and EH34 are not offered in 1" Pilot Diameter and cannot be used with pilot drill or auxiliary pilot.  
\*\* EHS32 is designed for use in tool post with power feed.

Shank Style	Pilot Diameter	Overall Length	Depth of Cut	Tool No.	Price Each
1/2" Reduced Shank – with 3 Equal Flats	1	6	4	EH1	124.24
3/4" Diameter Reduced Shank*	15/16	8	5-3/4	EH30	124.57
3/4" Diameter Reduced Shank*	1-1/16	8	5-3/4	EH34	132.82
1" Lathe Shank – with 4 (7/8") Sq. flats**	1	10	7-3/4	EHS32	124.57
1" Straight Shank – Regular	1	10	7-3/4	EH32	101.33
1" Straight Shank – Long	1	16	12	EH32L	173.90
1" Straight Shank – Extra Long	1	22	18	EH32XL	298.14
#3 Morse Taper Shank – Regular	1	10	6	EH3T	106.42
#3 Morse Taper Shank – Long	1	16	12	EH3TL	186.49
#3 Morse Taper Shank – Extra Long	1	22	18	EH3TXL	318.64
#4 Morse Taper Shank – Regular	1	11	6	EH4T	152.69
#4 Morse Taper Shank – Long	1	17	12	EH4TL	218.22
#4 Morse Taper Shank – Extra Long	1	23	18	EH4TXL	360.07
R-8 Bridgeport Shank	1	9-1/4	5	EHR8	144.91

## Auxiliary Pilots

### E Series Heavy Duty

For Producing Holes in Steel  
Larger than 2" in Diameter



Diameter	Blade Dia. Range	Tool No.	Price Each
2"	2-1/16 – 2-1/2	EX20	32.89
2-1/2"	2-9/16 – 3	EX25	35.78
3"	3-1/16 – 4	EX30	59.80

## Holder & Auxiliary Screws

Description	Tool No.	Price Each
Set Screw for "E" Series Holders	Part SS1220-12	1.35
Auxiliary Pilot Screw for "E" Series	Part CF1220-34	1.35

# The Multi-Tool™ "E" Blades

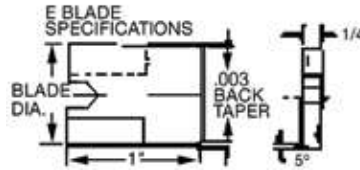
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## Heavy Duty Blades

E Series – 1/4" Thick

From 2-1/16" – 2-1/2" Auxiliary Pilot EX20 Required  
 From 2-9/16" – 3" Auxiliary Pilot EX25 Required  
 From 3-1/16" – 4" Auxiliary Pilot EX30 Required



Blade Diameter	High Speed Steel		Cobalt		Blade Diameter	High Speed Steel		Cobalt	
	Tool No.	Price Each	Tool No.	Price Each		Tool No.	Price Each	Tool No.	Price Each
1-1/8	EB36	29.22	CEB36	43.85	2-5/16	EB74	47.36	CEB74	70.84
1-5/32	EB37	30.78	—	—	2-3/8	EB76	48.57	CEB76	73.20
1-3/16	EB38	30.78	CEB38	45.73	2-7/16	EB78	49.86	—	—
1-7/32	EB39	31.81	—	—	2-1/2	EB80	51.14	CEB80	76.86
1-1/4	EB40	31.81	CEB40	46.03	2-9/16	EB82	51.82	CEB82	78.22
1-5/16	EB42	32.85	CEB42	46.85	2-5/8	EB84	52.52	CEB84	79.53
1-3/8	EB44	33.70	CEB44	47.28	2-11/16	EB86	53.57	—	—
1-7/16	EB46	34.18	CEB46	47.71	2-3/4	EB88	54.76	CEB88	82.86
1-1/2	EB48	35.41	CEB48	48.11	2-13/16	EB90	55.50	—	—
1-9/16	EB50	36.40	CEB50	49.52	2-7/8	EB92	56.71	CEB92	85.80
1-5/8	EB52	37.25	CEB52	51.19	2-15/16	EB94	58.11	—	—
1-11/16	EB54	37.74	CEB54	52.88	3	EB96	59.40	CEB96	89.58
1-3/4	EB56	38.30	CEB56	54.68	3-1/16	EB98	61.72	—	—
1-13/16	EB58	39.30	CEB58	56.72	3-1/8	EB100	59.20	—	—
1-7/8	EB60	40.24	CEB60	58.80	3-1/4	EB104	64.48	—	—
1-15/16	EB62	40.92	CEB62	61.04	3-3/8	EB106	66.70	—	—
2	EB64	41.86	CEB64	63.18	3-1/2	EB112	59.74	CEB112	90.46
2-1/16	EB66	51.16	CEB66	64.48	3-5/8	EB116	71.44	—	—
2-1/8	EB68	43.42	CEB68	65.90	3-3/4	EB120	73.54	—	—
2-3/16	EB70	45.57	CEB70	67.48	3-7/8	EB124	74.83	—	—
2-1/4	EB72	46.33	CEB72	68.60	4	EB128	77.12	CEB128	101.30

## Multi-Tool™ "E" Sets



MADE IN USA



### Heavy Duty "E" Series

Set Type	Pieces	E Series Blades	High Speed Steel		Cobalt	
			Set No.	Price	Set No.	Price
Straight Shank	<ul style="list-style-type: none"> <li>EH32 – 1" Piloted Holder, Straight Shank</li> <li>1" High Speed Twist Drill, Straight Shank</li> <li>EX20 – 2" Auxiliary Pilot</li> <li>EX25 – 2-1/2" Auxiliary Pilot</li> <li>1/4" and 5/16" Hex Wrenches</li> </ul>	1-1/4", 1-3/8", 1-1/2", 1-5/8", 1-3/4", 2", 2-1/4", 2-1/2", 2-3/4", 3"	ES4	662.87	ESC4	862.13
Taper Shank	<ul style="list-style-type: none"> <li>EH3T – 1" Piloted Holder, #3 M.T. Shank</li> <li>1" High Speed Twist Drill, #3 M.T. Shank</li> <li>EX20 – 2" Auxiliary Pilot</li> <li>EX25 – 2-1/2" Auxiliary Pilot</li> <li>1/4" and 5/16" Hex Wrenches</li> </ul>	1-1/4", 1-3/8", 1-1/2", 1-5/8", 1-3/4", 2", 2-1/4", 2-1/2", 2-3/4", 3"	ES5	662.94	ESC5	862.20
R-8 Shank	<ul style="list-style-type: none"> <li>EHR8 – 1" Piloted Holder, R-8 Shank</li> <li>1" High Speed Twist Drill, Straight Shank</li> <li>EX20 – 2" Auxiliary Pilot</li> <li>EX25 – 2-1/2" Auxiliary Pilot</li> <li>1/4" and 5/16" Hex Wrenches</li> </ul>	1-1/4", 1-3/8", 1-1/2", 1-5/8", 1-3/4", 2", 2-1/4", 2-1/2", 2-3/4", 3"	ES9	706.45	ESC9	905.71

### H.S. Pilot Drills Threaded Shank, 118° Point

Flute Length	OAL.	Dia.	Thread	Tool No.	Price Each
2-1/4"	3	1	1/2-20	EBP10	85.70



This drill was specially designed for the Multi-Tool piloted holder. It allows single-positioning, one pass operations. Two flats on drill barrel for easy removal.

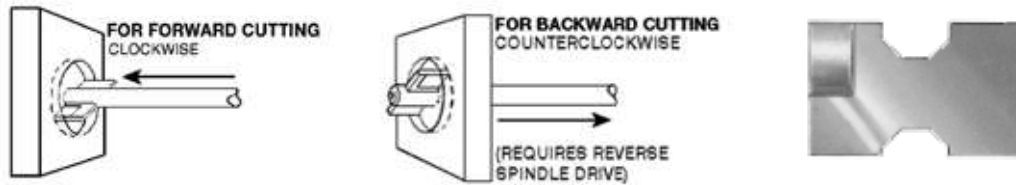
# Double Notched Multi-Tool™ Blades

For Forward & Backward Cutting – Patented

- Available in High Speed and Cobalt Steel
- For Standard Cap Screws
- Allows more chip clearance
- For use in confined areas
- Can be modified for special configurations
- With the same piloted holder you can forward counterbore, back counterbore and spotface



Exclusively By



## Double Notched Standard "D" Series High Speed Steel

Select the same cutting speeds and feed rates as you would for drills of the same size.

Blade Diameter	Tool No.	Price Each
7/8	DB28DN	36.53
29/32	DB29DN	36.79
15/16	DB30DN	36.79
31/32	DB31DN	38.08
63/64	DB315DN	38.08
1	DB32DN	38.08
1-1/64	DB325DN	38.85
1-1/32	DB33DN	38.85
1-3/64	DB335DN	38.85
1-1/16	DB34DN	38.85
1-3/32	DB35DN	39.38
1-7/64	DB355DN	39.38
1-1/8	DB36DN	39.38
1-9/64	DB365DN	40.07

Blade Diameter	Tool No.	Price Each
1-5/32	DB37DN	40.07
1-3/16	DB38DN	40.07
1-7/32	DB39DN	40.67
1-1/4	DB40DN	40.67
1-9/32	DB41DN	41.50
1-5/16	DB42DN	41.50
1-11/32	DB43DN	41.86
1-3/8	DB44DN	41.86
1-13/32	DB45DN	42.38
1-7/16	DB46DN	42.38
1-15/32	DB47DN	42.99
1-31/64	DB475DN	42.99
1-1/2	DB48DN	42.99
1-17/32	DB49DN	43.59

Blade Diameter	Tool No.	Price Each
1-9/16	DB50DN	43.59
1-19/32	DB51DN	44.32
1-5/8	DB52DN	44.32
1-21/32	DB53DN	44.94
1-11/16	DB54DN	44.94
1-23/32	DB55DN	45.32
1-47/64	DB555DN	45.32
1-3/4	DB56DN	45.32
1-25/32	DB57DN	45.72
1-13/16	DB58DN	45.72
1-27/32	DB59DN	46.89
1-7/8	DB60DN	46.89
1-29/32	DB61DN	47.97
1-15/16	DB62DN	47.97

Blade Diameter	Tool No.	Price Each
1-31/32	DB63DN	48.48
2	DB64DN	48.48
2-1/32	DB65DN	50.25
2-1/16	DB66DN	50.25
2-3/32	DB67DN	52.09
2-1/8	DB68DN	52.09
2-5/32	DB69DN	53.39
2-3/16	DB70DN	53.39
2-7/32	DB71DN	53.94
2-1/4	DB72DN	53.94
2-5/16	DB74DN	54.85
2-3/8	DB76DN	56.05
2-7/16	DB78DN	57.42
2-1/2	DB80DN	58.63

## Double Notched Heavy Duty "E" Series High Speed Steel & Cobalt



Blade Diameter	High Speed Steel		Cobalt	
	Tool No.	Price Each	Tool No.	Price Each
1-1/8	EB36DN	42.22	CEB36DN	56.85
1-5/32	EB37DN	43.78	—	—
1-3/16	EB38DN	43.78	CEB38DN	58.73
1-7/32	EB39DN	44.81	—	—
1-1/4	EB40DN	44.81	CEB40DN	59.03
1-5/16	EB42DN	45.85	CEB42DN	59.85
1-3/8	EB44DN	45.85	CEB44DN	60.28
1-7/16	EB46DN	47.18	CEB46DN	60.71
1-1/2	EB48DN	48.41	CEB48DN	61.11
1-9/16	EB50DN	49.40	CEB50DN	62.52
1-5/8	EB52DN	50.25	CEB52DN	64.19
1-11/16	EB54DN	50.74	CEB54DN	65.88
1-3/4	EB56DN	51.30	CEB56DN	67.68
1-13/16	EB58DN	52.30	CEB58DN	69.72
1-7/8	EB60DN	53.24	CEB60DN	71.80
1-15/16	EB62DN	53.92	CEB62DN	74.04
2	EB64DN	54.86	CEB64DN	76.18
2-1/16	EB66DN	64.16	CEB66DN	77.48
2-1/8	EB68DN	56.42	CEB68DN	78.90
2-3/16	EB70DN	58.57	CEB70DN	80.48
2-1/4	EB72DN	59.33	CEB72DN	81.60

Blade Diameter	High Speed Steel		Cobalt	
	Tool No.	Price Each	Tool No.	Price Each
2-5/16	EB74DN	60.36	CEB74DN	83.84
2-3/8	EB76DN	61.57	CEB76DN	86.20
2-7/16	EB78DN	62.86	—	—
2-1/2	EB80DN	64.14	CEB80DN	89.86
2-9/16	EB82DN	64.82	CEB82DN	91.22
2-5/8	EB84DN	65.52	CEB84DN	92.53
2-11/16	EB86DN	66.57	—	—
2-3/4	EB88DN	67.76	CEB88DN	95.86
2-13/16	EB90DN	68.50	—	—
2-7/8	EB92DN	69.71	CEB92DN	98.80
2-15/16	EB94DN	71.11	—	—
3	EB96DN	72.40	CEB96DN	102.58
3-1/16	EB98DN	74.72	—	—
3-1/8	EB100DN	72.20	—	—
3-1/4	EB104DN	77.48	—	—
3-3/8	EB106DN	79.70	—	—
3-1/2	EB112DN	72.74	CEB112DN	113.78
3-5/8	EB116DN	84.44	—	—
3-3/4	EB120DN	86.54	—	—
3-7/8	EB124DN	87.83	—	—
4	EB128DN	90.12	CEB128DN	125.71

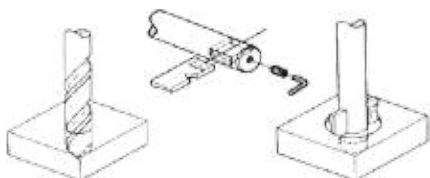
# Multi-Tool™ Cap Screw Counterbores

For Forward & Backward Application – Patented

- Designed to counterbore holes for standard cap screws.
- Using the same piloted holder, you can forward or back counterbore and spotface.
- Uses the same simple design of the multi-tool system.
- Just choose the appropriate blade for your application.

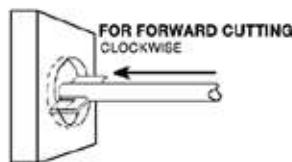


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## STEP 1

Select the appropriate piloted holder and blade for the screw size needed.



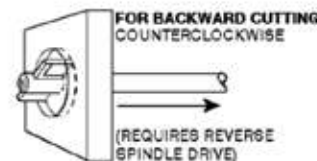
## STEP 2

Insert the blade into the piloted holder and tighten the set screw.

**For FORWARD counterboring:** Use in a clockwise direction

**For BACKWARD counterboring:**

Use in a reverse spindle, in a counter-clockwise direction.



## Piloted Holders

Screw Size	Pilot Diameter	Shank Diameter	Overall Length	Tool No.	Price Each
10	13/64	1/4	4	<b>AH8</b>	30.78
1/4	9/32	9/32	4	<b>AH9</b>	33.53
5/16	11/32	11/32	4-3/8	<b>BH11</b>	36.10
3/8	13/32	13/32	5	<b>BH13</b>	37.83
7/16	15/32	15/32	5-3/4	<b>BH15</b>	40.74

Screw Size	Pilot Diameter	Shank Diameter	Overall Length	Tool No.	Price Each
1/2	17/32	1/2	5-3/4	<b>BH16</b>	42.98
5/8	21/32	5/8	7-1/2	<b>DH20</b>	73.07
3/4	13/16	3/4	7-1/2	<b>DH24</b>	102.38
7/8	15/16	3/4	8	<b>EH30</b>	132.64
1	1-1/16	3/4	8	<b>EH34</b>	141.41

**Compatible Blades** **NOTE:** Select the same cutting speeds and feed rates as you would for drills of same size.

- Forward or back counterbore and spotface
- Worn blades can be ground to smaller diameters and reused
- Resharpen and modify blades to special diameters and unusual hole configurations

## Forward Blades

Screw Size	Cutting Diameter	Blade Thickness	Tool No.	Price Each
No.10	21/64	1/16	<b>AB216</b>	16.76
1/4	13/32	1/16	<b>AB13</b>	17.11
5/16	1/2	3/32	<b>BB16</b>	21.50
3/8	19/32	3/32	<b>BB19</b>	23.73
7/16	11/16	3/32	<b>BB22</b>	25.53
1/2	25/32	3/32	<b>BB25</b>	26.65
5/8	1	3/16	<b>DB32</b>	27.08
3/4	1-3/16	3/16	<b>DB38</b>	29.07
7/8	1-3/8	1/4	<b>EB44</b>	33.70
1	1-9/16	1/4	<b>EB50</b>	36.40

## Backward Blades

Screw Size	Cutting Diameter	Blade Thickness	Tool No.	Price Each
1/4	13/32	1/16	<b>ABZ13</b>	20.37
5/16	1/2	3/32	<b>BBZ16</b>	25.62
3/8	19/32	3/32	<b>BBZ19</b>	30.10
7/16	11/16	3/32	<b>BBZ22</b>	30.78
1/2	25/32	3/32	<b>BBZ25</b>	31.81
5/8	1	3/16	<b>DB32DN</b>	38.08
3/4	1-3/16	3/16	<b>DB38DN</b>	40.07
7/8	1-3/8	1/4	<b>EB44DN</b>	45.85
1	1-9/16	1/4	<b>EB50DN</b>	49.40

## Replacement Parts

Description	Tool No.	Price Each
Set Screw for AH8 and 9	<b>Part SS540-14</b>	.75
Set Screw for BH11, 13, 15, and 16	<b>Part SS832-516</b>	.75
Set Screw for DH20 and 24	<b>Part SS51624-38</b>	.75
Set Screw for EH30 and 34	<b>Part SS1220-12</b>	1.35

## Sets

**NOTE:** Blades of similar thickness may be used in any piloted holder which accommodates that thickness.

Set Type	Description	Set No.	Price
Forward Set	10 piece set contains a Blade and a Piloted Holder for each of the following screw sizes: No.10, 1/4, 5/16, 3/8, 1/2	<b>AB1</b>	282.56
Forward & Backward Set	10 piece set contains a Blade and a Piloted Holder for each of the following screw sizes: 1/4, 5/16, 3/8, 7/16, 1/2 (reverse spindle required)	<b>AB2</b>	321.43

Sets supplied in wood block





# Indexable Carbide **Multi-Tool™** Blades

The Multi-Tool System offers you these indexable carbide blades for heavy duty applications where higher surface speeds are needed and longer tool life is desired.



## Fixed Diameter Blades

- Fixed diameter blades are primarily for use in 1" lathe shank with four square flats. (EHS32)
- May be run at higher surface speeds than high speed steel blades.
- When the cutting edge becomes dull, a new cutting edge can be indexed without removing the blade from the holder.

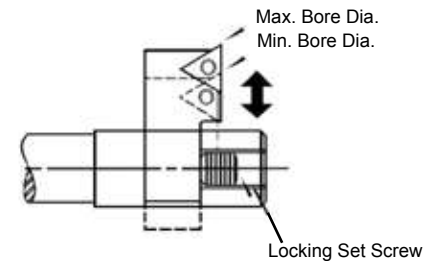


Hole Diameter		Auxiliary Pilot Required	Tool No.	Price Each
Using TPGH-321 (1/64" insert)	Using TPGH-322 (1/32" insert)			
1-7/8	1-27/32	—	<b>EBC60</b>	41.12
2	1-31/32	—	<b>EBC64</b>	44.08
2-1/8	2-3/32	EX20	<b>EBC68</b>	45.23
2-1/4	2-7/32	EX20	<b>EBC72</b>	47.70
2-3/8	2-11/32	EX20	<b>EBC76</b>	49.18

Hole Diameter		Auxiliary Pilot Required	Tool No.	Price Each
Using TPGH-321 (1/64" insert)	Using TPGH-322 (1/32" insert)			
2-1/2	2-15/32	EX20	<b>EBC80</b>	52.95
2-5/8	2-19/32	EX25	<b>EBC84</b>	53.90
2-3/4	2-23/32	EX25	<b>EBC88</b>	56.74
2-7/8	2-27/32	EX25	<b>EBC92</b>	58.96
3	2-31/32	EX25	<b>EBC96</b>	62.34

## Adjustable Diameter Blades

- Adjustable diameter blades are primarily for use in 1" lathe shank with four square flats. (EHS32)
- By positioning the blade to the cutting diameter required, you can transform the Multi-Tool into an adjustable single point cutting tool or boring bar. Simply loosen the locking screw in the piloted holder, then adjust the blade to desired diameter from 2" to 3-1/4". Once the size has been set using an indicator or micrometer gauge, the inserts can be easily indexed or changed without losing size.



Blade Cutting Range	Auxiliary Pilot Required	Tool No.	Price Each
2 — 2-3/4	EX20	<b>EBC200</b>	56.73
2-1/2 — 3-1/4	EX25	<b>EBC250</b>	72.22

## Compatible Carbide Inserts

**TPGH – Triangle, Positive Rake**  
Ground all over with chip groove on one side



Insert Number	Radius	I.C.	Thick-ness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPGH-321</b>	1/64	3/8	1/8	7.42	7.42	9.04
<b>TPGH-322</b>	1/32	3/8	1/8	7.42	7.42	9.04

\*C-6 Grade TiN Coated

## Replacement Parts

Description	Tool No.	Price Each
Torx® Drive Flat Head Screw	<b>Part TF832-285</b>	2.61
Torx® Wrench	<b>Part CTW-10</b>	3.67

# S-Type Blades

For 3-3/4" to 6-1/4" Diameter Holes

- Can be used on low horsepower portable magnetic or fixed machine drilling
- Effective in steel up to 1/2" Thick (up to 1" if cut from both sides)
- Adjust to uneven work surfaces and small misalignments

The S-Type Blade is held with a special spring loaded set screw, producing a floating action which adjusts to uneven work surfaces or small misalignments between spindle and workpiece.

If depth of cut is greater than 1/2", advance piloted holder through the pilot hole and insert blade in an upward orientation. Reverse spindle and feed in upward cutting direction to maximum blade depth.

Remove blade, withdraw piloted holder and reinsert blade in downward cutting position with right hand rotation and complete cut to break through.

Not recommended for use in flatted lathe piloted holders.



Blade Diameter	Blade No.	Price
3-3/4	<b>EBS120</b>	88.02
4	<b>EBS128</b>	109.60
4-1/2	<b>EBS144</b>	127.24
5-3/4	<b>EBS184</b>	170.00
6-1/4	<b>EBS200</b>	192.56

## Set Screw



Description	Tool No.	Price
Screw for S-Type Blade	<b>Part SS1</b>	13.16

# Profiling Multi-Tool™ Blade

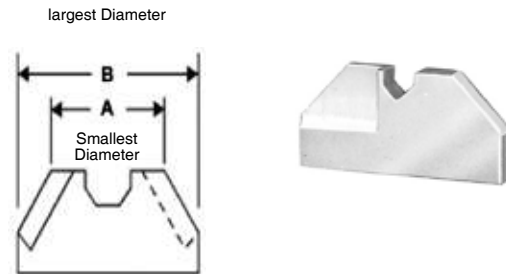
## 45° Chamfering Blades

These blades are used to chamfer holes from 1" to 4-3/8" in diameter. When used in the same set up and holder which produced the hole, close concentricity can be achieved. Please inquire



### D-Series Chamfering Range

Range of Hole Diameter (from A to B)	Blade No.	Price Each
3/4 – 1-1/8	<b>DBA36</b>	29.86
1-1/8 – 1-3/8	<b>DBA44</b>	32.85
1-3/8 – 1-3/4	<b>DBA56</b>	36.11
1-3/4 – 2-1/8	<b>DBA68</b>	39.74
2-1/8 – 2-1/2	<b>DBA80</b>	43.69
2-1/2 – 2-7/8	<b>DBA92</b>	48.07



### E-Series Chamfering Range

Range of Hole Diameter (from A to B)	Blade No.	Price Each
1 – 1-3/8	<b>EBA44</b>	38.47
1-3/8 – 1-3/4	<b>EBA56</b>	40.39
1-3/4 – 2-1/8	<b>EBA68</b>	42.95
2-1/8 – 2-1/2	<b>EBA80</b>	49.39
2-1/2 – 2-7/8	<b>EBA92</b>	56.81
2-7/8 – 3-1/4	<b>EBA104</b>	65.34
3-1/4 – 3-5/8	<b>EBA116</b>	71.86
3-5/8 – 4	<b>EBA128</b>	79.05
4 – 4-3/8	<b>EBA140</b>	86.94

**Special order multi-diameter and chamfering blades**

Do you have a job with unique specifications? Counterbore profiles may be special ordered to your print. Please inquire.

# Carbide Tipped Annular Cutters

List No. **CT251** – 1" Depth of Cut  
List No. **CT252** – 2" Depth of Cut



All cutters come with 3/4" shank diameter with two flats. The MDX Annular Cutter is made of sturdy M-2 Steel construction, which enables you to cut a burr free hole. MDX's Annular Cutter penetrates rapidly, cutting only the periphery of the hole thus allowing the pilot pin to eject the center plug of steel.

Diameter of Cut	Price Each	
	1" Depth Of Cut CT251	2" Depth Of Cut CT252
<b>9/16</b>	42.93	45.68
<b>5/8</b>	42.93	45.68
<b>11/16</b>	42.93	45.68
<b>3/4</b>	42.93	45.68
<b>13/16</b>	42.93	46.66
<b>7/8</b>	42.93	46.66
<b>15/16</b>	44.15	47.91
<b>1</b>	44.15	47.91
<b>1-1/16</b>	48.60	52.53
<b>1-1/8</b>	48.60	52.53
<b>1-3/16</b>	48.60	52.53
<b>1-1/4</b>	56.78	63.26
<b>1-5/16</b>	56.78	63.26

Diameter of Cut	Price Each	
	1" Depth Of Cut CT251	2" Depth Of Cut CT252
<b>1-3/8</b>	56.78	63.26
<b>1-7/16</b>	62.90	71.12
<b>1-1/2</b>	62.90	71.12
<b>1-9/16</b>	62.90	71.12
<b>1-5/8</b>	75.61	84.77
<b>1-11/16</b>	75.61	84.77
<b>1-3/4</b>	75.61	84.77
<b>1-13/16</b>	86.39	97.61
<b>1-7/8</b>	86.39	97.61
<b>1-15/16</b>	86.39	97.61
<b>2</b>	97.77	110.52
<b>2-1/16</b>	97.77	110.52

Please see page 132 for our other annular cutters.

# Annular Cutters

High Speed Steel, Cobalt, & TiN Coated



The MDX Annular Cutter is made of sturdy M-2 Steel construction, which enables you to cut a burr free hole. MDX's Annular Cutter penetrates rapidly, cutting only the periphery of the hole thus allowing the pilot pin to eject the center plug of steel.

HOLE MAKING

## 1" Depth Of Cut

- List No. **251** – High Speed Steel
- List No. **251C** – Cobalt
- List No. **251T** – TiN Coated

## 2" Depth Of Cut

- List No. **252** – High Speed Steel
- List No. **252C** – Cobalt
- List No. **252T** – TiN Coated

## 3" Depth Of Cut

- List No. **253** – High Speed Steel
- List No. **253T** – TiN Coated



### Fractional Sizes

All cutters come with 3/4" shank diameter with two flats.

Diameter of Cut	Price Each							
	1" Depth Of Cut			2" Depth Of Cut			3" Depth Of Cut	
	H.S. 251	Cobalt 251C	H.S. TiN Coated 251T	H.S. 252	Cobalt 252C	H.S. TiN Coated 252T	H.S. 253	H.S. TiN Coated 253T
7/16	26.69	34.24	39.03	36.95	51.96	52.77	—	—
1/2	27.02	36.36	40.24	38.12	53.84	54.39	—	—
9/16	28.16	43.64	41.38	39.34	56.76	55.61	—	—
5/8	30.45	45.84	43.67	43.72	66.20	59.99	—	—
11/16	30.82	45.84	44.03	45.16	66.20	61.43	—	—
3/4	33.50	48.76	46.71	49.53	67.92	65.80	—	—
13/16	34.72	51.64	47.94	50.68	69.16	66.95	—	—
7/8	38.83	51.64	52.05	57.92	71.96	74.18	79.90	116.60
15/16	40.36	54.60	53.57	59.82	75.00	76.09	81.50	118.18
1	44.94	61.84	58.16	65.52	80.72	81.80	89.25	129.40
1-1/16	45.03	65.04	58.24	65.52	83.68	81.77	89.25	129.40
1-1/8	49.53	71.28	62.75	74.69	93.12	90.96	101.77	147.57
1-3/16	51.05	78.60	70.02	77.75	103.40	101.73	105.98	153.67
1-1/4	59.43	85.92	78.40	85.37	113.56	109.36	116.29	168.62
1-5/16	73.92	93.96	92.89	92.99	123.80	116.98	126.69	183.70
1-3/8	81.55	97.52	100.52	96.81	129.52	120.79	131.92	191.28
1-7/16	87.89	105.40	106.86	103.39	134.60	127.37	140.86	204.25
1-1/2	89.17	109.84	108.13	106.72	142.64	130.70	145.42	210.86
1-9/16	95.29	113.56	132.49	122.75	150.32	169.24	167.29	242.57
1-5/8	99.61	117.84	136.81	127.08	158.60	173.58	173.18	251.10
1-11/16	108.64	126.64	145.84	134.38	171.00	180.88	183.10	265.49
1-3/4	118.15	136.76	155.36	153.60	183.28	200.09	209.25	303.42
1-13/16	121.54	145.52	158.74	159.40	196.40	205.90	—	—
1-7/8	128.59	149.84	165.79	176.15	204.76	222.65	242.24	351.25
1-15/16	135.70	155.00	172.89	181.01	211.04	227.50	246.62	357.59
2	149.32	165.84	186.52	183.73	223.92	230.23	250.38	363.05
2-1/16	171.78	195.00	240.42	210.06	—	278.71	—	—
2-1/8	188.10	215.00	—	262.00	—	—	—	—
2-3/16	192.59	228.00	—	—	—	—	—	—
2-1/4	195.92	235.00	—	—	—	—	—	—
2-5/16	205.00	249.00	—	—	—	—	—	—

Please see page 131 for our other annular cutters.

### Metric Sizes

List No. **251M** – H.S. 1" Depth Of Cut

List No. **252M** – H.S. 2" Depth Of Cut

Price Each			Price Each			Price Each		
Size	1" Depth of Cut 251M	2" Depth of Cut 252M	Size	1" Depth of Cut 251M	2" Depth of Cut 252M	Size	1" Depth of Cut 251M	2" Depth of Cut 252M
14mm	30.71	42.88	22mm	42.34	63.14	28mm	52.34	78.10
16mm	33.20	47.67	24mm	45.67	67.31	30mm	55.66	84.76
18mm	35.70	52.73	25mm	47.52	69.30	32mm	64.80	93.07
20mm	38.19	55.24	26mm	48.99	71.44	36mm	—	110.00

TIN Coating available upon request. Please inquire.

### Sets



Sizes	Description	Pcs.	Set No.	Price
9/16, 11/16, 13/16, 15/16, 1", 1-1/16, 2"	1" Cut	7	<b>251SA</b>	373.75
9/16, 11/16, 13/16, 15/16, 1", 1-1/16, 2"	2" Cut	7	<b>252SB</b>	509.77

### Ejector - Pilot

List No. **251EP**



Size	Description	Price
1/4 x 3	Ejector - Pilot, Short	8.42
1/4 x 4	Ejector - Pilot, Long	12.55
1/4 x 5	Ejector - Pilot, X-Long	16.35

All sets are supplied in wood block

# Horex<sup>®</sup> Adjustable Hole Cutters

THE SIZE-ABLE HOLE CUTTER



- Synchronized lead screw feed simultaneously adjusts both cutters to precise hole size on full turn changes whole diameter .0625.
- 11 Interchangeable arbors to fit any machine.
- Cuts stainless, cold rolled, titanium, aluminum, bronze steel, ceramics and high density plastics.
- Note: Cutting Depth on all sets is 1-1/2".

Watch our instructional videos on [www.MichiganDrill.com/videos](http://www.MichiganDrill.com/videos)



## Horex<sup>®</sup> Cutting Blades

All cutters come in pairs (leader and follower)  
Other coatings available upon request

### Carbide Tipped

Tool No.	Cutter Range	Cutting Depth	Uncoated Price	TiN Price
HLX130CS	1" to 3"	1-1/8"	299.20	323.80
HLX130C2	1" to 3"	2"	404.80	429.40
HLX365CL	3" to 6-1/2"	1-1/2"	325.60	350.20
HLX312CL	3" to 12"	1-1/2"	325.60	350.20
HLX365C2	3" to 6-1/2"	2"	404.80	429.40
HLX312C2	3" to 12"	2"	404.80	429.40

### High Speed Steel

Tool No.	Cutter Range	Cutting Depth	Uncoated Price	TiN Price
HLX130HS	1" to 3"	1-1/8"	224.64	249.24
HLX130H2	1" to 3"	2"	285.12	309.72
HLX365HL	3" to 6-1/2"	1-1/2"	224.64	249.24
HLX312HL	3" to 12"	1-1/2"	224.64	249.24
HLX365H2	3" to 6-1/2"	2"	285.12	309.72
HLX312H2	3" to 12"	2"	285.12	309.72
HLX112FC	1" to 12"	Fly Cutter	293.76	318.36

## Horex<sup>®</sup> Complete System *Supplied in metal case.*

### 1" to 6-1/2" Capacity Sets

Contains the following: Horex body, Carbide tipped (1" to 3") & (3" to 6-1/2") cutters, 3 hex keys, spanner wrench, spring-loaded pilot arbor, screws and nuts for cutter mounting.

Set No.	Arbor Shank Type	Price
HLX0651	1-1/4" SS	2542.32
HLX0652	1-1/2" SS	2559.44
HLX0653	2" SS	2576.56
HLX0654	R8	2593.68
HLX0655	#3MT	2593.68
HLX0656	#4MT	2610.80
HLX0657	#5MT	2679.28
HLX0658	NMTB #40	2816.24
HLX0658C	CAT 40	2833.36
HLX0659	NMTB #50	2936.08
HLX0659C	CAT 50	2953.20

### 1" to 12" Capacity Sets

Contains the following: Horex body, carbide tipped (1" to 3") and (3" to 12") cutters, 3 hex keys, spanner wrench, spring-loaded pilot arbor, screws and nuts for cutter mounting.

Set No.	Arbor Shank Type	Price
HLX1202	1-1/2" SS	3346.96
HLX1203	2" SS	3364.08
HLX1206	#4 MT	3364.08
HLX1207	#5 MT	3466.80
HLX1208	NMTB #40	3723.60
HLX1208C	CAT 40	3620.88
HLX1209	NMTB 50	3723.60
HLX1209C	CAT 50	3740.72

## Additional Blocks

Tool No.	Size Range	Price
HLX0650	1" to 6-1/2"	1,440.00
HLX1200	1" to 12"	2,160.00

## Arbor (Shank Type)

Tool No.	Arbor	Price
HLX165A1	1-1/4" SS	128.00
HLX165A2	1-1/2" SS	136.00
HLX165A3	2" SS	144.00
HLX165A4	R8	152.00
HLX165A5	#3MT	152.00
HLX165A6	#4MT	160.00
HLX165A7	#5MT	160.00
HLX165A8	NMTB #40	192.00
HLX165C8	CAT 40	256.00
HLX165A9	NMTB #50	312.00
HLX165C9	CAT 50	264.00

## Replacement Parts

Tool No.	Description	Price
PART P100-3	Pilot assembly with pilot, spring & bushings	38.75
PART P100	Pilot only	29.05
PART PS101	Spring only	4.50
PART PB102	Bushing only	5.30
PART HK18	1/8 Hex Key	.73
PART HK532	5/32 Hex Key	.73
PART HK316	3/16 Hex Key	.73
PART CS1032-114	10-32 1-1/4 Cap Screw	.50
PART IT1032	10-32 Internal Thread Fastener	1.00
PART LS-6	6' Horex Adjustment Screw	14.48
PART LS-12	12' Horex Adjustment Screw	22.40
PART HLXRAS	Right Screw Brace	15.00
PART HLXLAS	Left Screw Brace	15.00
PART HLXRB	Horex Right Block	100.74
PART HLXLB	Horex Left Block	100.74

# Hole Cutters – Heavy Duty

High Speed Steel

List No. **HC690** – Pilot drill furnished with each cutter

These Hole Cutters are recommended for use in hand held air or electric drill motors as well as light drill press applications in sheet metal, thin wall tubing, steel plate, or any other larger diameter shallow hole cutting.

This tool centers quickly and is held securely in position after the pilot drill has entered the work piece. The cutter body then cuts a clean, burr-free hole faster than conventional twist drills or hole saws.

With normal care, tool life is significantly longer than other hole cutting tools. Inexpensive resharpening will allow repeated use.



*A versatile and highly useful tool!*



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Shank	Pilot	Number of Flutes	Price Each
1/2	3/8	3/16	4	45.53
1/2	1/2	1/4	4	45.53
9/16	3/8	3/16	4	58.31
9/16	1/2	1/4	4	58.31
5/8	3/8	3/16	4	61.98
5/8	1/2	1/4	4	61.98
11/16	1/2	1/4	4	65.56
3/4	1/2	1/4	4	67.43
13/16	1/2	1/4	4	69.89
7/8	1/2	1/4	4	72.88
29/32	1/2	1/4	4	73.18
15/16	1/2	1/4	5	74.53

Size	Shank	Pilot	Number of Flutes	Price Each
1	1/2	1/4	5	76.62
1-1/16	1/2	1/4	5	80.65
1-1/8	1/2	1/4	5	84.10
1-3/16	1/2	1/4	5	88.21
1-1/4	1/2	1/4	5	91.72
1-5/16	1/2	1/4	5	99.49
1-3/8	1/2	1/4	5	105.33
1-1/2	1/2	1/4	5	111.01
1-5/8	1/2	1/4	5	139.71
1-3/4	1/2	1/4	5	150.62
1-7/8	1/2	1/4	5	161.46
2	1/2	1/4	5	169.75

*32nd, 64th and Metric Sizes available at a nominal extra charge.*

## Sets

Sizes	Description	Pcs.	Set No.	Price
1/2, 5/8, 3/4, 1	1/2" Shank & 1/4" Pilot	4	<b>HC690S</b>	255.82

All sets are supplied in wood block



# Pilot Drills

High Speed Steel



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Pilot Drill with Single Flat

List No. **673** – 135° Split Point  
For use with Hole Cutters above.



Sizes	Price
3/16 Diameter	2.39
1/4 Diameter	3.29

## Pilot Drill with Two Whistle Notches

List No. **671** – Split Point  
For use with Hole Saws, Hole Cutters, and other pilot tools.



Sizes	Flute Length	Overall Length	Price
1/4 Diameter	1-1/4	4	3.60
<i>Other sizes available by special order</i>			

## Pilot Drill with Two Flats

List No. **674** – 118° Point  
For use with Hole Cutters, and other pilot tools.



Sizes	Flute Length	Overall Length	Price
1/4 Diameter	1-5/16	3-1/4	3.60

## Pilot Drill with Three Equal Flats

List No. **675** – 135° Split Point  
For use with Hole Cutters, and other pilot tools.



Sizes	Flute Length	Overall Length	Price
1/4 Diameter	1-1/2	4	3.60



# Hole Saws & Accessories

High Speed Steel



HOLE MAKING

## Hole Saws

List No. **HC695**

For cutting holes 1-1/8" deep.  
A high speed steel cutting edge is electron-beam welded to a tough alloy back.  
Cuts clean holes in any machinable material.  
Knockout holes for easy removal of cores.



Diameter	Price	Diameter	Price	Diameter	Price	Diameter	Price
9/16	8.16	1-3/8	9.18	2-5/16	14.11	3-3/4	21.59
5/8	8.16	1-7/16	9.18	2-3/8	14.11	3-7/8	22.61
11/16	8.16	1-1/2	9.18	2-1/2	15.21	4	23.71
3/4	8.16	1-9/16	9.18	2-9/16	15.21	4-1/8	25.92
13/16	8.16	1-5/8	9.18	2-5/8	15.21	4-1/4	33.83
7/8	8.50	1-11/16	11.39	2-3/4	15.21	4-3/8	40.12
15/16	8.50	1-3/4	11.39	2-7/8	15.21	4-1/2	46.66
1	8.50	1-13/16	11.39	3	15.55	4-3/4	51.93
1-1/16	8.50	1-7/8	11.39	3-1/8	15.55	5	57.54
1-1/8	8.50	2	11.39	3-1/4	15.55	5-1/2	68.76
1-3/16	8.50	2-1/16	14.11	3-3/8	15.55	5-3/4	74.71
1-1/4	8.50	2-1/8	14.11	3-1/2	15.55	6	80.49
1-5/16	9.18	2-1/4	14.11	3-5/8	18.53		

## Sets

Description	Includes	Set No.	Price
7 Pc. Handyman Set	7/8", 1", 1-1/8", 1-1/4", 1-1/2" plus 1/4" mandrel & (1) mandrel adapter	<b>HC695H</b>	50.64
12 Pc. Journeyman Set	3/4", 7/8", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2" plus (2) arbors, & (1) adapter	<b>HC695J</b>	110.98
9 Pc. Plumber's Set	3/4", 7/8", 1-1/8", 1-1/2", 1-3/4", 2-1/4" plus (2) arbors & (1) mandrel adapter	<b>HC695P</b>	82.50
9 Pc. Electrician's Set	7/8", 1-1/8", 1-3/8", 1-3/4", 2, 2-1/2" plus (2) arbors & (1) mandrel adapter	<b>HC695E</b>	86.49

All sets come with a fitted case

## Hole Saw Mandrels with Pilot Drills

Shank Size	Fits Hole Saws	Description	Set No.	Price
3/8" Hex	9/16" to 1-3/16"	Fits 3/8" & 1/2" drills	<b>HCM1</b>	11.05
3/8" Hex	1-1/4" to 6"	Quick change w/ pin drive	<b>HCM2</b>	19.55
7/16" Hex	9/16" to 1-3/16"	Fits 1/2" Drills	<b>HCM3</b>	13.00
7/16" Hex	1-1/4" to 6"	Quick change w/ pin drive	<b>HCM4</b>	23.92



# Industrial Circular Saw Blades

Carbide Tipped

List No. **CT726**

- Blades are designed to resist heat build-up and warping.
- J-shaped expansion slots control heat around perimeter while reducing noise.
- Clear anti-friction coating minimizes binding and pitch build-up.
- Thin kerf design provides minimal weight and blade resistance.
- Extra hard titanium carbide teeth last 5X longer than standard carbide.
- Teeth sharpened with 600 grit diamond wheel for extra smooth precision cuts.

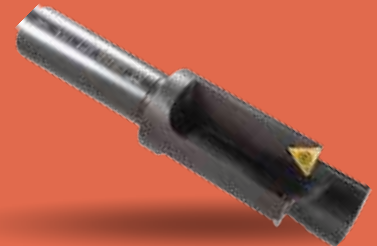
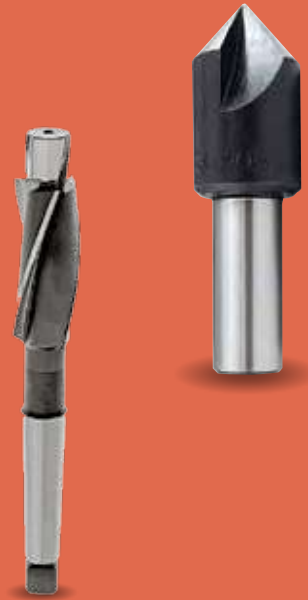
Diameter	No. of Teeth	Arbor	Price Each
*7-1/4	24	5/8	5.99
7-1/4	40	5/8	8.95
8-1/4	24	5/8	13.50
10"	40	5/8	14.95
10"	60	5/8	17.50
12"	40	1"	28.00

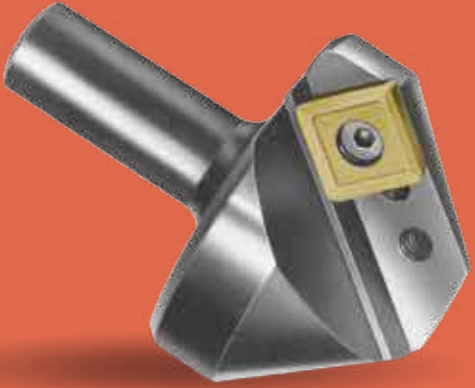


\*Thin Kerf

# Countersinking & Counterboring

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# Zero-Flute Countersinks

## High Speed Steel & Cobalt

The action of a single cutting edge provides faster stock removal and prevents chatter. These tools are recommended for deburring steel and other ferrous materials. They can easily be resharpened by using an axial relieving fixture or by using a small mounted grinding wheel and inserting it in the hole.



### Pilotless – 60°, 82°, 90°, and 100°

List No. **543** – 60° H.S.

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each
<b>00</b>	Double	3/32 – 11/64	3/16	10.25
<b>0</b>	Double	1/8 – 15/64	1/4	10.25
<b>1</b>	Single	3/16 – 13/32	1/4	11.11
<b>2</b>	Single	5/16 – 17/32	1/4	13.75

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each
<b>3</b>	Single	7/16 – 25/32	1/2	23.82
<b>3A</b>	Single	7/16 – 25/32	1/4	23.82
<b>4</b>	Single	11/16 – 1-3/32	1/2	37.68

List No. **544** – 82° H.S.

List No. **544C** – 82° Cobalt

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each	
				H.S. <b>544</b>	Cobalt <b>544C</b>
<b>0</b>	Double	1/16 – 15/64	1/4	10.25	18.46
<b>1</b>	Single	5/32 – 13/32	1/4	10.25	18.46
<b>2</b>	Single	3/16 – 17/32	1/4	12.84	23.11
<b>3</b>	Single	5/16 – 25/32	1/2	22.26	40.07
<b>3A</b>	Single	5/16 – 25/32	1/4	22.26	40.07
<b>3B</b>	Single	7/16 – 7/8	1/2	37.83	—

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each	
				H.S. <b>544</b>	Cobalt <b>544C</b>
<b>4</b>	Single	9/16 – 1-1/16	1/2	37.68	67.82
<b>5</b>	Single	5/8 – 1-15/32	1/2	85.40	153.73
<b>6</b>	Single	3/4 – 1-3/4	5/8	124.30	—
<b>7</b>	Single	1 – 2	5/8	152.20	—
<b>8</b>	Single	1-1/4 – 2-1/2	3/4	168.85	—

List No. **546** – 90° H.S.

List No. **546C** – 90° Cobalt

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each	
				H.S. <b>546</b>	Cobalt <b>546C</b>
<b>00</b>	Double	1/32 – 11/64	3/16	10.25	—
<b>0</b>	Double	1/16 – 15/64	1/4	10.25	18.46
<b>1</b>	Single	5/32 – 13/32	1/4	10.25	18.46
<b>2</b>	Single	3/16 – 17/32	1/4	12.84	23.11

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each	
				H.S. <b>546</b>	Cobalt <b>546C</b>
<b>3</b>	Single	5/16 – 25/32	1/2	22.26	40.07
<b>3A</b>	Single	5/16 – 25/32	1/4	22.26	—
<b>4</b>	Single	9/16 – 1-1/16	1/2	37.68	67.82
<b>5</b>	Single	5/8 – 1-15/32	1/2	85.40	—

List No. **547** – 100° H.S.

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each
<b>0</b>	Double	1/16 – 15/64	1/4	10.25
<b>1</b>	Single	5/32 – 13/32	1/4	11.11
<b>2</b>	Single	3/16 – 17/32	1/4	13.75

Size	Single or Double End	Cut Diameter Range	Shank Diameter	Price Each
<b>3</b>	Single	5/16 – 25/32	1/2	23.82
<b>4</b>	Single	9/16 – 1-1/16	1/2	39.44

### Piloted – 82°

List No. **544P** – 82° H.S.

Size	Screw Size	Cut Diameter Range	Pilot Length	Shank Diameter	Price Each
<b>11</b>	1/4	1/4 – 33/64	5/32	3/8	17.49
<b>12</b>	1/4	17/64 – 33/64	5/32	3/8	17.49
<b>13</b>	5/16	5/16 – 41/64	5/32	3/8	20.85
<b>14</b>	5/16	21/64 – 41/64	5/32	3/8	20.85
<b>15</b>	3/8	3/8 – 49/64	5/32	1/2	28.05



Size	Screw Size	Cut Diameter Range	Pilot Length	Shank Diameter	Price Each
<b>16</b>	3/8	25/64 – 49/64	5/32	1/2	28.05
<b>17</b>	7/16	7/16 – 53/64	7/32	1/2	34.21
<b>18</b>	7/16	29/64 – 53/64	7/32	1/2	34.21
<b>19</b>	1/2	1/2 – 15/16	1/4	1/2	39.05
<b>20</b>	1/2	33/64 – 15/16	1/4	1/2	39.05

### Sets

Sizes	Description	Pieces	60°		82°		90°		100°	
			Set No.	Price	Set No.	Price	Set No.	Price	Set No.	Price
0, 1, 2, 3, 4	High Speed – Pilotless	5	<b>543S</b>	100.26	<b>544S</b>	96.93	<b>546S</b>	96.93	<b>547S</b>	102.02
0, 1, 2, 3, 4	Cobalt – Pilotless	5	—	—	<b>544CS</b>	171.67	<b>546CS</b>	171.57	—	—
11, 13, 15, 17, 19	High Speed – Piloted	5	—	—	<b>544PS</b>	143.30	—	—	—	—
0, 1, 2, 3, 4, 5, 6, 7	High Speed – Pilotless	8	—	—	<b>544T</b>	461.68	—	—	—	—

All sets are supplied in wood block

# Single-Flute Countersinks

## High Speed Steel & Cobalt

For use in chamfering, deburring, countersinking and enlarging holes in sheet metal while providing a smooth surface finish. They will countersink holes much smaller than other styles and should be operated at comparatively high speeds.

- List No. **490** – 60° H.S.      List No. **493** – 100° H.S.  
 List No. **491** – 82° H.S.      List No. **489\*** – 120° H.S.  
 List No. **492** – 90° H.S.      List No. **491C** – 82° Cobalt



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Size	Shank Diameter	Overall Length	Price Each	
			H.S. All angles	Cobalt 82°
1/8	1/8	1-1/4	7.21	17.70
3/16	3/16	1-1/2	7.89	19.83
1/4	1/4	1-1/2	9.57	24.12
5/16	1/4	1-5/8	10.23	25.12
3/8	1/4	1-3/4	10.89	26.74
1/2	1/4	2	13.99	34.36
5/8	3/8	2-1/4	19.24	47.68

Size	Shank Diameter	Overall Length	Price Each	
			H.S. All angles	Cobalt 82°
3/4	1/2	2-5/8	25.87	63.52
7/8	1/2	2-3/4	34.98	85.86
1	1/2	2-3/4	44.22	108.54
1-1/4	1/2	2-3/4	77.60	181.40
1-1/2	3/4	2-7/8	110.57	226.18
1-3/4	3/4	3	139.48	319.96
2	3/4	3-1/4	187.41	368.02

\* 120° available in 1/4 to 1" Only

### U.S.A. Sets

Sizes	Pieces	H.S. 60° Set No.	H.S. 82° Set No.	H.S. 90° Set No.	H.S. 100° Set No.	H.S. Price	Cobalt 82° Set No.	Cobalt Price
1/4, 3/8, 1/2, 5/8, 3/4	5	<b>490S5</b>	<b>491S5</b>	<b>492S5</b>	<b>493S5</b>	83.21	<b>491CS5</b>	200.07
1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2	9	<b>490S9</b>	<b>491S9</b>	<b>492S9</b>	<b>493S9</b>	507.46	<b>491CS9</b>	1088.66
3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 2	12	<b>490S12</b>	<b>491S12</b>	<b>492S12</b>	<b>493S12</b>	560.19	<b>491CS12</b>	1219.47



All sets are supplied in wood block

- List No. **X490** – 60° H.S.      List No. **X493** – 100° H.S.  
 List No. **X491** – 82° H.S.      List No. **X494** – 110° H.S.  
 List No. **X492** – 90° H.S.

Size	Shank Diameter	Overall Length	Price Each
3/16	3/16	1-1/2	4.03
1/4	3/16	1-1/2	4.03
1/4	1/4	1-1/2	4.03
5/16	1/4	1-3/4	5.68
3/8	1/4	1-3/4	5.68
1/2	1/4	2	6.29
1/2	3/8	2	6.29
5/8	3/8	2-1/4	11.29
5/8	1/2	2-1/4	11.29
3/4	3/8	2-1/4	14.57

**MDX**  
SUPERIOR IMPORT



Size	Shank Diameter	Overall Length	Price Each
3/4	1/2	2-1/2	14.57
7/8	1/2	2-1/2	17.10
1	1/2	2-3/4	19.70
1-1/4	1/2	3-3/8	29.25
1-1/4	3/4	3-3/8	29.25
1-1/2	1/2	3-1/2	39.33
1-1/2	3/4	3-1/2	39.33
2	1/2	4	71.61
2	3/4	4	71.61

### Import Sets

Sizes	Pieces	H.S. 60° Set No.	H.S. 82° Set No.	H.S. 90° Set No.	Price
1/4 x 1/4, 3/8 x 1/4, 1/2 x 1/4, 5/8 x 3/8, 3/4 x 3/8	5	<b>X490S</b>	<b>X491S</b>	<b>X492S</b>	46.86

# Single-Flute Double End Countersinks

## High Speed Steel

- List No. **491D** – 82° H.S.

Size	Shank Diameter	Overall Length	Price Each
1/4	1/4	1-1/2	14.50
5/16	1/4	1-5/8	15.88
3/8	1/4	1-3/4	18.78
1/2	1/4	2	21.24



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# 3-Flute Countersinks Center Reamers

High Speed Steel & Cobalt



Engineered to give chatter-free performance.  
They are comparatively free-cutting and should be operated at low speeds.

- List No. **480** – 60° H.S.      List No. **483** – 100° H.S.  
List No. **481** – 82° H.S.      List No. **484** – 120° H.S.  
List No. **482** – 90° H.S.      List No. **481C** – 82° Cobalt



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Size	Shank Diameter	Overall Length	Price Each	
			H.S. All angles	Cobalt 82°
1/4	3/16	1-1/2	7.62	17.82
1/4	1/4	1-1/2	7.82	—
3/8	1/4	1-3/4	9.30	21.24
1/2	3/8	2	12.21	26.74
5/8	3/8	2-1/4	17.16	39.70
3/4	1/2	2-5/8	25.87	52.02

Size	Shank Diameter	Overall Length	Price Each	
			H.S. All angles	Cobalt 82°
7/8	3/8	2-3/4	32.34	—
7/8	1/2	2-3/4	32.34	—
1	1/2	2-3/4	36.30	83.72
1-1/4	1/2	3	75.90	140.38
1-1/2	3/4	3	112.20	181.12
2*	3/4	3-1/4	184.80	320.12

\* Not available in 100° and 120° point angle

## U.S.A. Sets

Sizes	Pcs.	H.S. 60° Set No.	H.S. 82° Set No.	H.S. 90° Set No.	Price	Cobalt 82° Set No.	Cobalt Price
1/4, 3/8, 1/2, 5/8, 3/4	5	<b>480S5</b>	<b>481S5</b>	<b>482S5</b>	75.81	<b>481CS5</b>	161.17
1/4, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2, 2	9	<b>480S9</b>	<b>481S9</b>	<b>482S9</b>	489.46	<b>481CS9</b>	890.96



All sets are supplied in wood block

- List No. **X480** – 60° H.S.      List No. **X483** – 100° H.S.  
List No. **X481** – 82° H.S.      List No. **X485** – 110° H.S.  
List No. **X482** – 90° H.S.

**MDX**  
SUPERIOR IMPORT



Size	Shank Diameter	Overall Length	Price Each
1/4	3/16	1-1/2	4.03
5/16	1/4	1-3/4	5.68
3/8	1/4	1-3/4	5.68
1/2	1/4	2	6.29
1/2	3/8	2	6.29
5/8	3/8	2-1/4	11.29
3/4	3/8	2-1/4	15.40
3/4	1/2	2-1/2	15.40

Size	Shank Diameter	Overall Length	Price Each
7/8	1/2	2-1/2	18.00
1	1/2	2-3/4	19.70
1-1/4	1/2	3-3/8	31.50
1-1/4	3/4	3-3/8	31.50
1-1/2	1/2	3-1/2	39.00
1-1/2	3/4	3-1/2	39.00
2	1/2	4	74.00
2	3/4	4	74.00

## Import Sets

Sizes	Pieces	H.S. 60° Set No.	H.S. 82° Set No.	H.S. 90° Set No.	Price
1/4 x 3/16, 3/8 x 1/4, 1/2 x 3/8, 5/8 x 3/8, 3/4 x 1/2	5	<b>X480S</b>	<b>X481S</b>	<b>X482S</b>	46.86

# 4-Flute Machine Countersinks

High Speed Steel

Four flute countersinks allow for greater chip removal.

- List No. **486** – 60° H.S.  
List No. **487** – 82° H.S.  
List No. **488** – 90° H.S.



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Size	Shank Diameter	Overall Length	Price Each
3/8	3/8	3-1/2	23.59
1/2	1/2	3-7/8	25.78
5/8	1/2	4	29.96
3/4	1/2	4-1/8	38.35

Size	Shank Diameter	Overall Length	Price Each
7/8	1/2	4-1/4	42.33
1	1/2	4-1/4	46.84
1-1/4	1/2	4-3/8	62.15
1-1/2	1/2	4-1/2	82.59

## U.S.A. Sets

Sizes	Pieces	60° Set No.	82° Set No.	90° Set No.	Price
1/2, 5/8, 3/4, 7/8, 1	5	<b>486S5</b>	<b>487S5</b>	<b>488S5</b>	234.00



All sets are supplied in wood block

# 6-Flute Chatterless Countersinks

High Speed Steel

Designed for fast shearing cut.

List No. **495** – 60° H.S.  
List No. **496** – 82° H.S.

List No. **497** – 90° H.S.  
List No. **498** – 100° H.S.



Size	Shank Diameter	Overall Length	Price Each
1/4	1/4	2	8.55
5/16	1/4	2	10.14
3/8	1/4	2	11.56
1/2	1/4	2	14.44
5/8	1/2	2-3/4	20.98
3/4	1/2	2-3/4	29.91
7/8	1/2	2-3/4	36.10

Size	Shank Diameter	Overall Length	Price Each
1	1/2	2-3/4	43.46
1-1/4	3/4	3-3/8	70.79
1-1/2	3/4	3-1/2	104.85
1-3/4	1	4-1/4	131.50
2	1	4-3/8	157.63
2-1/2	1	5	189.15
3	1	5-1/4	226.96

## U.S.A. Sets

Sizes	Pieces	60° Set No.	82° Set No.	90° Set No.	100° Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	5	495S5	496S5	497S5	498S5	89.43
1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1	8	495S8	496S8	497S8	498S8	175.14
1/4 to 1" Import	8	X495S5	X496S5	X497S5	—	87.14
1/4 to 1-1/2" Import	10	X495S10	X496S10	X497S10	—	153.13



All sets are supplied in wood block

List No. **X495** – 60° H.S.  
List No. **X496** – 82° H.S.  
List No. **X497** – 90° H.S.

Size	Shank Diameter	Overall Length	Price Each
3/16	3/16	1-1/2	3.98
1/4	1/4	1-1/2	4.18
5/16	1/4	1-3/4	5.81
3/8	1/4	1-3/4	6.08
1/2	1/4	2	6.50
5/8	1/2	2-1/4	11.63
3/4	1/2	2-1/4	14.98



Size	Shank Diameter	Overall Length	Price Each
7/8	1/2	2-1/2	17.65
1	1/2	2-3/4	20.31
1-1/4	3/4	3-3/8	29.00
1-1/2	3/4	3-1/2	38.99
1-3/4	1	4-1/4	62.82
2	1	4-3/8	73.74

# 6-Flute Chatterless Double End Countersinks

High Speed Steel

List No. **495D** – 60° H.S.  
List No. **496D** – 82° H.S.  
List No. **497D** – 90° H.S.

Size	Shank Diameter	Overall Length	Price Each
1/8	1/8	1-1/2	13.56
3/16	3/16	2	13.92
1/4	1/4	2	14.50
5/16	5/16	2-1/2	15.88



Size	Shank Diameter	Overall Length	Price Each
3/8	3/8	2-1/2	18.78
1/2	1/2	3	22.22
5/8	5/8	3-1/2	32.27

# Solid Carbide Countersinks



**MICHIGAN**  
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## Single Flute

Excellent for countersinking mild steels, not recommended for hardened steel.

List No. **C490** – 60° Point Angle

List No. **C491** – 82° Point Angle

List No. **C492** – 90° Point Angle



Size	Shank Diameter	Overall Length	Price Each
3/16	3/16	2	21.96
1/4	1/4	2	27.45
3/8	1/4	2	30.03
1/2	1/4	2	56.34

Size	Shank Diameter	Overall Length	Price Each
5/8	1/2	2-3/4	77.22
3/4	1/2	2-3/4	116.82
1	1/2	3	161.82
1-1/4	3/4	3-1/4	233.28

### Sets

Sizes	Pieces	60° Set No.	82° Set No.	90° Set No.	Price
1/4, 3/8, 1/2, 3/4, 1	5	<b>C490S</b>	<b>C491S</b>	<b>C492S</b>	392.46

All sets are supplied in wood block



## Three Flutes

For a chatterless and clean finish chamfer

List No. **C480** – 60° Point Angle

List No. **C481** – 82° Point Angle

List No. **C482** – 90° Point Angle



Size	Shank Diameter	Overall Length	Price Each
1/8	1/8	1-1/2	18.97
3/16	3/16	2	24.80
1/4	1/4	2	28.19
5/16	1/4	2-1/2	33.23
3/8	1/4	2-1/2	36.36
1/2	1/4	2-1/2	55.50

Size	Shank Diameter	Overall Length	Price Each
5/8	1/2	2-5/8	91.35
3/4	1/2	2-3/4	106.67
7/8	1/2	3	154.34
1	1/2	3	160.78
1-1/4	3/4	3-1/4	272.31
1-1/2	3/4	3-1/2	390.55

### Sets

Sizes	Pieces	60° Set No.	82° Set No.	90° Set No.	Price
1/4", 3/8", 1/2", 3/4", 1"	5	<b>C480S</b>	<b>C481S</b>	<b>C482S</b>	422.30

All sets are supplied in wood block



## Chatterless Six Flutes

Chatterless countersink for Hardened Steel & other tough Alloys.

List No. **C495** – 60° Point Angle

List No. **C496** – 82° Point Angle

List No. **C497** – 90° Point Angle



Size	Shank Diameter	Overall Length	Price Each
1/8	1/8	1-1/2	19.62
3/16	3/16	2	25.65
1/4	1/4	2	29.16
3/8	1/4	2-1/2	37.62
1/2	1/4	2-1/2	57.42

Size	Shank Diameter	Overall Length	Price Each
5/8	1/2	2-5/8	94.90
3/4	1/2	2-3/4	110.34
1	1/2	3	166.32
1-1/4	3/4	3-1/4	281.88
1-1/2	3/4	3-1/2	404.01

### Sets

Sizes	Pieces	60° Set No.	82° Set No.	90° Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	5	<b>C495S</b>	<b>C496S</b>	<b>C497S</b>	400.86

All sets are supplied in wood block



# Indexable Countersink & Chamfering Tool

## Positive Rake

- C-6 Carbide insert and Torx® wrench included with each tool.

Cutter Body		Shank Size	Use Insert No.	Price Each				
Min	Max			60° Tool No.	82° Tool No.	90° Tool No.	100° Tool No.	
1/8	1/2	3/8	TPGH21.51	<b>CC060</b>	<b>CC082</b>	<b>CC090</b>	<b>CC000</b>	98.67
1/4	3/4	1/2	TPGH321	<b>CC160</b>	<b>CC182</b>	<b>CC190</b>	<b>CC100</b>	125.84
1/2	1-3/4	1/2	SPGH433	<b>CC260</b>	<b>CC282</b>	<b>CC290</b>	<b>CC200</b>	184.47
1-1/4	2-1/2	3/4	SPGH433	<b>CC360</b>	<b>CC382</b>	<b>CC390</b>	<b>CC300</b>	241.67



- Positive rake for smooth cutting without chatter
- Carbide indexable, No tool resharping needed
- Uses standard triangle and square inserts

## Inserts

Insert Style	Insert Number	Radius	I.C.	Thickness	Price Each		
					C-2	C-6	Tin Coated*
Triangle	<b>TPGH21.51</b>	1/64	1/4	3/32	6.80	6.80	7.96
Triangle	<b>TPGH321</b>	1/64	3/8	1/8	7.42	7.42	9.04
Square	<b>SPGH433</b>	3/64	1/2	3/16	12.94	12.94	15.54

\*C-6 Grade TiN Coated

## Replacement Parts

Part No.	Description	Price
<b>PART TF832-285</b>	Torx® drive flat head screw for 1/2, 3/8 I.C.	2.51
<b>PART TF440-195</b>	Torx® drive flat head screw for 1/4 I.C.	1.63
<b>PART CTW-10</b>	Torx® wrench for 1/2, 3/8 I.C. T-10	3.19
<b>PART CTW-6</b>	Torx® wrench — T6	2.54

## Sets

Inserts and Torx® wrench included

Sizes	Pcs.	Set No.				Price
		60°	82°	90°	100°	
1/4, 1/2 and 1-1/4 (Min.)	3	<b>CCS60</b>	<b>CCS82</b>	<b>CCS90</b>	<b>CCS100</b>	559.98

All sets are supplied in wood block



# DYNA-Sink™ Countersink & Deburring Tool

## High Speed Steel & Carbide-Inserted

Size	Cut Diameter Range	Shank Diameter	82° Tool No.	90° Tool No.	Price Each
4	9/16 – 1-1/16	1/2	<b>548-48</b>	<b>548-49</b>	39.10
5	1 – 1-1/2	3/4	<b>548-58</b>	<b>548-59</b>	56.50
7	1-1/2 – 2	3/4	<b>548-78</b>	<b>548-79</b>	81.50

Inserts sold separately



Watch our instructional videos on [www.MichiganDrill.com/videos](http://www.MichiganDrill.com/videos)

## Inserts

H.S. Insert No.	Price Each	Carbide Insert No.	Price Each
<b>548-HA4</b>	37.00	<b>548-CA4</b>	40.96
<b>548-HA5</b>	37.00	<b>548-CA5</b>	40.96
<b>548-HA7</b>	37.00	<b>548-CA7</b>	40.96

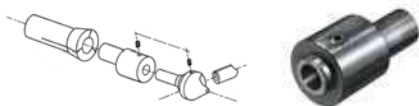
Include Inserts

- Deburr and Countersink large diameter holes
- Use at high surface speeds
- Better finishes
- Quick and inexpensive
- Inserts need only be replaced after a large number of regrinds
- Regrind is quick and accurate

## Sets

Sizes	Description	Pieces	82°		90°	
			Set No.	Price	Set No.	Price
No. 4, 5, 7	Sets with High Speed Inserts	3	<b>548SH8</b>	282.10	<b>548SC8</b>	304.88
No. 4, 5, 7	Sets with Carbide Inserts	3	<b>548SH9</b>	282.10	<b>548SC9</b>	304.88

All sets are supplied in wood block and includes Insert



## Dyna-Sink Resharping Fixture

Description	Part No.	Price Each
For use in spin fixture	<b>548R</b>	48.53

## Replacement Parts

Description	Part No.	Price Each
Dyna-Sink Set Screw	<b>PART SS1420-38</b>	.75
Resharping Fixture Set Screw	<b>PART SS51618-38</b>	.60

# Cap Screw Counterbores

Solid Pilot – High Speed Steel



List No. 508 – Straight Shank

List No. 509 – Taper Shank

**MDX**  
SUPERIOR IMPORT

Screw Size	Pilot Diameter	Cutting Diameter	Shank Diameter	Overall Length	Price Each		
					Straight Shank 508	Morse Taper Number	Taper Shank 509
No.5	.141	.221	3/16	3	17.55	—	—
No.6	.150	.242	7/32	3	17.55	—	—
No.8	11/64	19/64	1/4	3	17.55	—	—
No.10	13/64	21/64	5/16	3-1/2	18.90	—	—
1/4	9/32	13/32	3/8	5	21.15	2	22.05
5/16	11/32	1/2	7/16	5	23.09	2	24.21
3/8	13/32	19/32	1/2	6	26.37	2	28.80
7/16	15/32	11/16	1/2	7	31.52	2	34.11
1/2	17/32	25/32	1/2	7-1/2	35.91	2	37.80
1/2	17/32	25/32	3/4	7-1/2	35.91	—	—
1/2	9/16	13/16	3/4	7-1/2	35.91	—	—
5/8	21/32	31/32	3/4	7-1/2	51.63	2	53.55
5/8	11/16	1	3/4	7-1/2	51.63	2	53.55
3/4	13/16	1-3/16	1	8	73.10	3	76.50
7/8	15/16	1-3/8	1	8	109.90	3	115.20
1	1-1/16	1-9/16	1	10	142.62	3	145.80

## Metric Sizes

List No. 508M – Three Flute, Straight Shank

List No. 509M – Three Flute, #2 Morse Taper Shank

Screw Size (mm)	Pilot Diameter (mm)	Cutting Diameter (mm)	Shank Diameter	Overall Length	Price Each		
					Straight Shank 508M	Morse Taper Number	Taper Shank 509M
3.00	3.40	6.00	7/32	3	17.55	—	—
4.00	4.50	8.00	5/16	3-1/2	17.55	—	—
5.00	5.50	10.00	5/16	4-1/2	18.58	—	—
6.00	6.60	11.00	1/2	5	21.15	—	—
8.00	9.00	15.00	1/2	6	23.09	—	—
10.00	11.00	18.00	1/2	7	26.37	—	—
12.00	14.00	20.00	5/8	7-1/2	31.52	—	—
14.00	15.00	24.00	3/4	8	35.91	2	39.90
16.00	17.00	26.00	1	9	51.63	2	51.63
20.00	21.00	33.00	1	10	73.10	2	73.10

## Sets

Sizes	Description	Pcs.	Set No.	Price
No.8, No.10, 1/4, 3/8	Straight Shank	4	508S4	87.77
No.6, No.8, No.10, 1/4, 5/16, 3/8, 1/2	Straight Shank	7	508S7	160.52
1/4, 5/16, 3/8, 1/2, 5/8, 3/4	Straight Shank	6	508S6	231.25
1/4, 5/16, 3/8, 1/2, 5/8, 3/4	Taper Shank	6	509S6	242.91
3mm, 4mm, 5mm, 6mm, 8mm, 10mm, 12mm	Metric, Straight Shank	7	508S7M	155.81

All sets are supplied in wood block



# Counterbores for Fillister Head Machine Screws

High Speed Steel



**MDX**  
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List No. 502 – Two Flute, Straight Shank

Screw Size	Pilot Diameter	Cutting Diameter	Shank Diameter	Overall Length	Price Each
No.0	.059	.110	.109	2-1/2	11.43
No.1	.072	.133	.109	2-1/2	11.43
No.2	.085	.155	3/16	2-1/2	10.07
No.3	.098	.176	3/16	2-1/2	10.07
No.4	.111	.198	1/4	2-5/8	10.07
No.5	.124	.220	1/4	2-5/8	10.98
No.6	.137	.241	1/4	2-5/8	11.43
No.8	.163	.285	5/16	2-3/4	12.15



Screw Size	Pilot Diameter	Cutting Diameter	Shank Diameter	Overall Length	Price Each
No.10	.189	.328	3/8	2-7/8	13.05
No.12	.215	.372	3/8	3	14.58
1/4	1/4	13/32	5/16	3-5/8	21.06
5/16	5/16	15/32	3/8	4	21.96
3/8	3/8	19/32	7/16	4-3/8	25.11
7/16	7/16	21/32	1/2	4-3/4	28.35
1/2	1/2	25/32	9/16	5-1/4	30.78
5/8	5/8	.882	5/8	5-1/2	45.00

## Sets

Sizes	Description	Pieces	Set No.	Price
No.2, No.4, No.6, No.8, No.10	Number Set	5	502SA	56.74
1/4, 5/16, 3/8, 1/2	Fractional Set	4	502SB	98.91

All sets are supplied in wood block





# Carbide Inserted Socket Head Cap Screw Counterbores

- Increased cutting speeds over H.S.
- Unique design allowing no clamps to impede chip flow.



C6 carbide insert and Torx® wrench included with each tool.

Screw Size	Pilot Dia.	Outer Dia.	Shank Dia.	Overall Length	No. of Flutes	Tool No.	Price Each
3/8	13/32	19/32	1/2	4-3/8	1	CB375	92.59
7/16	15/32	11/16	1/2	4-7/16	1	CB437	97.19
1/2	17/32	25/32	5/8	4-1/2	1	CB500	108.65
5/8	21/32	31/32	5/8	4-5/8	2	CB625	147.81
3/4	13/16	1-3/16	3/4	4-3/4	3	CB750	182.99
7/8	15/16	1-3/8	3/4	4-7/8	3	CB875	225.42
1	1-1/16	1-9/16	3/4	5	3	CB1000	245.47

## Sets

Size	Pcs.	Set No.	Price
3/8, 7/16, 1/2, 5/8	4	CBS1	446.24
3/4, 7/8, 1"	3	CBS2	659.64

## TPGH Carbide Inserts

Triangle - Positive rake - Ground all over with chip groove on one side

Insert Number	I.C.	Thickness	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPGH21.50	1/4	3/32	0	6.80	6.80	7.96
TPGH21.51	1/4	3/32	1/64	6.80	6.80	7.96
TPGH21.52	1/4	3/32	1/32	6.80	6.80	7.96
TPGH321	3/8	1/8	1/64	7.42	7.42	9.04
TPGH322	3/8	1/8	1/32	7.42	7.42	9.04

\*C-6 Grade TiN Coated



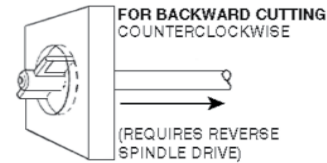
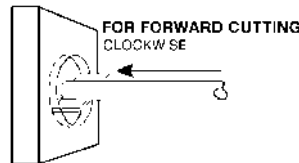
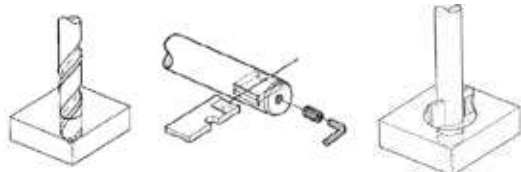
## Replacement Parts

Part No.	Description	Price
PART TF832-285	Torx® drive flat head screw for 3/8" I.C.	2.50
PART TF440-195	Torx® drive flat head screw for 1/4" I.C.	1.79
PART CTW-10	Torx® wrench for 3/8" I.C. T-10	3.50
PART CTW-6	Torx® wrench for 1/4" I.C. T-6	2.79
PART MSTLA625	Micro-range screw for use with 5/8 dia. holder	12.16
PART MSTLA750	Micro-range screw for use with 3/4 dia. holder	12.87
PART MSTLA1000	Micro-range screw for use with 1" dia. holder	14.30
PART MSTLA1250	Micro-range screw for use with 1-1/4" dia. holder	15.02

# Multi-Tool Cap Screw Counterbores

For Forward & Backward Application – Patented

Designed to counterbore holes for standard cap screws. Using the same Piloted holder, you can forward counterbore, back counterbore, and spotface. Uses the same simple design of the multi-tool system. Just choose the appropriate blade for your application.



**STEP 1** Select the appropriate piloted holder and blade for the screw size needed.

**STEP 2** Insert the blade into the piloted holder and tighten the set screw. For FORWARD counterboring: Use in a clockwise direction. For BACKWARD counterboring: Use in a reverse spindle, counter-clockwise direction.

## Piloted Holders

Screw Size	Pilot Diameter	Shank Diameter	Overall Length	Tool No.	Price Each
10	13/64	1/4	4	AH8	30.78
1/4	9/32	9/32	4	AH9	33.53
5/16	11/32	11/32	4-3/8	BH11	36.10
3/8	13/32	13/32	5	BH13	37.83
7/16	15/32	15/32	5-3/4	BH15	40.74

Screw Size	Pilot Diameter	Shank Diameter	Overall Length	Tool No.	Price Each
1/2	17/32	1/2	5-3/4	BH16	42.98
5/8	21/32	5/8	7-1/2	DH20	73.07
3/4	13/16	3/4	7-1/2	DH24	102.38
7/8	15/16	3/4	8	EH30	132.64
1	1-1/16	3/4	8	EH34	141.41

## Compatible Blades

- Forward or Back Counterbore
- Spotface
- Resharpen and modify blades to special diameters and unusual hole configurations

• Worn blades can be ground to smaller diameters and reused

**NOTE:** Select the same cutting speeds and feed rates as you would for drills of same size.

Screw Size	Cutting Dia.	Blade Thickness	Forward Blades		Backward Blades	
			Blade No.	Price Each	Blade No.	Price Each
No.10	21/64	1/16	AB216	16.76	—	—
1/4	13/32	1/16	AB13	17.11	ABZ13	20.37
5/16	1/2	3/32	BB16	21.50	BBZ16	25.62
3/8	19/32	3/32	BB19	23.73	BBZ19	30.10
7/16	11/16	3/32	BB22	25.53	BBZ22	30.78

Screw Size	Cutting Dia.	Blade Thickness	Forward Blades		Backward Blades	
			Blade No.	Price Each	Blade No.	Price Each
1/2	25/32	3/32	BB25	26.65	BBZ25	31.81
5/8	1	3/16	DB32	27.08	DB32DN	38.08
3/4	1-3/16	3/16	DB38	29.07	DB38DN	40.07
7/8	1-3/8	1/4	EB44	33.70	EB44DN	45.85
1	1-9/16	1/4	EB50	36.40	EB50DN	49.40

# Interchangeable Pilot Counterbores

High Speed Steel



**MDX**  
SUPERIOR IMPORT

COUNTERBORES

## Short Series

For use with interchangeable Pilots

Used to enlarge the openings of a hole to allow room for the head of a screw. Also for general purpose counterboring and spot facing.



List No. 500 – Straight Shank

List No. 501 – Taper Shank

Size	Pilot Hole Size	Range of Pilot Sizes	Number of Flute	Overall Length	Straight Shank 500		Taper Shank 501	
					Shank Diameter	Price Each	Morse Taper No.	Price Each
11/64	3/32	3/32 - 1/2	3	3	11/64	28.80	—	—
3/16	3/32	3/32 - 1/2	3	3	15/64	28.80	1	32.58
13/64	3/32	3/32 - 1/2	3	3	15/64	28.80	1	23.58
7/32	3/32	3/32 - 1/2	3	3	15/64	28.80	1	32.58
15/64	3/32	3/32 - 1/2	3	3-13/16	15/64	31.10	—	—
1/4	3/32	3/32 - 1/2	3	3-13/16	15/64	30.15	1	32.58
17/64	3/32	3/32 - 1/2	3	3-13/16	17/64	31.10	—	—
9/32	3/32	3/32 - 1/2	3	3-13/16	17/64	30.15	1	33.48
19/64	3/32	3/32 - 1/2	3	3-13/16	17/64	31.97	—	—
5/16	3/32	3/32 - 1/2	3	3-13/16	19/64	30.96	1	33.48
21/64	3/32	3/32 - 1/2	3	3-13/16	19/64	31.68	—	—
11/32	3/32	3/32 - 1/2	3	3-13/16	5/16	31.68	1	33.48
23/64	3/32	3/32 - 1/2	3	3-13/16	5/16	31.68	—	—
3/8	5/32	9/64 - 17/36	3	4-1/16	5/16	31.68	1	33.48
25/64	5/32	9/64 - 17/36	3	4-1/16	3/8	32.63	—	—
13/32	5/32	9/64 - 17/36	3	4-1/16	3/8	33.70	1	35.55
27/64	5/32	9/64 - 17/36	3	4-1/16	3/8	33.70	—	—
7/16	5/32	9/64 - 17/36	3	4-1/16	3/8	33.70	1	35.55
29/64	5/32	9/64 - 17/36	3	4-1/16	3/8	37.80	—	—
15/32	3/16	3/16 - 1-1/8	3	4-5/16	7/16	35.37	1	37.26
31/64	3/16	3/16 - 1-1/8	3	4-5/16	7/16	35.37	—	—
1/2	3/16	3/16 - 1-1/8	3	4-5/16	7/16	35.37	1	37.26
33/64	3/16	3/16 - 1-1/8	3	4-5/16	1/2	41.63	—	—
17/32	3/16	3/16 - 1-1/8	3	4-5/16	1/2	39.33	1	41.63
35/64	3/16	3/16 - 1-1/8	3	4-5/16	1/2	41.18	—	—
9/16	3/16	3/16 - 1-1/8	3	4-5/16	1/2	39.33	1	41.63
37/64	3/16	3/16 - 1-1/8	3	5-1/8	1/2	43.42	—	—
19/32	3/16	3/16 - 1-1/8	3	5-1/8	1/2	42.08	2	44.91
39/64	3/16	3/16 - 1-1/8	3	5-1/8	1/2	44.10	—	—
5/8	3/16	3/16 - 1-1/8	3	5-1/8	1/2	42.08	2	44.91
41/64	3/16	3/16 - 1-1/8	3	5-1/8	1/2	46.98	—	—
21/32	3/16	3/16 - 1-1/8	3	5-1/8	1/2	46.44	2	48.51
43/64	3/16	3/16 - 1-1/8	3	5-1/8	1/2	49.32	—	—
11/16	3/16	3/16 - 1-1/8	3	5-1/8	1/2	46.44	2	48.51
45/64	1/4	1/4 - 1-3/8	3	5-3/8	1/2	50.40	—	—
23/32	1/4	1/4 - 1-3/8	3	5-3/8	1/2	48.33	2	50.27
47/64	1/4	1/4 - 1-3/8	3	5-3/8	1/2	52.20	—	—
3/4	1/4	1/4 - 1-3/8	3	5-3/8	1/2	48.33	2	50.27
49/64	1/4	1/4 - 1-3/8	3	5-3/8	5/8	51.08	—	—
25/32	1/4	1/4 - 1-3/8	3	5-3/8	5/8	51.08	2	53.42
51/64	1/4	1/4 - 1-3/8	3	5-3/8	5/8	54.81	—	—
13/16	1/4	1/4 - 1-3/8	3	5-3/8	5/8	49.41	2	53.42
53/64	1/4	1/4 - 1-3/8	3	5-3/8	5/8	55.80	2	64.60
27/32	1/4	1/4 - 1-3/8	3	5-3/8	3/4	54.23	2	55.48
55/64	1/4	1/4 - 1-3/8	3	5-3/8	3/4	59.40	—	—
7/8	1/4	1/4 - 1-3/8	3	5-3/8	3/4	51.84	2	55.48
57/64	1/4	1/4 - 1-3/8	3	5-3/8	3/4	61.20	—	—
29/32	1/4	1/4 - 1-3/8	3	6-1/8	3/4	54.45	3	58.62
59/64	1/4	1/4 - 1-3/8	3	6-1/8	3/4	64.80	—	—
15/16	1/4	1/4 - 1-3/8	3	6-1/8	3/4	54.45	3	58.62
61/64	5/16	5/16 - 1-3/8	3	6-3/8	3/4	67.50	—	—
31/32	5/16	5/16 - 1-3/8	3	6-3/8	3/4	64.89	3	66.99
63/64	5/16	5/16 - 1-3/8	3	6-3/8	3/4	75.15	—	—
1	5/16	5/16 - 1-3/8	3	6-3/8	3/4	64.89	3	66.99
1-1/32	5/16	5/16 - 1-3/8	3	6-3/8	3/4	76.23	3	75.37
1-1/16	5/16	5/16 - 1-3/8	3	6-3/8	3/4	73.26	3	75.37
1-3/32	5/16	5/16 - 1-3/8	3	6-3/8	1	73.26	3	79.55

Continued on Next Page ▶

# Interchangeable Pilot Counterbores

High Speed Steel



**MDX**  
SUPERIOR IMPORT



## Short Series ▶ *Continued*

For use with interchangeable Pilots

Used to enlarge the openings of a hole to allow room for the head of a screw. Also for general purpose counterboring and spot facing.

List No. **500** – Straight Shank

List No. **501** – Taper Shank

Size	Pilot Hole Size	Range of Pilot Sizes	Number of Flutes	Overall Length	Straight Shank 500		Taper Shank 501	
					Shank Diameter	Price Each	Morse Taper No.	Price Each
1-1/8	5/16	5/16 - 1-3/8	3	6-3/8	1	73.26	3	79.55
1-5/32	5/16	5/16 - 1-3/8	3	6-3/8	1	85.95	3	85.95
1-3/16	5/16	5/16 - 1-3/8	3	6-3/8	1	79.38	3	81.65
1-7/32	5/16	5/16 - 1-3/8	3	6-3/8	1	99.00	3	96.30
1-1/4	3/8	1/4 - 1-7/16	5	6-5/8	1	92.12	3	96.30
1-9/32	3/8	1/4 - 1-7/16	5	6-5/8	1	98.00	—	—
1-5/16	3/8	1/4 - 1-7/16	5	6-5/8	1	106.38	3	106.77
1-11/32	3/8	1/4 - 1-7/16	5	6-5/8	1	106.38	3	106.77
1-3/8	3/8	1/4 - 1-7/16	5	6-5/8	1	106.38	3	106.77
1-13/32	3/8	1/4 - 1-7/16	5	6-5/8	1	110.26	—	—
1-7/16	3/8	1/4 - 1-7/16	5	7-7/8	1-1/4	110.26	4	113.85
1-15/32	3/8	1/4 - 1-7/16	5	7-7/8	1-1/4	119.26	—	—
1-1/2	3/8	1/4 - 1-7/16	5	7-7/8	1-1/4	119.26	4	119.60
1-9/16	7/16	15/32 - 1-7/8	5	8-1/8	1-1/4	145.28	4	145.28
1-5/8	7/16	15/32 - 1-7/8	5	8-1/8	1-1/4	161.38	4	163.26
1-11/16	7/16	15/32 - 1-7/8	5	8-1/8	1-1/4	171.18	4	172.53
1-3/4	7/16	15/32 - 1-7/8	5	8-1/8	1-1/4	173.88	4	175.95
1-13/16	7/16	15/32 - 1-7/8	5	8-1/8	1-1/2	182.34	4	192.69
1-7/8	7/16	15/32 - 1-7/8	5	8-1/8	1-1/2	190.52	4	192.69
1-15/16	7/16	15/32 - 1-7/8	5	8-1/8	1-1/2	208.00	4	210.00
2	1/2	17/32 - 3	5	8-3/8	1-1/2	215.64	4	217.62
2-1/16	1/2	17/32 - 3	5	9-7/8	—	—	5	272.16
2-1/8	1/2	17/32 - 3	5	9-7/8	1-1/2	272.16	5	272.16
2-3/16	1/2	17/32 - 3	5	9-7/8	—	—	5	288.90
2-1/4	1/2	17/32 - 3	5	9-7/8	1-1/2	284.40	5	288.90
2-5/16	1/2	17/32 - 3	5	9-7/8	1-1/2	—	5	314.10
2-3/8	1/2	17/32 - 3	5	9-7/8	1-1/2	304.20	5	314.10
2-7/16	1/2	17/32 - 3	5	9-7/8	—	—	5	333.00
2-1/2	1/2	17/32 - 3	5	9-7/8	1-1/2	315.00	5	333.00
2-9/16	1/2	17/32 - 3	5	9-7/8	—	—	5	413.10
2-5/8	1/2	17/32 - 3	5	9-7/8	1-3/4	396.90	5	436.50
2-3/4	1/2	17/32 - 3	5	9-7/8	1-3/4	469.00	5	487.80
2-7/8	1/2	17/32 - 3	5	9-7/8	1-3/4	488.00	5	532.80
3	1/2	17/32 - 3	5	9-7/8	1-3/4	505.00	5	532.80

## Sets

Description	13 Counterbores	26 Pilots	Pcs.	Set No.	Price
Straight Shank	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	1/8, 5/32, 3/16, 1/4 with 3/32 shank 3/16, 7/32, 1/4, 9/32, 5/16 with 5/32 shank 1/4, 5/16, 3/8, 7/16, 1/2 with 3/16 shank 5/16, 3/8, 7/16, 1/2, 9/16, 5/8 with 1/4 shank 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 with 5/16 shank	39	<b>500SA</b>	825.03
Taper Shank	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	1/8, 5/32, 3/16, 1/4 with 3/32 shank 3/16, 7/32, 1/4, 9/32, 5/16 with 5/32 shank 1/4, 5/16, 3/8, 7/16, 1/2 with 3/16 shank 5/16, 3/8, 7/16, 1/2, 9/16, 5/8 with 1/4 shank 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 with 5/16 shank	39	<b>501S</b>	855.20



# Interchangeable Pilot Counterbores

High Speed Steel



For use with interchangeable Pilots

Used to enlarge the openings of a hole to allow room for the head of a screw. Also for general purpose counterboring and spot facing.

## 4-Flute Aircraft Short Series

List No. 503 – 1/4" straight shank

Size	Pilot Hole	Overall Length	Price Each
1/4	3/32	2-3/8	35.72
9/32	3/32	2-3/8	35.72
5/16	3/32	2-3/8	35.72
11/32	3/32	2-3/8	36.49
3/8	3/32	2-3/8	36.49
13/32	1/8	2-13/16	39.11
7/16	1/8	2-13/16	39.11
15/32	1/8	2-13/16	40.17
1/2	1/8	2-13/16	40.66
17/32	1/8	2-13/16	41.18
9/16	1/8	2-13/16	41.71
19/32	1/8	2-13/16	48.23
5/8	1/8	2-13/16	48.23



Size	Pilot Hole	Overall Length	Price Each
21/32	3/16	3-1/8	50.84
11/16	3/16	3-1/8	53.44
23/32	3/16	3-1/8	56.25
3/4	3/16	3-1/8	56.25
25/32	3/16	3-1/8	62.38
13/16	3/16	3-1/8	62.38
27/32	3/16	3-1/8	66.33
7/8	3/16	3-1/8	66.33
29/32	3/16	3-1/8	70.34
15/16	3/16	3-1/8	70.34
31/32	3/16	3-1/8	73.72
1	3/16	3-1/8	73.72

## 4-Flute Aircraft Long Series

List No. 504 – 1/2" or smaller straight shank

Size	Shank Diameter	Pilot Hole	Overall Length	Price Each
1/4	15/64	3/32	4	39.08
9/32	17/64	3/32	4	39.06
5/16	19/64	3/32	4	41.71
11/32	5/16	3/32	4	43.70
3/8	5/16	3/32	4	44.22
13/32	3/8	1/8	4	45.04
7/16	3/8	1/8	4	46.82
15/32	7/16	1/8	4-1/4	46.82
1/2	7/16	1/8	4-1/4	49.78
17/32	1/2	1/8	4-1/4	49.78
9/16	1/2	1/8	4-1/4	52.13
19/32	1/2	1/8	4-1/4	54.75
5/8	1/2	1/8	4-1/4	55.47
21/32	1/2	3/16	5-3/8	58.08
11/16	1/2	3/16	5-3/8	59.24
23/32	1/2	3/16	5-3/8	66.43
3/4	1/2	3/16	5-3/8	68.64



Size	Shank Diameter	Pilot Hole	Overall Length	Price Each
25/32	1/2	3/16	5-3/8	72.17
13/16	1/2	3/16	5-3/8	72.17
27/32	1/2	3/16	5-3/8	85.00
7/8	1/2	3/16	5-3/8	79.36
29/32	1/2	3/16	5-3/8	102.00
15/16	1/2	3/16	5-3/8	94.67
31/32	1/2	3/16	5-3/8	102.00
1	1/2	3/16	5-3/8	94.67
1-1/16	1/2	3/16	5-1/2	111.96
1-1/8	1/2	3/16	5-1/2	113.69
1-3/16	1/2	3/16	5-1/2	126.57
1-1/4	1/2	1/4	5-1/2	136.10
1-5/16	1/2	1/4	5-1/2	153.80
1-3/8	1/2	1/4	5-1/2	158.64
1-7/16	1/2	1/4	5-1/2	163.18
1-1/2	1/2	1/4	5-1/2	163.18
1-3/4	1/2	1/4	5-1/2	215.00

## Carbide Tipped

List No. CT500 – Straight Shank

List No. CT501 – Taper Shank



Size	Minimum Cut	Pilot Hole	Shank Diameter	No. of Flutes	Overall Length	Price Each		
						Straight Shank CT500	Morse Taper No. Taper Shank CT501	
1/4	.1140	3/32	15/64	3	3-13/16	102.87	1	102.87
5/16	.1140	3/32	19/64	3	3-13/16	112.52	1	112.52
3/8	.1820	5/32	5/16	3	4-1/16	116.11	1	116.11
7/16	.1820	5/32	3/8	3	4-1/16	119.30	1	119.30
1/2	.2280	3/16	7/16	3	4-5/16	131.66	1	131.66
9/16	.2280	3/16	1/2	3	4-5/16	134.13	1	134.13
5/8	.2280	3/16	1/2	3	5-1/8	137.72	2	137.72
11/16	.2280	3/16	1/2	3	5-1/8	145.30	2	145.30
3/4	.2900	1/4	1/2	3	5-3/8	147.77	2	147.77
13/16	.2900	1/4	5/8	3	5-3/8	150.40	2	150.40
7/8	.2900	1/4	3/4	3	5-3/8	158.06	2	158.06
15/16	.2900	1/4	3/4	3	6-1/8	162.37	3	162.37
1	.3530	5/16	3/4	3	6-3/8	166.11	2	169.89
1	.3530	5/16	3/4	3	6-3/8	—	3	169.89
1-1/16	.3530	5/16	3/4	3	6-3/8	168.27	3	174.65
1-1/8	.3530	5/16	1	3	6-3/8	173.61	3	180.15

Continued on Next Page ▶

# Interchangeable Pilot Counterbores

High Speed Steel



## Carbide Tipped ▶ *Continued*

List No. **CT500** – Straight Shank

List No. **CT501** – Taper Shank



Size	Minimum Cut	Pilot Hole	Shank Diameter	No. of Flutes	Overall Length	Price Each	
						Straight Shank CT500	Morse Taper No. / Taper Shank CT501
<b>1-3/16</b>	.3530	5/16	1	3	6-3/8	179.51	3 / 186.29
<b>1-1/4</b>	.4260	3/8	1	4	6-5/8	199.61	4 / 207.11
<b>1-5/16</b>	.4260	3/8	1	4	6-5/8	213.96	4 / 222.02
<b>1-3/8</b>	.4260	3/8	1	4	6-5/8	224.17	4 / 232.63
<b>1-7/16</b>	.4260	3/8	1-1/4	4	7-7/8	249.37	4 / 258.78
<b>1-1/2</b>	.4260	3/8	1-1/4	4	7-7/8	276.49	4 / 286.94
<b>1-9/16</b>	.4890	7/16	1-1/4	4	8-1/8	283.59	4 / 294.35
<b>1-5/8</b>	.4890	7/16	1-1/4	4	8-1/8	288.69	4 / 299.62
<b>1-11/16</b>	.4890	7/16	1-1/4	4	8-1/8	345.39	4 / 358.47
<b>1-3/4</b>	.4890	7/16	1-1/4	4	8-1/8	345.39	4 / 358.47
<b>1-13/16</b>	.4890	7/16	1-1/2	4	8-1/8	408.79	4 / 424.27
<b>1-7/8</b>	.4890	7/16	1-1/2	4	8-1/8	408.79	3 / 424.27
<b>1-7/8</b>	.4890	7/16	1-1/2	4	8-1/8	—	4 / 424.27
<b>1-15/16</b>	.4890	7/16	1-1/2	4	8-1/8	446.68	4 / 463.50
<b>2</b>	.5000	1/2	1-1/2	4	8-1/8	446.68	4 / 463.50

## Interchangeable Counterbore Pilots

List No. **512**

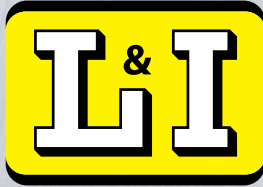
Pilots of different diameters can be used with each counterbore. The shank diameter ordered must be the same as the pilot hole size in the counterbore to be used.



Sizes	Shank Diameters Available	Price
<b>3/32</b>	3/32	7.02
<b>#40</b>	3/32	7.02
<b>1/8</b>	3/32, 1/8	7.02
<b>9/64</b>	3/32, 5/32	7.02
<b>5/32</b>	3/32, 1/8, 5/32	7.02
<b>#21</b>	5/32	7.20
<b>#20</b>	1/8	7.20
<b>#19</b>	1/8	7.20
<b>3/16</b>	3/32, 1/8, 5/32, 3/16	7.20
<b>7/32</b>	3/32, 1/8, 5/32, 3/16	8.10
<b>1/4</b>	3/32, 1/8, 5/32, 3/16, 1/4, 3/8	8.10
<b>F</b>	3/32, 3/16	8.64
<b>17/64</b>	1/8	8.64
<b>9/32</b>	3/32, 1/8, 5/32, 3/16, 1/4	8.64
<b>5/16</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16	8.64
<b>11/32</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16	8.64
<b>3/8</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16, 3/8	9.54
<b>13/32</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16, 3/8	9.54
<b>7/16</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16, 3/8	9.72
<b>15/32</b>	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16	10.26
<b>1/2</b>	3/32, 1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16	11.16
<b>17/32</b>	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	12.96
<b>35/64</b>	1/4, 5/16	15.30
<b>9/16</b>	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	14.58
<b>19/32</b>	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	15.30
<b>5/8</b>	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	16.02
<b>21/32</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	16.20
<b>11/16</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	16.38
<b>23/32</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	18.54
<b>3/4</b>	3/32, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	18.54
<b>25/32</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	19.80
<b>13/16</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	20.88
<b>27/32</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	21.60
<b>7/8</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	23.04
<b>29/32</b>	1/4, 5/16, 3/8, 7/16, 1/2	23.40
<b>15/16</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	24.30

Sizes	Shank Diameters Available	Price
<b>31/32</b>	3/16, 5/16, 3/8, 7/16, 1/2	25.65
<b>1</b>	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	25.65
<b>1-1/16</b>	5/16, 3/8, 7/16, 1/2	26.10
<b>1-3/32</b>	5/16	26.10
<b>1-1/8</b>	3/16, 5/16, 3/8, 7/16, 1/2	31.50
<b>1-3/16</b>	1/4, 5/16, 3/8, 7/16, 1/2	32.40
<b>1-1/4</b>	3/8, 7/16, 1/2	34.20
<b>1-5/16</b>	5/16, 3/8, 7/16, 1/2	36.00
<b>1-3/8</b>	5/16, 3/8, 7/16, 1/2	37.80
<b>1-7/16</b>	3/8, 7/16, 1/2	39.60
<b>1-15/32</b>	3/8	41.40
<b>1-1/2</b>	3/8, 7/16, 1/2	41.40
<b>1-9/16</b>	7/16, 1/2	43.20
<b>1-5/8</b>	7/16, 1/2	44.10
<b>1-11/16</b>	7/16, 1/2	49.50
<b>1-3/4</b>	7/16, 1/2	54.00
<b>1-13/16</b>	7/16, 1/2	59.40
<b>1-7/8</b>	7/16, 1/2	67.50
<b>1-15/16</b>	1/2	70.20
<b>2</b>	1/2	73.80
<b>2-1/16</b>	1/2	99.00
<b>2-1/8</b>	1/2	100.80
<b>2-3/16</b>	1/2	106.20
<b>2-1/4</b>	1/2	112.50
<b>2-5/16</b>	1/2	144.00
<b>2-3/8</b>	1/2	151.20
<b>2-7/16</b>	1/2	157.50
<b>2-1/2</b>	1/2	162.00
<b>2-9/16</b>	1/2	175.50
<b>2-5/8</b>	1/2	189.00
<b>2-11/16</b>	1/2	193.50
<b>2-3/4</b>	1/2	202.50
<b>2-13/16</b>	1/2	211.50
<b>2-7/8</b>	1/2	220.50
<b>2-15/16</b>	1/2	234.00
<b>3</b>	1/2	247.50





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# Reaming

<b>Chucking Reamers &amp; Sets</b>	152-158	<b>Aligning Reamers &amp; Sets</b>	196
H.S. Straight Flute		H.S. Left Hand Spiral Flute, Right Hand Cut	
H.S. Right Hand Spiral, Right Hand Cut		Cobalt Left Hand Spiral Flute	
H.S. Left Hand Spiral, Right Hand Cut			
Cobalt, Straight Flute			
Cobalt, Right Hand Spiral, Right Hand Cut			
<b>Decimal Chucking Reamers</b>	159-176	<b>Hex Nut Shank Style Aligning Reamers</b>	196
H.S. Straight Flute		H.S. Left Hand Spiral Flute, Right Hand Cut	
H.S. Right Hand Spiral, Right Hand Cut			
H.S. Left Hand Spiral, Right Hand Cut			
Cobalt, Straight Flute			
Cobalt, Right Hand Spiral, Right Hand Cut			
<b>Dowel Pin Reamers &amp; Sets</b>	177	<b>Construction Aligning Reamers &amp; Sets</b>	196
H.S. Straight Flute		H.S. Left Hand Spiral Flute, Right Hand Cut with stop collar	
H.S. Right Hand Spiral, Right Hand Cut			
Cobalt, Straight Flute			
Cobalt, Right Hand Spiral, Right Hand Cut			
<b>Dowel Pin Reamers &amp; Sets</b>	177	<b>Bridge Reamers</b>	197
<b>Production/CNC/Jobber Drill Length</b>		H.S. Left Hand Spiral Flute, Right Hand Cut	
H.S. Straight Flute		H.S. Straight Flute	
H.S. Right Hand Spiral, Right Hand Cut			
<b>Chucking Reamers &amp; Sets</b>	178-180	<b>Car Reamers - Short Body</b>	197
<b>Production/CNC/Jobber Drill Length</b>		H.S. Left Hand Spiral Flute, Right Hand Cut	
H.S. Straight Flute		H.S. Straight Flute	
H.S. Right Hand Spiral, Right Hand Cut			
<b>Extra Long Chucking Reamers</b>	181	<b>Taper Shank Chucking Reamers</b>	198-199
H.S. Straight Flute		H.S. Straight Flute	
		H.S. Right Hand Spiral, Right Hand Cut	
<b>Silver &amp; Deming Reamers &amp; Sets</b>	181	H.S. Left Hand Spiral, Right Hand Cut	
H.S. Straight Flute		H.S. Left Hand Helical Flute	
<b>Solid Carbide Chucking Reamers</b>	182-188	<b>Taper Shank Jobber Reamers</b>	199
Straight Shank, Straight Flute		H.S. Straight Flute	
<b>Carbide Tipped Chucking Reamers</b>	188		
Straight Shank, Straight Flute		<b>Taper Pin Reamers &amp; Sets</b>	200
Straight Shank, Spiral Flute, Right Hand Cut		H.S. Straight Flute	
		H.S. Left Hand Spiral, Right Hand Cut	
<b>Combination Drill &amp; Reamer - DROLER®</b>	189	H.S. Left Hand Helical Flute	
H.S. Jobber Length			
<b>CNC Stub Screw Machine Reamers</b>	189	<b>Metric Taper Pin Reamers</b>	200
H.S. Left Hand Spiral, Right Hand Cut		H.S. Straight Flute	
		Left Hand Spiral, Right Hand Cut	
<b>HUOT® Reamer Index</b>	189	<b>Taper Pipe Reamers</b>	201
		H.S. Straight Flute	
<b>Hand Reamers</b>	190-191	H.S. Left Hand Spiral Flute	
H.S. Straight Flute			
H.S. Left Hand Spiral, Right Hand Cut		<b>Threaded Shank Reamers</b>	201
		H.S. High Speed	
<b>Metric Hand Reamers</b>	192	Piloted Threaded Shank	
H.S. Straight Flute			
<b>Adjustable Hand Reamers &amp; Sets</b>	192	<b>Shell Reamers</b>	202
High Speed Steel		H.S. Straight Flute	
<b>Expansion Hand Reamers &amp; Sets</b>	193	H.S. Left Hand Spiral, Right Hand Cut	
H.S. Straight Flute			
H.S. Left Hand Spiral, Right Hand Cut		<b>Carbide Tipped Shell Reamers</b>	203
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<b>Expansion Chucking Reamers</b>	194		
H.S. Straight Shank, Straight Flute		<b>Shell Reamer Arbors</b>	203
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H.S. Straight Shank - Finishing Reamers		Straight Shanks	
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*The Reamer Specialists*

# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut

These high-quality tools are designed for most standard reaming needs.

REAMERS

Specifications					Price Each				
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Spiral
# 80	.0135	3/8	3/4	.0135	17.90	22.00	—	23.00	—
# 79	.0145	3/8	3/4	.0145	17.90	22.00	—	23.00	—
1/64	.0156	3/8	3/4	.0156	17.90	—	—	23.00	—
# 78	.0160	3/8	7/8	.0160	17.90	22.00	—	23.00	—
# 77	.0180	3/8	7/8	.0180	17.90	22.00	—	23.00	—
# 76	.0200	3/8	7/8	.0200	17.90	22.00	—	23.00	—
# 75	.0210	1/2	1	.0210	17.90	—	—	23.00	—
# 74	.0225	1/2	1	.0225	17.90	22.00	—	23.00	—
# 73	.0240	1/2	1 1/8	.0240	17.90	22.00	—	23.00	—
# 72	.0250	1/2	1 1/8	.0250	17.90	22.00	—	23.00	—
# 71	.0260	1/2	1 1/4	.0260	17.90	—	—	23.00	—
# 70	.0280	1/2	1 1/4	.0280	17.90	22.00	—	23.00	—
# 69	.0292	1/2	1 3/8	.0292	17.90	—	—	23.00	—
# 68	.0310	1/2	1 3/8	.0310	17.90	—	—	23.00	—
1/32	.0312	1/2	1 3/8	.0312	14.95	—	—	23.00	—
# 67	.0320	1/2	1 3/8	.0320	15.25	—	—	23.00	—
# 66	.0330	1/2	1 3/8	.0330	15.25	22.00	—	23.00	—
# 65	.0350	1/2	1 1/2	.0350	15.25	—	—	23.00	—
# 64	.0360	1/2	1 1/2	.0360	15.25	22.00	—	23.00	—
# 63	.0370	1/2	1 1/2	.0370	15.25	16.90	—	23.00	—
# 62	.0380	1/2	1 1/2	.0380	15.25	—	—	23.00	—
# 61	.0390	1/2	1 5/8	.0390	15.25	—	—	23.00	—
1mm	.0394	1/2	2 1/2	.0394	15.25	17.50	—	23.00	—
# 60	.0400	1/2	2 1/2	.0390	15.25	17.50	19.50	21.00	22.00
# 59	.0410	1/2	2 1/2	.0390	15.25	17.50	19.50	21.00	22.00
# 58	.0420	1/2	2 1/2	.0390	15.25	17.50	19.50	21.00	22.00
# 57	.0430	1/2	2 1/2	.0390	15.25	17.50	19.50	21.00	22.00
# 56	.0465	1/2	2 1/2	.0455	15.25	17.50	19.50	21.00	22.00
3/64	.0469	1/2	2 1/2	.0455	15.25	17.50	19.50	21.00	22.00
# 55	.0520	1/2	2 1/2	.0510	15.25	17.50	19.50	21.00	22.00
# 54	.0550	1/2	2 1/2	.0510	15.25	17.50	19.50	21.00	22.00
1.5mm	.0591	1/2	2 1/2	.0510	15.25	17.50	19.50	21.00	22.00
# 53	.0595	1/2	2 1/2	.0585	15.25	17.50	19.50	21.00	22.00
1/16	.0625	1/2	2 1/2	.0585	13.60	17.50	19.50	21.00	22.00
# 52	.0635	1/2	2 1/2	.0585	13.60	17.50	19.50	21.00	22.00
# 51	.0670	3/4	3	.0660	12.25	14.20	15.90	17.00	18.00
# 50	.0700	3/4	3	.0660	12.25	14.20	15.90	17.00	18.00
# 49	.0730	3/4	3	.0660	12.25	14.20	15.90	17.00	18.00
# 48	.0760	3/4	3	.0720	12.25	14.20	15.90	17.00	18.00
1.95mm	.0768	3/4	3	.0720	15.25	—	—	—	—
5/64	.0781	3/4	3	.0720	12.25	14.20	15.90	17.00	18.00
# 47	.0785	3/4	3	.0720	12.25	14.20	15.90	17.00	18.00
2mm	.0787	3/4	3	.0771	12.25	14.20	15.90	17.00	18.00
Over 2mm	.0791	3/4	3	.0771	18.70	—	—	—	—
# 46	.0810	3/4	3	.0771	12.25	14.20	15.90	17.00	18.00
# 45	.0820	3/4	3	.0771	12.25	14.20	15.90	17.00	18.00
2.10 mm	.0827	3/4	3	.0810	18.70	—	—	—	—
# 44	.0860	3/4	3	.0810	12.25	14.20	15.90	17.00	18.00
# 43	.0890	3/4	3	.0810	12.25	14.20	15.90	17.00	18.00
# 42	.0935	3/4	3	.0880	12.25	14.20	15.90	17.00	18.00
3/32	.0938	3/4	3	.0880	10.97	14.20	15.90	17.00	18.00
# 41	.0960	7/8	3 1/2	.0928	12.55	14.20	15.90	17.00	18.00
# 40	.0980	7/8	3 1/2	.0928	12.55	14.20	15.90	17.00	18.00
2.5mm	.0984	7/8	3 1/2	.0928	12.55	14.20	15.90	17.00	18.00
# 39	.0995	7/8	3 1/2	.0928	12.55	14.20	15.90	17.00	18.00
# 38	.1015	7/8	3 1/2	.0950	12.55	14.20	15.90	17.00	18.00

Diameter Tolerance: Through 1/2" - .0000" - .000m/m  
+ .0002" + .005m/m

# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute  
 List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut  
 List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut  
 List No. **1533**: Cobalt, Straight Flute  
 List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



These high-quality tools are designed for most standard reaming needs.

Specifications					Price Each				
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Spiral
# 37	.1040	7/8	3 1/2	.0950	12.55	14.20	15.90	17.00	18.00
2.70mm	.1063	7/8	3 1/2	.1030	14.95	—	—	—	—
# 36	.1065	7/8	3 1/2	.1030	12.55	14.20	15.90	17.00	18.00
2.75 mm	.1083	7/8	3 1/2	.1030	14.95	—	—	—	—
7/64	.1094	7/8	3 1/2	.1030	12.90	14.80	16.20	18.00	19.00
# 35	.1100	7/8	3 1/2	.1030	12.90	14.80	16.20	18.00	19.00
# 34	.1110	7/8	3 1/2	.1030	12.90	14.80	16.20	18.00	19.00
# 33	.1130	7/8	3 1/2	.1055	12.90	14.80	16.20	18.00	19.00
# 32	.1160	7/8	3 1/2	.1120	12.90	14.80	16.20	18.00	19.00
Under 3mm	.1171	7/8	3 1/2	.1120	15.95	—	—	—	—
3mm	.1181	7/8	3 1/2	.1120	12.90	14.80	16.20	18.00	19.00
Over 3mm	.1191	7/8	3 1/2	.1120	15.95	—	—	—	—
# 31	.1200	7/8	3 1/2	.1120	12.90	14.80	16.20	18.00	19.00
Under 1/8	.1240	7/8	3 1/2	.1190	12.90	14.80	16.20	18.00	19.00
1/8	.1250	7/8	3 1/2	.1190	12.90	13.20	15.00	15.50	16.60
Over 1/8	.1260	7/8	3 1/2	.1190	12.90	14.80	16.20	18.00	19.00
# 30	.1285	7/8	3 1/2	.1190	12.90	14.80	16.20	18.00	19.00
3.4mm	.1339	1	4	.1275	12.90	14.80	—	—	29.75
# 29	.1360	1	4	.1275	15.25	17.50	20.00	21.00	22.20
3.5mm	.1378	1	4	.1350	15.25	17.50	20.00	21.00	22.20
Under 9/64	.1396	1	4	.1350	18.90	—	—	—	—
# 28	.1405	1	4	.1350	15.25	17.50	20.00	21.00	22.20
9/64	.1406	1	4	.1350	15.25	17.50	20.00	21.00	22.20
Over 9/64	.1416	1	4	.1350	18.90	—	—	—	—
3.6mm	.1417	1	4	.1350	15.25	24.80	—	28.00	—
# 27	.1440	1	4	.1350	15.25	17.50	20.00	21.00	22.20
# 26	.1470	1	4	.1430	15.25	17.50	20.00	21.00	22.20
# 25	.1495	1	4	.1430	15.25	17.50	20.00	21.00	22.20
# 24	.1520	1	4	.1460	15.25	17.50	20.00	21.00	22.20
# 23	.1540	1	4	.1460	15.25	17.50	20.00	21.00	22.20
Under 5/32	.1552	1	4	.1510	18.90	—	—	—	—
5/32	.1562	1	4	.1510	15.25	17.50	20.00	21.00	22.20
# 22	.1570	1	4	.1510	15.25	17.50	20.00	21.00	22.20
Over 5/32	.1572	1	4	.1510	18.90	26.00	—	28.00	—
4mm	.1575	1 1/8	4 1/2	.1530	15.25	17.50	20.00	21.00	22.20
# 21	.1590	1 1/8	4 1/2	.1530	16.30	18.80	21.50	22.00	23.50
# 20	.1610	1 1/8	4 1/2	.1530	16.30	18.80	21.50	22.00	23.50
4.1mm	.1614	1 1/8	4 1/2	.1530	16.30	26.00	—	—	—
# 19	.1660	1 1/8	4 1/2	.1595	16.30	18.80	21.50	22.00	23.50
# 18	.1695	1 1/8	4 1/2	.1595	16.30	18.80	21.50	22.00	23.50
11/64	.1719	1 1/8	4 1/2	.1645	16.30	18.80	21.50	22.00	23.50
# 17	.1730	1 1/8	4 1/2	.1645	16.30	18.80	21.50	22.00	23.50
# 16	.1770	1 1/8	4 1/2	.1704	16.30	18.80	21.50	22.00	23.50
4.5mm	.1772	1 1/8	4 1/2	.1755	16.30	18.80	21.50	22.00	23.50
# 15	.1800	1 1/8	4 1/2	.1755	16.30	18.80	21.50	22.00	23.50
4.6mm	.1811	1 1/8	4 1/2	.1755	18.90	—	—	—	—
# 14	.1820	1 1/8	4 1/2	.1755	16.30	18.80	21.50	22.00	23.50
# 13	.1850	1 1/8	4 1/2	.1805	16.30	18.80	21.50	22.00	23.50
Under 3/16	.1865	1 1/8	4 1/2	.1805	16.30	18.80	21.50	22.00	23.50
3/16	.1875	1 1/8	4 1/2	.1805	16.30	18.80	21.50	22.00	23.50
Over 3/16	.1885	1 1/8	4 1/2	.1805	16.30	18.80	21.50	22.00	23.50
# 12	.1890	1 1/8	4 1/2	.1805	16.30	18.80	21.50	22.00	23.50
# 11	.1910	1 1/4	5	.1860	18.40	21.00	24.00	25.50	26.50
# 10	.1935	1 1/4	5	.1860	18.40	21.00	24.00	25.50	26.50
# 9	.1960	1 1/4	5	.1895	18.40	21.00	24.00	25.50	26.50
5 mm	.1969	1 1/4	5	.1895	18.40	21.00	24.00	25.50	26.50

Diameter Tolerance: Through 1/2" - .0000" - .000m/m  
 +.0002" +.005m/m



# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut

These high-quality tools are designed for most standard reaming needs.

REAMERS

Specifications					Price Each				
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Spiral
# 8	.1990	1 1/4	5	.1895	18.40	21.00	24.00	25.50	26.50
5.1mm	.2008	1 1/4	5	.1945	22.00	27.40	—	—	—
# 7	.2010	1 1/4	5	.1945	18.40	21.00	24.00	25.50	26.50
13/64	.2031	1 1/4	5	.1945	18.40	21.00	24.00	25.50	26.50
# 6	.2040	1 1/4	5	.1945	18.40	21.00	24.00	25.50	26.50
# 5	.2055	1 1/4	5	.2016	18.40	21.00	24.00	25.50	26.50
# 4	.2090	1 1/4	5	.2016	18.40	21.00	24.00	25.50	26.50
# 3	.2130	1 1/4	5	.2075	18.40	21.00	24.00	25.50	26.50
5.5mm	.2165	1 1/4	5	.2075	18.40	21.00	24.00	25.50	26.50
Under 7/32	.2178	1 1/4	5	.2075	22.00	—	—	—	—
7/32	.2188	1 1/4	5	.2075	18.40	21.00	24.00	25.50	26.50
Over 7/32	.2198	1 1/4	5	.2075	22.00	—	—	—	—
# 2	.2210	1 1/2	6	.2173	18.90	21.70	24.80	26.00	27.40
# 1	.2280	1 1/2	6	.2173	18.90	21.70	24.80	26.00	27.40
A	.2340	1 1/2	6	.2265	18.90	21.70	24.80	26.00	27.40
15/64	.2344	1 1/2	6	.2265	18.90	21.70	24.80	26.00	27.40
6mm	.2362	1 1/2	6	.2265	19.80	21.70	24.80	26.00	27.40
B	.2380	1 1/2	6	.2329	19.80	21.70	24.80	26.00	27.40
6.1mm	.2402	1 1/2	6	.2329	23.00	—	—	—	—
C	.2420	1 1/2	6	.2329	19.80	21.70	24.80	26.00	27.40
6.2mm	.2441	1 1/2	6	.2329	23.00	—	—	—	—
D	.2460	1 1/2	6	.2329	19.80	21.70	24.80	26.00	27.40
Under 1/4	.2490	1 1/2	6	.2405	17.70	21.70	26.00	26.00	27.40
E 1/4	.2500	1 1/2	6	.2405	16.25	21.70	21.00	22.50	24.50
Over 1/4	.2510	1 1/2	6	.2405	17.70	21.70	26.00	22.50	27.40
6.5mm	.2559	1 1/2	6	.2485	19.80	21.70	26.00	28.00	29.00
F	.2570	1 1/2	6	.2485	19.80	21.70	26.00	28.00	29.00
6.6mm	.2598	1 1/2	6	.2485	23.00	—	—	—	—
G	.2610	1 1/2	6	.2485	19.80	21.70	26.00	28.00	29.00
17/64	.2656	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
H	.2660	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
I	.2720	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
7mm	.2756	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
J	.2770	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
K	.2810	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
9/32	.2812	1 1/2	6	.2485	21.95	24.40	27.00	34.00	35.67
7.3mm	.2874	1 1/2	6	.2792	26.00	—	—	—	—
L	.2900	1 1/2	6	.2792	22.20	24.40	27.00	34.00	35.67
7.4mm	.2913	1 1/2	6	.2792	26.00	—	—	—	—
M	.2950	1 1/2	6	.2792	22.20	24.40	27.00	34.00	35.67
7.5mm	.2953	1 1/2	6	.2792	22.20	24.40	27.00	34.00	35.67
19/64	.2969	1 1/2	6	.2792	22.20	24.40	27.00	34.00	35.67
N	.3020	1 1/2	6	.2792	22.20	24.40	27.00	34.00	35.67
7.8mm	.3071	1 1/2	6	.2792	26.00	—	—	—	—
Under 5/16	.3115	1 1/2	6	.2792	21.00	22.95	27.00	34.00	35.50
5/16	.3125	1 1/2	6	.2792	19.90	21.98	25.00	34.00	35.50
Over 5/16	.3135	1 1/2	6	.2792	21.00	22.95	27.00	34.00	35.50
8mm	.3150	1 1/2	6	.2792	22.20	24.45	28.00	34.00	35.50
O	.3160	1 1/2	6	.2792	22.20	24.45	28.00	34.00	35.50
P	.3230	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62
Under 21/64	.3271	1 1/2	6	.2792	27.50	—	—	—	—
21/64	.3281	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62
8.4mm	.3307	1 1/2	6	.2792	27.50	—	—	—	—
Q	.3320	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62
8.5mm	.3346	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62
R	.3390	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62

Diameter Tolerance: Through 1/2"  $-.0000" \text{ } -.000\text{m/m}$   
 $+.0002" \text{ } +.005\text{m/m}$



# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



These high-quality tools are designed for most standard reaming needs.

Specifications					Price Each				
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Spiral
<b>11/32</b>	.3438	1 1/2	6	.2792	23.75	26.00	29.40	37.00	38.62
<b>S</b>	.3480	1 3/4	7	.3105	23.75	26.00	29.40	37.00	38.62
<b>9mm</b>	.3543	1 3/4	7	.3105	23.75	26.00	29.40	37.00	38.62
<b>T</b>	.3580	1 3/4	7	.3105	23.75	26.00	29.40	37.00	38.62
<b>23/64</b>	.3594	1 3/4	7	.3105	23.75	26.00	29.40	37.00	38.62
<b>U</b>	.3680	1 3/4	7	.3105	23.75	26.00	29.40	37.00	38.62
<b>9.4mm</b>	.3701	1 3/4	7	.3105	27.50	—	—	—	—
<b>9.5mm</b>	.3740	1 3/4	7	.3105	22.70	26.00	28.50	38.00	39.00
<b>Under 3/8</b>	.3740	1 3/4	7	.3105	22.70	26.00	28.50	38.00	39.00
<b>3/8</b>	.3750	1 3/4	7	.3105	21.40	23.75	27.00	34.00	35.20
<b>Over 3/8</b>	.3760	1 3/4	7	.3105	22.70	26.00	28.50	38.00	39.00
<b>V</b>	.3770	1 3/4	7	.3105	25.90	28.50	32.00	48.00	49.50
<b>W</b>	.3860	1 3/4	7	.3105	25.90	28.50	32.00	48.00	49.50
<b>25/64</b>	.3906	1 3/4	7	.3105	25.90	28.50	32.00	48.00	49.50
<b>10mm</b>	.3937	1 3/4	7	.3105	25.90	28.50	32.00	48.00	49.50
<b>Over 10mm</b>	.3947	1 3/4	7	.3105	29.44	34.90	—	—	—
<b>X</b>	.3970	1 3/4	7	.3105	25.90	28.50	32.00	48.00	49.50
<b>Y</b>	.4040	1 3/4	7	.3105	26.95	29.70	34.00	48.00	49.50
<b>13/32</b>	.4062	1 3/4	7	.3105	26.95	29.70	34.00	48.00	49.50
<b>Z</b>	.4130	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>10.5mm</b>	.4134	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>27/64</b>	.4219	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>11mm</b>	.4331	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>Under 7/16</b>	.4365	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>7/16</b>	.4375	1 3/4	7	.3730	25.00	28.00	32.00	48.00	49.50
<b>Over 7/16</b>	.4385	1 3/4	7	.3730	26.95	29.70	34.00	48.00	49.50
<b>11.5mm</b>	.4528	1 3/4	7	.3730	29.50	32.30	36.80	54.50	56.00
<b>29/64</b>	.4531	1 3/4	7	.3730	29.50	32.30	36.80	54.50	56.00
<b>15/32</b>	.4688	1 3/4	7	.3730	29.50	32.30	36.80	54.50	56.00
<b>12mm</b>	.4724	2	8	.4355	29.50	32.30	36.80	54.50	—
<b>31/64</b>	.4844	2	8	.4355	29.50	32.30	36.80	54.50	56.00
<b>12.5mm</b>	.4921	2	8	.4355	29.50	32.30	36.80	54.50	56.00
<b>Under 1/2</b>	.4990	2	8	.4355	27.80	32.30	36.80	54.50	56.00
<b>1/2</b>	.5000	2	8	.4355	27.80	32.30	34.50	49.50	52.00
<b>Over 1/2</b>	.5010	2	8	.4355	27.80	32.30	36.80	54.50	56.00
<b>13mm</b>	.5118	2	8	.4355	36.00	44.00	—	65.00	—
<b>33/64</b>	.5156	2	8	.4355	36.00	44.00	48.00	68.00	74.00
<b>17/32</b>	.5312	2	8	.4355	36.00	38.34	42.00	62.00	63.30
<b>13.5mm</b>	.5315	2	8	.4355	36.00	44.00	47.00	—	—
<b>35/64</b>	.5469	2	8	.4355	36.00	46.00	49.00	72.38	—
<b>14mm</b>	.5512	2	8	.4355	36.00	49.00	—	72.38	—
<b>Under 9/16</b>	.5615	2	8	.4355	36.00	44.00	49.00	72.38	77.00
<b>9/16</b>	.5625	2	8	.4355	36.00	39.00	41.75	55.00	61.00
<b>Over 9/16</b>	.5635	2	8	.4355	36.00	44.00	49.00	72.38	77.00
<b>14.5mm</b>	.5709	2	8	.4355	36.00	45.00	—	—	—
<b>37/64</b>	.5781	2	8	.4355	36.00	45.00	52.00	79.90	—
<b>15mm</b>	.5906	2	8	.4355	36.00	45.00	—	—	—
<b>19/32</b>	.5938	2	8	.4355	36.00	40.00	42.00	55.00	61.00
<b>39/64</b>	.6094	2	8	.5620	41.00	54.00	60.00	82.00	89.50
<b>15.5mm</b>	.6102	2	8	.5620	41.00	54.00	61.50	—	—
<b>Under 5/8</b>	.6240	2 1/4	9	.5620	41.00	54.00	61.50	82.00	89.50
<b>5/8</b>	.6250	2 1/4	9	.5620	41.00	45.00	46.50	62.00	70.00
<b>Over 5/8</b>	.6260	2 1/4	9	.5620	41.00	54.00	61.50	82.00	89.50
<b>16mm</b>	.6299	2 1/4	9	.5620	41.00	55.50	62.75	85.00	—
<b>41/64</b>	.6406	2 1/4	9	.5620	41.00	55.50	62.75	88.00	—
<b>16.5mm</b>	.6496	2 1/4	9	.5620	41.00	55.50	—	—	—

<b>Diameter Tolerance:</b>	Through 1/2"	-0.000" -0.000m/m +0.002" +0.005m/m	1/2" Through 5/8"	-0.000" -0.000m/m +0.003" +0.008m/m	5/8" Through 1"	+0.001" +0.0025m/m +0.005" +0.012m/m
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# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut

These high-quality tools are designed for most standard reaming needs.

REAMERS

Specifications					Price Each				
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Spiral
<b>21/32</b>	.6562	2 1/4	9	.5620	44.00	48.00	51.90	77.00	80.00
<b>17mm</b>	.6693	2 1/4	9	.5620	46.50	61.00	65.00	88.00	—
<b>43/64</b>	.6719	2 1/4	9	.5620	46.50	61.00	—	—	—
<b>Under 11/16</b>	.6865	2 1/4	9	.5620	46.50	61.00	66.00	88.00	94.00
<b>11/16</b>	.6875	2 1/4	9	.5620	46.50	51.00	55.00	77.00	80.00
<b>Over 11/16</b>	.6885	2 1/4	9	.5620	49.55	61.00	66.00	88.00	94.00
<b>17.5mm</b>	.6890	2 1/4	9	.5620	49.55	64.00	68.00	—	—
<b>45/64</b>	.7031	2 1/4	9	.5620	49.55	64.00	—	93.00	—
<b>18mm</b>	.7087	2 1/4	9	.5620	49.55	64.00	71.00	93.00	—
<b>23/32</b>	.7188	2 1/4	9	.5620	49.55	57.00	61.50	91.00	94.00
<b>18.5mm</b>	.7283	2 1/4	9	.5620	57.50	71.00	—	—	—
<b>47/64</b>	.7344	2 1/4	9	.5620	57.50	68.00	75.00	90.00	101.00
<b>19mm</b>	.7480	2 1/2	9 1/2	.6245	57.50	72.50	—	90.00	—
<b>Under 3/4</b>	.7490	2 1/2	9 1/2	.6245	57.50	72.50	79.00	90.00	101.00
<b>3/4</b>	.7500	2 1/2	9 1/2	.6245	57.50	57.00	61.50	79.50	89.00
<b>Over 3/4</b>	.7510	2 1/2	9 1/2	.6245	57.50	72.50	79.00	90.00	101.00
<b>49/64</b>	.7656	2 1/2	9 1/2	.6245	57.50	72.50	81.75	99.00	—
<b>19.5mm</b>	.7677	2 1/2	9 1/2	.6245	57.50	72.50	—	—	—
<b>25/32</b>	.7812	2 1/2	9 1/2	.6245	57.50	62.00	67.70	84.50	96.00
<b>20mm</b>	.7874	2 1/2	9 1/2	.6245	59.90	76.50	81.75	—	—
<b>51/64</b>	.7969	2 1/2	9 1/2	.6245	59.90	76.50	81.75	102.00	115.00
<b>20.5mm</b>	.8071	2 1/2	9 1/2	.6245	59.90	76.50	—	—	—
<b>Under 13/16</b>	.8115	2 1/2	9 1/2	.6245	59.90	76.50	79.00	102.00	115.00
<b>13/16</b>	.8125	2 1/2	9 1/2	.6245	59.90	63.00	67.70	88.00	96.00
<b>Over 13/16</b>	.8135	2 1/2	9 1/2	.6245	59.90	76.50	79.00	102.00	115.00
<b>21mm</b>	.8268	2 1/2	9 1/2	.6245	59.90	78.85	—	—	—
<b>53/64</b>	.8281	2 1/2	9 1/2	.6245	59.90	78.85	86.00	—	—
<b>27/32</b>	.8438	2 1/2	9 1/2	.6245	69.00	74.00	79.00	102.00	114.00
<b>21.5mm</b>	.8465	2 1/2	9 1/2	.7495	69.00	90.00	97.00	—	—
<b>55/64</b>	.8594	2 1/2	9 1/2	.7495	69.00	90.00	97.00	125.00	—
<b>22mm</b>	.8661	2 1/2	9 1/2	.7495	69.00	90.00	—	—	—
<b>Under 7/8</b>	.8740	2 5/8	10	.7495	69.00	90.00	99.00	125.00	133.00
<b>7/8</b>	.8750	2 5/8	10	.7495	69.00	76.50	86.00	103.00	115.00
<b>Over 7/8</b>	.8760	2 5/8	10	.7495	69.00	90.00	99.00	125.00	133.00
<b>22.5mm</b>	.8858	2 5/8	10	.7495	71.00	91.50	—	—	—
<b>57/64</b>	.8906	2 5/8	10	.7495	71.00	91.50	99.00	140.00	—
<b>23mm</b>	.9055	2 5/8	10	.7495	71.00	91.50	—	—	—
<b>29/32</b>	.9062	2 5/8	10	.7495	76.50	84.00	89.40	112.00	125.00
<b>59/64</b>	.9219	2 5/8	10	.7495	76.50	99.00	110.00	140.00	—
<b>23.5mm</b>	.9252	2 5/8	10	.7495	76.50	99.00	—	—	—
<b>Under 15/16</b>	.9365	2 5/8	10	.7495	89.90	99.00	—	140.00	152.00
<b>15/16</b>	.9375	2 5/8	10	.7495	76.50	84.00	89.40	113.00	125.00
<b>Over 15/16</b>	.9385	2 5/8	10	.7495	89.90	99.00	102.00	140.00	152.00
<b>24mm</b>	.9449	2 5/8	10	.7495	76.50	99.00	110.00	—	—
<b>61/64</b>	.9531	2 5/8	10	.7495	76.50	99.00	110.00	149.00	—
<b>24.5mm</b>	.9646	2 5/8	10	.7495	76.50	99.00	—	—	—
<b>31/32</b>	.9688	2 5/8	10	.7495	81.00	92.00	99.00	128.00	140.00
<b>25mm</b>	.9843	2 3/4	10 1/2	.8745	81.00	104.40	—	—	—
<b>63/64</b>	.9844	2 3/4	10 1/2	.8745	81.00	104.40	119.00	148.00	160.00
<b>Under 1</b>	.9990	2 3/4	10 1/2	.8745	81.00	104.00	—	148.00	160.00
<b>1</b>	1.0000	2 3/4	10 1/2	.8745	81.00	92.00	99.00	128.00	143.00
<b>Over 1</b>	1.0010	2 3/4	10 1/2	.8745	85.75	104.40	110.00	148.00	160.00
<b>25.5mm</b>	1.0039	2 3/4	10 1/2	.8745	85.75	116.00	128.00	—	—
<b>1 1/64</b>	1.0156	2 3/4	10 1/2	.8745	128.00	—	—	—	—
<b>1 1/32</b>	1.0312	2 3/4	10 1/2	.8745	115.00	124.00	—	—	—
<b>1 1/16</b>	1.0625	2 3/4	10 1/2	.8745	90.00	103.75	110.00	139.00	—

<b>Diameter Tolerance:</b>	5/8" Through 1" +.0001" +.0025m/m +.0005" +.012m/m	1" Through 2" +.0002" +.005m/m +.0006" +.015m/m
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# Chucking Reamers - Straight Shank High Speed Steel & Cobalt



- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut

These high-quality tools are designed for most standard reaming needs.

Specifications					Price Each			
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Spiral RH Cut	1533 Cobalt Str. Fit.
27mm	1.0630	2 7/8	11	.8745	135.00	—	—	—
1 3/32	1.0938	2 7/8	11	.8745	119.00	140.00	150.00	—
28.5mm	1.1220	2 7/8	11	.8745	148.00	—	—	—
1 1/8	1.1250	2 7/8	11	.8745	95.00	108.00	117.50	153.00
29mm	1.1417	2 7/8	11	.8745	170.00	—	—	—
1 5/32	1.1562	2 7/8	11	.9995	142.00	155.00	—	—
30mm	1.1811	2 7/8	11	.9995	142.00	—	—	—
1 3/16	1.1875	2 7/8	11	.9995	115.00	126.00	137.00	176.00
1 7/32	1.2188	2 7/8	11 1/2	.9995	144.00	160.00	172.00	—
31mm	1.2205	2 7/8	11 1/2	.9995	162.90	—	—	—
1 1/4	1.2500	3	11 1/2	.9995	119.70	136.00	146.00	188.00
1 9/32	1.2812	3	11 1/2	.9995	162.90	175.00	—	—
1 5/16	1.3125	3	11 1/2	.9995	140.00	160.00	170.00	220.00
1 11/32	1.3438	3 1/4	12	.9995	155.00	172.00	188.00	—
Under 1 3/8	1.3740	3 1/4	12	.9995	180.00	—	—	—
1 3/8	1.3750	3 1/4	12	.9995	146.70	169.00	179.00	230.00
1 13/32	1.4062	3 1/4	12	1.2495	180.00	197.00	—	—
1 7/16	1.4375	3 1/4	12	1.2495	157.00	180.00	196.36	249.00
1 15/32	1.4688	3 1/2	12 1/2	1.2495	191.00	208.00	—	—
1 1/2	1.5000	3 1/2	12 1/2	1.2495	178.00	195.00	206.00	269.00
1 9/16	1.5625	3 1/2	12 1/2	1.2495	245.00	280.00	295.00	—
1 5/8	1.6250	3 5/8	13	1.2495	245.00	285.00	295.00	—
1 11/16	1.6875	3 5/8	13	1.2495	299.00	315.00	—	—
1 3/4	1.7500	4	13 1/2	1.2495	299.00	—	—	—
1-13/16	1.8125	4	14	1.4995	331.00	—	—	—
1 7/8	1.8750	4	14	1.4995	331.00	—	—	—
1 15/16	1.9375	4	14	1.4995	390.00	—	449.00	—
2	2.0000	4	14	1.4995	390.00	—	453.00	—

Diameter Tolerance: 1" Through 2" +.0002" +.005m/m  
+.0006" +.015m/m

## Chucking Reamer Sets

**Fractional Sets** These sets provide a method of maintaining a complete stock of reamers in ranges to suit your requirements. A set on a machinist's workbench saves many trips to the tool crib.

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	1/16 – 1/4 by 64 <sup>ths</sup>	13	Wood	<b>LV533-6W</b>	264.67
H.S. Straight Flute	1/16 – 1/4 by 64 <sup>ths</sup>	13	Plastic	<b>LV533-6P</b>	207.67
H.S. Straight Flute	1/16 – 1/2 by 32 <sup>nds</sup>	15	Plastic	<b>LV533-42P</b>	309.92
H.S. Straight Flute	1/16 – 3/8 by 64 <sup>ths</sup>	21	Plastic	<b>LV533-40P</b>	388.22
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV533-8W</b>	664.72
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV533-8P</b>	607.72
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LV533-8M</b>	630.22
H.S. RH Spiral	1/16 – 1/4 by 64 <sup>ths</sup>	13	Wood	<b>LV535-1W</b>	298.90
H.S. RH Spiral	1/16 – 1/4 by 64 <sup>ths</sup>	13	Plastic	<b>LV535-1P</b>	241.90
H.S. RH Spiral	1/16 – 1/2 by 32 <sup>nds</sup>	15	Plastic	<b>LV535-43P</b>	352.33
H.S. RH Spiral	1/16 – 3/8 by 64 <sup>ths</sup>	21	Plastic	<b>LV535-41P</b>	438.83
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV535-3W</b>	740.93
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LV535-3M</b>	706.43
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV535-3P</b>	683.93
H.S. LH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV535L-4W</b>	821.40
H.S. LH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV535L-4P</b>	764.40
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>1533-C8W</b>	1027.00
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>1533-C8M</b>	992.50
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>1533-C8P</b>	970.00
Cobalt RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>1535-C3W</b>	1068.47
Cobalt RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>1535-C3M</b>	1033.97



LV533-6W



LV533-42P



LV533-8M

## Chucking Reamer Sets

These sets provide a method of maintaining a complete stock of reamers in ranges to suit your requirements. A set on a machinist's workbench saves many trips to the tool crib.



LV533-6W



LV533-8M



LV533-42P

### Wire Gauge Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	#1 – #60	60	Wood	<b>LV533-13W</b>	987.00
H.S. Straight Flute	#1 – #60	60	Metal	<b>LV533-13M</b>	945.00
H.S. Straight Flute	#1 – #60	60	Plastic	<b>LV533-13P</b>	931.57
H.S. Straight Flute	#61 – #80	20	Metal	<b>LV533-15M</b>	348.75
H.S. RH Spiral	#1 – #60	60	Wood	<b>LV535-10W</b>	1113.90
H.S. RH Spiral	#1 – #60	60	Metal	<b>LV535-10M</b>	1084.60
H.S. RH Spiral	#1 – #60	60	Plastic	<b>LV535-10P</b>	1059.47
H.S. LH Spiral	#1 – #60	60	Wood	<b>LV535L-11W</b>	1247.70
H.S. LH Spiral	#1 – #60	60	Plastic	<b>LV535L-11P</b>	1192.27
Cobalt Straight Flute	#1 – #60	60	Wood	<b>1533-C13W</b>	1319.50
Cobalt Straight Flute	#1 – #60	60	Metal	<b>1533-C13M</b>	1227.50
Cobalt Straight Flute	#1 – #60	60	Plastic	<b>1533-C13P</b>	1264.07

### Letter Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	A – Z	26	Wood	<b>LV533-23W</b>	651.85
H.S. Straight Flute	A – Z	26	Metal	<b>LV533-23M</b>	617.35
H.S. Straight Flute	A – Z	26	Plastic	<b>LV533-23P</b>	594.85
H.S. Right Hand Spiral	A – Z	26	Metal	<b>LV535-20M</b>	658.05
Cobalt Straight Flute	A – Z	26	Wood	<b>1533-C23W</b>	983.50
Cobalt Straight Flute	A – Z	26	Metal	<b>1533-C23M</b>	949.00
Cobalt Straight Flute	A – Z	26	Plastic	<b>1533-C23P</b>	926.50

### Metric Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	1mm – 7mm by .5	13	Wood	<b>LV533-16W</b>	238.60
H.S. Straight Flute	1mm – 7mm by .5	13	Plastic	<b>LV533-16P</b>	181.60
H.S. Straight Flute	1mm – 13mm by .5	25	Plastic	<b>LV533-17P</b>	542.25

### Over & Under Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	.1240 – .5010	14	Wood	<b>LV533-32W</b>	357.70
H.S. Straight Flute	.1240 – .5010	14	Metal	<b>LV533-32M</b>	323.20
H.S. Straight Flute	.1240 – .5010	14	Plastic	<b>LV533-32P</b>	300.70
H.S. RH Spiral	.1240 – .5010	14	Wood	<b>LV535-30W</b>	399.50
H.S. RH Spiral	.1240 – .5010	14	Plastic	<b>LV535-30P</b>	342.50
H.S. LH Spiral	.1240 – .5010	14	Wood	<b>LV535L-31W</b>	447.00
H.S. LH Spiral	.1240 – .5010	14	Plastic	<b>LV535L-31P</b>	390.00
Cobalt Straight Flute	.1240 – .5010	14	Wood	<b>1533-C32W</b>	544.50
Cobalt Straight Flute	.1240 – .5010	14	Plastic	<b>1533-C32P</b>	487.50
Cobalt RH Spiral	.1240 – .5010	14	Wood	<b>1535-C30W</b>	566.80
Cobalt RH Spiral	.1240 – .5010	14	Plastic	<b>1535-C30P</b>	509.80

**Diameter Tolerance:** Through 1/2"  $-.0000" \text{ } -.000\text{m/m}$   
 $+.0002" \text{ } +.005\text{m/m}$  1/2" Through 5/8"  $-.0000" \text{ } -.000\text{m/m}$   
 $+.0003" \text{ } +.008\text{m/m}$

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Ft.	1535 Cobalt RH Sp.
.0355	28.00	—	—	—	—
.0405	24.80	27.00	30.00	—	—
.0415	24.80	27.00	30.00	—	—
.0425	24.80	27.00	30.00	—	—
.0435	24.80	27.00	30.00	—	—
.0440	24.80	27.00	30.00	—	—
.0445	24.80	27.00	30.00	—	—
.0450	24.80	27.00	30.00	—	—
.0455	24.80	27.00	30.00	—	—
.0460	24.80	27.00	30.00	—	—
.0470	24.80	27.00	30.00	38.00	—
.0475	24.80	27.00	30.00	—	—
.0480	24.80	27.00	30.00	—	—
.0485	24.80	27.00	30.00	—	—
.0490	24.80	27.00	30.00	38.00	—
.0495	24.80	27.00	30.00	—	—
.0500	24.80	27.00	30.00	—	—
.0505	24.80	27.00	30.00	38.00	—
.0510	24.80	27.00	30.00	—	—
.0512	28.00	—	—	57.00	—
.0514	28.00	—	—	—	—
.0515	24.80	27.00	30.00	38.00	—
.0525	24.80	27.00	30.00	—	—
.0530	24.80	27.00	30.00	—	—
.0535	24.80	27.00	30.00	—	—
.0540	24.80	27.00	30.00	—	—
.0545	24.80	27.00	30.00	—	—
.0555	24.80	27.00	30.00	—	—
.0560	24.80	27.00	30.00	—	—
.0565	24.80	27.00	30.00	—	—
.0570	24.80	27.00	30.00	—	—
.0575	24.80	27.00	30.00	—	—
.0580	24.80	27.00	30.00	—	—
.0585	24.80	27.00	30.00	—	—
.0590	24.80	27.00	30.00	—	—
.0600	24.80	27.00	30.00	—	—
.0605	24.80	27.00	30.00	—	—
.0610	24.80	27.00	30.00	51.94	57.13
.0615	24.80	27.00	30.00	—	—
.0620	24.80	27.00	30.00	51.94	—
.0623	28.00	33.00	—	—	—
.0628	28.00	—	—	57.00	—
.0630	24.80	27.00	30.00	51.94	57.13
.0637	28.00	—	—	—	—
.0640	24.80	27.00	30.00	51.94	57.13
.0645	24.80	27.00	30.00	51.94	57.13
.0650	24.80	27.00	30.00	51.94	57.13
.0655	24.80	27.00	30.00	51.94	57.13
.0660	24.80	27.00	30.00	51.94	57.13
.0665	24.80	27.00	30.00	51.94	57.13
.0675	24.80	27.00	30.00	51.94	57.13
.0680	24.80	27.00	30.00	51.94	57.13
.0685	24.80	27.00	30.00	51.94	57.13
.0690	24.80	27.00	30.00	51.94	57.13
.0695	24.80	27.00	30.00	51.94	57.13
.0702	28.00	—	—	—	—
.0705	24.80	27.00	30.00	51.94	57.13
.0710	24.80	27.00	30.00	51.94	57.13
.0715	24.80	27.00	30.00	51.94	57.13

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Ft.	1535 Cobalt RH Sp.
.0720	24.80	27.00	30.00	51.94	57.13
.0725	24.80	27.00	30.00	51.94	57.13
.0727	28.00	—	—	—	—
.0735	24.80	27.00	30.00	51.94	57.13
.0740	24.80	27.00	30.00	51.94	57.13
.0745	24.80	27.00	30.00	51.94	57.13
.0750	24.80	27.00	30.00	51.94	57.13
.0755	24.80	27.00	30.00	51.94	57.13
.0763	28.00	—	—	—	—
.0764	28.00	—	—	—	—
.0765	24.80	27.00	30.00	51.94	57.13
.0766	28.00	—	—	—	—
.0769	28.00	—	—	—	—
.0770	24.80	27.00	30.00	51.94	57.13
.0775	24.80	27.00	30.00	51.94	57.13
.0780	24.80	27.00	30.00	51.94	57.13
.0790	24.80	27.00	30.00	51.94	57.13
.0791	18.70	—	—	—	—
.0795	24.80	27.00	30.00	51.94	57.13
.0798	28.00	—	—	—	—
.0799	28.00	—	—	—	—
.0800	24.80	27.00	30.00	51.94	57.13
.0801	28.00	—	—	—	—
.0803	28.00	—	—	—	—
.0805	24.80	27.00	30.00	51.94	57.13
.0815	24.80	27.00	30.00	51.94	57.13
.0825	24.80	27.00	30.00	51.94	57.13
.0830	24.80	27.00	30.00	51.94	57.13
.0835	24.80	27.00	30.00	51.94	57.13
.0840	24.80	27.00	30.00	51.94	57.13
.0845	24.80	27.00	30.00	51.94	57.13
.0850	24.80	27.00	30.00	51.94	57.13
.0855	24.80	27.00	30.00	51.94	57.13
.0865	24.80	27.00	30.00	51.94	57.13
.0870	24.80	27.00	30.00	51.94	57.13
.0875	24.80	27.00	30.00	51.94	57.13
.0880	24.80	27.00	30.00	51.94	57.13
.0882	28.00	—	—	—	—
.0885	24.80	27.00	30.00	51.94	57.13
.0895	24.80	27.00	30.00	51.94	57.13
.0897	28.00	—	—	—	—
.0900	24.80	27.00	30.00	51.94	57.13
.0905	24.80	27.00	30.00	51.94	57.13
.0910	24.80	27.00	30.00	51.94	57.13
.0915	24.80	27.00	30.00	51.94	57.13
.0917	28.00	—	—	—	—
.0918	28.00	—	—	—	—
.0920	24.80	27.00	30.00	51.94	57.13
.0923	28.00	—	—	—	—
.0925	24.80	27.00	30.00	51.94	57.13
.0927	28.00	33.00	—	—	—
.0928	28.00	—	—	57.00	—
.0929	28.00	—	—	—	—
.0930	24.80	27.00	30.00	51.94	57.13
.0931	28.00	—	—	—	—
.0932	28.00	—	—	57.00	—
.0933	28.00	33.00	—	57.00	—
.0937	28.00	—	—	57.00	—
.0940	24.80	27.00	30.00	51.94	57.13

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.



# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.0942	28.00	33.00	—	57.00	—
.0943	28.00	—	—	57.00	—
.0944	28.00	—	—	—	—
.0945	24.80	27.00	30.00	51.94	57.13
.0947	28.00	33.00	—	—	—
.0950	24.80	27.00	30.00	51.94	57.13
.0953	28.00	—	—	—	—
.0955	24.80	27.00	30.00	51.94	57.13
.0965	24.80	27.00	30.00	51.94	57.13
.0967	28.00	—	—	—	—
.0968	28.00	—	—	—	—
.0969	28.00	—	—	—	—
.0970	24.80	27.00	30.00	51.94	57.13
.0971	28.00	—	—	—	—
.0972	28.00	—	—	—	—
.0975	24.80	27.00	30.00	51.94	57.13
.0976	28.00	—	—	—	—
.0977	28.00	—	—	57.00	—
.0985	24.80	27.00	30.00	51.94	57.13
.0988	28.00	—	—	57.00	—
.0990	24.80	27.00	30.00	51.94	57.13
.1000	24.80	27.00	30.00	51.94	57.13
.1002	28.00	—	—	—	—
.1004	28.00	—	—	—	—
.1005	24.80	27.00	30.00	51.94	57.13
.1008	28.00	—	—	—	—
.1010	24.80	27.00	30.00	51.94	57.13
.1011	28.00	—	—	—	—
.1020	24.80	27.00	30.00	51.94	57.13
.1023	28.00	—	—	—	—
.1025	24.80	27.00	30.00	51.94	57.13
.1027	28.00	—	—	—	—
.1030	24.80	27.00	30.00	51.94	57.13
.1035	24.80	27.00	30.00	51.94	57.13
.1045	24.80	27.00	30.00	51.94	57.13
.1048	28.00	—	—	—	—
.1050	24.80	27.00	30.00	51.94	57.13
.1055	24.80	27.00	30.00	51.94	57.13
.1057	28.00	—	—	—	—
.1060	24.80	27.00	30.00	51.94	57.13
.1062	28.00	—	—	—	—
.1070	24.80	27.00	30.00	51.94	57.13
.1075	24.80	27.00	30.00	51.94	57.13
.1078	28.00	—	—	—	—
.1080	24.80	27.00	30.00	51.94	57.13
.1082	28.00	—	—	—	—
.1085	24.80	27.00	30.00	51.94	57.13
.1087	28.00	—	—	—	—
.1090	24.80	27.00	30.00	51.94	57.13
.1092	28.00	—	—	—	—
.1095	21.40	24.50	28.00	51.94	57.13
.1105	21.40	24.50	28.00	51.94	57.13
.1115	21.40	24.50	28.00	51.94	57.13
.1120	21.40	24.50	28.00	51.94	57.13
.1122	28.00	—	—	—	—
.1125	21.40	24.50	28.00	51.94	57.13
.1135	21.40	24.50	28.00	51.94	57.13
.1140	21.40	24.50	28.00	51.94	57.13
.1145	21.40	24.50	28.00	51.94	57.13

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.1150	21.40	24.50	28.00	51.94	57.13
.1155	21.40	24.50	28.00	51.94	57.13
.1157	28.00	—	—	—	—
.1165	21.40	24.50	28.00	51.94	57.13
.1169	28.00	33.00	—	—	—
.1170	21.40	24.50	28.00	51.94	57.13
.1171	15.95	—	—	—	—
.1173	28.00	—	—	—	—
.1175	21.40	24.50	28.00	51.94	57.13
.1177	28.00	—	—	—	—
.1178	28.00	—	—	57.00	—
.1180	21.40	24.50	28.00	51.94	57.13
.1185	21.40	24.50	28.00	51.94	57.13
.1190	21.40	24.50	28.00	51.94	57.13
.1191	28.00	—	—	—	—
.1192	28.00	—	—	—	—
.1193	28.00	—	—	—	—
.1195	21.40	24.50	28.00	51.94	57.13
.1197	28.00	—	—	—	—
.1198	28.00	—	—	—	—
.1201	28.00	—	—	—	—
.1202	28.00	—	—	—	—
.1204	28.00	—	—	—	—
.1205	21.40	24.50	28.00	51.94	57.13
.1208	28.00	—	—	—	—
.1210	21.40	24.50	28.00	51.94	57.13
.1213	28.00	—	—	—	—
.1215	21.40	24.50	28.00	51.94	57.13
.1220	21.40	24.50	28.00	51.94	57.13
.1223	28.00	—	—	—	—
.1224	28.00	—	—	—	—
.1225	21.40	24.50	28.00	51.94	57.13
.1227	28.00	—	—	—	—
.1228	28.00	—	—	—	—
.1230	21.40	24.50	28.00	51.94	57.13
.1235	21.40	24.50	28.00	51.94	57.13
.1237	28.00	—	—	57.00	—
.1238	28.00	—	—	—	—
.1239	28.00	—	—	—	—
.1240	12.90	14.80	16.20	18.00	19.00
.1243	28.00	33.00	—	—	—
.1245	21.40	24.50	28.00	51.94	57.13
.1246	28.00	—	—	—	—
.1247	33.00	38.00	—	57.00	62.50
.1248	28.00	—	—	—	—
.1249	28.00	—	—	57.00	—
.1251	33.00	—	—	57.00	—
.1252	33.00	—	—	57.00	—
.1253	33.00	—	—	57.00	—
.1254	33.00	38.00	—	57.00	—
.1255	25.70	29.50	33.75	53.56	58.91
.1257	33.00	—	—	57.00	—
.1258	33.00	—	—	—	—
.1260	12.90	14.80	16.20	18.00	19.00
.1261	33.00	—	—	—	—
.1262	33.00	—	—	—	—
.1264	33.00	—	—	—	—
.1265	25.70	29.50	33.75	53.56	58.91
.1267	33.00	—	—	—	—

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.1270	25.70	29.50	33.75	53.56	58.91
.1272	33.00	—	—	—	—
.1273	33.00	—	—	—	—
.1274	33.00	—	—	—	—
.1275	25.70	29.50	33.75	53.56	58.91
.1280	25.70	29.50	33.75	53.56	58.91
.1287	33.00	—	—	—	—
.1290	25.70	29.50	33.75	53.56	58.91
.1291	33.00	—	—	—	—
.1295	25.70	29.50	33.75	53.56	58.91
.1297	33.00	—	—	—	—
.1300	25.70	29.50	33.75	53.56	58.91
.1305	25.70	29.50	33.75	53.56	58.91
.1307	33.00	—	—	—	—
.1310	25.70	29.50	33.75	53.56	58.91
.1315	25.70	29.50	33.75	53.56	58.91
.1320	25.70	29.50	33.75	53.56	58.91
.1322	33.00	—	—	—	—
.1325	25.70	29.50	33.75	53.56	58.91
.1330	25.70	29.50	33.75	53.56	58.91
.1335	25.70	29.50	33.75	53.56	58.91
.1340	25.70	29.50	33.75	53.56	58.91
.1345	25.70	29.50	33.75	53.56	58.91
.1350	25.70	29.50	33.75	53.56	58.91
.1354	33.00	—	—	—	—
.1355	25.70	29.50	33.75	53.56	58.91
.1364	33.00	—	—	—	—
.1365	25.70	29.50	33.75	53.56	58.91
.1370	25.70	29.50	33.75	53.56	58.91
.1374	33.00	—	—	—	—
.1375	25.70	29.50	33.75	53.56	58.91
.1376	33.00	—	—	—	—
.1377	33.00	—	—	—	—
.1380	25.70	29.50	33.75	53.56	58.91
.1382	33.00	—	—	—	—
.1383	33.00	—	—	—	—
.1385	25.70	29.50	33.75	53.56	58.91
.1386	33.00	38.00	—	—	—
.1390	25.70	29.50	33.75	53.56	58.91
.1392	33.00	—	—	—	—
.1393	33.00	—	—	—	—
.1395	25.70	29.50	33.75	53.56	58.91
.1396	33.00	—	—	—	—
.1397	33.00	—	—	—	—
.1398	33.00	—	—	—	—
.1399	33.00	—	—	—	—
.1400	25.70	29.50	33.75	53.56	58.91
.1402	33.00	—	—	—	—
.1407	33.00	—	—	—	—
.1408	33.00	—	—	—	—
.1409	33.00	—	—	—	—
.1410	25.70	29.50	33.75	53.56	58.91
.1411	33.00	—	—	—	—
.1414	33.00	—	—	—	—
.1415	25.70	29.50	33.75	53.56	58.91
.1416	33.00	—	—	—	—
.1420	25.70	29.50	33.75	53.56	58.91
.1424	33.00	—	—	—	—
.1425	25.70	29.50	33.75	53.56	58.91

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.1427	33.00	—	—	—	—
.1430	25.70	29.50	33.75	53.56	58.91
.1432	33.00	—	—	—	—
.1435	25.70	29.50	33.75	53.56	58.91
.1438	33.00	—	—	—	—
.1442	33.00	—	—	—	—
.1443	33.00	—	—	—	—
.1445	25.70	29.50	33.75	53.56	58.91
.1448	33.00	—	—	—	—
.1449	33.00	—	—	—	—
.1450	25.70	29.50	33.75	53.56	58.91
.1452	33.00	—	—	—	—
.1455	25.70	29.50	33.75	53.56	58.91
.1456	33.00	—	—	—	—
.1457	33.00	—	—	—	—
.1460	25.70	29.50	33.75	53.56	58.91
.1462	33.00	—	—	—	—
.1465	25.70	29.50	33.75	53.56	58.91
.1472	33.00	—	—	—	—
.1475	25.70	29.50	33.75	53.56	58.91
.1480	25.70	29.50	33.75	53.56	58.91
.1485	25.70	29.50	33.75	53.56	58.91
.1490	25.70	29.50	33.75	53.56	58.91
.1497	33.00	—	—	—	—
.1498	33.00	—	—	—	—
.1500	25.70	29.50	33.75	53.56	58.91
.1502	33.00	—	—	—	—
.1503	33.00	—	—	—	—
.1504	33.00	—	—	—	—
.1505	25.70	29.50	33.75	53.56	58.91
.1506	33.00	—	—	—	—
.1510	25.70	29.50	33.75	53.56	58.91
.1512	33.00	38.00	—	—	—
.1515	25.70	29.50	33.75	53.56	58.91
.1516	33.00	—	—	—	—
.1525	25.70	29.50	33.75	53.56	58.91
.1530	25.70	29.50	33.75	53.56	58.91
.1532	33.00	—	—	—	—
.1535	25.70	29.50	33.75	53.56	58.91
.1542	33.00	—	—	—	—
.1543	33.00	—	—	—	—
.1545	25.70	29.50	33.75	53.56	58.91
.1550	25.70	29.50	33.75	53.56	58.91
.1552	18.90	—	—	—	—
.1553	33.00	—	—	—	—
.1555	25.70	29.50	33.75	53.56	58.91
.1556	33.00	—	—	—	—
.1560	25.70	29.50	33.75	53.56	58.91
.1565	25.70	29.50	33.75	53.56	58.91
.1566	33.00	—	—	—	—
.1567	33.00	—	—	—	—
.1572	33.00	—	—	53.56	—
.1579	33.00	—	—	—	—
.1580	25.70	29.50	33.75	53.56	58.91
.1585	25.70	29.50	33.75	53.56	58.91
.1591	33.00	—	—	—	—
.1595	25.70	29.50	33.75	53.56	58.91
.1596	33.00	—	—	—	—
.1598	33.00	—	—	—	—

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.1600	25.70	29.50	33.75	53.56	58.91
.1605	25.70	29.50	33.75	53.56	58.91
.1615	25.70	29.50	33.75	53.56	58.91
.1617	33.00	—	—	—	—
.1620	25.70	29.50	33.75	53.56	58.91
.1625	25.70	29.50	33.75	53.56	58.91
.1630	25.70	29.50	33.75	53.56	58.91
.1635	25.70	29.50	33.75	53.56	58.91
.1640	25.70	29.50	33.75	53.56	58.91
.1645	25.70	29.50	33.75	53.56	58.91
.1647	33.00	—	—	64.00	—
.1650	25.70	29.50	33.75	53.56	58.91
.1655	25.70	29.50	33.75	53.56	58.91
.1665	25.70	29.50	33.75	53.56	58.91
.1670	25.70	29.50	33.75	53.56	58.91
.1675	25.70	29.50	33.75	53.56	58.91
.1680	25.70	29.50	33.75	53.56	58.91
.1685	25.70	29.50	33.75	53.56	58.91
.1690	25.70	29.50	33.75	53.56	58.91
.1700	25.70	29.50	33.75	53.56	58.91
.1701	33.00	—	—	—	—
.1705	25.70	29.50	33.75	53.56	58.91
.1710	25.70	29.50	33.75	53.56	58.91
.1715	25.70	29.50	33.75	53.56	58.91
.1720	25.70	29.50	33.75	53.56	58.91
.1725	25.70	29.50	33.75	53.56	58.91
.1734	33.00	—	—	—	—
.1735	25.70	29.50	33.75	53.56	58.91
.1740	25.70	29.50	33.75	53.56	58.91
.1745	25.70	29.50	33.75	53.56	58.91
.1750	25.70	29.50	33.75	53.56	58.91
.1755	25.70	29.50	33.75	53.56	58.91
.1760	25.70	29.50	33.75	53.56	58.91
.1765	25.70	29.50	33.75	53.56	58.91
.1775	25.70	29.50	33.75	53.56	58.91
.1780	25.70	29.50	33.75	53.56	58.91
.1785	25.70	29.50	33.75	53.56	58.91
.1786	33.00	—	—	—	—
.1790	25.70	29.50	33.75	53.56	58.91
.1795	25.70	29.50	33.75	53.56	58.91
.1802	33.00	—	—	59.00	—
.1805	25.70	29.50	33.75	53.56	58.91
.1806	33.00	—	—	—	—
.1810	25.70	29.50	33.75	53.56	58.91
.1813	33.00	37.00	—	—	—
.1815	25.70	29.50	33.75	53.56	58.91
.1818	33.00	—	—	—	—
.1822	33.00	—	—	—	—
.1825	25.70	29.50	33.75	53.56	58.91
.1830	25.70	29.50	33.75	53.56	58.91
.1835	25.70	29.50	33.75	53.56	58.91
.1840	25.70	29.50	33.75	53.56	58.91
.1845	25.70	29.50	33.75	53.56	58.91
.1855	25.70	29.50	33.75	53.56	58.91
.1856	33.00	—	—	—	—
.1857	33.00	—	—	—	—
.1860	25.70	29.50	33.75	53.56	58.91
.1865	16.30	18.80	21.50	22.00	23.50
.1866	33.00	—	—	—	—

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.1867	33.00	—	—	—	—
.1868	33.00	—	—	—	—
.1870	25.70	29.50	33.75	56.48	62.12
.1872	33.00	—	—	59.00	62.12
.1873	33.00	—	—	—	—
.1877	33.00	—	—	59.00	62.12
.1880	25.70	29.50	33.75	56.48	62.12
.1882	33.00	38.00	—	—	—
.1883	33.00	—	—	—	—
.1885	16.30	18.80	21.50	22.00	23.50
.1887	33.00	—	—	—	—
.1895	25.70	29.50	33.75	56.48	62.12
.1897	33.00	—	—	—	—
.1900	25.70	29.50	33.75	56.48	62.12
.1905	25.70	29.50	33.75	56.48	62.12
.1915	25.70	29.50	33.75	56.48	62.12
.1920	25.70	29.50	33.75	56.48	62.12
.1925	25.70	29.50	33.75	56.48	62.12
.1930	25.70	29.50	33.75	56.48	62.12
.1940	25.70	29.50	33.75	56.48	62.12
.1945	25.70	29.50	33.75	56.48	62.12
.1950	25.70	29.50	33.75	56.48	62.12
.1952	33.00	—	—	—	—
.1954	33.00	—	—	—	—
.1955	25.70	29.50	33.75	56.48	62.12
.1958	33.00	—	—	—	—
.1959	33.00	—	—	—	—
.1965	25.70	29.50	33.75	56.48	62.12
.1966	33.00	—	—	—	—
.1970	25.70	29.50	33.75	56.48	62.12
.1972	33.00	37.00	—	—	—
.1974	33.00	—	—	—	—
.1975	25.70	29.50	33.75	56.48	62.12
.1979	33.00	—	—	—	—
.1980	25.70	29.50	33.75	56.48	62.12
.1982	33.00	—	—	—	—
.1985	25.70	29.50	33.75	56.48	62.12
.1995	25.70	29.50	33.75	56.48	62.12
.2000	25.70	29.50	33.75	56.48	62.12
.2005	25.70	29.50	33.75	56.48	62.12
.2015	25.70	29.50	33.75	56.48	62.12
.2016	33.00	—	—	—	—
.2018	33.00	—	—	—	—
.2020	25.70	29.50	33.75	56.48	62.12
.2025	25.70	29.50	33.75	56.48	62.12
.2030	25.70	29.50	33.75	56.48	62.12
.2035	25.70	29.50	33.75	56.48	62.12
.2045	25.70	29.50	33.75	56.48	62.12
.2050	25.70	29.50	33.75	56.48	62.12
.2060	25.70	29.50	33.75	56.48	62.12
.2065	25.70	29.50	33.75	56.48	62.12
.2070	25.70	29.50	33.75	56.48	62.12
.2075	25.70	29.50	33.75	56.48	62.12
.2080	25.70	29.50	33.75	56.48	62.12
.2085	25.70	29.50	33.75	56.48	62.12
.2095	25.70	29.50	33.75	56.48	62.12
.2100	25.70	29.50	33.75	56.48	62.12
.2105	25.70	29.50	33.75	56.48	62.12
.2110	25.70	29.50	33.75	56.48	62.12

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.2115	25.70	29.50	33.75	56.48	62.12
.2120	25.70	29.50	33.75	56.48	62.12
.2125	25.70	29.50	33.75	56.48	62.12
.2135	25.70	29.50	33.75	56.48	62.12
.2137	33.00	—	—	—	—
.2140	25.70	29.50	33.75	56.48	62.12
.2145	25.70	29.50	33.75	56.48	62.12
.2147	33.00	—	—	—	—
.2150	25.70	29.50	33.75	56.48	62.12
.2155	25.70	29.50	33.75	56.48	62.12
.2158	33.00	—	—	—	—
.2160	25.70	29.50	33.75	56.48	62.12
.2165	18.40	21.00	24.00	25.50	26.50
.2166	33.00	—	—	—	—
.2167	33.00	—	—	—	—
.2170	25.70	29.50	33.75	56.48	62.12
.2175	25.70	29.50	33.75	56.48	62.12
.2178	22.00	—	—	—	—
.2180	25.70	29.50	33.75	56.48	62.12
.2183	33.00	—	—	—	—
.2185	25.70	29.50	33.75	56.48	62.12
.2190	25.70	29.50	33.75	56.48	62.12
.2192	33.00	—	—	—	—
.2195	25.70	29.50	33.75	56.48	62.12
.2197	33.00	—	—	—	—
.2198	22.00	—	—	—	—
.2200	25.70	29.50	33.75	56.48	62.12
.2205	25.70	29.50	33.75	56.48	62.12
.2215	25.70	29.50	33.75	56.48	62.12
.2220	25.70	29.50	33.75	56.48	62.12
.2225	25.70	29.50	33.75	56.48	62.12
.2230	25.70	29.50	33.75	56.48	62.12
.2232	33.00	—	—	—	—
.2235	25.70	29.50	33.75	56.48	62.12
.2240	25.70	29.50	33.75	56.48	62.12
.2244	33.00	—	—	—	—
.2245	25.70	29.50	33.75	56.48	62.12
.2250	25.70	29.50	33.75	56.48	62.12
.2255	25.70	29.50	33.75	56.48	62.12
.2258	33.00	—	—	—	—
.2260	25.70	29.50	33.75	56.48	62.12
.2265	25.70	29.50	33.75	56.48	62.12
.2270	25.70	29.50	33.75	56.48	62.12
.2275	25.70	29.50	33.75	56.48	62.12
.2285	25.70	29.50	33.75	56.48	62.12
.2290	25.70	29.50	33.75	56.48	62.12
.2295	25.70	29.50	33.75	56.48	62.12
.2300	25.70	29.50	33.75	56.48	62.12
.2305	25.70	29.50	33.75	56.48	62.12
.2310	25.70	29.50	33.75	56.48	62.12
.2312	33.00	—	—	—	—
.2315	25.70	29.50	33.75	56.48	62.12
.2320	25.70	29.50	33.75	56.48	62.12
.2325	25.70	29.50	33.75	56.48	62.12
.2330	25.70	29.50	33.75	56.48	62.12
.2335	25.70	29.50	33.75	56.48	62.12
.2345	25.70	29.50	33.75	56.48	62.12
.2346	33.00	—	—	—	—
.2350	25.70	29.50	33.75	56.48	62.12

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.2355	25.70	29.50	33.75	56.48	62.12
.2360	25.70	29.50	33.75	56.48	62.12
.2365	25.70	29.50	33.75	56.48	62.12
.2367	33.00	—	—	—	—
.2370	25.70	29.50	33.75	56.48	62.12
.2375	25.70	29.50	33.75	56.48	62.12
.2385	25.70	29.50	33.75	56.48	62.12
.2390	25.70	29.50	33.75	56.48	62.12
.2395	25.70	29.50	33.75	56.48	62.12
.2400	25.70	29.50	33.75	56.48	62.12
.2405	25.70	29.50	33.75	56.48	62.12
.2410	25.70	29.50	33.75	56.48	62.12
.2415	25.70	29.50	33.75	56.48	62.12
.2425	25.70	29.50	33.75	56.48	62.12
.2426	33.00	—	—	—	—
.2429	33.00	—	—	—	—
.2430	25.70	29.50	33.75	56.48	62.12
.2435	25.70	29.50	33.75	56.48	62.12
.2437	33.00	—	—	—	—
.2438	33.00	—	—	—	—
.2440	25.70	29.50	33.75	56.48	62.12
.2445	25.70	29.50	33.75	56.48	62.12
.2450	25.70	29.50	33.75	56.48	62.12
.2455	25.70	29.50	33.75	56.48	62.12
.2458	33.00	—	—	—	—
.2462	33.00	—	—	—	—
.2465	25.70	29.50	33.75	56.48	62.12
.2469	33.00	—	—	—	—
.2470	25.70	29.50	33.75	56.48	62.12
.2472	33.00	—	—	—	—
.2475	25.70	29.50	33.75	56.48	62.12
.2480	25.70	29.50	33.75	56.48	62.12
.2485	25.70	29.50	33.75	56.48	62.12
.2490	17.70	21.70	26.00	26.00	27.40
.2495	25.70	29.50	33.75	56.48	62.12
.2497	33.00	—	—	—	—
.2498	33.00	38.00	—	—	—
.2504	33.00	—	—	—	—
.2505	32.20	36.60	39.90	63.60	69.96
.2510	17.70	21.70	26.00	22.50	27.40
.2515	32.20	36.60	39.90	63.60	69.96
.2520	32.20	36.60	39.90	63.60	69.96
.2524	39.00	—	—	—	—
.2525	32.20	36.60	39.90	63.60	69.96
.2530	32.20	36.60	39.90	63.60	69.96
.2535	32.20	36.60	39.90	63.60	69.96
.2540	32.20	36.60	39.90	63.60	69.96
.2545	32.20	36.60	39.90	63.60	69.96
.2546	39.00	—	—	—	—
.2550	32.20	36.60	39.90	63.60	69.96
.2555	32.20	36.60	39.90	63.60	69.96
.2560	32.20	36.60	39.90	63.60	69.96
.2565	32.20	36.60	39.90	63.60	69.96
.2575	32.20	36.60	39.90	63.60	69.96
.2580	32.20	36.60	39.90	63.60	69.96
.2585	32.20	36.60	39.90	63.60	69.96
.2590	32.20	36.60	39.90	63.60	69.96
.2595	32.20	36.60	39.90	63.60	69.96
.2600	32.20	36.60	39.90	63.60	69.96

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.2605	32.20	36.60	39.90	63.60	69.96
.2615	32.20	36.60	39.90	63.60	69.96
.2620	32.20	36.60	39.90	63.60	69.96
.2621	39.00	—	—	—	—
.2625	32.20	36.60	39.90	63.60	69.96
.2630	32.20	36.60	39.90	63.60	69.96
.2635	32.20	36.60	39.90	63.60	69.96
.2640	32.20	36.60	39.90	63.60	69.96
.2645	32.20	36.60	39.90	63.60	69.96
.2650	32.20	36.60	39.90	63.60	69.96
.2655	32.20	36.60	39.90	63.60	69.96
.2665	32.20	36.60	39.90	65.08	72.30
.2670	32.20	36.60	39.90	65.08	72.30
.2675	32.20	36.60	39.90	65.08	72.30
.2680	32.20	36.60	39.90	65.08	72.30
.2685	32.20	36.60	39.90	65.08	72.30
.2690	32.20	36.60	39.90	65.08	72.30
.2695	32.20	36.60	39.90	65.08	72.30
.2700	32.20	36.60	39.90	65.08	72.30
.2705	32.20	36.60	39.90	65.08	72.30
.2710	32.20	36.60	39.90	65.08	72.30
.2715	32.20	36.60	39.90	65.08	72.30
.2725	32.20	36.60	39.90	65.08	72.30
.2730	32.20	36.60	39.90	65.08	72.30
.2735	32.20	36.60	39.90	65.08	72.30
.2740	32.20	36.60	39.90	65.08	72.30
.2745	32.20	36.60	39.90	65.08	72.30
.2750	32.20	36.60	39.90	65.08	72.30
.2751	39.00	—	—	—	—
.2755	32.20	36.60	39.90	65.08	72.30
.2760	32.20	36.60	39.90	65.08	72.30
.2761	39.00	—	—	—	—
.2765	32.20	36.60	39.90	65.08	72.30
.2775	32.20	36.60	39.90	65.08	72.30
.2780	32.20	36.60	39.90	65.08	72.30
.2785	32.20	36.60	39.90	65.08	72.30
.2790	32.20	36.60	39.90	65.08	72.30
.2795	32.20	36.60	39.90	65.08	72.30
.2800	32.20	36.60	39.90	65.08	72.30
.2805	32.20	36.60	39.90	65.08	72.30
.2815	32.20	36.60	39.90	66.24	72.86
.2820	32.20	36.60	39.90	66.24	72.86
.2822	39.00	—	—	—	—
.2825	32.20	36.60	39.90	66.24	72.86
.2827	39.00	—	—	—	—
.2830	32.20	36.60	39.90	66.24	72.86
.2834	39.00	—	—	—	—
.2835	32.20	36.60	39.90	66.24	72.86
.2840	32.20	36.60	39.90	66.24	72.86
.2841	39.00	—	—	—	—
.2842	39.00	—	—	—	—
.2845	32.20	36.60	39.90	66.24	72.86
.2850	32.20	36.60	39.90	66.24	72.86
.2855	32.20	36.60	39.90	66.24	72.86
.2860	32.20	36.60	39.90	66.24	72.86
.2862	39.00	—	—	—	—
.2865	32.20	36.60	39.90	66.24	72.86
.2870	32.20	36.60	39.90	66.24	72.86
.2875	32.20	36.60	39.90	66.24	72.86

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.2880	32.20	36.60	39.90	66.24	72.86
.2885	32.20	36.60	39.90	66.24	72.86
.2890	32.20	36.60	39.90	66.24	72.86
.2895	32.20	36.60	39.90	66.24	72.86
.2905	32.20	36.60	39.90	66.24	72.86
.2910	32.20	36.60	39.90	66.24	72.86
.2911	39.00	—	—	—	—
.2915	32.20	36.60	39.90	66.24	72.86
.2916	39.00	—	—	—	—
.2920	32.20	36.60	39.90	66.24	72.86
.2925	32.20	36.60	39.90	66.24	72.86
.2930	32.20	36.60	39.90	66.24	72.86
.2935	32.20	36.60	39.90	66.24	72.86
.2939	39.00	—	—	—	—
.2940	32.20	36.60	39.90	66.24	72.86
.2945	32.20	36.60	39.90	66.24	72.86
.2955	32.20	36.60	39.90	66.24	72.86
.2960	32.20	36.60	39.90	66.24	72.86
.2964	39.00	—	—	—	—
.2965	32.20	36.60	39.90	66.24	72.86
.2970	32.20	36.60	39.90	66.24	72.86
.2975	32.20	36.60	39.90	66.24	72.86
.2977	39.00	—	—	—	—
.2980	32.20	36.60	39.90	66.24	72.86
.2985	32.20	36.60	39.90	66.24	72.86
.2990	32.20	36.60	39.90	66.24	72.86
.2995	32.20	36.60	39.90	66.24	72.86
.3000	32.20	36.60	39.90	66.24	72.86
.3005	32.20	36.60	39.90	66.24	72.86
.3010	32.20	36.60	39.90	66.24	72.86
.3015	32.20	36.60	39.90	66.24	72.86
.3025	32.20	36.60	39.90	66.24	72.86
.3030	32.20	36.60	39.90	66.24	72.86
.3035	32.20	36.60	39.90	66.24	72.86
.3040	32.20	36.60	39.90	66.24	72.86
.3041	39.00	—	—	—	—
.3045	32.20	36.60	39.90	66.24	72.86
.3050	32.20	36.60	39.90	66.24	72.86
.3055	32.20	36.60	39.90	66.24	72.86
.3060	32.20	36.60	39.90	66.24	72.86
.3063	39.00	—	—	—	—
.3065	32.20	36.60	39.90	66.24	72.86
.3070	32.20	36.60	39.90	66.24	72.86
.3073	39.00	—	—	—	—
.3075	32.20	36.60	39.90	66.24	72.86
.3080	32.20	36.60	39.90	66.24	72.86
.3085	32.20	36.60	39.90	66.24	72.86
.3090	32.20	36.60	39.90	66.24	72.86
.3095	32.20	36.60	39.90	66.24	72.86
.3100	32.20	36.60	39.90	66.24	72.86
.3105	32.20	36.60	39.90	66.24	72.86
.3110	32.20	36.60	39.90	66.24	72.86
.3112	39.00	—	—	—	—
.3115	21.00	22.95	27.00	34.00	35.50
.3117	39.00	—	—	—	—
.3120	32.20	36.60	39.90	67.98	74.77
.3122	39.00	44.00	—	—	—
.3123	39.00	—	—	—	—
.3127	47.00	—	—	—	—

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.



# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.3130	37.80	42.00	45.00	67.98	74.77
.3133	47.00	—	—	—	—
.3135	21.00	22.95	27.00	34.00	35.50
.3140	37.80	42.00	45.00	67.98	74.77
.3145	37.80	42.00	45.00	67.98	74.77
.3146	47.00	—	—	—	—
.3154	47.00	—	—	—	—
.3155	37.80	42.00	45.00	67.98	74.77
.3161	47.00	—	—	—	—
.3165	37.80	42.00	45.00	67.98	74.77
.3170	37.80	42.00	45.00	67.98	74.77
.3175	37.80	42.00	45.00	67.98	74.77
.3180	37.80	42.00	45.00	67.98	74.77
.3185	37.80	42.00	45.00	67.98	74.77
.3188	47.00	—	—	—	—
.3190	37.80	42.00	45.00	67.98	74.77
.3195	37.80	42.00	45.00	67.98	74.77
.3200	37.80	42.00	45.00	67.98	74.77
.3205	37.80	42.00	45.00	67.98	74.77
.3210	37.80	42.00	45.00	67.98	74.77
.3215	37.80	42.00	45.00	67.98	74.77
.3220	37.80	42.00	45.00	67.98	74.77
.3225	37.80	42.00	45.00	67.98	74.77
.3235	37.80	42.00	45.00	67.98	74.77
.3240	37.80	42.00	45.00	67.98	74.77
.3245	37.80	42.00	45.00	67.98	74.77
.3250	37.80	42.00	45.00	67.98	74.77
.3255	37.80	42.00	45.00	67.98	74.77
.3260	37.80	42.00	45.00	67.98	74.77
.3265	37.80	42.00	45.00	67.98	74.77
.3270	37.80	42.00	45.00	67.98	74.77
.3271	47.00	—	—	—	—
.3275	37.80	42.00	45.00	67.98	74.77
.3280	37.80	42.00	45.00	67.98	74.77
.3285	37.80	42.00	45.00	67.98	74.77
.3290	37.80	42.00	45.00	67.98	74.77
.3293	47.00	—	—	—	—
.3295	37.80	42.00	45.00	67.98	74.77
.3300	37.80	42.00	45.00	67.98	74.77
.3305	37.80	42.00	45.00	67.98	74.77
.3310	37.80	42.00	45.00	67.98	74.77
.3315	37.80	42.00	45.00	67.98	74.77
.3325	37.80	42.00	45.00	67.98	74.77
.3330	37.80	42.00	45.00	67.98	74.77
.3335	37.80	42.00	45.00	67.98	74.77
.3340	37.80	42.00	45.00	67.98	74.77
.3345	37.80	42.00	45.00	67.98	74.77
.3350	37.80	42.00	45.00	67.98	74.77
.3355	37.80	42.00	45.00	67.98	74.77
.3360	37.80	42.00	45.00	67.98	74.77
.3364	47.00	—	—	—	—
.3365	37.80	42.00	45.00	67.98	74.77
.3370	37.80	42.00	45.00	67.98	74.77
.3375	37.80	42.00	45.00	67.98	74.77
.3380	37.80	42.00	45.00	67.98	74.77
.3385	37.80	42.00	45.00	67.98	74.77
.3395	37.80	42.00	45.00	67.98	74.77
.3400	37.80	42.00	45.00	67.98	74.77
.3405	37.80	42.00	45.00	67.98	74.77

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.3410	37.80	42.00	45.00	67.98	74.77
.3415	37.80	42.00	45.00	67.98	74.77
.3420	37.80	42.00	45.00	67.98	74.77
.3425	37.80	42.00	45.00	67.98	74.77
.3426	47.00	—	—	—	—
.3430	37.80	42.00	45.00	67.98	74.77
.3435	37.80	42.00	45.00	67.98	74.77
.3439	47.00	—	—	—	—
.3440	37.80	42.00	45.00	67.98	74.77
.3441	47.00	—	—	—	—
.3445	37.80	42.00	45.00	67.98	74.77
.3450	37.80	42.00	45.00	67.98	74.77
.3453	47.00	—	—	—	—
.3455	37.80	42.00	45.00	67.98	74.77
.3460	37.80	42.00	45.00	67.98	74.77
.3465	37.80	42.00	45.00	67.98	74.77
.3470	37.80	42.00	45.00	67.98	74.77
.3475	37.80	42.00	45.00	67.98	74.77
.3476	47.00	—	—	—	—
.3485	37.80	42.00	45.00	67.98	74.77
.3490	37.80	42.00	45.00	67.98	74.77
.3494	47.00	—	—	—	—
.3495	37.80	42.00	45.00	67.98	74.77
.3500	37.80	42.00	45.00	67.98	74.77
.3505	37.80	42.00	45.00	67.98	74.77
.3510	37.80	42.00	45.00	67.98	74.77
.3515	37.80	42.00	45.00	67.98	74.77
.3520	37.80	42.00	45.00	67.98	74.77
.3525	37.80	42.00	45.00	67.98	74.77
.3530	37.80	42.00	45.00	67.98	74.77
.3535	37.80	42.00	45.00	67.98	74.77
.3540	37.80	42.00	45.00	67.98	74.77
.3545	37.80	42.00	45.00	67.98	74.77
.3550	37.80	42.00	45.00	67.98	74.77
.3555	37.80	42.00	45.00	67.98	74.77
.3560	37.80	42.00	45.00	67.98	74.77
.3565	37.80	42.00	45.00	67.98	74.77
.3570	37.80	42.00	45.00	67.98	74.77
.3575	37.80	42.00	45.00	67.98	74.77
.3585	37.80	42.00	45.00	67.98	74.77
.3590	37.80	42.00	45.00	67.98	74.77
.3595	37.80	42.00	45.00	67.98	74.77
.3600	37.80	42.00	45.00	67.98	74.77
.3605	37.80	42.00	45.00	67.98	74.77
.3610	37.80	42.00	45.00	67.98	74.77
.3615	37.80	42.00	45.00	67.98	74.77
.3620	37.80	42.00	45.00	67.98	74.77
.3625	37.80	42.00	45.00	67.98	74.77
.3630	37.80	42.00	45.00	67.98	74.77
.3635	37.80	42.00	45.00	67.98	74.77
.3640	37.80	42.00	45.00	67.98	74.77
.3645	37.80	42.00	45.00	67.98	74.77
.3650	37.80	42.00	45.00	67.98	74.77
.3655	37.80	42.00	45.00	67.98	74.77
.3660	37.80	42.00	45.00	67.98	74.77
.3665	37.80	42.00	45.00	67.98	74.77
.3670	37.80	42.00	45.00	67.98	74.77
.3675	37.80	42.00	45.00	67.98	74.77
.3685	37.80	42.00	45.00	67.98	74.77

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.3690	37.80	42.00	45.00	67.98	74.77
.3695	37.80	42.00	45.00	67.98	74.77
.3700	37.80	42.00	45.00	67.98	74.77
.3705	37.80	42.00	45.00	67.98	74.77
.3709	47.00	—	—	—	—
.3710	37.80	42.00	45.00	67.98	74.77
.3715	37.80	42.00	45.00	67.98	74.77
.3720	37.80	42.00	45.00	67.98	74.77
.3725	37.80	42.00	45.00	67.98	74.77
.3730	37.80	42.00	45.00	67.98	74.77
.3735	37.80	42.00	45.00	67.98	74.77
.3738	47.00	—	—	—	—
.3740	22.70	26.00	28.50	38.00	39.00
.3745	37.80	42.00	45.00	67.98	74.77
.3747	47.00	—	—	—	—
.3753	47.00	—	—	—	—
.3755	37.80	42.00	45.00	69.94	76.93
.3760	22.70	26.00	28.50	38.00	39.00
.3765	37.80	42.00	45.00	69.94	76.93
.3775	37.80	42.00	45.00	69.94	76.93
.3780	37.80	42.00	45.00	69.94	76.93
.3785	37.80	42.00	45.00	69.94	76.93
.3790	37.80	42.00	45.00	69.94	76.93
.3795	37.80	42.00	45.00	69.94	76.93
.3800	37.80	42.00	45.00	69.94	76.93
.3805	37.80	42.00	45.00	69.94	76.93
.3810	37.80	42.00	45.00	69.94	76.93
.3815	37.80	42.00	45.00	69.94	76.93
.3820	37.80	42.00	45.00	69.94	76.93
.3825	37.80	42.00	45.00	69.94	76.93
.3830	37.80	42.00	45.00	69.94	76.93
.3835	37.80	42.00	45.00	69.94	76.93
.3840	37.80	42.00	45.00	69.94	76.93
.3845	37.80	42.00	45.00	69.94	76.93
.3850	37.80	42.00	45.00	69.94	76.93
.3855	37.80	42.00	45.00	69.94	76.93
.3865	37.80	42.00	45.00	69.94	76.93
.3870	37.80	42.00	45.00	69.94	76.93
.3875	37.80	42.00	45.00	69.94	76.93
.3880	37.80	42.00	45.00	69.94	76.93
.3885	37.80	42.00	45.00	69.94	76.93
.3890	37.80	42.00	45.00	69.94	76.93
.3895	37.80	42.00	45.00	69.94	76.93
.3900	37.80	42.00	45.00	69.94	76.93
.3905	37.80	42.00	45.00	69.94	76.93
.3910	38.70	41.50	45.00	69.94	76.93
.3915	38.70	41.50	45.00	69.94	76.93
.3920	38.70	41.50	45.00	69.94	76.93
.3925	38.70	41.50	45.00	69.94	76.93
.3930	38.70	41.50	45.00	69.94	76.93
.3935	38.70	41.50	45.00	69.94	76.93
.3940	38.70	41.50	45.00	69.94	76.93
.3945	38.70	41.50	45.00	69.94	76.93
.3947	47.00	52.00	—	—	—
.3950	38.70	41.50	45.00	69.94	76.93
.3955	38.70	41.50	45.00	69.94	76.93
.3960	38.70	41.50	45.00	69.94	76.93
.3965	38.70	41.50	45.00	69.94	76.93
.3975	38.70	41.50	45.00	69.94	76.93

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.3980	38.70	41.50	45.00	69.94	76.93
.3985	38.70	41.50	45.00	69.94	76.93
.3990	38.70	41.50	45.00	69.94	76.93
.3995	38.70	41.50	45.00	69.94	76.93
.4000	38.70	41.50	45.00	69.94	76.93
.4005	38.70	41.50	45.00	69.94	76.93
.4010	38.70	41.50	45.00	69.94	76.93
.4015	38.70	41.50	45.00	69.94	76.93
.4020	38.70	41.50	45.00	69.94	76.93
.4025	38.70	41.50	45.00	69.94	76.93
.4030	38.70	41.50	45.00	69.94	76.93
.4035	38.70	41.50	45.00	69.94	76.93
.4045	38.70	41.50	45.00	69.94	76.93
.4050	38.70	41.50	45.00	69.94	76.93
.4055	38.70	41.50	45.00	69.94	76.93
.4060	38.70	41.50	45.00	69.94	76.93
.4065	38.70	41.50	45.00	69.94	76.93
.4070	38.70	41.50	45.00	69.94	76.93
.4075	38.70	41.50	45.00	69.94	76.93
.4080	38.70	41.50	45.00	69.94	76.93
.4085	38.70	41.50	45.00	69.94	76.93
.4090	38.70	41.50	45.00	69.94	76.93
.4095	38.70	41.50	45.00	69.94	76.93
.4100	38.70	41.50	45.00	69.94	76.93
.4105	38.70	41.50	45.00	69.94	76.93
.4110	38.70	41.50	45.00	69.94	76.93
.4115	38.70	41.50	45.00	69.94	76.93
.4120	38.70	41.50	45.00	69.94	76.93
.4125	38.70	41.50	45.00	69.94	76.93
.4135	38.70	41.50	45.00	69.94	76.93
.4140	38.70	41.50	45.00	69.94	76.93
.4145	38.70	41.50	45.00	69.94	76.93
.4150	38.70	41.50	45.00	69.94	76.93
.4155	38.70	41.50	45.00	69.94	76.93
.4160	38.70	41.50	45.00	69.94	76.93
.4165	38.70	41.50	45.00	69.94	76.93
.4170	38.70	41.50	45.00	69.94	76.93
.4175	38.70	41.50	45.00	69.94	76.93
.4180	38.70	41.50	45.00	69.94	76.93
.4185	38.70	41.50	45.00	69.94	76.93
.4190	38.70	41.50	45.00	69.94	76.93
.4195	38.70	41.50	45.00	69.94	76.93
.4200	38.70	41.50	45.00	69.94	76.93
.4205	38.70	41.50	45.00	69.94	76.93
.4210	38.70	41.50	45.00	69.94	76.93
.4215	38.70	41.50	45.00	69.94	76.93
.4220	38.70	41.50	45.00	69.94	76.93
.4225	38.70	41.50	45.00	69.94	76.93
.4230	38.70	41.50	45.00	69.94	76.93
.4232	49.00	—	—	—	76.93
.4235	38.70	41.50	45.00	69.94	76.93
.4240	38.70	41.50	45.00	69.94	76.93
.4245	38.70	41.50	45.00	69.94	76.93
.4250	38.70	41.50	45.00	69.94	76.93
.4255	38.70	41.50	45.00	69.94	76.93
.4260	38.70	41.50	45.00	69.94	76.93
.4265	38.70	41.50	45.00	69.94	76.93
.4270	38.70	41.50	45.00	69.94	76.93
.4275	38.70	41.50	45.00	69.94	76.93

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.4280	38.70	41.50	45.00	69.94	76.93
.4285	38.70	41.50	45.00	69.94	76.93
.4290	38.70	41.50	45.00	69.94	76.93
.4295	38.70	41.50	45.00	69.94	76.93
.4300	38.70	41.50	45.00	69.94	76.93
.4305	38.70	41.50	45.00	69.94	76.93
.4310	38.70	41.50	45.00	69.94	76.93
.4315	38.70	41.50	45.00	69.94	76.93
.4320	38.70	41.50	45.00	69.94	76.93
.4325	38.70	41.50	45.00	69.94	76.93
.4330	38.70	41.50	45.00	69.94	76.93
.4335	38.70	41.50	45.00	69.94	76.93
.4336	49.00	—	—	—	—
.4340	38.70	41.50	45.00	69.94	76.93
.4345	38.70	41.50	45.00	69.94	76.93
.4350	38.70	41.50	45.00	69.94	76.93
.4355	38.70	41.50	45.00	69.94	76.93
.4357	49.00	—	—	—	—
.4360	38.70	41.50	45.00	69.94	76.93
.4365	26.95	29.70	34.00	48.00	49.50
.4370	38.70	41.50	45.00	78.75	86.62
.4378	49.00	—	—	—	—
.4380	41.00	45.00	48.00	78.75	86.62
.4385	26.95	29.70	34.00	48.00	49.50
.4390	41.00	45.00	48.00	78.75	86.62
.4395	41.00	45.00	48.00	78.75	86.62
.4400	41.00	45.00	48.00	78.75	86.62
.4405	41.00	45.00	48.00	78.75	86.62
.4410	41.00	45.00	48.00	78.75	86.62
.4415	41.00	45.00	48.00	78.75	86.62
.4420	41.00	45.00	48.00	78.75	86.62
.4425	41.00	45.00	48.00	78.75	86.62
.4430	41.00	45.00	48.00	78.75	86.62
.4435	41.00	45.00	48.00	78.75	86.62
.4440	41.00	45.00	48.00	78.75	86.62
.4445	41.00	45.00	48.00	78.75	86.62
.4450	41.00	45.00	48.00	78.75	86.62
.4455	41.00	45.00	48.00	78.75	86.62
.4460	41.00	45.00	48.00	78.75	86.62
.4465	41.00	45.00	48.00	78.75	86.62
.4470	41.00	45.00	48.00	78.75	86.62
.4475	41.00	45.00	48.00	78.75	86.62
.4478	55.00	—	—	—	—
.4480	41.00	45.00	48.00	78.75	86.62
.4485	41.00	45.00	48.00	78.75	86.62
.4490	41.00	45.00	48.00	78.75	86.62
.4495	41.00	45.00	48.00	78.75	86.62
.4500	41.00	45.00	48.00	78.75	86.62
.4505	41.00	45.00	48.00	78.75	86.62
.4510	41.00	45.00	48.00	78.75	86.62
.4515	41.00	45.00	48.00	78.75	86.62
.4520	41.00	45.00	48.00	78.75	86.62
.4525	41.00	45.00	48.00	78.75	86.62
.4526	55.00	—	—	—	—
.4530	41.00	45.00	48.00	78.75	86.62
.4535	41.00	45.00	48.00	78.75	86.62
.4540	41.00	45.00	48.00	78.75	86.62
.4545	41.00	45.00	48.00	78.75	86.62
.4550	41.00	45.00	48.00	78.75	86.62

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.4555	41.00	45.00	48.00	78.75	86.62
.4560	41.00	45.00	48.00	78.75	86.62
.4565	41.00	45.00	48.00	78.75	86.62
.4570	41.00	45.00	48.00	78.75	86.62
.4575	41.00	45.00	48.00	78.75	86.62
.4580	41.00	45.00	48.00	78.75	86.62
.4585	41.00	45.00	48.00	78.75	86.62
.4590	41.00	45.00	48.00	78.75	86.62
.4595	41.00	45.00	48.00	78.75	86.62
.4600	41.00	45.00	48.00	78.75	86.62
.4605	41.00	45.00	48.00	78.75	86.62
.4610	41.00	45.00	48.00	78.75	86.62
.4615	41.00	45.00	48.00	78.75	86.62
.4620	41.00	45.00	48.00	78.75	86.62
.4625	41.00	45.00	48.00	78.75	86.62
.4630	41.00	45.00	48.00	78.75	86.62
.4635	41.00	45.00	48.00	78.75	86.62
.4640	41.00	45.00	48.00	78.75	86.62
.4645	41.00	45.00	48.00	78.75	86.62
.4650	41.00	45.00	48.00	78.75	86.62
.4655	41.00	45.00	48.00	78.75	86.62
.4660	41.00	45.00	48.00	78.75	86.62
.4665	41.00	45.00	48.00	78.75	86.62
.4670	41.00	45.00	48.00	78.75	86.62
.4675	41.00	45.00	48.00	78.75	86.62
.4680	41.00	45.00	48.00	78.75	86.62
.4685	41.00	45.00	48.00	78.75	86.62
.4690	41.00	45.00	48.00	78.75	86.62
.4695	41.00	45.00	48.00	78.75	86.62
.4700	41.00	45.00	48.00	78.75	86.62
.4705	41.00	45.00	48.00	78.75	86.62
.4710	41.00	45.00	48.00	78.75	86.62
.4714	55.00	—	—	—	—
.4715	41.00	45.00	48.00	78.75	86.62
.4719	55.00	—	—	—	—
.4720	41.00	45.00	48.00	78.75	86.62
.4725	41.00	45.00	48.00	78.75	86.62
.4730	41.00	45.00	48.00	78.75	86.62
.4735	41.00	45.00	48.00	78.75	86.62
.4740	41.00	45.00	48.00	78.75	86.62
.4745	41.00	45.00	48.00	78.75	86.62
.4750	41.00	45.00	48.00	78.75	86.62
.4755	41.00	45.00	48.00	78.75	86.62
.4760	41.00	45.00	48.00	78.75	86.62
.4765	41.00	45.00	48.00	78.75	86.62
.4770	41.00	45.00	48.00	78.75	86.62
.4775	41.00	45.00	48.00	78.75	86.62
.4780	41.00	45.00	48.00	78.75	86.62
.4785	41.00	45.00	48.00	78.75	86.62
.4790	41.00	45.00	48.00	78.75	86.62
.4795	41.00	45.00	48.00	78.75	86.62
.4800	41.00	45.00	48.00	78.75	86.62
.4805	41.00	45.00	48.00	78.75	86.62
.4810	41.00	45.00	48.00	78.75	86.62
.4815	41.00	45.00	48.00	78.75	86.62
.4820	41.00	45.00	48.00	78.75	86.62
.4825	41.00	45.00	48.00	78.75	86.62
.4830	41.00	45.00	48.00	78.75	86.62
.4835	41.00	45.00	48.00	78.75	86.62

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



LV533 LV535 LV535L 1533 1535



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.4840	41.00	45.00	48.00	78.75	86.62
.4845	41.00	45.00	48.00	78.75	86.62
.4850	41.00	45.00	48.00	78.75	86.62
.4855	41.00	45.00	48.00	78.75	86.62
.4860	41.00	45.00	48.00	78.75	86.62
.4865	41.00	45.00	48.00	78.75	86.62
.4870	41.00	45.00	48.00	78.75	86.62
.4875	41.00	45.00	48.00	78.75	86.62
.4880	41.00	45.00	48.00	78.75	86.62
.4885	41.00	45.00	48.00	78.75	86.62
.4890	41.00	45.00	48.00	78.75	86.62
.4895	41.00	45.00	48.00	78.75	86.62
.4900	41.00	45.00	48.00	78.75	86.62
.4905	41.00	45.00	48.00	78.75	86.62
.4910	41.00	45.00	48.00	78.75	86.62
.4915	41.00	45.00	48.00	78.75	86.62
.4920	41.00	45.00	48.00	78.75	86.62
.4922	55.00	—	—	—	—
.4925	41.00	45.00	48.00	78.75	86.62
.4930	41.00	45.00	48.00	78.75	86.62
.4935	41.00	45.00	48.00	78.75	86.62
.4937	55.00	—	—	—	—
.4940	41.00	45.00	48.00	78.75	86.62
.4945	41.00	45.00	48.00	78.75	86.62
.4950	41.00	45.00	48.00	78.75	86.62
.4955	41.00	45.00	48.00	78.75	86.62
.4960	41.00	45.00	48.00	78.75	86.62
.4965	41.00	45.00	48.00	78.75	86.62
.4970	41.00	45.00	48.00	78.75	86.62
.4975	41.00	45.00	48.00	78.75	86.62
.4980	41.00	45.00	48.00	78.75	86.62
.4985	41.00	45.00	48.00	78.75	86.62
.4990	27.80	32.30	36.80	54.50	56.00
.4995	41.00	45.00	48.00	78.75	86.62
.4997	55.00	—	—	—	—
.5005	64.00	70.40	75.30	79.00	86.62
.5010	27.80	32.30	36.80	54.50	56.00
.5015	64.00	70.40	75.30	79.00	89.62
.5020	64.00	70.40	75.30	79.00	89.62
.5025	64.00	70.40	75.30	79.00	89.62
.5030	64.00	70.40	75.30	79.00	89.62
.5035	64.00	70.40	75.30	79.00	89.62
.5040	64.00	70.40	75.30	79.00	89.62
.5045	64.00	70.40	75.30	79.00	89.62
.5050	64.00	70.40	75.30	79.00	89.62
.5055	64.00	70.40	75.30	79.00	89.62
.5060	64.00	70.40	75.30	79.00	89.62
.5065	64.00	70.40	75.30	79.00	89.62
.5070	64.00	70.40	75.30	79.00	89.62
.5075	64.00	70.40	75.30	79.00	89.62
.5080	64.00	70.40	75.30	79.00	89.62
.5085	64.00	70.40	75.30	79.00	89.62
.5090	64.00	70.40	75.30	79.00	89.62
.5095	64.00	70.40	75.30	79.00	89.62
.5100	64.00	70.40	75.30	79.00	89.62
.5105	64.00	70.40	75.30	79.00	89.62
.5110	64.00	70.40	75.30	79.00	89.62
.5115	64.00	70.40	75.30	79.00	89.62
.5120	64.00	70.40	75.30	79.00	89.62

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.5125	64.00	70.40	75.30	79.00	89.62
.5130	64.00	70.40	75.30	79.00	89.62
.5135	64.00	70.40	75.30	79.00	89.62
.5140	64.00	70.40	75.30	79.00	89.62
.5145	64.00	70.40	75.30	79.00	89.62
.5150	64.00	70.40	75.30	79.00	89.62
.5155	64.00	70.40	75.30	79.00	89.62
.5160	64.00	70.40	75.30	79.00	89.62
.5165	64.00	70.40	75.30	79.00	89.62
.5170	64.00	70.40	75.30	79.00	89.62
.5175	64.00	70.40	75.30	79.00	89.62
.5180	64.00	70.40	75.30	79.00	89.62
.5185	64.00	70.40	75.30	79.00	89.62
.5190	64.00	70.40	75.30	79.00	89.62
.5195	64.00	70.40	75.30	79.00	89.62
.5198	69.00	—	—	—	—
.5200	64.00	70.40	75.30	79.00	89.62
.5205	64.00	70.40	75.30	79.00	89.62
.5210	64.00	70.40	75.30	79.00	89.62
.5215	64.00	70.40	75.30	79.00	89.62
.5220	64.00	70.40	75.30	79.00	89.62
.5225	64.00	70.40	75.30	79.00	89.62
.5230	64.00	70.40	75.30	79.00	89.62
.5235	64.00	70.40	75.30	79.00	89.62
.5240	64.00	70.40	75.30	79.00	89.62
.5245	64.00	70.40	75.30	79.00	89.62
.5250	64.00	70.40	75.30	79.00	89.62
.5255	64.00	70.40	75.30	79.00	89.62
.5260	64.00	70.40	75.30	79.00	89.62
.5265	64.00	70.40	75.30	79.00	89.62
.5270	64.00	70.40	75.30	79.00	89.62
.5275	64.00	70.40	75.30	79.00	89.62
.5280	64.00	70.40	75.30	79.00	89.62
.5285	64.00	70.40	75.30	79.00	89.62
.5290	64.00	70.40	75.30	79.00	89.62
.5295	64.00	70.40	75.30	79.00	89.62
.5300	64.00	70.40	75.30	79.00	89.62
.5305	64.00	70.40	75.30	79.00	89.62
.5310	64.00	70.40	75.30	79.00	89.62
.5315	36.00	44.00	47.00	—	—
.5320	64.00	70.40	75.30	79.00	89.62
.5325	64.00	70.40	75.30	79.00	89.62
.5330	64.00	70.40	75.30	79.00	89.62
.5335	64.00	70.40	75.30	79.00	89.62
.5340	64.00	70.40	75.30	79.00	89.62
.5345	64.00	70.40	75.30	79.00	89.62
.5350	64.00	70.40	75.30	79.00	89.62
.5355	64.00	70.40	75.30	79.00	89.62
.5360	64.00	70.40	75.30	79.00	89.62
.5365	64.00	70.40	75.30	79.00	89.62
.5370	64.00	70.40	75.30	79.00	89.62
.5375	64.00	70.40	75.30	79.00	89.62
.5380	64.00	70.40	75.30	79.00	89.62
.5385	64.00	70.40	75.30	79.00	89.62
.5390	64.00	70.40	75.30	79.00	89.62
.5395	64.00	70.40	75.30	79.00	89.62
.5400	64.00	70.40	75.30	79.00	89.62
.5405	64.00	70.40	75.30	79.00	89.62
.5410	64.00	70.40	75.30	79.00	89.62

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.5415	64.00	70.40	75.30	79.00	89.62
.5420	64.00	70.40	75.30	79.00	89.62
.5425	64.00	70.40	75.30	79.00	89.62
.5430	64.00	70.40	75.30	79.00	89.62
.5435	64.00	70.40	75.30	79.00	89.62
.5440	64.00	70.40	75.30	79.00	89.62
.5445	64.00	70.40	75.30	79.00	89.62
.5448	69.00	—	—	—	—
.5450	64.00	70.40	75.30	79.00	89.62
.5455	64.00	70.40	75.30	79.00	89.62
.5460	64.00	70.40	75.30	79.00	89.62
.5465	64.00	70.40	75.30	79.00	89.62
.5470	64.00	70.40	75.30	79.00	89.62
.5475	64.00	70.40	75.30	79.00	89.62
.5480	64.00	70.40	75.30	79.00	89.62
.5485	64.00	70.40	75.30	79.00	89.62
.5490	64.00	70.40	75.30	79.00	89.62
.5495	64.00	70.40	75.30	79.00	89.62
.5500	64.00	70.40	75.30	79.00	89.62
.5505	64.00	70.40	75.30	79.00	89.62
.5510	64.00	70.40	75.30	79.00	89.62
.5515	64.00	70.40	75.30	79.00	89.62
.5520	64.00	70.40	75.30	79.00	89.62
.5525	64.00	70.40	75.30	79.00	89.62
.5530	64.00	70.40	75.30	79.00	89.62
.5535	64.00	70.40	75.30	79.00	89.62
.5540	64.00	70.40	75.30	79.00	89.62
.5545	64.00	70.40	75.30	79.00	89.62
.5550	64.00	70.40	75.30	79.00	89.62
.5555	64.00	70.40	75.30	79.00	89.62
.5560	64.00	70.40	75.30	79.00	89.62
.5565	64.00	70.40	75.30	79.00	89.62
.5570	64.00	70.40	75.30	79.00	89.62
.5575	64.00	70.40	75.30	79.00	89.62
.5580	64.00	70.40	75.30	79.00	89.62
.5585	64.00	70.40	75.30	79.00	89.62
.5590	64.00	70.40	75.30	79.00	89.62
.5595	64.00	70.40	75.30	79.00	89.62
.5600	64.00	70.40	75.30	79.00	89.62
.5605	64.00	70.40	75.30	79.00	89.62
.5610	64.00	70.40	75.30	79.00	89.62
.5615	36.00	44.00	49.00	72.38	77.00
.5620	64.00	70.40	75.30	79.00	89.62
.5630	64.00	70.40	75.30	79.00	89.62
.5635	64.00	70.40	75.30	79.00	89.62
.5640	64.00	70.40	75.30	79.00	89.62
.5645	64.00	70.40	75.30	79.00	89.62
.5650	64.00	70.40	75.30	79.00	89.62
.5655	64.00	70.40	75.30	79.00	89.62
.5660	64.00	70.40	75.30	79.00	89.62
.5665	64.00	70.40	75.30	79.00	89.62
.5670	64.00	70.40	75.30	79.00	89.62
.5675	64.00	70.40	75.30	79.00	89.62
.5680	64.00	70.40	75.30	79.00	89.62
.5685	64.00	70.40	75.30	79.00	89.62
.5690	64.00	70.40	75.30	79.00	89.62
.5695	64.00	70.40	75.30	79.00	89.62
.5700	64.00	70.40	75.30	79.00	89.62
.5705	64.00	70.40	75.30	79.00	89.62

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.5710	64.00	70.40	75.30	79.00	89.62
.5715	64.00	70.40	75.30	79.00	89.62
.5720	64.00	70.40	75.30	79.00	89.62
.5725	64.00	70.40	75.30	79.00	89.62
.5730	64.00	70.40	75.30	79.00	89.62
.5735	64.00	70.40	75.30	79.00	89.62
.5740	64.00	70.40	75.30	79.00	89.62
.5745	64.00	70.40	75.30	79.00	89.62
.5750	64.00	70.40	75.30	79.00	89.62
.5755	64.00	70.40	75.30	79.00	89.62
.5760	64.00	70.40	75.30	79.00	89.62
.5765	64.00	70.40	75.30	79.00	89.62
.5770	64.00	70.40	75.30	79.00	89.62
.5775	64.00	70.40	75.30	79.00	89.62
.5780	64.00	70.40	75.30	79.00	89.62
.5785	64.00	70.40	75.30	79.00	89.62
.5790	64.00	70.40	75.30	79.00	89.62
.5795	64.00	70.40	75.30	79.00	89.62
.5800	64.00	70.40	75.30	79.00	89.62
.5805	64.00	70.40	75.30	79.00	89.62
.5810	64.00	70.40	75.30	79.00	89.62
.5815	64.00	70.40	75.30	79.00	89.62
.5820	64.00	70.40	75.30	79.00	89.62
.5825	64.00	70.40	75.30	79.00	89.62
.5830	64.00	70.40	75.30	79.00	89.62
.5835	64.00	70.40	75.30	79.00	89.62
.5840	64.00	70.40	75.30	79.00	89.62
.5845	64.00	70.40	75.30	79.00	89.62
.5850	64.00	70.40	75.30	79.00	89.62
.5855	64.00	70.40	75.30	79.00	89.62
.5860	64.00	70.40	75.30	79.00	89.62
.5865	64.00	70.40	75.30	79.00	89.62
.5870	64.00	70.40	75.30	79.00	89.62
.5875	64.00	70.40	75.30	79.00	89.62
.5880	64.00	70.40	75.30	79.00	89.62
.5885	64.00	70.40	75.30	79.00	89.62
.5890	64.00	70.40	75.30	79.00	89.62
.5895	64.00	70.40	75.30	79.00	89.62
.5900	64.00	70.40	75.30	79.00	89.62
.5905	64.00	70.40	75.30	79.00	89.62
.5910	64.00	70.40	75.30	79.00	89.62
.5915	64.00	70.40	75.30	79.00	89.62
.5920	64.00	70.40	75.30	79.00	89.62
.5925	64.00	70.40	75.30	79.00	89.62
.5930	64.00	70.40	75.30	79.00	89.62
.5935	64.00	70.40	75.30	79.00	89.62
.5940	64.00	70.40	75.30	79.00	89.62
.5945	64.00	70.40	75.30	79.00	89.62
.5950	64.00	70.40	75.30	79.00	89.62
.5955	64.00	70.40	75.30	79.00	89.62
.5960	64.00	70.40	75.30	79.00	89.62
.5965	64.00	70.40	75.30	79.00	89.62
.5970	64.00	70.40	75.30	79.00	89.62
.5975	64.00	70.40	75.30	79.00	89.62
.5980	64.00	70.40	75.30	79.00	89.62
.5985	64.00	70.40	75.30	79.00	89.62
.5990	64.00	70.40	75.30	79.00	89.62
.5995	64.00	70.40	75.30	79.00	89.62
.6000	64.00	70.40	75.30	79.00	89.62

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.



# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



LV533 LV535 LV535L 1533 1535



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.6005	64.00	70.40	75.30	79.00	89.62
.6010	64.00	70.40	75.30	79.00	89.62
.6015	64.00	70.40	75.30	79.00	89.62
.6020	64.00	70.40	75.30	79.00	89.62
.6025	64.00	70.40	75.30	79.00	89.62
.6030	64.00	70.40	75.30	79.00	89.62
.6035	64.00	70.40	75.30	79.00	89.62
.6040	64.00	70.40	75.30	79.00	89.62
.6045	64.00	70.40	75.30	79.00	89.62
.6050	64.00	70.40	75.30	79.00	89.62
.6055	64.00	70.40	75.30	79.00	89.62
.6060	64.00	70.40	75.30	79.00	89.62
.6065	64.00	70.40	75.30	79.00	89.62
.6070	64.00	70.40	75.30	79.00	89.62
.6075	64.00	70.40	75.30	79.00	89.62
.6080	64.00	70.40	75.30	79.00	89.62
.6085	64.00	70.40	75.30	79.00	89.62
.6090	64.00	70.40	75.30	79.00	89.62
.6095	64.00	70.40	75.30	79.00	89.62
.6100	64.00	70.40	75.30	79.00	89.62
.6105	64.00	70.40	75.30	79.00	89.62
.6110	64.00	70.40	75.30	79.00	89.62
.6115	64.00	70.40	75.30	79.00	89.62
.6120	64.00	70.40	75.30	79.00	89.62
.6125	64.00	70.40	75.30	79.00	89.62
.6130	64.00	70.40	75.30	79.00	89.62
.6135	64.00	70.40	75.30	79.00	89.62
.6140	64.00	70.40	75.30	79.00	89.62
.6145	64.00	70.40	75.30	79.00	89.62
.6150	64.00	70.40	75.30	79.00	89.62
.6155	64.00	70.40	75.30	79.00	89.62
.6160	64.00	70.40	75.30	79.00	89.62
.6165	64.00	70.40	75.30	79.00	89.62
.6170	64.00	70.40	75.30	79.00	89.62
.6175	64.00	70.40	75.30	79.00	89.62
.6180	64.00	70.40	75.30	79.00	89.62
.6185	64.00	70.40	75.30	79.00	89.62
.6190	64.00	70.40	75.30	79.00	89.62
.6195	64.00	70.40	75.30	79.00	89.62
.6200	64.00	70.40	75.30	79.00	89.62
.6205	64.00	70.40	75.30	79.00	89.62
.6210	64.00	70.40	75.30	79.00	89.62
.6215	64.00	70.40	75.30	79.00	89.62
.6220	64.00	70.40	75.30	79.00	89.62
.6225	64.00	70.40	75.30	79.00	89.62
.6230	64.00	70.40	75.30	79.00	89.62
.6235	64.00	70.40	75.30	79.00	89.62
.6240	41.00	54.00	61.50	82.00	89.50
.6245	64.00	70.40	75.30	79.00	89.62
.6255	64.00	70.40	75.30	79.00	89.62
.6260	41.00	54.00	61.50	82.00	89.50
.6265	64.00	70.40	73.60	85.00	89.62
.6270	74.00	79.20	84.00	85.00	95.49
.6275	74.00	79.20	84.00	85.00	95.49
.6280	74.00	79.20	84.00	85.00	95.49
.6285	74.00	79.20	84.00	85.00	95.49
.6290	74.00	79.20	84.00	85.00	95.49
.6295	74.00	79.20	84.00	85.00	95.49
.6300	74.00	79.20	84.00	85.00	95.49

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.6304	77.00	—	—	—	—
.6305	74.00	79.20	84.00	85.00	95.49
.6310	74.00	79.20	84.00	85.00	95.49
.6315	74.00	79.20	84.00	85.00	95.49
.6320	74.00	79.20	84.00	85.00	95.49
.6325	74.00	79.20	84.00	85.00	95.49
.6330	74.00	79.20	84.00	85.00	95.49
.6335	74.00	79.20	84.00	85.00	95.49
.6340	74.00	79.20	84.00	85.00	95.49
.6345	74.00	79.20	84.00	99.00	110.00
.6350	74.00	79.20	84.00	99.00	110.00
.6355	74.00	79.20	84.00	99.00	110.00
.6360	74.00	79.20	84.00	99.00	110.00
.6365	74.00	79.20	84.00	99.00	110.00
.6370	74.00	79.20	84.00	99.00	110.00
.6375	74.00	79.20	84.00	99.00	110.00
.6380	74.00	79.20	84.00	99.00	110.00
.6385	74.00	79.20	84.00	99.00	110.00
.6390	74.00	79.20	84.00	99.00	110.00
.6395	74.00	79.20	84.00	99.00	110.00
.6400	74.00	79.20	84.00	99.00	110.00
.6405	74.00	79.20	84.00	99.00	110.00
.6410	74.00	79.20	84.00	99.00	110.00
.6415	74.00	79.20	84.00	99.00	110.00
.6420	74.00	79.20	84.00	99.00	110.00
.6425	74.00	79.20	84.00	99.00	110.00
.6430	74.00	79.20	84.00	99.00	110.00
.6435	74.00	79.20	84.00	99.00	110.00
.6440	74.00	79.20	84.00	99.00	110.00
.6445	74.00	79.20	84.00	99.00	110.00
.6450	74.00	79.20	84.00	99.00	110.00
.6455	74.00	79.20	84.00	99.00	110.00
.6460	74.00	79.20	84.00	99.00	110.00
.6465	74.00	79.20	84.00	99.00	110.00
.6470	74.00	79.20	84.00	99.00	110.00
.6475	74.00	79.20	84.00	99.00	110.00
.6480	74.00	79.20	84.00	99.00	110.00
.6485	74.00	79.20	84.00	99.00	110.00
.6490	74.00	79.20	84.00	99.00	110.00
.6495	74.00	79.20	84.00	99.00	110.00
.6500	74.00	79.20	84.00	99.00	110.00
.6505	74.00	79.20	84.00	99.00	110.00
.6510	74.00	79.20	84.00	99.00	110.00
.6515	74.00	79.20	84.00	99.00	110.00
.6520	74.00	79.20	84.00	99.00	110.00
.6525	74.00	79.20	84.00	99.00	110.00
.6530	74.00	79.20	84.00	99.00	110.00
.6535	74.00	79.20	84.00	99.00	110.00
.6540	74.00	79.20	84.00	99.00	110.00
.6545	74.00	79.20	84.00	99.00	110.00
.6550	74.00	79.20	84.00	99.00	110.00
.6555	74.00	79.20	84.00	99.00	110.00
.6560	74.00	79.20	84.00	99.00	110.00
.6565	74.00	79.20	84.00	99.00	110.00
.6570	74.00	79.20	84.00	99.00	110.00
.6575	74.00	79.20	84.00	99.00	110.00
.6580	74.00	79.20	84.00	99.00	110.00
.6585	74.00	79.20	84.00	99.00	110.00
.6590	74.00	79.20	84.00	99.00	110.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.6595	74.00	79.20	84.00	99.00	110.00
.6600	74.00	79.20	84.00	99.00	110.00
.6605	74.00	79.20	84.00	99.00	110.00
.6610	74.00	79.20	84.00	99.00	110.00
.6615	74.00	79.20	84.00	99.00	110.00
.6620	74.00	79.20	84.00	99.00	110.00
.6625	74.00	79.20	84.00	99.00	110.00
.6630	74.00	79.20	84.00	99.00	110.00
.6635	74.00	79.20	84.00	99.00	110.00
.6640	74.00	79.20	84.00	99.00	110.00
.6645	74.00	79.20	84.00	99.00	110.00
.6650	74.00	79.20	84.00	99.00	110.00
.6655	74.00	79.20	84.00	99.00	110.00
.6660	74.00	79.20	84.00	99.00	110.00
.6665	74.00	79.20	84.00	99.00	110.00
.6670	74.00	79.20	84.00	99.00	110.00
.6675	74.00	79.20	84.00	99.00	110.00
.6680	74.00	79.20	84.00	99.00	110.00
.6685	74.00	79.20	84.00	99.00	110.00
.6690	74.00	79.20	84.00	99.00	110.00
.6695	74.00	79.20	84.00	99.00	110.00
.6700	74.00	79.20	84.00	99.00	110.00
.6705	74.00	79.20	84.00	99.00	110.00
.6710	74.00	79.20	84.00	99.00	110.00
.6715	74.00	79.20	84.00	99.00	110.00
.6720	74.00	79.20	84.00	99.00	110.00
.6725	74.00	79.20	84.00	99.00	110.00
.6730	74.00	79.20	84.00	99.00	110.00
.6735	74.00	79.20	84.00	99.00	110.00
.6740	74.00	79.20	84.00	99.00	110.00
.6745	74.00	79.20	84.00	99.00	110.00
.6750	74.00	79.20	84.00	99.00	110.00
.6755	74.00	79.20	84.00	99.00	110.00
.6760	74.00	79.20	84.00	99.00	110.00
.6765	74.00	79.20	84.00	99.00	110.00
.6770	74.00	79.20	84.00	99.00	110.00
.6775	74.00	79.20	84.00	99.00	110.00
.6780	74.00	79.20	84.00	99.00	110.00
.6785	74.00	79.20	84.00	99.00	110.00
.6790	74.00	79.20	84.00	99.00	110.00
.6795	74.00	79.20	84.00	99.00	110.00
.6800	74.00	79.20	84.00	99.00	110.00
.6805	74.00	79.20	84.00	99.00	110.00
.6810	74.00	79.20	84.00	99.00	110.00
.6815	74.00	79.20	84.00	99.00	110.00
.6820	74.00	79.20	84.00	99.00	110.00
.6825	74.00	79.20	84.00	99.00	110.00
.6830	74.00	79.20	84.00	99.00	110.00
.6835	74.00	79.20	84.00	99.00	110.00
.6840	74.00	79.20	84.00	99.00	110.00
.6845	74.00	79.20	84.00	99.00	110.00
.6850	74.00	79.20	84.00	99.00	110.00
.6855	74.00	79.20	84.00	99.00	110.00
.6860	74.00	79.20	84.00	99.00	110.00
.6865	81.00	86.00	90.00	99.00	110.00
.6870	81.00	86.00	90.00	99.00	110.00
.6880	81.00	86.00	90.00	102.00	118.00
.6885	81.00	86.00	90.00	102.00	118.00
.6890	81.00	86.00	90.00	—	—

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.6895	81.00	86.00	90.00	102.00	118.00
.6900	81.00	86.00	90.00	102.00	118.00
.6905	81.00	86.00	90.00	102.00	118.00
.6910	81.00	86.00	90.00	102.00	118.00
.6915	81.00	86.00	90.00	102.00	118.00
.6920	81.00	86.00	90.00	102.00	118.00
.6925	81.00	86.00	90.00	102.00	118.00
.6930	81.00	86.00	90.00	102.00	118.00
.6935	81.00	86.00	90.00	102.00	118.00
.6940	81.00	86.00	90.00	102.00	118.00
.6945	81.00	86.00	90.00	102.00	118.00
.6950	81.00	86.00	90.00	102.00	118.00
.6955	81.00	86.00	90.00	102.00	118.00
.6960	81.00	86.00	90.00	102.00	118.00
.6965	81.00	86.00	90.00	102.00	118.00
.6970	81.00	86.00	90.00	102.00	118.00
.6975	81.00	86.00	90.00	102.00	118.00
.6980	81.00	86.00	90.00	102.00	118.00
.6985	81.00	86.00	90.00	102.00	118.00
.6990	81.00	86.00	90.00	102.00	118.00
.6995	81.00	86.00	90.00	102.00	118.00
.7000	81.00	86.00	90.00	102.00	118.00
.7005	81.00	86.00	90.00	102.00	118.00
.7010	81.00	86.00	90.00	102.00	118.00
.7015	81.00	86.00	90.00	102.00	118.00
.7020	81.00	86.00	90.00	102.00	118.00
.7025	81.00	86.00	90.00	102.00	118.00
.7030	81.00	86.00	90.00	102.00	118.00
.7035	81.00	86.00	90.00	102.00	118.00
.7040	81.00	86.00	90.00	102.00	118.00
.7045	81.00	86.00	90.00	102.00	118.00
.7050	81.00	86.00	90.00	102.00	118.00
.7055	81.00	86.00	90.00	102.00	118.00
.7060	81.00	86.00	90.00	102.00	118.00
.7065	81.00	86.00	90.00	102.00	118.00
.7070	81.00	86.00	90.00	102.00	118.00
.7075	81.00	86.00	90.00	102.00	118.00
.7080	81.00	86.00	90.00	102.00	118.00
.7085	81.00	86.00	90.00	102.00	118.00
.7090	81.00	86.00	90.00	102.00	118.00
.7095	81.00	86.00	90.00	102.00	118.00
.7100	81.00	86.00	90.00	102.00	118.00
.7105	81.00	86.00	90.00	102.00	118.00
.7110	81.00	86.00	90.00	102.00	118.00
.7115	81.00	86.00	90.00	102.00	118.00
.7120	81.00	86.00	90.00	102.00	118.00
.7125	81.00	86.00	90.00	102.00	118.00
.7130	81.00	86.00	90.00	102.00	118.00
.7135	81.00	86.00	90.00	102.00	118.00
.7140	81.00	86.00	90.00	102.00	118.00
.7145	81.00	86.00	90.00	102.00	118.00
.7150	81.00	86.00	90.00	102.00	118.00
.7155	81.00	86.00	90.00	102.00	118.00
.7160	81.00	86.00	90.00	102.00	118.00
.7165	81.00	86.00	90.00	102.00	118.00
.7170	81.00	86.00	90.00	102.00	118.00
.7175	81.00	86.00	90.00	102.00	118.00
.7180	81.00	86.00	90.00	102.00	118.00
.7185	83.00	89.00	94.00	97.00	118.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.7190	83.00	89.00	94.00	102.00	121.00
.7195	83.00	89.00	94.00	102.00	121.00
.7200	83.00	89.00	94.00	102.00	121.00
.7205	83.00	89.00	94.00	102.00	121.00
.7210	83.00	89.00	94.00	102.00	121.00
.7215	83.00	89.00	94.00	102.00	121.00
.7220	83.00	89.00	94.00	102.00	121.00
.7225	83.00	89.00	94.00	102.00	121.00
.7230	83.00	89.00	94.00	102.00	121.00
.7235	83.00	89.00	94.00	102.00	121.00
.7240	83.00	89.00	94.00	102.00	121.00
.7245	83.00	89.00	94.00	102.00	121.00
.7250	83.00	89.00	94.00	102.00	121.00
.7255	83.00	89.00	94.00	102.00	121.00
.7260	83.00	89.00	94.00	102.00	121.00
.7265	83.00	89.00	94.00	102.00	121.00
.7270	83.00	89.00	94.00	102.00	121.00
.7275	83.00	89.00	94.00	102.00	121.00
.7280	83.00	89.00	94.00	102.00	121.00
.7285	83.00	89.00	94.00	102.00	121.00
.7290	83.00	89.00	94.00	102.00	121.00
.7295	83.00	89.00	94.00	102.00	121.00
.7300	83.00	89.00	94.00	102.00	121.00
.7305	83.00	89.00	94.00	102.00	121.00
.7310	83.00	89.00	94.00	102.00	121.00
.7315	83.00	89.00	94.00	102.00	121.00
.7320	83.00	89.00	94.00	102.00	121.00
.7325	83.00	89.00	94.00	102.00	121.00
.7330	83.00	89.00	94.00	102.00	121.00
.7335	83.00	89.00	94.00	102.00	121.00
.7340	83.00	89.00	94.00	102.00	121.00
.7345	83.00	89.00	94.00	102.00	121.00
.7350	83.00	89.00	94.00	102.00	121.00
.7355	83.00	89.00	94.00	102.00	121.00
.7360	83.00	89.00	94.00	102.00	121.00
.7365	83.00	89.00	94.00	102.00	121.00
.7370	83.00	89.00	94.00	102.00	121.00
.7375	83.00	89.00	94.00	102.00	121.00
.7380	83.00	89.00	94.00	102.00	121.00
.7385	83.00	89.00	94.00	102.00	121.00
.7390	83.00	89.00	94.00	102.00	121.00
.7395	83.00	89.00	94.00	102.00	121.00
.7400	83.00	89.00	94.00	102.00	121.00
.7405	83.00	89.00	94.00	102.00	121.00
.7410	83.00	89.00	94.00	102.00	121.00
.7415	83.00	89.00	94.00	102.00	121.00
.7420	83.00	89.00	94.00	102.00	121.00
.7425	83.00	89.00	94.00	102.00	121.00
.7430	83.00	89.00	94.00	102.00	121.00
.7435	83.00	89.00	94.00	102.00	121.00
.7440	83.00	89.00	94.00	102.00	121.00
.7445	83.00	89.00	94.00	102.00	121.00
.7450	83.00	89.00	94.00	102.00	121.00
.7455	83.00	89.00	94.00	102.00	121.00
.7460	83.00	89.00	94.00	102.00	121.00
.7465	83.00	89.00	94.00	102.00	121.00
.7470	83.00	89.00	94.00	102.00	121.00
.7475	83.00	89.00	94.00	102.00	121.00
.7485	83.00	89.00	94.00	102.00	121.00

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.7490	57.50	72.50	79.00	90.00	101.00
.7495	83.00	89.00	94.00	102.00	121.00
.7505	89.00	95.00	95.00	110.00	130.00
.7510	57.50	72.50	79.00	90.00	101.00
.7515	89.00	95.00	99.50	110.00	130.00
.7520	89.00	95.00	99.50	110.00	130.00
.7525	89.00	95.00	99.50	110.00	130.00
.7530	89.00	95.00	99.50	110.00	130.00
.7535	89.00	95.00	99.50	110.00	130.00
.7540	89.00	95.00	99.50	110.00	130.00
.7545	89.00	95.00	99.50	110.00	130.00
.7550	89.00	95.00	99.50	110.00	130.00
.7555	89.00	95.00	99.50	110.00	130.00
.7560	89.00	95.00	99.50	110.00	130.00
.7565	89.00	95.00	99.50	110.00	130.00
.7570	89.00	95.00	99.50	110.00	130.00
.7575	89.00	95.00	99.50	110.00	130.00
.7580	89.00	95.00	99.50	110.00	130.00
.7585	89.00	95.00	99.50	110.00	130.00
.7590	89.00	95.00	99.50	110.00	130.00
.7595	89.00	95.00	99.50	110.00	130.00
.7600	89.00	95.00	99.50	110.00	130.00
.7605	89.00	95.00	99.50	110.00	130.00
.7610	89.00	95.00	99.50	110.00	130.00
.7615	89.00	95.00	99.50	110.00	130.00
.7620	89.00	95.00	99.50	110.00	130.00
.7625	89.00	95.00	99.50	110.00	130.00
.7630	89.00	95.00	99.50	110.00	130.00
.7635	89.00	95.00	99.50	110.00	130.00
.7640	89.00	95.00	99.50	110.00	130.00
.7645	89.00	95.00	99.50	110.00	130.00
.7650	89.00	95.00	99.50	110.00	130.00
.7655	89.00	95.00	99.50	110.00	130.00
.7660	89.00	95.00	99.50	110.00	130.00
.7665	89.00	95.00	99.50	110.00	130.00
.7670	89.00	95.00	99.50	110.00	130.00
.7675	89.00	95.00	99.50	110.00	130.00
.7680	89.00	95.00	99.50	110.00	130.00
.7685	89.00	95.00	99.50	110.00	130.00
.7690	89.00	95.00	99.50	110.00	130.00
.7695	89.00	95.00	99.50	110.00	130.00
.7700	89.00	95.00	99.50	110.00	130.00
.7705	89.00	95.00	99.50	110.00	130.00
.7710	89.00	95.00	99.50	110.00	130.00
.7715	89.00	95.00	99.50	110.00	130.00
.7720	89.00	95.00	99.50	110.00	130.00
.7725	89.00	95.00	99.50	110.00	130.00
.7730	89.00	95.00	99.50	110.00	130.00
.7735	89.00	95.00	99.50	110.00	130.00
.7740	89.00	95.00	99.50	110.00	130.00
.7745	89.00	95.00	99.50	110.00	130.00
.7750	89.00	95.00	99.50	110.00	130.00
.7755	89.00	95.00	99.50	110.00	130.00
.7760	89.00	95.00	99.50	110.00	130.00
.7765	89.00	95.00	99.50	110.00	130.00
.7770	89.00	95.00	99.50	110.00	130.00
.7775	89.00	95.00	99.50	110.00	130.00
.7780	89.00	95.00	99.50	110.00	130.00
.7785	89.00	95.00	99.50	110.00	130.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.7790	89.00	95.00	99.50	110.00	130.00
.7795	89.00	95.00	99.50	110.00	130.00
.7800	89.00	95.00	99.50	110.00	130.00
.7805	89.00	95.00	99.50	110.00	130.00
.7810	89.00	95.00	99.50	110.00	130.00
.7815	89.00	95.00	99.50	110.00	130.00
.7820	89.00	95.00	99.50	110.00	130.00
.7825	89.00	95.00	99.50	110.00	130.00
.7830	89.00	95.00	99.50	110.00	130.00
.7835	89.00	95.00	99.50	110.00	130.00
.7840	89.00	95.00	99.50	110.00	130.00
.7845	89.00	95.00	99.50	110.00	130.00
.7850	89.00	95.00	99.50	110.00	130.00
.7855	89.00	95.00	99.50	110.00	130.00
.7860	89.00	95.00	99.50	110.00	130.00
.7865	89.00	95.00	99.50	110.00	130.00
.7870	89.00	95.00	99.50	110.00	130.00
.7875	89.00	95.00	99.50	110.00	130.00
.7880	89.00	95.00	99.50	110.00	130.00
.7885	89.00	95.00	99.50	110.00	130.00
.7890	89.00	95.00	99.50	110.00	130.00
.7895	89.00	95.00	99.50	110.00	130.00
.7900	89.00	95.00	99.50	110.00	130.00
.7905	89.00	95.00	99.50	110.00	130.00
.7910	89.00	95.00	99.50	110.00	130.00
.7915	89.00	95.00	99.50	110.00	130.00
.7920	89.00	95.00	99.50	110.00	130.00
.7925	89.00	95.00	99.50	110.00	130.00
.7930	89.00	95.00	99.50	110.00	130.00
.7935	89.00	95.00	99.50	110.00	130.00
.7940	89.00	95.00	99.50	110.00	130.00
.7945	89.00	95.00	99.50	110.00	130.00
.7950	89.00	95.00	99.50	110.00	130.00
.7955	89.00	95.00	99.50	110.00	130.00
.7960	89.00	95.00	99.50	110.00	130.00
.7965	89.00	95.00	99.50	110.00	130.00
.7970	89.00	95.00	99.50	110.00	130.00
.7975	89.00	95.00	99.50	110.00	130.00
.7980	89.00	95.00	99.50	110.00	130.00
.7985	89.00	95.00	99.50	110.00	130.00
.7990	89.00	95.00	99.50	110.00	130.00
.7995	89.00	95.00	99.50	110.00	130.00
.8000	89.00	95.00	99.50	110.00	130.00
.8005	89.00	95.00	99.50	110.00	130.00
.8010	89.00	95.00	99.50	110.00	130.00
.8015	89.00	95.00	99.50	110.00	130.00
.8020	89.00	95.00	99.50	110.00	130.00
.8025	89.00	95.00	99.50	110.00	130.00
.8030	89.00	95.00	99.50	110.00	130.00
.8035	89.00	95.00	99.50	110.00	130.00
.8040	89.00	95.00	99.50	110.00	130.00
.8045	89.00	95.00	99.50	110.00	130.00
.8050	89.00	95.00	99.50	110.00	130.00
.8055	89.00	95.00	99.50	110.00	130.00
.8060	89.00	95.00	99.50	110.00	130.00
.8065	89.00	95.00	99.50	110.00	130.00
.8070	89.00	95.00	99.50	110.00	130.00
.8075	89.00	95.00	99.50	110.00	130.00
.8080	89.00	95.00	99.50	110.00	130.00

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.8085	89.00	95.00	99.50	110.00	130.00
.8090	89.00	95.00	99.50	110.00	130.00
.8095	89.00	95.00	99.50	110.00	130.00
.8100	89.00	95.00	99.50	110.00	130.00
.8105	89.00	95.00	99.50	110.00	130.00
.8110	89.00	95.00	99.50	110.00	130.00
.8115	59.00	76.50	79.00	102.00	115.00
.8120	89.00	95.00	99.50	110.00	130.00
.8130	93.00	99.00	104.00	125.50	139.00
.8135	59.00	76.50	79.00	102.00	115.00
.8140	93.00	99.00	104.00	125.50	139.00
.8145	93.00	99.00	104.00	125.50	139.00
.8150	93.00	99.00	104.00	125.50	139.00
.8155	93.00	99.00	104.00	125.50	139.00
.8160	93.00	99.00	104.00	125.50	139.00
.8165	93.00	99.00	104.00	125.50	139.00
.8170	95.50	99.00	104.00	125.50	139.00
.8175	95.50	99.00	104.00	125.50	139.00
.8180	95.50	99.00	104.00	125.50	139.00
.8185	95.50	99.00	104.00	125.50	139.00
.8190	95.50	99.00	104.00	125.50	139.00
.8195	95.50	99.00	104.00	125.50	139.00
.8200	95.50	99.00	104.00	125.50	139.00
.8205	95.50	99.00	104.00	125.50	139.00
.8210	95.50	99.00	104.00	125.50	139.00
.8215	95.50	99.00	104.00	125.50	139.00
.8220	95.50	99.00	104.00	125.50	139.00
.8225	95.50	99.00	104.00	125.50	139.00
.8230	95.50	99.00	104.00	125.50	139.00
.8235	95.50	99.00	104.00	125.50	139.00
.8240	95.50	99.00	104.00	125.50	139.00
.8245	95.50	99.00	104.00	125.50	139.00
.8250	95.50	99.00	104.00	125.50	139.00
.8255	95.50	99.00	104.00	125.50	139.00
.8260	95.50	99.00	104.00	125.50	139.00
.8265	95.50	99.00	104.00	125.50	139.00
.8270	95.50	99.00	104.00	125.50	139.00
.8275	95.50	99.00	104.00	125.50	139.00
.8280	95.50	99.00	104.00	125.50	139.00
.8285	95.50	99.00	104.00	125.50	139.00
.8290	95.50	99.00	104.00	125.50	139.00
.8295	95.50	99.00	104.00	125.50	139.00
.8300	95.50	99.00	104.00	125.50	139.00
.8305	95.50	99.00	104.00	125.50	139.00
.8310	95.50	99.00	104.00	125.50	139.00
.8315	95.50	99.00	104.00	125.50	139.00
.8320	95.50	99.00	104.00	125.50	139.00
.8325	95.50	99.00	104.00	125.50	139.00
.8330	95.50	99.00	104.00	125.50	139.00
.8335	95.50	99.00	104.00	125.50	139.00
.8340	95.50	99.00	104.00	125.50	139.00
.8345	95.50	99.00	104.00	125.50	139.00
.8350	95.50	99.00	104.00	125.50	139.00
.8355	95.50	99.00	104.00	125.50	139.00
.8360	95.50	99.00	104.00	125.50	139.00
.8365	95.50	99.00	104.00	125.50	139.00
.8370	95.50	99.00	104.00	125.50	139.00
.8375	95.50	99.00	104.00	125.50	139.00
.8380	95.50	99.00	104.00	125.50	139.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.8385	95.50	99.00	104.00	125.50	139.00
.8390	95.50	99.00	104.00	125.50	139.00
.8395	95.50	99.00	104.00	125.50	139.00
.8400	95.50	99.00	104.00	125.50	139.00
.8405	95.50	99.00	104.00	125.50	139.00
.8410	95.50	99.00	104.00	125.50	139.00
.8415	95.50	99.00	104.00	125.50	139.00
.8420	95.50	99.00	104.00	125.50	139.00
.8425	95.50	99.00	104.00	125.50	139.00
.8430	95.50	99.00	104.00	125.50	139.00
.8435	95.50	99.00	104.00	125.50	139.00
.8440	97.00	102.00	107.00	114.08	139.00
.8445	97.00	102.00	107.00	114.08	139.00
.8450	97.00	102.00	107.00	114.08	139.00
.8455	97.00	102.00	107.00	114.08	139.00
.8460	97.00	102.00	107.00	114.08	139.00
.8470	97.00	102.00	107.00	114.08	139.00
.8475	97.00	102.00	107.00	114.08	139.00
.8480	97.00	102.00	107.00	114.08	139.00
.8485	97.00	102.00	107.00	114.08	139.00
.8490	97.00	102.00	107.00	114.08	139.00
.8495	97.00	102.00	107.00	114.08	139.00
.8500	97.00	102.00	107.00	114.08	139.00
.8505	97.00	102.00	107.00	114.08	139.00
.8510	97.00	102.00	107.00	114.08	139.00
.8515	97.00	102.00	107.00	114.08	139.00
.8520	97.00	102.00	107.00	114.08	139.00
.8525	97.00	102.00	107.00	114.08	139.00
.8530	97.00	102.00	107.00	114.08	139.00
.8535	97.00	102.00	107.00	114.08	139.00
.8540	97.00	102.00	107.00	114.08	139.00
.8545	97.00	102.00	107.00	114.08	139.00
.8550	97.00	102.00	107.00	114.08	139.00
.8555	97.00	102.00	107.00	114.08	139.00
.8560	97.00	102.00	107.00	114.08	139.00
.8565	97.00	102.00	107.00	114.08	139.00
.8570	97.00	102.00	107.00	114.08	139.00
.8575	97.00	102.00	107.00	114.08	139.00
.8580	97.00	102.00	107.00	114.08	139.00
.8585	97.00	102.00	107.00	114.08	139.00
.8590	97.00	102.00	107.00	114.08	139.00
.8595	97.00	102.00	107.00	114.08	139.00
.8600	97.00	102.00	107.00	114.08	139.00
.8605	97.00	102.00	107.00	114.08	139.00
.8610	97.00	102.00	107.00	114.08	139.00
.8615	97.00	102.00	107.00	114.08	139.00
.8620	97.00	102.00	107.00	114.08	139.00
.8625	97.00	102.00	107.00	114.08	139.00
.8630	97.00	102.00	107.00	114.08	139.00
.8635	97.00	102.00	107.00	114.08	139.00
.8640	97.00	102.00	107.00	114.08	139.00
.8645	97.00	102.00	107.00	114.08	139.00
.8650	97.00	102.00	107.00	114.08	139.00
.8655	97.00	102.00	107.00	114.08	139.00
.8660	97.00	102.00	107.00	114.08	139.00
.8665	97.00	102.00	107.00	114.08	139.00
.8670	97.00	102.00	107.00	114.08	139.00
.8675	97.00	102.00	107.00	114.08	139.00
.8680	97.00	102.00	107.00	114.08	139.00

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.8685	97.00	102.00	107.00	114.08	139.00
.8690	97.00	102.00	107.00	114.08	139.00
.8695	97.00	102.00	107.00	114.08	139.00
.8700	97.00	102.00	107.00	114.08	139.00
.8705	97.00	102.00	107.00	114.08	139.00
.8710	97.00	102.00	107.00	114.08	139.00
.8715	97.00	102.00	107.00	114.08	139.00
.8720	97.00	102.00	107.00	114.08	139.00
.8725	97.00	102.00	107.00	114.08	139.00
.8730	97.00	102.00	107.00	114.08	139.00
.8735	97.00	102.00	107.00	114.08	139.00
.8740	69.00	90.00	99.00	125.00	133.00
.8745	97.00	102.00	107.00	115.00	136.00
.8755	102.00	109.00	113.27	140.00	160.00
.8760	69.00	90.00	99.00	125.00	133.00
.8765	102.00	109.00	113.27	140.00	160.00
.8770	102.00	109.00	113.27	140.00	160.00
.8775	102.00	109.00	113.27	140.00	160.00
.8780	102.00	109.00	113.27	140.00	160.00
.8785	102.00	109.00	113.27	140.00	160.00
.8790	102.00	109.00	113.27	140.00	160.00
.8795	102.00	109.00	113.27	140.00	160.00
.8800	102.00	109.00	113.27	140.00	160.00
.8805	102.00	109.00	113.27	140.00	160.00
.8810	102.00	109.00	113.27	140.00	160.00
.8815	102.00	109.00	113.27	140.00	160.00
.8820	102.00	109.00	113.27	140.00	160.00
.8825	102.00	109.00	113.27	140.00	160.00
.8830	102.00	109.00	113.27	140.00	160.00
.8835	102.00	109.00	113.27	140.00	160.00
.8840	102.00	109.00	113.27	140.00	160.00
.8845	102.00	109.00	113.27	140.00	160.00
.8850	102.00	109.00	113.27	140.00	160.00
.8855	102.00	109.00	113.27	140.00	160.00
.8860	102.00	109.00	113.27	140.00	160.00
.8865	102.00	109.00	113.27	140.00	160.00
.8870	102.00	109.00	113.27	140.00	160.00
.8875	102.00	109.00	113.27	140.00	160.00
.8880	102.00	109.00	113.27	140.00	160.00
.8885	102.00	109.00	113.27	140.00	160.00
.8890	102.00	109.00	113.27	140.00	160.00
.8895	102.00	109.00	113.27	140.00	160.00
.8900	104.00	110.00	116.00	140.00	160.00
.8905	104.00	110.00	116.00	140.00	160.00
.8910	104.00	110.00	116.00	140.00	160.00
.8915	104.00	110.00	116.00	140.00	160.00
.8920	104.00	110.00	116.00	140.00	160.00
.8925	104.00	110.00	116.00	140.00	160.00
.8930	104.00	110.00	116.00	140.00	160.00
.8935	104.00	110.00	116.00	140.00	160.00
.8940	104.00	110.00	116.00	140.00	160.00
.8945	104.00	110.00	116.00	140.00	160.00
.8950	104.00	110.00	116.00	140.00	160.00
.8955	104.00	110.00	116.00	140.00	160.00
.8960	104.00	110.00	116.00	140.00	160.00
.8965	104.00	110.00	116.00	140.00	160.00
.8970	104.00	110.00	116.00	140.00	160.00
.8975	104.00	110.00	116.00	140.00	160.00
.8980	104.00	110.00	116.00	140.00	160.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.



# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

List No. **LV533**: High Speed, Straight Flute

List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut

List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut

List No. **1533**: Cobalt, Straight Flute

List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.8985	104.00	110.00	116.00	140.00	160.00
.8990	104.00	110.00	116.00	140.00	160.00
.8995	104.00	110.00	116.00	140.00	160.00
.9000	104.00	110.00	116.00	140.00	160.00
.9005	104.00	110.00	116.00	140.00	160.00
.9010	104.00	110.00	116.00	140.00	160.00
.9015	104.00	110.00	116.00	140.00	160.00
.9020	104.00	110.00	116.00	140.00	160.00
.9025	104.00	110.00	116.00	140.00	160.00
.9030	104.00	110.00	116.00	140.00	160.00
.9035	104.00	110.00	116.00	140.00	160.00
.9040	104.00	110.00	116.00	140.00	160.00
.9045	104.00	110.00	116.00	140.00	160.00
.9050	104.00	110.00	116.00	140.00	160.00
.9060	104.00	110.00	116.00	140.00	160.00
.9065	104.00	110.00	116.00	140.00	160.00
.9070	104.00	110.00	116.00	140.00	160.00
.9075	104.00	110.00	116.00	140.00	160.00
.9080	105.00	111.00	116.00	140.00	160.00
.9085	105.00	111.00	116.00	140.00	160.00
.9090	105.00	111.00	116.00	140.00	160.00
.9095	105.00	111.00	116.00	140.00	160.00
.9100	105.00	111.00	116.00	140.00	160.00
.9105	105.00	111.00	116.00	140.00	160.00
.9110	105.00	111.00	116.00	140.00	160.00
.9115	105.00	111.00	116.00	140.00	160.00
.9120	105.00	111.00	116.00	140.00	160.00
.9125	105.00	111.00	116.00	140.00	160.00
.9130	105.00	111.00	116.00	140.00	160.00
.9135	105.00	111.00	116.00	140.00	160.00
.9140	105.00	111.00	116.00	140.00	160.00
.9145	105.00	111.00	116.00	140.00	160.00
.9150	105.00	111.00	116.00	140.00	160.00
.9155	105.00	111.00	116.00	140.00	160.00
.9160	105.00	111.00	116.00	140.00	160.00
.9165	105.00	111.00	116.00	140.00	160.00
.9170	105.00	111.00	116.00	140.00	160.00
.9175	105.00	111.00	116.00	140.00	160.00
.9180	105.00	111.00	116.00	140.00	160.00
.9185	105.00	111.00	116.00	140.00	160.00
.9190	105.00	111.00	116.00	140.00	160.00
.9195	105.00	111.00	116.00	140.00	160.00
.9200	105.00	111.00	116.00	140.00	160.00
.9205	106.00	112.00	117.00	140.00	160.00
.9210	106.00	112.00	117.00	140.00	160.00
.9215	106.00	112.00	117.00	140.00	160.00
.9220	106.00	112.00	117.00	140.00	160.00
.9225	106.00	112.00	117.00	140.00	160.00
.9230	106.00	112.00	117.00	140.00	160.00
.9235	106.00	112.00	117.00	140.00	160.00
.9240	106.00	112.00	117.00	140.00	160.00
.9245	106.00	112.00	117.00	140.00	160.00
.9250	106.00	112.00	117.00	140.00	160.00
.9255	106.00	112.00	117.00	140.00	160.00
.9260	106.00	112.00	117.00	140.00	160.00
.9265	106.00	112.00	117.00	140.00	160.00
.9270	106.00	112.00	117.00	140.00	160.00
.9275	106.00	112.00	117.00	140.00	160.00
.9280	106.00	112.00	117.00	140.00	160.00

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Flt.	1535 Cobalt RH Sp.
.9285	106.00	112.00	117.00	140.00	160.00
.9290	106.00	112.00	117.00	140.00	160.00
.9295	106.00	112.00	117.00	140.00	160.00
.9300	106.00	112.00	117.00	140.00	160.00
.9305	106.00	112.00	117.00	140.00	160.00
.9310	106.00	112.00	117.00	140.00	160.00
.9315	106.00	112.00	117.00	140.00	160.00
.9320	106.00	112.00	117.00	140.00	160.00
.9325	106.00	112.00	117.00	140.00	160.00
.9330	106.00	112.00	117.00	140.00	160.00
.9335	106.00	112.00	117.00	140.00	160.00
.9340	106.00	112.00	117.00	140.00	160.00
.9345	106.00	112.00	117.00	140.00	160.00
.9350	106.00	112.00	117.00	140.00	160.00
.9355	106.00	112.00	117.00	140.00	160.00
.9360	106.00	112.00	—	140.00	160.00
.9370	106.00	112.00	117.00	140.00	160.00
.9380	112.00	121.00	125.00	158.00	170.00
.9385	112.00	121.00	125.00	158.00	170.00
.9390	112.00	121.00	125.00	158.00	170.00
.9395	112.00	121.00	125.00	158.00	170.00
.9400	112.00	121.00	125.00	158.00	170.00
.9405	112.00	121.00	125.00	158.00	170.00
.9410	112.00	121.00	125.00	158.00	170.00
.9415	112.00	121.00	125.00	158.00	170.00
.9420	112.00	121.00	125.00	158.00	170.00
.9425	112.00	121.00	125.00	158.00	170.00
.9430	112.00	121.00	125.00	158.00	170.00
.9435	112.00	121.00	125.00	158.00	170.00
.9440	112.00	121.00	125.00	158.00	170.00
.9445	112.00	121.00	125.00	158.00	170.00
.9450	112.00	121.00	125.00	158.00	170.00
.9455	112.00	121.00	125.00	158.00	170.00
.9460	112.00	121.00	125.00	158.00	170.00
.9465	112.00	121.00	125.00	158.00	170.00
.9470	112.00	121.00	125.00	158.00	170.00
.9475	112.00	121.00	125.00	158.00	170.00
.9480	112.00	121.00	125.00	158.00	170.00
.9485	112.00	121.00	125.00	158.00	170.00
.9490	112.00	121.00	125.00	158.00	170.00
.9495	114.00	122.00	125.00	158.00	170.00
.9500	114.00	122.00	125.00	158.00	170.00
.9505	114.00	122.00	125.00	158.00	170.00
.9510	114.00	122.00	125.00	158.00	170.00
.9515	114.00	122.00	125.00	158.00	170.00
.9520	114.00	122.00	125.00	158.00	170.00
.9525	114.00	122.00	125.00	158.00	170.00
.9530	114.00	122.00	125.00	158.00	170.00
.9535	114.00	122.00	125.00	158.00	170.00
.9540	114.00	122.00	125.00	158.00	170.00
.9545	114.00	122.00	125.00	158.00	170.00
.9550	114.00	122.00	125.00	158.00	170.00
.9555	114.00	122.00	125.00	158.00	170.00
.9560	114.00	122.00	125.00	158.00	170.00
.9565	114.00	122.00	125.00	158.00	170.00
.9570	114.00	122.00	125.00	158.00	170.00
.9575	114.00	122.00	125.00	158.00	170.00
.9580	114.00	122.00	125.00	158.00	170.00

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

# Chucking Reamers - Straight Shank - H.S. & Cobalt

## Intermediate Decimal Sizes

- List No. **LV533**: High Speed, Straight Flute
- List No. **LV535**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **LV535L**: High Speed, Left Hand Spiral, Right Hand Cut
- List No. **1533**: Cobalt, Straight Flute
- List No. **1535**: Cobalt, Right Hand Spiral, Right Hand Cut



Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.9585	114.00	122.00	125.00	158.00	170.00
.9590	114.00	122.00	125.00	158.00	170.00
.9595	114.00	122.00	125.00	158.00	170.00
.9600	114.00	122.00	125.00	158.00	170.00
.9605	115.00	123.00	125.00	158.00	170.00
.9610	115.00	123.00	125.00	158.00	170.00
.9615	115.00	123.00	125.00	158.00	170.00
.9620	115.00	123.00	125.00	158.00	170.00
.9625	115.00	123.00	125.00	158.00	170.00
.9630	115.00	123.00	125.00	158.00	170.00
.9635	115.00	123.00	125.00	158.00	170.00
.9640	115.00	123.00	125.00	158.00	170.00
.9645	115.00	123.00	125.00	158.00	170.00
.9650	115.00	123.00	125.00	158.00	170.00
.9655	115.00	123.00	125.00	158.00	170.00
.9660	115.00	123.00	125.00	158.00	170.00
.9665	115.00	123.00	125.00	158.00	170.00
.9670	115.00	123.00	125.00	158.00	170.00
.9675	115.00	123.00	125.00	158.00	170.00
.9680	115.00	123.00	125.00	158.00	170.00
.9685	115.00	123.00	127.00	169.00	182.00
.9690	115.00	123.00	127.00	169.00	182.00
.9695	115.00	123.00	127.00	169.00	182.00
.9700	115.00	123.00	127.00	169.00	182.00
.9705	115.00	123.00	127.00	169.00	182.00
.9710	115.00	123.00	127.00	169.00	182.00
.9715	115.00	123.00	127.00	169.00	182.00
.9720	115.00	123.00	127.00	169.00	182.00
.9725	115.00	123.00	127.00	169.00	182.00
.9730	115.00	123.00	127.00	169.00	182.00
.9735	115.00	123.00	127.00	169.00	182.00
.9740	115.00	123.00	127.00	169.00	182.00
.9745	115.00	123.00	127.00	169.00	182.00
.9750	115.00	123.00	127.00	169.00	182.00
.9755	115.00	123.00	127.00	169.00	182.00
.9760	115.00	123.00	127.00	169.00	182.00
.9765	115.00	123.00	127.00	169.00	182.00
.9770	115.00	123.00	127.00	169.00	182.00
.9775	115.00	123.00	127.00	169.00	182.00
.9780	115.00	123.00	127.00	169.00	182.00
.9785	115.00	123.00	127.00	169.00	182.00
.9790	115.00	123.00	127.00	169.00	182.00
.9795	115.00	123.00	127.00	169.00	182.00
.9800	115.00	123.00	127.00	169.00	182.00
.9805	115.00	123.00	127.00	169.00	182.00
.9810	115.00	123.00	127.00	169.00	182.00
.9815	115.00	123.00	127.00	169.00	182.00
.9820	115.00	123.00	127.00	169.00	182.00
.9825	115.00	123.00	127.00	169.00	182.00
.9830	115.00	123.00	127.00	169.00	182.00
.9835	115.00	123.00	127.00	169.00	182.00
.9840	115.00	123.00	127.00	169.00	182.00
.9845	115.00	123.00	127.00	169.00	182.00
.9850	115.00	123.00	127.00	169.00	182.00

Size	Price Each				
	LV533 Straight Flute	LV535 RH Spiral	LV535L LH Sp. RH Cut	1533 Cobalt Str. Fit.	1535 Cobalt RH Sp.
.9855	116.00	124.00	129.00	169.00	182.00
.9860	116.00	124.00	129.00	169.00	182.00
.9865	116.00	124.00	129.00	169.00	182.00
.9870	116.00	124.00	129.00	169.00	182.00
.9875	116.00	124.00	129.00	169.00	182.00
.9880	116.00	124.00	129.00	169.00	182.00
.9885	116.00	124.00	129.00	169.00	182.00
.9890	116.00	124.00	129.00	169.00	182.00
.9895	116.00	124.00	129.00	169.00	182.00
.9900	116.00	124.00	129.00	169.00	182.00
.9905	116.00	124.00	129.00	169.00	182.00
.9910	116.00	124.00	129.00	169.00	182.00
.9915	116.00	124.00	129.00	169.00	182.00
.9920	116.00	124.00	129.00	169.00	182.00
.9925	116.00	124.00	129.00	169.00	182.00
.9930	116.00	124.00	129.00	169.00	182.00
.9935	116.00	124.00	129.00	169.00	182.00
.9940	116.00	124.00	129.00	169.00	182.00
.9945	116.00	124.00	129.00	169.00	182.00
.9950	116.00	124.00	129.00	169.00	182.00
.9955	116.00	124.00	129.00	169.00	182.00
.9960	116.00	124.00	129.00	169.00	182.00
.9965	116.00	124.00	129.00	169.00	182.00
.9970	116.00	124.00	129.00	169.00	182.00
.9975	116.00	124.00	129.00	169.00	182.00
.9980	116.00	124.00	129.00	169.00	182.00
.9985	116.00	124.00	129.00	169.00	182.00
.9990	81.00	104.00	—	148.00	160.00
.9995	116.00	124.00	129.00	169.00	182.00
1.0005	155.00	—	—	—	190.00
1.0010	85.75	104.40	110.00	148.00	160.00
1.0015	155.00	—	—	—	—
1.0020	155.00	—	—	—	—
1.0030	155.00	—	—	—	—
1.0050	155.00	—	—	—	—
1.0100	160.00	—	—	—	—
1.0790	190.00	—	—	—	—
1.1024	190.00	—	—	—	—
1.1255	190.00	—	—	—	—
1.1270	190.00	—	—	—	—
1.1690	190.00	—	—	—	—
1.1800	190.00	—	—	—	—
1.1821	190.00	—	—	—	—
1.1920	199.00	—	—	—	—
1.2010	199.00	—	—	—	—
1.2196	210.00	—	—	—	—
1.2205	220.00	—	—	—	—
1.2460	225.00	—	—	—	—
1.3390	250.00	—	—	—	—
1.3740	250.00	—	—	—	—
1.4380	—	—	275.00	—	—
1.4660	250.00	268.00	—	—	—
1.4805	280.00	—	—	—	—
1.5005	338.08	352.00	—	—	—

Note: Tolerance, Flute Length, Overall Length, and Shank Diameter are comparable to the closest standard size. See pages 152-157.

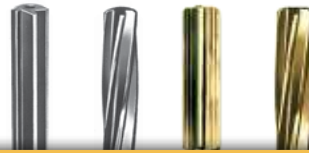
# Dowel Pin Reamers - Standard Length High Speed Steel & Cobalt



- List No. **LV570DP**: High Speed, Straight Flute
- List No. **LV575DP**: High Speed, Right Hand Spiral, Right Hand Cut
- List No. **1570DP**: Cobalt, Straight Flute
- List No. **1575DP**: Cobalt, Right Hand Spiral, Right Hand Cut

<i>Diameter Tolerance:</i>	Through 1/2"	+0.000" +.000m/m -.0002" -.005m/m
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LV570DP LV575DP 1570DP 1575DP



Specifications				Price Each			
Diameter	Flute Length	Overall Length	Shank Diameter	LV570DP Straight Flute	LV575DP RH Spiral	1570DP Cobalt Str. Fit.	1575DP Cobalt RH Sp.
.1230	7/8	3 1/2	.1190	13.50	16.00	16.00	17.50
.1240	7/8	3 1/2	.1190	13.50	—	—	—
.1247	7/8	3 1/2	.1190	13.50	16.00	16.00	17.50
.1280	7/8	3 1/2	.1190	13.50	—	—	—
.1855	1 1/8	4 1/2	.1805	17.50	19.50	19.50	22.00
.1870	1 1/8	4 1/2	.1805	17.50	19.50	19.50	22.00
.2480	1 1/2	6	.2405	18.70	21.00	21.50	24.50
.2495	1 1/2	6	.2405	18.70	21.00	21.50	24.50
.3105	1 1/2	6	.2792	22.40	24.75	30.50	32.50
.3120	1 1/2	6	.2792	22.40	24.75	30.50	32.50
.3730	1 3/4	7	.3105	25.00	28.00	33.50	34.70
.3745	1 3/4	7	.3105	25.00	28.00	33.50	34.70
.4355	1 3/4	7	.3730	27.25	32.90	42.00	45.00
.4370	1 3/4	7	.3730	27.25	32.90	42.00	45.00
.4980	2	8	.4355	29.90	35.50	49.00	52.00
.4995	2	8	.4355	29.90	35.50	49.00	52.00

# Dowel Pin Reamers - Production/CNC/Jobber Length High Speed Steel

- List No **DL570DP**: Straight Flute - Drill Length
- List No **DL575DP**: Right Hand Spiral, Right Hand Cut - Drill Length



This series is made identical in length with the jobber series drill. This allows for interchangeability of tools and eliminates costly setups. Shorter length provides extra rigidity and strength in tough materials.

Specifications				Price Each	
Diameter	Flute Length	Overall Length	Shank Diameter	DL570DP Str. Shank Str. Flute	DL575DP Str. Shank RH Sp/Cut
.1230	7/8	2 3/4	.1230	12.29	14.70
.1247	7/8	2 3/4	.1247	12.29	14.70
.1855	1 1/8	3 1/2	.1855	16.00	20.00
.1870	1 1/8	3 1/2	.1870	16.00	20.00
.2480	1 1/2	4	.2480	18.50	21.00
.2495	1 1/2	4	.2495	18.50	21.00
.3105	1 1/2	4 1/2	.3105	21.11	22.12
.3120	1 1/2	4 1/2	.3120	21.11	22.12
.3730	1 3/4	5	.3730	22.68	26.86
.3745	1 3/4	5	.3745	22.68	26.86
.4355	1 3/4	5 1/2	.4355	26.90	29.37
.4370	1 3/4	5 1/2	.4370	26.90	29.37
.4980	2	5 7/8	.4980	30.20	33.50
.4995	2	6	.4995	30.20	33.50

## Sets - Dowel Pin Reamers 14 piece sets, sizes .1230 to .4995

Description	Flute Type	Case Type	Set No.	Price
H.S. Standard Length	Straight	Wood	<b>LV570-70W</b>	357.50
H.S. Standard Length	Straight	Plastic	<b>LV570-70P</b>	318.50
Cobalt Standard Length	Straight	Wood	<b>1570DP-W</b>	491.00
Cobalt Standard Length	Straight	Plastic	<b>1570DP-P</b>	434.00
H.S. Standard Length	RH Spiral	Wood	<b>LV575-71W</b>	422.30
H.S. Standard Length	RH Spiral	Plastic	<b>LV575-71P</b>	365.30
Cobalt Standard Length	RH Spiral	Wood	<b>1575DP-W</b>	523.40
Cobalt Standard Length	RH Spiral	Plastic	<b>1575DP-P</b>	466.40
H.S. Jobber Length	Straight	Plastic	<b>LVDL570-73P</b>	305.36
H.S. Jobber Length	RH Spiral	Plastic	<b>LVDL575-74P</b>	345.10



1570DP-W

\* Drills are 1/64 smaller than Reamers

# Chucking Reamers - Production/CNC/Jobber Length

## High Speed Steel

Shank diameter is same as cutting diameter - drill length

List No. **DL533**: High Speed, Straight Flute

List No. **DL535**: High Speed, Right Hand Spiral, Right Hand Cut



This series is made identical in length with the jobber series drill. This allows for interchangeability of tools and eliminates costly setup. Shorter length provides extra rigidity and strength in tough materials. In addition, this series provides cost savings.

Specifications					Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	DL533 Str. Shank Str. Flute	DL535 Str. Shank RH Sp/Cut
# 60	.0400	1/2	1 5/8	.0400	13.43	16.03
# 59	.0410	1/2	1 5/8	.0410	13.43	16.03
# 58	.0420	1/2	1 5/8	.0420	13.43	16.03
# 57	.0430	1/2	1 3/4	.0430	13.43	16.03
# 56	.0465	1/2	1 3/4	.0465	13.43	16.03
3/64	.0469	1/2	1 3/4	.0469	13.43	16.03
# 55	.0520	1/2	1 7/8	.0520	13.43	16.03
# 54	.0550	1/2	1 7/8	.0550	13.43	16.03
1.50mm	.0591	1/2	1 7/8	.0591	13.43	—
# 53	.0595	1/2	1 7/8	.0595	13.43	16.03
.0600	.0600	1/2	1 7/8	.0600	15.00	—
.0615	.0615	1/2	1 7/8	.0615	15.00	—
Under 1/16	.0620	1/2	1 7/8	.0620	15.00	—
1/16	.0625	1/2	1 7/8	.0625	12.66	16.03
# 52	.0635	1/2	1 7/8	.0635	12.66	16.03
.0660	.0660	3/4	2	.0660	15.00	—
# 51	.0670	3/4	2	.0670	11.41	13.00
# 50	.0700	3/4	2	.0700	11.41	13.00
.0705	.0705	3/4	2	.0705	11.41	—
# 49	.0730	3/4	2	.0730	11.41	13.00
# 48	.0760	3/4	2	.0760	11.41	13.00
5/64	.0781	3/4	2	.0781	11.41	13.00
# 47	.0785	3/4	2	.0785	11.41	13.00
# 46	.0810	3/4	2 1/8	.0810	11.41	13.00
# 45	.0820	3/4	2 1/8	.0820	11.41	13.00
# 44	.0860	3/4	2 1/8	.0860	11.41	13.00
# 43	.0890	3/4	2 1/4	.0890	11.41	13.00
# 42	.0935	3/4	2 1/4	.0935	11.41	13.00
3/32	.0938	3/4	2 1/4	.0938	11.41	13.00
# 41	.0960	7/8	2 3/8	.0960	11.41	13.00
# 40	.0980	7/8	2 3/8	.0980	11.41	13.00
# 39	.0995	7/8	2 3/8	.0995	11.41	13.00
# 38	.1015	7/8	2 1/2	.1015	11.41	13.00
# 37	.1040	7/8	2 1/2	.1040	11.41	13.00
# 36	.1065	7/8	2 1/2	.1065	11.41	13.00
7/64	.1094	7/8	2 5/8	.1094	11.41	13.00
# 35	.1100	7/8	2 5/8	.1100	11.41	13.00
# 34	.1110	7/8	2 5/8	.1110	11.41	13.00
# 33	.1130	7/8	2 5/8	.1130	11.41	13.00
# 32	.1160	7/8	2 3/4	.1160	11.41	13.00
# 31	.1200	7/8	2 3/4	.1200	11.41	13.00
Under 1/8	.1240	7/8	2 3/4	.1240	11.41	13.00
1/8	.1250	7/8	2 3/4	.1250	9.21	13.00
Over 1/8	.1260	7/8	2 3/4	.1260	11.41	13.00
# 30	.1285	7/8	2 3/4	.1285	11.41	13.00
# 29	.1360	1	2 7/8	.1360	15.60	16.35
# 28	.1405	1	2 7/8	.1405	15.60	16.35
9/64	.1406	1	2 7/8	.1406	15.60	16.35
# 27	.1440	1	3	.1440	15.60	16.35
# 26	.1470	1	3	.1470	15.60	16.35
# 25	.1495	1	3	.1495	15.60	16.35
# 24	.1520	1	3 1/8	.1520	15.60	16.35
# 23	.1540	1	3 1/8	.1540	15.60	16.35
5/32	.1562	1	3 1/8	.1562	15.60	16.35
# 22	.1570	1	3 1/8	.1570	15.60	16.35

Diameter Tolerance:  $-.0000^* \text{ } -.000\text{m/m}$   
 $+.0002^* \text{ } +.005\text{m/m}$

# Chucking Reamers - Production/CNC/Jobber Length

## High Speed Steel

Shank diameter is same as cutting diameter - drill length

List No. **DL533**: High Speed, Straight Flute

List No. **DL535**: High Speed, Right Hand Spiral, Right Hand Cut



This series is made identical in length with the jobber series drill. This allows for interchangeability of tools and eliminates costly setup. Shorter length provides extra rigidity and strength in tough materials. In addition, this series provides cost savings.

Specifications					Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	DL533 Str. Shank Str. Flute	DL535 Str. Shank RH Sp/Cut
# 21	.1590	1 1/8	3 1/4	.1590	15.60	16.35
# 20	.1610	1 1/8	3 1/4	.1610	15.60	16.35
# 19	.1660	1 1/8	3 1/4	.1660	15.60	16.35
# 18	.1695	1 1/8	3 1/4	.1695	15.60	16.35
11/64	.1719	1 1/8	3 1/4	.1719	15.60	16.35
# 17	.1730	1 1/8	3 3/8	.1730	15.60	16.35
# 16	.1770	1 1/8	3 3/8	.1770	15.60	16.35
# 15	.1800	1 1/8	3 3/8	.1800	16.35	17.37
# 14	.1820	1 1/8	3 3/8	.1820	16.35	17.37
# 13	.1850	1 1/8	3 1/2	.1850	16.35	17.37
Under 3/16	.1865	1 1/8	3 1/2	.1865	16.35	17.37
4.75mm	.1870	1 1/8	3 1/2	.1870	18.35	—
3/16	.1875	1 1/8	3 1/2	.1875	12.45	17.37
Over 3/16	.1885	1 1/8	3 1/2	.1885	16.35	17.37
# 12	.1890	1 1/8	3 1/2	.1890	16.35	17.37
# 11	.1910	1 1/4	3 1/2	.1910	17.24	19.02
# 10	.1935	1 1/4	3 5/8	.1935	17.24	19.02
# 9	.1960	1 1/4	3 5/8	.1960	17.24	19.02
# 8	.1990	1 1/4	3 5/8	.1990	17.24	19.02
# 7	.2010	1 1/4	3 5/8	.2010	17.24	19.02
13/64	.2031	1 1/4	3 5/8	.2031	17.24	19.02
# 6	.2040	1 1/4	3 3/4	.2040	17.24	19.02
# 5	.2055	1 1/4	3 3/4	.2055	17.24	19.02
# 4	.2090	1 1/4	3 3/4	.2090	17.24	19.02
# 3	.2130	1 1/4	3 3/4	.2130	17.24	19.02
7/32	.2188	1 1/4	3 3/4	.2188	17.24	19.02
# 2	.2210	1 1/4	3 7/8	.2210	17.24	19.02
# 1	.2280	1 1/2	3 7/8	.2280	17.24	19.02
A	.2340	1 1/2	3 7/8	.2340	17.24	19.02
15/64	.2344	1 1/2	3 7/8	.2344	17.24	19.02
B	.2380	1 1/2	4	.2380	18.24	19.02
C	.2420	1 1/2	4	.2420	18.24	19.02
D	.2460	1 1/2	4	.2460	18.24	19.02
Under 1/4	.2490	1 1/2	4	.2490	18.24	19.02
1/4 (E)	.2500	1 1/2	4	.2500	15.47	17.47
Over 1/4	.2510	1 1/2	4	.2510	18.24	19.02
F	.2570	1 1/2	4 1/8	.2570	18.24	19.02
G	.2610	1 1/2	4 1/8	.2610	18.24	21.00
17/64	.2656	1 1/2	4 1/8	.2656	18.24	21.00
H	.2660	1 1/2	4 1/8	.2660	20.07	21.00
I	.2720	1 1/2	4 1/8	.2720	20.07	21.00
J	.2770	1 1/2	4 1/8	.2770	20.07	21.00
K	.2810	1 1/2	4 1/8	.2810	20.07	21.00
9/32	.2812	1 1/2	4 1/4	.2812	20.07	21.00
7.20mm	.2835	1 1/2	4 1/4	.2835	22.00	—
L	.2900	1 1/2	4 1/4	.2900	20.07	21.00
M	.2950	1 1/2	4 1/4	.2950	20.07	21.00
19/64	.2969	1 1/2	4 3/8	.2969	20.07	21.00
N	.3020	1 1/2	4 3/8	.3020	20.07	21.00
Under 5/16	.3115	1 1/2	4 1/2	.3115	20.07	21.00
5/16	.3125	1 1/2	4 1/2	.3125	18.08	21.00
Over 5/16	.3135	1 1/2	4 1/2	.3135	20.07	21.00
O	.3160	1 1/2	4 1/2	.3160	21.59	23.50
P	.3230	1 1/2	4 5/8	.3230	21.59	23.50
21/64	.3281	1 1/2	4 5/8	.3281	21.59	23.50

Diameter Tolerance:  $-.0000''$   $-.000m/m$   
 $+.0002''$   $+.005m/m$



## Chucking Reamers - Production/CNC/Jobber Length

### High Speed Steel

Shank diameter is same as cutting diameter - drill length

List No. **DL533**: High Speed, Straight Flute

List No. **DL535**: High Speed, Right Hand Spiral, Right Hand Cut



This series is made identical in length with the jobber series drill. This allows for interchangeability of tools and eliminates costly setup. Shorter length provides extra rigidity and strength in tough materials. In addition, this series provides cost savings.

Specifications					Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	DL533 Str. Shank Str. Flute	DL535 Str. Shank RH Sp/Cut
<b>Q</b>	.3320	1 1/2	4 3/4	.3320	21.59	23.50
<b>R</b>	.3390	1 1/2	4 3/4	.3390	21.59	23.50
<b>11/32</b>	.3438	1 1/2	4 3/4	.3438	21.59	23.50
<b>S</b>	.3480	1 3/4	4 7/8	.3480	21.59	23.50
<b>T</b>	.3580	1 3/4	4 7/8	.3580	21.59	23.50
<b>23/64</b>	.3594	1 3/4	4 7/8	.3594	21.59	23.50
<b>U</b>	.3680	1 3/4	5	.3680	21.59	23.50
<b>Under 3/8</b>	.3740	1 3/4	5	.3740	21.59	23.50
<b>3/8</b>	.3750	1 3/4	5	.3750	19.20	23.50
<b>Over 3/8</b>	.3760	1 3/4	5	.3760	21.59	23.50
<b>V</b>	.3770	1 3/4	5	.3770	24.13	26.50
<b>W</b>	.3860	1 3/4	5 1/8	.3860	24.13	26.50
<b>25/64</b>	.3906	1 3/4	5 1/8	.3906	24.13	26.50
<b>X</b>	.3970	1 3/4	5 1/8	.3970	24.13	26.50
<b>Y</b>	.4040	1 3/4	5 1/4	.4040	25.05	26.50
<b>13/32</b>	.4062	1 3/4	5 1/4	.4062	25.05	26.50
<b>Z</b>	.4130	1 3/4	5 1/4	.4130	25.05	26.50
<b>27/64</b>	.4219	1 3/4	5 3/8	.4219	25.05	26.50
<b>Under 7/16</b>	.4365	1 3/4	5 1/2	.4365	25.05	26.50
<b>7/16</b>	.4375	1 3/4	5 1/2	.4375	23.73	26.50
<b>Over 7/16</b>	.4385	1 3/4	5 1/2	.4385	25.05	26.50
<b>29/64</b>	.4531	1 3/4	5 5/8	.4531	27.26	29.50
<b>15/32</b>	.4688	1 3/4	5 3/4	.4688	27.26	29.50
<b>31/64</b>	.4844	2	5 7/8	.4844	27.26	29.50
<b>Under 1/2</b>	.4990	2	5 7/8	.4990	27.26	29.50
<b>1/2</b>	.5000	2	6	.5000	25.05	29.50
<b>Over 1/2</b>	.5010	2	6	.5010	27.26	29.50

*Diameter Tolerance:*    - .0000" - .000m/m  
                                   + .0002" + .005m/m

## Sets - Production/CNC/Jobber Length Reamers

These sets provide a method of maintaining a complete stock of reamers in ranges to suit your requirements.

A Set on a machinist's workbench saves many trips to the tool crib.

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	1/16 - 1/4 by 64 <sup>ths</sup>	13	Metal	<b>LVDL533-5M</b>	190.67
H.S. Straight Flute	1/16 - 1/2 by 32 <sup>nds</sup>	15	Metal	<b>LVDL533-46M</b>	292.44
H.S. Straight Flute	1/16 - 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LVDL533-7M</b>	590.69
H.S. RH Spiral	1/16 - 1/2 by 32 <sup>nds</sup>	15	Metal	<b>LVDL535-47M</b>	328.84
H.S. RH Spiral	1/16 - 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LVDL535-9M</b>	626.91
H.S. Straight Flute	#1 - #60	60	Metal	<b>LVDL533-12M</b>	847.50
H.S. RH Spiral	#1 - #60	60	Metal	<b>LVDL535-14M</b>	953.47
H.S. Straight Flute	A - Z	26	Metal	<b>LVDL533-22M</b>	556.22
H.S. RH Spiral	A - Z	26	Metal	<b>LVDL535-24M</b>	595.77
H.S. Straight Flute	.1240 - .5010	14	Plastic	<b>LVDL533-33P</b>	289.94
H.S. RH Spiral	.1240 - .5010	14	Plastic	<b>LVDL535-34P</b>	309.78
H.S. Straight Flute	#1 - #60, A - Z, 1/16 - 1/2 by 64 <sup>ths</sup>	115	Metal	<b>LVDL533-50M</b>	1988.84
H.S. RH Spiral	#1 - #60, A - Z, 1/16 - 1/2 by 64 <sup>ths</sup>	115	Metal	<b>LVDL535-51M</b>	2172.92

*Diameter Tolerance:*    - .0000" - .000m/m  
                                   + .0002" + .005m/m



LVDL533-7M



LVDL533-33P

# Extra Long Chucking Reamers Straight Shank - High Speed Steel

List No. LV533XL: High Speed, Straight Flute



Specifications					Price Each
Diameter	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	LV533XL Str. Shank Str. Flute
1/8	.1250	7/8	6	.1190	16.28
1/8	.1250	7/8	8	.1190	17.93
1/8	.1250	7/8	12	.1190	36.85
5/32	.1562	1	6	.1510	23.10
5/32	.1562	1	8	.1510	25.25
5/32	.1562	1	12	.1510	39.60
3/16	.1875	1 1/8	6	.1805	23.10
3/16	.1875	1 1/8	8	.1805	25.25
3/16	.1875	1 1/8	12	.1805	39.60
7/32	.2188	1 1/4	8	.2075	32.73
7/32	.2188	1 1/4	12	.2075	41.03
1/4	.2500	1 1/2	8	.2405	27.17
1/4	.2500	1 1/2	12	.2405	41.03
5/16	.3125	1 1/2	12	.2792	43.95
3/8	.3750	1 3/4	12	.3105	47.19
7/16	.4375	1 3/4	12	.3730	54.62
1/2	.5000	2	12	.4355	59.95
9/16	.5625	2	12	.4355	69.85
5/8	.6250	2 1/4	12	.5620	81.35
11/16	.6875	2 1/4	12	.5620	92.40

## Silver & Deming Reamers - High Speed Steel 6" Overall Length – 1/2" X 2" Long Shank

List No. LV5303: Straight Flute



The shorter length provides extra rigidity and strength in tough materials. They are ideal for Bridgeport, and hand-held applications.

Diameter	Decimal Equivalent	Flute Length	Price Each
17/32	.5312	2	37.52
9/16	.5625	2	42.21
5/8	.6250	2 1/4	46.90
21/32	.6562	2 1/4	51.58
11/16	.6875	2 1/4	52.95
3/4	.7500	2 1/2	57.93
13/16	.8125	2 1/2	67.78

Diameter	Decimal Equivalent	Flute Length	Price Each
7/8	.8750	2 5/8	74.70
15/16	.9375	2-5/8	88.36
1	1.0000	2 3/4	92.76
1 1/8	1.1250	2 7/8	113.71
1 1/4	1.2500	3	140.82
1 3/8	1.3750	3 1/4	168.78
1 1/2	1.5000	3 1/2	198.12

### Diameter Tolerance

1/2" Through 5/8": -.0000" -.000m/m +.0003" +.008m/m	21/32" Through 1":	+.0001" +.0025m/m +.0005" +.012m/m	1-1/8" Through 1-1/2": +.0002" -.000m/m +.0006" +.016m/m
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## Sets - Silver & Deming Reamers

Sizes	Description	No. of Pieces	Set No.	Price
5/8, 11/16, 3/4, 13/16, 7/8, 1	1/2" Shank Reamer Set	6	LV75	400.14
5/8, 11/16, 3/4, 13/16, 7/8, 1 (Reamers) 39/64, 43/64, 47/64, 51/64, 55/64, 63/64 (Drills)	1/2" Shank Reamer & Drill Set	12	LV77	589.64
5/8, 11/16, 3/4, 13/16, 7/8 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2	1/2" Shank Reamer Set	10	LV76	1022.56

Supplied in wood block



LV75

LV77

# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1/32	.0312	1/4	1 1/8	22.55
3/64	.0469	3/8	1 1/2	23.90
1/16	.0625	3/8	1 1/2	22.55
5/64	.0781	1/2	1 3/4	24.71
3/32	.0938	1/2	2	23.45
7/64	.1094	5/8	2 1/4	27.27
1/8	.1250	5/8	2 1/4	25.97
9/64	.1406	3/4	2 1/4	29.48
5/32	.1562	3/4	2 1/4	30.51
11/64	.1719	7/8	2 3/4	35.87
3/16	.1875	7/8	2 3/4	36.18
13/64	.2031	1	3	43.43
7/32	.2188	1	3	39.65
15/64	.2344	1	3	50.90
1/4	.2500	1	3	47.21
17/64	.2656	1 1/8	3 1/4	57.15
9/32	.2812	1 1/8	3 1/4	56.66
19/64	.2969	1 1/8	3 1/4	67.05

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
5/16	.3125	1 1/8	3 1/4	63.81
21/64	.3281	1 1/4	3 1/2	85.01
11/32	.3438	1 1/4	3 1/2	85.01
23/64	.3594	1 1/4	3 1/2	86.13
3/8	.3750	1 1/4	3 1/2	80.33
25/64	.3906	1 1/4	3 1/2	88.83
13/32	.4062	1 1/4	3 1/2	88.83
27/64	.4219	1 3/8	4	95.09
7/16	.4375	1 3/8	4	89.10
29/64	.4531	1 1/2	4	121.50
15/32	.4688	1 1/2	4	121.50
31/64	.4844	1 1/2	4	127.80
1/2	.5000	1 1/2	4	127.80
9/16	.5625	1 1/2	4	186.30
39/64	.6094	1 1/2	4	186.30
5/8	.6250	1 1/2	4	186.30
3/4	.7500	1 3/4	4	248.40

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
A	.2340	1	3	50.90
B	.2380	1	3	51.93
C	.2420	1	3	51.93
D	.2460	1	3	51.93
E	.2500	1	3	47.21
F	.2570	1 1/8	3 1/4	57.15
G	.2610	1 1/8	3 1/4	57.15
H	.2660	1 1/8	3 1/4	57.15
I	.2720	1 1/8	3 1/4	57.15
J	.2770	1 1/8	3 1/4	57.15
K	.2810	1 1/8	3 1/4	61.92
L	.2900	1 1/8	3 1/4	67.01
M	.2950	1 1/8	3 1/4	67.01

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
N	.3020	1 1/8	3 1/4	69.89
O	.3160	1 1/8	3 1/4	73.35
P	.3230	1 1/4	3 1/2	74.30
Q	.3320	1 1/4	3 1/2	85.01
R	.3390	1 1/4	3 1/2	85.01
S	.3480	1 1/4	3 1/2	85.37
T	.3580	1 1/4	3 1/2	85.73
U	.3680	1 1/4	3 1/2	87.26
V	.3770	1 1/4	3 1/2	89.91
W	.3860	1 1/4	3 1/2	98.60
X	.3970	1 1/4	3 1/2	100.08
Y	.4040	1 1/4	3 1/2	102.29
Z	.4130	1 1/4	3 1/2	106.20

## Number Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1	.2280	1	3	50.90
2	.2210	1	3	48.47
3	.2130	1	3	43.43
4	.2090	1	3	45.68
5	.2055	1	3	43.43
6	.2040	1	3	43.43
7	.2010	1	3	43.43
8	.1990	1	3	42.08
9	.1960	1	3	41.90
10	.1935	1	3	40.46
11	.1910	7/8	2 3/4	40.19
12	.1890	7/8	2 3/4	39.74
13	.1850	7/8	2 3/4	37.67
14	.1820	7/8	2 3/4	37.44
15	.1800	7/8	2 3/4	36.90
16	.1770	7/8	2 3/4	36.72
17	.1730	7/8	2 3/4	35.87
18	.1695	7/8	2 3/4	35.24
19	.1660	7/8	2 3/4	34.79
20	.1610	7/8	2 3/4	34.65
21	.1590	3/4	2 1/2	34.16
22	.1570	3/4	2 1/2	33.35
23	.1540	3/4	2 1/2	32.27

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
24	.1520	3/4	2 1/2	30.96
25	.1495	3/4	2 1/2	30.92
26	.1470	3/4	2 1/2	30.74
27	.1440	3/4	2 1/2	29.93
28	.1405	3/4	2 1/2	28.62
29	.1360	3/4	2 1/2	28.22
30	.1285	3/4	2 1/2	28.22
31	.1200	5/8	2 1/4	28.17
32	.1160	5/8	2 1/4	28.04
33	.1130	5/8	2 1/4	28.04
34	.1110	5/8	2 1/4	27.68
35	.1100	5/8	2 1/4	27.27
36	.1065	5/8	2 1/4	26.42
37	.1040	5/8	2 1/4	27.77
38	.1015	5/8	2 1/4	26.15
39	.0995	5/8	2 1/4	26.15
40	.0980	5/8	2 1/4	25.97
41	.0960	1/2	2	25.97
42	.0935	1/2	2	25.43
43	.0890	1/2	2	25.34
44	.0860	1/2	2	24.89
45	.0820	1/2	2	24.89
46	.0810	1/2	1 3/4	24.75

# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Number Sizes *Continued*

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
47	.0785	1/2	1 3/4	24.71
48	.0760	1/2	1 3/4	24.71
49	.0730	1/2	1 3/4	24.71
50	.0700	1/2	1 3/4	24.71
51	.0670	1/2	1 3/4	24.71
52	.0635	3/8	1 1/2	24.42
53	.0595	3/8	1 1/2	23.90
54	.0550	3/8	1 1/2	23.90
55	.0520	3/8	1 1/2	23.90
56	.0465	3/8	1 1/2	23.90
57	.0430	3/8	1 1/2	23.67
58	.0420	3/8	1 1/2	23.67

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
59	.0410	3/8	1 1/2	23.67
60	.0400	1/4	1 1/2	23.67
61	.0390	1/4	1 1/2	23.67
62	.0380	1/4	1 1/2	23.67
63	.0370	1/4	1 1/2	23.67
64	.0360	1/4	1 1/2	23.67
65	.0350	1/4	1 1/2	23.67
66	.0330	1/4	1 1/2	24.44
67	.0320	1/4	1 1/2	24.44
68	.0310	1/4	1 1/2	25.00
69	.0292	1/4	1 1/2	25.00
70	.0280	1/4	1 1/2	25.00

## Metric Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
1.00mm	.0394	1/4	1 1/2	21.56
1.25mm	.0492	3/8	1 1/2	25.16
1.50mm	.0591	3/8	1 1/2	21.87
1.60mm	.0630	3/8	1 1/2	25.79
1.65mm	.0650	3/8	1 1/2	25.97
2.00mm	.0787	1/2	1 3/4	22.82
2.40mm	.0945	1/2	2	26.91
2.50mm	.0984	5/8	2 1/4	23.67
3.00mm	.1181	5/8	2 1/4	25.97
3.50mm	.1378	3/4	2 1/2	26.28
4.00mm	.1575	3/4	2 1/2	30.51
4.50mm	.1772	7/8	2 3/4	33.35
5.00mm	.1969	1	3	38.25
5.50mm	.2165	1	3	39.74
6.00mm	.2362	1	3	47.21
6.50mm	.2559	1-1/8	3 1/4	57.15

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
7.00mm	.2756	1 1/8	3 1/4	52.16
7.50mm	.2953	1 1/8	3 1/4	67.01
8.00mm	.3150	1 1/8	3 1/4	63.81
8.50mm	.3346	1 1/4	3 1/2	85.01
9.00mm	.3543	1 1/4	3 1/2	78.44
9.50mm	.3740	1 1/4	3 1/2	87.75
10.00mm	.3937	1 1/4	3 1/2	100.08
10.50mm	.4134	1 1/4	3 1/2	100.08
11.00mm	.4331	1 3/8	4	112.68
11.50mm	.4528	1 3/8	4	112.68
12.00mm	.4724	1 3/8	4	121.50
12.50mm	.4921	1 3/8	4	121.50
13.00mm	.5118	1 1/2	4	165.00
14.00mm	.5512	1 1/2	4	186.00
15.00mm	.5906	1 1/2	4	186.00
16.00mm	.6299	1 1/2	4	186.00

## Decimal Sizes

Diameter	Flute Length	Overall Length	Price Each
.0300	1/4	1 1/2	25.79
.0315	1/4	1 1/2	25.79
.0325	1/4	1 1/2	25.79
.0335	1/4	1 1/2	25.79
.0340	1/4	1 1/2	24.89
.0345	1/4	1 1/2	24.89
.0355	1/4	1 1/2	24.89
.0365	1/4	1 1/2	24.89
.0375	1/4	1 1/2	24.89
.0385	1/4	1 1/2	24.89
.0395	1/4	1 1/2	24.89
.0405	1/4	1 1/2	24.89
.0415	1/4	1 1/2	24.89
.0425	3/8	1 1/2	24.89
.0435	3/8	1 1/2	25.16
.0440	3/8	1 1/2	25.16
.0445	3/8	1 1/2	25.16
.0450	3/8	1 1/2	25.16
.0455	3/8	1 1/2	25.16
.0460	3/8	1 1/2	25.16
.0470	3/8	1 1/2	25.16
.0475	3/8	1 1/2	25.16
.0480	3/8	1 1/2	25.16
.0485	3/8	1 1/2	25.16
.0490	3/8	1 1/2	25.16
.0495	3/8	1 1/2	25.16

Diameter	Flute Length	Overall Length	Price Each
.0500	3/8	1 1/2	25.16
.0505	3/8	1 1/2	25.16
.0510	3/8	1 1/2	25.16
.0515	3/8	1 1/2	25.16
.0525	3/8	1 1/2	25.16
.0530	3/8	1 1/2	25.16
.0535	3/8	1 1/2	25.16
.0540	3/8	1 1/2	25.16
.0545	3/8	1 1/2	25.16
.0555	3/8	1 1/2	25.16
.0560	3/8	1 1/2	25.16
.0565	3/8	1 1/2	25.16
.0570	3/8	1 1/2	25.16
.0575	3/8	1 1/2	25.16
.0580	3/8	1 1/2	25.16
.0585	3/8	1 1/2	25.16
.0590	3/8	1 1/2	25.16
.0600	3/8	1 1/2	25.79
.0605	3/8	1 1/2	25.79
.0610	3/8	1 1/2	25.79
.0615	3/8	1 1/2	25.79
.0620	3/8	1 1/2	25.79
.0630	3/8	1 1/2	25.79
.0640	3/8	1 1/2	25.79
.0645	3/8	1 1/2	25.79
.0650	3/8	1 1/2	25.97

# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Decimal Sizes *Continued*

Diameter	Flute Length	Overall Length	Price Each
.0655	1/2	1 3/4	25.97
.0660	1/2	1 3/4	25.97
.0665	1/2	1 3/4	25.97
.0675	1/2	1 3/4	25.97
.0680	1/2	1 3/4	25.97
.0685	1/2	1 3/4	25.97
.0690	1/2	1 3/4	25.97
.0695	1/2	1 3/4	25.97
.0705	1/2	1 3/4	25.97
.0710	1/2	1 3/4	25.97
.0715	1/2	1 3/4	25.97
.0720	1/2	1 3/4	25.97
.0725	1/2	1 3/4	25.97
.0735	1/2	1 3/4	25.97
.0740	1/2	1 3/4	25.97
.0745	1/2	1 3/4	25.97
.0750	1/2	1 3/4	25.97
.0755	1/2	1 3/4	25.97
.0765	1/2	1 3/4	25.97
.0770	1/2	1 3/4	25.97
.0775	1/2	1 3/4	25.97
.0780	1/2	1 3/4	25.97
.0790	1/2	1 3/4	25.97
.0795	1/2	1 3/4	26.15
.0800	1/2	1 3/4	26.15
.0805	1/2	1 3/4	26.15
.0815	1/2	2	26.15
.0825	1/2	2	26.15
.0830	1/2	2	26.15
.0835	1/2	2	26.15
.0840	1/2	2	26.15
.0845	1/2	2	26.15
.0850	1/2	2	26.15
.0855	1/2	2	26.15
.0865	1/2	2	26.15
.0870	1/2	2	26.15
.0875	1/2	2	26.15
.0880	1/2	2	26.15
.0885	1/2	2	26.15
.0895	1/2	2	26.91
.0900	1/2	2	26.91
.0905	1/2	2	26.91
.0910	1/2	2	26.91
.0915	1/2	2	26.91
.0920	1/2	2	26.91
.0925	1/2	2	26.91
.0930	1/2	2	26.91
.0940	1/2	2	26.91
.0945	1/2	2	26.91
.0950	1/2	2	27.27
.0955	1/2	2	27.27
.0965	1/2	2	27.27
.0970	5/8	2 1/4	27.27
.0975	5/8	2 1/4	27.27
.0985	5/8	2 1/4	27.45
.0990	5/8	2 1/4	27.45
.1000	5/8	2 1/4	27.45
.1005	5/8	2 1/4	27.45
.1010	5/8	2 1/4	27.45
.1020	5/8	2 1/4	27.77
.1025	5/8	2 1/4	27.77
.1030	5/8	2 1/4	27.77
.1035	5/8	2 1/4	27.77
.1045	5/8	2 1/4	27.77
.1050	5/8	2 1/4	27.77
.1055	5/8	2 1/4	27.77

Diameter	Flute Length	Overall Length	Price Each
.1060	5/8	2 1/4	27.77
.1070	5/8	2 1/4	28.22
.1075	5/8	2 1/4	28.22
.1080	5/8	2 1/4	28.22
.1085	5/8	2 1/4	28.62
.1090	5/8	2 1/4	28.62
.1095	5/8	2 1/4	28.62
.1105	5/8	2 1/4	28.62
.1115	5/8	2 1/4	29.48
.1120	5/8	2 1/4	29.48
.1125	5/8	2 1/4	29.48
.1135	5/8	2 1/4	29.48
.1140	5/8	2 1/4	29.48
.1145	5/8	2 1/4	29.48
.1150	5/8	2 1/4	29.48
.1155	5/8	2 1/4	29.48
.1165	5/8	2 1/4	29.48
.1170	5/8	2 1/4	29.48
.1175	5/8	2 1/4	29.48
.1180	5/8	2 1/4	29.48
.1185	5/8	2 1/4	29.61
.1190	5/8	2 1/4	29.61
.1195	5/8	2 1/4	29.61
.1205	5/8	2 1/4	29.61
.1210	5/8	2 1/4	29.61
.1215	5/8	2 1/4	29.61
.1220	5/8	2 1/4	29.61
.1225	5/8	2 1/4	29.61
.1230	5/8	2 1/4	29.61
.1235	5/8	2 1/4	29.61
.1240	5/8	2 1/4	29.61
.1245	5/8	2 1/4	29.61
.1247	5/8	2 1/4	29.61
.1255	5/8	2 1/4	29.61
.1260	5/8	2 1/4	29.61
.1265	5/8	2 1/4	29.61
.1270	5/8	2 1/4	29.75
.1275	5/8	2 1/4	29.75
.1280	5/8	2 1/4	29.75
.1290	5/8	2 1/4	29.75
.1295	5/8	2 1/4	29.75
.1300	5/8	2 1/4	29.75
.1305	3/4	2 1/2	29.75
.1310	3/4	2 1/2	29.75
.1315	3/4	2 1/2	29.75
.1320	3/4	2 1/2	29.75
.1325	3/4	2 1/2	29.75
.1330	3/4	2 1/2	29.75
.1335	3/4	2 1/2	29.75
.1340	3/4	2 1/2	29.75
.1345	3/4	2 1/2	29.75
.1350	3/4	2 1/2	29.75
.1355	3/4	2 1/2	29.75
.1365	3/4	2 1/2	29.75
.1370	3/4	2 1/2	29.75
.1375	3/4	2 1/2	29.75
.1380	3/4	2 1/2	30.24
.1385	3/4	2 1/2	30.24
.1390	3/4	2 1/2	30.24
.1395	3/4	2 1/2	30.24
.1400	3/4	2 1/2	30.24
.1410	3/4	2 1/2	31.37
.1415	3/4	2 1/2	31.37
.1420	3/4	2 1/2	31.37
.1425	3/4	2 1/2	31.37
.1430	3/4	2 1/2	31.37



# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Decimal Sizes *Continued*

Diameter	Flute Length	Overall Length	Price Each
.1435	3/4	2 1/2	31.37
.1445	3/4	2 1/2	31.55
.1450	3/4	2 1/2	31.55
.1455	3/4	2 1/2	31.55
.1460	3/4	2 1/2	32.45
.1465	3/4	2 1/2	31.55
.1475	3/4	2 1/2	31.55
.1480	3/4	2 1/2	32.49
.1485	3/4	2 1/2	32.49
.1490	3/4	2 1/2	32.49
.1500	3/4	2 1/2	32.49
.1505	3/4	2 1/2	32.49
.1507	3/4	2 1/2	32.49
.1510	3/4	2 1/2	32.49
.1515	3/4	2 1/2	32.49
.1525	3/4	2 1/2	33.89
.1530	3/4	2 1/2	33.89
.1535	3/4	2 1/2	33.89
.1541	3/4	2 1/2	33.89
.1545	3/4	2 1/2	33.89
.1550	3/4	2 1/2	33.89
.1555	3/4	2 1/2	33.89
.1560	3/4	2 1/2	33.89
.1565	3/4	2 1/2	35.15
.1580	3/4	2 1/2	35.15
.1585	3/4	2 1/2	35.15
.1595	3/4	2 1/2	36.50
.1600	3/4	2 1/2	36.50
.1605	3/4	2 1/2	36.50
.1615	7/8	2 3/4	36.50
.1620	7/8	2 3/4	36.50
.1625	7/8	2 3/4	36.50
.1630	7/8	2 3/4	36.50
.1635	7/8	2 3/4	36.50
.1640	7/8	2 3/4	36.50
.1645	7/8	2 3/4	36.50
.1650	7/8	2 3/4	36.50
.1655	7/8	2 3/4	36.50
.1665	7/8	2 3/4	36.90
.1670	7/8	2 3/4	36.90
.1675	7/8	2 3/4	36.90
.1680	7/8	2 3/4	36.90
.1685	7/8	2 3/4	36.90
.1690	7/8	2 3/4	36.90
.1700	7/8	2 3/4	37.67
.1705	7/8	2 3/4	37.67
.1710	7/8	2 3/4	37.67
.1715	7/8	2 3/4	37.67
.1720	7/8	2 3/4	37.67
.1725	7/8	2 3/4	37.67
.1735	7/8	2 3/4	38.25
.1740	7/8	2 3/4	38.25
.1745	7/8	2 3/4	38.25
.1750	7/8	2 3/4	38.25
.1755	7/8	2 3/4	38.25
.1760	7/8	2 3/4	38.25
.1765	7/8	2 3/4	38.25
.1775	7/8	2 3/4	38.70
.1780	7/8	2 3/4	38.70
.1785	7/8	2 3/4	38.70
.1790	7/8	2 3/4	38.70
.1795	7/8	2 3/4	38.70
.1805	7/8	2 3/4	38.70
.1810	7/8	2 3/4	38.70
.1814	7/8	2 3/4	38.70
.1815	7/8	2 3/4	38.70

Diameter	Flute Length	Overall Length	Price Each
.1825	7/8	2 3/4	38.70
.1830	7/8	2 3/4	38.70
.1835	7/8	2 3/4	39.65
.1840	7/8	2 3/4	39.65
.1845	7/8	2 3/4	39.65
.1855	7/8	2 3/4	41.72
.1860	7/8	2 3/4	41.72
.1865	7/8	2 3/4	41.72
.1870	7/8	2 3/4	41.72
.1872	7/8	2 3/4	41.72
.1880	7/8	2 3/4	41.72
.1885	7/8	2 3/4	41.72
.1895	7/8	2 3/4	41.72
.1900	7/8	2 3/4	41.72
.1905	7/8	2 3/4	41.72
.1915	7/8	2 3/4	42.35
.1920	1	3	42.35
.1925	1	3	42.35
.1930	1	3	42.35
.1940	1	3	42.35
.1945	1	3	42.35
.1950	1	3	43.92
.1955	1	3	43.92
.1965	1	3	43.92
.1970	1	3	43.92
.1975	1	3	43.92
.1980	1	3	43.92
.1985	1	3	43.92
.1995	1	3	45.68
.2000	1	3	45.68
.2005	1	3	45.68
.2015	1	3	45.68
.2020	1	3	45.68
.2025	1	3	45.68
.2030	1	3	45.68
.2035	1	3	45.68
.2045	1	3	45.68
.2050	1	3	45.68
.2060	1	3	45.68
.2065	1	3	45.68
.2070	1	3	45.68
.2075	1	3	45.68
.2080	1	3	45.68
.2085	1	3	45.68
.2095	1	3	45.68
.2100	1	3	45.68
.2105	1	3	45.68
.2110	1	3	45.68
.2115	1	3	45.68
.2120	1	3	45.68
.2125	1	3	45.68
.2135	1	3	45.68
.2140	1	3	45.68
.2145	1	3	45.68
.2150	1	3	45.68
.2155	1	3	45.68
.2160	1	3	45.68
.2170	1	3	45.68
.2175	1	3	45.68
.2177	1	3	45.68
.2180	1	3	51.08
.2185	1	3	51.08
.2190	1	3	51.08
.2195	1	3	51.08
.2200	1	3	51.08
.2205	1	3	51.08

# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Decimal Sizes *Continued*

Diameter	Flute Length	Overall Length	Price Each
.2215	1	3	53.06
.2220	1	3	53.06
.2225	1	3	53.06
.2230	1	3	53.06
.2235	1	3	53.06
.2240	1	3	53.06
.2245	1	3	53.06
.2250	1	3	53.06
.2255	1	3	53.06
.2260	1	3	53.06
.2265	1	3	53.60
.2270	1	3	53.60
.2275	1	3	53.60
.2285	1	3	53.60
.2290	1	3	53.60
.2295	1	3	53.60
.2300	1	3	53.60
.2305	1	3	53.60
.2310	1	3	53.60
.2315	1	3	53.60
.2320	1	3	53.60
.2325	1	3	53.60
.2330	1	3	53.60
.2335	1	3	53.60
.2345	1	3	53.60
.2350	1	3	53.60
.2355	1	3	53.60
.2360	1	3	53.60
.2365	1	3	54.50
.2370	1	3	54.50
.2375	1	3	54.50
.2385	1	3	54.50
.2390	1	3	54.50
.2395	1	3	54.50
.2400	1	3	54.50
.2405	1	3	54.50
.2410	1	3	54.50
.2415	1	3	54.50
.2425	1	3	54.50
.2430	1	3	54.50
.2435	1	3	54.50
.2440	1	3	54.50
.2445	1	3	54.50
.2450	1	3	54.50
.2455	1	3	54.50
.2465	1	3	54.50
.2470	1	3	54.50
.2475	1	3	54.50
.2480	1	3	54.50
.2485	1	3	54.50
.2490	1	3	54.50
.2495	1	3	54.50
.2505	1	3	54.50
.2510	1	3	54.50
.2515	1	3	54.50
.2520	1	3	54.50
.2525	1	3	54.50
.2530	1	3	54.50
.2535	1	3	60.21
.2540	1	3	60.21
.2545	1	3	60.21
.2550	1	3	60.21
.2560	1 1/8	3 1/4	60.21
.2565	1 1/8	3 1/4	60.21
.2575	1 1/8	3 1/4	60.21
.2580	1 1/8	3 1/4	60.21

Diameter	Flute Length	Overall Length	Price Each
.2590	1 1/8	3 1/4	60.21
.2600	1 1/8	3 1/4	60.21
.2620	1 1/8	3 1/4	60.21
.2630	1 1/8	3 1/4	60.21
.2635	1 1/8	3 1/4	60.21
.2640	1 1/8	3 1/4	60.21
.2650	1 1/8	3 1/4	60.21
.2670	1 1/8	3 1/4	60.21
.2680	1 1/8	3 1/4	60.21
.2690	1 1/8	3 1/4	60.21
.2700	1 1/8	3 1/4	60.21
.2710	1 1/8	3 1/4	60.21
.2730	1 1/8	3 1/4	60.21
.2740	1 1/8	3 1/4	60.21
.2750	1 1/8	3 1/4	60.21
.2760	1 1/8	3 1/4	60.21
.2780	1 1/8	3 1/4	65.16
.2790	1 1/8	3 1/4	65.16
.2800	1 1/8	3 1/4	65.16
.2818	1 1/8	3 1/4	65.16
.2820	1 1/8	3 1/4	70.52
.2830	1 1/8	3 1/4	70.52
.2840	1 1/8	3 1/4	70.52
.2850	1 1/8	3 1/4	70.52
.2860	1 1/8	3 1/4	70.52
.2870	1 1/8	3 1/4	70.52
.2880	1 1/8	3 1/4	70.52
.2890	1 1/8	3 1/4	70.52
.2910	1 1/8	3 1/4	70.52
.2920	1 1/8	3 1/4	70.52
.2930	1 1/8	3 1/4	70.52
.2940	1 1/8	3 1/4	70.52
.2960	1 1/8	3 1/4	70.52
.2970	1 1/8	3 1/4	73.35
.2980	1 1/8	3 1/4	73.35
.2990	1 1/8	3 1/4	73.35
.3000	1 1/8	3 1/4	73.35
.3010	1 1/8	3 1/4	73.35
.3030	1 1/8	3 1/4	73.35
.3040	1 1/8	3 1/4	73.35
.3050	1 1/8	3 1/4	73.35
.3060	1 1/8	3 1/4	73.35
.3070	1 1/8	3 1/4	73.35
.3080	1 1/8	3 1/4	73.35
.3090	1 1/8	3 1/4	73.35
.3100	1 1/8	3 1/4	73.35
.3105	1 1/8	3 1/4	73.35
.3110	1 1/8	3 1/4	73.35
.3115	1 1/8	3 1/4	73.35
.3120	1 1/8	3 1/4	73.35
.3130	1 1/8	3 1/4	73.35
.3135	1 1/8	3 1/4	73.35
.3140	1 1/8	3 1/4	73.35
.3170	1 1/4	3 1/2	78.12
.3180	1 1/4	3 1/2	78.12
.3190	1 1/4	3 1/2	78.12
.3200	1 1/4	3 1/2	78.12
.3210	1 1/4	3 1/2	78.12
.3220	1 1/4	3 1/2	78.12
.3240	1 1/4	3 1/2	89.46
.3250	1 1/4	3 1/2	89.46
.3260	1 1/4	3 1/2	89.46
.3270	1 1/4	3 1/2	89.46
.3280	1 1/4	3 1/2	89.46
.3290	1 1/4	3 1/2	89.46
.3300	1 1/4	3 1/2	89.46

# Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
*Shank diameter same as cutting diameter*



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

## Decimal Sizes *Continued*

Diameter	Flute Length	Overall Length	Price Each
.3310	1 1/4	3 1/2	89.46
.3330	1 1/4	3 1/2	89.46
.3340	1 1/4	3 1/2	89.46
.3350	1 1/4	3 1/2	89.46
.3360	1 1/4	3 1/2	89.46
.3370	1 1/4	3 1/2	89.46
.3380	1 1/4	3 1/2	89.46
.3400	1 1/4	3 1/2	89.46
.3410	1 1/4	3 1/2	89.46
.3420	1 1/4	3 1/2	89.46
.3430	1 1/4	3 1/2	89.46
.3440	1 1/4	3 1/2	89.46
.3450	1 1/4	3 1/2	89.46
.3460	1 1/4	3 1/2	89.46
.3470	1 1/4	3 1/2	89.46
.3490	1 1/4	3 1/2	89.46
.3500	1 1/4	3 1/2	89.46
.3510	1 1/4	3 1/2	89.46
.3520	1 1/4	3 1/2	89.46
.3530	1 1/4	3 1/2	89.46
.3540	1 1/4	3 1/2	89.46
.3550	1 1/4	3 1/2	90.09
.3560	1 1/4	3 1/2	90.09
.3570	1 1/4	3 1/2	90.09
.3590	1 1/4	3 1/2	90.09
.3600	1 1/4	3 1/2	91.80
.3610	1 1/4	3 1/2	91.80
.3620	1 1/4	3 1/2	91.80
.3630	1 1/4	3 1/2	91.80
.3640	1 1/4	3 1/2	91.80
.3650	1 1/4	3 1/2	91.80
.3660	1 1/4	3 1/2	91.80
.3670	1 1/4	3 1/2	91.80
.3690	1 1/4	3 1/2	91.80
.3700	1 1/4	3 1/2	91.80
.3710	1 1/4	3 1/2	91.80
.3720	1 1/4	3 1/2	91.80
.3730	1 1/4	3 1/2	91.80
.3745	1 1/4	3 1/2	91.80
.3755	1 1/4	3 1/2	109.76
.3760	1 1/4	3 1/2	109.76
.3765	1 1/4	3 1/2	109.76
.3780	1 1/4	3 1/2	109.76
.3790	1 1/4	3 1/2	109.76
.3800	1 1/4	3 1/2	109.76
.3810	1 1/4	3 1/2	109.76
.3820	1 1/4	3 1/2	109.76
.3830	1 1/4	3 1/2	109.76
.3840	1 1/4	3 1/2	109.76
.3850	1 1/4	3 1/2	109.76
.3870	1 1/4	3 1/2	115.43
.3880	1 1/4	3 1/2	115.43
.3890	1 1/4	3 1/2	115.43
.3900	1 1/4	3 1/2	115.43
.3910	1 1/4	3 1/2	115.43
.3920	1 1/4	3 1/2	115.43
.3930	1 1/4	3 1/2	115.43
.3940	1 1/4	3 1/2	115.43
.3950	1 1/4	3 1/2	115.43
.3960	1 1/4	3 1/2	115.43
.3980	1 1/4	3 1/2	115.43
.3990	1 1/4	3 1/2	115.43
.4000	1 1/4	3 1/2	115.43
.4010	1 1/4	3 1/2	115.43
.4020	1 1/4	3 1/2	115.43
.4030	1 1/4	3 1/2	115.43

Diameter	Flute Length	Overall Length	Price Each
.4050	1 1/4	3 1/2	115.43
.4060	1 1/4	3 1/2	115.43
.4070	1 1/4	3 1/2	115.43
.4080	1 1/4	3 1/2	115.43
.4090	1 1/4	3 1/2	115.43
.4100	1 1/4	3 1/2	115.43
.4110	1 1/4	3 1/2	115.43
.4120	1 1/4	3 1/2	115.43
.4140	1 1/4	3 1/2	118.49
.4150	1 1/4	3 1/2	118.49
.4160	1 1/4	3 1/2	118.49
.4170	1 3/8	4	118.49
.4180	1 3/8	4	118.49
.4190	1 3/8	4	118.49
.4200	1 3/8	4	118.49
.4210	1 3/8	4	118.49
.4230	1 3/8	4	118.49
.4240	1 3/8	4	118.49
.4250	1 3/8	4	118.49
.4260	1 3/8	4	118.49
.4270	1 3/8	4	118.49
.4280	1 3/8	4	118.49
.4290	1 3/8	4	118.49
.4300	1 3/8	4	118.49
.4310	1 3/8	4	118.49
.4320	1 3/8	4	118.49
.4330	1 3/8	4	118.49
.4340	1 3/8	4	118.49
.4350	1 3/8	4	118.49
.4355	1 3/8	4	118.49
.4360	1 3/8	4	118.49
.4365	1 3/8	4	118.49
.4370	1 3/8	4	118.49
.4380	1 3/8	4	129.78
.4385	1 3/8	4	129.78
.4390	1 3/8	4	129.78
.4400	1 3/8	4	129.78
.4410	1 3/8	4	129.78
.4420	1 3/8	4	129.78
.4430	1 3/8	4	129.78
.4440	1 3/8	4	129.78
.4450	1 3/8	4	129.78
.4460	1 3/8	4	129.78
.4470	1 3/8	4	129.78
.4480	1 3/8	4	129.78
.4490	1 3/8	4	129.78
.4500	1 3/8	4	129.78
.4510	1 3/8	4	129.78
.4520	1 3/8	4	129.78
.4530	1 3/8	4	129.78
.4540	1 3/8	4	129.78
.4550	1 3/8	4	129.78
.4560	1 3/8	4	129.78
.4570	1 3/8	4	129.78
.4580	1 3/8	4	129.78
.4590	1 3/8	4	129.78
.4600	1 3/8	4	129.78
.4610	1 3/8	4	129.78
.4620	1 3/8	4	129.78
.4630	1 3/8	4	129.78
.4640	1 3/8	4	129.78
.4650	1 3/8	4	129.78
.4660	1 3/8	4	129.78
.4670	1 3/8	4	129.78
.4680	1 3/8	4	129.78
.4690	1 3/8	4	129.78

## Solid Carbide Chucking Reamers

List No. **C805**: Straight Shank, Straight Flute  
Shank diameter same as cutting diameter



- 4 flutes on sizes up to .255" diameter
- 6 flutes on sizes .255" diameter and above
- Cutting flutes are precision ground
- Close tolerances and consistent tool accuracy.

### Decimal Sizes *Continued*

Diameter	Flute Length	Overall Length	Price Each
.4700	1 3/8	4	129.78
.4710	1 3/8	4	129.78
.4720	1 3/8	4	129.78
.4730	1 3/8	4	141.17
.4740	1 3/8	4	141.17
.4750	1 3/8	4	141.17
.4760	1 3/8	4	141.17
.4770	1 3/8	4	141.17
.4780	1 3/8	4	141.17
.4790	1 1/2	4	141.17
.4800	1 1/2	4	141.17
.4805	1 1/2	4	141.17
.4810	1 1/2	4	141.17
.4820	1 1/2	4	141.17
.4830	1 1/2	4	141.17
.4840	1 1/2	4	141.17
.4850	1 1/2	4	141.17
.4860	1 1/2	4	141.17
.4870	1 1/2	4	141.17

Diameter	Flute Length	Overall Length	Price Each
.4880	1 1/2	4	141.17
.4890	1 1/2	4	141.17
.4900	1 1/2	4	141.17
.4910	1 1/2	4	141.17
.4930	1 1/2	4	141.17
.4940	1 1/2	4	141.17
.4950	1 1/2	4	141.17
.4960	1 1/2	4	141.17
.4970	1 1/2	4	141.17
.4980	1 1/2	4	141.17
.4990	1 1/2	4	141.17
.4995	1 1/2	4	141.17
.5005	1 1/2	4	141.17
.5010	1 1/2	4	141.17
.5015	1 1/2	4	141.17
.5020	1 1/2	4	141.17
.5030	1 1/2	4	141.17
.5040	1 1/2	4	141.17
.5050	1 1/2	4	141.17

## Carbide-Tipped Chucking Reamers

List No. **CT550**: Straight Shank, Straight Flute  
List No. **CT551**: Straight Shank, Right Hand Spiral, Right Hand Cut



For hole reaming in cast iron, heat-treated steels and other hard metals.

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	CT550 Straight Flute	CT551 RH Spiral RH Cut
3/16	.1875	1 1/8	4 1/2	55.58	62.50
13/64	.2031	1 1/4	5	55.58	—
7/32	.2188	1 1/4	5	55.58	62.50
15/64	.2344	1 1/2	6	55.58	62.50
1/4	.2500	1 1/2	6	55.58	62.50
17/64	.2656	1 1/2	6	56.90	—
9/32	.2812	1 1/2	6	56.90	62.50
19/64	.2969	1 1/2	6	56.90	—
5/16	.3125	1 1/2	6	56.90	62.50
21/64	.3281	1 1/2	6	58.89	—
11/32	.3438	1 1/2	6	58.89	67.00
23/64	.3594	1 3/4	7	58.95	—
3/8	.3750	1 3/4	7	58.95	67.00
25/64	.3906	1 3/4	7	61.65	—
13/32	.4062	1 3/4	7	61.65	69.00
27/64	.4219	1 3/4	7	65.72	—
7/16	.4375	1 3/4	7	65.72	69.00
29/64	.4531	1 3/4	7	66.95	—
15/32	.4688	1 3/4	7	66.95	74.80
31/64	.4844	2	8	72.25	—
1/2	.5000	2	8	72.36	79.90
17/32	.5312	2	8	74.25	82.00
35/64	.5469	2	8	76.50	—
9/16	.5625	2	8	74.34	83.00

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	CT550 Straight Flute	CT551 RH Spiral RH Cut
19/32	.5938	2	8	77.10	85.00
5/8	.6250	2 1/4	9	77.20	85.00
21/32	.6562	2 1/4	9	78.55	85.00
11/16	.6875	2 1/4	9	78.55	89.50
23/32	.7188	2 1/4	9	82.20	92.00
3/4	.7500	2 1/2	9 1/2	82.20	92.00
25/32	.7812	2 1/2	9 1/2	84.00	93.00
13/16	.8125	2 1/2	9 1/2	84.95	94.50
27/32	.8438	2 1/2	9 1/2	88.27	112.70
7/8	.8750	2 5/8	10	88.27	97.70
29/32	.9062	2 5/8	10	99.90	112.70
15/16	.9375	2 5/8	10	102.95	112.70
31/32	.9688	2 5/8	10	105.25	117.90
1	1.0000	2 3/4	10 1/2	107.94	114.00
1 1/16	1.0625	2 3/4	10 1/2	116.24	119.00
1 3/32	1.0938	2 7/8	11	123.77	—
1 1/8	1.1250	2 7/8	11	125.83	135.00
1 3/16	1.1875	2 7/8	11	132.25	140.00
1 1/4	1.2500	3	11 1/2	139.66	145.00
1 5/16	1.3125	3	11 1/2	147.18	153.00
1 3/8	1.3750	3 1/4	12	156.00	162.00
1 7/16	1.4375	3 1/4	12	177.00	—
1 1/2	1.5000	3 1/2	12 1/2	182.60	195.00

# DROLER® Combination Drill & Reamer High Speed Steel



List No. LV524: Jobber Length

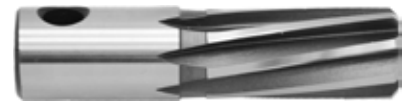
Drill and ream in one easy operation. Drill lengths are 2X the reaming diameter.

Size	Decimal Equivalent	Pilot Size	Flute Length	Overall Length	Price Each
1/8	.1250	.1153	2	3 1/8	45.82
5/32	.1562	.1457	2 1/2	3 3/4	47.88
3/16	.1875	.1764	2 1/2	3 3/4	46.68
7/32	.2188	.2071	2 3/4	4	50.44
1/4	.2500	.2379	2 15/16	4 1/8	50.81
9/32	.2812	.2687	3 3/16	4 1/2	54.68
5/16	.3125	.2997	3 7/16	4 3/4	56.16
11/32	.3438	.3305	3 5/8	5	65.45
3/8	.3750	.3615	3 7/8	5 1/4	71.00
7/16	.4375	.4235	4 1/2	6	80.56
1/2	.5000	.4856	4 3/16	6 5/8	97.10
9/16	.5625	.5477	4 13/16	6 5/8	111.50
5/8	.6250	.6098	5 3/16	7 1/8	149.90

## CNC Stub Screw Machine Reamers High Speed Steel

List No. 554U: Left Hand Spiral, Right Hand Cut

These short machine reamers are designed particularly for use in screw machine work. They are finished with approximately 7° left hand spiral, right hand cut. Pin holes through the shank allows them to be used in pin drive floating holders.



Please indicate decimal size when ordering.

Specifications							Price Each							
Series No.	Finished Dia. Range	Overall Length	Length of Flute	Shank Dia.	Hole Dia.	No. of Flutes	1	2	3-5	6-11	12-23	24-35	36-40	41+
3	.1110 - .1260	2	3/4	1/8	1/16	4	71.44	52.12	35.01	26.56	24.84	21.06	18.46	16.50
4	.1261 - .1580	2 1/4	1	1/4	3/32	4	71.44	52.12	35.01	26.56	24.84	21.06	18.46	16.50
5	.1581 - .1880	2 1/4	1	1/4	3/32	4	71.44	52.12	35.01	26.56	24.84	21.06	18.46	16.50
6	.1881 - .2190	2 1/4	1	1/4	3/32	6	71.44	52.12	35.01	26.56	24.84	21.06	18.46	16.50
7	.2191 - .2510	2 1/4	1	1/4	3/32	6	71.44	52.12	35.01	26.56	24.84	21.06	18.46	16.50
8	.2511 - .2820	2 1/4	1	3/8	1/8	6	74.59	54.41	37.21	28.15	26.79	22.91	20.31	18.36
9	.2821 - .3130	2 1/4	1	3/8	1/8	6	74.59	54.41	37.21	28.15	26.79	22.91	20.31	18.36
10	.3131 - .3440	2 1/2	1 1/4	3/8	1/8	6	74.59	54.41	37.21	28.15	26.79	22.91	20.31	18.36
11	.3441 - .3760	2 1/2	1 1/4	3/8	1/8	6	74.59	54.41	37.21	28.15	26.79	22.91	20.31	18.36
12	.3761 - .4070	2 1/2	1 1/4	1/2	3/16	6	78.79	57.47	40.31	30.81	29.37	25.65	23.05	21.00
13	.4071 - .4390	2 1/2	1 1/4	1/2	3/16	6	78.79	57.47	40.31	30.81	29.37	25.65	23.05	21.00
14	.4391 - .4700	2 1/2	1 1/4	1/2	3/16	6	78.79	57.47	40.31	30.81	29.37	25.65	23.05	21.00
15	.4701 - .5050	2 1/2	1 1/4	1/2	3/16	6	78.79	57.47	40.31	30.81	29.37	25.65	23.05	21.00
16	.5051 - .5670	3	1 1/2	5/8	1/4	6	81.08	59.15	44.11	34.66	33.68	29.09	26.49	24.34
17	.5671 - .6300	3	1 1/2	5/8	1/4	6	81.08	59.15	44.11	34.66	33.68	29.09	26.49	24.34
18	.6301 - .6920	3	1 1/2	5/8	1/4	6	84.47	61.62	48.13	38.52	34.79	33.87	31.27	27.76
19	.6921 - .7550	3	1 1/2	3/4	5/16	8	86.48	63.09	50.61	41.02	35.09	34.75	32.15	29.84
20	.7551 - .8170	3	1 1/2	3/4	5/16	8	90.54	66.05	55.20	45.42	41.20	38.77	36.17	33.85
21	.8171 - .8800	3	1 1/2	3/4	5/16	8	91.10	66.44	55.81	46.06	39.92	39.27	36.67	34.24
22	.8801 - .9420	3	1 1/2	3/4	5/16	8	96.78	70.62	60.40	50.54	44.21	43.33	40.73	38.10
23	.9421 - 1.0100	3	1 1/2	3/4	5/16	8	102.13	74.50	64.03	54.05	47.66	46.55	43.95	41.30

Other sizes are available upon request.

## HUOT® Reamer Index

Description	Pieces Per Set	Case No.	Price Each	
Fractional	1/16 — 1/2 by 64ths	29	CZ129	32.50
Letter	A — Z	26	CZ126	32.50
Wire Gauge	1 — 60	60	CZ160	39.00
Over and Under	.1240 — .5010	14	CZ112	32.50
Dowel Pin	.1230 — .4995	14	CZ114	32.50
Metric	1.0mm — 13.0 mm by .5mm	25	CZ125	44.00





# Hand Reamers - Straight Shank High Speed Steel



List No. **564U**: Straight Flute

List No. **565U**: Left Hand Spiral, Right Hand Cut

These reamers are used for the final sizing of holes. The starting taper provides easy entry of the reamer into the holes. They are generally driven by a tap wrench or vise depending upon whether the work piece or the reamer is rotating.

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	564U Straight Flute	565U LH. SP. RH. Cut
1/16	.0625	1	2	39.00	43.30
5/64	.0781	1	2	39.00	43.30
3/32	.0938	1 1/4	2 1/2	39.00	43.30
7/64	.1094	1 1/4	2 1/2	39.00	43.30
1/8	.1250	1 1/2	3	34.41	39.90
9/64	.1406	1 5/8	3 1/4	34.41	39.90
5/32	.1562	1 5/8	3 1/4	36.20	42.10
#19	.1660	1 3/4	3 1/2	42.00	—
11/64	.1719	1 3/4	3 1/2	36.20	42.10
# 13	.1850	1 3/4	3 1/2	49.00	—
Under 3/16	.1865	1 3/4	3 1/2	42.00	—
3/16	.1875	1 3/4	3 1/2	36.20	40.39
# 8	.1990	1 3/4	3 1/2	51.00	59.00
13/64	.2031	1 7/8	3 3/4	36.20	44.50
7/32	.2188	1 7/8	3 3/4	39.50	44.50
15/64	.2344	2	4	39.50	44.50
1/4	.2500	2	4	39.50	44.50
17/64	.2656	2 1/8	4 1/4	39.50	46.00
9/32	.2812	2 1/8	4 1/4	43.10	49.80
19/64	.2969	2 1/4	4 1/2	43.10	49.80
5/16	.3125	2 1/4	4 1/2	43.10	49.80
21/64	.3281	2 3/8	4 3/4	48.00	53.00
11/32	.3438	2 3/8	4 3/4	48.00	56.00
S	.3480	2 1/2	5	58.00	—
T	.3580	2 1/2	5	58.00	—
23/64	.3594	2 1/2	5	49.00	58.00
Under 3/8	.3745	2 1/2	5	58.00	—
3/8	.3750	2 1/2	5	49.00	58.00
25/64	.3906	2 5/8	5 1/4	56.05	66.40
13/32	.4062	2 5/8	5 1/4	56.05	66.40
27/64	.4219	2 3/4	5 1/2	58.00	69.00
Under 7/16	.4365	2 3/4	5 1/2	—	72.00
7/16	.4375	2 3/4	5 1/2	58.00	66.40
29/64	.4531	2 7/8	5 3/4	61.89	69.00
15/32	.4688	2 7/8	5 3/4	61.89	69.00
31/64	.4844	3	6	62.60	69.00
Under 1/2	.4995	3	6	69.00	—
1/2	.5000	3	6	62.60	69.00
33/64	.5156	3 1/8	6 1/4	69.00	78.00
17/32	.5312	3 1/8	6 1/4	64.00	73.70
35/64	.5469	3 1/4	6 1/2	72.50	84.45
Under 9/16	.5615	3 1/4	6 1/2	—	84.45
9/16	.5625	3 1/4	6 1/2	66.00	74.19
37/64	.5781	3 3/8	6 3/4	81.70	91.66
19/32	.5938	3 3/8	6 3/4	72.30	84.45
39/64	.6094	3 1/2	7	89.00	91.66
Under 5/8	.6240	3 1/2	7	89.00	91.66
5/8	.6250	3 1/2	7	72.50	82.70
41/64	.6406	3 11/16	7 3/8	89.00	99.90
21/32	.6562	3 7/8	7 3/4	80.98	92.30
43/64	.6719	3 7/8	7 3/4	89.00	99.90
11/16	.6875	3 7/8	7 3/4	80.98	92.30
45/64	.7031	4 1/16	8 1/8	98.40	110.60
23/32	.7188	4 1/16	8 1/8	92.40	99.65
47/64	.7344	4 3/16	8 3/8	99.75	111.90
3/4	.7500	4 3/16	8 3/8	92.40	99.65
49/64	.7656	4 3/16	8 3/8	102.00	115.08
25/32	.7812	4 3/8	8 3/4	95.96	105.53

REAMERS

# Hand Reamers - Straight Shank High Speed Steel



List No. **564U**: Straight Flute

List No. **565U**: Left Hand Spiral, Right Hand Cut

These reamers are used for the final sizing of holes. The starting taper provides easy entry of the reamer into the holes. They are generally driven by a tap wrench or vise depending upon whether the work piece or the reamer is rotating.

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	564U Straight Flute	565U LH. SP. RH. Cut
51/64	.7969	4 3/8	8 3/4	85.96	127.59
13/16	.8125	4 9/16	9 1/8	98.26	105.53
53/64	.8281	4 9/16	9 1/8	115.25	127.59
27/32	.8438	4 7/8	9 3/8	102.10	114.56
55/64	.8594	4 7/8	9 3/8	114.25	127.59
7/8	.8750	4 7/8	9 3/4	102.10	114.56
57/64	.8906	4 7/8	10	119.20	136.39
29/32	.9062	4 7/8	10	104.94	127.80
59/64	.9219	5	10	120.35	136.39
15/16	.9375	5 1/8	10 1/4	104.94	127.80
61/64	.9531	5 5/16	10 5/8	—	148.17
31/32	.9688	5 5/16	10 5/8	120.30	136.22
63/64	.9844	5 7/16	10 7/8	—	150.15
1	1.0000	5 7/16	10 7/8	122.90	136.22
1 1/64	1.0156	5 7/16	10 7/8	—	180.00
1 1/32	1.0312	5 7/16	10 7/8	160.00	180.00
1 3/64	1.0469	5 7/16	10 7/8	170.00	190.00
1 1/16	1.0625	5 5/8	11 1/4	146.50	165.00
1 5/64	1.0781	5 5/8	11 1/4	184.00	195.00
1 3/32	1.0938	5 5/8	11 1/4	184.00	195.00
1 7/64	1.1094	5 5/8	11 1/4	215.00	210.00
1 1/8	1.1250	5 13/16	11 5/8	159.20	180.60
1 9/64	1.1406	5 13/16	11 5/8	215.00	247.00
1 5/32	1.1562	5 13/16	12	215.00	255.00
1 11/64	1.1719	5 13/16	12	236.00	264.00
1 3/16	1.1875	6	12	189.00	225.00
1 13/64	1.2031	6	12	236.00	269.50
1 7/32	1.2188	6	12	236.00	—
1 15/64	1.2344	6	12	—	269.50
1 1/4	1.2500	6 1/8	12 1/4	195.50	240.00
1 9/32	1.2812	6 1/4	12 1/2	260.00	300.00
1 5/16	1.3125	6 1/4	12 1/2	233.00	249.00
1 11/32	1.3438	6 5/16	12 5/8	267.00	312.00
1 3/8	1.3750	6 5/16	12 5/8	235.00	265.00
1 13/32	1.4062	6 7/16	12 7/8	280.00	—
1 7/16	1.4375	6 7/16	12 7/8	255.00	299.00
1 15/32	1.4688	6 1/2	13	315.00	370.00
1 1/2	1.5000	6 1/2	13	270.00	313.00
1 9/16	1.5625	6 1/2	13	340.00	350.00
1 11/16	1.6875	6 3/4	13 1/2	379.00	395.00
1 23/32	1.7188	6 3/4	13 1/2	598.00	—
1 3/4	1.7500	6 3/4	13 1/2	598.00	625.00
1 13/16	1.8125	7	13 3/4	650.00	—
1 7/8	1.8750	7	14	720.00	—
1 15/16	1.9375	7	14	740.00	—
2	2.0000	7	14	786.00	820.00
2 1/16	2.0625	7 1/4	14 1/2	825.00	—
2 1/8	2.1250	7 1/4	14 1/2	900.00	—
2 3/16	2.1875	7 1/2	15	930.00	—
2 1/4	2.2500	7 1/2	15	945.00	—
2 3/8	2.3750	7 7/8	15	970.00	—
2 9/16	2.5625	7 7/8	15 1/2	1100.00	—
2 11/16	2.6875	8	16	1175.00	—
2 3/4	2.7500	8	16	1200.00	—
2 13/16	2.8125	8 1/4	16 5/8	1350.00	—
3	3.0000	8 1/4	16 5/8	1500.00	—

# Metric Hand Reamers - Straight Shank High Speed Steel



List No. **564MU**: Straight Flute

These reamers are used for the final sizing of holes. The starting taper provides easy entry of the reamer into the holes. They are generally driven by a tap wrench or vise depending upon whether the work piece or the reamer is rotating.

Diameter	Decimal Equivalent	Flute Length	Overall Length	Price Each
3.00	.1181	1 7/32	2 7/16	49.00
3.20	.1260	1 1/4	2 1/2	49.00
3.50	.1378	1 3/8	2 3/4	49.00
4.00	.1575	1 1/2	3	49.00
4.50	.1772	1 5/8	3 1/4	49.00
5.00	.1969	1 3/4	3 1/2	50.82
5.50	.2165	1 13/16	3 5/8	50.82
6.00	.2362	1 13/16	3 5/8	50.82
7.00	.2756	2 1/16	4 3/8	54.45
7.50	.2953	2 1/16	4 3/8	60.50
7.90	.3110	2 1/4	4 1/2	69.00
8.00	.3150	2 1/4	4 1/2	63.64
9.00	.3543	2 7/16	4 7/8	63.64
9.50	.3740	2 7/16	4 7/8	64.00

Diameter	Decimal Equivalent	Flute Length	Overall Length	Price Each
10.00	.3937	2 5/8	5 1/4	70.00
11.00	.4331	2 3/4	5 1/2	70.00
11.50	.4528	2 3/4	5 1/2	75.00
12.00	.4724	3	6	78.00
13.00	.5118	3	6	84.43
14.00	.5512	3 1/4	6 1/2	89.00
15.00	.5906	3 1/4	6 1/2	96.75
16.00	.6299	3 1/2	6 7/8	105.93
17.00	.6693	3 1/2	6 7/8	107.00
17.50	.6890	3 11/16	7 1/2	110.90
18.00	.7087	3 11/16	7 1/2	115.50
19.00	.7480	3 11/16	7 1/2	129.42
20.00	.7874	4	8	129.42

## Adjustable Hand Reamers

List No. **570U**: High Speed Steel



Blades are adjusted by loosening one nut and tightening the other. Each reamer expands to the next size.

Size	Range of Adjustment	Blade Length	Overall Length	Price Each
8/A	1/4 - 9/32	1 11/32	3 1/4	64.81
7/A	9/32 - 5/16	1 11/32	3 1/2	64.81
6/A	5/16 - 11/32	1 1/2	4 1/8	64.81
5/A	11/32 - 3/8	1 1/2	4 3/8	64.81
4/A	3/8 - 13/32	1 1/2	4 3/4	66.99
3/A	13/32 - 7/16	1 1/2	5	74.14
2/A	7/16 - 15/32	1 5/8	5 1/4	74.14
A	15/32 - 17/32	1 5/8	5 1/2	78.58
B	17/32 - 19/32	1 13/16	5 3/4	78.58
C	19/32 - 21/32	2 1/16	6 1/2	81.76
D	21/32 - 23/32	2 3/16	6 3/4	85.59
E	23/32 - 25/32	2 1/2	7	90.11
F	25/32 - 27/32	2 5/8	7 3/8	93.01
G	27/32 - 15/16	3	8	97.64
H	15/16 - 1 1/16	3 1/4	9	103.00
I	1 1/16 - 1 3/16	3 3/8	10	125.79
J	1 3/16 - 1 11/32	3 7/8	11	148.94
K	1 11/32 - 1 1/2	4 1/4	12	193.47
L	1 1/2 - 1 13/16	4 7/16	14	235.84
M	1 13/16 - 2 7/32	5	16	299.39
N	2 7/32 - 2 3/4	5	18	527.32
O	2 3/4 - 3 11/32	5 3/16	20	725.12

Note: Can also be used for reaming pinions.

## Sets - Adjustable Hand Reamers

Sizes	No. of Pieces	Part No.	Price
8/A - 5/A	4	<b>570UB</b>	259.24
A - H	8	<b>570UA</b>	708.27
A - K	11	<b>570UC</b>	1176.47



Supplied in wood case

# Expansion Hand Reamers High Speed Steel

List No. **576U**: Straight Flute

List No. **577U**: Left Hand Spiral, Right Hand Cut



These reamers are used to enlarge holes by a few thousandths. The pilots and guides of these reamers are ground under size to allow smooth entrance.

Recommended Expansion Limits:			
Sizes 1/4 to 21/32	.010"	Sizes 1-1/16 to 1-1/2	.015"
Sizes 11/16 to 1	.013"	Sizes 1-9/16 to 2	.017"

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	576U Straight Flute	577U LH. Sp. RH. Cut
3/16	.1875	1 1/8	3 3/8	148.00	175.00
7/32	.2188	1 3/16	3 1/2	150.00	170.00
1/4	.2500	1 7/16	4 1/2	154.00	180.00
9/32	.2812	1 3/4	4	167.00	183.00
5/16	.3125	1 3/4	4 1/2	165.00	185.00
11/32	.3438	1 3/4	4 1/2	167.00	187.00
9mm	.3543	1 3/4	4 1/2	190.00	—
3/8	.3750	1 3/4	5	169.00	189.00
13/32	.4062	1 3/4	5	180.00	205.00
7/16	.4375	1 3/4	5	184.00	210.00
15/32	.4688	1 13/16	5 1/2	190.00	213.00
1/2	.5000	1 13/16	5 1/2	193.00	216.00
17/32	.5312	2 1/8	6	195.00	218.00
9/16	.5625	2 1/8	6	199.00	221.00
19/32	.5938	2 1/2	6	202.00	228.00
5/8	.6250	2 1/2	6 1/2	205.00	230.00
21/32	.6562	2 1/2	6 1/2	212.00	225.00
11/16	.6875	2 1/2	6 3/4	220.00	240.00
23/32	.7188	2 11/16	6 9/16	233.00	260.00
3/4	.7500	2 11/16	7 1/16	240.00	270.00
25/32	.7812	3 1/16	7 1/16	266.00	300.00
13/16	.8125	3 1/16	7 9/16	279.00	310.00
21mm	.8268	3 1/16	7 9/16	315.00	—
27/32	.8438	3 5/16	7 1/2	288.00	315.00
7/8	.8750	3 5/16	8	290.00	320.00
57/64	.8906	3 5/16	8	313.00	330.00
29/32	.9062	3 9/16	8 3/8	313.00	330.00
59/64	.9219	3 9/16	8 3/8	322.00	340.00
15/16	.9375	3 9/16	8 3/8	322.00	340.00
61/64	.9531	3 9/16	8 3/8	350.00	375.00
31/32	.9688	3 3/4	8 3/8	350.00	375.00
1	1.0000	3 3/4	8 7/8	360.00	385.00
1 1/32	1.0312	4	9 3/16	379.00	—
1 1/16	1.0625	4	9 3/16	388.00	405.00
1 3/32	1.0938	4 1/8	9	396.00	415.00
1 1/8	1.1250	4 1/8	9 1/2	400.00	425.00
29mm	1.1417	4 1/8	9 1/2	425.00	—
1 5/32	1.1562	4 1/4	9 3/8	418.00	435.00
1 3/16	1.1875	4 1/4	9 7/8	411.00	440.00
1 7/32	1.2188	4 3/8	10 1/4	420.00	450.00
31mm	1.2205	4 3/8	10 1/4	450.00	—
1 1/4	1.2500	4 3/8	10 1/4	425.00	460.00

Specifications				Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	576U Straight Flute	577U LH. Sp. RH. Cut
1 9/32	1.2812	4 1/2	10 1/4	439.00	470.00
33mm	1.2992	4 1/2	10 1/4	480.00	—
1 5/16	1.3125	4 1/2	10 5/8	440.00	475.00
1 11/32	1.3438	4 9/16	11	479.00	507.00
1 3/8	1.3750	4 9/16	11	490.00	530.00
1 13/32	1.4062	4 3/4	11 3/8	555.00	615.00
1 7/16	1.4375	4 3/4	11 3/8	570.00	630.00
37mm	1.4567	4 3/4	11 3/8	650.00	—
1 15/32	1.4688	4 13/16	11 5/8	625.00	660.00
1 1/2	1.5000	4 13/16	11 5/8	625.00	685.00
39mm	1.5354	4 13/16	11 5/8	680.00	—
1 9/16	1.5625	4 13/16	11 5/8	660.00	690.00
41mm	1.6142	4 7/8	11 5/8	710.00	—
1 5/8	1.6250	4 7/8	11 5/8	695.00	740.00
1 11/16	1.6875	5	11 5/8	729.00	790.00
43mm	1.6929	5	11 5/8	780.00	—
44mm	1.7323	5	11 5/8	780.00	—
1 3/4	1.7500	5	12 3/8	750.00	825.00
46mm	1.8110	5	12 3/8	810.00	—
1 13/16	1.8125	5	12 3/8	785.00	855.00
47mm	1.8504	5	12 3/8	820.00	—
1 7/8	1.8750	5	12 3/4	800.00	890.00
49mm	1.9291	5	12 3/4	950.00	—
1 15/16	1.9375	5	12 3/4	929.00	998.00
2	2.0000	5	13 1/16	950.00	1100.00
2 1/16	2.0625	5 1/8	13 1/4	1100.00	—
2 1/8	2.1250	5 1/8	13 1/4	1200.00	1300.00
2 3/16	2.1875	5 1/8	13 1/2	1250.00	—
2 1/4	2.2500	5 1/4	14	1300.00	1420.00
2 5/16	2.3125	5 3/8	14 1/2	1350.00	—
2 3/8	2.3750	5 3/8	14 1/2	1400.00	1500.00
2 7/16	2.4375	5 3/8	14 1/2	1450.00	1600.00
2 1/2	2.5000	5 3/8	14 1/2	1500.00	—
2 9/16	2.5625	5 1/2	15	1550.00	—
2 5/8	2.6250	5 1/2	15	1600.00	—
2 11/16	2.6875	5 3/4	15 1/2	1650.00	—
2 3/4	2.7500	5 3/4	15 1/2	1700.00	—
2 13/16	2.8125	5 3/4	15 1/2	1750.00	—
2 7/8	2.8750	5 3/4	15 1/2	1800.00	—
2 15/16	2.9375	6	16 1/2	1875.00	—
3	3.0000	6	16 1/2	1975.00	—

## Sets - Expansion Hand Reamers

Sizes	Description	No. of Pieces	Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	Straight Flute	5	576US	967.67
1/4, 3/8, 1/2, 5/8, 3/4	LH. Spiral/ RH. Cut	5	577US	1091.67

Supplied in wood block



## Expansion Chucking Reamers High Speed Steel

List No. 572U: Straight Shank, Straight Flute

List No. 574U: Taper Shank, Straight Flute



This is an economical high-production reamer. The expansion feature permits this reamer to be resharpened many times to its original diameter, for cost and replacement purposes.

Available in 64<sup>th</sup> sizes.  
Please inquire.

Maximum Expansion to 1/2 ≈ .006", to 1 ≈ .010", to 1 1/2 ≈ .012", 1-1/2 and over ≈ .015"

Specifications				572U Straight Shank	574U Taper Shank	
Diameter	Decimal Equivalent	Flute Length	Overall Length	Price Each	Morse Taper No.	Price Each
3/16	.1875	3/4	6 1/2	120.50	—	—
7/32	.2188	3/4	6 1/2	120.50	—	—
1/4	.2500	3/4	6 1/2	115.75	—	—
9/32	.2812	3/4	6 1/2	115.75	—	—
5/16	.3125	3/4	6 1/2	115.75	—	—
11/32	.3438	3/4	6 1/2	115.75	—	—
3/8	.3750	3/4	7	79.70	1	89.60
13/32	.4062	3/4	7	82.60	1	95.16
7/16	.4375	7/8	7	84.40	1	97.70
15/32	.4688	7/8	7	87.44	1	99.90
1/2	.5000	1	8	89.10	1	101.14
17/32	.5312	1	8	92.16	1	103.30
9/16	.5625	1 1/8	8	94.11	1	105.90
19/32	.5938	1 1/8	8	96.40	1	107.44
5/8	.6250	1 1/4	9	98.49	2	109.61
21/32	.6562	1 1/4	9	101.50	2	114.59
11/16	.6875	1 1/4	9	103.30	2	116.10
23/32	.7188	1 1/4	9	108.18	2	118.00
3/4	.7500	1 3/8	9 1/2	112.75	2	120.35
25/32	.7812	1 3/8	9 1/2	120.20	2	125.99
13/16	.8125	1 3/8	9 1/2	123.66	2	130.65
27/32	.8438	1 3/8	9 1/2	129.80	2	135.05
7/8	.8750	1 1/2	10	139.66	2	143.60
29/32	.9062	1 1/2	10	142.19	2	149.00
15/16	.9375	1 1/2	10	147.90	3	153.62
31/32	.9688	1 1/2	10	153.16	3	159.99
1	1.0000	1 5/8	10 1/2	159.75	3	166.66
1 1/32	1.0312	1 5/8	10 1/2	175.09	3	179.59
1 1/16	1.0625	1 5/8	10 1/2	180.80	3	185.19
1 3/32	1.0938	1 5/8	10 1/2	190.19	3	195.95
1 1/8	1.1250	1 3/4	11	201.55	3	209.90
1 5/32	1.1562	1 3/4	11	204.19	3	215.08
1 3/16	1.1875	1 3/4	11	210.10	3	225.00
1 13/64	1.2031	1 3/4	11	—	3	280.00
1 7/32	1.2188	1 3/4	11	220.59	3	260.00
1 1/4	1.2500	1 7/8	11 1/2	225.25	4	240.50
1 9/32	1.2812	1 7/8	11 1/2	265.50	—	—
1 5/16	1.3125	1 7/8	11 1/2	230.85	4	245.00
1 11/32	1.3438	1 7/8	11 1/2	275.70	—	—
1 3/8	1.3750	2	12	240.78	4	260.00
1 7/16	1.4375	2	12	250.38	4	272.00
1 1/2	1.5000	2 1/8	12 1/2	260.95	4	280.00
1 9/16	1.5625	2 1/8	12 1/2	325.00	4	355.00
1 5/8	1.6250	2 1/4	13	330.00	4	360.00
1 11/16	1.6875	2 1/4	13	350.00	4	380.00
1 3/4	1.7500	2 3/8	13 1/2	398.00	5	438.00
1 13/16	1.8125	2 3/8	13 1/2	425.00	5	470.00
1 7/8	1.8750	2 1/2	14	480.00	5	525.00
1 15/16	1.9375	2 1/2	14	495.00	5	540.00
2	2.0000	2 1/2	14	505.00	5	555.00
2 1/8	2.1250	2 3/4	14 1/2	600.00	5	665.00
2 3/16	2.1875	2 3/4	14 1/2	—	5	680.00
2 5/16	2.3125	2 3/4	14 1/2	—	5	695.00
2 3/8	2.3750	3	14 1/2	650.00	5	750.00
2 7/16	2.4375	3	15	—	5	775.00
2 1/2	2.5000	3	15	725.00	5	795.00
2 5/8	2.6250	3	16	—	5	995.00
2 11/16	2.6875	3	16	—	5	1095.00
2 13/16	2.8125	3	16	—	5	1295.00
2 7/8	2.8750	3	16	—	5	1395.00
2 15/16	2.9375	3	16	1450.00	5	1450.00
3	3.0000	3	16	—	5	1495.00



## Morse Taper Roughing and Finishing Reamers High Speed Steel - Straight Flute

- List No. **568U**: Straight Shank - Finishing Reamers  
 List No. **569U**: Taper Shank - Finishing Reamers  
 List No. **552U**: Straight Shank - Roughing Reamers  
 List No. **559U**: Taper Shank - Roughing Reamers



This tool is used for accurate reaming of Morse Taper holes in sockets, sleeves and spindles.

Specifications						Price Each			
Taper No.	Diameter		Flute Length	Shank Diameter	Morse Taper No.	568U Straight Shank	569U Taper Shank	552U Straight Shank Roughing	559U Taper Shank Roughing
	Small End	Large End							
0	.2503	.3674	2 1/4	5/16	0	58.00	88.00	65.00	99.00
1	.3674	.5170	3	7/16	1	74.00	98.00	82.00	115.00
2	.5696	.7444	3 1/2	5/8	2	89.00	115.00	99.00	130.00
3	.7748	.9881	4 1/4	7/8	3	129.00	160.00	145.00	180.00
4	1.0167	1.2893	5 1/4	1 1/8	4	189.00	250.00	208.00	270.00
5	1.4717	1.8005	6 1/4	1 1/2	5	340.00	520.00	370.00	549.00
6	2.1120	2.5550	8 1/2	2	6	915.00	950.00	960.00	1005.00

### Sets - Morse Taper Reamers

Description	Sizes	Pieces	Set No.	Price
Straight Shank, Finishing Reamer	#1 - #5	5	<b>568US</b>	821.00

## Brown & Sharpe Taper Reamers - High Speed Steel

- List No. **596U**: Straight Shank, Straight Flute - Finishing Reamers

These reamers are used for final finishing of Brown & Sharpe standard taper holes, and also used for removing nicks or burrs in machine spindles.



Size	Diameter		Flute Length	Shank Diameter	Overall Length	Price Each
	Small End	Large End				
1	.1974	.3176	2 7/8	9/32	4 3/4	74.00
2	.2474	.3781	3 1/8	11/32	5 1/8	83.00
3	.3099	.4510	3 3/8	13/32	5 1/2	89.00
4	.3474	.5017	3 11/16	7/16	5 7/8	92.55
5	.4474	.6145	4	9/16	6 3/8	97.70
6	.4974	.6808	4 3/8	5/8	6 7/8	104.78
7	.5974	.8011	4 7/8	3/4	7 1/2	110.30
8	.7474	.9770	5 1/2	13/16	8 1/8	149.74
9	.8974	1.1530	6 1/8	1	8 7/8	195.00
10	1.0420	1.3376	6 7/8	1 1/8	9 3/8	245.00
11	1.2500	1.5680	7 5/8	1 5/16	10 5/8	485.00
12	1.5000	1.8440	8 1/4	1 5/8	11 3/8	599.00

### Sets - Brown & Sharpe Taper Reamers

Sizes	No. of Reamers	Set No.	Price
#1 - #5	5	<b>596US</b>	436.25

## Jarno Taper Reamers - High Speed Steel

- List No. **599U**: Straight Shank, Straight Flute - Finishing Reamers



Jarno Taper No.	Size		Overall Length	Price Each
	Small End	Large End		
4	.400	.531	4 3/8	85.00
5	.500	.652	5 1/8	93.00
6	.600	.787	5 7/8	105.00
7	.700	.916	6 5/8	120.00
8	.800	1.044	7 3/8	175.00
9	.900	1.169	8 1/8	199.00

Jarno Taper No.	Size		Overall Length	Price Each
	Small End	Large End		
10	1.000	1.297	8 7/8	210.00
11	1.100	1.422	9 1/2	300.00
12	1.200	1.550	10 1/8	450.00
13	1.300	1.675	10 3/4	510.00
14	1.400	1.800	11 3/8	595.00

## Aligning Reamers - High Speed & Cobalt

### 1/2" Straight Shank with 3 Equal Flats to fit 1/2" Chucks

List No. **535R**: Left Hand Spiral, Right Hand Cut, High Speed

List No. **535RC**: Left Hand Spiral, Right Hand Cut, Cobalt



Used to align existing holes prior to rivet or bolt installation, the point is tapered to allow entry into overlapping holes. These reamers are also useful in portable reaming.

Specifications				Price Each	
Size	Flute Length	Overall Length	Shank Diameter	535R High Speed	535RC Cobalt
1/4*	2 1/2	4 3/8	1/4	46.71	60.72
5/16	2 3/4	4 5/8	5/16	46.71	60.72
3/8	2 3/4	4 5/8	3/8	46.71	60.72
7/16	3 1/2	5 3/8	7/16	48.40	62.92
1/2	4	5 7/8	1/2	48.40	62.92
9/16	4	5 7/8	1/2	53.90	70.07
5/8	4 1/2	6 3/8	1/2	56.10	72.93
11/16	4 1/2	6 3/8	1/2	62.43	81.15
3/4	5	6 7/8	1/2	74.75	97.17
13/16	5	6 7/8	1/2	75.35	97.95
7/8	5	6 7/8	1/2	80.85	105.10
15/16	5	6 7/8	1/2	84.59	109.96
1	5	6 7/8	1/2	98.89	128.55
1 1/16	5	6 7/8	1/2	115.50	150.15
1-1/8	5	6-7/8	1/2	135.00	—

### Sets - Aligning Reamers

\* No Flats on Shank

Sizes	Description	No. of Pcs.	Part No.	Price
1/2, 9/16, 5/8, 3/4	High Speed Steel	4	<b>535RS</b>	237.40
1/2, 9/16, 5/8, 3/4	Cobalt	4	<b>535RCS</b>	303.09

Supplied in wood block

### Hex Nut Shank Style

List No. **535H**: Left Hand Spiral Flute

For portable pneumatic tools, the short length permits use in limited-access areas. The hex nut diameter for each reamer matches socket size for the bolt which will be driven through the newly reamed hole.



Size	Flute Length	Overall Length	Hex Shank Diameter	Price Each
11/16	4 1/2	6 1/2	1 1/16	78.10
13/16	5	7	1 1/4	95.15
15/16	5	7	1 7/16	105.60
1 1/16	5	7	1 5/8	141.90
1 3/16	5	7	1 13/16	196.00

## Construction Reamers - High Speed Steel

### 1/2" Straight Shank with 3 Equal Flats to fit 1/2" Chucks

List No. **583CR**: Left Hand Spiral Flute with stop collar

Used to align existing holes prior to rivet or bolt installation, the point is tapered to allow entry into overlapping holes. These reamers are also useful in portable reaming.



Size	Decimal Equivalent	Flute Length	Overall Length	Shank Diameter	Price Each
3/8*	.3750	3 5/8	5 1/4	.3750	36.32
7/16*	.4375	3 5/8	5 1/4	.4375	48.00
1/2	.5000	4 3/8	6	.5000	55.13
9/16	.5625	5	6 5/8	.5000	64.72
5/8	.6250	5	6 5/8	.5000	74.90
11/16	.6875	5 3/8	7	.5000	88.48
3/4	.7500	5 3/8	7	.5000	100.76
13/16	.8125	5 5/8	7 1/4	.5000	104.31
7/8	.8750	5 5/8	7 1/4	.5000	104.31
15/16	.9375	5 5/8	7 1/4	.5000	130.88
1	1.0000	5 5/8	7 1/4	.5000	130.88

\* Shank diameter same as cutting diameter.

### Sets - Construction Reamers

Sizes	Description	No. of Pcs.	Part No.	Price
1/2, 9/16, 5/8, 3/4	High Speed Steel	4	<b>583CRS</b>	299.76

Supplied in wood block

## Bridge Reamers - Taper Shank Long Body, High Speed Steel

List No. **532**: Left Hand Spiral, Right Hand Cut  
List No. **533**: Straight Flute



Structural reamers are used extensively in shipbuilding, bridge construction, and boiler manufacturing. These reamers are designed to ream rough and undersize holes that are previously punched or drilled in steel plates or shapes. They are used where it is necessary to ream holes in assemblies to obtain proper alignment and size to precisely fit rivets, bolts, etc.

Specifications					Price Each	
Size	Approx. Point Size	Flute Length	Overall Length	Morse Taper No.	532 LH Spiral	533 Straight Flute
9/32	5/32	4	7 1/4	1	55.20	62.40
5/16	7/32	4	7 1/4	2	55.20	62.40
11/32	7/32	4	7 1/4	2	58.80	62.40
3/8	1/4	4 1/2	8 1/4	2	58.80	62.40
13/32	1/4	4 1/2	8 1/4	2	58.80	62.40
7/16	1/4	4 1/2	8 1/4	2	45.96	62.40
15/32	1/4	5 1/8	9	2	60.62	81.60
1/2	9/32	5 1/8	9	2	60.62	76.32
33/64	9/32	5 1/8	9	2	61.58	76.32
17/32	9/32	5 1/8	9	2	64.80	76.32
9/16	11/32	5 1/8	9	2	69.60	76.32
37/64	3/8	5 1/8	9	2	83.52	95.04
5/8	3/8	6 1/8	10	2	91.20	95.04
11/16	25/64	7 1/8	11 3/4	3	100.80	110.00
3/4	7/16	7 3/8	12	3	109.29	116.16
25/32	1/2	7 3/8	12	3	109.29	116.16
13/16	1/2	7 3/8	12	3	120.00	125.00
7/8	9/16	7 3/8	12	3	107.52	116.16
29/32	5/8	7 3/8	12	3	122.88	133.92
15/16	5/8	7 3/8	12	3	136.32	139.00
31/32	5/8	7 3/8	12	3	149.00	—
1	11/16	7 3/8	12	3	135.12	168.00

Specifications					Price Each	
Size	Approx. Point Size	Flute Length	Overall Length	Morse Taper No.	532 LH Spiral	533 Straight Flute
1 1/16	3/4	7 3/8	12	3	148.80	152.00
1 1/8	13/16	7 3/8	12	3	158.40	165.00
1 5/32	7/8	7 3/8	12	3	168.00	170.88
1 3/16	7/8	7 3/8	12	3	155.00	168.50
1 7/32	15/16	7 3/8	13	4	185.28	205.44
1 1/4	15/16	7 3/8	13	4	175.00	180.00
1 9/32	1	7 3/8	13	4	214.08	225.60
1 5/16	1	7 3/8	13	4	210.00	215.00
1 11/32	1 1/8	7 3/8	13	4	242.88	254.40
1 3/8	1 1/8	7 3/8	13	4	249.60	255.00
1 13/32	1 3/16	7 3/8	13	4	254.40	266.88
1 7/16	1 3/16	7 3/8	13	4	285.12	297.60
1 1/2	1 1/4	7 3/8	13	4	320.00	382.08
1 17/32	1 3/8	7 3/8	13	4	374.40	382.08
1 9/16	1 3/8	7 3/8	13	4	390.00	395.00
1 5/8	1 3/8	7 3/8	13	4	408.00	410.00
1 3/4	1 11/16	7 3/8	13 3/4	5	450.00	—
1 7/8	1 11/16	7 3/8	13 3/4	5	475.00	480.00
1 15/16	1 11/16	7 3/8	13	5	495.00	—
1 31/32	1 11/16	7 3/8	13	4	499.00	510.00
2	1 11/16	7 3/8	13 3/4	5	499.00	—

### 3-Flute Sizes

List No. **532A**: Left Hand Spiral, Right Hand Cut

11/16	25/64	7 1/8	11 3/4	3	120.00	—
13/16	1/2	7 3/8	12	3	144.00	—

15/16	5/8	7 3/8	12	3	165.00	—
1 1/16	3/4	7 3/8	12	3	180.00	—

## Car Reamers - Taper Shank, Short Body, High Speed Steel

List No. **535**: Left Hand Spiral, Right Hand Cut  
List No. **534**: Straight Flute



Car reamers are specially designed for reaming structural steel plates, commonly found in railroad cars, truck frames, bridge building/repair, and pressure vessel manufacturing. These reamers are used on previously formed holes in steel plates which are under size and rough, and where it is necessary to ream holes in assemblies to obtain proper alignment and size to precisely fit rivets, bolts, etc.

Specifications					Price Each	
Size	Approx. Point Size	Flute Length	Overall Length	Morse Taper No.	535 LH Spiral	534 Straight Flute
1/4	11/64	2 1/2	5 1/2	1	47.75	63.32
9/32	11/64	2 1/2	5 1/2	1	49.50	64.97
5/16	11/64	2 3/4	5 11/16	1	37.13	52.60
11/32	15/64	2 3/4	5 11/16	1	48.00	59.00
3/8	15/64	2 3/4	5 11/16	1	37.80	—
25/64	15/64	2 3/4	5 11/16	1	48.00	—
27/64	1/4	3 1/2	6 15/16	2	48.00	—
7/16	1/4	3 1/2	6 15/16	2	44.31	63.85
29/64	9/32	3 1/2	7 1/16	2	55.00	—
15/32	9/32	3 1/2	7 1/16	2	55.00	65.00
1/2	19/64	4	7 9/16	2	51.00	70.00

Specifications					Price Each	
Size	Approx. Point Size	Flute Length	Overall Length	Morse Taper No.	535 LH Spiral	534 Straight Flute
33/64	19/64	4	7 9/16	2	60.00	—
35/64	19/64	4	7 9/16	2	60.00	—
9/16	19/64	4	7 9/16	2	52.70	62.50
5/8	5/16	4 1/2	8 1/16	2	61.25	73.75
11/16	3/8	4 1/2	8 13/16	3	65.66	85.37
3/4	13/32	5	9 1/2	3	71.75	100.99
13/16	15/32	5	9 1/2	3	73.90	102.95
15/16	19/32	5	9 1/2	3	81.99	112.00
1	11/16	5	9 1/2	3	115.00	—
1 3/16	25/32	5	9 1/2	3	—	147.00
1 1/4	25/32	5	9 1/2	3	—	158.00

# Taper Shank Chucking Reamers

## High Speed Steel

List No. **530U**: Straight FluteList No. **531U**: Right Hand Spiral, Right Hand CutList No. **537LU**: Left Hand Spiral, Right Hand Cut

These reamers are designed and applied similarly to straight shank reamers (L&I No. LV533 & LV535) except they are manufactured with Morse taper shanks.

Specifications						Price Each		
Diameter	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	No. of Flutes	530U Straight Flute	531U RH Spiral RH Cut	537LU LH Spiral RH Cut
1/8	.1250	7/8	4 3/8	1	6	27.50	—	—
3/16	.1875	1 1/8	4 1/2	1	6	27.50	—	—
5mm	.1969	1 1/4	5	1	6	32.00	—	—
13/64	.2031	1 1/4	5	1	6	29.00	35.00	—
7/32	.2188	1 1/4	5	1	6	34.00	36.50	—
15/64	.2344	1 1/4	5	1	6	—	34.50	—
6mm	.2362	1 1/4	5	1	6	32.00	—	36.00
1/4	.2500	1 1/2	6	1	6	27.75	32.00	36.00
6.5mm	.2559	1 1/2	6	1	6	32.00	—	—
17/64	.2656	1 1/2	6	1	6	38.00	42.50	—
7mm	.2756	1 1/2	6	1	6	38.00	—	—
9/32	.2812	1 1/2	6	1	6	29.00	33.00	36.00
19/64	.2969	1 1/2	6	1	6	38.00	43.00	—
5/16	.3125	1 1/2	6	1	6	29.00	33.00	36.00
8mm	.3150	1 1/2	6	1	6	38.00	—	—
21/64	.3281	1 1/2	6	1	6	39.90	43.00	—
11/32	.3438	1 1/2	6	1	6	32.00	35.00	39.00
9mm	.3543	1 3/4	7	1	6	38.00	—	40.00
23/64	.3594	1 3/4	7	1	6	40.00	—	—
3/8	.3750	1 3/4	7	1	6	33.50	36.00	40.00
25/64	.3906	1 3/4	7	1	6	—	46.00	49.00
10mm	.3937	1 3/4	7	1	6	38.00	—	—
13/32	.4062	1 3/4	7	1	6	34.80	38.00	49.00
11mm	.4331	1 3/4	7	1	6	38.00	—	—
7/16	.4375	1 3/4	7	1	6	34.80	38.50	42.00
29/64	.4531	1 3/4	7	1	6	42.00	—	—
15/32	.4688	1 3/4	7	1	6	35.75	41.40	44.50
12mm	.4724	2	8	1	6	38.20	—	—
31/64	.4844	2	8	1	6	—	49.50	—
1/2	.5000	2	8	1	6	38.20	42.16	45.70
13mm	.5118	2	8	1	6	46.00	—	48.00
17/32	.5312	2	8	1	6	42.25	44.80	48.00
14mm	.5512	2	8	1	6	48.00	—	—
9/16	.5625	2	8	1	6	44.40	47.00	54.00
37/64	.5781	2	8	1	6	48.00	55.00	—
15mm	.5906	2	8	1	6	52.00	—	—
19/32	.5938	2	8	1	6	46.36	49.40	57.00
39/64	.6094	2 1/4	9	2	8	54.00	58.50	—
5/8	.6250	2 1/4	9	2	8	49.90	51.25	57.00
21/32	.6562	2 1/4	9	2	8	51.20	53.00	—
11/16	.6875	2 1/4	9	2	8	51.20	54.10	59.00
23/32	.7188	2 1/4	9	2	8	54.60	59.60	—
47/64	.7344	2 1/4	9	2	8	64.00	67.90	—
3/4	.7500	2 1/2	9 1/2	2	8	54.60	59.60	63.60
25/32	.7812	2 1/2	9 1/2	2	8	64.00	68.20	72.00
20mm	.7874	2 1/2	9 1/2	2	8	70.00	—	—
13/16	.8125	2 1/2	9 1/2	2	8	64.00	68.20	73.20
21mm	.8268	2 1/2	9 1/2	2	8	72.00	—	—
27/32	.8438	2 1/2	9 1/2	2	8	69.10	75.00	79.00
22mm	.8661	2 1/2	9 1/2	2	8	77.00	—	—
7/8	.8750	2 5/8	10	2	8	72.20	75.00	79.00
23mm	.9055	2 5/8	10	2	8	85.50	—	—
29/32	.9062	2 5/8	10	2	8	78.60	84.70	89.00
59/64	.9219	2 5/8	10	3	8	—	—	89.00
15/16	.9375	2 5/8	10	3	8	78.60	84.70	89.00
24mm	.9449	2 5/8	10	3	8	89.00	—	—
31/32	.9688	2 5/8	10	3	8	85.40	90.80	95.00
25mm	.9843	2 5/8	10	3	8	93.00	—	—
1	1.0000	2 3/4	10 1/2	3	8	87.70	90.80	—
26mm	1.0236	2 3/4	10 1/2	3	10	93.00	—	—
1 1/32	1.0312	2 3/4	10 1/2	3	10	118.00	125.00	—

# Taper Shank Chucking Reamers High Speed Steel



List No. **530U**: Straight Flute

List No. **531U**: Right Hand Spiral, Right Hand Cut

List No. **537LU**: Left Hand Spiral, Right Hand Cut

These reamers are designed and applied similarly to straight shank reamers (L&I No. LV533 & LV535) except they are manufactured with Morse taper shanks.

Specifications						Price Each		
Diameter	Decimal Equivalent	Flute Length	Overall Length	Morse Taper No.	No. of Flutes	530U Straight Flute	531U RH Spiral RH Cut	537LU LH Spiral RH Cut
1 1/16	1.0625	2 3/4	10 1/2	3	10	92.00	101.10	—
1 3/32	1.0938	2 7/8	11	3	10	124.00	130.00	145.00
1 1/8	1.1250	2 7/8	11	3	10	99.00	110.70	116.00
1 5/32	1.1562	2 7/8	11	3	10	144.00	152.80	—
1 3/16	1.1875	2 7/8	11	3	10	114.50	125.80	145.00
1 7/32	1.2188	3	11 1/2	4	10	150.00	160.00	—
1 1/4	1.2500	3	11 1/2	4	10	130.00	139.75	150.00
1 9/32	1.2812	3	11 1/2	4	10	125.00	160.00	—
33mm	1.2992	3	11 1/2	4	10	165.00	—	—
1 5/16	1.3125	3	11 1/2	4	10	140.00	149.70	155.00
1 11/32	1.3438	3 1/4	12	4	10	165.00	166.00	—
1 3/8	1.3750	3 1/4	12	4	12	148.00	159.10	165.00
1 13/32	1.4062	3 1/4	12	4	12	175.00	190.00	—
1 7/16	1.4375	3 1/4	12	4	12	159.00	179.60	188.00
1 15/32	1.4688	3 1/2	12 1/2	4	12	190.00	210.00	230.00
1 1/2	1.5000	3 1/2	12 1/2	4	12	170.00	190.75	194.00
1 9/16	1.5625	3 1/2	12 1/2	4	12	237.00	260.00	—
1 5/8	1.6250	4	13 1/2	4	12	245.00	272.00	275.00
1 11/16	1.6875	4	13 1/2	4	12	285.00	300.00	—
1 3/4	1.7500	4	13 1/2	4	12	325.05	341.00	—
1 13/16	1.8125	4	13 1/2	4	12	350.00	390.00	—
1 7/8	1.8750	4	14	4	12	375.00	405.75	—
1 15/16	1.9375	4	14	4	12	395.00	420.00	—
2	2.0000	4	14 1/2	4	12	404.25	425.00	—
2 3/16	2.1875	4 1/2	14 7/8	5	14	695.00	—	—
2 1/4	2.2500	4 1/2	14 7/8	5	14	750.00	—	—
2 5/16	2.3125	4 3/4	15 1/4	5	14	775.00	—	—
2 3/8	2.3750	5	16	5	16	795.00	—	—

<b>Diameter Tolerance:</b>	up to 1/2" $^{-0.0000"}$ $^{-0.000m/m}$ $^{+0.0002"}$ $^{+0.005m/m}$	1/2" to 5/8" $^{-0.0000"}$ $^{-0.000m/m}$ $^{+0.0003"}$ $^{+0.008m/m}$	5/8" to 1" $^{+0.0001"}$ $^{+0.0025m/m}$ $^{+0.0005"}$ $^{+0.012m/m}$	1" to 3" $^{+0.0002"}$ $^{+0.005m/m}$ $^{+0.0006"}$ $^{+0.015m/m}$
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# Taper Shank Jobber Reamers High Speed Steel



List No. **578U**: Straight Flute. These reamers are designed for machine use in applications where long flutes are required.

Diameter	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	No. of Flutes	Price Each
3/16	.1875	1 7/8	5 1/16	1	6	54.00
1/4	.2500	2	5 3/16	1	6	51.98
9/32	.2812	2	5 3/16	1	6	51.98
5/16	.3125	2 1/4	5 1/2	1	6	52.32
11/32	.3438	2 1/4	5 1/2	1	6	59.49
3/8	.3750	2 1/2	5 13/16	1	6	63.70
13/32	.4062	2 1/2	5 13/16	1	6	67.50
7/16	.4375	2 3/4	6 1/8	1	6	69.20
15/32	.4688	2 3/4	6 1/8	1	6	72.50
1/2	.5000	3	6 7/16	1	6	74.60
17/32	.5312	3	6 7/16	1	6	78.21
14mm	.5512	3 1/4	6 3/4	1	6	89.00
9/16	.5625	3 1/4	6 3/4	1	6	84.11
19/32	.5938	3 1/4	6 3/4	1	6	86.04
5/8	.6250	3 1/2	7 9/16	2	8	89.30
21/32	.6562	3 1/2	7 9/16	2	8	91.60
11/16	.6875	3 7/8	8	2	8	95.17
23/32	.7188	3 7/8	8	2	8	99.20

Diameter	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	No. of Flutes	Price Each
3/4	.7500	4 3/16	8 3/8	2	8	104.40
25/32	.7812	4 3/8	8 3/4	2	8	120.00
13/16	.8125	4 9/16	8 13/16	2	8	114.16
27/32	.8438	4 7/8	9 3/16	2	8	140.00
7/8	.8750	4 7/8	9 3/16	2	8	125.70
29/32	.9062	4 7/8	9 3/16	2	8	148.70
15/16	.9375	5 1/8	10	3	8	139.90
31/32	.9688	5 7/16	10 3/8	3	8	174.00
1	1.0000	5 7/16	10 3/8	3	8	151.10
1 1/16	1.0625	5 5/8	10 5/8	3	10	174.00
1 1/8	1.1250	5 13/16	10 7/8	3	10	185.00
1 3/16	1.1875	6	11 1/8	3	10	195.80
1 1/4	1.2500	6 1/8	12 9/16	4	10	215.75
1 5/16	1.3125	6 1/4	12 11/16	4	10	299.00
1 3/8	1.3750	6 5/16	12 13/16	4	12	350.00
1 7/16	1.4375	6 7/16	13	4	12	410.00
1 1/2	1.5000	6 1/2	13 1/8	4	12	480.00
2	2.0000	7	14	4	12	575.00



## Taper Pin Reamers - High Speed Steel - Straight Shank

List No. **556U**: Straight FluteList No. **557U**: Left Hand Spiral, Right Hand CutList No. **558U**: Left Hand Helical Flute, Right Hand Cut

These are for machine reaming of holes for taper pins. Series 558U has a high helix flute design that eases chip ejection.



Specifications						Price Each		
Size	Diameter		Flute Length	Overall Length	Shank Diameter	556U Straight Flute	557U LH Spiral RH Cut	558U Helical Flute
	Small End	Large End						
7/0	.0497	.0666	13/16	1 13/16	5/64	38.50	39.75	40.55
6/0	.0611	.0806	15/16	1 15/16	3/32	38.50	39.75	40.55
5/0	.0719	.0966	1 3/16	2 3/16	7/64	36.25	38.99	40.55
4/0	.0869	.1142	1 5/16	2 5/16	1/8	36.25	38.99	40.55
3/0	.1029	.1302	1 5/16	2 5/16	9/64	36.25	38.99	40.55
2/0	.1137	.1462	1 9/16	2 9/16	5/32	36.25	38.99	40.55
0	.1287	.1638	1 11/16	2 15/16	11/64	31.00	33.00	34.29
1	.1447	.1798	1 11/16	2 15/16	3/16	29.50	33.00	34.29
2	.1605	.2008	1 15/16	3 3/16	13/64	29.50	33.00	36.43
3	.1813	.2294	2 5/16	3 11/16	15/64	29.50	33.00	39.80
4	.2071	.2604	2 9/16	4 1/16	17/64	32.75	35.65	44.23
5	.2409	.2994	2 13/16	4 5/16	5/16	36.07	38.35	48.00
6	.2773	.3540	3 11/16	5 7/16	23/64	42.50	47.18	58.35
7	.3297	.4220	4 7/16	6 5/16	13/32	55.80	59.95	71.32
8	.3971	.5050	5 3/16	7 3/16	7/16	72.00	79.00	82.99
9	.4805	.6066	6 1/16	8 5/16	9/16	83.00	91.95	89.50
10	.5799	.7216	6 13/16	9 5/16	5/8	91.50	102.50	112.25
11	.7060	.8780	8 1/4	11 1/4	11/16	105.80	113.20	130.75
12	.8420	1.0500	10	13 5/8	3/4	163.30	170.00	198.23
13	1.0090	1.2590	12	16	1 1/16	317.40	339.61	535.52
14	1.2500	1.5420	14	18 1/4	1 3/8	512.90	548.80	620.21

Note: 1/4 taper per foot

### Sets - Taper Pin Reamers

Sizes	Description	No. of Pcs.	Part No.	Price
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Straight Flute	17	<b>556USA</b>	780.12
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Straight Flute	11	<b>556USB</b>	559.11
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Spiral	17	<b>557USA</b>	845.55
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Spiral	11	<b>557USB</b>	611.58
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Helical Flute	17	<b>558USA</b>	915.14
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Helical Flute	11	<b>558USB</b>	675.16

## Metric Taper Pin Reamers - High Speed Steel - Straight Shank

List No. **556MU**: Straight FluteList No. **557MU**: Left Hand Spiral, Right Hand Cut

These are for machine reaming of holes for taper pins.



Specifications					Price Each	
Size	Diameter		Flute Length	Overall Length	556MU Straight Flute	557MU LH Spiral RH Cut
	Small End	Large End				
2.00	.0748	.1127	1 7/8	2 5/8	41.00	43.00
2.50	.0945	.1324	1 7/8	2 7/8	41.00	43.00
3.00	.1142	.1600	2 1/4	3 1/4	41.00	43.00
4.00	.1535	.2072	2 11/16	3 5/8	35.00	37.10
5.00	.1929	.2506	2 7/8	4	36.00	—
6.00	.2323	.3150	4 3/16	5 3/8	45.00	47.70
8.00	.3110	.4252	5 3/4	7	77.00	—
10.00	.3898	.5276	6 7/8	8 1/2	93.00	98.58
12.00	.4646	.6299	8 1/4	10	132.00	139.92
14.00	.5437	.7092	8 1/4	10	155.00	—
16.00	.6220	.8031	9	11	185.00	—
20.00	.7795	.9771	9 7/8	12 1/4	198.00	—

Note: Taper 1mm per 50mm

# Taper Pipe Reamers High Speed Steel

List No. **566U**: Straight Flute  
List No. **567U**: Left Hand Spiral, Right Hand Cut

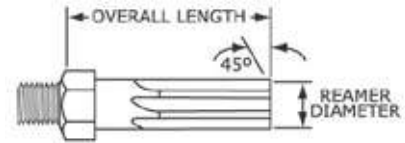


Taper Pipe Reamers are for reaming holes to be tapped with taper pipe taps. They are tapered 3/4" to the foot.

Specifications						Price Each	
Size	Diameter		Flute Length	Shank Diameter	Overall Length	566U	567U
	Small End	Large End				Straight Fit.	LH Spiral
1/16	.2450	.2910	3/4	.3125	2	48.00	52.00
1/8	.3160	.3620	3/4	.4375	2 1/8	48.00	52.00
1/4	.4060	.4720	1 1/16	.5625	2 7/16	53.90	58.00
3/8	.5400	.6060	1 1/16	.7000	2 9/16	58.00	64.00
1/2	.6650	.7510	1 3/8	.6875	3 1/8	73.00	79.00
3/4	.8760	.9620	1 3/8	.9063	3 1/4	105.00	112.00
1	1.1030	1.2120	1 3/4	1.1250	3 3/4	159.00	168.00
1 1/4	1.4440	1.5530	1 3/4	1.3125	4	249.00	262.00
1 1/2	1.6840	1.7930	1 3/4	1.5000	4 1/4	319.00	345.00
2	2.1590	2.2680	1 3/4	1.8750	4 1/2	420.00	455.00
2 1/2	2.5610	2.7220	2 5/8	2.2050	5 1/2	675.00	720.00
3	3.3020	3.3800	2 3/4	2.6250	6	885.00	935.00

# Threaded Shank Reamers High Speed Steel

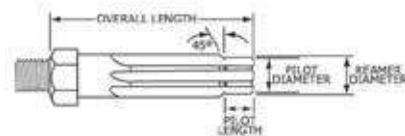
List No. 601



Size	Decimal Equivalent	Overall Length	Shank Thread	Price Each
1/4	.2500	5/8	1/4-28	41.36
1/4	.2500	1	1/4-28	37.50
#10	.1935	5/8	1/4-28	37.50
#10	.1935	1	1/4-28	37.50
#11	.1910	5/8	1/4-28	37.50
#11	.1910	1	1/4-28	37.50
#13	.1850	5/8	1/4-28	37.50
#13	.1850	1	1/4-28	37.50
#21	.1590	5/8	1/4-28	35.10
#21	.1590	1	1/4-28	35.10
#30	.1285	5/8	1/4-28	33.04
#30	.1285	1	1/4-28	33.04

# Piloted Threaded Shank Reamers High Speed Steel

List No. 601P



Size	Pilot Diameter	Pilot Length	Overall Length	Shank Thread	Price Each
.1610	.1250	5/16	2-1/2	1/4-28	48.35
.1850	.1600	5/16	2-1/2	1/4-28	52.05
.1875	.1600	5/16	2-1/2	1/4-28	53.02
.2031	.1875	5/16	2-1/2	1/4-28	53.62
.2188	.2031	5/16	2-1/2	1/4-28	53.02
.2344	.2180	3/8	2-1/2	1/4-28	54.00
.2500	.2344	3/8	2-1/2	1/4-28	56.00
.2656	.2500	3/8	2-1/2	1/4-28	63.00
.2969	.2812	1/2	2-1/2	1/4-28	66.00
.3125	.2969	3/8	2-1/2	1/4-28	67.00
.3438	.3281	1/2	2-1/2	1/4-28	67.00
.3750	.3494	1/2	2-1/2	1/4-28	80.00

# Shell Reamers - High Speed Steel

List No. **560U**: Straight Flute

List No. **561U**: Left Hand Spiral, Right Hand Cut



Shell reamers are machine reamers manufactured in high speed steel. Fluted almost their entire length, they have a tapered hole (1/8" taper per foot) which fits on a tapered arbor. The slots in the reamer engage lugs on the arbor, providing ample strength of drive. *Special sizes are available upon request.*

REAMERS

Specifications							Price Each	
Diameter	Decimal Equivalent	Flute Length	Overall Length	ID Hole Lg. End	Fitting Arbor No.	No. of Flutes	560U Straight Flute	561U LH. Spiral RH. Cut
21/32	.6562	1 1/2	2 1/4	3/8	4	10	75.00	—
3/4	.7500	1 1/2	2 1/4	3/8	4	10	70.65	86.31
13/16	.8125	1 3/4	2 1/2	1/2	5	10	73.14	87.45
27/32	.8438	1 3/4	2 1/2	1/2	5	10	—	98.00
7/8	.8750	1 3/4	2 1/2	1/2	5	10	78.47	89.66
15/16	.9375	1 3/4	2 1/2	1/2	5	10	82.15	91.85
1	1.0000	1 3/4	2 1/2	1/2	5	10	87.07	98.51
1 1/64	1.0156	2	2 3/4	5/8	6	10	—	118.00
1 3/64	1.0469	2	2 3/4	5/8	6	10	—	118.00
1 1/16	1.0625	2	2 3/4	5/8	6	10	94.40	107.00
1 5/64	1.0781	2	2 3/4	5/8	6	10	—	125.00
1 3/32	1.0938	2	2 3/4	5/8	6	10	—	125.00
1 1/8	1.1250	2	2 3/4	5/8	6	10	100.22	110.31
1 5/32	1.1562	2	2 3/4	5/8	6	10	—	130.00
1 3/16	1.1875	2	2 3/4	5/8	6	10	103.55	114.13
1 1/4	1.2500	2	2 3/4	5/8	6	12	105.07	119.10
1 5/16	1.3125	2 1/4	3	3/4	7	12	111.54	124.12
1 11/32	1.3438	2 1/4	3	3/4	7	12	128.00	140.00
1 3/8	1.3750	2 1/4	3	3/4	7	12	118.69	130.59
1 7/16	1.4375	2 1/4	3	3/4	7	12	130.48	144.07
1 1/2	1.5000	2 1/4	3	3/4	7	12	138.29	152.10
1 9/16	1.5625	2 1/4	3	3/4	7	12	155.58	170.49
1 5/8	1.6250	2 1/4	3	3/4	7	12	165.62	185.96
1 11/16	1.6875	2 1/2	3 1/2	1	8	12	182.11	203.58
1 3/4	1.7500	2 1/2	3 1/2	1	8	12	192.79	216.04
1 25/32	1.7813	2 1/2	3 1/2	1	8	12	205.77	231.50
1 13/16	1.8125	2 1/2	3 1/2	1	8	12	205.77	231.50
1 53/64	1.8281	2 1/2	3 1/2	1	8	12	270.00	—
1 27/32	1.8438	2 1/2	3 1/2	1	8	12	240.00	253.00
1 7/8	1.8750	2 1/2	3 1/2	1	8	12	219.40	245.49
1 29/32	1.9062	2 1/2	3 1/2	1	8	12	260.00	275.00
1 15/16	1.9375	2 1/2	3 1/2	1	8	12	251.00	261.67
2	2.0000	2 1/2	3 1/2	1	8	14	241.70	268.92
2 1/16	2.0625	2 3/4	3 3/4	1 1/4	9	14	261.29	293.89
2 1/8	2.1250	2 3/4	3 3/4	1 1/4	9	14	274.29	307.96
2 3/16	2.1875	2 3/4	3 3/4	1 1/4	9	14	291.50	327.88
2 1/4	2.2500	2 3/4	3 3/4	1 1/4	9	14	301.60	338.14
2 5/16	2.3125	2 3/4	3 3/4	1 1/4	9	14	318.65	358.06
2 3/8	2.3750	2 3/4	3 3/4	1 1/4	9	14	331.88	372.70
2 7/16	2.4375	2 3/4	3 3/4	1 1/4	9	14	342.47	387.60
2 1/2	2.5000	2 3/4	3 3/4	1 1/4	9	14	354.76	398.26
2 9/16	2.5625	3	4	1 1/2	10	16	501.12	555.64
2 5/8	2.6250	3	4	1 1/2	10	16	533.60	576.28
2 11/16	2.6875	3	4	1 1/2	10	16	566.89	596.64
2 3/4	2.7500	3	4	1 1/2	10	16	595.08	646.70
2 13/16	2.8125	3	4	1 1/2	10	16	629.53	694.84
2 7/8	2.8750	3	4	1 1/2	10	16	665.55	718.73
2 15/16	2.9375	3	4	1 1/2	10	16	702.38	754.00
3	3.0000	3	4	1 1/2	10	16	737.58	795.52
3 1/16	3.0625	3 1/2	4 1/2	1 3/4	11	18	934.90	—
3 1/8	3.1250	3 1/2	4 1/2	1 3/4	11	18	1130.65	1180.80
3 3/16	3.1875	3 1/2	4 1/2	1 3/4	11	18	1168.12	1210.50
3 1/4	3.2500	3 1/2	4 1/2	1 3/4	11	18	1205.82	1266.00
3 5/16	3.3125	3 1/2	4 1/2	1 3/4	11	18	1247.00	1307.32
3 3/8	3.3750	3 1/2	4 1/2	1 3/4	11	18	1288.76	1354.59
3 7/16	3.4375	3 1/2	4 1/2	1 3/4	11	18	—	1392.00
3 1/2	3.5000	3 1/2	4 1/2	1 3/4	11	18	1361.84	1429.70
3 9/16	3.5625	4	5	2	12	20	1380.00	1467.34
3 5/8	3.6250	4	5	2	12	20	—	1503.36
3 7/8	3.8750	4	5	2	12	20	1619.36	1650.00
3 15/16	3.9375	4	5	2	12	20	1668.08	1779.00
4	4.0000	4	5	2	12	20	1668.08	1806.12

# Carbide Tipped Shell Reamers: Straight Flute

List No. **CT560**: Straight Flute



Shell reamers are machine reamers manufactured in high speed steel. Fluted almost their entire length, they have a tapered hole (1/8" taper per foot) which fits on a tapered arbor. The slots in the reamer engage lugs on the arbor, providing ample strength of drive.

Diameter	No. of Flutes	Flute Length	Overall Length	Hole Diameter	Price Each
3/4	6	1 7/16	2 1/4	3/8	256.96
25/32	6	1 7/16	2 1/4	3/8	261.97
13/16	6	1 11/16	2 1/2	1/2	261.97
7/8	6	1 11/16	2 1/2	1/2	292.74
15/16	8	1 11/16	2 1/2	1/2	292.74
1	8	1 11/16	2 1/2	1/2	298.10
1 1/16	8	1 13/16	2 3/4	5/8	308.47
1 1/8	8	1 13/16	2 3/4	5/8	313.65
1 3/16	8	1 13/16	2 3/4	5/8	319.01
1 1/4	8	1 13/16	2 3/4	5/8	339.83
1 5/16	8	2	3	3/4	344.93
1 3/8	8	2	3	3/4	355.39
1 7/16	8	2	3	3/4	365.93
1 1/2	8	2	3	3/4	381.65
1 9/16	8	2	3	3/4	441.83
1 5/8	8	2	3	3/4	463.59
1 11/16	10	2 11/32	3 1/2	1	501.84
1 3/4	10	2 11/32	3 1/2	1	501.84
1 13/16	10	2 11/32	3 1/2	1	539.92

Diameter	No. of Flutes	Flute Length	Overall Length	Hole Diameter	Price Each
1 7/8	10	2 11/32	3 1/2	1	539.92
1 15/16	10	2 11/32	3 1/2	1	578.26
2	10	2 11/32	3 1/2	1	578.26
2 1/16	12	2 7/16	3 3/4	1 1/4	621.78
2 1/8	12	2 7/16	3 3/4	1 1/4	621.78
2 3/16	12	2 7/16	3 3/4	1 1/4	676.35
2 1/4	12	2 7/16	3 3/4	1 1/4	676.35
2 5/16	12	2 7/16	3 3/4	1 1/4	714.51
2 3/8	12	2 7/16	3 3/4	1 1/4	714.51
2 7/16	12	2 7/16	3 3/4	1 1/4	752.85
2 1/2	12	2 7/16	3 3/4	1 1/4	752.85
2 9/16	14	2 11/16	4	1 1/2	826.37
2 5/8	14	2 11/16	4	1 1/2	856.97
2 11/16	14	2 11/16	4	1 1/2	890.29
2 3/4	14	2 11/16	4	1 1/2	921.15
2 13/16	14	2 11/16	4	1 1/2	953.53
2 7/8	14	2 11/16	4	1 1/2	991.78
2 15/16	14	2 11/16	4	1 1/2	1030.03
3	14	2 11/16	4	1 1/2	1068.28

## Shell Reamer Arbors

**Hardened & Ground**

Used to hold shell reamers, the tapered body is machined at 1/8" per foot to accommodate standard shell reamers.



Specifications					Straight Shank			Taper Shank		
Size	Compatible Reamers		Arbor Diameter	Overall Length	Shank Size	Tool No.	Price Each	Morse Taper No.	Tool No.	Price Each
	Smallest	Largest								
4	21/32	25/32	3/8	9	1/2	SR4S	51.48	2	SR4T	61.38
5	13/16	1 1/32	1/2	9 1/2	5/8	SR5S	57.42	2	SR5T	73.26
6	1 1/16	1 9/32	5/8	10	3/4	SR6S	63.36	3	SR6T	79.20
7	1 5/16	1 5/8	3/4	11	7/8	SR7S	69.30	3	SR7T	87.12
8	1 21/32	2	1	12	1 1/8	SR8S	77.22	4	SR8T	97.02
9	2 1/16	2 1/2	1 1/4	13	1 3/8	SR9S	93.06	4	SR9T	108.90
10	2 9/16	3	1 1/2	14	1 5/8	SR10S	119.46	5	SR10T	124.74
11	3 1/16	3 1/2	1 3/4	15	2	SR11S	168.30	5	SR11T	174.90
12	3 9/16	4	2	16	2 1/8	SR12S	235.62	5	SR12T	243.54

## E-Z Eject Shell Reamer Arbors

**Hardened & Ground**

Equipped with ejector collar for easy reamer removal. Used to hold shell reamers, the tapered body is machined at 1/8" per foot to accommodate standard shell reamers.



Specifications						Straight Shank			Taper Shank			
Size	Compatible Reamers		Arbor Diameter	Approx. Length Taper	Overall Length	Wrench Size	Shank Size	Tool No.	Price Each	Morse Taper No.	Tool No.	Price Each
	Smallest	Largest										
4	21/32	25/32	3/8	2 1/4	9	19/32	1/2	SRZ4S	69.92	2	SRZ4T	84.56
5	13/16	1 1/32	1/2	2 1/2	9 1/2	25/32	5/8	SRZ5S	77.69	2	SRZ5T	90.93
6	1 1/16	1 9/32	5/8	2 3/4	10	7/8	3/4	SRZ6S	86.79	3	SRZ6T	102.49
7	1 5/16	1 5/8	3/4	3	11	1 1/16	7/8	SRZ7S	94.36	3	SRZ7T	109.42
8	1 21/32	2	1	3 1/2	12	1 7/16	1 1/8	SRZ8S	104.22	4	SRZ8T	123.95
9	2 1/16	2 1/2	1 1/4	3 3/4	13	1 13/16	1 3/8	SRZ9S	123.56	4	SRZ9T	146.70
10	2 9/16	3	1 1/2	4	14	2 3/16	1 5/8	SRZ10S	200.66	5	SRZ10T	216.84
11	3 1/16	3 1/2	1 3/4	4 1/2	15	2 9/16	2	SRZ11S	269.24	5	SRZ11T	281.30
12	3 9/16	4	2	5	16	3 1/8	2 1/8	SRZ12S	331.75	5	SRZ12T	345.45

# Reamer Sets

These sets provide a method of maintaining a complete stock of reamers in ranges to suit your requirements. They have particular benefits in tool and die shops where they save time and energy. A set on a machinist's workbench saves many trips to the tool crib. They are available in handsome wooden cases, metal index boxes, and vinyl plastic in many styles and size ranges.



REAMERS

## Chucking Reamer Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	1/16 – 1/4 by 64 <sup>ths</sup>	13	Wood	<b>LV533-6W</b>	264.67
H.S. Straight Flute	1/16 – 1/4 by 64 <sup>ths</sup>	13	Plastic	<b>LV533-6P</b>	207.67
H.S. Straight Flute	1/16 – 1/2 by 32 <sup>nds</sup>	15	Plastic	<b>LV533-42P</b>	309.92
H.S. Straight Flute	1/16 – 3/8 by 64 <sup>ths</sup>	21	Plastic	<b>LV533-40P</b>	388.22
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV533-8W</b>	664.72
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV533-8P</b>	607.72
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LV533-8M</b>	630.22
H.S. RH Spiral	1/16 – 1/4 by 64 <sup>ths</sup>	13	Wood	<b>LV535-1W</b>	298.90
H.S. RH Spiral	1/16 – 1/4 by 64 <sup>ths</sup>	13	Plastic	<b>LV535-1P</b>	241.90
H.S. RH Spiral	1/16 – 1/2 by 32 <sup>nds</sup>	15	Plastic	<b>LV535-43P</b>	352.33
H.S. RH Spiral	1/16 – 3/8 by 64 <sup>ths</sup>	21	Plastic	<b>LV535-41P</b>	438.83
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV535-3W</b>	740.93
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LV535-3M</b>	706.43
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV535-3P</b>	683.93
H.S. LH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>LV535L-4W</b>	821.40
H.S. LH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>LV535L-4P</b>	764.40
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>1533-C8W</b>	1027.00
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>1533-C8M</b>	992.50
Cobalt Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Plastic	<b>1533-C8P</b>	970.00
Cobalt RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Wood	<b>1535-C3W</b>	1068.47
Cobalt RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>1535-C3M</b>	1033.97
H.S. Straight Flute	#1 – #60	60	Wood	<b>LV533-13W</b>	987.00
H.S. Straight Flute	#1 – #60	60	Metal	<b>LV533-13M</b>	945.00
H.S. Straight Flute	#1 – #60	60	Plastic	<b>LV533-13P</b>	931.57
H.S. Straight Flute	#61 – #80	20	Metal	<b>LV533-15M</b>	348.75
H.S. RH Spiral	#1 – #60	60	Wood	<b>LV535-10W</b>	1113.90
H.S. RH Spiral	#1 – #60	60	Metal	<b>LV535-10M</b>	1084.60
H.S. RH Spiral	#1 – #60	60	Plastic	<b>LV535-10P</b>	1059.47
H.S. LH Spiral	#1 – #60	60	Wood	<b>LV535L-11W</b>	1247.70
H.S. LH Spiral	#1 – #60	60	Plastic	<b>LV535L-11P</b>	1192.27
Cobalt Straight Flute	#1 – #60	60	Wood	<b>1533-C13W</b>	1319.50
Cobalt Straight Flute	#1 – #60	60	Metal	<b>1533-C13M</b>	1227.50
Cobalt Straight Flute	#1 – #60	60	Plastic	<b>1533-C13P</b>	1264.07
H.S. Straight Flute	A – Z	26	Wood	<b>LV533-23W</b>	651.85
H.S. Straight Flute	A – Z	26	Metal	<b>LV533-23M</b>	617.35
H.S. Straight Flute	A – Z	26	Plastic	<b>LV533-23P</b>	594.85
H.S. Right Hand Spiral	A – Z	26	Metal	<b>LV535-20M</b>	658.05
Cobalt Straight Flute	A – Z	26	Wood	<b>1533-C23W</b>	983.50
Cobalt Straight Flute	A – Z	26	Metal	<b>1533-C23M</b>	949.00
Cobalt Straight Flute	A – Z	26	Plastic	<b>1533-C23P</b>	926.50
H.S. Straight Flute	1mm – 7mm by .5	13	Wood	<b>LV533-16W</b>	238.60
H.S. Straight Flute	1mm – 7mm by .5	13	Plastic	<b>LV533-16P</b>	181.60
H.S. Straight Flute	1mm – 13mm by .5	25	Plastic	<b>LV533-17P</b>	542.25
H.S. Straight Flute	.1240 – .5010	14	Wood	<b>LV533-32W</b>	357.70
H.S. Straight Flute	.1240 – .5010	14	Metal	<b>LV533-32M</b>	323.20
H.S. Straight Flute	.1240 – .5010	14	Plastic	<b>LV533-32P</b>	300.70
H.S. RH Spiral	.1240 – .5010	14	Wood	<b>LV535-30W</b>	399.50
H.S. RH Spiral	.1240 – .5010	14	Plastic	<b>LV535-30P</b>	342.50
H.S. LH Spiral	.1240 – .5010	14	Wood	<b>LV535L-31W</b>	447.00
H.S. LH Spiral	.1240 – .5010	14	Plastic	<b>LV535L-31P</b>	390.00
Cobalt Straight Flute	.1240 – .5010	14	Wood	<b>1533-C32W</b>	544.50
Cobalt Straight Flute	.1240 – .5010	14	Plastic	<b>1533-C32P</b>	487.50
Cobalt RH Spiral	.1240 – .5010	14	Wood	<b>1535-C30W</b>	566.80
Cobalt RH Spiral	.1240 – .5010	14	Plastic	<b>1535-C30P</b>	509.80



LV533-6W



LV533-8M



LV533-42P

## Expansion Hand Reamer Sets

Sizes	Description	Pieces	Part No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	Straight Flute	5	<b>576US</b>	967.67
1/4, 3/8, 1/2, 5/8, 3/4	LH. Spiral/ RH. Cut	5	<b>577US</b>	1091.67



Supplied in wood block



## Reamer Sets



### Dowel Pin Reamer Sets

14 piece sets, sizes .1230 to .4995 \* Drills are 1/64 smaller than Reamers

Description	Flute Type	Case Type	Set No.	Price
H.S. Standard Length	Straight	Wood	<b>LV570-70W</b>	357.50
H.S. Standard Length	Straight	Plastic	<b>LV570-70P</b>	318.50
Cobalt Standard Length	Straight	Wood	<b>1570DP-W</b>	491.00
Cobalt Standard Length	Straight	Plastic	<b>1570DP-P</b>	434.00
H.S. Standard Length	RH Spiral	Wood	<b>LV575-71W</b>	422.30
H.S. Standard Length	RH Spiral	Plastic	<b>LV575-71P</b>	365.30
Cobalt Standard Length	RH Spiral	Wood	<b>1575DP-W</b>	523.40
Cobalt Standard Length	RH Spiral	Plastic	<b>1575DP-P</b>	466.40
H.S. Jobber Length	Straight	Plastic	<b>LVDL570-73P</b>	305.36
H.S. Jobber Length	RH Spiral	Plastic	<b>LVDL575-74P</b>	345.10



1570DP-W

### Production/CNC/Jobber Length Reamer Sets

Description	Sizes	Pieces	Case Type	Set No.	Price
H.S. Straight Flute	1/16 – 1/4 by 64 <sup>ths</sup>	13	Metal	<b>LVDL533-5M</b>	190.67
H.S. Straight Flute	1/16 – 1/2 by 32 <sup>nds</sup>	15	Metal	<b>LVDL533-46M</b>	292.44
H.S. Straight Flute	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LVDL533-7M</b>	590.69
H.S. RH Spiral	1/16 – 1/2 by 32 <sup>nds</sup>	15	Metal	<b>LVDL535-47M</b>	328.84
H.S. RH Spiral	1/16 – 1/2 by 64 <sup>ths</sup>	29	Metal	<b>LVDL535-9M</b>	626.91
H.S. Straight Flute	#1 – #60	60	Metal	<b>LVDL533-12M</b>	847.50
H.S. RH Spiral	#1 – #60	60	Metal	<b>LVDL535-14M</b>	953.47
H.S. Straight Flute	A – Z	26	Metal	<b>LVDL533-22M</b>	556.22
H.S. RH Spiral	A – Z	26	Metal	<b>LVDL535-24M</b>	595.77
H.S. Straight Flute	.1240 – .5010	14	Plastic	<b>LVDL533-33P</b>	289.94
H.S. RH Spiral	.1240 – .5010	14	Plastic	<b>LVDL535-34P</b>	309.78
H.S. Straight Flute	#1 – #60, A – Z, 1/16 – 1/2 by 64 <sup>ths</sup>	115	Metal	<b>LVDL533-50M</b>	1988.84
H.S. RH Spiral	#1 – #60, A – Z, 1/16 – 1/2 by 64 <sup>ths</sup>	115	Metal	<b>LVDL535-51M</b>	2172.92

### Silver & Deming Reamer Sets

Sizes	Description	Pieces	Set No.	Price
5/8, 11/16, 3/4, 13/16, 7/8, 1	1/2" Shank Reamer Set	6	<b>LV75</b>	400.14
5/8, 11/16, 3/4, 13/16, 7/8, 1 (Reamers) 39/64, 43/64, 47/64, 51/64, 55/64, 63/64 (Drills)	1/2" Shank Reamer & Drill Set	12	<b>LV77</b>	589.64
5/8, 11/16, 3/4, 13/16, 7/8 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2	1/2" Shank Reamer Set	10	<b>LV76</b>	1022.56

Supplied in wood block



LV75



LV77

### Taper Pin Reamer Sets

Sizes	Description	Pieces	Part No.	Price
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Straight Flute	17	<b>556USA</b>	780.12
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Straight Flute	11	<b>556USB</b>	559.11
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Spiral	17	<b>557USA</b>	845.55
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Spiral	11	<b>557USB</b>	611.58
7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Helical Flute	17	<b>558USA</b>	915.14
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Left Hand Helical Flute	11	<b>558USB</b>	675.16

### Aligning, Construction, Morse Taper, and Brown & Sharpe Sets

Description	Sizes	Pieces	Part No.	Price
H.S. Aligning Reamers	1/2, 9/16, 5/8, 3/4	4	<b>535RS</b>	237.40
Cobalt Aligning Reamers	1/2, 9/16, 5/8, 3/4	4	<b>535RCS</b>	303.09
H.S. Construction Reamers	1/2, 9/16, 5/8, 3/4	4	<b>583CRS</b>	299.76
H.S. Morse Taper Reamers	#1 – #5	5	<b>568US</b>	821.00
H.S. Brown & Sharpe Taper Reamers	#1 – #5	5	<b>596US</b>	436.25



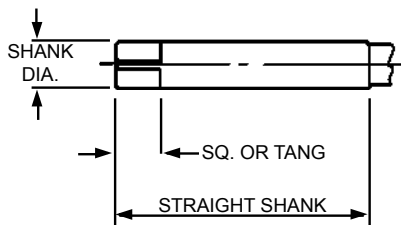
# LAVALLEE & IDE

*The Reamer Specialists*

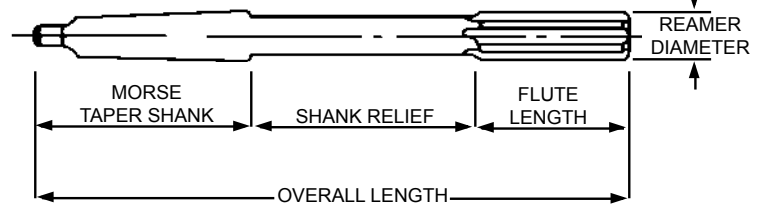
## SPECIAL REAMER REQUEST FORM

Please fill out the following form for a quote on Special Reamers.

1. Make a copy of this form.
2. Fill in the specifications.
3. Fax or e-mail to your Lavallee & Ide Distributor.



### MAJOR DIMENSIONS



### TYPICAL END CUTS



STANDARD LEAD CHAMFER



END CUTTING TO FLUTE DEPTH



END CUTTING TO CENTER HOLE



FULLY END CUTTING

All unspecified Dimensions & Tolerances to standard manufacturing specifications.

Quantity: \_\_\_\_\_

\*Quantity is subject to 10% overage or shortage.  
±1 piece for orders less than 10 pieces.

Material: H.S.  Cobalt  Solid Carbide  Carbide Tipped

Reamer Diameter: \_\_\_\_\_ Coating \_\_\_\_\_

Direction of Cut: Straight Flute  Right Hand Cut  Right Hand Spiral  Right Hand Cut  Left Hand Spiral  Right Hand Cut

Length of Flute: \_\_\_\_\_ Number of Flutes: \_\_\_\_\_ Overall Length: \_\_\_\_\_

Shank Diameter: Standard \_\_\_\_\_ Reduced Shank \_\_\_\_\_ Length of Reduced Shank \_\_\_\_\_

Shank: Straight \_\_\_\_\_ Tanged \_\_\_\_\_ Square \_\_\_\_\_ Morse Taper \_\_\_\_\_ Threaded Hex \_\_\_\_\_

Non-Cutting \_\_\_\_\_ Pilot Diameter (non-cutting) \_\_\_\_\_ Pilot Length \_\_\_\_\_

Cutting \_\_\_\_\_ Step Diameter (cutting) \_\_\_\_\_ Step Length \_\_\_\_\_



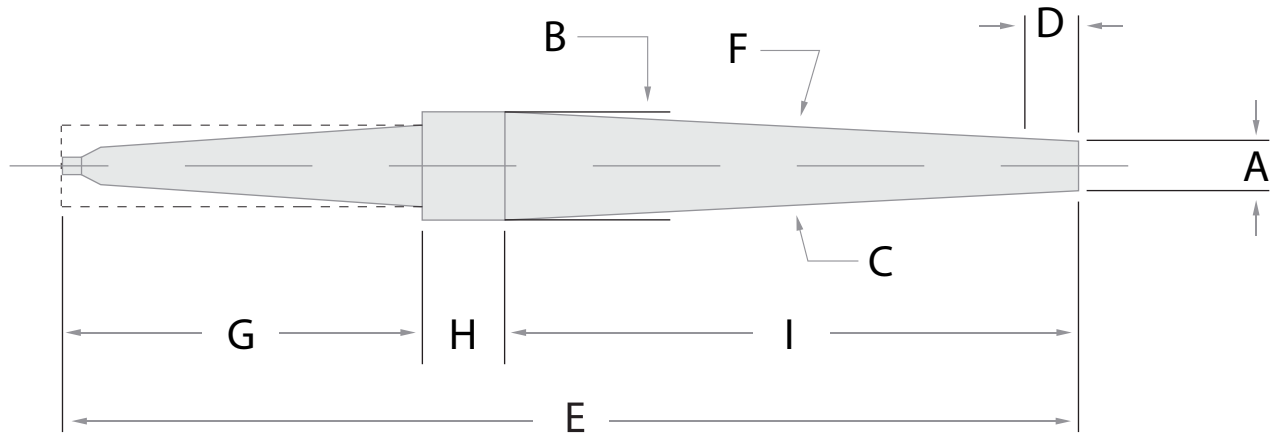
# LAVALLEE & IDE

*The Reamer Specialists*

## SPECIAL TAPER FLUTED REAMER REQUEST FORM

Please fill out the following form for a quote on Special Reamers.

1. Make a copy of this form.
2. Fill in the specifications.
3. Fax or e-mail to your Lavallee & Ide Distributor.



All unspecified Dimensions & Tolerances to standard manufacturing specifications.

Quantity\*: \_\_\_\_\_ \*Quantity is subject to 10% overage or shortage.  
±1 piece for orders less than 10 pieces.

Material: H.S.  Cobalt  Carbide Tipped  Coating: \_\_\_\_\_

"F" Flute Type: Straight Flute Right Hand Cut  Right Hand Spiral Right Hand Cut  Left Hand Spiral Right Hand Cut

"G" Shank Type: Morse Taper #: \_\_\_\_\_ Round: \_\_\_\_\_ Square: \_\_\_\_\_ Other: \_\_\_\_\_

Letter	Description	Measurements
A	Diameter Small/Point End	-----
B	Diameter Large/Shank End	-----
C	Taper per Ft./Taper per Inch/Included Angle	-----
D	Length & Angle of Chamfer	-----
E	Overall Length	-----
H	Neck Length	-----
I	Flute Length	-----
Number Of Flutes		-----

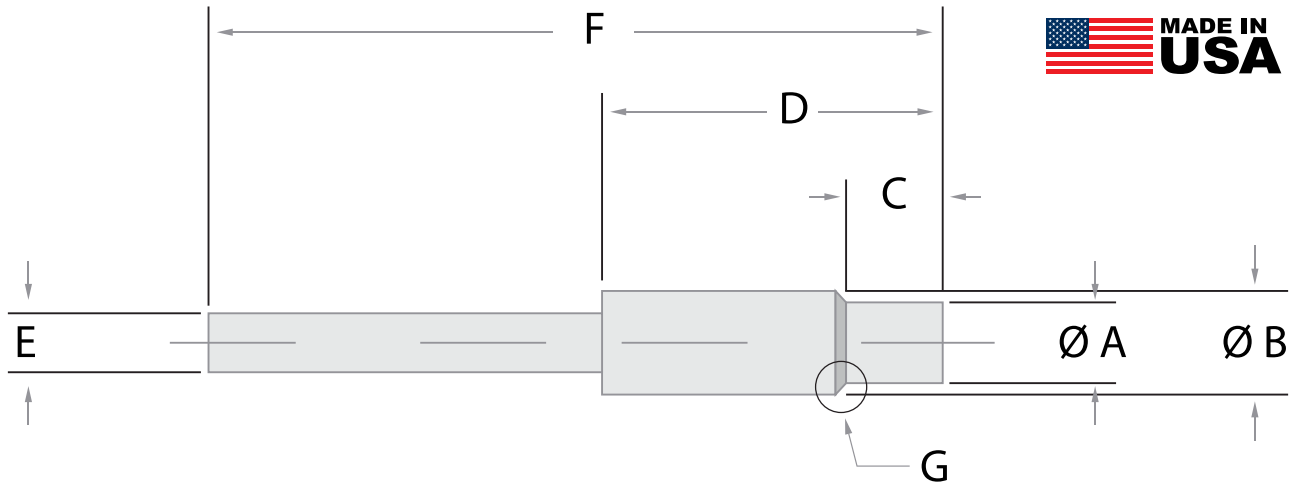


**LAVALLEE & IDE**  
*The Reamer Specialists*

**SPECIAL STEP REAMER REQUEST FORM**

Please fill out the following form for a quote on Special Reamers.

1. Make a copy of this form.
2. Fill in the specifications.
3. Fax or e-mail to your Lavallee & Ide Distributor.



All unspecified Dimensions & Tolerances to standard manufacturing specifications.

Quantity\*: \_\_\_\_\_ \*Quantity is subject to 10% overage or shortage.  
 ±1 piece for orders less than 10 pieces.

Material: H.S.  Cobalt  Carbide Tipped  Coating: \_\_\_\_\_

Flute Type: Straight Flute  Right Hand Spiral  Left Hand Spiral   
 Right Hand Cut  Right Hand Cut  Right Hand Cut

"A": Minor Diameter: Pilot (Non-Cutting)  Step (Cutting)

Letter	Description	Measurements
A	Minor Diameter	-----
B	Cutting (Major) Diameter	-----
C	Pilot/Step Length	-----
D	Flute Length	-----
E	Shank Diameter/Morse Taper Size	-----
F	Overall Length	-----
G	Chamfer/Shoulder Angle	-----
Number Of Flutes		-----

# Reaming Recommendations



Work piece hardness and machinability must be considered when setting machine speed.

The feed rate plays an important part in the life expectancy of a tool and the hole finish which one is looking to attain. Improper feed rate can cause excessive tool wear as well as an inadequate hole finish.

Excessive tool wear and hole finish can be a result of all of the above.

To eliminate chatter, slow cutting speed and increase feed appropriately.

Stock removal on roughing operations should not exceed 2% to 4% of tool diameter in most cases.

Stock removal recommendations on finishing operations are .002 to .004.

For best results with brass, cast iron and some plastics, use a left-hand spiral-fluted reamer with negative shear action. This type of reamer helps prevent chips from working back into spiral flutes and scoring the hole.

In all reaming operations, use constant-flow coolants. Soluble oil is effective for most metals; however, sulphur-based oils are recommended for stainless and certain alloy steels. Lard oil and kerosene improve the finish on aluminum.

Hole preparation may affect reamer performance due to work hardening.

## Recommended Stock Removal

Reamer Diameter	Removal (Inches)
Up to 1/16 Incl.	.003 to .005
Over 1/16 to 1/8 Incl.	.004 to .008
Over 1/8 to 1/4 Incl.	.006 to .012
Over 1/4 to 3/8 Incl.	.008 to .014
Over 3/8 to 1/2 Incl.	.010 to .015
Over 1/2 to 3/4 Incl.	.012 to .018

## Recommended Feeds

Material	Feed in Inches Per Revolution
<b>Steels</b>	
Rockwell C50 or Harder	.002 to .004
Rockwell C30 to 50	.004 to .008
Cast Iron & Malleable Iron	.005 to .012
Non-Ferrous Materials	.005 to .012

## Recommended Speeds

Material	Speed in Surface Feet Per Minute
<b>Steel (All Types)</b>	
Rockwell C60 or Harder	8 - 12
Rockwell C50 to 60	15 - 30
Rockwell C40 to 50	20 - 40
Rockwell C30 to 40	35 - 65
Under Rockwell C30	60 - 90
Cast Iron and Malleable Iron	50 - 85
<b>Non-Ferrous</b>	
Aluminum, Brass, Bronze, Copper, Fiber, Plastic, Hard Rubber, etc.	90 - 175

## Recommended Lubricants

Material	Lubricant
Steel harder than Rockwell C50	Light Oil
Steel softer than Rockwell C50	Light Oil For Good Finishes or Soluble Oil and Water
Cast Iron & Malleable Iron	Soluble Oil and Water
Non-Ferrous Materials	Soluble Oil and Water

All Dimensions in Inches



# Chucking Reamers

## High Speed Steel

### List No. 550 – Straight Flute

For general purpose reaming to close tolerances.

### List No. 551 – Right Hand Spiral Flute

Designed for use in materials where additional shear is necessary and to improve chip removal in blind holes.



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REAMERS

### Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
1/32	.0312	1/2	2-1/2	10.90	12.77
3/64	.0469	1/2	2-1/2	11.83	12.77
1/16	.0625	1/2	2-1/2	10.76	12.78
5/64	.0781	3/4	3	9.90	10.25
3/32	.0938	3/4	3	8.51	10.25
7/64	.1094	7/8	3-1/2	9.90	10.25
1/8	.1250	7/8	3-1/2	7.64	9.73
9/64	.1406	1	4	11.83	12.78
5/32	.1562	1	4	10.74	12.78
11/64	.1719	1-1/8	4-1/2	11.83	12.78
3/16	.1875	1-1/8	4-1/2	10.76	12.78
13/64	.2031	1-1/4	5	14.28	14.75
7/32	.2188	1-1/4	5	13.86	14.42
15/64	.2344	1-1/2	6	14.28	14.75
1/4	.2500	1-1/2	6	12.21	13.86
17/64	.2656	1-1/2	6	15.93	16.43
9/32	.2812	1-1/2	6	15.93	16.43
19/64	.2969	1-1/2	6	16.82	17.74
5/16	.3125	1-1/2	6	14.84	15.38
21/64	.3281	1-1/2	6	18.19	18.40
11/32	.3438	1-1/2	6	18.19	18.40
23/64	.3594	1-3/4	7	18.19	18.40
3/8	.3750	1-3/4	7	15.93	18.06
25/64	.3906	1-3/4	7	18.84	20.63
13/32	.4062	1-3/4	7	19.52	20.63
27/64	.4219	1-3/4	7	20.65	21.30
7/16	.4375	1-3/4	7	18.84	20.30
29/64	.4531	1-3/4	7	22.92	23.15
15/32	.4688	1-3/4	7	22.33	23.15
31/64	.4844	2	8	23.03	23.15
1/2	.5000	2	8	20.65	20.87
33/64	.5156	2	8	24.58	26.49
17/32	.5312	2	8	24.58	26.52
35/64	.5469	2	8	24.09	27.05
9/16	.5625	2	8	24.05	27.09
37/64	.5781	2	8	28.05	29.96
19/32	.5938	2	8	28.04	29.96
39/64	.6094	2-1/4	9	28.05	28.64
5/8	.6250	2-1/4	9	28.04	28.64
41/64	.6406	2-1/4	9	32.14	33.66

### Wire Gauge Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
1	.2280	1-1/2	6	14.16	15.58
2	.2210	1-1/2	6	14.16	15.58
3	.2130	1-1/4	5	14.16	15.58
4	.2090	1-1/4	5	14.16	15.58
5	.2055	1-1/4	5	14.16	15.58
6	.2040	1-1/4	5	14.16	15.58
7	.2010	1-1/4	5	14.16	15.58
8	.1990	1-1/4	5	14.16	15.58
9	.1960	1-1/4	5	14.16	15.58
10	.1935	1-1/4	5	14.16	15.58
11	.1910	1-1/4	5	13.81	15.18
12	.1890	1-1/8	4-1/2	13.81	14.56

### Fractional Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
21/32	.6562	2-1/4	9	32.14	33.64
43/64	.6719	2-1/4	9	36.03	39.44
11/16	.6875	2-1/4	9	31.87	33.64
45/64	.7031	2-1/4	9	37.01	39.44
23/32	.7188	2-1/4	9	36.94	38.14
47/64	.7344	2-1/2	9-1/2	36.93	38.73
3/4	.7500	2-1/2	9-1/2	35.44	37.45
49/64	.7656	2-1/2	9-1/2	41.42	44.67
25/32	.7812	2-1/2	9-1/2	41.43	43.00
51/64	.7969	2-1/2	9-1/2	41.42	44.67
13/16	.8125	2-1/2	9-1/2	41.43	43.00
53/64	.8281	2-1/2	9-1/2	47.00	51.53
27/32	.8438	2-1/2	9-1/2	46.98	48.24
55/64	.8594	2-5/8	10	45.87	51.53
7/8	.8750	2-5/8	10	45.88	51.53
57/64	.8906	2-5/8	10	51.71	56.45
29/32	.9062	2-5/8	10	51.71	53.56
59/64	.9219	2-5/8	10	51.71	56.45
15/16	.9375	2-5/8	10	51.71	53.56
61/64	.9531	2-5/8	10	58.14	64.02
31/32	.9688	2-5/8	10	58.16	60.45
63/64	.9844	2-3/4	10-1/2	58.14	64.02
1	1.0000	2-3/4	10-1/2	57.04	60.45
1-1/32	1.0313	2-3/4	10-1/2	65.47	71.23
1-1/16	1.0625	2-3/4	10-1/2	65.46	67.82
1-3/32	1.0938	2-7/8	11	69.93	78.57
1-1/8	1.1250	2-7/8	11	69.95	74.73
1-5/32	1.1562	2-7/8	11	78.87	89.26
1-3/16	1.1875	2-7/8	11	78.83	82.16
1-1/4	1.2500	3	11-1/2	86.64	91.17
1-5/16	1.3125	3	11-1/2	98.35	111.54
1-3/8	1.3750	3-1/4	12	100.33	114.17
1-7/16	1.4375	3-1/4	12	118.14	124.75
1-1/2	1.5000	3-1/2	12-1/2	121.88	127.27
1-9/16	1.5625	3-1/2	12-1/2	257.24	—
1-5/8	1.6250	3-5/8	13	257.24	—
1-11/16	1.6875	3-5/8	13	283.14	—
1-3/4	1.7500	4	13-1/2	283.14	—
1-7/8	1.8750	4	14	316.00	—
2	2.0000	4	14	316.00	—

# Chucking Reamers

## High Speed Steel

### List No. 550 – Straight Flute

For general purpose reaming to close tolerances.

### List No. 551 – Right Hand Spiral Flute

Designed for use in materials where additional shear is necessary and to improve chip removal in blind holes.



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## Wire Gauge Sizes

Continued

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
25	.1495	1	4	11.21	12.33
26	.1470	1	4	11.21	12.33
27	.1440	1	4	11.21	12.33
28	.1405	1	4	11.21	12.33
29	.1360	1	4	11.21	12.33
30	.1285	7/8	3-1/2	9.36	10.29
31	.1200	7/8	3-1/2	9.36	10.29
32	.1160	7/8	3-1/2	9.36	10.29
33	.1130	7/8	3-1/2	9.36	10.29
34	.1110	7/8	3-1/2	9.36	10.29
35	.1100	7/8	3-1/2	9.36	10.29
36	.1065	7/8	3-1/2	9.36	10.29
37	.1040	7/8	3-1/2	9.36	10.29
38	.1015	7/8	3-1/2	9.36	10.29
39	.0995	7/8	3-1/2	9.36	10.29
40	.0980	7/8	3-1/2	9.36	10.29
41	.0960	7/8	3-1/2	9.36	10.29
42	.0935	3/4	3	9.36	10.29

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
43	.0890	3/4	3	9.36	10.29
44	.0860	3/4	3	9.36	10.29
45	.0820	3/4	3	9.36	10.29
46	.0810	3/4	3	9.36	10.29
47	.0785	3/4	3	9.36	10.29
48	.0760	3/4	3	9.36	10.29
49	.0730	3/4	3	11.21	12.33
50	.0700	3/4	3	11.21	12.33
51	.0670	3/4	3	11.21	12.33
52	.0635	1/2	2-1/2	11.21	12.33
53	.0595	1/2	2-1/2	11.21	12.33
54	.0550	1/2	2-1/2	11.21	12.33
55	.0520	1/2	2-1/2	11.21	12.33
56	.0465	1/2	2-1/2	11.21	12.33
57	.0430	1/2	2-1/2	11.21	12.33
58	.0420	1/2	2-1/2	11.21	12.33
59	.0410	1/2	2-1/2	11.21	12.33
60	.0400	1/2	2-1/2	11.21	12.33

## Letter Sizes

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
A	.2340	1-1/2	6	15.25	17.49
B	.2380	1-1/2	6	15.25	17.49
C	.2420	1-1/2	6	15.25	17.49
D	.2460	1-1/2	6	15.25	17.49
E	.2500	1-1/2	6	12.21	13.86
F	.2570	1-1/2	6	15.25	17.49
G	.2610	1-1/2	6	16.21	18.65
H	.2660	1-1/2	6	17.13	19.70
I	.2720	1-1/2	6	17.13	19.70
J	.2770	1-1/2	6	17.13	19.70
K	.2810	1-1/2	6	17.13	19.70
L	.2900	1-1/2	6	17.13	19.70
M	.2950	1-1/2	6	17.13	19.70

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 550	Spiral 551
N	.3020	1-1/2	6	17.13	19.70
O	.3160	1-1/2	6	17.72	20.38
P	.3230	1-1/2	6	18.22	20.96
Q	.3320	1-1/2	6	18.22	20.96
R	.3390	1-1/2	6	18.22	20.96
S	.3480	1-3/4	7	18.22	20.96
T	.3580	1-3/4	7	18.22	20.96
U	.3680	1-3/4	7	18.22	20.96
V	.3770	1-3/4	7	20.30	23.33
W	.3860	1-3/4	7	20.30	23.33
X	.3970	1-3/4	7	20.30	23.33
Y	.4040	1-3/4	7	20.85	23.98
Z	.4130	1-3/4	7	20.85	23.98

## Sets

Set Description	Pcs.	Type of Holder	Set No.	Price
Straight Flute Fractional — 1/16" thru 1/2" by 64ths	29	Metal Index	550SF	447.56
Spiral Flute Fractional — 1/16" thru 1/2" by 64ths	29	Metal Index	551SF	510.06
Letter — A thru Z	26	Metal Index	550SL	455.12
Wire Gauge — #1 thru #60	60	Plastic Pouch	550SW	679.77



## Universal Magnetic Base

- 45lbs Magnet Power
- Zinc die cast housing
- Size 4½" x 1" x 1¼"
- 5 different locations for mounting accessories

Tool No.	Price
PR2220000	12.95



# Chucking Reamers

## High Speed Steel



### List No. 550 – Straight Flute

For general purpose reaming to close tolerances.

### List No. 551 – Spiral Flute

Designed for use in materials where additional shear is necessary and to improve chip removal in blind holes.



### Over & Under Sizes

Size	Flute Length	Overall Length	Price Each	
			Straight 550	Spiral 551
.1240	7/8	3-1/2	9.57	10.53
.1260	7/8	3-1/2	9.34	10.53
.1865	1-1/8	4-1/2	13.37	14.70
.1885	1-1/8	4-1/2	13.37	14.70
.2490	1-1/2	6	13.86	15.61
.2510	1-1/2	6	14.19	15.61
.3115	1-1/2	6	15.94	17.54
.3135	1-1/2	6	15.94	17.54
.3740	1-3/4	7	17.62	18.88
.3760	1-3/4	7	17.62	18.88
.4365	1-3/4	7	19.47	21.42
.4385	1-3/4	7	19.47	21.42
.4990	2	8	21.78	23.96

Size	Flute Length	Overall Length	Price Each	
			Straight 550	Spiral 551
.5010	2	8	21.78	23.96
.6230	2-1/4	9	41.91	—
.6240	2-1/4	9	41.91	—
.6245	2-1/4	9	41.91	—
.6260	2-1/4	9	41.91	—
.7480	2-1/2	9-1/2	53.59	—
.7490	2-1/2	9-1/2	48.51	—
.7510	2-1/2	9-1/2	48.51	—
.8740	2-5/8	10	62.44	65.84
.8760	2-5/8	10	62.44	—
.9980	2-3/4	10-1/2	78.05	—
.9990	2-3/4	10-1/2	78.05	—
1.0010	2-3/4	10-1/2	78.05	—

### Dowel Pin Sizes

Size	Flute Length	Overall Length	Price Each	
			Straight 550	Spiral 551
.1230	7/8	3-1/2	9.64	10.53
.1247	7/8	3-1/2	9.57	10.53
.1855	1-1/8	4-1/2	13.37	14.70
.1870	1-1/8	4-1/2	13.37	14.70
.2480	1-1/2	6	13.86	15.61
.2495	1-1/2	6	14.19	15.61
.3105	1-1/2	6	15.94	17.54

Size	Flute Length	Overall Length	Price Each	
			Straight 550	Spiral 551
.3120	1-1/2	6	15.94	17.54
.3730	1-3/4	7	17.62	19.38
.3745	1-3/4	7	17.62	18.88
.4355	1-3/4	7	19.47	21.42
.4370	1-3/4	7	19.47	21.42
.4980	2	8	21.78	—
.4995	2	8	21.78	24.95

### Metric Sizes

### List No. 550M – Straight Flute

Size	Decimal Equivalent	Price Each
1.00	.0394	9.00
1.50	.0591	9.00
2.00	.0787	9.37
2.50	.0984	9.37
3.00	.1181	9.37
3.50	.1378	11.19
4.00	.1575	11.19
4.50	.1772	13.20
5.00	.1969	14.19
5.50	.2165	14.19
6.00	.2362	15.51
6.50	.2559	15.51
7.00	.2756	17.13
7.50	.2953	17.13
8.00	.3150	17.72
8.50	.3346	18.22
9.00	.3543	18.22

Size	Decimal Equivalent	Price Each
9.50	.3740	17.62
10.00	.3937	20.30
10.50	.4134	19.14
11.00	.4331	19.64
11.50	.4528	22.94
12.00	.4724	23.76
12.50	.4921	24.42
13.00	.5118	25.08
13.50	.5315	25.08
14.00	.5512	25.08
14.50	.5709	28.05
15.00	.5906	28.05
15.50	.6102	32.18
16.00	.6299	32.18
16.50	.6496	32.18
17.00	.6693	32.18
17.50	.6890	36.96

Size	Decimal Equivalent	Price Each
18.00	.7087	36.96
18.50	.7283	36.96
19.00	.7480	36.96
19.50	.7677	41.42
20.00	.7874	41.42
20.50	.8071	41.42
21.00	.8268	47.19
21.50	.8465	47.19
22.00	.8661	47.19
22.50	.8858	51.98
23.00	.9055	51.98
23.50	.9252	51.98
24.00	.9449	58.58
24.50	.9646	58.58
25.00	.9843	58.58
26.00	1.0236	58.58

### Sets

Set Description	Pcs.		Set No.	Price
1.00mm — 13.00mm	25	Wood Case	550MS	269.00
Over and Under — .1240 thru .5010	14	Metal Index	550SX	223.32
Dowel Pin — .1230 thru .4995	14	Metal Index	550SD	223.32



# Special Decimal Chucking Reamers



REAMERS

High Speed Steel

List No. 550D – Straight Shank, Straight Flute



Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each	Size	Price Each
.0340	19.71	.1095	17.46	.1615	19.80	.2155	21.95	.2815	24.84	.3570	26.19	.4520	29.57
.0355	19.71	.1112	15.30	.1620	19.80	.2160	21.95	.2820	24.84	.3590	26.19	.4540	29.57
.0360	19.71	.1115	15.30	.1630	19.80	.2170	21.95	.2830	24.84	.3600	26.19	.4550	29.57
.0365	19.71	.1120	15.30	.1640	19.80	.2175	21.95	.2840	24.84	.3610	26.19	.4560	29.57
.0370	19.71	.1125	15.30	.1645	19.80	.2180	21.95	.2855	24.84	.3615	26.19	.4580	29.57
.0380	19.71	.1135	15.30	.1650	19.80	.2195	21.95	.2860	24.84	.3620	26.19	.4590	29.57
.0385	19.71	.1145	15.30	.1655	19.80	.2200	21.95	.2865	24.84	.3630	26.19	.4595	29.57
.0390	19.71	.1155	15.30	.1665	19.80	.2205	21.95	.2870	24.84	.3640	26.19	.4600	29.57
.0435	19.71	.1165	15.30	.1670	19.80	.2215	21.95	.2880	24.84	.3650	26.19	.4620	29.57
.0440	19.71	.1175	15.30	.1680	19.80	.2220	21.95	.2890	24.84	.3690	26.19	.4630	29.57
.0455	19.71	.1180	15.30	.1685	19.80	.2225	21.95	.2910	24.84	.3700	27.50	.4650	29.57
.0460	19.71	.1185	15.30	.1690	19.80	.2235	21.95	.2920	24.84	.3710	27.50	.4660	29.57
.0470	19.71	.1190	15.30	.1700	19.80	.2240	21.95	.2930	24.84	.3720	26.19	.4665	29.57
.0485	19.71	.1195	15.30	.1705	19.80	.2250	21.95	.2940	24.84	.3725	26.19	.4670	29.57
.0495	19.71	.1210	15.30	.1710	19.80	.2265	21.95	.2960	24.84	.3735	26.19	.4675	29.57
.0500	19.71	.1215	15.30	.1715	19.80	.2270	21.95	.2970	24.84	.3748	26.19	.4690	29.57
.0505	19.71	.1225	15.30	.1720	19.80	.2295	21.95	.2980	24.84	.3755	27.50	.4700	29.57
.0510	19.71	.1235	15.30	.1735	19.80	.2300	21.95	.2990	24.84	.3780	27.50	.4710	29.57
.0535	19.71	.1245	15.30	.1740	19.80	.2310	21.95	.3000	24.84	.3790	27.50	.4720	29.57
.0540	19.71	.1249	15.30	.1750	19.80	.2320	21.95	.3030	24.84	.3800	27.50	.4730	29.57
.0555	18.99	.1253	15.30	.1755	19.80	.2330	20.47	.3040	24.84	.3810	27.50	.4740	29.57
.0565	18.99	.1258	20.52	.1760	19.80	.2335	20.47	.3060	24.84	.3820	27.50	.4760	29.57
.0575	18.99	.1265	20.52	.1765	19.80	.2340	20.47	.3070	24.84	.3830	27.50	.4770	29.57
.0600	18.99	.1270	20.52	.1775	19.80	.2350	20.47	.3075	24.84	.3850	27.50	.4780	29.57
.0613	18.99	.1275	20.52	.1785	19.80	.2355	20.47	.3080	24.84	.3870	27.50	.4790	29.57
.0632	17.37	.1280	20.52	.1790	19.80	.2360	20.47	.3090	24.84	.3880	27.50	.4800	29.57
.0650	17.37	.1290	20.52	.1795	19.80	.2365	20.47	.3100	24.84	.3890	27.50	.4810	29.57
.0667	17.37	.1295	20.52	.1810	19.80	.2370	20.47	.3110	24.84	.3910	27.50	.4820	29.57
.0680	17.42	.1300	20.52	.1815	19.80	.2375	20.47	.3112	25.16	.3920	28.40	.4840	29.57
.0685	17.42	.1305	20.52	.1825	19.80	.2390	20.47	.3122	25.16	.3930	28.40	.4870	29.57
.0695	17.42	.1310	20.52	.1830	19.80	.2395	20.47	.3130	25.16	.3940	28.40	.4880	29.57
.0705	17.42	.1315	20.52	.1835	19.80	.2400	20.47	.3133	25.16	.3950	28.40	.4890	29.57
.0710	17.42	.1320	20.52	.1840	19.80	.2410	20.47	.3140	25.16	.3960	28.40	.4900	29.57
.0715	17.42	.1325	20.52	.1845	19.80	.2415	20.47	.3145	25.16	.4030	28.40	.4910	29.57
.0720	17.42	.1335	20.52	.1860	19.80	.2425	20.47	.3155	25.16	.4070	28.40	.4920	29.57
.0735	17.42	.1340	20.52	.1863	22.33	.2430	20.47	.3165	25.16	.4080	28.40	.4930	29.57
.0745	17.42	.1350	20.52	.1880	22.33	.2435	20.47	.3170	25.16	.4090	28.40	.4940	29.57
.0750	17.42	.1355	19.80	.1885	22.33	.2440	20.47	.3180	25.16	.4100	28.40	.4950	29.57
.0755	17.42	.1365	20.52	.1897	22.33	.2442	20.47	.3190	25.16	.4110	28.40	.4960	37.49
.0765	17.42	.1370	20.52	.1905	22.33	.2445	20.47	.3195	25.16	.4120	28.40	.4975	37.49
.0790	17.46	.1375	20.52	.1915	22.33	.2447	20.47	.3200	25.16	.4140	28.40	.5005	37.49
.0795	17.46	.1385	20.52	.1920	22.33	.2450	20.47	.3210	25.16	.4160	28.40	.5015	37.49
.0800	17.46	.1397	20.52	.1925	22.33	.2455	20.47	.3220	25.16	.4180	28.40	.5020	37.49
.0802	17.46	.1400	20.52	.1930	22.33	.2470	20.47	.3240	25.16	.4210	28.40	.5025	37.49
.0805	17.46	.1410	18.90	.1937	22.33	.2475	20.47	.3250	25.16	.4220	28.40	.5030	37.49
.0815	17.46	.1415	18.90	.1940	22.33	.2485	20.47	.3260	25.16	.4230	28.40	.5040	37.49
.0835	17.46	.1425	18.90	.1950	22.33	.2492	24.85	.3270	25.16	.4240	28.40	.5050	37.49
.0840	17.46	.1430	18.90	.1965	22.33	.2499	24.85	.3280	25.16	.4250	28.40	.5060	37.49
.0845	17.46	.1435	18.90	.1975	22.33	.2505	24.85	.3290	25.16	.4270	28.40	.5070	37.49
.0850	17.46	.1445	18.90	.1980	22.33	.2515	24.85	.3300	25.16	.4290	28.40	.5080	37.49
.0855	17.46	.1450	18.90	.1995	22.33	.2520	24.84	.3310	25.16	.4300	28.40	.5090	37.49
.0865	17.46	.1460	18.90	.2015	22.33	.2530	24.84	.3350	25.16	.4305	28.40	.5100	37.49
.0875	17.46	.1465	18.90	.2020	22.33	.2540	24.84	.3360	25.16	.4310	28.40	.5110	37.49
.0895	17.46	.1485	18.90	.2025	22.33	.2550	24.84	.3370	25.16	.4320	28.40	.5120	37.49
.0900	17.46	.1490	18.90	.2030	22.33	.2560	24.84	.3380	26.19	.4330	28.40	.5130	37.49
.0915	17.46	.1500	18.90	.2045	21.95	.2580	24.84	.3400	26.19	.4340	28.40	.5140	37.49
.0920	17.46	.1505	18.90	.2050	21.95	.2590	24.84	.3410	26.19	.4350	28.40	.5150	37.49
.0930	17.46	.1510	18.90	.2060	21.95	.2600	24.84	.3420	26.19	.4360	28.40	.5170	37.49
.0950	17.46	.1515	18.90	.2070	21.95	.2605	24.84	.3430	26.19	.4380	29.57	.5200	37.49
.0955	17.46	.1525	18.90	.2080	21.95	.2620	24.84	.3440	26.19	.4390	29.57	.5210	37.49
.0965	17.46	.1530	18.90	.2085	21.95	.2630	24.84	.3450	26.19	.4400	29.57	.5230	37.49
.0970	17.46	.1535	18.90	.2095	21.95	.2670	24.84	.3460	26.19	.4410	29.57	.5250	37.49
.0985	17.46	.1545	18.90	.2100	21.95	.2680	24.84	.3475	26.19	.4420	29.57	.5290	37.49
.0990	17.46	.1550	18.90	.2105	21.95	.2690	24.84	.3485	26.19	.4430	29.57	.5300	37.49
.1005	17.46	.1552	18.90	.2110	21.95	.2700	24.84	.3490	26.19	.4440	29.57	.5320	37.49
.1020	17.46	.1555	18.90	.2115	21.95	.2710	24.84	.3500	26.19	.4450	29.57	.5340	37.49
.1025	17.46	.1557	18.90	.2120	21.95	.2730	24.84	.3510	26.19	.4460	29.57	.5350	37.49
.1035	17.46	.1565	18.90	.2125	21.95	.2740	24.84	.3520	26.19	.4465	29.57	.5370	37.49
.1045	17.46	.1580	18.90	.2135	21.95	.2750	24.84	.3530	26.19	.4470	29.57	.5400	37.49
.1055	17.46	.1585	19.80	.2140	21.95	.2780	24.84	.3540	26.19	.4480	29.57	.5440	37.49
.1070	17.46	.1600	19.80	.2145	21.95	.2795	24.84	.3550	26.19	.4490	29.57	.5450	37.49
.1075	17.46	.1605	19.80	.2150	21.95	.2800	24.84	.3560	26.19	.4510	29.57	.5480	37.49

# Cobalt Chucking Reamers



List No. **550C** – Straight Shank, Straight Flute

List No. **551C** – Straight Shank, Spiral Flute

For reaming high alloy steels, titanium, stainless and other difficult to machine materials.



REAMERS

## Fractional Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				Straight 550C	Spiral 551C
1/16	.0625	1/2	2-1/2	15.02	16.52
5/64	.0781	3/4	3	12.14	13.35
3/32	.0938	3/4	3	12.14	13.35
7/64	.1094	7/8	3-1/2	12.63	13.89
1/8	.1250	7/8	3-1/2	10.08	11.09
9/64	.1406	1	4	15.08	16.59
5/32	.1562	1	4	13.55	14.91
11/64	.1719	1-1/8	4-1/2	16.04	17.64
3/16	.1875	1-1/8	4-1/2	14.49	15.94
13/64	.2031	1-1/4	5	19.49	21.44
7/32	.2188	1-1/4	5	19.49	21.44
15/64	.2344	1-1/2	6	20.05	22.06
1/4	.2500	1-1/2	6	17.10	18.81
17/64	.2656	1-1/2	6	27.29	30.02
9/32	.2812	1-1/2	6	25.92	28.51
19/64	.2969	1-1/2	6	27.27	30.00
5/16	.3125	1-1/2	6	24.59	27.05
21/64	.3281	1-1/2	6	29.39	32.33
11/32	.3438	1-1/2	6	29.39	32.33
23/64	.3594	1-3/4	7	29.88	32.87
3/8	.3750	1-3/4	7	26.94	29.63

## Letter Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
				Straight 550C
A	.2340	1-1/2	6	22.06
B	.2380	1-1/2	6	22.06
C	.2420	1-1/2	6	22.06
D	.2460	1-1/2	6	22.06
E	.2500	1-1/2	6	17.10
F	.2570	1-1/2	6	22.06
G	.2610	1-1/2	6	22.06
H	.2660	1-1/2	6	22.06
I	.2720	1-1/2	6	22.06
J	.2770	1-1/2	6	22.06
K	.2810	1-1/2	6	22.06
L	.2900	1-1/2	6	22.06
M	.2950	1-1/2	6	22.06

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each	
				Straight 550C	Spiral 551C
25/64	.3906	1-3/4	7	35.19	38.71
13/32	.4062	1-3/4	7	35.19	38.71
27/64	.4219	1-3/4	7	35.19	38.71
7/16	.4375	1-3/4	7	34.65	38.12
29/64	.4531	1-3/4	7	41.81	45.99
15/32	.4688	1-3/4	7	41.81	45.99
31/64	.4844	2	8	41.81	45.99
1/2	.5000	2	8	39.67	43.64
17/32	.5312	2	8	46.89	—
9/16	.5625	2	8	46.89	—
5/8	.6250	2-1/4	9	54.72	—
11/16	.6875	2-1/4	9	61.86	—
23/32	.7188	2-1/4	9	69.08	—
3/4	.7500	2-1/2	9-1/2	69.44	—
25/32	.7812	2-1/2	9-1/2	74.88	—
13/16	.8125	2-1/2	9-1/2	74.88	—
27/32	.8438	2-1/2	9-1/2	88.61	—
7/8	.8750	2-5/8	10	90.68	—
29/32	.9062	2-5/8	10	97.67	—
15/16	.9375	2-5/8	10	97.67	—
1	1.0000	2-3/4	10-1/2	110.50	—

Size	Decimal Equivalent	Flute Length	Overall Length	Price Each
				Straight 550C
N	.3020	1-1/2	6	29.39
O	.3160	1-1/2	6	29.39
P	.3230	1-1/2	6	29.39
Q	.3320	1-1/2	6	29.39
R	.3390	1-1/2	6	29.39
S	.3480	1-3/4	7	29.39
T	.3580	1-3/4	7	29.39
U	.3680	1-3/4	7	29.39
V	.3770	1-3/4	7	29.39
W	.3860	1-3/4	7	29.39
X	.3970	1-3/4	7	35.19
Y	.4040	1-3/4	7	35.19
Z	.4130	1-3/4	7	35.19

# TiN Coated CNC Production Length Chucking Reamers



High Speed Steel

List No. **DL535T** – Straight Shank, Spiral Flute



Diameter	Decimal Equivalent	Flute	Overall Length	Price Each
1/16	.0625	1/2	1-7/8	32.00
3/32	.0938	3/4	2-1/4	32.00
7/64	.1094	7/8	2-5/8	32.00
.1240	.1240	7/8	2-3/4	32.00
1/8	.1250	7/8	2-3/4	32.00
.1260	.1260	7/8	2-3/4	34.00
30	.1285	7/8	2-3/4	34.00
5/32	.1562	1	3-1/8	34.00
21	.1590	1-1/8	3-1/4	34.00
3/16	.1875	1-1/8	3-1/2	34.00
7/32	.2188	1-1/4	3-3/4	34.00
.2490	.2490	1-1/2	4	43.00

Diameter	Decimal Equivalent	Flute	Overall Length	Price Each
1/4	.2500	1-1/2	4	43.00
.2510	.2510	1-1/2	4	43.00
9/32	.2812	1-1/2	4-1/2	45.00
.3115	.3115	1-1/2	4-1/2	46.50
5/16	.3125	1-1/2	4-1/2	46.50
21/64	.3281	1-1/2	4-5/8	48.00
3/8	.3750	1-3/4	5	55.00
27/64	.4219	1-3/4	5-3/8	62.50
7/16	.4375	1-3/4	5-1/2	62.50
.4990	.4990	2	5-7/8	78.00
1/2	.5000	2	6	78.00
.5010	.5010	2	6	78.00



# Shell Reamers

High Speed Steel



**MDX**  
SUPERIOR IMPORT

To be used with shell reamer arbors, listed below.  
One size arbor fits a range of sizes.

List No. **560** – Straight Flute

List No. **561** – Left Hand Spiral Flute, Right Hand Cut



Size	Decimal Equivalent	Overall Length	Hole Diameter	Straight 560	Spiral 561
3/4	.7500	2-1/4	3/8	61.38	70.62
13/16	.8125	2-1/2	1/2	64.15	73.92
27/32	.8437	2-1/2	1/2	—	75.90
7/8	.8750	2-1/2	1/2	65.34	75.90
29/32	.9062	2-1/2	1/2	72.27	—
15/16	.9375	2-1/2	1/2	67.65	78.54
1	1.0000	2-1/2	1/2	69.30	80.75
1-1/16	1.0625	2-3/4	5/8	75.04	86.79
1-1/8	1.1250	2-3/4	5/8	79.58	90.42
1-3/16	1.1875	2-3/4	5/8	82.50	94.05
1-1/4	1.2500	2-3/4	5/8	83.82	97.65
1-9/32	1.2812	3	5/8	96.23	—
1-5/16	1.3125	3	3/4	88.84	101.84
1-11/32	1.3437	3	3/4	103.62	—
1-3/8	1.3750	3	3/4	94.55	107.98
1-13/32	1.4062	3	3/4	108.60	—
1-7/16	1.4375	3	3/4	103.82	114.18
1-15/32	1.4687	3	3/4	112.05	—
1-1/2	1.5000	3	3/4	105.27	120.71
1-17/32	1.5312	3	3/4	122.05	142.28
1-9/16	1.5625	3	3/4	116.24	135.30
1-19/32	1.5937	3	3/4	128.70	—
1-5/8	1.6250	3	3/4	124.31	147.61
1-11/16	1.6875	3-1/2	1	136.55	162.10
1-23/32	1.7188	3-1/2	1	152.11	180.08
1-3/4	1.7500	3-1/2	1	144.87	171.44
1-25/32	1.7812	3-1/2	1	168.30	—
1-13/16	1.8125	3-1/2	1	154.44	183.66
1-27/32	1.8437	3-1/2	1	178.20	—
1-7/8	1.8750	3-1/2	1	164.67	194.70
1-29/32	1.9062	3-1/2	1	194.70	—
1-15/16	1.9375	3-1/2	1	174.90	207.64
1-31/32	1.9687	3-1/2	1	190.58	—

Size	Decimal Equivalent	Overall Length	Hole Diameter	Straight 560	Spiral 561
2	2.0000	3-1/2	1	190.58	224.19
2-1/16	2.0625	3-3/4	1-1/4	202.08	244.77
2-1/8	2.1250	3-3/4	1-1/4	218.02	256.63
2-3/16	2.1875	3-3/4	1-1/4	229.22	273.11
2-1/4	2.2500	3-3/4	1-1/4	239.30	280.67
2-5/16	2.3125	3-3/4	1-1/4	246.02	304.92
2-3/8	2.3750	3-3/4	1-1/4	251.56	308.73
2-7/16	2.4375	3-3/4	1-1/4	281.60	330.56
2-1/2	2.5000	3-3/4	1-1/4	287.25	330.56
2-9/16	2.5625	4	1-1/2	299.38	331.95
2-5/8	2.6250	4	1-1/2	318.78	344.28
2-11/16	2.6875	4	1-1/2	338.67	356.44
2-3/4	2.7500	4	1-1/2	355.51	386.35
2-13/16	2.8125	4	1-1/2	376.09	415.11
2-7/8	2.8750	4	1-1/2	397.61	429.39
2-15/16	2.9375	4	1-1/2	419.61	450.45
3	3.0000	4	1-1/2	461.63	497.89
3-1/16	3.0625	4-1/2	1-3/4	585.12	606.68
3-1/8	3.1250	4-1/2	1-3/4	707.63	715.11
3-3/16	3.1875	4-1/2	1-3/4	731.08	752.86
3-1/4	3.2500	4-1/2	1-3/4	754.68	789.89
3-5/16	3.3125	4-1/2	1-3/4	780.45	818.20
3-3/8	3.3750	4-1/2	1-3/4	806.59	847.79
3-7/16	3.4375	4-1/2	1-3/4	830.18	871.20
3-1/2	3.5000	4-1/2	1-3/4	852.69	894.80
3-9/16	3.5625	5	2	875.56	918.36
3-5/8	3.6250	5	2	896.61	940.90
3-11/16	3.6875	5	2	919.12	965.40
3-3/4	3.7500	5	2	943.80	988.81
3-13/16	3.8125	5	2	980.10	1025.84
3-7/8	3.8750	5	2	1013.50	1063.59
3-15/16	3.9375	5	2	1043.99	1096.99
4	4.0000	5	2	1078.11	1130.38

REAMERS

# Shell Reamer Arbors

Hardened & Ground

**MDX**  
SUPERIOR IMPORT



Size	Compatible Reamer Sizes		Arbor Diameter	Overall Length	Straight Shank			Taper Shank		
	Smallest	Largest			Shank Size	Tool No.	Price Each	Morse Taper No.	Tool No.	Price Each
4	21/32	25/32	3/8	9	1/2	SR4S	51.48	2	SR4T	61.38
5	13/16	1-1/32	1/2	9-1/2	5/8	SR5S	57.42	2	SR5T	73.26
6	1-1/16	1-9/32	5/8	10	3/4	SR6S	63.36	3	SR6T	79.20
7	1-5/16	1-5/8	3/4	11	7/8	SR7S	69.30	3	SR7T	87.12
8	1-21/32	2	1	12	1-1/8	SR8S	77.22	4	SR8T	97.02
9	2-1/16	2-1/2	1-1/4	13	1-3/8	SR9S	93.06	4	SR9T	108.90
10	2-9/16	3	1-1/2	14	1-5/8	SR10S	119.46	5	SR10T	124.74
11	3-1/16	3-1/2	1-3/4	15	2	SR11S	168.30	5	SR11T	174.90
12	3-9/16	4	2	16	2-1/8	SR12S	235.62	5	SR12T	243.54

# Taper Shank Chucking Reamers

High Speed Steel

- List No. **530** – Straight Flute
- List No. **531** – Spiral Flute
- List No. **CT530** – Carbide Tipped



Size	Dec. Equiv.	Flute Length	Overall Length	M.T.	Price Each		
					Straight 530	Spiral 531	Carbide CT530
7/32	.2188	1-1/4	5	1	20.66	25.25	35.00
1/4	.2500	1-1/2	6	1	20.66	25.25	33.50
G	.2610	1-1/2	6	1	26.40	—	—
17/64	.2656	1-1/2	6	1	25.25	27.19	—
9/32	.2812	1-1/2	6	1	25.25	27.19	35.50
5/16	.3125	1-1/2	6	1	25.25	27.19	35.50
21/64	.3281	1-1/2	6	1	26.93	—	—
11/32	.3438	1-1/2	6	1	25.58	27.19	36.80
23/64	.3594	1-3/4	7	1	28.35	—	—
3/8	.3750	1-3/4	7	1	26.07	27.85	33.00
13/32	.4062	1-3/4	7	1	26.63	28.64	37.50
7/16	.4375	1-3/4	7	1	26.63	28.64	39.50
15/32	.4688	1-3/4	7	1	29.70	33.00	43.75
31/64	.4844	2	8	1	33.00	—	—
1/2	.5000	2	8	1	27.72	28.64	48.00
33/64	.5156	2	8	1	35.64	—	—
17/32	.5312	2	8	1	32.67	33.89	—
35/64	.5469	2	8	1	35.64	—	—
9/16	.5625	2	8	1	32.67	33.89	52.75
37/64	.5781	2	8	1	38.61	—	—
19/32	.5938	2	8	1	35.31	38.50	55.65
5/8	.6250	2-1/4	9	2	34.16	35.97	55.65
21/32	.6562	2-1/4	9	2	37.62	39.60	57.00
11/16	.6875	2-1/4	9	2	37.62	39.60	57.00
45/64	.7031	2-1/4	9	2	45.87	48.18	—
23/32	.7188	2-1/4	9	2	42.87	44.22	59.99
47/64	.7344	2-1/2	9-1/2	2	45.87	52.00	—
3/4	.7500	2-1/2	9-1/2	2	39.93	44.22	59.99
25/32	.7812	2-1/2	9-1/2	2	46.76	50.92	61.75
13/16	.8125	2-1/2	9-1/2	2	46.76	50.92	61.75

Size	Dec. Equiv.	Flute Length	Overall Length	M.T.	Price Each		
					Straight 530	Spiral 531	Carbide CT530
27/32	.8438	2-1/2	9-1/2	2	55.44	58.37	64.85
7/8	.8750	2-5/8	10	2	52.47	58.37	67.65
29/32	.9062	2-5/8	10	2	60.39	63.82	62.90
15/16	.9375	2-5/8	10	3	58.05	63.82	79.00
31/32	.9688	2-5/8	10	3	65.34	70.95	81.00
1	1.0000	2-3/4	10-1/2	3	64.02	70.95	81.00
1-1/32	1.0312	2-3/4	10-1/2	3	78.41	86.79	—
1-1/16	1.0625	2-3/4	10-1/2	3	71.94	78.54	112.00
1-3/32	1.0938	2-3/4	10-1/2	3	81.84	105.34	—
1-1/8	1.1250	2-7/8	11	3	77.88	86.92	119.00
1-5/32	1.1562	2-7/8	11	3	95.04	111.38	—
1-3/16	1.1875	2-7/8	11	3	87.29	94.58	128.00
1-7/32	1.2188	3	11-1/2	4	103.96	119.43	—
1-1/4	1.2500	3	11-1/2	4	94.51	103.95	140.00
1-9/32	1.2812	3	11-1/2	4	116.34	138.73	—
1-5/16	1.3125	3	11-1/2	4	105.77	113.85	147.00
1-11/32	1.3438	3-1/4	12	4	138.00	151.00	—
1-3/8	1.3750	3-1/4	12	4	114.18	123.09	159.00
1-13/32	1.4062	3-1/4	12	4	140.00	155.70	—
1-7/16	1.4375	3-1/4	12	4	122.76	134.31	169.00
1-15/32	1.4688	3-1/2	12-1/2	4	145.20	158.70	—
1-1/2	1.5000	3-1/2	12-1/2	4	132.00	142.23	169.00
1-9/16	1.5625	3-1/2	12-1/2	4	187.00	217.80	—
1-5/8	1.6250	3-1/2	13	4	198.00	230.00	—
1-11/16	1.6875	4	13-1/2	4	201.00	247.50	—
1-3/4	1.7500	4	13-1/2	4	195.03	204.60	—
1-13/16	1.8125	4	13-1/2	4	204.53	273.90	—
1-7/8	1.8750	4	13-1/2	4	214.53	283.80	—
1-15/16	1.9375	4	14	4	242.55	283.80	—
2	2.0000	4	14-1/2	4	242.55	283.80	—

# Metric Taper Shank Chucking Reamers

High Speed Steel

- List No. **530M** – Straight Flute



Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
5.00	.1969	1-1/4	5	1	24.98
7.00	.2756	1-1/2	6	1	24.98
9.00	.3343	1-3/4	7	1	27.68
11.00	.4331	1-3/4	7	1	27.90
12.00	.4724	2	8	1	28.95
15.00	.5906	2	8	1	35.10
16.00	.6299	2-1/4	9	2	37.88
17.00	.6693	2-1/4	9	2	40.13
20.00	.7874	2-1/2	9-1/2	2	47.03
21.00	.8268	2-1/2	9-1/2	2	51.45
22.00	.8661	2-1/2	9-1/2	2	54.08
24.00	.9449	2-5/8	10	3	62.78
25.00	.9843	2-5/8	10	3	68.55

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each
26.00	1.0236	2-3/4	10-1/2	3	72.53
28.00	1.1023	2-7/8	11	3	83.63
29.00	1.1417	2-7/8	11	3	88.05
30.00	1.1811	2-7/8	11	3	94.35
32.00	1.2598	3	11-1/2	4	107.18
33.00	1.2992	3	11-1/2	4	129.08
34.00	1.3385	3-1/4	12	4	129.08
35.00	1.3779	3-1/4	12	4	135.00
36.00	1.4173	3-1/4	12	4	138.83
37.00	1.4566	3-1/2	12-1/2	4	152.18
38.00	1.4960	3-1/2	12-1/2	4	152.18
39.00	1.5354	3-1/2	12-1/2	4	169.50
40.00	1.5748	3-1/2	12-1/2	4	169.50

# Taper Pin Reamers

High Speed Steel



List No. **556** – Straight Flute

For reaming in mild steel.

List No. **557** – Left Hand Spiral, Right Hand Cut

For reaming in lower ranges of Rockwell hardness.

List No. **558** – Helical Flute

For machine reaming of holes for taper pins.

High helix flute design eases chip ejection.



Size	Diameter		Flute Length	Overall Length	Shank Size	Price Each		
	Small End	Large End				Straight 556	Spiral 557	Helical 558
7/0	.0497	.0666	13/16	1-13/16	5/64	25.74	26.93	26.93
6/0	.0611	.0806	15/16	1-15/16	3/32	25.74	26.93	26.93
5/0	.0719	.0966	1-3/16	2-3/16	7/64	23.61	25.74	26.93
4/0	.0869	.1142	1-5/16	2-5/16	1/8	23.61	25.74	26.93
3/0	.1029	.1302	1-5/16	2-5/16	9/64	23.61	25.74	26.93
2/0	.1137	.1462	1-9/16	2-9/16	5/32	21.12	22.44	22.00
0	.1287	.1638	1-11/16	2-15/16	11/64	20.20	21.78	22.00
1	.1447	.1798	1-11/16	2-15/16	3/16	19.80	21.91	22.18
2	.1605	.2008	1-15/16	3-3/16	13/64	19.80	22.11	25.21
3	.1813	.2294	2-5/16	3-11/16	15/64	19.80	22.11	26.04
4	.2071	.2604	2-9/16	4-1/16	17/64	21.91	23.86	31.68
5	.2409	.2994	2-13/16	4-5/16	5/16	23.60	25.74	33.81
6	.2773	.3540	3-11/16	5-7/16	23/64	28.48	31.52	39.77
7	.3297	.4220	4-7/16	6-5/16	13/32	36.50	39.73	47.76
8	.3971	.5050	5-3/16	7-3/16	7/16	46.86	51.35	55.44
9	.4805	.6066	6-1/16	8-5/16	9/16	57.02	62.04	62.04
10	.5799	.7216	6-13/16	9-5/16	5/8	62.70	68.79	79.20
11	.7060	.8780	8-1/4	11-1/4	11/16	134.64	157.08	174.90
12	.8420	1.0500	10	13-5/8	3/4	184.80	190.74	207.90
13	1.0090	1.2590	12	16	1-1/16	294.36	314.16	386.76
14	1.2500	1.5420	14	18-1/4	1-3/8	438.90	464.64	514.14

REAMERS

## Sets

Tap Sizes	Description	Pcs.	Set No.	Price
0 – 6	Straight Flute	6	<b>556S</b>	125.11



# Taper Pipe Reamers

High Speed Steel



For reaming holes to be tapped with taper pipe taps.  
These reamers are tapered 3/4" to the foot.

List No. **566** – Straight Flute

List No. **567** – Spiral Flute



Size	Diameter		Flute Length	Overall Length	Shank Size	Price Each	
	Small End	Large End				Straight 566	Spiral 567
1/16	.2450	.2910	3/4	2	.3125	38.94	41.23
1/8	.3160	.3620	3/4	2-1/8	.4375	27.39	31.68
1/4	.4060	.4720	1-1/16	2-7/16	.5625	31.02	36.30
3/8	.5400	.6060	1-1/16	2-9/16	.7000	35.24	41.45
1/2	.6650	.7510	1-3/8	3-1/8	.6875	44.55	52.31
3/4	.8760	.9620	1-3/8	3-1/4	.9063	53.00	72.60
1	1.1030	1.2120	1-3/4	3-3/4	1.1250	88.08	103.52
1-1/4	1.4440	1.5530	1-3/4	4	1.3125	132.40	155.69
1-1/2	1.6840	1.7930	1-3/4	4-1/4	1.5000	167.18	196.68
2	2.1590	2.2680	1-3/4	4-1/2	1.8750	223.08	262.68
2-1/2	2.5610	2.7220	2-5/8	5-1/2	2.2050	400.95	445.50
3	3.2020	3.3800	2-3/4	6	2.6250	525.36	584.10

# Hand Reamers

High Speed Steel



For finishing of holes by hand. Square end can be held in a hand wrench or tap wrench. Spiral flute style drives chips forward.



List No. **564**– Straight Flute

List No. **565** – Left Hand Spiral Flute, Right Hand Cut

Size	Decimal Equivalent	Flute Length	Overall Length	Straight 564	Spiral 565
3/64	.0469	1	2	27.69	—
1/16	.0625	1	2	27.69	30.35
5/64	.0781	1	2	27.69	30.35
3/32	.0938	1-1/4	2-1/2	27.69	30.35
7/64	.1094	1-1/4	2-1/2	27.69	30.35
1/8	.1250	1-1/2	3	25.41	30.49
9/64	.1406	1-5/8	3-1/4	28.84	30.49
5/32	.1562	1-5/8	3-1/4	28.84	30.49
11/64	.1719	1-3/4	3-1/2	28.84	33.00
3/16	.1875	1-3/4	3-1/2	27.20	31.79
13/64	.2031	1-7/8	3-3/4	30.49	33.00
7/32	.2188	1-7/8	3-3/4	30.49	33.00
15/64	.2344	2	4	30.49	33.00
1/4	.2500	2	4	28.94	33.00
17/64	.2656	2-1/8	4-1/4	32.67	38.45
9/32	.2812	2-1/8	4-1/4	32.67	38.45
19/64	.2969	2-1/4	4-1/2	32.67	38.45
5/16	.3125	2-1/4	4-1/2	31.65	36.30
21/64	.3281	2-3/8	4-3/4	40.92	42.54
11/32	.3438	2-3/8	4-3/4	38.18	43.20
23/64	.3594	2-1/2	5	38.18	43.20
3/8	.3750	2-1/2	5	36.30	40.92
25/64	.3906	2-5/8	5-1/4	41.45	42.90
13/32	.4062	2-5/8	5-1/4	41.45	47.36
27/64	.4219	2-3/4	5-1/2	41.45	47.36
7/16	.4375	2-3/4	5-1/2	41.45	45.44
29/64	.4531	2-7/8	5-3/4	45.87	51.28
15/32	.4688	2-7/8	5-3/4	45.87	51.28
31/64	.4844	3	6	45.87	51.28
1/2	.5000	3	6	44.22	48.77
33/64	.5156	3-1/8	6-1/4	50.66	57.19
17/32	.5312	3-1/8	6-1/4	50.66	57.19
35/64	.5469	3-1/4	6-1/2	50.66	57.32
9/16	.5625	3-1/4	6-1/2	50.66	57.19
37/64	.5781	3-3/8	6-3/4	58.05	63.69
19/32	.5938	3-3/8	6-3/4	58.05	63.69
39/64	.6094	3-1/2	7	58.05	63.69
5/8	.6250	3-1/2	7	54.71	61.05
41/64	.6406	3-11/16	7-3/8	63.56	69.96
21/32	.6562	3-11/16	7-3/8	63.56	69.96
43/64	.6719	3-7/8	7-3/4	63.56	69.96
11/16	.6875	3-7/8	7-3/4	63.56	69.96
45/64	.7031	4-1/16	8-1/8	67.45	72.60
23/32	.7188	4-1/16	8-1/8	67.45	69.73
47/64	.7344	4-3/16	8-3/8	69.90	75.90
3/4	.7500	4-3/16	8-3/8	67.45	70.62
49/64	.7656	4-3/16	8-3/8	—	75.90
25/32	.7812	4-3/8	8-3/4	67.45	70.62

Size	Decimal Equivalent	Flute Length	Overall Length	Straight 564	Spiral 565
51/64	.7969	4-9/16	9-1/8	78.97	83.49
13/16	.8125	4-9/16	9-1/8	77.65	83.49
53/64	.8281	4-9/16	9-1/8	77.65	83.49
27/32	.8438	4-11/16	9-3/8	77.65	83.49
55/64	.8594	4-7/8	9-3/4	—	83.49
7/8	.8750	4-7/8	9-3/4	77.65	83.49
57/64	.8906	5	10	77.65	83.49
29/32	.9062	5	10	87.78	93.69
59/64	.9219	5-1/8	10-1/4	87.78	93.69
15/16	.9375	5-1/8	10-1/4	87.78	93.69
61/64	.9531	5-5/16	10-5/8	105.00	108.90
31/32	.9688	5-5/16	10-5/8	89.10	93.69
63/64	.9844	5-7/16	10-5/8	—	96.36
1	1.0000	5-7/16	10-7/8	87.78	93.69
1-1/64	1.0156	5-7/16	10-7/8	—	118.80
1-1/32	1.0312	5-7/16	10-7/8	105.60	121.44
1-3/64	1.0469	5-7/16	10-7/8	—	130.68
1-1/16	1.0625	5-5/8	11-1/4	94.05	102.96
1-5/64	1.0781	5-5/8	11-1/4	—	138.60
1-3/32	1.0938	5-5/8	11-1/4	122.10	145.20
1-7/64	1.1094	5-5/8	11-1/4	—	155.10
1-1/8	1.1250	5-13/16	11-5/8	115.17	126.06
1-9/64	1.1406	5-13/16	11-5/8	—	155.10
1-5/32	1.1562	5-13/16	11-5/8	124.00	155.10
1-11/64	1.1719	5-13/16	11-5/8	—	155.10
1-3/16	1.1875	6	12	116.72	126.06
1-13/64	1.2031	6	12	—	165.00
1-7/32	1.2188	6	12	150.48	165.00
1-15/64	1.2344	6	12	—	171.60
1-1/4	1.2500	6-1/8	12-1/4	139.52	155.10
1-9/32	1.2812	6-1/4	12-1/2	158.40	171.60
1-5/16	1.3125	6-1/4	12-1/2	143.42	155.10
1-11/32	1.3438	6-5/16	12-5/8	171.60	184.80
1-3/8	1.3750	6-5/16	12-5/8	165.33	177.41
1-13/32	1.4062	6-7/16	12-7/8	184.80	198.00
1-7/16	1.4375	6-7/16	12-7/8	169.42	183.35
1-15/32	1.4688	6-1/2	13	204.60	—
1-1/2	1.5000	6-1/2	13	194.96	212.52
1-9/16	1.5625	6-1/2	13	216.48	—
1-19/32	1.5938	6-1/2	13	224.40	—
1-11/16	1.6875	6-3/4	13-1/2	237.60	—
1-23/32	1.7188	6-3/4	13-1/2	290.40	—
1-3/4	1.7500	6-3/4	13-1/2	329.34	—
1-13/16	1.8125	7	13-3/4	329.34	—
1-15/16	1.9375	7	14	329.34	—
2	2.0000	7	14	429.00	—
2-1/2	2.5000	7-1/2	15	544.50	—

## Sets

Sizes	Description	Pcs.	Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	Straight Flute Set	5	<b>564S</b>	231.62
1/4, 3/8, 1/2, 5/8, 3/4	Spiral Flute Set	5	<b>565S</b>	254.41

All sets are supplied in wood block



## Repairman's Taper Reamer

Size	Range	Price Each
1	1/8 to 1/2	17.10
2	1/8 to 5/8	20.25

List No. 538 – Straight Flute

- Removes burrs from small holes.
- Enlarges and countersinks holes in soft material.



# Metric Hand Reamers

High Speed Steel



List No. **564M** – Straight Flute



Size	Dec. Equiv.	Flute Length	Overall Length	Straight 564	Size	Dec. Equiv.	Flute Length	Overall Length	Straight 564	Size	Dec. Equiv.	Flute Length	Overall Length	Straight 564
3.00	.1181	1-7/32	2-7/16	28.84	9.00	.3543	2-7/16	4-7/8	38.18	15.50	.6102	3-1/2	6-7/8	63.56
3.20	.1260	1-1/4	2-1/2	28.84	9.50	.3740	2-7/16	4-7/8	38.18	16.00	.6299	3-1/2	6-7/8	63.56
3.50	.1378	1-3/8	2-3/4	28.84	10.00	.3937	2-5/8	5-1/4	41.45	16.50	.6496	3-1/2	6-7/8	63.56
4.00	.1575	1-1/2	3	28.84	10.50	.4134	2-5/8	5-1/4	41.45	17.00	.6693	3-3/8	6-3/4	63.56
4.50	.1772	1-5/8	3-1/4	28.84	11.00	.4331	2-3/4	5-1/2	41.45	17.50	.6890	3-11/16	7-1/2	67.45
5.00	.1969	1-3/4	3-1/2	30.49	11.50	.4528	2-3/4	5-1/2	45.87	18.00	.7087	3-11/16	7-1/2	67.45
5.50	.2165	1-13/16	3-5/8	30.49	12.00	.4724	3	6	45.87	19.00	.7480	3-3/4	7-1/2	77.65
6.00	.2362	1-13/16	3-5/8	30.49	12.50	.4921	3	6	45.87	19.50	.7677	4	8	79.00
7.00	.2756	2-1/8	4-1/4	32.67	13.00	.5118	3	6	50.66	20.00	.7874	4	8	81.50
7.50	.2953	2-1/16	4-3/8	35.64	13.50	.5315	3-1/4	6-1/2	50.66	22.00	.8661	4-7/8	9-3/4	95.00
8.00	.3150	2-1/4	4-1/2	38.18	14.00	.5512	3-1/4	6-1/2	50.66					
8.50	.3346	2-1/4	4-1/2	38.18	15.00	.5906	3-1/4	6-1/2	58.05					

REAMERS

# Adjustable Hand Reamers

High Speed Steel



List No. **570**

Blades are adjusted by loosening one nut and tightening the other. Each reamer expands to the next size.



Size	Range of Adjustment	Blade Length	Overall Length	Price Each	Size	Range of Adjustment	Blade Length	Overall Length	Price Each
8/A	1/4 to 9/32	1-11/32	3-1/4	38.89	F	25/32 to 27/32	2-5/8	7-3/8	55.80
7/A	9/32 to 5/16	1-11/32	3-1/2	38.89	G	27/32 to 15/16	3	8	58.58
6/A	5/16 to 11/32	1-1/2	4-1/8	38.89	H	15/16 to 1-1/16	3-1/4	9	61.80
5/A	11/32 to 3/8	1-1/2	4-3/8	38.89	I	1-1/16 to 1-3/16	3-3/8	10	75.47
4/A	3/8 to 13/32	1-1/2	4-3/4	40.19	J	1-3/16 to 1-11/32	3-7/8	11	89.36
3/A	13/32 to 7/16	1-1/2	5	44.48	K	1-11/32 to 1-1/2	4-1/4	12	116.08
2/A	7/16 to 15/32	1-5/8	5-1/4	44.48	L	1-1/2 to 1-13/16	4-7/16	14	141.50
A	15/32 to 17/32	1-5/8	5-1/2	47.15	M	1-13/16 to 2-7/32	5	16	179.63
B	17/32 to 19/32	1-13/16	5-3/4	47.15	N	2-7/32 to 2-3/4	4-13/16	18	316.39
C	19/32 to 21/32	2-1/16	6-1/2	49.06	O	2-3/4 to 3-11/32	5-3/16	20	435.07
D	21/32 to 23/32	2-3/16	6-3/4	51.35	P	3-9/16 to 4-1/8	6	20	700.00
E	23/32 to 25/32	2-1/2	7	54.07					

## Sets

Sizes	Pcs.	Set No.	Price
A – H	8	570A	424.96
8A – 5A	4	570B	155.56
A – K	11	570C	705.37

All sets are supplied in wood case



# Morse Taper Finishing Reamers

High Speed Steel



This tool is used for accurate reaming of Morse Taper holes in sockets, sleeves and spindles.

List No. **568** – Straight Shank

List No. **569** – Taper Shank\*



Size	Diameter		Flute Length	Straight Shank Size	Price Each		Size	Diameter		Flute Length	Straight Shank Size	Price Each	
	Large End	Small End			S.S. 568	T.S. 569		Large End	Small End			S.S. 568	T.S. 569
0	.2503	.3674	2-1/4	5/16	39.94	61.38	4	1.0167	1.2893	5-1/4	1-1/4	135.30	177.54
1	.3674	.5170	3	7/16	52.14	65.34	5	1.4717	1.8005	6-1/4	1-1/2	257.40	351.62
2	.5696	.7444	3-1/2	5/8	62.70	81.52	6	2.1120	2.5550	8-1/2	2	547.80	561.00
3	.7748	.9881	4-1/4	7/8	91.42	113.52							

\*Morse Taper No. same as size



# Hand Expansion Reamers

High Speed Steel



**MDX**  
SUPERIOR IMPORT

These reamers are used to enlarge holes by a few thousandths. The pilots and guides of these reamers are ground under size to allow smooth entrance. The spiral flute style is especially suited for use in holes where the cut is interrupted by a longitudinal slot or keyway.



REAMERS

## Fractional Size

List No. **576** – Straight Flute

List No. **577** – Left Hand Spiral Flute, Right Hand Cut

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 576	Spiral 577
3/16	.1875	1-1/8	3-3/8	56.10	58.91
7/32	.2188	1-3/16	3-1/2	56.10	58.91
1/4	.2500	1-7/16	3-7/8	56.10	58.91
9/32	.2813	1-3/4	4	57.42	60.71
5/16	.3125	1-3/4	4	57.42	60.71
11/32	.3438	1-3/4	4	65.67	66.61
3/8	.3750	1-3/4	5	65.67	68.61
13/32	.4062	1-3/4	5	67.52	70.88
7/16	.4375	1-3/4	5	68.61	72.04
15/32	.4688	1-13/16	5-1/2	69.60	73.08
1/2	.5000	1-13/16	5-1/2	68.90	72.35
13.00	.5118	1-13/16	5-1/2	90.00	—
17/32	.5312	2-1/8	6	73.06	76.72
9/16	.5625	2-1/8	6	75.24	79.00
19/32	.5938	2-1/2	6	79.90	84.00
5/8	.6250	2-1/2	6	81.51	85.24
21/32	.6563	2-1/2	6-1/4	89.00	95.00
11/16	.6875	2-1/2	6-1/4	93.06	97.71
23/32	.7188	2-11/16	6-9/16	101.20	106.00
3/4	.7500	2-11/16	7-1/16	102.96	108.11
25/32	.7813	3-1/16	7-1/16	115.83	121.62
13/16	.8125	3-1/16	7-1/16	115.83	121.62
27/32	.8438	3-5/16	7-1/2	124.74	130.98
7/8	.8750	3-5/16	7-1/2	124.74	130.98
29/32	.9063	3-9/16	7-7/8	142.56	149.69
15/16	.9375	3-9/16	8-3/8	142.56	149.69
31/32	.9688	3-3/4	8-3/8	151.80	159.39
1	1.0000	3-3/4	8-7/8	151.80	159.39
1-1/32	1.0313	4	8-11/16	158.40	166.32
1-1/16	1.0625	4	8-11/16	158.40	166.32
1-3/32	1.0938	4-1/8	9	171.60	180.18
1-1/8	1.1250	4-1/8	9	171.60	180.18
1-5/32	1.1563	4-1/4	9-3/8	180.00	183.65
1-3/16	1.1875	4-1/4	9-3/8	174.90	183.65

## Recommended Expansion Limits:

Sizes 1/4 to 21/32	.010	Sizes 1-9/16 to 2	.017
Sizes 11/16 to 1	.013	Sizes 2 to 3	.019
Sizes 1-1/16 to 1-1/2	.015		

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each	
				Straight 576	Spiral 577
1-7/32	1.2188	4-3/8	9-3/4	185.00	195.00
1-1/4	1.2500	4-3/8	9-3/4	179.52	188.50
1-9/32	1.2813	4-1/2	10-1/8	210.00	220.00
1-5/16	1.3125	4-1/2	10-1/8	188.10	197.51
1-11/32	1.3438	4-9/16	10-1/2	210.00	220.00
1-3/8	1.3750	4-9/16	10-1/2	204.60	224.80
1-13/32	1.4062	4-3/4	10-7/8	235.00	250.00
1-7/16	1.4375	4-3/4	10-7/8	224.40	235.62
1-15/32	1.4688	4-13/16	11-1/8	257.40	261.00
1-1/2	1.5000	4-13/16	11-1/8	257.40	270.27
1-9/16	1.5625	4-13/16	11-1/4	271.26	290.00
1-5/8	1.6250	4-7/8	11-1/2	278.52	292.45
1-11/16	1.6875	4-7/8	11-5/8	320.76	333.30
1-3/4	1.7500	5	11-7/8	320.76	336.80
1-13/16	1.8125	5	12-1/16	349.80	367.29
1-7/8	1.8750	5	12-1/4	349.80	367.29
1-15/16	1.9375	5	12-3/8	409.20	429.66
2	2.0000	5	13-1/16	409.20	429.66
2-1/16	2.0625	5-1/8	13-1/4	998.00	—
2-1/8	2.1250	5-1/8	13-1/4	1050.00	1090.00
2-3/16	2.1875	5-1/8	13-1/2	1078.00	—
2-1/4	2.2500	5-1/8	13-1/2	1100.00	1144.00
2-5/16	2.3125	5-1/4	14	1125.00	—
2-3/8	2.3750	5-1/4	14	1150.00	1200.00
2-7/16	2.4375	5-3/8	14-1/2	1172.00	1220.00
2-1/2	2.5000	5-3/8	14-1/2	1190.00	1249.00
2-9/16	2.5625	5-1/2	15	1200.00	—
2-5/8	2.6250	5-1/2	15	1225.00	—
2-11/16	2.6875	5-3/4	15-1/2	1250.00	—
2-3/4	2.7500	5-3/4	15-1/2	1300.00	—
2-13/16	2.8125	5-3/4	15-1/2	1300.00	—
2-7/8	2.8750	5-3/4	15-1/2	1350.00	—
2-15/16	2.9375	6	16-1/2	1400.00	—
3	3.0000	6	16-1/2	1500.00	—

## Metric Sizes

List No. **576M** – Straight Shank, Straight Flute

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
9.00	.3543	1-3/4	4	85.00
13.00	.5118	1-13/16	5-1/2	90.00
21.00	.8268	3-1/4	8-1/2	189.00
29.00	1.1417	4-1/2	9-3/4	196.00
31.00	1.2205	5-1/2	10-7/16	204.50
33.00	1.2992	5-9/16	1-13/16	210.00

Size	Dec. Equiv.	Flute Length	Overall Length	Price Each
37.00	1.4567	5-9/16	11-3/16	265.00
41.00	1.6142	6	12	288.00
43.00	1.6929	6	12	333.90
46.00	1.8110	6-7/16	12-13/16	365.93
47.00	1.8504	6-7/8	13-5/8	388.00
49.00	1.9291	6-7/8	13-5/8	414.00

## Sets

Sizes	Description	Pcs.	Set No.	Price
1/4, 3/8, 1/2, 5/8, 3/4	Straight Flute Set	5	<b>576S</b>	381.81
1/4, 3/8, 1/2, 5/8, 3/4	Spiral Flute Set	5	<b>577S</b>	399.89



All sets are supplied in wood block

# Expansion Chucking Reamers

## High Speed Steel

Expansion reamers are designed to slightly enlarge holes for proper fit. The expansion feature allows the reamer to be sharpened repeatedly, then adjusted to maintain the original size.

List No. **572** – Straight Shank

List No. **574** – Taper Shank

Size	Dec. Equiv.	Flute Length	Overall Length	S.S. 572 Price	Morse Taper No.	T.S. 574 Price
3/16	.1875	3/4	6-1/2	53.46	—	—
7/32	.2188	3/4	6-1/2	53.46	—	—
1/4	.2500	3/4	6-1/2	53.46	—	—
9/32	.2813	3/4	6-1/2	53.46	—	—
5/16	.3125	3/4	6-1/2	53.46	—	—
11/32	.3438	3/4	6-3/4	53.46	—	—
3/8	.3750	3/4	7	52.77	1	58.32
13/32	.4062	3/4	7	53.50	1	60.71
7/16	.4375	7/8	7	54.85	1	63.07
15/32	.4688	7/8	7	56.86	1	65.45
1/2	.5000	1	8	58.92	1	67.76
17/32	.5312	1	8	60.96	1	70.09
9/16	.5625	1-1/8	8	63.03	1	72.49
19/32	.5938	1-1/8	8	65.07	1	74.84
5/8	.6250	1-1/4	9	67.10	2	77.23
21/32	.6562	1-1/4	9	69.01	2	79.20
11/16	.6875	1-1/4	9	70.94	2	81.58
23/32	.7188	1-1/4	9	72.86	2	81.64
3/4	.7500	1-3/8	9-1/2	74.78	2	86.04
25/32	.7812	1-3/8	9-1/2	77.55	2	89.19
13/16	.8125	1-3/8	9-1/2	80.21	2	92.25
27/32	.8438	1-3/8	9-1/2	82.98	2	95.44
7/8	.8750	1-1/2	10	85.67	2	98.52
29/32	.9062	1-1/2	10	88.47	2	101.77
15/16	.9375	1-1/2	10	91.19	3	104.92
31/32	.9688	1-1/2	10	92.43	3	107.73
1	1.0000	1-5/8	10-1/2	93.82	3	107.73
1-1/32	1.0312	1-5/8	10-1/2	104.78	3	120.45
1-1/16	1.0625	1-5/8	10-1/2	104.78	3	120.52
1-3/32	1.0938	1-3/4	10-1/2	111.54	3	131.34
1-1/8	1.1250	1-3/4	11	115.94	3	133.31
1-5/32	1.1562	1-3/4	11	126.85	3	145.86

Maximum expansion to 1/2" – approximately .006, to 1" – approximately .010, to 1-1/2" – approximately .012.



**MDX**  
SUPERIOR IMPORT



Size	Dec. Equiv.	Flute Length	Overall Length	S.S. 572 Price	Morse Taper No.	T.S. 574 Price
1-3/16	1.1875	1-3/4	11	126.85	3	145.88
1-7/32	1.2188	1-3/4	11	141.90	4	161.70
1-1/4	1.2500	1-7/8	11-1/2	137.90	4	158.62
1-9/32	1.2813	1-7/8	11-1/2	147.78	—	—
1-5/16	1.3125	1-7/8	11-1/2	143.48	4	165.01
1-3/8	1.3750	2	12	148.50	4	171.41
1-7/16	1.4375	2	12	154.47	4	177.71
1-1/2	1.5000	2-1/8	12-1/2	160.04	4	184.10
1-9/16	1.5625	2-1/8	12-1/2	173.38	4	184.64
1-5/8	1.6250	2-1/4	13	180.18	4	186.65
1-11/16	1.6875	2-1/4	13	189.42	4	203.28
1-3/4	1.7500	2-3/8	13-1/2	197.34	5	213.51
1-13/16	1.8125	2-3/8	13-1/2	204.93	5	227.30
1-7/8	1.8750	2-1/2	14	216.15	5	236.61
1-15/16	1.9375	2-1/2	14	238.26	5	267.96
2	2.0000	2-1/2	14	243.54	5	281.82
2-1/16	2.0125	2-3/4	14-1/2	—	5	290.07
2-1/8	2.1250	2-3/4	14-1/2	350.00	5	350.00
2-3/16	2.1875	2-3/4	14-1/2	—	5	360.00
2-1/4	2.2500	2-3/4	14-1/2	—	5	360.00
2-5/16	2.3125	2-3/4	14-1/2	—	5	360.00
2-3/8	2.3750	3	15	450.00	5	450.00
2-7/16	2.4375	3	15	—	5	500.00
2-1/2	2.5000	3	15	600.00	5	600.00
2-9/16	2.5625	3	16	—	5	630.00
2-5/8	2.6250	3	16	650.00	5	650.00
2-11/16	2.6875	3	16	—	5	650.00
2-3/4	2.7500	3	16	—	5	685.00
2-13/16	2.8125	3	16	690.00	5	690.00
2-7/8	2.8750	3	16	—	5	710.00
2-15/16	2.9375	3	16	750.00	5	750.00
3	3.0000	3	16	—	5	800.00

REAMERS

# Jobbers Reamers

## High Speed Steel

For use in all types of materials where a long flute is required.

List No. **578** – Straight Flute

List No. **579** – Spiral Flute

Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each	
					Straight 578	Spiral 579
1/4	.2500	2	5-3/16	1	36.00	41.40
9/32	.2812	2	5-3/16	1	37.92	—
5/16	.3125	2-1/4	5-1/2	1	37.49	43.11
11/32	.3438	2-1/4	5-1/2	1	39.88	—
3/8	.3750	2-1/2	5-13/16	1	43.37	—
13/32	.4062	2-1/2	5-13/16	1	45.26	—
7/16	.4375	2-3/4	6-1/8	1	48.97	56.32
15/32	.4688	2-3/4	6-1/8	1	45.75	—
1/2	.5000	3	6-7/16	1	48.97	—
17/32	.5312	3	6-7/16	1	50.56	—
9/16	.5625	3-1/4	6-3/4	1	55.44	—
19/32	.5938	3-1/4	6-3/4	1	56.69	—
5/8	.6250	3-1/2	7-9/16	2	57.76	—
21/32	.6562	3-1/2	7-9/16	2	61.37	—
11/16	.6875	3-7/8	8	2	67.32	77.42
23/32	.7188	3-7/8	8	2	55.70	—



**MDX**  
SUPERIOR IMPORT

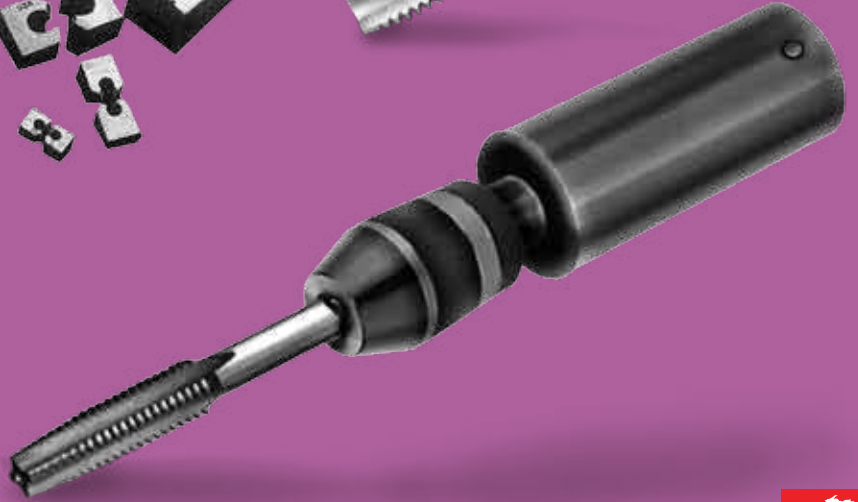
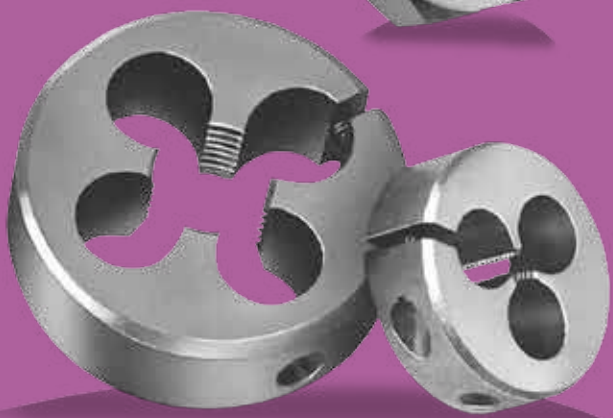
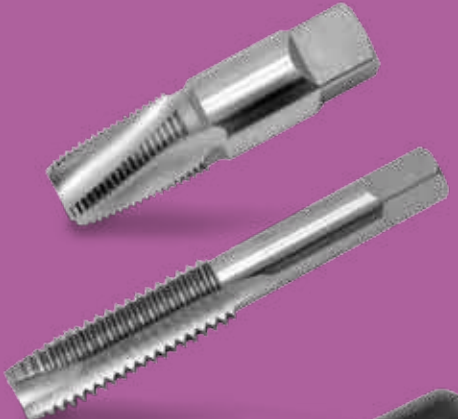


Size	Dec. Equiv.	Flute Length	Overall Length	Morse Taper No.	Price Each	
					Straight 578	Spiral 579
3/4	.7500	4-3/16	8-3/8	2	67.32	—
25/32	.7812	4-3/16	8-3/8	2	63.78	—
13/16	.8125	4-9/16	8-13/16	2	75.60	86.94
27/32	.8438	4-7/8	9-13/16	2	68.63	—
7/8	.8750	4-7/8	9-13/16	2	84.61	—
15/16	.9375	5-1/8	10	3	89.10	—
1	1.0000	5-7/16	10-3/8	3	96.76	117.45
1-1/16	1.0625	5-5/8	10-5/8	3	102.93	—
1-1/8	1.1250	5-13/16	10-7/8	3	115.57	—
1-3/16	1.1875	6	11-1/8	3	128.70	—
1-1/4	1.2500	6-1/8	12-9/16	4	132.00	—
1-5/16	1.3125	6-1/4	12-11/16	4	138.60	—
1-3/8	1.3750	6-5/16	12-13/16	4	148.50	—
1-7/16	1.4375	6-7/16	13	4	185.10	—
1-1/2	1.5000	6-1/2	13-1/8	4	163.68	—
1-3/4	1.7500	6-3/4	13-5/8	4	324.72	—

# Thread Forming

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# Hand Taps

## High Speed Steel – Ground Thread

Hand taps are the most commonly used general purpose taps. They are recommended for tapping free machining steels, stainless steels, aluminum, zinc and ductile steel. Hand taps are utilized in either through or blind hole tapping.



### Standard Thread Limits & Flutes

List No. **770** – Standard

List No. **770SET** – 3 Piece Set (Plug, Bottoming, Taper)

List No. **770T** – TiN Coated

List No. **770ST** – Steam Oxide Coated

Steam Oxide Coating produces a thin iron oxide surface which reduces friction between the tool and the chips, acting as a lubrication media.

#### Plug

##### 3-5 Thread Chamfer

Most versatile choice for through or blind holes.

#### Bottoming

##### 1-2 Thread Chamfer

Designed for threading near the bottom of blind holes.

#### Taper

##### 7-10 Thread Chamfer

Have longest standard chamfer for easier starts and less torque.

**Please specify plug, bottoming, or taper chamfer when ordering.**

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each			
					Standard 770	(P,T,B) Set 770SET	TiN Coated 770T	Steam Oxide 770ST
0	80	H1	2	P,T,B	11.30	33.90	15.12	12.00
1	64	H1	2	P,T,B	11.30	33.90	14.01	12.00
1	72	H2	2	P,T,B	11.30	33.90	14.01	12.00
2	56	H2	3	P,T,B	11.30	33.90	14.00	12.00
2	64	H2	3	P,T,B	11.30	33.90	14.00	12.00
3	48	H2	3	P,T,B	7.50	22.50	9.70	8.00
3	56	H2	3	P,T,B	9.00	27.00	11.03	9.85
4	36	H2	3	P,T,B	11.30	33.90	13.50	12.00
4	40	H2	3	P,T,B	7.00	21.00	8.91	7.75
4	48	H2	3	P,T,B	7.00	21.00	9.41	7.75
5	40	H2	3	P,T,B	7.00	21.00	8.91	7.75
5	44	H2	3	P,T,B	7.90	23.70	9.33	8.80
6	32	H3	3	P,T,B	5.80	17.40	7.70	6.70
6	40	H2	3	P,T,B	5.80	17.40	7.79	6.50
8	32	H3	4	P,T,B	5.80	17.40	7.70	6.50
8	36	H2	4	P,T,B	6.75	20.25	9.30	7.50
10	24	H3	4	P,T,B	6.75	20.25	9.30	7.50
10	32	H3	4	P,T,B	6.75	20.25	9.30	7.50
12	24	H3	4	P,T,B	6.75	20.25	9.30	7.50
12	28	H3	4	P,T,B	6.75	20.25	9.30	7.50
1/4	20	H3	4	P,T,B	6.75	20.25	9.30	7.50
1/4	28	H3	4	P,T,B	6.75	20.25	10.30	7.50
5/16	18	H3	4	P,T,B	7.50	22.50	10.00	8.00
5/16	24	H3	4	P,T,B	7.50	22.50	10.00	8.00
3/8	16	H3	4	P,T,B	8.90	26.70	13.70	9.60
3/8	24	H3	4	P,T,B	8.90	26.70	13.70	9.60
7/16	14	H3	4	P,T,B	13.20	39.60	20.92	14.00
7/16	20	H3	4	P,T,B	13.20	39.60	20.92	14.00
1/2	13	H3	4	P,T,B	14.50	43.50	21.73	15.00
1/2	20	H3	4	P,T,B	14.50	43.50	23.44	15.00
9/16	12	H3	4	P,T,B	23.20	69.60	37.96	24.00
9/16	18	H3	4	P,T,B	23.20	69.60	37.96	24.00
5/8	11	H3	4	P,T,B	27.50	82.50	42.66	28.20
5/8	18	H3	4	P,T,B	27.50	82.50	42.66	28.20
11/16	11	H3	4	P,T,B	34.60	103.80	49.68	35.70
11/16	16	H3	4	P,T,B	34.60	103.80	49.68	35.70
3/4	10	H3	4	P,T,B	36.38	109.14	54.90	35.70
3/4	16	H3	4	P,T,B	36.38	109.14	54.90	35.70
7/8	9	H4	4	P,T,B	49.50	148.50	72.28	50.50
7/8	14	H4	4	P,T,B	49.50	148.50	72.28	50.50
1"	8	H4	4	P,T,B	67.50	202.50	99.46	68.50
1"	12	H4	4	P,T,B	67.50	202.50	103.34	68.50
1"	14	H4	4	P,T,B	67.50	202.50	103.34	68.50
1-1/8	7	H4	4	P,T,B	110.00	330.00	137.61	112.00



# Hand Taps

High Speed Steel – Ground Thread



## Standard Thread Limits & Flutes

- List No. **770** – Standard
- List No. **770SET** – 3 Piece Set (Plug, Bottoming, Taper)
- List No. **770T** – TiN Coated
- List No. **770ST** – Steam Oxide Coated

Please specify plug, bottoming, or taper chamfer when ordering.

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each			
					Standard 770	(P,T,B) Set 770SET	TiN Coated 770T	Steam Oxide 770ST
1-1/8	12	H4	4	P,T,B	110.12	330.36	151.85	112.00
1-1/4	7	H4	4	P,T,B	138.65	415.95	208.03	140.07
1-1/4	12	H4	6	P,T,B	138.65	415.95	210.92	140.07
1-3/8	6	H4	4	P,T,B	198.00	594.00	322.92	204.00
1-3/8	12	H4	6	P,T,B	198.00	594.00	325.73	204.00
1-1/2	6	H4	4	P,T,B	220.00	660.00	350.60	230.00
1-1/2	12	H4	6	P,T,B	220.00	660.00	357.21	230.00

## Sets

Description	Tap Sizes	Drill Sizes	Pcs.	Case	Set No.	Price
Plug Tap & Drill Set <small>Features larger drill diameters to minimize tap breakage</small>	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13	7/64, #29, #23, #20, 13/64, 17/64, P, 7/16	16	Handy Pouch	<b>770R</b>	82.50
Plug Tap & Drill Set <small>Features smaller drill diameters to create more percentage of thread.</small>	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	#36, #29, #25, #21, #7, F, 5/16, U, 27/64	18	Metal Index	Uncoated Plug Taps & Drills <b>770X</b>	113.50
					TiN Coated Plug Taps & Drills <b>770XT</b>	184.80
					Uncoated Spiral Pointed Taps & Drills <b>780X</b>	106.00
Plug Tap & Drill Set	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	#33, #29, #25, #21, #3, I, Q, 25/64, 29/64	18	Metal Index	<b>770XF</b>	116.00
Plug Tap & Drill Set TiN Coated	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	#33, #29, #25, #21, #3, I, Q, 25/64, 29/64	18	Metal Index	<b>770XFT</b>	202.10
Hand Tap Set <small>All sizes in Plug, Bottoming, and Taper chamfers.</small>	4-40, 5-40, 6-32, 8-32, 10-24, 10-32 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13,	—	33	Wood Stand	<b>770S</b>	284.00



## Optional Thread Limits & Flutes

- List No. **770H** – Optional Thread Limits
- List No. **770F** – Optional Flutes
- List No. **770HF** – Optional Thread Limits and Flutes

Please specify plug, bottoming, or taper chamfer when ordering.

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each		
					Opt. Thread 770H	Opt. Flute 770F	Opt. Thread & Flt. 770HF
0	80	H2	2	P,T,B	12.00	—	—
1	64	H2	2	P,T,B	12.00	—	—
1	72	H1	2	P,T,B	12.00	—	—
2	56	H1	2	P,B	—	—	15.97
2	56	H1	3	P,T,B	12.78	—	—
2	56	H2	2	P,T,B	—	12.78	—
2	64	H1	3	P,T,B	12.78	—	—
2	64	H2	2	P,T,B	—	12.78	—
3	48	H1	3	P,T,B	10.08	—	—
3	48	H2	2	P,T,B	—	12.78	—
3	56	H1	3	P,T,B	10.08	—	—
4	40	H1	2	P,T	—	—	10.01
4	40	H1	3	P,T,B	8.01	—	—
4	40	H2	2	P,T,B	—	8.01	—
4	40	H4	3	P,T	8.01	—	—
4	48	H1	3	P,T,B	8.01	—	—
5	40	H1	3	P,T,B	8.01	—	—
5	40	H2	2	P,T,B	—	8.01	—



Continued on Next Page ▶

# Hand Taps

## High Speed Steel – Ground Thread

Hand taps are the most commonly used general purpose taps. They are recommended for tapping free machining steels, stainless steels, aluminum, zinc and ductile material. Hand taps are utilized in either through or blind hole tapping.

### Optional Thread Limits & Flutes ▶ *Continued*

List No. **770H** – Optional Thread Limits

List No. **770F** – Optional Flutes

List No. **770HF** – Optional Thread Limits and Flutes



**Please specify plug, bottoming, or taper chamfer when ordering.**

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each		
					Opt. Thread 770H	Opt. Flute 770F	Opt. Thread. & Flt. 770HF
5	44	H1	3	P,T,B	8.01	—	—
5	44	H2	2	P	—	7.02	—
6	32	H1	2	P,T	—	—	7.02
6	32	H1	3	P,T,B	7.02	—	—
6	32	H2	2	B	—	—	7.02
6	32	H2	3	P,T,B	7.02	—	—
6	32	H3	2	P,T	—	6.39	—
6	40	H1	2	P,T	—	—	7.02
6	40	H1	3	P,T,B	7.02	—	—
6	40	H2	2	P	—	6.39	—
6	40	H3	2	P	—	—	7.02
8	32	H1	2	P,T	—	—	7.02
8	32	H1	3	P,T,B	—	—	7.02
8	32	H1	4	P,T,B	7.02	—	—
8	32	H2	2	P,T,B	—	—	7.02
8	32	H2	3	P,T	—	—	7.02
8	32	H2	4	P,T,B	7.02	—	—
8	32	H3	2	P,T,B	—	6.03	—
8	32	H3	3	P,T	—	6.03	—
8	32	H7	3	P	—	—	7.02
8	32	H7	4	P,T,B	7.02	—	—
8	36	H1	4	P,T,B	8.01	—	—
10	24	H1	2	P,T	—	—	7.02
10	24	H1	3	P	—	—	7.02
10	24	H1	4	P,T,B	7.95	—	—
10	24	H2	3	P,T	—	—	7.02
10	24	H2	4	P,T,B	7.95	—	—
10	24	H3	2	P,T,B	—	7.50	—
10	24	H3	3	P,T,B	—	7.50	—
10	24	H7	3	P,B	—	—	8.25
10	24	H7	4	P,B	8.25	—	—
10	32	H1	2	P,B	—	—	8.25
10	32	H1	4	P,T,B	7.95	—	—
10	32	H2	2	P,T,B	—	—	8.25
10	32	H2	3	P,T,B	—	—	8.25
10	32	H2	4	P,T,B	7.95	—	—
10	32	H3	2	P,T,B	—	7.50	—
10	32	H3	3	P,T,B	—	7.50	—
10	32	H4	2	P,T,B	—	—	8.25
10	32	H6	4	P,T,B	8.25	—	—
10	32	H7	3	P,T,B	—	—	8.25
10	32	H7	4	P,T,B	8.25	—	—
12	24	H1	4	P,T,B	7.95	—	—
12	24	H2	4	P,T,B	7.95	—	—
12	28	H1	4	P,T,B	7.95	—	—
12	28	H2	4	P,T,B	7.95	—	—
12	28	H3	2	P,T	—	7.50	—
1/4	20	H1	2	P	—	—	8.01
1/4	20	H1	3	P,T	—	—	8.01
1/4	20	H1	4	P,T,B	8.10	—	—
1/4	20	H2	2	P,T	—	—	8.01
1/4	20	H2	3	P,T,B	—	—	8.01
1/4	20	H2	4	P,T,B	8.10	—	—
1/4	20	H3	2	P,T,B	—	8.01	—
1/4	20	H3	3	P,T,B	—	8.01	—
1/4	20	H5	3	P,T,B	—	—	8.01

# Hand Taps

## High Speed Steel – Ground Thread

Hand taps are the most commonly used general purpose taps. They are recommended for tapping free machining steels, stainless steels, aluminum, zinc and ductile material. Hand taps are utilized in either through or blind hole tapping.



### Optional Thread Limits & Flutes

List No. **770H** – Optional Thread Limits

List No. **770F** – Optional Flutes

List No. **770HF** – Optional Thread Limits and Flutes



**Please specify plug, bottoming, or taper chamfer when ordering.**

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each		
					Opt. Thread 770H	Opt. Flute 770F	Opt. Thread. & Flt. 770HF
1/4	20	H5	4	P,T,B	7.74	—	—
1/4	28	H1	3	P,T	—	—	8.01
1/4	28	H1	4	P,T,B	7.79	—	—
1/4	28	H2	3	P	—	—	8.01
1/4	28	H2	4	P,T,B	8.10	—	—
1/4	28	H3	2	P,T,B	—	8.10	—
1/4	28	H3	3	P,T,B	—	8.10	—
1/4	28	H4	3	P,T,B	—	—	8.01
1/4	28	H4	4	P,T,B	8.10	—	—
1/4	28	H5	4	P,T,B	8.10	—	—
5/16	18	H1	3	P,T,B	—	—	9.00
5/16	18	H1	4	P,T,B	9.14	—	—
5/16	18	H2	4	P,T,B	9.14	—	—
5/16	18	H3	2	P,T,B	—	10.17	—
5/16	18	H3	3	P,T,B	—	9.00	—
5/16	18	H4	4	P,T,B	9.00	—	—
5/16	18	H5	2	P,T,B	---	---	9.00
5/16	18	H5	3	P,T,B	---	---	9.00
5/16	18	H5	4	P,T,B	9.00	—	—
5/16	18	H7	4	P,T	9.00	—	—
5/16	18	H9	2	P,T,B	—	—	9.00
5/16	24	H1	4	P,T,B	9.00	—	—
5/16	24	H2	3	P,T,B	—	—	9.00
5/16	24	H2	4	P,T,B	9.00	—	—
5/16	24	H3	2	P,T,B	—	9.00	—
5/16	24	H3	3	P,T,B	—	9.00	—
5/16	24	H4	3	P,T	—	—	9.00
5/16	24	H4	4	P,T,B	9.00	—	—
5/16	24	H5	4	P	9.00	—	—
3/8	16	H1	3	P,T,B	—	—	11.70
3/8	16	H1	4	P,T,B	11.70	—	—
3/8	16	H2	3	P	—	—	11.70
3/8	16	H2	4	P,T,B	10.22	—	—
3/8	16	H3	3	P,T,B	—	10.17	—
3/8	16	H5	3	P,T,B	—	—	11.70
3/8	16	H5	4	P,T,B	10.22	—	—
3/8	16	H8	3	P,T	—	—	11.70
3/8	24	H1	4	P,T,B	11.70	—	—
3/8	24	H2	3	P,T,B	—	—	11.70
3/8	24	H2	4	P,T,B	10.71	—	—
3/8	24	H3	3	P,T,B	—	11.70	—
3/8	24	H4	3	P,T,B	—	—	11.70
3/8	24	H4	4	P,T,B	10.22	—	—
3/8	24	H5	4	P,T,B	10.22	—	—
3/8	24	H8	3	B	—	—	11.70
7/16	14	H1	4	P,T,B	17.01	—	—
7/16	14	H2	4	P,T,B	17.01	—	—
7/16	14	H3	3	P,T,B	—	17.01	—
7/16	14	H5	3	P,T,B	—	—	17.01
7/16	14	H5	4	P,T,B	17.01	—	—
7/16	20	H1	3	P,T,B	—	—	17.01
7/16	20	H1	4	P,T,B	17.01	—	—
7/16	20	H2	4	P,T,B	17.01	—	—
7/16	20	H3	3	P,T	—	17.01	—
7/16	20	H4	4	P,T,B	17.01	—	—

Continued on Next Page ▶

# Hand Taps

## High Speed Steel – Ground Thread

Hand taps are the most commonly used general purpose tap. They are recommended for tapping free machining steels, stainless steels, aluminum, zinc and ductile material. Hand taps are utilized in either through or blind hole tapping.



### Optional Thread Limits & Flutes ▶ *Continued*

List No. **770H** – Optional Thread Limits

List No. **770F** – Optional Flutes

List No. **770HF** – Optional Thread Limits and Flutes



**Please specify plug, bottoming, or taper chamfer when ordering.**

Size	Threads Per Inch	Thread Limits	No. of Flutes	Chamfer Available	Price Each		
					Opt. Thread. 770H	Opt. Flt. 770F	Opt. T&F 770HF
7/16	20	H5	4	P,T,B	17.01	—	—
7/16	20	H6	4	P,T,B	17.01	—	—
7/16	20	H10	4	P,T	17.01	—	—
1/2	13	H1	4	P,T,B	19.98	—	—
1/2	13	H2	4	P,T,B	19.98	—	—
1/2	13	H3	3	P,T,B	—	20.25	—
1/2	13	H5	3	P,T,B	—	—	20.25
1/2	13	H5	4	P,T,B	19.98	—	—
1/2	13	H8	4	P,T	19.98	—	—
1/2	13	H10	4	P,T,B	19.98	—	—
1/2	20	H1	3	P,T,B	—	—	20.25
1/2	20	H1	4	P,T,B	19.98	—	—
1/2	20	H2	4	P,T,B	19.98	—	—
1/2	20	H3	3	P,T,B	—	20.25	—
1/2	20	H5	3	P,T	—	—	20.25
1/2	20	H5	4	P,T,B	19.98	—	—
9/16	12	H2	4	P,T,B	29.70	—	—
9/16	12	H5	4	P,T,B	29.70	—	—
9/16	18	H1	4	P,T	29.70	—	—
9/16	18	H2	4	P,T,B	29.70	—	—
9/16	18	H5	4	P,T,B	29.70	—	—
5/8	11	H1	4	P,T,B	37.71	—	—
5/8	11	H2	4	P,T,B	37.71	—	—
5/8	11	H5	4	P,T,B	37.71	—	—
5/8	11	H3	3	B	—	38.90	—
5/8	18	H1	4	P,T,B	37.71	—	—
5/8	18	H2	4	P,T,B	37.71	—	—
5/8	18	H4	4	P,T,B	37.71	—	—
5/8	18	H5	4	P,T,B	37.71	—	—
3/4	10	H1	4	P,T	49.50	—	—
3/4	10	H2	4	P,T	49.50	—	—
3/4	10	H3	3	P	—	51.75	—
3/4	10	H5	4	P,T,B	49.50	—	—
3/4	16	H1	4	P,T,B	49.50	—	—
3/4	16	H2	4	P,T	49.50	—	—
3/4	16	H5	4	P,T,B	49.50	—	—
7/8	9	H1	4	P,T,B	67.28	—	—
7/8	9	H3	4	P,T	67.28	—	—
7/8	9	H5	4	P,T	67.28	—	—
7/8	9	H6	4	P,T,B	67.28	—	—
7/8	14	H2	4	P,T	67.28	—	—
7/8	14	H3	4	T	67.28	—	—
7/8	14	H10	4	P,T	67.28	—	—
1"	8	H1	4	P,T,B	87.75	—	—
1"	8	H2	4	P,T	87.75	—	—
1"	8	H3	4	P,T	87.75	—	—
1"	8	H6	4	P,T	87.75	—	—
1"	12	H1	4	P,T,B	87.75	—	—
1"	14	H1	4	P,T,B	87.75	—	—
1"	14	H2	4	P,T,B	87.75	—	—
1"	14	H3	4	P,T,B	87.75	—	—
1"	14	H6	4	P	87.75	—	—
1-1/8	7	H8	4	P,T,B	139.50	—	—
1-1/8	12	H1	4	P,T,B	149.40	—	—
1-1/8	12	H3	4	P,T,B	148.50	—	—
1-1/8	12	H5	4	P,T,B	148.50	—	—
1-3/8	12	H8	6	P,T,B	190.00	—	—
1-1/2	12	H2	4	P,T,B	278.10	—	—

# MDX<sup>®</sup> Hand Taps

## High Speed Steel

These taps are made from quality high speed steel. Intended for general maintenance applications,

### Plug

#### 3-5 Thread Chamfer

Most versatile choice for through or blind holes.

### Bottoming

#### 1-2 Thread Chamfer

Designed for threading near the bottom of blind holes.

### Taper

#### 7-10 Thread Chamfer

Have longest standard chamfer for easier starts and less torque.



List No. **772** – Hand Taps

List No. **772SET** – 3 Piece Set (Plug, Bottoming, Taper)

*Please specify plug, bottoming, or taper chamfer when ordering.*



Size	Threads Per Inch	Price Each	
		Hand Taps 772	3 Pc. Set 772SET
0	80	8.45	25.34
1	64	8.25	24.75
1	72	8.25	24.75
2	56	6.86	20.59
2	64	6.86	20.59
3	48	5.41	16.24
3	56	5.41	16.24
4	36	3.89	11.68
4	40	3.89	11.68
4	48	3.89	11.68
5	40	4.06	12.18
5	44	4.06	12.18
6	32	3.23	9.70
6	40	3.23	9.70
8	32	3.23	9.70
8	36	3.23	9.70
10	24	3.23	9.70
10	32	3.23	9.70
12	24	3.43	10.30
12	28	3.43	10.30
1/4	20	3.23	9.70
1/4	28	3.23	9.70
5/16	18	4.16	12.47
5/16	24	4.16	12.47
3/8	16	4.69	14.06
3/8	24	4.69	14.06

Size	Threads Per Inch	Price Each	
		Hand Taps 772	3 Pc. Set 772SET
7/16	14	7.69	23.07
7/16	20	7.69	23.07
1/2	13	8.55	25.64
1/2	20	8.55	25.64
9/16	12	13.93	41.80
9/16	18	13.93	41.80
5/8	11	17.02	51.06
5/8	18	17.02	51.06
11/16	11	20.46	61.38
11/16	16	20.46	61.38
3/4	10	22.94	68.81
3/4	16	22.94	68.81
7/8	9	32.67	98.01
7/8	14	32.67	98.01
1"	8	42.90	128.70
1"	12	42.90	128.70
1"	14	42.90	128.70
1-1/8	7	68.05	204.14
1-1/8	12	68.05	204.14
1-1/4	7	88.90	266.71
1-1/4	12	88.90	266.71
1-3/8	6	111.87	335.61
1-3/8	12	111.87	335.61
1-1/2	6	130.02	390.06
1-1/2	12	130.02	390.06

# MDX<sup>®</sup> Spiral Pointed Taps

## High Speed Steel

List No. **782** – Plug Chamfer

These taps perform well in light production runs.



Size	Threads Per Inch	Price Each
0	80	10.30
1	64	9.36
1	72	9.36
2	56	7.85
2	64	8.98
3	48	6.34
3	56	7.00
4	40	5.15
4	48	5.15
5	40	5.15
5	44	5.15
6	32	4.28
6	40	4.28
8	32	4.28

Size	Threads Per Inch	Price Each
8	36	4.28
10	24	4.28
10	32	4.28
12	24	4.28
12	28	4.28
1/4	20	3.93
1/4	28	3.93
5/16	18	4.29
5/16	24	4.29
3/8	16	3.93
3/8	24	3.93
7/16	14	8.25
7/16	20	8.25
1/2	13	9.08

Size	Threads Per Inch	Price Each
1/2	20	9.08
9/16	12	16.34
9/16	18	16.34
5/8	11	19.07
5/8	18	19.07
11/16	12	17.52
11/16	16	17.52
3/4	10	26.40
3/4	16	26.40
7/8	9	37.95
7/8	14	37.95
1"	8	50.56
1"	12	50.56
1"	14	50.56



# Hand Taps - Carbon Steel



Please specify plug, bottoming, or taper chamfer when ordering.

List No. **772CB** – Hand Taps

List No. **772CB SET** – 3 Piece Set (P, T, B)



Size	Threads Per Inch	Price Each	
		Hand Taps 772CB	3 Pc. Set 772CB SET
0	80	3.35	10.04
1	64	3.12	9.37
1	72	3.12	9.37
2	56	2.99	8.96
2	64	2.99	8.96
3	48	2.16	6.48
3	56	2.16	6.48
4	36	2.16	6.48
4	40	2.16	6.48
4	48	2.16	6.48
5	40	1.79	5.37
5	44	1.79	5.37
6	32	1.79	5.37
6	36	2.48	7.44
6	40	1.79	5.37
8	32	1.79	5.37
8	36	1.79	5.37
10	24	1.93	5.78
10	32	1.97	5.91
12	24	2.24	6.72
12	28	2.24	6.72
14	20	2.24	6.72
1/16	64	1.75	5.24
3/32	50	1.75	5.24
1/8	40	1.75	5.24
5/32	32	1.75	5.24
5/32	36	1.75	5.24
3/16	24	1.93	5.78
3/16	32	1.93	5.78
7/32	24	2.25	6.75
7/32	32	2.25	6.75
1/4	20	2.25	6.75
1/4	24	2.93	8.79
1/4	28	2.25	6.75
5/16	18	2.75	8.26
5/16	24	2.75	8.26

Size	Threads Per Inch	Price Each	
		Hand Taps 772CB	3 Pc. Set 772CB SET
3/8	16	3.08	9.23
3/8	24	3.08	9.23
7/16	14	4.04	12.12
7/16	20	4.04	12.12
1/2	13	4.64	13.91
1/2	20	4.64	13.91
9/16	12	6.29	18.87
9/16	18	6.29	18.87
5/8	11	6.98	20.93
5/8	18	6.98	20.93
11/16	11	8.91	26.73
11/16	16	8.91	26.73
3/4	10	9.92	29.75
3/4	16	9.92	29.75
7/8	9	13.91	41.72
7/8	14	13.91	41.72
1"	8	17.31	51.92
1"	12	17.31	51.92
1"	14	17.31	51.92
1-1/8	7	34.52	103.55
1-1/8	12	34.52	103.55
1-1/4	7	39.75	119.26
1-1/4	12	39.75	119.26
1-3/8	6	45.77	137.30
1-3/8	12	45.77	137.30
1-1/2	6	53.94	161.81
1-1/2	12	53.94	161.81
1-3/4	5	76.50	229.50
1-7/8*	12	95.00	—
2"	4-1/2	98.10	294.30
2-1/8	12	106.00	318.00
2-1/4	4-1/2	117.00	351.00
2-1/2	4	175.00	525.00
2-7/8	12	288.00	864.00
3"**	12	315.00	—

\*Plug Chamfer Only

## Sets

Sizes	Description	Pcs.	Set No.	Price
10-24, 1/4-20, 5/16-18, 3/8-16	NC Set	4	<b>772CBC</b>	9.50
10-32, 1/4-28, 5/16-24, 3/8-24	NF Set	4	<b>772CBF</b>	9.50



# TiN-Coated Carbon Steel Hand Taps



List No. **772CBT** – Plug Chamfer



Size	Threads Per Inch	Price Each
4	40	5.02
6	32	4.65
8	32	5.57
10	24	7.05

Size	Threads Per Inch	Price Each
10	32	7.09
12	24	7.81
14	20	8.05
1/4	20	7.82

Size	Threads Per Inch	Price Each
1/4	28	7.37
5/16	18	10.51
5/16	24	10.51
3/8	24	10.85

# Spiral Pointed Carbon Steel Taps



List No. **782CB** – Plug Chamfer

Size	Threads Per Inch	Price Each
4	40	2.54
5	40	2.54
6	32	2.54
6	40	2.54
8	32	2.54
10	24	2.54
10	32	2.54

Size	Threads Per Inch	Price Each
12	24	2.54
14	24	2.54
3/16	24	2.54
1/4	20	2.66
1/4	28	2.66
5/16	18	3.06
5/16	24	3.06

Size	Threads Per Inch	Price Each
3/8	16	3.56
3/8	24	3.56
7/16	14	4.95
7/16	20	4.95
1/2	13	6.12
1/2	20	6.12

# Metric Carbon Steel Taps



Please specify plug, bottoming, or taper chamfer when ordering.

List No. **773MCB** – Hand Taps

List No. **773MCB SET** – 3 Piece Set (P, T, B)

Size mm	Pitch mm	Price Each	
		Hand Taps 773MCB	3 Pc. Set 773MCB SET
3.00	.50	2.48	7.43
3.00	.60	2.48	7.43
4.00	.70	2.25	6.75
4.00	.75	2.25	6.75
5.00	.75	2.25	6.75
5.00	.80	2.25	6.75
5.00	.90	2.48	7.43
6.00	.75	2.48	7.43
6.00	1.00	2.48	7.43
7.00	1.00	2.93	8.78
8.00	1.00	3.11	9.32
8.00	1.25	3.11	9.32
9.00	.75	3.51	10.53
9.00	1.00	3.51	10.53
9.00	1.25	4.19	12.56
10.00	1.00	4.19	12.56
10.00	1.25	4.19	12.56
10.00	1.50	4.19	12.56
11.00	1.00	4.50	13.50
11.00	1.50	4.50	13.50
12.00	1.25	4.86	14.58

Size mm	Pitch mm	Price Each	
		Hand Taps 773MCB	3 Pc. Set 773MCB SET
12.00	1.50	4.86	14.58
12.00	1.75	4.86	14.58
13.00	1.75	6.75	20.25
14.00	1.25	6.75	20.25
14.00	1.50	6.75	20.25
14.00	2.00	6.75	20.25
16.00	1.50	8.55	25.65
16.00	2.00	8.55	25.65
18.00	1.50	11.48	34.43
18.00	2.50	11.48	34.43
20.00	1.50	13.50	40.50
20.00	2.50	13.50	40.50
22.00	1.50	18.00	54.00
22.00	2.50	18.00	54.00
24.00	1.50	22.50	67.50
24.00	3.00	22.50	67.50
27.00	2.00	28.35	85.05
27.00	3.00	28.35	85.05
30.00	2.00	37.80	113.40
30.00	3.50	37.80	113.40

# Tap Lubricants



## Professional Tap Lubricant Biodegradable

For metal & metal cutting applications

Size	Tool No.	Price Each
4 ounce	T0065	4.90
16 ounce	T0070	15.68
1 Gallon	T0075	94.08
5 Gallon	T0080	343.40
35 Gallon	T0085	1836.80
55 Gallon	T0090	3241.00

## Aluminum Formula Tap Lubricant

For Superior aluminum machining

Size	Tool No.	Price Each
4 ounce	T0035	4.90
16 ounce	T0040	15.68
1 Gallon	T0045	94.08
5 Gallon	T0050	343.40
35 Gallon	T0055	1836.80
55 Gallon	T0060	3241.00

## Standard Tap Lubricant

For metal & metal cutting applications

Size	Tool No.	Price Each
4 ounce	T0095	4.90
16 ounce	T0100	15.68
1 Gallon	T0105	94.08
5 Gallon	T0110	343.40
35 Gallon	T0115	1836.80
55 Gallon	T0120	3241.00

# Spiral Pointed Taps

High Speed Steel – Ground Thread



Spiral Pointed Taps are used to solve the problem of tap breakage in through hole tapping in a wide variety of materials. They shoot the chips ahead of the tap thereby reducing loading and clogging in the flutes.



MADE IN USA



MICHIGAN  
DRILL & CUTTING TOOLS

## Standard

List No. **780** – Plug Chamfer

List No. **780B** – Bottoming

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Plug 780	Bottoming 780B
0	80	H1	2	13.34	14.67
1	64	H1	2	13.34	14.67
1	72	H2	2	13.34	—
2	56	H2	2	10.30	11.33
2	64	H2	2	13.34	14.67
3	48	H2	2	8.22	9.04
3	56	H2	2	8.92	9.81
4	36	H2	2	9.20	10.12
4	40	H2	2	6.64	7.30
4	48	H2	2	7.68	8.45
5	40	H2	2	6.95	7.65
5	44	H2	2	7.95	8.75
6	32	H3	2	5.52	6.07
6	40	H2	2	6.28	6.91
8	32	H3	2	5.52	6.07
8	36	H2	2	6.28	6.91
10	24	H3	2	5.52	6.07
10	32	H3	2	5.52	6.07
12	24	H3	2	6.28	6.91
12	28	H3	2	6.28	6.91
1/4	20	H3	2	5.26	5.78

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Plug 780	Bottoming 780B
1/4	28	H3	2	5.26	5.78
5/16	18	H3	2	7.65	8.41
5/16	24	H3	2	7.65	8.41
3/8	16	H3	3	7.69	8.46
3/8	24	H3	3	7.69	8.46
7/16	14	H3	3	12.60	—
7/16	20	H3	3	12.60	—
1/2	13	H3	3	13.08	16.40
1/2	20	H3	3	13.08	—
9/16	12	H3	3	25.48	—
9/16	18	H3	3	25.48	—
5/8	11	H3	3	27.50	—
5/8	18	H3	3	27.50	—
3/4	10	H3	3	38.80	—
3/4	16	H3	3	38.80	—
7/8	9	H4	3	65.00	—
7/8	14	H4	3	65.00	—
1"	8	H4	3	88.00	—
1"	12	H4	3	88.00	—
1"	14	H4	3	88.00	—

## Optional Thread Limits

List No. **780H** – Plug Chamfer

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each
0	80	H2	2	13.34
1	64	H2	2	13.34
1	72	H1	2	13.34
2	56	H1	2	13.34
2	56	H3	2	13.34
2	64	H1	2	13.34
3	48	H1	2	9.20
3	56	H1	2	9.20
4	40	H1	2	8.65
4	48	H1	2	8.65
5	40	H1	2	8.65
5	44	H1	2	10.50
6	32	H1	2	6.50
6	32	H2	2	6.50
6	32	H6	2	6.50
6	40	H1	2	8.50
8	32	H1	2	6.50
8	32	H2	2	6.50
8	32	H5	2	6.50
8	36	H1	2	7.50
8	36	H3	2	7.50
10	24	H1	2	6.50
10	24	H2	2	6.50
10	24	H5	2	6.50
10	32	H1	2	6.50
10	32	H2	2	6.50
10	32	H4	2	6.50
10	32	H5	2	6.50
12	24	H1	2	7.00
12	24	H2	2	7.00
12	28	H1	2	7.00
1/4	20	H1	2	6.50
1/4	20	H2	2	6.50
1/4	20	H5	2	6.50
1/4	28	H1	2	6.50

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each
1/4	28	H2	2	6.50
1/4	28	H4	2	6.50
1/4	28	H5	3	6.50
5/16	18	H1	2	8.50
5/16	18	H2	2	8.50
5/16	18	H5	2	8.50
5/16	24	H1	2	8.50
5/16	24	H2	2	8.50
5/16	24	H4	2	8.50
5/16	24	H5	2	8.50
3/8	16	H1	3	9.24
3/8	16	H2	3	9.24
3/8	16	H5	3	9.24
3/8	24	H1	2	9.24
3/8	24	H2	3	9.24
3/8	24	H4	3	9.24
3/8	24	H7	3	9.24
7/16	14	H1	3	14.11
7/16	14	H2	3	14.11
7/16	14	H4	3	14.11
7/16	14	H5	3	14.11
7/16	20	H1	3	14.11
7/16	20	H2	3	14.11
7/16	20	H5	3	14.11
1/2	13	H1	3	16.87
1/2	13	H2	3	16.87
1/2	20	H1	3	16.87
1/2	20	H2	3	16.87
1/2	20	H5	3	16.87
9/16	12	H1	3	32.50
5/8	11	H5	3	33.40
3/4	10	H5	3	46.50
3/4	16	H5	3	46.50
7/8	9	H5	3	72.60
1"	8	H6	3	100.72

# Coated Spiral Pointed Taps

## High Speed Steel

### List No. 780ST – Surface Treated

Steam Oxide Coating produces a thin iron oxide surface which reduces friction between the tool and the chips, acting as a solid lubricant.

### List No. 780T – TiN Coated

Provides thin coating for wear and lubricity. Also increases tool life and productivity.



Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Steam Oxide 780ST	TiN Coated 780T
0	80	H1	2	14.20	18.00
1	64	H1	2	14.20	18.00
1	72	H2	2	14.20	18.00
2	56	H2	2	11.20	15.00
2	64	H2	2	14.40	15.72
3	48	H2	2	9.21	11.50
3	56	H2	2	9.21	11.50
4	36	H2	2	9.45	11.43
4	40	H2	2	7.30	11.43
4	48	H2	2	8.25	11.43
5	40	H2	2	7.50	11.43
5	44	H2	2	8.50	11.43
6	32	H3	2	6.20	9.63
6	40	H2	2	6.83	9.63
8	32	H3	2	6.20	9.63
8	36	H2	2	6.83	9.63
10	24	H3	2	6.20	9.63
10	32	H3	2	6.20	9.63
12	24	H3	2	6.83	10.98
12	28	H3	2	6.83	10.98
1/4	20	H3	2	6.10	10.98

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Steam Oxide 780ST	TiN Coated 780T
1/4	28	H3	2	6.10	10.98
5/16	18	H3	2	8.25	10.36
5/16	24	H3	2	8.25	10.36
3/8	16	H3	3	8.82	13.24
3/8	24	H3	3	8.82	21.16
7/16	14	H3	3	13.50	21.16
7/16	20	H3	3	13.50	21.20
1/2	13	H3	3	14.50	21.20
1/2	20	H3	3	14.50	21.20
9/16	12	H3	3	26.80	31.72
9/16	18	H3	3	26.80	31.72
5/8	11	H3	3	29.00	41.00
5/8	18	H3	3	29.00	41.00
3/4	10	H3	3	40.59	55.00
3/4	16	H3	3	40.59	55.00
7/8	9	H4	3	68.00	88.20
7/8	14	H4	3	68.00	88.20
1"	8	H4	3	91.00	123.30
1"	12	H4	3	91.00	123.30
1"	14	H4	3	91.00	123.30

# Metric Spiral Pointed Taps

## High Speed Steel – Ground Thread

### List No. 774M – Plug Chamfer



Size mm	Pitch mm	No. of Flutes	Hand Tap 774M
1.40	.30	2	19.34
1.50	.30	2	19.34
1.50	.35	2	24.03
1.60	.35	2	19.34
1.70	.20	2	19.34
1.70	.35	2	19.34
1.80	.35	2	19.34
2.00	.25	2	17.82
2.00	.40	2	17.82
2.00	.45	2	17.82
2.20	.45	2	14.22
2.30	.40	2	14.22
2.50	.45	2	14.22
2.50	.50	2	13.75
2.60	.35	2	13.75
2.60	.45	2	14.22
2.80	.45	2	14.22
3.00	.35	2	10.23
3.00	.50	2	10.23
3.00	.60	2	10.23
3.50	.50	2	8.81
3.50	.60	2	8.81
4.00	.35	2	10.23
4.00	.50	2	8.81
4.00	.70	2	8.81
4.50	.50	2	10.23
4.50	.75	2	8.81
5.00	.50	2	8.81
5.00	.75	2	8.81
5.00	.80	2	8.81

Size mm	Pitch mm	No. of Flutes	Hand Tap 774M
5.00	.90	2	8.81
5.00	1.00	2	8.81
5.50	.90	2	8.81
6.00	.50	2	10.23
6.00	.75	2	8.81
6.00	.80	2	8.81
6.00	1.00	2	8.81
6.30	1.00	2	8.81
7.00	.50	2	10.23
7.00	.75	2	10.23
7.00	1.00	2	10.23
8.00	.50	2	10.23
8.00	.75	2	10.23
8.00	1.00	2	10.23
8.00	1.25	2	10.23
8.00	1.50	2	10.23
9.00	.50	2	10.23
9.00	1.00	2	10.23
9.00	1.25	2	10.23
10.00	.50	3	16.90
10.00	.75	3	16.90
10.00	1.00	3	16.90
10.00	1.25	3	16.90
10.00	1.50	3	16.90
11.00	.50	3	16.90
11.00	.75	3	16.90
11.00	1.00	3	16.90
11.00	1.50	3	16.90
12.00	.50	3	20.70
12.00	.75	3	20.70

Size mm	Pitch mm	No. of Flutes	Hand Tap 774M
12.00	.80	3	20.70
12.00	1.00	3	20.70
12.00	1.25	3	20.70
12.00	1.50	3	20.70
12.00	1.75	3	20.70
13.00	.50	3	25.88
13.00	1.00	3	25.88
13.00	1.25	3	25.88
13.00	1.50	3	25.88
13.00	2.00	3	25.88
14.00	.50	3	31.37
14.00	.75	3	31.37
14.00	1.25	3	31.37
14.00	1.50	3	31.37
14.00	2.00	3	31.37
16.00	1.00	3	36.57
16.00	1.50	3	36.57
16.00	2.00	3	36.57
18.00	1.00	3	45.78
18.00	1.50	3	45.78
18.00	2.00	3	45.78
18.00	2.50	3	45.78
20.00	1.00	3	66.48
20.00	1.50	3	66.48
20.00	2.00	3	66.48
20.00	2.50	3	66.48
22.00	1.50	3	88.16
22.00	2.50	3	88.16
24.00	2.00	3	106.69
24.00	3.00	3	106.69

# Metric Hand Taps

High Speed Steel – Ground Thread



Please specify plug, bottoming or taper chamfer when ordering.

List No. 773M – Hand Taps

List No. 773M SET – 3 Piece Set (Plug, Bottoming, Taper)

**MDX**<sup>®</sup>  
SUPERIOR IMPORT

THREADING

Size mm	Pitch mm	No. of Flutes	Price Each	
			Hand Tap 773M	3 Pc. Set 773MSET
1.00	.20	2	21.15	63.45
1.00	.25	2	21.15	63.45
1.10	.25	2	21.15	63.45
1.20	.20	2	21.15	63.45
1.20	.25	2	21.15	63.45
1.40	.20	2	21.15	63.45
1.40	.30	2	21.15	63.45
1.50	.30	2	21.15	63.45
1.50	.35	2	21.15	63.45
1.60	.35	2	18.14	54.43
1.70	.20	2	18.14	54.43
1.70	.35	2	18.14	54.43
1.80	.35	2	18.14	54.43
2.00	.25	3	17.28	51.84
2.00	.35	3	17.28	51.84
2.00	.40	3	17.28	51.84
2.00	.45	3	17.28	51.84
2.20	.40	3	14.80	44.40
2.20	.45	3	11.52	34.56
2.30	.40	3	11.52	34.56
2.50	.45	3	10.62	31.86
2.50	.50	3	10.62	31.86
2.50	.55	3	14.80	44.40
2.60	.35	3	10.62	31.86
2.60	.45	3	10.62	31.86
2.80	.45	3	10.62	31.86
3.00	.35	3	8.82	26.46
3.00	.50	3	8.82	26.46
3.00	.60	3	7.29	21.87
3.50	.35	3	7.29	21.87
3.50	.50	3	7.29	21.87
3.50	.60	3	7.29	21.87
4.00	.35	4	8.28	24.84
4.00	.50	4	7.56	22.68
4.00	.70	4	7.29	21.87
4.00	.75	4	7.56	22.68
4.50	.50	4	7.56	22.68
4.50	.75	4	7.29	21.87
5.00	.50	4	7.56	22.68
5.00	.70	4	7.56	22.68
5.00	.75	4	7.56	22.68
5.00	.80	4	7.29	21.87
5.00	.90	4	7.56	22.68
5.00	1.00	4	7.56	22.68
5.50	.70	4	7.56	22.68
5.50	.90	4	7.56	22.68
6.00	.50	4	7.74	23.22
6.00	.75	4	7.74	23.22
6.00	1.00	4	7.74	23.22
6.30	1.00	4	8.37	25.11
7.00	.50	4	8.37	25.11
7.00	.75	4	8.37	25.11
7.00	1.00	4	8.37	25.11
7.00	1.25	4	8.37	25.11
8.00	.50	4	8.28	24.84
8.00	.75	4	8.28	24.84
8.00	1.00	4	8.28	24.84
8.00	1.25	4	8.28	24.84
8.00	1.50	4	8.34	25.03
8.50	1.50	4	10.88	32.64
9.00	.50	4	10.88	32.64
9.00	.75	4	10.88	32.64
9.00	1.00	4	10.88	32.64
9.00	1.25	4	10.88	32.64

Size mm	Pitch mm	No. of Flutes	Price Each	
			Hand Tap 773M	3 Pc. Set 773MSET
9.00	1.50	4	10.88	32.64
9.00	2.00	4	10.88	32.64
10.00	.50	4	11.79	35.37
10.00	.75	4	11.79	35.37
10.00	1.00	4	11.79	35.37
10.00	1.25	4	11.79	35.37
10.00	1.50	4	12.42	37.26
11.00	.50	4	15.83	47.49
11.00	.75	4	15.83	47.49
11.00	1.00	4	15.83	47.49
11.00	1.25	4	15.83	47.49
11.00	1.50	4	15.83	47.49
12.00	.50	4	18.90	56.70
12.00	.80	4	18.90	56.70
12.00	.75	4	18.90	56.70
12.00	1.00	4	18.90	56.70
12.00	1.25	4	18.90	56.70
12.00	1.50	4	18.90	56.70
12.00	1.75	4	18.90	56.70
13.00	.50	4	28.08	84.24
13.00	1.00	4	28.08	84.24
13.00	1.25	4	28.08	84.24
13.00	1.50	4	28.08	84.24
13.00	1.75	4	28.08	84.24
13.00	2.00	4	28.08	84.24
14.00	.50	4	28.08	84.24
14.00	.75	4	28.08	84.24
14.00	1.00	4	28.08	84.24
14.00	1.25	4	28.08	84.24
14.00	1.50	4	28.08	84.24
14.00	1.75	4	28.08	84.24
15.00	.50	4	34.44	103.33
15.00	1.00	4	34.44	103.33
15.00	1.25	4	34.44	103.33
15.00	1.50	4	34.44	103.33
15.00	2.00	4	34.44	103.33
16.00	.50	4	34.44	103.33
16.00	.75	4	34.44	103.33
16.00	1.00	4	34.44	103.33
16.00	1.25	4	34.44	103.33
16.00	1.50	4	34.44	103.33
16.00	1.75	4	34.44	103.33
16.00	2.00	4	34.44	103.33
16.00	2.50	4	34.44	103.33
17.00	.50	4	34.44	103.33
17.00	.75	4	46.26	138.78
17.00	1.00	4	46.26	138.78
17.00	1.50	4	46.26	138.78
17.00	2.00	4	46.26	138.78
18.00	.50	4	46.26	138.78
18.00	.75	4	46.26	138.78
18.00	1.00	4	46.26	138.78
18.00	1.25	4	46.26	138.78
18.00	1.50	4	46.26	138.78
18.00	1.75	4	46.26	138.78
18.00	2.00	4	46.26	138.78
18.00	2.50	4	46.26	138.78
19.00	.50	4	55.51	166.53
19.00	1.00	4	55.51	166.53
19.00	1.50	4	55.51	166.53
19.00	2.00	4	55.51	166.53
20.00	.75	4	62.90	188.70
20.00	1.00	4	62.90	188.70

Size mm	Pitch mm	No. of Flutes	Price Each	
			Hand Tap 773M	3 Pc. Set 773MSET
20.00	1.25	4	62.90	188.70
20.00	1.50	4	62.90	188.70
20.00	2.00	4	62.90	188.70
20.00	2.50	4	62.90	188.70
21.00	.75	4	68.75	206.24
21.00	1.00	4	68.75	206.24
21.00	1.50	4	68.75	206.24
21.00	2.00	4	68.75	206.24
21.00	2.50	4	68.75	206.24
22.00	1.00	4	65.48	196.43
22.00	1.50	4	65.48	196.43
22.00	2.00	4	65.48	196.43
22.00	2.50	4	65.48	196.43
23.00	1.00	4	78.58	235.74
23.00	1.50	4	78.58	235.74
23.00	2.00	4	78.58	235.74
23.00	2.50	4	78.58	235.74
23.00	3.00	4	78.58	235.74
24.00	1.00	4	84.05	252.15
24.00	1.25	4	84.05	252.15
24.00	1.50	4	84.05	252.15
24.00	2.00	4	84.05	252.15
24.00	3.00	4	84.05	252.15
25.00	1.00	4	147.56	442.67
25.00	1.50	4	147.56	442.67
25.00	2.00	4	147.56	442.67
25.00	3.00	4	147.56	442.67
26.00	1.50	4	147.56	442.67
26.00	2.00	4	147.56	442.67
27.00	1.00	4	108.45	325.35
27.00	1.50	4	108.45	325.35
27.00	2.00	4	108.45	325.35
27.00	2.50	4	108.45	325.35
27.00	3.00	4	102.51	325.35
28.00	1.50	4	177.47	532.41
28.00	2.00	4	177.47	532.41
28.00	3.00	4	177.47	532.41
30.00	1.00	4	177.47	532.41
30.00	1.50	4	177.47	532.41
30.00	2.00	4	177.47	532.41
30.00	2.50	4	177.47	532.41
30.00	3.00	4	177.47	532.41
30.00	3.50	4	177.47	532.41
32.00	1.50	4	189.32	567.95
32.00	2.00	4	177.47	532.41
32.00	3.50	4	189.32	567.95
33.00	1.50	4	241.73	725.19
33.00	2.00	4	189.32	567.95
33.00	3.00	4	189.32	567.95
33.00	3.50	4	189.32	567.95
34.00	1.50	4	241.73	725.19
34.00	2.00	4	241.73	725.19
35.00	1.00	4	241.73	725.19
35.00	1.50	4	241.73	725.19
36.00	1.50	4	241.73	725.19
36.00	2.00	4	241.73	725.19
36.00	3.00	4	241.73	725.19
36.00	4.00	4	241.73	725.19
38.00	1.00	4	319.25	957.74
38.00	1.50	4	319.25	957.74
38.00	4.00	4	319.25	957.74
39.00	1.50	4	319.25	957.74
39.00	2.00	6	319.25	957.74



# Metric Hand Taps

High Speed Steel – Ground Thread



Please specify plug, bottoming or taper chamfer when ordering.

List No. 773M – Hand Taps

List No. 773M SET – 3 Piece Set (Plug, Bottoming, Taper)



Size mm	Pitch mm	No. of Flutes	Price Each		Size mm	Pitch mm	No. of Flutes	Price Each		Size mm	Pitch mm	No. of Flutes	Price Each	
			Hand Tap 773M	3 Pc. Set 773MSET				Hand Tap 773M	3 Pc. Set 773MSET				Hand Tap 773M	3 Pc. Set 773MSET
39.00	4.00	6	319.25	957.74	45.00	4.50	6	410.40	1231.20	56.00	3.00	6	593.01	1779.03
40.00	1.50	6	410.40	1231.20	48.00	1.50	6	436.50	1309.50	56.00	3.50	6	593.01	1779.03
40.00	2.00	6	410.40	1231.20	48.00	2.00	6	436.50	1309.50	56.00	4.00	6	593.01	1779.03
40.00	4.00	6	410.40	1231.20	48.00	3.00	6	436.50	1309.50	56.00	5.00	6	593.01	1779.03
42.00	1.50	6	410.40	1231.20	48.00	4.50	6	436.50	1309.50	56.00	5.50	6	593.01	1779.03
42.00	2.00	6	410.40	1231.20	48.00	5.00	6	436.50	1309.50	64.00	1.50	6	895.00	2685.00
42.00	3.00	6	410.40	1231.20	50.00	1.50	6	436.50	1309.50	64.00	3.00	6	895.00	2685.00
42.00	4.50	6	410.40	1231.20	50.00	3.00	6	436.50	1309.50	64.00	6.00	6	895.00	2685.00
45.00	1.50	6	410.40	1231.20	52.00	1.50	6	539.10	1617.30	68.00	6.00	6	900.00	2700.00
45.00	2.00	6	410.40	1231.20	52.00	2.50	6	539.10	1617.30	72.00	3.00	6	1100.00	3300.00
45.00	3.00	6	410.40	1231.20	52.00	3.00	6	539.10	1617.30	72.00	6.00	6	1100.00	3300.00
45.00	4.00	6	410.40	1231.20	52.00	5.00	6	539.10	1617.30					

List No. 773MU – Hand Taps

List No. 773MUSET – 3 Piece Set (Plug, Bottoming, Taper)



Size mm	Pitch mm	No. of Flutes	Price Each		Size mm	Pitch mm	No. of Flutes	Price Each	
			Hand Tap 773MU	3 Pc. Set 773MUSET				Hand Tap 773MU	3 Pc. Set 773MUSET
1.60	.35	2	22.23	66.69	10.00	1.50	4	20.38	61.14
1.80	.35	2	22.23	66.69	12.00	1.25	4	24.40	73.20
2.00	.40	3	22.23	66.69	12.00	1.75	4	24.40	73.20
2.20	.45	2	24.50	73.50	14.00	1.50	4	36.21	108.63
2.50	.45	3	13.76	41.28	14.00	2.00	4	36.21	108.63
3.00	.50	3	13.28	39.84	16.00	1.50	4	44.36	133.08
3.50	.60	3	9.52	28.56	16.00	2.00	4	44.36	133.08
4.00	.70	3	9.52	28.56	18.00	1.50	4	59.64	178.92
4.50	.75	4	9.52	28.56	18.00	2.50	4	59.64	178.92
5.00	.80	4	10.00	30.00	20.00	1.50	4	81.02	243.06
6.00	1.00	4	10.00	30.00	20.00	2.50	4	81.02	243.06
6.30	1.00	4	10.89	32.67	22.00	1.50	4	84.33	252.99
7.00	1.00	4	10.89	32.67	22.00	2.50	4	84.33	252.99
8.00	1.00	4	10.89	32.67	24.00	2.00	4	108.25	324.75
8.00	1.25	4	10.89	32.67	24.00	3.00	4	108.25	324.75
10.00	1.25	4	20.38	61.14					

# Tap & Drill Metric Sets

High Speed Steel – Ground Thread



Metric Tap Sizes	Metric Drill Sizes	Pcs.	Description	Set No.	Price
3x0.5, 3.5x0.6, 4x0.7, 5x0.8, 6x1.0, 8x1.25, 10x1.5, 12x1.75	2.50, 2.90, 3.30, 4.20, 5.00, 6.75, 8.50, 10.25	16	U.S.A. in vinyl pouch	773S	139.00
2.5x.45, 3x.50, 3.5x.60, 4x.80, 5x80, 6x1.00, 8x1.25, 10x1.50, 12x1.75	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.50, 10.20	18	U.S.A. TiN Coated in Huot Metal Case	773MXT	224.95
2x.4, 2.5x.45, 3x.5, 3.5x.6, 4x.7, 5x.8, 6x1, 7x1, 8x1.25, 10x1.5, 12x1.75	—	33	Import in wood stand (P, B,&T)	773MA	339.00



THREADING

# COLORMAX™ High Performance Taps



THREADING

## Material Specific Color Band Taps

High Performance Taps are designed and manufactured for successful threading in a variety of part materials for high and low volume applications. These materials include aluminum, stainless steels, nickel alloys, titanium alloys, mold steels, irons, brass, bronze and plastics. Special geometries, tap surface treatments and premium steels interact to offer the

highest level of performance.

Special tool geometry creates less torque during tapping which allows better removal of chips so the tool can run cooler. CNC necked design taps increase the flow of coolant to the cutting teeth and reduces surface contact between the tool and the workpiece for more efficient threading.

### Blue Band - For General Ductile Materials

- For general machine tapping of mild carbon steels such as 1018, 1010, 1035, 1045, 1050 and 1065.
- Designed for high speed tapping applications.
- Developed to withstand high stress and high heat associated with high speed CNC production tapping.
- Up to 25HRc.

### Yellow Band - For Tough Materials

- Superior performance hardened tool steels such as 4140, 4340, H13, D2 and a new variety of stainless steels.
- Designed for high speed tapping applications.
- Developed to withstand high stress and high heat associated with high speed CNC production tapping.
- Up to 35HRc.

### Green Band - For All Types Of Aluminum

For all types of aluminum such as:

- Pure Aluminum,
- Aluminum Alloys
- Aluminum Alloy Castings
- Up to 38HRc



### Red Band - For High Tensile Materials

- Powdered metal taps offer superior toughness, lubricity and are made of super hard powder high speed steel.
- Used in heat resistant materials, high strength stainless steel and titanium alloys as well as other high tensile steels and alloys including tool steel and nickel alloy.
- Up to 48 HRc.

### Black Band - For Multi Purpose Use

For multiple uses in materials such as:

- Low Carbon Steel (>HRc16)
- Medium to High Carbon Steel (>HRc23)
- Free Machining Stainless Steel (>HRc23)
- and heat/corrosion stainless steel (>HRc24)
- Stainless Steel Castings (>38HRc)
- Aluminum, aluminum alloys, cast iron, copper and brass.

## Blue Band Taps

### 3% Vanadium M35 Cobalt Steel

#### For Mild Steels up to 25HRc

For general machine tapping of mild carbon steels such as 1018, 1010, 1035, 1045, 1050 and 1065. Designed for high speed tapping applications. Developed to withstand high stress and high heat associated with high speed CNC production tapping.

- List No. **750PB** – Spiral Point Oxide
- List No. **750APB**– Spiral Point Bright
- List No. **750FB** – Spiral Flute Oxide
- List No. **750AFB**– Spiral Flute Bright



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PB 750APB	750FB 750AFB
4	40	H2	2	7.07	13.91
6	32	H3	2	7.52	13.91
8	32	H3	3	7.52	17.25
10	24	H3	3	7.52	16.95
10	32	H3	3	7.52	16.95
1/4	20	H3	3	8.66	17.25
1/4	28	H3	3	8.66	17.25
5/16	18	H3	3	11.63	23.48
5/16	24	H3	3	11.63	23.48
3/8	16	H3	3	11.78	28.27
3/8	24	H3	3	11.78	28.27
7/16	14	H3	3	18.77	42.33
1/2	13	H3	3	21.20	46.21

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PB 750APB	750FB 750AFB
1/2	20	H3	3	21.20	46.21
5/8	11	H4	4	21.96	47.58
5/8	18	H4	4	21.96	47.58
3/4	16	H4	4	30.93	67.26
3/4	18	H4	4	30.93	67.26
7/8	9	H4	4	66.65	109.36
7/8	14	H4	4	66.65	109.36
1	8	H4	4	90.36	145.46
1	12	H4	4	90.36	145.46
1-1/8	7	H4	4	130.95	176.93
1-1/4	7	H4	4	140.60	189.92
1-3/8	6	H4	4	192.96	254.83
1-1/2	6	H4	4	254.45	290.85

# COLORMAX™ High Performance Taps



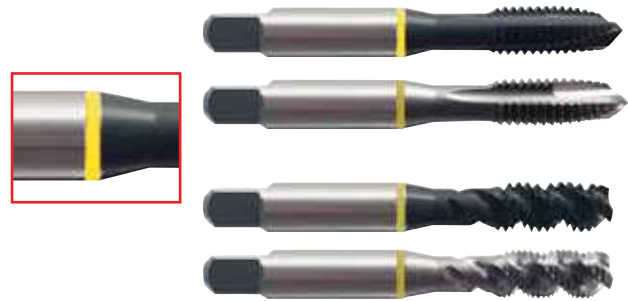
## Yellow Band Taps

**3% Vanadium M35 Cobalt Steel**

**For Tool, Stainless Steels up to 35HRc**

For superior performance hardened tool steels such as 4140, 4340, H13, D2 and a new variety of stainless steels. Designed for high speed tapping applications. Developed to withstand high stress and high heat associated with high speed CNC production tapping.

- List No. **750PY** – Spiral Point Oxide
- List No. **750APY**– Spiral Point Bright
- List No. **750FY** – Spiral Flute Oxide
- List No. **750AFY**– Spiral Flute Bright



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PY 750APY	750FY 750AFY
4	40	H2	2	10.26	15.81
6	32	H3	2	10.64	18.47
8	32	H3	3	10.64	18.47
10	24	H3	3	10.64	18.16
10	32	H3	3	10.64	18.16
1/4	20	H3	3	12.24	18.47
1/4	28	H3	3	12.24	18.47
5/16	18	H3	3	15.35	23.48
5/16	24	H3	3	15.35	23.48
3/8	16	H3	3	15.73	28.20
3/8	24	H3	3	15.73	28.20
7/16	14	H3	3	25.00	42.33
1/2	13	H3	3	28.20	46.21
1/2	20	H3	3	28.20	46.21
5/8	11	H4	4	29.11	50.62

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PY 750APY	750FY 750AFY
5/8	18	H4	4	29.11	50.62
3/4	16	H4	4	41.04	79.19
7/8	9	H4	4	88.84	116.51
7/8	14	H4	4	88.84	116.51
1	8	H4	4	120.46	155.27
1	12	H4	4	120.46	155.27
1-1/8	7	H4	4	174.50	235.83
1-1/8	12	H4	4	174.50	235.83
1-1/4	7	H4	4	187.42	253.16
1-1/4	12	H4	4	187.42	253.16
1-3/8	6	H4	4	257.34	339.72
1-3/8	12	H4	4	257.34	339.72
1-1/2	6	H4	4	339.19	387.68
1-1/2	12	H4	4	339.19	387.68

## Red Band Taps

**3% Vanadium Powdered Metal HSSV Steel**

**For Titanium, Inconel, Tool Steels up to 48 HRc**

Powdered metal taps offer superior toughness, lubricity and are made of super hard powder high speed steel. Used in: Heat resistant materials, high strength stainless steel and titanium alloys as well as other high tensile steels and alloys including tool steel and nickel alloy.

- List No. **750PR** – Spiral Point Oxide
- List No. **750APR**– Spiral Point Bright
- List No. **750FR** – Spiral Flute Oxide
- List No. **750AFR**– Spiral Flute Bright



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PR 750APR	750FR 750AFR
4	40	H2	2	25.76	33.59
6	32	H3	2	21.66	30.48
8	32	H3	3	21.66	30.10
10	24	H3	3	21.66	30.10
10	32	H3	3	21.66	30.10
1/4	20	H3	3	25.61	33.59
1/4	28	H3	3	25.61	33.59
5/16	18	H3	3	28.58	36.78
5/16	24	H3	3	28.58	36.78

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PR 750APR	750FR 750AFR
3/8	16	H3	3	32.60	42.48
3/8	24	H3	3	32.60	42.48
7/16	14	H3	3	46.36	59.43
1/2	13	H3	3	51.07	65.66
1/2	20	H3	3	51.07	65.66
5/8	11	H4	4	117.50	148.35
5/8	18	H4	4	117.50	148.35
3/4	16	H4	4	151.77	190.30
3/4	18	H4	4	151.77	190.30

# COLORMAX™ High Performance Taps



THREADING

## Material Specific Color Band Taps

High Performance Taps are designed and manufactured for successful threading in a variety of part materials for high and low volume applications. These materials include aluminum, stainless steels, nickel alloys, titanium alloys, mold steels, irons, brass, bronze and plastics. Special geometries, tap surface treatments and premium steels interact to offer the

highest level of performance.

Special tool geometry creates less torque during tapping which allows better removal of chips so the tool can run cooler. CNC necked design taps increase the flow of coolant to the cutting teeth and reduces surface contact between the tool and the workpiece for more efficient threading.

### Black Band Taps

#### 3% Vanadium M35 Cobalt Steel

#### For multiple uses in materials

such as Low Carbon Steel  
Medium to High Carbon Steel  
Free Machining Stainless Steel  
and heat/corrosion stainless steel  
Stainless Steel Castings

Aluminum, aluminum alloys, cast iron, copper and brass

List No. **750APK**– Spiral Point Bright

List No. **750AFK**– Spiral Flute Bright



Size	Thread Pitch	Thread Limit	Price Each	
			750APK	750AFK
4	40	H2	12.08	18.62
4	48	H2	12.08	18.62
5	40	H2	12.08	18.62
5	44	H2	12.08	18.62
6	32	H3	12.54	17.48
6	40	H3	11.86	17.48
8	32	H3	12.54	21.66
8	36	H3	12.54	21.66
10	24	H3	12.54	21.20
10	32	H3	12.54	21.20
12	24	H3	14.44	21.20
1/4	20	H4	14.44	21.66
1/4	28	H5	14.44	21.66
5/16	18	H4	18.01	27.51
5/16	24	H5	18.01	27.51
3/8	16	H5	18.47	33.14

Size	Thread Pitch	Thread Limit	Price Each	
			750APK	750AFK
3/8	24	H4	18.47	33.14
7/16	14	H5	29.41	49.63
7/16	20	H5	29.41	49.63
1/2	13	H5	33.36	58.14
1/2	20	H5	33.36	58.14
9/16	12	H5	32.38	53.12
9/16	18	H5	32.38	53.12
5/8	11	H5	34.12	59.43
5/8	18	H5	34.12	59.43
3/4	10	H5	48.18	93.02
3/4	16	H5	48.18	93.02
7/8	9	H6	104.35	136.80
7/8	14	H6	104.35	136.80
1	8	H6	141.44	182.17
1	12	H6	141.44	182.17

### Green Band Taps

#### High Vanadium Steel

#### For all types of aluminum up to 38HRc

such as pure aluminum, aluminum alloys & castings

List No. **750APG**– Spiral Point Bright

List No. **750AFG**– Spiral Flute Bright



Size	Thread Pitch	Thread Limit	Price Each	
			750APG	750AFG
4	40	H2	14.90	22.88
6	32	H3	15.43	21.58
6	40	H3	14.59	21.58
8	32	H3	15.43	26.75
8	36	H3	15.43	26.75
10	24	H3	15.43	26.22
10	32	H3	15.43	26.22
12	24	H3	11.65	21.00
12	32	H3	11.65	21.00
1/4	20	H4	17.71	26.75
1/4	28	H5	17.71	26.75
5/16	18	H4	22.19	33.90
5/16	24	H5	22.19	33.90

Size	Thread Pitch	Thread Limit	Price Each	
			750APG	750AFG
3/8	16	H5	22.72	40.81
3/8	24	H4	22.72	40.81
7/16	14	H5	36.18	56.00
7/16	20	H5	36.18	56.00
1/2	13	H5	40.81	66.88
1/2	20	H5	40.81	66.88
5/8	11	H5	42.03	73.19
5/8	18	H5	42.03	73.19
3/4	10	H5	59.36	114.53
3/4	16	H5	59.36	114.53
7/8	9	H6	128.52	168.49
7/8	14	H6	128.52	168.49
1	8	H6	174.19	224.43

## Metric Blue Band Taps

**3% Vanadium M35 Cobalt Steel**

**For Mild Steels up to 25HRc**

For general machine tapping of mild carbon steels such as 1018, 1010, 1035, 1045, 1050 and 1065. Designed for high speed tapping applications. Developed to withstand high stress and high heat associated with high speed CNC production tapping.

- List No. **750PB** – Spiral Point Oxide
- List No. **750APB**– Spiral Point Bright
- List No. **750FB** – Spiral Flute Oxide
- List No. **750AFB**– Spiral Flute Bright



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PB 750APB	750FB 750AFB
M2	.40	D3	2	17.56	17.56
M2.5	.50	D3	2	16.00	21.00
M3	.50	D3	2	11.86	19.84
M3.5	.60	D4	2	8.66	19.84
M4	.70	D4	3	8.66	19.84
M4.5	.75	D4	3	8.66	19.84
M5	.80	D4	3	9.96	19.84
M6	1.00	D5	3	9.96	19.84
M7	1.00	D5	3	13.60	32.60
M8	1.00	D5	3	13.60	32.60
M8	1.25	D5	3	13.60	32.60
M10	1.25	D5	3	21.43	48.64
M10	1.50	D6	3	21.43	48.64
M12	1.25	D5	3	24.55	53.28
M12	1.75	D6	3	24.55	53.28

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PB 750APB	750FB 750AFB
M14	1.50	D6	3	36.63	67.26
M15	2.00	D7	3	40.00	75.00
M16	1.50	D6	3	43.17	80.10
M16	2.00	D7	3	43.17	80.10
M18	1.50	D6	3	52.82	116.05
M18	2.50	D7	3	52.82	116.05
M20	1.50	D5	3	68.78	136.80
M20	2.50	D6	3	68.78	136.80
M22	1.50	D6	3	82.08	147.90
M22	2.50	D6	3	82.08	147.90
M24	1.50	D6	3	95.38	158.92
M24	3.00	D7	3	95.38	158.92
M27	1.50	D7	4	122.44	206.57
M27	3.00	D7	4	122.44	206.57
M30	3.50	D7	4	140.60	221.69

## Metric Yellow Band Taps

**3% Vanadium M35 Cobalt Steel**

**For Tool, Stainless Steels up to 35HRc**

For superior performance hardened tool steels such as 4140, 4340, H13, D2 and a new variety of stainless steels. Designed for high speed tapping applications. Developed to withstand high stress and high heat associated with high speed CNC production tapping.

- List No. **750PY** – Spiral Point Oxide
- List No. **750APY**– Spiral Point Bright
- List No. **750FY** – Spiral Flute Oxide
- List No. **750AFY**– Spiral Flute Bright



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PY 750APY	750FY 750AFY
M2	.40	D3	2	25.00	11.50
M3	.50	D3	2	16.95	21.05
M3.5	.60	D4	2	12.24	21.05
M4	.70	D4	3	12.24	21.05
M4.5	.75	D4	3	12.24	21.05
M5	.80	D4	3	14.21	21.05
M6	1.00	D4	3	14.21	21.05
M7	1.00	D5	3	18.09	32.60
M8	1.00	D5	3	18.09	32.60
M8	1.25	D5	3	18.09	32.60
M10	1.25	D5	3	28.73	48.64
M10	1.50	D6	3	28.73	48.64
M12	1.25	D5	3	32.53	53.28

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PY 750APY	750FY 750AFY
M12	1.75	D6	3	32.53	53.28
M14	1.50	D6	3	48.64	67.26
M15	2.00	D7	3	43.00	75.00
M16	1.50	D6	3	57.38	85.50
M16	2.00	D7	3	57.38	85.50
M18	1.50	D6	3	70.45	123.80
M18	2.50	D7	3	70.45	123.80
M20	1.50	D5	3	91.66	145.77
M20	2.50	D6	3	91.66	145.77
M22	1.50	D6	3	109.44	157.78
M22	2.50	D6	3	109.44	157.78
M24	1.50	D6	3	127.00	169.63
M24	3.00	D7	3	127.00	169.63



# COLORMAX™ High Performance Taps



THREADING

## Metric Red Band Taps

**3% Vanadium Powdered Metal HSSV Steel  
For Titanium, Inconel, Tool Steels up to 48 HRc**

Used in: Heat resistant materials, high strength stainless steel and titanium alloys as well as other high tensile steels and alloys including tool steel and nickel alloy.

- List No. **750PR** – Spiral Point Oxide
- List No. **750APR**– Spiral Point Bright
- List No. **750FR** – Spiral Flute Oxide
- List No. **750AFR**– Spiral Flute Bright

## Metric Black Band Taps

**3% Vanadium M35 Cobalt Steel  
For multiple uses in materials**

such as Low Carbon Steel, Medium to High Carbon Steel, Free Machining Stainless Steel, and heat/corrosion stainless steel, Stainless Steel Castings, Aluminum, aluminum alloys, cast iron, copper and brass

- List No. **750APK**– Spiral Point Bright
- List No. **750AFK**– Spiral Flute Bright

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750APK	750AFK
M3	.50	D3	2	19.91	24.78
M3.5	.60	D4	2	14.44	24.78
M4	.70	D4	3	14.44	24.78
M5	.80	D4	3	16.72	24.78
M6	1.00	D5	3	16.72	24.78
M7	1.00	D5	3	21.20	38.23
M8	1.00	D5	3	21.20	38.23
M8	1.25	D5	3	21.20	38.23
M10	1.25	D5	3	33.74	57.15
M10	1.50	D6	3	33.74	57.15
M12	1.25	D5	3	38.23	62.47
M12	1.75	D6	3	38.23	62.47

Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750PR 750APR	750FR 750AFR
M3	.50	D3	2	17.48	28.73
M4	.70	D4	3	13.22	29.11
M5	.80	D4	3	15.73	29.64
M6	1.00	D5	3	16.87	31.01
M8	1.25	D5	3	22.27	47.58
M10	1.25	D5	3	35.80	71.90
M10	1.50	D6	3	35.80	71.90
M12	1.25	D5	3	43.55	81.85



Size	Thread Pitch	No. of Flutes	Thread Limit	Price Each	
				750APK	750AFK
M14	1.50	D6	3	57.15	78.96
M15	2.00	D7	3	62.00	92.00
M16	1.50	D6	3	67.41	100.40
M16	2.00	D7	3	67.41	100.40
M18	1.50	D6	3	82.69	145.24
M18	2.50	D7	3	82.69	145.24
M20	1.50	D5	3	107.62	171.15
M20	2.50	D6	3	107.62	171.15
M22	1.50	D6	3	128.44	185.21
M22	2.50	D6	3	128.44	185.21
M24	1.50	D6	3	135.00	190.00
M24	3.00	D7	3	149.04	199.04

# Spiral Fluted Taps

High Speed Steel



- List No. **776** – Fast Spiral, 52° Helix Angle
- List No. **776SL** – Slow Spiral, 30° Helix Angle

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Fast Spiral 776	Slow Spiral 776SL
2	64	H2	2	17.64	—
3	48	H2	2	17.64	19.60
3	56	H2	2	17.64	19.60*
4	40	H2	2	14.58	14.58
4	48	H2	2	14.58	14.58*
5	40	H2	2	14.58	14.58
5	44	H2	2	14.58	14.58*
6	32	H1	2	14.09	—
6	32	H3	2	11.93	11.93
6	40	H2	2	14.09	14.76
8	32	H3	3	11.93	11.93
8	36	H2	3	14.09	14.10
10	32	H2	3	14.09	—
10	24	H3	3	11.93	11.93
10	32	H3	3	11.93	11.93
12	24	H3	3	12.92	12.90
12	28	H3	3	12.92	12.90
M3.5	.60	D4	3	17.91	—
M4	.50	D4	3	17.91	—
M4	.70	D4	3	17.91	—
M5	.80	D4	3	17.91	—
M6	1.00	D5	3	17.91	18.00
M8	1.25	D5	3	17.91	—
M10	1.50	D6	3	24.12	—
M12	1.25	D6	3	33.75	—
M12	1.50	D6	3	—	34.00
M12	1.75	D6	3	37.50	—
1/4	20	H3	3	12.56	13.06



**MDX**  
SUPERIOR IMPORT

Please specify plug or bottoming when ordering.

Size	Threads Per Inch	Thread Limits	No. of Flutes	Price Each	
				Fast Spiral 776	Slow Spiral 776SL
1/4	20	H5	3	14.31	—
1/4	28	H1	3	14.31	—
1/4	28	H3	3	12.56	13.06
5/16	18	H3	3	15.98	18.42
5/16	18	H5	3	17.28	—
5/16	24	H3	3	15.98	19.14
3/8	16	H3	3	18.36	21.06
3/8	24	H3	3	18.36	19.36
7/16	14	H3	3	27.45	29.00
7/16	14	H5	3	29.00	—
7/16	20	H3	3	27.45	34.66
1/2	13	H3	3	33.08	34.66
1/2	13	H5	3	39.00	—
1/2	20	H3	3	33.08	34.66
1/2	20	H5	3	39.00	42.00
9/16	12	H3	4	41.16	—
9/16	12	H4	3	41.16	—
9/16	18	H3	3	41.16	—
9/16	18	H5	3	47.40	51.40
5/8	11	H3	3	49.23	51.00
5/8	18	H3	4	49.23	51.00
11/16	11	H3	4	49.23	—
11/16	16	H3	4	49.23	—
3/4	10	H3	4	58.72	68.64
3/4	16	H3	4	58.72	68.64*
7/8	14	H3	4	72.00	—
1"	8	H4	4	102.27*	—
1"	14	H4	4	102.27	—

\* Available in Plug Chamfer Only

# Cobalt Spiral Pointed Taps

Ground Thread



List No. 780C – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
2	56	2	25.20
2	64	2	28.80
3	48	2	25.20
3	56	2	28.80
4	40	2	18.00
5	40	2	18.00
5	44	2	25.20
6	32	2	12.56
6	40	2	18.00
8	32	2	12.56
8	36	2	18.00
10	24	2	12.56
10	32	2	12.56
12	24	2	18.00

Size	Threads Per Inch	No. of Flutes	Price Each
12	28	2	18.00
1/4	20	3	16.65
1/4	28	3	18.00
5/16	18	3	18.45
5/16	24	3	19.80
3/8	16	3	21.06
3/8	24	3	23.40
7/16	14	3	29.88
7/16	20	3	32.40
1/2	13	3	34.20
1/2	20	3	38.70
5/8	11	3	76.46
3/4	10	3	117.00



# Solid Carbide Taps

Micro Grain – Ground Thread

List No. CT770 – Hand Tap, Plug Chamfer

List No. CT780 – Spiral Pointed, Plug Chamfer



Size	Threads Per Inch	Thread Limits	Price Each	
			Hand Tap CT770	Spiral Pointed CT780
6	32	H3	154.00	162.42
8	32	H3	158.40	166.17
10	24	H3	161.92	168.85
10	32	H3	161.92	168.85
1/4	20	H3	183.32	207.43

Size	Threads Per Inch	Thread Limits	Price Each	
			Hand Tap CT770	Spiral Pointed CT780
5/16	18	H3	209.00	231.00
3/8	16	H3	260.70	301.40
7/16	14	H3	423.50	—
1/2	13	H3	462.00	—
5/8	11	H3	667.15	—

# Chipless Thread Forming Taps

High Speed Steel – Ground Thread

List No. 783

Chipless tapping is a cold forming process accomplished without cutting. Threads produced are stronger than conventional cut threads because of the swaging and work hardening effect. This process helps reduce tap breakage and permits faster tapping speeds.

Please specify plug or bottoming chamfer.



Size	Threads Per Inch	Thread Limits	Price Each
0*	80	H1	17.37
1*	64	H1	17.37
1*	72	H2	17.37
2*	56	H2	17.26
2*	64	H2	17.26
3*	48	H2	17.26
3*	56	H2	17.26
4	40	H3	15.59
4	48	H3	15.59
5	40	H3	15.59
5	44	H3	15.59
6	32	H3	12.82
6	40	H3	12.82
6	48*	H3	12.82
8	32	H3	12.82
8	36	H3	12.82
10	24	H4	12.82
10	32	H4	12.82
12	24	H4	13.59

Size	Threads Per Inch	Thread Limits	Price Each
12	28	H4	13.59
1/4	20	H4	13.59
1/4	28	H4	13.59
5/16	18	H5	15.15
5/16	24	H5	15.15
9mm	1.00mm	H5	17.26
3/8	16	H5	17.26
3/8	24	H5	17.26
7/16	14	H5	23.85
7/16	20	H5	23.85
1/2	13	H5	29.48
1/2	20	H5	29.48
9/16	12	H5	33.75
9/16	18	H5	33.75
5/8	11	H5	42.03
5/8	18	H5	42.03
3/4	10	H5	54.69
3/4	16	H5	54.69

\* Available in bottoming only.

# Oversize Hand Taps

High Speed Steel



Primarily used where a part will be plated or heat treated after tapping



THREADING

## +.0025 & +.0030

List No. 775R – Plug Chamfer

Size	Threads Per Inch	+ Size	No. of Flutes	Price Each
0	80	.0025	2	25.18
1	64	.0025	2	24.05
1	72	.0025	2	24.05
2	56	.0030	3	23.36
2	64	.0030	3	23.36
3	48	.0030	3	23.36

Size	Threads Per Inch	+ Size	No. of Flutes	Price Each
3	56	.0030	3	23.36
4	36	.0030	3	17.12
4	40	.0030	3	17.12
4	48	.0030	3	17.12
5	40	.0030	3	15.55
5	44	.0030	3	15.55

## +.0050

List No. 775 – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
2	56	3	8.10
4	40	3	8.10
5	40	3	8.10
6	32	3	7.52
6	40	3	7.52
8*	32	4	7.52
8	36	4	7.52
10*	24	4	7.52
10	32	4	7.52
12*	24	4	7.37
12	28	4	7.37
1/4*	20	4	7.37
1/4*	28	4	9.35
5/16	18	4	9.35

Size	Threads Per Inch	No. of Flutes	Price Each
5/16	24	4	9.35
3/8	16	4	10.70
3/8	24	4	10.70
7/16	14	4	16.10
7/16	20	4	16.10
1/2*	13	4	17.96
1/2	20	4	17.96
9/16	12	4	29.96
9/16	18	4	29.96
5/8	11	4	34.01
5/8	18	4	34.01
3/4	10	4	44.96
3/4	16	4	44.96
7/8	9	4	53.96

Size	Threads Per Inch	No. of Flutes	Price Each
7/8	14	4	53.96
1	8	4	62.44
1	12	4	62.44
1	14	4	62.44
1-1/8	12	4	67.43
1-1/4	7	4	71.03
1-1/4	12	4	71.03
4mm	.70	4	11.75
5mm	.80	4	11.75
6mm	1.00	4	11.75
8mm	1.25	4	13.64
10mm	1.50	4	22.54
12mm	1.75	4	27.60
16mm	2.00	4	48.76

\*ALSO AVAILABLE BOTTOMING CHAMFER

## +.0100

List No. 775N – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
6	32	3	8.66
6	40	3	8.66
8	32	4	8.66
8	36	4	8.66
10	24	4	9.06
10	32	4	9.06
12	24	4	9.78
12	28	4	9.78
1/4	20	4	8.66
1/4	28	4	10.44
5/16	18	4	12.36
5/16	24	4	12.36

Size	Threads Per Inch	No. of Flutes	Price Each
3/8	16	4	14.83
3/8	24	4	14.83
7/16	14	4	19.28
7/16	20	4	19.28
1/2	13	4	22.18
1/2	20	4	22.18
9/16	12	4	34.80
9/16	18	4	34.80
5/8	18	4	41.88
3/4	10	4	57.96
3/4	16	4	57.96
7/8	9	4	64.45

Size	Threads Per Inch	No. of Flutes	Price Each
7/8	14	4	64.45
1	8	4	85.89
1	12	4	86.89
1	14	4	86.89
1-1/8	7	4	101.14
1-1/8	12	4	101.14
1-1/4	7	4	130.96
1-1/4	12	4	130.96
1-3/8	6	4	158.62
1-3/8	12	6	158.62
1-1/2	6	4	184.26
1-1/2	12	6	184.26

## +.0150

List No. 775W – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
1-1/8	7	4	111.23
1-1/8	12	4	111.23
1-1/4	7	4	144.00

Size	Threads Per Inch	No. of Flutes	Price Each
1-1/4	12	6	144.00
1-3/8	6	4	174.50
1-3/8	12	6	174.50

Size	Threads Per Inch	No. of Flutes	Price Each
1-1/2	6	4	204.95
1-1/2	12	6	204.95

## +.0050 Sets

Sizes	Description	Pcs.	Set No.	Price
NC 6-32 to 1/2-13 & 10-32 Excludes 7/16	Hand Tap Set	8	775S	82.98
NC 6-32 to 1/2-13 & 10-32 Excludes 7/16	Combination Hand & Spiral	16	785A	171.98

All sets are supplied in wood block



# Spiral Pointed Oversize Taps

High Speed Steel



Primarily used where a part will be plated or heat treated after tapping



## +0.0025 & +0.0030

List No. 784 – Plug Chamfer

Size	Threads Per Inch	+ Size	No. of Flutes	Price Each
0	80	.0025	2	21.44
1	64	.0025	2	20.59
1	72	.0025	2	20.59
2	56	.0030	2	19.60

Size	Threads Per Inch	+ Size	No. of Flutes	Price Each
2	64	.0030	2	19.60
3	48	.0030	2	16.76
3	56	.0030	2	16.76
4	36	.0030	2	14.54

Size	Threads Per Inch	+ Size	No. of Flutes	Price Each
4	40	.0030	2	14.54
4	48	.0030	2	14.54
5	40	.0030	2	13.12
5	44	.0030	2	13.12

## +0.0050

List No. 785 – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
2	56	2	10.16
4	40	2	10.16
4	48	2	10.16
5	40	2	10.16
6	32	2	9.89
6	40	2	9.89
8*	32	2	9.89
8	36	2	9.89
10*	24	2	9.89
10	32	2	9.89
12*	24	2	9.05

Size	Threads Per Inch	No. of Flutes	Price Each
12	28	2	9.05
1/4*	20	2	8.53
1/4*	28	2	8.53
5/16	18	2	9.80
5/16	24	2	9.80
5/16	32	2	12.80
3/8	16	3	11.14
3/8	24	3	11.14
7/16	14	3	17.98
7/16	20	3	17.98
1/2*	13	3	19.97

Size	Threads Per Inch	No. of Flutes	Price Each
1/2	20	3	19.97
9/16	12	3	30.94
9/16	18	3	30.94
5/8	11	3	34.10
5/8	18	3	34.10
3/4	10	3	44.96
3/4	16	3	44.96
7/8	9	3	56.23
7/8	14	3	56.23
1	8	3	62.99
1	12	3	62.99
1	14	3	62.99

\*AVAILABLE BOTTOMING AT SAME PRICE AS PLUG.

## +0.0100

List No. 786 – Plug Chamfer

Size	Threads Per Inch	No. of Flutes	Price Each
6	32	2	11.59
6	40	2	11.59
8	32	2	11.59
8	36	2	11.59
10	24	2	10.63
10	32	2	10.63

Size	Threads Per Inch	No. of Flutes	Price Each
12	24	2	10.75
12	28	2	10.75
1/4	20	2	10.51
1/4	28	2	10.51
5/16	18	2	12.36
5/16	24	2	12.36

Size	Threads Per Inch	No. of Flutes	Price Each
3/8	16	2	14.83
3/8	24	2	14.83
7/16	14	2	24.10
7/16	20	2	24.10
1/2	13	2	27.72
1/2	20	2	27.72

## +0.0050 Sets

Sizes	Description	Pcs.	Set No.	Price
NC 6-32 to 1/2-13 & 10-32 Excludes 7/16	Spiral Point Set	8	785S	96.52

All sets are supplied in wood block



# Screw Thread Insert Taps

High Speed Steel

STI Taps are oversized to accommodate a helical coil wire screw thread insert, to accept a screw thread of nominal size and pitch.

List No. 770STI – Hand Tap, Plug or Bottoming

List No. 780STI – Spiral Pointed Tap, Plug Chamfer

List No. 766STI – Fast Spiral Taps, Bottoming



Size	T.P.I.	Hand Taps 770STI		Spiral Pointed 780STI		Fast Spiral 766STI	
		No. of Flutes	Price Each	No. of Flutes	Price Each	No. of Flutes	Price Each
2	56	3	19.70	—	—	2	26.00
3	56	3	19.70	—	—	—	—
4	40	3	19.70	2	20.88	2	26.00
4	48	3	19.70	—	—	—	—
5	40	3	19.70	—	—	2	26.00
6	32	3	19.70	2	20.88	2	26.00
8	32	3	19.70	2	20.88	3	26.00
8	36	3	19.70	—	—	—	—
10	24	3	21.14	2	22.41	3	26.00
10	32	3	21.14	2	22.41	3	26.00
12	24	3	21.77	—	—	—	—
1/4	20	3	21.77	2	23.08	3	28.00
1/4	28	3	21.77	2	23.08	3	28.00
5/16	18	4	23.66	3	25.08	3	32.50
5/16	24	4	23.66	3	25.08	3	32.50

Size	T.P.I.	Hand Taps 770STI		Spiral Pointed 780STI		Fast Spiral 766STI	
		No. of Flutes	Price Each	No. of Flutes	Price Each	No. of Flutes	Price Each
3/8	16	4	29.23	3	30.99	3	45.00
3/8	24	4	29.23	3	30.99	3	45.00
7/16	14	4	36.07	3	38.23	3	49.75
7/16	20	4	36.07	3	38.23	3	49.75
1/2	13	4	40.76	3	43.21	3	64.80
1/2	20	4	40.76	3	43.21	3	64.80
9/16	12	4	44.96	—	—	—	—
5/8	11	4	55.00	—	—	3	88.00
3/4	10	4	79.00	—	—	—	—
7/8	9	4	119.00	—	—	—	—
7/8	14	4	119.00	—	—	—	—
1	8	4	149.00	—	—	—	—
1	12	4	149.00	—	—	—	—
1-1/8	7	4	158.00	—	—	—	—
1-1/4	12	4	165.00	—	—	—	—

Please specify plug or bottoming chamfer when ordering.

# Pulley Taps

High Speed Steel – Ground Thread



List No. **795** – Hand Taps, Plug Chamfer

Used for extended reach tapping applications.  
Shank diameter same as nominal diameter



Size	Threads Per Inch	No. of Flutes	Price Each			
			6" OAL	8" OAL	10" OAL	12" OAL
2	64	4	32.00	—	—	—
3	48	4	32.00	—	—	—
3	56	4	32.00	—	—	—
4	36	4	32.00	—	—	—
4	40	4	32.00	—	—	—
4	48	4	32.00	—	—	—
5	40	4	32.00	—	—	—
5	44	4	32.00	—	—	—
5	48	4	39.50	—	—	—
6	32	4	30.02	39.38	—	—
6	40	4	30.02	—	—	—
8	32	4	30.02	39.38	—	—
8	36	4	30.02	—	—	—
10	24	4	30.02	39.38	—	—
10	32	4	30.02	39.38	—	—
12	24	4	34.20	—	—	—
12	28	4	34.20	—	—	—
1/4	20	4	34.20	41.76	52.20	70.80
1/4	28	4	*34.20	41.76	52.20	70.80
5/16	18	4	*35.87	42.93	55.80	70.80
5/16	24	4	*35.87	42.93	55.80	70.80
3/8	16	4	*40.37	47.97	60.08	80.96
3/8	24	4	40.37	47.97	60.08	80.96
3/8	32	4	44.85	—	—	—

Size	Threads Per Inch	No. of Flutes	Price Each			
			6" OAL	8" OAL	10" OAL	12" OAL
7/16	14	4	*42.93	56.25	66.15	82.44
7/16	20	4	42.93	56.25	66.15	82.44
1/2	13	4	43.29	56.25	68.40	85.00
1/2	20	4	43.29	56.25	68.40	85.00
9/16	12	4	50.20	65.00	83.00	98.00
9/16	18	4	50.20	65.00	83.00	98.00
5/8	11	4	57.87	73.80	92.70	108.00
5/8	18	4	57.87	73.80	92.70	108.00
5/8	24	4	—	110.00	—	—
11/16	16	4	78.75	—	—	—
3/4	10	4	78.75	96.30	109.22	120.60
3/4	16	4	78.75	96.30	109.22	120.60
7/8	9	4	130.00	145.00	166.85	179.10
7/8	14	4	130.00	145.00	166.85	179.10
1	8	4	—	182.95	195.80	255.06
1	14	4	—	182.95	216.00	288.00
1-1/8	7	4	195.80	—	—	290.00
1-1/8	12	4	—	—	259.00	290.00
1-1/4	7	4	—	—	—	322.00
1-1/4	12	6	—	—	—	322.00
1-3/8	6	4	—	—	324.00	365.00
1-3/8	12	6	—	265.50	—	368.00
1-1/2	6	4	—	—	—	375.00
1-1/2	12	6	—	—	—	381.00

\* Bottoming also available

## Metric Sizes

List No. **795M** – 6" Overall Length, Plug Chamfer

Size	Threads Per Inch	Price Each
4.00	0.70	37.80
5.00	0.80	37.80
6.00	1.00	40.50
7.00	1.00	42.30

Size	Threads Per Inch	Price Each
8.00	1.25	44.10
10.00	1.50	49.50
12.00	1.75	55.80

# Extension Pulley Taps

High Speed Steel – Ground Thread



Similar to a pulley taps but with a undercut shank diameter for deeper tapping applications.



List No. **795EX** – Hand Tap

List No. **796EX** – Spiral Point

Size	Threads Per Inch	Overall Length	Price Each	
			Hand Tap 795EX	Spiral Pointed 796EX
4	40	4	—	31.02
5	40	4	—	31.02
6	32	4	—	31.02
6	32	6	—	34.22
6	40	4	—	31.94
8	32	4	—	31.94
8	32	6	—	34.22
8	36	4	—	31.94
10	24	4	—	31.94
10	24	6	33.30	34.22
10	32	4	—	31.94
10	32	6	33.30	34.22
12	24	6	—	36.72

Size	Threads Per Inch	Overall Length	Price Each	
			Hand Tap 795EX	Spiral Pointed 796EX
1/4	20	6	32.54	36.72
1/4	28	6	32.54	36.72
5/16	18	6	33.84	38.16
5/16	24	6	—	38.16
3/8	16	6	38.25	43.09
3/8	24	4	—	39.00
3/8	24	6	—	43.09
7/16	14	6	—	46.17
7/16	20	6	—	46.17
1/2	13	6	40.50	46.17
1/2	13	12	—	63.56
1/2	20	5	—	41.20
1/2	20	6	—	46.17



# Spiral Pointed Pulley Taps

High Speed Steel – Ground Thread



List No. 796 – Spiral Pointed, Plug Chamfer

Shank diameter same as nominal diameter

Size	Threads Per Inch	No. of Flutes	Overall Length	Price Each
2	56	2	6	28.97
2	64	2	6	28.97
3	48	2	4	26.50
3	48	2	6	28.97
3	56	2	6	28.97
4	36	2	6	28.97
4	40	2	4	26.50
4	40	2	6	30.00
4	48	2	6	30.00
5	40	2	4	26.50
5	40	2	6	30.00
5	44	2	6	30.00
5	48	2	6	38.00
6	32	2	4	26.50
6	32	2	6	34.22
6	32	2	8	41.40
6	40	2	6	34.22
8	32	2	4	26.50
8	32	2	6	34.22
8	32	2	8	41.40
8	36	2	6	34.22
10	24	2	4	26.50
10	24	2	6	34.22
10	32	2	4	26.50
10	32	2	6	34.22
12	28	2	6	34.22
1/4	20	2	6	36.72
1/4	20	2	8	46.50
1/4	20	2	12	51.45
1/4	28	2	6	36.72
1/4	28	2	8	46.50
1/4	28	2	12	51.45
5/16	18	2	6	38.16
5/16	18	2	8	49.85

Size	Threads Per Inch	No. of Flutes	Overall Length	Price Each
5/16	18	2	12	53.90
5/16	24	2	4	28.97
5/16	24	2	6	46.00
5/16	24	2	8	59.00
5/16	24	2	12	53.90
3/8	16	3	4	37.50
3/8	16	3	6	43.09
3/8	16	2	8	55.75
3/8	16	3	12	61.25
3/8	24	3	6	43.09
3/8	24	2	8	55.75
3/8	24	3	12	61.25
7/16	14	3	6	45.14
7/16	14	2	8	59.19
7/16	14	3	12	68.59
7/16	20	3	6	45.14
7/16	20	2	8	59.19
7/16	20	3	12	68.59
1/2	13	3	6	46.17
1/2	13	3	8	62.29
1/2	13	3	10	67.45
1/2	13	3	12	72.69
1/2	20	6	6	46.17
1/2	20	2	8	62.29
1/2	20	3	12	72.69
5/8	11	3	6	60.53
5/8	11	3	12	120.00
5/8	18	3	6	60.53
3/4	10	3	6	88.65
3/4	10	3	10	112.50
3/4	10	3	12	130.00
3/4	16	3	6	88.65
7/8	9	3	6	138.00
1	14	3	8	140.00

THREADING

# Nut Taps

High Speed Steel – Ground Thread



List No. 798 – Four Flute

Primarily used for threading nuts. Shank of tap is smaller than I.D. of nut allowing nuts to accumulate on the shank. Also used for long reach.



Size	Threads Per Inch	Overall Length	Price Each
1/4	20	5	64.67
1/4	28	5	64.67
5/16	18	5-1/2	73.91
5/16	24	5-1/2	73.91
3/8	16	6	90.08
3/8	24	6	90.08
7/16	14	6-1/2	102.23
7/16	20	6-1/2	102.23
1/2	13	7	110.87
1/2	20	7	110.87
9/16	12	7-3/4	113.52
9/16	18	7-3/4	113.52

Size	Threads Per Inch	Overall Length	Price Each
5/8	11	8-1/4	117.48
5/8	18	8-1/4	117.48
11/16	11	8-1/4	122.10
11/16	18	8-1/4	122.10
3/4	10	9	126.72
3/4	16	9	126.72
7/8	9	10	158.40
7/8	14	10	158.40
1	8	11	194.70
1	12	11	194.70
1	14	11	194.70
1-1/8	7	12	214.17

## Metric Sizes

Size	Pitch mm	Overall Length mm	Price Each
M3.5	0.6	80	78.00
M6	1	110	82.00
M10	1.50	300	120.00
M12	1.75	360	150.25
M18	2.5	220	175.00
M20	2.5	250	190.00

Size	Pitch mm	Overall Length mm	Price Each
M22	2.5	280	199.00
M24	3	280	230.00
M30	3.5	280	270.00
M42	4.5	450	574.56
M48	5	500	667.17

# Special Thread Hand Taps

High Speed Steel – Ground Thread



List No. 779

List No. 779SET – (Plug, Bottoming, Taper)

*Please specify plug, bottoming, or taper chamfer when ordering.*

THREADING

Size	Threads Per Inch	Price Each	
		779	779SET
00	90	15.27	45.81
00	96	15.27	45.81
0	72	10.34	31.02
0	76	10.34	31.02
0	90	10.34	31.02
0	96	10.34	31.02
1	48	10.34	31.02
1	56	10.34	31.02
1	80	10.34	31.02
2	48	10.34	31.02
2	60	10.34	31.02
2	72	10.34	31.02
2	80	10.34	31.02
3	64	10.34	31.02
3	72	10.34	31.02
3	80	10.34	31.02
4	32	10.34	31.02
4	44	10.34	31.02
4	56	10.34	31.02
4	60	10.34	31.02
4	64	10.34	31.02
4	80	10.34	31.02
5	32	10.84	32.52
5	36	10.84	32.52
5	48	10.84	32.52
5	56	10.84	32.52
5	60	10.84	32.52
5	64	10.84	32.52
5	80	10.84	32.52
6	36	9.35	28.05
6	38	9.35	28.05
6	48	9.35	28.05
6	56	9.35	28.05
6	60	9.35	28.05
6	64	9.35	28.05
6	80	9.35	28.05
7	32	10.84	32.52
7	36	10.84	32.52
7	40	10.84	32.52
7	48	10.84	32.52
8	24	9.35	28.05
8	30	9.35	28.05
8	40	9.35	28.05
8	48	9.35	28.05
8	56	9.35	28.05
8	60	9.35	28.05
8	64	9.35	28.05
8	80	9.35	28.05
9	24	10.84	32.52
9	32	10.84	32.52
10	28	9.35	28.05
10	30	9.35	28.05
10	36	9.35	28.05
10	40	9.35	28.05
10	48	9.35	28.05
10	56	9.35	28.05
10	60	9.35	28.05
10	64	9.35	28.05
10	72	9.35	28.05
10	80	9.35	28.05
12	30	9.35	28.05
12	32	9.35	28.05
12	36	9.35	28.05
12	40	9.35	28.05
12	48	9.35	28.05
12	56	9.35	28.05
12	64	9.35	28.05

Size	Threads Per Inch	Price Each	
		779	779SET
14	20	10.84	32.52
14	24	10.84	32.52
14	28	10.84	32.52
1/16	72	10.34	31.02
3/32	48	10.34	31.02
3/32	50	10.34	31.02
1/8	40	10.34	31.02
1/8	44	10.34	31.02
1/8	48	10.34	31.02
5/32	32	9.35	28.05
5/32	36	9.35	28.05
5/32	40	9.35	28.05
3/16	16	9.35	28.05
3/16	18	9.35	28.05
3/16	24	9.35	28.05
3/16	32	9.35	28.05
7/32	24	9.35	28.05
7/32	28	9.35	28.05
7/32	32	9.35	28.05
7/32	40	9.35	28.05
1/4	16	9.35	28.05
1/4	18	9.35	28.05
1/4	22	9.35	28.05
1/4	24	9.35	28.05
1/4	26	9.35	28.05
1/4	27	9.35	28.05
1/4	30	9.35	28.05
1/4	32	9.35	28.05
1/4	36	9.35	28.05
1/4	38	9.35	28.05
1/4	40	9.35	28.05
1/4	42	9.35	28.05
1/4	48	9.35	28.05
1/4	56	9.35	28.05
1/4	60	9.35	28.05
1/4	64	9.35	28.05
1/4	72	9.35	28.05
1/4	80	9.35	28.05
9/32	20	9.35	28.05
9/32	24	9.32	28.05
9/32	32	9.35	28.05
9/32	40	9.35	28.05
5/16	13	9.35	28.05
5/16	16	9.35	28.05
5/16	20	9.35	28.05
5/16	22	9.35	28.05
5/16	26	9.35	28.05
5/16	27	9.35	28.05
5/16	28	9.35	28.05
5/16	30	9.35	28.05
5/16	32	9.35	28.05
5/16	36	9.35	28.05
5/16	40	9.35	28.05
5/16	48	9.35	28.05
5/16	56	9.35	28.05
5/16	60	9.35	28.05
5/16	64	9.35	28.05
5/16	72	9.35	28.05
5/16	80	9.35	28.05
11/32	20	9.95	29.85
11/32	32	9.95	29.85
3/8	13	9.52	28.56
3/8	14	9.52	28.56
3/8	18	9.52	28.56
3/8	20	9.52	28.56
3/8	22	9.52	28.56
3/8	26	9.52	28.56

Size	Threads Per Inch	Price Each	
		779	779SET
3/8	27	9.52	28.56
3/8	28	9.52	28.56
3/8	30	9.52	28.56
3/8	32	9.52	28.56
3/8	36	9.52	28.56
3/8	40	9.52	28.56
3/8	48	9.52	28.56
3/8	56	9.52	28.56
3/8	60	9.52	28.56
3/8	64	9.52	28.56
3/8	80	9.52	28.56
13/32	20	10.52	31.56
13/32	24	10.52	31.56
13/32	32	10.52	31.56
13/32	36	10.52	31.56
13/32	40	10.52	31.56
7/16	12	10.52	31.56
7/16	16	10.52	31.56
7/16	18	10.52	31.56
7/16	24	10.52	31.56
7/16	26	10.52	31.56
7/16	27	10.52	31.56
7/16	28	10.52	31.56
7/16	32	10.52	31.56
7/16	36	10.52	31.56
7/16	40	10.52	31.56
7/16	48	10.52	31.56
7/16	56	10.52	31.56
7/16	64	10.52	31.56
15/32	24	11.99	35.97
15/32	32	11.99	35.97
15/32	36	11.99	35.97
15/32	40	11.99	35.97
1/2	10	11.99	35.97
1/2	12	11.99	35.97
1/2	14	11.99	35.97
1/2	16	11.99	35.97
1/2	18	11.99	35.97
1/2	22	11.99	35.97
1/2	24	11.99	35.97
1/2	26	11.99	35.97
1/2	27	11.99	35.97
1/2	28	11.99	35.97
1/2	30	11.99	35.97
1/2	32	11.99	35.97
1/2	36	11.99	35.97
1/2	37	11.99	35.97
1/2	40	11.99	35.97
1/2	48	11.99	35.97
1/2	50	11.99	35.97
1/2	56	11.99	35.97
1/2	60	11.99	35.97
1/2	64	11.99	35.97
1/2	80	11.99	35.97
17/32	32	14.85	44.55
9/16	10	14.85	44.55
9/16	13	14.85	44.55
9/16	14	14.85	44.55
9/16	16	14.85	44.55
9/16	20	14.85	44.55
9/16	24	14.85	44.55
9/16	27	14.85	44.55
9/16	28	14.85	44.55
9/16	30	14.85	44.55
9/16	32	14.85	44.55
9/16	36	14.85	44.55
9/16	40	14.85	44.55

# Special Thread Hand Taps

High Speed Steel – Ground Thread



List No. 779

List No. 779SET – (Plug, Bottoming, Taper)

Please specify plug, bottoming, or taper chamfer when ordering.



THREADING

Size	Threads Per Inch	Price Each	
		779	779SET
9/16	48	14.85	44.55
9/16	74	14.85	44.55
5/8	10	18.39	55.17
5/8	12	18.39	55.17
5/8	14	18.39	55.17
5/8	16	18.39	55.17
5/8	20	18.39	55.17
5/8	24	18.39	55.17
5/8	26	18.39	55.17
5/8	27	18.39	55.17
5/8	28	18.39	55.17
5/8	30	18.39	55.17
5/8	32	18.39	55.17
5/8	36	18.39	55.17
5/8	40	18.39	55.17
5/8	48	18.39	55.17
5/8	56	18.39	55.17
5/8	64	18.39	55.17
11/16	12	21.18	63.54
11/16	14	21.18	63.54
11/16	18	21.18	63.54
11/16	20	21.18	63.54
11/16	24	21.18	63.54
11/16	27	21.18	63.54
11/16	28	21.18	63.54
11/16	30	21.18	63.54
11/16	32	21.18	63.54
11/16	36	21.18	63.54
11/16	40	21.18	63.54
11/16	48	21.18	63.54
3/4	8	22.75	68.25
3/4	11	22.75	68.25
3/4	11-1/2	22.75	68.25
3/4	12	22.75	68.25
3/4	14	22.75	68.25
3/4	18	22.75	68.25
3/4	20	22.75	68.25
3/4	22	22.75	68.25
3/4	24	22.75	68.25
3/4	26	22.75	68.25
3/4	27	22.75	68.25
3/4	28	22.75	68.25
3/4	30	22.75	68.25
3/4	32	22.75	68.25
3/4	36	22.75	68.25
3/4	40	22.75	68.25
3/4	48	22.75	68.25
3/4	56	22.75	68.25
13/16	10	27.71	83.13
13/16	12	27.71	83.13
13/16	14	27.71	83.13
13/16	16	27.71	83.13
13/16	18	27.71	83.13
13/16	20	27.71	83.13
13/16	24	27.71	83.13
13/16	26	27.71	83.13
13/16	27	27.71	83.13
13/16	28	27.71	83.13
13/16	32	27.71	83.13
13/16	36	27.71	83.13
13/16	40	27.71	83.13
13/16	48	27.71	83.13
7/8	8	29.28	87.84

Size	Threads Per Inch	Price Each	
		779	779SET
7/8	10	29.28	87.84
7/8	11	29.28	87.84
7/8	12	29.28	87.84
7/8	16	29.28	87.84
7/8	18	29.28	87.84
7/8	20	29.28	87.84
7/8	24	29.28	87.84
7/8	26	29.28	87.84
7/8	27	29.28	87.84
7/8	28	29.28	87.84
7/8	30	29.28	87.84
7/8	32	29.28	87.84
7/8	36	29.28	87.84
7/8	40	29.28	87.84
7/8	48	29.28	87.84
15/16	9	34.80	104.40
15/16	10	34.80	104.40
15/16	12	34.80	104.40
15/16	14	34.80	104.40
15/16	16	34.80	104.40
15/16	18	34.80	104.40
15/16	20	34.80	104.40
15/16	24	34.80	104.40
15/16	27	34.80	104.40
15/16	28	34.80	104.40
15/16	32	34.80	104.40
15/16	40	34.80	104.40
1	10	39.69	119.07
1	16	39.69	119.07
1	18	39.69	119.07
1	20	39.69	119.07
1	24	39.69	119.07
1	26	39.69	119.07
1	27	39.69	119.07
1	28	39.69	119.07
1	30	39.69	119.07
1	32	39.69	119.07
1	36	39.69	119.07
1	40	39.69	119.07
1	48	39.69	119.07
1	50	39.69	119.07
1	56	39.69	119.07
1	64	39.69	119.07
1-1/16	8	57.48	---
1-1/16	10	57.48	---
1-1/16	12	57.48	---
1-1/16	14	57.48	---
1-1/16	16	57.48	---
1-1/16	18	57.48	---
1-1/16	20	57.48	---
1-1/16	24	57.48	---
1-1/16	27	57.48	---
1-1/16	28	57.48	---
1-1/16	32	57.48	---
1-1/16	40	57.48	---
1-1/8	8	60.10	---
1-1/8	10	60.10	---
1-1/8	14	60.10	---
1-1/8	16	60.10	---
1-1/8	18	60.10	---
1-1/8	20	60.10	---
1-1/8	24	60.10	---
1-1/8	27	60.10	---
1-1/8	28	60.10	---
1-1/8	32	60.10	---

Size	Threads Per Inch	Price Each
		779
1-1/8	40	60.10
1-5/32	14	75.50
1-5/32	32	75.50
1-3/16	8	75.50
1-3/16	10	75.50
1-3/16	12	75.50
1-3/16	14	75.50
1-3/16	16	75.50
1-3/16	18	75.50
1-3/16	20	75.50
1-3/16	24	75.50
1-3/16	27	75.50
1-3/16	28	75.50
1-3/16	32	75.50
1-3/16	40	75.50
1-15/64	24	77.31
1-1/4	8	75.50
1-1/4	10	75.50
1-1/4	14	75.50
1-1/4	16	75.50
1-1/4	18	75.50
1-1/4	20	75.50
1-1/4	24	75.50
1-1/4	26	75.50
1-1/4	27	75.50
1-1/4	28	75.50
1-1/4	32	75.50
1-1/4	40	75.50
1-5/16	6	97.65
1-5/16	8	97.65
1-5/16	11	97.65
1-5/16	12	97.65
1-5/16	14	97.65
1-5/16	16	97.65
1-5/16	18	97.65
1-5/16	20	97.65
1-5/16	24	97.65
1-5/16	27	97.65
1-5/16	28	97.65
1-11/32	14	100.57
1-3/8	5	97.65
1-3/8	8	97.65
1-3/8	10	97.65
1-3/8	14	97.65
1-3/8	16	97.65
1-3/8	18	97.65
1-3/8	20	97.65
1-3/8	24	97.65
1-3/8	27	97.65
1-3/8	28	97.65
1-13/32	14	101.55
1-7/16	6	128.26
1-7/16	8	128.26
1-7/16	12	128.26
1-7/16	14	128.26
1-7/16	16	128.26
1-7/16	18	128.26
1-7/16	20	128.26
1-7/16	24	128.26
1-7/16	27	128.26
1-15/32	24	129.71
1-1/2	8	129.71
1-1/2	10	129.71
1-1/2	14	129.71

# Special Thread Hand Taps

High Speed Steel – Ground Thread



List No. 779

Please specify plug, bottoming, or taper chamfer when ordering.

THREADING

Size	Threads Per Inch	Price Each
		779
1-1/2	16	129.71
1-1/2	18	129.71
1-1/2	20	129.71
1-1/2	24	129.71
1-1/2	28	129.71
1-1/2	32	129.71
1-1/2	40	129.71
1-9/16	6	139.15
1-9/16	8	139.15
1-9/16	10	139.15
1-9/16	12	139.15
1-9/16	14	139.15
1-9/16	16	139.15
1-9/16	18	139.15
1-9/16	20	139.15
1-9/16	24	139.15
1-9/16	32	139.15
1-5/8	5-1/2	142.95
1-5/8	6	142.95
1-5/8	8	142.95
1-5/8	10	142.95
1-5/8	12	142.95
1-5/8	14	142.95
1-5/8	16	142.95
1-5/8	18	142.95
1-5/8	20	142.95
1-5/8	24	142.95
1-5/8	28	142.95
1-5/8	32	142.95
1-21/32	14	147.24
1-11/16	8	163.35
1-11/16	12	163.35
1-11/16	16	163.35
1-11/16	18	163.35
1-11/16	20	163.35
1-11/16	24	163.35
1-11/16	27	163.35
1-11/16	32	163.35
1-3/4	5	181.35
1-3/4	6	181.35
1-3/4	8	181.35
1-3/4	10	181.35
1-3/4	12	181.35
1-3/4	14	181.35
1-3/4	16	181.35
1-3/4	18	181.35
1-3/4	20	181.35
1-3/4	24	181.35
1-3/4	26	181.35
1-3/4	28	181.35
1-3/4	32	181.35
1-3/4	36	181.35
1-3/4	40	181.35
1-13/16	8	199.65
1-13/16	10	199.65
1-13/16	12	199.65
1-13/16	14	199.65
1-13/16	16	199.65
1-13/16	18	199.65
1-13/16	20	199.65
1-13/16	24	199.65
1-13/16	32	199.65
1-7/8	5	217.94
1-7/8	8	217.94
1-7/8	10	217.94
1-7/8	12	217.94

Size	Threads Per Inch	Price Each
		779
1-7/8	14	217.94
1-7/8	16	217.94
1-7/8	18	217.94
1-7/8	20	217.94
1-7/8	24	217.94
1-7/8	26	217.94
1-7/8	32	217.94
1-15/16	8	229.90
1-15/16	10	229.90
1-15/16	12	229.90
1-15/16	14	229.90
1-15/16	16	229.90
1-15/16	18	229.90
1-15/16	20	229.90
1-15/16	24	229.90
1-15/16	32	229.90
2	4-1/2	235.95
2	6	235.95
2	8	235.95
2	10	235.95
2	12	235.95
2	14	235.95
2	16	235.95
2	18	235.95
2	20	235.95
2	24	235.95
2	28	235.95
2	32	235.95
2-1/16	12	283.25
2-1/16	18	283.25
2-1/8	4-1/2	289.25
2-1/8	8	289.25
2-1/8	12	289.25
2-1/8	16	289.25
2-1/8	18	289.25
2-1/8	20	289.25
2-5/32	32	340.00
2-1/4	4	309.38
2-1/4	4-1/2	309.38
2-1/4	8	309.38
2-1/4	12	309.38
2-1/4	14	309.38
2-1/4	16	309.38
2-1/4	18	309.38
2-1/4	20	309.38
2-1/4	24	309.38
2-1/4	26	309.38
2-5/16	12	316.25
2-5/16	14	316.25
2-5/16	16	316.25
2-5/16	18	316.25
2-3/8	4	323.13
2-3/8	8	323.13
2-3/8	12	323.13
2-3/8	16	323.13
2-3/8	18	323.13
2-3/8	20	323.13
2-3/8	24	323.13
2-7/16	12	398.75
2-1/2	4	398.75
2-1/2	6	398.75
2-1/2	8	398.75
2-1/2	12	398.75
2-1/2	16	398.75
2-1/2	18	398.75
2-1/2	32	398.75

Size	Threads Per Inch	Price Each
		779
2-9/16	12	446.88
2-5/8	4	501.88
2-5/8	8	501.88
2-5/8	12	501.88
2-5/8	16	501.88
2-5/8	18	501.88
2-5/8	20	501.88
2-3/4	4	617.38
2-3/4	8	617.38
2-3/4	12	617.38
2-3/4	16	617.38
2-3/4	18	617.38
2-3/4	20	617.38
2-7/8	4	639.38
2-7/8	8	639.38
2-7/8	12	639.38
2-7/8	16	639.38
2-7/8	18	639.38
2-7/8	20	639.38
3	4	719.13
3	8	719.13
3	12	719.13
3	16	719.13
3	18	719.13
3	20	719.13
3-1/8	4	783.75
3-1/8	8	783.75
3-1/8	12	783.75
3-1/8	16	783.75
3-1/8	18	783.75
3-1/8	20	783.75
3-1/4	4	831.88
3-1/4	8	831.88
3-1/4	12	831.88
3-1/4	16	831.88
3-1/4	18	831.88
3-1/4	20	831.88
3-3/8	4	895.79
3-3/8	8	895.79
3-3/8	12	895.79
3-3/8	16	895.79
3-1/2	4	929.50
3-1/2	8	929.50
3-1/2	12	929.50
3-1/2	16	929.50
3-5/8	4	1007.16
3-5/8	8	1007.16
3-5/8	12	1007.16
3-3/4	4	1084.88
3-3/4	8	1084.88
3-3/4	12	1084.88
3-3/4	16	1084.88
3-7/8	4	1152.93
3-7/8	8	1152.93
3-7/8	12	1152.93
3-7/8	16	1152.93
4	4	1221.00
4	8	1221.00
4	12	1221.00
4	16	1221.00
4-1/2	12	2281.13
4-3/4	8	4180.55
4-3/4	12	4180.55
5	8	5205.09
5	12	5205.09

# Spiral Point Special Thread Taps

High Speed Steel



List No. 779SP – Plug Chamfer

Size	Threads Per Inch	Price Each
00	90	18.60
00	96	18.60
2	48	12.60
2	80	12.60
3	80	12.60
4	32	12.60
4	56	12.60
4	60	12.60
4	64	12.60
4	80	12.60
5	32	12.46
5	36	12.46
5	48	12.46
5	60	12.46
5	64	12.46
5	80	12.46
6	36	10.26
6	48	10.26
6	56	10.26
6	60	10.26
6	64	10.26
6	80	10.26
7	32	10.76
8	24	10.76
8	30	10.76
8	40	10.76
8	48	10.76
8	56	10.76
8	60	10.76
8	64	10.76
8	80	10.76
9	24	10.76
9	32	10.76
10	28	10.76
10	30	10.76
10	36	10.76
10	40	10.76
10	48	10.76
10	56	10.76
10	60	10.76
10	64	10.76
10	80	10.76
12	30	10.76
12	32	10.76
12	36	10.76
12	40	10.76
12	48	10.76
12	56	10.76
12	64	10.76
3/32	50	10.76
1/8	40	10.76
1/8	48	10.76
5/32	32	10.76
5/32	36	10.76
3/16	24	10.76
3/16	32	10.76
13/64	24	10.76
7/32	24	10.76
7/32	32	10.76
1/4	16	10.76
1/4	18	10.76
1/4	24	10.76
1/4	26	10.76
1/4	27	10.76
1/4	32	10.76
1/4	36	10.76
1/4	40	10.76
1/4	48	10.76
1/4	56	10.76
1/4	60	10.76
1/4	64	10.76
1/4	80	10.76
9/32	24	11.29
9/32	32	11.29
9/32	40	11.29

Size	Threads Per Inch	Price Each
5/16	16	11.29
5/16	20	11.29
5/16	22	11.29
5/16	27	11.29
5/16	28	11.29
5/16	32	11.29
5/16	36	11.29
5/16	40	11.29
5/16	48	11.29
5/16	56	11.29
5/16	60	11.29
5/16	64	11.29
5/16	80	11.29
11/32	32	11.42
3/8	14	11.42
3/8	18	11.42
3/8	20	11.42
3/8	27	11.42
3/8	28	11.42
3/8	30	11.42
3/8	32	11.42
3/8	36	11.42
3/8	40	11.42
3/8	48	11.42
3/8	56	11.42
3/8	60	11.42
3/8	64	11.42
3/8	80	11.42
13/32	32	13.41
13/32	36	13.41
13/32	40	13.41
7/16	12	13.41
7/16	16	13.41
7/16	18	13.41
7/16	24	13.41
7/16	27	13.41
7/16	28	13.41
7/16	32	13.41
7/16	36	13.41
7/16	40	13.41
7/16	48	13.41
7/16	56	13.41
7/16	64	13.41
15/32	32	16.64
15/32	36	16.64
15/32	40	16.64
1/2	10	16.64
1/2	12	16.64
1/2	14	16.64
1/2	16	16.64
1/2	18	16.64
1/2	24	16.64
1/2	27	16.64
1/2	28	16.64
1/2	30	16.64
1/2	32	16.64
1/2	36	16.64
1/2	40	16.64
1/2	48	16.64
1/2	56	16.64
1/2	60	16.64
1/2	64	16.64
1/2	80	16.64
9/16	14	19.97
9/16	16	19.97
9/16	20	19.97
9/16	24	19.97
9/16	27	19.97
9/16	28	19.97
9/16	32	19.97
9/16	36	19.97
9/16	40	19.97
9/16	48	19.97
5/8	10	23.29
5/8	12	23.29

Size	Threads Per Inch	Price Each
5/8	14	23.29
5/8	16	23.29
5/8	20	23.29
5/8	24	23.29
5/8	26	23.29
5/8	27	23.29
5/8	28	23.29
5/8	32	23.29
5/8	36	23.29
5/8	40	23.29
5/8	48	23.29
5/8	56	23.29
5/8	64	23.29
11/16	12	32.19
11/16	14	32.19
11/16	18	32.19
11/16	20	32.19
11/16	24	32.19
11/16	27	32.19
11/16	32	32.19
11/16	36	32.19
11/16	40	32.19
11/16	48	32.19
3/4	8	38.81
3/4	11-1/2	38.81
3/4	12	38.81
3/4	14	38.81
3/4	18	38.81
3/4	20	38.81
3/4	24	38.81
3/4	27	38.81
3/4	28	38.81
3/4	32	38.81
3/4	36	38.81
3/4	40	38.81
3/4	48	38.81
3/4	56	38.81
3/4	64	38.81
13/16	10	47.71
13/16	12	47.71
13/16	14	47.71
13/16	16	47.71
13/16	18	47.71
13/16	20	47.71
13/16	24	47.71
13/16	27	47.71
13/16	28	47.71
13/16	32	47.71
13/16	40	47.71
13/16	48	47.71
7/8	10	55.48
7/8	12	55.48
7/8	18	55.48
7/8	20	55.48
7/8	24	55.48
7/8	27	55.48
7/8	32	55.48
7/8	36	55.48
7/8	40	55.48
15/16	12	58.81
15/16	18	58.81
15/16	20	58.81
15/16	24	58.81
15/16	32	58.81
31/32	16	74.50
1	16	63.40
1	20	63.40
1	24	63.40
1	36	63.40
1	40	63.40
1	48	63.40
1	56	63.40
1	64	63.40
1-1/8	20	78.00
1-1/8	24	78.00

THREADING



# Eight Pitch Taps

High Speed Steel – Ground Thread

List No. 779 – Eight Threads per Inch

List No. 779SET – (Plug, Bottoming, Taper)

Please specify plug, bottoming, or taper chamfer when ordering.



**MDX**  
SUPERIOR IMPORT



Size	Price Each	
	779	779SET
3/4	22.75	68.25
7/8	29.28	87.84
1-1/16	57.48	172.44
1-1/8	60.10	180.30
1-3/16	75.50	226.50
1-1/4	75.50	226.50
1-5/16	97.65	292.95
1-3/8	97.65	292.95
1-7/16	128.26	384.78

Size	Price Each	
	779	779SET
1-1/2	129.71	389.13
1-9/16	139.15	417.45
1-5/8	142.95	428.85
1-11/16	163.35	490.05
1-3/4	181.35	544.05
1-13/16	199.65	598.95
1-7/8	215.63	646.89
1-15/16	229.90	689.70
2	235.95	707.85

Size	Price
	2-1/8
2-1/4	309.38
2-3/8	398.75
2-1/2	398.75
2-5/8	501.88
2-3/4	617.38
2-7/8	639.38
3	719.13
3-1/8	783.75

Size	Price
	3-1/4
3-3/8	895.79
3-1/2	929.50
3-5/8	1007.16
3-3/4	1084.88
3-7/8	1152.93
4	1221.00
4-3/4	4180.55
5	5205.09

# Acme Tandem Style Taps

High Speed Steel – Class 2G

Tandem style tap eliminates the excessive cost of producing Acme threads. It produces threads from a 10° to 30° included angle in a single pass without lead-screw. The last few threads on the roughing section function as a guide for the short finishing section, which corrects the angles and brings the threads to size.

List No. 787 – Right Hand

List No. 787L – Left Hand



**MDX**  
SUPERIOR IMPORT



Size	Threads Per Inch	Thread Length	Overall Length	Price Each	
				Right Hand 787	Left Hand 787L
3/8	12	2-1/8	4-1/16	96.75	129.80
7/16	12	2-9/16	5	96.75	129.80
1/2	10	2-9/16	5	96.75	119.00
5/8	8	3-3/16	6-1/4	108.35	126.83
3/4	6	4-5/16	7-15/16	148.23	171.82
7/8	6	4-3/8	8-5/8	173.25	209.11

Size	Threads Per Inch	Thread Length	Overall Length	Price Each	
				Right Hand 787	Left Hand 787L
1	5	5-1/4	10-1/8	180.84	219.84
1-1/8	5	5-1/4	10-3/4	193.88	293.66
1-1/4	5	5-1/4	11-1/8	231.00	324.50
1-3/8	4	5-7/8	12-1/4	290.40	360.80
1-1/2	4	5-7/8	12-5/8	309.65	401.50
2	4	6-1/2	14-7/8	368.50	438.90

# WHITWORTH Taps

High Speed Steel – Ground Thread

List No. 772W – 55° Thread Angle, British Standard, Plug, Chamfer.



**MDX**  
SUPERIOR IMPORT



Size	Threads Per Inch	Overall Length mm	Price Each
1/16	60	32	10.44
3/32	48	36	10.63
1/8	40	41	10.83
5/32	32	45	10.83
3/16	24	50	10.83
1/4	20	50	10.83
5/16	18	56	13.32
3/8	16	63	15.47

Size	Threads Per Inch	Overall Length mm	Price Each
7/16	14	70	23.58
1/2	12	75	27.06
9/16	12	80	27.06
5/8	11	80	44.45
3/4	10	95	61.85
7/8	9	100	86.97
1	8	110	108.23
1-1/4	7	125	110.00

Size	Threads Per Inch	Overall Length mm	Price Each
1-3/8	6	150	171.37
1-1/2	6	150	198.42
1-5/8	5	160	216.45
1-7/8	4-1/2	180	234.50
2	4-1/2	180	260.50
2-1/4	4	220	286.61
2-1/2	4	220	324.69
3	3-1/2	305	1234.80

# WHITWORTH Nut Taps

High Speed Steel – Ground Thread

List No. 798W – 55° Thread Angle, British Standard

Primarily used for threading nuts. Shank of tap is smaller than I.D. of nut allowing nuts to accumulate on the shank. Also used for long reach.



**MDX**  
SUPERIOR IMPORT



Size	Threads Per Inch	Overall Length mm	Price Each
1/8	40	70	43.27
3/16	24	90	47.40
1/4	20	110	52.00
5/16	18	125	57.40
3/8	16	140	65.97

Size	Threads Per Inch	Overall Length mm	Price Each
1/2	12	180	82.46
9/16	12	200	99.75
5/8	11	220	107.20
3/4	10	250	148.45
1"	8	315	206.16

# Left Hand Taps

High Speed Steel – Ground Thread



## Left Hand Standard Thread

List No. **770L** – Hand Tap *Please specify plug, bottoming, or taper chamfer*

List No. **770LSET** – 3 Piece Set (Plug, Bottoming, Taper)

List No. **782L** – Spiral Point Plug Chamfer



Size	T.P.I.	Thread Limits	No. of Flutes	Straight		Spiral Point	
				Price Each		No. of Flutes	Price Each
				770L	770LSET		
1	72	H2	2	8.25	24.75	2	9.74
2	56	H2	3	8.25	24.75	2	9.74
2	64	H2	3	8.25	24.75	2	9.74
3	48	H2	3	8.25	24.75	2	9.74
3	56	H2	3	8.25	24.75	2	9.74
4	40	H2	3	7.59	22.77	2	8.96
4	48	H2	3	8.25	24.75	2	9.74
5	40	H2	3	7.59	22.77	2	8.96
5	44	H2	3	8.25	24.75	2	9.74
6	32	H3	3	6.76	20.28	2	7.98
6	40	H3	3	6.76	20.28	2	7.98
8	32	H3	4	6.76	20.28	2	7.98
8	36	H3	4	6.76	20.28	2	7.98
10	24	H3	4	6.76	20.28	2	7.98
10	32	H3	4	6.76	20.28	2	7.98
12	24	H3	4	7.91	23.73	2	9.33
12	28	H3	4	7.91	23.73	2	9.33
1/4	20	H3	4	7.91	23.73	2	9.33
1/4	28	H3	4	7.91	23.73	2	9.33
5/16	18	H3	4	8.77	26.31	2	10.35
5/16	24	H3	4	8.77	26.31	2	10.35
3/8	16	H3	4	11.35	34.05	3	13.39
3/8	24	H3	4	11.35	34.05	3	13.39
7/16	14	H3	4	14.51	43.53	3	17.12

Size	T.P.I.	Thread Limits	No. of Flutes	Straight		Spiral Point	
				Price Each		No. of Flutes	Price Each
				770L	770LSET		
7/16	20	H3	4	14.51	43.53	3	17.12
1/2	13	H3	4	17.15	51.45	3	20.24
1/2	20	H3	4	17.15	51.45	3	20.24
9/16	12	H3	4	25.59	76.77	3	30.20
9/16	18	H3	4	25.59	76.77	3	30.20
5/8	11	H3	4	32.47	97.41	3	38.31
5/8	18	H3	4	32.47	97.41	3	38.31
11/16	11	H3	4	35.74	107.22	3	42.17
11/16	16	H3	4	35.74	107.22	3	42.17
3/4	10	H3	4	42.34	127.02	3	49.96
3/4	16	H3	4	42.34	127.02	3	49.96
7/8	9	H4	4	57.48	172.44	3	67.83
7/8	14	H4	4	57.48	172.44	3	67.83
1"	8	H4	4	75.23	225.69	3	88.77
1"	12	H4	4	75.23	225.69	3	88.77
1"	14	H4	4	75.23	225.69	3	88.77
1-1/8	7	H4	4	126.59	379.77	—	—
1-1/8	12	H4	4	126.59	379.77	—	—
1-1/4	7	H4	4	159.81	479.43	—	—
1-1/4	12	H4	6	159.81	479.43	—	—
1-3/8	6	H4	4	199.03	597.09	—	—
1-3/8	12	H4	6	199.03	597.09	—	—
1-1/2	6	H4	4	231.00	693.00	—	—
1-1/2	12	H4	6	231.00	693.00	—	—

## Metric Sizes

List No. **773MLH** – Plug Chamfer

Size mm	Pitch	No. of Flutes	Price Each
1.70	.35	2	23.50
2.00	.40	3	23.50
2.60	.45	3	16.00
3.00	.50	3	12.15
3.50	.60	3	11.77
4.00	.70	4	11.77
5.00	.80	4	12.40
6.00	1.00	4	12.95
7.00	1.00	4	14.09
8.00	.50	4	10.09
8.00	1.00	4	10.09
8.00	1.25	4	12.19
9.00	1.25	4	14.02
10.00	.75	4	14.02

Size mm	Pitch	No. of Flutes	Price Each
10.00	1.25	4	14.02
10.00	1.50	4	14.02
11.00	1.00	4	18.69
11.00	1.50	4	18.69
12.00	1.25	4	27.30
12.00	1.50	4	27.30
12.00	1.75	4	27.30
14.00	1.25	4	35.60
14.00	1.50	4	35.60
14.00	2.00	4	35.60
16.00	.75	4	42.25
16.00	1.50	4	42.25
16.00	2.00	4	42.25
18.00	1.00	4	54.00

Size mm	Pitch	No. of Flutes	Price Each
18.00	1.50	4	54.00
18.00	2.50	4	54.00
20.00	1.50	4	72.26
20.00	2.50	4	72.26
22.00	1.50	4	82.00
22.00	2.50	4	82.00
24.00	2.00	4	115.70
27.00	2.00	4	148.00
27.00	3.00	4	148.00
30.00	2.00	4	225.00
30.00	3.50	4	225.00
45.00	1.50	6	467.50

## Left Hand Special Thread

List No. **779L** – Hand Tap *Please specify plug, bottoming, or taper chamfer*

List No. **779LS** – Spiral Point - Plug Chamfer

Size	Threads Per Inch	Price Each	
		Hand Tap 779L	Spiral Point 779LS
1/4	27	14.03	16.14
1/4	32	14.03	16.14
5/16	27	14.03	—
5/16	32	14.03	16.14
3/8	32	14.28	16.42
7/16	24	15.77	18.14
1/2	24	17.99	20.69
1/2	32	17.99	20.69
5/8	24	27.64	31.79
5/8	32	27.64	31.79
11/16	18	34.12	—
3/4	18	34.12	—
3/4	20	34.12	—
3/4	24	34.12	39.24
3/4	32	34.12	39.24

Size	Threads Per Inch	Price Each
		Hand Tap 779L
7/8	20	70.00
1	20	82.00
1	24	82.00
1-1/16	12	88.00
1-1/16	18	88.00
1-1/8	8	90.16
1-1/4	8	90.16
1-5/16	20	139.00
1-3/8	8	146.48
1-7/16	16	188.00
1-1/2	8	194.57
1-9/16	20	208.73
1-5/8	12	250.00
1-3/4	8	272.02
3-1/4	6	1200.00
3-1/4	20	1200.00

# Pipe Taps

## High Speed Steel – Ground Thread



Taper pipe taps are utilized to thread pipe fittings hence their nominal size is of the pipe being threaded.

- List No. **790U** – Taper (NPT)
- List No. **791U** – Straight (NPS)
- List No. **792U** – Interrupted Thread Taper (INT/NPT)

For tapping tough, or gummy metals that have a tendency to load the tap teeth.



Size	Threads Per Inch	Price Each		
		NPT 790U	NPS 791U	INT/NPT 792U
1/16	27	25.68	27.80	39.86
1/8	27 SM/SK	25.68	27.80	—
1/8	27 LG/SK	25.68	27.80	39.86
1/4	18	28.40	30.83	44.22
3/8	18	37.45	40.33	55.80
1/2	14	59.33	64.41	88.99
3/4	14	83.11	90.39	125.83

Size	Threads Per Inch	Price Each		
		NPT 790U	NPS 791U	INT/NPT 792U
1	11-1/2	125.88	137.20	194.48
1-1/4	11-1/2	180.77	191.89	273.47
1-1/2	11-1/2	241.95	249.36	367.36
2	11-1/2	328.50	356.90	494.36
2-1/2	8	690.62	—	—
3	8	973.35	—	—

- List No. **790** – Taper (NPT)
- List No. **790T** – TiN Coated Taper (NPT)
- List No. **791** – Straight (NPS)
- List No. **792** – Interrupted Thread (INT/NPT)

- List No. **790F** – Dryseal Taper (NPTF)
- List No. **791F** – Dryseal Straight (NPSF)
- List No. **792F** – Dryseal Interrupted Thread Taper (INT/NPTF)



Size	Threads Per Inch	Price Each						
		NPT 790	TiN Coated NPT 790T	NPS 791	INT/NPT 792	NPTF 790F	NPSF 791F	INT/NPTF 792F
1/16	27	19.58	26.22	21.02	29.37	20.86	22.41	31.31
1/8	27 SM/SK	19.58	28.55	21.02	—	—	—	—
1/8	27 LG/SK	19.58	28.55	21.02	29.37	20.86	22.41	31.31
1/4	18	21.56	32.92	23.49	32.49	23.00	25.03	34.65
3/8	18	28.49	42.30	30.69	41.79	30.38	32.72	44.55
1/2	14	45.16	65.25	48.94	65.14	48.15	52.19	69.47
3/4	14	63.18	86.37	68.61	92.55	67.39	73.17	98.70
1	11-1/2	97.05	133.26	104.28	145.56	103.50	111.24	155.25
1-1/4	11-1/2	139.23	182.29	140.02	207.72	148.50	157.50	221.55
1-1/2	11-1/2	191.97	250.76	196.20	278.87	204.75	202.50	297.45
2	11-1/2	252.97	328.80	258.08	375.44	269.82	301.50	400.46
2-1/2	8	458.06	—	670.50	538.20	625.50	718.20	—
3	8	580.50	—	945.00	—	706.50	1008.00	—
3-1/2	8	843.01	—	999.00	—	897.30	—	—
4	8	1161.34	—	1215.00	—	1219.00	—	—

# Carbon Pipe Taps

## Ground Thread



- List No. **793U** – Taper (NPT)
- List No. **793UST** – Surface Treated With Steam Oxide for reduced wear.



Size	Threads Per Inch	Price Each	
		793U	793UST
1/16	27	10.17	15.17
1/8	27	10.17	15.17
1/4	18	12.00	17.60
3/8	18	15.53	21.65

Size	Threads Per Inch	Price Each	
		793U	793UST
1/2	14	20.62	30.20
3/4	14	33.03	43.00
1	11-1/2	48.68	61.00
1-1/4	11-1/2	57.43	79.00

Size	Threads Per Inch	Price Each	
		793U	793UST
1-1/2	11-1/2	81.07	127.00
2	11-1/2	124.16	163.00

- List No. **793** – Taper (NPT)
- List No. **793L** – Left Hand Taper (NPT)
- List No. **793ST** – Right Hand Straight (NPS)

Size	Threads Per Inch	Price Each		
		NPT 793	NPT LH 793L	Straight RH 793ST
1/16	27	7.86	10.88	—
1/8	27	7.86	10.88	12.15
1/4	18	9.05	12.52	13.39
3/8	18	11.99	16.61	18.45
1/2	14	15.93	22.05	24.44
3/4	14	25.49	35.33	39.06
1	11-1/2	37.55	52.07	55.05

Size	Threads Per Inch	Price Each		
		NPT 793	NPT LH 793L	Straight RH 793ST
1-1/4	11-1/2	44.31	61.43	64.87
1-1/2	11-1/2	62.55	86.72	89.30
2	11-1/2	95.79	133.20	138.38
2-1/2	8	179.10	231.75	—
3	8	242.10	357.30	—
3-1/2	8	422.10	—	—
4	8	562.50	—	—

# Long Reach NPT Pipe Taps

High Speed Steel – Ground Thread



**MDX**  
SUPERIOR IMPORT



THREADING

List No. 797

Size	Threads Per Inch	Price Each				
		3" OAL	4" OAL	6" OAL	8" OAL	12" OAL
1/16	27	18.90	22.95	27.68	33.75	51.60
1/8	27	—	26.55*	27.68*	33.75	51.60
1/4	18	—	30.56	31.73*	35.78	53.10
3/8	18	—	33.70	39.75	39.90	60.90
1/2	14	—	—	51.08	72.00	87.26
3/4	14	—	—	72.68	112.50	134.10
1	11-1/2	—	—	103.50	157.50	175.50
1-1/4	11-1/2	—	—	—	—	390.00
1-1/2	11-1/2	—	—	—	—	460.00
2	11-1/2	—	—	—	—	510.00

\* NPS in stock - same price

# British Standard Pipe Taps

High Speed Steel – Ground Thread



**MDX**  
SUPERIOR IMPORT



List No. 794 – Taper (BSPT)

List No. 799 – Parallel (BSPP)

Size	Threads Per Inch	Price Each	
		BSPT 794	BSPP 799
1/8	28	31.41	31.41
1/4	19	34.95	34.95
3/8	19	46.08	46.08
1/2	14	72.90	72.90
5/8	14	85.41	85.41
3/4	14	99.75	99.75
7/8	14	135.72	135.72
1	11	150.66	150.66

Size	Threads Per Inch	Price Each	
		BSPT 794	BSPP 799
1-1/8	11	—	219.50
1-1/4	11	227.82	227.82
1-1/2	11	298.69	298.69
1-3/4	11	343.54	343.54
2	11	440.00	440.00
2-1/2	11	950.00	950.00
2-3/4	11	—	1060.00

# Left Hand & Spiral Flute Pipe Taps

High Speed Steel – Ground Thread



**MDX**  
SUPERIOR IMPORT

List No. 790L – Left Hand Taper (NPT)

List No. 790SP – Spiral Taper (NPT)

List No. 791L – Left Hand Straight (NPS)

List No. 791SP – Spiral Straight (NPS)

Size	Threads Per Inch	Price Each			
		LH NPT 790L	LH NPS 791L	Taper 790SP	Straight 791SP
1/16	27	23.50	26.28	39.24	—
1/8	27	23.50	26.28	39.24	45.13
1/4	18	25.87	29.36	48.51	55.79
3/8	18	34.19	38.36	60.30	69.35
1/2	14	54.19	61.18	76.05	—
3/4	14	75.82	85.76	115.20	—
1	11-1/2	116.46	130.35	144.90	—
1-1/4	11-1/2	160.08	175.03	—	—
1-1/2	11-1/2	230.36	245.25	—	—
2	11-1/2	303.56	322.60	—	—



# Pipe Tap Sets

High Speed Steel & Carbon

**MDX**  
SUPERIOR IMPORT

Sizes	Description	Pcs.	Set No.	Price
1/8, 1/4, 3/8, 1/2, 3/4, 1	USA H.S. Taper Pipe Set	6	790US	360.05
1/8, 1/4, 3/8, 1/2, 3/4, 1	USA Carbon Taper Pipe	6	793US	154.62
1/8, 1/4, 3/8, 1/2.	Import H.S. Taper Pipe Set	4	790S	114.79
1/8, 1/4, 3/8, 1/2.	Import Carbon Taper Pipe	4	793S	48.96



# Combined Tap & Drill

High Speed Steel – Ground Thread

List No. 789 – 2 Flute

Designed to drill and tap thru holes in a single pass up to two times the tap diameter. Also can be used on multiple spindle heads with reversing mechanisms.



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
4	40	.0910	3/8	1-7/8	16.50
4	48	.0945	3/8	1-7/8	16.50
5	40	.1040	13/32	1-15/16	16.50
6	32	.1115	7/16	2	16.50
6	40	.1170	7/16	2	16.50
8	32	.1375	1/2	2-1/8	16.50
10	24	.1545	5/8	2-3/8	16.50
10	32	.1635	5/8	2-3/8	16.50
12	24	.1805	21/32	2-3/8	17.60
12	28	.1860	21/32	2-3/8	17.60
1/4	20	.2080	25/32	2-1/2	16.50

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
1/4	28	.2200	25/32	2-1/2	17.60
5/16	18	.2660	15/16	2-27/32	24.20
5/16	24	.2770	15/16	2-27/32	24.20
3/8	16	.3225	1-1/16	3-3/8	28.60
3/8	24	.3395	1-1/16	3-3/8	28.60
7/16	14	.3770	1-1/4	3-3/4	36.86
7/16	20	.3955	1-1/4	3-3/4	36.86
1/2	13	.4350	1-3/8	4-1/16	42.58
1/2	20	.4580	1-3/8	4-1/16	42.58
5/8	11	.5750	1-3/4	5	87.46
3/4	10	.6650	2	6	108.90

## Pipe Sizes

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
1/16	27	.2420	11/16	2-13/16	63.35
1/8	27	.3320	3/4	2-7/8	79.89
1/4	18	.4370	1-1/16	3-5/16	90.68
3/8	18	.5620	1-1/16	3-1/2	104.63

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
1/2	14	.7030	1-3/8	4-3/8	159.12
3/4	14	.9060	1-3/8	4-9/16	222.18
1	11-1/2	1.1410	1-3/4	5-3/8	333.30

## Metric Sizes

List No. 789M – 2 Flute

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
3.00	.50	.1015	13/32	1-15/16	18.76
3.50	.60	.1181	7/16	2	18.76
4.00	.70	.1339	1/2	2-1/8	18.76
4.50	.75	.1520	7/8	2-3/8	18.76
5.00	.80	.1695	5/8	2-3/8	18.76

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
6.00	1.00	.2031	25/32	2-1/2	18.76
7.00	1.00	.2420	15/16	2-27/32	18.76
8.00	1.25	.2735	15/16	2-27/32	18.76
10.00	1.50	.3445	1-1/16	3-3/8	38.86
12.00	1.75	.4134	1-3/8	4-1/4	38.86

# Cobalt Combined Tap & Drill

List No. 789C – 2 Flute

Designed to drill and tap thru holes in a single pass up to two times the tap diameter. Also can be used on multiple spindle heads with reversing mechanisms.



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
4	40	.0910	3/8	1-7/8	22.88
4	48	.0945	3/8	1-7/8	24.72
5	40	.1040	13/32	1-15/16	22.88
6	32	.1115	7/16	2	22.88
6	40	.1170	7/16	2	24.72
8	32	.1375	1/2	2-1/8	22.88
8	36	.1400	1/2	2-1/8	24.88
10	24	.1545	5/8	2-3/8	22.88
10	32	.1635	5/8	2-3/8	22.88
12	24	.1805	21/32	2-3/8	22.88
12	28	.1860	21/32	2-3/8	24.72

Size	Threads Per Inch	Drill Size	Thread Length	Overall Length	Price Each
1/4	20	.2080	25/32	2-1/2	22.88
1/4	28	.2200	25/32	2-1/2	22.88
5/16	18	.2660	15/16	2-27/32	34.08
5/16	24	.2770	15/16	2-27/32	34.08
3/8	16	.3225	1-1/16	3-3/8	41.04
3/8	24	.3395	1-1/16	3-3/8	41.04
7/16	14	.3770	1-1/4	3-3/4	49.20
7/16	20	.3955	1-1/4	3-3/4	49.20
1/2	13	.4350	1-3/8	4-1/16	55.12
1/2	20	.4580	1-3/8	4-1/16	55.12



# Floating Die & Tap Holder System

**THREADEX™**

*Cutting external and internal threads is simple, safe, accurate, and inexpensive!*



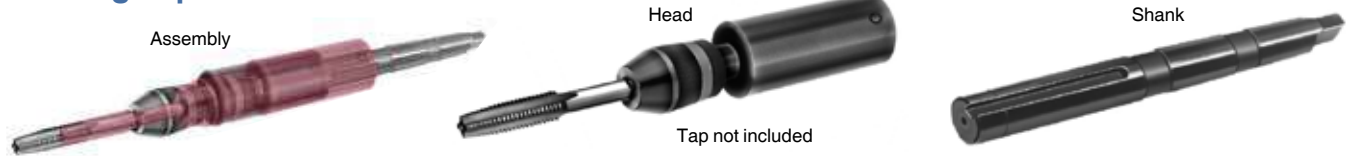
Exclusively By



- **Simple:** Cut threads on any lathe fitted with a Morse Taper tailstock
- **Accurate:** Improves thread quality with fewer part rejections over hand held method
- **Faster:** 4 to 5 times faster than threading with a single point tool
- **Safe:** Reduces chance for operator injury



## Floating Tap Holder



Heads				
Tap Range	Max. Thread Length	Fits Shank Number	Head Number	Price Each
0 – 1/4	2-3/8	FDHS-2T	<b>FTH-014</b>	127.23
1/4 – 1/2	2-7/8	FDHS-3T, FDHS-4T	<b>FTH-1412</b>	161.62
1/2 – 3/4	2-7/8	FDHS-3T, FDHS-4T	<b>FTH-1234</b>	196.00
3/4 – 1	3-7/8	FDHS-4HD, FDHS-5T	<b>FTH-3410</b>	230.39
1 – 1-1/4	3-7/8	FDHS-4HD, FDHS-5T	<b>FTH-1114</b>	264.77
1-1/4 – 1-1/2	3-7/8	FDHS-4HD, FDHS-5T	<b>FTH-114112</b>	300.87

Shank			
Morse Taper No.	Fits Head Number	Shank Number	Price Each
2	FTH-014	<b>FDHS-2T</b>	82.52
3	FTH-1412, FTH -1234	<b>FDHS-3T</b>	110.03
4	FTH-1412, FTH -1234	<b>FDHS-4T</b>	128.95
4	FTH-3410, FTH -1114, FTH-114112	<b>FDHS-4HD</b>	161.62
5	FTH-3410, FTH -1114, FTH-114112	<b>FDHS-5T</b>	240.70

## Floating Die Holder



Heads				
Fits Die O.D.	Max. Thread Length	Fits Shank Number	Head Number	Price Each
13/16	2-3/8	FDHS-2T	<b>FDH81-2</b>	84.24
1	2-3/8	FDHS-2T	<b>FDH1-2</b>	84.24
1	2-7/8	FDHS-3T, FDHS-4T	<b>FDH1-34</b>	99.72
1-1/2	2-7/8	FDHS-3T, FDHS-4T	<b>FDH15-34</b>	99.72
2	2-7/8	FDHS-3T, FDHS-4T	<b>FDH2-34</b>	110.03
2-1/2	3-7/8	FDHS-4HD, FDHS-5T	<b>FDH25-4HD5</b>	168.49

Shank			
Morse Taper No.	Fits Head Number	Shank Number	Price Each
2	FDH1-2, FDH81-2	<b>FDHS-2T</b>	82.52
3	FDH1-34, FDH15-34, FDH2-34	<b>FDHS-3T</b>	110.03
4	FDH1-34, FDH15-34, FDH2-34	<b>FDHS-4T</b>	128.95
4	FDH25-4HD5	<b>FDHS-4HD</b>	161.62
5	FDH25-4HD5	<b>FDHS-5T</b>	240.70

Simulated tailstock assembly



Simulated tailstock assembly



## Threadex® Operating Instructions

- Step 1** Select head to fit desired die O.D. or tap range, insert and secure die or tap.
- Step 2** Select appropriate shank and install into lathe tailstock.
- Step 3** Slide head onto shank and advance tailstock within proximity of work piece.
- Step 4** Lock tailstock and advance holder with tailstock crank until head begins to self feed.
- Step 5** Reverse lathe at desired point and reverse tailstock crank a few turns as head is backing off work piece.

# T-Handle Tap Wrenches

For hand tapping and for driving screw extractors, heavy knurled cap for better grip.



## Plain Type



Tap Capacity		Tool No.	Price Each
Fractional Tap Sizes	Machine Screw Tap Sizes		
1/16 - 5/32	0-8	<b>TWH-1</b>	6.44
5/32 - 1/4	8-12	<b>TWH-2</b>	7.15
1/4 - 1/2	12	<b>TWH-3</b>	11.38

## Mini Tap Wrench

Ideal for small tapping applications



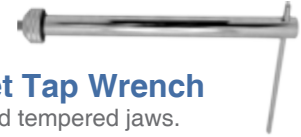
Tap Capacity	Range	Tool No.	Price Each
1/4	#0 - 1/4	<b>TWM1</b>	6.24
1/2	5/16 - 1/2	<b>TWM2</b>	7.67

## Reversible Ratchet Type

Holding Capacity			Tool No.	Price Each
Fractional Tap Sizes	Machine Screw Tap Sizes	Overall Length		
1/16-5/32	0-8	2-1/4	<b>TWR-1</b>	12.71
5/32-1/4	8-12	3-3/8	<b>TWR-2</b>	14.24
5/32-1/4	8-12	9-7/8	<b>TWR-2L</b>	20.80
1/4-1/2	12	4-3/8	<b>TWR-3</b>	18.64
1/4-1/2	12	12	<b>TWR-3L</b>	24.70

## Extra Long Ratchet Tap Wrench

13" long, hardened and tempered jaws.



Tap Capacity	Tool No.	Price Each
5/32 - 1/4	<b>TWX1</b>	21.71
1/4 - 1/2	<b>TWX4</b>	30.29

## Tap Wrench Sets

Description	Pcs.	Capacity	Set No.	Price
Plain Type Tap Wrench	3	1/16 - 1/2"	<b>TWHS</b>	24.05
Reversible Ratchet Tap Wrench	3	1/16 - 1/2"	<b>TWRS</b>	44.14

## Piloted Spindle Tap Wrench

For threading a drilled hole manually at one machine location without moving the workpiece. Hardened and tempered jaws.



Tap Capacity	Tool No.	Price Each
1/16 - 1/4	<b>TWP-1</b>	15.60
1/4 - 1/2	<b>TWP-2</b>	19.50

# Adjustable Tap & Reamer Wrenches

Hardened and tempered jaws used for taps or reamers.



Holding Capacity				Tool No.	Price Each
Fractional Tap Sizes	Machine Screw Tap Sizes	Pipe Tap Sizes	Hand Reamer Sizes		
1/16 - 1/4	0-14	—	1/8 - 7/64	<b>TW00</b>	18.14
1/16 - 1/4	0-14	—	1/8 - 21/64	<b>TW0</b>	19.34
1/16 - 3/8	0-14	—	1/8 - 25/64	<b>TW4</b>	26.00
5/32 - 1/2	8-14	1/8	11/64 - 7/16	<b>TW5</b>	36.80
5/32 - 3/4	8-14	1/8 - 1/4	11/64 - 41/64	<b>TW6</b>	36.80
1/4 - 1-1/8	—	1/8 - 3/4	9/32 - 29/32	<b>TW7</b>	41.03
1/2 - 1-3/8	—	1/8 - 1	3/8 - 1-5/32	<b>TW75</b>	51.74
3/4 - 1-5/8	—	3/8 - 1-1/4	37/64 - 1-11/32	<b>TW8</b>	122.68
7/8 - 2	—	1 - 2	3/4 - 1-1/2	<b>TW10</b>	144.63
1 - 2-1/2	—	3/4 - 2	7/8 - 2-1/8	<b>TW22</b>	159.25
1-3/4-4	—	1-1/2-4	1-7/16-3	<b>TW24</b>	210.00



# Hand Tapper 0-5/8 Capacity

Uses Spiral Point Taps — Not included.  
Taps thru the open base. Can be used vertical, horizontal, or inverted.  
Assures straight perpendicular tapped holes.  
Comes equipped with tap guide, ground work table, and tap spindle wrench.

Overall Height	Table Size	Clearance Height	Depth of Throat	Table Arm	Adapter Sizes	Tool No.	Price Each
14	13" Length 8" Width	7"	7-1/2"	8" x 11"	8-32, 10-24, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4	<b>TW949-320</b>	139.00



# Tapping Accessories



## Tap Guide Spring Center



Point hardened to 50-55 RC.  
The center's body is to be gripped in a drill chuck/collet as hardened point is inserted into the center of the tapping handle.  
The stroke of center will follow the tap  
Assures straight and accurate threads.

Tool No.	Price Each
TG3	12.18

## Self Aligning Tap & Reamer Holder Set



Set No. TSA1

Hardened jaws hold taps and reamers true, preventing breakage.

Description	Price
Set consists of tapping guide, tap holder, and jaw "A" for 1/4" capacity taps and jaw "B" for 1/4 - 1/2" taps	37.70

## Tap Extension



Eliminates need for extension taps Knurled grip chuck.

Tap Capacity	Overall Length	Tool No.	Price Each
1/4	7	TEX1	12.87
1/2	10-3/4	TEX2	15.60

## Tap Guide



1/2" diameter hardened shank.  
Knurled for easy handling.  
3/16" diameter hardened tension pin.  
Adjustable tension spring.  
Reversible tension pin for male or female hole centering of tap

Tool No.	Price Each
TG1	10.34

## Machine Tapping Guide



Provides sensitive feel for tapping holes.  
Starts holes straight & prevents breakage.  
Shank diameter 3/8  
Handle diameter 1"  
Tap Capacity #0 to #12

Tool No.	Price Each
TG2	24.64

# Reversible Tapping Attachment



- For use on vertical machines and machines with rotating non-reversing spindles.
- Right or Left hand tapping.
- Smooth ball - clutch protects against tap breakage.
- Disengages smoothly and silently.
- Axial float ensures smooth tapping.
- Cushioned drive eliminates cross threading.
- Planetary gear allows tap to retract 75% faster.
- Accurate depth control.
- Accurate batch and mass production.



## Reversible Tapping Attachment

Tool #	Capacity	Collet	Price Each
J576-600	1/16 - 1/4	S-171	418.00
J576-601	1/8 - 1/2	S-222	478.00
J576-602	5/16 - 3/4	S-453	565.00
J576-603	9/16 - 1-1/8	S-623	995.00

## Replacement Rubber Collets

Tool #	Capacity	Price Each
J576-604	.177 - .256	27.02
J576-605	.256 - .394	28.49
J576-606	.394 - .590	56.35
J576-607	.630 - .905	74.90

# Knurling Tools

## Single Knurl Tool



- Holder size: 4" x 1/2" x 1/2"
- Knurl size: 3/4" x 1/4" x 1/4"
- Includes 1 medium cut H.S.S. knurl

Tool No.	Price
J3230001	16.09

## NOTE:

- RH Knurling is produced with LH Knurls.
- LH Knurling is produced with RH Knurls.
- Male Diamond Knurling is produced by RH and LH Knurls in pairs.



## Pivot Head Knurling Tool



- Holder size: 4" x 1/2" x 1/2"
- Knurl size: 3/4" x 1/4" x 1/4"
- Includes 1 medium cut H.S.S. knurl

Tool No.	Price
J3230002	33.57

## Replacement Knurls

Price: \$9.00 Each



Knurl Dimensions (Dia. x Thick. x Hole Dia.)	T.P.I.	Price Each		
		Straight	RH Diagonal	LH Diagonal
5/8 x 5/16 x 7/32"	14	J4590140	J4590141	J4590142
	21	J4590210	J4590211	J4590212
	33	J4590330	J4590331	J4590332
3/4 x 3/8 x 1/4"	14	J2550140	J2550141	J2550142
	21	J2550210	J2550211	J2550212
	33	J2550330	J2550331	J2550332

## Self Adjusting Head Knurling Tools

Double knurl, self-centering head for manual lathes. Includes one set of Medium Pitch diagonal (BL and BR) pattern knurls to produce a 30° diamond pattern.



Size of Holder	Knurl Dimensions	Tool No.	Price Each
5/16" x 3/4" x 5	5/8" x 5/16" x 7/32"	J3230020	54.13
3/8" x 7/8" x 5-1/2"	5/8" x 5/16" x 7/32"	J3230100	54.13
1/2" x 1-1/8" x 6-1/2"	3/4" x 3/8" x 1/4"	J3230101	57.75
5/8" x 1-3/8" x 7-1/2"	3/4" x 3/8" x 1/4"	J3230102	57.75

# Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type

List No. 751 – Right Hand

For cutting external screw threads either by hand with a die stock or by machine with a floating die holder like the unique Threadex® Floating Die Holder. They can be utilized to cut smaller or larger tolerance by turning the adjusting screw.



Size	Threads Per Inch	Outside Diameter	Price Each
0	80	13/16	21.42
0	80	1	26.91
1	64	13/16	21.42
1	64	1	26.91
1	72	13/16	21.42
1	72	1	26.91
2	56	13/16	21.42
2	56	1	26.91
2	64	13/16	21.42
2	64	1	26.91
3	48	13/16	21.42
3	48	1	26.91
3	56	13/16	21.42
3	56	1	26.91
4	40	13/16	21.42
4	40	1	26.91
4	48	13/16	21.42
4	48	1	26.91
5	40	13/16	21.42
5	40	1	26.91
5	44	13/16	21.42
5	44	1	26.91
6	32	13/16	21.42
6	32	1	26.91
6	40	13/16	21.42
6	40	1	26.91
8	32	13/16	21.42
8	32	1	26.91
8	36	13/16	21.42
8	36	1	26.91
10	24	13/16	21.42
10	24	1	26.91
10	32	5/8	19.90
10	32	13/16	21.42
10	32	1	26.91
12	24	13/16	21.42
12	24	1	26.91
12	28	13/16	21.42
12	28	1	26.91
1/4	20	13/16	31.35
1/4	20	1	26.91

Size	Threads Per Inch	Outside Diameter	Price Each
1/4	20	1-1/2	40.50
1/4	20	2	69.21
1/4	28	13/16	21.42
1/4	28	1	26.91
1/4	28	1-1/2	40.50
1/4	28	2	69.21
5/16	18	13/16	21.42
5/16	18	1	26.91
5/16	18	1-1/2	40.50
5/16	18	2	69.21
5/16	24	13/16	21.42
5/16	24	1	26.91
5/16	24	1-1/2	40.50
5/16	24	2	69.21
3/8	16	13/16	21.42
3/8	16	1	26.91
3/8	16	1-1/2	40.50
3/8	16	2	69.21
3/8	24	13/16	21.42
3/8	24	1	26.91
3/8	24	1-1/2	40.50
3/8	24	2	69.21
7/16	14	1	26.91
7/16	14	1-1/2	40.50
7/16	14	2	69.21
7/16	20	1	26.91
7/16	20	1-1/2	40.50
7/16	20	2	69.21
1/2	13	1	26.91
1/2	13	1-1/2	40.50
1/2	13	2	69.21
1/2	20	1	26.91
1/2	20	1-1/2	40.50
1/2	20	2	69.21
9/16	12	1-1/2	40.50
9/16	12	2	69.21
9/16	18	1-1/2	40.50
9/16	18	2	69.21
5/8	11	1-1/2	40.50
5/8	11	2	69.21
5/8	18	1-1/2	40.50

Size	Threads Per Inch	Outside Diameter	Price Each
5/8	18	2	69.21
11/16	11	1-1/2	40.50
11/16	11	2	69.21
11/16	16	1-1/2	40.50
11/16	16	2	69.21
3/4	10	1-1/2	40.50
3/4	10	2	69.21
3/4	10	2-1/2	95.40
3/4	16	1-1/2	40.50
3/4	16	2	69.21
7/8	9	2-1/2	95.40
7/8	9	2	69.21
7/8	14	2	69.21
7/8	14	2-1/2	95.40
1	8	2	69.21
1	8	2-1/2	95.40
1	8	3	175.50
1	12	2	69.21
1	12	2-1/2	95.40
1	12	3	175.50
1	14	2	69.21
1	14	2-1/2	95.40
1	14	3	175.50
1-1/8	7	2-1/2	95.40
1-1/8	7	3	175.50
1-1/8	12	2-1/2	95.40
1-1/8	12	3	175.50
1-1/4	7	2	69.21
1-1/4	7	2-1/2	95.40
1-1/4	7	3	175.50
1-1/4	12	2-1/2	95.40
1-1/4	12	3	175.50
1-3/8	6	2-1/2	95.40
1-3/8	6	3	175.50
1-3/8	12	2-1/2	95.40
1-3/8	12	3	175.50
1-1/2	6	2-1/2	95.40
1-1/2	6	3	175.50
1-1/2	12	2-1/2	95.40
1-1/2	12	3	175.50

# Carbon Steel Round Adjustable Split Dies

Screw Adjusting Type

List No. 751CB – Right Hand



Size	Threads Per Inch	Outside Diameter	Price Each
0	80	5/8	4.50
0	80	13/16	6.00
1	56	5/8	6.00
1	56	13/16	7.50
1	64	5/8	4.50
1	64	13/16	6.00
1	72	5/8	4.50
1	72	13/16	6.00
2	56	5/8	4.50
2	56	13/16	6.00

Size	Threads Per Inch	Outside Diameter	Price Each
2	64	5/8	4.50
2	64	13/16	6.00
3	48	5/8	4.50
3	48	13/16	6.00
3	56	5/8	4.50
3	56	13/16	6.00
4	32	5/8	6.00
4	32	13/16	7.50
4	36	5/8	6.00
4	36	13/16	7.50

Size	Threads Per Inch	Outside Diameter	Price Each
4	36	1	8.50
4	40	5/8	4.50
4	40	13/16	6.00
4	40	1	7.00
4	48	5/8	4.50
4	48	13/16	6.00
4	48	1	7.00
5	40	5/8	4.50
5	40	13/16	6.00
5	40	1	7.00

Continued on Next Page ▶

# Carbon Steel Round Adjustable Split Dies

Screw Adjusting Type



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

THREADING

List No. **751CB** – Right Hand ▶ *Continued*

Size	Threads Per Inch	Outside Diameter	Price Each
5	44	5/8	4.50
5	44	13/16	6.00
6	32	5/8	4.50
6	32	13/16	6.00
6	32	1	7.00
6	36	5/8	6.00
6	36	13/16	7.50
6	36	1	8.50
6	40	5/8	4.50
6	40	13/16	6.00
6	40	1	7.00
8	32	5/8	4.50
8	32	13/16	6.00
8	32	1	7.00
8	36	5/8	4.50
8	36	13/16	6.00
8	36	1	7.00
8	40	5/8	6.00
8	40	13/16	7.50
10	24	5/8	4.50
10	24	13/16	6.00
10	24	1	7.00
10	30	5/8	7.50
10	30	13/16	8.50
10	32	5/8	4.50
10	32	13/16	6.00
10	32	1	7.00
12	24	5/8	4.50
12	24	13/16	6.00
12	24	1	7.00
12	28	5/8	4.50
12	28	13/16	6.00
12	28	1	7.00
12	32	5/8	7.00
12	32	13/16	8.50
12	32	1	9.50
14	20	13/16	8.50
14	20	1	9.50
14	24	5/8	7.00
14	24	13/16	8.50
14	24	1	9.50
14	28	13/16	8.50
1/16	64	13/16	8.50
1/8	40	1	9.50
9/64	36	5/8	6.00
9/64	40	13/16	8.50
9/64	40	5/8	7.00
5/32	32	13/16	8.50
5/32	36	1	9.50
3/16	24	13/16	7.50
3/16	24	1	9.50
3/16	32	13/16	7.50
3/16	32	1	9.50
7/32	24	5/8	6.00
7/32	24	13/16	7.00
7/32	24	1	9.50
7/32	24	1-1/2	19.00
7/32	32	1-1/2	19.00
1/4	20	5/8	4.50
1/4	20	13/16	6.00
1/4	20	1	7.00
1/4	20	1-1/2	13.00
1/4	20	2	21.00
1/4	24	5/8	6.00

Size	Threads Per Inch	Outside Diameter	Price Each
1/4	24	1	9.50
1/4	24	1-5/16	13.50
1/4	24	1-1/2	16.00
1/4	28	5/8	4.50
1/4	28	13/16	6.00
1/4	28	1	7.00
1/4	28	1-5/16	11.00
1/4	28	1-1/2	13.00
1/4	28	2	21.00
1/4	32	1	9.50
1/4	32	1-5/16	13.50
1/4	32	1-1/2	16.00
1/4	32	2	24.00
1/4	40	1	9.50
17/64	32	13/16	8.50
9/32	28	1	9.50
5/16	18	13/16	6.00
5/16	18	1	7.00
5/16	18	1-1/2	13.00
5/16	18	2	21.00
5/16	20	1	9.50
5/16	20	1-1/2	16.00
5/16	24	13/16	6.00
5/16	24	1	7.00
5/16	24	1-5/16	11.00
5/16	24	1-1/2	13.00
5/16	24	2	21.00
5/16	32	1	9.50
21/64	20	1	9.50
3/8	16	1	7.00
3/8	16	1-1/2	13.00
3/8	16	2	21.00
3/8	20	1-1/2	16.00
3/8	24	1	7.00
3/8	24	1-5/16	11.00
3/8	24	1-1/2	13.00
3/8	24	2	21.00
3/8	24	2-1/2	26.00
3/8	32	2	24.00
7/16	14	1	7.00
7/16	14	1-5/16	11.00
7/16	14	1-1/2	13.00
7/16	14	2	21.00
7/16	14	2-1/2	26.00
7/16	20	1	7.00
7/16	20	1-1/2	13.00
7/16	20	2	21.00
7/16	24	2	24.00
7/16	27	1	9.50
7/16	28	2	24.00
1/2	12	1-1/2	16.00
1/2	12	2	24.00
1/2	13	1	7.00
1/2	13	1-5/16	11.00
1/2	13	2	21.00
1/2	16	1-1/2	16.00
1/2	20	1	7.00
1/2	20	1-5/16	11.00
1/2	20	1-1/2	13.00
1/2	20	2	21.00
1/2	20	2-1/2	26.00
1/2	27	2	24.00
1/2	28	2	24.00
1/2	32	2	24.00

Size	Threads Per Inch	Outside Diameter	Price Each
9/16	12	1-1/2	13.00
9/16	12	2	21.00
9/16	12	2-1/2	26.00
9/16	16	1-1/2	19.00
9/16	18	1-1/2	16.00
9/16	18	2	21.00
9/16	18	2-1/2	26.00
9/16	24	2	24.00
9/16	27	1-1/2	19.00
9/19	27	2	24.00
9/16	36	1-1/2	19.00
5/8	11	1-1/2	13.00
5/8	11	2	21.00
5/8	11	2-1/2	26.00
5/8	18	1-1/2	13.00
5/8	18	2	21.00
5/8	20	1-1/2	19.00
5/8	24	1-1/2	19.00
11/16	11	1-1/2	13.00
11/16	11	2	21.00
11/16	11	2-1/2	26.00
11/16	16	1-1/2	13.00
11/16	16	2	21.00
11/16	24	2	24.00
11/16	27	1-1/2	19.00
47/64	16	2	24.00
3/4	10	1-1/2	13.00
3/4	10	2	21.00
3/4	16	1-1/2	13.00
3/4	16	2	21.00
3/4	16	2-1/2	26.00
13/16	20	1-1/2	19.00
7/8	9	2	21.00
7/8	9	2-1/2	26.00
7/8	12	2-1/2	29.00
7/8	14	2	21.00
7/8	14	2-1/2	26.00
7/8	14	3	30.00
1	8	2	21.00
1	8	2-1/2	26.00
1	8	3	30.00
1	12	2	21.00
1	12	2-1/2	26.00
1	12	3	30.00
1	14	2	21.00
1	14	2-1/2	26.00
1	14	3	30.00
1	16	2	24.00
1	27	3	35.00
1-1/8	7	3	30.00
1-1/8	12	3	30.00
1-1/8	16	2-1/2	29.00
1-1/4	7	3	30.00
1-1/4	12	3	30.00
1-3/8	6	3	30.00
1-3/8	12	3	30.00
1-3/8	14	3	35.00
1-3/8	24	3	35.00
1-1/2	6	3	30.00
1-1/2	12	3	30.00
1-5/8	5-1/2	3	35.00
1-5/8	18	3	35.00
1-11/16	12	3	35.00
1-3/4	18	3	35.00



# Metric Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

List No. 753 – Right Hand

THREADING

Size	Pitch	Outside Diameter	Price Each
1.00	.20	13/16	21.42
1.00	.20	1	26.91
1.00	.25	13/16	21.42
1.20	.20	13/16	21.42
1.20	.20	1	26.91
1.20	.25	13/16	21.42
1.25	.25	1	26.91
1.40	.20	13/16	21.42
1.40	.20	1	26.91
1.40	.30	13/16	21.42
1.40	.30	1	26.91
1.50	.30	13/16	21.42
1.50	.30	1	26.91
1.50	.35	13/16	21.42
1.50	.35	1	26.91
1.60	.35	13/16	21.42
1.60	.35	1	26.91
1.70	.20	13/16	21.42
1.70	.20	1	26.91
1.70	.35	13/16	21.42
1.70	.35	1	26.91
1.80	.35	13/16	21.42
1.80	.35	1	26.91
2.00	.20	13/16	21.42
2.00	.20	1	26.91
2.00	.25	13/16	21.42
2.00	.25	1	26.91
2.00	.40	13/16	21.42
2.00	.40	1	26.91
2.00	.45	13/16	21.42
2.00	.45	1	26.91
2.00	.50	13/16	21.42
2.00	.50	1	26.91
2.20	.25	13/16	21.42
2.20	.45	13/16	21.42
2.20	.45	1	26.91
2.30	.25	13/16	21.42
2.30	.25	1	26.91
2.30	.40	13/16	21.42
2.30	.40	1	26.91
2.30	.45	13/16	21.42
2.30	.45	1	26.91
2.50	.45	13/16	21.42
2.50	.45	1	26.91
2.50	.50	13/16	21.42
2.50	.50	1	26.91
2.60	.35	13/16	21.42
2.60	.35	1	26.91
2.60	.45	13/16	21.42
2.60	.45	1	26.91
3.00	.35	1	26.91
3.00	.50	13/16	21.42
3.00	.50	1	26.91
3.00	.60	13/16	21.42
3.00	.60	1	26.91
3.00	.75	1	26.91
3.30	.50	13/16	21.42
3.50	.35	1	26.91
3.50	.50	1	26.91
3.50	.60	13/16	21.42
3.50	.60	1	26.91
4.00	.35	1	26.91
4.00	.50	13/16	21.42
4.00	.50	1	26.91
4.00	.60	1	26.91
4.00	.70	13/16	21.42

Size	Pitch	Outside Diameter	Price Each
4.00	.70	1	26.91
4.00	.75	13/16	21.42
4.00	.75	1	26.91
4.00	1.00	1	26.91
4.50	.50	13/16	21.42
4.50	.50	1	26.91
4.50	.75	13/16	21.42
4.50	.75	1	26.91
4.50	1.00	1	26.91
5.00	.50	13/16	21.42
5.00	.50	1	26.91
5.00	.75	1	26.91
5.00	.80	5/8	21.42
5.00	.80	13/16	21.42
5.00	.80	1	26.91
5.00	.90	13/16	21.42
5.00	.90	1	26.91
5.00	1.00	1	26.91
5.50	.70	1	26.91
5.50	.90	1	26.91
6.00	.50	13/16	21.42
6.00	.50	1	26.91
6.00	.75	13/16	21.42
6.00	.75	1	26.91
6.00	1.00	13/16	21.42
6.00	1.00	1	26.91
6.00	1.00	1-1/2	40.50
6.00	1.25	1	26.91
6.00	1.50	1	26.91
6.30	1.00	1	26.91
7.00	.50	1	26.91
7.00	.75	1	26.91
7.00	1.00	13/16	21.42
7.00	1.00	1	26.91
7.00	1.00	1-1/2	40.50
7.00	1.25	1	26.91
8.00	.50	1	26.91
8.00	.75	1	26.91
8.00	1.00	13/16	21.42
8.00	1.00	1	26.91
8.00	1.00	1-1/2	40.50
8.00	1.25	13/16	21.42
8.00	1.25	1	26.91
8.00	1.25	1-1/2	40.50
8.00	1.50	1	26.91
8.00	1.75	1	26.91
9.00	.50	1	26.91
9.00	.50	1-1/2	40.50
9.00	.75	1	26.91
9.00	.75	1-1/2	40.50
9.00	1.00	1	26.91
9.00	1.00	1-1/2	40.50
9.00	1.25	1	26.91
9.00	1.25	1-1/2	40.50
9.00	1.50	1	26.91
9.00	1.75	1	26.91
10.00	.50	1	26.91
10.00	.50	1-1/2	40.50
10.00	.75	1	26.91
10.00	.75	1-1/2	40.50
10.00	1.00	1	26.91
10.00	1.00	1-1/2	40.50
10.00	1.25	1	26.91
10.00	1.25	1-1/2	40.50
10.00	1.50	1	26.91
10.00	1.50	1-1/2	40.50

Size	Pitch	Outside Diameter	Price Each
10.00	1.75	1	26.91
10.00	2.00	1	26.91
11.00	.50	1	26.91
11.00	.50	1-1/2	40.50
11.00	.75	1	26.91
11.00	.75	1-1/2	40.50
11.00	1.00	1	26.91
11.00	1.00	1-1/2	40.50
11.00	1.25	1	26.91
11.00	1.25	1-1/2	40.50
11.00	1.50	1	26.91
11.00	1.50	1-1/2	40.50
11.00	1.75	1	26.91
11.00	2.00	1	26.91
12.00	.50	1	26.91
12.00	.50	1-1/2	40.50
12.00	.75	1	26.91
12.00	.75	1-1/2	40.50
12.00	1.00	1	26.91
12.00	1.00	1-1/2	40.50
12.00	1.25	1	26.91
12.00	1.25	1-1/2	40.50
12.00	1.50	1	26.91
12.00	1.50	1-1/2	40.50
12.00	1.75	1	26.91
12.00	1.75	1-1/2	40.50
12.00	2.00	1	26.91
12.00	2.00	1-1/2	40.50
12.50	1.25	1-1/2	40.50
13.00	.50	1-1/2	40.50
13.00	.75	1-1/2	40.50
13.00	1.00	1-1/2	40.50
13.00	1.25	1-1/2	40.50
13.00	1.50	1-1/2	40.50
13.00	1.75	1-1/2	40.50
13.00	2.00	1-1/2	40.50
14.00	.50	1-1/2	40.50
14.00	.75	1-1/2	40.50
14.00	1.00	1-1/2	40.50
14.00	1.25	1-1/2	40.50
14.00	1.50	1-1/2	40.50
14.00	1.75	1-1/2	40.50
14.00	2.00	1-1/2	40.50
14.00	2.50	1-1/2	40.50
15.00	.50	1-1/2	40.50
15.00	1.00	1-1/2	40.50
15.00	1.50	1-1/2	40.50
15.00	1.50	2	69.21
15.00	2.00	1-1/2	40.50
16.00	.50	1-1/2	40.50
16.00	.75	1-1/2	40.50
16.00	1.00	1-1/2	40.50
16.00	1.00	2	69.21
16.00	1.25	1-1/2	40.50
16.00	1.50	1-1/2	40.50
16.00	1.50	2	69.21
16.00	1.75	1-1/2	40.50
16.00	2.00	1-1/2	40.50
16.00	2.00	2	69.21
16.00	2.50	1-1/2	40.50
17.00	.50	1-1/2	40.50
17.00	1.00	1-1/2	40.50
17.00	1.25	1-1/2	40.50
17.00	1.50	1-1/2	40.50
17.00	1.50	2	69.21
17.00	2.00	1-1/2	40.50

# Metric Round Split Adjustable Dies

High Speed Steel – Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

THREADING

List No. 753 – Right Hand

Size	Pitch	Outside Diameter	Price Each
18.00	.50	1-1/2	40.50
18.00	1.00	1-1/2	40.50
18.00	1.00	2	69.21
18.00	1.25	1-1/2	40.50
18.00	1.50	2	69.21
18.00	1.50	1-1/2	40.50
18.00	1.75	1-1/2	40.50
18.00	2.00	2	69.21
18.00	2.00	1-1/2	40.50
18.00	2.50	2	69.21
19.00	.50	1-1/2	40.50
19.00	1.00	1-1/2	40.50
19.00	1.50	1-1/2	40.50
19.00	1.50	2	69.21
19.00	2.00	1-1/2	40.50
19.00	2.00	2	69.21
19.00	2.50	1-1/2	40.50
20.00	1.00	1-1/2	40.50
20.00	1.00	2	69.21
20.00	1.25	1-1/2	40.50
20.00	1.25	2	69.21
20.00	1.50	1-1/2	40.50
20.00	1.50	2	69.21
20.00	1.75	1-1/2	40.50
20.00	2.00	1-1/2	40.50
20.00	2.00	2	69.21
20.00	2.50	1-1/2	40.50
20.00	2.50	2	69.21
21.00	1.00	2	69.21
21.00	1.50	2	69.21
21.00	2.00	2	69.21
21.00	2.50	2	69.21
21.00	3.00	2	69.21
21.00	3.00	3	175.50
22.00	1.00	2	69.21
22.00	1.00	2-1/2	95.40
22.00	1.50	2	69.21
22.00	1.50	2-1/2	95.40
22.00	2.00	2	69.21
22.00	2.00	2-1/2	95.40
22.00	2.50	2	69.21
22.00	2.50	2-1/2	95.40
23.00	1.00	2	69.21
23.00	1.50	2	69.21
23.00	2.00	2	69.21
23.00	2.50	2	69.21

Size	Pitch	Outside Diameter	Price Each
24.00	1.00	2	69.21
24.00	1.25	2	69.21
24.00	1.50	2	69.21
24.00	1.50	2-1/2	95.40
24.00	2.00	2	69.21
24.00	2.00	2-1/2	95.40
24.00	3.00	2	69.21
24.00	3.00	2-1/2	95.40
25.00	1.00	2	69.21
25.00	1.00	2-1/2	95.40
25.00	1.50	2	69.21
25.00	1.50	2-1/2	95.40
25.00	2.00	2	69.21
25.00	2.00	2-1/2	95.40
25.00	2.50	2	69.21
25.00	2.50	2-1/2	95.40
25.00	3.00	2	69.21
26.00	1.25	2	69.21
26.00	1.50	2	69.21
26.00	1.50	2-1/2	95.40
26.00	2.00	2	69.21
26.00	3.00	2	69.21
27.00	1.00	2	69.21
27.00	1.00	2-1/2	95.40
27.00	1.50	2-1/2	95.40
27.00	2.00	2	69.21
27.00	2.00	2-1/2	95.40
27.00	3.00	2	69.21
27.00	3.00	2-1/2	95.40
28.00	1.00	2	69.21
28.00	1.00	2-1/2	95.40
28.00	1.25	2-1/2	95.40
28.00	1.50	2	69.21
28.00	1.50	2-1/2	95.40
28.00	2.00	2	69.21
28.00	2.00	2-1/2	95.40
28.00	3.00	2-1/2	95.40
30.00	1.00	2-1/2	95.40
30.00	1.50	2	69.21
30.00	1.50	2-1/2	95.40
30.00	2.00	2	69.21
30.00	2.00	2-1/2	95.40
30.00	2.00	3	175.50
30.00	3.00	2	69.21
30.00	3.00	2-1/2	95.40
30.00	3.00	3	175.50

Size	Pitch	Outside Diameter	Price Each
30.00	3.50	2	69.21
30.00	3.50	2-1/2	95.40
30.00	3.50	3	175.50
32.00	1.50	2-1/2	95.40
32.00	2.00	2-1/2	95.40
32.00	3.50	2-1/2	95.40
33.00	1.50	2-1/2	95.40
33.00	2.00	2-1/2	95.40
33.00	3.00	2-1/2	95.40
33.00	3.00	3	175.50
33.00	3.50	2-1/2	95.40
34.00	1.50	2-1/2	95.40
35.00	1.00	2-1/2	95.40
35.00	1.50	2-1/2	95.40
36.00	1.50	2-1/2	95.40
36.00	2.00	2-1/2	95.40
36.00	3.00	3	175.50
36.00	4.00	2-1/2	95.40
36.00	4.00	3	175.50
38.00	1.50	2-1/2	95.40
38.00	1.50	3	175.50
39.00	1.50	3	175.50
39.00	3.00	3	175.50
39.00	4.00	3	175.50
40.00	1.50	3	175.50
40.00	2.00	3	175.50
42.00	1.50	3	175.50
42.00	2.00	3	175.50
42.00	3.00	3	175.50
42.00	4.50	3	175.50
45.00	1.50	3	175.50
45.00	2.00	3	175.50
45.00	3.00	3	175.50
45.00	4.50	3	175.50
48.00	1.50	3	175.50
48.00	2.00	3	175.50
48.00	3.00	3	175.50
48.00	5.00	3	175.50
50.00	1.50	3	175.50
52.00	1.50	3	175.50
52.00	2.00	3	175.50
52.00	3.00	3	175.50
52.00	5.00	3	175.50

# Metric Carbon Round Split Dies

Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

List No. 753CB

Size	Pitch	Outside Diameter	Price Each
3.00	.50	1	6.37
3.00	.60	1	6.37
4.00	.70	1	6.37
4.00	.75	1	6.37
4.50	.75	13/16	5.32
5.00	.75	13/16	5.32
5.00	.80	13/16	5.32
5.00	.80	1	6.37
5.00	.90	1	6.37
5.50	.50	1	6.37

Size	Pitch	Outside Diameter	Price Each
6.00	.75	1	6.37
6.00	1.00	13/16	5.32
6.00	1.00	1	6.37
6.00	1.00	1-1/2	9.44
7.00	.75	1	6.37
7.00	1.00	1	6.37
8.00	1.00	1	6.37
8.00	1.25	1	6.37
9.00	1.25	1-1/2	9.44
10.00	1.25	1	6.37

Size	Pitch	Outside Diameter	Price Each
10.00	1.50	1	6.37
12.00	.75	1	6.37
12.00	1.50	1	6.37
12.00	1.75	1	6.37
14.00	2.00	1-1/2	9.44
16.00	2.00	2	15.62
18.00	2.50	2	15.62
20.00	2.50	2	15.62
22.00	2.50	2	15.62
24.00	3.00	2	15.62

# NPT Pipe Split Dies

High Speed Steel – Screw Adjusting Type

List No. 760 – Right Hand

List No. 760L – Left Hand

Size	Threads Per Inch	Outside Diameter	Price Each	
			Right Hand 760	Left Hand 760L
1/16	27	1	26.91	35.10
1/8	27	1	26.91	35.10
1/8	27	1-1/2	40.50	53.10
1/4	18	1-1/2	40.50	53.10
1/4	18	2	69.21	85.50
3/8	18	1-1/2	40.50	53.10
3/8	18	2	69.21	85.50
1/2	14	1-1/2	40.50	—
1/2	14	2	69.21	85.50
3/4	14	2	69.21	85.50



Size	Threads Per Inch	Outside Diameter	Price Each	
			Right Hand 760	Left Hand 760L
3/4	14	2-1/2	95.40	121.50
1	11-1/2	2-1/2	95.40	121.50
1	11-1/2	3	175.50	—
1	11-1/2	4	229.50	—
1-1/4	11-1/2	3	175.50	216.00
1-1/2	11-1/2	3	175.50	216.00
1-1/2	11-1/2	4	229.50	—
2	11-1/2	4	229.50	315.00
2-1/2	8	4	229.50	315.00
3	8	5	310.00	—

# NPS Pipe Split Dies

High Speed Steel – Screw Adjusting Type

List No. 761 – Right Hand

List No. 761L – Left Hand

Size	Threads Per Inch	Outside Diameter	Price Each	
			Right Hand 761	Left Hand 761L
1/16	27	1	26.91	35.10
1/8	27	1	26.91	35.10
1/8	27	1-1/2	40.50	53.10
1/4	18	1-1/2	40.50	53.10
1/4	18	2	69.21	85.50
3/8	18	1-1/2	40.50	53.10
3/8	18	2	69.21	85.50
1/2	14	1-1/2	40.50	—
1/2	14	2	69.21	85.50
3/4	14	2	69.21	85.50



Size	Threads Per Inch	Outside Diameter	Price Each	
			Right Hand 761	Left Hand 761L
3/4	14	2-1/2	95.40	121.50
1	11-1/2	2-1/2	95.40	121.50
1	11-1/2	4	229.50	—
1-1/4	11-1/2	2-1/2	95.40	121.50
1-1/4	11-1/2	3	175.50	216.00
1-1/2	11-1/2	3	175.50	216.00
1-1/2	11-1/2	4	229.50	—
2	11-1/2	4	229.50	315.00
2-1/2	8	4	229.50	315.00
3	8	5	310.00	—

# NPT Carbon Round Split Dies

Screw Adjusting Type

List No. 760CB

Size	Threads Per Inch	Outside Diameter	Price Each
1/8	27	1	7.00
1/8	27	1-1/2	13.00
1/4	18	1-1/2	13.00

Size	Threads Per Inch	Outside Diameter	Price Each
1/4	18	2	21.00
3/8	18	1-1/2	13.00
3/8	18	2	21.00



Size	Threads Per Inch	Outside Diameter	Price Each
1/2	14	2	21.00
3/4	14	2	21.00
1	11-1/2	2-1/2	44.00



## Round Die Stocks

For holding adjustable round split dies.



Die Diameter	Tool No.	Price Each	Die Diameter	Tool No.	Price Each
5/8	TWS1	17.10	2-1/2	TWS6	55.08
13/16	TWS2	17.10	3	TWS7	91.80
1	TWS3	19.80	4	TWS8	152.10
1-1/2	TWS4	30.60	5	TWS9	247.50
2	TWS5	39.69	7-1/2	TWS10	396.00



## Die Holder

Can be used safely for threading shafts on lathes, milling machines and tapping heads.



Size	Shank Size	Tool No.	Price Each
13/16	1/2	TWF1	26.10
1	1/2	TWF2	26.10
1-1/2	3/4	TWF3	39.60

# British Standard Split Dies

High Speed Steel Screw Adjustable

**MDX**  
SUPERIOR IMPORT



## Pipe Fitting & Pipe Taper

List No. **755** – BSPP British Standard Pipe Fitting  
List No. **756** – BSPT British Standard Pipe Taper



55° Thread Angle

Size	Threads Per Inch	Outside Diameter	Price Each	
			BSPP 755	BSPT 756
1/8	28	1	39.61	39.61
1/8	28	1-1/2	44.55	44.55
1/4	19	1-1/2	44.55	44.55
1/4	19	2	76.14	76.14
3/8	19	1-1/2	44.55	44.55
3/8	19	2	76.14	76.14
1/2	14	1-1/2	45.55	45.55

Size	Threads Per Inch	Outside Diameter	Price Each	
			BSPP 755	BSPT 756
1/2	14	2	76.14	76.14
5/8	14	2	76.14	76.14
3/4	14	2	76.14	76.14
7/8	14	2	76.14	76.14
1	11	2-1/2	104.94	104.94
1-1/4	11	3	198.00	—
1-3/4	11	4	316.80	—

## Cycle

List No. **757** – British Standard Cycle

Size	Threads Per Inch	Outside Diameter	Price Each
1/4	26	1	29.61
5/16	26	1	29.61
3/8	26	1	29.61
7/16*	26	1	29.61
7/16*	26	1-1/2	44.55
1/2	26	1	29.61
1/2*	26	1-1/2	44.55

## Fine

List No. **758** – British Standard Fine

Size	Threads Per Inch	Outside Diameter	Price Each	Size	Threads Per Inch	Outside Diameter	Price Each
3/16	32	1	29.61	5/8	14	1-1/2	44.55
1/4	26	1	29.61	5/8	14	2-1/2	104.94
5/16	22	1	29.61	11/16	14	2	76.14
3/8	20	1	29.61	11/16	14	2-1/2	104.94
7/16	18	1	29.61	3/4	12	1-1/2	45.55
1/2	16	1	29.61	7/8	11	2	76.14
1/2	16	1-1/2	44.55	15/16	11	2-1/2	104.94
9/16	16	1-1/2	44.55				

\*Available in Left Hand

# WHITWORTH Round & Hex Dies

High Speed Steel or Carbon



**MDX**  
SUPERIOR IMPORT

List No. **751W** – BSW Round British Standard - Screw Adjustable

List No. **765W** – BSW Hex British Standard

55° Thread Angle



Size	Threads Per Inch	Round HSS 751W		Hex Carbon 765W
		Outside Dia.	Price Each	Price Each
1/16	60	16mm	29.61	—
3/32	48	16mm	29.61	—
1/8	40	1"	29.61	14.69
5/32	32	20mm	29.61	14.69
3/16	24	1"	29.61	14.69
1/4	20	1"	29.61	14.69
5/16	18	1"	29.61	16.20
3/8	16	1"	29.61	17.10
7/16	14	1"	29.61	19.22
1/2	12	1"	29.61	21.50
1/2	12	1-1/2	44.55	—

Size	Threads Per Inch	Round HSS 751W		Hex Carbon 765W
		Outside Dia.	Price Each	Price Each
9/16	12	38mm	44.55	24.85
5/8	11	45mm	49.00	26.27
3/4	10	1-1/2	44.55	36.48
3/4	10	2	74.11	—
7/8	9	2"	76.14	39.90
1"	8	2"	76.14	45.90
1-3/8	6	65mm	235.95	73.30
1-5/8	5	75mm	235.95	129.07
1-3/4	5	90mm	316.80	—
1-7/8	4-1/2	90mm	316.80	195.00
2"	4-1/2	90mm	405.85	204.30

# British Standard Hex Dies

Carbon Steel

List No. **766PP** – Pipe Straight

List No. **766PT** – Pipe Taper



**MDX**  
SUPERIOR IMPORT

Size	Threads Per Inch	766PP Price Each	766PT Price Each
1/8	28	20.52	20.52
1/4	19	30.67	30.67
3/8	19	40.39	40.39
1/2	14	53.14	53.14

Size	Threads Per Inch	766PP Price Each	766PT Price Each
5/8	14	62.06	62.06
3/4	14	68.69	68.69
7/8	14	81.45	81.45
1	11	90.50	—

# Left Hand Round Split Dies

High Speed Steel – Screw Adjusting Type



List No. 751L

Size	Threads Per Inch	Outside Diameter	Price Each
0	80	13/16	25.65
0	80	1	31.50
1	56	13/16	25.65
1	64	13/16	25.65
1	72	13/16	25.65
2	56	13/16	25.65
2	56	1	31.50
2	64	13/16	25.65
2	64	1	31.50
3	48	13/16	25.65
3	48	1	31.50
3	56	13/16	25.65
3	56	1	31.50
4	40	13/16	25.65
4	40	1	31.50
4	48	13/16	25.65
4	48	1	31.50
5	40	13/16	25.65
5	40	1	31.50
5	44	13/16	25.65
5	44	1	31.50
6	32	13/16	25.65
6	32	1	31.50
6	40	13/16	25.65
6	40	1	31.50
8	32	13/16	25.65
8	32	1	31.50
8	36	13/16	25.65
8	36	1	31.50
10	24	13/16	25.65
10	24	1	31.50
10	32	13/16	25.65

Size	Threads Per Inch	Outside Diameter	Price Each
10	32	1	31.50
12	24	13/16	25.65
12	24	1	31.50
12	28	13/16	25.65
12	28	1	31.50
1/4	20	1	31.50
1/4	20	1-1/2	48.60
1/4	20	2	82.80
1/4	28	1	31.50
1/4	28	1-1/2	48.60
5/16	18	1	31.50
5/16	18	1-1/2	48.60
5/16	18	2	82.80
5/16	24	1	31.50
5/16	24	1-1/2	48.60
3/8	16	1	31.50
3/8	16	1-1/2	48.60
3/8	16	2	82.80
3/8	24	1	31.50
3/8	24	1-1/2	48.60
7/16	14	1	31.50
7/16	14	1-1/2	48.60
7/16	20	1	31.50
7/16	20	1-1/2	48.60
7/16	20	2	82.80
1/2	13	1	31.50
1/2	13	1-1/2	48.60
1/2	13	2	82.80
1/2	20	1	31.50
1/2	20	1-1/2	48.60
1/2	20	2	82.80
9/16	12	1	31.50

Size	Threads Per Inch	Outside Diameter	Price Each
9/16	12	1-1/2	48.60
9/16	12	2	82.80
9/16	18	1-1/2	48.60
9/16	18	2	82.80
5/8	18	1-1/2	48.60
5/8	18	2	82.80
5/8	11	1-1/2	48.60
5/8	11	2	82.80
11/16	11	1-1/2	48.60
11/16	11	2	82.80
11/16	16	1-1/2	48.60
3/4	10	1-1/2	48.60
3/4	10	2	82.80
3/4	16	1-1/2	48.60
3/4	16	2	82.80
7/8	9	2	82.80
7/8	9	2-1/2	114.75
7/8	14	2	82.80
1	8	2	82.80
1	12	2	82.80
1	14	2	82.80
1-1/8	7	2-1/2	114.75
1-1/8	12	2-1/2	114.75
1-1/4	7	2-1/2	114.75
1-1/4	12	2-1/2	114.75
1-3/8	6	2-1/2	114.75
1-3/8	12	2-1/2	114.75
1-3/8	12	3	210.60
1-1/2	6	2-1/2	114.75
1-1/2	6	3	210.60
1-1/2	12	2-1/2	114.75
1-1/2	12	3	210.60

THREADING

# Metric Left Hand Round Split Dies

High Speed Steel – Screw Adjusting Type



List No. 753LH

Size	Pitch	Outside Diameter	Price Each
2.00	.40	1	32.89
2.30	.40	1	32.89
2.50	.45	1	32.89
2.60	.45	1	32.89
3.00	.50	1	32.89
3.50	.60	1	32.89
4.00	.70	1	32.89
4.50	.75	1	32.89
5.00	.80	1	32.89
5.50	.90	1	32.89
6.00	1.00	1	32.89
7.00	1.00	1	32.89
8.00	1.00	1	32.89

Size	Pitch	Outside Diameter	Price Each
8.00	1.25	1	32.89
9.00	1.25	1	32.89
10.00	1.00	1	32.89
10.00	1.25	1	32.89
10.00	1.50	1	32.89
10.00	1.75	1	32.89
11.00	1	1	32.89
12.00	1.25	1	32.89
12.00	1.25	1-1/2	49.50
12.00	1.50	1	32.89
12.00	1.50	1-1/2	49.50
12.00	1.75	1	32.89
12.00	1.75	1-1/2	49.50

Size	Pitch	Outside Diameter	Price Each
14.00	1.00	1-1/2	49.50
14.00	1.25	1-1/2	49.50
14.00	1.50	1-1/2	49.50
14.00	2.00	1-1/2	49.50
16.00	1.50	1-1/2	49.50
16.00	2.00	1-1/2	49.50
18.00	1.00	1-1/2	49.50
18.00	1.50	1-1/2	49.50
18.00	2.50	1-1/2	49.50
20.00	1.50	1-1/2	49.50
20.00	2.50	1-1/2	49.50



# Carbon Left Hand Round Split Dies

Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

THREADING

List No. **751CBL** – Left Hand

Size	Threads Per Inch	Outside Diameter	Price Each
0	80	5/8	7.00
0	80	13/16	8.00
1	56	5/8	12.00
1	56	13/16	14.00
1	64	5/8	7.00
1	64	13/16	8.00
1	72	5/8	7.00
1	72	13/16	8.00
2	56	5/8	7.00
2	56	13/16	8.00
2	64	5/8	7.00
2	64	13/16	8.00
3	48	5/8	7.00
3	48	13/16	8.00
3	56	5/8	7.00
3	56	13/16	8.00
4	32	5/8	12.00
4	32	13/16	14.00
4	36	5/8	12.00
4	40	5/8	7.00
4	48	13/16	8.00
5	40	13/16	8.00
5	44	13/16	8.00
6	32	1	9.00
6	36	5/8	12.00
6	40	13/16	8.00
8	32	1	9.00

Size	Threads Per Inch	Outside Diameter	Price Each
8	36	13/16	8.00
10	24	13/16	8.00
10	24	1	9.00
12	24	13/16	8.00
12	28	13/16	8.00
14	24	5/8	12.00
1/4	20	1	9.00
1/4	20	1-1/2	18.00
1/4	20	2	30.00
1/4	27	1-1/2	24.50
1/4	28	1-1/2	18.00
1/4	28	2	30.00
5/16	18	1	9.00
5/16	18	1-1/2	18.00
5/16	24	1	9.00
5/16	24	2	30.00
3/8	16	1	9.00
3/8	16	1-1/2	18.00
3/8	16	2	30.00
7/16	14	1	9.00
7/16	14	1-1/2	18.00
7/16	20	1-1/2	18.00
7/16	20	2	30.00
1/2	13	1	9.00
1/2	13	1-1/2	18.00
1/2	13	2	30.00
1/2	20	1	9.00

Size	Threads Per Inch	Outside Diameter	Price Each
1/2	20	1-1/2	18.00
1/2	20	2	30.00
9/16	12	1-1/2	18.00
9/16	12	2	30.00
9/16	12	2-1/2	40.00
9/16	18	2	30.00
9/16	18	2-1/2	40.00
5/8	11	2-1/2	40.00
5/8	18	1-1/2	18.00
5/8	18	2	30.00
5/8	18	2-1/2	40.00
11/16	24	2	38.00
3/4	10	2-1/2	40.00
3/4	16	1-1/2	18.00
3/4	16	2	30.00
3/4	16	2-1/2	40.00
7/8	9	2	30.00
7/8	9	2-1/2	40.00
7/8	14	2-1/2	40.00
1	8	2	30.00
1	8	2-1/2	40.00
1	12	2	30.00
1	14	2	30.00
1	14	2-1/2	40.00
1-1/16	18	3	105.00
1-1/2	18	3	105.00
1-9/16	18	3	105.00

# Left Hand Special Thread Round Split Dies

High Speed Steel – Screw Adjusting Type



**High Speed**  
**MDX**  
SUPERIOR IMPORT

List No. **759LH**

Size	Threads Per Inch	Outside Diameter	Price Each
1	56	13/16	39.80
4	36	13/16	26.65
4	36	1	31.50
6	36	13/16	39.80
10	28	13/16	39.80
10	48	13/16	39.80
12	32	13/16	39.80
14	24	1	46.75
1/4	24	1-1/2	72.60
1/4	27	1	46.75
1/4	32	1	46.75
5/16	27	1-1/2	72.60
5/16	32	1	46.75
5/16	32	1-1/2	72.60
5/16	40	1	46.75

Size	Threads Per Inch	Outside Diameter	Price Each
5/16	40	1-1/2	72.60
3/8	20	1	46.75
3/8	27	1-1/2	72.60
3/8	32	1	46.75
3/8	32	1-1/2	72.60
3/8	40	1-1/2	72.60
7/16	24	1	46.75
7/16	28	1	46.75
1/2	24	1	46.75
1/2	24	1-1/2	72.60
1/2	28	1-1/2	72.60
1/2	32	1	46.75
1/2	32	1-1/2	72.60
9/16	20	1-1/2	72.60
5/8	24	1-1/2	72.60

Size	Threads Per Inch	Outside Diameter	Price Each
5/8	32	1-1/2	72.60
11/16	24	2	108.90
3/4	20	1-1/2	72.60
3/4	24	1-1/2	72.60
3/4	32	1-1/2	72.60
1-1/8	8	2-1/2	165.00
1-1/4	8	2-1/2	165.00
1-3/8	8	2-1/2	165.00
1-1/2	8	2-1/2	165.00
1-5/8	5-1/2	3	320.00
1-5/8	12	3	320.00
1-3/4	5	3	320.00
2	4-1/2	3	320.00
2-1/4	16	4	385.00
2-3/8	16	4	385.00

## Hex Die Adapters

Hexagon die adapters are utilized when the space limitations do not allow the use of die stocks.

**MDX**  
SUPERIOR IMPORT

OD Size Round Die	Dia. Across the Flats	Thickness	Tool No.	Price Each
13/16	1-1/16	11/32	<b>TWA1</b>	24.30
1	1-1/4	15/32	<b>TWA2</b>	24.30
1-1/2	1-31/32	13/16	<b>TWA3</b>	25.38

OD Size Round Die	Dia. Across the Flats	Thickness	Tool No.	Price Each
2	2-9/16	3/4	<b>TWA4</b>	26.46
2-1/2	3	29/32	<b>TWA5</b>	39.96
3	3-1/2	1-1/4	<b>TWA6</b>	58.50



# Special Thread Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

List No. 759 – Right Hand

THREADING

Size	Threads Per Inch	Outside Diameter	Price Each
00	90	13/16	31.35
00	96	13/16	31.35
0	72	13/16	31.35
0	80	13/16	31.35
0	96	13/16	31.35
1	48	13/16	31.35
1	56	13/16	31.35
1	80	13/16	31.35
2	48	13/16	31.35
2	72	13/16	31.35
2	80	13/16	31.35
3	64	13/16	31.35
3	72	13/16	31.35
3	80	13/16	31.35
4	32	13/16	31.35
4	32	1	32.90
4	36	13/16	31.35
4	36	1	32.90
4	56	13/16	31.35
4	56	1	32.90
4	60	13/16	31.35
4	60	1	32.90
4	64	13/16	31.35
4	64	1	32.90
4	72	13/16	31.35
4	80	13/16	31.35
4	80	1	32.90
5	32	13/16	31.35
5	32	1	32.90
5	36	13/16	31.35
5	36	1	32.90
5	48	13/16	31.35
5	48	1	32.90
5	56	1	32.90
5	60	13/16	31.35
5	60	1	32.90
5	64	13/16	31.35
5	64	1	32.90
5	72	13/16	31.35
5	80	13/16	31.35
6	30	13/16	31.35
6	30	1	32.90
6	36	1	32.90
6	48	13/16	31.35
6	48	1	32.90
6	56	13/16	31.35
6	56	1	32.90
6	60	13/16	31.35
6	64	13/16	31.35
6	80	13/16	31.35
8	24	13/16	31.35
8	24	1	32.90
8	30	13/16	31.35
8	30	1	32.90
8	40	13/16	31.35
8	40	1	32.90
8	48	13/16	31.35
8	48	1	32.90
8	56	13/16	31.35
8	56	1	32.90
8	60	13/16	31.35
8	64	13/16	31.35
8	64	1	32.90
8	80	13/16	31.35
10	26	13/16	31.35
10	26	1	32.90
10	27	1	32.90
10	28	13/16	31.35
10	28	1	32.90
10	30	13/16	31.35

Size	Threads Per Inch	Outside Diameter	Price Each
10	30	1	32.90
10	36	13/16	31.35
10	36	1	32.90
10	40	13/16	31.35
10	40	1	32.90
10	48	13/16	31.35
10	48	1	32.90
10	56	13/16	31.35
10	56	1	32.90
10	60	13/16	31.35
10	64	13/16	31.35
10	64	1	32.90
10	72	13/16	31.35
10	80	13/16	31.35
10	80	1	32.90
12	26	1	32.90
12	27	1	32.90
12	30	13/16	31.35
12	30	1	32.90
12	32	13/16	31.35
12	32	1	32.90
12	36	13/16	31.35
12	36	1	32.90
12	40	13/16	31.35
12	40	1	32.90
12	48	13/16	31.35
12	48	1	32.90
12	50	1	32.90
12	56	13/16	31.35
12	56	1	32.90
12	64	13/16	31.35
14	20	13/16	31.35
14	20	1	32.90
14	24	13/16	31.35
14	24	1	32.90
14	27	1	32.90
14	28	1	32.90
14	30	1	32.90
14	32	1	32.90
14	48	1	32.90
5/32	24	1	32.90
5/32	32	1	32.90
5/32	36	1	32.90
5/32	48	1	32.90
3/16	48	1	32.90
7/32	24	1	32.90
7/32	32	1	32.90
7/32	40	1	32.90
1/4	14	1	32.90
1/4	16	1	32.90
1/4	18	13/16	31.35
1/4	18	1	32.90
1/4	22	1	32.90
1/4	22	1-1/2	49.50
1/4	24	1	32.90
1/4	24	1-1/2	49.50
1/4	26	1	32.90
1/4	27	1	32.90
1/4	27	1-1/2	49.50
1/4	30	1	32.90
1/4	30	1-1/2	49.50
1/4	32	13/16	31.35
1/4	32	1	32.90
1/4	32	1-1/2	49.50
1/4	36	1	32.90
1/4	36	1-1/2	49.50
1/4	40	1	32.90
1/4	40	1-1/2	49.50
1/4	42	2	84.60

Size	Threads Per Inch	Outside Diameter	Price Each
1/4	48	1	32.90
1/4	48	1-1/2	49.50
1/4	56	1	32.90
1/4	60	1	32.90
1/4	64	1	32.90
1/4	72	1	32.90
1/4	80	1	32.90
9/32	32	13/16	31.35
5/16	16	1	32.90
5/16	16	1-1/2	49.50
5/16	20	1	32.90
5/16	20	1-1/2	49.50
5/16	22	1	32.90
5/16	22	1-1/2	49.50
5/16	26	1	32.90
5/16	27	1	32.90
5/16	27	1-1/2	49.50
5/16	28	1	32.90
5/16	28	1-1/2	49.50
5/16	30	1	32.90
5/16	30	1-1/2	49.50
5/16	32	1	32.90
5/16	32	1-1/2	49.50
5/16	36	1	32.90
5/16	36	1-1/2	49.50
5/16	40	1	32.90
5/16	40	1-1/2	49.50
5/16	48	1	32.90
5/16	48	1-1/2	49.50
5/16	56	1	32.90
5/16	60	1	32.90
5/16	64	1	32.90
5/16	72	1	32.90
5/16	80	1	32.90
11/32	32	1	32.90
11/32	40	1	32.90
3/8	14	1	32.90
3/8	14	1-1/2	49.50
3/8	18	1	32.90
3/8	18	1-1/2	49.50
3/8	20	1	32.90
3/8	20	1-1/2	49.50
3/8	22	1	32.90
3/8	22	1-1/2	49.50
3/8	26	1	32.90
3/8	26	1-1/2	49.50
3/8	27	1	32.90
3/8	27	1-1/2	49.50
3/8	28	1	32.90
3/8	28	1-1/2	49.50
3/8	30	1	32.90
3/8	30	1-1/2	49.50
3/8	32	1	32.90
3/8	32	1-1/2	49.50
3/8	36	1	32.90
3/8	36	1-1/2	49.50
3/8	36	2	84.60
3/8	40	1	32.90
3/8	40	1-1/2	49.50
3/8	48	1	32.90
3/8	48	1-1/2	49.50
3/8	56	1	32.90
3/8	56	1-1/2	49.50
3/8	60	1	32.90
3/8	64	1	32.90
3/8	72	1	32.90
3/8	80	1	32.90
13/32	32	1	32.90
13/32	36	1	32.90

# Special Thread Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

List No. 759 – Right Hand

Size	Threads Per Inch	Outside Diameter	Price Each
13/32	40	1	32.90
7/16	12	1	32.90
7/16	12	1-1/2	49.50
7/16	16	1	32.90
7/16	16	1-1/2	49.50
7/16	18	1	32.90
7/16	18	1-1/2	49.50
7/16	18	2	84.60
7/16	22	1-1/2	49.50
7/16	24	1	32.90
7/16	24	1-1/2	49.50
7/16	24	2	84.60
7/16	26	1	32.90
7/16	27	1	32.90
7/16	27	1-1/2	49.50
7/16	28	1	32.90
7/16	28	1-1/2	49.50
7/16	30	1	32.90
7/16	30	1-1/2	49.50
7/16	32	1	32.90
7/16	32	1-1/2	49.50
7/16	36	1	32.90
7/16	36	1-1/2	49.50
7/16	40	1	32.90
7/16	40	1-1/2	49.50
7/16	48	1	32.90
7/16	48	1-1/2	49.50
7/16	56	1	32.90
7/16	64	1	32.90
15/32	32	1	32.90
15/32	32	1-1/2	49.50
15/32	36	1	32.90
15/32	40	1	32.90
1/2	10	1	32.90
1/2	12	1	32.90
1/2	12	1-1/2	49.50
1/2	12	2	84.60
1/2	14	1	32.90
1/2	14	1-1/2	49.50
1/2	16	1	32.90
1/2	16	1-1/2	49.50
1/2	16	2	84.60
1/2	18	1	32.90
1/2	18	1-1/2	49.50
1/2	18	2	84.60
1/2	22	1	32.90
1/2	22	1-1/2	49.50
1/2	24	1	32.90
1/2	24	1-1/2	49.50
1/2	24	2	84.60
1/2	26	1-1/2	49.50
1/2	27	1	32.90
1/2	27	1-1/2	49.50
1/2	27	2	84.60
1/2	28	1	32.90
1/2	28	1-1/2	49.50
1/2	28	2	84.60
1/2	30	1	32.90
1/2	30	1-1/2	49.50
1/2	30	2	84.60
1/2	32	1	32.90
1/2	32	1-1/2	49.50
1/2	32	2	84.60
1/2	36	1	32.90
1/2	36	1-1/2	49.50
1/2	40	1	32.90
1/2	40	1-1/2	49.50
1/2	48	1	32.90
1/2	48	1-1/2	49.50

Size	Threads Per Inch	Outside Diameter	Price Each
1/2	56	1	32.90
1/2	56	1-1/2	49.50
1/2	60	1	32.90
1/2	64	1	32.90
1/2	80	1	32.90
9/16	14	1-1/2	49.50
9/16	14	2	84.60
9/16	16	1-1/2	49.50
9/16	20	1-1/2	49.50
9/16	20	2	84.60
9/16	22	1-1/2	49.50
9/16	24	1-1/2	49.50
9/16	24	2	84.60
9/16	26	1-1/2	49.50
9/16	27	1-1/2	49.50
9/16	27	2	84.60
9/16	28	1-1/2	49.50
9/16	28	2	84.60
9/16	30	1-1/2	49.50
9/16	30	2	84.60
9/16	32	1-1/2	49.50
9/16	32	2	84.60
9/16	36	1-1/2	49.50
9/16	36	2	84.60
9/16	40	1-1/2	49.50
9/16	48	1-1/2	49.50
9/16	56	1-1/2	49.50
9/16	72	1-1/2	49.50
5/8	10	1-1/2	49.50
5/8	10	2	84.60
5/8	12	1-1/2	49.50
5/8	12	2	84.60
5/8	14	1-1/2	49.50
5/8	14	2	84.60
5/8	16	1-1/2	49.50
5/8	16	2	84.60
5/8	20	1-1/2	49.50
5/8	20	2	84.60
5/8	22	1-1/2	49.50
5/8	24	1-1/2	49.50
5/8	24	2	84.60
5/8	26	1-1/2	49.50
5/8	27	1-1/2	49.50
5/8	27	2	84.60
5/8	28	1-1/2	49.50
5/8	30	1-1/2	49.50
5/8	32	1-1/2	49.50
5/8	32	2	84.60
5/8	36	1-1/2	49.50
5/8	40	1-1/2	49.50
5/8	40	2	84.60
5/8	48	1-1/2	49.50
5/8	56	1-1/2	49.50
5/8	64	1-1/2	49.50
5/8	80	1-1/2	49.50
11/16	12	1-1/2	49.50
11/16	12	2	84.60
11/16	14	1-1/2	49.50
11/16	14	2	84.60
11/16	18	1-1/2	49.50
11/16	18	2	84.60
11/16	20	1-1/2	49.50
11/16	20	2	84.60
11/16	24	1-1/2	49.50
11/16	24	2	84.60
11/16	27	1-1/2	49.50
11/16	27	2	84.60
11/16	28	2	84.60
11/16	32	1-1/2	49.50

Size	Threads Per Inch	Outside Diameter	Price Each
11/16	32	2	84.60
11/16	36	1-1/2	49.50
11/16	36	2	84.60
11/16	40	1-1/2	49.50
11/16	40	2	84.60
11/16	48	1-1/2	49.50
11/16	70	1-1/2	49.50
3/4	8	1-1/2	49.50
3/4	11-1/2	1-1/2	49.50
3/4	12	1-1/2	49.50
3/4	12	2	84.60
3/4	12	3	214.50
3/4	14	1-1/2	49.50
3/4	14	2	84.60
3/4	18	1-1/2	49.50
3/4	18	2	84.60
3/4	20	1-1/2	49.50
3/4	20	2	84.60
3/4	24	1-1/2	49.50
3/4	24	2	84.60
3/4	27	1-1/2	49.50
3/4	27	2	84.60
3/4	28	1-1/2	49.50
3/4	28	2	84.60
3/4	30	1-1/2	49.50
3/4	32	1-1/2	49.50
3/4	32	2	84.60
3/4	36	1-1/2	49.50
3/4	36	2	84.60
3/4	40	1-1/2	49.50
3/4	40	2	84.60
3/4	48	1-1/2	49.50
3/4	56	1-1/2	49.50
3/4	64	1-1/2	49.50
3/4	72	1-1/2	49.50
13/16	10	1-1/2	49.50
13/16	10	2	84.60
13/16	12	1-1/2	49.50
13/16	12	2	84.60
13/16	14	2	84.60
13/16	16	1-1/2	49.50
13/16	16	2	84.60
13/16	18	2	84.60
13/16	20	1-1/2	49.50
13/16	20	2	84.60
13/16	24	1-1/2	49.50
13/16	24	2	84.60
13/16	27	2	84.60
13/16	28	1-1/2	49.50
13/16	28	2	84.60
13/16	30	2	84.60
13/16	32	1-1/2	49.50
13/16	32	2	84.60
13/16	36	2	84.60
13/16	40	1-1/2	49.50
13/16	40	2	84.60
13/16	48	1-1/2	49.50
13/16	48	2	84.60
7/8	10	2	84.60
7/8	12	2	84.60
7/8	16	2	84.60
7/8	18	2	84.60
7/8	20	2	84.60
7/8	24	2	84.60
7/8	27	2	84.60
7/8	28	2	84.60
7/8	30	2	84.60
7/8	32	2	84.60
7/8	36	2	84.60

THREADING

# Special Thread Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

List No. 759 – Right Hand

THREADING

Size	Threads Per Inch	Outside Diameter	Price Each
7/8	40	2	84.60
7/8	48	2	84.60
15/16	9	2	84.60
15/16	10	2	84.60
15/16	12	2	84.60
15/16	14	2	84.60
15/16	16	2	84.60
15/16	18	2	84.60
15/16	20	2	84.60
15/16	24	2	84.60
15/16	27	2	84.60
15/16	28	2	84.60
15/16	30	2	84.60
15/16	32	2	84.60
15/16	40	2	84.60
1	10	2	84.60
1	10	2-1/2	116.60
1	10	3	214.50
1	16	2	84.60
1	16	2-1/2	116.60
1	16	3	214.50
1	18	2	84.60
1	18	2-1/2	116.60
1	18	3	214.50
1	20	2	84.60
1	20	2-1/2	116.60
1	20	3	214.50
1	24	2	84.60
1	24	2-1/2	116.60
1	24	3	214.50
1	26	2	84.60
1	26	2-1/2	116.60
1	27	2	84.60
1	27	2-1/2	116.60
1	28	2	84.60
1	28	2-1/2	116.60
1	30	2	84.60
1	32	2	84.60
1	32	2-1/2	116.60
1	36	2	84.60
1	40	2	84.60
1	48	2	84.60
1	56	2	84.60
1	64	2	84.60
1-1/16	7	2-1/2	116.60
1-1/16	8	2-1/2	116.60
1-1/16	8	3	214.50
1-1/16	10	2-1/2	116.60
1-1/16	10	3	214.50
1-1/16	12	2	84.60
1-1/16	12	2-1/2	116.60
1-1/16	12	3	214.50
1-1/16	14	2	84.60
1-1/16	14	2-1/2	116.60
1-1/16	14	3	214.50
1-1/16	14	3	214.50
1-1/16	16	2	84.60
1-1/16	16	2-1/2	116.60
1-1/16	16	3	214.50
1-1/16	18	2	84.60
1-1/16	18	2-1/2	116.60
1-1/16	18	3	214.50
1-1/16	20	2	84.60
1-1/16	20	2-1/2	116.60
1-1/16	20	3	214.50

Size	Threads Per Inch	Outside Diameter	Price Each
1-1/16	24	2-1/2	116.60
1-1/16	24	3	214.50
1-1/16	27	2	84.60
1-1/16	27	2-1/2	116.60
1-1/16	28	2-1/2	116.60
1-1/16	32	2-1/2	116.60
1-1/16	40	2-1/2	116.60
1-1/8	8	2-1/2	116.60
1-1/8	8	3	214.50
1-1/8	10	2-1/2	116.60
1-1/8	10	3	214.50
1-1/8	14	2-1/2	116.60
1-1/8	14	3	214.50
1-1/8	16	2-1/2	116.60
1-1/8	16	3	214.50
1-1/8	17	2-1/2	116.60
1-1/8	18	2-1/2	116.60
1-1/8	18	3	214.50
1-1/8	20	2	84.60
1-1/8	20	2-1/2	116.60
1-1/8	20	3	214.50
1-1/8	24	2-1/2	116.60
1-1/8	24	3	214.50
1-1/8	26	2-1/2	116.60
1-1/8	27	2-1/2	116.60
1-1/8	28	2-1/2	116.60
1-1/8	30	2-1/2	116.60
1-1/8	32	2-1/2	116.60
1-1/8	40	2-1/2	116.60
1-3/16	7	2-1/2	116.60
1-3/16	8	2-1/2	116.60
1-3/16	8	3	214.50
1-3/16	10	2-1/2	116.60
1-3/16	12	2-1/2	116.60
1-3/16	12	3	214.50
1-3/16	14	2-1/2	116.60
1-3/16	16	2-1/2	116.60
1-3/16	16	3	214.50
1-3/16	18	2-1/2	116.60
1-3/16	20	2-1/2	116.60
1-3/16	24	2-1/2	116.60
1-3/16	27	2-1/2	116.60
1-3/16	28	2-1/2	116.60
1-3/16	32	2-1/2	116.60
1-3/16	40	2-1/2	116.60
1-1/4	6	2-1/2	116.60
1-1/4	6	3	214.50
1-1/4	8	2-1/2	116.60
1-1/4	8	3	214.50
1-1/4	10	2-1/2	116.60
1-1/4	10	3	214.50
1-1/4	14	2-1/2	116.60
1-1/4	14	3	214.50
1-1/4	16	2-1/2	116.60
1-1/4	16	3	214.50
1-1/4	18	2-1/2	116.60
1-1/4	18	3	214.50
1-1/4	20	2-1/2	116.60
1-1/4	20	3	214.50
1-1/4	24	2-1/2	116.60
1-1/4	24	3	214.50
1-1/4	26	2-1/2	116.60
1-1/4	27	2-1/2	116.60
1-1/4	28	2-1/2	116.60
1-1/4	30	2-1/2	116.60
1-1/4	32	2-1/2	116.60

Size	Threads Per Inch	Outside Diameter	Price Each
1-1/4	32	3	214.50
1-1/4	36	2-1/2	116.60
1-1/4	40	2-1/2	116.60
1-5/16	8	2-1/2	116.60
1-5/16	8	3	214.50
1-5/16	10	2-1/2	116.60
1-5/16	10	3	214.50
1-5/16	12	2-1/2	116.60
1-5/16	12	3	214.50
1-5/16	14	2-1/2	116.60
1-5/16	14	3	214.50
1-5/16	16	2-1/2	116.60
1-5/16	16	3	214.50
1-5/16	18	2-1/2	116.60
1-5/16	18	3	214.50
1-5/16	20	2-1/2	116.60
1-5/16	20	3	214.50
1-5/16	24	2-1/2	116.60
1-5/16	27	2-1/2	116.60
1-5/16	32	2-1/2	116.60
1-11/32	14	2-1/2	116.60
1-3/8	5	2-1/2	116.60
1-3/8	7	2-1/2	116.60
1-3/8	7	3	214.50
1-3/8	8	2-1/2	116.60
1-3/8	8	3	214.50
1-3/8	10	2-1/2	116.60
1-3/8	10	3	214.50
1-3/8	14	2-1/2	116.60
1-3/8	14	3	214.50
1-3/8	16	2-1/2	116.60
1-3/8	16	3	214.50
1-3/8	18	2-1/2	116.60
1-3/8	18	3	214.50
1-3/8	20	2-1/2	116.60
1-3/8	20	3	214.50
1-3/8	24	2-1/2	116.60
1-3/8	24	3	214.50
1-3/8	27	2-1/2	116.60
1-3/8	28	3	214.50
1-3/8	32	2-1/2	116.60
1-3/8	32	3	214.50
1-13/32	14	2-1/2	116.60
1-7/16	6	2-1/2	116.60
1-7/16	6	3	214.50
1-7/16	8	2-1/2	116.60
1-7/16	8	3	214.50
1-7/16	12	2-1/2	116.60
1-7/16	12	3	214.50
1-7/16	16	2-1/2	116.60
1-7/16	16	3	214.50
1-7/16	18	2-1/2	116.60
1-7/16	18	3	214.50
1-7/16	20	2-1/2	116.60
1-7/16	24	2-1/2	116.60
1-7/16	27	2-1/2	116.60
1-7/16	28	2-1/2	116.60
1-1/2	7	2-1/2	116.60
1-1/2	8	2-1/2	116.60
1-1/2	8	3	214.50
1-1/2	10	2-1/2	116.60
1-1/2	10	3	214.50
1-1/2	14	2-1/2	116.60
1-1/2	14	3	214.50
1-1/2	16	2-1/2	116.60
1-1/2	16	3	214.50

# Special Thread Round Adjustable Split Dies

High Speed Steel – Screw Adjusting Type



**MDX**  
SUPERIOR IMPORT

List No. 759 – Right Hand

Size	Threads Per Inch	Outside Diameter	Price Each
1-1/2	18	2-1/2	116.60
1-1/2	18	3	214.50
1-1/2	20	2-1/2	116.60
1-1/2	20	3	214.50
1-1/2	24	2-1/2	116.60
1-1/2	24	3	214.50
1-1/2	27	2-1/2	116.60
1-1/2	28	2-1/2	116.60
1-1/2	28	3	214.50
1-1/2	30	2-1/2	116.60
1-1/2	32	2-1/2	116.60
1-1/2	40	2-1/2	116.60
1-9/16	6	3	214.50
1-9/16	8	3	214.50
1-9/16	10	3	214.50
1-9/16	12	3	214.50
1-9/16	16	3	214.50
1-9/16	18	3	214.50
1-9/16	20	3	214.50
1-9/16	24	3	214.50
1-9/16	32	3	214.50
1-5/8	5	3	214.50
1-5/8	5-1/2	3	214.50
1-5/8	6	3	214.50
1-5/8	8	3	214.50
1-5/8	10	3	214.50
1-5/8	12	3	214.50
1-5/8	14	3	214.50
1-5/8	16	3	214.50
1-5/8	18	3	214.50
1-5/8	20	3	214.50
1-5/8	24	3	214.50
1-5/8	28	3	214.50
1-5/8	32	3	214.50
1-21/32	14	3	214.50
1-21/32	16	3	214.50
1-11/16	6	3	214.50
1-11/16	8	3	214.50
1-11/16	12	3	214.50
1-11/16	16	3	214.50
1-11/16	18	3	214.50
1-11/16	20	3	214.50
1-11/16	24	3	214.50
1-11/16	32	3	214.50
1-3/4	5	3	214.50
1-3/4	5-1/2	3	214.50
1-3/4	6	3	214.50
1-3/4	8	3	214.50
1-3/4	10	3	214.50
1-3/4	12	3	214.50
1-3/4	14	3	214.50
1-3/4	16	3	214.50
1-3/4	18	3	214.50
1-3/4	20	3	214.50
1-3/4	24	3	214.50
1-3/4	28	3	214.50
1-3/4	32	3	214.50
1-3/4	40	3	214.50
1-13/16	8	3	214.50
1-13/16	12	3	214.50
1-13/16	14	3	214.50
1-13/16	16	3	214.50
1-13/16	18	3	214.50
1-13/16	20	3	214.50
1-13/16	24	3	214.50
1-13/16	32	3	214.50
1-7/8	5	3	214.50

Size	Threads Per Inch	Outside Diameter	Price Each
1-7/8	5-1/2	3	214.50
1-7/8	6	3	214.50
1-7/8	8	3	214.50
1-7/8	10	3	214.50
1-7/8	12	3	214.50
1-7/8	14	3	214.50
1-7/8	16	3	214.50
1-7/8	18	3	214.50
1-7/8	20	3	214.50
1-7/8	24	3	214.50
1-7/8	32	3	214.50
1-15/16	8	3	214.50
1-15/16	10	3	214.50
1-15/16	12	3	214.50
1-15/16	14	3	214.50
1-15/16	16	3	214.50
1-15/16	18	3	214.50
1-15/16	20	3	214.50
1-15/16	24	3	214.50
1-15/16	32	3	214.50
2	4	3	214.50
2	4-1/2	3	214.50
2	6	3	214.50
2	8	3	214.50
2	10	3	214.50
2	12	3	214.50
2	14	3	214.50
2	16	3	214.50
2	18	3	214.50
2	18	4	264.00
2	20	3	214.50
2	24	3	214.50
2	28	3	214.50
2	32	3	214.50
2-1/8	4-1/2	4	264.00
2-1/8	8	4	264.00
2-1/8	12	4	264.00
2-1/8	16	4	264.00
2-1/8	18	4	264.00
2-1/8	20	4	264.00
2-1/4	4-1/2	4	264.00
2-1/4	8	4	264.00
2-1/4	12	4	264.00
2-1/4	16	4	264.00
2-1/4	18	4	264.00
2-1/4	20	4	264.00
2-1/4	24	4	264.00
2-5/16	6	4	264.00
2-5/16	12	4	264.00
2-5/16	16	4	264.00
2-3/8	4	4	264.00
2-3/8	8	4	264.00
2-3/8	12	4	264.00
2-3/8	16	4	264.00
2-3/8	18	4	264.00
2-3/8	20	4	264.00
2-3/8	24	4	264.00
2-1/2	4	4	264.00
2-1/2	6	4	264.00
2-1/2	8	4	264.00
2-1/2	12	4	264.00
2-1/2	16	4	264.00
2-1/2	18	4	264.00
2-5/8	4	5	448.80
2-5/8	8	5	448.80
2-5/8	12	4	448.80
2-5/8	12	5	448.80

Size	Threads Per Inch	Outside Diameter	Price Each
2-5/8	16	5	448.80
2-5/8	18	5	448.80
2-5/8	20	5	448.80
2-3/4	4	5	448.80
2-3/4	8	5	448.80
2-3/4	12	4	264.00
2-3/4	16	4	264.00
2-3/4	16	5	448.80
2-3/4	18	5	448.80
2-3/4	20	5	448.80
2-7/8	4	5	448.80
2-7/8	8	5	448.80
2-7/8	12	4	264.00
2-7/8	12	5	448.80
2-7/8	16	5	448.80
2-7/8	18	5	448.80
2-7/8	20	5	448.80
3	4	5	448.80
3	8	4	264.00
3	8	5	448.80
3	12	4	264.00
3	12	5	448.80
3	16	5	448.80
3	18	5	448.80
3	20	5	448.80
3-1/8	4	5	448.80
3-1/8	8	5	448.80
3-1/8	12	5	448.80
3-1/8	16	5	448.80
3-1/8	18	5	448.80
3-1/8	20	5	448.80
3-1/4	4	5	448.80
3-1/4	8	5	448.80
3-1/4	12	5	448.80
3-1/4	16	5	448.80
3-1/4	18	5	448.80
3-1/4	20	5	448.80
3-3/8	4	5	448.80
3-3/8	8	5	448.80
3-3/8	12	5	448.80
3-3/8	16	5	448.80
3-1/2	4	5	448.80
3-1/2	8	5	448.80
3-1/2	12	5	448.80
3-1/2	16	5	448.80
3-5/8	4	5	448.80
3-5/8	8	5	448.80
3-5/8	12	5	448.80
3-5/8	16	5	448.80
3-3/4	4	6	611.60
3-3/4	8	6	611.60
3-3/4	12	6	611.60
3-3/4	16	6	611.60
3-7/8	4	6	611.60
3-7/8	8	6	611.60
3-7/8	12	6	611.60
3-7/8	16	6	611.60
4	4	6	611.60
4	8	6	611.60
4	12	6	611.60
4	16	6	611.60
4-1/4	8	7-1/2	770.00
4-1/4	12	7-1/2	770.00
4-1/2	8	7-1/2	770.00
4-1/2	12	7-1/2	770.00

THREADING



# Hexagon Rethreading Dies

## Carbon Steel

For rethreading, damaged, jammed or rusty threads.  
No special holder is required for these dies. Any wrench large enough will suffice.

List No. **765** – Right Hand

List No. **765LH** – Left Hand



Size	Threads Per Inch	Price Each
		Right Hand 765
1	72	12.24
2	56	12.24
2	64	12.24
3	48	12.24
3	56	12.24
4	36	12.24
4	40	12.24
4	48	12.24
5	40	12.24
5	44	12.24
6	32	12.24
6	40	12.24
8	32	12.24
8	36	12.24
10	24	12.24
10	32	12.24
12	24	12.24

Size	Threads Per Inch	Price Each	
		Right Hand 765	Left Hand 765LH
12	28	12.24	
3/16	24	12.24	—
3/16	32	12.24	—
1/4	20	12.24	13.46
1/4	28	12.24	13.46
5/16	18	13.50	14.85
5/16	24	13.50	14.85
3/8	16	14.22	16.65
3/8	24	14.22	16.65
7/16	14	16.02	17.91
7/16	20	16.02	17.91
1/2	13	17.10	21.15
1/2	20	17.10	21.15
9/16	12	18.18	23.85
9/16	18	18.18	23.85
5/8	11	21.06	26.10
5/8	18	21.06	26.10

Size	Threads Per Inch	Price Each	
		Right Hand 765	Left Hand 765LH
11/16	11	23.58	30.90
11/16	16	23.58	30.90
3/4	10	27.90	35.34
3/4	16	27.90	35.34
7/8	9	31.32	39.72
7/8	14	31.32	39.72
1	8	35.82	44.94
1	12	35.82	44.94
1	14	35.82	44.94
1-1/8	7	41.94	58.50
1-1/8	12	41.94	58.50
1-1/4	7	50.40	69.50
1-1/4	12	50.40	69.50
1-3/8	6	53.82	72.25
1-3/8	12	53.82	72.25
1-1/2	6	58.32	78.90
1-1/2	12	58.32	78.90

List No. **765U** – Right Hand



Size	Threads Per Inch	Price Each
6	32	17.73
6	40	17.73
8	32	17.73
10	24	17.73
10	32	17.73
12	24	17.73
1/4	20	17.73
1/4	28	17.73
5/16	18	19.58
5/16	24	19.58
3/8	16	20.61
3/8	24	20.61

Size	Threads Per Inch	Price Each
7/16	14	23.22
7/16	20	23.22
1/2	13	24.80
1/2	20	24.80
9/16	12	26.37
9/16	18	26.37
5/8	11	30.56
5/8	18	30.56
11/16	11	34.20
11/16	16	34.20
3/4	10	40.46
3/4	16	40.46

Size	Threads Per Inch	Price Each
7/8	9	45.45
7/8	14	45.45
1"	8	51.98
1"	12	51.98
1"	14	51.98
1-1/8	7	67.50
1-1/8	12	67.50
1-1/4	7	71.28
1-1/4	12	71.28
1-3/8	6	80.10
1-3/8	12	80.10

# H.S. Hexagon Rethreading Dies

## High Speed Steel

List No. **765HS** – Right Hand

Threading Dies are designed for tough cutting applications of all types of external threads, such as threading rods, bolts and studs.



Size	Threads Per Inch	Price Each
4	40	17.10
6	32	17.10
8	32	17.10
10	24	17.10
10	32	17.10
12	24	17.10
1/4	20	17.10
1/4	28	17.10
5/16	18	19.80
5/16	24	19.80
3/8	16	21.33
3/8	24	21.33
7/16	14	24.03

Size	Threads Per Inch	Price Each
7/16	20	24.03
1/2	13	25.65
1/2	20	25.65
9/16	12	29.07
9/16	18	29.07
5/8	11	33.08
5/8	18	33.08
11/16	11	41.85
11/16	16	41.85
3/4	10	41.85
3/4	16	41.85
7/8	9	57.02
7/8	14	57.02

Size	Threads Per Inch	Price Each
1	8	74.05
1	12	74.05
1	14	74.05
1-1/8	7	89.38
1-1/8	12	89.38
1-1/4	7	103.50
1-1/4	12	103.50
1-3/8	6	121.50
1-3/8	12	121.50
1-1/2	6	157.50
1-1/2	12	157.50

# Metric Hexagon Rethreading Dies

Carbon Steel

List No. 767 – Right Hand

**MDX**<sup>®</sup>  
SUPERIOR IMPORT



THREADING

Size	Threads Per Inch	Price Each
1.60	.35	11.47
2.00	.60	11.47
2.50	.45	11.47
3.00	.35	11.47
3.00	.50	11.47
3.00	.60	11.47
3.50	.50	11.47
3.50	.60	11.47
4.00	.35	11.47
4.00	.50	11.47
4.00	.70	11.47
4.00	.75	11.47
4.50	.50	11.47
4.50	.75	11.47
5.00	.50	11.47
5.00	.75	11.47
5.00	.80	11.47
5.00	.90	12.37
5.00	1.00	12.37
5.50	.80	12.37
5.50	.90	12.37
6.00	.50	12.08
6.00	.75	12.08
6.00	1.00	12.08
6.30	1.00	12.08
7.00	.50	13.59
7.00	.75	13.59
7.00	1.00	13.59
8.00	.50	13.59
8.00	.75	13.59
8.00	1.00	13.59
8.00	1.25	13.59
8.00	1.50	13.59
8.00	1.75	14.18
9.00	.50	14.18
9.00	.75	14.18
9.00	1.00	14.18
9.00	1.25	14.18
10.00	.50	15.97
10.00	.75	15.97
10.00	1.00	15.97
10.00	1.25	15.97
10.00	1.50	15.97
11.00	.50	15.97
11.00	.75	15.97
11.00	1.00	15.97
11.00	1.25	15.97
11.00	1.50	15.97
12.00	.50	17.15
12.00	.75	17.15
12.00	1.00	17.15
12.00	1.25	17.15
12.00	1.50	17.15
12.00	1.75	17.15
13.00	.50	18.26
13.00	.75	18.26
13.00	1.00	18.26
13.00	1.25	18.26
13.00	1.50	18.26

Size	Threads Per Inch	Price Each
13.00	1.75	18.26
13.00	2.00	18.26
14.00	.50	18.26
14.00	.75	18.26
14.00	1.00	18.26
14.00	1.25	18.26
14.00	1.50	18.26
14.00	2.00	18.26
15.00	.50	20.95
15.00	1.00	20.95
15.00	1.50	20.95
15.00	2.00	20.95
16.00	.50	20.95
16.00	.75	20.95
16.00	1.00	20.95
16.00	1.25	20.95
16.00	1.50	20.95
16.00	2.00	20.95
17.00	.50	31.34
17.00	1.00	31.34
17.00	1.50	31.34
17.00	2.00	31.34
18.00	.50	31.34
18.00	1.00	31.34
18.00	1.50	31.34
18.00	2.00	31.34
18.00	2.50	31.34
19.00	.50	31.34
19.00	1.00	31.34
19.00	1.50	31.34
19.00	2.00	31.34
20.00	1.00	31.34
20.00	1.25	31.34
20.00	1.50	31.34
20.00	2.00	31.34
20.00	2.50	31.34
21.00	1.00	40.25
21.00	1.50	40.25
21.00	2.00	40.25
21.00	2.50	40.25
22.00	1.00	40.25
22.00	1.50	40.25
22.00	2.00	40.25
22.00	2.50	40.25
23.00	1.00	40.25
23.00	1.50	40.25
23.00	2.00	40.25
23.00	2.50	40.25
24.00	1.00	40.25
24.00	1.25	40.25
24.00	1.50	40.25
24.00	2.00	40.25
24.00	2.50	40.25
24.00	3.00	40.25
25.00	1.00	44.77
25.00	1.25	44.77
25.00	1.50	44.77
25.00	2.00	44.77

Size	Threads Per Inch	Price Each
26.00	1.50	44.77
26.00	2.00	44.77
26.00	3.00	44.77
27.00	1.00	44.77
27.00	1.50	44.77
27.00	2.00	44.77
27.00	3.00	44.77
28.00	1.50	54.16
28.00	2.00	54.16
30.00	1.00	54.16
30.00	1.50	54.16
30.00	2.00	54.16
30.00	3.00	54.16
30.00	3.50	54.16
32.00	1.50	59.59
32.00	3.50	59.59
33.00	1.50	59.59
33.00	2.00	59.59
33.00	3.00	44.77
33.00	3.50	59.59
34.00	1.50	65.63
34.00	3.00	65.63
35.00	1.50	65.63
36.00	1.50	65.63
36.00	2.00	65.63
36.00	3.00	65.63
36.00	4.00	65.63
38.00	1.50	71.82
39.00	1.50	71.82
39.00	2.00	71.82
39.00	3.00	71.82
39.00	4.00	71.82
40.00	1.50	89.24
40.00	2.00	89.24
42.00	1.50	89.24
42.00	2.00	89.24
42.00	3.00	89.24
42.00	4.50	89.24
45.00	1.50	108.00
45.00	3.00	108.00
45.00	4.50	108.00
48.00	1.50	126.00
48.00	3.00	126.00
48.00	5.00	126.00
50.00	1.50	135.00
52.00	1.50	170.87
52.00	2.50	170.87
52.00	3.00	170.87
52.00	5.00	170.87
56.00	3.00	170.87
56.00	4.00	170.87
56.00	5.50	170.87
64.00	1.50	284.20
64.00	3.00	284.20
64.00	6.00	284.20
72.00	3.00	549.64
72.00	6.00	549.64

# Special Thread Hexagon Rethreading Dies

Carbon Steel



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

List No. 769 – Right Hand

THREADING

Size	Threads Per Inch	Price Each
3/16	24	14.28
3/16	32	14.28
1/4	20	15.71
1/4	24	15.71
1/4	27	15.71
1/4	32	15.71
1/4	36	15.71
1/4	40	15.71
1/4	48	15.71
5/16	10	17.33
5/16	16	17.33
5/16	20	17.33
5/16	27	17.33
5/16	28	17.33
5/16	32	17.33
5/16	40	17.33
3/8	18	18.25
3/8	20	18.25
3/8	27	18.25
3/8	32	18.25
3/8	40	18.25
7/16	24	20.56
7/16	28	20.56
7/16	32	20.56
7/16	40	20.56
1/2	10	21.95
1/2	12	21.95
1/2	16	21.95
1/2	18	21.95
1/2	24	21.95
1/2	27	21.95
1/2	28	21.95
1/2	32	21.95
1/2	40	21.95
9/16	14	23.33
9/16	16	23.33
9/16	20	23.33
9/16	24	23.33
9/16	32	23.33
5/8	10	27.03
5/8	12	27.03
5/8	16	27.03
5/8	20	27.03
5/8	24	27.03
5/8	32	27.03
11/16	12	30.26
11/16	18	30.26
11/16	20	30.26
11/16	24	30.26
3/4	11-1/2	35.81
3/4	12	35.81
3/4	18	35.81
3/4	20	35.81
3/4	24	35.81
3/4	32	35.81
13/16	10	40.19
13/16	12	40.19
13/16	16	40.19
13/16	18	40.19
13/16	20	40.19
13/16	24	40.19
13/16	32	40.19
7/8	10	40.19

Size	Threads Per Inch	Price Each
7/8	13	40.19
7/8	16	40.19
7/8	18	40.19
7/8	20	40.19
7/8	24	40.19
7/8	32	40.19
7/8	40	40.19
15/16	9	45.97
15/16	10	45.97
15/16	12	45.97
15/16	14	45.97
15/16	16	45.97
15/16	18	45.97
15/16	20	45.97
1	10	45.97
1	16	45.97
1	18	45.97
1	20	45.97
1	24	45.97
1	32	45.97
1-1/16	8	53.82
1-1/16	12	53.82
1-1/16	16	53.82
1-1/16	18	53.82
1-1/8	8	53.82
1-1/8	16	53.82
1-1/8	18	53.82
1-1/8	20	53.82
1-3/16	8	64.68
1-3/16	10	64.68
1-3/16	12	64.68
1-3/16	16	64.68
1-3/16	18	64.68
1-1/4	5	64.68
1-1/4	8	64.68
1-1/4	10	64.68
1-1/4	16	64.68
1-1/4	18	64.68
1-1/4	20	64.68
1-5/16	8	69.07
1-5/16	12	69.07
1-5/16	16	69.07
1-5/16	18	69.07
1-3/8	7	69.07
1-3/8	8	69.07
1-3/8	10	69.07
1-3/8	16	69.07
1-3/8	18	69.07
1-3/8	20	69.07
1-7/16	6	74.84
1-7/16	8	74.84
1-7/16	12	74.84
1-7/16	16	74.84
1-7/16	18	74.84
1-1/2	8	74.84
1-1/2	14	74.84
1-1/2	16	74.84
1-1/2	18	74.84
1-1/2	20	74.84
1-9/16	8	114.24
1-9/16	12	114.24
1-9/16	16	114.24
1-9/16	18	114.24
1-9/16	20	114.24

Size	Threads Per Inch	Price Each
1-5/8	4	114.24
1-5/8	5	114.24
1-5/8	5-1/2	114.24
1-5/8	6	114.24
1-5/8	8	114.24
1-5/8	10	114.24
1-5/8	12	114.24
1-5/8	14	114.24
1-5/8	16	114.24
1-5/8	18	114.24
1-11/16	18	138.03
1-3/4	5	138.03
1-3/4	5-1/2	138.03
1-3/4	6	138.03
1-3/4	8	138.03
1-3/4	10	138.03
1-3/4	12	138.03
1-3/4	14	138.03
1-3/4	16	138.03
1-3/4	18	138.03
1-3/4	20	138.03
1-13/16	12	202.36
1-13/16	18	202.36
1-7/8	4-1/2	202.36
1-7/8	5	202.36
1-7/8	8	202.36
1-7/8	12	202.36
1-7/8	16	202.36
1-7/8	18	202.36
2	4	202.36
2	4-1/2	202.36
2	8	202.36
2	10	202.36
2	12	202.36
2	14	202.36
2	16	202.36
2	18	202.36
2	20	202.36
2	24	202.36
2-1/8	4-1/2	277.20
2-1/8	6	277.20
2-1/8	8	277.20
2-1/8	12	277.20
2-1/8	14	277.20
2-1/8	16	277.20
2-1/8	18	277.20
2-1/4	4	277.20
2-1/4	4-1/2	277.20
2-1/4	6	277.20
2-1/4	8	277.20
2-1/4	10	277.20
2-1/4	12	277.20
2-1/4	14	277.20
2-1/4	16	277.20
2-1/4	18	277.20
2-3/8	4	323.40
2-3/8	8	323.40
2-3/8	10	323.40
2-3/8	12	323.40
2-3/8	14	323.40
2-3/8	16	323.40
2-3/8	18	323.40
2-1/2	4	323.40
2-1/2	4-1/2	323.40

# Special Thread Hexagon Rethreading Dies

Carbon Steel



**MDX**  
SUPERIOR IMPORT

THREADING

List No. 769 – Right Hand

Size	Threads Per Inch	Price Each
2-1/2	5	323.40
2-1/2	6	323.40
2-1/2	8	323.40
2-1/2	10	323.40
2-1/2	12	323.40
2-1/2	16	323.40
2-1/2	18	323.40
2-5/8	4	438.90
2-5/8	6	438.90
2-5/8	8	438.90
2-5/8	12	438.90
2-5/8	14	438.90
2-5/8	16	438.90
2-5/8	18	438.90
2-3/4	4	438.90
2-3/4	6	438.90
2-3/4	8	438.90
2-3/4	10	438.90
2-3/4	12	438.90
2-3/4	14	438.90
2-3/4	16	438.90

Size	Threads Per Inch	Price Each
2-7/8	4	483.08
2-7/8	6	483.08
2-7/8	8	483.08
2-7/8	12	483.08
2-7/8	16	483.08
2-7/8	18	483.08
3	8	483.08
3	12	483.08
3	16	483.08
3	18	483.08
3-1/8	4	607.24
3-1/8	8	607.24
3-1/8	12	607.24
3-1/4	4	607.24
3-1/4	5	607.24
3-1/4	8	607.24
3-1/4	12	607.24
3-3/8	4	656.04
3-3/8	8	656.04
3-3/8	12	656.04
3-1/2	4	656.04

Size	Threads Per Inch	Price Each
3-1/2	8	656.04
3-1/2	12	656.04
3-5/8	4	704.55
3-5/8	8	704.55
3-5/8	12	704.55
3-3/4	4	704.55
3-3/4	8	704.55
3-3/4	12	704.55
3-7/8	4	779.63
3-7/8	8	779.63
3-7/8	12	779.63
4	4	779.63
4	8	779.63
4	12	779.63
4-1/4	8	836.00
4-1/4	12	836.00
4-1/2	8	915.40
4-1/2	12	915.40
5	8	1078.70
5	12	1078.70

# 1" & 1-7/16" Across the Flats Hexagon Rethreading Dies

Carbon Steel



**MDX**  
SUPERIOR IMPORT

List No. 765AF

Size	Threads Per Inch	Across the Flats	Price Each
2	56	1"	13.60
2	64	1"	13.60
3	48	1"	13.60
3	56	1"	13.60
4	36	1"	13.60
4	40	1"	13.60
4	48	1"	13.60
5	40	1"	13.60
5	44	1"	13.60
6	32	1"	13.60
8	32	1"	13.60
10	24	1"	13.60
10	32	1"	13.60
12	24	1"	13.60

Size	Threads Per Inch	Across the Flats	Price Each
1/4	20	1"	13.60
1/4	28	1"	13.60
5/16	18	1"	15.00
5/16	24	1"	15.00
3/8	16	1"	15.80
3/8	24	1"	15.80
1/2	20	1"	19.00
9/16	12	1-7/16"	20.20
9/16	18	1-7/16"	20.20
5/8	11	1-7/16"	23.40
5/8	18	1-7/16"	23.40
3/4	10	1-7/16"	31.00
3/4	16	1-7/16"	31.00

Metric Sizes

List No. 767AF

Size	Threads Per Inch	Across the Flats	Price Each
4.00	0.70	1"	13.38
5.00	0.80	1"	13.38
6.00	1.00	1"	14.09
7.00	1.00	1"	15.86
8.00	1.00	1"	15.86
8.00	1.25	1"	15.86

Size	Threads Per Inch	Across the Flats	Price Each
10.00	1.25	1"	18.62
10.00	1.50	1"	18.62
12.00	1.25	1"	20.00
12.00	1.50	1"	20.00
12.00	1.75	1"	20.00

Hex Die Stock For holding hex dies.

Hex Die Size	Dia. Across The Flats	Tool No.	Price Each
1	1	TWHX1	13.50
1-7/16	1-7/16	TWHX2	30.60

**MDX**  
SUPERIOR IMPORT



# Metric Left Hand Hexagon Rethreading Dies

Carbon Steel



List No. **767L** – Left Hand

Size	Threads Per Inch	Price Each
5.00	.80	13.76
6.00	1.00	14.49
7.00	1.00	16.31
8.00	1.25	16.31
10.00	1.25	19.16
10.00	1.50	19.16
12.00	1.25	20.58

Size	Threads Per Inch	Price Each
12.00	1.75	20.58
14.00	1.25	21.92
14.00	1.50	21.92
14.00	2.00	21.92
16.00	1.50	25.15
16.00	2.00	25.15
18.00	1.50	37.60

Size	Threads Per Inch	Price Each
18.00	2.00	37.60
20.00	1.50	37.60
20.00	2.50	37.60
24.00	1.50	48.29
24.00	2.00	48.29
24.00	3.00	48.29

# H.S. Metric Hexagon Rethreading Dies

High Speed Steel



List No. **767HS** – Right Hand

Size	Threads Per Inch	Price Each
3.00	0.50	17.55
3.00	0.60	17.55
4.00	0.70	17.55
4.00	0.75	17.55
5.00	0.50	18.90
5.00	0.80	18.90
5.00	0.90	18.90
5.50	0.90	19.58
6.00	1.00	19.58
7.00	1.00	21.42
8.00	1.25	22.05
9.00	1.00	23.18
9.00	1.25	23.18

Size	Threads Per Inch	Price Each
10.00	1.25	26.10
10.00	1.50	26.10
11.00	1.50	28.78
12.00	1.00	29.25
12.00	1.50	29.25
12.00	1.75	29.25
14.00	1.25	32.13
14.00	2.00	32.13
16.00	1.50	35.10
16.00	2.00	35.10
18.00	1.50	51.98
18.00	2.50	51.98
20.00	1.00	52.78

Size	Threads Per Inch	Price Each
22.00	2.50	88.74
24.00	2.00	107.62
24.00	3.00	107.62
26.00	1.50	163.26
30.00	3.50	163.26
32.00	2.00	163.26
32.00	3.50	163.26
33.00	2.00	164.27
36.00	4.00	167.03
39.00	4.00	274.31
42.00	4.50	274.96

# NPT/NPS Hexagon Pipe Dies

Carbon & High Speed Steel



List No. **766** – NPT, Carbon Steel

List No. **766LH** – NPT Left Hand, Carbon Steel

List No. **763** – NPS, Carbon Steel

List No. **766HS** – NPT, High Speed Steel

List No. **766U** – NPT, Carbon Steel. Made in USA

Size	Threads Per Inch	Price Each				
		NPT 766	NPS 763	NPT USA 766U	NPT H.S. 766HS	NPT LH 766LH
1/16	27	17.10	18.81	—	—	—
1/8	27	17.10	18.81	24.80	26.10	24.00
1/4	18	25.56	28.12	37.08	40.50	35.00
3/8	18	33.66	37.03	48.83	50.40	—
1/2	14	44.28	48.71	64.22	66.60	—
3/4	14	56.70	62.37	83.07	90.21	85.50
1	11-1/2	75.42	82.96	109.46	127.20	—

Size	Threads Per Inch	Price Each		
		NPT 766	NPS 763	NPT H.S. 766HS
1-1/4	11-1/2	107.55	118.31	170.58
1-1/2	11-1/2	157.50	173.25	248.14
2	8	319.50	351.45	612.00
2-1/2	8	382.50	420.75	—
3	8	414.00	455.40	—
3-1/2	8	621.22	683.33	—
4	8	—	920.00	—



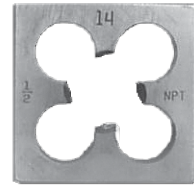
# Solid Square Pipe Dies

## Carbon Steel

Solid Square Pipe Dies are used to rethread damaged taper pipe threads.

List No. **768** – NPT, Right Hand

List No. **768L** – NPT, Left Hand



Size	Threads Per Inch	Price Each					Left Hand <b>768L</b> 2-1/2" Square 3/4" Deep
		Right Hand <b>768</b>					
		2" Square 1/2" Deep	2-1/2" Square 3/4" Deep	3" Square 3/4" Deep	4" Square 1" Deep	5" Square 1-1/4" Deep	
1/8	27	28.82	34.02	-	-	-	-
1/4	18	28.82	34.02	-	-	-	-
3/8	18	28.82	34.02	59.22	-	-	-
1/2	14	28.82	34.02	59.22	-	-	61.00
3/4	14	-	34.02	59.22	-	-	-
1	11-1/2	-	34.02	59.22	65.01	-	61.00
1-1/4	11-1/2	-	-	59.22	65.01	-	-
1-1/2	11-1/2	-	-	-	65.01	-	-
*2	11-1/2	-	-	-	65.01*	-	-
2-1/2	8	-	-	-	-	98.00	-
3	8	-	-	-	-	98.00	-

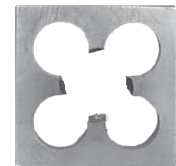
\*NPS List. **768S 2x4** for \$69.25.

# Solid Square Bolt Dies

## Carbon Steel

List No. **768B**

Solid Square Bolt Dies are used to rethread damaged threads of bolt and studs.



Size	Thread Per Inch	Square	Thickness	Price Each
1/4	20	2	1/2	28.82
1/4	20	2-1/2	1/2	31.00
1/4	28	2-1/2	1/2	31.00
5/16	18	2-1/2	1/2	31.00
5/16	24	2-1/2	1/2	31.00
3/8	16	2-1/2	1/2	31.00
3/8	24	2-1/2	1/2	31.00
7/16	14	2-1/2	1/2	31.00
7/16	20	2-1/2	1/2	31.00
1/2	13	2-1/2	3/4	39.92
1/2	20	2-1/2	3/4	39.92
9/16	12	2-1/2	3/4	39.92
9/16	18	2-1/2	3/4	39.92
5/8	11	2-1/2	3/4	39.92
5/8	18	2-1/2	3/4	39.92
3/4	10	2-1/2	3/4	39.92
3/4	16	2-1/2	3/4	39.92

Size	Thread Per Inch	Square	Thickness	Price Each
7/8	9	2-1/2	3/4	39.92
7/8	14	2-1/2	3/4	39.92
1	8	2-1/2	1	57.42
1	12	2-1/2	1	57.42
1	14	2-1/2	1	57.42
1-1/8	7	2-1/2	1	57.42
1-1/8	12	2-1/2	1	57.42
1-1/4	7	2-1/2	1	57.42
1-1/4	12	2-1/2	1	57.42
1-3/8	6	2-1/2	1	57.42
1-3/8	12	2-1/2	1	57.42
1-1/2	6	3	1	65.75
1-1/2	12	3	1	65.75
1-3/4	5	3	1-1/4	76.61
1-3/4	12	3	1-1/4	76.61
2	4-1/2	3-3/4	2	91.93
2	12	3-3/4	2	91.93

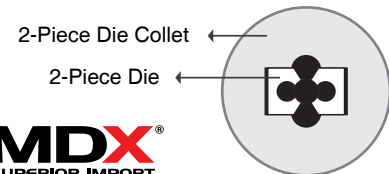
# Adjustable 2-Piece Dies

## Carbon Steel

Easy to sharpen and allows for a wide range of adjustment.

List No. **764** – Right Hand

List No. **764LH** – Left Hand



Size	T.P.I.	Compatible Collet No.	Price Each	
			RH <b>764</b>	LH <b>764LH</b>
2	56	A-1	19.00	—
3	48	A-1	19.00	—
4	48	A-1	19.00	—
5	40	A-1	19.00	—
5	44	A-1	19.00	—
1/8	40	A-1	19.00	—
8	32	A-1	19.00	—
8	36	A-1	19.00	—
8	40	A-1	19.00	—
10	24	A-1	19.00	—
12	28	A-1	19.00	—
5/32	32	A-1	19.00	—
3/16	24	A-1	19.00	—
7/32	24	A-1	19.00	36.00
1/4	20	1 or 5	16.43	—

Size	T.P.I.	Compatible Collet No.	Price Each	
			RH <b>764</b>	LH <b>764LH</b>
1/4	28	1 or 5	16.43	—
5/16	18	1 or 5	16.43	—
5/16	24	1 or 5	16.43	—
3/8	16	1 or 5	19.47	32.00
3/8	24	1 or 5	19.47	32.00
7/16	14	1 or 5	19.64	36.00
7/16	20	1 or 5	19.64	36.00
1/2	13	1 or 5	23.66	49.00
1/2	20	1 or 5	23.66	—
9/16	12	5	24.09	52.00
9/16	18	5	24.09	—
5/8	11	5 or 20	27.49	—
5/8	18	5 or 20	27.49	60.00
11/16	11	5 or 20	30.69	—
11/16	16	5 or 20	30.69	—

Size	T.P.I.	Compatible Collet No.	Price Each	
			RH <b>764</b>	LH <b>764LH</b>
3/4	10	5 or 20	40.26	72.00
3/4	16	5 or 20	40.26	72.00
7/8	9	5, 20 or 25	41.25	—
7/8	14	5, 20 or 25	41.25	—
1	8	5, 20 or 25	43.46	74.00
1	12	5, 20 or 25	43.46	74.00
1	14	5, 20 or 25	43.46	74.00
1-1/8	7	20 or 25	66.30	74.00
1-1/8	12	20 or 25	66.30	74.00
1-1/4	7	20 or 25	73.04	74.00
1-1/4	12	20 or 25	73.04	74.00
1-3/8	6	25	81.15	74.00
1-3/8	12	25	81.15	74.00
1-1/2	6	25	99.49	74.00
1-1/2	12	25	99.49	74.00

Other sizes available. Please inquire.

# Acorn Dies

High Speed Steel



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## Standard Sizes

List No. 705

Blank	Size – Thread Per Inch									Price Each
#1 (5/8)	0-80	1-64	1-72	2-56	2-64	3-48	3-56	4-36	4-40	46.36
	4-48	5-40	5-44	6-32	6-40	8-32	8-36	10-24	10-32	
	12-24	12-28	1/4-20	1/4-28						
#2 (7/8)	6-32	6-40	8-32	8-36	10-24	10-32	12-24	12-28	1/4-20	66.36
	1/4-28	5/16-18	5/16-24	3/8-16	7/16-20	1/8 NPT	1/8 NPS			
#3 (1-1/4)	3/8-16	3/8-24	7/16-14	7/16-20	1/2-13	1/2-20	9/16-12	9/16-18	5/8-11	82.28
	5/8-18	1/8 NPT	1/4 NPT	3/8 NPT	1/4 NPS	3/8 NPS				
#4 (1-3/4)	1/2-13	5/8-11	5/8-18	3/4-10	3/4-16	7/8-9	7/8-14	1-8	1-12	147.70
	1-14	1/2 NPT	3/4 NPT	1/2 NPS	3/4 NPS					
#5 (2-5/32)	1 1/8 - 7	1 1/8 - 12	1 1/4 - 7	1 1/4 - 12	1 3/8 - 12	1 1/2 - 12	1 NPT			178.28

## Special Sizes

List No. 710

Blank	Size – Threads Per Inch									Price Each
#1 (5/8)	3-40	4-32	5-32	5-36	5-48	6-36	6-48	8-40	9-32	65.00
	10-30	10-36	10-40	10-56	12-32	12-40	1/8-60	3/16-32	13/64-24	
	1/4-27	3x6mm	4x75mm							
#2 (7/8)	3/16-32	1/4-24	1/4-27	1/4-28 LH	1/4-32	1/4-32 LH	1/4-36	1/4-40	5/16-20	89.00
	5/16-27	5/16-32	5/16-36	5/16-40	5/16-48	11/32-32	3/8-16	3/8-20	3/8-24 LH	
	3/8-27	3/8-36	3/8-40	7/16-24	1/2-32	7/16-27				
#3 (1-1/4)	3/8-16LH	7/16-24	7/16-24 LH	7/16-27	7/16-32	7/16-36	7/16-40	1/2-24	1/2-27	115.00
	1/2-28	1/2-32	1/2-36	1/2-40	9/16-12LH	9/16-20	9/16-24	9/16-27	9/16-32	
	5/8-16	5/8-20	5/8-24	5/8-28	5/8-32	5/8-36	5/8-40	11/16-27		
#4 (1-3/4)	11/16-11	11/16-16	11/16-20	11/16-24	11/16-32	3/4-10 LH	3/4-12	3/4-20	3/4-24	185.00
	3/4-28	3/4-32	13/16-10	13/16-12	13/16-18	13/16-20	13/16-20 LH	13/16-24	7/8-9 LH	
	7/8-12	7/8-14LH	7/8-18	7/8-18 LH	7/8-24	7/8-27	7/8-32	15/16-12	15/16-18	
#5 (2-5/32)	5/8-20	5/8-24	5/8-28	5/8-32	5/8-36	5/8-40	11/16-27			225.00
	1-1/8-18	1-1/8-20	1-3/16-20	1-1/4-20	1-5/16-20	1-3/8-14	1-3/8-20	1-3/8-20 LH	1-7/16-20	

# Acorn Die Holder

High Speed Steel – Precision Thread

Acorn Die Holders are designed for use on automatic bar machines or any machine that can be set to reverse once the correct thread length has been cut. The holder is used for external threading with cone dies



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Acorn Die No.	Shank Dia.	Holds Die O.D.	Cone Die Capacity	Hole Die in Shank	Tool No.	Price Each
1	3/4	5/8	#0 - 1/4	7/16	CD1750	132.30
2	3/4	7/8	#6 - 7/16	7/16	CD2750	149.07
2	1	7/8	#6 - 7/16	21/32	CD2100	158.77
3	3/4	1-1/4	3/8 - 5/8	7/16	CD3750	158.77
3	1	1-1/4	3/8 - 5/8	21/32	CD3100	176.40

Acorn Die No.	Shank Dia.	Holds Die O.D.	Cone Die Capacity	Hole Die in Shank	Tool No.	Price Each
4	1	1-3/4	5/8 - 1	21/32	CD4100	185.22
4	1-1/4	1-3/4	5/8 - 1	7/8	CD4114	264.61
4	1-1/2	1-3/4	5/8 - 1	1-1/8	CD4112	282.24
5	2	2-5/32	1-1/8 - 1-1/2	1-1/4	CD5200	343.98

# Screw Extractors

List No. **EXL Series** – Spiral Flute

List No. **EXT Series** – Straight Flute

For removing broken screws, studs, pipe fittings, etc., without damaging the threads.



Size	For Screws & Bolts, Sizes	Pipe Size	Price Each	
			Spiral Flute EXL	Straight Flute EXT
1	3/16 - 1/4	—	2.21	2.66
2	1/4 - 5/16	—	2.34	2.88
3	5/16 - 7/16	—	2.90	3.24
4	7/16 - 9/16	—	3.15	3.56
5	9/16 - 3/4	1/8	3.78	4.28
5-1/4	11/16 - 15/16	1/4	6.75	—
6	3/4 - 1	3/8	8.90	9.50
6-3/8	15/16 - 1-1/8	3/8	12.90	—

Size	For Screws & Bolts, Sizes	Pipe Size	Price Each	
			Spiral Flute EXL	Straight Flute EXT
7	1 - 1-3/8	1/2	14.31	16.00
7-1/2	1-1/8 - 1-1/2	1/2	18.74	—
8	1-3/8 - 1-3/4	3/4	22.50	—
9	1-3/4 - 2-1/8	1	33.21	—
10	2-1/8 - 2-1/2	1-1/4	46.10	49.50
11	2-1/2 - 3	1-1/2	70.50	—
12	3 - 3-1/2	2	112.50	—

List No. **EXE Series** – Spiral Flute



Size	For Screws & Bolts, Sizes	Price Each
1	3/16 - 1/4	1.22
2	1/4 - 5/16	1.44
3	5/16 - 7/16	1.53
4	7/16 - 9/16	1.76

Size	For Screws & Bolts, Sizes	Price Each
5	9/16 - 3/4	2.61
6	3/4 - 1	4.95
7	1 - 1-3/8	8.55
8	1-3/8 - 1-3/4	13.05

Size	For Screws & Bolts, Sizes	Price Each
9	1-3/4 - 2-1/8	18.90
10	2-1/8 - 2-1/2	30.60
11	2-1/2 - 3	44.10
12	3 - 3-1/2	67.50

## Sets

Description	Pcs.	Sizes	Set No.	Price
Spiral Flute Set - USA	5	1, 2, 3, 4, 5	EXL15	14.38
Spiral Flute Set - Import	5	1, 2, 3, 4, 5	EXE15	8.58
Straight Flute Set - USA	5	1, 2, 3, 4, 5	EXT15	16.61
Spiral Flute Set - USA	4	6, 7, 8, 9	EXL69	78.92
Spiral Flute Set - USA	9	1, 2, 3, 4, 5, 6, 7, 8, 9	EXL19	93.30
Left Hand Drill & Spiral Flute Screw Extractor - USA	10	Jobber Drills: 5/64, 7/64, 5/32, 1/4, 3/8 Screw Extractors: 1, 2, 3, 4, 5	EXLH10	31.95



# Combined Die & Handle

High Speed Steel



List No. **752**

HSS Die Permanently Integrated In Handle With Self-Centering Guide



Size Inches	Pitch	Price
1/8	27	19.95
6	32	19.95
8	32	19.95
10	24	19.95
10	32	19.95
12	24	19.95
1/4	20	19.95
1/4	28	19.95

Size Inches	Pitch	Price
5/16	18	19.95
5/16	24	19.95
3/8	16	19.95
3/8	24	19.95
7/16	14	19.95
7/16	20	19.95
1/2	13	19.95
1/2	20	19.95

Size MM	Pitch	Price
3.00	5	19.95
4.00	7	19.95
5.00	8	19.95
6.00	1	19.95
8.00	1.25	19.95
10.00	1.5	19.95
12.00	1.75	19.95

## Sets

Size	Pcs.	Set No.	Price
6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/81-6, 7/16-4, 1/2-13	9	725ST9	179.55
10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	6	725ST6	119.70
1/4-20, 5/16-1.8, 3/8-16, 7/16-14, 1/2-13	5	725ST5	99.75



# Round Die & Tap Sets



THREADING

## 12-Piece Sets – High Speed or Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	1 Die Stock (1" OD) 1 Straight Handle Tap Wrench (1/16" - 1/2")	777H12	67.93	777CB12	35.92



## 16-Piece Sets – High Speed or Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 5/8-11, 3/4-10	1 Die Stock (1-1/2" OD) 1 Straight Handle Tap Wrench (1/4" - 3/4")	777H16	170.36	777CB16	61.96



## 22-Piece Sets – Left Hand - High Speed Steel

Taps & Die Sizes Included	Tools Included	Left Hand	
		Set No.	Price
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	1 T-Handle Tap Wrench 1 Die Stock	777L22	159.92



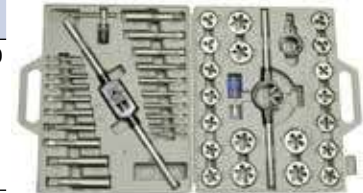
## 40-Piece Sets – High Speed or Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8 NPT	3 Tap Wrenches 1 Die Stock(1" OD) 1 Screw Pitch Gauge 1 Screwdriver	777S	299.00	777CB	129.00



## 45-Piece Sets – Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14	2 Tap Wrenches 1/4"-1/2" "T" Type 1/4"-1" Large Screw Type 1 2" Diameter Die Stock 1 1-1/2" Adapter 1 Screwdriver	777SD	390.00	777CD	159.00



## 64-Piece Sets – High Speed or Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
UNC: #4, #6, #8, #10, #12, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1 UNF: #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1NS NPT: 1/8, 1/4	2 Tap wrenches 1 T-handle tap wrench 3 Die stocks (1", 1-1/2", & 2" OD) 1 screw pitch gauge 1 screw driver	777H64	719.60	777CB64	319.44



## Carbon Tap & Round Adjustable Die

### 110-Piece Sets

Taper Taps, Bottom Taps, & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
UNC: #4, #6, #8, #10, #12, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 UNF: #10, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 UNS: 1/4-24, 1/4-32. NPT: 1/8, 1/4 Metric: 6x1.00, 8x1.25, 10x1.00, 10x1.50, 11x1.50, 12x1.50 12x1.75, 14x1.25, 18x1.50	2 tap wrenches 1 T-handle tap wrench 2 Die Stocks (1", 1-1/2" OD)	777H10	827.20	777CB10	170.40



# Metric Round Die & Tap Sets

**MDX**  
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## 23-Piece Sets – High Speed Steel

Taps & Die Sizes Included	Tools Included	Set No.	Price
5x0.80, 5x0.90, 6x0.75, 6x1.00, 8x1.00, 8x1.25, 10x1.25, 10x1.50, 12x1.50, 12x1.75	1 Tap Wrench 2 Piece Die Stocks (1" OD, 1-1/2" OD)	<b>778T</b>	159.00



## 36-Piece Sets – High Speed & Carbon Steel

Taps & Die Sizes Included	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
3x0.50, 3x0.60, 4x0.70, 4x0.75, 5x0.80, 6x1.00, 7x1.00, 8x1.00, 8x1.25, 10x1.25, 10x1.50, 11x1.50, 12x1.50, 12x1.75, 1/8 NPT	3 Tap Wrenches 1 Piece Die Stock (1" OD) 1 Screw Pitch Gauge 1 Screwdriver	<b>778S</b>	299.00	<b>778CB</b>	129.00



## 44-Piece Sets – High Speed & Carbon Steel

Taps & Die Sizes	Tools Included	High Speed		Carbon Steel	
		Set No.	Price	Set No.	Price
6x0.75, 6x1.00, 8x1.00, 8x1.25, 10x1.25, 10x1.50, 12x1.50, 12x1.75, 14x1.50, 14x2.00, 16x1.50, 16x2.00, 18x1.50, 18x2.50, 20x1.50, 20x2.50, 22x1.50, 22x2.50, 24x1.50, 24x3.00	1 Adjustable die stock 1 Adjustable tap wrench 1 T-tap wrench 1 screw driver	<b>778H44</b>	488.00	<b>777CB44</b>	169.00



# Hexagon Die & Tap Sets

**MDX**  
SUPERIOR IMPORT

## NPT Carbon Pipe Tap & Hexagon Pipe Die 12-Piece Sets

Taps & Die Sizes	Set No.	Price
1/8, 1/4, 3/8, 1/2, 3/4, 1"	<b>777P</b>	159.00



## Fractional and Metric Carbon Tap & Hex Die 76-Piece Sets

Taps & Die Sizes	Tools Included	Set No.	Price
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT, 3x0.50, 4x0.70, 4x0.75, 5x0.80, 5x0.90, 6x1.00, 7x1.00, 8x1.00, 8x1.25, 9x1.00, 9x1.25, 10x1.25, 10x1.50, 11x1.50, 12x1.50, 12x1.75, 1/8-28 BSP	1 Die stock 1 Plain Die stock 1 T-Tap Wrench 1 Hex Nut with 3/8 Sq. Drive 1 Hex Nut Screw Pitch Gauge (mm) 1 Screw Pitch Gauge 1 Screwdriver 2 Adj. Handle Tap Wrenches	<b>777X</b>	299.00



## NC Carbon Tap & Hex Die Set 41-Piece Sets

Taps & Die Sizes	Tools Included	Set No.	Price
6-32, 8-32, 10-24, 12-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10	2 Tap Wrenches 2 Die Stocks 1 T-handle	<b>777HC</b>	179.00



## TiN Coated NC Tap & Hex Die Set 20-Piece Sets

Taps & Die Sizes	Tools Included	Set No.	Price
6-32, 8-32, 10-24, 12-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	1 Tap Wrenches 1 Die Stocks	<b>777TD</b>	64.50





# Style "D" Chasers

High Speed Steel / Ground Thread



For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.

**Chamfer Angle:**  
 33° Regular Style &  
 45° Projection Style  
 10° Cutting Edge Grind



THREADING

## 5/16 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 711</b>	0-80, 1-64, 1-72, 2-64, 3-56, 4-40, 4-48, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, NPT: 1/16, NPS: 1/16, 1/8	180.00
Right Hand Standard Projection <b>List No. 711P</b>	0-80, 1-64, 1-72, 3-48, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, NPS: 1/16, 1/8	228.00
Left Hand Standard <b>List No. 711L</b>	2-56, 2-64, 3-56, 4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24	250.00
Left Hand Standard Projection <b>List No. 711LP</b>	3-48, 6-40, 10-32, 12-24, 1/4-28	268.00

## 9/16 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 712</b>	2-56, 2-64, 3-48, 3-56, 4-48, 5-40, 5-44, 6-40, 6-32, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 7/16-14, 1/2-13, 1/2-20, 9/16-12, NPT: 1/16-27, 3/8-18, NPS: 1/16-27, 1/8-27, 1/4-18, 3/8-18	225.00
Right Hand Standard Projection <b>List No. 712P</b>	2-56, 2-64, 3-56, 4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, NPT: 1/16, 1/4, NPS: 1/16, 1/8, 1/4, 3/8,	248.00
Left Hand Standard <b>List No. 712L</b>	3-48, 3-56, 3-50, 4-40, 4-48, 5-40, 5-44, 5-48, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12	280.00
Left Hand Standard Projection <b>List No. 712LP</b>	8-32, 10-24, 10-32, 1/4-20, 1/4-28, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 1/2-13, 1/2-20, 9/16-18	290.00

## 3/4 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 713</b>	6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-20, 1/2-13, 9/16-12, 5/8-11, 11/16-11, 11/16-16, 3/4-10, 3/4-16, NPT: 1/16, 1/8, 1/4, 3/8, 3/4, 1/2, NPS: 1/16, 1/8, 3/8	240.00
Right Hand Standard Projection <b>List No. 713P</b>	6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24, 12-32, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 5/8-18, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 11/16-11, 11/16-16, 3/4-10, 3/4-16, NPT: 1/16, 1/8, 1/4, 3/8, 1/2, NPS: 1/16, 1/8, 1/4, 3/8, 1/2, 1"	280.00
Left Hand Standard <b>List No. 713L</b>	8-36, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 11/16-11, 3/4-10, 3/4-16	310.00
Left Hand Standard Projection <b>List No. 713LP</b>	5/16-24, 1/2-13, 1/2-20, 9/16-18, 3/4-10, 3/4-16	340.00

## Surface Plates Black Granite

- Lowest temperature coefficient, least responsive to temperature changes.
- Moisture and corrosion free, no rusting, will not stain or discolor.
- Practically maintenance free, fast easy to clean.
- Smooth "Ball Bearing" surface.
- Resists dust and abrasives, non-magnetic.



### TOOL ROOM ("B") GRADE - 0 LEDGE

Size	T	± A	Lbs.	Tool No.	Price Each
9 x 12	2	.0001	30	J6491011	27.72
12 x 18	3	.0001	75	J6491115	53.90
18 x 24	3	.00015	140	J6491152	106.33
24 x 36	4	.0002	430	J6491203	276.57
36 x 48	4	.0004	800	J6491304	693.00

### INSPECTION ("A") GRADE - 2 LEDGE

12 x 18	3	.00005	70	J6493115	156.59
18 x 24	3	.000075	135	J6493152	288.40
24 x 36	4	.0001	365	J6493203	622.93
36 x 48	6	.0002	1140	J6493304	1141.98

T - Thickness    ±A - Overall Lateral Accuracy

# Style "D" Chasers

High Speed Steel / Ground Thread



For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.

H & G Chasers available please inquire.

**Chamfer Angle:**

33° Regular Style &  
45° Projection Style  
10° Cutting Edge Grind



## 1 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 714</b>	6-32, 6-40, 8-32, 8-36, 10-24, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-18, 11/16-11, 11/16-16, 7/8-9, 1-8, 1-14, NPT: 1/8, 1/4, 3/8, 1/2, 3/4 NPS: 1/8, 1/4, 3/8, 1/2, 3/4	280.00
Right Hand Standard Projection <b>List No. 714P</b>	8-32, 10-24, 10-32, 12-24, 12-28, 1/4-20, 1/4-28, 5/16-24, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 11/16-11, 11/16-16, 3/4-10, 3/4-16 7/8-9, 1-8, 1-12, 1-14, NPT: 1/8, 1/4, 3/8, 1/2, NPS: 1/8, 1/4, 3/8, 1/2, 3/4	295.00
Left Hand Standard <b>List No. 714L</b>	1/4-20, 1/4-28, 5/16-18, 15/16-24 3/8-16, 3/8-24, 7/16-14, 1/2-13, 7/16-20, 9/16-12, 9/16-18, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14 1-8, 1-14 14-12	330.00
Left Hand Standard Projection <b>List No. 714LP</b>	1/4-20, 5/16-18, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14	360.00

## 1-1/2 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 716</b>	3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 5/8-18, 1-8, 1-12, 7/8-9 1-1/8-7, 1-3/8-6 NPT: 3/8, 3/4, 1/2,	375.00
Right Hand Standard Projection <b>List No. 716P</b>	1/2-13, 5/8-11 5/8-18, 11/16-16, 1-8, 1-12	390.00

## 1-1/4 Inch Die Head

Style List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 715</b>	1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 11/16-11, 3/4-16, 7/8-9, 7/8-14, 1-8, 5/16-18, 5/16-24, 3/8-24, 7/16-14 1-12, 1-1/8-7, 1-1/8-12, 1-1/4-12, 7/16-20 NPT: 1/4, 3/8, 1/2, 3/4, 1 NPS: 1/4, 3/8, 1/2, 3/4, 11/16-16	330.00
Right Hand Standard Projection <b>List No. 715P</b>	1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 11/16-11, 11/16-16, 3/4-10, 3/4-16, 7/8-9, 1-8, 1-12, 1-14, 1-1/8-7, 1-1/8-12, 1-1/4-7, 1-1/4-12, NPT Sizes: 1/4, 3/8, 1/2 NPS Sizes: 1/4, 3/8, 1/2, 1"	355.00
Left Hand Standard <b>List No. 715L</b>	1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18 3/4-10, 3/4-20(SP), 3/4-16 7/8-9, 7/8-14 1-8, 1-12, 1-14, 1-1/8-7, 1-1/8-12 1-1/4-7, 1-1/4-12	360.00
Left Hand Standard Projection <b>List No. 715LP</b>	7/8-9, 7/8-14 1-8, 1-14, 1-20(SP), 3/4-14(SP), 1-1/8-7 1-1/4-7, 1-1/4-12	390.00

## 2 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Standard <b>List No. 717</b>	5/8-11, 3/4-10, 7/8-9, 7/8-14, 1-8, 1-12, 1-14, 1-1/8-7, 1-1/8-12, 1-1/4-7, 1-1/4-12, 1-3/8-6, 1-1/2-6, 1-3/4-5, 2-4-1/2 NPT Sizes: 1/2, 3/4, 1", 1-1/4, 1-1/2 NPS Sizes: 3/4, 1"	440.00
Right Hand Standard Projection <b>List No. 717P</b>	7/8-9, 1-12, 1-14, 1-1/8-7, 1-1/8-12, 1-1/4-7, 1-1/4-12, 1-3/8-12, 1-1/2-6 NPT Sizes: 3/4, 1"	460.00

THREADING

# Style "D" Chasers

High Speed Steel – Special Ground Thread



THREADING

For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.



**Chamfer Angle:**

- 33° Regular Style &
- 45° Projection Style
- 10° Cutting Edge Grind

## 5/16 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 711S</b>	0-70, 1-56, 2-48, 4-32, 4-36, 4-64, 5-32, 5-36, 5-48, 5-56, 6-30, 6-36, 6-48, 5/32-32, 5/32-36, 8-30, 8-40, 8-48, 9-28, 10-30, 10-36, 10-40, 10-48, 10-56, 12-20, 12-26, 12-32, 12-36, 12-40, 12-48, 14-20, 14-24, 7/32-32, 1/4-24, 1/4-27, 1/4-32, 1/4-36, 1/4-40, 1/4-48, 1/4-56, 5-16-20, 5/16-27, 5/16-28, 5/16-30, 5/16-32, 5/16-36, 5/16-40, 5/16-48, 3/8-32	250.00
Right Hand Special Thread Projection <b>List No. 711SP</b>	0-70, 1-72, 1-56, 2-48, 4-32, 4-36, 4-64, 5-32, 5-36, 5-48, 5-56, 6-30, 6-32, 6-48, 6-52, 8-30, 8-40, 8-48, 10-28, 10-30, 10-36, 10-40, 10-44, 10-48, 12-32, 12-36, 12-40, 12-56, 14-24, 3/16-24, 3/16-32, 3/16-64, 1/4-24, 1/4-27, 1/4-32, 1/4-36, 1/4-38, 1/4-40, 1/4-48, 1/4-56, 5/16-20, 5/16-27, 5/16-28, 5/16-32, 5/16-36, 5/16-40, 5/16-48	280.00
Left Hand Special Thread <b>List No. 711SL</b>	4-32, 4-36, 5-48, 6-36, 6-40, 8-40, 1/4-24, 1/4-32, 1/4-40, 5/16-32	320.00
Left Hand Special Thread Projection <b>List No. 711SLP</b>	5/16-32	325.00

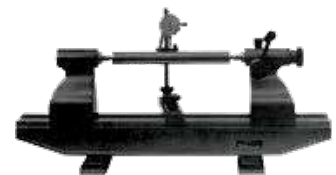
## 9/16 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 712S</b>	6-36, 6-48, 8-40, 8-48, 10-48, 10-56, 10-80, 12-20, 12-32, 12-36, 12-40, 12-48, 14-20, 14-24, 7/32-32, 1/4-27, 1/4-32, 1/4-36, 1/4-48, 1/4-56, 5/16-27, 5/16-32, 5/16-36, 5/16-40, 5/16-48, 3/8-18, 3/8-20, 3/8-27, 3/8-28, 3/8-32, 3/8-36, 3/8-40, 3/8-48, 7/16-16, 7/16-18, 7/16-24, 7/16-27, 7/16-28, 7/16-32, 7/16-36, 7/16-40, 15/32-24, 1/2-12, 1/2-16, 1/2-18, 1/2-24, 1/2-27, 1/2-28, 1/2-32, 1/2-36, 1/2-38, 1/2-40, 1/2-48, 1/2-64, 9/16-16, 9/16-20, 9/16-24, 9/16-27, 9/16-28, 9/16-32, 5/8-32	295.00
Right Hand Special Thread Projection <b>List No. 712SP</b>	6-30, 6-36, 6-48, 4-32, 4-36, 4-64, 5/32-32, 8-40, 10-56, 10-80, 12-32, 1/4-32, 1/4-56, 9/32-20, 5/16-20, 5/16-27, 5/16-28, 5/16-36, 5/16-40, 5/16-48, 3/8-18, 3/8-20, 3/8-28, 3/8-32, 3/8-40, 3/8-48, 7/16-15, 7/16-16, 7/16-18, 7/16-24, 7/16-27, 7/16-28, 7/16-40, 1/2-16, 1/2-18, 1/2-24, 1/2-32, 1/2-40, 1/2-48, 9/16-16, 9/16-20, 9/16-27, 10x.75mm	310.00
Left Hand Special Thread <b>List No. 712SL</b>	4-32, 4-36, 5-48, 6-36, 8-40, 1/4-24, 1/4-32, 1/4-40, 5/16-32, 3/8-32, 7/16-24, 1/2-32, m4.5x.75	330.00

# Bench Centers

**Features:**

- Quick release centers.
- M.T.2 Centers are hardened and ground.
- Indicator Holder included.
- Hand Scraped ways, adjustable gibs.
- Head Stock can be adjusted lengthwise and locked securely in any position by special lever type handle.



For accurate concentricity inspection.

Distance Between Center	Swing	Overall Length	Weight	Tool No.	Price Each
16"	12"	30"	125 lbs.	<b>J6500100</b>	1225.00
32"	19"	48"	395 lbs.	<b>J6500200</b>	2940.00

# Style "D" Chasers

High Speed Steel – Special Ground Thread



For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.



**Chamfer Angle:**  
33° Regular Style &  
45° Projection Style  
10° Cutting Edge Grind

THREADING

## 3/4 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 713S</b>	3/16-24, 3/16-32, 1/4-27, 1/4-32, 1/4-36, 1/4-40, 1/4-48, 1/4-56, 5/16-20, 5/16-27, 5/16-28, 5/16-32, 5/16-36, 5/16-40, 5/16-48, 3/8-18, 3/8-20, 3/8-27, 3/8-28, 3/8-32, 3/8-36, 3/8-40, 3/8-48, 7/16-16, 7/16-18, 7/16-24, 7/16-27, 7/16-28, 7/16-32, 7/16-36, 7/16-40, 15/32-32, 1/2-12, 1/2-14, 1/2-16, 1/2-24, 1/2-27, 1/2-28, 1/2-30, 1/2-32, 1/2-36, 1/2-40, 1/2-48, 9/16-16, 9/16-20, 9/16-24, 9/16-27, 9/16-28, 9/16-32, 9/16-36, 5/8-12, 5/8-14, 5/8-20, 5/8-27, 5/8-28, 5/8-32, 5/8-36, 11/16-12, 11/16-13, 11/16-18, 11/16-20, 11/16-24, 11/16-27, 11/16-32, 3/4-12, 3/4-14, 3/4-18, 3/4-20, 3/4-24, 3/4-28, 3/4-32	310.00
Right Hand Special Thread <b>Projection</b> <b>List No. 713SP</b>	1/4-24, 1/4-32, 1/4-36, 1/4-48, 5/16-28, 5/16-32, 5/16-40, 3/8-18, 3/8-28, 3/8-32, 13/32-20, 7/16-18, 7/16-28, 7/16-32, 1/2-16, 1/2-18, 1/2-27, 1/2-28, 1/2-32, 1/2-40, 9/16-20, 9/16-27, 5/8-12, 5/8-16, 5/8-20, 5/8-30, 5/8-36, 11/16-12, 11/16-18, 11/16-20, 11/16-32, 3/4-12, 3/4-18, 3/4-27, 3/4-28, 3/4-32, 15/16-14	330.00
Left Hand Special Thread <b>List No. 713SL</b>	1/4-24, 1/4-32, 1/4-40, 5/16-32, 3/8-32, 7/16-24, 3/4-20,	350.00

## 1 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 714S</b>	1/4-24, 1/4-27, 1/4-32, 1/4-36, 1/4-40, 1/4-48, 1/4-56, 5/16-20, 5/16-27, 5/16-28, 5/16-32, 5/16-36, 5/16-40, 5/16-48, 3/8-18, 3/8-20, 3/8-27, 3/8-32, 3/8-36, 3/8-40, 3/8-48, 7/16-16, 7/16-18, 7/16-24, 7/16-27, 7/16-28, 7/16-32, 7/16-36, 7/16-40, 1/2-12, 1/2-16, 1/2-18, 1/2-24, 1/2-27, 1/2-28, 1/2-32, 1/2-36, 1/2-40, 1/2-48, 9/16-16, 9/16-20, 9/16-24, 9/16-27, 9/16-28, 9/16-32, 5/8-12, 5/8-14, 5/8-16, 5/8-20, 5/8-24, 5/8-27, 5/8-32, 11/16-12, 11/16-18, 11/16-20, 11/16-24, 11/16-27, 11/16-32, 3/4-12, 3/4-14, 3/4-20, 3/4-24, 3/4-27, 3/4-28, 3/4-32, 13/16-12, 13/16-14, 13/16-16, 13/16-18, 13/16-24, 13/16-27, 13/16-32, 7/8-12, 7/8-18, 7/8-20, 7/8-24, 7/8-27, 7/8-28, 7/8-32, 15/16-12, 15/16-14, 15/16-16, 15/16-18, 15/16-20, 15/16-24, 15-27, 15/16-32, 1-10, 1-16, 1-20, 1-24, 1-27, 1-28, 1-32,	350.00
Right Hand Special Thread <b>Projection</b> <b>List No. 714SP</b>	5/16-20, 5/16-32, 3/8-28, 7/16-24, 1/2-12, 1/2-28, 1/2-32, 9/16-27, 5/8-16, 5/8-20, 5/8-24, 5/8-28, 11/16-12, 3/4-12, 3/4-18, 3/4-20, 3/4-24, 3/4-28, 13/16-14, 13/16-16, 13/16-20, 7/8-16, 7/8-18, 7/8-20, 7/8-27, 7/8-28, 15/16-18, 15/16-20, 15/16-24, 1-10, 1-16, 1-20, 1-28, 1-32, 1-1/8-20	370.00
Left Hand Special Thread <b>List No. 714SL</b>	1/4-24, 1/4-32, 1/4-40, 5/16-32, 3/8-32, 7/16-24, 3/4-20	395.00

## Milling and Drilling (Compound Sliding) Tables

Tool No.	J2425077	J2425612
Price Each	157.30	186.20
Size	7x7" (Rotatable 360°)	5-1/2 x 12"
Height	4-1/8"	4-1/2"
Travel	4" on each axis	8" Longitudinal /
Base Size Mounting	4-5/8" diameter 1-1/8" Long Base Bolt	5" Transverse 8 x 9" oval U Slots for up to 5/8" Bolts

Suitable for all kinds of precision machining operations. Easy to read dials are graduated in .001". Dovetail slides have a justable steel gibs to compensate for wear. T-slots are 5/8" wide x 7/16" deep.



# Style "D" Chasers

High Speed Steel – Special Ground Thread



THREADING

For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.



**Chamfer Angle:**

- 33° Regular Style &
- 45° Projection Style
- 10° Cutting Edge Grind

## 1-1/4 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 715S</b>	7/16-16, 7/16-18, 7/16-24, 7/16-27, 7/16-28, 7/16-32, 7/16-36, 7/16-40, 7/1/2-12, 1/2-16, 1/2-18, 1/2-24, 1/2-27, 1/2-28, 1/2-32, 1/2-36, 1/2-40, 1/2-48, 9/16-16, 9/16-20, 9/16-24, 9/16-27, 9/16-28, 9/16-32, 5/8-12, 5/8-14, 5/8-16, 5/8-20, 5/8-24, 5/8-27, 5/8-28, 5/8-32, 11/16-12, 11/16-18, 11/16-20, 11/16-24, 11/16-27, 11/16-32, 3/4-12, 3/4-14, 3/4-20, 3/4-18, 3/4-24, 3/4-27, 3/4-28, 3/4-32, 13/16-12, 13/16-14, 13/16-16, 13/16-18, 13/16-20, 13/16-24, 13/16-27, 13/16-32, 7/8-12, 7/8-16, 7/8-18, 7/8-20, 7/8-24, 7/8-27, 7/8-28, 7/8-32, 15/16-12, 15/16-14, 15/16-16, 15/16-18, 15/16-20, 15/16-24, 15/16-27, 15/16-32, 1-10, 1-16, 1-18, 1-20, 1-24, 1-27, 1-28, 1-32, 1-1/16-12, 1-1/16-14, 1-1/16-16, 1-1/16-18, 1-1/16-20, 1-1/8-8, 1-1/8-16, 1/18-18, 1-1/8-20, 1-3/16-12, 1-3/16-16, 1-3/16-18, 1-1/4-8, 1-1/4-10, 1-1/4-14, 1-1/4-16, 1-1/4-18, 1-1/4-20, 1-1/4-24, 1-1/4-27, 1-3/16-20, 1-5/32-32	380.00
Right Hand Special Thread Projection <b>List No. 715SP</b>	5/8-24, 3/4-18, 13/16-20, 7/8-12, 7/8-20, 7/8-24, 7/8-27, 15/16-12, 15/16-16, 1-16, 1-20, 1-32, 1-1/16-12, 1-1/16-16, 1-1/16-20, 1-1/8-8, 1-1/8-16, 1-1/8-18, 1-1/8-20, 1-3/16-16, 1-3/16-18, 1-3/16-20, 1-1/4-14, 1-1/4-18, 1-1/4-20, 1-13/32-14	410.00

## 2 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 717S</b>	3/4-12, 1-16, 1-18, 1-20, 1-1/16-18, 1-1/8-16, 1-1/8-18, 1-3/16-16, 1-1/4-8, 1-1/4-16, 1-1/4-18, 1-1/4-24, 1-7/16-18, 1-7/16-24, 1-3/8-8, 1-3/8-16, 1-3/8-18, 1-1/2-7, 1-1/2-16, 1-1/2-18, 1-5/8-5, 1-5/8-8, 1-5/8-10, 1-5/8-12, 1-5/8-16, 1-5/8-24, 1-5/8-5-1/2, 1-5/16-18, 1-5/16-24, 1-3/4-10, 1-7/8-8, 2-1/2-4, 2-5/8-12, 2-4-1/2	495.00
Right Hand Special Thread Projection <b>List No. 717SP</b>	7/8-32, 1-16, 1-18, 1-1/16-12, 1-1/8-8, 1-1/8-16, 1-1/8-18, 1-1/4-16, 1-1/4-18, 1-3/8-18, 1-1/2-16, 1-1/2-18, 1-5/8-10, 1-3/4-5, 1-3/4-12, 1-7/8-8	510.00

## 1-1/2 Inch Die Head

Style/List No.	Sizes-Thread Available	Price Each
Right Hand Special Thread <b>List No. 716S</b>	1-16, 1-18, 1-20, 1-1/16-12, 1-1/16-16, 1-1/16-32, 1-1/8-8, 1-1/8-16, 1-1/8-18, 1-1/4-8, 1-1/4-16, 1-1/4-18, 1-1/4-24, 1-3/8-8, 1-3/8-14, 1-3/8-16, 1-3/8-24, 1-1/2-8, 1-1/2-16, 1-1/2-18, 1-1/2-24	440.00
Right Hand Special Thread Projection <b>List No. 716SP</b>	7/8-12, 1-16, 1-18, 1-1/16-12, 1-1/8-8, 1-1/8-16, 1-1/8-18, 1-1/4-8, 1-1/4-16, 1-3/8-8, 1-3/8-16, 1-3/8-18, 1-1/2-8, 1-1/2-18,	460.00

## Self-Opening Die Heads

### Stationary Type

For use on automatic and semi automatic machines. Head opens automatically when the selected thread length is reached. Used with type "D" chasers. Heads have special device for roughing and finishing and can be used for cutting over and undersized threads, as well as left and right hand threads.



Capacity			Head Dia.	Shank Dia.	Bore	Tool No.	Price
In	mm	Pipe					
5/16	8	1/16	1-1/2	5/8	3/8	<b>J2410040</b>	820.80
9/16	14	1/16-1/4	2-1/2	5/8	3/8	<b>J2410140</b>	820.80
9/16	14	1/16-1/4	2-1/2	3/4	3/8	<b>J2410148</b>	820.80
9/16	14	1/16-1/4	2-1/2	1	5/8	<b>J2410164</b>	820.80
3/4	18	1/16-1/2	3-1/4	3/4	3/8	<b>J2410248</b>	990.00
3/4	18	1/16-1/2	3-1/4	1	1/2	<b>J2410264</b>	990.00
1	24	1/8-3/4	3-3/4	1	1/2	<b>J2410364</b>	1150.00
1	24	1/8-3/4	3-3/4	1-1/2	1-1/16	<b>J2410396</b>	1150.00
1-1/4	30	1/4-1	4-7/8	1-1/2	7/8	<b>J2410496</b>	1315.00
1-1/4	30	1/4-1	4-7/8	2	1-3/8	<b>J2410420</b>	1315.00
1-1/2*	-	-	5-5/16	1-1/2	-	<b>J2410596</b>	2331.85
1-1/2*	-	-	5-5/16	2	-	<b>J2410520</b>	2331.85
2*	-	-	6-3/8	2	-	<b>J2410620</b>	2584.10
2*	-	-	6-3/8	2-1/2	-	<b>J2410625</b>	2584.10



# Metric Style "D" Chasers

High Speed Steel – Ground Thread



For Geometric® and similar die heads.

NOTE: "D" and "DS" chasers for up to and including 3/4" DIE HEADS are interchangeable.

**Chamfer Angle:**  
33° Regular Style &  
45° Projection Style  
10° Cutting Edge Grind



THREADING

## 5/16 Inch Die Head - Metric

Style/List No.	Sizes-Thread Available	Price Each
Right Hand <b>List No. 711M</b>	1.7 x .35, 2.3 x .40, 2.5 x .45, 2.6 x .45, 3.0 x .50, 3.5 x .60, 4.0 x .50, 4.0 x .70, 4.5 x .75, 5.0 x .80, 6.0 x .50, 6.0 x 1.0, 8.0 x .75, 8.0 x 1, 8.0 x 1.25	198.00
Right Hand <b>Projection</b> <b>List No. 711MP</b>	2.6 x .45, 3.5 x .60 4.0 x .50, 4.0 x .70, 4.50 x .75, 5.0 x .80, 6.0 x .50, 6.0 x 1.0, 7.0 x 1.0, 8.0 x 1.0, 8.0 x 1.25	245.00

## 1 Inch Die Head - Metric

Style/List No.	Sizes-Thread Available	Price Each
Right Hand <b>List No. 713M</b>	6.0 x 1.0, 7.0 x 1.0, 8.0 x .75, 8.0 x 1.25, 9.0 x 1.25, 10.0 x 1.25, 10.0 x 1.5, 11.0 x 1.50, 12.0 x 1.0, 12.0 x 1.25, 12.0 x 1.75, 14.0 x 1.25, 14.0 x 1.5, 16.0 x 1.50, 18.0 x 1.25 18.0 x 2.50 22	310.00
Right Hand <b>Projection</b> <b>List No. 713MP</b>	10.0 x 1.5, 12.0 x 1.75, 14.0 x 1.5, 18.0 x 1.5, 18.0 x 2.5, 20.0 x 1.5, 22.0 x 2.5, 22.00 x 1.50, 24.0 x 1.5 24 x 3.00	330.00

## 9/16 Inch Die Head - Metric

Style/List No.	Sizes-Thread Available	Price Each
Right Hand <b>List No. 712M</b>	3.0 x .50, 3.5 x .60 4.0 x .70, 5.0 x .80, 6.0 x .50, 6.0 x 1.0, 7.0 X 1.00, 8.0 X .50, 8.0 x .75, 8.0 x 1.25, 9.0 X 1.25, 10.0 X 1.50, 11.0 X 1.50, 12.0 X 1.50, 12.0 X 1.75, 14 x 1.25	250.00
Right Hand <b>Projection</b> <b>List No. 712MP</b>	3.0 x .50, 3.5 x .60 4.0 x .70, 4.5 x .75 5.0 X .75, 5.0 x .80, 6.0 x .50, 6.0 x 1.0, 8.0 x 1.00, 8.0 x 1.25, 9.0 X 1.25 10.0 X 1.50, 11 x 1.50, 12.0 X 1.00, 12.0 X 1.50, 12.0 X 1.75	278.00

## 1-1/4 Inch Die Head - Metric

Style/List No.	Sizes-Thread Available	Price Each
Right Hand <b>List No. 714M</b>	12.0 x 1.75, 14.0 x 2.0, 18.0 x 2.5, 20.0 x 1.5, 22.0 x 2.5, 24.0 x 1.5, 27.0 x 3.00 30.0 x 3.5	370.00
Right Hand <b>Projection</b> <b>List No. 714MP</b>	16.0 x 2.00, 18.0 x 2.5, 20.0 x 1.5, 20.0 x 2.5, 22.0 x 2.5, 24.0 x 2.0, 24.0 x 3.0, 30.0 x 1.5, 30.0 x 3.5	395.00

# Hardness Testers

## Rockwell System

### Standard Accessories

- 5-3/4" Testing Table
- 2-3/16" Testing Table
- 2-3/16" Testing Table with "V" groove
- 120° Diamond Penetrator
- 1/16" Steel Ball Penetrator
- Rockwell A Test Block
- Rockwell B Test Block
- Rockwell C Test Blocks (3pcs.)
- Screwdrivers (2pc.)
- Instruction Manual
- Dustproof Cover

### Features:

Automatic weight selection

### Specifications:

**Maximum Load (kgf.):** 150  
**Load Range (kgf.):** 60, 100, 150  
**Initial Range Load (kgf.):** 10  
**Maximum Test Height:** 4-1/4"  
**Depth of Throat:** 5-1/4"  
**Size of Base:** 7x18"  
**Machine Height:** 24-1/2"  
**Approx. Net Weight:** 150 lbs.

Tool No.	Price Each
PR1705500	1755.00



# Keyway Broaches

High Speed Steel

- Supplied with Shims
- Replacement shims sold separately



THREADING

## Fractional Sizes

Size	Bushings	Tolerances	Broach Dimensions	Shims Required	Tool No.	Price
1/16	A	.0625 - .0635	1/8 x 5-1/4	0	KWB116-A	38.50
3/32	A	.0937 - .0947	1/8 x 5-1/4	0	KWB332-A	38.50
1/8	A	.1252 - .1262	1/8 x 5-1/4	1	KWB18-A	38.50
3/32	B	.0937 - .0947	3/16 x 7	0	KWB332-B	43.95
1/8	B	.1252 - .1262	3/16 x 7	1	KWB18-B	43.95
5/32	B	.1564 - .1574	3/16 x 7	1	KWB532-B	43.95
3/16	B	.1877 - .1887	3/16 x 7	1	KWB316-B	43.95
3/16	C	.1877 - .1887	3/8 x 11-7/8	1	KWB316-C	52.09
1/4	C	.2502 - .2512	3/8 x 11-7/8	1	KWB14-C	52.09
5/16	C	.3127 - .3137	3/8 x 11-7/8	1	KWB516-C	52.09
3/8	C	.3755 - .3765	3/8 x 11-7/8	2	KWB38-C	52.09
5/16	D	.3127 - .3137	9/16 x 13-7/8	1	KWB516-D	79.10
3/8	D	.3755 - .3765	9/16 x 13-7/8	2	KWB38-D	79.10
7/16	D	.4380 - .4390	9/16 x 13-7/8	2	KWB716-D	79.10
1/2	D	.5006 - .5016	9/16 x 13-7/8	3	KWB12-D	79.10
5/8	E	.6260 - .6270	3/4 x 15-1/4	4	KWB58-E	132.90
3/4	E	.7515 - .7525	3/4 x 15-1/4	5	KWB34-E	132.90
7/8	F	.8765 - .8775	1 x 19-1/4	6	KWB78-F	209.10
1"	F	1.0015 - 1.0025	1 x 19-1/4	7	KWB1-F	209.10

Plain & Collared Bushing Available Upon Request



## Metric Sizes

Size	Bushings	Tolerances	Broach Dimensions	Stand. Milli Keys	Shims Required	Tool No.	Price
2.00	A	.0787-.0792	1/8 x 5-1/4	2x2	0	KWB2-A	38.17
3.00	A	.1181-.1186	1/8 x 5-1/4	3x3	1	KWB3-A	38.17
4.00	B	.1575-.1580	1/4 x 7	4x4	1	KWB4-B	44.50
5.00	B	.1968-.1974	1/4 x 7	5x5	1	KWB5-B	44.50
5.00	C	.1968-.1974	3/8 x 11-7/8	5x5	1	KWB5-C	52.52
6.00	C	.2362-.2367	3/8 x 11-7/8	6x6	1	KWB6-C	52.52
8.00	C	.3150-.3155	3/8 x 11-7/8	8x7	1	KWB8-C	52.52
10.00	D	.3937-.3942	9/16 x 13-7/8	10x8	2	KWB10-D	84.75
12.00	D	.4724-.4730	9/16 x 13-7/8	12x8	2	KWB12-D	84.75
14.00	D	.5512-.5519	9/16 x 13-7/8	14x9	2	KWB14-D	84.75
16.00	E	.6299-.6306	3/4 x 15-1/4	16x10	3	KWB16-E	141.00
18.00	E	.7087-.7093	3/4 x 15-1/4	18x11	3	KWB18-E	141.70
20.00	F	.7874-.7883	1 x 19-1/4	20x12	3	KWB20-F	211.79
22.00	F	.8661-.8669	1 x 19-1/4	22x14	4	KWB22-F	218.00
24.00	F	.9449-.9458	1 x 19-1/4	24x14	4	KWB24-F	218.00
25.00	F	.9842-.9851	1 x 19-1/4	25x14	4	KWB25-F	218.00

Bushing Available Upon Request



## Sets

Set	Keyway Comb.	Broach Sizes	Bushings*	Tool No.	Price Each
1	15	1/16-A, 3/32-A, 1/8-A	A:1/4, 5/16, 3/8, 7/16, 1/2	KWB15S	113.45
C-1	18	1/8-B, 3/16-B, 1/4-C, 3/8-C	B: 1/2, 5/8, 3/4, 7/8, C: 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2	KWB18S	244.45
C-10	36	1/8-B, 3/16-B, 1/4-C, 3/8-C	B: 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8 C: 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16	KWB36S	314.60
M26	26	4mm-B,5mm-B 6mm-C,8mm-C	B: 12, 14, 15, 16mm C: 18, 19, 20, 22, 24, 25, 26, 28, 30mm	KWB26S	323.40

\*Bushing supplied with sets 1, C-1, C10 are collared.



## Compatible Shims

Size	Tool No.	Price	Size	Tool No.	Price
A 1/8" & A 3mm	KWS1	1.56	C 1/4 & 3/8", C-1 6mm	KWS9	1.56
B 1/8"	KWS2	1.56	C 5/16 & C-1 8mm	KWS10	1.56
B 5/32	KWS3	1.56	D 5/16	KWS11	1.56
B - 1 4mm	KWS4	1.56	D 3/8 & 1/2", D-1 14mm	KWS12	1.56
B 3/16"	KWS5	1.56	D - 1 10 & 12mm	KWS13	1.56
B - 1 5mm	KWS6	1.56	D 7/16	KWS14	1.56
C 3/16"	KWS7	1.56	E 5/8", 3/4" E-1 16&18mm	KWS15	1.95
C 5mm	KWS8	1.56	F7/8 & 1" F-1 20-25mm	KWS16	1.95

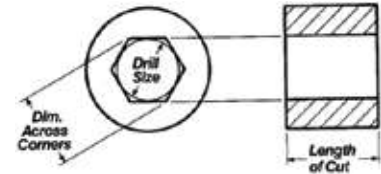


# Hexagon Broaches

High Speed Steel

**MDX**<sup>®</sup>  
SUPERIOR IMPORT

- For cutting hexagonal shaped hole in round machined holes.
- Used to re-cut a round hole into a hole having a hexagonal shape in a single pass through the workpiece.
- Well suited for use in a variety of ferrous and non-ferrous materials.
- Broach is tapered, allowing teeth to cut hole to proper depth and width.
- Bright finish.



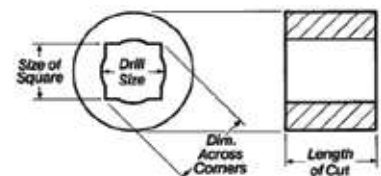
Broach Size	Broach Length	Pilot Dia.	Drill Size	Length of Cut Min.	Length of Cut Max.	Tolerance	Tool No.	Price
3/16	5-1/16	3/16	3/16	1/4	5/8	.1880-.1890	<b>KWH316</b>	98.97
7/32	5-3/8	7/32	7/32	1/4	3/4	.2190-.2200	<b>KWH732</b>	98.97
1/4	6	1/4	1/4	1/4	3/4	.2505-.2515	<b>KWH14</b>	98.97
9/32	7-1/4	9/32	9/32	5/16	1	.2815-.2825	<b>KWH932</b>	106.44
5/16	7-3/4	5/16	5/16	3/8	1	.3130-.3140	<b>KWH516</b>	106.44
11/32	7-3/4	11/32	11/32	3/8	1-1/4	.3440-.3450	<b>KWH1132</b>	106.44
3/8	8-1/2	3/8	3/8	3/8	1-1/4	.3755-.3765	<b>KWH38</b>	123.75
13/32	9-5/8	13/32	13/32	1/2	1-3/8	.4065-.4075	<b>KWH1332</b>	136.44
7/16	10-5/8	7/16	7/16	1/2	1-3/8	.4385-.4395	<b>KWH716</b>	153.60
15/32	11-7/8	15/32	15/32	1/2	1-3/8	.4690-.4700	<b>KWH1532</b>	183.30
1/2	11-7/8	1/2	1/2	1/2	1-3/8	.5005-.5015	<b>KWH12</b>	183.30
9/16	13-3/4	9/16	9/16	1/2	1-5/8	.5630-.5640	<b>KWH916</b>	225.60
5/8	16-1/4	5/8	5/8	5/8	2	.6260-.6270	<b>KWH58</b>	254.97
11/16	16-3/4	11/16	11/16	5/8	2	.6880-.6890	<b>KWH1116</b>	282.30
3/4	17-1/4	3/4	3/4	5/8	2	.7510-.7520	<b>KWH34</b>	346.50
7/8	18-1/2	7/8	7/8	5/8	2	.8765-.8775	<b>KWH78</b>	445.50
1	19-3/4	1	1	5/8	2	1.002-1.003	<b>KWH1</b>	479.70

# Square Broaches

High Speed Steel

**MDX**<sup>®</sup>  
SUPERIOR IMPORT

- For cutting Square shaped hole in round pilot holes.
- Used to re-cut a round hole into a hole having a square shape in a single pass through the workpiece.
- Well suited for use in a variety of ferrous and non-ferrous materials.
- Broach is tapered, allowing teeth to cut hole to proper depth and width.
- Bright finish.



Broach Size	Broach Length	Pilot Dia.	Drill Size	Length of Cut Min.	Length of Cut Max.	Tolerance	Tool No.	Price
1/8	4-1/8	.1285	#30	3/16	1/2	.1250-.1260	<b>KWS18</b>	76.49
5/32	5-1/8	.1590	#21	1/4	1/2	.1565-.1575	<b>KWS532</b>	76.49
3/16	5-9/16	.1935	#10	1/4	5/8	.1880-.1890	<b>KWS316</b>	76.49
7/32	6-3/8	.2280	#1	1/4	3/4	.2190-.2200	<b>KWS732</b>	76.49
1/4	6-1/2	17/64	17/64	1/4	3/4	.2505-.2515	<b>KWS14</b>	76.49
9/32	7-3/4	19/64	19/64	5/16	1	.2815-.2825	<b>KWS932</b>	80.94
5/16	7-7/8	21/64	21/64	5/16	1	.3130-.3140	<b>KWS516</b>	80.94
11/32	9-3/8	23/64	23/64	3/8	1-1/4	.3440-.3450	<b>KWS1132</b>	101.25
3/8	9-3/8	25/64	25/64	3/8	1-1/4	.3755-.3765	<b>KWS38</b>	123.75
13/32	10-5/8	27/64	27/64	1/2	1-3/8	.4065-.4075	<b>KWS1332</b>	136.44
7/16	10-7/8	29/64	29/64	1/2	1-3/8	.4385-.4395	<b>KWS716</b>	153.60
15/32	12	1/2	1/2	1/2	1-3/8	.4690-.4700	<b>KWS1532</b>	183.30
1/2	12	17/32	17/32	1/2	1-3/8	.5005-.5015	<b>KWS12</b>	183.30
9/16	14-3/4	19/32	19/32	1/2	1-1/2	.5630-.5640	<b>KWS916</b>	225.60
5/8	16-5/16	21/32	21/32	5/8	1-5/8	.6260-.6270	<b>KWS58</b>	254.97
11/16	17-3/4	3/4	3/4	5/8	1-5/8	.6880-.6890	<b>KWS1116</b>	282.30
3/4	17-3/4	13/16	13/16	5/8	1-5/8	.7510-.7520	<b>KWS34</b>	346.50
7/8	22-3/4	15/16	15/16	1/2	2	.8765-.8775	<b>KWS78</b>	445.50
1	24-1/8	1-3/32	1-3/32	1/2	2	1.002-1.003	<b>KWS1</b>	479.70

# End Mills

Multi Flute End Mills & Sets	290-292	Shell End Mill Arbors	320
Taper End Mill Adapters	290	End Mill Holder & Milling Adapters	321
R-8 End Mill Adapters	291	NMTB Quick Change Tooling	322
Heavy Duty End Mills with Combination Shanks	293	CAT V-Flange Precision CNC End Mill Holders	322
End Mill Dispensers	293	BT Flange Precision CNC End Mill Holders	322
#50 Taper End Mill Holder	293	Hollow Mills	323
2-Flute End Mills & Sets	294-295	Taper Shank End Mills	324
TiN-Coated Multi Flute End Mills & Sets	296	Production Max Solid Carbide End Mills 45° Helix for Aluminum	324
TiN-Coated Two Flute End Mills & Sets	297	Carbide Tipped End Mills	325
Double-End End Mills & Sets	298-299	Solid Carbide End Mills & Sets	326-327
TiN-Coated Double-End End Mills & Sets	300	TiN Coated & AlTiN Coated Solid Carbide End Mills	328
Miniature Double-End End Mills & Sets	301	Metric Solid Carbide End Mills	328
Metric Single End Mills & Sets	302	Blumill Solid Carbide End Mills	329
Metric Double-End End Mills	303	Solid Carbide Ball End Mills & Sets	330
Left Hand End Mills	303	Decimal Solid Carbide End Mills	331
Ball Nose Single End Mills & Sets	304-305	Left Hand Solid Carbide End Mills	331
Ball Nose Double-End End Mills	305	Straight Flute Solid Carbide End Mills	331
3-Flute Single End Mills	306	Solid Carbide Double End Mills & Sets	332
3-Flute Double-End End Mills	306	Solid Carbide Roughing End Mills	332
High Helix End Mills for Aluminum	307	Solid Carbide Ball End Mills	333
Cobalt & TiN Coated Cobalt Multi Flute End Mills	308	3-Flute High Helix Solid Carbide End Mills	333
Cobalt Multi Flute End Mills & Sets	309	6-Flute Solid Carbide End Mills	333
Cobalt Two Flute End Mills & Sets	310	Production Max high performance Solid Carbide End Mills	334
Cobalt Double-End End Mills & Sets	311	Corner Radius Solid Carbide End Mills	335
Cobalt Ball Nose End Mills	312	Tri-Dex™ Indexable End Mills & Sets	336
Cobalt Long & Extra Long Two Flute End Mills	313	Coolant Fed Tri-Dex™ Indexable End Mills & Sets	337
MillDrill™ 90° Drill Point End Mills	313	Miniature Tri-Dex™ Indexable End Mills & Sets	337
MillDrill™ Solid Carbide 90° Drill Point End Mills	313	Tri-Dex™-Extra Long Length Indexable End Mills & Sets	338
Cobalt Roughing End Mills & Sets	314-315	Little Hogger Mill	338
M2-AL Roughing End Mills	316	RounDex™ Indexable End Mills & Sets	339
TiN Coated Cobalt Roughing End Mills	316	CY Centerless Ground Carbide Rounds	339
T-15 Superior Cobalt End Mills	317	Quad-Mill™ Indexable End Mills & Sets	340
Corner Rounding End Mills & Sets	318	Dyna-Mill™ Indexable End Mills & Face Mills	341
Shell End Mills	318	Tri-Dex™ Indexable Face Mills	341
Cobalt Shell End Mills	319		
Cobalt Roughing Shell End Mills	319		
Shell End Mills for Aluminum	319		
Carbide Tipped Shell End Mills	319		









# Multi Flute End Mills

High Speed Steel

These end mills are designed for general purpose milling in most types of materials

List No. **205U** – Non-Center Cutting

List No. **240U** – Center Cutting



END MILLS

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					205U	Center Cut 240U
1/8	3/8	3/8	2-5/16	4	15.74	18.45
5/32	3/8	7/16	2-1/4	4	17.27	19.50
3/16	3/8	1/2	2-3/8	4	15.74	18.45
7/32	3/8	5/8	2-3/8	4	17.27	19.50
1/4	3/8	5/8	2-7/16	4	15.74	18.45
9/32	3/8	11/16	2-1/2	4	16.11	19.55
5/16	3/8	3/4	2-1/2	4	15.74	18.45
21/64	3/8	3/4	2-1/2	4	16.11	—
11/32	3/8	3/4	2-1/2	4	16.11	19.55
3/8	3/8	3/4	2-1/2	4	15.74	18.45
13/32	3/8	1	2-11/16	4	22.23	27.65
7/16	3/8	1	2-11/16	4	20.88	26.10
29/64	3/8	1	2-11/16	4	21.98	—
15/32	3/8	1	2-11/16	4	20.88	—
1/2	3/8	1	2-11/16	4	20.61	26.10
1/2	1/2	1-1/4	3-1/4	4	20.61	26.10
17/32	1/2	1-3/8	3-3/8	4	26.91	35.20
9/16	1/2	1-3/8	3-3/8	4	26.91	35.20
5/8	1/2	1-3/8	3-3/8	4	29.52	—
5/8	5/8	1-5/8	3-3/4	4	33.03	35.20
21/32	1/2	1-3/8	3-3/8	4	34.68	—
21/32	5/8	1-5/8	3-5/8	4	34.68	—
11/16	1/2	1-5/8	3-5/8	4	31.59	—
11/16	5/8	1-5/8	3-3/4	4	34.07	37.08
3/4	1/2	1-5/8	3-5/8	4	33.39	—
3/4	5/8	1-5/8	3-3/4	4	35.33	—
3/4	3/4	1-5/8	3-7/8	4	36.68	42.10
13/16	1/2	1-7/8	3-7/8	4	45.00	—
13/16	5/8	1-7/8	4	6	45.00	—
13/16	3/4	1-7/8	4-1/8	4	42.30	47.30
7/8	5/8	1-7/8	4	6	46.22	—
7/8	3/4	1-7/8	4-1/8	4	46.22	53.91
7/8	7/8	1-7/8	4-1/8	4	45.54	49.25

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					205U	Center Cut 240U
57/64	7/8	1-7/8	4-1/8	4	57.51	—
15/16	1/2	1-7/8	3-7/8	6	57.51	—
15/16	3/4	1-7/8	4-1/8	4	57.51	—
15/16	7/8	1-7/8	4-1/8	4	51.48	57.30
61/64	1	1-7/8	4-1/8	4	54.00	—
1	5/8	1-7/8	4	6	52.74	—
1	3/4	1-7/8	4-1/8	4	51.75	62.10
1	7/8	1-7/8	4-1/8	4	51.75	—
1	1	2	4-1/2	4	54.86	62.10
1	1	2	4-1/2	6	64.80	68.00
1-1/8	3/4	1-1/2	3-7/8	6	77.13	—
1-1/8	7/8	2	4-1/4	6	72.62	—
1-1/8	1	2	4-1/2	6	74.88	82.90
1-1/4	3/4	1-1/2	3-7/8	6	79.20	—
1-1/4	7/8	2	4-1/4	6	79.20	—
1-1/4	1	2	4-1/2	6	81.76	98.50
1-1/4	1-1/4	2	4-1/2	4	84.60	96.30
1-1/4	1-1/4	2	4-1/2	6	84.60	96.30
1-3/8	3/4	1-1/2	3-7/8	6	97.20	—
1-3/8	1	2	4-1/2	6	99.35	—
1-1/2	3/4	1-1/2	3-7/8	6	109.17	—
1-1/2	1	2	4-1/2	6	104.40	123.30
1-1/2	1-1/4	2	4-1/2	4	104.40	118.80
1-1/2	1-1/4	2	4-1/2	6	104.40	118.80
1-5/8	3/4	1-1/2	3-7/8	6	130.50	—
1-5/8	1-1/4	2	4-1/2	6	130.50	—
1-3/4	1-1/4	2	4-1/2	4	130.50	—
1-3/4	1-1/4	2	4-1/2	6	130.50	155.00
1-7/8	1-1/4	2	4-1/2	8	130.50	—
2	3/4	2	4-1/2	8	149.31	—
2	1-1/4	2	4-1/2	4	149.31	166.50
2	1-1/4	2	4-1/2	6	149.31	166.50
2	1-1/4	2	4-1/2	8	149.31	—

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank	205AU	103.11
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank, Center Cut	240AU	122.15
3/4, 7/8, 1", 1-1/8, 1-1/4, 1-1/2	6	3/4" Shank	205SU	407.29

All sets are supplied in wood block



## No. 30, 40, 50 Taper End Mill Adapters

Hole Diameter	No. 30 Taper		No. 40 Taper		No. 50 Taper	
	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
3/16	H30316	63.70	H40316	74.10	H50316	110.50
1/4	H3014	63.70	H4014	74.10	H5014	114.40
3/8	H3038	63.70	H4038	74.10	H5038	114.40
1/2	H3012	63.70	H4012	74.10	H5012	114.40
5/8	H3058	63.70	H4058	74.10	H5058	114.40
3/4	H3034	71.50	H4034	74.10	H5034	114.40
7/8	H3078	78.00	H4078	84.50	H5078	127.40
1	H301	78.00	H401	84.50	H501	127.40
1-1/4	H30114	86.00	H40114	89.70	H50114	127.40
1-1/2	H30112	91.00	H40112	101.40	H50112	195.00
2	—	—	—	—	H502	208.00
2-1/2	—	—	—	—	H50212	234.00



# Multi Flute End Mills

High Speed Steel



These end mills are designed for general purpose end milling in most types of materials



**MDX**  
SUPERIOR IMPORT

List No. **205** – Non-Center Cutting

List No. **240** – Center Cutting

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					205	Center Cut 240
7/64	3/8	3/8	2-5/16	4	10.56	—
1/8	3/8	3/8	2-5/16	4	9.37	10.82
5/32	3/8	7/16	2-1/4	4	9.99	11.50
11/64	3/8	1/2	2-3/8	4	9.85	—
3/16	3/8	1/2	2-3/8	4	9.37	10.82
7/32	3/8	5/8	2-3/8	4	9.99	10.82
15/64	3/8	5/8	2-7/16	4	9.99	—
1/4	3/8	5/8	2-7/16	4	9.37	10.82
9/32	3/8	11/16	2-1/2	4	9.99	10.82
19/64	3/8	3/4	2-1/2	4	9.85	—
5/16	3/8	3/4	2-1/2	4	9.37	10.82
21/64	3/8	3/4	2-1/2	4	9.85	—
11/32	3/8	3/4	2-1/2	4	9.99	—
3/8	3/8	3/4	2-1/2	4	9.37	10.82
13/32	3/8	1	2-11/16	4	12.54	15.31
27/64	3/8	1	2-11/16	4	13.17	—
7/16	3/8	1	2-11/16	4	12.54	15.51
29/64	3/8	1	2-11/16	4	12.54	—
15/32	3/8	1	2-11/16	4	12.54	15.51
31/64	1/2	1-1/4	3-1/4	4	13.46	—
1/2	3/8	1	2-11/16	4	12.54	15.51
1/2	1/2	1-1/4	3-1/4	4	12.80	15.51
1/2	1/2	1-1/4	3-1/4	6	—	17.88
9/16	1/2	1-3/8	3-3/8	4	16.24	18.41
5/8	1/2	1-3/8	3-3/8	4	17.69	21.45
5/8	5/8	1-5/8	3-3/4	4	19.14	21.45
5/8	5/8	1-5/8	3-3/4	6	—	21.45
21/32	5/8	1-5/8	3-3/4	4	20.34	—
11/16	1/2	1-5/8	3-5/8	4	19.67	22.31
11/16	5/8	1-5/8	3-3/4	4	20.33	22.31
47/64	1/2	1-5/8	3-5/8	4	22.18	—
3/4	1/2	1-5/8	3-5/8	4	21.12	25.08
3/4	5/8	1-5/8	3-3/4	4	21.12	25.08
3/4	3/4	1-5/8	3-7/8	4	21.91	25.08
3/4	3/4	1-5/8	3-7/8	6	21.91	25.08
13/16	1/2	1-7/8	4	4	26.93	—
13/16	5/8	1-7/8	4	4	26.93	33.00
13/16	5/8	1-7/8	4	6	26.93	—
13/16	3/4	1-7/8	4-1/8	4	27.44	—
27/32	5/8	1-7/8	4-1/8	4	30.93	—
27/32	3/4	1-7/8	4-1/8	4	30.93	—
7/8	1/2	1-5/8	3-5/8	4	27.72	34.00
7/8	1/2	1-5/8	3-5/8	6	27.72	—
7/8	5/8	1-7/8	4	6	27.72	—
7/8	3/4	1-7/8	4-1/8	4	28.64	31.68
7/8	7/8	1-7/8	4-1/8	4	27.32	31.68
7/8	7/8	1-7/8	4-1/8	6	—	31.68
29/32	3/4	2	4-1/8	4	34.41	—
15/16	1/2	1-7/8	4	6	30.33	—

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					205	Center Cut 240
15/16	3/4	1-7/8	4-1/8	4	32.72	34.98
15/16	7/8	1-7/8	4-1/8	4	32.72	34.98
31/32	3/4	2	4-1/8	4	34.41	—
1	1/2	1-7/8	3-7/8	4	31.68	—
1	1/2	1-7/8	3-7/8	6	31.68	—
1	5/8	1-7/8	4	4	31.15	34.98
1	5/8	1-7/8	4	6	31.15	34.98
1	3/4	1-7/8	4-1/8	4	31.15	34.98
1	7/8	1-7/8	4-1/8	4	33.00	36.30
1	1	2	4-1/2	4	33.00	38.28
1	1	2	4-1/2	6	33.00	38.28
1-1/16	3/4	2	4-1/4	6	48.18	56.75
1-1/8	3/4	1-1/2	3-7/8	6	44.88	53.00
1-1/8	7/8	2	4-1/4	6	43.56	—
1-1/8	1	2	4-1/2	6	44.88	—
1-3/16	3/4	1-1/2	3-7/8	6	48.18	—
1-1/4	3/4	1-1/2	3-7/8	6	49.50	56.93
1-1/4	7/8	2	4-1/4	6	47.52	—
1-1/4	1	2	4-1/2	6	49.10	—
1-1/4	1-1/4	2	4-1/2	4	52.80	56.93
1-1/4	1-1/4	2	4-1/2	6	52.80	56.93
1-5/16	3/4	1-1/2	3-7/8	4	62.04	—
1-5/16	3/4	1-1/2	3-7/8	4	62.04	—
1-5/16	3/4	1-1/2	3-7/8	6	62.04	—
1-3/8	3/4	1-1/2	3-7/8	4	63.36	—
1-3/8	3/4	1-1/2	3-7/8	6	63.36	69.20
1-3/8	1	2	4-1/2	6	58.74	—
1-3/8	1-1/4	2	4-1/2	6	58.74	—
1-7/16	3/4	1-1/2	3-7/8	6	66.00	—
1-1/2	3/4	1-1/2	3-7/8	6	66.00	70.13
1-1/2	1	2	4-1/2	6	66.00	—
1-1/2	1-1/4	2	4-1/2	4	66.00	70.13
1-1/2	1-1/4	2	4-1/2	6	66.00	70.13
1-5/8	3/4	1-1/2	3-7/8	6	72.00	76.00
1-5/8	1-1/4	2	4-1/2	6	72.00	—
1-3/4	3/4	1-1/2	3-7/8	6	77.88	—
1-3/4	1-1/4	2	4-1/2	4	77.88	—
1-3/4	1-1/4	2	4-1/2	6	77.88	88.00
1-7/8	3/4	1-1/2	3-7/8	6	84.04	92.00
1-7/8	1-1/4	2	4-1/2	4	84.04	—
1-7/8	1-1/4	2	4-1/2	6	84.04	—
1-7/8	1-1/4	2	4-1/2	8	84.04	—
2	3/4	1-1/2	3-7/8	6	95.04	—
2	3/4	1-1/2	3-7/8	8	95.04	110.00
2	1-1/4	2	4-1/2	4	95.04	—
2	1-1/4	2	4-1/2	6	95.04	—
2	1-1/4	2	4-1/2	8	95.04	—
2-1/4	1-1/4	2	4-1/2	6	128.70	—

END MILLS

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank	205A	63.19
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank, Center Cut	240A	70.44
3/4, 7/8, 1", 1-1/8, 1-1/4, 1-1/2	6	3/4" Shank	205S	249.22

All sets are supplied in wood block



## R-8 End Mill Adapters

Hole Diameter	Tool No.	Price Each	Hole Diameter	Tool No.	Price Each
1/4	R8E14	47.45	3/4	R8E34	54.60
3/16	R8E316	47.45	7/8	R8E78	59.80
3/8	R8E38	47.45	1	R8E1	59.80
1/2	R8E12	48.10	1-1/4	R8E114	78.98
5/8	R8E58	50.70	1-1/2	R8E112	90.35



R-8 Adapter Set	Set No.	Price
3/16, 3/8, 1/2, 5/8, 3/4, 1"	R8EM	323.69

# Multi Flute End Mills

High Speed Steel



END MILLS

## Medium Flute

List No. 206MF

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1	1	3	5-1/2	4	39.60
1-1/4	1-1/4	3	5-1/2	4	62.70
1-1/4	1-1/4	3	5-1/2	6	62.70
1-1/2	1-1/4	3	5-1/2	4	81.18
1-1/2	1-1/4	3	5-1/2	6	81.18

**MDX**  
SUPERIOR IMPORT



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1-3/4	1-1/4	3	5-1/2	6	100.32
2	1-1/4	3	5-1/2	6	128.04
2-1/4	1-1/4	3	5-1/2	6	174.24
2-1/2	1-1/4	3	5-1/2	6	186.78
2-1/2	1-1/4	3	5-1/2	8	186.78

## Long Flute

List No. 206U



Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
3/16	3/8	3/4	2-5/8	4	20.25
7/32	3/8	1-1/4	3-1/16	4	22.00
1/4	3/8	1-1/4	3-1/16	4	20.25
5/16	3/8	1-3/8	3-1/8	4	20.25
3/8	3/8	1-1/2	3-1/4	4	20.25
7/16	1/2	1-3/4	3-3/4	4	28.17
1/2	1/2	2	4	4	28.17
5/8	5/8	2-1/2	4-5/8	4	39.15
3/4	3/4	3	5-1/4	4	45.45
7/8	7/8	3-1/2	5-3/4	4	60.12

**MICHIGAN**  
DRILL & CUTTING TOOLS



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
7/8	7/8	3-1/2	5-3/4	6	60.12
1	1	4	6-1/2	4	78.12
1-1/8	1	3	5-1/2	6	97.00
1-1/8	1	4	6-1/2	6	114.00
1-1/4	1-1/4	4	6-1/2	4	121.23
1-1/4	1-1/4	4	6-1/2	6	121.23
1-1/2	1-1/4	4	6-1/2	6	154.26
2	1-1/4	3	5-1/2	6	179.00
2	1-1/4	4	6-1/2	4	231.30
2	1-1/4	4	6-1/2	8	231.30

List No. 206

List No. 206L Center Cut

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					206	206L
1/4	3/8	1-1/4	3-1/16	4	12.41	15.00
5/16	3/8	1-3/8	3-1/8	4	12.41	15.00
3/8	3/8	1-1/2	3-1/4	4	12.41	15.00
7/16	1/2	1-3/4	3-3/4	4	16.37	—
1/2	1/2	2	4	4	16.37	19.50
5/8	5/8	2-1/2	4-5/8	4	22.97	24.68
3/4	1/2	3	5-1/4	4	27.98	—
3/4	3/4	3	5-1/4	4	27.98	31.00
7/8	3/4	3-1/2	5-3/4	4	35.24	—
7/8	7/8	3-1/2	5-3/4	4	35.24	40.50
1	3/4	4	6-1/2	4	47.52	—
1	1	4	6-1/2	4	46.20	51.00
1-1/8	1	4	6-1/2	6	60.72	—

**MDX**  
SUPERIOR IMPORT

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					206	206L
1-1/4	3/4	4	6-1/2	6	75.90	—
1-1/4	1	4	6-1/2	6	72.60	—
1-1/4	1-1/4	4	6-1/2	4	72.60	—
1-1/4	1-1/4	4	6-1/2	6	72.60	—
1-3/8	1	4	6-1/2	6	85.25	—
1-1/2	1	4	6-1/2	6	89.10	—
1-1/2	1-1/4	4	6-1/2	4	89.10	—
1-1/2	1-1/4	4	6-1/2	6	89.10	—
1-1/2	1-1/4	6	8-1/2	6	95.70	—
1-3/4	1-1/4	4	6-1/2	6	112.20	—
2	1-1/4	4	6-1/2	4	137.28	—
2	1-1/4	4	6-1/2	6	137.28	—
2	1-1/4	4	6-1/2	8	137.28	—

## Extra Long Flute

List No. 207U



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
3/16	3/8	1-1/4	3-1/16	4	22.95
1/4	3/8	1-3/4	3-9/16	4	22.95
5/16	3/8	2	3-3/4	4	24.21
3/8	3/8	2-1/2	4-1/4	4	24.73
1/2	1/2	3	5	4	31.73
5/8	5/8	4	6-1/8	4	45.81

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
3/4	3/4	4	6-1/4	4	53.82
7/8	7/8	5	7-1/4	4	69.00
1	1	6	8-1/2	4	93.78
1-1/4	1-1/4	6	8-1/2	6	141.26
1-1/2	1-1/4	6	8-1/2	6	165.00
1-1/2	1-1/4	8	10-1/2	6	179.75

List No. 207

List No. 207L Center Cut

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					207	207L
1/4	3/8	1-3/4	3-9/16	4	14.26	16.70
5/16	3/8	2	3-3/4	4	14.92	16.70
3/8	3/8	2-1/2	4-1/4	4	15.58	18.00
1/2	1/2	3	5	4	19.54	24.10
5/8	1/2	4	6-1/8	4	27.72	31.50
5/8	5/8	4	6-1/8	4	27.72	31.50
3/4	1/2	4	6-1/4	4	33.66	36.40
3/4	3/4	4	6-1/4	4	33.00	36.40

**MDX**  
SUPERIOR IMPORT

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each	
					207	207L
7/8	7/8	5	7-1/4	4	42.90	47.00
15/16	7/8	5	7-1/4	4	56.76	—
1	1	6	8-1/2	4	56.76	61.50
1-1/4	1-1/4	6	8-1/2	4	85.80	94.00
1-1/4	1-1/4	6	8-1/2	6	85.80	94.00
1-1/2	1-1/4	6	8-1/2	6	85.80	94.00
1-1/2	1-1/4	8	10-1/2	6	135.96	145.00
2	1-1/4	6	8-1/2	6	—	124.00

# Heavy Duty End Mills with Combination Shanks

High Speed Steel



**MDX**  
SUPERIOR IMPORT



END MILLS

## List No. 277 — Right Hand

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1-1/2	1-1/2	2	5-3/4	4	78.00
2	1-1/2	4	6-7/8	3	115.00
2	1-1/2	4	6-7/8	4	115.00
2	2	2	5-3/4	2	179.10
2	2	2	5-3/4	2 Ball	230.40
2	2	2	5-3/4	3	186.30
2	2	2	5-3/4	4	179.10
2	2	2	5-3/4	6	186.30
2	2	3	6-3/4	2	210.00
2	2	3	6-3/4	2 Ball	275.00
2	2	3	6-3/4	3	241.20
2	2	3	6-3/4	4	210.00
2	2	3	6-3/4	6	210.00
2	2	4	7-3/4	2	225.00
2	2	4	7-3/4	3	260.00
2	2	4	7-3/4	4	225.00
2	2	4	7-3/4	6	225.00
2	2	4	7-3/4	6 Ball	297.00
2	2	4	7-3/4	8	225.00
2	2	5	8-3/4	2	240.40
2	2	5	8-3/4	2 Ball	328.95
2	2	5	8-3/4	3	275.00
2	2	5	8-3/4	4	240.40
2	2	6	9-3/4	2	252.00
2	2	6	9-3/4	3	275.00
2	2	6	9-3/4	4	252.00
2	2	6	9-3/4	6	252.00
2	2	6	9-3/4	6 Ball	365.40
2	2	6	9-3/4	6 Cobalt	486.00
2	2	8	11-3/4	3	300.60
2	2	8	11-3/4	4	300.60
2	2	8	11-3/4	6	300.60
2	2	8	11-3/4	6 Ball	430.20
2	2	10	13-3/4	3	349.20

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
2	2	12	15-3/4	6	486.00
2-1/2	2	4	7-3/4	2	320.00
2-1/2	2	4	7-3/4	3	320.00
2-1/2	2	4	7-3/4	4	320.00
2-1/2	2	4	7-3/4	6	320.00
2-1/2	2	6	9-3/4	2	464.40
2-1/2	2	6	9-3/4	3	360.00
2-1/2	2	6	9-3/4	4	360.00
2-1/2	2	6	9-3/4	6	360.00
2-1/2	2	6	9-3/4	6 Ball	410.00
2-1/2	2	8	11-3/4	3	421.20
2-1/2	2	8	11-3/4	4	421.20
2-1/2	2	8	11-3/4	6	421.20
2-1/2	2-1/2	4	8	3	320.00
2-1/2	2-1/2	4	8	4	320.00
2-1/2	2-1/2	4	8	6	320.00
2-1/2	2-1/2	5	9	4	371.70
2-1/2	2-1/2	5	9	6	371.70
2-1/2	2-1/2	6	10	2	450.00
2-1/2	2-1/2	6	10	3	472.50
2-1/2	2-1/2	6	10	4	450.00
2-1/2	2-1/2	6	10	6	480.00
2-1/2	2-1/2	8	11-3/4	2	488.00
2-1/2	2-1/2	8	11-3/4	4	488.00
2-1/2	2-1/2	8	11-3/4	6	488.00
2-1/2	2-1/2	12	15-3/4	6	520.00
3	2-1/2	4	7-3/4	3	395.00
3	2-1/2	4	7-3/4	6	376.20
3	2-1/2	5	8-3/4	6	412.20
3	2-1/2	5	8-3/4	8	412.20
3	2-1/2	6	9-3/4	6	495.00
3	2-1/2	8	11-3/4	6	648.00
3	2-1/2	8	11-3/4	8	648.00
3	2-1/2	10	13-3/4	8	979.00

## List No. 277LH — Left Hand

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
2	2	2	5-3/4	2	279.45
2	2	3	6-3/4	2	310.00

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
2	2	8	11-3/4	6	450.90
2-1/2	2	4	7-3/4	6	446.85

## #50 Taper End Mill Holder

For 2" combination shank end mills

This holder assures safe and sure locking.  
The end mill cannot possibly vibrate loose or pull out of the holder as its torque aids the locking.



Description	Part No.	Price Each
For 2" combination shank end mills	<b>HC50-2</b>	400.00

## End Mill Dispenser Metal Cabinets

Description	Case No.	Price Each
Two Flute Single and Double End 1/16 to 1"	<b>CZD10</b>	510.30
Four Flute Single and Double End 1/16 to 1"	<b>CZD11</b>	510.30
Two and Four Flute Single and Double End 1/8 to 1"	<b>CZD12</b>	121.50



# 2-Flute End Mills

High Speed Steel



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These end mills are designed for plunge cutting and can be used in slotting operations for all types of materials.

## Regular Length

List No. 231U

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	14.36
5/32	3/8	3/8	2-5/16	16.43
3/16	3/8	7/16	2-5/16	14.36
7/32	3/8	1/2	2-5/16	16.43
1/4	3/8	1/2	2-5/16	14.36
9/32	3/8	9/16	2-5/16	16.43
5/16	3/8	9/16	2-5/16	14.36
11/32	3/8	9/16	2-5/16	16.43
3/8	3/8	9/16	2-5/16	14.36
13/32	3/8	13/16	2-1/2	21.33
7/16	3/8	13/16	2-1/2	21.33
15/32	3/8	13/16	2-1/2	21.33
1/2	3/8	13/16	2-1/2	21.33
1/2	1/2	1	3	21.38
9/16	1/2	1-1/8	3-1/8	25.31
19/32	1/2	1-1/8	3-1/8	31.46
5/8	1/2	1-1/8	3-1/8	29.43
5/8	5/8	1-5/16	3-7/16	28.80
21/32	1/2	1-5/16	3-5/16	33.75
11/16	1/2	1-5/16	3-5/16	31.46
11/16	5/8	1-5/16	3-7/16	31.46
23/32	1/2	1-5/16	3-5/16	33.75

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
3/4	1/2	1-5/16	3-5/16	33.75
3/4	5/8	1-5/16	3-7/16	33.75
3/4	3/4	1-5/16	3-9/16	33.75
25/32	1/2	1-1/2	3-1/2	44.10
13/16	1/2	1-1/2	3-5/8	42.21
13/16	5/8	1-1/2	3-5/8	42.21
13/16	3/4	1-1/2	3-3/4	42.21
27/32	1/2	1-1/2	3-1/2	42.21
7/8	1/2	1-1/2	3-1/2	41.67
7/8	5/8	1-1/2	3-5/8	41.67
7/8	3/4	1-1/2	3-3/4	41.67
7/8	7/8	1-1/2	3-3/4	41.67
29/32	1/2	1-1/2	3-1/2	47.14
15/16	1/2	1-1/2	3-1/2	47.14
15/16	5/8	1-1/2	3-3/8	46.78
15/16	3/4	1-1/2	3-3/4	47.14
15/16	7/8	1-1/2	3-3/4	46.78
61/64	1/2	1-1/2	3-1/2	47.14
31/32	1/2	1-1/2	3-1/2	47.14
1	1/2	1-1/2	3-5/8	46.62
1	5/8	1-1/2	3-5/8	46.62
1	3/4	1-1/2	3-3/4	46.62



Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
1	7/8	1-1/2	3-3/4	49.68
1	1	1-5/8	4-1/2	56.61
1-1/8	3/4	1-5/8	3-7/8	85.50
1-1/8	7/8	1-5/8	3-7/8	76.50
1-1/8	1	1-5/8	4-1/8	76.50
1-3/16	3/4	1-1/2	3-7/8	93.60
1-1/4	3/4	1-1/2	3-7/8	93.60
1-1/4	7/8	1-5/8	3-7/8	79.65
1-1/4	1	1-5/8	4-1/2	86.40
1-1/4	1-1/4	1-5/8	4-1/2	86.40
1-3/8	3/4	1-1/2	3-7/8	102.42
1-3/8	1	1-5/8	4-1/2	96.21
1-1/2	3/4	1-1/2	3-7/8	112.05
1-1/2	1	1-5/8	4-1/2	105.39
1-1/2	1-1/4	1-5/8	4-1/2	105.39
1-5/8	1-1/4	1-5/8	4-1/2	113.14
1-3/4	1-1/4	1-5/8	4-1/2	125.96
1-7/8	1-1/4	1-5/8	4-1/2	136.25
2	3/4	1-5/8	4-1/8	150.17
2	1-1/4	1-5/8	4-1/8	145.80
2-1/2	1-1/4	1-5/8	4-1/8	182.99

List No. 231

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	8.84
5/32	3/8	3/8	2-5/16	8.84
3/16	3/8	7/16	2-5/16	8.84
7/32	3/8	1/2	2-1/4	8.84
1/4	3/8	1/2	2-5/16	8.84
9/32	3/8	9/16	2-1/4	8.84
5/16	3/8	9/16	2-5/16	8.84
11/32	3/8	9/16	2-1/4	8.84
3/8	3/8	9/16	2-5/16	8.84
13/32	3/8	13/16	2-1/2	13.07
7/16	3/8	13/16	2-1/2	13.07
15/32	3/8	13/16	2-1/2	13.07
15/32	1/2	7/8	2-13/16	14.38
1/2	3/8	13/16	2-1/2	13.07
1/2	1/2	1	3	13.86
33/64	1/2	1-1/8	3	18.81
17/32	1/2	1-1/8	3-1/8	18.81
9/16	1/2	1-1/8	3-1/8	16.16
19/32	1/2	1-1/8	3-1/8	18.81
5/8	1/2	1-1/8	3-1/8	18.11
5/8	5/8	1-5/16	3-7/16	18.35
21/32	1/2	1-5/16	3-5/16	22.47
21/32	5/8	1-5/16	3-3/4	22.47
11/16	1/2	1-5/16	3-5/16	19.54
11/16	5/8	1-5/16	3-7/16	19.54
3/4	1/2	1-5/16	3-5/16	20.86

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
3/4	5/8	1-5/16	3-7/16	20.86
3/4	3/4	1-5/16	3-9/16	20.86
25/32	1/2	1-1/2	3-1/2	24.55
13/16	1/2	1-1/2	3-1/2	24.55
13/16	5/8	1-1/2	3-5/8	24.55
13/16	3/4	1-1/2	3-3/4	24.55
27/32	5/8	1-1/2	3-1/2	29.60
27/32	3/4	1-1/2	3-1/2	29.60
7/8	1/2	1-1/2	3-1/2	24.55
7/8	5/8	1-1/2	3-5/8	24.55
7/8	3/4	1-1/2	3-3/4	24.55
7/8	7/8	1-1/2	3-3/4	25.74
29/32	1/2	1-1/2	3-1/2	29.17
15/16	1/2	1-1/2	3-1/2	29.17
15/16	5/8	1-1/2	3-5/8	29.17
15/16	3/4	1-1/2	3-3/4	29.17
15/16	7/8	1-1/2	3-3/4	29.17
1	1/2	1-1/2	3-5/8	29.17
1	5/8	1-1/2	3-5/8	29.17
1	3/4	1-1/2	3-3/4	29.17
1	7/8	1-1/2	3-3/4	29.17
1	1	1-5/8	4-1/2	31.15
1-1/16	5/8	1-5/8	3-7/8	41.84
1-1/16	3/4	1-5/8	3-7/8	41.84
1-1/16	7/8	1-5/8	3-7/8	41.84
1-1/8	3/4	1-5/8	3-7/8	41.84

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each
1-1/8	7/8	1-5/8	3-7/8	45.41
1-1/8	1	1-5/8	4-1/8	45.41
1-3/16	3/4	1-5/8	3-7/8	52.93
1-3/16	1	1-5/8	3-7/8	52.93
1-1/4	3/4	1-5/8	3-7/8	52.93
1-1/4	7/8	1-5/8	3-7/8	44.75
1-1/4	1	1-5/8	4-1/2	50.69
1-1/4	1-1/4	1-5/8	4-1/2	54.25
1-5/16	3/4	1-5/8	3-7/8	62.96
1-3/8	3/4	1-5/8	3-7/8	62.96
1-3/8	1	1-5/8	4-1/2	60.19
1-3/8	1-1/4	1-5/8	4-1/2	60.19
1-7/16	3/4	1-5/8	3-7/8	63.10
1-1/2	3/4	1-5/8	3-7/8	63.10
1-1/2	1	1-5/8	4-1/2	66.00
1-1/2	1-1/4	1-5/8	4-1/2	66.00
1-5/8	3/4	1-5/8	3-7/8	72.78
1-5/8	1-1/4	1-5/8	4-1/2	72.30
1-3/4	3/4	1-5/8	3-7/8	85.80
1-3/4	1-1/4	1-5/8	4-1/2	79.20
1-7/8	3/4	1-5/8	3-7/8	87.12
1-7/8	1-1/4	1-5/8	4-1/2	85.38
2	3/4	1-5/8	4-1/8	98.01
2	1-1/4	1-5/8	4-1/8	93.72
2-1/4	1-1/4	1-5/8	4-1/8	160.00
2-1/2	1-1/4	1-5/8	4-1/8	200.00

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank, Made in USA	231AU	96.93
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	3/8" Shank, Quality Import	231A	61.07
3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2	6	3/4" Shank, Made in USA	231SU	420.33
3/4, 7/8, 1, 1-1/8, 1-1/4, 1-1/2	6	3/4" Shank, Quality Import	231S	239.59



All sets are supplied in wood block



# 2-Flute End Mills

High Speed Steel



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

## Long Length

List No. 233U

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/4	3/8	1-1/4	3-5/16	23.54
5/16	3/8	3/4	2-1/2	23.54
3/8	3/8	1	2-3/4	23.54
3/8	3/8	1-1/2	3-1/4	25.89
7/16	1/2	1-3/4	2-3/4	29.75
1/2	1/2	1-1/2	3-1/2	30.95
1/2	1/2	2-1/2	4-5/8	36.73
1/2	1/2	3	5-1/16	40.50
5/8	5/8	2	4-1/8	44.55
5/8	1/2	2-3/8	4-1/2	60.08
3/4	3/4	1-3/4	4	41.85
7/8	7/8	2	4-1/4	48.25
7/8	7/8	2-1/2	4-3/4	57.49
7/8	7/8	3-5/8	6-1/2	71.76
1	1	2-1/4	4-3/4	62.00
1	1	3	5-1/2	72.16
1	1	4	6-1/2	89.70



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1	1	4-5/8	7-5/16	99.75
1-1/8	1	2-1/4	4-3/4	85.00
1-1/8	1	3	5-1/2	89.25
1-1/4	1	2-1/4	4-3/4	93.75
1-1/4	1	3	5-1/2	120.00
1-1/4	1-1/4	2-1/4	4-3/4	93.75
1-1/4	1-1/4	3	5-1/2	120.00
1-1/4	1-1/4	4	6-1/2	145.57
1-1/4	1-1/4	4-3/4	7-5/16	151.76
1-1/4	1-1/4	6	8-1/2	159.06
1-3/8	1	2-1/4	4-3/4	131.25
1-1/2	1-1/4	2-1/4	4-3/4	123.85
1-1/2	1-1/4	3	5-1/2	148.00
1-5/8	1-1/4	3	5-1/2	160.00
1-3/4	1-1/4	3	5-1/2	180.00
2	1-1/4	2-1/4	4-3/4	203.05
2	1-1/4	3	5-1/2	217.98

Titanium Nitride coating available. Please inquire.



List No. 233

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/4	3/8	1-1/2	3-1/4	18.66
5/16	3/8	1-1/2	3-1/4	18.66
3/8	3/8	1	2-3/4	16.20
3/8	3/8	1-1/2	3-1/4	18.72
7/16	1/2	1-1/2	3-9/16	23.76
1/2	1/2	1-1/2	4-1/2	21.64
1/2	1/2	2	4	23.76
1/2	1/2	2-1/2	4-9/16	33.00
1/2	1/2	3	5-1/16	31.75
5/8	1/2	2-3/8	4-1/2	29.70
5/8	5/8	2	4-1/8	27.72
5/8	5/8	2-1/2	4-5/8	34.82
5/8	5/8	3	5-1/8	41.91
3/4	1/2	2-3/4	5-1/4	35.81
3/4	3/4	1-3/4	4	29.39
3/4	3/4	2-1/4	4-1/2	33.48
3/4	3/4	3-1/2	6	52.20
7/8	7/8	2	4-1/4	38.16
7/8	7/8	2-1/2	4-3/4	41.07
7/8	7/8	3	5-1/4	42.38
1	1	2-1/4	4-3/4	49.80
1	1	2-1/2	5-1/16	47.25

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1	1	3	5-1/2	55.08
1-1/8	1	2-1/4	4-3/4	68.31
1-1/8	1	3	5-1/2	73.61
1-1/4	1	2-1/4	4-3/4	76.67
1-1/4	1	3	5-1/2	86.04
1-1/4	1-1/4	2-1/4	4-3/4	76.67
1-1/4	1-1/4	3	5-1/2	86.04
1-1/4	1-1/4	3-1/2	6-1/16	106.20
1-3/8	1	2-1/4	4-3/4	87.40
1-3/8	1	3	5-1/2	93.70
1-1/2	1-1/4	2-1/4	4-3/4	109.00
1-1/2	1-1/4	3	5-1/2	103.50
1-5/8	1-1/4	3	5-1/2	118.52
1-3/4	1-1/4	3	5-1/2	129.60
1-7/8	1-1/4	3	5-1/2	147.52
2	1-1/4	2-1/4	4-3/4	144.00
2	1-1/4	2-1/2	5	150.00
2	1-1/4	3	5-1/2	155.70
2*	2	2	5-3/4	179.10
2*	2	3	6-3/4	241.20
2*	2	4	7-3/4	213.30
2*	2	5	8-3/4	260.40

\*Combination Shank.

## Extension Type

List No. 234U



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Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
5/16	3/8	3/4	1-1/4	25.96
3/8	3/8	3/4	1-1/4	27.50
1/2	1/2	1	4	31.14
5/8	1/2	1-3/8	4-1/2	47.96

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
5/8	5/8	1-3/8	4-5/8	43.60
3/4	3/4	1-5/8	5-3/8	55.04
7/8	7/8	2	6	62.32
1	1	2-1/2	7-1/4	96.64

List No. 234

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-3/8	18.18
3/16	3/8	1/2	2-11/16	18.18
1/4	3/8	5/8	3-1/16	18.18
5/16	3/8	3/4	3-5/16	18.18
3/8	3/8	3/4	3-5/16	18.18
1/2	1/2	1	4	21.78
5/8	1/2	1-3/8	4-1/2	32.04

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
5/8	5/8	1-3/8	4-5/8	32.04
3/4	1/2	1-5/8	5-1/4	40.68
3/4	3/4	1-5/8	5-3/8	40.68
7/8	7/8	2	6	52.74
1	1	2-1/2	7-1/4	72.00
1-1/4	1-1/4	3	7-1/4	99.00

Titanium Nitride coating available. Please inquire.



END MILLS

# TiN-Coated Multi Flute End Mills

High Speed Steel



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

END MILLS

## List No. 205TU

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1/8	3/8	3/8	2-5/16	4	24.30
5/32	3/8	7/16	2-1/4	4	24.30
3/16	3/8	1/2	2-3/8	4	24.30
7/32	3/8	5/8	2-3/8	4	24.30
1/4	3/8	5/8	2-7/16	4	24.30
9/32	3/8	11/16	2-1/2	4	24.30
5/16	3/8	3/4	2-1/2	4	24.30
11/32	3/8	3/4	2-1/2	4	24.30
3/8	3/8	3/4	2-1/2	4	24.30
13/32	3/8	1	2-11/16	4	33.30
7/16	3/8	1	2-11/16	4	33.30
15/32	3/8	1	2-11/16	4	33.30
1/2	3/8	1	2-11/16	4	33.30
1/2	1/2	1-1/4	3-1/4	4	34.20
9/16	1/2	1-3/8	3-3/8	4	44.96
5/8	1/2	1-3/8	3-3/8	4	48.60
5/8	5/8	1-5/8	3-3/4	4	52.20
21/32	5/8	1-5/8	3-3/4	4	62.10
11/16	1/2	1-5/8	3-5/8	4	55.35
11/16	5/8	1-5/8	3-3/4	4	58.50
3/4	1/2	1-5/8	3-5/8	4	60.12
3/4	5/8	1-5/8	3-3/4	4	60.12
3/4	3/4	1-5/8	3-7/8	4	61.74
13/16	1/2	1-7/8	4	4	86.40
13/16	5/8	1-7/8	4	6	86.40
13/16	3/4	1-7/8	4-1/8	4	86.40
7/8	1/2	1-5/8	3-5/8	4	88.65

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
7/8	5/8	1-7/8	4	6	88.65
7/8	3/4	1-7/8	4-1/8	4	88.65
7/8	7/8	1-7/8	4-1/8	4	88.65
15/16	5/8	1-7/8	4	6	74.25
15/16	3/4	1-7/8	4-1/8	4	74.25
15/16	7/8	1-7/8	4-1/8	4	74.25
1	1/2	1-7/8	3-7/8	4	96.30
1	5/8	1-7/8	4	6	96.30
1	3/4	1-7/8	4-1/8	4	96.30
1	7/8	1-7/8	4-1/8	4	96.30
1	1	2	4-1/2	4	96.30
1-1/16	3/4	2	4-1/4	6	117.00
1-1/8	3/4	1-1/2	3-7/8	6	129.60
1-1/8	1	2	4-1/2	6	129.60
1-1/4	3/4	1-1/2	3-7/8	6	129.60
1-1/4	7/8	2	4-1/4	6	129.60
1-1/4	1	2	4-1/2	6	133.20
1-1/4	1-1/4	2	4-1/2	4	140.40
1-1/4	1-1/4	2	4-1/2	6	140.40
1-3/8	3/4	1-1/2	3-7/8	6	153.00
1-3/8	1	2	4-1/2	6	153.00
1-7/16	3/4	1-1/2	3-7/8	6	170.10
1-1/2	3/4	1-1/2	3-7/8	6	170.10
1-1/2	1	2	4-1/2	6	170.10
1-1/2	1-1/4	2	4-1/2	4	170.10
1-1/2	1-1/4	2	4-1/2	6	170.10
1-1/2	1-1/4	2	4-1/2	8	216.00

## List No. 205T

MDX<sup>®</sup> SUPERIOR IMPORT

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1/8	3/8	3/8	2-5/16	4	17.96
5/32	3/8	7/16	2-1/4	4	18.80
3/16	3/8	1/2	2-3/8	4	17.96
7/32	3/8	5/8	2-3/8	4	18.80
1/4	3/8	5/8	2-7/16	4	17.96
9/32	3/8	11/16	2-1/2	4	18.80
5/16	3/8	3/4	2-1/2	4	17.96
11/32	3/8	3/4	2-1/2	4	18.80
3/8	3/8	3/4	2-1/2	4	17.96
13/32	3/8	1	2-11/16	4	23.15
7/16	3/8	1	2-11/16	4	23.15
15/32	3/8	1	2-11/16	4	23.15
1/2	3/8	1	2-11/16	4	23.15
1/2	1/2	1-1/4	3-1/4	4	25.67
9/16	1/2	1-3/8	3-3/8	4	31.32
5/8	1/2	1-3/8	3-3/8	4	33.30
5/8	5/8	1-5/8	3-3/4	4	35.28
11/16	1/2	1-5/8	3-5/8	4	37.84
11/16	5/8	1-5/8	3-3/4	4	38.74
3/4	1/2	1-5/8	3-5/8	4	39.82
3/4	5/8	1-5/8	3-3/4	4	39.82
3/4	3/4	1-5/8	3-7/8	4	40.90
13/16	1/2	1-7/8	4	4	52.61
13/16	5/8	1-7/8	4	6	52.61
13/16	3/4	1-7/8	4-1/8	4	55.68
7/8	1/2	1-5/8	3-5/8	4	53.69
7/8	5/8	1-7/8	4	6	53.69

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
7/8	3/4	1-7/8	4-1/8	4	57.32
7/8	7/8	1-7/8	4-1/8	4	55.52
15/16	5/8	1-7/8	4	6	57.25
15/16	3/4	1-7/8	4-1/8	4	62.88
15/16	7/8	1-7/8	4-1/8	4	62.88
1	1/2	1-7/8	3-7/8	4	59.09
1	5/8	1-7/8	4	6	59.09
1	3/4	1-7/8	4-1/8	4	60.74
1	7/8	1-7/8	4-1/8	4	60.74
1	1	2	4-1/2	4	63.26
1-1/16	3/4	2	4-1/4	6	90.32
1-1/8	3/4	1-1/2	3-7/8	6	85.82
1-1/8	1	2	4-1/2	6	85.82
1-1/4	3/4	1-1/2	3-7/8	6	92.12
1-1/4	7/8	2	4-1/4	6	89.42
1-1/4	1	2	4-1/2	6	91.58
1-1/4	1-1/4	2	4-1/2	4	96.62
1-1/4	1-1/4	2	4-1/2	6	96.62
1-3/8	3/4	1-1/2	3-7/8	6	124.85
1-3/8	1	2	4-1/2	6	118.55
1-5/8	3/4	1-1/2	3-7/8	6	159.32
1-3/4	3/4	1-1/2	3-7/8	6	167.34
1-7/16	3/4	1-1/2	3-7/8	6	128.45
1-1/2	3/4	1-1/2	3-7/8	6	128.45
1-1/2	1	2	4-1/2	6	128.45
1-1/2	1-1/4	2	4-1/2	4	128.45
1-1/2	1-1/4	2	4-1/2	6	128.45

## Sets

Size	Pcs.	Description	Made in U.S.A.		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	TiN Coated, 3/8" Shank	205ATU	158.60	205AT	116.75
3/4, 7/8, 1", 1-1/8, 1-1/4, 1-1/2	6	TiN Coated, 3/4" Shank	205STU	683.13	205ST	472.49

All sets are supplied in wood block



# TiN-Coated Two Flute End Mills

High Speed Steel



**MADE IN  
USA**



**MICHIGAN  
DRILL & CUTTING TOOLS**

END MILLS

## List No. 231TU

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	24.30
5/32	3/8	3/8	2-5/16	24.30
3/16	3/8	7/16	2-5/16	26.10
7/32	3/8	1/2	2-5/16	26.10
1/4	3/8	1/2	2-5/16	26.10
9/32	3/8	9/16	2-5/16	26.10
5/16	3/8	9/16	2-5/16	26.10
11/32	3/8	9/16	2-5/16	26.10
3/8	3/8	9/16	2-5/16	26.10
13/32	3/8	13/16	2-1/2	34.83
7/16	3/8	13/16	2-1/2	34.83
15/32	3/8	13/16	2-1/2	37.35
1/2	3/8	13/16	2-1/2	37.35
1/2	1/2	1	3	37.35
9/16	1/2	1-1/8	3-1/8	45.45
5/8	1/2	1-1/8	3-1/8	51.57
5/8	5/8	1-5/16	3-7/16	51.57
11/16	1/2	1-5/16	3-5/16	53.91
11/16	5/8	1-5/16	3-7/16	53.91
3/4	1/2	1-5/16	3-5/16	56.16
3/4	5/8	1-5/16	3-7/16	56.16
3/4	3/4	1-5/16	3-9/16	59.31
13/16	1/2	1-1/2	3-1/2	63.81
13/16	5/8	1-1/2	3-5/8	63.81

Sizes larger than 1-1/2 are available upon request.

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
13/16	3/4	1-1/2	3-3/4	63.81
7/8	1/2	1-1/2	3-1/2	63.81
7/8	5/8	1-1/2	3-5/8	63.81
7/8	3/4	1-1/2	3-3/4	66.60
7/8	7/8	1-1/2	3-3/4	69.21
15/16	5/8	1-1/2	3-3/4	74.25
15/16	3/4	1-1/2	3-3/4	74.25
15/16	7/8	1-1/2	3-3/4	74.25
1	1/2	1-1/2	3-5/8	75.60
1	5/8	1-1/2	3-5/8	75.60
1	3/4	1-1/2	3-3/4	75.60
1	7/8	1-1/2	3-3/4	84.15
1	1	1-5/8	4-1/8	92.70
1-1/16	3/4	1-5/8	3-7/8	103.50
1-1/8	3/4	1-5/8	3-7/8	107.82
1-1/8	7/8	1-5/8	3-7/8	116.01
1-1/8	1	1-5/8	4-1/8	121.14
1-1/4	3/4	1-5/8	3-7/8	134.10
1-1/4	1	1-5/8	4-1/8	129.60
1-3/8	3/4	1-5/8	3-7/8	144.00
1-3/8	1	1-5/8	4-1/8	154.80
1-1/2	3/4	1-5/8	3-7/8	162.90
1-1/2	1	1-5/8	4-1/8	189.90
1-1/2	1-1/4	1-5/8	4-1/8	189.90

## List No. 231T

**MDX<sup>®</sup>**  
SUPERIOR IMPORT

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	17.24
5/32	3/8	3/8	2-5/16	17.24
3/16	3/8	7/16	2-5/16	17.24
7/32	3/8	1/2	2-5/16	17.24
1/4	3/8	1/2	2-5/16	17.24
9/32	3/8	9/16	2-5/16	17.24
5/16	3/8	9/16	2-5/16	17.24
11/32	3/8	9/16	2-5/16	17.24
3/8	3/8	9/16	2-5/16	17.24
13/32	3/8	13/16	2-1/2	23.00
7/16	3/8	13/16	2-1/2	23.00
15/32	3/8	13/16	2-1/2	23.00
1/2	3/8	13/16	2-1/2	23.87
1/2	1/2	1	3	24.95
9/16	1/2	1-1/8	3-1/8	31.21
5/8	1/2	1-1/8	3-1/8	33.88
5/8	5/8	1-5/16	3-7/16	34.20
11/16	1/2	1-5/16	3-5/16	37.66
11/16	5/8	1-5/16	3-7/16	37.66
3/4	1/2	1-5/16	3-5/16	39.46
3/4	5/8	1-5/16	3-7/16	39.46
3/4	3/4	1-5/16	3-9/16	39.46
13/16	1/2	1-1/2	3-1/2	39.46
13/16	5/8	1-1/2	3-5/8	49.36
13/16	3/4	1-1/2	3-3/4	49.36

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
7/8	1/2	1-1/2	3-1/2	49.36
7/8	5/8	1-1/2	3-5/8	49.36
7/8	3/4	1-1/2	3-3/4	49.36
7/8	7/8	1-1/2	3-3/4	50.98
15/16	5/8	1-1/2	3-3/4	55.66
15/16	3/4	1-1/2	3-3/4	55.66
15/16	7/8	1-1/2	3-3/4	55.66
1	1/2	1-1/2	3-5/8	55.66
1	5/8	1-1/2	3-5/8	55.66
1	3/4	1-1/2	3-3/4	55.66
1	7/8	1-1/2	3-3/4	55.66
1	1	1-5/8	4-1/8	60.73
1-1/16	3/4	1-5/8	3-7/8	77.04
1-1/8	3/4	1-5/8	3-7/8	77.04
1-1/8	7/8	1-5/8	3-7/8	81.90
1-1/8	1	1-5/8	4-1/8	86.54
1-1/4	3/4	1-5/8	3-7/8	92.16
1-1/4	7/8	1-5/8	3-7/8	92.16
1-1/4	1	1-5/8	4-1/8	93.74
1-3/8	3/4	1-5/8	3-7/8	117.07
1-3/8	1	1-5/8	4-1/8	120.53
1-1/2	3/4	1-5/8	3-7/8	117.25
1-1/2	1	1-5/8	4-1/8	128.45
1-1/2	1-1/4	1-5/8	4-1/8	128.45

## Sets

Size	Pcs.	Description	Made in U.S.A.		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	TiN Coated, 3/8" Shank	231ATU	169.85	231AT	113.87
3/4, 7/8, 1", 1-1/8, 1-1/4, 1-1/2	6	TiN Coated, 3/4" Shank	231STU	606.33	231ST	438.07

All sets are supplied in wood block



# Double-End End Mills

High Speed Steel



**MICHIGAN**  
DRILL & CUTTING TOOLS

- List No. **261U** – Two Flute
- List No. **241U** – Four Flute
- List No. **242U** – Four Flute, Center Cut



END MILLS

Diameter of Cut	Two Flute <b>261U</b>				Four Flute				
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each	
								<b>241U</b>	Center Cut <b>242U</b>
1/8	3/8	3/8	3-1/16	22.23	3/8	3/8	3-1/16	20.34	26.91
9/64	3/8	7/16	3-1/8	22.23	3/8	7/16	3-1/4	23.91	—
5/32	3/8	7/16	3-1/8	22.23	3/8	7/16	3-1/8	21.15	27.90
11/64	3/8	7/16	3-1/8	22.23	3/8	1/2	3-1/4	23.91	—
3/16	3/8	7/16	3-1/8	22.23	3/8	1/2	3-1/4	20.34	26.91
13/64	3/8	7/16	3-1/8	22.23	3/8	9/16	3-1/4	23.91	—
7/32	3/8	1/2	3-1/8	22.23	3/8	9/16	3-1/4	21.15	27.90
15/64	3/8	1/2	3-1/8	22.23	3/8	9/16	3-3/8	23.91	—
1/4	3/8	1/2	3-1/8	22.23	3/8	5/8	3-3/8	20.34	26.91
17/64	3/8	9/16	3-1/8	22.23	3/8	11/16	3-3/8	23.91	—
9/32	3/8	9/16	3-1/8	22.23	3/8	11/16	3-3/8	21.15	27.90
19/64	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	23.91	—
5/16	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	20.34	26.91
21/64	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	22.23	—
11/32	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	21.15	27.90
23/64	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	23.91	—
3/8	3/8	9/16	3-1/8	22.23	3/8	3/4	3-1/2	20.34	26.91
25/64	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.73	—
13/32	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.73	27.90
27/64	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.73	—
7/16	1/2	13/16	3-3/4	32.13	1/2	1	4-1/8	30.20	41.40
29/64	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.73	—
15/32	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.46	41.40
31/64	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	31.73	—
1/2	1/2	13/16	3-3/4	33.53	1/2	1	4-1/8	30.60	40.46
17/32	5/8	1-1/8	4-1/2	44.37	5/8	1-3/8	5	44.29	—
9/16	5/8	1-1/8	4-1/2	44.37	5/8	1-3/8	5	42.29	56.34
19/32	5/8	1-1/8	4-1/2	44.37	5/8	1-3/8	5	42.29	—
5/8	5/8	1-1/8	4-1/2	44.37	5/8	1-3/8	5	42.29	56.34
21/32	3/4	1-5/16	5	55.80	3/4	1-5/8	5-5/8	44.29	—
11/16	3/4	1-5/16	5	55.80	3/4	1-5/8	5-5/8	53.42	71.01
23/32	3/4	1-5/16	5	61.20	3/4	1-5/8	5-5/8	61.20	—
3/4	3/4	1-5/16	5	55.80	3/4	1-5/8	5-5/8	54.43	71.01
25/32	7/8	1-9/16	5-1/2	70.20	7/8	1-7/8	6-1/8	67.05	—
13/16	7/8	1-9/16	5-1/2	70.20	7/8	1-7/8	6-1/8	67.05	90.81
27/32	7/8	1-9/16	5-1/2	70.20	7/8	1-7/8	6-1/8	68.40	—
7/8	7/8	1-9/16	5-1/2	70.20	7/8	1-7/8	6-1/8	67.01	90.81
29/32	1	1-5/8	5-7/8	86.40	1	1-7/8	6-3/8	81.68	—
15/16	1	1-5/8	5-7/8	86.40	1	1-7/8	6-3/8	77.13	110.52
31/32	1	1-5/8	5-7/8	86.40	1	1-7/8	6-3/8	81.68	—
1	1	1-5/8	5-7/8	86.40	1	1-7/8	6-3/8	81.68	110.52

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Two Flute	<b>261AU</b>	137.43
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Four Flute	<b>241AU</b>	126.90
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Four Flute Center Cutting	<b>242AU</b>	166.50

All sets are supplied in wood block



# Double-End End Mills

High Speed Steel



**MDX**  
SUPERIOR IMPORT

List No. **261** – Two Flute

List No. **241** – Four Flute

List No. **242** – Four Flute, Center Cut



END MILLS

Diameter of Cut	Two Flute 261				Four Flute				
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each	
								241	Center Cut 242
1/8	3/8	3/8	3-1/16	13.07	3/8	3/8	3-1/16	13.07	15.95
9/64	3/8	7/16	3-1/8	13.33	3/8	7/16	3-1/4	13.60	—
5/32	3/8	7/16	3-1/8	13.33	3/8	7/16	3-1/8	13.60	17.54
11/64	3/8	7/16	3-1/8	13.46	3/8	1/2	3-1/4	13.60	—
3/16	3/8	7/16	3-1/8	12.80	3/8	1/2	3-1/4	13.07	15.95
13/64	3/8	1/2	3-1/8	13.73	3/8	9/16	3-1/4	13.60	—
7/32	3/8	1/2	3-1/8	13.33	3/8	9/16	3-1/4	13.60	17.54
15/64	3/8	1/2	3-1/8	13.73	3/8	5/8	3-3/8	13.60	—
1/4	3/8	1/2	3-1/8	12.80	3/8	5/8	3-3/8	13.07	15.95
17/64	3/8	9/16	3-1/8	13.73	3/8	11/16	3-3/8	13.60	—
9/32	3/8	9/16	3-1/8	13.33	3/8	11/16	3-3/8	13.60	17.54
19/64	3/8	9/16	3-1/8	13.73	3/8	3/4	3-1/2	13.60	—
5/16	3/8	9/16	3-1/8	12.80	3/8	3/4	3-1/2	13.07	15.95
21/64	3/8	9/16	3-1/8	13.73	3/8	3/4	3-1/2	13.73	—
11/32	3/8	9/16	3-1/8	13.33	3/8	3/4	3-1/2	13.60	17.54
23/64	3/8	9/16	3-1/8	13.73	3/8	3/4	3-3/8	13.60	—
3/8	3/8	9/16	3-1/8	12.80	3/8	3/4	3-1/2	13.07	15.95
25/64	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	19.40	—
13/32	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	18.35	23.12
27/64	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	19.40	—
7/16	1/2	13/16	3-3/4	18.88	1/2	1	4-1/8	19.40	24.06
29/64	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	19.40	—
15/32	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	20.20	24.24
31/64	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	20.20	—
1/2	1/2	13/16	3-3/4	20.20	1/2	1	4-1/8	19.67	22.82
17/32	5/8	1-1/8	4-1/2	26.66	5/8	1-3/8	5	27.46	—
9/16	5/8	1-1/8	4-1/2	26.66	5/8	1-3/8	5	26.66	31.20
19/32	5/8	1-1/8	4-1/2	26.66	5/8	1-3/8	5	26.66	—
5/8	5/8	1-1/8	4-1/2	26.66	5/8	1-3/8	5	26.27	30.74
21/32	3/4	1-5/16	5	34.32	3/4	1-5/8	5-5/8	34.67	—
11/16	3/4	1-5/16	5	33.00	3/4	1-5/8	5-5/8	33.66	39.05
23/32	3/4	1-5/16	5	34.98	3/4	1-5/8	5-5/8	35.35	—
3/4	3/4	1-5/16	5	33.00	3/4	1-5/8	5-5/8	34.32	40.15
25/32	7/8	1-9/16	5-1/2	37.39	7/8	1-7/8	6-1/8	43.51	—
13/16	7/8	1-9/16	5-1/2	41.98	7/8	1-7/8	6-1/8	42.90	50.62
27/32	7/8	1-9/16	5-1/2	43.51	7/8	1-7/8	6-1/8	43.51	—
7/8	7/8	1-9/16	5-1/2	42.24	7/8	1-7/8	6-1/8	42.24	49.84
29/32	1	1-5/8	5-7/8	53.02	1	1-7/8	6-3/8	53.02	—
15/16	1	1-5/8	5-7/8	51.48	1	1-7/8	6-3/8	45.54	54.65
31/32	1	1-5/8	5-7/8	53.02	1	1-7/8	6-3/8	51.48	—
1	1	1-5/8	5-7/8	51.48	1	1-7/8	6-3/8	51.48	61.78
1-1/2	1-1/2	2	7-1/2	122.10	—	—	—	—	—

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Two Flute	<b>261A</b>	81.65
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Two Flute	<b>261B</b>	88.52
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Four Flute	<b>241A</b>	83.00
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Four Flute	<b>241B</b>	89.07
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Center Cutting, Four Flute	<b>242A</b>	97.02

All sets are supplied in wood block





# TiN-Coated Double-End End Mills

High Speed Steel



**MADE IN USA**



**MICHIGAN**  
DRILL & CUTTING TOOLS

List No. **261TU** – Two Flute

List No. **241TU** – Four Flute

Diameter of Cut	Two Flute <b>261TU</b>				Four Flute <b>241TU</b>			
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/16	37.35	3/8	3/8	3-1/16	37.35
5/32	3/8	7/16	3-1/8	37.35	3/8	7/16	3-1/8	38.25
3/16	3/8	7/16	3-1/8	37.35	3/8	1/2	3-1/4	37.35
7/32	3/8	1/2	3-1/8	38.25	3/8	9/16	3-1/4	38.25
1/4	3/8	1/2	3-1/8	37.35	3/8	5/8	3-3/8	37.35
9/32	3/8	9/16	3-1/8	38.25	3/8	11/16	3-3/8	38.25
5/16	3/8	9/16	3-1/8	37.35	3/8	3/4	3-1/2	37.35
11/32	3/8	9/16	3-1/8	38.25	3/8	3/4	3-1/2	38.25
3/8	3/8	9/16	3-1/8	37.35	3/8	3/4	3-1/2	37.35
13/32	1/2	13/16	3-3/4	58.50	1/2	1	4-1/8	56.70
7/16	1/2	13/16	3-3/4	56.97	1/2	1	4-1/8	55.35
15/32	1/2	13/16	3-3/4	60.12	1/2	1	4-1/8	56.85
1/2	1/2	13/16	3-3/4	56.25	1/2	1	4-1/8	55.23
9/16	5/8	1-1/8	4-1/2	80.91	5/8	1-3/8	5	77.70
5/8	5/8	1-1/8	4-1/2	75.69	5/8	1-3/8	5	80.76
11/16	3/4	1-5/16	5	111.62	3/4	1-5/8	5-5/8	100.80
3/4	3/4	1-5/16	5	98.10	3/4	1-5/8	5-5/8	100.80
13/16	7/8	1-9/16	5-1/2	116.10	7/8	1-7/8	6-1/8	122.83
7/8	7/8	1-9/16	5-1/2	119.70	7/8	1-7/8	6-1/8	123.30
15/16	1	1-5/8	5-7/8	135.00	1	1-7/8	6-3/8	146.70
1	1	1-5/8	5-7/8	148.50	1	1-7/8	6-3/8	146.70

List No. **261T** – Two Flute

List No. **241T** – Four Flute



Diameter of Cut	Two Flute <b>261T</b>				Four Flute <b>241T</b>			
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/16	30.13	3/8	3/8	3-1/16	30.13
5/32	3/8	7/16	3-1/8	30.49	3/8	7/16	3-1/8	30.85
3/16	3/8	7/16	3-1/8	29.77	3/8	1/2	3-1/4	30.13
7/32	3/8	1/2	3-1/8	30.49	3/8	9/16	3-1/4	30.85
1/4	3/8	1/2	3-1/8	29.77	3/8	5/8	3-3/8	30.13
9/32	3/8	9/16	3-1/8	30.49	3/8	11/16	3-3/8	30.85
5/16	3/8	9/16	3-1/8	29.77	3/8	3/4	3-1/2	30.13
11/32	3/8	9/16	3-1/8	30.49	3/8	3/4	3-1/2	30.85
3/8	3/8	9/16	3-1/8	29.77	3/8	3/4	3-1/2	30.13
13/32	1/2	13/16	3-3/4	45.15	1/2	1	4-1/8	42.63
7/16	1/2	13/16	3-3/4	43.35	1/2	1	4-1/8	44.07
15/32	1/2	13/16	3-3/4	45.15	1/2	1	4-1/8	45.15
1/2	1/2	13/16	3-3/4	45.15	1/2	1	4-1/8	44.43
9/16	5/8	1-1/8	4-1/2	57.00	5/8	1-3/8	5	57.00
5/8	5/8	1-1/8	4-1/2	57.00	5/8	1-3/8	5	56.46
11/16	3/4	1-5/16	5	69.31	3/4	1-5/8	5-5/8	70.21
3/4	3/4	1-5/16	5	69.31	3/4	1-5/8	5-5/8	71.11
13/16	7/8	1-9/16	5-1/2	84.67	7/8	1-7/8	6-1/8	85.93
7/8	7/8	1-9/16	5-1/2	85.03	7/8	1-7/8	6-1/8	85.03
15/16	1	1-5/8	5-7/8	101.42	1	1-7/8	6-3/8	93.32
1	1	1-5/8	5-7/8	101.42	1	1-7/8	6-3/8	101.42

## Sets

Size	Pcs.	Description	Made in U.S.A.		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Two Flute, TiN Coated, 3/8" Shank	<b>261ATU</b>	224.10	<b>261AT</b>	179.28
1/8, 5/32, 3/16, 1/4, 5/16, 3/8	6	Four Flute, TiN Coated, 3/8" Shank	<b>241ATU</b>	224.10	<b>241AT</b>	179.74

All sets are supplied in wood block



# Miniature Double-End End Mills

High Speed Steel & Cobalt



## Regular Length – 3/16" Shank, 2-1/4" Overall Length

- List No. **265** – H.S. Two Flute
- List No. **245** – H.S. Four Flute
- List No. **265C** – Cobalt, Two Flute
- List No. **245C** – Cobalt, Four Flute, Center Cut



Diameter of Cut	Length of Cut	Price Each			
		Two Flute		Four Flute	
		H.S. 265	Cobalt 265C	H.S. 245	Cobalt 245C
1/32	1/8	17.51	26.91	—	—
3/64	9/64	17.51	26.91	—	—
1/16	3/16	16.34	26.91	15.26	26.91
5/64	15/64	16.34	26.91	15.26	26.91
3/32	9/32	15.66	26.91	15.26	26.91
7/64	21/64	15.66	26.91	15.26	26.91

Diameter of Cut	Length of Cut	Price Each			
		Two Flute		Four Flute	
		H.S. 265	Cobalt 265C	H.S. 245	Cobalt 245C
1/8	3/8	15.66	26.91	15.26	26.91
9/64	13/32	15.66	26.91	15.26	26.91
5/32	7/16	15.66	26.91	15.26	26.91
11/64	1/2	15.66	26.91	15.26	26.91
3/16	1/2	15.66	26.91	15.26	26.91

## Sets

Size	Pcs.	Description	Set No.	Price
1/16, 3/32, 1/8, 5/32, 3/16	5	H.S. Two Flute	<b>265A</b>	78.75
1/16, 3/32, 1/8, 5/32, 3/16	5	H.S. Four Flute	<b>245A</b>	76.05
1/16, 3/32, 1/8, 5/32, 3/16	5	Cobalt Two Flute	<b>265CA</b>	134.10
1/16, 3/32, 1/8, 5/32, 3/16	5	Cobalt Four Flute	<b>245CA</b>	134.10



All sets are supplied in wood block

## Long Length – 3/16" Shank

- List No. **266** – H.S. Two Flute
- List No. **246** – H.S. Four Flute
- List No. **266C** – Cobalt Two Flute
- List No. **246C** – Cobalt, Four Flute, Center Cut



Diameter of Cut	Length of Cut	Overall Length	Price Each			
			Two Flute		Four Flute	
			H.S. 266	Cobalt 266C	H.S. 246	Cobalt 246C
1/16	7/32	2-1/2	19.44	29.70	19.71	29.70
5/64	7/32	2-1/2	19.44	29.70	19.71	29.70
3/32	9/32	2-5/8	19.44	29.70	19.71	29.70
7/64	9/32	2-5/8	19.44	29.70	19.71	29.70
1/8	3/4	3-1/8	19.44	29.70	19.71	29.70

Diameter of Cut	Length of Cut	Overall Length	Price Each			
			Two Flute		Four Flute	
			H.S. 266	Cobalt 266C	H.S. 246	Cobalt 246C
9/64	3/4	3-1/8	19.44	29.70	19.71	29.70
5/32	7/8	3-1/4	19.44	29.70	19.71	29.70
11/64	7/8	3-1/4	19.44	29.70	19.71	29.70
3/16	1	3-3/8	19.44	29.70	19.71	29.70

## Stub Length – 3/16" Shank, 2" Overall

- List No. **266S** – H.S. Two Flute
- List No. **246S** – H.S. Four Flute, Center Cut
- List No. **266CS** – Cobalt, Two Flute
- List No. **246CS** – Cobalt, Four Flute, Center Cut



Diameter of Cut	Length of Cut	Price Each			
		Two Flute		Four Flute	
		H.S. 266S	Cobalt 266CS	H.S. 246S	Cobalt 246CS
1/32	3/64	16.25	21.60	—	—
3/64	1/16	14.27	21.60	—	21.60
1/16	3/32	14.27	21.60	14.45	21.60
5/64	1/8	14.27	21.60	14.45	21.60
3/32	9/64	14.04	21.60	14.45	21.60
7/64	5/32	14.04	21.60	14.45	21.60

Diameter of Cut	Length of Cut	Price Each			
		Two Flute		Four Flute	
		H.S. 266S	Cobalt 266CS	H.S. 246S	Cobalt 246CS
1/8	3/16	14.04	21.60	14.45	21.60
9/64	7/32	14.04	21.60	14.45	21.60
5/32	15/64	14.04	21.60	14.45	21.60
11/64	1/4	14.04	21.60	14.45	21.60
3/16	9/32	14.04	21.60	14.45	21.60

# Metric End Mills

High Speed Steel

List No. **231M** – Two Flute, Single End  
List No. **205M** – Four Flute, Single End



**MDX**  
SUPERIOR IMPORT



END MILLS

Diameter of Cut (mm)	Two Flute 231M				Four Flute 205M			
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each
2.00	3/8	1/4	2-5/16	11.48	3/8	1/4	2-5/16	11.28
2.50	3/8	9/32	2-5/16	11.48	3/8	9/32	2-5/16	11.28
3.00	3/8	3/8	2-5/16	11.48	3/8	3/8	2-5/16	11.28
3.50	3/8	3/8	2-5/16	11.48	3/8	3/8	2-3/8	11.28
4.00	3/8	7/16	2-5/16	11.48	3/8	1/2	2-3/8	11.28
4.50	3/8	7/16	2-5/16	11.48	3/8	1/2	2-3/8	11.28
5.00	3/8	1/2	2-5/16	11.48	3/8	9/16	2-1/2	11.28
5.50	3/8	1/2	2-5/16	11.48	3/8	5/8	2-7/16	11.28
6.00	3/8	1/2	2-5/16	11.48	3/8	5/8	2-1/2	11.28
7.00	3/8	9/16	2-5/16	11.48	3/8	3/4	2-1/2	11.28
8.00	3/8	9/16	2-5/16	11.48	3/8	3/4	2-1/2	11.28
9.00	3/8	9/16	2-5/16	11.48	3/8	3/4	2-1/2	11.28
10.00	3/8	13/16	2-1/2	13.92	3/8	1	2-11/16	13.92
11.00	3/8	13/16	2-1/2	16.75	3/8	1	2-11/16	15.11
12.00	3/8	13/16	2-1/2	17.62	3/8	1	2-11/16	15.44
12.00	1/2	1-1/8	3	17.62	—	—	—	—
12.50	1/2	1	3	21.84	1/2	1-1/4	3-1/4	17.35
13.00	1/2	1-1/8	3-1/8	21.84	1/2	1-1/4	3-1/4	17.62
14.00	1/2	1-1/8	3-1/8	21.84	1/2	1-1/4	3-1/4	17.62
15.00	1/2	1-1/8	3-1/8	21.84	1/2	1-3/8	3-3/8	18.41
16.00	1/2	1-1/8	3-1/8	23.42	—	—	—	—
16.00	5/8	1-5/16	3-7/16	23.42	5/8	1-5/8	3-3/4	21.17
18.00	1/2	1-5/16	3-7/16	26.06	1/2	1-1/2	3-5/8	23.75
18.00	5/8	1-5/16	3-7/16	26.06	5/8	1-5/8	3-3/4	23.75
18.00	—	—	—	—	3/4	1-5/8	3-3/4	23.75
19.00	3/4	1-5/16	3-7/16	26.86	3/4	1-5/8	3-3/4	25.14
20.00	5/8	1-1/2	3-3/4	31.21	5/8	1-7/8	4-1/8	25.14
20.00	3/4	1-1/2	3-3/4	31.21	3/4	1-7/8	4-1/8	25.14
21.00	5/8	1-1/2	3-3/4	33.32	—	—	—	—
22.00	3/4	1-1/2	3-3/4	33.32	3/4	1-7/8	4-1/8	32.07
22.00	7/8	1-1/2	3-3/4	33.32	7/8	1-7/8	4-1/8	32.07
24.00	1/2	2	4-1/2	39.66	3/4	2	4-1/2	37.55
24.00	3/4	2	4-1/2	39.66	7/8	2	4-1/2	37.55
25.00	3/4	2	4-1/2	39.66	3/4	1-7/8	4-1/2	39.53
25.00	1	2	4-1/2	39.66	1	2	4-1/2	39.53
26.00	3/4	2	4-1/2	65.99	3/4	2	4-1/2	98.00
26.00	1	2	4-1/2	65.99	1	2	4-1/2	64.68
30.00	1	2	4-1/2	65.99	1	2	4-1/2	66.00
32.00	1	2	4-1/2	75.23	1	2	4-1/2	72.59
36.00	1	2	4-1/2	75.23	1	2	4-1/2	72.59
40.00	—	—	—	—	1-1/4	2	4-1/2	125.40
50.00	—	—	—	—	1-1/4	2	4-1/2	125.40

## Sets

Size	Pcs.	Description	High Speed Steel		TiN Coated	
			Set No.	Price	Set No.	Price
3.00, 5.00, 7.00, 8.00, 10.00, 12.00	6	Two Flute, 3/8" Shank with wood block	<b>231MA</b>	77.22	<b>231MAT</b>	137.22
3.00, 5.00, 7.00, 8.00, 10.00, 12.00	6	Four Flute, 3/8" Shank with wood block	<b>205MA</b>	74.58	<b>205MAT</b>	134.58
14.00 x 1/2 shank, 16.00 x 5/8 shank, 20.00 x 3/4 shank, 24.00 x 3/4 shank	4	Two Flute with wood block	<b>231MB</b>	116.16	<b>231MBT</b>	176.16
14.00 x 1/2 shank, 16.00 x 5/8 shank, 20.00 x 3/4 shank, 24.00 x 3/4 shank	4	Four Flute with wood block	<b>205MB</b>	101.64	<b>205MBT</b>	161.64
3.00, 4.00, 5.00, 6.00, 8.00, 10.00, 12.00, 14.00, 18.00 x 5/8, 20.00 x 3/4	10	Two Flute with plastic case	<b>231MD</b>	78.05	<b>231MDT</b>	101.45
3.00, 4.00, 5.00, 6.00, 8.00, 10.00, 12.00, 14.00, 18.00 x 5/8, 20.00 x 3/4	10	Four Flute with plastic case	<b>205MF</b>	78.05	<b>205MFT</b>	101.45
3.00, 4.00, 5.00, 6.00, 8.00, 10.00, 12.00, 14.00, 18.00 x 5/8, 20.00 x 3/4	20	Two & Four Flute with plastic case	<b>205MM</b>	148.23	<b>205MMT</b>	195.00



# Metric Double-End End Mills

High Speed Steel



**MDX**  
SUPERIOR IMPORT

List No. **261M** – Two Flute  
List No. **241M** – Four Flute



Diameter of Cut	Two Flute 261M				Four Flute 241M			
	Shank Diameter	Length of Cut	Overall Length	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each
2.00	3/8	1/4	3	13.72	3/8	1/4	3	13.72
3.00	3/8	3/8	3-1/16	13.72	3/8	3/8	3-1/16	13.72
4.00	3/8	7/16	3-1/8	13.72	3/8	7/16	3-1/8	13.72
5.00	3/8	1/2	3-1/8	13.72	3/8	9/16	3-1/4	13.72
6.00	3/8	1/2	3-1/8	13.72	3/8	5/8	3-3/8	13.72
7.00	3/8	9/16	3-1/8	13.72	3/8	11/16	3-3/8	13.72
8.00	3/8	9/16	3-1/8	13.72	3/8	3/4	3-1/2	13.72
9.00	3/8	9/16	3-1/8	13.72	3/8	3/4	3-1/2	13.72
10.00	1/2	13/16	3-3/4	21.20	1/2	1	4-1/8	21.20
11.00	1/2	13/16	3-3/4	21.20	1/2	1	4-1/8	21.20
12.00	1/2	13/16	3-3/4	21.20	1/2	1	4-1/8	21.20
13.00	5/8	1-1/8	4-1/2	28.00	5/8	1-3/8	5	28.00
14.00	5/8	1-1/8	4-1/2	28.00	5/8	1-3/8	5	28.00
15.00	5/8	1-1/8	4-1/2	28.00	5/8	1-3/8	5	28.00
16.00	3/4	1-5/16	5	34.65	3/4	1-5/8	5-5/8	38.50
18.00	3/4	1-5/16	5	34.65	3/4	1-5/8	5-5/8	38.50
20.00	7/8	1-9/16	5-1/2	39.26	7/8	1-7/8	6-1/8	45.00
22.00	7/8	1-9/16	5-1/2	39.26	7/8	1-7/8	6-1/8	45.00
24.00	1	1-5/8	5-7/8	54.05	1	1-7/8	6-3/8	47.81
25.00	---	---	---	---	1	1-7/8	6-3/8	47.81

END MILLS

# Left Hand End Mills

High Speed Steel



**MDX**  
SUPERIOR IMPORT

## Single End

List No. **205LH** – Four Flute  
List No. **231LH** – Two Flute



Dia. of Cut	Shank Dia.	Four Flute 205LH			Two Flute 231LH		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	12.38	3/8	2-5/16	11.68
3/16	3/8	1/2	2-3/8	12.38	3/8	2-5/16	11.68
7/32	3/8	5/8	2-3/8	13.68	---	---	---
1/4	3/8	5/8	2-1/2	12.38	1/2	2-5/16	11.68
5/16	3/8	3/4	2-1/2	12.38	9/16	2-5/16	11.68
3/8	3/8	3/4	2-1/2	12.38	9/16	2-3/8	11.68
7/16	3/8	1	2-11/16	16.11	13/16	2-1/2	15.20
1/2	1/2	1-1/4	3-1/4	16.11	1	3	15.20
1/2	1/2	2	4	24.00	2	4	24.00
9/16	1/2	1-3/8	3-3/8	22.58	1-1/8	3-1/8	21.30
5/8	5/8	1-5/8	3-3/4	23.93	1-5/16	3-7/16	22.58
5/8	5/8	4	6-1/2	36.00	4	6-1/2	35.10
11/16	5/8	1-5/8	3-3/4	24.65	1-5/16	3-7/16	23.25
3/4	5/8	1-5/8	3-3/4	25.36	1-5/16	3-7/16	24.62
3/4	3/4	2	4-1/4	26.54	1-5/16	3-7/16	24.62
3/4	3/4	3	5-1/2	49.00	---	---	---
13/16	5/8	1-7/8	4	36.54	1-1/2	3-5/8	22.48
7/8	5/8	1-7/8	4	32.30	1-1/2	3-5/8	31.06

Dia. of Cut	Shank Dia.	Four Flute 205LH			Two Flute 231LH		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
7/8	3/4	1-7/8	4-1/8	32.30	1-1/2	3-5/8	31.06
15/16	5/8	---	---	---	1-1/2	3-5/8	35.64
15/16	3/4	---	---	---	1-1/2	3-3/4	35.64
15/16	7/8	1-7/8	4-1/8	37.06	---	---	---
1	3/4	---	---	---	1-1/2	3-3/4	37.48
1	7/8	---	---	---	1-1/2	3-3/4	37.48
1	1	2	4-1/2	39.00	3	5-1/2	59.50
1-1/4	1	1-7/8	4	68.77	---	---	---
1-1/4*	1	4*	6-1/2	120.12	---	---	---
1-1/4	1-1/4	2	4-1/2	68.77	2	4-1/2	68.77
1-1/4*	1-1/4	2*	4-1/2	68.73	---	---	---
1-1/4	1-1/4	3	5-1/2	87.78	---	---	---
1-1/4*	1-1/4	6*	8-1/2	140.00	---	---	---
1-1/2*	1-1/4	2*	4-1/2	98.00	---	---	---
1-1/2	1-1/4	4	6-1/2	124.74	---	---	---
1-1/2	1-1/4	7	9-1/2	195.00	---	---	---
1-7/8	1-1/4	2	4-1/2	215.00	---	---	---
2	1-1/4	1-1/2	4	208.00	1-5/8	4-1/2	208.00

\* Supplied with 6 flutes not 4 flutes.

## Double End

List No. **261LH** – Two Flute  
List No. **241LH** – Four Flute



Dia. of Cut	Shank Dia.	Two Flute 261LH			Four Flute 241LH		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/8	14.95	3/8	3-1/4	14.95
5/32	3/8	7/16	3-1/8	14.95	7/16	3-1/4	14.95
3/16	3/8	7/16	3-1/8	14.95	1/2	3-1/4	14.95
7/32	3/8	1/2	3-1/8	14.95	9/16	3-1/4	14.95
1/4	3/8	1/2	3-1/8	14.95	5/8	3-3/8	14.95
9/32	3/8	9/16	3-1/8	15.05	11/16	3-3/8	14.95
5/16	3/8	9/16	3-1/8	15.05	3/4	3-3/8	15.05
11/32	3/8	9/16	3-1/8	15.05	3/4	3-3/8	15.05
3/8	3/8	9/16	3-1/8	15.05	3/4	3-3/8	15.05

Dia. of Cut	Shank Dia.	Two Flute 261LH			Four Flute 241LH		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
13/32	1/2	13/16	3-3/4	24.24	3/4	3-3/8	24.24
7/16	1/2	13/16	3-3/4	24.24	1	4-1/8	24.24
15/32	1/2	13/16	3-3/4	24.24	1	4-1/8	24.24
1/2	1/2	13/16	3-3/4	24.24	1	4-1/8	28.00
9/16	5/8	1-1/8	4-1/2	32.00	1-3/8	5	32.00
5/8	5/8	1-1/8	4-1/2	32.00	1-3/8	5	35.20
3/4	3/4	1-5/16	5	36.30	1-5/8	5-5/8	38.72
7/8	7/8	1-9/16	5-1/2	48.57	1-7/8	6-1/4	48.57
1	1	1-5/8	5-7/8	59.02	1-7/8	6-1/2	59.02

# Ball Nose End Mills

High Speed Steel



END MILLS

## Regular Length

List No. 291U – Two Flute

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	20.70
3/16	3/8	1/2	2-3/8	20.70
1/4	3/8	5/8	2-7/16	20.70
9/32	3/8	3/4	2-1/2	23.40
5/16	3/8	3/4	2-1/2	23.40
3/8	3/8	3/4	2-1/2	23.40
7/16	1/2	1	3	30.71
1/2	1/2	1	3	30.71
9/16	1/2	1-1/8	3-1/8	43.20
5/8	1/2	1-1/8	3-1/8	48.60
5/8	5/8	1-3/8	3-1/2	48.60
11/16	1/2	1-5/16	3-5/16	55.80
11/16	5/8	1-5/16	3-5/16	55.80
3/4	1/2	1-5/16	3-5/16	58.50
3/4	3/4	1-5/8	3-7/8	58.50



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
13/16	1/2	1-1/2	3-1/2	69.17
13/16	3/4	2	4-1/2	69.17
7/8	3/4	2	4-1/4	69.17
7/8	7/8	2	4-1/4	69.17
27/32	1/2	1-1/2	3-1/2	77.20
15/16	1/2	1-1/2	3-1/2	86.40
15/16	3/4	2-1/4	4-1/2	86.40
15/16	7/8	2-1/4	4-1/2	86.40
1	1	2-1/4	4-3/4	86.40
1-1/8	7/8	2-1/4	4-3/4	116.10
1-1/8	1	2-1/4	4-3/4	116.10
1-1/4	1-1/4	2-1/2	5	117.90
1-3/8	1-1/4	2-1/2	5	127.80
1-1/2	1-1/4	2-1/2	5	144.45
2	1-1/4	2-1/2	5	231.75

List No. 291 – Two Flute,



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-1/4	13.46
5/32	3/8	1/2	2-3/8	13.46
3/16	3/8	1/2	2-3/8	13.46
7/32	3/8	5/8	2-7/16	13.46
1/4	3/8	5/8	2-7/16	13.46
9/32	3/8	3/4	2-1/2	15.18
5/16	3/8	3/4	2-1/2	15.18
11/32	3/8	3/4	2-1/2	15.18
3/8	3/8	3/4	2-1/2	15.18
13/32	3/8	1	3	19.93
7/16	1/2	1	3	19.93
15/32	3/8	1	3	19.93
1/2	1/2	1	3	19.93
9/16	1/2	1-1/8	3-1/8	25.74
5/8	1/2	1-1/8	3-1/8	29.70
5/8	5/8	1-3/8	3-1/2	29.70
11/16	1/2	1-5/16	3-5/16	32.93

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
3/4	1/2	1-5/16	3-5/16	34.98
3/4	3/4	1-5/8	3-7/8	34.98
13/16	3/4	2	4-1/2	42.90
7/8	3/4	2	4-1/2	44.88
7/8	7/8	2	4-1/4	44.88
15/16	3/4	2-1/4	4-1/2	56.10
1	3/4	2-1/4	4-1/2	56.10
1	1	2-1/4	4-3/4	56.10
1-1/8	3/4	2-1/4	4-1/2	66.00
1-1/8	1	2-1/4	4-3/4	66.00
1-1/4	3/4	1-5/8	4-1/8	78.00
1-1/4	1-1/4	2-1/2	5	76.56
1-3/8	3/4	1-5/8	4-1/8	83.82
1-3/8	1-1/4	2-1/2	5	85.93
1-1/2	3/4	2-1/2	4-3/4	93.72
1-1/2	1-1/4	2-1/2	5	93.72
2	1-1/4	2-1/2	5	151.14

## Sets

Size	Pcs.	Description	Made in U.S.A.		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Two Flute, Regular Length	291AUS	139.62	291AS	90.75

All sets are supplied in wood block



## Extension Type

List No. 293U – Two Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-3/8	31.06
3/16	3/8	1/2	2-11/16	31.06
1/4	3/8	5/8	3-1/16	31.06
5/16	3/8	3/4	3-5/16	33.94
3/8	3/8	3/4	3-5/16	33.94
7/16	1/2	1	3	44.64

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/2	1/2	1	4	41.58
5/8	5/8	1-3/8	4-5/8	67.50
3/4	3/4	1-5/8	5-3/8	81.90
7/8	7/8	2	6	82.98
1	1	2-1/2	7-1/4	130.50
1-1/4	1-1/4	3	7-1/4	148.50

List No. 293 – Two Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-3/8	16.32
3/16	3/8	1/2	2-11/16	16.32
1/4	3/8	5/8	3-1/16	17.00
5/16	3/8	3/4	3-5/16	20.10
3/8	3/8	3/4	3-5/16	19.58
7/16	1/2	1	3	28.26

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/2	1/2	1	4	26.36
5/8	5/8	1-3/8	4-5/8	35.92
3/4	3/4	1-5/8	5-3/8	43.90
7/8	7/8	2	6	53.28
1	1	2-1/2	7-1/4	69.96
1-1/4	1-1/4	3	7-1/4	75.78



# Ball Nose End Mills

High Speed Steel



**MDX**  
SUPERIOR IMPORT

## Multi Flute – Regular Length

List No. 294 – Center Cutting

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1/8	3/8	7/16	2-5/16	4	26.00
3/16	3/8	9/16	2-7/16	4	27.90
1/4	3/8	5/8	2-7/16	4	27.90
5/16	3/8	3/4	2-1/2	4	27.90
3/8	3/8	3/4	2-1/2	4	27.90
7/16	1/2	1	3	4	31.05
1/2	1/2	1	3	4	32.40
9/16	1/2	1-1/8	3-1/8	4	43.20
5/8	1/2	1-1/8	3-1/8	4	48.60
5/8	5/8	1-3/8	3-1/2	4	48.60



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
11/16	1/2	1-5/16	3-5/16	4	55.80
3/4	3/4	1-5/8	3-7/8	4	56.70
7/8	7/8	1-7/8	4-1/8	4	79.20
1	1	2	4-1/2	4	93.60
1	1	2	4-1/2	6	93.60
1-1/4	1-1/4	2	4-1/2	4	111.60
1-1/4	1-1/4	2	4-1/2	6	111.60
1-1/2	1-1/4	2	4-1/2	4	153.00
1-1/2	1-1/4	2	4-1/2	6	153.00

## Multi Flute – Long Length

List No. 294L – Center Cutting

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
1/4	3/8	1-1/4	3-1/16	4	32.64
1/4	3/8	1-3/4	3-1/2	4	40.50
5/16	3/8	1-3/8	3-1/8	4	32.64
5/16	3/8	2	3-3/4	4	40.50
3/8	3/8	1-1/2	3-1/4	4	34.02
3/8	3/8	2-1/2	4-1/2	4	42.00
1/2	1/2	2	4	4	45.00
1/2	1/2	3	5	4	77.00
5/8	5/8	2-1/2	4-5/8	4	59.94
5/8	5/8	4	6-1/8	4	71.10
3/4	3/4	3	5-1/4	4	68.40



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Price Each
3/4	3/4	4	6-1/8	4	80.55
7/8	7/8	3-1/2	5-3/4	4	117.00
7/8	7/8	5	7-1/4	4	133.20
1	1	4	6-1/2	4	113.94
1-1/4	1-1/4	4	6-1/2	4	135.72
1-1/4	1-1/4	4	6-1/2	6	135.72
1-1/4	1-1/4	6	8-1/2	4	152.10
1-1/4	1-1/4	6	8-1/2	6	152.10
1-1/2	1-1/4	4	6-1/2	4	185.94
1-1/2	1-1/4	4	6-1/2	6	185.94
1-1/2	1-1/4	6	8-1/2	4	205.20

# Ball Nose Double-End End Mills

High Speed Steel

## Regular Length

List No. 292 – Two Flute Import

List No. 292U – Two Flute USA

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				292	292U
1/8	3/8	3/8	3-1/16	29.70	48.00
5/32*	3/8	7/16	3-1/8	30.78	48.00
3/16	3/8	7/16	3-1/8	29.70	48.00
7/32	3/8	1/2	3-1/8	30.78	48.00
1/4*	3/8	1/2	3-1/8	29.70	48.00
9/32	3/8	9/16	3-1/8	30.78	48.00
5/16*	3/8	9/16	3-1/8	29.70	48.00
11/32	3/8	9/16	3-1/8	30.78	48.00



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				292	292U
3/8	3/8	9/16	3-1/8	29.70	48.00
7/16	1/2	13/16	3-3/4	41.40	68.00
1/2*	1/2	13/16	3-3/4	41.40	68.00
9/16	1/2	1-1/8	3-1/8	49.50	79.00
5/8	5/8	1-1/8	4-1/2	57.60	89.00
3/4*	3/4	1-5/16	5	72.00	115.00
7/8	7/8	1-9/16	5-1/2	88.67	140.00
1	1	1-5/8	5-7/8	109.80	169.00

\* Available in 4 Flute Use List No. 292M

## Miniature - 3/16" Shank

List No. 268 – H.S., Regular Length

List No. 268C – Cobalt, Regular Length

List No. 269 – H.S. Long Length

Diameter of Cut	Regular Length 268				Long Length 269		
	Length of Cut	Overall Length	Price Each		Length of Cut	Overall Length	Price Each
			H.S.	Cobalt			
1/32	1/8	2-1/4	23.81	28.96	—	—	—
3/64	9/64	2-1/4	23.81	28.96	7/32	2-1/2	31.77
1/16	3/16	2-1/4	23.81	28.96	7/32	2-1/2	31.77
5/64	15/64	2-1/4	23.81	28.96	1/4	2-1/2	31.77
3/32	9/32	2-1/4	23.81	28.96	9/32	2-5/8	30.47
7/64	21/64	2-1/4	23.81	28.96	9/32	2-5/8	30.47

**MDX**  
SUPERIOR IMPORT



Diameter of Cut	Regular Length 268				Long Length 269		
	Length of Cut	Overall Length	Price Each		Length of Cut	Overall Length	Price Each
			H.S.	Cobalt			
1/8	3/8	2-1/4	23.81	28.96	3/4	3-1/8	30.47
9/64	13/32	2-1/4	23.81	28.96	3/4	3-1/8	30.47
5/32	7/16	2-1/4	23.81	28.96	7/8	3-1/4	30.47
11/64	1/2	2-1/4	23.81	28.96	7/8	3-1/4	30.47
3/16	1/2	2-1/4	24.17	28.96	1	3-3/8	30.47

END MILLS

# 3-Flute End Mills

High Speed Steel & Cobalt



Three flute end mills are used for production milling of slots, pockets, keyways, and other general purpose applications. These end mills, single and double end, have a one tooth to center design with chip-free action which allows the machinist to feed endwise and still maintain a high quality finish on slotting.

## Standard Flute

List No. **238** – High Speed Steel, Center Cutting

List No. **238C** – Cobalt, Center Cutting



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 238	Cobalt 238C
1/8	3/8	3/8	2-5/16	11.09	15.00
3/16	3/8	1/2	2-3/8	11.09	21.50
1/4	3/8	5/8	2-1/2	11.09	21.50
5/16	3/8	3/4	2-1/2	11.09	21.50
3/8	3/8	3/4	2-1/2	13.15	21.50
7/16	3/8	1	2-11/16	14.46	29.00
1/2	3/8	1	2-11/16	14.46	–
1/2	1/2	1-1/4	3-1/4	14.79	29.00
9/16	1/2	1-3/8	3-3/8	21.24	–
5/8	1/2	1-3/8	3-3/8	21.24	–
5/8	5/8	1-5/8	3-3/4	21.24	39.00
11/16	1/2	1-5/8	3-5/8	22.00	–
11/16	5/8	1-5/8	3-3/4	22.00	–
3/4	1/2	1-5/8	3-5/8	25.34	–
3/4	5/8	1-5/8	3-3/4	25.34	49.50
3/4	3/4	1-5/8	3-7/8	25.34	49.50

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 238	Cobalt 238C
7/8	5/8	1-7/8	4	30.27	–
7/8	3/4	1-7/8	4-1/8	30.27	–
7/8	7/8	1-7/8	4-1/8	30.27	–
1	5/8	1-7/8	4	36.36	–
1	3/4	1-7/8	4-1/8	36.36	–
1	7/8	1-7/8	4-1/8	36.36	–
1	1	2	4-1/2	36.36	79.50
1-1/8	1	2	4-1/2	49.95	110.00
1-1/4	1	2	4-1/2	58.40	–
1-1/4	1-1/4	2	4-1/2	62.37	115.00
1-3/8	1	2	4-1/2	69.01	–
1-3/8	1-1/4	2	4-1/2	69.01	–
1-1/2	1	2	4-1/2	75.65	–
1-1/2	1-1/4	2	4-1/2	75.65	149.00
1-3/4	1-1/4	2	4-1/2	80.97	169.00
2	1-1/4	2	4-1/2	99.73	189.00

## Long Flute

List No. **239** – High Speed Steel, Center Cutting

List No. **239C** – Cobalt, Center Cutting



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 239	Cobalt 239C
1/4	3/8	1-1/4	3-1/8	17.13	28.50
5/16	3/8	1-3/8	3-1/8	17.13	28.50
3/8	3/8	1-1/2	3-1/4	17.51	28.50
7/16	1/2	1-3/4	3-3/4	24.30	–
1/2	1/2	2	4	24.51	37.26
5/8	5/8	2-1/2	4-5/8	34.51	55.00
3/4	3/4	3	5-1/4	42.47	71.88

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 239	Cobalt 239C
7/8	7/8	3-1/2	5-3/4	53.09	–
1	1	4	6-1/2	70.35	121.31
1-1/4	1-1/4	4	6-1/2	103.53	155.00
1-1/2	1-1/4	4	6-1/2	132.46	210.00
1-3/4	1-1/4	4	6-1/2	208.37	270.00
2	1-1/4	4	6-1/2	229.20	314.99
2	2	4	7-3/4	241.20	314.99

# 3-Flute Double-End End Mills

High Speed Steel



List No. **263** – Center Cutting



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/8	15.97
5/32	3/8	7/16	3-1/8	17.00
3/16	3/8	1/2	3-1/8	15.97
7/32	3/8	9/16	3-1/8	15.97
1/4	3/8	5/8	3-3/8	15.97
9/32	3/8	11/16	3-3/8	17.00
5/16	3/8	3/4	3-3/8	15.97
11/32	3/8	3/4	3-3/8	17.00
3/8	3/8	3/4	3-3/8	15.97
7/16	1/2	1	4-1/4	24.15

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
15/32	1/2	1	4-1/4	24.15
1/2	1/2	1	4-1/4	24.15
9/16	5/8	1-3/8	5	34.01
5/8	5/8	1-3/8	5	34.01
11/16	3/4	1-5/8	5-3/8	42.00
3/4	3/4	1-5/8	5-5/8	43.27
13/16	7/8	1-1/2	6-1/4	55.00
7/8	7/8	1-7/8	6-1/4	58.93
15/16	1	1-7/8	6-1/4	71.67
1	1	1-7/8	6-1/2	71.67

# High Helix End Mills for Aluminum



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

## High Speed Steel

These end mills are designed to cut aluminum and non-ferrous materials at high material removal rates, therefore, providing better work piece tolerances, surface finishes and cuts without vibration, chatter or scarring.

### Two Flute, Center Cutting

List No. **235** – Regular Length

List No. **236** – Long Flute Length

List No. **237** – Extra Long Flute Length



Diameter of Cut	Shank Diameter	Regular Length <b>235</b>			Long Flute Length <b>236</b>			Extra Long Flute Length <b>237</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
<b>1/4</b>	3/8	5/8	2-1/2	15.53	1-1/4	3-1/8	18.00	1-3/4	3-1/2	20.30
<b>5/16</b>	3/8	3/4	2-1/2	15.53	1-3/8	3-1/8	18.00	2	3-3/4	20.88
<b>3/8</b>	3/8	3/4	2-1/2	15.53	1-1/2	3-1/4	18.00	2-1/2	4-1/4	21.92
<b>7/16</b>	1/2*	1	2-11/16	18.95	1-3/4	3-1/4	24.12	2-3/4	4-3/4	29.25
<b>1/2</b>	1/2	1-1/4	3-1/4	21.06	2	4	24.53	3	5	29.25
<b>5/8</b>	1/2	1-3/8	3-5/8	32.94	—	—	—	—	—	—
<b>5/8</b>	5/8	1-5/8	3-3/4	29.41	2-1/2	4-5/8	32.94	4	6-1/8	40.55
<b>3/4</b>	1/2	1-5/8	3-5/8	34.05	—	—	—	—	—	—
<b>3/4</b>	3/4	1-5/8	3-7/8	30.65	3	5-1/4	42.57	4	6-1/4	57.60
<b>7/8</b>	7/8	1-7/8	4-1/8	44.37	3-1/2	5-3/4	56.70	5	7-1/4	66.47
<b>1</b>	3/4	1-7/8	4-1/8	56.85	—	—	—	—	—	—
<b>1</b>	1	2	4-1/2	51.17	4	6-1/2	74.25	6	8-1/2	90.36
<b>1-1/8</b>	3/4	2	4-1/4	75.00	—	—	—	—	—	—
<b>1-1/4</b>	3/4	2	4-1/2	87.20	—	—	—	—	—	—
<b>1-1/4</b>	1-1/4	2	4-1/2	78.48	4	6-1/2	106.12	6	8-1/2	133.10
<b>1-3/8</b>	3/4	2	4-1/4	95.00	—	—	—	—	—	—
<b>1-1/2</b>	3/4	2	4-1/4	108.35	—	—	—	—	—	—
<b>1-1/2</b>	1-1/4	2	4-1/2	97.52	4	6-1/2	134.54	6	8-1/2	188.83
<b>1-1/2</b>	1-1/4	—	—	—	—	—	—	8	10-1/2	209.81
<b>1-3/4</b>	1-1/4	2	4-1/2	129.03	4	6-1/2	187.20	—	—	—
<b>2</b>	1-1/4	2	4-1/2	154.38	4	6-1/2	216.92	—	—	—

\* 3/8 Shank on List No. 235

### Ball End, Two Flute

List No. **235B** – Regular Length

List No. **236B** – Long Flute Length

List No. **237B** – Extra Long Flute Length



Diameter of Cut	Shank Diameter	Regular Length <b>235B</b>			Long Flute Length <b>236B</b>			Extra Long Flute Length <b>237B</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
<b>1/4</b>	3/8	5/8	2-1/2	20.19	1-1/4	3-1/8	23.40	1-3/4	3-1/2	26.39
<b>5/16</b>	3/8	3/4	2-1/2	20.19	1-3/8	3-1/8	23.40	2	3-3/4	27.14
<b>3/8</b>	3/8	3/4	2-1/2	20.19	1-1/2	3-1/4	23.40	2-1/2	4-1/4	28.50
<b>7/16</b>	1/2	1	2-11/16	24.64	1-3/4	3-1/4	31.36	2-3/4	4-3/4	38.03
<b>1/2</b>	1/2	1-1/4	3-1/4	27.38	2	4	31.89	3	5	38.03
<b>5/8</b>	1/2	1-3/8	3-3/8	42.05	—	—	—	—	—	—
<b>5/8</b>	5/8	1-5/8	3-3/4	38.23	2-1/2	4-5/8	42.82	4	6-1/8	52.72
<b>3/4</b>	1/2	1-5/8	3-5/8	44.27	—	—	—	—	—	—
<b>3/4</b>	3/4	1-5/8	3-7/8	39.85	3	5-1/4	55.34	4	6-1/4	74.88
<b>7/8</b>	3/4	1-7/8	4-1/8	63.45	—	—	—	—	—	—
<b>7/8</b>	7/8	1-7/8	4-1/8	57.68	3-1/2	5-3/4	73.71	5	7-1/4	86.41
<b>1</b>	3/4	1-7/8	4-1/8	73.91	—	—	—	—	—	—
<b>1</b>	1	2	4-1/2	66.52	4	6-1/2	96.53	6	8-1/2	117.47
<b>1-1/8</b>	3/4	2	4-1/4	97.50	—	—	—	—	—	—
<b>1-1/4</b>	3/4	2	4-1/4	113.36	—	—	—	—	—	—
<b>1-1/4</b>	1-1/4	2	4-1/2	102.02	4	6-1/2	137.96	6	8-1/2	173.03
<b>1-3/8</b>	3/4	2	4-1/4	123.50	—	—	—	—	—	—
<b>1-1/2</b>	3/4	2	4-1/4	140.86	—	—	—	—	—	—
<b>1-1/2</b>	1-1/4	2	4-1/2	126.78	4	6-1/2	174.90	6	8-1/2	245.48
<b>1-3/4</b>	1-1/4	2	4-1/2	167.74	4	6-1/2	243.36	—	—	—
<b>2</b>	1-1/4	2	4-1/2	200.69	4	6-1/2	282.00	—	—	—

# Cobalt & TiN Coated Cobalt Multi Flute End Mills

Center Cutting



- List No. **205CU** – Regular Length, Cobalt
- List No. **205CUT** – Regular Length, TiN Coated Cobalt
- List No. **206CU** – Long Length, Cobalt
- List No. **206CUT** – Long Length, TiN Coated Cobalt
- List No. **207CU** – Extra Long Length, Cobalt
- List No. **207CUT** – Extra Long Length, TiN Coated Cobalt

Dia. of Cut	Shank Dia.	No. of Flutes	Regular				Long Length				Extra Long Length			
			Flute Length	Overall Length	Cobalt 205CU	TiN/Cob. 205CUT	Length of Cut	Overall Length	Cobalt 206CU	TiN/Cob. 206CUT	Length of Cut	Overall Length	Cobalt 207CU	TiN/Cob. 207CUT
1/8	3/8	4	3/8	2-5/16	26.10	35.10	—	—	—	—	—	—	—	—
3/16	3/8	4	1/2	2-3/8	26.10	35.10	—	—	—	—	—	—	—	—
1/4	3/8	4	5/8	2-7/16	26.10	35.10	1-1/4	3-1/8	35.55	45.00	1-3/4	3-9/16	42.30	54.00
5/16	3/8	4	3/4	2-1/2	26.10	35.10	1-3/8	3-1/8	35.55	45.00	2	3-3/4	42.30	54.00
3/8	3/8	4	3/4	2-1/2	26.10	35.10	1-1/2	3-1/4	35.55	45.00	2-1/2	4-1/4	42.30	54.00
7/16	3/8	4	1	2-11/16	37.80	46.80	—	—	—	—	—	—	—	—
1/2	3/8	4	1	2-11/16	40.41	54.81	—	—	—	—	—	—	—	—
1/2	1/2	4	1-1/4	3-1/4	40.41	54.81	2	4	47.25	63.45	3	5	55.80	72.00
9/16	1/2	4	1-3/8	3-3/8	49.50	63.90	—	—	—	—	—	—	—	—
5/8	1/2	4	1-3/8	3-3/8	58.50	72.90	—	—	—	—	—	—	—	—
5/8	5/8	4	1-5/8	3-3/4	58.50	72.90	2-1/2	4-5/8	70.20	92.70	4	6-1/8	87.75	114.75
3/4	3/4	4	1-5/8	3-7/8	71.10	94.50	3	5-1/4	87.30	116.10	4	6-1/4	103.50	130.50
7/8	3/4	4	1-7/8	4-1/8	94.50	117.90	—	—	—	—	—	—	—	—
7/8	7/8	4	1-7/8	4-1/8	94.50	117.90	3-1/2	5-3/4	108.00	144.00	5	7-1/4	149.00	192.00
1	1	4	2	4-1/2	112.50	135.90	4	6-1/2	143.10	183.60	6	8-1/2	175.50	229.50
1	1	6	2	4-1/2	112.50	135.90	4	6-1/2	143.10	183.60	—	—	—	—
1-1/8	3/4	6	1-1/2	3-7/8	157.50	180.90	—	—	—	—	—	—	—	—
1-1/4	3/4	6	1-1/2	3-7/8	144.00	167.40	—	—	—	—	—	—	—	—
1-1/4	1-1/4	4	2	4-1/2	144.00	167.40	4	6-1/2	202.50	256.50	6	8-1/2	211.50	312.30
1-1/4	1-1/4	6	2	4-1/2	144.00	167.40	4	6-1/2	202.50	256.50	6	8-1/2	247.50	312.30
1-3/8	3/4	6	1-1/2	3-7/8	153.00	167.40	—	—	—	—	—	—	—	—
1-1/2	3/4	6	1-1/2	3-7/8	189.00	224.10	—	—	—	—	—	—	—	—
1-1/2	1-1/4	4	2	4-1/2	189.00	224.10	4	6-1/2	240.00	290.00	6	10-1/2	315.00	347.40
1-1/2	1-1/4	6	2	4-1/2	189.00	224.10	—	—	—	—	—	—	—	—
1-3/4	1-1/4	6	2	4-1/2	351.00	386.10	—	—	—	—	—	—	—	—
2	1-1/4	6	2	4-1/2	405.00	440.10	—	—	—	—	—	—	—	—

- List No. **205C** – Regular Length, Cobalt
- List No. **206C** – Long Length, Cobalt
- List No. **207C** – Extra Long Length, Cobalt



Diameter of Cut	Shank Diameter	No. of Flutes	Regular Length 205C			Long Length 206C			Extra Long Length 207C		
			Flute Length	Overall Length	Price Each	Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	4	3/8	2-5/16	19.44	—	—	—	—	—	—
5/32	3/8	4	7/16	2-1/4	19.44	—	—	—	—	—	—
3/16	3/8	4	1/2	2-3/8	19.44	—	—	—	—	—	—
7/32	3/8	4	5/8	2-3/8	19.44	—	—	—	—	—	—
1/4	3/8	4	5/8	2-7/16	19.44	1-1/4	3-1/16	27.90	1-3/4	3-9/16	30.87
9/32	3/8	4	3/4	2-1/2	19.44	—	—	—	—	—	—
5/16	3/8	4	3/4	2-1/2	19.44	1-3/8	3-1/8	27.90	2	3-3/4	30.87
11/32	3/8	4	3/4	2-1/2	19.44	—	—	—	—	—	—
3/8	3/8	4	3/4	2-1/2	19.44	1-1/2	3-1/4	27.90	2-1/2	4-1/4	33.30
13/32	3/8	4	1	2-11/16	29.03	—	—	—	—	—	—
7/16	3/8	4	1	2-11/16	29.03	—	—	—	—	—	—
7/16	1/2	4	—	—	—	1-3/4	3-3/4	36.90	—	—	—
15/32	3/8	4	1	2-11/16	29.03	—	—	—	—	—	—
1/2	3/8	4	1	2-11/16	29.03	—	—	—	—	—	—
1/2	1/2	4	1-1/4	3-1/4	30.42	2	4	36.90	3	5	43.20
1/2	1/2	6	1-1/2	3-1/4	30.42	—	—	—	—	—	—
9/16	1/2	4	1-3/8	3-3/8	43.20	—	—	—	—	—	—
5/8	1/2	4	1-3/8	3-3/8	43.20	—	—	—	—	—	—

Continued on Next Page ▶

# Cobalt Multi Flute End Mills

Center Cutting ► Continued

List No. **205C** – Regular Length, Cobalt  
 List No. **206C** – Long Length, Cobalt  
 List No. **207C** – Extra Long Length, Cobalt



END MILLS

Diameter of Cut	Shank Diameter	No. of Flutes	Regular Length 205C			Long Length 206C			Extra Long Length 207C		
			Flute Length	Overall Length	Price Each	Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
5/8	5/8	4	1-5/8	3-3/4	43.20	2-1/2	4-5/8	54.00	4	6-1/8	71.55
5/8	5/8	6	1-5/8	3-3/8	43.20	—	—	—	—	—	—
11/16	5/8	4	1-5/8	3-3/4	59.40	—	—	—	—	—	—
3/4	1/2	4	1-5/8	3-5/8	54.00	3	5-1/4	54.00	—	—	—
3/4	5/8	4	1-5/8	3-3/4	54.00	—	—	—	—	—	—
3/4	3/4	4	1-5/8	3-7/8	54.00	3	5-1/4	67.50	4	6-1/4	79.88
3/4	3/4	6	1-5/8	3-7/8	54.00	3	5-1/4	67.50	4	6-1/4	79.88
13/16	3/4	4	1-7/8	4-1/8	69.21	—	—	—	—	—	—
7/8	5/8	6	1-7/8	4-1/8	69.21	—	—	—	—	—	—
7/8	3/4	4	1-7/8	4-1/8	69.21	—	—	—	—	—	—
7/8	7/8	4	1-7/8	4-1/8	69.21	3-1/2	5-3/4	81.90	5	7-1/4	115.00
7/8	7/8	6	1-7/8	4-1/8	69.21	—	—	—	—	—	—
15/16	1/2	6	1-7/8	4-1/8	79.20	—	—	—	—	—	—
15/16	3/4	4	1-7/8	4-1/8	79.20	—	—	—	—	—	—
15/16	7/8	4	1-7/8	4-1/8	79.20	—	—	—	—	—	—
1	5/8	6	1-7/8	4	82.80	—	—	—	—	—	—
1	3/4	4	1-7/8	4-1/8	82.80	4	6-1/2	108.00	—	—	—
1	3/4	6	1-7/8	4-1/8	82.80	—	—	—	—	—	—
1	1	4	2	4-1/2	82.80	4	6-1/2	108.00	6	8-1/2	135.00
1	1	6	2	4-1/2	82.80	3	5-1/2	95.85	6	8-1/2	135.00
1-1/16	3/4	6	2	4-1/4	118.80	—	—	—	—	—	—
1-1/8	3/4	6	2	4-1/2	118.80	—	—	—	—	—	—
1-1/8	7/8	6	2	4-1/2	118.80	—	—	—	—	—	—
1-1/8	1	4	2	4-1/2	118.80	—	—	—	—	—	—
1-1/8	1	6	2	4-1/2	118.80	4	6-1/2	153.00	—	—	—
1-3/16	3/4	6	2	4-1/2	118.80	—	—	—	—	—	—
1-1/4	3/4	6	2	4-1/4	118.80	—	—	—	—	—	—
1-1/4	1	6	2	4-1/4	118.80	4	6-1/2	153.00	—	—	—
1-1/4	1-1/4	6	—	—	—	3	5-1/2	139.00	—	—	—
1-1/4	1-1/4	4	2	4-1/2	118.80	4	6-1/2	153.00	6	8-1/2	190.80
1-1/4	1-1/4	6	2	4-1/2	118.80	4	6-1/2	153.00	6	8-1/2	190.80
1-5/16	3/4	6	2	4-1/2	124.00	—	—	—	—	—	—
1-3/8	3/4	6	2	4-1/2	124.00	—	—	—	—	—	—
1-3/8	1	6	2	4-1/2	124.00	—	—	—	—	—	—
1-7/16	3/4	6	2	4-1/2	140.40	—	—	—	—	—	—
1-1/2	3/4	6	2	4-1/2	140.40	—	—	—	—	—	—
1-1/2	1	6	2	4-1/2	140.40	—	—	—	—	—	—
1-1/2	1-1/4	4	2	4-1/2	140.40	3	5-1/2	189.00	—	—	—
1-1/2	1-1/4	6	2	4-1/2	140.40	4	6-1/2	233.10	8	10-1/2	256.50
1-5/8	3/4	6	1-1/2	3-7/8	161.46	—	—	—	—	—	—
1-5/8	1	6	2	4-1/2	161.40	—	—	—	—	—	—
1-3/4	3/4	6	1-1/2	3-7/8	211.50	—	—	—	—	—	—
1-3/4	1-1/4	4	2	4-1/2	211.50	4	6-1/2	268.92	—	—	—
1-3/4	1-1/4	6	2	4-1/2	211.50	4	6-1/2	268.92	—	—	—
1-7/8	1-1/4	6	2	4-1/2	243.25	—	—	—	—	—	—
2	1-1/4	6	—	—	—	3	5-1/2	271.35	—	—	—
2	1-1/4	4	2	4-1/2	254.70	4	6-1/2	294.30	—	—	—
2	1-1/4	6	2	4-1/2	254.70	4	6-1/2	294.30	—	—	—
2	1-1/4	8	2	4-1/2	—	4	6-1/2	294.30	—	—	—
2	2	4	—	—	—	4	7-3/4	294.30	—	—	—

## Sets

Size	Pcs.	Description	Made in U.S.A.		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Regular Length, 3/8" Shank	<b>205CAU</b>	174.71	<b>205CA</b>	130.03



All sets are supplied in wood block



# Cobalt Two Flute End Mills



**MADE IN USA**



**MICHIGAN DRILL & CUTTING TOOLS**

List No. **231CU** – Two Flute, Center Cutting

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	26.10
5/32	3/8	7/16	2-5/16	26.10
3/16	3/8	7/16	2-5/16	26.10
7/32	3/8	1/2	2-5/16	26.10
1/4	3/8	1/2	2-5/16	26.10
9/32	3/8	9/16	2-5/16	26.10
5/16	3/8	9/16	2-5/16	26.10
11/32	3/8	9/16	2-5/16	26.10
3/8	3/8	9/16	2-5/16	26.10
13/32	3/8	13/16	2-1/2	35.10
7/16	1/2	1	3	35.10
15/32	3/8	13/16	2-1/2	35.10
1/2	3/8	13/16	2-1/2	35.10
1/2	1/2	1	3	35.10
9/16	1/2	1-1/8	3-1/8	44.10
5/8	1/2	1-1/8	3-3/8	49.50
5/8	5/8	1-5/16	3-7/16	49.50
3/4	1/2	1-5/16	3-7/16	62.10
3/4	5/8	1-5/16	3-7/16	62.10

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
3/4	3/4	1-5/16	3-9/16	62.10
13/16	5/8	1-1/2	3-5/8	76.40
7/8	3/4	1-1/2	3-3/4	80.10
7/8	7/8	1-1/2	3-3/4	80.10
15/16	5/8	1-1/2	3-3/8	99.00
15/16	7/8	1-1/2	3-3/4	99.00
1	5/8	1-1/2	3-5/8	99.00
1	3/4	1-1/2	3-3/4	99.00
1	1	1-5/8	4-1/8	99.00
1-1/8	7/8	1-5/8	4-5/16	119.00
1-1/8	1	1-5/8	4-1/2	119.00
1-1/4	7/8	1-5/8	4-5/16	125.10
1-1/4	1-1/4	1-5/8	4-1/8	125.10
1-1/2	1	1-5/8	4-1/2	179.10
1-1/2	1-1/4	1-5/8	4-1/8	179.10
1-5/8	1-1/4	1-5/8	4-1/2	189.50
1-3/4	1-1/4	1-5/8	4-1/8	199.00
1-7/8	1-1/4	1-5/8	4-1/2	215.00
2	1-1/4	1-5/8	4-1/8	225.00

List No. **231C** – Two Flute, Center Cutting

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	19.26
5/32	3/8	3/8	2-5/16	19.26
3/16	3/8	7/16	2-5/16	19.26
7/32	3/8	1/2	2-5/16	19.26
1/4	3/8	1/2	2-5/16	19.26
9/32	3/8	9/16	2-5/16	19.26
5/16	3/8	9/16	2-5/16	19.26
11/32	3/8	9/16	2-5/16	19.26
3/8	3/8	9/16	2-5/16	19.26
13/32	3/8	13/16	2-1/2	27.18
7/16	3/8	13/16	2-1/2	27.18
15/32	3/8	13/16	2-1/2	27.18
1/2	3/8	13/16	2-1/2	27.18
1/2	1/2	1	3	27.18
9/16	1/2	1-1/8	3-1/8	37.17
5/8	1/2	1-1/8	3-3/8	36.00
5/8	5/8	1-5/16	3-7/16	36.00
11/16	1/2	1-5/16	3-7/16	45.00
11/16	5/8	1-5/16	3-7/16	45.00
3/4	1/2	1-5/16	3-7/16	45.00
3/4	5/8	1-5/16	3-7/16	45.00
3/4	3/4	1-5/16	3-9/16	45.00
13/16	5/8	1-1/2	3-5/8	52.92
13/16	3/4	1-1/2	3-5/8	52.92
7/8	1/2	1-1/2	3-1/2	61.74
7/8	5/8	1-1/2	3-5/8	61.74
7/8	3/4	1-1/2	3-3/4	61.74
7/8	7/8	1-1/2	3-3/4	61.74
15/16	1/2	1-1/2	3-3/4	67.50
15/16	3/4	1-1/2	3-3/4	67.50



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1	1/2	1-1/2	3-1/2	72.00
1	5/8	1-1/2	3-5/8	72.00
1	3/4	1-1/2	3-3/4	72.00
1	7/8	1-1/2	3-3/4	72.00
1	1	1-5/8	4-1/8	72.00
1-1/16	5/8	1-5/8	3-7/8	97.20
1-1/16	3/4	1-5/8	3-7/8	97.20
1-1/16	7/8	1-5/8	4-5/16	97.20
1-1/8	3/4	1-5/8	3-7/8	97.20
1-1/8	7/8	1-5/8	4-5/16	97.20
1-1/8	1	1-5/8	4-1/8	97.20
1-3/16	3/4	1-5/8	3-7/8	95.40
1-1/4	3/4	1-5/8	3-7/8	95.40
1-1/4	7/8	1-5/8	4-5/16	97.20
1-1/4	1	1-5/8	4-1/8	95.40
1-1/4	1-1/4	1-5/8	4-1/8	95.40
1-5/16	3/4	1-5/8	3-7/8	132.12
1-3/8	3/4	1-5/8	4-1/8	132.12
1-3/8	1	1-5/8	4-1/8	132.12
1-3/8	1-1/4	1-5/8	4-1/8	132.12
1-1/2	3/4	1-5/8	3-7/8	142.65
1-1/2	1	1-5/8	4-1/8	142.65
1-1/2	1-1/4	1-5/8	4-1/8	142.65
1-5/8	3/4	1-5/8	3-7/8	157.50
1-5/8	1-1/4	1-5/8	4-1/8	157.50
1-3/4	1-1/4	1-5/8	4-1/8	171.00
1-7/8	3/4	1-5/8	3-7/8	180.00
1-7/8	1-1/4	1-5/8	4-1/8	178.20
2	1-1/4	1-5/8	4-1/8	186.48
2-1/4	1-1/4	1-5/8	4-1/8	248.50

## Sets

Size	Pcs.	Description	Made in USA		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Cobalt, 3/8" Shank	<b>231CUA</b>	166.50	<b>231CA</b>	124.20
3/4, 7/8, 1", 1-1/8, 1-1/4, 1-1/2	6	Cobalt, 3/4" Shank	—	—	<b>231CS</b>	517.50



All sets are supplied in wood block

# Cobalt Double-End End Mills

For milling abrasive, high strength thermal resistant metals. Recognized for great abrasive resistance and high red hardness. For higher speeds, feeds and easy resharpening.



List No. **261CU** – Two Flute, Center Cutting  
List No. **241CU** – Four Flute, Center Cutting



Diameter of Cut	Shank Diameter	Two Flute <b>261CU</b>			Four Flute <b>241CU</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/16	35.10	3/8	3-1/16	37.80
5/32	3/8	7/16	3-1/8	35.10	7/16	3-1/8	37.80
3/16	3/8	7/16	3-1/8	35.10	1/2	3-1/4	37.80
7/32	3/8	1/2	3-1/8	35.10	9/16	3-1/4	37.80
1/4	3/8	1/2	3-1/8	35.10	5/8	3-3/8	37.80
9/32	3/8	9/16	3-1/8	35.10	11/16	3-3/8	37.80
5/16	3/8	9/16	3-1/8	35.10	3/4	3-1/2	37.80
11/32	3/8	9/16	3-1/8	35.10	3/4	3-1/2	37.80
3/8	3/8	9/16	3-1/8	35.10	3/4	3-1/2	37.80
13/32	1/2	13/16	3-3/4	44.10	1	4-1/8	49.50
7/16	1/2	13/16	3-3/4	44.10	1	4-1/8	49.50
15/32	1/2	13/16	3-3/4	44.10	1	4-1/8	59.40
1/2	1/2	13/16	3-3/4	52.20	1	4-1/8	59.40
9/16	5/8	1-1/8	4-1/2	62.10	1-3/8	5	71.10
5/8	5/8	1-1/8	4-1/2	69.57	1-3/8	5	84.60
11/16	3/4	1-5/16	5	88.74	1-5/8	5-5/8	94.95
3/4	3/4	1-5/16	5	88.74	1-5/8	5-5/8	100.80
13/16	7/8	1-9/16	5-1/2	116.10	1-7/8	6-1/8	121.50
7/8	7/8	1-9/16	5-1/2	119.70	1-7/8	6-1/8	130.50
15/16	1	1-5/8	5-7/8	134.55	1-7/8	6-3/8	165.60
1	1	1-5/8	5-7/8	141.03	1-7/8	6-3/8	165.60

List No. **261C** – Two Flute, Center Cutting  
List No. **241C** – Four Flute, Center Cutting



Diameter of Cut	Shank Diameter	Two Flute <b>261C</b>			Four Flute <b>241C</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	3-1/16	26.90	3/8	3-1/16	26.33
5/32	3/8	7/16	3-1/8	28.44	7/16	3-1/8	26.33
3/16	3/8	7/16	3-1/8	28.44	1/2	3-1/4	26.33
7/32	3/8	1/2	3-1/8	28.44	9/16	3-1/4	26.33
1/4	3/8	1/2	3-1/8	28.44	5/8	3-3/8	26.33
9/32	3/8	9/16	3-1/8	28.98	11/16	3-3/8	26.33
5/16	3/8	9/16	3-1/8	28.44	3/4	3-1/2	26.33
11/32	3/8	9/16	3-1/8	31.23	3/4	3-1/2	28.80
3/8	3/8	9/16	3-1/8	28.44	3/4	3-1/2	26.33
13/32	1/2	13/16	3-3/4	38.12	1	4-1/8	36.90
7/16	1/2	13/16	3-3/4	38.12	1	4-1/8	36.90
15/32	1/2	13/16	3-3/4	41.54	1	4-1/8	40.82
1/2	1/2	13/16	3-3/4	41.54	1	4-1/8	40.82
9/16	5/8	1-1/8	4-1/2	58.50	1-3/8	5	55.35
5/8	5/8	1-1/8	4-1/2	66.31	1-3/8	5	65.16
11/16	3/4	1-5/16	5	83.34	1-5/8	5-5/8	82.35
3/4	3/4	1-5/16	5	87.75	1-5/8	5-5/8	86.85
13/16	7/8	—	—	—	1-7/8	6-1/8	93.00
7/8	7/8	1-9/16	5-1/2	107.10	1-7/8	6-1/8	107.82
15/16	1	—	—	—	1-7/8	6-3/8	130.95
1	1	1-5/8	5-7/8	125.55	1-7/8	6-3/8	130.95

## Sets

Size	Pcs.	Description	Made in USA		Quality Import	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Two Flute	<b>261CUS</b>	228.15	<b>261CS</b>	179.10
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Four Flute	<b>241CUS</b>	248.40	<b>241CS</b>	175.50

All sets are supplied in wood block



# Cobalt Ball Nose End Mills

Center Cutting



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

## Single End

List No. **291CU** – Two Flute  
List No. **294CU** – Four Flute



Diameter of Cut	Shank Diameter	Two Flute <b>291CU</b>			Four Flute <b>294CU</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	32.40	3/8	2-5/16	32.40
3/16	3/8	1/2	2-3/8	33.30	1/2	2-3/8	33.30
1/4	3/8	5/8	2-7/16	33.30	5/8	2-7/16	33.30
5/16	3/8	3/4	2-1/2	35.10	3/4	2-1/2	35.10
9/32	3/8	3/4	2-1/2	37.35	3/4	2-1/2	37.35
3/8	3/8	3/4	2-1/2	37.35	3/4	2-1/2	37.35
11/32	3/8	3/4	2-1/2	37.35	3/4	2-1/2	37.35
7/16	1/2	3/4	3	44.10	—	—	—
1/2	1/2	1	3	52.20	1-1/4	3-1/4	52.20
5/8	5/8	1-3/8	3-1/2	75.60	1-5/8	3-3/4	75.60
3/4	3/4	1-5/8	3-7/8	88.20	1-5/8	3-7/8	88.20
7/8	3/4	2	4-1/4	112.50	—	—	—
1	1	2-1/4	4-3/4	130.50	2	4-1/2	130.50
1-1/4	1-1/4	2-1/4	4-3/4	170.10	2	4-1/2	179.10
1-1/2	1-1/4	2-1/2	5	225.00	2	4-1/2	234.00

## Single or Double End

List No. **291C** – Two Flute, Single End  
List No. **294C** – Four Flute, Single End  
List No. **292C** – Two Flute, Double End



MDX<sup>®</sup>  
SUPERIOR IMPORT

Diameter of Cut	Shank Diameter	Single End, Two Flute <b>291C</b>			Double End, Two Flute <b>292C</b>			Single End, Four Flute <b>294C</b>		
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	Price Each
1/8	3/8	3/8	2-5/16	27.00	3/8	3-1/16	44.10	3/8	2-5/16	35.10
5/32	3/8	—	—	—	7/16	3-1/8	49.00	—	—	—
3/16	3/8	1/2	2-3/8	27.00	7/16	3-1/8	44.10	1/2	2-3/8	37.80
7/32	3/8	—	—	—	1/2	3-1/8	49.00	—	—	—
1/4	3/8	5/8	2-7/16	27.00	1/2	3-1/8	44.10	5/8	2-7/16	37.80
9/32	3/8	—	—	—	9/16	3-1/8	49.00	—	—	—
5/16	3/8	3/4	2-1/2	30.15	9/16	3-1/8	44.10	3/4	2-1/2	41.40
11/32	3/8	—	—	—	9/16	3-1/8	49.00	—	—	—
3/8	3/8	3/4	2-1/2	30.15	9/16	3-1/8	44.10	3/4	2-1/2	41.40
13/32	1/2	—	—	—	13/16	3-3/4	59.70	—	—	—
7/16	3/8	1	3	40.50	—	—	—	—	—	—
7/16	1/2	1	3	40.50	13/16	3-3/4	56.70	1	3	50.40
15/32	1/2	—	—	—	13/16	3-3/4	59.70	—	—	—
1/2	1/2	1	3	37.80	13/16	3-3/4	66.24	1-1/4	3-1/4	50.40
9/16	1/2	1-1/8	3-1/8	47.70	—	—	—	1-1/8	3-1/8	68.40
5/8	1/2	1-1/8	3-1/8	54.00	—	—	—	—	—	—
5/8	5/8	1-3/8	3-1/2	54.00	1-5/16	5	85.50	1-5/8	3-3/4	67.95
3/4	3/4	1-5/8	3-7/8	63.00	1-5/16	5	103.50	1-5/8	3-7/8	77.85
7/8	7/8	2	4-1/4	81.90	—	—	—	1-7/8	4-1/8	107.10
1	3/4	2-1/4	4-9/16	106.20	—	—	—	—	—	—
1	1	2-1/4	4-3/4	106.20	1-5/8	5-7/8	153.00	2	4-1/2	117.00
1-1/4	3/4	2-1/2	4-13/16	141.29	—	—	—	—	—	—
1-1/4	1-1/4	2-1/2	5	141.29	—	—	—	2	4-1/2	144.00
1-1/2	3/4	2-1/2	4-13/16	182.78	—	—	—	2	4-1/4	181.80
1-1/2	1-1/4	2-1/2	5	182.78	—	—	—	2	4-1/2	181.80

# Cobalt Long & Extra Long Two Flute End Mills



For milling alloyed and non-alloyed steels with medium tensile strength of up to 145,000 PSI, as well as for short chip producing aluminium and copper alloys. Also for materials and cast iron alloys up to 280HB.



List No. **233C** – Center Cutting

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
3/8	3/8	1	2-3/4	28.50
3/8	3/8	1-1/2	3-1/4	31.20
1/2	1/2	1-1/2	3-1/2	37.50
1/2	1/2	2	4	39.60
5/8	5/8	1-5/8	3-3/4	42.00

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
5/8	5/8	2	4-1/8	46.20
3/4	3/4	1-3/4	4	54.00
3/4	3/4	2-1/4	4-1/4	55.80
1	1	2-1/4	4-3/4	89.67
1	1	3	5-1/2	91.80

## MillDrill™ 90° Drill Point End Mills

High Speed Steel & Cobalt

Can be used for drilling, slotting, chamfering and profile milling. These end mills are designed for general purpose end milling in most types of materials

List No. **290** – High Speed Steel, Two Flute  
List No. **290C** – Cobalt, Two Flute



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 290	Cobalt 290C
1/8	3/8	3/8	2-5/16	19.50	29.80
1/4	3/8	5/8	2-7/16	20.95	33.47
5/16	3/8	23/32	2-15/32	20.95	33.47
3/8	3/8	3/4	2-1/2	21.95	35.12
7/16	3/8	1-1/32	2-23/32	31.70	44.38
1/2	1/2	1-1/4	3-1/4	31.70	44.38
9/16	1/2	1-13/32	3-13/32	38.12	55.37

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				H.S. 290	Cobalt 290C
5/8	5/8	1-5/8	3-3/4	42.00	58.80
11/16	5/8	1-21/32	3-25/32	46.95	65.73
3/4	3/4	1-11/16	3-15/16	49.50	69.30
13/16	3/4	1-29/32	4-5/32	62.90	88.06
7/8	3/4	1-15/16	4-3/16	62.30	87.22
15/16	3/4	1-31/32	4-7/32	72.38	94.09
1	3/4	2	4-1/4	71.80	93.34

## MillDrill™ Solid Carbide 90° Drill Point End Mills

Solid Carbide & TiAlN Coated

Can be used for drilling, slotting, chamfering and profile milling. These end mills are designed for general purpose end milling in most types of materials

List No. **KS90** – Two Flute  
List No. **KSTLN90** – TiAlN Coated, Two Flute



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Solid Carbide KS90	TiAlN Coated Solid Carbide KSTLN90
1/8	1/8	1/2	1-1/2	29.40	36.96
3/16	3/16	5/8	2	42.00	51.24
1/4	1/4	3/4	2-1/2	54.00	70.89
5/16	5/16	13/16	2-1/2	68.37	92.06
3/8	3/8	1	2-1/2	84.84	108.86

Dia. of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Solid Carbide KS90	TiAlN Coated Solid Carbide KSTLN90
7/16	7/16	1	2-3/4	115.92	145.32
1/2	1/2	1	3	140.78	170.18
5/8	5/8	1-1/4	3-1/2	271.65	310.29
3/4	3/4	1-1/2	4	400.34	449.73

# Cobalt Roughing End Mills

## Rough Profile

For deeper slotting or heavy side cutting in steel.



**MDX**  
SUPERIOR IMPORT



END MILLS

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
3/16	3/8	1/2	2-3/8	4	<b>CR6-3</b>	26.27
1/4	3/8	5/16	2-1/8	4	<b>CRS8-3</b>	23.76
1/4	3/8	5/8	2-7/16	4	<b>CR8-3</b>	26.27
1/4	3/8	1-1/4	3-1/16	4	<b>CL8-3</b>	31.52
9/32	3/8	11/16	2-1/2	4	<b>CR9-3</b>	28.90
5/16	3/8	7/16	2-3/16	4	<b>CRS10-3</b>	23.76
5/16	3/8	3/4	2-1/2	4	<b>CR10-3</b>	26.27
5/16	3/8	1-3/8	3-1/8	4	<b>CL10-3</b>	32.01
11/32	3/8	5/8	2-1/2	4	<b>CR11-3</b>	29.77
3/8	3/8	7/16	2-3/16	4	<b>CRS12-3</b>	23.76
3/8	3/8	3/4	2-1/2	4	<b>CR12-3</b>	27.06
3/8	3/8	1-1/2	3-1/4	4	<b>CL12-3</b>	32.84
7/16	3/8	1	2-11/16	4	<b>CR14-3</b>	32.97
1/2	1/2	5/8	2-5/8	4	<b>CRS16-4</b>	32.34
1/2	1/2	1-1/4	3-1/4	4	<b>CR16-4</b>	36.96
1/2	1/2	2	4	4	<b>CL16-4</b>	42.77
9/16	1/2	1-3/8	3-3/8	4	<b>CR18-4</b>	40.85
5/8	5/8	3/4	2-7/8	4	<b>CRS20-5</b>	39.27
5/8	5/8	1-5/8	3-3/4	4	<b>CR20-5</b>	45.87
5/8	5/8	2-1/2	4-5/8	4	<b>CL20-5</b>	59.07
11/16	5/8	1-5/8	3-3/4	4	<b>CR22-5</b>	49.17
3/4	5/8	1-5/8	3-3/4	4	<b>CR24-5</b>	53.26
3/4	5/8	3	5-1/8	4	<b>CL24-5</b>	65.97
3/4	3/4	3/4	3	4	<b>CRS24-6</b>	46.00
3/4	3/4	1-5/8	3-3/4	4	<b>CR24-6</b>	59.30
3/4	3/4	3	5-1/4	4	<b>CL24-6</b>	65.97
3/4	3/4	4	6-1/4	6	<b>CX24-6</b>	82.00
13/16	3/4	1-5/8	3-3/4	4	<b>CR26-6</b>	59.73
7/8	3/4	1-1/8	3-3/8	5	<b>CRS28-6</b>	58.74
7/8	3/4	1-5/8	4-1/8	5	<b>CR28-6</b>	59.73
7/8	3/4	3-1/2	5-5/8	4	<b>CL28-6</b>	83.66
7/8	7/8	1-7/8	4-1/8	5	<b>CR28-7</b>	59.73
7/8	7/8	3-1/2	5-3/4	4	<b>CL28-7</b>	83.66
15/16	7/8	1-7/8	4-1/8	4	<b>CR30-7</b>	78.13
1	3/4	1-1/8	3-3/8	5	<b>CRS32-6</b>	71.45
1	3/4	2	4-1/2	5	<b>CR32-6</b>	81.68
1	3/4	4	6-1/4	5	<b>CL32-6</b>	89.73
1	1	1-1/8	3-5/8	5	<b>CRS32-8</b>	71.45
1	1	2	4-1/2	5	<b>CR32-8</b>	81.68
1	1	3	5-1/2	5	<b>CM32-8</b>	84.19
1	1	4	6-1/2	6	<b>CL32-8</b>	89.73

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1	1	6	8-1/2	6	<b>CX32-8</b>	118.67
1-1/8	3/4	1-1/8	3-5/8	6	<b>CRS36-6</b>	74.75
1-1/8	3/4	2	4-1/4	6	<b>CR36-6</b>	86.63
1-1/8	1	2	4-1/2	6	<b>CR36-8</b>	86.63
1-1/8	1	3	5-1/2	6	<b>CM36-8</b>	97.00
1-1/8	1	3-1/2	6	6	<b>CL36-8</b>	110.00
1-1/4	3/4	1-1/8	3-1/2	6	<b>CRS40-6</b>	85.54
1-1/4	3/4	2	4-1/4	6	<b>CR40-6</b>	100.65
1-1/4	3/4	4	6-1/4	6	<b>CL40-6</b>	122.60
1-1/4	1	2	4-1/2	6	<b>CR40-8</b>	100.65
1-1/4	1-1/4	1-3/8	3-7/8	6	<b>CRS40-10</b>	85.54
1-1/4	1-1/4	2	4-1/2	6	<b>CR40-10</b>	100.65
1-1/4	1-1/4	3	5-1/2	6	<b>CM40-10</b>	102.76
1-1/4	1-1/4	4	6-1/2	6	<b>CL40-10</b>	122.60
1-1/4	1-1/4	6	8-1/2	6	<b>CX40-10</b>	157.08
1-3/8	3/4	2	4-1/4	6	<b>CR44-6</b>	116.82
1-1/2	3/4	1-1/8	3-5/8	6	<b>CRS48-6</b>	110.00
1-1/2	3/4	2	4-1/4	6	<b>CR48-6</b>	129.99
1-1/2	3/4	4	6-1/4	6	<b>CL48-6</b>	158.40
1-1/2	1-1/4	2	4-1/2	6	<b>CR48-10</b>	129.99
1-1/2	1-1/4	3	5-1/2	6	<b>CM48-10</b>	134.15
1-1/2	1-1/4	4	6-1/2	6	<b>CL48-10</b>	158.40
1-1/2	1-1/4	5	7-1/2	6	<b>CX48-10</b>	187.08
1-1/2	1-1/4	6	8-1/2	6	<b>CX48-10L</b>	230.34
1-3/4	1-1/4	2	4-1/2	6	<b>CR56-10</b>	151.21
1-3/4	1-1/4	4	6-1/2	8	<b>CL56-10</b>	212.19
2	3/4	1-1/8	3-5/8	8	<b>CRS64-6</b>	155.00
2	3/4	2	4-1/2	8	<b>CR64-6</b>	176.72
2	1-1/4	2	4-1/2	8	<b>CR64-10</b>	176.72
2	1-1/4	3	5-1/2	8	<b>CM64-10</b>	207.90
2	1-1/4	4	6-1/2	8	<b>CL64-10</b>	273.57
2	2*	2	5-3/4	8	<b>CR64-162</b>	181.50
2	2*	3	6-3/4	8	<b>CR64-163</b>	195.20
2	2*	4	7-3/4	8	<b>CR64-164</b>	223.74
2	2*	5	8-3/4	8	<b>CM64-165</b>	255.20
2	2*	6	9-3/4	8	<b>CM64-166</b>	270.60
2	2*	7	10-3/4	8	<b>CL64-167</b>	367.62
2	2*	8	11-3/4	8	<b>CL64-168</b>	455.40
2	2*	12	15-3/4	8	<b>CL64-162</b>	590.70
2-1/2	2	4	7-3/4	8	<b>CL82-164</b>	345.00
2-1/2	2*	6	9-3/4	8	<b>CM82-166</b>	389.40

\* Supplied with combination shanks.

## Fine Profile

For shallow slotting or peripheral milling. Recommended for use in exotic materials.

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1/4	3/8	5/16	2-7/16	4	<b>CRFS8-3</b>	23.76
1/4	3/8	5/8	2-7/16	4	<b>CRF8-3</b>	28.27
1/4	3/8	1-1/4	3-1/16	4	<b>CLF8-3</b>	31.52
5/16	3/8	3/4	2-1/2	4	<b>CRF10-3</b>	28.27
5/16	3/8	1-3/8	3-1/8	4	<b>CLF10-3</b>	35.00
3/8	3/8	7/16	2-1/2	4	<b>CRFS12-3</b>	23.76
3/8	3/8	3/4	2-1/2	4	<b>CRF12-3</b>	29.90
3/8	3/8	1-1/2	3-1/4	4	<b>CLF12-3</b>	35.00
7/16	3/8	1	2-11/16	4	<b>CRF14-3</b>	37.96
1/2	1/2	1-1/4	3-1/4	4	<b>CRF16-4</b>	39.40
1/2	1/2	2	4	4	<b>CLF16-4</b>	45.00
9/16	1/2	1-3/8	3-3/8	4	<b>CRF18-4</b>	48.71
5/8	5/8	3/4	3-3/4	4	<b>CRFS20-5</b>	39.27
5/8	5/8	1-5/8	3-3/4	4	<b>CRF20-5</b>	51.55
5/8	5/8	2-1/2	4-5/8	4	<b>CLF20-5</b>	62.50
3/4	5/8	1-5/8	3-3/4	4	<b>CRF24-5</b>	58.62
3/4	3/4	1-5/8	3-3/4	4	<b>CRF24-6</b>	60.87
3/4	3/4	3	5-1/4	4	<b>CLF24-6</b>	70.96
7/8	3/4	1-5/8	4-1/8	5	<b>CRF28-6</b>	66.45
7/8	7/8	1-7/8	4-1/8	5	<b>CRF28-7</b>	66.45
7/8	7/8	3-1/2	5-3/4	5	<b>CLF28-7</b>	93.00

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1	3/4	2	4-1/2	5	<b>CRF32-6</b>	97.38
1	1	2	4-1/2	5	<b>CRF32-8</b>	97.38
1	1	3	5-1/2	5	<b>CMF32-8</b>	102.35
1	1	4	6-1/2	6	<b>CLF32-8</b>	110.36
1-1/8	1	2	4-1/2	6	<b>CRF36-8</b>	109.13
1-1/4	1	2	4-1/2	6	<b>CRF40-8</b>	115.25
1-1/4	1-1/4	2	4-1/2	6	<b>CRF40-10</b>	115.25
1-1/4	1-1/4	3	5-1/2	6	<b>CMF40-10</b>	118.70
1-1/4	1-1/4	4	6-1/2	6	<b>CLF40-10</b>	128.18
1-1/2	1-1/4	1-1/4	6-1/2	6	<b>CRFS48-10</b>	128.18
1-1/2	1-1/4	2	4-1/2	6	<b>CRF48-10</b>	135.26
1-1/2	1-1/4	3	5-1/2	6	<b>CMF48-10</b>	144.00
1-1/2	1-1/4	4	6-1/2	6	<b>CLF48-10</b>	162.50
1-3/4	1-1/4	2	4-1/2	6	<b>CRF56-10</b>	168.00
1-3/4	1-1/4	4	6-1/2	6	<b>CLF56-10</b>	225.00
2	1-1/4	2	4-1/2	8	<b>CRF64-10</b>	184.10
2	1-1/4	3	4-3/4	8	<b>CMF64-10</b>	225.00
2	1-1/4	4	7-3/4	8	<b>CLF64-10</b>	288.00
2	2	2	5-3/4	8	<b>CRF64-162</b>	204.00
2	2	3	6-3/4	8	<b>CRF64-163</b>	215.00
2	2	4	7-3/4	8	<b>CRF64-164</b>	258.00

\* Supplied with combination shanks.



# Cobalt Roughing End Mills



## Rough Profile & Fine Profile



Cutter Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flutes	Rough Profile		Fine Profile	
					Tool No.	Price Each	Tool No.	Price Each
1/4	3/8	5/8	2-7/16	4	CR8-3U	38.21	CRF8-3U	38.21
3/8	3/8	3/4	2-1/2	4	CR12-3U	40.01	CRF12-3U	40.01
1/2	1/2	1-1/4	3-1/4	4	CR16-4U	54.00	CRF16-4U	54.00
1/2	1/2	2	4	4	CL16-4U	72.00	CLF16-4U	72.00
5/8	5/8	1-5/8	3-3/4	4	CR20-5U	66.60	CRF20-5U	66.60
3/4	3/4	1-5/8	3-3/4	4	CR24-6U	86.22	CRF24-6U	86.22
7/8	3/4	1-5/8	4-1/8	5	CR28-6U	86.85	CRF28-6U	86.85
7/8	7/8	1-7/8	4-1/8	4	CR28-7U	86.85	CRF28-7U	86.85
1	3/4	2	4-1/2	5	CR32-6U	118.80	CRF32-6U	118.80
1	1	2	4-1/2	5	CR32-8U	118.80	CRF32-8U	118.80
1	1	3	5-1/2	5	CM32-8U	138.00	CMF32-8U	138.00
1-1/8	1	2	4-1/2	6	CR36-8U	146.25	—	—
1-1/4	3/4	2	4-1/4	6	CR40-6U	146.25	CRF40-6U	146.25
1-1/4	1-1/4	3	5-1/2	6	CM40-10U	195.00	CMF40-10U	195.00
1-1/2	3/4	2	4-1/4	6	CR48-6U	146.25	—	—
1-1/2	1-1/4	2	4-1/2	6	CR48-10U	189.00	CRF48-10U	189.00
2	1-1/4	2	4-1/2	8	CR64-10U	256.50	CRF64-10U	257.04
2	1-1/4	4	6-1/2	6	CL64-10U	420.00	CLF64-10U	420.00
2	2	2	5-3/4	8	CR64-162U	260.00	—	—
2	2*	3	6-3/4	8	CR64-163U	295.00	CRF64-163U	295.00
2	2*	4	7-3/4	8	CM64-164U	420.00	CRF64-164U	425.00
2	2*	6	9-3/4	8	CM64-166U	450.00	—	—
2-1/2	2*	6	9-3/4	8	CM80-166U	940.00	—	—

\*Supplied with combination shanks.

## 3-Flute High Helix – Center Cut

For use in aluminum and other nonferrous materials. Can also be used for slotting.



Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	Tool No.	Price Each
1/4	3/8	1-1/4	3-1/16	CLA8-3	51.58
5/16	3/8	3/4	2-1/2	CRA10-3	52.65
5/16	3/8	1-3/8	3-1/8	CLA10-3	42.80
3/8	3/8	3/4	2-1/2	CRA12-3	46.01
3/8	3/8	1-1/2	3-1/4	CLA12-3	55.21
1/2	1/2	1-1/4	3-1/4	CRA16-4	62.10
1/2	1/2	2	4	CLA16-4	71.52
5/8	5/8	1-5/8	3-3/4	CRA20-5	76.59
5/8	5/8	2-1/2	4-5/8	CLA20-5	98.69
3/4	3/4	1-5/8	3-7/8	CRA24-6	99.15
3/4	3/4	3	5-1/4	CLA24-6	111.57
7/8	3/4	2	4-1/8	CRA28-6	99.86
1	3/4	1-1/2	3-3/4	CRA32-6	136.62
1	3/4	3	5-1/4	CMA32-6	149.81
1	1	2	4-1/2	CRA32-8	136.62
1	1	3	5-1/4	CMA32-8	149.81
1	1	4	6-1/2	CLA32-8	149.81

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	Tool No.	Price Each
1-1/4	1-1/4	2	4-1/2	CRA40-10	168.19
1-1/4	1-1/4	3	5-1/2	CMA40-10	230.00
1-1/4	1-1/4	4	6-1/2	CLA40-10	204.93
1-1/2	1-1/4	2	4-1/2	CRA48-10	217.35
1-1/2	1-1/4	3	5-1/2	CMA48-10	240.00
1-1/2	1-1/4	4	6-1/2	CLA48-10	264.96
2	1-1/4	2	4-1/2	CRA64-10	352.26
2	1-1/4	3	5-1/4	CLA64-10	400.19
2	1-1/4	4	6-1/2	CMA64-10	428.99
2	2*	3	6-3/4	CRA64-163	415.50
2	2*	4	7-3/4	CRA64-164	440.00
2	2*	5	8-3/4	CMA64-165	418.50
2	2*	6	9-3/4	CMA64-166	442.80
3	2-1/2*	4	7-3/4	CMA96-164	950.00
3	2-1/2*	6	9-3/4	CMA96-166	1200.00
3	2-1/2*	8	11-3/4	CMA96-168	1480.00

\* Supplied with combination shanks.

## Sets

Size	Pcs.	Description	Set No.	Price
1/4, 5/16, 3/8, 1/2	4	Rough Mini Set	CRS-1	106.82
1/2, 5/8, 3/4 x 3/4, 1 x 3/4	4	RoughBridgeport Set	CRS-2	223.95

All sets are supplied in wood block



## Ball Nose

Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1/4	3/8	5/8	2-7/16	4	CRB8-3	45.60
5/16	3/8	3/4	2-1/2	4	CRB10-3	46.32
3/8	3/8	3/4	2-1/2	4	CRB12-3	49.91
7/16	3/8	1	2-11/16	4	CRB14-3	59.07
1/2	1/2	1-1/4	3-1/4	4	CRB16-4	64.99
1/2	1/2	2	4	4	CLB16-4	73.23
9/16	1/2	1-3/8	3-3/8	4	CRB18-4	72.00
5/8	5/8	1-5/8	3-3/4	4	CRB20-5	79.20
5/8	5/8	2-1/2	4-5/8	4	CLB20-5	98.42
3/4	3/4	1-5/8	3-3/4	4	CRB24-6	89.73
3/4	3/4	3	5-1/4	4	CLB24-6	114.13
7/8	3/4	1-5/8	4-1/8	5	CRB28-6	106.65
7/8	7/8	1-7/8	4-1/8	5	CRB28-7	106.65

Ball End Roughers also available in medium and extra long lengths. Please inquire.



Cutter Dia.	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
7/8	7/8	3-1/2	5-3/4	4	CLB28-7	141.30
1	3/4	2	4-1/2	5	CRB32-6	140.40
1	1	2	4-1/2	5	CRB32-8	140.40
1	1	4	6-1/2	6	CLB32-8	152.10
1-1/8	1	2	4-1/2	6	CRB36-8	163.71
1-1/4	3/4	2	4-1/2	6	CRB40-6	184.05
1-1/4	1-1/4	2	4-1/2	6	CRB40-10	184.05
1-1/4	1-1/4	4	6-1/2	6	CLB40-10	216.00
1-1/2	3/4	2	4-1/2	6	CRB48-6	244.80
1-1/2	1-1/4	2	4-1/2	6	CRB48-10	244.80
1-1/2	1-1/4	4	6-1/2	6	CLB48-10	286.20
2	2*	4	7-3/4	8	CRB64-164	470.00
2	2*	6	9-3/4	8	CRB64-166	665.00

\* Supplied with combination shanks.

# M2-AL Roughing End Mills

Specially Formulated High Speed Steel

Specially formulated High Speed Steel which in many application rivals the performance of Cobalt. The cost is significantly lower than Cobalt roughers. The aluminum content of the M2-AL rougher reduces friction during cutting allowing the rougher to run cooler and last longer.



END MILLS

Diameter of Cut	Shank Diameter	Regular Length					Long Length				
		Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1/4	3/8	5/8	2-7/16	4	ALR8-3	13.43	—	—	—	—	—
5/16	3/8	3/4	2-1/2	4	ALR10-3	13.43	—	—	—	—	—
3/8	3/8	3/4	2-1/2	4	ALR12-3	13.43	—	—	—	—	—
7/16	3/8	1	2-11/16	4	ALR14-3	17.39	—	—	—	—	—
1/2	1/2	1-1/4	3-1/4	4	ALR16-4	18.50	2	4	4	ALL16-4	23.99
5/8	5/8	1-5/8	3-3/4	4	ALR20-5	20.84	2-1/2	4-5/8	4	ALL20-5	25.48
3/4	3/4	1-5/8	3-3/4	4	ALR24-6	25.84	3	5-1/4	4	ALL24-6	32.41
7/8	3/4	1-5/8	4-1/8	4	ALR28-6	33.41	3-1/2	5-5/8	4	ALL28-6	39.36
7/8	7/8	1-7/8	4-1/8	4	ALR28-7	31.37	—	—	—	—	—
15/16	3/4	1-7/8	4-1/8	4	ALR30-6	37.43	—	—	—	—	—
1	3/4	2	4-1/2	6	ALR32-6	37.43	—	—	—	—	—
1	1	2	4-1/2	6	ALR32-8	37.43	4	6-1/2	6	ALL32-8	44.76
1-1/8	1	2	4-1/2	6	ALR36-8	48.59	—	—	—	—	—
1-1/4	3/4	2	4-1/2	6	ALR40-6	55.74	—	—	—	—	—
1-1/4	1-1/4	2	4-1/2	6	ALR40-10	55.74	3	5-1/2	6	ALM40-10	67.60
1-1/4	1-1/4	—	—	—	—	—	4	6-1/2	6	ALL40-10	75.40
1-1/2	1-1/4	2	4-1/2	6	ALR48-10	73.96	3	5-1/2	6	ALM48-10	85.00
1-1/2	1-1/4	—	—	—	—	—	4	6-1/2	6	ALL48-10	90.32
1-3/4	1-1/4	2	4-1/2	6	ALR56-10	91.00	4	6-1/2	6	ALL56-10	118.30
2	1-1/4	2	4-1/2	8	ALR64-10	111.51	4	6-1/2	6	ALL64-10	135.27
2	2	4	7-3/4	8	ALR64-164	160.00	8	11-3/4	6	ALL64-168	325.00

# TiN Coated Cobalt Roughing End Mills



## Rough Profile

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
3/16	3/8	1/2	2-3/8	4	CRT6-3	44.91
1/4	3/8	5/8	2-7/16	4	CRT8-3	44.91
5/16	3/8	3/4	2-1/2	4	CRT10-3	44.91
3/8	3/8	3/4	2-1/2	4	CRT12-3	47.25
7/16	3/8	1	2-11/16	4	CRT14-3	55.35
1/2	1/2	1-1/4	3-1/4	4	CRT16-4	61.20
9/16	1/2	1-3/8	3-3/8	4	CRT18-4	69.30
5/8	5/8	1-5/8	3-3/4	4	CRT20-5	77.40
11/16	5/8	1-5/8	3-3/4	4	CRT22-5	84.91
3/4	5/8	1-5/8	3-3/4	4	CRT24-5	87.44

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
3/4	3/4	1-5/8	3-3/4	4	CRT24-6	87.44
7/8	3/4	1-5/8	4-1/8	5	CRT28-6	106.20
1	3/4	2	4-1/2	5	CRT32-6	131.85
1	1	2	4-1/2	5	CRT32-8	131.85
1-1/8	3/4	2	4-1/4	5	CRT36-6	161.55
1-1/8	1	2	4-1/2	6	CRT36-8	161.55
1-1/4	3/4	2	4-1/4	6	CRT40-6	180.99
1-1/4	1	2	4-1/2	5	CRT40-8	180.99
1-1/2	1-1/4	2	4-1/2	6	CRT48-10	211.95
2	1-1/4	2	4-1/2	8	CRT64-10	324.00



Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
3/16	3/8	1/2	2-3/8	4	CRT6-3U	54.60
1/4	3/8	5/8	2-7/16	4	CRT8-3U	54.60
5/16	3/8	3/4	2-1/2	4	CRT10-3U	54.60
3/8	3/8	3/4	2-1/2	4	CRT12-3U	54.60
1/2	1/2	2	4	4	CLT16-4U	99.22
9/16	1/2	1-3/8	3-1/8	4	CRT18-4U	82.16
5/8	5/8	1-5/8	3-3/4	4	CRT20-5U	92.22
5/8	5/8	2-1/2	4-5/8	4	CLT20-5U	118.40
3/4	5/8	1-5/8	3-3/4	4	CRT24-5U	113.54
3/4	3/4	3/4	3	4	CRST24-6U	109.18
3/4	3/4	1-5/8	3-3/4	4	CRT24-6U	119.18
3/4	3/4	3	5-1/4	4	CLT24-6U	142.38
7/8	3/4	1-7/8	4-1/8	5	CRT28-6U	160.62
7/8	7/8	1-7/8	4-1/8	5	CRT28-7U	156.15
7/8	7/8	3-1/2	5-3/4	5	CLT28-6U	182.50
1	3/4	1-1/2	3-3/4	5	CRT32-6U	167.38

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	No. of Flutes	Tool No.	Price Each
1	1	2	4-1/2	5	CRT32-8U	167.36
1	1	3	5-1/2	5	CMT32-8U	205.58
1	1	4	6-1/2	5	CLT32-8U	221.67
1-1/4	3/4	2	4-1/2	6	CRT40-6U	219.98
1-1/4	1-1/4	2	4-1/2	6	CRT40-10U	219.98
1-1/4	1-1/4	3	5-1/2	6	CMT40-10U	276.98
1-1/4	1-1/4	4	6-1/2	6	CLT40-10U	313.49
1-1/2	3/4	3/4	3-1/2	6	CRST48-6U	248.72
1-1/2	3/4	1-1/2	4	6	CRST48-6AU	248.72
1-1/2	1-1/4	2	4-1/2	6	CRT48-10U	262.42
1-1/2	1-1/4	3	5-1/2	6	CMT48-10U	325.68
1-1/2	1-1/4	4	6-1/4	6	CLT48-10U	364.78
2	1-1/4	4	6-1/2	8	CLT64-10U	485.66
2	2*	3	6-1/2	8	CRT64-163U	550.82
2	2*	6	9-3/4	8	CXT64-166U	847.00
2-1/2	2*	10	12-1/2	8	CXT80-16U	1939.04

\* Combinations Shank.

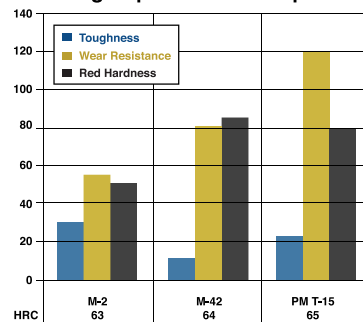
# T-15 Superior Cobalt End Mills

Super High Speed Steel

A tungsten-type super high speed steel containing high vanadium for excellent abrasion resistance and cobalt for good red hardness. Ideal for cutting difficult to machine materials where high frictional heat is present; stainless steel, cast iron, abrasive plastics, bakelite.



T-15 High Speed Steel Comparison



## Regular Length

List No. **T2005** – Two Flute

List No. **T2031** – Multi Flute, Center Cutting

Sets

Size	Pcs.	Description	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8	10	1 pc. of each: 2 & 4-Flute	<b>TC151</b>	332.10

Diameter of Cut	Multi Flute T2005					Two Flute T2031			
	Length of Cut	Overall Length	No. of Flutes	Price Each	Shank Diameter	Length of Cut	Overall Length	Price Each	
1/8	3/8	2-5/16	4	34.20	3/8	3/8	2-5/16	33.30	
3/16	1/2	2-3/8	4	34.20	3/8	7/16	2-5/16	33.30	
1/4	5/8	2-7/16	4	34.20	3/8	1/2	2-5/16	33.30	
5/16	3/4	2-1/2	4	34.20	3/8	9/16	2-5/16	33.30	
3/8	3/4	2-1/2	4	34.20	3/8	9/16	2-5/16	33.30	
7/16	1	2-11/16	4	46.29	3/8	13/16	2-1/2	42.55	
1/2	1-1/4	3-1/4	4	48.60	1/2	1	3	45.00	
5/8	1-5/8	3-3/4	4	66.60	5/8	1-5/16	3-7/16	64.80	
3/4	1-5/8	3-7/8	4	77.40	3/4	1-5/16	3-9/16	75.60	
7/8	1-7/8	4-1/8	4	102.60	7/8	1-1/2	3-3/4	103.83	
1	2	4-1/2	4	124.20	1	1-5/8	4-1/8	120.60	
1-1/4	2	4-1/2	6	171.00	1-1/4	1-5/8	4-1/8	171.00	
1-1/2	2	4-1/2	6	207.00	1-1/4	1-5/8	4-1/8	216.00	
1-3/4	2	4-1/2	6	297.64	1-1/4	1-5/8	4-1/8	255.59	
2	2	4-1/2	4	321.54	1-1/4	1-5/8	4-1/8	298.06	
2	2	4-1/2	6	321.54	1-1/4	—	—	—	
2	2	4-1/2	8	321.54	1-1/4	—	—	—	

## Long & Extra Long Length

List No. **T2006** – Long Length, Multi Flute Center Cutting

List No. **T2007** – Extra Long Length, Multi Flute Center Cutting



Diameter of Cut	Shank Diameter	Long Length T2006				Extra Long Length T2007			
		Length of Cut	Overall Length	No. of Flutes	Price Each	Length of Cut	Overall Length	No. of Flutes	Price Each
1/4	3/8	1-1/4	3-1/16	4	40.50	1-3/4	3-9/16	4	50.40
5/16	3/8	1-3/8	3-1/8	4	40.50	2	3-3/4	4	50.40
3/8	3/8	1-1/2	3-1/4	4	40.50	2-1/2	4-1/4	4	50.40
1/2	1/2	2	4	4	52.20	3	5	4	66.60
5/8	5/8	2-1/2	4-5/8	4	72.00	4	6-1/8	4	90.00
3/4	3/4	3	5-1/4	4	84.60	4	6-1/4	4	99.00
1	1	4	6-1/2	4	147.60	6	8-1/2	4	198.00
1-1/4	1-1/4	4	6-1/2	6	228.60	6	8-1/2	4	279.00
1-1/2	1-1/4	4	6-1/2	6	320.23	6	8-1/2	6	467.33
2	1-1/4	4	6-1/2	6	427.11	—	—	—	—
2	1-1/4	4	6-1/2	8	427.11	—	—	—	—

## Ball End

List No. **T2091** – Two Flute

List No. **T2092** – Multi Flute, Center Cutting



Diameter of Cut	Shank Diameter	Two Flute T2091			Multi Flute T2092			
		Length of Cut	Overall Length	Price Each	Length of Cut	Overall Length	No. of Flutes	Price Each
1/8	3/8	3/8	2-5/16	43.20	3/8	2-5/16	4	55.80
3/16	3/8	7/16	2-5/16	43.20	1/2	2-3/8	4	55.80
1/4	3/8	1/2	2-5/16	43.20	5/8	2-7/16	4	55.80
5/16	3/8	9/16	2-5/16	43.20	3/4	2-1/2	4	55.80
3/8	3/8	9/16	2-5/16	43.20	3/4	2-1/2	4	64.80
1/2	1/2	1	3	61.20	1-1/4	3-1/4	4	75.60
5/8	5/8	1-5/16	3-7/16	91.80	1-5/8	3-3/4	4	99.00
3/4	3/4	1-5/16	3-9/16	104.40	1-5/8	3-7/8	4	117.00
1	1	1-5/8	4-1/8	167.40	2	4-1/2	4	171.00
1-1/4	1-1/4	1-5/8	4-1/8	235.40	2	4-1/2	6	252.00
1-1/2	1-1/4	1-5/8	4-1/8	293.88	2	4-1/2	6	297.00

# Corner Rounding End Mills

High Speed Steel & Cobalt

These end mills are used for rounding corners and adapting many screw machine applications as end forming tools to form a specific radius. They can be resharpened many times without changing the contour.



List No. **282** – High Speed Steel

List No. **282C** – Cobalt

Radius	Shank Diameter	Cutter Diameter	Overall Length	Price Each	
				H.S. 282	Cobalt 282C
1/32	3/8	3/8	2-1/2	48.42	82.35
1/16	3/8	7/16	2-1/2	48.42	82.35
3/32	3/8	1/2	2-1/2	49.01	83.30
1/8	3/8	5/8	3	53.91	91.67
1/8	1/2	5/8	3	53.91	91.67
5/32	1/2	3/4	3	57.92	98.46
3/16	1/2	7/8	3-1/8	61.29	104.18
3/16	3/4	7/8	3-1/8	61.29	104.18
7/32	1/2	7/8	3-1/4	65.88	112.05
1/4	1/2	1	3-1/4	65.88	112.05
1/4	3/4	1	3-1/4	65.88	112.05
9/32	1/2	1-1/8	3-1/4	72.50	125.50
5/16	1/2	1-1/8	3-1/4	80.50	137.61
5/16	3/4	1-1/8	3-1/4	80.95	137.61
5/16	7/8	1-1/8	3-1/2	80.95	137.61
3/8	1/2	1-1/4	3-1/2	91.80	156.06
3/8	3/4	1-1/4	3-1/2	91.80	156.06
3/8	7/8	1-1/4	3-3/4	91.80	156.06
7/16	3/4	1-3/8	3-3/4	101.08	171.81
7/16	1	1-3/8	4	101.08	171.81

Radius	Shank Diameter	Cutter Diameter	Overall Length	Price Each	
				H.S. 282	Cobalt 282C
15/32	3/4	1-3/8	3-3/4	125.55	—
1/2	3/4	1-1/2	3-7/8	125.55	213.39
1/2	1	1-1/2	4-1/8	125.55	213.39
9/16	3/4	1-15/16	4	150.39	255.60
5/8	3/4	1-15/16	4	150.39	255.60
5/8	1	1-15/16	4	150.39	—
11/16	3/4	2-1/4	4-1/8	178.11	303.65
21/32	3/4	1-15/16	4	178.11	—
3/4	3/4	2-1/4	4-1/8	178.11	303.66
3/4	1	2-1/4	4-5/16	178.11	303.66
13/16	3/4	2-1/4	4-1/8	210.60	346.50
13/16	1	2-1/4	4-5/16	210.60	—
7/8	1	2-1/2	4-1/2	248.50	393.82
29/32	3/4	2-5/8	4-3/4	280.00	—
15/16	1	2-5/8	4-3/4	280.00	448.00
31/32	3/4	2-5/8	4-3/4	300.00	—
1	3/4	2-5/8	4-3/4	263.70	—
1	1	2-5/8	4-3/4	283.50	452.80
1-1/8	1	2-7/8	4-3/4	326.03	—

Arbor type corner rounding cutters available. Please inquire.

## Sets

Size	Pcs.	Description	Set No.	Price
<b>3/8" Shank Sizes:</b> 1/16, 3/32	8	High Speed Steel	<b>282A</b>	499.00
<b>1/2" Shank Sizes:</b> 1/8, 5/32, 3/16, 1/4, 5/16, 3/8				
<b>3/4" Shank Sizes:</b> 1/2, 9/16, 5/8, 3/4				
	4	High Speed Steel	<b>282B</b>	599.00

All sets are supplied in wood block



# Shell End Mills

High Speed Steel

For facing and slab milling in all types of materials.

List No. **285** – Right Hand

List No. **285L** – Left Hand

Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each	
				Right Hand 285	Left Hand 285L
1-1/4	1/2	1	8	49.86	64.80
1-1/2	1/2	1-1/8	8	54.18	66.83
1-5/8	3/4	1-1/4	8	63.00	82.00
1-3/4	3/4	1-1/4	8	65.97	85.32
1-7/8	3/4	1-3/8	8	97.00	120.00
2	3/4	1-3/8	10	73.80	101.48
2-1/8	1	1-1/2	10	110.00	148.00
2-1/4	1	1-1/2	10	82.35	116.06
2-1/2	1	1-5/8	10	97.43	124.20
2-5/8	1	1-5/8	10	135.00	166.00



Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each	
				Right Hand 285	Left Hand 285L
2-3/4	1	1-5/8	10	122.22	162.81
3	1-1/4	1-3/4	12	139.41	191.70
3-1/4	1-1/4	1-7/8	12	178.20	249.00
3-1/2	1-1/4	1-7/8	12	190.13	256.86
3-3/4	1-1/2	2-1/4	14	222.30	310.00
4	1-1/2	2-1/4	14	233.64	322.65
4-1/2	1-1/2	2-1/4	14	304.92	419.40
5	1-1/2	2-1/4	16	362.03	540.00
5-1/2	2	2-1/4	16	513.72	718.20
6	2	2-1/4	16	533.03	787.50

# Cobalt Shell End Mills

For facing and slab milling in tough, high tensile strength materials like stainless steels, titanium, and inconel.

List No. 285C

Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each
1-1/4	1/2	1	8	69.75
1-1/2	1/2	1-1/8	8	71.56
1-3/4	3/4	1-1/4	8	95.28
2	3/4	1-3/8	8	107.02
2	3/4	1-3/8	10	106.62
2-1/4	1	1-1/2	10	120.06
2-1/2	1	1-5/8	8	140.94
2-3/4	1	1-5/8	10	177.30



Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each
3	1-1/4	1-3/4	12	210.00
3-1/2	1-1/4	1-7/8	12	339.30
4	1-1/2	2-1/4	14	382.50
4-1/2	1-1/2	2-1/4	14	550.00
5	1-1/2	2-1/4	16	575.00
5-1/2	2	2-1/4	16	790.00
6	2	2-1/4	16	898.20

# Cobalt Roughing Shell End Mills

For deep slotting or heavy side cuts. Recommended for applications in tough, high tensile strength materials like Stainless Steels, Titanium, and Inconel.

Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Tool No.	Price Each
2	3/4	2	7	CS64-16	178.20
2-1/4	1	2	8	CS72-16	209.00
2-1/2	1	2	8	CS80-16	278.30
2-3/4	1	2	8	CS88-16	286.00
3	1-1/4	2	8	CS96-16	323.40
3-1/2	1-1/4	2	9	CS112-16	429.00



Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Tool No.	Price Each
4	1-1/2	2-1/4	10	CS128-18	529.10
4-1/2	1-1/2	2-1/4	12	CS144-18	657.80
5	1-1/2	2-1/4	12	CS160-18	836.00
5-1/2	2	2-1/4	14	CS176-18	1041.70
6	2	2-1/4	14	CS192-18	1171.50

# Shell End Mills for Aluminum

High Speed Steel

For face and slab milling in Aluminum.

List No. 286 – Right Hand

Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each
1-1/4	1/2	1	4	53.10
1-3/8	1/2	1-1/8	4	53.80
1-1/2	1/2	1-1/8	4	61.20
1-5/8	3/4	1-1/4	4	65.97
1-3/4	3/4	1-1/4	4	67.50
2	3/4	1-3/8	4	78.30
2-1/8	1	1-1/2	4	98.00
2-1/4	1	1-1/2	4	88.20
2-1/2	1	1-5/8	4	108.00
2-5/8	1	1-5/8	6	140.00



Diameter of Cut	Hole Size	Length of Cut	No. of Flutes	Price Each
2-3/4	1	1-5/8	6	129.60
2-7/8	1-1/4	1-3/4	6	168.00
3	1-1/4	1-3/4	6	151.20
3-1/4	1-1/4	1-7/8	6	210.00
3-1/2	1-1/4	1-7/8	6	216.00
4	1-1/2	2-1/4	6	243.00
4-1/2	1-1/2	2-1/4	6	315.00
5	1-1/2	2-1/4	8	439.20
5-1/2	2	2-1/4	8	576.00
6	2	2-1/4	8	664.20

# Carbide Tipped Shell End Mills

List No. CT285LS – Left Hand Spiral, Right Hand Cut

Cuts faster than high speed steel. Generally used on steel and steel alloys.

List No. CT285SR – Straight Flute, Right Hand Cut

For Cast Iron, Brass, and other soft materials.

Diameter of Cut	Hole Size	Length of Cut	Price Each	
			LH Spiral CT285LS	Straight Flt. CT285SR
1-1/4	1/2	1	256.64	256.64
1-1/2	1/2	1-1/8	267.20	267.20
1-3/4	3/4	1-1/4	332.88	332.88
2	3/4	1-3/8	371.92	371.92
2-1/4	1	1-1/2	402.72	402.72



Diameter of Cut	Hole Size	Length of Cut	Price Each	
			LH Spiral CT285LS	Straight Flt. CT285SR
2-1/2	1/2	1	422.08	422.08
2-3/4	1/2	1-1/8	428.32	428.32
3	3/4	1-1/4	481.60	481.60
3-1/2	3/4	1-3/8	598.72	598.72
4	1	1-1/2	743.60	743.60



# Shell End Mill Arbors



Supplied either tanged or threaded for draw bar. When ordering, please specify type required. A wrench is furnished with each arbor, where required.



## Morse Taper

Style "A" Tanged

Style "B" Threaded for Draw Bar

Morse Taper No.	Bore	Dia. Range of Standard Shell End Mill	Part# Style A	Part# Style B	Price Each
4	1/2	1-1/4 to 1-1/2	HST412A	HST412B	76.32
4	3/4	1-5/8 to 2	HST434A	HST434B	89.04
4	1	2-1/8 to 2-3/4	HST41A	HST41B	94.43
4	1-1/4	3 to 3-1/2	HST4114A	HST4114B	104.16
4	1-1/2	4 to 5	HST4112A	HST4112B	110.25
4	2	5-1/2 to 6	HST42A	—	141.10
5	1	2-1/8 to 2-3/4	HST51A	HST51B	122.29
5	1-1/4	3 to 3-1/2	HST5114A	HST5114B	124.99
5	1-1/2	4 to 5	HST5112A	HST5112B	137.34

Threads for Drawbar	M.T. #2 3/8" -16	M.T. #4 5/8" -11	M.T. #6 1" -10
	M.T. #3 1/3" -13	M.T. #5 3/4" -10	

Morse Taper No.	Bore	Dia. Range of Standard Shell End Mill	Part# Style A	Price Each
5	2	5-1/2 to 6	HST5126A	182.00
6	1	2-1/8 to 2-3/4	HST61A	184.10
6	1-1/4	3 to 3-1/2	HST6114A	198.80
6	1-1/2	4 to 5	HST6112A	233.17
6	2	5-1/2 to 6	HST62A	275.80
6	2-1/2	6-1/2 to larger	HST6212A	382.20
7	1-1/2	4 to 5	HST7112A	615.30
7	2	5-1/2 to 6	HST72A	679.00
7	2-1/2	6-1/2 to larger	HST7212A	757.40

## Brown & Sharpe Style "A" Tanged

Style "B" Threaded for Draw Bar

B&S Taper	Bore	Dia. Range of Standard Shell End Mill	Part# Style A	Part# Style B	Price Each
7	1/2	1-1/4 to 1-1/2	HST712A	HST712B	62.40
7	3/4	1-5/8 to 2	HST734A	HST734B	54.60
7	1	2-1/8 to 2-3/4	HST71A	HST71B	57.40
9	1/2	1-1/4 to 1-1/2	HST912A	HST912B	61.60
9	3/4	1-5/8 to 2	HST934A	HST934B	61.60
9	1	2-1/8 to 2-3/4	HST91A	HST91B	63.00
9	1-1/4	3 to 3-1/2	HST9114A	HST9114B	64.40
9	1-1/2	4 to 5	HST9112A	HST9112B	66.50
9	2	5-1/2 to 6	HST92A	HST92B	79.10
10	1/2	1-1/4 to 1-1/2	HST1012A	HST1012B	68.60
10	3/4	1-5/8 to 2	HST1034A	HST1034B	69.30
10	1	2-1/8 to 2-3/4	HST101A	HST101B	74.90

Threads for Drawbar	B&S #7 3/8" -16	B&S #10 5/8" -11	B&S #12 3/4" -10
	B&S #9 1/2" -13	B&S #11 5/8" -11	

B&S Taper	Bore	Dia. Range of Standard Shell End Mill	Part# Style A	Part# Style B	Price Each
10	1-1/4	3 to 3-1/2	HST10114A	HST10114B	77.70
10	1-1/2	4 to 5	HST10112A	HST10112B	85.40
10	2	5-1/2 to 6	HST102A	HST102B	88.90
11	1/2	1-1/4 to 1-1/2	HST1112A	HST1112B	82.60
11	3/4	1-5/8 to 2	HST1134A	HST1134B	87.50
11	1	2-1/8 to 2-3/4	HST111A	HST111B	91.00
11	1-1/4	3 to 3-1/2	HST11114A	HST11114B	95.90
11	1-1/2	4 to 5	HST11112A	HST11112B	123.20
11	2	5-1/2 to 6	HST112A	HST112B	133.70
12	1-1/4	3 to 3-1/2	HST114A	HST114B	465.60
12	1-1/2	4 to 5	HST12112A	HST12112B	499.20
12	2	5-1/2 to 6	HST2A	HST2B	532.80

## NST / NMTB Shank

These arbors are made of alloy forged steel for a more durable service life.

NST Shank	Diameter of Bore	Diameter Range of Shell End Mill	Tool No.	Price Each
30	1/2	1-1/4 to 1-1/2	HS3012	94.64
30	3/4	1-5/8 to 2	HS3034	94.64
30	1	2-1/8 to 2-3/4	HS301	94.64
30	1-1/4	3 to 3-1/2	HS30114	94.64
40	1/2	1-1/4 to 1-1/2	HS4012	128.70
40	3/4	1-5/8 to 2	HS4034	128.70
40	1	2-1/8 to 2-3/4	HS401	128.70
40	1-1/4	3 to 3-1/2	HS40114	128.70
40	1-1/2	4 to 5	HS40112	128.70

NST Shank	Diameter of Bore	Diameter Range of Shell End Mill	Tool No.	Price Each
40	2	5-1/2 to 6	HS402	128.70
50	1/2	1-1/4 to 1-1/2	HS5012	193.70
50	3/4	1-5/8 to 2	HS5034	193.70
50	1	2-1/8 to 2-3/4	HS501	193.70
50	1-1/4	3 to 3-1/2	HS50114	193.70
50	1-1/2	4 to 5	HS50112	193.70
50	2	5-1/2 to 6	HS502	193.70
50	2-1/2	6-1/2 and larger	HS50212	299.00



## Straight Shank

Hardened and Ground



Dia of Shank	Bore Dia	Dia Range Standard	Part#	Price Each
1/2	1/2	1-1/4 to 1-1/2	HSS1212	62.92
1/2	3/4	1-5/8 to 2	HSS1234	65.94
3/4	3/4	1-5/8 to 2	HSS3434	65.94
3/4	1	2-1/8 to 2-3/4	HSS341	71.96
3/4	1-1/4	3 to 3-1/2	HSS34114	75.56

## With R8 Shank

Bore	Dia. Range of Standard Shell	Tool No.	Price Each
1/2	1-1/4 to 1-1/2	R8S12	71.18
3/4	1-5/8 to 2	R8S34	71.18
1	2-1/4 to 2-3/4	R8S1	76.38
1-1/4	3 to 3-1/2	R8S114	76.38
1-1/2	4 to 5	R8S112	102.38



## Sets

Size	Pcs.	Set No.	Price
1/2, 3/4, 1", 1-1/4, 1-1/2	5	R8 Shell	299.00

Supplied in wood block

# End Mill Holder & Milling Adapters



Style "A" Tanged



Style "B" Threaded for draw bar

## Morse Taper

Style "A" Tanged

Style "B" Threaded for draw bar

Morse Taper	Bore	Tool No. Tanged A	Tool No. Threaded B	Price Each
2	3/16	HM2316A	HM2316B	73.85
2	3/8	HM238A	HM238B	73.85
2	1/2	HM212A	HM212B	73.85
2	5/8	HM258A	HM258B	83.50
3	3/16	HM3316A	HM3316B	74.70
3	3/8	HM338A	HM338B	74.70
3	1/2	HM312A	HM312B	74.70
3	5/8	HM358A	HM358B	76.55
3	3/4	HM334A	HM334B	76.55
4	3/16	HM4316A	HM4316B	82.80
4	3/8	HM438A	HM438B	82.80
4	1/2	HM412A	HM412B	82.80
4	5/8	HM458A	HM458B	92.10
4	3/4	HM434A	HM434B	92.10
4	7/8	HM478A	HM478B	110.20
4	1	HM41A	HM41B	114.75

Morse Taper	Bore	Tool No. Tanged A	Tool No. Threaded B	Price Each
5	3/16	HM5316A	HM5316B	114.75
5	3/8	HM538A	HM538B	114.75
5	1/2	HM512A	HM512B	114.75
5	5/8	HM558A	HM558B	123.85
5	3/4	HM534A	HM534B	131.00
5	7/8	HM578A	HM578B	148.00
5	1	HM51A	HM51B	140.00
5	1-1/4	HM114A	HM114B	155.00
5	1-1/2	HM112A	HM112B	169.00
5	2	HM52A	HM52B	190.00
6	1	HM61A	—	164.00
6	1-1/4	HM6114A	—	278.00
6	1-1/2	HM6112A	—	332.00
6	2	HM62A	—	557.00
7	2	HM72A	—	630.00
7	2-1/2	HM7212A	—	730.00

## Brown & Sharpe

Style "A" Tanged

Style "B" Threaded for draw bar

B&S Taper	Bore	Tool No. Tanged A	Tool No. Threaded B	Price Each
7	3/16	HB7316A	HB7316B	81.20
7	1/4	HB714A	HB714B	81.20
7	3/8	HB738A	HB738B	81.20
7	1/2	HB712A	HB712B	81.20
7	5/8	HB758A	HB758B	89.60
7	3/4	HB734A	HB734B	99.40
9	3/16	HB9316A	HB9316B	114.80
9	3/8	HB938A	HB938B	114.80
9	1/2	HB912A	HB912B	114.80
9	5/8	HB958A	HB958B	114.80
9	3/4	HB934A	HB934B	114.80
9	7/8	HB978A	HB978B	126.00
9	1	HB91A	HB91B	130.20
9	1-1/4	HB9114A	HB9114B	144.20
10	3/16	HB10316A	HB10316B	147.00
10	3/8	HB1038A	HB1038B	147.00
10	1/2	HB1012A	HB1012B	147.00
10	5/8	HB1058A	HB1058B	154.00
10	3/4	HB1034A	HB1034B	155.40

Threads for Drawbar	B&S #7 3/8" -16	B&S #10 5/8" -11	B&S #12 3/4" -10
	B&S #9 1/2" -13	B&S #11 5/8" -11	

B&S Taper	Bore	Tool No. Tanged A	Tool No. Threaded B	Price Each
10	7/8	HB1078A	HB1078B	158.20
10	1	HB101A	HB101B	168.00
10	1-1/4	HB10114A	HB10114B	172.20
11	3/8	HB1138A	HB1138B	186.20
11	1/2	HB1112A	HB1112B	186.20
11	5/8	HB1158A	HB1158B	193.20
11	3/4	HB1134A	HB1134B	197.40
11	7/8	HB1178A	HB1178B	201.60
11	1	HB111A	HB111B	201.60
11	1-1/4	HB11114A	HB11114B	207.20
12	3/8	HB1238A	HB1238B	246.40
12	1/2	HB1212A	HB1212B	246.40
12	5/8	HB1258A	HB1258B	253.40
12	3/4	HB1234A	HB1234B	261.80
12	7/8	HB1278A	HB1278B	267.40
12	1	HB121A	HB121B	267.40
12	1-1/4	HB12114A	—	274.40
12	1-1/2	HB12112A	HB12112B	331.80
12	2	HB122A	HB122B	359.80

## Milling Machine Adapters

Hardened and Ground

For changing from National Standard Taper to Morse Taper



Outside Taper	Inside Taper	Open End Type Tool No.	Draw End Type Tool No.	Price Each
30	2	—	HPD30-2	99.00
30	3	—	HPD30-3	99.00
40	2	HP40-2	HPD40-2	102.70
40	3	HP40-3	HPD40-3	102.70
40	4	HP40-4	HPD40-4	102.70
40	5	HP40-5	HPD40-5	128.06
50	2	HP50-2	HPD50-2	143.00
50	3	HP50-3	HPD50-3	143.00
50	4	HP50-4	HPD50-4	143.00
50	5	HP50-5	HPD50-5	187.20

## R-8 Milling Machine Adapters

National Standard Taper Adapters

Inside Taper	Outside Taper	Tool No.	Price Each
R-8	40	R8N40	139.10
R-8	50	R8N50	166.40

For changing a larger National Standard Taper to a smaller one.

Outside Taper	Inside Taper	Reducing Type Tool No.	Price Each
40	30	HR40-30	156.09
50	30	HR50-30	168.64
50	40	HR50-40	168.64



# NMTB Quick Change Tooling

Hardened and Ground Throughout



## End Mill Taper Adapters

Diameter of Hole	No. 30 Taper		No. 40 Taper	
	Tool No.	Price Each	Tool No.	Price Each
3/16	QCE3-187	119.77	QCE4-187	142.86
3/8	QCE3-375	119.77	QCE4-375	134.93
1/2	QCE3-500	119.77	QCE4-500	134.93
5/8	QCE3-625	129.87	QCE4-625	139.97
3/4	QCE3-750	129.87	QCE4-750	139.97
7/8	QCE3-875	135.64	QCE4-875	151.52
1	QCE3-1000	141.41	QCE4-1000	170.27
1-1/4	QCE3-1250	155.84	QCE4-1250	184.70

Replacement screws are available. Please Inquire.

Allows quick and easy change between different tools while ensuring the tool or tool holder will be tightly and rigidly connected to the spindle, and accurately coaxial with it.



## Shell & Facemill Adapters

Pilot Diameter	No. 30 Taper		No. 40 Taper	
	Tool No.	Price Each	Tool No.	Price Each
1/2	QCS3-500	147.19	QCS4-500	157.29
3/4	QCS3-750	152.96	QCS4-750	163.18
1	QCS3-1000	154.40	QCS4-1000	191.92
1-1/4	QCS3-1250	191.92	QCS4-1250	191.92
1-1/2	QCS3-1500	202.02	QCS4-1500	213.56

Replacement screws and arbor keys are available. Please Inquire.

# CAT V-Flange Precision CNC End Mill Holders

Thread Size:  
CAT40 5/8"-11  
CAT50 1"-8

**MDX**  
SUPERIOR IMPORT



Taper	Bore	Gage Depth	Nose Dia	Tool No.	Price Each
40	1/8	2-1/2	3/4	J987049	121.42
40	3/16	2-1/2	3/4	J987050	121.42
40	1/4	2-1/2	13/16	J987050A	117.91
40	1/4	4-1/2	13/16	J987050B	117.91
40	5/16	2-1/2	7/8	J987050C	107.71
40	3/8	2-1/2	1	J987051	110.06
40	3/8	5	1	J987051A	122.66
40	7/16	2-1/2	1-1/8	J987051B	107.71
40	1/2	2-1/2	1-1/4	J987052	110.83
40	1/2	5	1-1/4	J987052B	122.66
40	5/8	3-3/4	1-3/4	J987053	116.61
40	5/8	5-1/2	1-3/4	J987053A	123.76
40	3/4	3-3/4	1-3/4	J987054	116.61
40	3/4	5-1/2	1-3/4	J987054A	123.76
40	7/8	4	2-3/64	J987055	124.93
40	1	4	2-1/2	J987056	129.55
40	1-1/4	4-3/8	2-3/4	J987057	131.24
40	1-1/4	6	2-3/4	J987057A	149.89
40	1-1/2	4-5/8	3-9/64	J987058	170.04
40	1-1/2	6	3-9/64	J987058A	194.09

Taper	Bore	Gage Depth	Nose Dia	Tool No.	Price Each
50	1/4	2-1/2	7/8	J987058B	170.57
50	3/8	2-1/2	1-1/4	J987059	170.57
50	3/8	4-1/2	1-1/4	J987060	175.37
50	3/8	6-1/2	1-1/4	J987061	198.64
50	1/2	2-5/8	1-3/4	J987062	155.35
50	1/2	4-5/8	1-3/4	J987063	186.88
50	1/2	6-5/8	1-3/4	J987064	198.51
50	5/8	3-3/4	1-3/4	J987065	169.56
50	5/8	5-3/4	1-3/4	J987066	191.10
50	5/8	7-3/4	1-3/4	J987067	202.41
50	3/4	3-3/4	1-3/4	J987068	170.17
50	3/4	5-3/4	1-3/4	J987069	191.62
50	3/4	7-3/4	1-3/4	J987070	202.93
50	7/8	3-3/4	2-3/64	J987071	173.55
50	1	4	2-31/64	J987074	172.25
50	1	6	2-31/64	J987075	215.61
50	1	8	2-31/64	J987076	216.06
50	1-1/4	4	2-3/4	J987077	161.95
50	1-1/2	4	3-9/64	J987080	220.09
50	1-1/2	6	3-9/64	J987081	250.00

# BT Flange Precision CNC End Mill Holders

**MDX**  
SUPERIOR IMPORT



Taper	Bore	Gage Depth	Nose Dia	Tool No.	Price Each
40	1/8	2-1/2	3/4	J087099	139.63
40	3/16	2-1/2	3/4	J987100	139.63
40	1/4	4	3/4	J987101	135.60
40	5/16	2-1/2	7/8	J987102	123.87
40	3/8	2-1/2	1-1/8	J987103	126.57
40	3/8	4	1-1/8	J987104	141.06
40	1/2	2-1/2	1-1/2	J987105	127.45
40	1/2	4	1-1/2	J987106	141.06
40	5/8	3	1-1/2	J987107	134.10
40	5/8	4	1-1/2	J987108	142.32
40	3/4	3	1-3/4	J987109	134.10
40	3/4	4	1-3/4	J987110	142.32

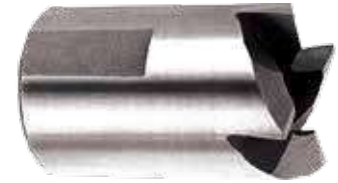
Taper	Bore	Gage Depth	Nose Dia	Tool No.	Price Each
40	7/8	3-1/2	1-7/8	J987111	143.67
40	1	2	2-1/4	J987112	148.98
40	1	4	2-3/8	J987113	152.43
50	1/4	2-1/2	13/16	J987114A	196.16
50	3/8	2-1/2	1	J987114	196.16
50	1/2	3	1-1/4	J987115	196.16
50	5/8	3	1-1/2	J987116	219.77
50	3/4	3	1-3/4	J987117	220.36
50	1	4	2-3/8	J987118	198.09
50	1-1/4	4	2-1/2	J987119	186.24
50	1-1/2	4	2-1/2	J987120	253.10
50	2	5	3-3/4	J987121	287.50

# Hollow Mills

High Speed Steel



**MDX**  
SUPERIOR IMPORT



END MILLS

## #1 Three Flute

1-1/8" Overall Length

1/2" Outside Diameter

1/2" Shank Diameter

Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each
1/16	HM196-104	79.13	9/64	HM196-109	79.13	7/32	HM196-114	79.13
5/64	HM196-105	116.47	5/32	HM196-110	79.13	15/64	HM196-115	101.94
3/32	HM196-106	79.13	11/64	HM196-111	79.13	1/4	HM196-116	101.94
7/64	HM196-107	79.13	3/16	HM196-112	79.13			
1/8	HM196-108	79.13	13/64	HM196-113	79.13			

## #2 Three Flute

1-3/4" Overall Length

3/4" Outside Diameter

5/8" Shank Diameter

Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each
1/8	HM196-208	92.69	7/32	HM196-214	92.69	5/16	HM196-220	110.69
9/64	HM196-209	92.69	15/64	HM196-215	92.69	21/64	HM196-221	110.69
5/32	HM196-210	92.69	1/4	HM196-216	92.69	11/32	HM196-222	110.69
11/64	HM196-211	92.69	17/64	HM196-217	92.69	23/64	HM196-223	110.69
3/16	HM196-212	92.69	9/32	HM196-218	92.69	3/8	HM196-224	110.69
13/64	HM196-213	92.69	19/64	HM196-219	92.69			

## #3 Three Flute

2-1/8" Overall Length

1" Outside Diameter

1" Shank Diameter

Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each
1/4	HM196-316	124.28	3/8	HM196-324	124.28
5/16	HM196-320	124.28	1/2	HM196-332	133.39

## #4 Three Flute

2-1/4" Overall Length

1-1/4" Outside Diameter

1" Shank Diameter

Size ID	Tool No.	Price Each	Size ID	Tool No.	Price Each
15/32	HM196-430	153.39	5/8	HM196-440	153.39
1/2	HM196-432	153.39	11/16	HM196-444	153.39
9/16	HM196-436	153.39	3/4	HM196-448	203.36
19/32	HM196-438	153.39			

## Four Flute For Milling Steel

Size ID	Shank Diameter	Overall Length	Tool No.	Price Each	Size ID	Shank Diameter	Overall Length	Tool No.	Price Each
3/32*	5/8	1-1/2	HM196-450	94.76	5/8	1-1/4	2	HM196-476	128.00
1/8*	5/8	1-1/2	HM196-452	90.20	11/16	1-1/2	2	HM196-478	157.18
5/32*	5/8	1-1/2	HM196-454	85.90	3/4	1-1/2	2	HM196-480	157.18
7/32*	5/8	1-1/2	HM196-458	83.07	13/16	1-1/2	2	HM196-482	204.23
1/4*	5/8	1-1/2	HM196-460	89.96	7/8	1-3/4	2-1/4	HM196-484	204.23
11/32	3/4	1-1/2	HM196-466	89.96	15/16	1-3/4	2-1/4	HM196-486	212.59
9/16	1-1/4	2	HM196-474	128.00	1"	1-3/4	2-1/4	HM196-488	212.59

\* Three flute

# Taper Shank End Mills

High Speed Steel



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS

END MILLS

## Morse Taper Shank – Multi Flute

List No. 205TS

Size	Morse Taper Shank	Flute Length	Overall Length	No. of Flute	Price Each
1/4	#1	5/8	3-1/2	2	65.73
1/4	#1	5/8	3-1/2	4	65.73
1/4LH	#1	5/8	3-1/2	4	65.73
9/32	#1	3/4	4	2	67.20
5/16	#1	11/16	3-9/16	4	69.54
7/16	#1	7/8	3-3/4	4	64.84
1/2	#1	15/16	3-13/16	4	64.84
1/2	#2	15/16	4-7/16	4	78.07



Size	Morse Taper Shank	Flute Length	Overall Length	No. of Flute	Price Each
1/2	#3	2-1/2	7	4	81.92
5/8	#2	1-1/8	4-5/8	2	83.04
5/8	#2	1-1/8	4-5/8	4	80.00
3/4	#2	1-1/4	4-3/4	4	91.40
1-1/4DB	#3	3-1/8	7	6	210.99
1-1/2	#3	2	6	6	232.00
1-7/8	#5	2-1/2	9	6	320.00

DB: Drawbar LH: Left hand

## Brown & Sharpe – Multi Flute

List No. 205BS

Size	Brown & Sharpe	Flute Length	Overall Length	No. of Flute	Price Each
1/4	#5	5/8	2-13/16	4	52.00
7/16	#5	7/8	3-1/16	4	65.25
1/2	#5	15/16	3-1/8	4	65.25
1/2	#7	15/16	4-15/16	4	86.91
5/8	#7	1-1/8	5-1/8	4	91.80
3/4DB	#7	1-1/4	5-1/4	4	92.14
7/8	#7	1-7/16	5-7/16	4	105.94
1-1/8DB	#9	1-3/4	7	6	167.52
1-1/4DB	#9	2	7-1/2	6	189.77



Size	Brown & Sharpe	Flute Length	Overall Length	No. of Flute	Price Each
1-3/8	#9	2	7	6	233.60
1-1/2DB	#9	2-1/4	7-1/2	6	277.39
1-3/4	#9	2-1/2	7-3/4	6	354.43
1-3/4LH	#9	2-3/4	8	6	305.12
1-3/4DB	#10	2-1/2	8	8	318.40
1-3/4	#10	2-3/4	10	6	318.40
2	#10	2-3/4	8	8	360.00
2DB	#12	6	14	6	400.00
2-1/2DB	#12	6	14	6	440.00

DB: Drawbar LH: Left hand

## Brown & Sharpe – Two Flute

List No. 231BS

Size	Brown & Sharpe	Flute Length	Overall Length	No. of Flute	Price Each
1/4	#7	3/8	4-3/8	2	88.78
5/16	#7	15/32	4-15/32	2	88.78
3/8LH*	#7	9/16	4-9/16	2	80.00
7/16	#7	21/32	4-21/32	2	90.58
1/2	#7	3/4	4-3/4	2	87.77



Size	Brown & Sharpe	Flute Length	Overall Length	No. of Flute	Price Each
5/8	#7	15/16	4-15/16	2	93.17
3/4	#7	1-1/8	5-1/8	2	96.63
7/8	#7	1-5/16	5-5/16	2	127.09
1	#9	1-1/2	6-3/4	2	166.10
1LH**	#9	1-1/2	6-3/4	2	184.00

\*LH: Spiral

\*\*LH: Left hand Cut

# ProductionMax™

## Solid Carbide End Mills 45° Helix for Aluminum



MADE IN USA



MICHIGAN DRILL & CUTTING TOOLS



List No. KS9245 – 2-Flute, Solid Carbide

- For slotting & production at high speeds
- For aluminum and other non-ferrous materials

Size	Flute Length	Overall Length	Price Each
1/8	1/4	1-1/2	31.58
1/8	1/2	1-1/2	34.78
3/16	5/16	2	43.51
3/16	9/16	2	48.61
1/4	3/8	2-1/2	58.63
1/4	3/4	2-1/2	65.27
1/4	1-1/8	3	92.99
1/4	1-1/2	4	101.58
5/16	7/16	2-1/2	63.50
5/16	13/16	2-1/2	70.53
5/16	1-1/8	3	106.48
5/16	1-5/8	4	154.42

Size	Flute Length	Overall Length	Price Each
3/8	1/2	2-1/2	74.03
3/8	1	2-1/2	81.76
3/8	1-1/8	3	115.28
3/8	1-3/4	4	156.16
7/16	9/16	2-3/4	104.72
7/16	1	2-3/4	117.20
7/16	2	4	181.27
7/16	3	6	250.12
1/2	5/8	3	119.30
1/2	1-1/4	3	132.47
1/2	2	4	208.80
1/2	3	6	349.86

Size	Flute Length	Overall Length	Price Each
5/8	3/4	3-1/2	228.09
5/8	1-5/8	3-1/2	253.34
5/8	2-1/4	5	383.71
5/8	3	6	555.13
3/4	1	4	320.00
3/4	1-5/8	4	355.46
3/4	2-1/4	5	486.64
3/4	3	6	547.76
1	1-1/4	4	580.75
1	2	4	642.50
1	2-1/4	5	731.98
1	3	6	770.22



# Carbide Tipped End Mills



**MICHIGAN**  
DRILL & CUTTING TOOLS

END MILLS

## Two Flute – Straight Flute

List No. **CT231** – Non Ferrous Materials



Diameter of Cut	Shank Diameter	C2 Carbide Tip Length	Overall Length	Price Each
1/4	3/8	1/2	2-1/2	59.61
5/16	3/8	5/8	2-1/2	61.93
3/8	3/8	5/8	2-1/2	66.31
7/16	3/8	1	2-11/16	66.31
1/2	1/2	1	3-1/4	72.04
9/16	1/2	1	3-3/8	75.22
5/8	1/2	1	3-3/8	75.22
11/16	5/8	1	3-3/8	81.38

Diameter of Cut	Shank Diameter	C2 Carbide Tip Length	Overall Length	Price Each
3/4	5/8	1	3-5/8	84.40
13/16	5/8	1	3-5/8	102.76
7/8	5/8	1-1/4	4	102.76
15/16	7/8	1-1/4	4	109.97
1	7/8	1-1/4	4	110.32
1-1/8	1	1-1/4	4	129.95
1-1/4	1	1-1/4	4-1/4	146.04
1-1/2	1-1/4	1-1/2	4-1/2	188.30

## Multiple Flute – Straight Flute

List No. **CT205S** – For Iron



Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
1/4	3/8	4	1/2	2-1/2	60.16
5/16	3/8	4	5/8	2-1/2	64.23
3/8	3/8	4	5/8	2-1/2	67.72
7/16	3/8	4	1	2-11/16	67.72
1/2	1/2	4	1	3-1/4	69.36
9/16	1/2	4	1	3-3/8	77.90
5/8	1/2	4	1	3-3/8	77.90
5/8	5/8	4	1	3-3/8	77.90
11/16	5/8	4	1	3-3/8	87.08
3/4	5/8	4	1	3-5/8	83.92
7/8	5/8	4	1-1/4	4	99.14

Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
7/8	3/4	4	1-1/4	4	99.14
1	7/8	4	1-1/4	4	114.56
1-1/8	1	4	1-1/4	4-1/4	129.95
1-1/4	1	4	1-1/4	4-1/4	146.04
1-1/2	1-1/4	4	1-1/2	4-1/2	235.00
1-1/2	1-1/4	6	2	4-1/2	196.00
1-3/4	1-1/4	6	1-1/2	4-1/2	242.73
2	1-1/4	6	1-1/2	4-1/2	279.22
2	2	6	2-1/2	6-1/4	260.00
2-1/2	1-1/4	6	1-1/2	4-1/2	279.22
2-1/2	2	8	3	6-3/4	355.00

## Right Hand Spiral

List No. **CT205** – For Ferrous Materials



Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
1/4	3/8	2	1/2	2-1/2	62.07
5/16	3/8	2	5/8	2-1/2	64.37
3/8	3/8	2	5/8	2-1/2	68.90
7/16	3/8	2	1	2-11/16	68.90
1/2	1/2	2	1	3-1/4	70.69
9/16	1/2	2	1	3-3/8	78.26
5/8	1/2	4	1	3-3/8	81.30

Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
3/4	5/8	4	1	3-5/8	92.89
7/8	5/8	4	1-1/4	4	112.86
7/8	7/8	4	1-1/4	4	112.86
1-1/8	1	4	1-1/4	4-1/4	162.68
1-1/4	1	4	1-1/4	4-1/4	182.88
1-1/2	1-1/4	4	1-1/2	4-1/2	226.46
1-3/4	1-1/4	8	1-1/2	4-1/2	265.00

## Left Hand Spiral

List No. **CT205L** – For Hardened Steel



Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
1/4	3/8	2	1/2	2-1/2	70.54
5/16	3/8	2	5/8	2-1/2	76.03
3/8	3/8	2	5/8	2-1/2	80.64
7/16	3/8	2	1	2-11/16	80.64
1/2	1/2	4	1	3-1/4	86.87
9/16	1/2	4	1	3-3/8	93.33
5/8	1/2	4	1	3-3/8	112.19
3/4	5/8	4	1	3-5/8	128.38

Diameter of Cut	Shank Diameter	No. of Flutes	C2 Carbide Tip Length	Overall Length	Price Each
7/8	5/8	4	1-1/4	4	154.59
7/8	3/4	4	1-1/4	4	154.59
1	7/8	6	1-1/4	4	177.75
1-1/8	1	6	1-1/4	4-1/4	188.52
1-1/4	1	6	1-1/4	4-1/4	227.87
1-1/2	1-1/4	6	1-1/2	4-1/2	277.18
1-3/4	1-1/4	8	1-1/2	4-1/2	333.78
2	1-1/4	8	1-1/2	4-1/2	372.59

# Solid Carbide End Mills

MicroGrain – Center Cutting



END MILLS

## Regular Length

- List No. **KS92** – 2-Flute
- List No. **KS93** – 3-Flute
- List No. **KS94** – 4-Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
				2-Flute <b>KS92</b> 3-Flute <b>KS93</b> 4-Flute <b>KS94</b>
1/64	1/8	1/32	1-1/2	17.55
1/32	1/8	5/64	1-1/2	13.28
3/64	1/8	7/64	1-1/2	13.28
1/16	1/8	3/16	1-1/2	10.89
5/64	1/8	3/16	1-1/2	11.70
3/32	1/8	9/32	1-1/2	10.89
7/64	1/8	3/8	1-1/2	11.70
1/8	1/8	1/2	1-1/2	10.89
9/64	3/16	1/2	2	15.35
5/32	3/16	1/2	2	14.99
11/64	3/16	5/8	2	15.35
3/16	3/16	5/8	2	15.35
13/64	1/4	5/8	2-1/2	18.81
7/32	1/4	5/8	2-1/2	18.81
15/64	1/4	3/4	2-1/2	20.30
1/4	1/4	3/4	2-1/2	19.76
17/64	5/16	3/4	2-1/2	24.12
9/32	5/16	3/4	2-1/2	22.68
19/64	5/16	13/16	2-1/2	24.12
5/16	5/16	13/16	2-1/2	22.28
21/64	3/8	7/8	2-1/2	31.68
11/32	3/8	7/8	2-1/2	29.70
23/64	3/8	7/8	2-1/2	31.68
3/8	3/8	7/8	2-1/2	28.80
25/64	7/16	7/8	2-1/2	45.90
13/32	7/16	7/8	2-1/2	28.80
27/64	7/16	7/8	2-1/2	45.90
7/16	7/16	1	2-3/4	41.40
29/64	1/2	1	3	55.25
15/32	1/2	1	3	53.10
31/64	1/2	1	3	55.25
1/2	1/2	1	3	48.06

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
				2-Flute <b>KS92</b> 3-Flute <b>KS93</b> 4-Flute <b>KS94</b>
33/64	9/16	1-1/4	3-1/2	101.34
17/32	9/16	1-1/4	3-1/2	100.62
35/64	9/16	1-1/4	3-1/2	95.40
9/16	9/16	1-1/4	3-1/2	88.20
37/64	5/8	1-1/4	3-1/2	104.76
19/32	5/8	1-1/4	3-1/2	100.80
39/64	5/8	1-1/4	3-1/2	97.20
5/8	5/8	1-1/4	3-1/2	91.80
41/64	3/4	1-1/2	4	154.30
21/32	3/4	1-1/2	4	153.00
43/64	3/4	1-1/2	4	151.20
11/16	3/4	1-1/2	4	133.20
45/64	3/4	1-1/2	4	142.20
23/32	3/4	1-1/2	4	142.20
47/64	3/4	1-1/2	4	142.20
3/4	3/4	1-1/2	4	127.80
49/64	7/8	1-1/2	4	257.40
25/32	7/8	1-1/2	4	257.40
51/64	7/8	1-1/2	4	257.40
13/16	7/8	1-1/2	4	257.40
53/64	7/8	1-1/2	4	249.48
27/32	7/8	1-1/2	4	249.48
55/64	7/8	1-1/2	4	249.48
7/8	7/8	1-1/2	4	226.80
57/64	1	1-1/2	4	264.96
29/32	1	1-1/2	4	264.96
59/64	1	1-1/2	4	264.96
15/16	1	1-1/2	4	253.44
61/64	1	1-1/2	4	253.44
31/32	1	1-1/2	4	253.44
63/64	1	1-1/2	4	253.44
1	1	1-1/2	4	230.40

## Sets

Size	Pcs.	Description	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide, 2-Flute	<b>KS92S</b>	153.13
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide, 3-Flute	<b>KS93S</b>	153.13
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide, 4-Flute	<b>KS94S</b>	153.13

All sets are supplied in wood case



## Stub Length

- List No. **KSST92** – 2-Flute
- List No. **KSST93** – 3-Flute
- List No. **KSST94** – 4-Flute
- List No. **KSSTA92** – AITiN Coated 2-Flute
- List No. **KSSTA93** – AITiN Coated 3-Flute
- List No. **KSSTA94** – AITiN Coated 4-Flute



Diameter of Cut	Length of Cut	Overall Length	Price Each	
			Uncoated	AITiN Coated
			2FL <b>KSST92</b> 3FL <b>KSST93</b> 4FL <b>KSST94</b>	2FL <b>KSSTA92</b> 3FL <b>KSSTA93</b> 4FL <b>KSSTA94</b>
1/32	1/16	1-1/2	12.00	19.20
3/64	3/32	1-1/2	12.00	19.20
1/16	1/8	1-1/2	9.80	15.68
3/32	3/16	1-1/2	8.95	14.32
1/8	1/4	1-1/2	8.95	14.32
5/32	5/16	2	13.00	20.80
3/16	3/8	2	13.00	20.80
7/32	7/16	2	17.00	27.20

Diameter of Cut	Length of Cut	Overall Length	Price Each	
			Uncoated	AITiN Coated
			2FL <b>KSST92</b> 3FL <b>KSST93</b> 4FL <b>KSST94</b>	2FL <b>KSSTA92</b> 3FL <b>KSSTA93</b> 4FL <b>KSSTA94</b>
1/4	1/2	2	18.00	28.80
5/16	1/2	2	19.00	30.40
3/8	5/8	2	26.00	41.60
7/16	5/8	2-1/2	35.00	56.00
1/2	5/8	2-1/2	43.00	68.80
5/8	3/4	3	85.00	136.00
3/4	1	3	115.00	184.00
1	1	3	219.00	350.40

# Solid Carbide End Mills

MicroGrain – Center Cutting



## Long Length

List No. **KS92L** – 2-Flute  
List No. **KS93L** – 3-Flute  
List No. **KS94L** – 4-Flute

List No. **KST92L** – TiN 2-Flute  
List No. **KST93L** – TiN 3-Flute  
List No. **KST94L** – TiN 4-Flute

List No. **KSA92L** – AlTiN 2-Flute  
List No. **KSA93L** – AlTiN 3-Flute  
List No. **KSA94L** – AlTiN 4-Flute

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each		
				Uncoated	TiN Coated	AlTiN Coated
1/8	1/8	3/4	2-1/4	21.89	28.45	33.29
3/16	3/16	3/4	2-1/4	26.35	36.85	43.25
1/4	1/4	1-1/8	3	35.20	45.76	50.26
5/16	5/16	1-1/8	3	39.27	51.05	55.00
3/8	3/8	1-1/8	3	49.50	64.33	69.00
7/16	7/16	2	4	76.45	99.38	104.00
1/2	1/2	2	4	93.50	121.00	125.00
5/8	5/8	2-1/4	5	192.50	250.00	265.00
3/4	3/4	2-1/4	5	253.88	330.00	350.00
1	1	2-1/4	5	438.90	570.00	585.00



## Extra Long Length

List No. **KS92XL** – 2-Flute  
List No. **KS93XL** – 3-Flute  
List No. **KS94XL** – 4-Flute

List No. **KST92XL** – TiN 2-Flute  
List No. **KST93XL** – TiN 3-Flute  
List No. **KST94XL** – TiN 4-Flute

List No. **KSA92XL** – AlTiN 2-Flute  
List No. **KSA93XL** – AlTiN 3-Flute  
List No. **KSA94XL** – AlTiN 4-Flute

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each		
				Uncoated	TiN Coated	AlTiN Coated
1/8	1/8	1	3	29.15	33.52	41.90
3/16	3/16	1-1/8	3	33.55	37.89	48.22
1/4	1/4	1-1/2	4	41.25	46.85	58.69
5/16	5/16	1-5/8	4	52.69	64.31	75.66
3/8	3/8	1-3/4	4	76.75	84.66	99.60
7/16	7/16	3	6	138.44	151.44	158.44
1/2	1/2	3	6	141.90	156.90	161.20
5/8	5/8	3	6	260.70	275.95	280.70
3/4	3/4	3	6	327.80	342.91	350.00
1	1	3	6	484.00	534.00	572.60



## Extra Extra Long Length

List No. **KS92XXL** – 2-Flute  
List No. **KS93XXL** – 3-Flute  
List No. **KS94XXL** – 4-Flute

List No. **KST92XXL** – TiN 2-Flute  
List No. **KST93XXL** – TiN 3-Flute  
List No. **KST94XXL** – TiN 4-Flute

List No. **KSA92XXL** – AlTiN 2-Flute  
List No. **KSA93XXL** – AlTiN 3-Flute  
List No. **KSA94XXL** – AlTiN 4-Flute

Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each		
				Uncoated	TiN Coated	AlTiN Coated
1/4	1/4	3	6	46.00	53.00	60.70
5/16	5/16	3	6	57.00	64.00	71.00
3/8	3/8	4	7	71.40	80.00	86.40
7/16	7/16	3	6	86.85	92.00	99.81
1/2	1/2	4	7	105.69	112.00	120.37
5/8	5/8	5	8	138.00	180.00	194.00
3/4	3/4	6	9	259.00	270.00	279.00
1	1	7	10	650.70	668.00	680.00

# TiN Coated & AlTiN Coated Solid Carbide End Mills

MicroGrain – Center Cutting

- List No. **KST92** – TiN Coated, 2-Flute
- List No. **KST93** – TiN Coated, 3-Flute
- List No. **KST94** – TiN Coated, 4-Flute
- List No. **KSAT92** – AlTiN Coated, 2-Flute
- List No. **KSAT93** – AlTiN Coated, 3-Flute
- List No. **KSAT94** – AlTiN Coated, 4-Flute



END MILLS

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				TiN Coated KST92 KST93 KST94	AlTiN Coated KSAT92 KSAT93 KSAT94
1/64	1/8	1/32	1-1/2	19.80	—
1/32	1/8	5/64	1-1/2	16.02	17.62
3/64	1/8	7/64	1-1/2	16.02	17.62
1/16	1/8	3/16	1-1/2	14.08	15.49
5/64	1/8	3/16	1-1/2	14.96	16.46
3/32	1/8	9/32	1-1/2	14.08	15.49
7/64	1/8	3/8	1-1/2	14.96	16.46
1/8	1/8	1/2	1-1/2	14.08	15.49
9/64	3/16	1/2	2	17.60	19.36
5/32	3/16	1/2	2	17.42	19.17
11/64	3/16	5/8	2	17.95	19.74
3/16	3/16	5/8	2	17.95	19.74
13/64	1/4	5/8	2-1/2	25.96	28.56
7/32	1/4	5/8	2-1/2	25.96	28.56
15/64	1/4	3/4	2-1/2	27.63	30.39
1/4	1/4	3/4	2-1/2	27.28	30.01
17/64	5/16	3/4	2-1/2	34.32	37.75
9/32	5/16	3/4	2-1/2	33.88	37.27
19/64	5/16	13/16	2-1/2	34.32	37.75
5/16	5/16	13/16	2-1/2	33.18	36.50
21/64	3/8	7/8	2-1/2	40.04	44.05
11/32	3/8	7/8	2-1/2	38.90	42.78
23/64	3/8	7/8	2-1/2	40.04	44.05
3/8	3/8	7/8	2-1/2	39.30	43.22
25/64	7/16	7/8	2-1/2	52.98	58.27
13/32	7/16	1	2-3/4	39.30	43.22
27/64	7/16	7/8	2-1/2	52.98	58.27
7/16	7/16	1	2-3/4	51.92	57.11
29/64	1/2	1	3	65.63	72.19
15/32	1/2	1	3	61.51	67.66
31/64	1/2	1	3	65.63	72.19
1/2	1/2	1	3	57.82	63.60

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				TiN Coated KST92 KST93 KST94	AlTiN Coated KSAT92 KSAT93 KSAT94
33/64	9/16	1-1/4	3-1/2	107.19	117.91
17/32	9/16	1-1/4	3-1/2	104.74	115.22
35/64	9/16	1-1/4	3-1/2	120.33	132.36
9/16	9/16	1-1/4	3-1/2	83.95	92.34
37/64	5/8	1-1/4	3-1/2	103.68	114.05
19/32	5/8	1-1/4	3-1/2	101.32	111.46
39/64	5/8	1-1/4	3-1/2	98.38	108.22
5/8	5/8	1-1/4	3-1/2	82.94	91.24
41/64	3/4	1-1/2	4	147.31	162.04
21/32	3/4	1-1/2	4	145.30	159.82
43/64	3/4	1-1/2	4	143.05	157.35
11/16	3/4	1-1/2	4	137.81	151.59
45/64	3/4	1-1/2	4	135.54	149.09
23/32	3/4	1-1/2	4	134.18	147.59
47/64	3/4	1-1/2	4	133.06	146.36
3/4	3/4	1-1/2	4	119.23	131.15
49/64	7/8	1-1/2	4	229.05	251.95
25/32	7/8	1-1/2	4	227.78	250.55
51/64	7/8	1-1/2	4	226.51	249.16
13/16	7/8	1-1/2	4	224.93	247.42
53/64	7/8	1-1/2	4	226.05	248.66
27/32	7/8	1-1/2	4	225.62	248.18
55/64	7/8	1-1/2	4	224.93	247.42
7/8	7/8	1-1/2	4	202.46	222.71
57/64	1	1-1/2	4	240.57	264.62
29/32	1	1-1/2	4	236.02	259.62
59/64	1	1-1/2	4	232.85	256.14
15/16	1	1-1/2	4	228.10	250.90
61/64	1	1-1/2	4	231.21	254.33
31/32	1	1-1/2	4	229.77	252.74
63/64	1	1-1/2	4	228.10	250.90
1	1	1-1/2	4	205.34	225.88

# Metric Solid Carbide End Mills

MicroGrain – Center Cutting

- List No. **KSM92** – Two Flute
- List No. **KSM93** – Three Flute
- List No. **KSM94** – Four Flute



Diameter of Cut mm	Shank Diameter mm	Length of Cut mm	Overall Length mm	Price Each
1.00	3	4	38	14.74
1.50	3	4.5	38	14.74
2.00	3	6.3	38	14.74
2.50	3	9.5	38	14.74
3.00	3	12	38	14.74
3.50	4	12	50	19.69
4.00	4	14	50	19.69
4.50	5	16	50	21.73
5.00	5	16	50	21.73
6.00	6	19	50	28.38
7.00	8	19	63	36.30

Diameter of Cut mm	Shank Diameter mm	Length of Cut mm	Overall Length mm	Price Each
8.00	8	20	63	40.04
9.00	10	22	75	54.89
10.00	10	22	75	54.89
11.00	11	25	75	62.70
12.00	12	25	75	75.79
14.00	14	32	89	102.96
16.00	16	32	89	118.69
18.00	18	38	100	167.70
20.00	20	38	100	202.29
22.00	25	38	100	293.37
25.00	25	38	100	312.40

# Solid Carbide End Mills

MicroGrain – Center Cutting

Exclusively By

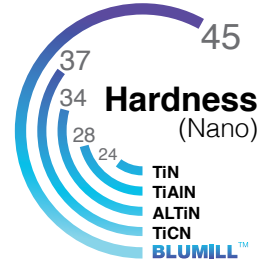
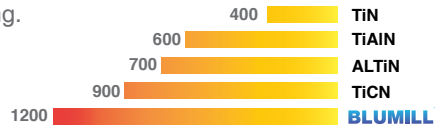


## FINALLY, A COATING THAT STAYS COOL & LASTS LONGER

Characteristics: Universal, especially for drilling, reaming and turning, also for inserts, extended TiTiN with SiN based Nanocomposites

Cutting Application: Hard machining on stable machine, drilling, reaming, and grooving.

**Max Usage Temperature**  
(Celsius)



### Regular Length

List No. **KS92BM** – 2-Flute

List No. **KS93BM** – 3-Flute

List No. **KS94BM**– 4-Flute

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				2-Flute <b>KS92BM</b>	3-Flute <b>KS93BM</b> 4-Flute <b>KS94BM</b>
1/64	1/8	1/32	1-1/2	29.43	
1/32	1/8	5/64	1-1/2	24.22	
3/64	1/8	7/64	1-1/2	24.22	
1/16	1/8	3/16	1-1/2	21.30	
5/64	1/8	3/16	1-1/2	22.63	
3/32	1/8	9/32	1-1/2	21.30	
7/64	1/8	3/8	1-1/2	22.63	
1/8	1/8	1/2	1-1/2	21.30	
9/64	3/16	1/2	2	26.62	
5/32	3/16	1/2	2	26.36	
11/64	3/16	5/8	2	27.15	
3/16	3/16	5/8	2	27.15	
13/64	1/4	5/8	2-1/2	39.27	
7/32	1/4	5/8	2-1/2	39.27	
15/64	1/4	3/4	2-1/2	41.79	
1/4	1/4	3/4	2-1/2	41.26	
17/64	5/16	3/4	2-1/2	51.91	
9/32	5/16	3/4	2-1/2	51.25	
19/64	5/16	13/16	2-1/2	51.91	
5/16	5/16	13/16	2-1/2	50.18	
21/64	3/8	7/8	2-1/2	60.57	
11/32	3/8	7/8	2-1/2	58.83	
23/64	3/8	7/8	2-1/2	60.57	
3/8	3/8	7/8	2-1/2	59.43	
25/64	7/16	7/8	2-1/2	80.12	
13/32	7/16	1	2-3/4	59.43	
27/64	7/16	7/8	2-1/2	80.12	
7/16	7/16	1	2-3/4	78.53	
29/64	1/2	1	3	99.26	
15/32	1/2	1	3	93.04	
31/64	1/2	1	3	99.26	
1/2	1/2	1	3	87.45	

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				2-Flute <b>KS92BM</b>	3-Flute <b>KS93BM</b> 4-Flute <b>KS94BM</b>
33/64	9/16	1-1/4	3-1/2	162.13	
17/32	9/16	1-1/4	3-1/2	158.42	
35/64	9/16	1-1/4	3-1/2	182.00	
9/16	9/16	1-1/4	3-1/2	126.97	
37/64	5/8	1-1/4	3-1/2	156.82	
19/32	5/8	1-1/4	3-1/2	153.25	
39/64	5/8	1-1/4	3-1/2	148.81	
5/8	5/8	1-1/4	3-1/2	125.46	
41/64	3/4	1-1/2	4	222.81	
21/32	3/4	1-1/2	4	219.76	
43/64	3/4	1-1/2	4	216.36	
11/16	3/4	1-1/2	4	208.44	
45/64	3/4	1-1/2	4	205.00	
23/32	3/4	1-1/2	4	202.94	
47/64	3/4	1-1/2	4	201.25	
3/4	3/4	1-1/2	4	180.33	
49/64	7/8	1-1/2	4	346.43	
25/32	7/8	1-1/2	4	344.51	
51/64	7/8	1-1/2	4	342.60	
13/16	7/8	1-1/2	4	340.21	
53/64	7/8	1-1/2	4	341.90	
27/32	7/8	1-1/2	4	341.24	
55/64	7/8	1-1/2	4	340.21	
7/8	7/8	1-1/2	4	306.23	
57/64	1	1-1/2	4	363.86	
29/32	1	1-1/2	4	356.97	
59/64	1	1-1/2	4	352.19	
15/16	1	1-1/2	4	344.99	
61/64	1	1-1/2	4	349.70	
31/32	1	1-1/2	4	347.52	
63/64	1	1-1/2	4	344.99	
1	1	1-1/2	4	310.59	

### Double End, Stub Length

List No. **KD92BM** – Two Flute

List No. **KD93BM** – Three Flute

List No. **KD94BM** – Four Flute

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/32	1/8	1/16	1-1/2	24.36
3/64	1/8	3/32	1-1/2	23.29
1/16	1/8	1/8	1-1/2	22.28
5/64	1/8	1/8	1-1/2	23.29
3/32	1/8	3/16	1-1/2	22.28
7/64	1/8	3/16	1-1/2	23.29
1/8	1/8	1/4	1-1/2	20.85
9/64	3/16	5/16	2	32.86
5/32	3/16	5/16	2	29.12
11/64	3/16	5/16	2	32.86
3/16	3/16	3/8	2	30.00



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
13/64	1/4	1/2	2-1/2	37.00
7/32	1/4	1/2	2-1/2	42.37
1/4	1/4	1/2	2-1/2	50.77
9/32	5/16	1/2	2-1/2	42.37
5/16	5/16	1/2	2-1/2	55.06
3/8	3/8	9/16	2-1/2	55.06
7/16	7/16	5/8	2-3/4	58.27
1/2	1/2	5/8	3	80.78
9/16	9/16	11/16	3-1/2	92.34
5/8	5/8	11/16	3-1/2	138.58
3/4	3/4	7/8	4	176.28



# Solid Carbide Ball End Mills

MicroGrain



END MILLS

## Regular Length

List No. **KB92** – Two Flute  
List No. **KB93** – Three Flute  
List No. **KB94** – Four Flute

List No. **KBT92** – TiN Coated, Two Flute  
List No. **KBT93** – TiN Coated, Three Flute  
List No. **KBT94** – TiN Coated, Four Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Carbide KB92 KB93 KB94	TiN-Carbide KBT92 KBT93 KBT94
1/64	1/8	1/32	1-1/2	20.25	26.95
1/32	1/8	5/64	1-1/2	17.06	21.89
3/64	1/8	9/64	1-1/2	17.06	21.89
1/16	1/8	3/16	1-1/2	13.05	17.05
5/64	1/8	1/4	1-1/2	14.04	18.37
3/32	1/8	3/8	1-1/2	13.05	17.05
7/64	1/8	3/8	1-1/2	14.04	18.37
1/8	1/8	1/2	1-1/2	13.05	17.05
9/64	3/16	1/2	2	19.80	25.85
5/32	3/16	9/16	2	18.00	23.65
11/64	3/16	9/16	2	19.80	25.85
3/16	3/16	5/8	2	18.63	24.75
13/64	1/4	5/8	2-1/2	25.20	33.00
7/32	1/4	5/8	2-1/2	23.49	30.80
15/64	1/4	5/8	2-1/2	26.61	32.60
1/4	1/4	3/4	2-1/2	23.67	30.80
17/64	5/16	3/4	2-1/2	28.05	38.90
9/32	5/16	3/4	2-1/2	25.65	36.30
19/64	5/16	7/8	2-1/2	31.67	36.92
5/16	5/16	13/16	2-1/2	26.64	37.40

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Carbide KB92 KB93 KB94	TiN-Carbide KBT92 KBT93 KBT94
21/64	3/8	7/8	2-1/2	35.67	45.08
11/32	3/8	7/8	2-1/2	36.45	49.50
23/64	3/8	7/8	2-1/2	36.84	49.90
3/8	3/8	7/8	2-1/2	33.84	46.20
25/64	7/16	7/8	2-1/2	54.98	65.25
13/32	7/16	7/8	2-1/2	53.94	65.25
27/64	7/16	7/8	2-1/2	53.94	64.55
7/16	7/16	1	2-3/4	49.73	66.00
29/64	1/2	1	3	59.51	70.78
15/32	1/2	1	3	58.97	70.78
31/64	1/2	1	3	60.89	79.10
1/2*	1/2	1	3	57.69	75.90
9/16	9/16	1-1/8	3-1/2	97.29	129.80
5/8	5/8	1-1/4	3-1/2	134.10	174.90
11/16	3/4	1-3/8	4	161.64	207.90
3/4	3/4	1-1/2	4	161.64	207.90
13/16	13/16	1-1/2	4	322.95	338.10
7/8	7/8	1-1/2	4	267.30	358.60
15/16	15/16	1-1/2	4	316.68	361.90
1	1	1-1/2	4	279.00	361.90

\*Size 1/2" also available in Left Hand - four flute: \$72.45

## Sets

Size	Pcs.	Description	2 Flute		4 Flute	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide	<b>KB92S</b>	178.00	<b>KB94S</b>	178.00

All sets are supplied in wood case

## Long & Extra Long Length

List No. **KB92L** – Two Flute  
List No. **KB94L** – Four Flute  
List No. **KBA92L** – AlTiN Coated, Two Flute  
List No. **KBA94L** – AlTiN Coated, Four Flute

List No. **KB92XL** – Two Flute  
List No. **KB94XL** – Four Flute  
List No. **KBA92XL** – AlTiN Coated, Two Flute  
List No. **KBA94XL** – AlTiN Coated, Four Flute



Dia. of Cut	Shank Dia.	Length of Cut	Overall Length	Price Each		Length of Cut	Overall Length	Price Each	
				Uncoated	AlTiN Coated			Uncoated	AlTiN Coated
1/8	1/8	3/4	2-1/4	32.84	37.68	1	3	36.44	49.19
3/16	3/16	3/4	2-1/4	34.59	40.99	1-1/8	3	41.93	56.60
1/4	1/4	1-1/8	3	48.32	56.92	1-1/2	4	51.56	69.00
5/16	5/16	1-1/8	3	54.27	67.19	1-5/8	4	65.86	88.83
3/8	3/8	1-1/8	3	65.55	78.67	1-3/4	4	92.10	112.10
7/16	7/16	2	4	93.51	109.85	—	—	—	—
1/2	1/2	2	4	113.30	136.74	3	4	170.28	193.95
5/8	5/8	2-1/4	5	234.22	269.42	3	5	299.70	358.84
3/4	3/4	2-1/4	5	311.88	351.96	3	5	376.97	437.52
1	1	2-1/4	5	498.00	550.68	3	5	532.40	621.88

# Decimal Solid Carbide End Mills

MicroGrain – Center Cutting



1/8" Shank – 1-1/2" Overall Length

List No. **KSD92** – Two Flute

List No. **KSD94** – Four Flute



Diameter of Cut	Length of Cut	Price Each
.010	.030	26.95
.015	.045	21.45
.020	.060	20.79
.025	.075	19.53
.030	.090	19.53
.035	.105	19.53
.040	.120	19.53
.045	.135	16.45

Diameter of Cut	Length of Cut	Price Each
.050	.150	16.45
.055	.165	16.45
.060	.180	16.45
.065	.195	16.45
.070	.210	16.45
.075	.225	16.45
.080	.240	16.45
.085	.255	16.45

Diameter of Cut	Length of Cut	Price Each
.090	.270	16.45
.095	.285	16.45
.100	.300	16.45
.105	.315	16.45
.110	.330	16.45
.115	.345	16.45
.120	.360	16.45

# Left Hand Solid Carbide End Mills

MicroGrain – Center Cutting



List No. **KS94LH** – Left Hand Four Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
3/16	3/16	5/8	2	17.20
1/4	1/4	3/4	2-1/2	17.00
5/16	5/16	13/16	2-1/2	23.00
3/8	3/8	1	2-1/2	29.20
7/16	7/16	1	2-3/4	42.00

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/2	1/2	1	3	50.00
5/8	5/8	1-1/4	3-1/2	87.00
3/4	3/4	1-1/2	4	134.00
1	1	1-1/2	4	186.00

# Straight Flute Solid Carbide End Mills

MicroGrain



List No. **KSS92** – Two Flute

List No. **KSS94** – Four Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	1/8	1/2	1-1/2	5.50
5/32	5/32	5/8	2	10.00
3/16	3/16	5/8	2	9.60
1/4	1/4	3/4	2-1/2	12.20
9/32	9/32	13/16	2-1/2	17.50
5/16	5/16	13/16	2-1/2	16.50

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
3/8	3/8	1	2-1/2	20.30
7/16	7/16	1	2-3/4	28.20
1/2	1/2	1	3	34.50
5/8	5/8	1-1/4	3-1/2	76.00
3/4	3/4	1-1/2	4	104.00
1	1	1-1/2	4	166.00

Heavy Duty – Center Cutting

List No. **KSS92HD** – Two Flute

List No. **KBSS92HD** – Ball End, Two Flute

Flute Diameter	Shank Diameter	Length of cut	Overall Length	Price Each	
				Straight End <b>KSS92HD</b>	Ball End <b>KBSS92HD</b>
1/8	1/8	1/2	1-1/2	21.00	24.38
3/16	3/16	5/8	2	27.14	32.00
1/4	1/4	3/4	2-1/2	33.00	39.00
5/16	5/16	13/16	2-1/2	42.57	52.00
3/8	3/8	1	2-1/2	49.00	58.00
1/2	1/2	1	3	73.13	95.00



# Solid Carbide Double End Mills

MicroGrain – Center Cutting



END MILLS

## Regular Length – Weldon Style Shank

List No. **KD82** – 2-Flute  
List No. **KD84** – 4-Flute

List No. **KDA82** – AlTiN 2-Flute  
List No. **KDA84** – AlTiN 4-Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Uncoated	AlTiN Coated
3/32	3/8	5/16	3	40.39	53.89
1/8	3/8	3/8	3-1/16	39.60	53.10
5/32	3/8	7/16	3-1/8	41.86	55.36
3/16	3/8	1/2	3-1/4	43.62	57.12
7/32	3/8	9/16	3-3/8	50.22	63.72
1/4	3/8	5/8	3-3/8	53.57	67.07
5/16	3/8	3/4	3-1/2	64.35	77.85

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Uncoated	AlTiN Coated
11/32	3/8	3/4	3-1/2	69.85	83.35
3/8	3/8	3/4	3-1/2	69.85	83.35
7/16	1/2	7/8	4	109.45	125.20
1/2	1/2	1	4	111.10	125.85
9/16	5/8	1-1/4	5	126.36	153.36
5/8	5/8	1-1/2	6	136.08	163.08
3/4	3/4	1-1/2	6	197.64	224.67

## Sets

Size	Pcs.	Description	2 Flute		4 Flute	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide	<b>KD92S</b>	188.17	<b>KD94S</b>	188.17

All sets are supplied in wood case



## Stub Length

List No. **KD92** – Two Flute

List No. **KD94** – Four Flute

List No. **KDT92** – TiN Coated, Two Flute

List No. **KDT94** – TiN Coated, Four Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Carbide KD92 KD94	TiN-Carbide KDT92 KDT94
1/32	1/8	1/16	1-1/2	15.30	23.65
3/64	1/8	3/32	1-1/2	14.49	22.61
1/16	1/8	1/8	1-1/2	12.87	21.63
5/64	1/8	1/8	1-1/2	14.49	22.61
3/32	1/8	3/16	1-1/2	12.87	21.63
7/64	1/8	3/16	1-1/2	14.49	22.61
1/8	1/8	1/4	1-1/2	12.11	20.24
9/64	3/16	5/16	2	21.33	31.90
5/32	3/16	5/16	2	17.10	28.27
11/64	3/16	5/16	2	21.33	31.90
3/16	3/16	3/8	2	18.18	29.13

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each	
				Carbide KD92 KD94	TiN-Carbide KDT92 KDT94
13/64	1/4	1/2	2-1/2	27.11	46.95
7/32	1/4	1/2	2-1/2	22.50	41.14
15/64	1/4	1/2	2-1/2	25.65	49.29
1/4	1/4	1/2	2-1/2	22.50	41.14
9/32	5/16	1/2	2-1/2	29.25	53.46
5/16	5/16	1/2	2-1/2	30.87	53.46
3/8	3/8	9/16	2-1/2	32.31	56.57
7/16	7/16	5/8	2-3/4	46.58	78.43
1/2	1/2	5/8	3	56.07	89.65
5/8	5/8	11/16	3-1/2	118.32	134.54
3/4	3/4	7/8	4	144.48	171.15

# Solid Carbide Roughing End Mills



## Four Flutes

Cutter Diameter	Shank Diameter	Length of Cut	Overall Length	Tool No.	Price Each
1/4	1/4	3/4	2-1/2	<b>CRSC8-3</b>	35.91
5/16	5/16	3/4	2-1/2	<b>CRSC10-3</b>	42.30
3/8	3/8	1	2-1/2	<b>CRSC12-3</b>	48.60
7/16	7/16	1	3	<b>CRSC14-3</b>	57.60

Cutter Diameter	Shank Diameter	Length of Cut	Overall Length	Tool No.	Price Each
1/2	1/2	1-1/4	3	<b>CRSC16-4</b>	62.01
5/8	5/8	1-5/8	3-1/2	<b>CRSC20-6</b>	102.51
3/4	3/4	1-5/8	4	<b>CRSC24-6</b>	141.21
1	1	1-3/4	4	<b>CRSC32-8</b>	228.60

# Solid Carbide Ball End Mills

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## Double Ball End, Stub Length

List No. **KB82** – Two Flute

List No. **KB84** – Four Flute



Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/32	1/8	1/16	1-1/2	20.70
3/64	1/8	3/32	1-1/2	20.70
1/16	1/8	1/8	1-1/2	15.48
5/64	1/8	1/8	1-1/2	15.48
3/32	1/8	3/16	1-1/2	15.48
7/64	1/8	3/16	1-1/2	15.48
1/8	1/8	1/4	1-1/2	14.40
9/64	3/16	5/16	2	22.05
5/32	3/16	5/16	2	20.52
11/64	3/16	5/16	2	25.47
3/16	3/16	3/8	2	21.83

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
7/32	1/4	1/2	2-1/2	28.80
1/4	1/4	1/2	2-1/2	34.29
9/32	5/16	1/2	2-1/2	36.99
5/16	5/16	1/2	2-1/2	38.70
3/8	3/8	9/16	2-1/2	40.50
7/16	7/16	5/8	2-3/4	56.03
1/2	1/2	5/8	3	71.78
9/16	9/16	11/16	3-1/2	163.56
5/8	5/8	11/16	3-1/2	158.40
3/4	3/4	7/8	4	194.88

## Sets

Size	Pcs.	Description	2 Flute		4 Flute	
			Set No.	Price	Set No.	Price
1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	Solid Carbide	<b>KB82S</b>	226.00	<b>KB84S</b>	226.00



All sets are supplied in block

# 3-Flute High Helix Solid Carbide End Mills

MicroGrain – Center Cutting

Three cutting edges to reduce vibration and produce better finishes. High shear design is engineered for slotting, plunging and peripheral milling applications.

List No. **KS9345** – 45° High Helix

List No. **KS9360** – 60° High Helix



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Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	1/8	1/2	1-1/2	27.94
3/16	3/16	5/8	2	30.25
1/4	1/4	3/4	2-1/2	31.90
5/16	5/16	13/16	2-1/2	40.70
3/8	3/8	7/8	2-1/2	60.28

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
7/16	7/16	1	3	86.24
1/2	1/2	1	3	92.95
5/8	5/8	1-1/4	3-1/2	149.60
3/4	3/4	1-1/2	4	218.90
1	1	1-1/2	4	412.50

# 6-Flute Solid Carbide End Mills

MicroGrain – Center Cutting

List No. **KSD96**

The 6-flute design helps reduce chip load and improve the work piece finish.



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Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
1/8	1/8	3/8	1-1/2	25.11
5/32	3/16	1/2	2	34.73
3/16	3/16	9/16	2	36.25
1/4	1/4	3/4	2-1/2	47.07

Diameter of Cut	Shank Diameter	Length of Cut	Overall Length	Price Each
5/16	5/16	13/16	2-1/2	52.64
3/8	3/8	7/8	2-1/2	66.79
7/16	7/16	1	2-3/4	96.75
1/2	1/2	1	3	111.32

# ProductionMax™ High Performance Solid Carbide End Mills

**AlTiN Coated MicroGrain – Center Cutting**



ProductionMax High Performance end mills are designed for fast metal removal of harder alloys than standard carbide end mills. These 4 flute variable indexed end mills perform with less vibrations, greater strength and faster feed and speeds.

- Aluminium Titanium Nitride Coated
- Standard corner radius
- Special O.D. Coolant Groove on each flute
- 35° Helix

## Regular Length

List No. **KSP94** – Four Flute



Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
1/8	1/2	1-1/2	.010	19.36
3/16	5/8	2	.010	24.68
1/4	3/4	2-1/2	.015	37.51
5/16	7/8	2-1/2	.015	42.62
3/8	1	2-1/2	.020	54.00

Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
7/16	1-1/8	2-3/4	.025	71.00
1/2	1-1/4	3	.030	71.00
5/8	1-1/2	3-1/2	.030	120.00
3/4	1-3/4	4	.040	190.00
1	1-3/4	4	.045	299.00

## Long Reach

List No. **KSLP94** – Four Flute



Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
1/4	3/4	4	.015	41.00
5/16	7/8	4	.015	51.00
3/8	1	4	.020	73.00
1/2	1-1/4	6	.030	123.00

Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
5/8	1-1/2	6	.030	214.00
3/4	1-3/4	6	.040	294.00
1	1-3/4	6	.045	389.00

## Ball Length

List No. **KBP94** – Four Flute



Cutter Diameter	Flute Length	Overall Length	Price Each
1/8	1/2	1-1/2	23.00
3/16	5/8	2	25.53
1/4	3/4	2-1/2	36.40
5/16	7/8	2-1/2	50.00
3/8	1	2-1/2	56.00

Cutter Diameter	Flute Length	Overall Length	Price Each
7/16	1-1/8	2-3/4	78.40
1/2	1-1/4	3	101.00
5/8	1-1/2	3-1/2	179.00
3/4	1-3/4	4	245.00
1	1-3/4	4	389.00

## Stub Length

List No. **KSSP94** – Four Flute



Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
1/8	1/4	1-1/2	.010	14.00
3/16	1/4	2	.010	15.40
1/4	5/16	2	.015	22.40
5/16	3/8	2	.015	32.20
3/8	1/2	2	.020	40.60

Cutter Diameter	Flute Length	Overall Length	Corner Radius	Price Each
7/16	5/8	2-1/2	.025	61.60
1/2	5/8	2-1/2	.030	74.00
5/8	1	3	.030	123.00
3/4	1	3	.040	180.00
1	1	3	.045	270.00

## Stub Length Ball End

List No. **KBSP94** – Four Flute



Cutter Diameter	Flute Length	Overall Length	Price Each
1/8	1/4	1-1/2	19.60
3/16	1/4	2	22.40
1/4	5/16	2	33.60
5/16	3/8	2	44.80
3/8	1/2	2	51.80

Cutter Diameter	Flute Length	Overall Length	Price Each
7/16	5/8	2-1/2	71.40
1/2	5/8	2-1/2	92.46
5/8	1	3	169.00
3/4	1	3	229.00
1	1	3	368.00



# Corner Radius Solid Carbide End Mills

MicroGrain – Center Cutting



**MICHIGAN**  
DRILL & CUTTING TOOLS

END MILLS

## 2-Flute Regular Length

- List No. **KSR215** – .015 Corner Radius
- List No. **KSR232** – .032 Corner Radius
- List No. **KSR262** – .062 Corner Radius
- List No. **KSR293** – .093 Corner Radius
- List No. **KSR2125** – .125 Corner Radius

- List No. **KSRA215** – AITiN Coated .015 Corner Radius
- List No. **KSRA232** – AITiN Coated .032 Corner Radius
- List No. **KSRA262** – AITiN Coated .062 Corner Radius
- List No. **KSRA293** – AITiN Coated .093 Corner Radius
- List No. **KSRA2125** – AITiN Coated .125 Corner Radius

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/8	1/2	1-1/2	9.50	11.91
3/16	5/8	2	15.80	19.25
1/4	3/4	2-1/2	18.12	24.41
5/16	7/8	2-1/2	23.17	32.02
3/8	1	2-1/2	28.22	37.07

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/2	1	3	47.52	60.18
5/8	1-1/4	3-1/2	90.59	110.35
3/4	1-1/2	4	124.74	147.31
1	1-1/2	4	224.10	259.01

## 4-Flute Regular Length

- List No. **KSR415** – .015 Corner Radius
- List No. **KSR432** – .032 Corner Radius
- List No. **KSR462** – .062 Corner Radius
- List No. **KSR493** – .093 Corner Radius
- List No. **KSR4125** – .125 Corner Radius

- List No. **KSRA415** – AITiN Coated .015 Corner Radius
- List No. **KSRA432** – AITiN Coated .032 Corner Radius
- List No. **KSRA462** – AITiN Coated .062 Corner Radius
- List No. **KSRA493** – AITiN Coated .093 Corner Radius
- List No. **KSRA4125** – AITiN Coated .125 Corner Radius

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/8	1/2	1-1/2	9.50	11.91
3/16	5/8	2	15.80	19.25
1/4	3/4	2-1/2	18.12	24.41
5/16	7/8	2-1/2	23.17	32.02
3/8	1	2-1/2	28.22	37.07

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/2	1	3	47.52	60.18
5/8	1-1/4	3-1/2	90.59	110.35
3/4	1-1/2	4	124.74	147.31
1	1-1/2	4	224.10	259.01

## 2-Flute Long Length

- List No. **KSRL215** – .015 Corner Radius
- List No. **KSRL232** – .032 Corner Radius
- List No. **KSRL262** – .062 Corner Radius
- List No. **KSRL293** – .093 Corner Radius
- List No. **KSRL2125** – .125 Corner Radius

- List No. **KSRLA215** – AITiN Coated .015 Corner Radius
- List No. **KSRLA232** – AITiN Coated .032 Corner Radius
- List No. **KSRLA262** – AITiN Coated .062 Corner Radius
- List No. **KSRLA293** – AITiN Coated .093 Corner Radius
- List No. **KSRLA2125** – AITiN Coated .125 Corner Radius

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/8	1	3	22.28	25.30
3/16	1-1/8	3	24.76	28.76
1/4	1-1/2	4	32.54	39.83
5/16	1-5/8	4	40.69	49.28
3/8	1-1/2	6	66.83	79.30

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/2	1-1/2	6	102.60	124.69
5/8	1-1/2	6	156.60	184.28
3/4	2	6	210.60	242.22
1	2-1/4	6	364.50	419.77

## 4-Flute Long Length

- List No. **KSRL415** – .015 Corner Radius
- List No. **KSRL432** – .032 Corner Radius
- List No. **KSRL462** – .062 Corner Radius
- List No. **KSRL493** – .093 Corner Radius
- List No. **KSRL4125** – .125 Corner Radius

- List No. **KSRLA415** – AITiN Coated .015 Corner Radius
- List No. **KSRLA432** – AITiN Coated .032 Corner Radius
- List No. **KSRLA462** – AITiN Coated .062 Corner Radius
- List No. **KSRLA493** – AITiN Coated .093 Corner Radius
- List No. **KSRLA4125** – AITiN Coated .125 Corner Radius

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/8	1	3	22.28	25.30
3/16	1-1/8	3	24.76	28.76
1/4	1-1/2	4	32.54	39.83
5/16	1-5/8	4	40.69	49.28
3/8	1-1/2	6	66.83	79.30

Cutter Diameter	Flute Length	Overall Length	Price Each	
			Uncoated	AITiN Coated
1/2	1-1/2	6	102.60	124.69
5/8	1-1/2	6	156.60	184.28
3/4	2	6	210.60	242.22
1	2-1/4	6	364.50	419.77

# Tri-Dex™ Indexable End Mills

Triangle Inserted - Positive Rake - 90° Cut

Exclusively  
By



- Low cost
- Finest quality and workmanship
- A large range of standard diameters available
- A wide variety of shanks to choose from
- All sizes use standard 3/8" I.C. triangle inserts
- One clamp fits all tool sizes
- Used effectively on low horsepower milling machines
- Simple, rugged clamp design
- Versatile - can be used for many different types of cuts
- Can be used with inserts with wiping flats for improved finish



Straight Shank



R-8 Shank



NST Shank



V-Flange Shank

## End Mills

Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Price Each
3/4	1/2	1	<b>EM075-50</b>	82.23
3/4	3/4	1	<b>EM075-34</b>	82.23
3/4	R-8	1	<b>EM075-R8</b>	110.63
7/8	3/4	1	<b>EM087-34</b>	92.69
1	1	1	<b>EM100-1</b>	104.65
1	3/4	1	<b>EM100-34</b>	101.66
1	R-8	1	<b>EM100-R8</b>	110.63
1-1/4	1	2	<b>EM125-1</b>	115.12
1-1/4	3/4	2	<b>EM125-34</b>	118.11
1-1/4	R-8	2	<b>EM125-R8</b>	128.57
1-1/4	40V-Flange	2	<b>EM125-V40</b>	277.24
1-3/8	1	2	<b>EM137-1</b>	136.70
1-3/8	3/4	2	<b>EM137-34</b>	140.53
1-3/8	R-8	2	<b>EM137-R8</b>	146.51
1-1/2	1	3	<b>EM150-1</b>	153.99
1-1/2	3/4	3	<b>EM150-34</b>	158.47
1-1/2	R-8	3	<b>EM150-R8</b>	170.43
1-1/2	40V-Flange	3	<b>EM150-V40</b>	318.44
1-5/8	3/4	3	<b>EM162-34</b>	161.46
1-5/8	1	3	<b>EM162-1</b>	161.46

Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Price Each
1-5/8	R-8	3	<b>EM162-R8</b>	182.39
1-3/4	1	3	<b>EM175-1</b>	185.38
1-3/4	3/4	3	<b>EM175-34</b>	188.37
1-3/4	R-8	3	<b>EM175-R8</b>	213.79
2	1	3	<b>EM20-1</b>	210.80
2	3/4	3	<b>EM20-34</b>	215.28
2	R-8	3	<b>EM20-R8</b>	233.22
2	30 NST	3	<b>EM20-S30</b>	272.09
2	40 NST	3	<b>EM20-S40</b>	309.47
2	40V-Flange	3	<b>EM20-V40</b>	369.27
2-1/4	R-8	4	<b>EM225-R8</b>	309.47
2-1/2	1-1/4	5	<b>EM250-125</b>	339.37
2-1/2	R-8	5	<b>EM250-R8</b>	360.30
2-3/4	R-8	5	<b>EM275-R8</b>	367.77
3	1-1/4	5	<b>EM300-125</b>	373.75
3	R-8	5	<b>EM300-R8</b>	405.15
3	40 NST	5	<b>EM300-S40</b>	405.15
3	40V-Flange	5	<b>EM300-V40</b>	463.45
3-1/2	R-8	5	<b>EM350-R8</b>	442.52
4	R-8	6	<b>EM400-R8</b>	509.80

Inserts sold separately. Cutter body length 1-5/8"

## Sets

Shank Style	Cutting Diameter	Pieces	Set No.	Price
3/4	3/4, 7/8, 1	3	<b>EM34</b>	281.24
3/4	1-1/4, 1-1/2, 2"	3	<b>EM750</b>	496.52
1	1-1/4, 1-1/2, 2"	3	<b>EM1000</b>	485.65
R-8	1", 1-1/4, 1-1/2	3	<b>EM8R1</b>	416.91
R-8	2", 2-1/2, 3"	3	<b>EM8R2</b>	1005.00
R-8	2", 2-1/4, 2-1/2	3	<b>EM8R3</b>	910.27
R-8	2-3/4, 3", 3-1/2	3	<b>EM8R4</b>	1222.72
V-Flange	1-1/4, 1-1/2, 2"	3	<b>EMV1000</b>	972.23

Inserts sold separately.

All sets are supplied in wood block.



## TPG Carbide Inserts

Triangle - Positive rake - Ground all over

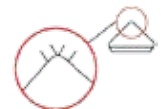


Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPG321</b>	1/64	3/8	1/8	6.74	6.74	8.08
<b>TPG322</b>	1/32	3/8	1/8	6.74	6.74	8.08
<b>TPG323</b>	3/64	3/8	1/8	6.74	6.74	8.08
<b>TPG324</b>	1/16	3/8	1/8	6.74	6.74	8.08

\* C-6 Grade TiN Coated

## TPC Carbide Inserts

Triangle - Positive rake - Ground all over with wiping flats on three corners



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPC32ZR</b>	-	3/8	1/8	6.48	6.48	7.62

\* C-6 Grade TiN Coated

## Replacement Parts

Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CS832-12</b>	Clamp Screw	0.65
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	0.65

# Coolant Fed **Tri-Dex**<sup>TM</sup> Indexable End Mills

Exclusively By  Approved Performance Tooling



## Triangle Inserted - Positive Rake - 90° Cut

- Tool life is greatly improved when coolant is fed to each cutting edge of the tool
- Allows increased cutting speeds and feeds
- Greatly improves surface finishes
- Extends insert life
- Uses standard 3/8" I.C. triangle inserts
- One clamp fits all tools



### End Mills

Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Price Each
3/4	3/4	1	<b>EMC075-34</b>	107.29
1	3/4	1	<b>EMC100-34</b>	133.94
1	1	1	<b>EMC100-1</b>	133.94
1-1/4	3/4	2	<b>EMC125-34</b>	149.50
1-1/4	1	2	<b>EMC125-1</b>	149.50

Cutting Diameter	Shank Dia. or Style	No. of Inserts	Tool Number	Price Each
1-1/2	1	3	<b>EMC150-1</b>	197.29
1-3/4	1	3	<b>EMC175-1</b>	238.29
2	1	3	<b>EMC20-1</b>	261.86
3	1-1/4	5	<b>EMC300-125</b>	452.01

Inserts sold separately (see previous page). Cutter body length 1-5/8"

### Sets

Shank Style	Cutting Diameter	Pieces	Set No.	Price
3/4	3/4, 1", 1-1/4	3	<b>EMC34</b>	395.39
1	1-1/2, 1-3/4, 2"	3	<b>EMC1000</b>	699.00

Inserts sold separately.

All sets are supplied in wood block.



# Miniature **Tri-Dex**<sup>TM</sup> Indexable End Mills

## Triangle Inserted - Positive Rake - 90° cut

- One clamp fits all sizes
- Uses standard 1/4" I.C. triangle insert
- Fine surface finishes



Exclusively By  Approved Performance Tooling

### End Mills

Cutting Diameter	Shank Diameter	Body Length	Overall Length	Tool Number	Price Each
1/2	1/2	1	3	<b>EMM500-5</b>	73.26
9/16	1/2	1	3	<b>EMM562-5</b>	73.26
5/8	1/2	1	3	<b>EMM625-5</b>	73.26

Cutting Diameter	Shank Diameter	Body Length	Overall Length	Tool Number	Price Each
12mm	1/2	1	3	<b>EMM12M-5</b>	73.26
15mm	1/2	1	3	<b>EMM15M-5</b>	73.26
18mm	1/2	1	3	<b>EMM18M-5</b>	73.26



### Sets

Cutting Diameter	Pieces	Set No.	Price
1/2, 9/16, 5/8	3	<b>EMM500</b>	223.09
12mm, 15mm, 18mm	3	<b>EMM500A</b>	223.09

All sets are supplied in wood block.



Inserts sold separately. Torx™ wrench included.

### TPG Carbide Inserts

Triangle - Positive rake - Ground all over



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPG-221</b>	1/64	1/4	1/8	5.70	5.70	6.90
<b>TPG-222</b>	1/32	1/4	1/8	5.70	5.70	6.90
<b>TPG-223</b>	3/64	1/4	1/8	5.70	5.70	6.90

\*C-6 Grade TiN Coated

### Replacement Parts

Part No.	Description	Price Each
<b>Part CTM</b>	Hold Down Clamp	2.66
<b>Part CB632-38</b>	Torx Clamp Screw	2.16
<b>Part CTW-10</b>	T-10 Trox Wrench for 6-32 Screw	3.52

# Tri-Dex™ -Extra Long Length Indexable End Mills

Triangle Inserted - Positive Rake - 90° Cut



Exclusively By



- Used where extra long reach is required
- Available in a wide range of diameters
- A large variety of shank styles
- Uses standard 3/8" I.C. triangle inserts
- One clamp fits all size

## End Mills

Cutting Diameter	Shank Dia. or Style	Overall Length	No. of Inserts	Tool Number	Price Each
3/4	3/4	6-1/4	1	<b>EML075-34</b>	116.61
1	3/4	6-1/4	1	<b>EML100-34</b>	142.03
1-1/4	1	6-1/4	2	<b>EML125-1</b>	162.96
1-1/4	R-8	8-1/4	2	<b>EML125-R8</b>	182.39
1-1/2	1	6-1/4	3	<b>EML150-1</b>	215.28
1-1/2	R-8	8-1/4	3	<b>EML150-R8</b>	240.70
2	1	6-1/4	3	<b>EML20-1</b>	290.03
2	1-1/4	6-1/4	3	<b>EML20-125</b>	275.08
2	R-8	8-1/4	3	<b>EML20-R8</b>	322.92
2-1/2	1-1/4	6-1/4	5	<b>EML250-125</b>	445.51
2-1/2	R-8	8-1/4	5	<b>EML250-R8</b>	472.42
3	1-1/4	6-1/4	5	<b>EML300-125</b>	479.90
3	R-8	8-1/4	5	<b>EML300-R8</b>	532.22

Inserts sold separately. Cutter body length 4"



## Sets

Shank Style	Cutting Diameter	Pieces	Set No.	Price
R-8	2, 2-1/2, 3"	3	<b>EML8R2</b>	1327.56
1-1/4	2, 2-1/2, 3"	3	<b>EML12500</b>	1200.49

Inserts sold separately.

All sets are supplied in wood block.



## TPG Carbide Inserts

Triangle - Positive rake - Ground all over

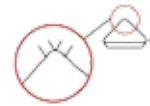


Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPG321</b>	1/64	3/8	1/8	6.74	6.74	8.08
<b>TPG322</b>	1/32	3/8	1/8	6.74	6.74	8.08
<b>TPG323</b>	3/64	3/8	1/8	6.74	6.74	8.08
<b>TPG324</b>	1/16	3/8	1/8	6.74	6.74	8.08

\*C-6 Grade TiN Coated

## TPC Carbide Inserts

Triangle - Positive rake - Ground all over with wiping flats on three corners



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPC32ZR</b>	-	3/8	1/8	6.48	6.48	7.62

\*C-6 Grade TiN Coated

## Replacement Parts

Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CS832-12</b>	Clamp Screw	0.65
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	0.65

# Little Hogger Mill

1" Diameter, 3/4" Weldon Shank

Degree	Compatible Insert	Tool Number	Price Each
45°	SNMA-322	<b>JH-134-45</b>	69.00
90°	TNMA-32	<b>JH-134-32</b>	69.00
3/16R	RNMA-32	<b>JH-134-90</b>	69.00
3-piece set (one each of above mills)			<b>JH-134SET</b> 207.00

## Carbide Inserts

Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>SNMA322</b>	1/8	3/8	1/8	3.22	3.22	4.34
<b>TNMA322</b>	1/8	3/8	1/8	3.06	3.06	4.42
<b>RNMA32</b>	-	3/8	1/8	3.21	3.21	4.42

\*C-6 Grade TiN Coated



**8X More Metal Removal**  
Complete with insert, screw, & wrench

- Mill at 5 times the speed of H.S. tools.
- Can be run at 1600 RPM at an average rate of 12"/min.
- Improves surface finishes.
- Mills tool steels & cast iron with no loss of edge due to abrasion.
- Uses standard carbide inserts.
- Useful on all milling machines from Bridgport™ to large boring mill and CNC equipment

# RounDex™ Indexable End Mills

Round Inserted - Positive Rake

Exclusively  
By



- Use as a roughing cutter for higher stock removal
- Use in applications where a radius corner is desired
- Adjust speeds and feeds for good surface finishes
- Use effectively on low horsepower milling machines
- Achieve better finishes
- More cutting edges
- Use standard 1/2" round inserts



## End Mills

Cutting Diameter	Shank Dia. or Style	No. of Inserts	Regular Length			Extra Long Length		
			Overall Length	Tool Number	Price Each	Overall Length	Tool Number	Price Each
3/4	3/4	1	3-7/8	<b>EMR075-34</b>	91.20	6-1/4	<b>EMLR075-34</b>	125.58
7/8	3/4	1	3-7/8	<b>EMR087-34</b>	101.66	—	—	—
1	3/4	1	3-7/8	<b>EMR100-34</b>	112.13	6-1/4	<b>EMLR100-34</b>	138.80
1	1	1	3-7/8	<b>EMR100-1</b>	116.00	—	—	—
1	R-8	1	5-7/8	<b>EMR100-R8</b>	118.11	—	—	—
1-1/4	3/4	2	3-7/8	<b>EMR125-34</b>	130.07	—	—	—
1-1/4	1	2	3-7/8	<b>EMR125-1</b>	126.33	—	—	—
1-1/4	R-8	2	5-7/8	<b>EMR125-R8</b>	140.53	8-1/4	<b>EMLR125-R8</b>	198.84
1-1/2	3/4	3	3-7/8	<b>EMR150-34</b>	170.43	—	—	—
1-1/2	1	3	3-7/8	<b>EMR150-1</b>	167.44	6-1/4	<b>EMLR150-1</b>	234.72
1-1/2	R-8	3	5-7/8	<b>EMR150-R8</b>	188.37	8-1/4	<b>EMLR150-R8</b>	266.11
1-3/4	3/4	3	3-7/8	<b>EMR175-34</b>	204.82	—	—	—
1-3/4	R-8	3	5-7/8	<b>EMR175-R8</b>	233.22	—	—	—
2	3/4	3	3-7/8	<b>EMR20-34</b>	237.71	—	—	—
2	1	3	3-7/8	<b>EMR20-1</b>	233.22	6-1/4	<b>EMLR20-1</b>	307.97
2	1-1/4	3	—	—	—	6-1/4	<b>EMLR20-125</b>	307.97
2	R-8	3	5-7/8	<b>EMR20-R8</b>	246.68	8-1/4	<b>EMLR20-R8</b>	352.82
2-1/2	1-1/4	5	3-7/8	<b>EMR250-125</b>	376.74	6-1/4	<b>EMLR250-125</b>	488.87
2-1/2	R-8	5	5-7/8	<b>EMR250-R8</b>	393.19	8-1/4	<b>EMLR250-R8</b>	514.28
3	1-1/4	5	3-7/8	<b>EMR300-125</b>	403.65	6-1/4	<b>EMLR300-125</b>	524.75
3	R-8	5	5-7/8	<b>EMR300-R8</b>	427.57	8-1/4	<b>EMLR300-R8</b>	575.58

Inserts sold separately. Cutter body length 1-5/8"



## Sets

### Regular Length

Description	Sizes	Pieces	Set No.	Price
3/4	3/4, 7/8, 1	3	<b>EMR34</b>	309.65
3/4	1-1/4, 1-1/2, 2"	3	<b>EMR750</b>	542.28
1	1-1/4, 1-1/2, 2"	3	<b>EMR1000</b>	532.73
R-8	1", 1-1/4, 1-1/2	3	<b>EMR8R1</b>	454.29
R-8	2", 2-1/2, 3"	3	<b>EMR8R2</b>	1074.72

Inserts sold separately.

All sets are supplied in wood block.



## RPG Carbide Inserts

Round - Positive rake - Ground all over



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>RPG42</b>	1/4	1/2	1/8	6.44	6.44	7.68

\*C-6 Grade TiN Coated

## Replacement Parts

Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CS832-12</b>	Clamp Screw	0.65
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	0.65

# CY Centerless Ground Carbide Rounds

C2 Micro-Grain +.0000/- .0005"



Tool #	Diameter	Length	Price
<b>CY11</b>	1/8	1-1/2	2.68
<b>CY13</b>	1/8	2	3.26
<b>CY14</b>	1/8	2-1/4	3.87
<b>CY16</b>	1/8	3	5.20
<b>CY17A</b>	5/32	2	7.04
<b>CY19</b>	3/16	1-1/2	5.96
<b>CY20</b>	3/16	2	6.26
<b>CY21</b>	3/16	2-1/2	8.30
<b>CY22</b>	3/16	3	8.96
<b>CY23</b>	3/16	4	11.70
<b>CY24</b>	1/4	2	8.91
<b>CY26</b>	1/4	2-1/2	11.07
<b>CY27</b>	1/4	3	13.32
<b>CY28</b>	1/4	4	17.73

Tool #	Diameter	Length	Price
<b>CY29</b>	5/16	2	13.86
<b>CY30</b>	5/16	2-1/2	17.28
<b>CY30A</b>	5/16	3	20.52
<b>CY32</b>	5/16	4	28.15
<b>CY34</b>	3/8	2	18.34
<b>CY35</b>	3/8	2-1/2	21.60
<b>CY36</b>	3/8	3	25.92
<b>CY37</b>	3/8	3-1/2	30.24
<b>CY38</b>	3/8	4	34.56
<b>CY40</b>	7/16	2-1/2	29.43
<b>CY41</b>	7/16	3	35.28
<b>CY41A</b>	7/16	4	62.86
<b>CY43</b>	1/2	2-1/2	39.06
<b>CY44</b>	1/2	3	46.08

Tool #	Diameter	Length	Price
<b>CY45</b>	1/2	3-1/2	53.73
<b>CY46</b>	1/2	4	61.38
<b>CY47</b>	1/2	6	110.43
<b>CY47A</b>	9/16	3-1/2	67.95
<b>CY49</b>	5/8	3-1/2	83.88
<b>CY50</b>	5/8	4	95.85
<b>CY50A</b>	5/8	6	171.90
<b>CY52</b>	3/4	4	138.06
<b>CY52A</b>	3/4	5	168.12
<b>CY53</b>	3/4	6	227.79
<b>CY54</b>	1	4	245.34
<b>CY55</b>	1	6	367.92

END MILLS



# Quad-Mill™ Indexable End Mills

Square Inserted - Positive Rake



Exclusively By



- Finest quality and workmanship
- Uses standard 1/2" I.C. square inserts
- One clamp fits all tools
- Higher metal removal rates
- Fine surface finishes



END MILLS

## 15° Lead Quad-Mills

Cutting Diameter	Shank Dia. Style	No. of Inserts	Tool Number	Price Each
1	3/4	1	<b>QM100-34</b>	113.62
1	R-8	1	<b>QM100-R8</b>	142.03
2	1	3	<b>QM20-100</b>	222.76
2	R-8	3	<b>QM20-R8</b>	249.67
2	1-1/4	3	<b>QM20-125</b>	222.76

Inserts sold separately.

Cutting Diameter	Shank Dia. Style	No. of Inserts	Tool Number	Price Each
2-1/2	R-8	5	<b>QM250-R8</b>	387.21
2-1/2	1-1/4	5	<b>QM250-125</b>	360.30
3	R-8	5	<b>QM30-R8</b>	429.07
3	1-1/4	5	<b>QM30-125</b>	393.19

## 45° Lead Quad-Mills

Cutting Diameter	Shank Dia. Style	No. of Inserts	Tool Number	Price Each
3/4	3/4	1	<b>QMD075-34</b>	101.66
1	3/4	1	<b>QMD100-34</b>	113.62
1	R-8	1	<b>QMD100-R8</b>	142.03
1-1/4	3/4	1	<b>QMD125-34</b>	133.06
1-1/4	R-8	1	<b>QMD125-R8</b>	176.41
1-1/2	3/4	1	<b>QMD150-34</b>	164.45
1-1/2	R-8	1	<b>QMD150-R8</b>	200.33

Inserts sold separately.

Cutting Diameter	Shank Dia. Style	No. of Inserts	Tool Number	Price Each
2	3/4	3	<b>QMD20-34</b>	222.76
2	R-8	3	<b>QMD20-R8</b>	248.17
2	1-1/4	3	<b>QMD20-125</b>	222.76
2-1/2	R-8	4	<b>QMD250-R8</b>	387.21
3	R-8	5	<b>QMD30-R8</b>	429.07
3	1-1/4	5	<b>QMD30-125</b>	393.10

## Sets

Shank Dia. Style	Style	Cutting Diameter	Set Number	Price Each
R-8	15° Lead	2, 2-1/2, 3	<b>QMS15-R82</b>	1073.23
1-1/4	15° Lead	2, 2-1/2, 3	<b>QMS15-125</b>	982.61
R-8	45° Lead	1, 1-1/4, 1-1/2	<b>QMS45-R81</b>	526.05
R-8	45° Lead	2, 2-1/2, 3	<b>QMS45-R82</b>	1070.81
3/4	45° Lead	1, 1-1/4, 1-1/2	<b>QMS45-34</b>	415.79



## SPG Carbide Inserts

Square - Positive rake - Ground all over.  
 Note: Do **not** use SPG-424 1/16 Radius on 15° lead end mills

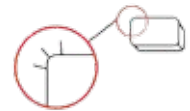


Insert Number	Radius	I.C.	Thick ness	Price Each		
				C-2	C-6	TiN Coated*
<b>SPG422</b>	1/32	1/2	1/8	6.67	6.67	7.54
<b>SPG423</b>	3/64	1/2	1/8	6.67	6.67	7.54

\*C-6 Grade TiN Coated

## SPC Carbide Inserts

Square - Positive rake - Ground all over with wiping flats on four corners



Insert Number	I.C.	Thick ness	Price Each		
			C-2	C-6	TiN Coated*
<b>SPC42ZR</b>	1/2	1/8	6.90	6.90	8.26

\*C-6 Grade TiN Coated

## SPU Carbide Inserts

Square - Positive rake  
 Ground top & bottom.  
 Note: Do **not** use SPU-424



Insert Number	Radius	I.C.	Thick ness	Price Each		
				C-2	C-6	TiN Coated*
<b>SPU422</b>	1/32	1/2	1/8	5.80	5.80	6.68
<b>SPU423</b>	3/64	1/2	1/8	5.80	5.80	6.68

\*C-6 Grade TiN Coated

## Replacement Parts List

Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CS832-12</b>	Clamp Screw	0.65
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	0.65

# Dyna-Mill™ Indexable End Mills & Face Mills

H.D. Triangle Inserted - Negative Rake - 90° Cut



Exclusively By



## Dyna-Mill Indexable End Mills

- For use in heavy duty milling application
- Higher metal removal rates
- Both styles use standard 1/2" I.C. inserts
- Unique clamping mechanism, one clamp fits all sizes

Cutting Diameter	Length of Cut	Shank Dia. Style	No. of Inserts	Tool Number	Price Each
1-1/4	2-1/8	1-1/4	2	<b>DM19</b>	152.49
1-1/2	2-1/8	1-1/4	2	<b>DM20</b>	182.39
1-3/4	2-1/8	1-1/4	3	<b>DM21</b>	221.26
2	2-1/8	1-1/4	3	<b>DM22</b>	240.70
2-1/2	2-1/8	1-1/4	3	<b>DM22.5</b>	342.36
3	2-1/8	1-1/4	5	<b>DM23</b>	399.17

Inserts sold separately.



## Dyna-Mill Indexable Face Mills

Cutting Diameter	Length of Cut	Hole Size	No. of Inserts	Tool Number	Price Each
4	2-3/4	1-1/4	6	<b>DM24</b>	532.22
5	2-3/4	1-1/2	7	<b>DM25</b>	633.88
6	2-3/4	2	8	<b>DM26</b>	801.32
8	2-3/4	2-1/2	10	<b>DM28</b>	1100.32

Inserts sold separately.



## TNMG Carbide Inserts

Triangle - Negative rake - with chip control



Insert Number	I.C.	Radius	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TNMG431</b>	1/2	3/16	1/64	5.80	5.80	6.76
<b>TNMG432</b>	1/2	3/16	1/32	5.80	5.80	6.76
<b>TNMG433</b>	1/2	3/16	3/64	5.80	5.80	6.76
<b>TNMG434</b>	1/2	3/16	1/16	5.80	5.80	6.76
<b>TNMG438</b>	1/2	3/16	1/8	5.80	5.80	6.76

\*C-6 Grade TiN Coated

## Replacement Parts List

Part No.	Description	Price Each
<b>Part CDM</b>	Hold Down Clamp	11.95
<b>Part CB1032-12</b>	Clamp Screw for DM19 only	0.65
<b>Part CS1032-58</b>	Clamp Screw	0.65
<b>Part AS5818-2</b>	Arbor Screw for DM24 only	2.60

# Tri-Dex™ Indexable Face Mills

Triangle Inserted - Positive Rake - 90° Cut



Exclusively By



- Achieve face milling cuts at higher R.P.M.'s
- Use in low horse power milling machines
- One clamp fits all sizes
- Uses standard 3/8" I.C. triangle inserts
- Use with standard shell end mill adapters

Cutting Diameter	Length of Cut	Hole Size	No. of Inserts	Tool Number	Price Each
2	1-3/4	3/4	3	<b>EMS200</b>	221.26
2-1/2	2	3/4	5	<b>EMS250</b>	318.44
3	2	1	5	<b>EMS300</b>	342.36

Inserts sold separately.



## TPG Carbide Inserts

Triangle - Positive rake  
Ground all over



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
<b>TPG320</b>	0	3/8	1/8	6.74	6.74	8.08
<b>TPG321</b>	1/64	3/8	1/8	6.74	6.74	8.08
<b>TPG322</b>	1/32	3/8	1/8	6.74	6.74	8.08
<b>TPG323</b>	3/64	3/8	1/8	6.74	6.74	8.08
<b>TPG324</b>	1/16	3/8	1/8	6.74	6.74	8.08

\*C-6 Grade TiN Coated

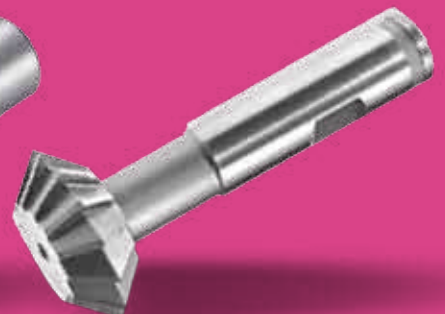
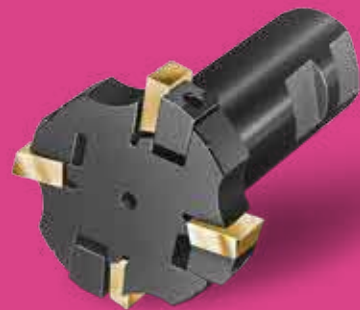
## Replacement Parts List

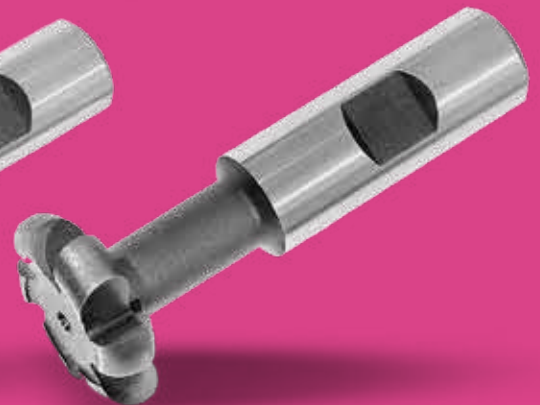
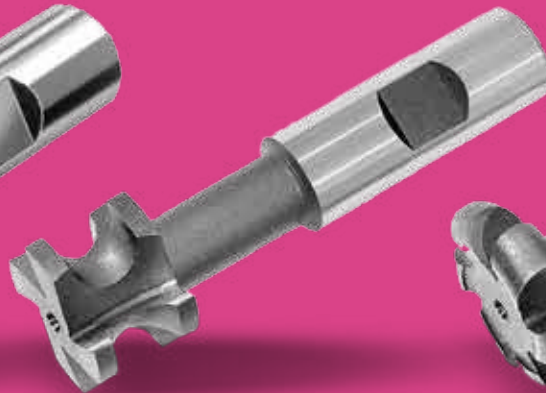
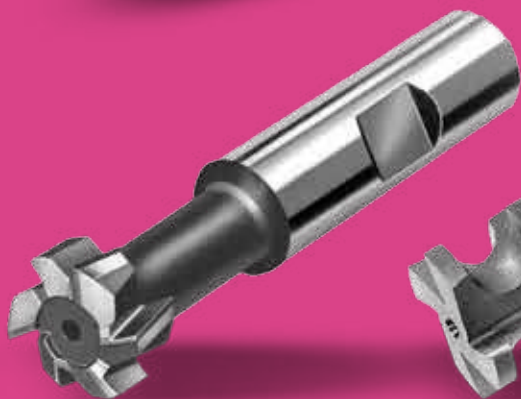
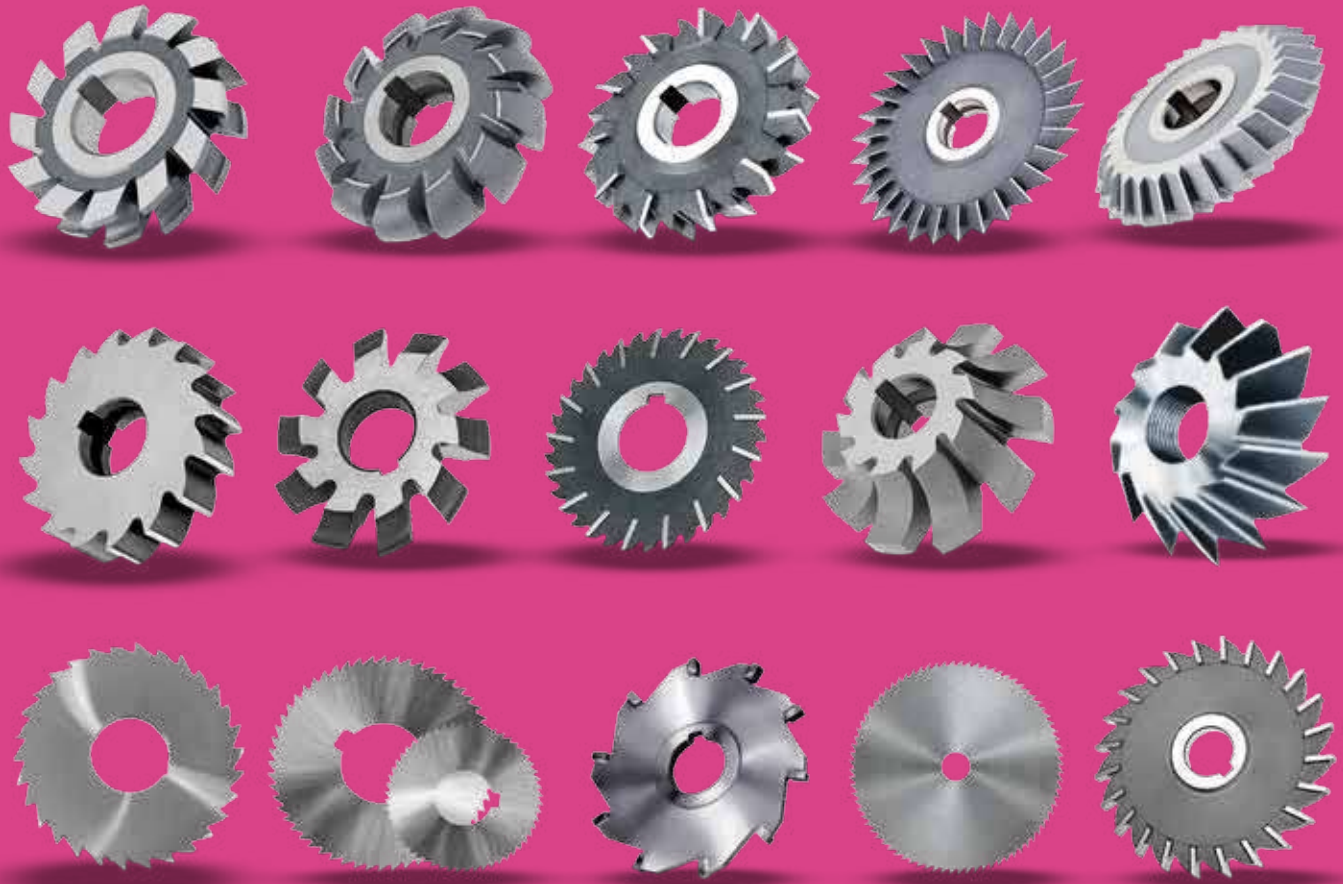
Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	0.65
<b>Part CS832-12</b>	Clamp Screw	0.65
<b>Part AS3824-114</b>	Shell Mill Arbor Screw EMS200	1.63
<b>Part AS3824-112</b>	Shell Mill Arbor Screw EMS250	1.95
<b>Part AS1220-112</b>	Shell Mill Arbor Screw EMS300	2.28

# Slitting Saws & Milling Cutters

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# Dovetail Cutters

High Speed Steel & Cobalt

## 45° Lead Angle

List No. **275** – High Speed Steel

List No. **275C** – Cobalt

## 60° Lead Angle

List No. **276** – High Speed Steel

List No. **276C** – Cobalt



**MDX**  
SUPERIOR IMPORT

Diameter of Cut	Width of Cut	Shank Diameter	Overall Length	Price Each			
				45° Angle		60° Angle	
				High Speed 275	Cobalt 275C	High Speed 276	Cobalt 276C
3/8	1/8	3/8	2-1/8	38.25	63.11	38.25	63.11
1/2	7/32	3/8	2-1/8	40.40	66.66	40.40	66.66
3/4	5/16	3/8	2-1/8	48.92	80.70	48.92	80.70
1-3/8	9/16	5/8	2-7/8	80.55	132.91	80.55	132.91
1-7/8	13/16	7/8	3-1/4	156.60	258.30	156.60	258.30
2-1/4	1-1/16	1	3-3/4	186.66	307.80	186.66	307.80
3-3/4	2-1/4	1-1/4	4-7/8	—	—	280.00	410.00

## Sets

Sizes	Description	Pcs.	High Speed		Cobalt	
			Set No.	Price	Set No.	Price
3/8, 1/2, 3/4, 1-3/8	45° Lead Angle	4	<b>275S</b>	197.10	<b>275CS</b>	323.10
3/8, 1/2, 3/4, 1-3/8	60° Lead Angle	4	<b>276S</b>	197.10	<b>276CS</b>	323.10

All sets are supplied in wood block

# Carbide Tipped Dovetail Cutters

List No. **CT275** – 45° Angle

List No. **CT276** – 60° Angle

Dia. of Cut	Shank Dia.	Overall Length	45° Angle CT275		60° Angle CT276	
			Width of Cut	Price Each	Width of Cut	Price Each
3/4	3/8	2-1/4	1/4	74.06	1/4	74.06
1	1/2	2-1/2	5/16	82.46	3/8	82.46
1-1/4	5/8	2-3/4	3/8	91.05	1/2	91.05
1-1/2	3/4	3-1/4	1/2	101.30	5/8	101.30

**MDX**  
SUPERIOR IMPORT



Dia. of Cut	Shank Dia.	Overall Length	45° Angle CT275		60° Angle CT276	
			Width of Cut	Price Each	Width of Cut	Price Each
2	1	4-1/4	5/8	193.85	3/4	193.85
2-1/2	1-1/4	4-3/8	3/4	281.51	7/8	281.51
3	1-1/4	4-1/2	1	327.00	1-1/8	327.00

# Threaded Hole Angle Cutters

High Speed Steel - 60°

These cutters can be furnished either Right or Left Hand and with either Right or Left Hand threaded hole. They have an included angle of 60°.



**MDX**  
SUPERIOR IMPORT

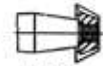
WHEN ORDERING SPECIFY STYLE NUMBER.

Determining The Hand Of An Angular Cutter

Diameter	Thickness	Threaded Hole	Tool No.				Price Each
			Style 1	Style 2	Style 3	Style 4	
1-1/4	7/16	3/8-24 N.F.	<b>J320-801</b>	<b>J320-802</b>	<b>J320-803</b>	<b>J320-804</b>	25.00
1-5/8	9/16	1/2-20 N.F.	<b>J320-811</b>	<b>J320-812</b>	<b>J320-813</b>	<b>J320-814</b>	32.60



STYLE 1



STYLE 2



RH CUTTER  
RH THREAD



RH CUTTER  
LH THREAD

## Arbors For Threaded Angle Cutters

### Taper Shank



Tool No.	B&S Taper	Size of Threaded	Price Each
<b>J320-910</b>	7	3/8-24 L.H.	20.00
<b>J320-915</b>	7	3/8-24 R.H.	20.00
<b>J320-920</b>	9	1/2-20 L.H.	24.00
<b>J320-925</b>	9	1/2-20 R.H.	24.00

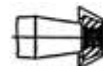
### Straight Shank



Tool No.	B&S Taper	Size of Threaded	Price Each
<b>J320-930</b>	1/2	3/8-24 L.H.	18.00
<b>J320-935</b>	1/2	3/8-24 R.H.	17.00
<b>J320-940</b>	1/2	1/2-20 L.H.	21.00
<b>J320-945</b>	1/2	1/2-20 R.H.	20.00



STYLE 3



STYLE 4



LH CUTTER  
LH THREAD



LH CUTTER  
RH THREAD



# Woodruff Key Seat Cutters

High Speed Steel

For cutting standard and woodruff keyways in steel and other ferrous materials.



**MDX**  
SUPERIOR IMPORT

## Straight & Staggered Teeth

1/2" Diameter, Straight Shank

Nominal Diameter	Width of Face	Overall Length	American Standard #	Straight Teeth		Staggered Teeth	
				Tool No.	Price Each	Tool No.	Price Each
1/4	1/16	2-1/16	202	KC202	17.24	KCT202	23.94
5/16	1/16	2-1/16	202-1/2	KC202-1/2	17.24	KCT202-1/2	23.94
5/16	3/32	2-3/32	302-1/2	KC302-1/2	17.24	KCT302-1/2	23.94
3/8	1/16	2-1/16	203	KC203	17.24	KCT203	23.94
3/8	3/32	2-3/32	303	KC303	17.24	KCT303	23.94
3/8	1/8	2-1/8	403	KC403	17.24	KCT403	23.94
1/2	1/16	2-1/16	204	KC204	17.24	KCT204	23.94
1/2	3/32	2-3/32	304	KC304	17.24	KCT304	23.94
1/2	1/8	2-1/8	404	KC404	17.24	KCT404	23.94
5/8	3/32	2-3/32	305	KC305	17.24	KCT305	23.94
5/8	1/8	2-1/8	405	KC405	17.24	KCT405	23.94
5/8	5/32	2-5/32	505	KC505	17.24	KCT505	23.94
5/8	3/16	2-3/16	605	KC605	17.24	KCT605	23.94
3/4	1/8	2-1/8	406	KC406	17.24	KCT406	23.94
3/4	5/32	2-5/32	506	KC506	18.30	KCT506	25.41
3/4	3/16	2-3/16	606	KC606	18.30	KCT606	25.41
3/4	1/4	2-1/4	806	KC806	18.30	KCT806	25.41
7/8	5/32	2-5/32	507	KC507	20.37	KCT507	28.29
7/8	3/16	2-3/16	607	KC607	20.37	KCT607	28.29
7/8	7/32	2-7/32	707	KC707	20.37	KCT707	28.29
7/8	1/4	2-1/4	807	KC807	20.37	KCT807	28.29
1	3/16	2-3/16	608	KC608	21.96	KCT608	30.50
1	7/32	2-7/32	708	KC708	21.96	KCT708	30.50
1	1/4	2-1/4	808	KC808	21.96	KCT808	30.50
1	5/16	2-5/16	1008	KC1008	22.47	KCT1008	31.21
1	3/8	2-3/8	1208	KC1208	22.47	KCT1208	31.21
1-1/8	3/16	2-3/16	609	KC609	24.57	KCT609	34.15
1-1/8	7/32	2-7/32	709	KC709	24.57	KCT709	34.15
1-1/8	1/4	2-1/4	809	KC809	24.57	KCT809	34.15
1-1/8	5/16	2-5/16	1009	KC1009	26.15	KCT1009	36.31
1-1/4	3/16	2-3/16	610	KC610	27.18	KCT610	37.75
1-1/4	7/32	2-7/32	710	KC710	27.18	KCT710	37.75
1-1/4	1/4	2-1/4	810	KC810	28.22	KCT810	39.20
1-1/4	5/16	2-5/16	1010	KC1010	29.28	KCT1010	40.66
1-1/4	3/8	2-3/8	1210	KC1210	29.28	KCT1210	40.66
1-3/8	1/4	2-1/4	811	KC811	31.37	KCT811	43.56
1-3/8	5/16	2-5/16	1011	KC1011	31.37	KCT1011	43.56
1-3/8	3/8	2-3/8	1211	KC1211	32.43	KCT1211	45.04
1-1/2	1/4	2-1/4	812	KC812	32.43	KCT812	45.04
1-1/2	5/16	2-5/16	1012	KC1012	32.43	KCT1012	45.04
1-1/2	3/8	2-3/8	1212	KC1212	34.52	KCT1212	48.56

## Sets

Size	Pcs.	Description	Set No.	Price
KC204, KC305, KC403, KC404, KC406, KC505, KC606, KC608, KC806, KC808	10	Straight Teeth	KCS1	192.06
KCT204, KCT305, KCT403, KCT404, KCT406, KCT505, KCT606, KCT608, KCT806, KCT808	10	Staggered Teeth	KCTS1	255.46
KC202 – KC1212	41	Straight Teeth	KCS2	924.11
KCT202 – KCT1212	41	Staggered Teeth	KCTS2	1284.05

All sets are supplied in wood case



# Side Chip Clearance Metal Slitting Saws

High Speed Steel



**MDX**  
SUPERIOR IMPORT

## Staggered Teeth

List No. 739ST

For making deeper cuts with coarser feeds in heavy duty slotting operations.

Diameter	Width of Face	Hole Size	Price Each	Diameter	Width of Face	Hole Size	Price Each	Diameter	Width of Face	Hole Size	Price Each
2-1/2	1/16	1	55.00	4	1/8	1	79.90	6	9/64	1-1/4	139.90
2-1/2	3/32	1	57.00	4	1/8	1-1/4	79.90	6	5/32	1	139.90
2-1/2	1/8	7/8	58.00	4	9/64	1	84.00	6	5/32	1-1/4	139.90
2-1/2	1/8	1	58.00	4	9/64	1-1/4	84.00	6	11/64	1	149.49
2-3/4	3/16	1	60.00	4	5/32	1	84.00	6	11/64	1-1/4	149.49
3	1/16	1	60.00	4	5/32	1-1/4	84.00	6	3/16	1	152.00
3	1/16	1-1/4	61.50	4	11/64	1	84.00	6	3/16	1-1/4	152.00
3	5/64	1	61.50	4	11/64	1-1/4	84.00	6	1/4	1	155.00
3	5/64	1-1/4	61.50	4	3/16	1	84.00	6	1/4	1-1/4	155.00
3	3/32	1	59.50	4	3/16	1-1/4	84.00	6	9/32	1-1/4	168.00
3	3/32	1-1/4	59.50	4	7/32	1	90.00	7	7/32	1-1/2	199.00
3	7/64	1	59.50	4	7/32	1-1/4	90.00	7	1/4	1	265.50
3	7/64	1-1/4	59.50	4	1/4	1	90.00	7	1/4	1-1/4	265.50
3	1/8	1	59.50	4	1/4	1-1/4	90.00	7	9/32	1-1/4	270.00
3	1/8	1-1/4	59.50	4	9/32	1	98.00	8	3/32	1-1/4	277.00
3	9/64	1	59.50	5	5/64	1	104.00	8	1/8	1	277.00
3	9/64	1-1/4	59.50	5	3/32	1	99.00	8	1/8	1-1/4	277.00
3	5/32	1	59.50	5	1/8	1	99.00	8	3/16	1	285.00
3	5/32	1-1/4	59.50	5	1/8	1-1/4	99.00	8	3/16	1-1/4	285.00
3	11/64	1	59.50	5	9/64	1	104.00	8	1/4	1	299.00
3	11/64	1-1/4	59.50	5	9/64	1-1/4	104.00	8	1/4	1-1/4	299.00
3	3/16	1	60.78	5	5/32	1	104.00	10	1/8	1-1/4	650.00
3	3/16	1-1/4	60.78	5	5/32	1-1/4	104.00	10	1/8	1-1/2	650.00
3	7/32	1	62.98	5	11/64	1	109.00	10	3/16	1-1/4	620.00
3	7/32	1-1/4	62.98	5	11/64	1-1/4	109.00	10	3/16	1-1/2	620.00
3	1/4	1	62.98	5	3/16	1	112.00	10	1/4	1	628.00
4	1/16	1	80.50	5	3/16	1-1/4	112.00	10	1/4	1-1/4	628.00
4	1/16	1-1/4	80.50	5	7/32	1	135.00	10	1/4	1-1/2	628.00
4	5/64	1	80.50	5	1/4	1	115.00	12	1/8	1-1/4	1100.00
4	5/64	1-1/4	80.50	5	1/4	1-1/4	115.00	12	1/8	1-1/2	1100.00
4	3/32	1	79.90	6	3/32	1-1/4	135.00	12	3/16	1-1/4	1155.00
4	3/32	1-1/4	79.90	6	1/8	1	135.00	12	3/16	1-1/2	1155.00
4	7/64	1	79.90	6	1/8	1-1/4	135.00	12	1/4	1-1/2	1190.00
4	7/64	1-1/4	79.90	6	9/64	1	139.90	12	5/16	1-1/2	1200.00

# Carbide Tipped Metal Slitting Saws



**MDX**  
SUPERIOR IMPORT

Specs: Diameter Tolerance  $\pm .0625/- .0000$   
Width + .001/- .000

Diameter	Width of Face	Hole Size	Non-Ferrous			Cast Iron			Steel			Stainless Steel		
			No. of Teeth	Tool No.	Price Each	No. of Teeth	Tool No.	Price Each	No. of Teeth	Tool No.	Price Each	No. of Teeth	Tool No.	Price Each
3	3/32	1	6	J351000	181.62	6	J351050	209.01	8	J351100	207.16	8	J351150	194.10
4	3/32	1	6	J351012	222.97	8	J351062	268.04	8	J351112	268.04	10	J351162	279.33
4	1/8	1	6	J351014	229.51	8	J351064	271.53	8	J351114	271.53	10	J351164	283.00
4	3/16	1	6	J351016	233.00	8	J351066	292.62	8	J351116	292.62	10	J351166	286.75
6	1/8	1-1/4	8	J351032	328.48	12	J351082	472.23	12	J351132	472.23	14	J351182	453.44
6	3/16	1-1/4	8	J351034	432.88	12	J351084	487.82	12	J351134	487.82	14	J351184	465.25
6	1/4	1-1/4	8	J351036	449.00	12	J351086	498.34	12	J351136	498.34	14	J351186	472.75
8	3/16	1-1/4	-	-	-	16	J351090	671.29	16	J351140	671.29	-	-	-
8	1/4	1-1/4	-	-	-	16	J351092	696.98	16	J351142	696.98	-	-	-

# Side Chip Clearance Metal Slitting Saws

High Speed Steel



**MDX**  
SUPERIOR IMPORT

## Straight Teeth

List No. 739S

The side chip clearance allows cut-off or slotting operations of considerable depth.

Diameter	Width of Face	Hole Size	Price Each
2	3/32	5/8	35.10
2	1/8	5/8	37.80
2	5/32	5/8	40.50
2	11/64	1	40.50
2-1/2	1/16	7/8	39.35
2-1/2	1/16	1	39.35
2-1/2	5/64	7/8	39.35
2-1/2	3/32	7/8	39.35
2-1/2	3/32	1	39.35
2-1/2	7/64	7/8	39.35
2-1/2	1/8	7/8	39.35
2-1/2	1/8	1	43.20
2-1/2	9/64	7/8	47.52
2-1/2	5/32	7/8	47.52
2-1/2	11/64	7/8	47.52
3	3/64	1	58.50
3	1/16	1	53.10
3	1/16	1-1/4	53.10
3	5/64	1	53.10
3	5/64	1-1/4	53.10
3	3/32	1	53.10
3	3/32	1-1/4	53.10
3	7/64	1	53.10
3	7/64	1-1/4	53.10
3	1/8	1	53.10
3	1/8	1-1/4	53.10
3	9/64	1	58.50
3	9/64	1-1/4	58.50
3	5/32	1	58.50
3	5/32	1-1/4	58.50
3	11/64	1	61.20
3	11/64	1-1/4	61.20
3	3/16	1	61.20
3	3/16	1-1/4	61.20
3	7/32	1	61.20
3	7/32	1-1/4	61.20
3	1/4	1	64.80
4	3/64	1	79.50
4	1/16	1	60.44
4	1/16	1-1/4	60.44
4	5/64	1	67.50
4	5/64	1-1/4	67.50
4	3/32	1	67.50

Diameter	Width of Face	Hole Size	Price Each
4	3/32	1-1/4	67.50
4	7/64	1	67.50
4	7/64	1-1/4	67.50
4	1/8	1	67.50
4	1/8	1-1/4	67.50
4	9/64	1	67.50
4	9/64	1-1/4	67.50
4	5/32	1	67.50
4	5/32	1-1/4	67.50
4	11/64	1	72.00
4	11/64	1-1/4	72.00
4	3/16	1	72.00
4	3/16	1-1/4	72.00
4	7/32	1	72.00
4	7/32	1-1/4	72.00
4	1/4	1	72.00
4	1/4	1-1/4	72.00
4	9/32	1	72.00
5	1/16	1	81.00
5	1/16	1-1/4	85.50
5	5/64	1	85.50
5	3/32	1	85.50
5	3/32	1-1/4	85.50
5	7/64	1	85.50
5	7/64	1-1/4	85.50
5	1/8	1	85.50
5	1/8	1-1/4	85.50
5	9/64	1	87.30
5	9/64	1-1/4	87.30
5	5/32	1	87.30
5	5/32	1-1/4	87.30
5	11/64	1	91.80
5	11/64	1-1/4	91.80
5	3/16	1	91.80
5	3/16	1-1/4	91.80
5	7/32	1	108.00
5	7/32	1-1/4	108.00
5	1/4	1	115.20
5	1/4	1-1/4	115.20
5-1/2	1/8	1-1/4	99.00
6	1/16	1	134.78
6	1/16	1-1/4	134.78
6	3/32	1	107.10

Diameter	Width of Face	Hole Size	Price Each
6	3/32	1-1/4	107.10
6	7/64	1	112.50
6	7/64	1-1/4	112.50
6	1/8	1	112.50
6	1/8	1-1/4	112.50
6	9/64	1	144.00
6	9/64	1-1/4	144.00
6	5/32	1	144.00
6	5/32	1-1/4	144.00
6	11/64	1	144.00
6	11/64	1-1/4	144.00
6	3/16	1	144.00
6	3/16	1-1/4	144.00
6	3/16	1-1/2	144.00
6	1/4	1	157.50
6	1/4	1-1/4	157.50
6	9/32	1-1/4	175.00
6	5/16	1	157.50
7	1/4	1	240.00
8	1/8	1	247.50
8	1/8	1-1/4	247.50
8	1/8	1-1/2	247.50
8	3/16	1	256.50
8	3/16	1-1/4	256.50
8	3/16	1-1/2	256.50
8	1/4	1	292.50
8	1/4	1-1/4	292.50
8	1/4	1-1/2	292.50
8	9/32	1-1/4	350.00
10	3/32	1-1/4	531.00
10	3/32	1-1/2	531.00
10	1/8	1-1/4	531.00
10	1/8	1-1/2	531.00
10	3/16	1-1/4	531.00
10	3/16	1-1/2	531.00
10	1/4	1-1/4	531.00
10	1/4	1-1/2	531.00
12	1/8	1-1/4	675.00
12	1/8	1-1/2	675.00
12	3/16	1-1/4	693.00
12	3/16	1-1/2	693.00
12	1/4	1-1/2	693.00

# Metric Plain Metal Slitting Saws

High Speed Steel

List No. 738M

For general purpose slitting or cutting-off operations.



**MDX**  
SUPERIOR IMPORT



Diameter	Width of Face	Hole Size	Price Each
50.00	2.00	1/2	75.00
50.00	3.00	1/2	80.00
75.00	1.50	7/8	78.00
75.00	2.50	7/8	85.00

Diameter	Width of Face	Hole Size	Price Each
75.00	3.00	7/8	92.00
75.00	3.50	7/8	95.00
75.00	4.00	7/8	99.00
75.00	5.00	7/8	104.00

# Plain Metal Slitting Saws

High Speed Steel



**MDX**  
SUPERIOR IMPORT

List No. 738

For general purpose slitting or cutting-off operations.

Diameter	Width of Face	Hole Size	Price Each
1-1/2	1/32	1/2	17.01
1-1/2	1/16	1/2	17.01
1-1/2	3/32	1/2	17.01
1-1/2	1/8	1/2	17.01
1-3/4	1/32	1/2	17.91
1-3/4	1/16	1/2	17.91
1-3/4	3/32	1/2	17.91
1-3/4	1/8	1/2	17.91
2	1/32	1/2	17.91
2	1/16	1/2	19.80
2	5/64	3/4	22.05
2	1/8	1/2	23.31
2	3/32	1/2	22.05
2	5/32	1/2	23.31
2	3/16	1/2	25.56
2-1/2	1/32	7/8	25.56
2-1/2	3/64	3/8	25.56
2-1/2	3/64	7/8	25.56
2-1/2	1/16	7/8	25.56
2-1/2	1/16	1	25.56
2-1/2	5/64	5/8	25.56
2-1/2	5/64	7/8	25.56
2-1/2	5/64	1	25.56
2-1/2	3/32	7/8	25.56
2-1/2	3/32	1	25.56
2-1/2	7/64	1	25.56
2-1/2	1/8	5/8	27.90
2-1/2	1/8	7/8	27.90
2-1/2	5/32	1	27.90
2-1/2	3/16	7/8	27.90
2-1/2	3/16	1	27.90
3	1/64	1	32.43
3	1/32	1	29.48
3	3/64	1	29.48
3	1/16	1	30.60
3	3/32	1	30.60
3	7/64	1	30.60
3	1/8	1	31.50
3	1/8	1-1/4	31.50
3	9/64	1	31.50
3	5/32	1	33.26
3	11/64	1	33.26
3	3/16	1	33.26
3	1/4	1	49.00

Diameter	Width of Face	Hole Size	Price Each
3	7/32	1	35.06
3	7/32	1-1/4	42.07
3-1/2	1/32	1	35.06
3-1/2	1/16	1	35.06
3-1/2	3/64	1	35.06
3-1/2	3/32	1	35.06
3-1/2	1/8	1	35.06
3-1/2	9/64	1	35.06
3-1/2	5/32	1	35.06
3-1/2	3/16	1	35.06
4	1/64	1	41.18
4	1/32	1	41.18
4	1/32	1-1/4	41.18
4	3/64	1	41.85
4	1/16	1	42.44
4	5/64	1	42.44
4	3/32	1	44.82
4	7/64	1	44.82
4	1/8	1	47.34
4	9/64	1	49.14
4	5/32	1	49.14
4	11/64	1	62.32
4	3/16	1	51.93
4-1/4	1/32	1	65.00
4-1/4	1/4	1	68.00
4-1/2	1/32	1	55.86
4-1/2	3/64	1	55.86
4-1/2	1/16	1	55.86
4-1/2	3/32	1	60.23
4-1/2	1/8	1	66.97
4-1/2	5/32	1	66.97
5	1/32	1	87.98
5	3/64	1	101.99
5	1/16	1	62.55
5	1/16	1-1/4	62.55
5	3/32	1	62.55
5	3/32	1-1/4	88.46
5	7/64	1	67.95
5	1/8	1	67.95
5	1/8	1-1/4	67.95
5	1/8	1-1/2	72.00
5	9/64	1	70.43
5	9/64	1-1/4	70.43
5	5/32	1	70.43

Diameter	Width of Face	Hole Size	Price Each
5	5/32	1-1/4	70.43
5	3/16	1	70.43
5	3/16	1-1/4	70.43
5	1/4	1	71.91
6	3/64	1	71.91
6	1/16	1	71.91
6	1/16	1-1/4	71.91
6	5/64	1	71.91
6	1/32	1	85.00
6	3/32	1	82.35
6	3/32	1-1/4	82.35
6	7/64	1	82.35
6	1/8	1	84.92
6	1/8	1-1/4	84.92
6	1/8	1-1/2	89.90
6	9/64	1	101.25
6	5/32	1	101.25
6	3/16	1	101.25
6	3/16	1-1/4	101.25
6	1/4	1	120.95
6	1/4	1-1/4	120.95
7	1/16	1-1/4	90.38
7	3/32	1	98.65
7	1/8	1	88.26
7	1/8	1-1/4	88.26
7	5/32	1	101.48
7	3/16	1	102.03
7	7/32	1	112.24
7	7/32	1-1/4	112.24
7	1/4	1	144.00
8	1/8	1	175.77
8	1/8	1-1/4	175.77
8	3/16	1	209.70
8	3/16	1-1/4	209.70
8	7/32	1	230.67
8	1/4	1-1/4	253.78
9	3/16	1-1/4	290.00
10	3/32	1-1/4	293.54
10	3/32	1	293.45
10	1/8	1-1/4	275.40
10	3/16	1-1/4	315.00
10	1/4	1-1/4	315.00
12	1/8	1	393.75

SAWS & CUTTERS

# Solid Carbide Slitting Saws



List No. C738

Please specify thickness when ordering.



**MADE IN USA**



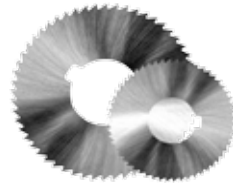
**MICHIGAN**  
DRILL & CUTTING TOOLS

Diameter	Thickness Range	Hole Size	No. of Teeth	Price Each	
				1-3 Pcs.	4+ Pcs.
1/4	.010-.035	1/8	12	41.37	30.73
5/16	.010-.035	1/8	12	41.37	30.73
3/8	.010-.030	3/16	14	41.37	30.73
3/8	.031-.063	3/16	14	43.00	31.50
1/2	.010-.035	3/16	14	41.37	30.73
1/2	.036-.063	3/16	14	40.46	29.54
5/8	.015-.040	1/4	16	47.04	36.00
5/8	.041-.063	1/4	16	50.00	38.00
3/4	.015-.081	1/4	18	54.15	39.76
3/4	.082-.125	1/4	18	63.63	47.81
1	.015-.081	5/16	20	66.97	58.00
1	.082-.125	5/16	20	76.79	60.62

Diameter	Thickness Range	Hole Size	No. of Teeth	Price Each	
				1-3 Pcs.	4+ Pcs.
1-1/2	.030-.078	1/2	36	78.30	62.56
1-1/2	.079-.125	1/2	36	89.17	72.42
2	.040-.078	1/2	40	107.88	93.52
2	.079-.125	1/2	40	139.49	122.55
2-1/2	.040-.078	1	48	122.59	106.93
2-1/2	.079-.125	1	48	159.20	144.85
3	.040-.078	1	72	178.42	166.24
3	.079-.125	1	72	240.55	227.21
3-1/2	.040-.078	1	76	206.10	195.00
3-1/2	.079-.125	1	76	304.50	288.98
4	.040-.078	1	80	218.95	204.00
4	.079-.125	1	80	315.00	299.00

# Screw Slotting Saws

High Speed Steel



**MDX**  
SUPERIOR IMPORT

SAWS & CUTTERS

List No. 729

For slotting and cut-off applications.

Diameter	Width of Face	Hole Size	Price Each
1-3/4	.006	5/8	19.66
1-3/4	.008	5/8	19.66
1-3/4	.010	5/8	18.47
1-3/4	.012	5/8	16.63
1-3/4	.013	5/8	20.52
1-3/4	.014	5/8	13.50
1-3/4	.016	5/8	13.18
1-3/4	.018	5/8	12.74
1-3/4	.020	5/8	12.31
1-3/4	.023	5/8	12.31
1-3/4	.025	5/8	12.31
1-3/4	.028	5/8	12.31
1-3/4	.032	5/8	12.31
1-3/4	.036	5/8	12.74
1-3/4	.040	5/8	12.74
1-3/4	.045	5/8	12.74
1-3/4	.050	5/8	22.80
1-3/4	.051	5/8	12.74
1-3/4	.057	5/8	13.50
1-3/4	.064	5/8	14.36
1-3/4	.072	5/8	14.36
1-3/4	.081	5/8	22.80
1-3/4	.091	5/8	22.80
1-3/4	.102	5/8	22.80
2-1/4	.006	5/8	20.52
2-1/4	.008	5/8	20.52
2-1/4	.010	5/8	20.52
2-1/4	.012	5/8	23.11
2-1/4	.013	5/8	23.11
2-1/4	.014	5/8	19.55
2-1/4	.016	5/8	19.55
2-1/4	.018	5/8	16.20
2-1/4	.020	5/8	16.20
2-1/4	.023	5/8	16.20
2-1/4	.025	5/8	16.20
2-1/4	.028	1/2	15.34
2-1/4	.028	5/8	15.34
2-1/4	.032	5/8	15.34

Diameter	Width of Face	Hole Size	Price Each
2-1/4	.035	5/8	15.34
2-1/4	.036	5/8	15.34
2-1/4	.040	5/8	16.20
2-1/4	.045	1/2	17.08
2-1/4	.045	5/8	17.08
2-1/4	.051	1/2	17.08
2-1/4	.051	5/8	17.08
2-1/4	.057	1/2	17.06
2-1/4	.057	5/8	17.06
2-1/4	.064	1/2	17.06
2-1/4	.064	5/8	17.06
2-1/4	.072	5/8	17.06
2-1/4	.081	5/8	18.25
2-1/4	.091	5/8	19.66
2-1/4	.102	5/8	21.38
2-3/4	.006	3/4	22.80
2-3/4	.006	1	32.94
2-3/4	.008	3/4	22.80
2-3/4	.008	1	24.34
2-3/4	.010	3/4	22.80
2-3/4	.010	1	30.02
2-3/4	.012	3/4	22.80
2-3/4	.012	1	28.19
2-3/4	.013	1	28.19
2-3/4	.014	3/4	22.80
2-3/4	.014	1	26.14
2-3/4	.016	3/4	22.80
2-3/4	.016	1	24.73
2-3/4	.018	3/4	22.80
2-3/4	.018	1	22.80
2-3/4	.020	3/4	17.06
2-3/4	.020	1	17.06
2-3/4	.022	1	22.80
2-3/4	.023	3/4	17.06
2-3/4	.023	1	17.06
2-3/4	.025	3/4	17.06
2-3/4	.025	1	17.06
2-3/4	.027	1	22.80

Diameter	Width of Face	Hole Size	Price Each
2-3/4	.028	3/4	17.06
2-3/4	.028	1	17.06
2-3/4	.032	3/4	17.06
2-3/4	.032	1	17.06
2-3/4	.036	3/4	17.06
2-3/4	.036	1	17.06
2-3/4	.040	5/8	17.06
2-3/4	.040	3/4	17.06
2-3/4	.040	1	17.06
2-3/4	.045	3/4	20.52
2-3/4	.045	1	20.52
2-3/4	.048	1	36.72
2-3/4	.051	3/4	20.52
2-3/4	.051	1	20.52
2-3/4	.057	3/4	20.52
2-3/4	.057	1	20.52
2-3/4	.064	3/4	20.52
2-3/4	.064	1	20.52
2-3/4	.072	3/4	20.52
2-3/4	.072	1	20.52
2-3/4	.081	3/4	23.87
2-3/4	.081	1	23.87
2-3/4	.083	1/2	26.50
2-3/4	.091	3/4	25.70
2-3/4	.091	1	25.70
2-3/4	.102	3/4	27.00
2-3/4	.102	1	27.04
2-3/4	.110	1	27.86
2-3/4	.114	3/4	27.86
2-3/4	.114	1	27.86
2-3/4	.128	3/4	27.86
2-3/4	.128	1	28.73
2-3/4	.144	3/4	33.05
2-3/4	.144	1	33.05
2-3/4	.162	3/4	36.07
2-3/4	.162	1	36.07
2-3/4	.182	3/4	42.23
2-3/4	.182	1	42.23

## Slitting & Slotting Saw Arbor

The spring-loaded mechanism on HSA12 & HSA12R8 accepts saw blades with hole diameters from 1/2" to 1". Blades are firmly held with a flat head socket cap screw.

Shank Diameter	Overall Length	Fits Hole Sizes	Tool No.	Price Each
1/2" Weldon	2-9/16	1/2 - 1 by 8 <sup>th</sup> s	HSA12	25.36
1/2" Weldon	2-3/4	1/4	HSA1214	15.87
1/2" Weldon	2-1/2	3/8	HSA1238	16.65
1/2" Weldon	2-1/2	1/2	HSA1212	19.09
R-8	5-3/32	1/2 - 1 by 8 <sup>th</sup> s	HSAR8	28.28

Set	Sizes	Pcs.	Set No.	Price
	HSA1214, HSA1238, HSA1212	3	HSASET	49.03

## Slitting Saw and Stub Milling Machine Arbors with R8 Shank



These arbors are made of alloy forged steel for a more durable service life.

Diameter of Arbor	Shoulder to Nut	Tool No.	Price Each
1	2	R8SM1	110.50
1-1/4	2	R8SM114	120.26

Supplied with spacers. Replacement spacers, nuts, and arbor keys available.

## Slitting & Slotting Saw Arbor

### Hardened & Ground

Rigid arbors, with extended length, reach areas that standard short arbors cannot. Each arbor is ground for precision within 0.002". Super low profile cups allows cutter to get lower and closer to working area. Plug style cup gives extra support and rigidity when working with larger diameter saws.



Shank Dia. d	T.I.R. Hole size D	d <sub>1</sub>	L	Tool No.	Price Each
.500	.250	.500	2.70	HSA514	33.82
.500	.375	.625	2.88	HSA538	41.33
.500	.500	.750	3.07	HSA512	45.12
.750	.625	1.00	3.53	HSA758	48.83
.750	1.000	1.50	3.78	HSA71	52.62
.750	1.250	1.75	4.03	HSA7114	60.13

### Sets

Sizes	Pcs.	Set No.	Price
HSA514, HSA538, HSA512	3	HSA5SET	120.26
HSA758, HSA71, HSA7114	3	HSA7SET	161.65



All sets are supplied with wood stand

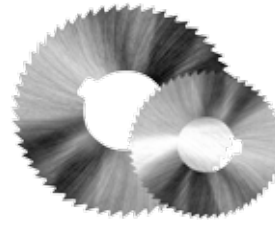


# Jewelers Slotting Saws

High Speed Steel

List No. 728

For slotting and grooving very thin material or cutting off wire, thin tubing, sheeting, extrusions or other thin materials.



**MDX**  
SUPERIOR IMPORT

Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
1	.006	1/4	98	13.93
1	.006	5/16	98	13.93
1	.006	3/8	98	13.93
1	.006	1/2	98	13.93
1	.008	1/4	98	13.93
1	.008	5/16	98	13.93
1	.008	3/8	99	13.93
1	.008	1/2	98	13.93
1	.010	1/4	98	10.80
1	.010	5/16	98	10.80
1	.010	3/8	99	10.80
1	.010	1/2	98	10.80
1	.012	1/4	98	10.80
1	.012	5/16	98	10.80
1	.012	3/8	99	10.80
1	.012	1/2	98	10.80
1	.014	1/4	76	9.94
1	.014	5/16	76	9.94
1	.014	3/8	75	9.94
1	.014	1/2	76	9.94
1	.016	1/4	76	9.40
1	.016	5/16	76	9.40
1	.016	3/8	75	9.40
1	.016	1/2	76	9.40
1	.018	1/4	76	8.53
1	.018	5/16	76	8.53
1	.018	3/8	75	8.53
1	.018	1/2	76	8.53
1	.020	1/4	76	8.53
1	.020	5/16	76	8.53
1	.020	3/8	75	8.53
1	.020	1/2	76	8.53
1	.023	1/4	76	7.78
1	.023	5/16	76	7.78
1	.023	3/8	75	7.78
1	.023	1/2	76	7.78
1	.025	1/4	75	7.78
1	.025	5/16	76	7.78
1	.025	3/8	75	7.78
1	.025	1/2	76	7.78
1	.028	1/4	76	9.40
1	.028	5/16	76	9.40
1	.028	3/8	75	9.40
1	.028	1/2	76	9.40
1	.032	1/4	76	9.40
1	.032	5/16	76	9.40
1	.032	3/8	75	9.40
1	.032	1/2	76	9.40
1-1/4	.006	5/16	120	16.42
1-1/4	.006	3/8	120	16.42
1-1/4	.006	1/2	120	16.42
1-1/4	.008	5/16	120	16.42
1-1/4	.008	3/8	120	16.42
1-1/4	.008	1/2	120	16.42
1-1/4	.010	5/16	120	15.01
1-1/4	.010	3/8	120	15.01
1-1/4	.010	1/2	120	15.01
1-1/4	.012	5/16	120	12.10
1-1/4	.012	3/8	120	12.10
1-1/4	.012	1/2	120	12.10
1-1/4	.013	3/8	120	11.66
1-1/4	.014	5/16	98	11.66
1-1/4	.014	3/8	99	11.66

Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
1-1/4	.014	1/2	99	11.66
1-1/4	.016	5/16	98	11.66
1-1/4	.016	3/8	99	11.66
1-1/4	.016	1/2	99	11.66
1-1/4	.018	5/16	98	10.80
1-1/4	.018	3/8	99	10.80
1-1/4	.018	1/2	99	10.80
1-1/4	.020	5/16	98	9.94
1-1/4	.020	3/8	99	9.94
1-1/4	.020	1/2	99	9.94
1-1/4	.022	3/8	98	10.80
1-1/4	.023	5/16	98	9.40
1-1/4	.023	3/8	99	9.40
1-1/4	.023	1/2	99	9.40
1-1/4	.024	3/8	98	9.94
1-1/4	.025	5/16	98	9.40
1-1/4	.025	3/8	99	9.40
1-1/4	.025	1/2	99	9.40
1-1/4	.028	5/16	98	9.40
1-1/4	.028	3/8	99	9.94
1-1/4	.028	1/2	99	9.94
1-1/4	.032	5/16	99	9.94
1-1/4	.032	3/8	99	9.94
1-1/4	.032	1/2	99	9.94
1-1/2	.006	3/8	140	20.30
1-1/2	.006	1/2	140	20.30
1-1/2	.008	3/8	140	20.30
1-1/2	.008	1/2	140	20.30
1-1/2	.010	3/8	140	20.30
1-1/2	.010	1/2	140	20.30
1-1/2	.012	3/8	140	13.93
1-1/2	.012	1/2	140	13.93
1-1/2	.014	3/8	110	12.96
1-1/2	.014	1/2	110	12.96
1-1/2	.016	3/8	110	12.10
1-1/2	.016	1/2	110	12.10
1-1/2	.018	3/8	110	11.66
1-1/2	.018	1/2	110	11.66
1-1/2	.020	3/8	110	10.80
1-1/2	.020	1/2	110	10.80
1-1/2	.023	3/8	110	10.80
1-1/2	.023	1/2	110	10.80
1-1/2	.025	3/8	110	10.80
1-1/2	.025	1/2	110	10.80
1-1/2	.028	3/8	110	10.80
1-1/2	.028	1/2	110	10.80
1-1/2	.032	3/8	110	12.31
1-1/2	.032	1/2	110	12.31
1-3/4	.006	5/16	160	17.82
1-3/4	.006	3/8	160	17.82
1-3/4	.006	1/2	160	17.82
1-3/4	.008	5/16	160	21.82
1-3/4	.008	3/8	160	21.82
1-3/4	.008	1/2	160	21.82
1-3/4	.010	5/16	160	20.30
1-3/4	.010	3/8	160	20.30
1-3/4	.010	1/2	160	20.30
1-3/4	.012	5/16	160	17.82
1-3/4	.012	3/8	160	17.82
1-3/4	.012	1/2	160	14.36
1-3/4	.014	3/8	132	14.36
1-3/4	.014	1/2	132	14.36
1-3/4	.016	3/8	132	13.93

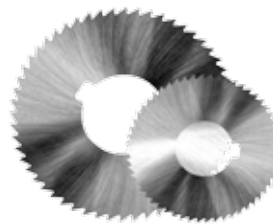
Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
1-3/4	.016	1/2	132	13.93
1-3/4	.018	3/8	132	12.96
1-3/4	.018	1/2	132	12.96
1-3/4	.020	3/8	132	12.40
1-3/4	.020	1/2	132	12.10
1-3/4	.023	3/8	132	10.80
1-3/4	.023	1/2	132	10.80
1-3/4	.025	3/8	132	10.80
1-3/4	.025	1/2	132	10.80
1-3/4	.028	3/8	132	11.66
1-3/4	.028	1/2	132	11.66
1-3/4	.032	3/8	132	11.66
1-3/4	.032	1/2	132	11.66
2	.006	3/8	190	25.27
2	.006	1/2	190	25.27
2	.008	3/8	190	25.27
2	.008	1/2	190	25.27
2	.010	3/8	190	24.30
2	.010	1/2	190	24.30
2	.012	3/8	190	22.68
2	.012	1/2	190	22.68
2	.014	3/8	152	18.36
2	.014	1/2	152	18.36
2	.016	3/8	152	16.52
2	.016	1/2	152	16.52
2	.018	3/8	152	14.80
2	.018	1/2	152	14.80
2	.020	3/8	152	13.93
2	.020	1/2	152	13.93
2	.023	3/8	152	12.96
2	.023	1/2	152	12.96
2	.025	3/8	152	13.93
2	.025	1/2	152	13.93
2	.028	3/8	152	13.93
2	.028	1/2	152	13.93
2	.032	3/8	110	13.93
2	.032	1/2	110	13.93
2	.035	3/8	110	13.93
2	.035	1/2	110	13.93
2	.036	1/2	110	22.25
2	.040	3/8	110	14.80
2	.040	1/2	110	14.80
2	.045	3/8	110	14.80
2	.045	1/2	110	14.80
2	.051	3/8	110	16.52
2	.051	1/2	110	16.52
2	.057	3/8	110	16.52
2	.057	1/2	110	16.52
2	.081	1/2	110	19.00
2-1/4	.008	1/2	210	26.00
2-1/4	.010	1/2	210	30.67
2-1/4	.012	1/2	210	24.95
2-1/4	.014	1/2	210	24.95
2-1/4	.018	1/2	210	17.82
2-1/4	.032	1/2	210	17.82
2-1/4	.075	1/2	210	27.72
2-1/2	.006	1/2	240	33.90
2-1/2	.008	1/2	240	29.40
2-1/2	.010	1/2	240	30.67
2-1/2	.012	1/2	240	26.78
2-1/2	.013	1/2	240	26.78
2-1/2	.014	1/2	190	24.30
2-1/2	.016	1/2	190	20.09

# Jewelers Slotting Saws

High Speed Steel

List No. 728

For slotting and grooving very thin material or cutting off wire, thin tubing, sheeting, extrusions or other thin materials.



**MDX**  
SUPERIOR IMPORT

SAWS & CUTTERS

Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
2-1/2	.018	1/2	190	17.06
2-1/2	.020	1/2	190	15.98
2-1/2	.023	1/2	190	14.80
2-1/2	.025	1/2	190	14.80
2-1/2	.028	1/2	190	16.52
2-1/2	.032	1/2	140	16.52
2-1/2	.035	1/2	140	17.82
2-1/2	.040	1/2	140	18.79
2-1/2	.045	1/2	140	18.79
2-1/2	.051	1/2	140	20.09
2-1/2	.057	1/2	140	20.09
2-1/2	.071	1/2	140	23.50
2-1/2	.075	1/2	140	23.50
3	.006	1/2	280	44.80
3	.006	3/4	280	44.80
3	.006	1	280	44.80
3	.008	1/2	280	44.80
3	.008	3/4	280	44.80
3	.008	1	280	44.80
3	.010	1/2	280	35.21
3	.010	3/4	280	35.21
3	.010	1	280	35.21
3	.012	1/2	280	31.32
3	.012	3/4	280	31.32
3	.012	1	280	31.32
3	.014	1/2	230	31.32
3	.014	3/4	230	31.32
3	.014	1	230	31.32
3	.016	1/2	230	26.78
3	.016	3/4	230	26.78
3	.016	1	230	26.78
3	.018	1/2	230	23.87
3	.018	3/4	230	23.87
3	.018	1	230	23.87
3	.020	1/2	230	19.66
3	.020	3/4	230	21.84
3	.020	1	230	19.66
3	.023	1/2	230	17.82
3	.023	3/4	230	17.82
3	.023	1	230	17.82
3	.025	1/2	230	17.82
3	.025	3/4	230	17.82
3	.025	1	230	17.82
3	.028	1/2	230	20.09
3	.028	3/4	230	20.09
3	.028	1	230	20.09
3	.032	1/2	168	20.09
3	.032	3/4	168	20.09
3	.032	1	168	20.09
3	.035	1/2	168	22.25
3	.035	3/4	168	22.25
3	.035	1	168	22.25
3	.039	1	168	26.28
3	.040	1/2	168	22.25
3	.040	3/4	168	22.25
3	.040	1	168	22.25
3	.045	1/2	168	22.25
3	.045	3/4	168	22.25
3	.045	1	168	22.25
3	.051	1/2	168	23.65
3	.051	3/4	168	23.65
3	.051	1	168	23.65
3	.053	1/2	168	26.28

Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
3	.057	1/2	168	23.65
3	.057	3/4	168	23.65
3	.057	1	168	23.65
4	.010	1/2	310	56.70
4	.010	1	310	56.70
4	.012	1/2	310	49.70
4	.012	3/4	310	49.70
4	.012	1	310	49.70
4	.014	1/2	310	39.88
4	.014	3/4	310	39.88
4	.014	1	310	39.88
4	.016	1/2	310	45.79
4	.016	3/4	310	45.79
4	.016	1	310	45.79
4	.018	1/2	310	42.66
4	.018	3/4	310	47.40
4	.018	1	310	42.66
4	.020	1/2	310	40.61
4	.020	3/4	310	40.61
4	.020	1	310	40.61
4	.023	1/2	310	32.51
4	.023	3/4	310	32.51
4	.023	1	310	32.51
4	.025	1/2	310	29.92
4	.025	3/4	310	29.92
4	.025	1	310	29.92
4	.028	1/2	310	29.92
4	.028	3/4	310	29.92
4	.028	1	310	29.92
4	.032	1/2	220	32.51
4	.032	3/4	220	32.51
4	.032	1	220	32.51
4	.035	1/2	220	33.80
4	.035	3/4	220	33.80
4	.035	1	220	33.80
4	.040	1/2	220	33.80
4	.040	3/4	220	33.80
4	.040	1	220	33.80
4	.045	1/2	220	37.37
4	.045	3/4	220	37.37
4	.045	1	220	37.37
4	.051	1/2	220	37.37
4	.051	3/4	220	37.37
4	.051	1	220	37.37
4	.057	1/2	220	38.12
4	.057	3/4	220	38.12
4	.057	1	220	38.12
4	.064	1/2	220	38.12
4	.064	3/4	220	38.12
4	.064	1	220	38.12
4	.072	1	220	51.12
5	.016	1/2	380	59.54
5	.016	1	380	59.54
5	.018	1/2	380	56.20
5	.018	3/4	380	56.20
5	.018	1	380	56.20
5	.020	1/2	380	71.58
5	.020	1	380	71.58
5	.023	1	380	54.43
5	.025	1/2	380	54.43
5	.025	3/4	380	54.43
5	.025	1	280	54.43
5	.028	1/2	280	54.43

Diameter	Width of Face	Hole Size	Number of Teeth	Price Each
5	.028	1	280	54.43
5	.032	1/2	280	46.01
5	.032	1	280	46.01
5	.035	1/2	280	46.01
5	.035	1	280	46.01
5	.036	1	280	46.01
5	.040	1/2	280	46.01
5	.040	3/4	280	46.01
5	.040	1	280	46.01
5	.045	1/2	280	51.62
5	.045	3/4	280	51.62
5	.045	1	280	51.62
5	.051	1/2	280	51.62
5	.051	1	280	51.62
5	.057	1/2	280	53.14
5	.057	3/4	280	53.14
5	.057	1	280	53.14
5	.064	1/2	280	53.14
5	.064	1	280	53.14
6	.020	1/2	280	78.79
6	.020	3/4	280	78.79
6	.023	3/4	460	78.79
6	.023	1	460	78.79
6	.025	1/2	460	69.50
6	.025	3/4	460	69.50
6	.025	1	460	69.50
6	.028	3/4	340	65.56
6	.028	1	340	65.56
6	.032	1/2	340	61.40
6	.032	3/4	340	61.40
6	.032	1	340	61.40
6	.035	1/2	340	74.64
6	.035	3/4	340	82.56
6	.035	1	340	74.30
6	.040	1/2	340	74.30
6	.040	1	340	74.30
6	.045	1/2	340	67.18
6	.045	3/4	340	67.18
6	.045	1	340	67.18
6	.051	1/2	232	74.30
6	.051	3/4	232	74.30
6	.051	1	232	74.30
6	.057	1/2	232	74.30
6	.057	1	232	74.30
6	.064	1/2	232	74.30
6	.064	3/4	232	74.30
6	.064	1	232	74.30
6	.072	1/2	232	76.80
6	.072	3/4	232	76.80
6	.072	1	232	76.90
6	.081	1/2	232	76.90
6	.081	1	232	76.90
6	.091	1/2	232	83.59
6	.091	3/4	232	83.59
6	.091	1	232	83.59
6	.102	1/2	232	93.31
6	.102	3/4	232	93.31
6	.102	1	232	93.31
6	.114	1/2	232	135.00
6	.114	3/4	232	135.00
6	.114	1	232	135.00
6	.128	1/2	232	147.74
6	.128	1	232	147.74

# Side Milling Cutters

High Speed Steel

## Staggered Teeth

For deep slotting and heavy duty side milling.  
The Shear cutting action eliminates the side thrust.

List No. 744



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

Diameter	Width of Face	Hole Size	Price Each
2-1/8	3/16	3/4	44.56
2-1/8	1/4	3/4	46.58
2-1/8	5/16	3/4	51.98
2-1/8	3/8	3/4	58.50
2-1/2	3/16	7/8	71.85
2-1/2	1/4	7/8	61.60
2-1/2	1/4	1	61.60
2-1/2	5/16	7/8	60.84
2-1/2	5/16	1	73.88
2-1/2	3/8	7/8	69.87
2-1/2	7/16	7/8	73.36
2-1/2	1/2	7/8	73.36
2-1/2	1/2	1	66.49
2-1/2	5/8	1	72.00
2-3/4	1/4	1	64.26
2-3/4	5/16	1	68.04
2-3/4	3/8	1	71.92
2-3/4	7/16	1	75.60
2-3/4	1/2	1	80.92
3	5/32	1	59.09
3	3/16	1	59.09
3	3/16	1-1/4	59.09
3	7/32	1	81.20
3	7/32	1-1/4	81.20
3	1/4	1	58.69
3	1/4	1-1/4	58.69
3	9/32	1	67.95
3	9/32	1-1/4	67.95
3	5/16	1	69.57
3	5/16	1-1/4	69.57
3	11/32	1	71.87
3	3/8	1	71.87
3	3/8	1-1/4	73.08
3	7/16	7/8	84.60
3	7/16	1	73.08
3	7/16	1-1/4	76.14
3	1/2	1	76.14
3	1/2	1-1/4	77.86
3	9/16	1	76.32
3	9/16	1-1/4	80.10
3	5/8	1	80.10
3	5/8	1-1/4	80.10
3	11/16	1	84.30
3	11/16	1-1/4	84.30
3	3/4	1	85.22
3	3/4	1-1/4	85.22
3	13/16	1	98.55
3	13/16	1-1/4	98.55
3	7/8	1	100.80
3	7/8	1-1/4	100.80
3	15/16	1	117.00
3	15/16	1-1/4	117.00
3	1	1	122.18
3	1	1-1/4	121.59
3	1-1/4	1	145.00
3-1/2	3/16	1	105.27
3-1/2	7/32	7/8	110.00
3-1/2	1/4	1	85.50
3-1/2	9/32	1	85.50
3-1/2	5/16	1	85.50
3-1/2	3/8	1	97.88
3-1/2	3/8	1-1/4	97.88
3-1/2	7/16	1	105.08
3-1/2	1/2	1	108.00
3-1/2	1/2	1-1/4	108.00

Diameter	Width of Face	Hole Size	Price Each
3-1/2	9/16	1-1/4	129.50
3-1/2	5/8	1	121.50
3-1/2	5/8	1-1/4	116.78
3-1/2	11/16	1	125.56
3-1/2	11/16	1-1/4	125.56
3-1/2	3/4	1	125.56
3-1/2	3/4	1-1/4	125.56
3-1/2	13/16	1	116.78
3-1/2	13/16	1-1/4	116.78
3-1/2	7/8	1	125.67
3-1/2	7/8	1-1/4	125.67
3-1/2	15/16	1	139.09
3-1/2	15/16	1-1/4	139.09
3-1/2	1	1	159.22
3-1/2	1	1-1/4	159.22
4	3/16	1	83.25
4	3/16	1-1/4	83.25
4	7/32	1	86.40
4	7/32	1-1/4	86.40
4	1/4	1	94.73
4	1/4	1-1/4	94.73
4	9/32	1	98.64
4	9/32	1-1/4	98.64
4	5/16	1	100.80
4	5/16	1-1/4	100.80
4	11/32	1	102.50
4	11/32	1-1/4	102.50
4	3/8	1	105.56
4	3/8	1-1/4	105.56
4	3/8	1-1/2	112.00
4	13/32	1-1/4	108.86
4	7/16	1	108.86
4	7/16	1/1/4	110.16
4	1/2	1	112.23
4	1/2	1/1/4	112.23
4	9/16	1	116.74
4	9/16	1-1/4	116.74
4	5/8	1	130.12
4	5/8	1-1/4	130.12
4	11/16	1	134.10
4	11/16	1-1/4	134.10
4	3/4	1	136.40
4	3/4	1-1/4	136.40
4	13/16	1	144.77
4	13/16	1-1/4	144.77
4	7/8	1	144.77
4	7/8	1-1/4	144.77
4	15/16	1	160.64
4	15/16	1-1/4	160.64
4	1	1	167.40
4	1	1-1/4	167.40
4	1-1/8	1-1/4	181.80
4	1-3/16	1-1/4	197.45
4	1-1/4	1-1/4	240.00
4	1-1/2	1-1/4	265.50
4-1/2	1/2	1	149.04
4-1/2	1/2	1-1/4	149.04
4-1/2	5/8	1-1/4	155.69
4-1/2	3/4	1	155.69
4-1/2	3/4	1-1/4	155.69
4-1/2	7/8	1	155.69
4-1/2	7/8	1-1/4	155.69
4-1/2	1	1	190.49
4-1/2	1	1-1/4	190.49
4-1/2	1-1/4	1	255.00

Diameter	Width of Face	Hole Size	Price Each
4-1/2	1-1/4	1-1/4	255.00
5	7/32	1	134.55
5	7/32	1-1/4	134.55
5	1/4	1	134.55
5	1/4	1-1/4	134.55
5	5/16	1	138.38
5	5/16	1-1/4	138.38
5	3/8	1	142.74
5	3/8	1-1/4	142.74
5	7/16	1	148.60
5	7/16	1-1/4	148.60
5	1/2	1	151.92
5	1/2	1-1/4	151.92
5	9/16	1	158.40
5	9/16	1-1/4	158.40
5	5/8	1	169.95
5	5/8	1-1/4	169.95
5	11/16	1	185.72
5	11/16	1-1/4	185.72
5	3/4	1	183.65
5	3/4	1-1/4	183.65
5	13/16	1	202.64
5	13/16	1-1/4	202.64
5	7/8	1	202.64
5	7/8	1-1/4	202.64
5	15/16	1	225.08
5	15/16	1-1/4	225.08
5	1	1-1/4	229.50
5	1-1/4	1-1/4	290.00
6	1/4	1	165.50
6	1/4	1-1/4	165.50
6	9/32	1	165.50
6	9/32	1-1/4	165.50
6	5/16	1	178.20
6	5/16	1-1/4	178.20
6	3/8	1	178.20
6	3/8	1-1/4	178.20
6	7/16	1	188.96
6	7/16	1-1/4	188.96
6	1/2	1	200.70
6	1/2	1-1/4	200.70
6	17/32	1-1/4	215.00
6	9/16	1	214.17
6	9/16	1-1/4	214.17
6	5/8	1	227.68
6	5/8	1-1/4	227.68
6	11/16	1	243.00
6	11/16	1-1/4	243.00
6	3/4	1	243.00
6	3/4	1-1/4	243.00
6	13/16	1	288.00
6	13/16	1-1/4	288.00
6	7/8	1	288.00
6	7/8	1-1/4	288.00
6	15/16	1	305.10
6	15/16	1-1/4	305.10
6	1	1	310.10
6	1	1-1/4	310.10
6	1	1-1/2	310.10
6	1-1/8	1-1/4	332.10
6	1-3/16	1-1/4	332.10
6	1-1/4	1-1/4	332.10
6	1-1/2	1-1/4	390.00
6-1/2	1	1-1/4	328.00
6-1/2	1	1-1/2	328.00

# Side Milling Cutters

High Speed Steel

## Staggered Teeth

For deep slotting and heavy duty side milling.  
The Shear cutting action eliminates the side thrust.

List No. 744



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

Diameter	Width of Face	Hole Size	Price Each
7	1/4	1-1/4	329.45
7	5/16	1-1/4	329.45
7	3/8	1-1/4	360.00
7	7/16	1-1/4	360.00
7	1/2	1-1/4	392.45
7	9/16	1-1/4	402.38
7	5/8	1-1/4	440.30
7	11/16	1-1/4	440.30
7	3/4	1-1/4	440.30
7	13/16	1-1/4	440.30
7	7/8	1-1/4	531.10
7	15/16	1-1/4	531.10
7	1	1-1/4	570.56
7	1	1-1/2	570.56
8	1/4	1-1/4	358.28
8	1/4	1-1/2	358.28
8	9/32	1-1/4	420.00
8	5/16	1-1/4	365.38
8	5/16	1-1/2	365.38
8	3/8	1-1/4	386.10
8	3/8	1-1/2	386.10
8	7/16	1-1/4	399.00
8	7/16	1-1/2	399.00
8	1/2	1	426.02
8	1/2	1-1/4	426.02
8	1/2	1-1/2	426.79
8	9/16	1-1/4	475.28
8	9/16	1-1/2	475.28

Diameter	Width of Face	Hole Size	Price Each
8	5/8	1-1/4	475.20
8	5/8	1-1/2	475.20
8	11/16	1-1/4	482.00
8	11/16	1-1/2	482.00
8	3/4	1-1/4	512.18
8	3/4	1-1/2	512.18
8	13/16	1-1/4	562.58
8	13/16	1-1/2	565.58
8	7/8	1-1/4	571.58
8	7/8	1-1/2	601.16
8	15/16	1-1/4	648.00
8	15/16	1-1/2	648.00
8	1	1-1/2	648.00
8	1	1-1/4	648.00
8	1-1/2	1-1/2	764.00
9	1/4	1-1/4	445.00
9	1/4	1-1/2	445.00
9	3/8	1-1/4	575.90
9	3/8	1-1/2	575.90
9	7/16	1-1/4	619.99
9	1/2	1-1/4	647.96
9	1/2	1-1/2	647.96
9	5/8	1-1/4	688.50
9	5/8	1-1/2	688.50
9	3/4	1-1/4	738.00
9	3/4	1-1/2	738.00
9	1	1-1/4	828.00
9	1	1-1/2	828.00

Diameter	Width of Face	Hole Size	Price Each
10	1/4	1-1/2	696.56
10	5/16	1-1/2	763.16
10	3/8	1-1/2	804.56
10	7/16	1-1/2	881.98
10	1/2	1-1/2	915.29
10	9/16	1-1/2	935.98
10	5/8	1-1/2	967.46
10	11/16	1-1/2	1011.58
10	3/4	1-1/2	1022.38
10	13/16	1-1/2	1066.46
10	7/8	1-1/2	1110.58
10	15/16	1-1/2	1164.58
10	1	1-1/2	1218.56
10	1-1/8	1-1/2	1400.00
10	1-1/4	1-1/2	1550.00
12	1/4	1-1/2	1179.88
12	5/16	1-1/2	1247.39
12	3/8	1-1/2	1247.39
12	7/16	1-1/2	1232.00
12	1/2	1-1/2	1232.00
12	9/16	1-1/2	1300.00
12	5/8	1-1/2	1404.00
12	11/16	1-1/2	1404.00
12	3/4	1-1/2	1529.97
12	13/16	1-1/2	1529.97
12	7/8	1-1/2	1629.00
12	15/16	1-1/2	1695.00
12	1	1-1/2	1709.96

## Straight Teeth – With Side Clearance

List No. 740

For slotting and light duty side milling.  
These cutters can be ganged or used as straddle mills.



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

Diameter	Width of Face	Hole Size	Price Each
2	3/16	1/2	37.58
2	3/16	5/8	37.58
2	1/4	1/2	37.58
2	1/4	5/8	34.10
2	1/4	7/8	37.58
2	5/16	1/2	36.44
2	5/16	5/8	36.44
2	5/16	7/8	36.44
2	3/8	1/2	37.58
2	3/8	5/8	37.58
2	3/8	7/8	37.58
2	7/16	7/8	46.00
2-1/4	5/32	1	46.00
2-1/2	3/32	7/8	49.00
2-1/2	1/8	7/8	49.00
2-1/2	5/32	7/8	49.00
2-1/2	3/16	7/8	44.20
2-1/2	3/16	1	44.20
2-1/2	7/32	7/8	49.75
2-1/2	1/4	7/8	45.86
2-1/2	1/4	1	45.86
2-1/2	5/16	7/8	46.90
2-1/2	5/16	1	46.90

Diameter	Width of Face	Hole Size	Price Each
2-1/2	3/8	7/8	51.14
2-1/2	3/8	1	51.14
2-1/2	7/16	7/8	59.00
2-1/2	7/16	1	59.00
2-1/2	9/16	7/8	60.30
2-1/2	1/2	7/8	52.07
2-1/2	1/2	1	52.07
2-1/2	5/8	1	60.30
3	3/16	1	44.99
3	3/16	1-1/4	45.45
3	7/32	1	48.68
3	7/32	1-1/4	46.68
3	1/4	1	52.88
3	1/4	1-1/4	52.88
3	9/32	1	54.50
3	9/32	1-1/4	54.50
3	5/16	1	55.61
3	5/16	1-1/4	55.61
3	11/32	1	56.70
3	11/32	1-1/4	56.70
3	3/8	1	59.09
3	3/8	1-1/4	59.09
3	13/32	1	60.75

Diameter	Width of Face	Hole Size	Price Each
3	13/32	1-1/4	60.75
3	7/16	1	62.64
3	7/16	1-1/4	62.64
3	1/2	1	63.50
3	1/2	1-1/4	63.50
3	9/16	1	64.89
3	9/16	1-1/4	64.89
3	5/8	1	66.83
3	5/8	1-1/4	66.83
3	11/16	1	70.65
3	11/16	1-1/4	70.65
3	3/4	1	72.14
3	3/4	1-1/4	72.14
3	13/16	1	90.18
3	13/16	1-1/4	90.18
3	7/8	1	105.96
3	7/8	1-1/4	105.96
3	15/16	1	108.68
3	15/16	1-1/4	108.68
3	1	1	114.39
3	1	1-1/4	114.39
3-1/2	3/16	1	62.30
3-1/2	1/4	1	62.30

# Side Milling Cutters

High Speed Steel



## Straight Teeth – Side Clearance

List No. 740

For slotting and light duty side milling.  
These cutters can be ganged or used as straddle mills.

SAWS & CUTTERS

Diameter	Width of Face	Hole Size	Price Each
3-1/2	5/16	1	68.40
3-1/2	5/16	1-1/4	68.40
3-1/2	3/8	1	71.64
3-1/2	3/8	1-1/4	71.64
3-1/2	7/16	1	72.41
3-1/2	7/16	1-1/4	72.41
3-1/2	1/2	1	76.50
3-1/2	1/2	1-1/4	76.50
3-1/2	9/16	1	83.52
3-1/2	9/16	1-1/4	83.52
3-1/2	5/8	1	83.52
3-1/2	11/16	1	98.00
3-1/2	11/16	1-1/4	98.00
3-1/2	3/4	1	103.50
3-1/2	3/4	1-1/4	103.50
3-1/2	13/16	1-1/4	103.50
3-1/2	7/8	1	106.00
3-1/2	7/8	1-1/4	106.00
3-1/2	1	1	108.00
3-1/2	1	1-1/4	108.00
4	3/16	1	65.25
4	3/16	1-1/4	65.25
4	7/32	1	68.22
4	7/32	1-1/4	68.22
4	1/4	1	71.55
4	1/4	1-1/4	71.55
4	9/32	1	72.00
4	9/32	1-1/4	72.00
4	5/16	1	72.14
4	5/16	1-1/4	72.14
4	11/32	1	77.51
4	11/32	1-1/4	77.51
4	3/8	1	81.99
4	3/8	1-1/4	81.99
4	13/32	1	81.99
4	13/32	1-1/4	81.99
4	7/16	1	82.76
4	7/16	1-1/4	82.76
4	1/2	1	91.31
4	1/2	1-1/4	91.31
4	9/16	1	91.70
4	9/16	1-1/4	91.70
4	5/8	1	101.88
4	5/8	1-1/4	101.88
4	11/16	1	108.10
4	11/16	1-1/4	108.10
4	3/4	1	108.10
4	3/4	1-1/4	108.10
4	13/16	1	110.55
4	13/16	1-1/4	110.55
4	7/8	1	119.64
4	7/8	1-1/4	119.64
4	15/16	1	124.74
4	15/16	1-1/4	124.74
4	1	1	140.22
4	1	1-1/4	140.22
4	1-1/8	1	155.00
4	1-1/8	1-1/4	155.00
4	1-1/4	1	168.00
4	1-1/4	1-1/4	168.00
4	1-1/2	1-1/4	220.00
4-1/2	3/16	1-1/4	104.78
4-1/2	1/4	1-1/4	110.30
4-1/2	5/16	1	110.30
4-1/2	3/8	1-1/4	116.10

Diameter	Width of Face	Hole Size	Price Each
4-1/2	7/16	1	121.50
4-1/2	7/16	1-1/4	121.50
4-1/2	1/2	1	121.50
4-1/2	1/2	1-1/4	121.50
4-1/2	7/8	1	135.00
5	3/16	1	115.00
5	1/4	1	103.50
5	1/4	1-1/4	103.50
5	9/32	1	108.00
5	9/32	1-1/4	108.00
5	5/16	1	110.53
5	5/16	1-1/4	110.53
5	11/32	1	112.37
5	11/32	1-1/4	112.37
5	3/8	1	121.58
5	3/8	1-1/4	121.58
5	13/32	1	125.21
5	13/32	1-1/4	125.21
5	7/16	1	128.46
5	7/16	1-1/4	128.46
5	1/2	1	128.46
5	1/2	1-1/4	128.46
5	1/2	1-1/2	145.00
5	9/16	1	138.60
5	9/16	1-1/4	138.60
5	9/16	1-1/2	142.20
5	5/8	1	142.20
5	5/8	1-1/4	142.20
5	11/16	1	153.00
5	11/16	1-1/4	153.00
5	3/4	1	154.25
5	3/4	1-1/4	154.25
5	13/16	1	162.45
5	13/16	1-1/4	162.45
5	7/8	1	171.80
5	7/8	1-1/4	171.80
5	15/16	1	175.50
5	15/16	1-1/4	175.50
5	1	1	182.60
5	1	1-1/4	182.60
5	1-1/4	1-1/4	210.00
5-1/2	3/8	1	119.00
5-1/2	1/2	1	139.50
5-1/2	3/4	1	166.25
6	1/4	1	143.10
6	1/4	1-1/4	143.10
6	9/32	1-1/4	148.50
6	5/16	1	148.50
6	5/16	1-1/4	148.50
6	11/32	1-1/4	152.10
6	3/8	1	152.10
6	3/8	1-1/4	152.10
6	13/32	1-1/4	153.26
6	7/16	1	153.26
6	7/16	1-1/4	153.26
6	1/2	1	160.58
6	1/2	1-1/4	160.58
6	9/16	1	166.50
6	9/16	1-1/4	166.50
6	5/8	1	175.23
6	5/8	1-1/4	175.23
6	11/16	1	179.46
6	11/16	1-1/4	179.46
6	3/4	1	205.70
6	3/4	1-1/4	205.70

Diameter	Width of Face	Hole Size	Price Each
6	13/16	1	207.86
6	13/16	1-1/4	207.86
6	7/8	1	212.21
6	7/8	1-1/4	212.21
6	15/16	1	218.30
6	15/16	1-1/4	218.30
6	1	1	243.45
6	1	1-1/4	243.45
6	1-1/8	1-1/4	283.50
6	1-1/4	1	283.50
6	1-1/4	1-1/4	283.50
7	1/4	1-1/4	273.60
7	7/16	1-1/4	273.60
7	9/16	1-1/4	280.00
7	5/8	1-1/4	291.33
7	11/16	1-1/4	309.00
7	3/4	1-1/4	312.71
7	13/16	1-1/4	317.70
7	7/8	1-1/4	328.50
7	15/16	1-1/4	337.50
7	1	1-1/4	382.23
7	1	1-1/2	410.00
8	1/4	1-1/4	297.00
8	1/4	1-1/2	330.00
8	5/16	1	393.75
8	5/16	1-1/4	393.75
8	3/8	1	411.39
8	3/8	1-1/4	411.39
8	7/16	1	414.90
8	7/16	1-1/4	414.90
8	1/2	1-1/4	436.50
8	1/2	1-1/2	436.50
8	9/16	1-1/4	448.29
8	5/8	1-1/4	448.20
8	11/16	1-1/4	449.10
8	3/4	1	499.00
8	3/4	1-1/4	499.00
8	13/16	1-1/4	501.00
8	7/8	1-1/4	504.00
8	15/16	1-1/4	517.50
8	1	1-1/4	602.10
8	1	1-1/2	602.10
9	1/4	1-1/4	395.00
9	3/8	1-1/4	475.00
9	1/2	1-1/4	510.00
9	5/8	1-1/4	540.00
9	3/4	1-1/4	590.00
9	1	1-1/4	680.00
10	1/4	1-1/2	495.00
10	5/16	1-1/2	575.00
10	3/8	1-1/2	620.00
10	7/16	1-1/2	650.00
10	1/2	1-1/2	675.00
10	9/16	1-1/2	710.00
10	5/8	1-1/4	720.00
10	5/8	1-1/2	720.00
10	11/16	1-1/2	750.00
10	3/4	1-1/4	780.00
10	3/4	1-1/2	780.00
10	13/16	1-1/2	799.00
10	7/8	1-1/2	820.00
10	15/16	1-1/2	895.00
10	1	1-1/2	904.00
12	3/8	1-1/2	890.00
12	1/2	1-1/2	1108.00



# Milling Cutters

High Speed Steel



**MDX**  
SUPERIOR IMPORT



## Plain Milling Cutter

List No. 741

For light milling or finishing cuts.

- Cutters less than 3/4" width have straight teeth.
- Cutters 3/4" and over are furnished with 20° left hand helix.

Circle Diameter	Cutter Length	Hole Size	Price Each
2-1/4	1/4	7/8	50.94
2-1/4	1/2	7/8	54.00
2-1/4	1	7/8	59.00
2-1/2	3/16	1	26.72
2-1/2	1/4	7/8	43.00
2-1/2	1/4	1	32.04
2-1/2	5/16	1	33.83
2-1/2	3/8	7/8	36.64
2-1/2	3/8	1	36.44
2-1/2	7/16	1	42.00
2-1/2	1/2	1/2	48.00
2-1/2	1/2	1	42.00
2-1/2	5/8	1	45.86
2-1/2	3/4	1	50.28
2-1/2	7/8	1	76.66
2-1/2	1	1	61.24
2-1/2	1-1/2	1	78.48
2-1/2	2	1	94.38
2-1/2	2-1/2	1	113.39
2-1/2	3	1	124.88
2-1/2	4	1	161.34
3	3/16	1	32.46
3	1/4	1	41.45
3	1/4	1-1/4	41.45
3	5/16	1	44.51
3	5/16	1-1/4	44.51
3	3/8	1	48.48
3	3/8	1-1/4	48.48
3	7/16	1	52.50
3	7/16	1-1/4	52.50
3	1/2	1	53.88
3	1/2	1-1/4	53.88
3	9/16	1	88.19
3	9/16	1-1/4	88.19
3	5/8	1	59.12

Circle Diameter	Cutter Length	Hole Size	Price Each
3	5/8	1-1/4	59.12
3	11/16	1	95.06
3	11/16	1-1/4	95.06
3	3/4	1	61.30
3	3/4	1-1/4	61.30
3	13/16	1	99.22
3	13/16	1-1/4	99.22
3	7/8	1	66.46
3	7/8	1-1/4	66.46
3	1	1	79.34
3	1	1-1/4	79.34
3	1-1/4	1-1/4	89.42
3	1-1/2	1-1/4	100.04
3	2	1-1/4	122.76
3	2-1/2	1-1/4	160.60
3	3	1-1/4	265.69
3	4	1-1/4	356.20
3	6	1-1/4	391.82
3-1/2	5/8	1	77.00
4	3/16	1	75.00
4	1/4	1	61.30
4	1/4	1-1/4	61.30
4	5/16	1	66.12
4	5/16	1-1/4	66.12
4	3/8	1	69.66
4	3/8	1-1/4	69.66
4	7/16	1-1/4	84.60
4	1/2	1	85.14
4	1/2	1-1/4	85.14
4	1/2	1-1/2	126.00
4	9/16	1-1/4	90.00
4	5/8	1	90.35
4	5/8	1-1/4	90.35
4	11/16	1-1/4	140.00
4	3/4	1	99.60

Circle Diameter	Cutter Length	Hole Size	Price Each
4	3/4	1-1/4	99.60
4	13/16	1	154.00
4	13/16	1-1/4	154.00
4	7/8	1	164.50
4	7/8	1-1/2	164.50
4	15/16	1	180.90
4	1	1	187.00
4	1	1-1/4	187.00
4	1	2	196.00
4	1-1/16	1-1/4	210.00
4	1-1/8	1-1/4	210.00
4	1-1/4	1-1/4	244.80
4	1-1/4	1-1/2	244.80
4	1-1/2	1-1/4	272.29
4	1-1/2	1-1/2	272.29
4	2	1	327.20
4	2	1-1/4	216.00
4	2	1-1/2	327.20
4	2-1/2	1-1/4	376.88
4	3	1-1/4	294.89
4	4	1-1/4	416.66
4	5-1/2	2	499.92
4	6	1	481.32
4	6	1-1/2	601.29
4-1/4	1/4	1	92.88
4-1/2	6	1-1/4	960.00
4-1/2	6	2	960.00
5	1/4	1-1/4	80.00
5	1/2	1-1/4	107.00
5	1-1/4	1-1/4	180.00
5	1-1/2	1-1/4	240.00
6	1/4	1	108.00
6	3/8	1	126.82
6	1/2	1	230.00
8	1-1/2	1-1/4	600.00

## Plain Heavy Duty

List No. 741HD

For heavy stock removal furnished with 45° left hand helix.



**MDX**  
SUPERIOR IMPORT



Circle Diameter	Cutter Length	No. of Flutes	Hole Size	Price Each
2-1/2	2	6	1	94.38
3	1-1/4	8	1-1/4	116.10
3	2	8	1-1/4	134.10
3	2-1/2	8	1-1/4	166.50
3	4	10	1-1/4	234.00
3	5	10	1-1/4	330.00
3	6	10	1-1/4	387.00

Circle Diameter	Cutter Length	No. of Flutes	Hole Size	Price Each
4	1-1/2	10	1-1/2	175.00
4	2	10	1-1/2	207.00
4	3	10	1-1/2	297.00
4	4	10	1-1/2	439.20
4	6	10	1-1/2	625.50
4-1/2	6	10	2	850.69
5	1-1/2	10	1-1/4	210.00

## Plain Milling Cutter

List No. 742 – 45° Left Hand Helix

For milling thin walled material & loose pieces in the milling machine



**MDX**  
SUPERIOR IMPORT



Circle Diameter	Cutter Length	No. of Flutes	Hole Size	Price Each
3	4	6	1-1/4	315.89
3	6	6	1-1/4	563.39
4	3	6	1-1/2	522.00
4	4	6	1-1/2	715.50
4	6	6	1-1/2	832.50

Circle Diameter	Cutter Length	No. of Flutes	Hole Size	Price Each
4	8	6	1-1/2	1150.00
4	10	6	1-1/2	1595.00
4-1/2	6	6	2	1744.00
4-1/2	12	10	2	2450.00
5	5-1/2	10	1-1/4	1350.00

# Convex Milling Cutters

## High Speed Steel

These cutters are made for milling half circles and may be sharpened without changing their form.

List No. 737

For milling female half circles.



**MDX**  
SUPERIOR IMPORT

Circle Diameter	Cutter Diameter	Hole Size	Price Each
1/16	2-1/4	1	65.31
3/32	2-1/4	1	65.31
1/8	2	7/8	65.31
1/8	2-1/4	7/8	65.31
1/8	2-1/4	1	65.31
1/8	3	1	85.50
1/8	4	1	124.20
5/32	2-1/4	1	79.20
3/16	2	7/8	59.39
3/16	2-1/4	1	62.10
3/16	3	1	106.20
3/16	4	1	135.00
3/16	4	1-1/4	135.00
7/32	2-1/4	1	70.19
7/32	4	1	98.00
1/4	2	7/8	72.00
1/4	2-1/4	1	73.35
1/4	2-1/2	1	74.70
1/4	4	1-1/4	151.20
9/32	2-1/2	1	85.82
9/32	3-3/4	2	98.00
5/16	2-1/4	7/8	72.00
5/16	2-3/4	1	85.82
5/16	3	1	142.20
5/16	4	1	162.00
5/16	5	1-1/4	179.10
11/32	2-3/4	1	87.30

Circle Diameter	Cutter Diameter	Hole Size	Price Each
3/8	2-1/4	7/8	89.99
3/8	2-1/4	1	89.99
3/8	2-1/2	1	95.00
3/8	2-3/4	1	99.00
3/8	4	1	172.80
3/8	4	1-1/4	172.80
13/32	2-3/4	1	99.00
7/16	2-1/4	7/8	97.02
7/16	2-1/2	1	101.00
7/16	3	1	103.22
7/16	4	1	179.10
7/16	5	1-1/4	198.00
7/16	6	1-1/4	239.00
1/2	2-1/4	7/8	111.60
1/2	2-1/4	1	111.60
1/2	2-1/2	1	119.00
1/2	3	1	125.00
1/2	4	1-1/4	188.05
1/2	6	1-1/4	217.80
9/16	2-3/4	1	142.20
9/16	3-1/2	1-1/4	158.76
5/8	2-3/4	1	142.20
5/8	3	1	148.00
5/8	3-1/2	1	155.00
5/8	3-1/2	1-1/4	155.00
5/8	6	1-1/4	280.00
11/16	3	1	176.40

Circle Diameter	Cutter Diameter	Hole Size	Price Each
3/4	2-3/4	7/8	167.58
3/4	3	1	176.40
3/4	3-3/4	1-1/4	190.00
3/4	5	1-1/4	242.00
3/4	6	1-1/4	308.00
13/16	3-1/4	1	201.50
7/8	3-1/4	1	201.50
7/8	4	1-1/4	201.50
7/8	5	1-1/4	306.00
7/8	6	1-1/4	342.00
15/16	3-1/2	1	224.10
1	3-1/4	1	224.10
1	4-1/4	1-1/4	240.00
1	5	1-1/4	321.30
1-1/8	4	1-1/4	341.24
1-1/8	5-1/2	1-1/4	414.00
1-3/16	5	1-1/4	434.70
1-1/4	4	1-1/4	341.24
1-1/4	5-1/2	1-1/4	441.00
1-3/8	4-1/4	1-1/4	397.30
1-3/8	6	1-1/4	567.00
1-1/2	4-1/4	1-1/4	523.65
1-1/2	6	1-1/4	613.80
1-5/8	5-1/2	1-1/4	537.47
1-3/4	5-1/2	1-1/4	573.89
1-7/8	6	1-1/2	625.16
2	6	1-1/2	715.50

# Concave Milling Cutters

## High Speed Steel

List No. 736

For milling male half circles.



**MDX**  
SUPERIOR IMPORT

Circle Diameter	Cutter Diameter	Hole Size	Price Each
1/16	2-1/4	1	62.99
3/32	2-1/4	1	62.99
1/8	2	7/8	63.00
1/8	2-1/4	1	66.60
1/8	3	1	97.00
5/32	2-1/4	1	90.70
3/16	2	7/8	67.50
3/16	2	1	67.50
3/16	2-1/4	1	71.10
3/16	3	1	171.00
7/32	2-1/4	1	101.48
7/32	3	1	142.00
1/4	2	7/8	72.00
1/4	2-1/2	1	76.50
9/32	2-1/2	1	99.00
5/16	2-1/4	7/8	91.80
5/16	2-3/4	1	99.00
5/16	3	1	162.00
11/32	2-3/4	1	179.55
3/8	2-1/4	7/8	99.00
3/8	2-1/2	1	108.00
3/8	2-3/4	1	112.50

Circle Diameter	Cutter Diameter	Hole Size	Price Each
3/8	4	1	207.00
3/8	4	1-1/4	207.00
13/32	2-3/4	1	124.20
7/16	2-1/4	7/8	109.80
7/16	2-1/2	1	119.00
7/16	3	1	124.20
7/16	4	1	234.00
1/2	2-1/4	7/8	124.20
1/2	2-1/2	1	127.20
1/2	3	1	129.60
1/2	4	1-1/4	252.00
1/2	5	1-1/4	403.00
9/16	2-3/4	1	139.60
9/16	3	1	149.85
5/8	2-3/4	1	153.00
5/8	3	1	156.60
5/8	3-1/2	1-1/4	162.00
11/16	3	1	179.10
3/4	3	1	187.20
3/4	3-3/4	1-1/4	198.00
3/4	5	1-1/4	459.00
3/4	6	1-1/4	584.00

Circle Diameter	Cutter Diameter	Hole Size	Price Each
13/16	3-1/4	1	204.30
13/16	3-1/2	1-1/4	210.00
7/8	3-1/4	1	234.00
7/8	4	1-1/4	250.20
15/16	3-1/2	1	274.50
1	3-1/4	1	288.00
1	4-1/4	1-1/4	300.60
1	5	1-1/4	432.00
1-1/16	4	1-1/4	490.05
1-1/8	4	1-1/4	490.05
1-1/8	5-1/2	1-1/4	477.00
1-3/16	3-1/4	1	457.20
1-3/16	3-1/4	1-1/4	457.20
1-1/4	4	1-1/4	457.20
1-3/8	4-1/4	1-1/4	517.50
1-3/8	6	1-1/4	742.50
1-1/2	4-1/4	1-1/4	585.00
1-1/2	6	1-1/4	765.00
1-5/8	5-1/2	1-1/4	625.50
1-3/4	5-1/2	1-1/4	742.50
1-7/8	6	1-1/2	846.00
2	6	1-1/2	898.20

# Shank Type Concave & Convex Milling Cutters



## High Speed Steel – Form Relieved

To be used in Manual or NC machining centers.

### Concave – Weldon Shanks

List No. **736S**

For milling male half circles.



Radius	Cutter Diameter	Overall Length	Shank Diameter	No. of Flutes	Price Each 736S 737S
1/32	3/4	3	1/2	6	54.08
1/16	3/4	3	1/2	6	54.08
3/32	3/4	3	1/2	6	54.08
1/8	1	3-1/2	3/4	6	64.72
5/32	1	3-1/2	3/4	6	69.30

Radius	Cutter Diameter	Overall Length	Shank Diameter	No. of Flutes	Price Each 736S 737S
3/16	1	3-1/2	3/4	6	74.70
1/4	1-1/4	4	3/4	4	83.16
5/16	1-1/4	4	3/4	4	98.10
3/8	1-1/2	4-3/16	3/4	4	116.82

### Convex – Weldon Shanks

List No. **737S**

For milling female half circles.



Radius	Cutter Diameter	Overall Length	Shank Diameter	No. of Flutes	Price Each
1/32	3/4	3	1/2	6	58.60
1/16	3/4	3	1/2	6	58.60
3/32	3/4	3	1/2	6	61.30
1/8	1	3-1/2	3/4	6	65.16
5/32	1	3-1/2	3/4	6	71.58

Radius	Cutter Diameter	Overall Length	Shank Diameter	No. of Flutes	Price Each
3/16	1	3-1/2	3/4	6	74.70
1/4	1-1/4	4	3/4	4	83.16
5/16	1-1/4	4	3/4	4	111.68
3/8	1-1/2	4-3/16	3/4	4	116.82

# "T" Slot Cutters

## High Speed Steel & Cobalt



For milling T-Slots in tables and beds of machine tools

List No. **749** – High Speed Steel

List No. **749C** – Cobalt

List No. **749CR** – Cobalt Roughing

List No. **749B** – High Speed Steel, Brown & Sharpe



Bolt Size	Diameter of Cutter	Cutter Width	Diameter of Neck	Diameter of Shank	Overall Length	Price Each				
						High Speed 749	Cobalt 749C	Cobalt Roughing 749CR	Brown & Sharpe	
									B&S Taper	749B
1/4	9/16	15/64	17/64	1/2	2-19/32	43.20	70.40	—	—	—
5/16	21/32	17/64	21/64	1/2	2-11/16	47.52	77.00	78.10	—	—
3/8	25/32	21/64	13/32	3/4	3-1/4	59.40	99.00	115.00	7	94.50
1/2	31/32	25/64	17/32	3/4	3-7/16	68.04	115.50	126.50	7	108.00
5/8	1-1/4	31/64	21/32	1	3-15/16	92.34	149.00	162.80	—	—
3/4	1-15/32	5/8	25/32	1	4-7/16	99.00	169.00	179.30	9	171.00
1	1-27/32	53/64	1-1/32	1-1/4	4-13/16	171.90	286.00	313.50	9	259.20
1-1/4	2-7/32	1-3/32	1-9/32	1-1/4	5-3/8	215.55	352.00	379.50	9	333.00
1-1/2	2-21/32	1-11/32	1-17/32	1-1/4	5-29/32	275.40	459.80	484.00	10	468.00

### Sets

Sizes	Description	Pcs.	Set No.	Price
1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1"	High Speed Steel	7	<b>749S</b>	581.40
1/2, 5/8, 3/4, 1"	Cobalt Roughing	4	<b>749CRS</b>	782.10



# Angle Milling Cutters

High Speed Steel



**MDX**  
SUPERIOR IMPORT



## Single Angle

These cutters are utilized for milling ratchet teeth or dovetails.

List No. **720R** – 45° Right Hand  
List No. **720L** – 45° Left Hand

List No. **721R** – 60° Right Hand  
List No. **721L** – 60° Left Hand

Cutter Dia.	Width of Face	Hole Size	Price Each			
			45°		60°	
			Right H. 720R	Left H. 720L	Right H. 721R	Left H. 721L
2-1/2	1/2	7/8	68.09	68.09	68.09	68.09
2-3/4	1/2	1	76.28	76.28	76.28	76.28
2-3/4	5/8	1	—	—	—	95.00
2-3/4	3/4	1	—	—	—	110.00
3	1/2	1	92.48	92.48	92.48	92.48
3	1/2	1-1/4	92.48	92.48	92.48	92.48
3	5/8	1	134.10	134.10	134.10	134.10
3	5/8	1-1/4	134.10	134.10	134.10	134.10
3	3/4	1	148.94	148.94	148.94	148.94
3	3/4	1-1/4	---	---	148.94	148.94

Cutter Dia.	Width of Face	Hole Size	Price Each			
			45°		60°	
			Right H. 720R	Left H. 720L	Right H. 721R	Left H. 721L
4	1/2	1	—	166.46	166.46	166.46
4	1/2	1-1/4	194.85	194.85	194.85	194.85
4	3/4	1	214.43	214.43	214.43	214.43
4	3/4	1-1/4	214.43	214.43	214.43	214.43
4	1	1-1/4	214.43	214.43	214.43	214.43
5	3/4	1-1/4	247.73	247.73	247.73	247.73
5	1	1-1/4	291.96	291.96	291.96	291.96
6	3/4	1-1/4	331.47	331.47	331.47	331.47
6	1	1-1/4	394.92	394.92	394.92	394.92
6	1-1/4	1-1/4	—	430.20	430.20	430.20

## Double Angle

Double angle cutters are used for milling notches, grooves, serrations, or threads.

List No. **722** – 45° Included List No. **724** – 90° Included  
List No. **723** – 60° Included

Cutter Dia.	Width of Face	Hole Size	Price Each		
			45° 722	60° 723	90° 724
2-1/2	1/2	7/8	76.50	—	—
2-3/4	1/2	1	70.65	70.65	70.65
3	1/2	1	155.09	155.09	155.09
3	1/2	1-1/4	155.09	155.09	155.09
3	5/8	1	179.09	179.09	179.09
3	3/4	1	—	179.09	179.09
4	1/2	1-1/4	160.56	160.56	160.56
4	3/4	1	199.13	199.13	199.13



Cutter Dia.	Width of Face	Hole Size	Price Each		
			45° 722	60° 723	90° 724
4	3/4	1-1/4	219.60	219.60	219.60
4	1	1-1/4	277.00	277.00	219.60
5	3/4	1-1/4	277.00	277.00	237.60
5	1	1-1/4	320.00	285.00	237.60
6	3/4	1-1/4	368.55	368.55	368.56
6	1	1-1/4	377.10	377.10	377.10
6	1-1/4	1-1/4	557.10	478.00	501.40
6	1-1/2	1-1/4	534.38	534.38	534.38

# Shank Type Milling Cutters

High Speed Steel

To be used in manual or NC machining centers.  
These cutters are preferred over form relief type cutters.



## Single Angle

For chamfers and other angular milling operations.

List No. **745** – 45° Included Angle  
List No. **746** – 60° Included Angle

Cutter Dia.	Shank Dia.	Overall Length	45° (745)		60° (746)	
			Cutter Width	Price Each	Cutter Width	Price Each
1/2	3/8	2-1/8	1/8	46.35	7/32	46.35
3/4	3/8	2-1/8	3/16	54.37	5/16	54.37
1	1/2	2-1/2	5/16	67.57	7/16	67.57
1-1/2	3/4	2-3/4	1/2	87.21	5/8	87.21



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## Double Angle

For notches, V-Grooves and other angular milling operations.

List No. **747** – 60° Included Angle  
List No. **748** – 90° Included Angle

Cutter Dia.	Shank Dia.	60° (747)			90° (748)		
		Overall Length	Cutter Width	Price Each	Overall Length	Cutter Width	Price Each
3/4	3/8	2-3/8	3/16	36.83	2-7/16	1/4	36.83
1	1/2	2-7/8	5/16	58.95	2-7/8	3/8	58.95
1-3/8	5/8	3-7/32	7/16	78.60	3-1/4	1/2	78.60
1-1/2	5/8	3-3/8	1/2	109.08	3-7/16	9/16	109.08
1-7/8	3/4	3-13/16	5/8	119.48	3-3/4	5/8	119.48
2-1/4	3/4	3-1/8	1/2	175.08	3-1/8	1/2	175.08
2-1/4	7/8	4-1/8	3/4	178.05	4-1/8	3/4	178.05

# Corner Rounding Milling Cutters – Arbor Type

High Speed Steel

These cutters are designed to mill radii on various materials.

List No. **732R** – Right Hand

List No. **732L** – Left Hand

Radius of Circle	Cutter Diameter	Width of Face	Hole Size	Price Each	
				Right Hand 732R	Left Hand 732L
3/32	2	1/4	7/8	69.20	69.20
3/32	2-1/4	1/4	1	69.20	69.20
7/64	2-1/2	1/4	1	69.20	69.20
1/8	2	1/4	7/8	67.50	67.50
1/8	2-1/4	1/4	1	68.25	—
1/8	2-1/2	1/4	1	69.20	69.20
5/32	2-1/2	5/16	1	84.01	84.01
3/16	2-1/2	5/16	1	130.15	130.15
13/64	3	1/4	1	136.00	136.00
7/32	2	1/4	7/8	125.75	125.75
7/32	2-1/2	1/4	1	130.15	130.15
15/64	3	1/4	1	138.00	138.00
1/4	2-1/4	13/32	7/8	91.50	91.55
1/4	2-1/2	13/32	1	98.60	98.60
1/4	3	13/32	1	98.60	98.65
9/32	2-3/4	5/8	1	149.50	149.50
9/32	3	5/8	1	149.50	149.50
5/16	2-3/4	7/16	1	149.50	149.50
5/16	3	7/16	1	167.37	167.37
11/32	3	11/16	1	156.97	156.97



Radius of Circle	Cutter Diameter	Width of Face	Hole Size	Price Each	
				Right Hand 732R	Left Hand 732L
3/8	3	9/16	1	136.55	136.55
3/8	3-3/4	9/16	1-1/4	136.55	136.55
13/32	2-1/4	1/4	1	173.64	173.64
13/32	2-1/2	3/4	1	173.64	173.64
13/32	3-1/4	3/4	1	178.05	178.05
7/16	3-1/4	5/8	1	178.05	178.05
7/16	3-1/4	5/8	1-1/4	178.05	178.05
15/32	3-1/2	3/4	1	204.98	204.98
1/2	3-1/4	3/4	1	182.45	182.45
1/2	4-1/4	3/4	1-1/4	185.95	185.95
9/16	3-1/2	13/16	1	229.75	229.75
9/16	4-1/4	13/16	1-1/4	229.75	229.75
5/8	3-1/2	15/16	1	205.50	205.50
5/8	4-1/4	15/16	1-1/4	210.25	210.25
11/16	3-3/4	1-1/8	1	238.00	238.00
3/4	3-3/4	1-1/8	1	248.00	248.00
3/4	4-1/4	1-1/8	1-1/4	260.00	260.00
7/8	3-3/4	1-3/8	1	324.50	—
7/8	4-1/2	1-3/8	1-1/4	330.00	330.00
1	4-1/2	1-1/2	1-1/4	336.35	336.35

SAWS & CUTTERS

# Woodruff Key Seat Cutters Arbor Type

Staggered Teeth - High Speed Steel

Cutter Dia.	Width of Face	Hole Size	American Standard #	Tool No.	Price Each
2-1/8	3/16	3/4	617	KCA617	44.55
2-1/8	1/4	3/4	817	KCA817	46.57
2-1/8	5/16	3/4	1017	KCA1017	51.97
2-1/8	3/8	3/4	1217	KCA1217	58.50
2-3/4	1/4	1	822	KCA822	64.26
2-3/4	5/16	1	1022	KCA1022	68.04
2-3/4	3/8	1	1222	KCA1222	71.91
2-3/4	7/16	1	1422	KCA1422	75.60



Cutter Dia.	Width of Face	Hole Size	American Standard #	Tool No.	Price Each
2-3/4	1/2	1	1622	KCA1622	80.91
3-1/2	3/8	1	1228	KCA1228	97.87
3-1/2	7/16	1	1428	KCA1428	105.75
3-1/2	1/2	1	1628	KCA1628	108.00
3-1/2	9/16	1	1828	KCA1828	121.50
3-1/2	5/8	1	2028	KCA2028	121.50
3-1/2	11/16	1	2228	KCA2228	125.55
3-1/2	3/4	1	2428	KCA2428	125.55

# Half-Side Milling Cutters

High Speed Steel & Cobalt

List No. **743R** – High Speed, RH Helix  
List No. **743CR** – Cobalt, RH Helix

List No. **743L** – High Speed, LH Helix  
List No. **743CL** – Cobalt, LH Helix

Cutting geometry for heavy duty machining, specially for Stainless Steel, Nimonic-Inconel-Titanic Alloys.

Cutter Dia.	Width of Face	Hole Size	No. of Teeth	Price Each			
				Right Hand		Left Hand	
				High Speed 743R	Cobalt 743CR	High Speed 743L	Cobalt 743CL
4	3/4	1-1/4	16	122.76	184.14	122.76	184.14
5	3/4	1-1/4	20	161.15	241.73	161.15	241.73
6	3/4	1-1/4	22	218.70	328.05	218.70	328.05
6	1	1-1/2	22	274.59	411.89	274.59	411.89
7	3/4	1-1/2	24	417.96	629.94	417.96	629.94
7	1	1-1/2	24	513.50	—	513.50	—
8	3/4	1-1/2	28	462.42	693.63	462.42	693.63
8	1	1-1/2	28	583.20	—	583.20	—
9	3/4	1-1/2	30	—	—	650.00	—
10	1	1-1/2	30	755.00	—	—	—





# Involute Gear Cutters

## High Speed Steel

Involute Gear Cutters are used to mill gears with a 14.5° or 20° pressure angle. Eight (8) cutters are required to make a full set of gears from (12) teeth to a rack for each diametral pitch.



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

*Please specify cutter number when ordering.*

8 cutters are made for each pitch diameter:

Cutter No.	1	2	3	4	5	6	7	8
Range of Teeth	135 – Rack	55 – 134	35 – 54	26 – 34	21 – 25	17 – 20	14 – 16	12 – 13

## 14.5° Pressure Angle

List No. 730

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
1	8-1/2	2	1791.00
1-1/4	7-3/4	2	1260.00
1-1/2	7	1-3/4	895.50
1-3/4	6-1/2	1-3/4	765.00
2	5-3/4	1-1/2	490.23
2-1/2	5-3/4	1	382.12
2-1/2	5-3/4	1-1/2	382.12
3	4-3/4	1-1/4	269.07
3	5-1/4	1-1/2	334.00
4	3-5/8	1	167.01
4	4-1/4	1-1/4	189.36
4	4-1/2	1-1/2	202.91
5	3-3/8	1	144.86
5	3-3/4	1-1/4	149.36
6	3-1/8	1	117.40
6	3-1/2	1-1/4	133.85
7	2-7/8	1	117.75
7	3-3/8	1-1/4	133.85
8	2-7/8	1	97.19

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
8	3-1/4	1-1/4	112.62
9	2-3/4	1	96.53
9	3-1/8	1-1/4	112.62
10	2-3/8	7/8	76.89
10	2-3/4	1	87.17
11	2-3/8	7/8	76.89
11	2-5/8	1	84.22
12	2-1/4	7/8	67.94
12	2-5/8	1	76.89
13	2-1/4	7/8	66.20
13	2-5/8	1	77.50
14	2-1/8	7/8	66.19
14	2-1/2	1	77.49
16	2-1/8	7/8	66.19
16	2-1/8	1	77.49
18	2	7/8	58.95
18	2-3/8	1	70.40
20	2	7/8	58.95
20	2-3/8	1	70.40

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
22	2	7/8	58.95
22	2-1/4	1	70.40
24	1-3/4	7/8	58.95
24	2-1/4	1	70.40
26	1-3/4	7/8	58.95
26	2-1/4	1	70.40
28	1-3/4	7/8	58.95
28	2-1/4	1	70.40
30	1-3/4	7/8	58.95
30	2-1/4	1	70.40
32	1-3/4	7/8	54.95
32	2-1/4	1	62.83
36	1-3/4	7/8	54.95
36	2-1/4	1	62.83
40	1-3/4	7/8	54.95
40	2-1/4	1	62.83
48	1-3/4	7/8	54.95
48	2-1/4	1	62.83

## 20° Pressure Angle

List No. 731

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
1	8-1/2	2	2160.00
1-1/4	7-3/4	2	1620.00
1-1/2	7	1-3/4	1125.00
1-3/4	6-1/2	1-3/4	990.00
2	5-3/4	1-1/2	765.00
2-1/2	5-3/4	1-1/2	657.00
3	4-3/4	1-1/4	535.50
4	3-5/8	1	405.00
4	4-1/4	1-1/4	441.00
5	3-3/8	1	355.50
5	3-3/4	1-1/4	423.00
6	3-1/8	1	198.00
6	3-1/2	1-1/4	279.00
7	2-7/8	1	337.50
8	2-7/8	1	178.20
8	3-1/4	1-1/4	238.50
9	2-3/4	1	161.10

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
10	2-3/8	7/8	157.50
10	2-3/4	1	175.50
11	2-3/8	7/8	157.50
11	2-5/8	1	175.50
12	2-1/4	7/8	148.50
12	2-5/8	1	169.20
14	2-1/8	7/8	82.80
14	2-1/2	1	112.50
16	2-1/8	7/8	89.10
16	2-1/8	1	124.20
18	2	7/8	88.20
18	2-3/8	1	124.20
20	2	7/8	88.20
20	2-3/8	1	124.20
22	2	7/8	88.20
22	2	1	149.00
24	1-3/4	7/8	99.00

Diametral Pitch	Cutter Diameter	Hole Size	Price Each
24	2-1/4	1	134.10
26	1-3/4	7/8	99.00
26	2-1/4	1	134.10
28	1-3/4	7/8	99.00
28	2-1/4	1	133.20
30	1-3/4	7/8	99.00
30	2-1/4	1	133.20
32	1-3/4	7/8	99.00
32	2-1/4	1	133.20
36	1-3/4	7/8	99.00
36	2-1/4	1	133.20
40	1-3/4	7/8	99.00
40	2-1/4	1	133.20
48	1-3/4	7/8	99.00
48	2-1/4	1	133.20

# Carbide Tipped Side Milling Cutters



## Straight Teeth

- List No. **CT740S** – For Steel  
 List No. **CT740C** – For Cast Iron  
 List No. **CT740N** – For Non-Ferrous Material

Cutter Diameter	Face Width	Arbor Hole	No. of Teeth	Price Each		
				For Steel CT740S	For Cast Iron CT740C	For Non-Ferrous CT740N
3	1/4	1	6	192.90	194.51	155.52
3	5/16	1	6	194.67	195.38	163.33
3	3/8	1	6	197.14	199.29	169.23
3	7/16	1	6	219.90	215.56	176.16
3	1/2	1	6	222.82	224.41	184.70
4	1/4	1	8	252.97	251.29	202.72
4	5/16	1	8	268.60	259.74	208.46
4	3/8	1	8	268.60	273.00	213.88
4	3/8	1-1/4	8	268.60	273.00	213.88
4	7/16	1	8	276.58	278.48	214.92
4	1/2	1	8	286.22	287.65	214.92
4	1/2	1-1/4	8	286.22	287.65	214.92
4	9/16	1	8	300.33	295.63	233.66
4	5/8	1	8	351.13	320.43	250.73
4	5/8	1-1/4	8	351.13	320.43	250.73
4	3/4	1	8	355.60	320.43	280.87
4	3/4	1-1/4	8	355.60	320.43	280.87
5	1/4	1	10	333.03	332.79	283.20
5	5/16	1	10	333.03	332.79	—
5	3/8	1-1/4	10	349.62	340.93	340.93
5	7/16	1-1/4	10	360.86	342.52	294.60
5	1/2	1	10	360.94	363.66	298.10
5	1/2	1-1/4	10	360.94	363.66	298.10
5	9/16	1-1/4	10	376.81	369.88	307.68
5	5/8	1-1/4	10	442.37	393.64	323.70
5	3/4	1	10	489.50	445.80	345.08
5	3/4	1-1/4	10	489.50	445.80	345.08
5	1	1-1/4	10	516.30	485.05	345.63
6	3/8	1-1/4	12	442.45	418.76	303.84
6	1/2	1	12	455.69	444.76	332.80
6	1/2	1-1/4	12	455.69	444.76	332.80
6	5/8	1-1/4	12	495.72	486.00	364.77
6	3/4	1	12	564.63	545.25	419.50
6	3/4	1-1/4	12	564.63	545.25	419.50
6	1	1-1/4	12	576.11	551.10	480.81
8	3/4	1-1/4	12	593.65	572.29	545.72
8	3/4	1-1/2	12	593.65	572.29	545.72
8	1	1-1/4	12	617.90	596.45	592.14
8	1	1-1/2	12	617.90	596.45	592.14

## Staggered Teeth

- List No. **CT744S** – For Steel  
 List No. **CT744C** – For Cast Iron  
 List No. **CT744N** – For Non-Ferrous Material

Cutter Dia.	Face Width	Arbor Hole	No. of Teeth	Price Each			
				For Steel CT744S	For Cast Iron CT744C	No. of Teeth	For Non-Ferrous CT744N
4	3/4	1	8	450.00	—	—	—
4	3/4	1-1/4	8	450.00	—	—	—
5	3/4	1	10	465.00	—	—	—
5	3/4	1-1/4	10	465.00	—	—	—
5	1	1-1/4	10	531.10	608.20	8	487.58
6	3/4	1	12	592.60	—	—	—
6	3/4	1-1/4	12	592.60	—	—	—
6	1	1-1/4	12	622.23	691.00	8	602.90
7	3/4	1-1/4	12	610.70	—	—	—
7	1	1-1/4	12	612.53	720.00	8	672.72
8	3/4	1-1/4	12	625.30	—	—	—
8	3/4	1-1/2	12	625.30	—	—	—
8	1	1-1/4	12	635.60	747.90	8	742.50
8	1	1-1/2	12	635.60	747.90	8	742.50

# Slot-Master™ - Adjustable Width Indexable Milling Cutter

87° Parallelograms - Positive Rake

Exclusively  
By



- Rugged, simple design
- Finest quality
- Lowest price
- Easy width adjustment
- For exact slot size



## Shank Type Mill Cutter

Shank Length = 3" OAL Minus Cutting Body Width

Cutting Dia.	Cutting width Range	Cutting Body width Range	Shank Dia.	No. of Inserts	Use Wedge No.	Use Insert No.	Right or Left Hand	Tool Number	Price Each
2	.375-.530	.330	3/4	4	W2	CTA-2	Right	SM2475R-2	310.70
2	.485-.765	.450	3/4	4	W4	CTA-4	Right	SM2475R-4	336.70
2	.375-.530	.330	1"	4	W2	CTA-2	Right	SM2410R-2	310.70
2	.485-.765	.450	1"	4	W4	CTA-4	Right	SM2410R-4	336.70
2	.375-.530	.330	3/4	4	W2	CTA-2	Left	SM2475L-2	344.50
2	.485-.765	.450	3/4	4	W4	CTA-4	Left	SM2475L-4	366.60
2	.375-.530	.330	1"	4	W2	CTA-2	Left	SM2410L-2	344.50
2	.485-.765	.450	1"	4	W4	CTA-4	Left	SM2410L-4	366.60
3	.375-.530	.330	1"	6	W2	CTA-2	Right	SM3610R-2	416.00
3	.485-.765	.450	1"	6	W4	CTA-4	Right	SM3610R-4	455.00
3	.720-1.025	.690	1"	4	W6	CTA-6	Right	SM3410R-6	403.00
3	.982-1.265	.950	1"	4	W8	CTA-8	Right	SM3410R-8	435.50
3	.375-.530	.330	1"	6	W2	CTA-2	Left	SM3610L-2	416.00
3	.485-.765	.450	1"	6	W4	CTA-4	Left	SM3610L-4	455.00
3	.720-1.025	.690	1"	4	W6	CTA-6	Left	SM3410L-6	408.20
3	.982-1.265	.950	1"	4	W8	CTA-8	Left	SM3410L-8	435.50

Inserts sold separately.

### 1) Slotting or Staggered Cutter

With the ring setting gauge for the shank type, inserts may be quickly indexed and precision adjusted to produce any cutting width within the range of the cutter.

### 2) Half Side Milling Cutter

Half side milling may be accomplished by positioning the inserts in a left or right hand orientation.

## CTA Carbide Inserts

- 87° Parallelograms
- Positive rake
- All surfaces ground



Insert Number	Please Specify Radii							I.C.	Thickness	Price Each	
										C-2 or C-6	TiN Coated*
CTA-2**	0	1/64	1/32	1/16	3/32	1/8	—	.355	5/32	7.78	8.82
CTA-4	0	1/64	1/32	1/16	3/32	1/8	—	.460	3/16	9.30	10.58
CTA-6	—	—	1/32	1/16	3/32	1/8	—	.685	3/16	13.60	17.96
CTA-8	—	—	1/32	1/16	3/32	1/8	1/4	.750	3/16	16.16	18.82

\*\*88° Parallelogram

\*TiN Coated is C6



## Ring Setting Gauge

With the Slot Master™ Ring Setting Gauge, cutter widths can be precision set for infinitely variable slot widths.

Tool No.	Shank Diameter	Price Each
SMG750	3/4	75.40
SMG1000	1"	81.90

## Replacement Parts List

Part No.	Description	Price Each
Part W2	Wedge	8.84
Part W4	Wedge	8.84
Part W6	Wedge	8.84
Part W8	Wedge	8.84
Part SMC1	Wedge Screw for W2 & W4	2.95
Part SMC2	Wedge Screw for W6 & W8	2.95
Part SS1420-38	Screw for Ring Setting Gauges	0.78

# Slot-Master™ - Adjustable Width Indexable Milling Cutter

Exclusively By



87° Parallelograms - Positive Rake

- Rugged, simple design
- Finest quality
- Lowest price
- Easy width adjustment
- For exact slot size

Exclusive By APT



SAWS & CUTTERS

## Arbor Type Mill Cutter

Cutting Dia	Cutting width Range	Cutter Body width	Arbor Dia.	No. of Inserts	Use Insert No.	Use Wedge No.	Tool Number	Price Each
4	.375 - .530	.330	1-1/4	8	CTA-2	W2	SM48122	517.40
4	.485 - .765	.450	1-1/4	8	CTA-4	W4	SM48124	517.40
6	.375 - .530	.330	1-1/4	12	CTA-2	W2	SM612122	663.00
6	.485 - .765	.450	1-1/4	12	CTA-4	W4	SM612124	663.00
6	.720 - 1.025	.690	1-1/4	12	CTA-6	W6	SM612126	682.50
6	.982 - 1.265	.950	1-1/4	12	CTA-8	W8	SM612128	702.00
6	.375 - .530	.330	1-1/2	12	CTA-2	W2	SM612152	663.00
6	.485 - .765	.450	1-1/2	12	CTA-4	W4	SM612154	663.00
6	.720 - 1.025	.690	1-1/2	12	CTA-6	W6	SM612156	682.50
6	.982 - 1.265	.950	1-1/2	12	CTA-8	W8	SM612158	702.00
8	.375 - .530	.330	1-1/4	16	CTA-2	W2	SM816122	819.00
8	.485 - .765	.450	1-1/4	16	CTA-4	W4	SM816124	819.00
8	.720 - 1.025	.690	1-1/4	16	CTA-6	W6	SM816126	838.50
8	.982 - 1.265	.950	1-1/4	16	CTA-8	W8	SM816128	868.40
8	.375 - .530	.330	1-1/2	16	CTA-2	W2	SM816152	819.00
8	.485 - .765	.450	1-1/2	16	CTA-4	W4	SM816154	819.00
8	.720 - 1.025	.690	1-1/2	16	CTA-6	W6	SM816156	838.50
8	.982 - 1.265	.950	1-1/2	16	CTA-8	W8	SM816158	868.40
10	.375 - .530	.330	2	20	CTA-2	W2	SM102022	1020.50
10	.485 - .765	.450	2	20	CTA-4	W4	SM102024	1020.50
10	.720 - 1.025	.690	2	20	CTA-6	W6	SM102026	1055.60
10	.982 - 1.265	.950	2	20	CTA-8	W8	SM102028	1092.00
12	.485 - .765	.450	2	24	CTA-4	W4	SM122424	1215.50
12	.720 - 1.025	.690	2	24	CTA-6	W6	SM122426	1285.70
12	.982 - 1.265	.950	2	24	CTA-8	W8	SM122428	1332.50

Inserts sold separately.

## 4 Cutters in 1 Tool

- 1) Slotting or Staggered Cutter**  
With the magnetic micrometer gauge for the arbor type, inserts may be quickly indexed and precision adjusted to produce any cutting width within the range of the cutter.
- 2) Slab Milling Cutter**  
Cutter bodies may be interlocked in pairs to accommodate indexable staggered tooth orientation.
- 3) Straddle Milling Cutter**  
Cutters are double key-way to allow multiple cutter set-up of an arbor for straddle milling.
- 4) Half Side Milling Cutter**  
Half side milling may be accomplished by positioning the inserts in a left or right hand orientation.

## CTA Carbide Inserts

87° Parallelograms  
Positive rake  
All surfaces ground



Insert Number	Please Specify Radii							I.C.	Thickness	Price Each	
	0	1/64	1/32	1/16	3/32	1/8	—			C-2 or C-6	TiN Coated*
CTA2**	0	1/64	1/32	1/16	3/32	1/8	—	.355	5/32	7.78	8.82
CTA-4	0	1/64	1/32	1/16	3/32	1/8	—	.460	3/16	9.30	10.58
CTA-6	—	—	1/32	1/16	3/32	1/8	—	.685	3/16	13.60	17.96
CTA-8	—	—	1/32	1/16	3/32	1/8	1/4	.750	3/16	16.16	18.82

\*\*88° Parallelogram

\*TiN Coated is C6

## Replacement Parts List

Part No.	Description	Price Each
Part W2	Wedge	8.84
Part W4	Wedge	8.84
Part W6	Wedge	8.84
Part W8	Wedge	8.84
Part SMC1	Wedge Screw for W2 & W4	2.95
Part SMC2	Wedge Screw for W6 & W8	2.95
Part SS1420-38	Screw for Ring Setting Gauges	0.78

## Magnetic Micrometer Setting Gauge

With the Slot Master™ Setting Gauge, cutter widths can be precision set for infinitely variable slot widths and inserts can be indexed while the cutter remains on the arbor.



TOOL NO. SMC2000  
PRICE EACH – \$448.50

# Milling Machine Arbors



**Style A** Arbors are provided with end pilots 23/32" x 1-3/4"

**Style B** Arbors are draw bar type furnished with appropriate spacers and running bushings.



Taper	Arbor Dia.	Length of shoulder to Nut	Dia. of Running Bushing	Style	Arbor No.	Price
30	7/8	10	1-5/8	A	<b>M30-7/8-A10-2</b>	245.70
30	1	10	1-5/8	A	<b>M31-A10-2</b>	266.50
30	1	2	—	B	<b>M31-B2</b>	188.50
30	1-1/4	2	—	B	<b>M31-1/4 B2</b>	245.05
30	1-1/4	10	1-5/8	A	<b>M31-1/4-A10-2</b>	297.70
30	1-1/4	10	1-7/8	A	<b>M31-1/4-A10-3</b>	297.70
40	7/8	10	—	A	<b>M40-7/8-A10</b>	266.50
40	7/8	14	1-7/8	B	<b>M40-7/8-B14-3</b>	292.50
40	7/8	16	1-7/8	A	<b>M40-7/8-A16-3</b>	388.70
40	7/8	16	1-7/8	B	<b>M40-7/8-B16-3</b>	357.50
40	7/8	20	—	B	<b>M40-7/8-B20</b>	393.25
40	7/8	20	1-7/8	B	<b>M40-7/8-B20-3</b>	393.25
40	1	3	—	B	<b>M41-B3</b>	178.10
40	1	8	—	A	<b>M41-A8</b>	271.70
40	1	10	—	A	<b>M41-A10</b>	284.70
40	1	12	—	A	<b>M41-A12</b>	336.70
40	1	14	1-7/8	B	<b>M41-B14-3</b>	409.50
40	1	16	1-7/8	A	<b>M41-A16-3</b>	409.50
40	1	20	1-7/8	B	<b>M41-B20-3</b>	474.50
40	1-1/4	3	—	B	<b>M41-1/4-B3</b>	188.50
40	1-1/4	8	—	A	<b>M41-1/4-A8</b>	297.70
40	1-1/4	10	—	A	<b>M41-1/4-A10</b>	331.50
40	1-1/4	12	—	A	<b>M41-1/4-A12</b>	357.50
40	1-1/4	12	—	B	<b>M41-1/4-B12</b>	328.90
40	1-1/4	12	2-1/8	B	<b>M41-1/4-B12-4</b>	361.79
40	1-1/4	14	1-7/8	B	<b>M41-1/4-B14-3</b>	414.70
40	1-1/4	16	1-7/8	A	<b>M41-1/4-A16-3</b>	414.70
40	1-1/4	20	1-7/8	B	<b>M41-1/4-B20-3</b>	505.70
40	1-1/2	3	—	B	<b>M41-1/2-B3</b>	314.00
40	1-1/2	10	—	A	<b>M41-1/2-A10</b>	468.00

Taper	Arbor Dia.	Length of shoulder to Nut	Dia. of Running Bushing	Style	Arbor No.	Price
40	1-1/2	20	2-1/8	B	<b>M41-1/2-B20-4</b>	585.00
50	7/8	10	—	A	<b>M50-7/8-A10</b>	334.10
50	7/8	18	2-1/8	A	<b>M50-7/8-A18-4</b>	492.70
50	1	3-1/2	—	B	<b>M51-B3-1/2</b>	218.40
50	1	8	—	A	<b>M51-A8</b>	278.20
50	1	12	—	A	<b>M51-A12</b>	371.80
50	1	15	2-1/8	B	<b>M51-B15-4</b>	396.50
50	1	18	2-1/8	A	<b>M51-A18-4</b>	491.40
50	1	18	2-1/8 (2)	B	<b>M51-B18-4</b>	444.60
50	1	24	2-1/8 (2)	B	<b>M51-B24-4</b>	518.70
50	1-1/4	3-1/2	—	B	<b>M51-1/4-B3-1/2</b>	210.60
50	1-1/4	8	—	A	<b>M51-1/4-A8</b>	302.90
50	1-1/4	12	—	A	<b>M51-1/4-A12</b>	426.40
50	1-1/4	15	2-1/8	B	<b>M51-1/4-B15-4</b>	451.10
50	1-1/4	18	2-1/8	A	<b>M51-1/4-A18-4</b>	518.70
50	1-1/4	18	2-1/8 (2)	B	<b>M51-1/4-B18-4</b>	474.50
50	1-1/4	24	2-1/8 (2)	B	<b>M51-1/4-B24-4</b>	551.20
50	1-1/4	30	2-1/8 (2)	B	<b>M51-1/4-B30-4</b>	692.90
50	1-1/2	3-1/2	—	B	<b>M51-1/2-B3-1/2</b>	250.90
50	1-1/2	18-4	2-1/2	A	<b>M51-1/2-A-18-4</b>	826.00
50	1-1/2	18	2-1/8 (2)	B	<b>M51-1/2-B18-4</b>	787.80
50	1-1/2	24	2-3/4 (2)	B	<b>M51-1/2-B24-5</b>	611.00
50	1-1/2	30	2-3/4 (2)	B	<b>M51-1/2-B30-5</b>	744.90
50	1-1/2	36	2-3/4 (2)	B	<b>M51-1/2-B36-5</b>	839.80
50	2	24	2-3/4 (2)	B	<b>M52-B24-5</b>	744.90
50	2	30	2-3/4 (2)	B	<b>M52-B30-5</b>	843.70
50	2	36	2-3/4 (2)	B	<b>M52-B36-5</b>	936.00
50	2	48	2-3/4	B	<b>M52-B48-5</b>	2231.60
50	2-1/2	36	3-3/8 (2)	B	<b>M52-1/2-B36-6</b>	1430.00
50	2-1/2	48	3-3/8	B	<b>M52-1/2-B48-6</b>	3525.20

## Brown & Sharpe Taper Milling Machine Arbors

Threads for Drawbar  
 # 9 B.&S. 1/2" - 13  
 #10 B.&S. 5/8" - 11  
 #11 B.&S. 5/8" - 11

All style "A" arbors have a 23/32" pilot.



Tool No.	B & S Taper	Dia. of Arbor	Length Shoulder to nut	Running Bushing Diameter	Price Each
<b>MBS9-7/8 A 8-3</b>	9	7/8	8	1-7/8	319.41
<b>MBS9-7/8-B8</b>	9	7/8	8	1-7/8	319.41
<b>MBS9-7/8 A 10-3</b>	9	7/8	10	1-7/8	319.41
<b>MBS9-1-B6</b>	9	1	6	1-7/8	319.41
<b>MBS9-1 B6-3</b>	9	1	6	1-7/8	319.41
<b>MBS9-1 A 10-3</b>	9	1	10	1-7/8	319.41
<b>MBS9-1 A 16-3</b>	9	1	16	1-7/8	343.07
<b>MBS9-1-1/4 A 8-3</b>	9	1-1/4	8	1-7/8	387.01
<b>MBS9-1-1/4 A 10-3</b>	9	1-1/4	10	1-7/8	387.01
<b>MBS9-1-1/4 A 12-3</b>	9	1-1/4	12	1-7/8	387.01
<b>MBS9-1-1/4 B 12-3</b>	9	1-1/4	12	1-7/8	387.01
<b>MBS9-1-1/4 A 16-3</b>	9	1-1/4	16	1-7/8	387.01

Tool No.	B & S Taper	Dia. of Arbor	Length Shoulder to nut	Running Bushing Diameter	Price Each
<b>MBS10-7/8 A 10-3</b>	10	7/8	10	1-7/8	346.45
<b>MBS10-7/8 A 18-3</b>	10	7/8	18	1-7/8	505.31
<b>MBS10-1-A 18-3</b>	10	1	18	1-7/8	532.35
<b>MBS10-1-B6</b>	10	1	6	1-7/8	353.21
<b>MBS10-1-B8</b>	10	1	8	1-7/8	353.21
<b>MBS10-1-1/4 A 12-3</b>	10	1-1/4	12	1-7/8	464.75
<b>MBS10-1-1/4 A 18-3</b>	10	1-1/4	18	1-7/8	580.58
<b>MBS11-1-A18-4</b>	11	1	18	1-7/8	577.98
<b>MBS11-1-B 22-A</b>	11	1	22	2-1/8 (2)	650.00
<b>MBS11-1-1/4 B 26-4</b>	11	1-1/4	26	2-1/8 (2)	728.00
<b>MBS11-1-1/2 B 26-4</b>	11	1-1/2	26	2-1/8 (2)	812.50

## Stub Milling Machine Arbors

With Weldon Straight Shank & R8 Shank

Utilized for holding smaller cutters or saws and designed to fit directly into end mill adapters. Three arbors spacers are included.



Shank	Arbor Diameter	Tool No.	Price Each
1/2	1/2	<b>HSM1212</b>	71.50
1/2	5/8	<b>HSM5812</b>	76.70
1/2	3/4	<b>HSM3412</b>	85.15
3/4	1/2	<b>HSM1234</b>	85.15
3/4	5/8	<b>HSM5834</b>	85.15

Shank	Arbor Diameter	Tool No.	Price Each
3/4	3/4	<b>HSM3434</b>	85.15
3/4	7/8	<b>HSM7834</b>	85.15
3/4	1	<b>HSM10034</b>	95.55
3/4	1-1/4	<b>HSM11434</b>	109.85
R8 2" Shoulder to Nut	1	<b>R8SM1</b>	110.50
R8 2" Shoulder to Nut	1-1/4	<b>R8SM114</b>	120.26

supplied with 1" spacers & nuts



# Milling Machine Arbors



## Arbor Spacers

with Keyways

Hardened and ground on all surfaces

Lapped for parallelism

Size	3/4" Bore		7/8" Bore		1" Bore		1-1/4" Bore		1-1/2" Bore		2" Bore		2-1/2" Bore	
	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
1/16	AS11634	5.14	AS11678	5.14	AS116100	5.72	AS116114	6.72	AS116112	8.52	AS116200	10.40	AS116250	15.60
3/32	AS33234	5.14	AS33278	5.14	AS332100	5.72	AS332114	6.72	AS332112	8.52	AS332200	10.40	AS332250	15.60
1/8	AS1834	5.14	AS1878	5.14	AS18100	5.72	AS18114	6.72	AS18112	8.52	AS18200	10.40	AS18250	15.60
3/16	AS31634	5.14	AS31678	5.14	AS316100	5.72	AS316114	6.72	AS316112	8.52	AS316200	10.40	AS316250	15.60
1/4	AS1434	5.46	AS1478	5.46	AS14100	6.33	AS14114	7.15	AS14112	9.50	AS14200	11.38	AS14250	16.90
5/16	AS51634	5.92	AS51678	5.92	AS516100	7.10	AS516114	7.87	AS516112	10.54	AS516200	13.00	AS516250	19.31
3/8	AS3834	5.92	AS3878	5.92	AS38100	7.10	AS38114	7.87	AS38112	8.22	AS38200	13.91	AS38250	20.80
7/16	AS71634	7.22	AS71678	7.22	AS716100	8.26	AS716114	8.91	AS716112	12.01	AS716200	15.93	AS716250	23.40
1/2	AS1234	7.61	AS1278	7.61	AS12100	8.26	AS12114	9.93	AS12112	12.88	AS12200	16.90	AS12250	25.48
5/8	AS5834	8.26	AS5878	8.26	AS58100	9.10	AS58114	10.82	AS58112	14.50	AS58200	19.76	AS58250	29.90
3/4	AS3434	9.10	AS3478	9.10	AS34100	10.60	AS34114	12.01	AS34112	15.60	AS34200	21.84	AS34250	31.53
7/8	AS7834	10.14	AS7878	10.14	AS78100	12.39	AS78114	12.88	AS78112	16.45	AS78200	23.92	AS78250	33.15
1	AS134	10.14	AS178	10.14	AS1100	12.39	AS1114	13.92	AS1112	18.59	AS1200	23.40	AS1250	36.01
1-1/4	AS11434	11.96	AS11478	11.96	AS114100	14.91	AS114114	15.60	AS114112	20.80	AS114200	25.94	AS114250	39.00
1-1/2	AS11234	12.87	AS11278	12.87	AS112100	17.37	AS112114	17.75	AS112112	22.95	AS112200	31.85	AS112250	47.78
2	AS234	16.77	AS278	16.77	AS2100	23.14	AS2114	20.80	AS2112	27.11	AS2200	35.36	AS2250	52.98
3	AS334	23.73	AS378	23.73	AS3100	26.53	AS3114	28.17	AS3112	34.19	AS3200	46.74	AS3250	69.88

## Arbor Spacer Shim Sets

With standard keyways

Assortments contain 19 pc. of the most needed shims.

2 Ea. .001, .002, .003, .004, .005, .006

1 Ea. .007, .008, .010, .012, .015, .020, .025

Bore	Outside Dia.	Tool No.	Price Each
1/2	3/4	MABS12	11.76
5/8	1	MABS58	14.32
3/4	1-1/8	MABS34	16.72
7/8	1-3/8	MABS78	18.16
1	1-1/2	MABS1	20.00
1-1/4	1-3/4	MABS114	21.36
1-1/2	2-1/8	MABS112	22.80
2	2-3/4	MABS2	38.72

Individual spacer available upon request.



## Arbor Running Bushings

With keyways hardened and ground



Sizes	I.D. of Hole	Overall Length	Tool No.	Price Each
1-5/8	7/8	2-5/8	ASB1587800	28.93
1-5/8	1	2-5/8	ASB158100	28.93
1-5/8	1-1/4	2-5/8	ASB158114	28.93
1-7/8	7/8	3-1/8	ASB1787800	37.70
1-7/8	1	3-1/8	ASB178100	37.70
1-7/8	1-1/4	3-1/8	ASB178114	37.70
2-1/8	7/8	3-3/4	ASB2187800	56.55
2-1/8	1	3-3/4	ASB218100	56.55
2-1/8	1-1/4	3-3/4	ASB218114	56.55
2-1/8	1-1/2	3-3/4	ASB218112	56.55
2-3/4	7/8	4-1/4	ASB2347800	71.50
2-3/4	1	4-1/4	ASB234100	71.50
2-3/4	1-1/4	4-1/4	ASB234114	71.50
2-3/4	1-1/2	4-1/4	ASB234112	71.50
2-3/4	2	4-1/4	ASB234200	71.50
3-3/8	7/8	4-1/4	ASB33878	97.50
3-3/8	1	4-1/4	ASB3381	97.50
3-3/8	1-1/4	4-1/4	ASB338114	97.50
3-3/8	1-1/2	4-1/4	ASB338112	97.50
3-3/8	2	4-1/4	ASB338200	97.50
3-3/8	2-1/2	4-1/4	ASB338212	97.50

## Micrometer Adjustable Spacing Collars

Meter spacing collars are calibrated in 1/1000" and will provide accurate and positive adjustment.

Hole Dia (Inches)	O.D. (Inches)	Thickness (Inches)	Range (Inches)	Tool No.	Price Each
3/4	1-1/2	7/16	7/16-5/8	MAC-1	85.14
7/8	1-1/2	9/16	9/16-3/4	MAC-2	85.14
1	1-3/4	5/8	5/8-7/8	MAC-3	69.29
1-1/4	2-1/8	3/4	3/4-1	MAC-4	111.14
1-1/2	2-5/8	7/8	7/8-1-1/4	MAC-5	136.00
2	3-5/8	15/16	15/16-1-1/2	MAC-6	168.00



## Milling Machine Arbor Nuts

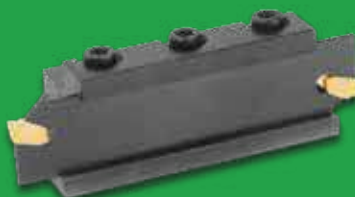
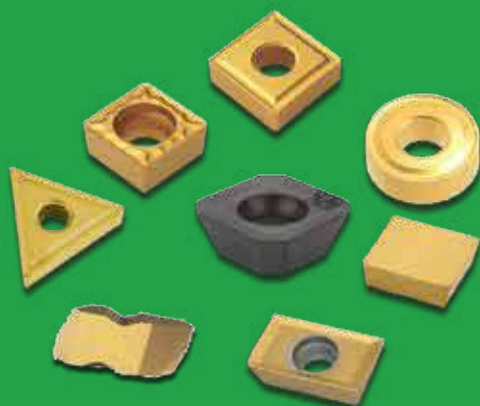
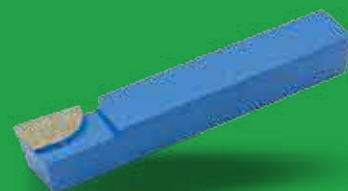
For milling machine arbors



Size	Thread Size	RH Tool No.	LH Tool No.	Price Each
7/8	7/8-14	MAN78RH	MAN78LH	35.36
1"	1-14	MAN1RH	MAN1LH	42.32
1-1/4	1-1/4-12	MAN114RH	MAN114LH	48.35
1-1/2	1-1/2-12	MAN112RH	MAN112LH	86.68
2"	2-12	MAN2RH	MAN2LH	110.32
2-1/2	2-1/2-12	MAN212RH	MAN212LH	176.80

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# Super-Bore™ Carbide Tipped Boring Bars



- High quality alloy steel for greater rigidity
- Precision ground shanks
- Offset taper to provide greater rigidity at cutting point
- Grade C-2 or C-6

**Please specify grade when ordering**

C-2: for Cast Iron applications

C-6: for Steel applications

## 3/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/16	3/4	2	PA5S	11.32
5/16	1-1/8	2-3/8	PA5M	11.83
5/16	1-1/2	2-3/4	PA5L	12.33
3/8	15/16	2-3/16	PA3S	12.58
3/8	1-13/32	2-21/32	PA3M	12.97

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
3/8	1-7/8	3-1/8	PA3L	13.85
7/16	1-1/8	2-3/8	PA7S	14.17
7/16	1-11/16	2-15/16	PA7M	14.42
7/16	2-1/4	3-1/2	PA7L	15.11

## 1/2" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/16	3/4	2-1/4	PB5S	15.11
5/16	1-1/8	2-5/8	PB5M	15.50
5/16	1-1/2	3	PB5L	16.19
7/16	1-1/8	2-5/8	PB7S	16.76
7/16	1-11/16	3-3/16	PB7M	17.46

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	2-1/4	3-3/4	PB7L	17.64
9/16	1-1/2	3	PB9S	18.15
9/16	2-1/4	3-3/4	PB9M	18.40
9/16	3	4-1/2	PB9L	18.79

## 5/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/16	3/4	2-1/4	PC5S	18.95
5/16	1-1/8	2-5/8	PC5M	19.55
5/16	1-1/2	3	PC5L	20.56
7/16	1-1/8	2-5/8	PC7S	21.32
7/16	1-11/16	3-3/16	PC7M	22.20
7/16	2-1/4	3-3/4	PC7L	23.60

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
9/16	1-1/2	3	PC9S	24.04
9/16	2-1/4	3-3/4	PC9M	24.98
9/16	3	4-1/2	PC9L	26.13
11/16	1-7/8	3-3/8	PC11S	26.95
11/16	2-13/16	4-5/16	PC11M	27.97
11/16	3-3/4	5-1/4	PC11L	29.60

## 3/4" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	1-1/8	3-1/8	PD7S	22.20
7/16	1-11/16	3-11/16	PD7M	23.34
7/16	2-1/4	4-1/4	PD7L	24.35
9/16	1-1/2	3-1/2	PD9S	25.18
9/16	2-1/4	4-1/4	PD9M	25.87
9/16	3	5	PD9L	27.01

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
11/16	1-7/8	3-7/8	PD11S	27.76
11/16	2-13/16	4-13/16	PD11M	28.66
11/16	3-3/4	5-3/4	PD11L	29.73
13/16	2-1/4	4-1/4	PD13S	31.50
13/16	3-3/8	5-3/8	PD13M	33.33
13/16	4-1/2	6-1/2	PD13L	35.17

## 1" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	1-3/4	3-3/4	PE7S	38.64
9/16	2-1/4	4-1/4	PE9S	41.43
9/16	3	5	PE9L	43.96
11/16	3	5	PE11S	43.96
11/16	3-3/4	5-3/4	PE11L	45.35
13/16	3-3/4	5-3/4	PE13L	45.35

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/8	4-1/2	6-1/2	PE14L	48.51
15/16	3-3/4	5-3/4	PE15S	50.48
1-1/16	4-1/2	6-1/2	PE17L	51.87
1-1/4	5-3/4	7-3/4	PE20L	55.66
1-1/2	6-1/4	8-1/4	PE24L	58.83
1-5/8	7-1/2	9-1/2	PE26L	63.18

# Super-Bore™ Carbide Tipped Boring Bars



- High quality alloy steel for greater rigidity
- Precision ground shanks
- Offset taper to provide greater rigidity at cutting point
- Grade C-2 or C-6

## Metric Sizes

### 8mm Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7mm	20mm	50mm	<b>PMA7S</b>	13.58
7mm	30mm	60mm	<b>PMA7M</b>	14.20
7mm	40mm	70mm	<b>PMA7L</b>	14.80
8mm	25mm	55mm	<b>PMA8S</b>	15.09
8mm	40mm	67mm	<b>PMA8M</b>	15.56

### Please specify grade when ordering

C-2: for Cast Iron applications

C-6: for Steel applications

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
8mm	50mm	80mm	<b>PMA8L</b>	16.62
10mm	30mm	60mm	<b>PMA10S</b>	17.00
10mm	50mm	80mm	<b>PMA10M</b>	17.30
10mm	60mm	90mm	<b>PMA10L</b>	18.13

### 10mm Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
8mm	25mm	65mm	<b>PMB8S</b>	18.13
8mm	40mm	80mm	<b>PMB8M</b>	18.60
8mm	50mm	90mm	<b>PMB8L</b>	19.43
10mm	30mm	70mm	<b>PMB10S</b>	20.11
10mm	50mm	90mm	<b>PMB10M</b>	20.95

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
10mm	60mm	100mm	<b>PMB10L</b>	21.17
12mm	40mm	80mm	<b>PMB12S</b>	21.78
12mm	60mm	100mm	<b>PMB12M</b>	22.08
12mm	75mm	115mm	<b>PMB12L</b>	22.54

### 12mm Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
8mm	25mm	65mm	<b>PMC8S</b>	22.74
8mm	40mm	80mm	<b>PMC8M</b>	23.46
8mm	50mm	90mm	<b>PMC8L</b>	24.67
10mm	30mm	70mm	<b>PMC10S</b>	25.58
10mm	50mm	90mm	<b>PMC10M</b>	26.64
10mm	60mm	100mm	<b>PMC10L</b>	28.32

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
12mm	40mm	80mm	<b>PMC12S</b>	28.85
12mm	60mm	100mm	<b>PMC12M</b>	29.98
12mm	75mm	115mm	<b>PMC12L</b>	31.35
14mm	50mm	90mm	<b>PMC14S</b>	32.34
14mm	70mm	110mm	<b>PMC14M</b>	33.56
14mm	95mm	135mm	<b>PMC14L</b>	35.52

### 16mm Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
10mm	30mm	80mm	<b>PMD10S</b>	26.64
10mm	50mm	100mm	<b>PMD10M</b>	28.00
10mm	60mm	110mm	<b>PMD10L</b>	29.22
12mm	40mm	90mm	<b>PMD12S</b>	30.22
12mm	60mm	110mm	<b>PMD12M</b>	31.04
12mm	75mm	125mm	<b>PMD12L</b>	32.41

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
14mm	50mm	100mm	<b>PMD14S</b>	33.31
14mm	75mm	120mm	<b>PMD14M</b>	34.39
14mm	95mm	145mm	<b>PMD14L</b>	35.68
18mm	60mm	110mm	<b>PMD18S</b>	37.80
18mm	90mm	140mm	<b>PMD18M</b>	39.40
18mm	110mm	160mm	<b>PMD18L</b>	42.70

## Sets

Set Type	Pcs.	Sizes	Set No.	Price
3/8" Shank	9	Every 3/8" size shown on previous page	<b>PA375</b>	117.70
1/2" Shank	9	Every 1/2" size shown on previous page	<b>PB500</b>	150.70
5/8" Shank	12	Every 5/8" size shown on previous page	<b>PC625</b>	284.90
3/4" Shank	12	Every 3/2" size shown on previous page	<b>PD750</b>	334.40
1" Shank	5	Contains PE7S, PE9S, PE11S, PE15S, PE17L	<b>PE1000S</b>	225.50
1" Shank Long Length	5	Contains PE11L, PE17L, PE20L, PE24L, PE26L	<b>PE1000L</b>	275.00
8mm Shank	9	Every 8mm size shown above	<b>PMA375</b>	142.28
10mm Shank	9	Every 10mm size shown above	<b>PMB500</b>	189.79
12mm Shank	12	Every 12mm size shown above	<b>PMC625</b>	342.71
16mm Shank	12	Every 16mm size shown above	<b>PMD750</b>	400.31



All sets are supplied in wood block



# Indexable Boring Bars

Boring bars come complete with insert screw and one insert



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## 1/2" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	1-1/4	2-3/4	<b>NB7S</b>	43.33
7/16	1-7/8	3-3/8	<b>NB7M</b>	43.33
7/16	2-1/2	4	<b>NB7L</b>	43.33
1/2	1-1/2	3	<b>NB8S</b>	47.83
1/2	2-1/8	3-5/8	<b>NB8M</b>	47.83

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
1/2	2-3/4	4-1/4	<b>NB8L</b>	47.83
9/16	1-3/4	3-1/4	<b>NB9S</b>	50.82
9/16	2-3/8	3-7/8	<b>NB9M</b>	50.82
9/16	3	4-1/2	<b>NB9L</b>	50.82

## 5/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	1-1/4	3	<b>NC7S</b>	47.83
7/16	1-7/8	3-5/8	<b>NC7M</b>	47.83
7/16	2-1/2	4-1/4	<b>NC7L</b>	47.83
1/2	1-1/2	3-1/4	<b>NC8S</b>	49.32
1/2	2-1/8	3-7/8	<b>NC8M</b>	49.32
1/2	2-3/4	4-1/2	<b>NC8L</b>	49.32
9/16	1-3/4	3-1/2	<b>NC9S</b>	52.31
9/16	2-3/8	4-1/8	<b>NC9M</b>	52.31

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
9/16	3	4-3/4	<b>NC9L</b>	52.31
5/8	2	3-3/4	<b>NC10S</b>	55.30
5/8	2-5/8	4-3/8	<b>NC10M</b>	55.30
5/8	3-1/4	5	<b>NC10L</b>	55.30
11/16	2-1/4	4	<b>NC11S</b>	58.29
11/16	2-7/8	4-5/8	<b>NC11M</b>	58.29
11/16	3-1/2	5-1/4	<b>NC11L</b>	58.29

## 3/4" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
7/16	1-1/4	3-1/4	<b>ND7S</b>	52.31
7/16	1-7/8	3-7/8	<b>ND7M</b>	52.31
7/16	2-1/2	4-1/2	<b>ND7L</b>	52.31
1/2	1-1/2	3-1/2	<b>ND8S</b>	53.81
1/2	2-1/8	4-1/8	<b>ND8M</b>	53.81
1/2	2-3/4	4-3/4	<b>ND8L</b>	53.81
9/16	1-3/4	3-3/4	<b>ND9S</b>	56.80
9/16	2-3/8	4-3/8	<b>ND9M</b>	56.80
9/16	3	5	<b>ND9L</b>	56.80
5/8	2	4	<b>ND10S</b>	58.29
5/8	2-5/8	4-5/8	<b>ND10M</b>	58.29

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/8	3-1/4	5-1/4	<b>ND10L</b>	58.29
11/16	2-1/4	4-1/4	<b>ND11S</b>	59.79
11/16	2-7/8	4-7/8	<b>ND11M</b>	59.79
11/16	3-1/2	5-1/2	<b>ND11L</b>	59.79
3/4	2-1/2	4-1/2	<b>ND12S</b>	59.93
3/4	3-1/4	5-1/4	<b>ND12M</b>	59.93
3/4	4	6	<b>ND12L</b>	59.93
13/16	2-3/4	4-3/4	<b>ND13S</b>	62.52
13/16	4	6	<b>ND13M</b>	62.52
13/16	4-1/2	6-1/2	<b>ND13L</b>	62.52

## Sets

Set Type	Pcs.	Description	Set No.	Price
1/2" Shank	9	1 of each 7/16 to 9/16	<b>ND500</b>	430.40
5/8" Shank	12	1 of each 1/2 to 11/16	<b>ND625</b>	651.74
3/4" Shank	12	1 of each 5/8 to 13/16	<b>ND750</b>	638.08

All sets are supplied in wood block



## Compatible Carbide Inserts

**TPGH** – Triangle, Positive Rake

Ground all over with chip groove on one side



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
<b>TPGH21.50</b>	1/4	3/32	0	6.80	6.80	7.96
<b>TPGH21.51</b>	1/4	3/32	1/64	6.80	6.80	7.96
<b>TPGH21.52</b>	1/4	3/32	1/32	6.80	6.80	7.96

\*C-6 Grade TiN Coated

## Replacement Parts

Description	Tool No.	Price
Torx® drive flat head screw for 1/4" I.C.	<b>Part TF440-195</b>	1.87
Torx® Wrench –T6	<b>Part CTW-6</b>	2.91

# Co-Bore™

## Cobalt Boring Bars

Made of premium cobalt high speed steel in a one piece construction, these boring bars may also be modified to a special grooving tool to produce various internal shapes and radii. Cobalt is an ideal tool material because of its high red-hardness, abrasive resistance and ability to maintain a sharp edge. In addition, cobalt is used successfully to significantly extend tool life.



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By



Approved  
Performance  
Tooling

### 3/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
3/16	9/16	1-13/16	<b>COA3S</b>	17.06
3/16	15/16	2-3/16	<b>COA3L</b>	18.07
1/4	3/4	2	<b>COA4S</b>	18.66
1/4	1-1/4	2-1/2	<b>COA4L</b>	19.55

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/16	15/16	2-3/16	<b>COA5S</b>	19.81
5/16	1-9/16	2-13/16	<b>COA5L</b>	20.80
3/8	1-1/8	2-3/8	<b>COA6S</b>	21.26
3/8	1-7/8	3-1/8	<b>COA6L</b>	22.28

### 1/2" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
1/4	3/4	2-1/8	<b>COB4S</b>	21.72
1/4	1-1/4	2-5/8	<b>COB4L</b>	22.28
5/16	15/16	2-5/16	<b>COB5S</b>	22.63
5/16	1-9/16	2-15/16	<b>COB5L</b>	23.65
3/8	1-1/8	2-1/2	<b>COB6S</b>	24.01

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
3/8	1-7/8	3-1/4	<b>COB6L</b>	24.92
7/16	1-5/16	2-11/16	<b>COB7S</b>	24.92
7/16	2-3/16	3-9/16	<b>COB7L</b>	25.57
1/2	1-1/2	2-7/8	<b>COB8S</b>	26.82
1/2	2-1/2	3-7/8	<b>COB8L</b>	27.42

### 5/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
3/8	1-1/8	2-5/8	<b>COC6S</b>	28.41
3/8	1-7/8	3-3/8	<b>COC6L</b>	29.04
7/16	1-5/16	2-13/16	<b>COC7S</b>	30.56
7/16	2-3/16	3-11/16	<b>COC7L</b>	33.09
1/2	1-1/2	3	<b>COC8S</b>	33.96

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
1/2	2-1/2	4	<b>COC8L</b>	36.28
9/16	1-11/16	3-3/16	<b>COC9S</b>	38.74
9/16	2-13/16	4-5/16	<b>COC9L</b>	40.46
5/8	1-7/8	3-3/8	<b>COC10S</b>	42.45
5/8	3-1/8	4-5/8	<b>COC10L</b>	44.14

### 3/4" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
3/8	1-1/8	2-7/8	<b>COD6S</b>	33.29
3/8	1-7/8	3-5/8	<b>COD6L</b>	34.48
7/16	1-5/16	3-1/16	<b>COD7S</b>	35.36
7/16	2-3/16	3-15/16	<b>COD7L</b>	36.99
1/2	1-1/2	3-1/4	<b>COD8S</b>	38.08
1/2	2-1/2	4-1/4	<b>COD8L</b>	39.08
9/16	1-11/16	3-7/16	<b>COD9S</b>	39.83

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
9/16	2-13/16	4-9/16	<b>COD9L</b>	41.35
5/8	1-7/8	3-5/8	<b>COD10S</b>	42.22
5/8	3-1/8	4-7/8	<b>COD10L</b>	43.52
11/16	2-1/16	3-13/16	<b>COD11S</b>	44.49
11/16	3-7/16	5-3/16	<b>COD11L</b>	46.36
3/4	2-1/4	4	<b>COD12S</b>	47.10
3/4	3-3/4	5-1/2	<b>COD12L</b>	48.43

### Sets

Set Type	Pcs.	Description	Set No.	Price
3/8" Shank	8	Set Includes all 3/8" sizes	<b>COAH375</b>	157.30
1/2" Shank	10	Set Includes all 1/2" sizes	<b>COBH500</b>	243.10
5/8" Shank	10	Set Includes all 5/8" sizes	<b>COCH625</b>	356.20
3/4" Shank	14	Set Includes all 3/4" sizes	<b>CODH750</b>	566.80

All sets are supplied in wood block



# Miniature Boring Bars

Solid Carbide Stem



## 3/8" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
1/16	5/16	1-9/16	<b>MA1</b>	37.96
3/32	15/32	1-23/32	<b>MA2</b>	41.21
1/8	5/8	1-7/8	<b>MA3</b>	44.59

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/32	25/32	2-1/32	<b>MA4</b>	55.32
3/16	15/16	2-3/16	<b>MA5</b>	62.79
1/4	1-1/4	2-1/2	<b>MA6</b>	71.76

## 1/2" Shank

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
1/16	5/16	1-13/16	<b>MB1</b>	42.60
3/32	15/32	1-15/16	<b>MB2</b>	44.85
1/8	5/8	2-1/8	<b>MB3</b>	47.84

Min. Bore	Bore Depth	Overall Length	Tool No.	Price Each
5/32	25/32	2-1/4	<b>MB4</b>	58.31
3/16	15/16	2-7/16	<b>MB5</b>	65.78
1/4	1-1/4	2-13/16	<b>MB6</b>	75.08

### Sets

Set Type	Pcs.	Sizes	Set No.	Price
3/8" Shank	6	MA1, MA2, MA3, MA4, MA5, MA6	<b>MA375</b>	326.52
1/2" Shank	6	MB1, MB2, MB3, MB4, MB5, MB6	<b>MB500</b>	346.82

All sets are supplied in wood block



# Stubby Boring Bars

High Speed Steel & Carbide Tipped

- Maximum rigidity
- Precision ground shanks
- Shanks feature set screw flats



	Minimum Bore	Bore Depth	Overall Length	High Speed		Carbide Tipped	
				Tool No.	Price Each	Tool No.	Price Each
<b>1/2" Shank</b>	1/8	1/4	1-21/32	<b>PSBH2</b>	25.35	<b>PSBC2</b>	35.75
	3/16	5/16	1-13/16	<b>PSBH3</b>	25.35	<b>PSBC3</b>	35.75
	1/4	7/16	2	<b>PSBH4</b>	25.35	<b>PSBC4</b>	35.75
	5/16	9/16	2-3/16	<b>PSBH5</b>	25.35	<b>PSBC5</b>	35.75
	3/8	11/16	2-3/8	<b>PSBH6</b>	26.85	<b>PSBC6</b>	35.75
	1/2	13/16	2-9/16	<b>PSBH8</b>	27.76	<b>PSBC8</b>	35.75
<b>5/8" Shank</b>	3/8	11/16	2-5/16	<b>PSCH6</b>	38.35	<b>PSCC6</b>	42.54
	1/2	15/16	2-9/16	<b>PSCH8</b>	38.35	<b>PSCC8</b>	42.54
	5/8	1-1/8	2-3/4	<b>PSCH10</b>	38.35	<b>PSCC10</b>	42.54
<b>3/4" Shank</b>	1/2	1-5/16	2-15/16	<b>PSDH8</b>	64.74	<b>PSDC8</b>	45.76
	3/4	1-17/32	3-5/32	<b>PSDH12</b>	68.25	<b>PSDC12</b>	45.76
	1	1-3/4	3-3/8	<b>PSDH16</b>	74.88	<b>PSDC16</b>	49.34
<b>1" Shank</b>	3/4	1-17/32	3-5/32	<b>PSEH12</b>	70.20	<b>PSEC12</b>	49.34
	1	1-3/4	3-3/8	<b>PSEH16</b>	74.75	<b>PSEC16</b>	49.34
	1-1/4	1-31/32	3-19/32	<b>PSEH20</b>	90.68	<b>PSEC20</b>	60.78

### Sets

Description	Size	Pieces	High Speed		Carbide Tipped	
			Set No.	Price	Set No.	Price
1/2" Shank	1/8, 3/16, 1/4, 5/16, 3/8, 1/2	6	<b>PSBH500</b>	161.97	<b>PSBC500</b>	220.46
5/8" Shank	3/8, 1/2, 5/8	3	<b>PSCH625</b>	115.05	<b>PSCC625</b>	127.40
3/4" Shank	1/2, 3/4, 1"	3	<b>PSDH750</b>	212.53	<b>PSDC750</b>	145.52
1" Shank	3/4, 1", 1-1/4	3	<b>PSEH1000</b>	241.37	<b>PSEC1000</b>	165.20

All sets are supplied in wood block.



# Precision Boring Heads with Integrated Shanks

- Direct reading .001 micrometer dia.
- Precision hardened steel
- Boring capacity up to 4"

## Straight Shank

Head Dia	Shank Dia	Hole Dia	Offset Travel	Vert. Hole Spacing	Shank Length	Overall Length	Tool No.	Price Each
2	3/4	3/8	3/4	5/8	2-5/8	5-1/16	<b>BH34A</b>	182.00
2-1/2	3/4	1/2	3/4	3/4	2-5/8	5-13/16	<b>BH34B</b>	204.82
2-1/2	3/4	5/8	3/4	3/4	2-5/8	5-13/16	<b>BH34C</b>	221.26
3	1	3/4	1-1/4	15/16	2-5/8	6-1/8	<b>BH1D</b>	254.15



## R-8 Shank

Head Dia	Shank Dia	Hole Dia	Offset Travel	Vert. Hole Spacing	Shank Length	Overall Length	Tool No.	Price Each
2	R-8	3/8	3/4	5/8	4	6-7/16	<b>BHR8A</b>	255.65
2-1/2	R-8	1/2	3/4	3/4	4	7-3/16	<b>BHR8B</b>	273.59
2-1/2	R-8	5/8	3/4	3/4	4	7-3/16	<b>BHR8C</b>	300.50
3	R-8	3/4	1-1/4	15/16	4	7-1/2	<b>BHR8D</b>	340.86



## Sets

Description	Boring Bars included	Pcs.	Set No.	Price
Contains: <b>BH34B</b> 3/4" Shank Boring Head & <b>PB500</b> 1/2" Shank Carbide Tipped Boring Bar Set.	Sizes 5/16, 7/16, 9/16 in Standard, Medium, & Long Length	10	<b>BH34BS</b>	355.52
Contains: <b>BHR8B</b> R-8 Shank Boring Head & <b>PB500</b> 1/2" Shank Carbide Tipped Boring Bar Set.	Sizes 5/16, 7/16, 9/16 in Standard, Medium, & Long Length	10	<b>BHR8BS</b>	424.29

All sets come with a C6 boring bar set unless C2 is requested.

All sets are supplied in metal case.



# Boring Heads with Interchangeable Shanks



- Direct reading .001 micrometer dia.
- Precision hardened steel
- Boring capacity up to 4"

## Boring Heads

Head Dia	Threaded Back	Hole Dia	Overall Length	Offset Travel	Vert. Hole Spacing	Tool No.	Price Each
2	7/8 — 20	3/8	2-7/16	3/4	5/8	<b>BHTA</b>	221.26
2-1/2	7/8 — 20	1/2	3-3/16	3/4	3/4	<b>BHTB</b>	239.20
2-1/2	7/8 — 20	5/8	3-3/16	3/4	3/4	<b>BHTC</b>	266.11
3	1-1/2 — 18	3/4	3-1/2	1-1/4	5/16	<b>BHTD</b>	307.97



## Interchangeable Shanks

Description	7/8" – 20 Thread		1-1/2" – 18 Thread	
	Tool No.	Price Each	Tool No.	Price Each
2 M.T. with Tang	<b>BHQM2</b>	50.18	–	–
3 M.T. with Tang	<b>BHQM3</b>	56.16	<b>BHXM3</b>	70.34
4 M.T. with Tang	<b>BHQM4</b>	66.30	<b>BHXM4</b>	79.30
#30 N.T. with Draw Bar & Drive Flange	<b>BHQS3</b>	115.70	<b>BHXS3</b>	130.00
#40 N.T. with Draw Bar & Drive Flange	<b>BHQS4</b>	143.40	<b>BHXS4</b>	261.80
1/2" Diameter Straight Shank	<b>BHQ16</b>	28.74	–	–
3/4" Diameter Straight Shank	<b>BHQ24</b>	28.74	–	–
1" Diameter Straight Shank	<b>BHQ32</b>	28.74	<b>BHX32</b>	41.08
1-1/4" Diameter Straight Shank	–	–	<b>BHX40</b>	58.24
1-1/2" Diameter Straight Shank	–	–	<b>BHX48</b>	58.24
R-8 Shank	<b>BHQR8</b>	62.02	<b>BHXR8</b>	71.90



# Tri-Lead™ Indexable Boring Bars

Exclusively  
By



BORING & TURNING

- Inserts can be indexed and replaced without loss of hole size or depth
- Made of tempered alloy steel for rigidity
- Cartridges are hardened and ground to precision accuracy
- Uses standard 3/8" I.C. triangle inserts
- 3 different cartridges - 3 different lead angles - all interchangeable
- Available in four different shank sizes
- If pocket becomes damaged during use simply replace the cartridge

## HOLDERS

	Minimum Bore	Distance Across Flats	Center to Sharp Point	Overall Length	Tool No.	Price Each
<b>3/4" Shank</b>	1-1/16	11/16	11/16	4	<b>TL344</b>	113.37
	1-1/16	11/16	11/16	5-1/2	<b>TL345</b>	122.72
	1-1/16	11/16	11/16	7	<b>TL346</b>	133.46
	1-1/16	11/16	11/16	10	<b>TL347</b>	155.71
<b>1" Shank</b>	1-1/4	7/8	3/4	4	<b>TL105</b>	131.43
	1-1/4	7/8	3/4	7	<b>TL106</b>	141.57
	1-1/4	7/8	3/4	9	<b>TL107</b>	192.31
	1-1/4	7/8	3/4	12	<b>TL108</b>	175.41
<b>1-1/4" Shank</b>	1-1/2	1-1/8	13/16	6-1/2	<b>TL125</b>	158.53
	1-1/2	1-1/8	13/16	9	<b>TL126</b>	179.89
	1-1/2	1-1/8	13/16	11-1/2	<b>TL127</b>	193.27
	1-1/2	1-1/8	13/16	15	<b>TL128</b>	221.08
<b>1-1/2" Shank</b>	1-3/4	1-1/4	1	15	<b>TL138</b>	277.93

Each tool is supplied with (1) TPG-321 C-6 insert.



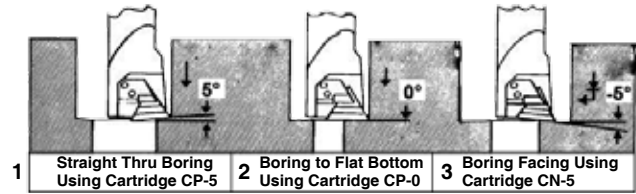
## TPG Carbide Inserts

Triangle - Positive rake - Ground all over



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
<b>TPG320</b>	3/8	1/8	0	6.74	6.74	8.08
<b>TPG321</b>	3/8	1/8	1/64	6.74	6.74	8.08
<b>TPG322</b>	3/8	1/8	1/32	6.74	6.74	8.08
<b>TPG323</b>	3/8	1/8	3/64	6.74	6.74	8.08
<b>TPG324</b>	3/8	1/8	1/16	6.74	6.74	8.08

\*C-6 Grade TiN Coated



## Replacement Parts

Part No.	Description	Price Each
<b>Part CTL</b>	Hold Down Clamp	8.29
<b>Part CBT-12</b>	3/8" I.C. Chipbreaker	4.77
<b>SHIM41</b>	3/8" I.C. Shim	5.60
<b>Part CP0</b>	0° Lead Cartridge	12.99
<b>Part CP5</b>	+5° Positive Lead Cartridge	12.99
<b>Part CN5</b>	-5° Negative Lead Cartridge	12.99
<b>Part CRP-1</b>	Roll Pin	0.55
<b>Part CF440-14</b>	Shim Screw	0.55
<b>Part CS540-38</b>	Cartridge Screw (2 Required)	0.55
<b>Part CS832-58</b>	Clamp Screw for 3/4" Shank	0.55
<b>Part CS832-34</b>	Clamp Screw for 1", 1-1/4" & 1-1/2" Shank	0.55

## Interchangeable Cartridges

Part No.	Description	Price Each
<b>Part CP5</b>	+5° Positive Lead Cartridge	12.99
<b>Part CN5</b>	-5° Negative Lead Cartridge	12.99

## Cartridge & Insert Package

Part No.	Description	Price Each
<b>Part TLPK</b>	10 TPG321 C6 Carbide Inserts 1 CP5 Cartridge (+5° Positive lead) 1 CN5 Cartridge (-5° Negative lead)	93.20

## Sets

Description	Sizes	Pieces	Set No.	Price
3/4" Shank	TL344, TL345, TL346	3	<b>TL348</b>	369.55
1" Shank	TL105, TL106, TL107	3	<b>TL109</b>	466.27
1-1/4" Shank	TL125, TL126, TL127	3	<b>TL129</b>	527.69
3/4" 1" & 1-1/4" Shank	TL345, TL106, TL126	3	<b>TL130</b>	440.18





# Super-Lok™ Boring Bars

Regular Length and Long Length

Exclusively  
By



- No special components
- Insert is held rigidly by a unique clamping design
- Uses standard 1/4" and 3/8" I.C. triangle inserts
- Chose from a wide variety of shank sizes and lengths



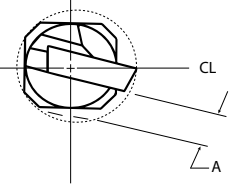
End View



To achieve such a small minimum bore, it is necessary to make the tool with a negative radial relief.

For the tool to perform properly, the cutting point must be positioned on the centerline (CL).

By doing this, it gives the tool more strength under the pocket area (A).



## HOLDERS

	Minimum Bore	Bore Depth	Distance Across Flats	Overall Length	Inserts Size I.C.	Tool No.	Price Each
1/2" Shank	1/2	1-1/2	7/16	3	1/4	LB8S	61.89
	1/2	2-1/4	7/16	3-3/4	1/4	LB8M	63.69
	9/16	1-3/4	7/16	3-1/4	1/4	LB9S	61.89
	9/16	2-5/8	7/16	4-1/8	1/4	LB9M	70.73
	9/16**	-	7/16	8	1/4	LB9L	77.74
	5/8	2	7/16	3-1/2	1/4	LB10S	63.69
	5/8	3	7/16	4-1/2	1/4	LB10M	66.83
	5/8" Shank	1/2	1-1/2	9/16	3-1/4	1/4	LC8S
1/2		2-1/4	9/16	4	1/4	LC8M	73.11
5/8		2	9/16	3-3/4	1/4	LC10S	70.88
5/8		3	9/16	4-3/4	1/4	LC10M	75.21
11/16**		-	9/16	9	3/8	LC11L	93.89
3/4		2-3/4	9/16	4-1/2	3/8	LC12S	75.21
3/4		3-3/4	9/16	5-1/2	3/8	LC12M	80.43
3/4" Shank		1/2	1-1/2	5/8	3-1/2	1/4	LD8S
	1/2	2-1/4	5/8	4-1/4	1/4	LD8M	80.43
	5/8	2	5/8	4	1/4	LD10S	80.43
	5/8	3	5/8	5	1/4	LD10M	85.67
	3/4	2-3/4	5/8	4-3/4	3/8	LD12S	85.67
	3/4	3-3/4	5/8	5-3/4	3/8	LD12M	88.36
	13/16	3	5/8	5	3/8	LD13S	88.36
	13/16	4-1/2	5/8	6-1/2	3/8	LD13M	92.09
	13/16**	-	5/8	10	3/8	LD13L	107.04
	1" Shank	3/4	3	7/8	5-1/4	3/8	LE12S
3/4		4	7/8	6-1/4	3/8	LE12M	108.24
13/16		3-1/4	7/8	5-1/2	3/8	LE13S	103.16
13/16		4-1/2	7/8	6-3/4	3/8	LE13M	116.61
15/16		3-1/2	7/8	5-3/4	3/8	LE15S	108.39
15/16		4-3/4	7/8	7	3/8	LE15M	119.30
1-1/16		4	7/8	6-1/4	3/8	LE17S	113.92
1-1/16		5-1/4	7/8	7-1/2	3/8	LE17M	125.14
1-1/16**		-	7/8	12	3/8	LE17L	132.46
1-1/4" Shank		1-5/16**	-	1-1/8	15	3/8	LF21L
1-1/2" Shank	1-9/16**	-	1-1/4	15	3/8	LG25L	209.90

\*\* Indicates Long Length

## TPG Carbide Inserts

Triangle - Positive rake - Ground all over



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPG220	1/4	1/8	0	5.70	5.70	6.90
TPG321	3/8	1/8	1/64	6.74	6.74	8.08

\*C-6 Grade TiN Coated

## Replacement Parts

Part No.	Description	Price Each
Part CS632-38	Screw for 1/4" I.C. Holders	0.60
Part CS1032-12	Screw for 3/8" I.C. Holders	0.75
Part CS1032-38	Screw for LC11L Only	0.75
Part CS1032-58	Screw for LE15S, LE15M	0.75
Part CS1420-58	Screw for LE17L Only	0.60
Part CS1420-34	Screw for LF21L, LG25L	0.60

## Sets

Description	Sizes	Pieces	Set No.	Price
1/2" Shank	LB8S, LB8M, LB9S, LB9M, LB10S, LB10M	6	LB500	388.72
5/8" Shank	LC8S, LC8M, LC10S, LC10M, LC12S, LC12M	6	LC625	445.72
3/4" Shank	LD8S, LD8M, LD10S, LD10M, LD12S, LD12M, LD13S, LD13M	8	LD750	681.44
1" Shank	LE12S, LE12M, LE13S, LE13M, LE15S, LE15M, LE17S, LE17M, LE17L	9	LE1000	1025.59

All sets are supplied in wood block.



# Micro-Range™ Carbide Indexable Adjustable Boring Bar

Exclusively  
By



- For use on CNC and conventional mills and lathes
- Can be precision adjusted while tool is in machine
- .002 graduation adjustment
- C6 carbide insert and Torx® wrench included with each tool



↖ Micrometer adjustment screw

## Holders

Minimum* Bore	Maximum* Bore	Shank Diameter	Overall Length	Maximum Depth of Cut	Insert Size I.C.	Tool No.	Price Each
3/4	15/16	5/8	5-1/4	3-1/8	1/4	<b>TLA625S</b>	280.68
3/4	15/16	R-8	7-3/8	3-1/8	1/4	<b>TLA625R8</b>	333.00
15/16	1-3/16	3/4	6-5/16	4-1/8	3/8	<b>TLA750S</b>	321.05
15/16	1-3/16	R-8	8-3/8	4-1/8	3/8	<b>TLA750R8</b>	383.84
1-3/16	1-5/8	1"	8-1/4	5-1/8	3/8	<b>TLA1000S</b>	367.39
1-3/16	1-5/8	R-8	9-3/8	5-1/8	3/8	<b>TLA1000R8</b>	445.13
1-7/16	2-3/8	1-1/4	10-5/16	6-1/4	3/8	<b>TLA1250S</b>	422.71
1-7/16	2-3/8	R-8	10-1/2	6-1/4	3/8	<b>TLA1250R8</b>	501.94

\*NOTE: Bore diameter produced when using insert TPGH-21.51 (radius 1/64).



## TPGH Carbide Inserts

Triangle - Positive rake - Ground all over with chip groove on one side

Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
<b>TPGH21.50</b>	1/4	3/32	0	6.80	6.80	7.96
<b>TPGH21.51</b>	1/4	3/32	1/64	6.80	6.80	7.96
<b>TPGH21.52</b>	1/4	3/32	1/32	6.80	6.80	7.96
<b>TPGH321</b>	3/8	1/8	1/64	7.42	7.42	9.04
<b>TPGH322</b>	3/8	1/8	1/32	7.42	7.42	9.04

\*C-6 Grade TiN Coated



## Micro-Range Adjustable Boring Bar Cartridge

Tool No.	Description	Price Each
<b>CRTLA 625</b>	Cartridge for 5/8" holder	40.04
<b>CRTLA 750</b>	Cartridge for 3/4" holder	40.04
<b>CRTLA 1000</b>	Cartridge for 1" holder	60.06
<b>CRTLA 1250</b>	Cartridge for 1-1/4" holder	60.06

## Replacement Parts

Part No.	Description	Price Each
<b>Part TF832-285</b>	Torx® drive flat head screw for 3/8" I.C.	2.61
<b>Part TF440-195</b>	Torx® drive flat head screw for 1/4" I.C.	1.87
<b>Part CTW-10</b>	Torx® wrench for 3/8" I.C.	3.67
<b>Part CTW-6</b>	Torx® wrench for 1/4" I.C.	2.91



## Micro-Range Adjustment Screw

Tool No.	Description	Price Each
<b>MSTLA625</b>	Micro-range screw for 5/8" dia. holder	12.71
<b>MSTLA750</b>	Micro-range screw for 3/4" dia. holder	13.46
<b>MSTLA1000</b>	Micro-range screw for 1" dia. holder	14.95
<b>MSTLA1250</b>	Micro-range screw for 1-1/4" dia. holder	15.70

# Radial Relief Boring Bars

## High Speed Steel Head

Interchangeable thread boring tools. Alloy Steel Boring Bars are supplied with one high speed steel head.

Style "A" for General Boring  
Style "B" for Bottoming & Facing



Part #	Bar Diameter	Min. Boring Depth	Max. Boring Depth	Overall Length	STYLE A				STYLE B			
					Bar & Head		Head Only		Bar & Head		Head Only	
					Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
7	3/4	1-1/16	8-1/2	12	<b>J866-607</b>	50.00	<b>J866-615</b>	10.00	<b>J866-707</b>	55.00	<b>J866-715</b>	13.00
8	7/8	1-3/16	9-1/4	13	<b>J866-608</b>	60.00	<b>J866-616</b>	11.00	<b>J866-708</b>	65.00	<b>J866-716</b>	15.00
9	7/8	1-5/16	10	13-3/4	<b>J866-609</b>	65.00	<b>J866-617</b>	12.00	<b>J866-709</b>	75.00	<b>J866-717</b>	18.00
10	1	1-1/2	10-3/4	14-3/4	<b>J866-610</b>	75.00	<b>J866-618</b>	15.00	<b>J866-710</b>	85.00	<b>J866-718</b>	20.00
11	1-1/4	1-3/4	12-3/4	16-3/4	<b>J866-611</b>	85.00	<b>J866-619</b>	20.00	<b>J866-711</b>	95.00	<b>J866-719</b>	25.00
12	1-3/8	2	15	19-3/4	<b>J866-612</b>	95.00	<b>J866-620</b>	25.00	-	-	-	-

# Easy-Bore™ Boring Bars

Exclusively By  Approved Performance Tooling



BORING & TURNING

- Precision broached holes accept standard tool bits
- Use in any typical boring operation
- Made of stress resistant steel to minimize or eliminate vibration
- Easily reworked to accept adjustable boring tips for high precision boring

## Double End 45°/90° Style

Bar Diameter	Tool Bit Diameter	Overall Length	Tool No.	Price Each
1/4	5/32 round	5	<b>BD1</b>	16.45
5/16	3/16 round	5	<b>BD2</b>	18.72
3/8	3/16 round	6	<b>BD3</b>	20.28
1/2	3/16 square	6	<b>BD4</b>	26.52
9/16	3/16 square	9	<b>BD5</b>	29.90
5/8	1/4 square	10	<b>BD6</b>	31.20
3/4	1/4 square	12	<b>BD7</b>	35.88
1	5/16 square	12	<b>BD9</b>	44.72
1	3/8 square	12	<b>BD9X</b>	44.72
1-1/4	1/2 square	16	<b>BD11</b>	74.10
1-1/2	1/2 square	18	<b>BD15</b>	98.67

Prices do not include tool bits. Replacement screws available. Please inquire.



45° & 90° Combined

## Single End 45° Style & 90° Style

Bar Diameter	Tool Bit Diameter	Overall Length	Tool No.		Price Each
			45° Style	90° Style	
1/4	5/32 round	2-1/2	<b>BA1</b>	<b>BS1</b>	9.88
5/16	3/16 round	2-1/2	<b>BA2</b>	<b>BS2</b>	11.25
3/8	3/16 round	3	<b>BA3</b>	<b>BS3</b>	12.09
1/2	3/16 square	3	<b>BA4</b>	<b>BS4</b>	16.06
9/16	3/16 square	4-1/2	<b>BA5</b>	<b>BS5</b>	18.20
5/8	1/4 square	5	<b>BA6</b>	<b>BS6</b>	18.85
3/4	1/4 square	6	<b>BA7</b>	<b>BS7</b>	21.71
1	5/16 square	6	<b>BA9</b>	<b>BS9</b>	27.30
1	3/8 square	6	<b>BA9X</b>	<b>BS9X</b>	27.30
1-1/4	1/2 square	8	<b>BA11</b>	<b>BS11</b>	44.46
1-1/2	1/2 square	9	<b>BA15</b>	<b>BS15</b>	59.28

Prices do not include tool bits. Replacement screws available. Please inquire.



45° Style



90° Style



## Sets

Sizes	Pieces	Set No.	Price
BD1, BD3, BD4, BD6, BD7	5	<b>BD459</b>	130.00

Set does not include tool bits.

All sets are supplied in wood block.

## Boring Tool Holder

Boring Bar Diameter	Tool Bit Size	Size of Holder	Tool No.	Price Each
9/16	3/16	3/8 x 7/8 x 5-3/8	<b>THB2</b>	88.40
3/4	1/4	1/2 x 1-1/8 x 6-1/8	<b>THB3</b>	102.70



**MDX**  
SUPERIOR IMPORT



## Tool Bits

Size	Overall Length	Price Each			
		H.S. Round Tool No 704	H.S. Square Tool No 700	5% Cobalt Square Tool No. 700C	8% Super Cobalt Square Tool No 700SC
5/32	3-1/8	2.92	-	-	-
3/16	2-1/2	-	2.82	3.83	5.04
3/16	3-1/2	4.50	-	-	-
1/4	2-1/2	-	2.92	4.32	6.21
1/4	4	-	4.49	6.80	-
5/16	2-1/2	-	3.34	5.04	7.92
5/16	4	-	5.71	8.66	-
3/8	4	-	6.23	9.68	-
1/2	4	-	9.36	15.21	18.72
1/2	6	-	13.64	20.76	-



# Lathe Tooling

Carbon, High Speed, & Carbide Tipped

Hardened and Ground



## Morse Taper Lathe Dead Centers

60° Included point Angle

- List No. **LA100** – Carbon Alloy
- List No. **LA200** – High Speed Steel
- List No. **LA300** – Carbide Tipped



Morse Taper	Overall Length	Price Each		
		Carbon LA100	High Speed LA200	Carbide Tipped LA300
0	2-7/8	3.19	6.44	9.75
1	3-3/16	3.19	6.44	9.75
2	3-15/16	3.84	8.45	12.35
3	4-15/16	6.18	11.38	20.41
4	6-5/16	8.78	17.94	29.71
5	7-7/8	17.55	37.70	49.40
6	11	41.54	70.20	90.35

## Jarno Taper Lathe Centers

- List No. **LA100J** – Carbon Steel
- List No. **LA200J** – High Speed Steel
- List No. **LA300J** – Carbide Tipped



Jarno Taper	Price Each		
	Carbon LA100J	High Speed LA200J	Carbide Tipped LA300J
4	–	94.03	–
5	79.12	98.90	–
6	83.29	104.11	–
7	–	109.59	119.36
8	–	140.68	151.45
9	–	142.21	153.55
10	–	148.76	160.01
11	–	156.60	168.56
12	–	166.08	177.42
13	–	234.26	261.28
14	–	–	273.99

## Heavy Duty Morse Taper Live Centers

Precision High Quality Bearings

- List No. **LA400** – Precision Grade
- List No. **LA500** – Superior Precision Grade



Morse Taper	Max. Lbs. of Work Piece	Precision LA400		Super Precision LA500	
		Tolerance	Price Each	Tolerance	Price Each
1	220	.0003	38.68	.0002	62.40
2	460	.0003	51.35	.0001	76.70
3	925	.0003	68.25	.0001	89.70
4	1850	.0003	90.35	.0001	123.50
5	4400	.0004	128.70	.0002	165.10
6	7700	.0004	240.50	.0002	403.00

## Brown & Sharpe Lathe Centers

- List No. **LA100B** – Carbon Steel
- List No. **LA200B** – High Speed Steel
- List No. **LA300B** – Carbide Tipped



B & S Taper	Price Each		
	Carbon LA100B	High Speed LA200B	Carbide Tipped LA300B
5	59.58	74.48	–
6	–	48.40	–
7	66.02	82.53	91.89
8	87.90	109.85	–
9	97.54	121.93	135.98
10	121.89	152.37	175.69
11	–	228.56	255.06
12	200.70	250.88	277.92

## Half Centers

- List No. **LA250M** – High Speed Steel
- List No. **LA350M** – Carbide Tipped



Taper Style	Price Each	
	High Speed LA250M	Carbide Tipped LA350M
Morse Taper 2	66.60	51.39
Morse Taper 3	100.98	94.23
Morse Taper 4	146.97	110.07
Morse Taper 5	266.40	171.72
Brown & Sharpe 7	78.03	87.30
Brown & Sharpe 9	119.43	133.20
Brown & Sharpe 10	165.42	183.69
Jarno Taper 6	78.03	86.76
Jarno Taper 10	156.24	179.19
Jarno Taper 12	195.21	222.05

## Long-Nose Live Centers

Head Driving Type for N/C & Copying Lathes



These N/C live centers are designed to withstand dust, chips and coolant coming inside the bearings, preventing down time. Trouble free high speed operation is insured, and guaranteed with in .0002". Hardened to 61-65 Rockwell "C" and ground. Load factor is high in comparison with standard live centers.

Morse Taper	Tolerance	OAL	Model No.	Price Each
3	.0002	6.45	LA400L-3	215.55
4	.0002	7.35	LA400L-4	252.18
5	.0002	10.55	LA400L-5	502.92

# Lathe Tooling

Hardened and Ground



## Bullnose Live Centers

- Designed to hold pipe and hollow work.
- Preloaded bearings to achieve good thrust and radial capacities.
- Head made from heat treated hardened high carbon alloy steel.



Morse Taper	Small End	Large End	Tool No.	Price Each
2	1/2	2-7/16	LA600-2	94.64
3	3/4	3	LA600-3	159.64
3	1-1/4	4	LA600-3A	171.44
3	1-1/2	5	LA600-3B	240.64
4	1-3/8	5	LA600-4	236.00
4	2	6	LA600-4A	276.96
5	1-3/8	6	LA600-5	313.92
5	2-1/8	8	LA600-5A	807.20

## Live Center Sets with seven Inserts

The body of these sets are constructed similar to Series 312 Live Centers, however, for versatility the bodies are provided with the following seven interchangeable inserts:

- 2 large male centers
- 1 female center
- 3 smaller, different sized male centers
- 1 bullnose center

Morse Taper	Model No.	Price Each
2	LASET-2	177.75
3	LASET-3	182.25
4	LASET-4	201.15
5*	LASET-5	304.12



\*Supplied with three inserts only.

## Lathe Mandrels

Made of hardened steel and accurately ground to size. Designed for setting up accurately bored or reamed blanks and castings for pulleys, handwheels or hubs on centers, so that the outside diameter can be turned concentrically with the axis of the hole in which the mandrel is fixed.



Size	Overall Length	Tool No.	Price Each	Size	Overall Length	Tool No.	Price Each	Size	Overall Length	Tool No.	Price Each
1/8	2-1/2	LM4	7.09	23/32	6	LM23	12.94	1-1/4	8	LM40	25.94
5/32	3	LM5	7.74	47/64	6	LM23A	14.24	1-17/64	8	LM40A	31.85
3/16	3	LM6	7.74	3/4	6	LM24	12.94	1-9/32	8	LM41	31.85
7/32	3-3/4	LM7	8.45	49/64	6	LM24A	14.23	1-5/16	8-1/4	LM42	31.85
1/4	3-3/4	LM8	8.45	25/32	6-1/4	LM25	16.25	1-11/32	8-1/4	LM43	31.85
9/32	4	LM9	8.78	51/64	6	LM25A	17.88	1-3/8	8-1/2	LM44	31.85
5/16	4	LM10	8.78	13/16	6-1/4	LM26	16.25	1-13/32	8-1/2	LM45	37.05
11/32	4-1/4	LM11	9.04	53/64	6-1/4	LM26A	17.88	1-7/16	8-3/4	LM46	37.05
3/8	4-1/4	LM12	9.04	27/32	6-1/2	LM27	16.25	1-15/32	8-3/4	LM47	40.76
13/32	4-1/2	LM13	9.75	55/64	6-1/2	LM27A	17.88	1-1/2	9	LM48	37.05
7/16	4-1/2	LM14	9.75	7/8	6-1/2	LM28	16.25	1-9/16	9-1/4	LM50	41.93
29/64	4-1/2	LM14A	10.72	57/64	6-1/2	LM28A	17.88	1-5/8	9-1/2	LM52	41.93
15/32	5	LM15	11.05	29/32	6-3/4	LM29	17.88	1-11/16	9-3/4	LM54	47.45
31/64	5	LM15A	12.16	59/64	6-3/4	LM29A	19.67	1-3/4	10	LM56	47.45
1/2	5	LM16	11.05	15/16	6-3/4	LM30	17.88	1-13/16	10-1/4	LM58	54.28
33/64	5	LM16A	12.16	61/64	6-3/4	LM30A	19.67	1-7/8	10-1/2	LM60	54.28
17/32	5-1/4	LM17	12.48	31/32	7	LM31	17.88	1-15/16	10-3/4	LM62	59.15
35/64	5	LM17A	13.73	63/64	6-3/4	LM31A	19.67	2	11	LM64	59.15
9/16	5-1/4	LM18	12.48	1	7	LM32	17.88	2-1/8	11-1/2	LM68	64.68
37/64	5-1/4	LM18A	13.73	1-1/32	7	LM33	22.43	2-1/4	12	LM72	72.48
19/32	5-1/2	LM19	12.48	1-1/16	7-1/4	LM34	22.43	2-3/8	12	LM76	77.68
5/8	5-1/2	LM20	12.48	1-3/32	7-1/4	LM35	24.00	2-1/2	12-1/2	LM82	87.10
21/32	5-3/4	LM21	12.94	1-1/8	7-1/2	LM36	22.43	2-5/8	12-1/2	LM84	101.40
43/64	5-1/2	LM21A	14.24	1-5/32	7-3/4	LM37	24.00	2-3/4	13	LM88	110.50
11/16	5-3/4	LM22	12.94	1-3/16	7-3/4	LM38	25.94	2-7/8	13	LM92	115.70
45/64	5-3/4	LM22A	14.24	1-7/32	7-1/2	LM39	28.53	3	13	LM96	128.70

## Expanding Mandrels

Center holes are ground and lapped. Automatic expansion feature can be utilized on any bore within the range of the mandrel. Sizes up to 1" furnished with one sleeve, over 1" two sleeves.



Size Range	Length of Arbor	Length of Sleeve	Sleeves Furnished	Tool No.	Price Each
1/2 - 9/16	5	2-1/2	1	LME1	71.50
9/16 - 21/32	6	2-3/4	1	LME2	89.70
21/32 - 3/4	7	2-3/4	1	LME3	93.60
3/4 - 7/8	7	3-1/4	1	LME4	109.20
7/8 - 1	7	3-1/4	1	LME5	116.35

### Sets

Size	Pieces	Set No.	Price
1/2 to 1"	5	LME100	466.70

Size Range	Length of Arbor	Length of Sleeve	Sleeves Furnished	Tool No.	Price Each
1 - 1-1/4	9	4	2	LME6	206.70
1-1/4 - 1-1/2	9	4	2	LME7	220.35
1-1/2 - 2	11-1/2	5	2	LME8	240.50
2 - 2-3/4	14	6	2	LME9	576.24
2-3/4 - 3-3/4	17	7	2	LME10	735.98



# Adjustable Clamp/Chipbreaker Indexable Turning Tool Holders

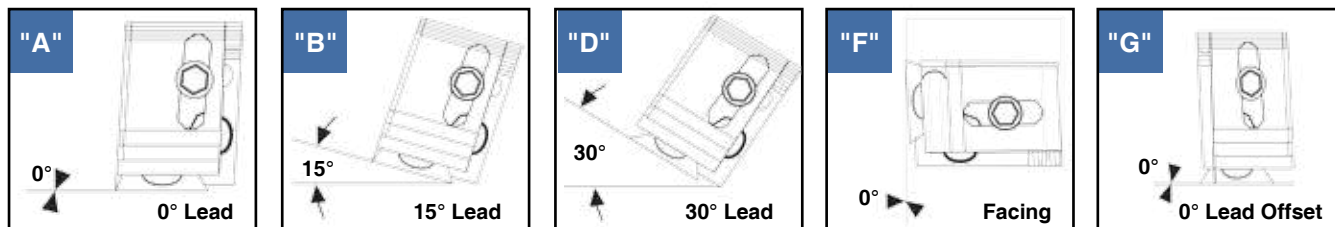
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By

apt  
USA Approved  
Performance  
Tooling



## Small Shank Series

- No tool like it on the market!
- Each tool has precision hardened and ground pockets
- Uses inexpensive 1/4" I.C. triangle inserts
- Replaces old style brazed tip tool bits



## Positive Rake

Style	Shank Height & Width	OAL	Tool No.					Price Each
			"A" Series 0° Lead	"B" Series 15° Lead	"D" Series 30° Lead	"F" Series Facing Tool	"G" Series 0° Lead Offset	
Right Hand	3/8	2-1/2	MPAR-6	MPBR-6	MPDR-6	MPFR-6	MPGR-6	34.45
	1/2	3-1/2	MPAR-8	MPBR-8	MPDR-8	MPFR-8	MPGR-8	37.44
	5/8	4	MPAR-10	MPBR-10	MPDR-10	MPFR-10	MPGR-10	42.25
Left Hand	3/8	2-1/2	MPAL-6	MPBL-6	MPDL-6	MPFL-6	MPGL-6	34.45
	1/2	3-1/2	MPAL-8	MPBL-8	MPDL-8	MPFL-8	MPGL-8	37.44
	5/8	4	MPAL-10	MPBL-10	MPDL-10	MPFL-10	MPGL-10	42.25

## Negative Rake

Style	Shank Height & Width	OAL	Tool No.					Price Each
			"A" Series 0° Lead	"B" Series 15° Lead	"D" Series 30° Lead	"F" Series Facing Tool	"G" Series 0° Lead Offset	
Right Hand	3/8	2-1/2	MNAR-6	MNBR-6	MNDR-6	MNFR-6	MNGR-6	34.45
	1/2	3-1/2	MNAR-8	MNBR-8	MNDR-8	MNFR-8	MNGR-8	37.44
	5/8	4	MNAR-10	MNBR-10	MNDR-10	MNFR-10	MNGR-10	42.25
Left Hand	3/8	2-1/2	MNAL-6	MNBL-6	MNDL-6	MNFL-6	MNGL-6	34.45
	1/2	3-1/2	MNAL-8	MNBL-8	MNDL-8	MNFL-8	MNGL-8	37.44
	5/8	4	MNAL-10	MNBL-10	MNDL-10	MNFL-10	MNGL-10	42.25

Inserts sold separately.

## Sets

Description	Size	Pcs.	Set No.	Price
3/8" Shank - Positive Rake	MPBR-6, MPDR-6, MPFR-6, MPGR-6	4	MP12S	128.70
3/8" Shank - Negative Rake	MNBR-6, MNDR-6, MNFR-6, MNGR-6	4	MN12S	128.70
1/2" Shank - Positive Rake	MPBR-8, MPDR-8, MPFR-8, MPGR-8	4	MP38S	139.10
1/2" Shank - Negative Rake	MNBR-8, MNDR-8, MNFR-8, MNGR-8	4	MN38S	139.10



## TPG Carbide Inserts

Triangle — Positive rake - Ground all over



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPG221	1/4	1/8	1/64	5.70	5.70	6.90
TPG222	1/4	1/8	1/32	5.70	5.70	6.90
TPG223	1/4	1/8	3/64	5.70	5.70	6.90

\* TiN coated is C-6 grade

## TNG Carbide Inserts

Triangle — Negative rake - Ground all over



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TNG221	1/4	1/8	1/64	3.66	3.66	5.26
TNG222	1/4	1/8	1/32	3.66	3.66	5.26

\* TiN coated is C-6 grade

## Replacement Parts List

Part No.	Description	Price Each
Part CMD	Combination Clamp & Chipbreaker	8.52
Part CS540-12	Clamp Screw	0.52



# Adjustable Clamp/Chipbreaker Indexable Turning Tool Holders

Exclusively By  Approved Performance Tooling



## Large Shank Series

- Adjustable chipbreaker eliminates stocking various sizes
- Precision hardened and ground pockets
- Regrind inserts at substantial savings
- Tools are easily repaired by simply replacing the cartridge
- Uses standard 3/8" and 1/2" I.C. triangle inserts



BORING & TURNING

## Positive Rake

Style	(A) OAL	(B) Shank Width	(C) Shank Height	Insert I.C.	Tool No.					Price Each
					"A" Series 0° Lead	"B" Series 15° Lead	"D" Series 30° Lead	"F" Series Facing Tool	"G" Series 0° Lead Offset	
Right Hand	4-1/2	3/4	3/4	3/8	PTAR12	PTBR12	PTDR12	PTFR12	PTGR12	50.05
	6	1	1	3/8	PTAR16	PTBR16	PTDR16	PTFR16	PTGR16	58.50
	6	1	1	1/2	PTAR16A	PTBR16A	PTDR16A	PTFR16A	PTGR16A	58.50
	6	1-1/4	1-1/4	1/2	PTAR20	PTBR20	PTDR20	PTFR20	PTGR20	63.70
	6	1	1-1/4	3/8	PTAR85	PTBR85	PTDR85	PTFR85	PTGR85	63.70
	6	1	1-1/4	1/2	PTAR85A	PTBR85A	PTDR85A	PTFR85A	PTGR85A	63.70
Left Hand	4-1/2	3/4	3/4	3/8	PTAL12	PTBL12	PTDL12	PTFL12	PTGL12	50.05
	6	1	1	3/8	PTAL16	PTBL16	PTDL16	PTFL16	PTGL16	58.50
	6	1	1	1/2	PTAL16A	PTBL16A	PTDL16A	PTFL16A	PTGL16A	58.50
	6	1-1/4	1-1/4	1/2	PTAL20	PTBL20	PTDL20	PTFL20	PTGL20	63.70
	6	1	1-1/4	3/8	PTAL85	PTBL85	PTDL85	PTFL85	PTGL85	63.70
	6	1	1-1/4	1/2	PTAL85A	PTBL85A	PTDL85A	PTFL85A	PTGL85A	63.70
Right Hand	4-1/2	3/4	3/4	3/8	NTAR12	NTBR12	NTDR-12	NTFR12	NTGR12	50.05
	6	1	1	3/8	NTAR16	NTBR16	NTDR-16	NTFR16	NTGR16	58.50
	6	1	1	1/2	NTAR16A	NTBR16A	NTDR-16A	NTFR16A	NTGR16A	58.50
	6	1-1/4	1-1/4	1/2	NTAR20	NTBR20	NTDR-20	NTFR20	NTGR20	63.70
	6	1	1-1/4	3/8	NTAR85	NTBR85	NTDR-85	NTFR85	NTGR85	63.70
	6	1	1-1/4	1/2	NTAR85A	NTBR85A	NTDR-85A	NTFR85A	NTGR85A	63.70
Left Hand	4-1/2	3/4	3/4	3/8	NTAL12	NTBL12	NTDL-12	NTFL12	NTGL12	50.05
	6	1	1	3/8	NTAL16	NTBL16	NTDL-16	NTFL16	NTGL16	58.50
	6	1	1	1/2	NTAL16A	NTBL16A	NTDL-16A	NTFL16A	NTGL16A	58.50
	6	1-1/4	1-1/4	1/2	NTAL20	NTBL20	NTDL-20	NTFL20	NTGL20	63.70
	6	1	1-1/4	3/8	NTAL85	NTBL85	NTDL-85	NTFL85	NTGL85	63.70
	6	1	1-1/4	1/2	NTAL85A	NTBL85A	NTDL-85A	NTFL85A	NTGL85A	63.70

## Negative Rake

Style	(A) OAL	(B) Shank Width	(C) Shank Height	Insert I.C.	Tool No.					Price Each
					"A" Series 0° Lead	"B" Series 15° Lead	"D" Series 30° Lead	"F" Series Facing Tool	"G" Series 0° Lead Offset	
Right Hand	4-1/2	3/4	3/4	3/8	NTAR12	NTBR12	NTDR-12	NTFR12	NTGR12	50.05
	6	1	1	3/8	NTAR16	NTBR16	NTDR-16	NTFR16	NTGR16	58.50
	6	1	1	1/2	NTAR16A	NTBR16A	NTDR-16A	NTFR16A	NTGR16A	58.50
	6	1-1/4	1-1/4	1/2	NTAR20	NTBR20	NTDR-20	NTFR20	NTGR20	63.70
	6	1	1-1/4	3/8	NTAR85	NTBR85	NTDR-85	NTFR85	NTGR85	63.70
	6	1	1-1/4	1/2	NTAR85A	NTBR85A	NTDR-85A	NTFR85A	NTGR85A	63.70
Left Hand	4-1/2	3/4	3/4	3/8	NTAL12	NTBL12	NTDL-12	NTFL12	NTGL12	50.05
	6	1	1	3/8	NTAL16	NTBL16	NTDL-16	NTFL16	NTGL16	58.50
	6	1	1	1/2	NTAL16A	NTBL16A	NTDL-16A	NTFL16A	NTGL16A	58.50
	6	1-1/4	1-1/4	1/2	NTAL20	NTBL20	NTDL-20	NTFL20	NTGL20	63.70
	6	1	1-1/4	3/8	NTAL85	NTBL85	NTDL-85	NTFL85	NTGL85	63.70
	6	1	1-1/4	1/2	NTAL85A	NTBL85A	NTDL-85A	NTFL85A	NTGL85A	63.70

Inserts sold separately.

## Replacement Parts List

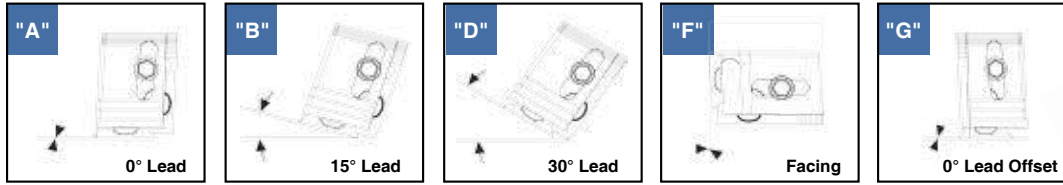
Description	Tool No. For 3/8" I.C.			Tool No. For 1/2" I.C.		
	Right Hand	Left Hand	Price Each	Right Hand	Left Hand.	Price Each
Cartridge-Positive	Part CP3R	Part CP3L	17.20	Part CP4R	Part CP4L	19.81
Cartridge-Negative	Part CN3R	Part CN3L	17.20	Part CN4R	Part CN4L	19.81
Cartridge Screw	Part CS540-38	Part CS540-38	0.46	Part CS1032-12	Part CS1032-12	0.65
Positive Shim	SHIM41	SHIM41	4.88	SHIM37	SHIM37	5.97
Negative Shim	SHIM48	SHIM48	5.19	SHIM26	SHIM26	5.60
Shim Screw	Part CF440-14	Part CF440-14	0.46	Part CF832-38	Part CF832-38	0.46
Chipbreaker	Part CB-3	Part CB-3	3.89	Part CB-4	Part CB-4	6.36
Roll Pin	Part CRP-1	Part CRP-1	0.46	Part CRP-2	Part CRP-2	0.46
Clamp	Part CR-3	Part CL-3	8.75	Part CR-4	Part CL-4	9.72
Clamp Screw	Part CS1032-34	Part CS1032-34	0.46	Part CS1420-1	Part CS1420-1	0.46

# Indexable Turning Tool Holders

Exclusively By  Approved Performance Tooling



- Each tool has precision pockets
- Replaces old style brazed tip tool bits
- Uses inexpensive 1/4" and 3/8" I.C. triangle inserts



## Holders

Inserts sold separately.

Style	Insert			Tool No.					Price Each
	(A) OAL	(B) Shank Width	Insert I.C.	"A" Series 0° Lead	"B" Series 15° Lead	"D" Series 30° Lead	"F" Series Facing Tool	"G" Series 0° Lead Offset	
Right Hand	2-1/2	3/8	1/4	TPAR6	TPBR6	TPDR6	TPFR6	TPGR6	31.53
	3-1/2	1/2	1/4	TPAR8	TPBR8	TPDR8	TPFR8	TPGR8	34.78
	4	5/8	1/4	TPAR10	TPBR10	TPDR10	TPFR10	TPGR10	37.05
	4-1/2	3/4	3/8	TPAR12	TPBR12	TPDR12	TPFR12	TPGR12	47.78
	6	1	3/8	TPAR16	TPBR16	TPDR16	TPFR16	TPGR16	55.25
Left Hand	6	1-1/4	3/8	TPAR20	TPBR20	TPDR20	TPFR20	TPGR20	60.78
	2-1/2	3/8	1/4	TPAL6	TPBL6	TPDL6	TPFL6	TPGL6	31.53
	3-1/2	1/2	1/4	TPAL8	TPBL8	TPDL8	TPFL8	TPGL8	34.78
	4	5/8	1/4	TPAL10	TPBL10	TPDL10	TPFL10	TPGL10	37.05
	4-1/2	3/4	3/8	TPAL12	TPBL12	TPDL12	TPFL12	TPGL12	47.78
6	1	3/8	TPAL16	TPBL16	TPDL16	TPFL16	TPGL16	55.25	
6	1-1/4	3/8	TPAL20	TPBL20	TPDL20	TPFL20	TPGL20	60.78	

## Sets

Description	Sizes	Pieces	Set No.	Price
3/8" Shank	TPAR6, TPBR6, TPAL6, TPBL6	4	TP6	125.00
1/2" Shank	TPAR8, TPBR8, TPAL8, TPBL8	4	TP8	139.00

## TPGH Carbide Inserts

Triangle - Positive rake - Ground all over with chip groove on one side



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPGH21.50	1/4	3/32	0	6.80	6.80	7.96
TPGH21.51	1/4	3/32	1/64	6.80	6.80	7.96
TPGH21.52	1/4	3/32	1/32	6.80	6.80	7.96
TPGH321	3/8	1/8	1/64	7.42	7.42	9.04
TPGH322	3/8	1/8	1/32	7.42	7.42	9.04

\* TiN coated is C-6 grade

## Replacement Parts List

Part No.	Description	Price
Part TF440195	Torx® drive flat head screw for 1/4" I.C.	1.95
Part TF832285	Torx® flat head cap screw for 3/8" I.C.	2.54
Part CTW6	Torx® Wrench for TF440-195	2.54
Part CTW10	Torx® Wrench for TF832-285	3.19

# Indexable Profile/Tracing Tool holders

-5° Lead Angle - Negative Rake



Inserts sold separately.

Exclusively By  Approved Performance Tooling

Insert Number	Overall Length	I.C.	Thick-ness	Tool No.		Price Each
				Left Hand	Right Hand	
3/4	3/4	6	1/2	TR80L12	TR80R12	45.50
1	1	6	3/4	TR80L16A	TR80R16A	54.60
1-1/4	1-1/4	7	3/4	TR80L20	TR80R20	58.50
1-1/4	1	6	1/2	TR80L85	TR80R85	58.50
1-1/4	1	6	3/4	TR80L85A	TR80R85A	58.50
1-1/2	1	7	3/4	TR80L86	TR80R86	62.40



## CNMP & CNMG Carbide Inserts



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
CNMG431	1/2	3/16	1/64	4.96	4.96	5.66
CNMG432	1/2	3/16	1/32	4.96	4.96	5.66
CNMG643	3/4	1/4	3/64	10.72	10.72	14.08
CNMG644	3/4	1/4	1/16	10.72	10.72	14.08

## Replacement Parts List

Part No.	Description	Price Each
Part TRC1	1/2 I.C. Hold Down Clamp	9.75
Part CS1032-58	Screw for TRC-1 Clamp	0.65
Part TRC2	3/4 I.C. Hold Down Clamp	13.52
Part CS1428-78	Screw for TRC-2 Clamp	0.52

Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
CNMP431	1/2	3/16	1/64	6.12	6.12	7.04
CNMP432	1/2	3/16	1/32	6.12	6.12	7.04
CNMP433	1/2	3/16	3/64	6.12	6.12	7.04

\* TiN coated is C-6 grade

# Versadex™ - Adjustable Angle Turning & Chamfering Tool

Degree Angles 0° to 180°

- Use full width of insert with no chip interference
- Set at any angle from 0° to 180°
- Allows right hand and left hand cutting
- Tool comes complete with C-6 grade insert, and wrenches

Insert Number	Shank Size	Overall Length	Price Each
VER12	3/4	6	193.70
VER16	1	6	206.70
VER20	1-1/4	6	232.70



Exclusive By APT



## Replacement Parts List

Part No.	Description	Price Each
Part VERCR	Versadex Cartridge	21.40
Part VERCL	Versadex Clamp	18.58
Part TF832-285	Torx® drive flat head screw for insert	2.46
Part CTW10	Torx® wrench T10	3.45
Part CS1032-34	Clamp screw	0.49
Part CSW2	5/32 allen wrench for clamp screw	0.70

## TPGH Carbide Inserts

Triangle - Positive rake - Ground all over with chip groove on one side



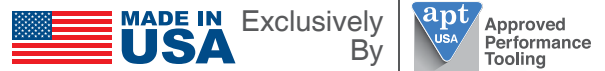
Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
TPGH321	3/8	1/8	1/64	7.42	7.42	9.04
TPGH322	3/8	1/8	1/32	7.42	7.42	9.04

\* TiN coated is C-6 grade

# Milldex™ - Adjustable Angle Milling & Chamfering Tool

Degree Angles 5° to 85°

- Change chamfer angle with a quick adjustment
- Can be held in round tool holder or tool post
- Cutting range from 1/4 to 1-1/4
- Tool comes complete with insert and wrenches



Shank Diameter	Shank Style	Overall Length	Distance Across Flats	Tool No.	Price Each
3/4	Weldon	3-3/4	—	ML750	206.70
3/4	Round w/4 equal flats	6	5/8	MLSL750	237.25
1	Weldon	3-3/4	—	ML1000	222.30
1	Round w/4 equal flats	6	7/8	MLSL1000	265.20
1-1/4	Weldon	3-3/4	—	ML1250	253.50
1-1/4	Round w/4 equal flats	6	1-1/8	MLSL1250	293.80
R8	R8	5-7/8	—	MLR8	279.50

## TPGH Carbide Inserts

Triangle - Positive rake - Ground all over with chip groove on one side



Insert Number	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	TiN Coated*
TPGH321	3/8	1/8	1/64	7.42	7.42	9.04
TPGH322	3/8	1/8	1/32	7.42	7.42	9.04

\* TiN coated is C-6 grade

## Replacement Parts List

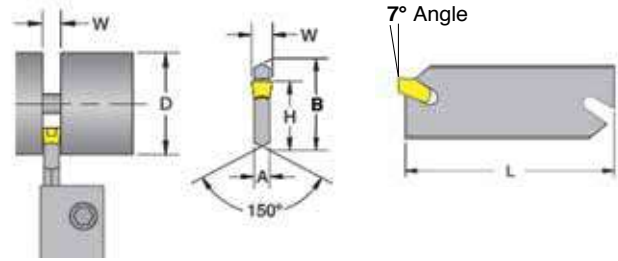
Part No.	Description	Price Each
Part MLCL	Milldex Clamp	21.80
Part MLCR	Milldex Cartridge	18.92
Part TF832-285	Torx® drive flat head screw for insert	2.28
Part CTW-10	Torx® wrench T10	3.19
Part CSW-2	5/32 allen wrench for clamp screw	0.65
Part CS832-12	Clamp screw	0.65

# Cut-Off & Grooving Tool System



## Blocks & Blades

Interchangeable with other brands and other major cut-off and tool systems.



## Cut-Off & Grooving Blades

Inserts are securely held in self locking blades by a tapered locking system. No additional clamping devices are needed.

Dimensions					Insert Width	Tool Number	Price Each
A	L	H	B	D Maximum Cutting Depth			
1/16	3-3/8	39/64	3/4	1-1/2	.087 & .094	GIH19-2	81.25
1/16	4-5/16	53/64	1-1/32	2	.087 & .094	GIH26-2	81.25
3/32	4-5/16	53/64	1-1/32	3	.120	GIH26-3	88.40
1/8	4-5/16	53/64	1-1/32	3	.160	GIH26-4	88.40
5/32	4-5/16	53/64	1-1/32	3	.187 & 200	GIH26-5	88.40
13/64	4-5/16	53/64	1-1/32	3	.250	GIH26-6	96.72
1/16*	5-7/8	63/64	1-1/4	2	.087 & .094	GIH32-2	98.28
3/32	5-7/8	63/64	1-1/4	4	.120	GIH32-3	98.28
1/8	5-7/8	63/64	1-1/4	4	.160	GIH32-4	102.70
5/32	5-7/8	63/64	1-1/4	5	.187 & .200	GIH32-5	99.79
13/64	5-7/8	63/64	1-1/4	5	.250	GIH32-6	99.79
17/64	5-7/8	63/64	1-1/4	5-1/2	.315	GIH32-8	167.70
5/16	5-7/8	63/64	1-1/4	5-1/2	.375	GIH32-9	167.70

\* 1/16 at front end only for clearance. Overall thickness is 3/32.



## Carbide Inserts - Neutral

Width	Insert Number 0° Face Angle	Price Each		
		C-2	C-6	TiN Coated*
.087	GTN-2	7.74	7.74	9.44
.094	GTN-2.4	7.74	7.74	9.44
.120	GTN-3	7.74	7.74	9.44
.160	GTN-4	7.87	7.87	9.58
.187	GTN-4.8	9.30	9.30	11.40

\*TiN Coated are C-6 grade

Width	Insert Number 0° Face Angle	Price Each		
		C-2	C-6	TiN Coated*
.200	GTN-5	9.30	9.30	11.40
.250	GTN-6	10.96	10.96	12.18
.315	GTN-8	43.34	43.34	48.54
.375	GTN-9	47.67	47.67	53.39

## Carbide Inserts - Right Hand

Width	Insert Number		Price Each		
	0° Face Angle	8° Face Angle	C-2	C-6	TiN Coated*
.087	GTR2-3	GTR2-8	9.76	9.76	11.40
.094	GTR2.4-3	GTR2.4-8	8.52	8.52	10.22
.120	GTR3-3	GTR3-8	8.52	8.52	10.22
.160	GTR4-3	GTR4-8	9.44	9.44	11.32

\*TiN Coated are C-6 grade

Width	Insert Number		Price Each		
	0° Face Angle	8° Face Angle	C-2	C-6	TiN Coated*
.187	GTR4.8-3	GTR4.8-8	10.14	10.14	12.26
.200	GTR5-3	GTR5-8	10.14	10.14	12.26
.250	GTR6-3	GTR6-8	11.16	11.16	13.50

## Carbide Inserts - Left Hand

Width	Insert Number		Price Each		
	0° Face Angle	8° Face Angle	C-2	C-6	TiN Coated*
.087	GTL2-3	GTL2-8	9.76	9.76	12.18
.094	GTL2.4-3	GTL2.4-8	8.52	8.52	10.22
.120	GTL3-3	GTL3-8	8.52	8.52	10.22
.160	GTL4-3	GTL4-8	9.44	9.44	11.32

\*TiN Coated are C-6 grade

Width	Insert Number		Price Each		
	0° Face Angle	8° Face Angle	C-2	C-6	TiN Coated*
.187	GTL4.8-3	GTL4.8-8	10.14	10.14	12.26
.200	GTL5-3	GTL5-8	10.14	10.14	12.26
.250	GTL6-3	GTL6-8	11.16	11.16	13.50

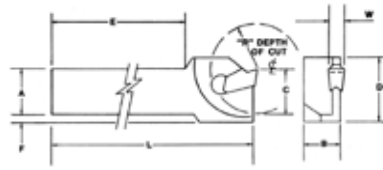


# Cut-Off & Grooving Tool System



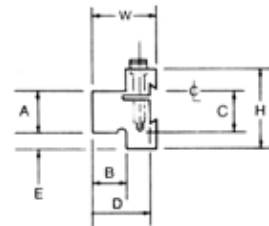
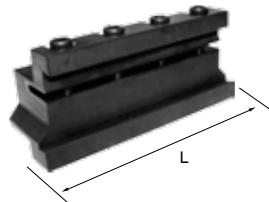
## Blocks & Blades

Interchangeable with other brands and other major cut-off and tool systems.



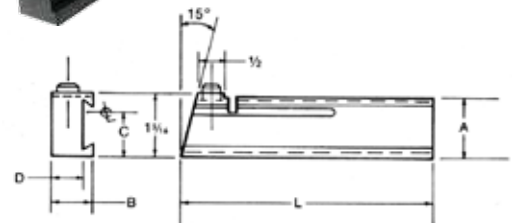
## Tool Holders

Dimensions									Insert Number	Tool Number		Price Each
A	B	C	D	E	F	L	R	Width		Left Hand	Right Hand	
3/8	3/8	3/8	3/4	2-3/4	3/16	3-3/8	1/2	.087, .094	GTN/R/L-2,2,4	<b>GTHL10-2</b>	<b>GTHR10-2</b>	69.91
12mm	3/8	15/32	3/4	3-37/64	5/32	4-5/16	19/32	.087, .094	GTN/R/L-2,2,4	<b>GTHL12-2</b>	<b>GTHR12-2</b>	76.38
1/2	3/8	1/2	3/4	3-37/64	5/32	4-5/16	19/32	.087, .094	GTN/R/L-2,2,4	<b>GTHL12.7-2</b>	<b>GTHR12.7-2</b>	80.00
1/2	3/8	1/2	3/4	3-37/64	5/32	4-5/16	5/8	.120	GTN/R/L-3	<b>GTHL12.7-3</b>	<b>GTHR12.7-3</b>	80.00
5/8	3/8	5/8	3/4	3-37/64	0	4-5/16	19/32	.087, .094	GTN/R/L-2,2,4	<b>GTHL16-2</b>	<b>GTHR16-2</b>	81.72
5/8	1/2	5/8	1	3-29/64	11/64	4-5/16	5/8	.120	GTN/R/L-3	<b>GTHL16-3</b>	<b>GTHR16-3</b>	85.71
5/8	1/2	5/8	1	3-29/64	11/64	4-5/16	5/8	.160	GTN/R/L-4	<b>GTHL16-4</b>	<b>GTHR16-4</b>	90.56
3/4	1/2	3/4	1	3-29/64	0	4-5/16	5/8	.087, .094	GTN/R/L-2,2,4	<b>GTHL19-2</b>	<b>GTHR19-2</b>	98.07
3/4	1/2	3/4	1	3-29/64	0	4-5/16	5/8	.120	GTN/R/L-3	<b>GTHL19-3</b>	<b>GTHR19-3</b>	91.82
3/4	1/2	3/4	1	3-29/64	1/16	4-5/16	3/4	.160	GTN/R/L-4	<b>GTHL19-4</b>	<b>GTHR19-4</b>	98.07
3/4	1/2	3/4	1	4-7/16	3/64	4-5/16	3/4	.187, .200	GTN/R/L-4,8,5	<b>GTHL19-5</b>	<b>GTHR19-5</b>	99.76



## Tool Blocks - Neutral

Dimensions								Use Blade Number	Tool Number	Price Each
A	B	C	D	E	H	W	L			
5/8	5/8	5/8	31/32	11/64	1-3/16	1-1/16	3	GIH19-2	<b>GTBN16-2</b>	139.48
5/8	5/8	5/8	1-1/32	7/16	1-1/2	1-3/16	3	GIH26-2,3,4,5,6	<b>GTBN16-5</b>	140.96
3/4	3/4	3/4	1-1/8	21/64	1-17/32	1-5/16	3-3/8	GIH26-2,3,4,5,6	<b>GTBN19-5</b>	152.75
3/4	3/4	3/4	1-1/8	1/2	1-7/8	1-3/8	4	GIH32-2,3,4,5,6,8,9	<b>GTBN19-6</b>	152.75
1	1	1	1-13/32	5/16	1-7/8	1-5/8	4-3/8	GIH32-2,3,4,5,6,8,9	<b>GTBN25-6</b>	154.70
1-1/4	1-1/4	1-1/4	1-11/16	1/8	1-7/8	1-7/8	4-11/16	GIH32-2,3,4,5,6,8,9	<b>GTBN32-6</b>	162.50



## Tool Blocks - Left & Right Hand

Dimensions					Use Blade Number	Tool Number	Price Each
A	B	C	D	L			
1	3/4	3/4	43/64	4	GIH19-2	<b>GTBR19-2</b>	102.70
1	3/4	3/4	43/64	4	GIH19-2	<b>GTBL19-2</b>	102.70
1-1/4	25/32	1	19/32	4-3/4	GIH26-2,3,4,5,6	<b>GTBR25-6</b>	102.70
1-1/4	25/32	1	19/32	4-3/4	GIH26-2,3,4,5,6	<b>GTBL25-6</b>	102.70

## Replacement Parts List

Part No.	Description	Price Each
<b>Part GEX1</b>	Insert Extractor for .087-.250	4.55
<b>Part GEX2</b>	Insert Extractor for .315-.375	4.55

# Carbide Tipped Tool Bits

## High Speed Steel Body



Please specify grade when ordering:  
C-2 Cast Iron and nonferrous materials or C-6 Steel and ferrous materials.

BORING & TURNING

### AR & AL - Straight Turning Tool Bits

For turning on the outside of the part.

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/4	2	AR4U	AL4U	6.98
5/16	2-1/4	AR5U	AL5U	7.99
3/8	2-1/2	AR6U	AL6U	8.30
7/16	3	AR7U	AL7U	8.63
1/2	3-1/2	AR8U	AL8U	10.78
5/8	4	AR10U	AL10U	15.21
3/4	4-1/2	AR12U	AL12U	18.98
1	7	AR16U	AL16U	35.28



### BR & BL - 15° Lead Angle Turning Tool Bits

For turning on the outside of the part.

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/4	2	BR4U	BL4U	6.98
5/16	2-1/4	BR5U	BL5U	7.99
3/8	2-1/2	BR6U	BL6U	8.30
7/16	3	BR7U	BL7U	8.63
1/2	3-1/2	BR8U	BL8U	10.78
5/8	4	BR10U	BL10U	15.21
3/4	4-1/2	BR12U	BL12U	18.98
1	7	BR16U	BL16U	35.28



### C- Square Nose Tool Bits

For chamfering or special designs.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	C4U	7.09
5/16	2-1/4	C5U	8.66
3/8	2-1/2	C6U	8.73
7/16	3	C7U	10.00
1/2	3-1/2	C8U	11.83
5/8	4	C10U	17.43
3/4	4-1/2	C12U	24.32
1	7	C16U	41.79

### D - Pointed Nose Tool Bits

For chamfering corners on the outside or inside of the part. 80° Included angle.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	D4U	6.58
5/16	2-1/4	D5U	7.18
3/8	2-1/2	D6U	7.89
7/16	3	D7U	8.10
1/2	3-1/2	D8U	10.41
5/8	4	D10U	15.02
3/4	4-1/2	D12U	20.53
1	7	D16U	33.50

### E - Threading Tool Bits

For threading on the outside of the part. 60° Included angle.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	E4U	6.58
5/16	2-1/4	E5U	7.18
3/8	2-1/2	E6U	7.89
7/16	3	E7U	8.10
1/2	3-1/2	E8U	10.41
5/8	4	E10U	15.02
3/4	4-1/2	E12U	20.53
1	7	E16U	33.50

### FR & FL - Offset End-Cutting

For facing on the outside of the part—offset head provides additional side clearance.

Shank Diameter	Overall Length	Tool No. Right Hand	Tool No. Left Hand	Price Each
1/2	3-1/2	FR8	FL8	12.35
5/8	4	FR10	FL10	13.98
3/4	4-1/2	FR12	FL12	16.25
1	7	FR16	FL16	24.05



# Carbide Tipped Tool Bits

High Speed Steel Body



Please specify grade when ordering:

C-2 Cast Iron and nonferrous materials or C-6 Steel and ferrous materials.

## AR & AL - Straight Turning Tool Bits

For turning on the outside of the part.

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/4	2	AR4	AL4	5.40
5/16	2-1/4	AR5	AL5	5.72
3/8	2-1/2	AR6	AL6	5.72
7/16	3	AR7	AL7	5.85
1/2	3-1/2	AR8	AL8	6.33
5/8	4	AR10	AL10	9.04
3/4	4-1/2	AR12	AL12	11.57
1	7	AR16	AL16	20.48
1-1/4	8	AR20	AL20	23.00
1-1/2	8	AR24	AL24	25.35



## BR & BL - 15° Lead Angle Turning Tool Bits

For turning on the outside of the part.

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/4	2	BR4	BL4	5.40
5/16	2-1/4	BR5	BL5	5.72
3/8	2-1/2	BR6	BL6	5.72
7/16	3	BR7	BL7	5.85
1/2	3-1/2	BR8	BL8	6.33
5/8	4	BR10	BL10	9.04
3/4	4-1/2	BR12	BL12	11.57
1	7	BR16	BL16	20.48
1-1/4	8	BR20	BL20	23.00



## C- Square Nose Tool Bits

For chamfering or special designs.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	C4	5.29
5/16	2-1/4	C5	5.59
3/8	2-1/2	C6	5.72
7/16	3	C7	5.98
1/2	3-1/2	C8	7.22
5/8	4	C10	10.01
3/4	4-1/2	C12	14.17
1	7	C16	23.40

## D - Pointed Nose Tool Bits

For chamfering corners on the outside or inside of the part. 80° Included angle.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	D4	5.29
5/16	2-1/4	D5	5.59
3/8	2-1/2	D6	5.59
7/16	3	D7	5.79
1/2	3-1/2	D8	6.76
5/8	4	D10	9.28
3/4	4-1/2	D12	12.42
1	7	D16	18.66

## E - Threading Tool Bits

For threading on the outside of the part. 60° Included angle.



Shank Diameter	Overall Length	Tool No.	Price Each
1/4	2	E4	5.46
5/16	2-1/4	E5	5.72
3/8	2-1/2	E6	5.72
7/16	3	E7	5.85
1/2	3-1/2	E8	7.22
5/8	4	E10	8.89
3/4	4-1/2	E12	12.42
1	7	E16	20.15

## Sets

Size	Pieces in Set	Sets include these tool bits:							Set No.	Price Each
		AR	AL	BR	BL	C	D	E		
1/4	38	8	8	4	4	4	4	6	CTBS-14	167.70
5/16	38	8	8	4	4	4	4	6	CTBS-516	180.70
3/8	38	8	8	4	4	4	4	6	CTBS-38	180.70
1/2	38	8	8	4	4	4	4	6	CTBS-12	206.70



# Carbide Tipped Tool Bits

**MDX**<sup>®</sup>  
SUPERIOR IMPORT

## High Speed Steel Body

Please specify grade when ordering:

C-2 Cast Iron and nonferrous materials or C-6 Steel and ferrous materials.

### GR & GL - Offset Side-Cutting

For turning on the outside of the part—offset head provides additional side clearance.

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/2	3-1/2	GR8	GL8	12.35
5/8	4	GR10	GL10	13.98
3/4	4-1/2	GR12	GL12	16.25
1	7	GR16	GL16	24.05



### CTR & CTL - Cut-Off

For grooving, trepanning and cut-off.

Tip Width	Shank Width	Shank Height	Overall Length	Tool No.		Price Each
				Right Hand	Left Hand	
1/8	1/2	1	5	CTR11	CTL11	15.28
3/16	1/2	1	5	CTR22	CTL22	15.60
1/4	1/2	1	5	CTR33	CTL33	15.93
5/16	1/2	1	5	CTR44	CTL44	15.93
3/8	5/8	1-1/4	5	CTR55	CTL55	19.24



### ER & EL - Offset Threading

Shank Diameter	Overall Length	Tool No.		Price Each
		Right Hand	Left Hand	
1/4	2	ER4	EL4	9.04
5/16	2-1/4	ER5	—	9.17
3/8	2-1/2	ER6	EL6	9.17
1/2	3-1/2	ER8	EL8	10.27
5/8	4	—	EL10	16.80



### TSA - Square Shank Boring

For boring to a square shoulder in 90° boring bars

Shank Diameter	Overall Length	Tool No.	Price Each
5/16	1-1/2	TSA5	8.71
3/8	1-3/4	TSA6	8.71
1/2	2-1/2	TSA8	9.62



### TRC & TRE - Round Shank Boring

Shank Diameter	Overall Length	Tool No.	Price Each
5/16	1-1/2	TRC5	7.54
5/16	1-1/2	TRE5	7.54
3/8	1-3/4	TRE6	8.00
1/2	2-1/2	TRE8	9.62



### TSC - Square Shank Boring

For boring to a square shoulder in 30° boring bars or internal chamfering.

Shank Diameter	Overall Length	Tool No.	Price Each
5/16	1-1/2	TSC5	8.71
3/8	1-3/4	TSC6	8.71
1/2	2-1/2	TSC8	9.62
5/8	3	TSC10	14.04
3/4	3-1/2	TSC12	22.75



### TSE - Square Shank Boring

For boring to a square shoulder in 45° boring bars or boring with a 15° lead angle in 30° boring bar.

Shank Diameter	Overall Length	Tool No.	Price Each
5/16	1-1/2	TSE5	8.71
3/8	1-3/4	TSE6	8.71
1/2	2-1/2	TSE8	9.62
5/8	3	TSE10	14.04



# Lathe Turning Tool Holders

For Tool Bits



**MDX**  
SUPERIOR IMPORT



## For Square Tool Bits

Each complete with wrench

Tool Bit Size	Holder Width	Holder Height	Holder Length	Tool No.			Price Each
				Straight Shank	Right Hand	Left Hand	
1/8	5/16	1/2	4	TH000S	TH000R	TH000L	25.38
3/16	5/16	3/4	4-1/2	TH00S	TH00R	TH00L	26.45
1/4	3/8	7/8	5	TH0S	TH0R	TH0L	28.24
5/16	1/2	1-1/8	6	TH1S	TH1R	TH1L	31.46
3/8	5/8	1-3/8	7	TH2S	TH2R	TH2L	35.39
7/16	3/4	1-5/8	8	TH3S	TH3R	TH3L	42.18
1/2	7/8	1-3/4	9	TH4S	TH4R	TH4L	54.34
5/8	1	2	11	TH5S	TH5R	TH5L	92.95
3/4	1-1/4	2-1/4	13	TH6S	TH6R	TH6L	121.55

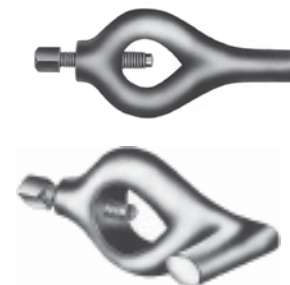


## For Carbide Tipped Tool Bits

Tool Bit Size	Holder Width	Holder Height	Holder Length	Tool No.			Price Each
				Straight Shank	Right Hand	Left Hand	
1/4	3/8	15/16	6	THT0S	THT0R	THT0L	31.46
5/16	1/2	1-1/4	7	THT1S	THT1R	THT1L	35.76
3/8	5/8	1-1/2	8	THT2S	THT2R	THT2L	41.48
7/16	3/4	1-3/4	9	THT3S	THT3R	THT3L	48.46
1/2	7/8	1-7/8	10	THT4S	THT4R	THT4L	60.06
5/8	1	2-1/8	12	THT5S	THT5R	THT5L	105.82
3/4	1-1/4	2-1/4	13	THT6S	—	THT6L	149.00

## Straight & Bent Tail Lathe Dogs

Size	Tool No.		Price Each
	Straight	Bent	
1/2	THLD50	THBD50	3.93
3/4	THLD75	THBD75	5.70
1	THLD100	THBD100	8.51
1-1/4	THLD125	THBD125	9.86
1-1/2	THLD150	THBD150	11.23
1-3/4	THLD175	THBD175	11.86
2	THLD200	THBD200	13.83
2-1/2	THLD250	THBD250	25.02
3	THLD300	THBD300	32.17
4	THLD400	THBD400	48.41
5	THLD500	THBD500	61.91
6	THLD600	THBD600	71.35



## Grinding Carriers

Size	Tool No.	Price Each	Size	Tool No.	Price Each
1/4	THG25	5.59	1-1/2	THG1500	11.50
3/8	THG375	5.85	1-3/4	THG1750	13.65
1/2	THG500	5.98	2	THG2000	15.47
5/8	THG625	6.43	2-1/2	THG2500	17.42
3/4	THG750	7.15	3	THG3000	19.30
1	THG1000	7.67	3-1/2	THG3500	26.50
1-1/4	THG1250	10.07	4	THG4000	28.00





# Tool Bits

High Speed Steel & Cobalt



## Square Bits Ground - Both ends beveled 10°

List No. **700** – High Speed Steel

List No. **700C** – 5% Cobalt

List No. **700SC** – 8% Super Cobalt



Size	Overall Length	Price Each		
		H.S. 700	5% Cobalt 700C	8% Cobalt 700SC
1/8	2-1/2	3.33	4.86	6.60
1/8	4	5.09	—	—
3/16	2-1/2	2.82	3.83	5.04
3/16	4	4.23	—	—
3/16	8	7.50	—	—
1/4	2-1/2	2.92	4.32	6.21
1/4	4	4.49	6.80	—
1/4	6	6.74	10.18	—
1/4	8	8.96	13.52	—
5/16	2-1/2	3.34	5.04	7.92
5/16	4	5.71	8.66	—
5/16	6	8.09	12.21	—
3/8	3	4.44	6.84	9.90
3/8	4	6.23	9.68	—
3/8	6	8.96	13.52	—
3/8	8	12.56	18.95	—

Size	Overall Length	Price Each		
		H.S. 700	5% Cobalt 700C	8% Cobalt 700SC
7/16	3-1/2	6.48	10.67	13.28
7/16	6	11.50	—	—
1/2	4	10.40	16.90	18.72
1/2	6	15.15	23.07	—
1/2	8	20.80	31.41	—
5/8	4	15.39	—	—
5/8	4-1/2	17.22	26.00	30.60
5/8	8	30.78	46.48	—
3/4	5	24.30	41.00	45.90
3/4	8	28.00	—	—
7/8	6	39.92	65.90	73.35
1	7	58.39	98.00	—
1-1/8	8	89.31	149.00	—
1-1/4	7	116.24	169.00	—
1-1/4	9	—	—	188.99
1-1/2	10	220.00	—	—

List No. **700U** – High Speed Steel

List No. **700CU** – 5% Cobalt



Size	Overall Length	Price Each	
		H.S. 700U	Cobalt 700CU
1/8	2-1/2	6.68	9.72
3/16	2-1/2	6.68	9.72
1/4	2-1/2	7.00	10.36
1/4	4	9.00	15.25
5/16	2-1/2	8.02	12.09
3/8	3	10.66	16.42

Size	Overall Length	Price Each	
		H.S. 700U	Cobalt 700CU
7/16	3-1/2	12.96	25.63
1/2	4	18.72	36.53
5/8	4-1/2	31.00	56.16
3/4	5	52.51	88.56
7/8	6	86.26	142.37
1	7	126.05	211.68

## Rectangular Bits

List No. **701** – High Speed Steel

List No. **701C** – 5% Cobalt



Size	Overall Length	Price Each	
		H.S. 701	Cobalt 701C
1/8 x 5/8	5	13.55	—
1/8 x 3/4	5	14.25	—
1/8 x 7/8	6	25.19	—
3/16 x 3/4	6	25.41	—
3/16 x 7/8	6	29.04	—
3/16 x 1	6-1/2	35.50	—
1/4 x 3/8	3	5.90	9.46
1/4 x 1/2	4	7.24	10.80
1/4 x 3/4	5	11.57	—
1/4 x 1	6	18.23	23.00
5/16 x 7/16	3	7.16	10.94
5/16 x 1/2	4	8.59	12.00
5/16 x 5/8	4-1/2	8.96	—

Size	Overall Length	Price Each	
		H.S. 701	Cobalt 701C
5/16 x 3/4	5	10.00	15.00
5/16 x 1	6	10.76	16.00
3/8 x 1/2	4	9.09	13.95
3/8 x 1/2	6	10.91	16.74
3/8 x 1/2	8	14.14	—
3/8 x 5/8	4	11.25	15.08
3/8 x 3/4	3	8.50	—
3/8 x 5/8	6	13.50	18.10
3/8 x 3/4	5	13.12	19.71
3/8 x 1	6	26.60	—
1/2 x 3/4	4	20.21	23.25
1/2 x 3/4	6	22.46	30.78
1/2 x 1	6	32.40	48.60

Size	Overall Length	Price Each	
		H.S. 701	Cobalt 701C
1/2 x 1-1/4	7	38.70	—
5/8 x 3/4	5	22.50	35.10
5/8 x 7/8	6	31.50	48.33
5/8 x 1	7	38.70	59.76
5/8 x 1-1/4	7	46.80	—
3/4 x 1	6	40.73	62.91
3/4 x 1-1/4	7	58.50	80.00
3/4 x 1-1/2	7	64.35	92.00
7/8 x 1-1/8	7	65.00	90.00
7/8 x 1-1/4	7	72.00	99.00
1 x 1-1/4	6	72.00	99.00
1 x 1-1/2	7	84.00	110.00

## Round Tool Bits

List No. **704** – High Speed Steel

List No. **704C** – 5% Cobalt



Size	Overall Length	Price Each	
		H.S. 704	Cobalt 704C
1/8	2-3/4	2.79	5.52
1/8	4	4.18	—
5/32	3-1/8	3.21	5.70
5/32	4	3.53	—
3/16	3-1/2	3.63	6.48
3/16	4	4.35	—
1/4	4	5.49	9.88

Size	Overall Length	Price Each	
		H.S. 704	Cobalt 704C
1/4	6	6.55	10.90
5/16	4	6.98	—
5/16	4-1/2	7.35	12.72
5/16	6	8.45	—
3/8	5	9.99	15.68
3/8	8	11.99	—
7/16	5-1/2	12.50	19.44

Size	Overall Length	Price Each	
		H.S. 704	Cobalt 704C
1/2	4	13.74	—
1/2	6	15.26	25.92
1/2	8	18.31	—
9/16	6	30.70	37.26
5/8	6	25.20	45.36
3/4	6	39.19	72.26
1	6	58.00	—

# Cut-Off Blades

Blades, Holders and Bits



BORING & TURNING

## Ground Cut-Off Blades

List No. **702** – High Speed Steel  
List No. **702C** – Cobalt

Size	Overall Length	Price Each	
		H.S. 702	Cobalt 702C
1/16 x 3/16	2-1/2	17.00	—
1/16 x 11/16	5	19.45	29.00
1/16 x 13/16	6	20.60	30.95
5/64 x 1/2	4-1/2	17.58	—
3/32 x 3/16	6	16.55	26.90
3/32 x 1/2	4-1/2	14.80	25.46
3/32 x 5/8	5	16.76	28.50
3/32 x 11/16	5	18.25	—
3/32 x 13/16	6	20.60	30.95
3/32 x 1	6-1/2	22.67	31.98
1/8 x 1/2	4-1/2	16.90	—
1/8 x 3/4	6	21.42	27.32



Size	Overall Length	Price Each	
		H.S. 702	Cobalt 702C
1/8 x 13/16	6	23.70	30.50
1/8 x 7/8	6	25.15	33.12
1/8 x 1	6-1/2	26.81	—
5/32 x 13/16	6	26.91	37.26
3/16 x 3/4	7	25.15	—
3/16 x 13/16	8	25.15	37.12
3/16 x 1	6-1/2	28.00	—
3/16 x 1	8	30.01	42.69
3/16 x 1-1/8	7	32.40	48.13
1/4 x 13/16	6	37.26	—
1/4 x 1-1/8	6-1/2	34.65	52.01
1/4 x 1-1/4	7	39.85	55.89

## "P" Type, T-Shaped Cut-Off Blades

Produces a chip narrower than the blade itself and is suited for cutting off, grooving and similar operations. Increased clearance angles on each side of the blade reduces friction and the narrow design conserves material being cut and reduces the heat generated when cutting.

List No. **703** – High Speed Steel  
List No. **703C** – Cobalt

Width	Height	Overall Length	Blade No.	Price Each	
				H.S. 703	Cobalt 703C
.040	1/2	3-1/2	P1N	15.84	20.18
1/16	1/2	4-1/2	P1	15.21	20.60
5/64	1/2	4-1/2	P2N	16.72	21.73
3/32	1/2	4-1/2	P2	16.72	21.73
1/8	1/2	4-1/2	P3S	17.28	22.25
3/32	11/16	5	P3N	17.70	22.25
1/8	11/16	5	P3	17.91	23.80
5/32	11/16	5	P4	20.54	28.46
3/16	11/16	5	P5S	22.77	33.12
1/8	3/4	5	P3W	17.91	33.12



Width	Height	Overall Length	Blade No.	Price Each	
				H.S. 703	Cobalt 703C
5/32	3/4	5	P4W	22.77	37.26
3/16	3/4	5	P5W	24.98	33.12
1/8	7/8	6	P5X	21.96	37.26
5/32	7/8	6	P5N	25.73	37.26
3/16	7/8	6	P5	25.40	45.54
1/4	7/8	6	P6	30.51	55.37
1/8	1-1/8	6-1/2	P8X	38.03	56.92
5/32	1-1/8	6-1/2	P8N	42.43	55.37
3/16	1-1/8	6-1/2	P8	38.03	56.92
1/4	1-1/8	6-1/2	P9	42.43	56.93

## Cut-Off Blade Tool Holders

Complete with wrench



Cut Off Blade Size	Holder Width	Holder Height	Holder Length	Tool No.			Price Each
				Straight Shank	Right Hand	Left Hand	
3/32 x 1/2	5/16	3/4	4-1/2	TH29S	TH29R	TH29L	21.31
3/32 x 5/8	3/8	7/8	5	TH30S	TH30R	TH30L	25.39
1/8 x 3/4	1/2	1-1/8	6	TH31S	TH31R	TH31L	31.46
1/8 x 7/8	5/8	1-3/8	7	TH32S	TH32R	TH32L	37.90
3/16 x 1	3/4	1-5/8	8	TH33S	TH33R	TH33L	51.48
3/16 x 1-1/8	7/8	1-3/4	9	TH34S	TH34R	TH34L	70.07
1/4 x 1-3/8	1	2	10	TH35S	TH35R	TH35L	92.95

# Metric Tool Bits

High Speed Steel & Cobalt



**MDX**  
SUPERIOR IMPORT

## Square Tool Bits

List No. **700M** – High Speed Steel

List No. **700MC** – Cobalt



Size	Overall Length (mm)	Price Each	
		H.S. 700M	Cobalt 700MC
4.00	80	3.85	5.40
5.00	100	4.72	6.75
5.00	200	8.92	13.83
6.00	100	4.72	6.97
6.00	200	8.92	13.83
8.00	100	7.35	10.68
8.00	200	13.82	21.26
10.00	100	10.50	15.52

Size	Overall Length (mm)	Price Each	
		H.S. 700M	Cobalt 700MC
10.00	200	19.95	30.93
12.00	100	14.70	21.48
12.00	200	27.82	42.86
14.00	150	28.35	42.52
16.00	150	36.22	54.33
18.00	150	44.97	67.38
20.00	200	70.52	109.01
25.00	200	93.20	138.00

## Round Tool Bits

List No. **704M** – High Speed Steel

List No. **704MC** – Cobalt



Size	Overall Length (mm)	Price Each	
		H.S. 704M	Cobalt 704MC
3.00	60	2.00	3.43
4.00	80	2.30	5.08
5.00	100	3.30	6.46
6.00	100	4.02	6.60
8.00	100	6.82	11.13
10.00	100	9.10	15.81

Size	Overall Length (mm)	Price Each	
		H.S. 704M	Cobalt 704MC
12.00	100	12.62	22.00
14.00	150	24.32	45.10
16.00	150	29.75	56.78
18.00	150	37.45	69.43
20.00	200	60.55	112.61

# Uni-Kut™ Fly Tool Cutters

Straight & R-8 Shank

Exclusively By



Approved Performance Tooling



- Uses inexpensive standard tool bits
- Makes wider cuts than end mills

- Saves purchase and re-grind costs of end mills
- Faster speeds and better finishes

- Less chatter and free cutting on thin material or non-rigid set ups

## Straight Shank

Head Diameter	Shank Size	Tool Bit Size	Tool No.	Price Each
3/4	1/2	3/16	<b>K121</b>	14.24
1-1/8	1/2	1/4	<b>K122</b>	16.25
1-3/8	1/2	5/16	<b>K123</b>	18.14
1-3/8	3/4	5/16	<b>K341</b>	29.25
1-1/2	3/4	3/8	<b>K341A</b>	30.23
2	3/4	5/16	<b>K342</b>	30.88
2	3/4	3/8	<b>K342A</b>	31.85
2-1/2	3/4	5/16	<b>K343</b>	35.75
2-1/2	3/4	3/8	<b>K343A</b>	37.05
2-1/2	1/2	3/4	<b>K343B</b>	69.68
3	1/2	3/4	<b>K344</b>	73.32

Tool Bits are featured on page 390



## R-8 Shank

Head Diameter	Shank Size	Tool Bit Size	Tool No.	Price Each
2-1/2	R-8	5/16	<b>K348</b>	57.85

## Sets

Sizes	Description	Pcs.	Set No.	Price
K121, K122, K123	1/2" Straight Shank for 3/16, 1/4, & 5/16 Tool Bits	3	<b>K120</b>	48.04
K341, K342, K343	3/4" Straight Shank for 5/16" Tool Bits	3	<b>K340</b>	95.88
K341A, K342A, K343A	3/4" Straight Shank for 3/8" Tool Bits	3	<b>K340A</b>	99.45
K121, K122, K123, K341, K342, K343	1/2" & 3/4" Straight Shank for 3/16, 1/4, & 5/16 Tool Bits	6	<b>K340B</b>	141.70



All sets are supplied in wood block

# UNO-DEX™ Indexable Fly Cutter

## Single Flute – Positive Rake

- Low cost
- Rugged construction for long tool life
- One clamp fits all tool sizes
- Uses standard inexpensive inserts
- Produces wider cuts than end mills



Exclusively By



### Triangle Inserted

Cutting & Head Diameter	Shank Style or Diameter	Tool No	Price Each
1-1/2	3/4	<b>KT150-34</b>	95.68
1-1/2	R-8	<b>KT150-R8</b>	112.13
2	3/4	<b>KT200-34</b>	109.14
2	R-8	<b>KT200-R8</b>	127.08
2-1/2	3/4	<b>KT250-34</b>	128.57
2-1/2	R-8	<b>KT250-R8</b>	152.49
3	3/4	<b>KT300-34</b>	151.00
3	R-8	<b>KT300-R8</b>	170.43

Inserts sold separately.



### Square Inserted

Cutting & Head Diameter	Shank Style or Diameter	Tool No	Price Each
1-1/2	3/4	<b>KX150-34</b>	95.68
1-1/2	R-8	<b>KX150-R8</b>	112.13
2	3/4	<b>KX200-34</b>	109.14
2	R-8	<b>KX200-R8</b>	127.08
2-1/2	3/4	<b>KX250-34</b>	128.57
2-1/2	R-8	<b>KX250-R8</b>	152.49
3	3/4	<b>KX300-34</b>	151.00
3	R-8	<b>KX300-R8</b>	170.43

Inserts sold separately.

### Sets

Sizes	Description	Pcs.	Set No.	Price
1-1/2, 2, 2-1/2, 3	Triangle Inserted – 3/4" Shank	4	<b>KT750</b>	484.39
1-1/2, 2, 2-1/2, 3	Triangle Inserted – R-8 Shank	4	<b>KTR8</b>	562.13
1-1/2, 2, 2-1/2, 3	Square Inserted – 3/4" Shank	4	<b>KX750</b>	484.39
1-1/2, 2, 2-1/2, 3	Square Inserted – R-8 Shank	4	<b>KXR8</b>	562.13

All sets are supplied in wood block

### TPG Carbide Inserts

- Triangle
- Positive rake ground all over

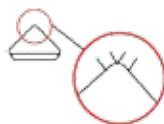


Insert No.	I.C.	Width	Radius	Price Each		
				C-2	C-6	Tin Coated*
<b>TPG321</b>	3/8	1/8	1/64	6.74	6.74	8.08
<b>TPG322</b>	3/8	1/8	1/32	6.74	6.74	8.08
<b>TPG323</b>	3/8	1/8	3/64	6.74	6.74	8.08
<b>TPG324</b>	3/8	1/8	1/16	6.74	6.74	8.08

\*C-6 Grade TiN Coated

### TPC Carbide Inserts

- Triangle
- Positive rake ground all over
- Wiping flats on three corners



Insert No.	I.C.	Width	Price Each		
			C-2	C-6	Tin Coated*
<b>TPC32ZR</b>	3/8	1/8	6.48	6.48	7.62

\*C-6 Grade TiN Coated

### Replacement Parts

Part No.	Description	Price Each
<b>Part CTD-2</b>	Hold Down Clamp	7.95
<b>Part CS832-12</b>	Clamp Screw	.75
<b>Part CSW</b>	9/64 Allen Wrench for 8-32 Screw	.75

### SPG Carbide Inserts

- Square
- Positive rake ground all over



### SPU Carbide Inserts

- Square
- Positive rake ground top & bottom

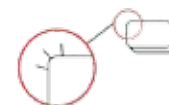


Insert No.	I.C.	Width	Radius	Price Each		
				C-2	C-6	Tin Coated*
<b>SPG422</b>	1/2	1/8	1/32	6.67	6.67	7.54
<b>SPG423</b>	1/2	1/8	3/64	6.67	6.67	7.54
<b>SPG424</b>	1/2	1/8	1/16	6.67	6.67	7.54
<b>SPU422</b>	1/2	1/8	1/8	5.80	5.80	6.68
<b>SPU423</b>	1/2	1/8	1/8	5.80	5.80	6.68

\*C-6 Grade TiN Coated

### SPC Carbide Inserts

- Square
- Positive rake ground all over
- Wiping flats on four corners



Insert No.	Radius	I.C.	Thickness	Price Each		
				C-2	C-6	Tin Coated*
<b>SPC42ZR</b>	–	1/2	1/8	6.90	6.90	8.26

\*C-6 Grade TiN Coated

# Recessing Tools

High Speed and Carbide Tipped



For cutting recessed grooves for self-locking and retaining rings.

## Regular Length



- Maximum reach - 3/8"
- Length of shank - 1-1/2"
- Overall length - 2"

Type	Minimum Bore	width of Recess	Max. Depth of Recess	Cutting Edge to CL	High Speed Steel		Carbide Tipped	
					Tool Number	Price Each	Tool Number	Price Each
3/8" Shank	1/4	.017/.018	.050	.14	RA17S-H	29.84	RA17S-C	44.93
	1/4	.022/.023	.050	.14	RA22S-H	29.84	RA22S-C	44.93
	1/4	.025/.026	.050	.14	RA25S-H	29.84	RA25S-C	44.93
	1/4	.028/.030	.050	.14	RA28S-H	29.84	RA28S-C	44.93
	1/4	.030/.031	.050	.14	RA30S-H	29.84	RA30S-C	44.93
	1/4	.040/.042	.050	.14	RA40S-H	29.84	RA40S-C	44.93
1/2" Shank	13/32	.033/.034	.100	.25	RB33S-H	31.85	RB33S-C	48.09
	13/32	.038/.039	.100	.25	RB38S-H	31.85	RB38S-C	48.09
	13/32	.039/.041	.100	.25	RB39S-H	31.85	RB39S-C	48.09
	13/32	.046/.048	.100	.25	RB46S-H	31.85	RB46S-C	48.09
	13/32	.055/.057	.100	.25	RB55S-H	31.85	RB55S-C	48.09

## Long Length

Length of Shank - 2"

Type	Min Bore	Max. Reach	Width of Recess	Max. Depth of Recess	Cutting Edge to CL	Overall Length	High Speed Steel		Carbide Tipped	
							Tool Number	Price Each	Tool Number	Price Each
3/8" Shank	1/4	5/8	.017/.018	.050	.14	2-3/4	RA17L-H	31.59	RA17L-C	47.62
	1/4	5/8	.022/.023	.050	.14	2-3/4	RA22L-H	31.59	RA22L-C	47.62
	1/4	5/8	.025/.026	.050	.14	2-3/4	RA25L-H	31.59	RA25L-C	47.62
	1/4	5/8	.028/.030	.050	.14	2-3/4	RA28L-H	31.59	RA28L-C	47.62
	1/4	5/8	.030/.031	.050	.14	2-3/4	RA30L-H	31.59	RA30L-C	47.62
	1/4	5/8	.040/.042	.050	.14	2-3/4	RA40L-H	31.59	RA40L-C	47.62
1/2" Shank	13/32	1-1/8	.033/.034	.100	.25	3-1/4	RB33L-H	33.74	RB33L-C	50.97
	13/32	1-1/8	.038/.039	.100	.25	3-1/4	RB38L-H	33.74	RB38L-C	50.97
	13/32	1-1/8	.039/.041	.100	.25	3-1/4	RB39L-H	33.74	RB39L-C	50.97
	13/32	1-1/8	.046/.048	.100	.25	3-1/4	RB46L-H	33.74	RB46L-C	50.97
	13/32	1-1/8	.055/.057	.100	.25	3-1/4	RB55L-H	33.74	RB55L-C	50.97

## Sets

Type	Pieces	Length	High Speed Steel		Carbide Tipped	
			Set No.	Price Each	Set No.	Price Each
3/8" Shank	6	Regular	RA375HS	182.84	RA375CS	273.38
	6	Long	RA375HL	193.34	RA375CL	289.52
1/2" Shank	5	Regular	RB500HS	158.60	RB500CS	239.20
	5	Long	RB500HL	167.70	RB500CL	168.70



Supplied in wood block.

# Recessing Tool Holder



- Gibbed V-guide construction
- 2 adjustable stops
- Rugged - simple
- All steel construction

Shank Diameter	Offset	Recessing Tool Dia.	Tool No.	Price Each
5/8	5/16	3/8 Rnd.	J868-080	350.00
3/4	1/2	1/2	J868-085	400.00





# Wheel Dressers



BORING & TURNING

## Diamond Dresser

Round Shank

- 6" Overall length unless otherwise shown
- For the tool room - Surface grinders, universal grinders, etc.
- Re-settable points
- Select quality diamonds because of their many cutting edges, may be reset several times.



Carat	Tool No.			Price
	3/8 Shank	7/16 Shank	1/2 Shank	
1/4	J353000	J353100	J353200	7.65
1/3	J353001	J353101	J353201	10.58
1/2	J353002	J353102	J353202	14.48
3/4	J353003	J353103	J353203	21.53
1	J353004	J353104	J353204	28.65
1-1/2	J353005	J353105	J353205	42.98
2	J353006	J353106	J353206	57.00
3	J353007	J353107	J353207	80.85



Approx. 1/4" carat 3" OAL

Shank Diameter	Tool No.	Price Each
3/8	J353011	11.00
7/16	J353111	11.00
1/2	J353211	13.32

## Hand Diamond Dressers



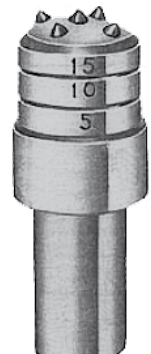
7/16" Shank diameter, 8" OAL. Chrome finish. Ideal for dressing surface grinder wheels, universal grinder wheels, etc

Carat	Tool No.	Price Each
1/4	J353300	11.92
1/3	J353301	15.12
1/2	J353302	19.04
3/4	J353303	32.16
1	J353304	45.60
2	J353305	89.28
3	J353306	114.40
4	J353307	138.40
5	J353308	122.56

## Diamond Clusters

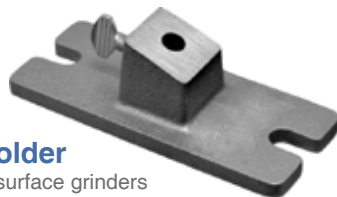
7/16" Shank x 1-1/2" body. 1, 2, & 3 Carat cluster have one row of diamonds, 4 & 5 have two rows.

Carat	Tool No.	Price Each
1	J35309	32.12
2	J35310	51.04
3	J35311	65.12
4	J35312	98.73
5	J35313	114.31



## Diamond Nib Holder

- Designed for use on surface grinders
- Holds Diamond dresser at proper 15° Angle
- Base dimension: 2-1/2" x 6" (63.5mm x 152mm)
- Key-way: 1/2" wide x 7/8" (12.7mm x 22.22mm)
- Includes Diamond dresser 7/16 (11.1mm) x 2(50mm) (1/4 Carat)



Tool No. **J945804** Price Each — \$38.08

## Replacement Diamond Dresser

7/16" (11.1mm) x 2" (50mm)(1/4 carat)  
Tool No. **J945805** Price Each — \$11.00

## Low-Boy Angle Dresser

- Designed for use on all grinding machines
- Base Angle-Plate is Heavy, Precision Ground, Square on all six sides to an accuracy of .0005"
- Side Block Pivots on hardened shoulder screws
- Includes Diamond dresser 3/8" (9.5mm) x 2" (50mm) (1/4 Carat)

Tool No. **J945806** Price Each — \$136.40

## Replacement Diamond Dresser

• 3/8" (9.5mm) x 2" (50mm)(1/4 carat)  
Tool No. **J945807** Price Each — \$11.00



## Hi-Low Adjustable Dresser

- Designed for use on all grinding machines
- Dress O.D. and face of wheels
- Adjustable to 7" (175mm) height
- Dress any width
- Rugged Construction
- Includes Diamond dresser: 3/8"(9.5mm) x 3"(75mm) (1/4 Carat)

Tool No. **J945808** Price Each — \$70.88



# STB Rectangular Carbide Strips

Carbide Grade C-2



BORING & TURNING

## Regular Length



Blank #	Thickness	Width	Length	Price Each
STB12	1/32	1/16	1	1.31
STB13	3/64	3/32	1	1.64
STB13A	3/64	3/32	13/16	1.95
STB24A	1/16	1/8	1	1.98
STB24C	1/16	1/8	1-1/4	2.34
STB24B	1/16	1/8	3	5.58
STB26A	1/16	3/16	1	2.25
STB26C	1/16	3/16	3	5.04
STB28A	1/16	1/4	1	2.43
STB28B	1/16	1/4	1-1/4	2.97
STB28D	1/16	1/4	3	10.44
STB34	3/32	1/8	5	7.29
STB36	3/32	3/16	1-1/8	3.15
STB36A	3/32	3/16	1-1/4	3.42
STB38A	3/32	1/4	1	3.06
STB38B	3/32	1/4	1-1/2	4.23
STB38D	3/32	1/4	5	13.77
STB310A	3/32	5/16	2	7.00
STB310B	3/32	5/16	3	10.42
STB310C	3/32	5/16	5	16.81
STB312	3/32	3/8	5	20.32
STB46	1/8	3/16	6	14.40
STB48A	1/8	1/4	1	3.51
STB48B	1/8	1/4	1-1/4	4.21
STB48C	1/8	1/4	2-1/4	7.29
STB48E	1/8	1/4	6	22.41
STB410	1/8	5/16	6	24.61
STB410A	1/8	5/16	1-1/2	5.87
STB410B	1/8	5/16	3	18.00

Blank #	Thickness	Width	Length	Price Each
STB412D	1/8	3/8	1	4.86
STB412A	1/8	3/8	2	10.44
STB412B	1/8	3/8	3	14.15
STB412C	1/8	3/8	6	27.88
STB416A	1/8	1/2	1	6.12
STB416B	1/8	1/2	1-1/2	8.82
STB416C	1/8	1/2	3	19.28
STB416	1/8	1/2	6	38.09
STB420	1/8	5/8	6	47.61
STB424	1/8	3/4	6	55.26
STB432	1/8	1	6	70.38
STB68	3/16	1/4	6	26.46
STB610	3/16	5/16	6	33.03
STB612A	3/16	3/8	3	19.62
STB612	3/16	3/8	6	40.30
STB616A	3/16	1/2	3	26.46
STB616	3/16	1/2	6	52.83
STB620A	3/16	5/8	3	34.83
STB620	3/16	5/8	6	63.00
STB624	3/16	3/4	6	80.64
STB812A	1/4	3/8	3	26.46
STB812	1/4	3/8	6	52.83
STB816	1/4	1/2	6	70.38
STB816A	1/4	1/2	3	35.19
STB816B	1/4	1/2	4	46.50
STB820A	1/4	5/8	3	44.01
STB820	1/4	5/8	6	88.02
STB824A	1/4	3/4	3	52.83
STB824	1/4	3/4	6	105.57

## Long Length



Blank #	Thickness	Width	Length	Price Each
STB22L	1/16	1/16	6	16.88
STB24L	1/16	1/8	6	10.17
STB26L	1/16	3/16	6	13.84
STB28L	1/16	1/4	6	20.79
STB210L	1/16	5/16	6	37.35
STB212L	1/16	3/8	6	47.48
STB216L	1/16	1/2	6	55.69
STB220L	1/16	5/8	6	86.40
STB224L	1/16	3/4	6	98.55
STB232L	1/16	1	6	108.22
STB34L	3/32	1/8	8	17.78
STB36L	3/32	3/16	8	22.05
STB38L	3/32	1/4	8	34.31
STB310L	3/32	5/16	8	35.66
STB312L	3/32	3/8	8	38.59
STB316L	3/32	1/2	8	50.74
STB320L	3/32	5/8	8	59.51
STB44L	1/8	1/8	12	25.31
STB46L	1/8	3/16	12	40.72
STB48L	1/8	1/4	12	47.02
STB412L	1/8	3/8	12	48.06
STB416L	1/8	1/2	12	92.25
STB420L	1/8	5/8	12	104.51
STB424L	1/8	3/4	12	127.12

Blank #	Thickness	Width	Length	Price Each
STB432L	1/8	1	12	249.48
STB66L	3/16	3/16	12	50.62
STB68L	3/16	1/4	12	69.30
STB610L	3/16	5/16	12	80.78
STB612L	3/16	3/8	12	95.51
STB616L	3/16	1/2	12	124.74
STB620L	3/16	5/8	12	156.26
STB624L	3/16	3/4	12	187.11
STB632L	3/16	1	12	374.22
STB640L	3/16	1-1/4	12	467.82
STB88L	1/4	1/4	12	85.28
STB812L	1/4	3/8	12	124.74
STB816L	1/4	1/2	12	167.18
STB820L	1/4	5/8	12	207.90
STB824L	1/4	3/4	12	249.48
STB832L	1/4	1	12	498.96
STB840L	1/4	1-1/4	12	623.70
STB1212L	3/8	3/8	12	187.11
STB1216L	3/8	1/2	12	249.48
STB1224L	3/8	3/4	12	374.22
STB1232L	3/8	1	12	748.44
STB1616L	1/2	1/2	12	332.64
STB1624L	1/2	3/4	12	498.96

# Cut-Off Inserts



\*NOTE: All Tin Coated inserts are C6 grade unless otherwise specified

## Carbide Inserts - Neutral

Insert Number 0° Face Angle	Width	Price Each		
		C-2	C-6	TiN Coated*
GTN-2	.087	7.74	7.74	9.44
GTN-2.4	.094	7.74	7.74	9.44
GTN-3	.120	7.74	7.74	9.44
GTN-4	.160	7.87	7.87	9.58
GTN-4.8	.187	9.30	9.30	11.40

Insert Number 0° Face Angle	Width	Price Each		
		C-2	C-6	TiN Coated*
GTN-5	.200	9.30	9.30	11.40
GTN-6	.250	10.96	10.96	12.18
GTN-8	.315	43.34	43.34	48.54
GTN-9	.375	47.67	47.67	53.39

## Carbide Inserts - Right Hand

Insert Number		Width	Price Each		
3° Face Angle	8° Face Angle		C-2	C-6	TiN Coated*
GTR2-3	GTR2-8	.087	9.76	9.76	11.40
GTR2.4-3	GTR2.4-8	.094	8.52	8.52	10.22
GTR3-3	GTR3-8	.120	8.52	8.52	10.22
GTR4-3	GTR4-8	.160	9.44	9.44	11.32

Insert Number		Width	Price Each		
3° Face Angle	8° Face Angle		C-2	C-6	TiN Coated*
GTR4.8-3	GTR4.8-8	.187	10.14	10.14	12.26
GTR5-3	GTR5-8	.200	10.14	10.14	12.26
GTR6-3	GTR6-8	.250	11.16	11.16	13.50

## Carbide Inserts - Left Hand

Insert Number		Width	Price Each		
3° Face Angle	8° Face Angle		C-2	C-6	TiN Coated*
GTL2-3	GTL2-8	.087	9.76	9.76	12.18
GTL2.4-3	GTL2.4-8	.094	8.52	8.52	10.22
GTL3-3	GTL3-8	.120	8.52	8.52	10.22
GTL4-3	GTL4-8	.160	9.44	9.44	11.32

Insert Number		Width	Price Each		
3° Face Angle	8° Face Angle		C-2	C-6	TiN Coated*
GTL4.8-3	GTL4.8-8	.187	10.14	10.14	12.26
GTL5-3	GTL5-8	.200	10.14	10.14	12.26
GTL6-3	GTL6-8	.250	11.16	11.16	13.50

## Standard Turning, Boring and Drilling Insert Identification System

SHAPE	RELIEF ANGLE	TOLERANCES	TYPE	SIZE	THICKNESS	CUTTING POINT RADIUS, FLATS	OTHER CONDITIONS
A - Parallelogram 85° B - Parallelogram 82° C - Diamond 80° D - Diamond 55° E - Diamond 755° H - Hexagon K - Parallelogram 55° L - Rectangle M - Diamond 86° O - Octagon P - Pentagon R - Round S - Square T - Triangle V - Diamond 35° W - Trigon 80°	N - 0° A - 3° B - 5° C - 7° P - 11° D - 15° E - 20° F - 25° G - 30°	<b>Insert I.C.</b> A = ± .0002 B = ± .0002 C = ± .0005 D = ± .0005 E = ± .001 F = ± .0002 G = ± .001 H = ± .0005 J = ± .0002 K = ± .0005 L = ± .001 M & U = ± .0005 N = ± .001 <b>I.C. Min U</b> 3/16" .003 .005 7/32" .003 .005 1/4" .003 .005 5/16" .003 .005 3/8" .003 .005 1/2" .005 .008 5/8" .006 .011 3/4" .006 .011 1" .007 .015 1-1/4" .008 .015 R = Blank w/grind stock on all surface S = Blank w/grind stock on top & bottom only.	A w/whole B w/whole & 1 Countersink C w/whole & 2 Countersink D smaller than 1/4" I.C. w/whole E smaller than 1/4" w/o hole F clamp-on type w/chipbreaker G w/whole & chipbreaker H w/whole, 1 countersink & chipbreaker J w/whole, 2 countersinks & chipbreaker K* w/whole, double sided, special 5° positive chipbreaker L* w/whole, double sided, special 5° negative chipbreaker M w/whole & special features on top rake surface only N* narrow chipbreaker land both sides w/whole O* chipbreaker bumpy both sides w/whole P 10° positive chipbreaker both sides Q* double positive chipbreaker one side, w/whole R extra wide chipbreakers land both sides w/whole S Double positive chipbreaker both sides w/whole T w/whole, one countersink W w/whole, one countersink X extra wide chipbreaker groove both sides w/whole Y high double positive chipbreaker one side w/whole Z high positive chipbreaker both sides w/whole *ANC Identification only	Number of 1/32nds on inserts LESS than 1/4" I.C.  Number of 1/8ths on inserts 1/4" I.C. and OVER  Rectangle and parallelogram inserts require TWO digits:  1st digit - Number of 1/8ths in WIDTH.  2nd Digit - Number of 1/4ths in LENGTH.	Number of 1/32nds on inserts LESS than 1/4" I.C.  Number of 1/16ths on inserts 1/4" I.C. and OVER  Use width dimension in place of I.C. on rectangle and parallelogram	0 - Sharp Corner 1 - 1/64 Radius 2 - 1/32 Radius  3 - 3/64 Radius 4 - 1/16 Radius 6 - 1/16 Radius 8 - 1/8 Radius  A - Square insert w/45° chamfer B - Square insert w/4° chamfer & sweep angle R.H. or Negative C - Square insert w/45° chamfer & 4° sweep angle, L.H. D - Square insert w/30° chamfer R.H. or Negative E - Square insert w/15° chamfer R.H. or Negative F - Square insert w/5° chamfer R.H. or Negative G - Square insert w/30° chamfer L.H. H - Square insert w/30° chamfer L.H. I - Square insert w/15° chamfer L.H. J - Square insert w/5° chamfer L.H. K - Square insert w/30° dble chamfer L - Square insert w/15° dble chamfer M - Square insert w/5° dble chamfer N - Truncated triangle insert P - Flatted corner triangle R.H. or Negative R - Flatted corner triangle L.H. S - Square negative insert w/10° double chamfer T - Square negative insert w/30° positive rake chamfer V - Octagon negative insert w/2-1/2° corner chamfer	A-Honed .001 - .003 B-Honed .003 - .005 C-Honed .005 - .007 J-Polished cutting surface only K-Chamfer cutting edge - complete J-Chamfer cutting edge - partial edge J-Honed .001



# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

## CCMT

80° Diamond  
Single sided with  
Chipbreaker  
7° Positive rake



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
CCMT21.51	1/4	3/32	1/64	.110	5.14	5.14	6.06
CCMT21.52	1/4	3/32	1/32	.110	5.14	5.14	6.06
CCMT25.22	5/16	1/8	1/32	.110	5.70	5.70	5.95
CCMT32.51	3/8	5/32	1/64	.173	6.06	6.06	7.42
CCMT32.52	1/2	5/32	1/32	.173	6.06	6.06	7.42
CCMT432	1/2	3/16	1/32	.027	6.54	6.54	8.01

## CNMA

80° Diamond  
Double sided  
without chipbreaker  
0° Relief Angle  
Combo Pin and  
Clamp Insert  
Used for turning  
facing and boring  
Feed Range .003  
to .020 IPR.



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
CNMA431	1/2	3/16	1/64	5.03	5.03	6.84
CNMA432	1/2	3/16	1/32	5.03	5.03	6.84
CNMA433	1/2	3/16	3/64	5.03	5.03	6.84
CNMA542	5/8	1/4	1/32	9.16	9.16	10.96
CNMA543	5/8	1/4	3/64	9.16	9.16	10.96
CNMA544	5/8	1/4	1/16	9.16	9.16	10.96
CNMA642	3/4	1/4	1/32	10.78	10.78	13.80
CNMA643	3/4	1/4	3/64	10.78	10.78	13.80
CNMA644	3/4	1/4	1/16	10.78	10.78	13.80
CNMA646	3/4	1/4	3/32	10.78	10.78	13.80

## CNMM

80° Diamond Single  
Sided with molded  
chipbreaker.  
Screw-On Insert  
Used for semi-fin-  
ishing and finishing  
on a wide range of  
materials



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
CNMM432	1/2	3/16	1/32	5.03	5.03	6.84
CNMM433	1/2	3/16	3/64	5.03	5.03	6.84
CNMM642	3/4	1/4	1/32	10.71	10.71	13.74
CNMM643	3/4	1/4	3/64	10.71	10.71	13.74

## CNMG

80° Diamond  
Negative rake  
Ground all over



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
CNMG431	1/2	3/16	1/64	.203	4.96	4.96	5.66
CNMG432	1/2	3/16	1/32	.203	4.96	4.96	5.66
CNMG433	1/2	3/16	3/64	.203	4.96	4.96	5.66
CNMG542	5/8	1/4	1/32	.250	8.18	8.18	10.66
CNMG543	5/8	1/4	3/64	.250	8.18	8.18	10.66
CNMG544	5/8	1/4	1/16	.250	8.18	8.18	10.66
CNMG642	3/4	1/4	1/32	.312	10.72	10.72	14.08
CNMG643	3/4	1/4	3/64	.312	10.72	10.72	14.08
CNMG644	3/4	1/4	1/16	.312	10.72	10.72	14.08

## CNMP

80° Diamond  
5° Positive lapped  
with hole and  
cast chipbreaker



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
CNMP431	1/2	3/16	1/64	.203	6.12	6.12	7.04
CNMP432	1/2	3/16	1/32	.203	6.12	6.12	7.04
CNMP433	1/2	3/16	3/64	.203	6.12	6.12	7.04
CNMP642	3/4	1/4	1/32	.312	13.60	13.60	15.64
CNMP643	3/4	1/4	3/64	.312	13.60	13.60	15.64

## DCMT

55° Diamond  
Single sided with  
Chipbreaker  
7° Relief Angle



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
DCMT21.50	1/4	3/32	.006	.110	10.20	10.20	12.24
DCMT21.51	1/4	3/32	1/64	.110	10.20	10.20	12.24
DCMT21.52	1/4	3/32	1/32	.110	10.20	10.20	12.24
DCMT32.51	3/8	5/32	1/64	.173	10.74	10.74	12.84
DCMT32.52	3/8	5/32	1/32	.173	10.74	10.74	12.84
DCMT32.53	3/8	5/32	3/64	.173	10.74	10.74	12.84

# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
DNMG431	1/2	3/16	1/64	.203	7.96	7.96	8.52
DNMG432	1/2	3/16	1/32	.203	7.96	7.96	8.52
DNMG433	1/2	3/16	3/64	.203	7.96	7.96	8.52
DNMG532	5/8	3/16	1/32	.250	7.96	7.96	8.52
DNMG533	5/8	3/16	3/64	.250	7.96	7.96	8.52
DNMG542	5/8	1/4	1/32	.250	12.62	12.62	13.92
DNMG543	5/8	1/4	3/64	.250	12.62	12.62	13.92

Insert Number	I.C.	Thickness	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
RCMT32.50	3/8	5/32	.173	13.60	13.60	15.34

Insert Number	Dia. ±.001	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
RNMA32	3/8	1/8	.150	3.21	3.21	4.42
RNMA43	1/2	3/16	.203	3.91	3.91	5.19
RNMA54	5/8	1/4	.250	5.50	5.50	7.40
RNMA64	3/4	1/4	.313	7.74	7.74	9.76
RNMA86	1	3/8	.359	18.64	18.64	22.60
RNMA106	1-1/4	3/8	.503	18.64	18.64	22.60

RNMA-86 and RNMA-106 have 5 pieces per pkg.

Insert Number	Dia. ±.001	Width	Price Each		
			C-2	C-6	TiN Coated*
RNG32	3/8	1/8	4.00	4.00	4.74
RNG42	1/2	1/8	5.02	5.02	5.88
RNG43	1/2	3/16	6.44	6.44	7.48

Insert Number	Dia. ±.001	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
RNMG32	3/8	1/8	.150	3.23	3.23	4.14
RNMG43	1/2	3/16	.203	4.32	4.32	2.90
RNMG54	5/8	1/4	.250	6.60	6.60	7.15
RNMG64	3/4	1/4	.312	8.58	8.58	11.34
RNMG86	1	3/8	.358	19.32	19.32	24.22

RNMG-86 has 5 pcs per pkg.

Insert Number	Dia. ±.001	Width	Price Each		
			C-2	C-6	TiN Coated*
RPG42	1/2	1/8	6.44	6.44	7.68

Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
SCMT32.51	3/8	5/32	1/64	.173	6.32	6.32	6.80
SCMT32.52	3/8	5/32	1/32	.173	6.32	6.32	6.80
SCMT431	1/2	3/16	1/64	.216	6.96	6.96	7.28
SCMT432	1/2	3/16	1/32	.216	6.96	6.96	7.28

Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
SNG321	3/8	1/8	1/64	4.70	4.70	5.52
SNG322	3/8	1/8	1/32	4.70	4.70	5.52
SNG323	3/8	1/8	3/64	4.70	4.70	5.52
SNG332	3/8	3/16	1/32	5.02	5.02	5.98
SNG333	3/8	3/16	3/64	5.02	5.02	5.98
SNG422	1/2	1/8	1/32	5.32	5.32	6.14
SNG423	1/2	1/8	3/64	5.32	5.32	6.14
SNG424	1/2	1/8	1/16	5.32	5.32	6.14
SNG432	1/2	3/16	1/32	6.50	6.50	7.48
SNG433	1/2	3/16	3/64	6.50	6.50	7.48
SNG434	1/2	3/16	1/16	6.50	6.50	7.48
SNG533	5/8	3/16	3/64	9.73	9.73	11.21
SNG632	3/4	3/16	1/32	10.74	10.74	12.30
SNG633	3/4	3/16	3/64	10.74	10.74	12.30
SNG634	3/4	3/16	1/16	10.74	10.74	12.30

C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

## DNMG

55° Diamond  
Negative rake  
with chip control



## RCMT

Round  
Single sided with  
Chipbreaker  
7° Positive rake



## RNMA

Round  
Negative rake  
Lapped top  
and bottom with hole



## RNG

Round  
Negative rake  
Ground all over



## RNMG

Round  
Negative rake  
with chip control



## RPG

Round  
Positive rake  
Ground all over



## SCMT

Square  
Single sided with  
Chipbreaker  
7° Positive rake



## SNG

Square  
Negative rake  
Ground all over





# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.  
\* TiN Coated is C6

## SNMA

Square  
Negative rake  
Lapped top  
and bottom with hole



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
SNMA322	3/8	1/8	1/32	.150	3.22	3.22	4.34
SNMA432	1/2	3/16	1/32	.203	4.64	4.64	5.74
SNMA433	1/2	3/16	3/64	.203	4.64	4.64	5.74
SNMA543	5/8	1/4	3/64	.250	7.06	7.06	8.74
SNMA643	3/4	1/4	3/64	.312	9.70	9.70	11.92
SNMA644	3/4	1/4	1/16	.312	9.70	9.70	11.92
SNMA866	1	3/8	3/32	.358	26.64	26.64	33.00

## SNMG

Square  
Negative rake  
with chip control



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
SNMG322	3/8	1/8	1/32	.150	3.42	3.42	4.26
SNMG323	3/8	1/8	3/64	.150	3.42	3.42	4.26
SNMG332	3/8	3/16	1/32	.150	4.10	4.10	5.11
SNMG333	3/8	3/16	3/64	.150	4.10	4.10	5.11
SNMG431	1/2	3/16	1/64	.203	5.14	5.14	6.28
SNMG432	1/2	3/16	1/32	.203	5.14	5.14	6.28
SNMG433	1/2	3/16	3/64	.203	5.14	5.14	6.28
SNMG434	1/2	3/16	1/16	.203	5.14	5.14	6.28
SNMG542	5/8	1/4	1/32	.250	7.80	7.80	9.02
SNMG543	5/8	1/4	3/64	.250	7.80	7.80	9.02
SNMG544	5/8	1/4	1/16	.250	7.80	7.80	9.02
SNMG642	3/4	1/4	1/32	.312	10.64	10.64	13.74
SNMG643	3/4	1/4	3/64	.312	10.64	10.64	13.74
SNMG644	3/4	1/4	1/16	.312	10.64	10.64	13.74
SNMG866	1	3/8	3/32	.358	25.74	25.74	30.40

## SNMM

Square  
Single sided with  
Chipbreaker  
Negative rake



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
SNMM432	1/2	3/16	1/32	.203	4.48	4.48	5.82
SNMM433	1/2	3/16	3/64	.203	4.48	4.48	5.82
SNMM434	1/2	3/16	1/16	.203	4.48	4.48	5.82
SNMM643	3/4	1/4	3/64	.312	9.52	9.52	12.38
SNMM644	3/4	1/4	1/16	.312	9.52	9.52	12.38

## SNU

Square  
Negative rake  
Ground top & bottom



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
SNU322	3/8	1/8	1/32	2.97	2.97	4.09
SNU422	1/2	1/8	1/32	3.88	3.88	4.66
SNU423	1/2	1/8	3/64	3.88	3.88	4.66
SNU424	1/2	1/8	1/16	3.88	3.88	4.66
SNU432	1/2	3/16	1/32	4.92	4.92	5.68
SNU433	1/2	3/16	3/64	4.92	4.92	5.68
SNU434	1/2	3/16	1/16	4.92	4.92	5.68
SNU533	5/8	3/16	3/64	7.38	7.38	9.22
SNU633	3/4	3/16	3/64	8.84	8.84	10.34
SNU634	3/4	3/16	1/16	8.84	8.84	10.34

## SPMR

Square  
Single sided with  
Chipbreaker  
11° Relief angle



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
SPMR321	3/8	1/8	1/64	3.91	3.91	5.16
SPMR322	3/8	1/8	1/32	3.91	3.91	5.16
SPMR421	1/2	1/8	1/64	4.06	4.06	5.94
SPMR422	1/2	1/8	1/32	4.06	4.06	5.94

C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.  
\* TiN Coated is C6

Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
SPG321	3/8	1/8	1/64	5.88	5.88	6.82
SPG322	3/8	1/8	1/32	5.88	5.88	6.82
SPG323	3/8	1/8	3/64	5.88	5.88	6.82
SPG420	1/2	1/8	0	6.67	6.67	7.54
SPG421	1/2	1/8	1/64	6.67	6.67	7.54
SPG422	1/2	1/8	1/32	6.67	6.67	7.54
SPG423	1/2	1/8	3/64	6.67	6.67	7.54
SPG424	1/2	1/8	1/16	6.67	6.67	7.54
SPG432	1/2	3/16	1/32	8.02	8.02	9.82
SPG433	1/2	3/16	3/64	8.02	8.02	9.82
SPG632	3/4	3/16	1/32	11.38	11.38	13.40
SPG633	3/4	3/16	3/64	11.38	11.38	13.40
SPG634	3/4	3/16	1/16	11.38	11.38	13.40

## SPG

Square  
Positive rake  
Ground all over



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
SPGH432	1/2	3/16	1/32	.177	12.94	12.94	15.54
SPGH433	1/2	3/16	3/64	.177	12.94	12.94	15.54

## SPGH

Square, Positive rake. Ground all over  
Chip groove in one side



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
SPU322	3/8	1/8	1/8	4.50	4.50	5.28
SPU421	1/2	1/8	1/8	5.80	5.80	6.68
SPU422	1/2	1/8	1/8	5.80	5.80	6.68
SPU423	1/2	1/8	1/8	5.80	5.80	6.68
SPU632	3/4	3/16	3/16	11.22	11.22	13.00
SPU633	3/4	3/16	3/16	11.22	11.22	13.00
SPU634	3/4	3/16	3/16	11.22	11.22	13.00

## SPU

Square  
Positive rake  
Ground top and bottom



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TCMT21.50	1/4	3/32	0	.110	5.20	5.20	6.50
TCMT21.51	1/4	3/32	1/64	.110	5.20	5.20	6.50
TCMT21.52	1/4	3/32	1/32	.110	5.20	5.20	6.50
TCMT32.50	3/8	5/32	.008	.173	7.42	7.42	9.04
TCMT32.51	3/8	5/32	1/64	.173	7.42	7.42	9.04
TCMT32.52	3/8	5/32	1/32	.173	7.42	7.42	9.04

## TCMT

80° Diamond  
Single sided with  
Chipbreaker  
7° Positive rake



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TNG221	1/4	1/8	1/64	3.66	3.66	5.26
TNG222	1/4	1/8	1/32	3.66	3.66	5.26
TNG321	3/8	1/8	1/64	4.74	4.74	6.48
TNG322	3/8	1/8	1/32	4.74	4.74	6.48
TNG323	3/8	1/8	3/64	4.74	4.74	6.48
TNG324	3/8	1/8	1/16	4.74	4.74	6.48
TNG332	3/8	3/16	1/32	5.70	5.70	7.58
TNG333	3/8	3/16	3/64	5.70	5.70	7.58
TNG432	1/2	3/16	1/32	7.88	7.88	10.48
TNG433	1/2	3/16	3/64	7.88	7.88	10.48
TNG434	1/2	3/16	1/16	7.88	7.88	10.48
TNG544	5/8	1/4	1/16	12.58	12.58	17.56

## TNG

Triangle  
Negative rake  
Ground all over



C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

## TNMA

Triangle  
Negative rake  
Lapped top  
and bottom with hole



*TNMA-666 has 5 Pcs per pkg.*

Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TNMA222	1/4	1/8	1/32	.093	2.46	2.46	3.74
TNMA322	3/8	1/8	1/32	.150	3.06	3.06	4.42
TNMA323	3/8	1/8	3/64	.150	3.06	3.06	4.42
TNMA331	3/8	3/16	1/64	.150	4.42	4.42	6.05
TNMA332	3/8	3/16	1/32	.150	4.42	4.42	6.05
TNMA333	3/8	3/16	3/64	.150	4.42	4.42	6.05
TNMA432	1/2	3/16	1/32	.203	5.54	5.54	6.84
TNMA433	1/2	3/16	3/64	.203	5.54	5.54	6.84
TNMA434	1/2	3/16	1/16	.203	5.54	5.54	6.84
TNMA438	1/2	3/16	1/8	.203	5.54	5.54	6.84
TNMA542	5/8	1/4	1/32	.250	10.24	10.24	12.56
TNMA544	5/8	1/4	1/16	.250	10.24	10.24	12.56
TNMA666	3/4	3/8	3/32	.312	15.46	15.46	22.30

## TNMG

Triangle  
Negative rake  
with chip control



*TNMG-666 has 5 Pcs per pkg.*

Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TNMG221	1/4	1/8	1/64	.093	3.08	3.08	4.09
TNMG222	1/4	1/8	1/32	.093	3.08	3.08	4.09
TNMG321	3/8	1/8	1/64	.150	3.34	3.34	4.10
TNMG322	3/8	1/8	1/32	.150	3.34	3.34	4.10
TNMG323	3/8	1/8	3/64	.150	3.34	3.34	4.10
TNMG324	3/8	1/8	1/16	.150	3.34	3.34	4.10
TNMG331	3/8	3/16	1/64	.150	4.10	4.10	5.02
TNMG332	3/8	3/16	1/32	.150	4.10	4.10	5.02
TNMG333	3/8	3/16	3/64	.150	4.10	4.10	5.02
TNMG431	1/2	3/16	1/64	.203	5.80	5.80	6.76
TNMG432	1/2	3/16	1/32	.203	5.80	5.80	6.76
TNMG433	1/2	3/16	3/64	.203	5.80	5.80	6.76
TNMG434	1/2	3/16	1/16	.203	5.80	5.80	6.76
TNMG438	1/2	3/16	1/8	.203	5.80	5.80	6.76
TNMG542	5/8	1/4	1/32	.250	10.44	10.44	13.14
TNMG543	5/8	1/4	3/64	.250	10.44	10.44	13.14
TNMG544	5/8	1/4	1/16	.250	10.44	10.44	13.14
TNMG666	3/4	3/8	3/32	.312	18.50	18.50	21.78

## TNMM

Triangle  
Single sided with  
Chipbreaker  
Negative rake



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TNMM332	1/8	3/16	1/32	.150	3.95	3.95	5.13
TNMM432	1/2	3/16	1/32	.203	5.60	5.60	7.28
TNMM433	1/2	3/16	3/64	.203	5.60	5.60	7.28
TNMM542	5/8	1/4	1/32	.250	10.72	10.72	13.94
TNMM544	5/8	1/4	1/16	.250	10.72	10.72	13.94

## TNMP

Triangle  
Negative rake  
5° Positive



Insert Number	I.C.	Width	Radius	Hole Size	Price Each	
					C-6	TiN Coated*
TNMP321	3/8	1/8	1/64	.150	4.30	5.34
TNMP322	3/8	1/8	1/32	.150	4.30	5.34
TNMP323	3/8	1/8	3/64	.150	4.30	5.34
TNMP331	3/8	3/16	1/64	.150	4.88	5.92
TNMP332	3/8	3/16	1/32	.150	4.88	5.92
TNMP333	3/8	3/16	3/64	.150	4.88	5.92
TNMP431	1/2	3/16	1/64	.203	8.29	9.66
TNMP432	1/2	3/16	1/32	.203	8.29	9.66
TNMP433	1/2	3/16	3/64	.203	8.29	9.66
TNMP434	1/2	3/16	1/16	.203	8.29	9.66
TNMP542	5/8	1/4	1/32	.250	10.77	12.76

# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TNU221	1/4	1/8	1/64	2.08	2.08	3.38
TNU222	1/4	1/8	1/32	2.08	2.08	3.38
TNU322	3/8	1/8	1/32	2.94	2.94	4.40
TNU323	3/8	1/8	3/64	2.94	2.94	4.40
TNU332	3/8	3/16	1/32	3.80	3.80	5.28
TNU333	3/8	3/16	3/64	3.80	3.80	5.28
TNU334	3/8	3/16	1/16	3.80	3.80	5.28
TNU432	1/2	3/16	1/32	5.60	5.60	7.66
TNU433	1/2	3/16	3/64	5.60	5.60	7.66
TNU434	1/2	3/16	1/16	5.60	5.60	7.66
TNU544	5/8	1/4	1/16	10.34	10.34	12.94

## TNU

Triangle  
Negative rake  
Ground top & bottom



Insert Number	I.C.	Width	Radius	Hole Size	Price Each
					C-2
TNUC21.52	1/4	3/32	1/32	0.136	3.84
TNUC222	1/4	1/8	1/32	0.136	4.04

## TNUC

Triangle  
Negative rake  
Brake turning insert



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPG220	1/4	1/8	0	5.70	5.70	6.90
TPG221	1/4	1/8	1/64	5.70	5.70	6.90
TPG222	1/4	1/8	1/32	5.70	5.70	6.90
TPG223	1/4	1/8	3/64	5.70	5.70	6.90
TPG320	3/8	1/8	0	6.74	6.74	8.08
TPG321	3/8	1/8	1/64	6.74	6.74	8.08
TPG322	3/8	1/8	1/32	6.74	6.74	8.08
TPG323	3/8	1/8	3/64	6.74	6.74	8.08
TPG324	3/8	1/8	1/16	6.74	6.74	8.08
TPG430	1/2	3/16	0	8.46	8.46	9.88
TPG431	1/2	3/16	1/64	8.46	8.46	9.88
TPG432	1/2	3/16	1/32	8.46	8.46	9.88
TPG433	1/2	3/16	3/64	8.46	8.46	9.88
TPG434	1/2	3/16	1/16	8.46	8.46	9.88
TPG542	5/8	1/4	1/32	14.12	14.12	16.84
TPG543	5/8	1/4	3/64	14.12	14.12	16.84
TPG544	5/8	1/4	1/16	14.12	14.12	16.84

## TPG

Triangle  
Positive rake  
Ground all over



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TPGH21.50	1/4	3/32	0	.120	6.80	6.80	7.96
TPGH21.51	1/4	3/32	1/64	.120	6.80	6.80	7.96
TPGH21.52	1/4	3/32	1/32	.120	6.80	6.80	7.96
TPGH321	3/8	1/8	1/64	.177	7.42	7.42	9.04
TPGH322	3/8	1/8	1/32	.177	7.42	7.42	9.04

## TPGH

Triangle  
Positive rake  
Ground all over  
with chip groove on one side



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPMR221	1/4	1/8	1/64	4.21	4.21	5.25
TPMR222	1/4	1/8	1/32	4.21	4.21	5.25
TPMR321	3/8	1/8	1/64	4.30	4.30	5.55
TPMR322	3/8	1/8	1/32	4.30	4.30	5.55

## TPMR

Triangle  
Single sided with  
Chipbreaker  
11° Relief angle



Insert Number	I.C.	Width	Radius	Price Each		
				C-2	C-6	TiN Coated*
TPU221	1/4	1/8	1/64	3.64	3.64	4.62
TPU222	1/4	1/8	1/32	3.64	3.64	4.62
TPU321	3/8	1/8	1/64	4.50	4.50	6.06
TPU322	3/8	1/8	1/32	4.50	4.50	6.06
TPU323	3/8	1/8	3/64	4.50	4.50	6.06
TPU431	1/2	3/16	1/64	7.22	7.22	8.70
TPU432	1/2	3/16	1/32	7.22	7.22	8.70
TPU433	1/2	3/16	3/64	7.22	7.22	8.70
TPU434	1/2	3/16	1/16	7.22	7.22	8.70
TPU543	5/8	1/4	3/64	12.88	12.88	14.76
TPU544	5/8	1/4	1/16	12.88	12.88	14.76

## TPU

Triangle  
Positive rake  
Ground top & bottom



C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Carbide Turning Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

## TT

11° Positive lapped with hole and cast chipbreaker



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
TT221	1/4	1/8	1/64	.090	5.02	5.02	5.88
TT222	1/4	1/8	1/32	.090	5.02	5.02	5.88
TT321	3/8	1/8	1/64	.150	6.32	6.32	7.18
TT322	3/8	1/8	1/32	.150	6.32	6.32	7.18
TT323	3/8	1/8	3/64	.150	6.32	6.32	7.18
TT431	1/2	3/16	1/64	.203	7.58	7.58	8.62
TT432	1/2	3/16	1/32	.203	7.58	7.58	8.62
TT433	1/2	3/16	3/64	.203	7.58	7.58	8.62

## VBMT

35° Diamond Single sided with Chipbreaker  
7° Positive rake



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
VBMT331	3/8	3/16	1/64	.173	12.94	12.94	16.32
VBMT332	3/8	3/16	1/32	.173	12.94	12.94	16.32

## VNMG

35° Diamond Negative rake with chip control



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
VNMG331	3/8	3/16	1/64	.150	7.48	7.48	8.06
VNMG332	3/8	3/16	1/32	.150	7.48	7.48	8.06
VNMG333	3/8	3/16	3/64	.150	8.62	8.62	8.06
VNMG431	1/2	3/16	1/64	.203	8.62	8.62	10.00
VNMG432	1/2	3/16	1/32	.203	8.62	8.62	10.00

## WNMG

80° Trigon Negative rake with chip control



Insert Number	I.C.	Width	Radius	Hole Size	Price Each		
					C-2	C-6	TiN Coated*
WNMG331	3/8	3/16	1/64	.150	6.58	6.58	7.64
WNMG332	3/8	3/16	1/32	.150	6.58	6.58	7.64
WNMG431	1/2	3/16	1/64	.203	7.42	7.42	9.04
WNMG432	1/2	3/16	1/32	.203	7.42	7.42	9.04
WNMG434	1/2	3/16	1/16	.203	7.42	7.42	9.04
WNMG542	5/8	1/4	1/32	.250	11.50	11.50	13.00
WNMG543	5/8	1/4	3/64	.250	11.50	11.50	13.00

## Shims



Part Number	Dimensions		Positive or negative width	Screw Size	Price Each
	I.C.	Thickness			
SHIM41	3/8	1/8	P	4-40	4.88
SHIM48	3/8	3/16	N	4-40	5.20
SHIM26	1/2	1/8	N	8-32	5.62
SHIM37	1/2	1/8	P	8-32	5.98

## Chipbreakers



Part Number	I.C.	Effective Width	Price Each	Part Number	I.C.	Effective Width	Price Each
CBT12	3/8	.129	4.16	CBT16N	1/2	.100	5.56
CBT12N	3/8	.080	4.16	CBT16F	1/2	.054	5.56
CBT12F	3/8	.056	4.16	CBT20	5/8	.190	6.24
CBT16	1/2	.190	4.64	CBT20N	5/8	.100	6.24

C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.



# Carbide Milling Inserts



Please order in package quantity, 10 inserts in a package.  
\* TiN Coated is C6

Insert Number	L	D	T	R	Hole Size	Price Each		
						C-2	C-6	TiN Coated*
APKT1604	.650	.376	.227	.031	.173	—	9.65	13.00

## APKT

Rectangular  
Single sided  
11° Relief angle



Insert Number	Please Specify Radii							I.C.	Width	Price Each		
										C-2	C-6	TiN Coated*
CTA2	0	1/64	1/32	1/16	3/32	1/8	—	.355	5/32	7.78	7.78	8.82
CTA4	0	1/64	1/32	1/16	3/32	1/8	—	.460	3/16	9.30	9.30	10.58
CTA6	—	—	1/32	1/16	3/32	1/8	—	.685	3/16	13.60	13.60	17.96
CTA8	—	1/64	1/32	1/16	3/32	1/8	1/4	.750	3/16	16.16	16.16	18.82

## CTA

87° Parallelograms  
Positive rake  
Ground all over  
*CTA-2 has  
88° Parallelograms*



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
RPMM1204	1/2	3/16	.191	—	—	6.16

## RPMM

Round  
Single sided  
11° Relief angle



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
RDKT12T3	12mm	3/16	.157	—	—	15.44

## RDKT

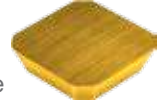
Round  
Single sided  
15° Relief angle



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
SEAN42AFTN	1/2	1/8	0.097 x 45°	5.12	5.12	6.58
SEAN43AFTN	1/2	3/16	0.097 x 45°	5.12	5.12	6.58
SEAN53AFTN	5/8	3/16	0.097 x 45°	6.58	6.58	9.67
SEAN42AFN	1/2	1/8	0.097 x 45°	5.12	5.12	6.58
SEAN43AFN	1/2	3/16	0.097 x 45°	5.12	5.12	6.58
SEAN53AFN	5/8	3/16	0.097 x 45°	6.58	6.58	9.67

## SEAN

Square  
20° Positive rake



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
SEC422	1/2	1/8	1/32	5.30	5.30	7.11
SEC424	1/2	1/8	1/16	5.30	5.30	7.11
SEC533	5/8	3/16	3/64	7.18	7.18	9.00
SEC633	3/4	3/16	3/64	10.47	10.47	13.49
SEC634	3/4	3/16	1/16	10.47	10.47	13.49

## SEC

Square  
20° Positive rake  
with Corner Flat  
Single sided



Insert Number	I.C.	Width	Price Each		
			C-2	C-6	TiN Coated*
SEC422N	1/2	1/8	8.46	8.46	9.62
SEC422J	1/2	1/8	9.86	9.86	11.04

J= Polished Top N= Not Polish on Top

## SEC

Square  
20° Positive rake  
with Radius  
Ground all over



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
SEHT1204	1/2	3/16	.220	—	—	12.24

## SEHT

Square  
Single sided  
20° Relief angle



C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Carbide Milling Inserts



Please order in package quantity, 10 inserts in a package.  
\* TiN Coated is C6

## SEKN

Square  
20° Positive rake  
Milling Inserts



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
SEKN42AFN	1/2	1/8	3/32 x 45°	5.02	5.02	6.84
SEKN42AFTN	1/2	1/8	3/32 x 45°	5.02	5.02	6.84
SEKN42AFSN	1/2	1/8	3/32 x 45°	5.85	5.85	7.67
SEKN43AFN	1/2	3/16	3/32 x 45°	5.85	5.85	7.67
SEKN43AFTN	1/2	3/16	3/32 x 45°	5.85	5.85	7.67
SEKN53AFN	5/8	3/16	1/8 x 45°	8.08	8.08	11.12
SEKN53AFTN	5/8	3/16	1/8 x 45°	8.08	8.08	11.12

## SEKR

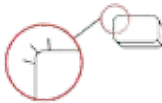
Square  
20° Positive rake  
Milling Inserts  
for end mills and  
face mills



Insert Number	I.C.	Width	Corner Flat	Price Each		
				C-2	C-6	TiN Coated*
SEKR42AFTN	1/2	1/8	0.097 x 45°	5.85	5.85	7.67
SEKR43AFTN	1/2	3/16	0.097 x 45°	6.25	6.25	8.07
SEKR53AFTN	5/8	3/16	0.097 x 45°	7.96	7.96	10.17

## SPC

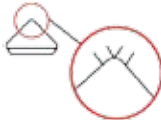
Square  
Positive rake, Ground all over  
with wiping flats on four corners



Insert Number	I.C.	Width	Price Each		
			C-2	C-6	TiN Coated*
SPC42ZR	1/2	1/8	6.90	6.90	8.26
SPC53ER	5/8	3/16	9.95	9.95	12.29

## TPC

Triangle  
Positive rake  
Ground all over with  
wiping flats on three corners



Insert Number	I.C.	Width	Price Each		
			C-2	C-6	TiN Coated*
TPC32ZR	3/8	1/8	6.48	6.48	7.62

# Carbide Grooving Inserts



## Left and Right Hand Grooving and Profiling Inserts

Insert Number Left	Insert Number Right	Groove Width	Depth of Cut	Radius	Price Each		
					C-2	C-6	TiN Coated*
NG2031L	NG2031R	.031	.050	.005/.010	8.88	8.88	10.10
NG2041L	NG2041R	.041	.050	.005/.010	8.88	8.88	10.10
NG2047L	NG2047R	.047	.050	.005/.010	8.88	8.88	10.10
NG2056L	NG2056R	.056	.050	.005/.010	8.88	8.88	10.10
NG2062L	NG2062R	.062	.050	.005/.010	8.88	8.88	10.10
NG2094L	NG2094R	.094	.110	.005/.010	8.88	8.88	10.10
NG2125L	NG2125R	.125	.110	.005/.010	8.88	8.88	10.10
NG3031L	NG3031R	.031	.075	.005/.010	9.58	9.58	10.80
NG3047L	NG3047R	.047	.075	.005/.010	9.58	9.58	10.80
NG3062L	NG3062R	.062	.094	.005/.010	9.58	9.58	10.80
NG3072L	NG3072R	.072	.094	.005/.010	9.58	9.58	10.80
NG3088L	NG3088R	.088	.094	.005/.010	9.58	9.58	10.80
NG3094L	NG3094R	.094	.150	.005/.010	9.58	9.58	10.80
NG3097L	NG3097R	.097	.150	.005/.010	9.58	9.58	10.80
NG3105L	NG3105R	.105	.150	.005/.010	9.58	9.58	10.80
NG3125L	NG3125R	.125	.150	.005/.010	9.58	9.58	10.80
NG3142L	NG3142R	.142	.150	.005/.010	9.58	9.58	10.80
NG3156L	NG3156R	.156	.150	.005/.010	9.58	9.58	10.80
NG3178L	NG3178R	.178	.150	.005/.010	9.58	9.58	10.80
NG3189L	NG3189R	.189	.150	.020/.025	9.58	9.58	10.80
NG4125L	NG4125R	.125	.250	.020/.025	18.19	18.19	20.72
NG4189L	NG4189R	.189	.250	.020/.025	18.19	18.19	20.72
NG2250L	NG2250R	.250	.250	.020/.025	18.19	18.19	20.72

C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Carbide Threading Inserts



Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
TNMA32NV	3/8	1/8	.150	11.38	11.38	13.12
TNMA43NV	1/2	3/16	.203	13.94	13.94	15.96
TPMA54NV	5/8	1/4	.250	16.73	16.73	19.15

## TNMA-NV

Triangle  
Neutral rake  
60° V-Thread



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
TNMC32NV	3/8	1/8	.150	11.38	11.38	13.12
TNMC43NV	1/2	3/16	.203	13.94	13.94	15.96
TPMC54NV	5/8	1/4	.250	16.73	16.73	19.15

## TNMC-NV

Triangle  
Neutral rake  
60° V-Thread  
Double Countersink hole



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
TPMA32NV	3/8	1/8	.150	13.42	13.42	15.16
TPMA43NV	1/2	3/16	.203	15.58	15.58	17.06
TPMA54NV	5/8	1/4	.250	18.70	18.70	20.47

## TPMA-NV

Triangle  
10° Positive rake  
60° V-Thread



Insert Number	I.C.	Width	Hole Size	Price Each		
				C-2	C-6	TiN Coated*
TPMC32NV	3/8	1/8	.150	13.42	13.42	15.16
TPMC43NV	1/2	3/16	.203	15.58	15.58	17.06
TPMC54NV	5/8	1/4	.250	18.70	18.70	20.47

## TPMC-NV

Triangle  
10° Positive rake  
60° V-Thread  
Double Countersink hole



# Carbide Notched Threading Inserts

Please order in package quantity, 10 inserts in a package.

\* TiN Coated is C6

Insert Number	External Threads per Inch	Internal Threads per Inch	Price Each		
			C-2	C-6	TiN Coated*
NT2L	8-36	7-20	9.58	9.58	10.18
NT3L	6-20	5-12	9.58	9.58	10.18
NT4L	4-20	4-12	17.19	17.19	19.00

## NT - Left Hand



Insert Number	External Threads per Inch	Internal Threads per Inch	Price Each		
			C-2	C-6	TiN Coated*
NT2R	8-36	7-20	9.58	9.58	10.18
NT3R	6-20	5-12	9.58	9.58	10.18
NT4R	4-20	4-12	17.19	17.19	19.00

## NT - Right Hand



Insert Number	External Threads per Inch	Internal Threads per Inch	Price Each		
			C-2	C-6	TiN Coated*
NTP2L	8-36	7-20	9.58	9.58	10.18
NTP3L	6-20	5-12	9.58	9.58	10.18
NTP4L	4-20	4-12	18.11	18.11	19.68

## NTP - Left Hand



Insert Number	External Threads per Inch	Internal Threads per Inch	Price Each		
			C-2	C-6	TiN Coated*
NTP2R	8-36	7-20	9.58	9.58	10.18
NTP3R	6-20	5-12	9.58	9.58	10.18
NTP4R	4-20	4-12	18.11	18.11	19.68

## NTP - Right Hand



C2 for cast Iron & non-ferrous material. C6 for steel & steel alloys. TiN coated where higher speeds & feeds are possible.

# Solid Carbide Burs

1/4" Steel Shank - Single & Double Cut

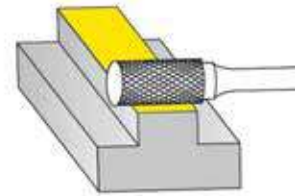


BORING & TURNING

## Cylindrical Shape (SA)

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SA11S	SA11	1/8	1/2	9.81
SA12S	SA12	1/8	5/8	8.56
SA14S	SA14	3/16	5/8	8.92
SA1S	SA1	1/4	5/8	8.73
SA1LS	SA1L	1/4	1	18.18
SA2S	SA2	5/16	3/4	10.98
SA2LS	SA2L	5/16	1	21.84
SA3S	SA3	3/8	3/4	11.88

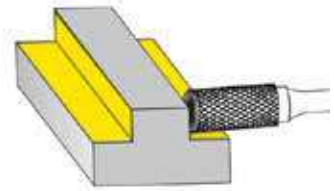
Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SA3LS	SA3L	3/8	1	23.22
SA3XLS	SA3XL	3/8	1-1/2	23.22
SA4S	SA4	7/16	1	17.82
SA5S	SA5	1/2	1	18.72
SA6S	SA6	5/8	1	23.67
SA16S	SA16	3/4	3/4	28.18
SA7S	SA7	3/4	1	35.37
SA9S	SA9	1	1	51.03



## Cylindrical Shape with End Cut (SB)

Double Cut	Cutter Dia.	Length of Cut	Price Each
SB11	1/8	1/2	9.82
SB12	1/8	5/8	11.74
SB14	3/16	5/8	10.18
SB1	1/4	5/8	9.46
SB1L	1/4	1	20.80
SB2	5/16	3/4	12.16
SB2L	5/16	1	25.85
SB3	3/8	3/4	13.05

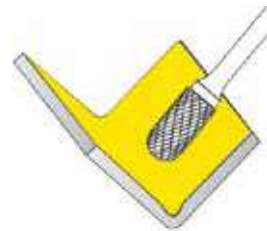
Double Cut	Cutter Dia.	Length of Cut	Price Each
SB3L	3/8	1	24.58
SB3XL	3/8	1-1/2	30.66
SB4	7/16	1	19.26
SB5	1/2	1	20.79
SB6	5/8	1	25.92
SB16	3/4	3/4	31.06
SB7	3/4	1	37.80
SB9	1	1	56.70



## Cylindrical Shape with Radius End (SC)

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SC11S	SC11	1/8	1/8	9.82
SC12S	SC12	1/8	1/8	10.18
SC14S	SC14	3/16	3/16	10.18
SC1S	SC1	1/4	1/4	9.99
SC1AS	SC1A	1/4	1	19.22
SC1LS	SC1L	1/4	1/4	21.69
SC2S	SC2	5/16	5/16	13.06
SC2LS	SC2L	5/16	1	17.30

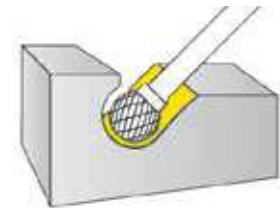
Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SC3S	SC3	3/8	3-1/4	13.23
SC3LS	SC3L	3/8	1	24.58
SC3XLS	SC3XL	3/8	1-1/2	30.66
SC4S	SC4	7/16	7/16	19.26
SC5S	SC5	1/2	1/2	20.79
SC6S	SC6	5/8	5/8	26.64
SC7S	SC7	3/4	3/4	37.80
SC9S	SC9	1	1	66.16



## Ball Shape (SD)

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SD11S	SD11	1/8	1/8	10.00
SD14S	SD14	3/16	3/16	10.00
SD1S	SD1	1/4	1/4	9.63
SD2S	SD2	5/16	5/16	10.44
SD3S	SD3	3/8	3/8	11.79

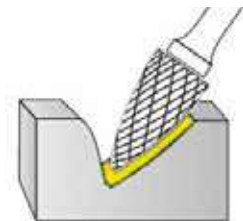
Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SD4S	SD4	7/16	7/16	14.68
SD5S	SD5	1/2	1/2	15.12
SD6S	SD6	5/8	5/8	18.90
SD7S	SD7	3/4	3/4	25.74
SD9S	SD9	1	1	42.30



## Tree Shape with Pointed End (SG)

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SG1S	SG1	1/4	5/8	10.87
SG1LS	SG1L	1/4	3/4	22.32
SG2S	SG2	5/16	3/4	14.58
SG3S	SG3	3/8	3/4	13.59
SG13S	SG13	1/2	3/4	19.08

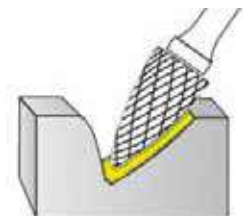
Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SG5S	SG5	1/2	1	17.34
SG6S	SG6	5/8	1	24.88
SG7S	SG7	3/4	1	32.82
SG15S	SG15	3/4	1-1/2	56.14



## Tree Shape with Radius End (SF)

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SF11S	SF11	1/8	1/2	10.80
SF1S	SF1	1/4	5/8	10.80
SF1LS	SF1L	1/4	3/4	22.32
SF3S	SF3	3/8	3/4	13.59
SF4S	SF4	7/16	1	17.74
SF13S	SF13	1/2	3/4	19.08

Tool Number		Cutter Dia.	Length of Cut	Price Each
Single Cut	Double Cut			
SF5S	SF5	1/2	1	17.34
SF6S	SF6	5/8	1	27.63
SF7S	SF7	3/4	1	36.45
SF14S	SF14	3/4	1-1/4	37.98
SF15S	SF15	3/4	1-1/2	52.92



# Solid Carbide Burs

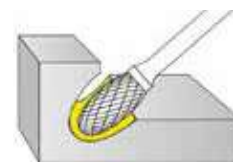
1/4" Steel Shank - Single & Double Cut



## Oval Shape (SE)

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SE11S	SE11	3/16	5/16	11.88
SE1S	SE1	1/4	3/8	11.88
SE2S	SE2	5/16	5/8	12.80
SE3S	SE3	3/8	5/8	14.67

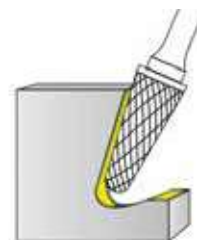
Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SE5S	SE5	1/2	7/8	20.79
SE6S	SE6	5/8	1	29.43
SE7S	SE7	3/4	1	37.80



## Taper Shape (SL) with Radius End & 14° Included Angle

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SL1S	SL1	1/4	5/8	10.89
SL2S	SL2	5/16	7/8	13.78
SL3S	SL3	3/8	1-1/16	16.47
SL4S	SL4	1/2	1-1/8	20.98

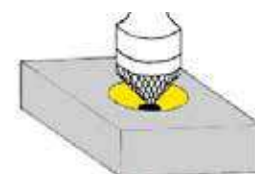
Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SL5S	SL5	5/8	1-3/16	36.82
SL6S	SL6	5/8	1-5/16	36.82
SL7S	SL7	3/4	1-1/2	52.92



## Cone Shape (SK) with 90° Included Angle

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SK1S	SK1	1/4	1/8	9.90
SK2S	SK2	5/16	3/16	10.80
SK3S	SK3	3/8	3/16	12.06
SK5S	SK5	1/2	1/4	13.49

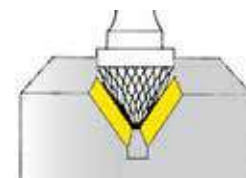
Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SK6S	SK6	5/8	5/16	19.62
SK7S	SK7	3/4	3/8	26.38
SK9S	SK9	1	1/2	41.58



## Cone Shape (SJ) with 60° Included Angle

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SJ1S	SJ1	1/4	3/16	9.90
SJ2S	SJ2	5/16	1/4	10.80
SJ3S	SJ3	3/8	1/4	12.06
SJ5S	SJ5	1/2	7/16	14.94

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SJ6S	SJ6	5/8	1/2	19.62
SJ7S	SJ7	3/4	5/8	26.38
SJ9S	SJ9	1	3/4	41.58



## Flame Shape (SH)

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SH1S	SH1	1/4	1/2	11.88
SH2S	SH2	5/16	3/4	13.24
SH5S	SH5	1/2	1-1/4	27.18

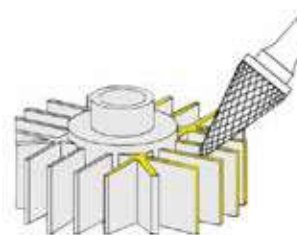
Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SH6S	SH6	5/8	1-7/16	39.16
SH7S	SH7	3/4	1-5/8	56.70



## Cone Shape (SM)

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SM1S	SM1	1/4	1/2	10.53
SM2S	SM2	1/4	3/4	11.34
SM3S	SM3	1/4	1	12.06
SM3LS	SM3L	1/4	1-1/4	13.62

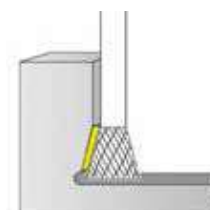
Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SM4S	SM4	3/8	5/8	16.20
SM4LS	SM4L	3/8	1	25.62
SM5S	SM5	1/2	7/8	20.79
SM6S	SM6	5/8	1	32.32



## Inverted Cone Shape (SN)

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SN1S	SN1	1/4	5/16	9.72
SN2S	SN2	3/8	3/8	18.54
SN4S	SN4	1/2	1/2	19.26

Tool Number				
Single Cut	Double Cut	Cutter Dia.	Length of Cut	Price Each
SN6S	SN6	5/8	3/4	27.62
SN7S	SN7	3/4	5/8	32.50





# Extra Long Solid Carbide Burs

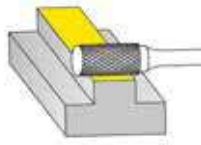
1/4" Steel Shank - Double Cut

6" Overall



## Cylindrical Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SA1L6	1/4	1/2	18.18
SA3L6	3/8	3/4	23.22
SA5L6	1/2	1	30.06



## Pointed Tree Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SG1L6	1/4	1/2	22.14
SG3L6	3/8	3/4	24.93
SG5L6	1/2	1	30.60



## Cylindrical Ball Nose

Tool No.	Cutter Dia.	Length of Cut	Price Each
SC1L6	1/4	1/2	21.69
SC3L6	3/8	3/4	24.57
SC5L6	1/2	1	32.13



## Round Tree Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SF1L6	1/4	1/2	22.14
SF3L6	3/8	3/4	24.93
SF5L6	1/2	1	30.60



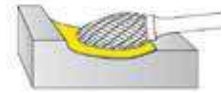
## Ball Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SD1L6	1/4	7/32	20.97
SD3L6	3/8	5/16	22.86
SD5L6	1/2	7/16	26.46



## Flame Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SH2L6	5/16	3/4	24.57
SH5L6	1/2	1-1/4	38.88



## Oval Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SE1L6	1/4	3/8	23.13
SE3L6	3/8	5/8	26.01
SE5L6	1/2	7/8	32.13



## 14° Included Angle

Tool No.	Cutter Dia.	Length of Cut	Price Each
SL1L6	1/4	5/8	22.23
SL3L6	3/8	1-1/16	27.81
SL4L6	1/2	1-1/8	32.31



# Solid Carbide Burs for Aluminum

1/4" Shank - Single Cut



## Oval Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SE1NF	1/4	7/32	20.88
SE3NF	3/8	5/8	18.81
SE5NF	1/2	7/8	26.73
SE6NF	5/8	1	37.90
SE7NF	3/4	1	48.60



## Cylindrical

Tool No.	Cutter Dia.	Length of Cut	Price Each
SA1NF	1/4	3/4	11.25
SA3NF	3/8	3/4	15.30
SA5NF	1/2	1	24.03
SA6NF	5/8	1	30.15
SA7NF	3/4	1	45.45



## Round Tree Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SF1NF	1/4	3/4	13.86
SF3NF	3/8	3/4	17.55
SF5NF	1/2	1	24.84
SF6NF	5/8	1	35.46
SF14NF	3/4	1-1/4	48.87



## Cylindrical Ball Nose

Tool No.	Cutter Dia.	Length of Cut	Price Each
SC1NF	1/4	3/4	13.05
SC3NF	3/8	3/4	17.01
SC5NF	1/2	1	26.74
SC6NF	5/8	1	34.04
SC7NF	3/4	1	48.60



## 14° Included Angle

Tool No.	Cutter Dia.	Length of Cut	Price Each
SL1NF	1/4	5/8	21.16
SL3NF	3/8	1-1/16	21.16
SL4NF	1/2	1-1/8	27.00
SL5NF	5/8	1-3/16	47.44
SL6NF	5/8	1-5/16	47.44
SL7NF	3/4	1-1/2	68.04



## Ball Shape

Tool No.	Cutter Dia.	Length of Cut	Price Each
SD1NF	1/4	7/32	12.78
SD3NF	3/8	5/16	14.85
SD5NF	1/2	7/16	19.44
SD6NF	5/8	9/16	24.30
SD7NF	3/4	11/16	33.03



# Miniature Burs

## Solid Carbide

- Double cut
- 1/16" thru 1/4" diameter head
- 1-1/2" overall length
- 1/8" shank



Tool No.	Cutter Dia.	Length of Cut	Shank Dia.	Price Each
SA41	1/16	1/4	1/8	4.68
SA42	3/32	7/16	1/8	4.68
SA43	1/8	9/16	1/8	4.68
SA51	1/4	1/2	1/8	9.51
SA52	5/32	1/2	1/8	9.77
SA53	3/16	1/2	1/8	9.77
SA61	1/4	1/4	3/32	5.40
SA63	3/32	3/8	3/32	5.40
SB43	1/8	9/16	1/8	5.91
SB51	1/4	3/16	1/8	8.01
SC41	3/32	7/16	1/8	4.95
SC42	1/8	9/16	1/8	4.95
SC51	1/4	1/2	1/8	8.01
SC61	3/32	3/8	3/32	5.40
SD41	3/32	3/32	1/8	4.95
SD42	1/8	1/8	1/8	4.95
SD51	1/4	7/32	1/8	8.01
SD61	3/32	3/32	3/32	5.40
SE41	1/8	7/32	1/8	4.95
SE51	1/4	3/8	1/8	8.01
SE53	3/16	9/32	1/8	9.77
SE61	3/32	1/8	3/32	5.40
SF41	1/8	1/4	1/8	4.95
SF42	1/8	1/2	1/8	4.95
SF51	1/4	1/2	1/8	8.01
SF53	3/16	1/2	1/8	9.77

Tool No.	Cutter Dia.	Length of Cut	Shank Dia.	Price Each
SF61	3/32	1/4	3/32	5.40
SG41	1/8	1/4	1/8	4.95
SG42	1/8	5/16	1/8	4.95
SG43	1/8	3/8	1/8	4.95
SG44	1/8	1/2	1/8	6.99
SG51	1/4	1/2	1/8	8.01
SG53	3/16	1/2	1/8	9.77
SG61	3/32	1/4	3/32	5.40
SH41	1/8	1/4	1/8	4.95
SH53	3/16	3/8	1/8	9.77
SJ42	1/8	3/32	1/8	4.95
SK42	1/8	1/16	1/8	4.95
SL41	1/8	3/8	1/8	4.95
SL42	1/8	1/2	1/8	4.95
SL53	3/16	1/2	1/8	9.77
SM41	1/8	11/32	1/8	4.95
SM42	1/8	7/16	1/8	4.95
SM43	1/8	5/8	1/8	4.95
SM51	1/4	1/2	1/8	8.01
SM53	3/16	1/2	1/8	9.77
SM61	3/32	1/4	3/32	5.40
SN41	1/8	1/8	1/8	5.91
SN42	1/8	3/16	1/8	4.95
SN51	1/4	1/4	1/8	8.01
SN53	3/16	1/4	1/8	9.77
SN61	3/32	1/8	3/32	5.40

# Bur Sets

- Double cut
- Case Included



Size	Pieces	Set No.	Price
SA5, SC5, SD5, SE5, SF5, SG5, SL5, SM5	8	CBS3	175.39
SA1, SA3, SA5, SC1, SC3, SC5, SD3, SH1, SF3, SF5	10	CBS4	148.89
SF5, SG3, SG5, SE3, SL4, SA5, SC3, SC5, SD5, SF3	10	CBS5	176.62
SA1, SA3, SC1, SC3, SD1, SD3, SF1, SF3	8	CBS8	128.70
SA51, SB51, SC51, SD51, SE51, SF51, SG51, SM51, SN51	9	CBS9	104.13
SA1, SC1, SD1, SE1, SF1, SG1, SL1, SM1	8	CBS11	79.32
SA1, SC1, SD1, SE1, SF1, SG1, SH1, SJ1, SK1, SM1, SN1, SL1	12	CBS12	189.80
SA3, SC3, SD3, SE3, SF3, SG3, SL3, SM3	8	CBS23	115.28



## Bur Dispenser

Dimensions:  
14-5/8" W x 7-3/8" D x 7-3/4" H  
Weight: 10-1/2 lbs.

Part No. **CZD132**  
Price Each: \$101.40

Holds these sizes:		
SA1	SD5	SG3
SA3	SE1	SG4
SA5	SE3	SL1
SB1	SE5	SL3
SB3	SF1	SL4
SB5	SF3	SM2
SD1	SF5	SM3
SD3	SG1	SM5



# Work Holding

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Slip Fixed Renewable Bushing	437-442
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Original De-burr-it	443





# R-8 Precision Collets

Round by 32<sup>nds</sup>



**MDX**  
SUPERIOR IMPORT

WORK HOLDING

## Fractional Sizes

Sizes	Tool No.	Price Each
1/16	<b>R8C116</b>	7.80
3/32	<b>R8C332</b>	7.80
1/8	<b>R8C18</b>	7.80
5/32	<b>R8C532</b>	7.80
3/16	<b>R8C316</b>	7.80
7/32	<b>R8C732</b>	7.80
1/4	<b>R8C14</b>	7.80
9/32	<b>R8C932</b>	7.80
5/16	<b>R8C516</b>	7.80

Sizes	Tool No.	Price Each
11/32	<b>R8C1132</b>	7.80
3/8	<b>R8C38</b>	7.80
13/32	<b>R8C1332</b>	7.80
7/16	<b>R8C716</b>	7.80
15/32	<b>R8C1532</b>	7.80
1/2	<b>R8C12</b>	7.80
17/32	<b>R8C1732</b>	7.80
9/16	<b>R8C916</b>	7.80
19/32	<b>R8C1932</b>	7.80

Sizes	Tool No.	Price Each
5/8	<b>R8C58</b>	7.80
21/32	<b>R8C2132</b>	7.80
11/16	<b>R8C1116</b>	7.80
23/32	<b>R8C2332</b>	7.80
3/4	<b>R8C34</b>	7.80
25/32	<b>R8C2532</b>	7.80
13/16	<b>R8C1316</b>	7.80
27/32	<b>R8C2732</b>	7.80
7/8	<b>R8C78</b>	7.80

## Metric Sizes

Sizes	Tool No.	Price Each
2.00	<b>R8CM2</b>	19.37
3.00	<b>R8CM3</b>	19.37
4.00	<b>R8CM4</b>	19.37
5.00	<b>R8CM5</b>	19.37
6.00	<b>R8CM6</b>	19.37
7.00	<b>R8CM7</b>	19.37
8.00	<b>R8CM8</b>	19.37

Sizes	Tool No.	Price Each
9.00	<b>R8CM9</b>	19.37
10.00	<b>R8CM10</b>	19.37
11.00	<b>R8CM11</b>	19.37
12.00	<b>R8CM12</b>	19.37
13.00	<b>R8CM13</b>	19.37
14.00	<b>R8CM14</b>	19.37
15.00	<b>R8CM15</b>	19.37

Sizes	Tool No.	Price Each
16.00	<b>R8CM16</b>	19.37
17.00	<b>R8CM17</b>	19.37
18.00	<b>R8CM18</b>	19.37
19.00	<b>R8CM19</b>	19.37
20.00	<b>R8CM20</b>	19.37
21.00	<b>R8CM21</b>	19.37
22.00	<b>R8CM22</b>	19.37

## Sets & Stands

Size	Pieces	Includes	Set No.	Price Each
1/8, 1/4, 3/8, 1/2, 5/8, 3/4	6	Wood Block	<b>R8CS-1</b>	46.80
1/16 - 1-1/8 by 16ths	14	Metal Stand	<b>R8CS-2</b>	109.20
1/16 - 7/8 by 32nds	27	Metal Stand	<b>R8CS-3</b>	210.60
2mm - 20mm by 1mm	19	Metal Stand	<b>R8CM</b>	148.20
Holds 16 Collets	Metal Stand	Stand Only	<b>CZR8</b>	36.00
Holds 14 Collets	Wood Block	Stand Only	<b>BLKR8</b>	47.40



## R8 Emergency Steel Type Collet

Tool No. **R8CES**

Price Each — \$35.00

# Full Grip Round Collets



## Fractional Sizes

Sizes	Tool No.	Price Each
1/8	<b>CKFG18</b>	50.40
3/16	<b>CKFG316</b>	50.40
7/32	<b>CKFG732</b>	50.40
1/4	<b>CKFG14</b>	50.40
9/32	<b>CKFG932</b>	50.40
5/16	<b>CKFG516</b>	50.40
11/32	<b>CKFG1132</b>	50.40
3/8	<b>CKFG38</b>	50.40
7/16	<b>CKFG716</b>	50.40

Sizes	Tool No.	Price Each
15/32	<b>CKFG1532</b>	50.40
1/2	<b>CKFG12</b>	50.40
17/32	<b>CKFG1732</b>	50.40
9/16	<b>CKFG916</b>	50.40
19/32	<b>CKFG1932</b>	50.40
5/8	<b>CKFG58</b>	50.40
21/32	<b>CKFG2132</b>	50.40
11/16	<b>CKFG1116</b>	50.40
23/32	<b>CKFG2332</b>	50.40

Sizes	Tool No.	Price Each
3/4	<b>CKFG34</b>	50.40
25/32	<b>CKFG2532</b>	50.40
13/16	<b>CKFG1316</b>	50.40
27/32	<b>CKFG2732</b>	50.40
7/8	<b>CKFG78</b>	50.40
29/32	<b>CKFG2932</b>	50.40
15/16	<b>CKFG1516</b>	50.40
31/32	<b>CKFG3132</b>	50.40
1	<b>CKFG1</b>	50.40

## Metric Sizes

Sizes	Tool No.	Price Each
4.00	<b>CKFGM4</b>	62.00
5.00	<b>CKFGM5</b>	62.00
6.00	<b>CKFGM6</b>	62.00
8.00	<b>CKFGM8</b>	62.00
10.00	<b>CKFGM10</b>	62.00

Sizes	Tool No.	Price Each
12.00	<b>CKFGM12</b>	62.00
14.00	<b>CKFGM14</b>	62.00
15.00	<b>CKFGM15</b>	62.00
16.00	<b>CKFGM16</b>	62.00
18.00	<b>CKFGM18</b>	62.00

Sizes	Tool No.	Price Each
20.00	<b>CKFGM20</b>	62.00
22.00	<b>CKFGM22</b>	62.00
24.00	<b>CKFGM24</b>	62.00
25.00	<b>CKFGM25</b>	62.00

## Sets

Size	Taper	D.B. Thread	Pcs.	Set No.	Price Each
3/8 to 1-1/4 by 1/8 <sup>th</sup>	#40	5/8-11	8	<b>CK969-128</b>	768.60
3/8 to 1-1/4 by 1/8 <sup>th</sup>	#50	1"-8	8	<b>CK969-130</b>	801.15



# ER Precision Spring Collets

**MDX**  
SUPERIOR IMPORT



The only clamping collet system for combined milling, drilling, reaming, tapping and boring operations. Wide holding range allows for fewer collets and changes.

Unique self-releasing system eliminates sticking. These collets allow for machining in tight locations with reduced outside nose diameter.

WORK HOLDING

Fractional		ER11		ER16		ER20		ER25		ER32		ER40	
Size	Collet Range	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
1/32	.020-.040	ER11-132	18.00	ER16-132	20.00	—	—	—	—	—	—	—	—
1/16	.040-.080	ER11-116	18.00	ER16-116	20.00	ER20-116	20.00	ER25-116	20.00	ER32-116	22.00	—	—
3/32	.080-.120	ER11-332	18.00	ER16-332	20.00	ER20-332	20.00	ER25-332	20.00	ER32-332	22.00	—	—
1/8	.120-.160	ER11-18	18.00	ER16-18	20.00	ER20-18	20.00	ER25-18	20.00	ER32-18	22.00	ER40-18	24.00
3/16	.160-.200	ER11-316	18.00	ER16-316	20.00	ER20-316	20.00	ER25-316	20.00	ER32-316	22.00	ER40-316	24.00
7/32	.200-.236	ER11-732	18.00	ER16-732	20.00	ER20-732	20.00	ER25-732	20.00	ER32-732	22.00	ER40-732	24.00
1/4	.236-.275	ER11-14	18.00	ER16-14	20.00	ER20-14	20.00	ER25-14	20.00	ER32-14	22.00	ER40-14	24.00
5/16	.275-.315	—	—	ER16-516	20.00	ER20-516	20.00	ER25-516	20.00	ER32-516	22.00	ER40-516	24.00
11/32	.315-.354	—	—	ER16-1132	20.00	ER20-1132	20.00	ER25-1132	20.00	ER32-1132	22.00	ER40-1132	24.00
3/8	.354-.393	—	—	ER16-38	20.00	ER20-38	20.00	ER25-38	20.00	ER32-38	22.00	ER40-38	24.00
13/32	.393-.433	—	—	—	—	ER20-1332	20.00	ER25-1332	20.00	ER32-1332	22.00	ER40-1332	24.00
7/16	.433-.472	—	—	—	—	ER20-716	20.00	ER25-716	20.00	ER32-716	22.00	ER40-716	24.00
1/2	.472-.511	—	—	—	—	ER20-12	20.00	ER25-12	20.00	ER32-12	22.00	ER40-12	24.00
17/32	.511-.551	—	—	—	—	—	—	ER25-1732	20.00	ER32-1732	22.00	ER40-1732	24.00
9/16	.551-.590	—	—	—	—	—	—	ER25-916	20.00	ER32-916	22.00	ER40-916	24.00
5/8	.590-.629	—	—	—	—	—	—	—	—	ER32-58	22.00	ER40-58	24.00
21/32	.629-.669	—	—	—	—	—	—	—	—	ER32-2132	22.00	ER40-2132	24.00
11/16	.669-.708	—	—	—	—	—	—	—	—	ER32-1116	22.00	ER40-1116	24.00
3/4	.708-.751	—	—	—	—	—	—	—	—	ER32-34	22.00	ER40-34	24.00
25/32	.751-.787	—	—	—	—	—	—	—	—	—	—	ER40-2532	24.00
13/16	.787-.826	—	—	—	—	—	—	—	—	ER32-1316	22.00	ER40-1316	24.00
27/32	.826-.866	—	—	—	—	—	—	—	—	—	—	ER40-2732	24.00
7/8	.866-.905	—	—	—	—	—	—	—	—	—	—	ER40-78	24.00
15/16	.905-.944	—	—	—	—	—	—	—	—	—	—	ER40-1516	24.00
31/32	.944-.984	—	—	—	—	—	—	—	—	—	—	ER40-3132	24.00
1	.984-1.02	—	—	—	—	—	—	—	—	—	—	ER40-1	24.00

Metric		ERM11		ERM16		ERM20		ERM25		ERM32		ERM40	
Size	Collet Range	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
1	.5 - 1	ERM11-1	18.00	ERM16-1	20.00	—	—	—	—	—	—	—	—
2	1 - 2	ERM11-2	18.00	ERM16-2	20.00	ERM20-2	20.00	—	—	—	—	—	—
3	2 - 3	ERM11-3	18.00	ERM16-3	20.00	ERM20-3	20.00	ERM25-3	20.00	ERM32-3	22.00	—	—
4	3-4	ERM11-4	18.00	ERM16-4	20.00	ERM20-4	20.00	ERM25-4	20.00	ERM32-4	22.00	ERM40-4	24.00
5	4-5	ERM11-5	18.00	ERM16-5	20.00	ERM20-5	20.00	ERM25-5	20.00	ERM32-5	22.00	ERM40-5	24.00
6	5-6	ERM11-6	18.00	ERM16-6	20.00	ERM20-6	20.00	ERM25-6	20.00	ERM32-6	22.00	ERM40-6	24.00
7	6-7	ERM11-7	18.00	ERM16-7	20.00	ERM20-7	20.00	ERM25-7	20.00	ERM32-7	22.00	ERM40-7	24.00
8	7-8	—	—	ERM16-8	20.00	ERM20-8	20.00	ERM25-8	20.00	ERM32-8	22.00	ERM40-8	24.00
9	8-9	—	—	ERM16-9	20.00	ERM20-9	20.00	ERM25-9	20.00	ERM32-9	22.00	ERM40-9	24.00
10	9-10	—	—	ERM16-10	20.00	ERM20-10	20.00	ERM25-10	20.00	ERM32-10	22.00	ERM40-10	24.00
11	10-11	—	—	—	—	ERM20-11	20.00	ERM25-11	20.00	ERM32-11	22.00	ERM40-11	24.00
12	11-12	—	—	—	—	ERM20-12	20.00	ERM25-12	20.00	ERM32-12	22.00	ERM40-12	24.00
13	12-13	—	—	—	—	—	—	ERM25-13	20.00	ERM32-13	22.00	ERM40-13	24.00
14	13-14	—	—	—	—	—	—	ERM25-14	20.00	ERM32-14	22.00	ERM40-14	24.00
15	14-15	—	—	—	—	—	—	ERM25-15	20.00	ERM32-15	22.00	ERM40-15	24.00
16	15-16	—	—	—	—	—	—	—	—	ERM32-16	22.00	ERM40-16	24.00
17	16-17	—	—	—	—	—	—	—	—	ERM32-17	22.00	ERM40-17	24.00
18	17-18	—	—	—	—	—	—	—	—	ERM32-18	22.00	ERM40-18	24.00
19	18-19	—	—	—	—	—	—	—	—	ERM32-19	22.00	ERM40-19	24.00
20	19-20	—	—	—	—	—	—	—	—	ERM32-20	22.00	ERM40-20	24.00
21	20-21	—	—	—	—	—	—	—	—	—	—	ERM40-21	24.00
22	21-22	—	—	—	—	—	—	—	—	—	—	ERM40-22	24.00
23	22-23	—	—	—	—	—	—	—	—	—	—	ERM40-23	24.00
24	23-24	—	—	—	—	—	—	—	—	—	—	ERM40-24	24.00
25	24-25	—	—	—	—	—	—	—	—	—	—	ERM40-25	24.00
26	25-26	—	—	—	—	—	—	—	—	—	—	ERM40-26	24.00

## Sets

Size	Pieces	Set No.	Price
1/32, 1/16, 3/32, 1/8, 3/16, 7/32, 1/4	7	ER11S	127.25
1/8, 3/16, 7/32, 1/4, 5/16, 11/32, 3/8	7	ER16S	127.25
1/8, 3/16, 7/32, 1/4, 5/16, 11/32, 3/8, 13/32, 7/16, 1/2	10	ER20S	181.50
1/8, 3/16, 7/32, 1/4, 5/16, 11/32, 3/8, 13/32, 7/16, 1/2, 17/32, 9/16	12	ER25S	218.00
1/8, 3/16, 1/4, 5/16, 3/8, 13/32, 7/16, 9/16, 5/8, 11/16, 3/4	11	ER32S	234.50
1/8, 3/16, 1/4, 5/16, 3/8, 13/32, 7/16, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	15	ER40S	375.00



# 5C Precision Collets

Made of specially selected steels, treated and ground. Round by 64<sup>ths</sup>.



**MDX**  
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WORK HOLDING

## Fractional Sizes

Sizes	Tool No.	Price Each
1/64	CK164	7.80
1/32	CK132	7.80
3/64	CK364	7.80
1/16	CK116	7.80
5/64	CK564	7.80
3/32	CK332	7.80
7/64	CK764	7.80
1/8	CK18	7.80
9/64	CK964	7.80
5/32	CK532	7.80
11/64	CK1164	7.80
3/16	CK316	7.80
13/64	CK1364	7.80
7/32	CK732	7.80
15/64	CK1564	7.80
1/4	CK14	7.80
17/64	CK1764	7.80
9/32	CK932	7.80
19/64	CK1964	7.80
5/16	CK516	7.80
21/64	CK2164	7.80
11/32	CK1132	7.80
23/64	CK2364	7.80
3/8	CK38	7.80

Sizes	Tool No.	Price Each
25/64	CK2564	7.80
13/32	CK1332	7.80
27/64	CK2764	7.80
7/16	CK716	7.80
29/64	CK2964	7.80
15/32	CK1532	7.80
31/64	CK3164	7.80
1/2	CK12	7.80
33/64	CK3364	7.80
17/32	CK1732	7.80
35/64	CK3564	7.80
9/16	CK916	7.80
37/64	CK3764	7.80
19/32	CK1932	7.80
39/64	CK3964	7.80
5/8	CK58	7.80
41/64	CK4164	7.80
21/32	CK2132	7.80
43/64	CK4364	7.80
11/16	CK1116	7.80
45/64	CK4564	7.80
23/32	CK2332	7.80
47/64	CK4764	7.80
3/4	CK34	7.80

Sizes	Tool No.	Price Each
49/64	CK4964	7.80
25/32	CK2532	7.80
51/64	CK5164	7.80
13/16	CK1316	7.80
53/64	CK5364	7.80
27/32	CK2732	7.80
55/64	CK5564	7.80
7/8	CK78	7.80
57/64	CK5764	7.80
29/32	CK2932	7.80
59/64	CK5964	7.80
15/16	CK1516	7.80
61/64	CK6164	7.80
31/32	CK3132	7.80
63/64	CK6364	7.80
1	CK1	7.80
1-1/64	CK164-1	7.80
1-1/32	CK132-1	7.80
1-3/64	CK364-1	7.80
1-1/16	CK116-1	7.80
1-5/64	CK564-1	7.80
1-3/32	CK332-1	7.80
1-7/64	CK764-1	7.80
1-1/8	CK118-1	7.80

## Metric Sizes

Sizes	Tool No.	Price Each
3.00	CKM3	9.00
4.00	CKM4	9.00
5.00	CKM5	9.00
6.00	CKM6	9.00
7.00	CKM7	9.00
8.00	CKM8	9.00
9.00	CKM9	9.00
10.00	CKM10	9.00

Sizes	Tool No.	Price Each
11.00	CKM11	9.00
12.00	CKM12	9.00
13.00	CKM13	9.00
14.00	CKM14	9.00
15.00	CKM15	9.00
16.00	CKM16	9.00
17.00	CKM17	9.00
18.00	CKM18	9.00

Sizes	Tool No.	Price Each
19.00	CKM19	9.00
20.00	CKM20	9.00
21.00	CKM21	9.00
22.00	CKM22	9.00
23.00	CKM23	9.00
24.00	CKM24	9.00
25.00	CKM25	9.00
26.00	CKM26	9.00

## Sets

Size	Pcs.	Set No.	Price
1/8, 1/4, 3/8, 1/2, 5/8, 3/4	6	CKS-1	46.80
1/16 – 1-1/8 x 16ths	18	CKS-2	141.70
1/16 – 13/16 by 32nds & 7/8 – 1-1/8 x 16ths	30	CKS-3	235.40

All sets supplied with metal stand

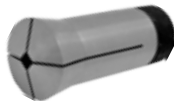


## 5C Step Clutch

Sizes	Tool No.	Price Each
2	CKSTEP2	38.72
3	CKSTEP3	47.04
4	CKSTEP4	71.23
5	CKSTEP5	81.90
6	CKSTEP6	115.03



## 5C Precision Square



Sizes	Tool No.	Price Each
1/8	CK5S18	25.95
3/16	CK5S316	25.95
1/4	CK5S14	25.95
5/16	CK5S516	25.95
3/8	CK5S38	25.95
7/16	CK5S716	25.95
1/2	CK5S12	25.95
9/16	CK5S916	25.95
5/8	CK5S58	25.95
11/16	CK5S1116	25.95
3/4	CK5S34	25.95

## 5C Precision Hexagon



Sizes	Tool No.	Price Each
1/8	CK5H18	25.95
3/16	CK5H316	25.95
1/4	CK5H14	25.95
5/16	CK5H516	25.95
3/8	CK5H38	25.95
7/16	CK5H716	25.95
1/2	CK5H12	25.95
9/16	CK5H916	25.95
5/8	CK5H58	25.95
11/16	CK5H1116	25.95
3/4	CK5H34	25.95
13/16	CK5H1316	25.95
7/8	CK5H78	25.95
15/16	CK5H1516	25.95

## 5C Emergency

Type	Tool No.	Price Each
Steel	CKES	21.78
Brass	CKEB	46.74
Nylon	CKEN	19.75



5C Collet Stop  
5C Threaded Stop

## 5C Collet Stops

Tool No.	Type	Price Each
CKUK	SC Collet Stop	19.31
CKAT	5C Adjustable Threaded Stop	6.44



# 5C Precision Collets

## 5C Expanding Collets

Machinable head permits machining of collets to size required. Ideal for holding small parts by the I.D. Rapid Opening and closing.

Tool No.	Range	Price Each
<b>CK155X</b>	.250-.460 x 1" L	38.57
<b>CK156X</b>	.437-.800 x 1" L	38.57
<b>CK157X</b>	.750-.1435 x 1" L	38.57
<b>CK158X</b>	.750-1.935 x 1" L	38.57

## 5C Collet Stands



Size	Finish	Set No.	Price Each
Holds 30 5C Collets	Metal	<b>CZ5C</b>	36.00
Holds 18 5C Collects	Wood	<b>BLK5C</b>	31.50

# 5C Tooling

## Cam Operated 5C Horizontal Vertical Collet Fixture

### Specifications:

In horizontal position:  
Base: 5" x 4" Height: 3-5/8"  
In vertical position:  
Base: 5" x 3-5/8" Height: 4"

Cam operated spindle permits opening and closing of collet so that setups remain undisturbed.



Tool No. **J2045000**  
Price Each — \$82.46

## Horizontal / Vertical 5C Collet Indexing Fixture

### Specifications:

Horizontal Base - 4" x 8"  
Vertical Base - 4" x 6"  
Vertical Height - 8"  
Swing - 8"  
Center Height - 4"



Tool No. **J2070000**  
Fixture Price Each — \$382.62

Tool No. **J2070001**  
Tailstock Price Each — \$140.07

For rapid indexing in both vertical and horizontal positions using 5-C collets. 2-1/4" - 8 threaded spindle nose for use with lathe chucks. Instant opening and closing of collets is accomplished by a lever having a leverage ratio of 100 to 1. Rapid rotation of spindle nose is accomplished through a ratchet device on the front of the spindle. Supplied with a 24 hole index plate for 2, 3, 4, 6, 8, 12 and 24 divisions or 15 degree spacing. Index plate is supplied with screws for masking holes not in use.



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## 5C Expanding Collet Set

Comes with wooden stand.

Size	Pcs.	Set No.	Price
CK155X, CK156X, CK157X, CK158X	4	<b>CK1558SET</b>	154.00

## 5C Collet Rack

### Specifications:

Holds up to 30 Collets.  
Can be hung on wall or set up on shelf or work bench.



Tool No. **J974-811**  
Price Each — \$22.75

## 5C Hexagon & Square Collet Blocks

For fast and easy setups. Made of hardened tool steel precision group. Accuracy of parallelism, Squareness and flatness within +.0005". Includes drawbar type nut for tightening and releasing. 1/16" through 1-1/8" capacity. Cam operated quick acting closer also available.



Description	Tool No.	Price
Hexagon Collet Block	<b>J1985005</b>	38.75
Square Collet Block	<b>J1985010</b>	38.75
Quick Acting Closer	<b>J1985015</b>	19.32
(Complete Set) Hexagon & square blocks + nuts & Quick acting closer	<b>J1985020</b>	65.45

## 5C Rotating Index Fixture

### Specifications:

Overall Length: 9" Tool No. **J2065000**  
Base: 4" x 4" Price Each — \$59.45



One degree indexing over 360 using 5-C Collets, makes this tool ideal for grinding, machining, layout, inspection, etc. Hardened and ground spindle is accurate within .0004".

## Vertical 5C Collet Vise

### Specifications:

Base: 2-1/2" x 7-3/4"  
Height: 4"

Tool No. **J2030000**  
Price Each — \$60.00



# Precision Collets



WORK HOLDING

## Double Angle Spring Collets

Sizes	DA100° Tool No.	DA180° Tool No.	Price Each
1/16	DA1116	DA116	25.94
5/64	DA1564	DA564	25.94
3/32	DA1332	DA332	25.94
7/64	DA1764	DA764	25.94
1/8	DA118	DA18	25.94
9/64	DA1964	DA964	25.94
5/32	DA1532	DA532	25.94
11/64	DA11164	DA1164	25.94
3/16	DA1316	DA316	25.94
13/64	DA11364	DA1364	25.94
7/32	DA1732	DA732	25.94
15/64	DA11564	DA1564	25.94
1/4	DA114	DA14	20.15
17/64	DA11764	DA1764	20.15
9/32	DA1932	DA932	20.15

Sizes	DA100° Tool No.	DA180° Tool No.	Price Each
19/64	DA11964	DA1964	20.15
5/16	DA1516	DA516	20.15
21/64	DA12164	DA2164	20.15
11/32	DA11132	DA1132	20.15
23/64	DA12364	DA2364	20.15
3/8	DA138	DA38	20.15
25/64	DA12564	DA2564	20.15
13/32	DA11332	DA1332	20.15
27/64	DA12764	DA2764	20.15
7/16	DA1716	DA716	20.15
29/64	DA12964	DA2964	20.15
15/32	DA11532	DA1532	20.15
31/64	DA13164	DA3164	20.15
1/2	DA112	DA12	20.15
33/64	DA13364	DA3364	20.15

Sizes	DA180° Tool No.	Price Each
17/32	DA1732	20.15
35/64	DA3564	20.15
9/16	DA916	20.15
37/64	DA3764	20.15
19/32	DA1932	20.15
39/64	DA3964	20.15
5/8	DA58	20.15
41/64	DA4164	20.15
21/32	DA2132	20.15
43/64	DA4364	20.15
11/16	DA1116	20.15
45/64	DA4564	20.15
23/32	DA2332	20.15
47/64	DA4764	20.15
3/4	DA34	20.15

### Sets

Size	Pieces	Set No.	Price Each
1/4 - 3/4 by 32nds	17	DA17S	336.70
1/4 - 3/4 by 64ths	33	DA33S	663.00

Supplied in wood box

## Morse Taper

Round by 32<sup>nds</sup>

Threads for Drawbar:  
#2 & #3 Morse Taper



Sizes	#2 Morse Taper		#3 Morse Taper	
	Tool No.	Price Each	Tool No.	Price Each
1/16	CK2T116	38.22	—	—
3/32	CK2T332	38.22	—	—
1/8	CK2T18	38.22	CK3T18	45.84
3/16	CK2T316	38.22	CK3T316	45.84
1/4	CK2T14	38.22	CK3T14	45.84
9/32	CK2T932	38.22	—	—
5/16	CK2T516	38.22	CK3T516	45.84
11/32	CK2T1132	38.22	—	—
3/8	CK2T38	38.22	CK3T38	45.84
13/32	CK2T1332	38.22	—	—
7/16	CK2T716	38.22	CK3T716	45.84
1/2	CK2T12	38.22	CK3T12	45.84
17/32	—	—	—	—
9/16	—	—	CK3T916	45.84
5/8	—	—	CK3T58	45.84
11/16	—	—	CK3T1116	45.84
3/4	—	—	CK3T34	45.84

## Brown & Sharpe Taper

Round 1/8" to 3/4" by 16ths

Threads for Drawbar:  
B&S #7 - 3/8" - 16  
B&S #9 - 1/2" - 13



Sizes	#7 B&S Taper		#9 B&S Taper	
	Tool No.	Price Each	Tool No.	Price Each
1/8	CK7T18	45.84	CK9T18	48.60
3/16	CK7T316	45.84	CK9T316	48.60
1/4	CK7T14	45.84	CK9T14	48.60
5/16	CK7T516	45.84	CK9T516	48.60
3/8	CK7T38	45.84	CK9T38	48.60
7/16	CK7T716	45.84	CK9T716	48.60
1/2	CK7T12	45.84	—	—
9/16	—	—	CK9T12	48.60
5/8	—	—	CK9T58	48.60
11/16	—	—	CK9T1116	48.60
3/4	—	—	CK9T34	48.60

## #21 Brown & Sharpe Precision Collets

Sizes	Tool No.	Price Each	Sizes	Tool No.	Price Each
1/16	CK21116	49.00	5/16	CK21516	49.00
3/32	CK21332	49.00	11/32	CK211132	49.00
1/8	CK2118	49.00	3/8	CK2138	49.00
5/32	CK21532	49.00	13/32	CK211332	49.00
3/16	CK21316	49.00	7/16	CK21716	49.00
7/32	CK21732	49.00	15/32	CK211532	49.00
1/4	CK2114	49.00	1/2	CK2112	49.00
9/32	CK21932	49.00	17/32	CK211732	49.00

Sizes	Tool No.	Price Each	Sizes	Tool No.	Price Each
9/16	CK21916	49.00	13/16	CK211316	49.00
19/32	CK211932	49.00	27/32	CK212732	49.00
5/8	CK2158	49.00	7/8	CK2178	49.00
21/32	CK212132	49.00	29/32	CK212932	49.00
11/16	CK211116	49.00	15/16	CK211516	49.00
23/32	CK212332	49.00	31/32	CK213132	49.00
3/4	CK2134	49.00	1	CK211	49.00
25/32	CK212532	49.00			





# Precision Collets



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## 2A Precision

For South Bend machines or fixtures. Round by 64<sup>ths</sup>

Sizes	Tool No.	Price Each
1/64	CK2A164	54.40
1/32	CK2A132	54.40
3/64	CK2A364	54.40
1/16	CK2A116	54.40
5/64	CK2A564	54.40
3/32	CK2A332	54.40
7/64	CK2A764	54.40
1/8	CK2A18	48.50
9/64	CK2A964	48.50
5/32	CK2A532	48.50
11/64	CK2A1164	48.50
3/16	CK2A316	48.50
13/64	CK2A1364	48.50
7/32	CK2A732	48.50
15/64	CK2A1564	48.50

Sizes	Tool No.	Price Each
1/4	CK2A14	48.50
17/64	CK2A1764	48.50
9/32	CK2A932	48.50
19/64	CK2A1964	48.50
5/16	CK2A516	48.50
21/64	CK2A2164	48.50
11/32	CK2A1132	48.50
23/64	CK2A2364	48.50
3/8	CK2A38	48.50
25/64	CK2A2564	48.50
13/32	CK2A1332	48.50
27/64	CK2A2764	48.50
7/16	CK2A716	48.50
29/64	CK2A2964	48.50
15/32	CK2A1532	48.50

Sizes	Tool No.	Price Each
31/64	CK2A3164	48.50
1/2	CK2A12	48.50
33/64	CK2A3364	48.50
17/32	CK2A1732	48.50
35/64	CK2A3564	48.50
9/16	CK2A916	48.50
37/64	CK2A3764	48.50
19/32	CK2A1932	48.50
39/64	CK2A3964	48.50
5/8	CK2A58	48.50
41/64	CK2A4164	48.50
21/32	CK2A2132	48.50
43/64	CK2A4364	48.50
11/16	CK2A1116	48.50

## 3AT Precision Round

Sizes	Tool No.	Price Each
1/64	CK3AT164	50.95
1/32	CK3AT132	50.95
3/64	CK3AT364	50.95
1/16	CK3AT116	40.50
5/64	CK3AT564	40.50
3/32	CK3AT332	40.50
7/64	CK3AT764	40.50
1/8	CK3AT18	40.50
9/64	CK3AT964	40.50
5/32	CK3AT532	40.50
11/64	CK3AT1164	40.50
3/16	CK3AT316	40.50
13/64	CK3AT1364	40.50
7/32	CK3AT732	40.50
15/64	CK3AT1564	40.50
1/4	CK3AT14	40.50

## 3AT Precision Round

Sizes	Tool No.	Price Each
17/64	CK3AT1764	40.50
9/32	CK3AT932	40.50
19/64	CK3AT1964	40.50
5/16	CK3AT516	40.50
21/64	CK3AT2164	40.50
11/32	CK3AT1132	40.50
23/64	CK3AT2364	40.50
3/8	CK3AT38	40.50
25/64	CK3AT2564	40.50
13/32	CK3AT1332	40.50
27/64	CK3AT2764	40.50
7/16	CK3AT716	40.50
29/64	CK3AT2964	40.50
15/32	CK3AT1532	40.50
31/64	CK3AT3164	40.50
1/2	CK3AT12	40.50

## 3AT Precision Hexagon

Sizes	Tool No.	Price Each
1/8	CK3H18	68.00
3/16	CK3H316	68.00
1/4	CK3H14	68.00
5/16	CK3H516	68.00
3/8	CK3H38	68.00
7/16	CK3H716	68.00

## 3AT Precision Square

Sizes	Tool No.	Price Each
1/8	CK3S18	68.00
3/16	CK3S316	68.00
1/4	CK3S14	68.00
5/16	CK3S516	68.00



## 3C Precision

For South Bend machines or fixtures. Round by 64<sup>ths</sup>

Sizes	Tool No.	Price Each
1/32	CK3C132	50.04
3/64	CK3C364	50.04
1/16	CK3C116	36.12
5/64	CK3C564	36.12
3/32	CK3C332	36.12
7/64	CK3C764	36.12
1/8	CK3C18	36.12
9/64	CK3C964	36.12
5/32	CK3C532	36.12
11/64	CK3C1164	36.12
3/16	CK3C316	36.12

Sizes	Tool No.	Price Each
13/64	CK3C1364	36.12
7/32	CK3C732	36.12
15/64	CK3C1564	36.12
1/4	CK3C14	36.12
17/64	CK3C1764	36.12
9/32	CK3C932	36.12
19/64	CK3C1964	36.12
5/16	CK3C516	36.12
21/64	CK3C2164	36.12
11/32	CK3C1132	36.12
23/64	CK3C2364	36.12

Sizes	Tool No.	Price Each
3/8	CK3C38	36.12
25/64	CK3C2564	36.12
13/32	CK3C1332	36.12
27/64	CK3C2764	36.12
7/16	CK3C716	36.12
29/64	CK3C2964	36.12
15/32	CK3C1532	36.12
31/64	CK3C3164	36.12
1/2	CK3C12	36.12
9/16	CK3C916	36.12

## 3C Precision Hexagon by 16<sup>ths</sup>



Sizes	Tool No.	Price Each
1/8	CKH3C18	45.36
3/16	CKH3C316	45.36
1/4	CKH3C14	45.36
5/16	CKH3C516	45.36
3/8	CKH3C38	45.36
7/16	CKH3C716	45.36

## 3C Precision Square by 16<sup>ths</sup>



Sizes	Tool No.	Price Each
1/8	CKS3C18	45.36
3/16	CKS3C316	45.36
1/4	CKS3C14	45.36
5/16	CKS3C516	45.36
3/8	CKS3C38	45.36

## 3AT Emergency

Brass Tool No. **CKEB3A**  
Price Each — \$50.90

Steel Tool No. **CKES3A**  
Price Each — \$41.65



## 3C Emergency

Brass Tool No. **CKEB3C**  
Price Each — \$58.00

## 3C Step 3" Diameter

Tool No. **CK3C18**  
Price Each — \$52.92





# Precision Collets



**MDX**<sup>®</sup>  
SUPERIOR IMPORT

WORK HOLDING

## 4C Precision Collets

Sizes	Tool No.	Price Each
1/64	<b>CK4C164</b>	67.10
1/32	<b>CK4C132</b>	67.10
3/64	<b>CK4C364</b>	67.10
1/16	<b>CK4C116</b>	57.90
5/64	<b>CK4C564</b>	57.90
3/32	<b>CK4C332</b>	57.90
7/64	<b>CK4C764</b>	57.90
1/8	<b>CK4C18</b>	57.90
9/64	<b>CK4C964</b>	57.90
5/32	<b>CK4C532</b>	57.90
11/64	<b>CK4C1164</b>	57.90
3/16	<b>CK4C316</b>	57.90
13/64	<b>CK4C1364</b>	57.90
7/32	<b>CK4C732</b>	57.90
15/64	<b>CK4C1564</b>	57.90
1/4	<b>CK4C14</b>	57.90

Sizes	Tool No.	Price Each
17/64	<b>CK4C1764</b>	57.90
9/32	<b>CK4C932</b>	57.90
19/64	<b>CK4C1964</b>	57.90
5/16	<b>CK4C516</b>	57.90
21/64	<b>CK4C2164</b>	57.90
11/32	<b>CK4C1132</b>	57.90
23/64	<b>CK4C2364</b>	57.90
3/8	<b>CK4C38</b>	57.90
25/64	<b>CK4C2564</b>	57.90
13/32	<b>CK4C1332</b>	57.90
27/64	<b>CK4C2764</b>	57.90
7/16	<b>CK4C716</b>	57.90
29/64	<b>CK4C2964</b>	57.90
15/32	<b>CK4C1532</b>	57.90
31/64	<b>CK4C3164</b>	57.90
1/2	<b>CK4C12</b>	57.90

Sizes	Tool No.	Price Each
33/64	<b>CK4C3364</b>	57.90
17/32	<b>CK4C1732</b>	57.90
35/64	<b>CK4C3564</b>	57.90
9/16	<b>CK4C916</b>	57.90
37/64	<b>CK4C3764</b>	57.90
19/32	<b>CK4C1932</b>	57.90
39/64	<b>CK4C3964</b>	57.90
5/8	<b>CK4C58</b>	57.90
41/64	<b>CK4C4164</b>	57.90
21/32	<b>CK4C2132</b>	57.90
43/64	<b>CK4C4364</b>	57.90
11/16	<b>CK4C1116</b>	57.90
45/64	<b>CK4C4564</b>	57.90
23/32	<b>CK4C2332</b>	57.90
47/64	<b>CK4C4764</b>	57.90
3/4	<b>CK4C34</b>	57.90

## 4C Precision Square

Sizes	Tool No.	Price Each
1/8	<b>CK4S18</b>	97.20
3/16	<b>CK4S316</b>	97.20
1/4	<b>CK4S14</b>	97.20
5/16	<b>CK4S516</b>	97.20
3/8	<b>CK4S38</b>	97.20
7/16	<b>CK4S716</b>	97.20
1/2	<b>CK4S12</b>	97.20

## 4C Precision Hexagon

Sizes	Tool No.	Price Each
1/8	<b>CK4H18</b>	97.20
3/16	<b>CK4H316</b>	97.20
1/4	<b>CK4H14</b>	97.20
5/16	<b>CK4H516</b>	97.20
3/8	<b>CK4H38</b>	97.20
7/16	<b>CK4H716</b>	97.20
1/2	<b>CK4H12</b>	97.20
9/16	<b>CK4H916</b>	97.20
5/8	<b>CK4H58</b>	97.20



Square



Hexagon

## 6K Hi-Quality Collets Round by 64<sup>ths</sup>

Sizes	Tool No.	Price Each
1/16	<b>CK6K116</b>	66.90
5/64	<b>CK6K564</b>	66.90
3/32	<b>CK6K332</b>	66.90
7/64	<b>CK6K764</b>	66.90
1/8	<b>CK6K18</b>	66.90
9/64	<b>CK6K964</b>	66.90
5/32	<b>CK6K532</b>	66.90
11/64	<b>CK6K1164</b>	66.90
3/16	<b>CK6K316</b>	66.90
13/64	<b>CK6K1364</b>	66.90
7/32	<b>CK6K732</b>	66.90
15/64	<b>CK6K1564</b>	66.90
1/4	<b>CK6K14</b>	66.90

Sizes	Tool No.	Price Each
17/64	<b>CK6K1764</b>	66.90
9/32	<b>CK6K932</b>	66.90
19/64	<b>CK6K1964</b>	66.90
5/16	<b>CK6K516</b>	66.90
21/64	<b>CK6K2164</b>	66.90
11/32	<b>CK6K1132</b>	66.90
23/64	<b>CK6K2364</b>	66.90
3/8	<b>CK6K38</b>	66.90
25/64	<b>CK6K2564</b>	66.90
13/32	<b>CK6K1332</b>	66.90
27/64	<b>CK6K2764</b>	66.90
7/16	<b>CK6K716</b>	66.90
29/64	<b>CK6K2964</b>	66.90

Sizes	Tool No.	Price Each
15/32	<b>CK6K1532</b>	66.90
31/64	<b>CK6K3164</b>	66.90
1/2	<b>CK6K12</b>	66.90
33/64	<b>CK6K3364</b>	66.90
17/32	<b>CK6K1732</b>	66.90
35/64	<b>CK6K3564</b>	66.90
9/16	<b>CK6K916</b>	66.90
37/64	<b>CK6K3764</b>	66.90
19/32	<b>CK6K1932</b>	66.90
39/64	<b>CK6K3964</b>	66.90
5/8	<b>CK6K58</b>	66.90



## #10 Collets

Sizes	Tool No.	Price Each
1/16	<b>CK10116</b>	52.60
3/32	<b>CK10332</b>	52.60
1/8	<b>CK1018</b>	52.60
5/32	<b>CK10532</b>	52.60
3/16	<b>CK10316</b>	52.60
7/32	<b>CK10732</b>	52.60
1/4	<b>CK1014</b>	52.60

Sizes	Tool No.	Price Each
9/32	<b>CK10932</b>	52.60
5/16	<b>CK10516</b>	52.60
11/32	<b>CK101132</b>	52.60
3/8	<b>CK1038</b>	52.60
13/32	<b>CK101332</b>	52.60
7/16	<b>CK10716</b>	52.60
15/32	<b>CK101532</b>	52.60

Sizes	Tool No.	Price Each
1/2	<b>CK1012</b>	52.60
17/32	<b>CK101732</b>	52.60
9/16	<b>CK10916</b>	52.60
19/32	<b>CK101932</b>	52.60
5/8	<b>CK1058</b>	52.60



# Punches

Hardened Steel



## Center Punches

- Round and square shanks
- Hardened and tempered
- Ground points
- Knurled body for better grip

Nominal size	Overall Length	Tool No.			
		Round Shank	Price Each	Square Shank	Price Each
1/16	4	<b>PHC1</b>	2.54	<b>PHCS1</b>	3.45
5/64	4	<b>PHC2</b>	2.80	<b>PHCS2</b>	3.45
3/32	4	<b>PHC3</b>	2.93	<b>PHCS3</b>	3.45
9/64	4	<b>PHC4</b>	3.06	<b>PHCS4</b>	3.64
5/32	4	<b>PHC5</b>	3.19	<b>PHCS5</b>	4.23

## Sets

Size	Pieces	Set No.	Price Each
Round Shank with pouch 1/16, 5/64, 3/32, 9/64 and 5/32	5	<b>PHC15</b>	12.94
Square Shank with pouch 1/16, 5/64, 3/32, 9/64 and 5/32	8	<b>PHCS15</b>	16.58



## Drive Pin Punches

- 4" and 8" Overall
- Hardened and tempered
- Centerless ground
- Punch diameter point is .005 undersize of nominal tip.

Nominal size	Tool No.			
	4" Overall	Price Each	8" Overall	Price Each
1/16	<b>PHD1</b>	2.34	—	—
3/32	<b>PHD2</b>	2.34	—	—
1/8	<b>PHD3</b>	2.34	<b>PHL3</b>	3.71
5/32	<b>PHD4</b>	2.34	—	—
3/16	<b>PHD5</b>	2.34	<b>PHL5</b>	3.71
7/32	<b>PHD6</b>	2.34	—	—
1/4	<b>PHD7</b>	2.34	<b>PHL7</b>	3.71
5/16	<b>PHD8</b>	2.34	<b>PHL8</b>	3.71
3/8	—	—	<b>PHL9</b>	3.71

## Sets

Size	Pieces	Set No.	Price Each
4" Overall with pouch 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4 and 5/16	8	<b>PHD18</b>	17.55
8" Overall with pouch 1/8, 3/16, 1/4, 5/16 and 3/8	8	<b>PHL15</b>	17.55

## Transfer Punches

Size	Tool No.	Price Each	Size	Tool No.	Price Each	Size	Tool No.	Price Each
3/32	<b>PHT332</b>	1.95	1/4	<b>PHT14</b>	1.95	13/32	<b>PHT1332</b>	2.65
7/64	<b>PHT764</b>	1.95	17/64	<b>PHT1764</b>	2.20	27/64	<b>PHT2764</b>	2.65
1/8	<b>PHT18</b>	1.95	9/32	<b>PHT932</b>	2.20	7/16	<b>PHT716</b>	2.65
9/64	<b>PHT964</b>	1.95	19/64	<b>PHT1964</b>	2.20	29/64	<b>PHT2964</b>	3.30
5/32	<b>PHT532</b>	1.95	5/16	<b>PHT516</b>	2.20	15/32	<b>PHT1532</b>	3.30
11/64	<b>PHT1164</b>	1.95	21/64	<b>PHT2164</b>	2.20	31/64	<b>PHT3164</b>	3.30
3/16	<b>PHT316</b>	1.95	11/32	<b>PHT1132</b>	2.20	1/2	<b>PHT12</b>	3.30
13/64	<b>PHT1364</b>	1.95	23/64	<b>PHT2364</b>	2.20	17/32	<b>PHT1732</b>	3.30
7/32	<b>PHT732</b>	1.95	3/8	<b>PHT38</b>	2.65			
15/64	<b>PHT1564</b>	1.95	25/64	<b>PHT2564</b>	2.65			



## Transfer Punch Sets

- Oxide Finish
- Heat-treated tempered tool steel
- Supplied in metal stand.



Size	Pieces	Tool No.	Price Each
3/32 thru 1/2 by 64th and 17/32	28	<b>PH100</b>	25.94
#1 - 60	60	<b>PH101</b>	42.25
A - Z	26	<b>PH102</b>	37.70
1/2 thru 1" by 64th	33	<b>PH104</b>	127.40

## Universal Transfer Center Punch & Aligner

- All parts hardened steel
- For perfect center hole alignment
- Precision ground punch
- Knurled body

Accommodates itself automatically to accurately transfer center holes within range of punch.

Range of Measure	Tool No.	Price Each
3/16 to 5/8	<b>PHUA1</b>	16.84
3/16 to 1-3/16	<b>PHUA2</b>	22.04



## Automatic Center Punch

Tool No. **PHA**

- Steel body
- Hardened and ground punch
- Knurled body
- Spring loaded, no hammer required
- Adjustable tension cap

Price Each — \$12.35



## Center Punch with Magnifier

Tool No. **PHM**

Small powerful magnifier helps locate center

Price Each — \$16.84



# KANT-TWIST™

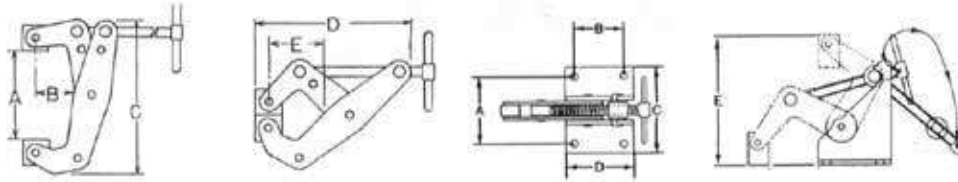
## Multipurpose Clamps



WORK HOLDING

- Floating jaws that always stay parallel
- Designed to eliminate distortion or twisting action
- Cantilever clamping action; handle is out of work area
- Built in "V" block for round or rod stock
- Full support, no loose pads to walk off center
- Copper plated jaws and screws are ideal for welding
- Diagonal grooves on jaws and screws are ideal for round bars
- 3-Jaw version for accurate positioning and holding

Line Drawing



Size	Description	A	B	C	D	E	Load	Part #	Price
3/4	Round Handle	3/4	3/8	1-3/8	1-1/2	3/8	200	<b>C396</b>	18.88
1	Round Handle	1	1/2	1-3/4	2-1/8	1/2	350	<b>C401-1</b>	21.12
1-1/2	Round Handle	1-1/2	1-1/8	3	3-1/16	1	600	<b>C403-1</b>	22.27
2	Round Handle	2	1-1/8	3-1/4	3-1/2	1-1/4	800	<b>C405-1</b>	27.27
1	T Handle	1	1/2	1-3/4	2-1/8	1/2	350	<b>C401</b>	19.51
2	T Handle	2	1-1/8	3-1/4	3-1/2	1-1/4	800	<b>C405</b>	23.60
3	T Handle	3	1-1/4	5	5-1/4	1-3/4	1500	<b>C410</b>	33.72
6	T Handle	6	2-1/8	8-1/4	8-1/4	3-3/8	2000	<b>C420</b>	54.96
9	T Handle	9	3-3/8	13	12	5-1/4	2500	<b>C430</b>	159.23
12	T Handle	12	5	16-1/2	16-1/2	7	6000	<b>C440</b>	249.01
2-1/2 D	Deep Throat	2-7/16	2	4-1/16	4-1/8	1-13/16	700	<b>C407</b>	25.97
4-1/2 D	Deep Throat	4-1/2	2-1/4	6-3/4	7	3-13/16	1700	<b>C415</b>	36.06
6 D	Deep Throat	6	4-1/2	10	11	5-1/2	2000	<b>C421</b>	59.96
10 D	Deep Throat	10	6	15	16	7	3500	<b>C435</b>	224.34
6 D3J	3-Jaw	6	2-1/8	8-1/4	8-1/4	3-5/8	2000	<b>C421-1</b>	76.75
4-1/2	400A Terminal Lug Ground	4-1/2	2-1/8	6-3/4	7	2-1/2	1700	<b>C415-2</b>	53.03
1	Round Jaw Pad (No Mar)	7/8	1/2	3-1/4	3-1/2	1-1/4	800	<b>C401-4</b>	30.09
2	Round Jaw Pad (No Mar)	1-3/4	1-1/8	3-1/4	3-1/2	1-1/4	800	<b>C405-4</b>	33.30
3	Round Jaw Pad (No Mar)	2-3/4	1-1/4	5	5-1/4	1-3/4	1500	<b>C410-4</b>	41.94
4-1/2 D	Round Jaw Pad (No Mar)	4-1/4	2-1/4	6-3/4	7	2-1/2	1700	<b>C415-4</b>	45.90
3	T Handle W/Polyurethane Jaws	3	1-1/4	5	5-1/4	1-3/4	1500	<b>C410-8</b>	42.18
4 -1/2 D	Deep Throat W/Polyurethane Jaws	4-1/2	2-1/4	6-3/4	7	3-13/16	1700	<b>C415-8</b>	44.45
6	T Handle W/Polyurethane Jaws	6	2-1/8	8-1/4	8-1/4	3-3/8	2000	<b>C420-8</b>	63.15
6 D	Deep Throat W/Polyurethane Jaws	6	4-1/2	10	11	5-1/2	2000	<b>C421-8</b>	68.21
2	Stainless-303 T-Handle	2	1-1/8	3-1/4	3-1/2	1-1/4	700	<b>C505</b>	54.12
3	Stainless-303 T-Handle	3	1-1/4	5	5-1/4	1-3/4	1200	<b>C510</b>	75.48
4-1/2 D	Stainless-303 T-Handle	4-1/2	2-1/4	6-3/4	7	2-1/2	1500	<b>C515</b>	87.35
3 F	Hold down No Base Plate	1-9/10	1-1/2	2-11/16	2-1/4	4	1500	<b>C411</b>	36.24
3 FT	Hold down With T Slot Base & Bolt	T Slot	-	2-11/16	2-1/4	4-1/8	1500	<b>C411-2</b>	48.36
6 F	Hold down No Base Plate	2-9/10	2-5/8	3-3/4	3-3/4	6-7/8	3200	<b>C423</b>	69.27
6 FT	Hold down With T Slot Base & Bolt	T Slot	-	3-3/4	4	7-1/4	3200	<b>C423-1</b>	98.81



Model No.	Description	Price
<b>C1WG</b>	#1 Weaver Grip	3.27
<b>C2WG</b>	#2 Weaver Grip	4.73
<b>C3WG</b>	#3 Weaver Grip	5.61
<b>C6WG</b>	#6 Weaver Grip	8.61



# Clamping Kits

## 52 PC Clamping Kit

For Bridgeport Type Machines



**Includes:**

- 24 Studs - 4 Pcs each: 3, 4, 5, 6, 7 & 8 long
- 4 Coupling nuts
- 6 Forged steel step clamps
- 6 T-Slot nuts
- 6 Flange nuts
- 6 Steel step blocks
- Includes a Fitted Rack

Stud Size	Table Slot	Tool No.	Price Each
3/8-16	7/16	J7800001	91.10
3/8-16	1/2	J7800002	91.10
3/8-16	9/16	J7800003	91.10
1/2-13*	9/16	J7801001	99.55
1/2-13*	5/8	J7801002	90.93
1/2-13*	11/16	J7801003	99.55
5/8-11	11/16	J7802001	124.26
5/8-11	3/4	J7802002	124.26
5/8-11	13/16	J7802003	124.26

## Metric Clamping Kit - 58 PC

M10 through M18 sets include a fitted rack suitable for hanging



Table Slot	Thread Size	Tool No.	Price Each
M10	M8-1.25	J4013008	125.36
M12	M10-1.25	J4013010	125.36
M14	M12-1.75	J4013012	131.04
M15.7	M12-1.75	J4013112	131.04
M16	M14-2.0	J4013014	153.60
M18	M16-2.0	J4013016	160.40
M20	M18-2.5	J4013018*	354.56
M22	M20-2.5	J4013020*	377.20

\*Packed with wooden container.

## T-Slot Bolts

- Forged from selected steel.
- Cannot twist or jam in slots.



Length Under Head	3/8-16		1/2-13		5/8-11		3/4-10	
	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
1-1/2	J7112415	4.27	-	-	-	-	-	-
2	J7112420	4.34	J7113220	5.18	J7114020	5.95	-	-
3	J7112430	4.55	J7113230	5.53	J7114030	6.30	J7114830	8.61
4	J7112440	4.76	J7113240	5.74	J7114040	6.65	J7114840	9.10
5	J7112450	4.97	J7113250	6.02	J7114050	7.00	J7114850	9.66
6	J7112460	5.25	J7113260	6.30	J7114060	7.56	J7114860	10.29
8	-	-	J7113280	7.28	J7114080	8.47	J7114880	11.41
10	-	-	-	-	-	-	J7114890	13.30

## Clamping Studs

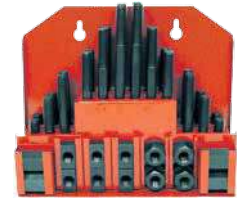
- Case hardened steel
- Black Oxide finish



Overall Lgth	3/8-16		1/2-13		5/8-11		3/4-10	
	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each	Tool No.	Price Each
3	J6745243	1.62	J6745323	1.74	J6745403	2.10	J6745483	2.70
4	J6745244	1.62	J6745324	1.74	J6745404	2.10	J6745484	2.70
5	J6745245	1.62	J6745325	1.80	J6745405	2.40	J6745485	3.06
6	J6745246	1.74	J6745326	1.80	J6745406	2.58	J6745486	3.42
7	J6745247	1.74	J6745327	2.16	J6745407	2.70	J6745487	3.78
8	J6745248	1.80	J6745328	2.40	J6745408	3.06	J6745488	3.96

## T-Nut and Stud Sets

38 pc. set in fitted steel rack suitable for hanging 38 pc. set in fitted wooden container.



- Includes:
- 24 studs (4 each: 3", 4", 5", 6", 7", 8")
  - 4 Coupling nuts
  - 4 Flange nuts
  - 6 T-Slot nuts

Stud Size	Table Slot	Tool No.		Price Each
		In Wood	In Steel	
3/8-16	7/16	-	J7900001	49.12
	1/2	-	J7900002	44.88
	9/16	-	J7900003	49.12
1/2-13*	9/16	-	J7901001	68.96
	5/8	-	J7901002	63.20
	11/16	-	J7901003	68.96
5/8-11	11/16	-	J7902001	72.72
	3/4	-	J7902002	66.72
	13/16	-	J7902003	72.72
3/4-10	13/16	J7853001	-	171.28
	7/8	J7853002	-	134.72
	1	J7853003	-	177.52

## T-Slot Nuts

- Case hardened steel
- Black Oxide finish



Table Slot	Thread Size	Tool No.	Price Each
7/16		J6740437	1.89
1/2	3/8-16	J6740500	1.89
9/16		J6740560	1.96
9/16		J6740562	1.96
5/8	1/2-13	J6740625	2.10
11/16		J6740680	2.45
11/16		J6740687	2.59
3/4	5/8-11	J6740750	2.80
13/16		J6740800	4.06
13/16		J6740812	4.41
7/8	3/4-10	J6740875	4.76
1		J6740102	5.18

## Flange Nuts

- Case hardened steel
- Black Oxide finish



Table Slot	Thread Size	Tool No.	Price Each
FN38	3/8-16	J6741024	1.80
FN12	1/2-13	J6741032	2.10
FN58	5/8-11	J6741040	2.70
FN34	3/4-10	J6741048	3.96

## Coupling Nuts

- Case hardened steel
- Black Oxide finish



Couple any number of studs together to make a stud of any desired length

Table Slot	Thread Size	Tool No.	Price Each
CN38	3/8-16	J6742024	2.52
CN12	1/2-13	J6742032	2.70
CN58	5/8-11	J6742040	3.42
CN34	3/4-10	J6742048	4.98

# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each													
		Overall Length													
		3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8	
1/64	5/32	—	—	20.30	22.40	23.10	—	—	—	—	—	—	—	—	
1/64	13/64	—	—	20.30	22.40	23.10	—	—	—	—	—	—	—	—	
1/32	5/32	—	20.30	20.30	22.40	23.10	—	23.80	—	—	—	—	—	—	
1/32	3/16	—	20.30	20.30	22.40	23.10	—	—	—	—	—	—	—	—	
1/32	13/64	—	20.30	20.30	22.40	23.10	—	23.80	—	—	—	—	—	—	
3/64	5/32	—	20.30	20.30	22.40	23.10	—	23.80	—	—	—	—	—	—	
3/64	3/16	—	20.30	20.30	22.40	23.10	—	23.80	—	—	—	—	—	—	
3/64	13/64	—	20.30	20.30	22.40	23.10	—	23.80	—	—	—	—	—	—	
1/16	5/32	—	—	20.30	21.00	21.70	—	—	—	—	—	—	—	—	
1/16	3/16	—	20.30	20.30	21.00	21.70	22.40	23.10	—	—	—	—	—	—	
1/16	13/64	—	20.30	20.30	21.00	21.70	—	23.10	—	—	—	—	—	—	
5/64	3/16	—	8.75	9.10	9.80	10.50	11.20	11.55	—	—	—	—	—	—	
5/64	13/64	—	8.75	9.10	9.80	10.50	—	11.55	11.90	—	12.25	—	—	—	
5/64	1-3/8	—	—	—	—	—	—	—	—	—	12.25	—	—	—	
3/32	3/16	—	8.75	9.10	9.80	10.50	—	11.55	—	—	—	—	—	—	
3/32	13/64	—	8.75	9.10	9.80	10.50	—	11.55	11.90	—	—	—	—	—	
7/64	1/4	—	7.70	9.10	9.80	10.50	11.20	11.55	11.90	—	12.25	—	13.30	—	
1/8	1/4	—	7.70	9.10	9.80	10.50	11.20	11.55	11.90	—	12.25	—	—	—	
1/8	5/16	—	6.30	6.65	7.35	7.70	—	8.05	8.40	—	12.25	—	13.30	—	
9/64	1/4	—	6.30	8.40	9.10	9.80	10.50	8.40	11.20	—	12.25	—	13.30	—	
9/64	5/16	—	6.30	7.00	7.35	7.70	—	8.40	8.75	—	9.10	—	13.30	—	
5/32	5/16	—	6.30	7.00	7.35	7.70	—	8.40	8.75	—	9.10	9.90	—	—	
5/32	1/2	—	—	—	—	—	—	8.40	—	—	—	—	—	—	
11/64	5/16	—	6.30	7.00	7.35	7.70	8.05	8.40	8.75	—	9.10	—	10.15	—	
3/16	5/16	—	6.30	7.00	7.35	7.70	8.05	8.40	8.75	—	9.10	—	10.15	—	
3/16	3/8	—	—	7.00	7.35	—	8.05	—	—	—	—	—	—	—	
3/16	13/32	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	11.20	
3/16	1/2	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	11.20	
13/64	3/8	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—	—	
13/64	13/32	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	9.90	10.15	—	
13/64	1/2	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	11.20	
7/32	3/8	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—	—	
7/32	13/32	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	—	
7/32	1/2	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	—	
15/64	3/8	—	—	—	—	6.65	—	7.35	—	—	—	—	—	—	
15/64	13/32	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	8.40	—	10.15	—	
15/64	7/16	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—	—	
15/64	1/2	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	8.40	—	10.15	—	
1/4	3/8	—	—	—	—	6.65	—	—	—	—	—	—	—	—	
1/4	13/32	5.95	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	11.20	
1/4	7/16	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—	—	
1/4	1/2	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	9.10	10.15	11.20	
17/64	7/16	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—	—	
17/64	1/2	—	5.60	5.95	6.30	6.65	—	7.35	7.70	—	8.40	—	10.15	11.20	
9/32	7/16	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	10.15	—	
9/32	1/2	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	8.40	9.10	10.15	11.20	
19/64	1/2	—	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	9.10	10.15	11.20	
19/64	9/16	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	—	—	—	—	
19/64	5/8	—	—	—	—	6.65	—	—	—	—	—	—	—	—	
19/64	3/4	—	—	—	—	6.65	—	—	—	—	—	—	—	—	
5/16	1/2	—	5.60	—	—	6.65	—	7.35	7.70	—	8.40	9.10	—	11.20	
5/16	9/16	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	—	—	10.15	—	
5/16	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	—	
5/16	3/4	—	6.58	6.86	7.00	6.65	—	7.35	—	—	8.40	—	—	—	
21/64	9/16	—	6.58	6.86	7.00	6.65	—	7.35	7.70	—	—	—	—	—	
21/64	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
21/64	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
11/32	9/16	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	—	—	—	—	
11/32	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
11/32	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	—	
23/64	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	—	10.15	11.20	
23/64	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	8.40	—	10.15	11.20	
3/8	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
3/8	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	—	10.15	—	
25/64	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
25/64	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	—	10.15	—	
13/32	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
13/32	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	—	10.15	11.20	
27/64	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	8.40	—	10.15	11.20	
27/64	3/4	—	6.58	6.86	7.00	6.65	—	7.35	7.70	8.05	8.40	9.10	10.15	11.20	
7/16	5/8	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	—	8.40	—	10.15	11.20	
7/16	3/4	—	6.58	6.86	7.00	6.65	7.00	7.35	7.70	8.05	8.40	—	10.15	11.20	



# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each													
		Overall Length													
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3
29/64	3/4	6.58	6.86	7.00	7.00	7.00	7.35	7.70	8.05	8.40	9.10	10.15	11.20	—	—
15/32	5/8	—	—	—	7.00	—	—	7.70	—	—	—	—	—	—	—
15/32	3/4	6.58	6.86	7.00	7.00	7.00	7.35	7.70	—	8.40	—	9.80	11.20	—	—
31/64	3/4	6.58	6.86	7.00	7.00	7.00	7.35	7.70	8.05	8.40	9.10	9.80	11.20	—	—
1/2	3/4	6.58	6.86	7.00	7.00	7.00	7.35	7.70	—	8.40	—	9.80	11.20	—	—
1/2	7/8	6.58	6.86	7.70	8.05	—	8.40	8.75	—	9.10	9.45	9.80	11.20	—	—
1/2	1	—	—	—	8.05	—	8.75	8.75	9.10	9.10	—	9.80	11.20	12.60	13.65
33/64	3/4	6.58	6.86	7.00	7.00	7.00	7.35	7.70	9.10	8.40	—	9.80	—	—	—
33/64	7/8	6.58	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	9.45	9.80	11.20	12.60	—
33/64	1	—	—	—	8.05	8.05	8.75	8.75	—	9.10	—	9.80	11.20	—	—
17/32	3/4	6.58	6.86	7.00	7.00	—	7.35	7.70	9.10	8.40	—	9.80	—	—	—
17/32	7/8	6.58	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	9.45	9.80	11.20	12.60	—
17/32	1	—	—	—	8.05	8.05	8.75	8.75	9.10	9.10	9.45	9.80	11.20	—	—
35/64	7/8	6.58	6.86	8.05	8.05	—	8.40	8.75	9.10	9.10	—	9.80	11.20	12.60	—
35/64	1	—	—	—	8.05	8.05	8.75	8.75	—	9.10	9.45	9.80	11.20	—	—
9/16	7/8	6.58	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	9.45	9.80	11.20	—	—
9/16	1	—	—	—	8.05	—	8.75	8.75	9.10	9.10	—	9.80	11.20	—	—
37/64	3/4	—	—	—	8.05	—	—	—	—	—	—	—	—	—	—
37/64	7/8	—	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	—	9.80	11.20	12.60	—
37/64	1	—	—	—	8.05	8.05	8.75	8.75	9.10	9.10	—	9.80	11.20	—	—
19/32	7/8	6.58	6.86	8.05	8.05	—	8.75	8.75	9.10	9.10	9.45	9.80	11.20	—	—
19/32	1	—	—	—	8.05	8.05	8.75	8.75	9.10	9.10	9.45	9.80	11.20	—	—
39/64	7/8	6.58	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	9.45	9.80	11.20	12.60	—
39/64	1	—	—	—	8.05	8.05	8.75	8.75	—	9.10	—	9.80	11.20	—	—
5/8	7/8	6.58	6.86	—	8.05	8.05	8.40	8.75	—	9.10	9.45	9.80	11.20	—	—
5/8	1	—	—	—	8.05	8.05	8.75	8.75	9.10	9.10	—	9.80	—	—	—
5/8	1-3/8	—	—	—	8.05	—	11.20	11.90	11.90	12.25	—	13.30	—	—	—
41/64	7/8	6.58	6.86	8.05	8.05	8.05	8.40	8.75	9.10	9.10	—	10.15	11.20	12.60	—
41/64	1	—	—	8.40	8.40	8.40	8.75	8.75	9.10	9.10	—	10.15	11.20	12.60	—
41/64	1-3/8	—	—	—	—	—	11.20	11.90	11.90	12.25	—	13.30	—	—	—
21/32	7/8	6.58	6.86	8.40	8.40	—	8.40	8.75	9.10	9.10	9.45	10.15	—	—	—
21/32	1	—	—	—	8.40	—	8.75	8.75	9.10	9.10	9.45	10.15	11.20	—	13.65
21/32	1-3/8	—	—	—	—	—	11.20	11.90	—	12.25	12.60	13.30	—	—	—
43/64	1	—	—	—	8.40	—	8.75	8.75	—	9.10	—	10.15	11.20	—	—
43/64	1-3/8	—	—	—	8.40	—	11.20	11.90	—	12.25	—	13.30	—	—	—
11/16	7/8	—	—	—	8.40	—	—	—	—	—	—	—	—	—	—
11/16	1	—	—	—	8.40	8.40	11.20	8.75	9.10	9.10	9.45	10.15	—	—	—
11/16	1-3/8	—	—	—	—	11.20	11.20	11.90	—	12.25	12.60	13.30	—	—	—
45/64	1	—	—	—	8.40	—	8.75	8.75	9.10	9.10	—	10.15	11.20	12.60	13.65
45/64	1-3/8	—	—	—	8.40	—	11.20	11.90	11.90	12.25	12.60	13.30	—	—	—
23/32	1	—	—	—	8.40	—	8.75	8.75	—	9.10	9.45	10.15	11.20	—	—
23/32	1-3/8	—	—	—	8.40	11.20	11.20	11.90	—	12.25	12.60	13.30	—	15.46	—
47/64	1	—	—	8.40	8.40	8.40	8.75	8.75	9.10	9.10	9.45	10.15	11.20	—	—
47/64	1-3/8	—	—	—	8.40	—	11.20	11.90	—	12.25	12.60	13.30	—	—	—
3/4	1	—	—	—	8.40	8.40	8.75	8.75	9.10	9.10	9.45	10.15	—	—	—
3/4	1-3/8	—	—	—	—	11.20	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—
49/64	1	—	—	—	8.40	8.40	8.75	8.75	—	9.10	9.45	10.15	11.20	12.60	—
49/64	1-1/8	—	—	—	12.60	—	11.20	11.90	11.90	—	12.60	13.30	—	—	—
49/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—
25/32	1-1/8	—	—	—	12.60	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
25/32	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	—	—
51/64	1-1/8	—	—	—	12.60	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
51/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	—	—
13/16	1-1/8	—	—	—	12.60	11.20	—	11.90	—	—	—	—	—	—	—
13/16	1-3/8	—	—	11.20	12.60	11.20	11.20	11.90	11.90	12.25	12.60	13.30	15.12	15.40	17.00
53/64	1-1/8	—	—	—	12.60	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
53/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	—	15.40	—
27/32	1-1/8	—	—	—	12.60	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
27/32	1-3/8	—	—	—	12.60	—	11.20	11.90	11.90	12.25	12.60	13.30	15.12	15.40	—
55/64	1-1/4	—	—	—	—	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
55/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—
7/8	1-1/4	—	—	—	—	11.20	11.20	11.90	—	—	12.60	13.30	—	—	—
7/8	1-3/8	—	—	—	12.60	11.20	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—
57/64	1-1/4	—	—	—	—	11.20	11.20	11.90	—	—	12.60	13.30	—	—	—
57/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—
29/32	1-1/4	—	—	—	—	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
29/32	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	—	—	—
59/64	1	—	—	—	12.60	11.20	—	11.90	—	—	—	—	—	—	—
59/64	1-1/4	—	—	—	—	11.20	11.20	11.90	11.90	—	12.60	13.30	—	—	—
59/64	1-3/8	—	—	—	12.60	—	11.20	11.90	—	12.25	12.60	13.30	15.12	15.40	—

# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each									
		Overall Length									
		5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3
15/16	1-1/4	11.20	11.20	11.90	12.60	—	14.00	16.10	—	—	—
15/16	1-3/8	—	11.20	11.90	—	13.30	14.00	16.10	17.00	18.20	—
61/64	1-3/8	—	11.20	11.90	12.60	13.30	14.00	16.10	17.00	18.20	—
31/32	1-3/8	—	11.20	11.90	—	13.30	—	16.10	17.00	18.20	—
63/64	1-3/8	—	11.20	11.90	12.60	13.30	14.00	16.10	—	18.20	—
1	1-3/8	11.20	—	11.90	12.60	13.30	—	16.10	—	—	—
1	1-3/4	—	11.90	12.60	—	14.00	14.70	17.50	20.30	—	—
1-1/64	1-3/8	—	11.20	11.90	—	13.30	—	16.10	—	—	—
1-1/64	1-3/4	—	11.90	—	—	—	—	—	—	—	—
1-1/32	1-3/8	—	11.20	11.90	—	12.60	—	16.10	—	—	—
1-3/64	1-1/2	—	13.30	14.00	14.00	—	—	16.10	—	—	—
1-3/64	1-3/4	—	13.30	—	—	—	—	17.50	—	—	—
1-1/16	1-1/2	—	13.30	14.00	14.00	—	14.70	16.10	—	—	—
1-1/16	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-5/64	1-1/2	—	13.30	14.00	14.00	—	15.40	16.10	—	—	—
1-5/64	1-3/4	—	—	—	—	—	—	20.30	—	—	—
1-3/32	1-1/2	—	13.30	14.00	—	—	16.00	—	—	—	—
1-7/64	1-1/2	—	13.30	14.00	—	15.40	—	16.10	—	—	—
1-7/64	1-3/4	—	—	14.00	—	—	—	—	—	—	—
1-1/8	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	23.10	29.40
1-9/64	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-5/32	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-11/64	1-3/4	—	—	—	—	—	16.00	17.50	—	23.10	—
1-3/16	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	23.10	—
1-7/32	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-15/64	1-3/4	—	—	14.00	—	—	—	17.50	—	—	—
1-1/4	1-5/8	13.30	13.30	—	—	—	16.00	17.50	—	—	—
1-1/4	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	29.40
1-17/64	1-3/4	—	—	—	—	—	—	—	—	23.10	—
1-9/32	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-9/32	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-5/16	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	23.10	—
1-21/64	1-3/4	—	—	—	—	—	—	—	—	—	29.40
1-11/32	1-3/4	—	13.30	14.00	—	15.40	—	17.50	20.30	—	—
1-23/64	1-3/4	—	—	—	—	—	—	17.50	20.30	—	—
1-3/8	1-3/4	—	13.30	—	—	15.40	—	17.50	20.30	23.10	—
1-3/8	2-1/4	—	—	16.80	—	18.90	—	21.00	26.60	—	—
1-13/32	1-3/4	—	—	—	—	—	—	—	25.90	—	—
1-13/32	2-1/4	—	—	16.80	18.20	18.90	—	—	—	—	—
1-27/64	2-1/4	—	—	16.80	—	—	—	21.00	—	—	—
1-7/16	2-1/4	—	—	16.80	—	18.90	—	21.00	26.60	29.40	32.20
1-29/64	2-1/4	—	—	—	—	18.90	—	—	—	—	—
1-15/32	2-1/4	—	—	—	—	18.90	—	—	—	—	—
1-31/64	2-1/4	—	—	16.80	—	18.90	—	21.00	—	—	—
1-1/2	1-7/8	—	—	—	—	—	—	—	—	29.40	—
1-1/2	2-1/4	—	—	16.80	—	18.90	—	21.00	26.60	29.40	—
1-17/32	2-1/4	—	—	—	—	—	—	21.00	—	—	—
1-35/64	2-1/4	—	—	16.80	—	—	20.30	21.00	—	—	—
1-9/16	2-1/4	—	—	16.80	—	18.90	—	21.00	—	29.40	—
1-19/32	2-1/4	—	—	—	—	—	—	—	26.60	29.40	32.20
1-39/64	2-1/4	—	—	—	—	—	—	21.00	26.60	—	—
1-5/8	2-1/4	—	—	16.80	—	18.90	20.30	21.00	26.60	—	—
1-11/16	2-1/4	—	—	—	—	18.90	—	21.00	—	29.40	32.20
1-45/64	2-1/4	—	—	—	—	—	—	—	—	—	32.20
1-23/32	2-1/4	—	—	—	—	—	—	—	—	—	32.20
1-47/64	2-1/4	—	—	—	—	—	—	21.00	—	—	32.20
1-3/4	2-1/4	—	16.80	—	—	18.90	20.30	21.00	26.60	—	32.20
1-53/64	2-3/4	—	—	—	—	—	—	—	—	29.40	—
1-29/32	2-3/4	—	—	—	—	—	—	—	—	29.40	—
2-1/32	2-3/4	—	—	22.40	—	—	—	—	—	—	—
2-1/8	2-3/4	—	—	—	—	—	—	—	—	—	32.20
2-9/64	2-3/4	—	—	—	—	—	—	—	—	—	32.20
2-1/4	2-3/4	—	21.70	22.40	—	—	—	26.60	29.40	—	—
2-13/32	2-3/4	—	—	22.40	—	—	—	—	—	—	—

# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



### Letter Sizes

Inside Dia.	Outside Dia.	Price Each												
		Overall Length												
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8	
A	13/32	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	—	10.36	—	
A	7/16	5.57	5.74	6.13	6.44	6.93	7.14	7.70	—	—	—	—	—	
A	1/2	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	9.38	10.36	11.20	
B	13/32	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	—	10.36	—	
B	7/16	5.57	5.74	6.13	6.44	6.93	7.14	7.70	—	—	—	—	—	
B	1/2	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	—	10.36	11.20	
C	13/32	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	—	10.36	—	
C	7/16	5.57	5.74	6.13	6.44	6.93	7.14	7.70	—	—	—	—	—	
C	1/2	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	9.38	10.36	11.20	
D	13/32	5.57	5.74	6.13	6.44	6.93	7.14	7.70	—	8.40	—	10.36	—	
D	7/16	5.57	5.74	6.13	6.44	6.93	7.14	7.70	—	—	—	—	—	
D	1/2	5.57	5.74	6.13	6.44	—	7.14	7.70	—	8.40	—	10.36	11.20	
F	13/32	5.57	5.74	6.13	6.44	—	7.07	7.70	—	—	—	10.36	—	
F	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
F	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
G	13/32	—	—	—	6.93	—	7.07	7.70	—	—	—	—	—	
G	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
G	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	—	10.36	—	
H	13/32	—	—	—	6.93	—	7.07	7.70	—	—	—	—	—	
H	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
H	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
I	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
I	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
J	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
J	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
K	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
K	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
L	7/16	5.57	5.74	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
L	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
M	1/2	5.57	5.74	6.13	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
M	9/16	6.13	6.13	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
N	1/2	6.13	6.13	6.13	6.44	—	7.07	7.70	—	8.40	—	10.36	11.20	
N	9/16	6.13	6.13	6.13	6.44	—	7.07	7.70	—	—	—	—	—	
O	1/2	6.13	6.13	6.13	6.44	—	7.07	7.70	—	—	—	10.36	—	
O	9/16	6.13	6.13	6.13	6.44	6.93	7.07	7.70	—	—	—	—	—	
O	5/8	6.13	6.13	6.13	6.44	6.93	7.07	7.70	8.12	—	—	10.36	11.20	
O	3/4	—	6.13	6.44	6.58	6.93	7.07	7.70	8.12	8.40	9.38	10.36	11.20	
P	1/2	—	—	6.93	7.00	—	7.07	7.70	—	—	—	—	—	
P	9/16	6.13	6.13	6.27	6.58	—	7.07	7.70	—	—	—	—	—	
P	5/8	6.13	6.13	6.27	6.58	6.93	7.07	7.70	8.12	8.40	—	10.36	11.20	
P	3/4	6.83	6.13	6.44	6.44	6.93	7.07	—	8.12	8.40	—	10.36	11.20	
Q	9/16	6.13	6.13	6.27	6.44	6.93	7.07	7.70	—	—	—	—	—	
Q	5/8	6.13	6.13	6.27	6.44	—	7.07	7.70	8.12	8.40	9.38	10.36	11.20	
Q	3/4	6.83	6.13	6.44	6.44	6.93	7.07	7.70	8.12	8.40	9.38	—	11.20	
R	9/16	6.13	6.13	6.27	6.58	6.93	7.07	7.70	—	—	—	—	—	
R	5/8	6.13	6.13	6.27	6.44	6.93	7.07	7.70	—	8.40	—	10.36	11.20	
R	3/4	6.83	6.13	6.44	6.44	6.93	7.07	7.70	8.12	8.40	9.38	10.36	11.20	
S	5/8	6.13	6.13	6.27	6.58	—	7.07	7.70	8.12	8.40	—	10.36	—	
S	3/4	6.83	—	6.44	6.44	6.93	7.07	7.70	—	8.40	9.38	—	11.20	
T	5/8	6.13	6.13	6.27	6.58	—	7.07	7.70	—	8.40	—	10.36	11.20	
T	3/4	6.83	6.13	6.44	6.44	6.93	7.07	7.70	8.12	8.40	—	10.36	11.20	
U	5/8	6.13	6.13	6.27	6.58	6.93	7.07	7.70	8.12	8.40	—	10.36	11.20	
U	3/4	6.83	—	6.44	6.44	—	7.07	7.70	—	8.40	—	10.36	11.20	
V	5/8	6.13	—	6.27	6.58	—	7.07	7.70	8.12	8.40	—	10.36	11.20	
V	3/4	6.13	6.13	6.44	6.44	6.93	7.07	7.70	—	8.40	9.38	10.36	—	
W	5/8	6.13	—	6.27	6.58	6.93	7.07	7.70	8.12	8.40	9.38	10.36	11.20	
W	3/4	6.13	—	6.44	6.44	6.93	7.07	7.70	—	8.40	—	—	11.20	
X	5/8	6.13	6.13	6.27	6.58	—	7.07	7.70	8.12	8.40	9.38	10.36	—	
X	3/4	—	—	—	6.44	6.93	7.07	7.70	8.12	8.40	9.38	—	—	
Y	5/8	6.13	6.13	6.27	6.44	—	7.07	7.70	—	8.40	9.38	10.36	11.20	
Y	3/4	—	6.13	—	6.44	—	7.07	7.70	8.12	8.40	—	10.36	—	
Z	5/8	6.13	6.13	6.27	6.58	—	7.07	7.70	—	8.40	—	10.36	—	
Z	3/4	—	—	6.44	6.44	6.93	7.07	7.70	—	8.40	9.38	—	—	

# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



## Wire Gauge Sizes

Inside Dia.	Outside Dia.	Price Each										
		Overall Length										
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-1/2	1-3/4	2-1/8
1	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
1	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
1	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	17.50
2	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
2	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
2	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	17.50
3	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
3	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
3	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	9.10	13.30	17.50
4	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
4	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
4	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	9.10	13.30	17.50
5	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
5	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
5	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	9.10	13.30	17.50
6	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
6	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
6	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	9.10	13.30	17.50
7	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
7	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
7	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	17.50
8	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
8	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
8	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	17.50
9	3/8	5.60	5.95	6.30	6.65	7.00	7.35	7.70	—	—	—	—
9	13/32	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	—	13.30	—
9	1/2	5.60	5.95	6.30	6.65	—	7.35	7.70	8.40	9.10	13.30	17.50
10	5/16	6.30	6.65	7.00	7.35	7.70	8.05	8.40	8.40	—	13.30	—
10	3/8	6.30	6.65	7.00	7.35	7.70	8.05	8.40	—	—	—	—
10	13/32	6.30	6.65	7.00	7.35	—	7.70	8.05	8.40	—	13.30	—
10	1/2	6.30	6.65	7.00	7.35	—	7.70	8.05	8.40	—	13.30	—
11	5/16	6.30	6.65	7.00	7.35	7.70	8.05	8.40	8.40	—	13.30	—
11	13/32	6.30	6.65	7.00	7.35	—	7.70	8.05	8.40	9.10	13.30	—
11	1/2	6.30	6.65	7.00	7.35	—	7.70	8.05	8.40	—	13.30	17.50
12	5/16	6.30	6.65	7.00	7.35	7.70	8.05	8.40	8.40	—	—	—
12	3/8	6.30	6.65	7.00	7.35	—	7.70	—	—	—	—	—
12	13/32	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	13.30	—
12	1/2	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	13.30	—
13	5/16	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	—	—
14	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	—	—
15	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	—	—
16	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
17	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
18	5/16	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	11.20	11.90
19	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
20	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
21	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
22	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
23	5/16	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	11.20	11.90
24	13/64	—	6.65	7.00	7.35	—	—	—	—	—	—	—
24	5/16	6.30	6.65	7.00	7.35	—	8.05	9.10	9.40	—	11.20	11.90
25	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90
26	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.40	—	11.20	11.90

# Drill Jig Bushings

## Headless Press Fit - Type "P"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece.

Please inquire for quantity discount.



### Wire Gauge Sizes

Inside Dia.	Outside Dia.	Price Each									
		Overall Length									
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-3/4	2-1/8
27	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	9.50	11.20	11.90
28	1/4	6.30	6.65	7.00	7.35	7.70	8.05	9.10	16.80	16.80	18.20
28	5/16	6.30	6.65	7.00	7.35	7.70	8.05	9.10	16.80	11.20	12.60
29	1/4	6.30	6.65	7.00	7.35	7.70	8.05	9.10	16.80	16.80	—
29	5/16	6.30	6.65	7.00	7.35	—	8.05	9.10	16.80	11.20	12.60
30	1/4	6.30	6.65	7.00	7.35	7.70	8.75	9.10	16.80	16.80	18.20
30	5/16	7.00	7.35	7.70	8.05	—	8.75	9.10	16.80	11.20	12.60
31	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
32	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
33	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
34	13/64	—	8.40	—	9.45	—	—	—	—	—	—
34	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
35	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
36	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.10	16.80	16.80	18.20
37	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.80	16.80	18.20	—
38	13/64	—	8.40	—	9.45	—	—	—	—	—	—
38	1/4	7.00	7.35	7.70	8.05	8.40	8.75	9.80	16.80	18.20	—
39	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
39	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
39	1/4	7.70	8.40	9.10	9.45	9.80	10.50	11.20	16.80	18.20	—
40	3/16	7.70	8.40	9.10	9.45	—	10.50	—	—	—	—
40	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
40	1/4	7.70	8.40	9.10	9.45	9.80	10.50	11.20	16.80	18.20	—
40	1/2	—	—	—	9.45	—	10.50	—	—	—	—
41	3/16	7.70	8.40	9.10	9.45	—	10.50	—	—	—	—
41	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
42	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
42	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
43	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
43	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
44	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
44	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
44	1/4	7.70	8.40	9.10	9.45	—	—	—	—	—	—
45	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
45	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
46	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
46	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
47	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
47	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
48	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
48	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
49	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
49	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
50	3/16	7.70	8.40	9.10	9.45	—	10.50	—	—	—	—
50	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
51	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
51	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
52	3/16	7.70	8.40	9.10	9.45	9.80	10.50	—	—	—	—
52	13/64	7.70	8.40	9.10	9.45	—	10.50	11.20	16.80	—	—
53	5/32	—	16.80	—	18.20	—	—	—	—	—	—
53	3/16	16.10	16.80	17.50	18.20	—	18.90	—	—	—	—
53	13/64	16.10	16.80	17.50	18.20	—	18.90	—	—	—	—
54	5/32	16.10	16.80	17.50	18.20	—	—	—	—	—	—

Inside Dia.	Outside Dia.	Price Each				
		Overall Length				
		1/4	5/16	3/8	1/2	3/4
54	3/16	16.10	16.80	17.50	18.20	18.90
54	13/64	16.10	16.80	17.50	18.20	18.90
55	5/32	—	16.80	—	18.20	18.90
55	3/16	16.10	16.80	17.50	18.20	18.90
55	13/64	16.10	16.80	17.50	18.20	18.90
56	5/32	—	16.80	21.70	22.40	—
56	3/16	20.30	16.80	21.70	22.40	23.10
56	13/64	20.30	16.80	21.70	22.40	23.10
57	5/32	20.30	21.00	21.70	22.40	—
57	3/16	20.30	21.00	21.70	22.40	23.10
57	13/64	20.30	21.00	21.70	22.40	23.10
58	5/32	20.30	21.00	21.70	22.40	—
58	3/16	20.30	21.00	21.70	22.40	23.10
58	13/64	20.30	21.00	21.70	22.40	23.10
59	5/32	20.30	21.00	21.70	22.40	—
59	3/16	20.30	21.00	21.70	22.40	23.10
59	13/64	20.30	21.00	21.70	22.40	23.10
60	5/32	20.30	21.00	21.70	22.40	—
60	3/16	20.30	21.00	21.70	—	23.10
60	13/64	20.30	21.00	21.70	22.40	23.10
61	5/32	20.30	21.00	21.70	22.40	—
61	3/16	20.30	21.00	—	—	—
61	13/64	—	—	—	22.40	—
62	5/32	20.30	21.00	21.70	22.40	—
62	3/16	20.30	21.00	21.70	22.40	—
63	5/32	20.30	21.00	21.70	22.40	—
63	3/16	20.30	21.00	21.70	22.40	—
63	13/64	—	21.00	—	22.40	—
64	5/32	20.30	21.00	21.70	22.40	—
64	3/16	20.30	21.00	21.70	22.40	—
65	5/32	20.30	21.00	21.70	22.40	—
65	3/16	20.30	21.00	21.70	22.40	—
66	5/32	20.30	21.00	21.70	22.40	—
66	3/16	20.30	21.00	21.70	22.40	—
66	13/64	—	—	21.70	22.40	—
67	5/32	20.30	21.00	21.70	22.40	—
67	3/16	20.30	21.00	21.70	22.40	—
68	5/32	—	21.00	21.70	22.40	—
68	3/16	—	21.00	21.70	22.40	—
69	5/32	—	21.00	21.70	22.40	23.10
69	3/16	—	21.00	21.70	22.40	—
70	5/32	—	21.00	21.70	22.40	—
70	3/16	—	21.00	21.70	22.40	—
71	5/32	—	21.00	21.70	22.40	—
72	5/32	—	21.00	21.70	22.40	—
73	5/32	—	21.00	21.70	22.40	—
74	5/32	20.30	21.00	21.70	22.40	—
75	5/32	—	21.00	21.70	22.40	—
76	5/32	20.30	—	21.70	22.40	—
77	5/32	—	—	21.70	22.40	—
78	5/32	20.30	21.00	21.70	22.40	—
79	5/32	—	21.00	21.70	22.40	—
80	5/32	20.30	21.00	21.70	22.40	—



# Drill Jig Bushings

## Head Press Fit - Type "H"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece. Correct overall length is measured on barrel only. Do not include collar. *Please inquire for quantity discount.*

*Correct overall length is measured on barrel only. Do not include collar.*



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each									
		Overall Length									
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-3/4	2-1/8
1/64	5/32	—	23.80	24.50	25.20	—	—	—	—	—	—
1/32	5/32	23.10	23.80	24.50	25.20	—	—	—	—	—	—
1/32	3/16	23.10	23.80	24.50	25.20	—	—	—	—	—	—
1/32	13/64	—	23.80	24.50	25.20	—	—	—	—	—	—
3/64	5/32	23.10	23.80	24.50	25.20	—	—	—	—	—	—
3/64	3/16	23.10	23.80	24.50	25.20	—	25.90	—	—	—	—
3/64	13/64	—	23.80	24.50	25.20	—	—	—	—	—	—
1/16	5/32	18.20	18.90	19.60	20.30	—	21.70	—	—	—	—
1/16	3/16	18.20	18.90	19.60	20.30	—	21.70	—	—	—	—
1/16	13/64	18.20	18.90	19.60	20.30	—	21.70	23.10	—	—	—
1/16	1/4	18.20	—	—	—	—	—	—	—	—	—
1/16	3/8	—	—	—	20.30	—	—	—	—	—	—
5/64	3/16	10.50	11.20	11.90	12.25	—	14.00	—	—	—	—
5/64	13/64	10.50	11.20	11.90	12.25	—	14.00	16.80	—	—	—
3/32	3/16	10.50	11.20	11.90	12.25	—	14.00	—	—	—	—
3/32	13/64	10.50	11.20	11.90	12.25	—	14.00	16.80	—	—	—
7/64	1/4	9.10	9.45	11.90	12.25	12.40	12.60	16.80	23.10	—	—
1/8	1/4	9.10	9.45	9.80	12.25	12.40	12.60	16.80	—	—	—
1/8	5/16	8.05	8.40	8.75	9.10	9.45	9.80	10.50	16.80	—	—
1/8	3/8	—	—	8.75	9.10	—	—	—	—	—	—
1/8	1/2	—	—	—	—	—	9.80	—	—	—	—
9/64	1/4	9.10	9.45	9.80	10.15	—	—	16.80	23.10	—	—
9/64	5/16	8.05	8.40	8.75	9.10	9.45	9.80	10.50	16.80	—	—
9/64	13/32	—	—	—	8.05	—	—	—	—	—	—
5/32	5/16	—	8.40	8.75	9.10	9.45	9.80	10.50	16.80	—	—
11/64	5/16	—	8.40	8.75	9.10	9.45	9.80	10.50	16.80	—	—
3/16	5/16	8.05	8.40	8.75	9.10	—	9.80	10.50	16.80	—	18.20
3/16	3/8	—	8.40	—	—	—	9.80	—	—	—	—
3/16	13/32	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	—	—
3/16	1/2	—	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
13/64	3/8	6.86	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
13/64	13/32	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
13/64	1/2	—	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
7/32	3/8	6.86	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
7/32	13/32	6.86	7.35	7.70	8.05	8.40	8.40	9.10	10.50	11.90	—
7/32	1/2	—	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
7/32	3/4	—	—	—	—	—	—	—	10.50	—	—
15/64	13/32	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
15/64	7/16	6.86	7.35	7.70	8.05	—	8.40	9.10	—	—	—
15/64	1/2	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
15/64	5/8	—	—	—	—	—	—	—	—	12.60	—
1/4	3/8	—	—	—	8.05	—	—	—	—	—	—
1/4	13/32	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
1/4	7/16	6.86	7.35	7.70	8.05	8.40	—	—	—	—	—
1/4	1/2	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	—	—
17/64	13/32	—	—	—	8.05	—	8.40	—	—	—	—
17/64	7/16	6.86	7.35	7.70	8.05	—	8.40	9.10	—	—	—
17/64	1/2	—	7.35	7.70	8.05	—	5.15	9.10	10.50	—	—
9/32	13/32	—	—	—	8.05	—	8.40	—	—	—	—
9/32	7/16	6.86	7.35	7.70	8.05	8.40	8.40	—	—	—	—
9/32	1/2	—	—	7.70	8.05	—	8.40	9.10	10.50	11.90	—
19/64	1/2	6.86	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
19/64	9/16	6.86	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
5/16	1/2	—	7.35	7.70	8.05	8.40	8.40	9.10	10.50	11.90	12.60
5/16	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
5/16	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	—	13.30
5/16	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
21/64	9/16	8.40	8.40	8.40	8.40	8.40	8.75	—	—	—	—
21/64	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—
21/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
11/32	9/16	8.40	8.40	8.40	8.40	8.40	8.75	—	—	—	—
11/32	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
11/32	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—
23/64	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—
23/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
3/8	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
3/8	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
25/64	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
25/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
13/32	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
13/32	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—

# Drill Jig Bushings

## Head Press Fit - Type "H"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece. Correct overall length is measured on barrel only. Do not include collar. *Please inquire for quantity discount.*

*Correct overall length is measured on barrel only. Do not include collar.*



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each											
		Overall Length											
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8
27/64	5/8	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	—
27/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	10.50	11.20	—	12.60	13.30
7/16	5/8	—	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	—
7/16	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	—
29/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	—
15/32	3/4	—	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	13.30
15/32	1	—	—	—	—	—	10.50	—	—	—	—	—	—
31/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	11.20	—	12.60	13.30
1/2	5/8	—	—	—	8.40	—	—	—	—	—	—	—	—
1/2	3/4	—	8.40	8.40	8.40	8.40	8.75	9.80	10.50	11.20	—	12.60	13.30
1/2	7/8	—	—	5.57	9.80	—	10.50	11.20	—	11.90	—	13.30	14.70
1/2	1	—	—	—	5.92	—	10.50	11.20	—	11.90	—	14.00	15.40
33/64	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	10.50	—	—	12.60	—
33/64	7/8	—	—	9.10	9.80	9.89	10.50	11.20	—	11.90	—	13.30	14.70
33/64	1	—	—	—	10.15	—	10.50	11.20	—	11.90	—	14.00	15.40
17/32	3/4	8.40	8.40	8.40	8.40	9.80	10.50	9.80	10.50	11.20	—	12.60	13.30
17/32	7/8	—	—	9.10	9.80	9.80	10.50	11.20	—	11.20	—	13.30	14.70
17/32	1	—	—	—	10.15	—	10.50	11.20	—	11.20	—	14.00	15.40
35/64	7/8	—	—	9.10	9.80	9.80	10.50	11.20	10.50	11.20	—	13.30	14.70
35/64	1	—	—	—	10.15	—	10.50	11.20	—	11.20	—	14.00	15.40
9/16	7/8	—	—	9.10	9.80	—	10.50	11.20	—	11.20	—	13.30	14.70
9/16	1	—	—	—	10.15	—	10.50	11.20	—	11.20	—	14.00	15.40
37/64	7/8	—	—	9.10	9.80	9.80	10.50	11.20	10.50	11.20	—	13.30	14.70
37/64	1	—	—	—	10.15	—	10.50	11.20	—	11.20	—	14.00	15.40
19/32	7/8	—	—	9.10	9.80	9.80	10.50	11.20	10.50	11.20	—	13.30	14.70
19/32	1	—	9.45	—	10.15	9.80	10.50	11.20	—	11.20	12.60	14.00	15.40
39/64	7/8	9.10	9.45	9.10	9.80	9.80	10.50	11.20	10.50	11.20	12.60	13.30	14.70
39/64	1	—	9.45	—	10.15	9.80	10.50	11.20	—	11.20	12.60	14.00	15.40
5/8	7/8	9.10	9.45	9.80	9.80	9.80	10.50	11.20	—	11.20	12.60	13.30	15.40
5/8	1	—	9.45	—	10.15	9.80	10.50	11.20	—	11.20	12.60	—	15.40
5/8	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.60	20.30	22.40
41/64	7/8	9.10	9.45	9.80	9.80	10.15	10.50	11.20	—	11.20	12.60	13.30	—
41/64	1	—	9.45	—	10.15	10.15	10.50	11.20	—	11.20	12.60	13.30	15.40
41/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	20.30	—
21/32	7/8	9.10	9.45	9.80	9.80	10.15	10.50	11.20	—	11.20	12.60	13.30	15.40
21/32	1	—	9.45	—	10.15	10.15	10.50	11.20	—	11.20	12.60	13.30	15.40
21/32	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
43/64	1	—	9.45	—	10.15	10.15	—	11.20	—	11.20	12.60	14.00	15.40
43/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
11/16	1	—	9.45	—	10.15	10.50	11.00	11.20	—	11.20	12.60	14.00	15.40
11/16	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.50	—	22.40
45/64	1	—	9.45	—	10.15	10.50	11.00	11.20	—	11.20	12.60	14.00	15.40
45/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	18.90	—	—	—	—
23/32	1	—	9.45	—	10.15	10.50	11.20	11.20	—	11.20	12.60	14.00	15.40
23/32	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
47/64	1	—	9.45	—	10.15	10.50	11.20	11.20	—	11.20	12.60	14.00	15.40
47/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
3/4	1	—	9.45	9.80	10.15	10.50	11.20	11.20	—	11.20	12.60	14.00	15.40
3/4	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
49/64	1	—	9.45	—	10.15	10.50	—	11.20	—	11.20	12.60	14.00	—
49/64	1-1/8	—	—	—	—	—	17.50	—	18.90	18.90	—	—	—
49/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	20.30	—
25/32	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.60	—	—
51/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
13/16	1-1/8	—	14.00	—	—	16.80	—	18.20	—	18.90	—	—	—
13/16	1-3/8	—	14.00	—	15.40	16.80	—	18.20	18.90	18.90	19.60	20.30	22.40
53/64	1-1/8	—	14.00	—	15.40	16.80	—	18.20	—	—	—	—	—
53/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.60	—	—
27/32	1-1/8	—	—	—	15.40	16.80	—	—	—	—	—	—	—
27/32	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.60	20.30	22.40
55/64	1-1/4	—	—	—	15.40	16.80	—	—	18.90	18.90	—	20.30	—
55/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	—	—
7/8	1-1/4	—	—	—	15.40	16.80	—	—	18.90	18.90	—	20.30	—
7/8	1-3/8	—	—	—	15.40	16.80	17.50	18.20	—	18.90	19.60	20.30	22.40
57/64	1-1/4	—	—	—	15.40	—	17.50	—	—	18.90	—	20.30	—
57/64	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	—	20.30	—
29/32	1-1/4	—	—	—	15.40	—	17.50	—	—	18.90	—	—	—
29/32	1-3/8	—	14.00	—	15.40	16.80	17.50	18.20	—	18.90	19.60	—	22.40

# Drill Jig Bushings

## Head Press Fit - Type "H"

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*Correct overall length is measured on barrel only. Do not include collar.*



### Fractional Sizes

Inside Dia.	Outside Dia.	Price Each								
		Overall Length								
		1/2	3/4	1	1-1/4	1-3/8	1-3/4	2-1/8	2-1/2	3
59/64	1-1/4	—	17.50	18.20	—	—	21.00	—	—	—
59/64	1-3/8	15.40	17.50	18.20	—	18.90	21.00	22.40	—	—
15/16	1-1/4	—	17.50	18.20	—	—	21.00	—	—	—
15/16	1-3/8	—	17.50	18.20	—	18.90	—	22.40	—	—
61/64	1-3/8	15.40	17.50	18.20	—	18.90	—	—	—	—
31/32	1-3/8	15.40	17.50	18.20	—	18.90	—	22.40	23.10	—
63/64	1-3/8	15.40	17.50	18.20	18.90	18.90	—	—	23.10	—
1	3/4	15.40	17.50	—	—	—	—	—	—	—
1	1-3/8	15.40	—	18.20	—	18.90	21.00	22.40	—	—
1	1-3/4	—	18.20	20.30	—	21.70	—	—	—	—
1-1/64	1-3/8	15.40	—	18.20	—	18.90	—	—	—	—
1-1/32	1-3/8	15.40	17.50	18.20	—	21.70	—	—	—	—
1-1/32	1-3/4	—	—	20.30	—	—	—	—	—	—
1-3/64	1-3/4	—	—	—	—	21.70	23.10	—	—	—
1-1/16	1-3/4	—	—	20.30	—	21.70	23.10	24.50	25.90	—
1-5/64	1-3/4	—	—	—	—	21.70	—	—	—	—
1-3/32	1-3/4	—	—	20.30	—	21.70	—	—	—	—
1-7/64	1-3/4	—	—	—	—	21.70	—	—	—	—
1-1/8	1-1/2	—	—	20.30	21.70	—	—	—	—	—
1-1/8	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	29.40
1-9/64	1-3/4	—	—	—	—	21.70	23.10	—	—	—
1-5/32	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	—
1-11/64	1-3/4	—	—	20.30	—	21.70	—	24.50	—	—
1-3/16	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	25.90	—
1-13/64	1-3/4	—	—	—	—	21.70	—	—	—	—
1-7/32	1-5/8	—	—	—	—	—	—	—	25.90	—
1-7/32	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	—
1-15/64	1-3/4	—	—	—	—	21.70	—	—	—	—
1-1/4	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	25.90	—
1-17/64	1-3/4	—	—	20.30	—	—	23.10	—	25.90	—
1-9/32	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	—
1-19/64	1-3/4	—	—	—	—	—	23.10	—	—	—
1-5/16	1-3/4	—	18.20	20.30	21.70	21.70	23.10	24.50	—	—
1-21/64	1-3/4	—	—	—	—	—	23.10	24.50	—	29.40
1-11/32	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	29.40
1-23/64	1-3/4	—	—	20.30	—	21.70	23.10	—	—	—
1-3/8	1-3/4	—	18.20	20.30	—	21.70	23.10	24.50	—	—
1-3/8	2-1/4	—	—	—	—	23.10	—	—	—	—
1-13/32	1-3/4	—	—	—	—	—	—	24.50	—	—
1-13/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-27/64	1-3/4	—	—	—	—	—	—	27.30	—	—
1-7/16	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-29/64	2-1/4	—	—	—	—	23.10	—	—	—	—
1-15/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-1/2	2-1/4	—	—	—	—	23.10	24.50	27.30	—	32.20
1-17/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-35/64	2-1/4	—	—	—	—	—	—	—	29.40	—
1-9/16	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-19/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-39/64	2-1/4	—	—	—	—	—	—	27.30	—	—
1-5/8	2	—	—	—	23.10	—	—	—	—	—
1-5/8	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-41/64	2-1/4	—	—	—	—	—	—	—	29.40	—
1-21/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-43/64	2-1/4	—	—	—	—	—	—	—	29.40	—
1-11/16	2-1/4	—	—	21.70	—	23.10	24.50	27.30	29.40	—
1-45/64	2-1/4	—	—	—	—	—	—	—	—	32.20
1-23/32	2-1/4	—	—	21.70	—	23.10	24.50	27.30	—	—
1-47/64	2-1/4	—	—	—	—	23.10	24.50	27.30	—	—
1-3/4	2-1/4	—	—	21.70	—	23.10	24.50	27.30	29.40	32.20
2-1/4	2-3/4	—	—	—	—	23.10	—	27.30	—	—

# Drill Jig Bushings

## Head Press Fit - Type "H"

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Do not include collar. *Please inquire for quantity discount.*

*Correct overall length is measured on barrel only. Do not include collar.*



### Letter Sizes

Inside Dia.	Outside Dia.	Price Each									
		Overall Length									
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-3/4	2-1/8
A	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
A	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
A	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
B	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
B	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
B	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	—	—
C	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
C	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
C	1/2	6.93	—	7.70	8.05	—	8.40	9.10	—	11.90	—
D	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
D	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
D	1/2	6.93	—	7.70	8.05	—	8.40	9.10	10.50	—	—
F	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
F	7/16	6.93	7.35	7.70	8.05	8.40	8.40	—	—	—	—
F	1/2	—	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
F	5/8	—	—	—	—	—	—	9.80	—	—	—
F	3/4	—	—	—	—	—	—	9.80	—	—	—
G	13/32	—	7.35	7.70	—	—	8.40	9.10	—	—	—
G	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
G	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	—	11.90	—
H	13/32	—	—	7.70	8.05	—	8.40	9.10	—	—	—
H	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
H	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
I	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
I	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	12.95
J	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
J	1/2	—	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
K	13/32	—	—	—	8.05	—	—	—	—	—	—
K	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
K	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
L	7/16	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—	—
L	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	12.95
M	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
M	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	11.90	—
N	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90	—
N	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
O	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
O	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	—	—	—
O	5/8	8.40	—	—	8.40	—	8.75	9.80	11.20	11.90	12.95
O	3/4	8.40	—	—	8.40	—	8.75	9.80	—	—	13.30
P	1/2	—	—	—	8.05	—	8.40	9.10	—	—	—
P	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
P	5/8	8.40	—	8.40	8.40	8.40	8.75	9.80	11.20	—	13.30
P	3/4	—	—	8.40	8.40	—	8.75	9.80	—	12.60	—
Q	1/2	—	8.40	—	8.40	—	8.40	—	—	—	—
Q	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
Q	5/8	—	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—
Q	3/4	8.40	8.40	8.40	8.40	8.40	8.75	9.80	—	—	—
R	9/16	8.40	8.40	8.40	8.40	8.40	8.75	9.45	—	—	—
R	5/8	—	8.40	8.40	8.40	8.40	8.75	9.80	11.20	12.60	—
R	3/4	—	—	8.40	8.40	—	8.75	9.80	11.20	—	13.30
S	5/8	8.40	8.40	8.40	8.40	—	8.75	9.80	—	12.60	—
S	3/4	—	—	—	8.40	—	8.75	9.80	—	12.60	—
T	5/8	—	—	8.40	8.40	—	8.75	9.80	—	12.60	13.30
T	3/4	—	—	—	8.40	—	8.75	9.80	—	12.60	—
U	5/8	—	—	8.40	8.40	8.40	8.75	9.80	—	—	13.30
U	3/4	8.40	—	8.40	8.40	8.40	8.75	9.80	11.20	—	—
V	5/8	8.40	—	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
V	3/4	—	—	—	8.40	8.40	8.75	9.80	—	—	—
W	5/8	—	—	8.40	8.40	8.40	8.75	9.80	11.20	12.60	13.30
W	3/4	—	8.40	—	8.40	—	8.75	9.80	—	—	13.30
X	5/8	—	—	8.40	8.40	8.40	8.75	9.80	11.20	—	—
X	3/4	8.40	—	—	8.40	—	8.75	9.80	11.20	12.60	—
Y	5/8	8.40	—	8.40	8.40	—	8.75	9.80	—	12.60	13.30
Y	3/4	—	—	—	8.40	—	8.75	9.80	—	—	—
Z	5/8	—	8.40	8.40	—	—	8.75	9.80	11.20	12.60	13.30
Z	3/4	8.40	—	—	8.40	—	8.75	9.80	11.20	—	—

# Drill Jig Bushings

## Head Press Fit - Type "H"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece. Correct overall length is measured on barrel only. Do not include collar. *Please inquire for quantity discount.*

*Correct overall length is measured on barrel only. Do not include collar.*



## Wire Gauge Sizes

Inside Diameter	Outside Diameter	Price Each								
		Overall Length								
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-3/4
1	3/8	6.93	7.35	7.70	8.05	—	8.40	9.10	—	—
1	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
1	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
2	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
2	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
2	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
3	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
3	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
3	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
4	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
4	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
4	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
5	5/16	—	—	—	—	—	9.80	—	—	—
5	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
5	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
5	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
6	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
6	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
6	1/2	—	7.35	7.70	8.05	—	8.40	9.10	—	11.90
7	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
7	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
7	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
8	3/8	—	7.35	7.70	8.05	8.40	8.40	9.10	—	—
8	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
8	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
9	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
9	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
9	1/2	6.93	8.40	7.70	8.05	—	8.40	9.10	10.50	11.90
10	5/16	8.05	7.35	—	9.10	9.80	9.80	10.50	16.80	—
10	3/8	6.93	7.35	7.70	8.05	8.40	8.40	9.10	—	—
10	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
10	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
11	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	11.90
11	3/8	—	7.35	—	8.05	—	8.40	—	—	—
11	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
11	1/2	6.93	7.00	7.70	8.05	—	8.40	9.10	—	11.90
12	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
12	3/8	—	7.35	7.70	8.05	—	8.40	—	—	—
12	13/32	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
12	1/2	6.93	7.35	7.70	8.05	—	8.40	9.10	10.50	11.90
13	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
13	13/32	—	7.35	—	—	—	—	—	—	—
14	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
14	13/32	—	7.35	—	—	—	9.80	—	—	—
15	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
16	5/16	—	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
17	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
17	1/2	—	—	—	9.10	—	9.80	—	—	—
18	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
19	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
20	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
20	1/2	—	—	8.75	—	—	9.80	—	16.80	—
21	1/4	—	8.40	—	—	—	—	—	—	—
21	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
21	13/32	—	—	—	—	—	—	—	16.80	—
21	1/2	—	—	—	9.10	—	9.80	—	16.80	—
22	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
23	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
24	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—
24	1/2	—	—	—	9.10	—	—	—	—	—
24	3/8	—	—	—	9.10	—	—	—	—	—
25	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80	—



# Drill Jig Bushings

## Head Press Fit - Type "H"

Drill Bushings are used for permanent press fit installations. When used as a drill guide, accurate hole size is maintained while eliminating bending and wandering on the workpiece. Correct overall length is measured on barrel only. Do not include collar. *Please inquire for quantity discount.*

*Correct overall length is measured on barrel only. Do not include collar.*



## Wire Gauge Sizes

Inside Diameter	Outside Diameter	Price Each							
		Overall Length							
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8
26	1/4	—	—	8.75	—	—	—	—	—
26	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80
27	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80
28	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
28	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80
29	1/4	8.05	8.40	8.75	10.50	—	11.20	16.10	23.10
29	5/16	8.05	8.40	8.75	9.10	9.80	9.80	10.50	16.80
30	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
30	5/16	8.05	8.40	8.75	10.50	11.20	5.46	16.10	16.80
31	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	—
32	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
33	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
34	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
35	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
36	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
36	5/16	—	—	—	10.50	—	11.20	—	—
37	13/64	—	—	—	10.50	—	—	—	—
37	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
38	1/4	8.05	8.40	8.75	10.50	11.20	11.20	16.10	23.10
39	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
39	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
39	1/4	10.50	11.20	11.55	11.90	—	13.30	16.10	23.10
40	3/16	10.50	11.20	11.55	11.90	—	13.30	16.10	—
40	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
40	1/4	10.50	11.20	11.55	11.90	—	13.30	—	23.10
40	5/16	—	—	—	—	—	13.30	—	—
40	13/32	—	11.20	—	11.90	—	—	—	—
41	3/16	10.50	11.20	11.55	11.90	12.60	13.30	—	—
41	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
41	5/16	—	—	—	—	—	13.30	—	—
42	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
42	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
43	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
43	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
44	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
44	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
45	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
45	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
46	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
46	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
47	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
47	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
48	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
48	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
49	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
49	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
50	5/32	—	—	—	11.90	—	—	—	—
50	3/16	10.50	11.20	11.55	11.90	12.60	13.30	—	—
50	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
50	5/16	—	—	—	11.90	—	—	—	—
51	3/16	10.50	11.20	11.55	11.90	—	13.30	—	—
51	13/64	10.50	11.20	11.55	11.90	—	13.30	16.10	—
51	5/32	—	—	—	11.90	—	—	—	—

# Drill Jig Bushings

## Head Press Fit - Type "H"

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*Correct overall length is measured on barrel only. Do not include collar.*



## Wire Gauge Sizes

Inside Diameter	Outside Diameter	Price Each					
		Overall Length					
		1/4	5/16	3/8	1/2	3/4	1
52	3/16	10.50	11.20	12.25	13.30	13.30	—
52	13/64	10.50	11.20	12.25	13.30	13.30	23.10
53	5/32	18.20	18.90	19.60	20.30	—	—
53	3/16	18.20	18.90	19.60	20.30	21.70	—
53	13/64	18.20	18.90	19.60	20.30	21.70	23.10
54	5/32	18.20	18.90	19.60	20.30	—	—
54	3/16	18.20	18.90	19.60	20.30	21.70	—
54	13/64	18.20	18.90	19.60	20.30	21.70	—
55	5/32	18.20	18.90	19.60	20.30	—	—
55	3/16	18.20	18.90	19.60	20.30	21.70	—
55	13/64	18.20	18.90	19.60	20.30	21.70	23.10
56	5/32	18.20	24.50	24.50	25.20	21.70	—
56	3/16	18.20	24.50	24.50	25.20	21.70	—
56	13/64	—	24.50	24.50	25.20	21.70	—
57	5/32	18.20	24.50	24.50	25.20	—	—
57	3/16	18.20	24.50	24.50	25.20	21.70	—
57	13/64	—	24.50	24.50	25.20	—	—
58	5/32	18.20	24.50	24.50	25.20	21.70	—
58	3/16	18.20	24.50	24.50	25.20	21.70	—
58	13/64	—	24.50	24.50	25.20	—	23.10
59	5/32	18.20	24.50	24.50	25.20	—	—
59	3/16	18.20	24.50	24.50	25.20	21.70	—
59	13/64	—	24.50	24.50	25.20	—	—
60	5/32	18.20	24.50	24.50	25.20	21.70	—
60	3/16	18.20	24.50	24.50	25.20	21.70	—
60	13/64	—	24.50	24.50	25.20	—	—
61	5/32	18.20	24.50	24.50	25.20	—	—
61	3/16	18.20	24.50	24.50	25.20	—	—
62	5/32	18.20	24.50	24.50	25.20	—	—
62	3/16	18.20	24.50	24.50	25.20	—	—
63	5/32	23.10	23.80	24.50	25.20	—	—
63	3/16	23.10	23.80	24.50	25.20	—	—
64	5/32	23.10	23.80	24.50	25.20	—	—
64	3/16	23.10	23.80	—	25.20	—	—
65	5/32	23.10	23.80	24.50	25.20	—	—
65	3/16	23.10	23.80	24.50	25.20	—	—
66	5/32	23.10	23.80	24.50	25.20	—	—
66	3/16	23.10	23.80	24.50	25.20	—	—
67	5/32	23.10	23.80	24.50	25.20	—	—
67	3/16	23.10	23.80	24.50	25.20	—	—
68	5/32	—	23.80	24.50	25.20	—	—
68	3/16	23.10	23.80	24.50	25.20	—	—
69	5/32	—	23.80	24.50	25.20	—	—
69	3/16	23.10	23.80	24.50	25.20	—	—
70	5/32	—	23.80	24.50	25.20	—	—
70	3/16	23.10	23.80	24.50	25.20	—	—
71	5/32	—	23.80	24.50	25.20	—	—
72	5/32	—	23.80	24.50	25.20	—	—
73	5/32	—	23.80	24.50	25.20	—	—
74	5/32	—	23.80	24.50	25.20	—	—
75	5/32	—	23.80	24.50	25.20	—	—
76	5/32	—	23.80	24.50	25.20	—	—
77	5/32	—	23.80	24.50	25.20	—	—
78	5/32	—	23.80	24.50	25.20	—	—
79	5/32	—	23.80	24.50	25.20	—	—
79	5/16	23.10	—	—	—	—	—
80	5/32	—	23.80	24.50	25.20	—	—

# Slip Fixed Renewable Bushing

Type "SF"

Ideal for use in long run production jobs where the bushing may need replacement. Lock screw holds the bushing in place. A simple turn allows the bushing to be removed - without needing to remove the lock screw. *Please inquire for quantity discount.*



*Correct overall length is measured on barrel only. Do not include collar.*

## Fractional Sizes

Inside Dia.	Out Side Dia.	Price Each													
		Overall Length													
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3	
1/16	3/16	21.52	21.74	21.74	21.74	22.90	24.48	—	—	—	—	—	—	—	
1/16	5/16	—	21.74	21.74	21.74	—	—	24.48	—	—	—	—	—	—	
5/64	3/16	11.90	11.90	11.90	12.85	13.10	13.50	—	—	—	—	—	—	—	
5/64	1/4	—	11.90	11.90	12.85	—	13.50	16.05	—	—	—	—	—	—	
3/32	5/16	—	12.00	12.00	—	—	13.50	—	—	—	—	—	—	—	
7/64	1/4	12.00	12.00	12.00	12.00	12.60	13.50	—	—	—	—	—	—	—	
7/64	5/16	12.00	12.00	12.00	12.00	—	—	16.05	19.50	—	—	—	—	—	
1/8	1/4	12.00	12.00	12.00	12.00	12.60	—	—	—	—	—	—	—	—	
1/8	5/16	—	12.00	12.00	12.00	—	13.50	—	19.50	—	21.00	—	—	—	
9/64	5/16	12.00	12.00	12.00	12.00	—	13.50	16.05	19.50	—	—	—	—	—	
9/64	1/2	—	—	12.00	12.00	—	13.50	16.05	19.50	—	21.00	—	—	—	
5/32	5/16	12.00	12.00	12.00	12.00	—	13.50	16.05	—	—	—	—	—	—	
5/32	1/2	—	12.00	12.00	12.00	12.60	13.50	16.05	19.50	—	21.00	—	—	—	
11/64	5/16	12.00	12.00	12.00	12.00	—	13.50	16.05	19.50	—	—	—	—	—	
11/64	1/2	—	12.00	12.00	12.00	—	13.50	16.05	19.50	19.50	21.00	—	—	—	
3/16	5/16	12.00	12.00	12.00	—	—	13.50	—	—	—	—	—	—	—	
3/16	1/2	—	12.00	12.00	—	—	13.50	16.05	19.50	—	21.00	—	—	—	
13/64	3/8	9.50	9.50	9.50	9.50	—	10.75	11.00	—	—	—	—	—	—	
13/64	1/2	—	9.50	9.50	9.50	—	10.75	11.00	16.00	—	21.00	22.50	—	—	
7/32	3/8	—	9.50	9.50	9.50	—	—	11.00	—	—	—	—	—	—	
7/32	1/2	—	9.50	9.50	9.50	—	—	11.00	16.00	—	21.00	—	—	—	
15/64	7/16	—	9.50	9.50	9.50	—	10.75	11.00	—	—	—	—	—	—	
15/64	1/2	—	9.50	9.50	9.50	—	10.75	11.00	—	19.50	21.00	—	—	—	
1/4	7/16	7.60	8.00	8.00	8.00	—	10.75	11.00	—	—	—	—	—	—	
1/4	1/2	7.60	8.00	8.00	8.00	—	10.75	11.00	16.00	—	21.00	—	—	—	
17/64	7/16	—	8.00	8.00	8.00	9.96	10.75	11.00	—	—	—	—	—	—	
17/64	1/2	—	8.00	8.00	8.00	—	10.75	11.00	16.00	19.50	21.00	22.00	—	—	
9/32	7/16	—	—	8.00	8.00	9.96	10.75	11.00	—	—	—	—	—	—	
9/32	1/2	—	8.00	8.00	8.00	—	10.75	11.00	16.00	—	21.00	22.50	—	—	
9/32	3/4	—	—	—	8.05	—	10.75	11.00	16.00	19.50	21.00	22.50	25.00	—	
19/64	1/2	—	8.00	8.00	8.05	—	10.75	11.00	16.00	—	21.00	22.50	—	33.00	
19/64	9/16	7.60	8.00	8.00	8.05	—	10.75	11.00	—	—	—	—	—	—	
19/64	3/4	—	—	—	8.05	—	10.75	11.00	16.00	19.50	21.00	22.50	—	33.00	
5/16	1/2	—	8.00	8.00	8.05	—	10.75	11.00	16.00	17.00	21.00	—	—	—	
5/16	9/16	7.60	8.00	8.00	8.05	9.96	10.75	11.00	—	—	—	—	—	—	
5/16	3/4	—	—	—	8.05	—	10.75	11.00	16.00	19.50	21.00	22.50	—	33.00	
21/64	1/2	—	8.00	8.00	8.05	—	10.75	11.00	16.00	17.00	17.00	22.50	25.00	33.00	
21/64	9/16	7.60	8.00	8.00	8.05	—	10.75	11.00	—	—	—	—	—	—	
21/64	3/4	—	—	8.00	8.05	—	10.75	11.00	16.00	19.50	—	22.50	—	—	
11/32	1/2	—	8.00	8.00	8.05	—	10.75	11.00	16.00	17.00	17.00	22.50	—	—	
11/32	9/16	7.60	8.00	8.00	8.05	—	10.75	11.00	—	—	—	—	—	—	
11/32	3/4	—	—	—	8.05	9.96	10.75	11.00	16.00	19.50	21.00	22.50	25.00	33.00	
23/64	5/8	—	8.00	8.00	8.05	9.96	10.75	11.00	—	—	—	—	—	—	
23/64	3/4	—	—	—	8.05	—	10.75	11.00	16.00	19.50	21.00	—	25.00	33.00	
3/8	5/8	—	8.00	8.00	8.05	9.96	10.75	11.00	—	—	—	—	—	—	
3/8	3/4	—	—	—	8.05	9.96	10.75	11.00	16.00	19.50	21.00	22.50	25.00	33.00	
25/64	5/8	—	8.00	8.00	8.05	9.96	10.75	11.00	—	—	—	—	—	—	
25/64	3/4	—	—	—	8.05	—	10.75	11.00	16.00	—	—	22.50	—	33.00	
13/32	5/8	7.60	8.00	8.00	8.05	9.96	10.75	11.00	16.00	—	17.00	—	—	—	
13/32	3/4	7.60	8.00	8.00	8.05	—	10.75	11.00	16.00	19.50	21.00	22.50	—	33.00	
27/64	5/8	7.60	8.00	8.00	8.47	9.96	10.75	11.00	16.00	—	17.00	—	—	—	
27/64	3/4	7.60	8.00	8.00	8.47	9.96	10.75	11.00	16.00	19.50	17.00	22.50	25.00	33.00	

# Slip Fixed Renewable Bushing

Type "SF"



Ideal for use in long run production jobs where the bushing may need replacement. Lock screw holds the bushing in place. A simple turn allows the bushing to be removed - without needing to remove the lock screw. *Please inquire for quantity discount.*



## Fractional Size

Correct overall length is measured on barrel only. Do not include collar.

In Side Dia.	Out Side Dia.	Price Each												
		Overall Length												
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3
7/16	5/8	7.60	8.00	8.00	8.47	9.96	10.75	11.00	16.00	—	17.00	—	—	—
7/16	3/4	7.60	8.00	8.00	8.47	—	10.75	11.00	16.00	—	17.00	—	25.00	33.00
29/64	3/4	7.60	8.00	8.00	8.47	—	10.75	11.00	16.00	17.00	17.00	22.50	—	—
15/32	3/4	7.60	8.00	8.00	8.47	—	10.75	11.00	16.00	—	17.00	22.50	25.00	33.00
15/32	1	—	—	—	8.47	—	10.75	11.00	16.00	17.00	17.00	22.50	25.00	35.00
31/64	3/4	7.60	8.00	8.00	8.47	—	10.75	11.00	16.00	—	17.00	22.50	—	—
31/64	1	—	—	—	8.47	—	10.75	11.00	16.00	17.00	17.00	22.50	25.00	—
1/2	3/4	—	8.00	8.00	8.47	9.96	10.75	11.00	16.00	—	17.00	22.50	—	33.00
1/2	7/8	—	9.24	—	9.65	10.95	11.10	11.80	16.00	—	—	—	—	—
1/2	1	—	—	8.75	9.65	10.95	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
33/64	3/4	7.60	8.00	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
33/64	7/8	—	—	—	9.65	—	11.10	—	16.00	—	—	—	—	—
33/64	1	—	—	—	9.65	—	11.10	11.80	16.00	17.00	—	22.50	25.00	—
17/32	3/4	7.60	8.00	8.75	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
17/32	7/8	—	—	8.75	9.65	—	11.10	—	16.00	17.00	17.00	—	—	—
17/32	1	—	—	—	9.65	—	11.10	—	16.00	17.00	17.00	22.50	25.00	33.00
35/64	3/4	—	—	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
35/64	7/8	7.60	—	8.75	9.65	10.95	11.10	11.80	16.00	17.00	17.00	—	—	—
35/64	1	—	—	—	9.65	10.95	11.10	11.80	16.00	17.00	17.00	22.50	—	—
9/16	3/4	—	—	—	9.65	—	11.10	11.80	16.00	—	17.00	22.50	—	35.00
9/16	7/8	7.60	—	8.75	9.65	10.95	11.10	11.80	—	17.00	17.00	—	—	—
9/16	1	—	—	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	—	33.00
37/64	7/8	—	—	8.75	9.65	10.95	11.10	11.80	16.00	17.00	17.00	—	—	—
37/64	1	—	—	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
19/32	7/8	7.60	—	—	9.65	10.95	11.10	11.80	16.00	17.00	—	—	—	—
19/32	1	—	—	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	—
39/64	7/8	7.60	—	8.75	9.65	10.95	11.10	11.80	16.00	17.00	17.00	—	—	—
39/64	1	—	—	—	9.65	—	11.10	11.80	16.00	17.00	17.00	22.50	—	—
5/8	7/8	—	—	—	10.62	10.95	11.10	11.80	16.00	17.00	17.00	22.50	25.00	—
5/8	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	22.50	25.00	33.00
5/8	1-3/8	—	—	—	15.50	—	16.12	—	20.00	—	—	—	—	—
41/64	7/8	—	—	—	10.62	10.95	11.10	11.80	—	17.00	—	—	—	—
41/64	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	—	25.00	—
41/64	1-3/8	—	—	—	15.50	—	16.12	—	—	20.00	—	—	—	—
21/32	7/8	—	—	—	10.62	10.95	11.10	11.80	16.00	17.00	—	—	—	32.00
21/32	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	26.00	30.00	33.00
21/32	1-3/8	—	—	—	15.50	—	16.12	—	20.00	—	24.00	26.00	31.00	39.00
43/64	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	22.50	30.00	35.00
43/64	1-3/8	—	—	—	15.50	—	11.10	18.32	20.00	—	24.00	26.00	—	—
11/16	1	—	—	—	10.62	10.95	11.10	11.80	16.00	17.00	17.00	—	32.00	35.00
11/16	1-3/8	—	—	—	15.50	—	16.12	18.32	—	—	24.00	26.00	—	—
45/64	1	—	—	—	10.62	10.95	11.10	11.80	16.00	—	17.00	—	32.00	35.00
45/64	1-3/8	—	—	—	—	—	16.10	18.32	20.00	—	24.00	26.00	—	—
23/32	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	22.50	—	35.00
23/32	1-3/8	—	—	—	—	—	16.10	18.32	20.00	—	24.00	26.00	—	35.00
47/64	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	22.50	32.00	35.00
47/64	1-3/8	—	—	—	15.50	—	16.12	18.32	20.00	23.00	24.00	—	—	—
3/4	1	—	—	—	10.62	—	11.10	11.80	16.00	17.00	17.00	27.50	32.00	35.00
3/4	1-3/8	—	—	—	15.50	—	16.12	18.32	20.00	—	24.00	29.00	32.00	39.00
49/64	1	—	—	—	12.00	—	12.70	13.50	17.00	18.00	18.60	—	32.00	35.00
49/64	1-1/8	—	—	—	—	—	17.40	—	—	—	26.00	29.00	32.00	—
49/64	1-3/8	—	—	—	16.50	—	17.40	19.00	21.50	—	—	29.00	32.00	—
25/32	1	—	—	—	12.00	—	12.70	13.50	17.00	18.00	26.00	29.00	32.00	39.00
25/32	1-3/8	—	—	—	16.50	—	17.40	19.00	21.50	—	26.00	29.00	32.00	—
51/64	1-3/8	—	—	—	16.50	—	17.40	19.00	21.50	—	26.00	29.00	32.00	—
13/16	1-3/8	—	—	—	16.50	—	17.40	19.00	21.50	—	26.00	29.00	—	39.00
53/64	1-3/8	—	—	—	16.50	—	17.40	19.00	21.50	—	26.00	29.00	32.00	39.00

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Type "SF"



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## Fractional Size

Correct overall length is measured on barrel only. Do not include collar.

In Side Dia.	Out Side Dia.	Price Each										
		Overall Length										
		1/2	5/8	3/4	1	1-1/4	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3
27/32	1-3/8	—	17.00	17.40	19.00	—	21.50	—	26.00	29.00	32.00	—
55/64	1-1/4	—	17.00	17.40	19.00	—	—	25.00	26.00	—	—	—
55/64	1-3/8	—	—	17.40	19.00	—	21.50	25.00	26.00	29.00	32.00	—
7/8	1-1/4	—	17.00	17.40	19.00	—	—	25.00	26.00	—	32.00	—
7/8	1-3/8	—	—	17.40	19.00	—	21.50	—	26.00	29.00	—	39.00
57/64	1-1/4	—	17.00	17.40	19.00	—	—	25.00	26.00	—	—	—
57/64	1-3/8	16.50	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
29/32	1-1/4	—	17.00	17.00	19.00	—	—	25.00	—	—	—	—
29/32	1-3/8	16.50	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
59/64	1-1/4	—	17.00	17.00	19.00	—	—	26.00	26.00	—	—	—
59/64	1-3/8	16.50	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
15/16	1-1/4	—	—	17.00	19.00	—	—	25.00	26.00	—	—	—
15/16	1-3/8	—	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
61/64	1-3/8	16.50	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
31/32	1-3/8	—	17.00	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
31/32	1-3/4	—	—	17.00	24.50	—	26.00	—	32.00	34.00	32.00	46.00
63/64	1-3/8	16.50	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	—
63/64	1-3/4	—	—	24.00	24.50	—	—	—	26.00	34.00	32.00	46.00
1	1-3/8	—	—	17.00	19.00	—	21.50	—	26.00	29.00	32.00	42.00
1	1-3/4	—	—	24.00	24.50	—	—	—	32.00	34.00	38.00	46.00
1-1/64	1-3/8	—	—	—	20.00	—	23.00	—	27.50	31.00	—	—
1-1/64	1-1/2	—	—	—	24.50	26.00	—	28.00	—	—	—	—
1-1/32	1-3/8	17.00	—	18.00	20.00	24.00	23.00	—	27.50	31.00	—	—
1-1/32	1-1/2	—	—	24.00	24.50	26.00	—	28.00	—	—	—	—
1-1/32	1-3/4	—	—	24.00	24.50	—	—	—	—	34.00	—	46.00
1-3/64	1-3/8	—	—	21.00	22.00	—	—	—	—	—	—	—
1-3/64	1-1/2	—	—	24.00	24.50	26.00	—	—	—	—	—	—
1-1/16	1-3/8	—	—	21.00	22.00	—	23.00	—	—	34.00	—	42.00
1-1/16	1-1/2	—	—	24.00	24.50	26.00	—	28.00	—	—	—	—
1-1/16	1-3/4	—	—	—	24.50	—	26.00	—	—	34.00	—	—
1-5/64	1-1/2	—	—	21.00	24.50	26.00	—	28.00	—	—	—	—
1-3/32	1-1/2	—	—	24.00	24.50	26.00	—	28.00	—	—	—	—
1-3/32	1-3/4	—	—	24.00	24.50	—	—	—	—	34.00	—	46.00
1-7/64	1-1/2	—	—	24.00	—	26.00	—	28.00	—	—	—	—
1-1/8	1-1/2	—	—	—	24.50	26.00	—	28.00	—	—	—	—
1-1/8	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	—	38.00	—
1-9/64	1-3/4	—	—	—	—	—	26.00	—	—	34.00	—	—
1-5/32	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	—	—
1-11/64	1-3/4	—	—	—	24.50	—	—	28.00	—	—	—	—
1-3/16	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	38.00	46.00
1-13/64	1-3/4	—	—	—	—	—	26.00	—	—	—	—	—
1-7/32	1-3/4	—	—	24.00	24.50	—	—	—	32.00	34.00	38.00	46.00
1-15/64	1-3/4	—	—	—	—	—	26.00	—	—	—	—	—
1-1/4	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	38.00	46.00
1-9/32	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	—	—
1-5/16	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	38.00	46.00
1-11/32	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	—	—	—
1-3/8	1-3/4	—	—	24.00	24.50	—	26.00	—	32.00	34.00	38.00	46.00
1-3/8	2-1/4	—	—	29.00	31.00	—	—	—	—	—	—	—
1-13/32	2-1/4	—	—	29.00	31.00	—	—	—	36.00	—	—	—
1-7/16	2-1/4	—	—	29.00	31.00	—	33.00	—	36.00	—	38.00	—
1-1/2	2-1/4	—	—	29.00	—	—	33.00	—	36.00	—	38.00	—
1-17/32	2-1/4	—	—	—	31.00	—	33.00	—	36.00	—	—	—
1-9/16	2-1/4	—	—	29.00	—	—	33.00	—	36.00	39.00	42.00	—
1-5/8	2-1/4	—	—	29.00	31.00	—	33.00	—	36.00	39.00	42.00	46.00
1-11/16	2-1/4	—	—	29.00	31.00	—	33.00	—	—	—	—	—
1-3/4	2-1/4	—	—	29.00	31.00	—	33.00	—	—	—	—	—
1-13/16	2-1/4	—	—	—	—	—	—	—	—	45.00	48.50	52.00
1-7/8	2-1/4	—	—	—	—	—	—	—	—	45.00	48.50	52.00
1-7/8	2-3/4	—	—	29.00	31.00	—	—	—	—	—	—	—



# Slip Fixed Renewable Bushing

## Type "SF"

Ideal for use in long run production jobs where the bushing may need replacement. Lock screw holds the bushing in place. A simple turn allows the bushing to be removed - without needing to remove the lock screw. *Please inquire for quantity discount.*  
 Correct overall length is measured on barrel only. Do not include collar.



### Letter Sizes

In Side Dia.	Out Side Dia.	Price Each													
		Overall Length													
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-1/2	1-3/4	2-1/8	2-1/2	3	
A	7/16	9.50	9.50	9.50	9.50	9.96	10.75	11.00	—	—	—	—	—	—	
A	1/2	—	9.50	9.50	9.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
B	7/16	9.50	—	9.50	9.50	9.96	10.75	11.00	—	—	—	—	—	—	
B	1/2	—	9.50	9.50	9.50	—	10.75	11.00	12.00	—	18.00	24.50	—	—	
C	7/16	9.50	9.50	9.50	9.50	9.96	10.75	11.00	—	—	—	—	—	—	
C	1/2	—	9.50	9.50	9.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
D	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
D	1/2	—	8.00	8.00	8.50	9.96	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
F	7/16	8.00	8.00	—	8.50	9.96	10.75	—	—	—	—	—	—	—	
F	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	—	—	—	
G	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
G	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	—	—	—	
H	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
H	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
I	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
I	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
J	7/16	8.00	—	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
J	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
K	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
K	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
L	7/16	8.00	8.00	8.00	8.50	9.96	10.75	11.00	—	—	—	—	—	—	
L	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
L	3/4	—	—	—	8.50	—	10.75	11.00	12.00	—	—	—	—	35.00	
M	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
M	9/16	8.00	8.00	8.00	8.50	—	10.75	11.00	—	—	—	—	—	—	
M	3/4	—	—	—	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	32.00	35.00	
M	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	—	18.00	—	—	—	
N	9/16	8.00	8.00	8.00	8.50	—	10.75	—	—	—	—	—	—	—	
N	3/4	—	—	—	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	32.00	35.00	
O	1/2	—	8.00	8.00	8.50	—	10.75	—	12.00	14.00	18.00	24.50	—	35.00	
O	9/16	—	8.00	8.00	8.50	—	10.75	11.00	—	—	—	—	—	—	
O	3/4	—	—	—	8.50	—	10.75	11.00	12.00	14.00	18.00	—	32.00	35.00	
P	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	—	18.00	24.50	—	35.00	
P	9/16	8.00	8.00	8.00	8.50	—	—	—	—	—	—	—	—	—	
P	3/4	—	—	—	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	35.00	
Q	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	—	18.00	24.50	—	35.00	
Q	9/16	8.00	8.00	8.00	—	—	10.75	11.00	—	—	—	—	—	—	
Q	3/4	—	—	—	—	—	10.75	11.00	12.00	14.00	18.00	—	—	35.00	
R	1/2	—	8.00	8.00	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
R	9/16	8.00	8.00	8.00	8.50	—	10.75	11.00	—	—	—	—	—	—	
R	3/4	—	—	—	8.50	—	10.75	11.00	12.00	14.00	18.00	24.50	—	—	
S	5/8	—	—	—	8.50	10.50	10.75	11.00	—	—	—	—	—	—	
S	3/4	—	—	—	8.50	—	—	11.00	12.00	14.00	18.00	24.50	—	—	
T	5/8	—	—	—	8.50	10.50	—	—	—	14.00	—	—	—	—	
T	3/4	—	—	—	8.50	—	—	11.00	12.00	14.00	18.00	24.50	32.00	35.00	
U	5/8	—	8.00	8.00	8.00	10.50	10.75	11.00	—	14.00	—	—	—	—	
U	3/4	—	—	—	8.00	—	10.75	11.00	13.00	—	19.00	24.50	32.00	35.00	
V	5/8	—	8.50	8.50	8.50	10.75	11.00	11.60	—	—	—	—	—	—	
V	3/4	—	—	—	8.50	—	11.00	11.60	13.75	14.00	19.00	—	32.00	36.00	
W	5/8	—	8.50	8.50	8.50	10.75	11.00	11.60	—	—	—	—	—	—	
W	3/4	—	—	—	8.50	—	11.00	11.60	13.75	—	19.00	—	32.00	36.00	
X	5/8	—	—	8.50	8.50	—	—	11.60	—	14.00	—	—	—	—	
X	3/4	—	—	—	8.50	—	11.00	11.60	13.75	—	19.00	—	—	36.00	
Y	5/8	—	8.50	8.50	8.50	10.75	—	—	—	—	—	—	—	—	
Y	3/4	—	—	—	8.50	—	11.00	11.60	13.75	14.00	19.00	—	—	36.00	
Z	5/8	—	8.50	8.50	8.50	10.75	—	11.60	—	14.00	—	—	—	—	
Z	3/4	—	—	—	8.50	—	11.00	11.60	13.75	—	19.00	—	—	36.00	

# Slip Fixed Renewable Bushing

Type "SF"



Ideal for use in long run production jobs where the bushing may need replacement.

Lock screw holds the bushing in place. *Please inquire for quantity discount.*

## Wire Gauge Sizes

Correct overall length is measured on barrel only. Do not include collar.

In Side Dia.	Out Side Dia.	Price Each									
		Overall Length									
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	1-3/4	2-1/8
1	3/8	9.50	9.50	9.50	9.50	12.50	12.50	13.00	—	—	—
1	1/2	—	10.00	10.00	10.70	12.00	12.00	13.00	16.50	19.50	23.00
2	3/8	10.00	10.00	10.00	10.70	12.00	12.00	13.00	—	—	—
2	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	—
3	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
3	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	23.00
4	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
4	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	23.00
5	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
5	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	—
6	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
6	1/2	—	10.00	10.00	10.70	—	12.50	—	16.50	19.50	23.00
7	3/8	10.00	—	10.00	10.70	12.00	12.50	—	—	—	—
7	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	23.00
8	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
8	1/2	—	10.00	10.00	10.70	12.00	12.50	13.00	16.50	19.50	23.00
9	3/8	10.00	10.00	10.00	10.70	12.00	12.50	13.00	—	—	—
9	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	23.00
10	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
10	3/8	11.70	11.90	11.90	12.85	13.10	13.50	16.05	—	—	—
10	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	23.00
11	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
11	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	23.00
12	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
12	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	23.00
13	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
13	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
14	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
14	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
15	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
15	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
16	5/16	—	—	—	—	—	13.50	16.05	19.50	—	—
16	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
17	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
17	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
18	5/16	—	11.90	11.90	12.85	—	13.50	16.05	—	—	—
18	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
19	5/16	—	—	11.90	12.85	—	13.50	16.05	—	—	—
19	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
20	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
20	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
21	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
21	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
22	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
22	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
23	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
23	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
24	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
24	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
25	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
25	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
26	5/16	—	11.90	—	12.85	—	13.50	16.05	19.50	—	—
26	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
27	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
27	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
28	1/4	11.70	11.90	—	12.85	13.10	—	—	—	—	—
28	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
28	1/2	—	11.90	11.90	12.85	—	13.50	16.05	19.50	20.30	—
29	1/4	11.70	11.90	11.90	12.85	13.10	13.50	16.05	19.50	—	—
29	5/16	11.70	—	11.90	12.85	—	13.50	—	19.50	—	—
30	1/4	11.70	11.90	11.90	12.85	13.10	13.50	—	—	—	—
30	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
31	1/4	11.70	11.90	11.90	12.85	13.10	13.50	—	—	—	—
31	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
32	1/4	11.70	11.90	11.90	12.85	13.10	13.50	—	—	—	—
32	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
33	1/4	11.70	—	—	12.85	—	13.50	—	—	—	—
33	5/16	11.70	—	11.90	12.85	—	13.50	16.05	19.50	—	—
34	1/4	11.70	11.90	11.90	12.85	—	13.50	—	—	—	—
34	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
35	1/4	11.70	11.90	11.90	12.85	13.10	13.50	—	—	—	—
35	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—
36	1/4	—	11.90	—	12.85	—	13.50	—	—	—	—
36	5/16	11.70	11.90	11.90	12.85	—	13.50	16.05	19.50	—	—

# Slip Fixed Renewable Bushing

Type "SF"



WORK HOLDING

## Wire Gauge Sizes - Continued

Correct overall length is measured on barrel only. Do not include collar.

In Side Dia.	Out Side Dia.	Price Each								
		Overall Length								
		1/4	5/16	3/8	1/2	5/8	3/4	1	1-3/8	
37	1/4	11.90	11.90	11.90	12.85	—	13.50	—	—	
37	5/16	—	11.90	11.90	12.85	—	13.50	16.05	19.50	
38	1/4	11.90	—	11.90	12.85	13.10	13.50	—	—	
38	5/16	11.90	11.90	11.90	12.85	—	13.50	16.05	19.50	
39	1/4	—	11.90	11.90	—	13.10	—	—	—	
40	3/16	11.90	—	—	12.85	—	13.50	—	—	
41	3/16	—	—	11.90	12.85	—	13.50	—	—	
41	5/16	—	11.90	11.90	—	—	—	16.05	19.50	
42	3/16	11.90	11.90	11.90	12.85	13.10	—	—	—	
42	5/16	—	—	11.90	12.85	—	—	16.05	19.50	
43	3/16	11.90	—	11.90	12.85	—	—	—	—	
43	5/16	11.90	11.90	11.90	12.85	—	13.50	16.05	—	
44	3/16	11.90	—	11.90	12.85	13.10	—	—	—	
44	1/4	11.90	—	11.90	12.85	—	—	—	—	
44	5/16	—	11.90	11.90	—	—	13.50	16.05	—	
45	3/16	11.90	—	11.90	12.85	—	13.50	—	—	
45	5/16	—	11.90	11.90	13.85	—	13.50	16.05	—	
46	3/16	11.90	—	11.90	13.85	—	—	—	—	
47	3/16	11.90	—	11.90	13.85	—	—	—	—	
47	5/16	—	11.90	11.90	13.85	—	—	16.05	—	
48	3/16	11.90	—	—	13.85	—	—	—	—	
49	3/16	11.90	—	11.90	—	—	13.50	—	—	
49	5/16	—	11.90	11.90	13.85	—	13.50	16.65	—	
50	3/16	21.74	—	21.74	24.48	—	—	—	—	
50	5/16	—	21.74	21.74	21.74	—	—	—	—	
51	3/16	21.74	21.74	—	—	—	—	—	—	
51	5/16	—	21.74	21.74	21.74	—	22.50	—	—	
52	3/16	21.74	21.74	21.74	21.74	—	22.50	—	—	
52	5/16	—	21.74	21.74	21.74	—	22.50	24.00	—	
53	3/16	—	21.74	—	21.74	—	—	—	—	
53	5/16	—	—	21.74	21.74	—	—	—	—	
54	5/16	—	—	21.74	21.74	—	—	—	—	
55	3/16	21.74	—	—	21.74	—	—	—	—	

# Drill Jig Bushings

Used with Slipfixed Bushings



## Headless Liners "L"

List No. 085-

Drill Size	Nominal	Body Length																			
		5/16		3/8		1/2		3/4		1		1-3/8		1-3/4		2-1/8		2-1/2		3	
		Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price
5/16 - .3126 - .3129	1/2	002	7.78	003	8.50	004	8.62	—	—	006	11.04	007	12.72	008	14.60	—	—	—	—	—	—
1/2 - .5002 - .5005	3/4	009	7.84	010	8.62	011	8.62	012	9.16	013	11.04	014	12.72	015	14.60	—	—	—	—	—	—
3/4 - .7503 - .7506	1	—	—	018	9.28	—	—	020	10.82	021	11.48	022	13.50	023	15.32	024	16.94	—	—	—	—
1 - 1.0004 - 1.0007	1-3/8	—	—	—	—	024	13.50	028	14.22	029	16.94	030	18.88	031	22.40	032	26.10	033	29.16	—	—
1-3/8 - 1.3756 - 1.3760	1-3/4	—	—	—	—	060	21.08	035	21.34	036	21.34	037	21.34	038	24.34	039	28.30	040	31.72	041	37.00
1-3/4 - 1.7508 - 1.7512	2-1/4	—	—	—	—	—	—	042	27.24	—	—	044	27.24	045	29.84	046	34.46	047	37.88	048	44.00
2-1/4 - 2.2510 - 2.2515	2-3/4	—	—	—	—	—	—	049	30.10	050	30.10	051	30.10	52	33.88	053	36.78	—	—	055	48.00

## Head Liners "HL"

List No. 087-

Drill Size	Nominal	Body Length																			
		5/16		1/2		3/4		1		1-3/8		1-3/4		2-1/8		2-1/2		3			
		Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price	Tool#	Price		
5/16 - .3126 - .3129	1/2	—	—	004	10.82	—	—	—	—	007	15.76	—	—	—	—	—	—	—	—	—	—
1/2 - .5002 - .5005	3/4	009	10.38	011	10.82	012	11.74	013	13.56	014	15.76	015	18.48	016	21.34	—	—	—	—	025	26.92
3/4 - .7503 - .7506	1	—	—	019	13.12	020	14.25	021	14.92	022	15.76	023	19.84	024	22.40	025	26.92	026	31.00	—	—
1 - 1.0004 - 1.0007	1-3/8	—	—	027	17.78	028	17.78	029	17.78	030	19.44	031	23.54	032	27.00	033	29.12	033	29.12	—	—
1-3/8 - 1.3756 - 1.3760	1-3/4	—	—	—	—	035	21.74	036	22.96	—	—	038	28.30	039	32.30	040	37.00	041	39.00	—	—
1-3/4 - 1.7508 - 1.7512	2-1/4	—	—	—	—	042	26.00	043	29.40	044	32.21	045	34.72	046	38.32	047	44.46	048	49.00	—	—
2-1/4 - 2.2510 - 2.2515	2-3/4	—	—	—	—	—	—	050	31.90	051	38.32	052	42.66	—	—	054	48.00	055	53.00	—	—

# “Original” De-burr-it™

Deburring Sets and Tools



## Series B Rotational Deburring Workhorse



Set B	
Tool No.	Price
JS76-620	5.70

- For deburring of holes, slots and edges in metals and plastics
- Contains: Blades B10, B20, Blade Holder B and Handle A.
- Blades can be inserted on the axis of the blade holder or perpendicular to it. Minimum hole diameter 3.0mm (0.12”).

## Series C - The Scraper Set



Tool No.	Price
JS76-621	8.00

- Tools for quality finishing and scraping.
- Contains:**
- Blade C42, Blade Holder C, Handle A and a key.
- Triangular blade geometry provides 3 cutting edges to reach the most inaccessible locations

## Series E - The Heavy Duty Rotational Deburring Tool



Tool No.	Price
JS76-622	6.86

- The tool for heavy duty deburring of holes, slots, and edges. Contains Blades E100, E200, E300, Blade Holder E and Handle A
- Minimum hole diameter 4.0mm (0.16”)
  - All blades are High Speed Steel unless otherwise stated

Each set features the UNI handle, engineered for unparalleled comfort, safety and high performance. This tools is extremely powerful yet lightweight, Comes with the special asapter for an extra- close grip.

## Universal Deburring Set

### Includes:

- UNI handle,
- M5 holder, Adapter B, Adapter E,
- Baldes: B10, B20, B30, E100, E200, E300,
- Wrench



Tool No.	Price
JS76-623	30.05

## Replacement Parts Pkg. Quantity: 10 Pcs.

Blade No.	Description	Tool No.	Price Each
B10	H.S. blade excellent for materials with spiral chips such as aluminium plastic, steels, etc.	JS76-624	0.95
B20	H.S. blade Can deburr in both clockwise and counterclockwise directions	JS76-625	0.95
C60	H.S. 3.2x50mm D1 Bladeholder with UN handle.	JS76-626	5.11
C66	H.S. 3.2x48mm D1 Bladeholder with UN handle.	JS76-627	5.11
E100	H.S. Excellent for materials with spiral chips such as aluminium, plastic, steel, etc.	JS76-628	1.26
E200	H.S. Ideal for brass, cast iron & other metals with a powdery chip. Can deburr in both clockwise and counterclockwise directions.	JS76-629	1.26
E300	H.S. Hooked blade simultaneously removes both external and internal burrs from holes drilled into steel and plastic up to 4mm (0.16”) thick	JS76-630	1.80

All blades are packed in quantity of 10

## 9 Pc. Deburring Tool Set

- Blades can be stored in plastic handle.
- Blades can be easily changed by pressing collar of holder.
- Packed in fitted case.

### 9 Pcs/Set includes:

- One plastic handle
- One each of E100, E200, E300, B10, B20, B30 blades
- One each of E holder and B holder



Tool No.	Price
JS76-631	11.37

## Edge Off Disposable

Includes: E100 Blade mounted in an 8 mm Hexagonal painted Aluminium Handle. The blade is not replaceable. Handy pocket clip.



Tool No.	Price
JS76-632	9.00

# Precision Tools

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# CUSTANITE

Precision



### MICROMETERS

All micrometers, unless otherwise indicated, are supplied with:

- **Satin-Chrome Finish Sleeve and Thimble**
- **Fitted Case**
- **Appropriate Standards**

### OUTSIDE MICROMETERS AND MICROMETER SETS

Micrometers from 0-1" / 0-25mm through 3-4" / 75-100mm have forged steel frames. Larger micrometers have lightweight enamel frames.

- Carbide tipped measuring faces.
- Locknut
- Ratchet Stop



INCH Grad. .0001"			METRIC Grad. .01mm		
Range	Order No.	Price	Range (mm)	Order No.	Price
0 - 1"	PR4753010	25.50	0 - 25	PR1960025	25.50
1 - 2"	PR4753020	27.50	25 - 50	PR1962550	27.50
2 - 3"	PR4753030	30.50	50 - 75	PR1965075	30.50
3 - 4"	PR4753040	32.50	75 - 100	PR1967510	32.50
4 - 5"	PR4753050	37.50	100 - 125	PR1961012	37.50
5 - 6"	PR4753060	43.50	125 - 150	PR1961215	43.50
6 - 7"	PR4753070	58.50	150 - 175	PR1961517	58.50
7 - 8"	PR4753080	61.00	175 - 200	PR1961720	61.00
8 - 9"	PR4753090	78.00	200 - 225	PR1962022	78.00
9 - 10"	PR4753100	87.50	225 - 250	PR1962225	87.50
10 - 11"	PR4753110	95.00	250 - 275	PR1962527	95.00
11 - 12"	PR4753120	110.00	275 - 300	PR1962730	110.00

### SETS - OF ABOVE MICROMETERS IN FITTED CASES



INCH SETS			
Range	Grad.	Order No.	Price
0 - 3"	.0001"	PR4750401	72.00
0 - 6"	.0001"	PR4750402	195.00
6 - 12"	.0001"	PR4750403	425.00
0 - 12"	.0001"	PR4750404	580.00

METRIC SETS			
Range	Grad	Order No.	Price
0 - 75	.01mm	PR1960075	77.00
0 - 150	.01mm	PR1960150	197.00
150 - 300	.01mm	PR1961530	390.00
0 - 300	.01mm	PR1960300	610.00

### DIGITAL OUTSIDE MICROMETERS

The digital counter indicates direct reading in 1/1000; "tenths" are read by means of a clearly marked vernier scale.



- Carbide tipped measuring faces.
- Locknut
- Ratchet Stop

INCH			
Range	Grad.	Order No.	Price
0 - 1	.0001	PR1450601	45.00
1 - 2	.0001	PR1450602	49.00
2 - 3	.0001	PR1450603	55.00
3 - 4	.0001	PR1450604	69.00

SET - IN FITTED CASE			
Range	Grad.	Order No.	Price
0 - 3	.0001	PR1450649	160.50

### DIGITAL ELECTRONIC OUTSIDE MICROMETERS

- 5 keys
- Large and clear LCD.
- Absolute and incremental conversion.
- Friction thimble.
- Data hold and Tolerance set.
- SPC output



Range	Graduation	Order No.	Price
0-1" / 0-25mm	.00005" / .001mm	PR7250001	115.70
1-2" / 25-50mm	.00005" / .001mm	PR7250012	140.00
2-3" / 50-75mm	.00005" / .001mm	PR7250023	158.00

### MICROMETER STANDARDS



Size Inch	Order No.	Price	Size mm	Order No.	Price
1"	PR1960011	7.50	25mm	PR1960026	7.50
2"	PR1960012	9.90	50mm	PR1960050	9.90
3"	PR1960013	12.00	75mm	PR1960076	12.00
4"	PR1960014	14.50	100mm	PR1960100	14.50
5"	PR1960015	17.10	125mm	PR1960125	17.10
6"	PR1960006	18.70	150mm	PR1960151	18.70
7"	PR1960007	22.50	175mm	PR1960175	22.50
8"	PR1960008	24.30	200mm	PR1960200	24.30
9"	PR1960009	27.20	225mm	PR1960225	27.20
10"	PR1960010	29.50	250mm	PR1960250	29.50
11"	PR1960111	32.00	275mm	PR1960275	32.00

## INTERCHANGEABLE ANVIL OUTSIDE MICROMETERS

- Ratchet stop and lock nut
- High accuracy interchangeable anvils
- Carbide measuring faces
- Laser engraved graduations
- Enamel frame
- With standards in a fitted case



Range	Grad	Order No.	Price
0 - 6"	.001"	PR9030006	182.00
6 - 12"	.001"	PR2030612	259.00

## MULTI-ANVIL MICROMETERS

- Interchangeable anvils (Round and Flat) permit quick accurate measurement of tubing, cylindrical walls, from a hole or slot to an edge, and many hard-to-reach locations.
- Friction thimble for exact
- Chrome-Plated frame.
- Carbide-tipped spindle.
- .0001" Graduation.



Range	Order No.	Price
0 - 1"	PR2030010	120.00
1 - 2"	PR2030013	136.00

## INTERCHANGEABLE ANVIL OUTSIDE MICROMETERS

### FEATURES:

- Pipe Construction
- Pipe combined steel frame provides lightness plus extreme rigidity for perfect balance
- Carbide measuring faces
- With standards in a fitted case
- Rapid stop and lock nut



Range	Graduation	Order No.	Price
12 - 16"	.001"	PR201216	327.00
16 - 20"	.001"	PR9201620	375.00
20 - 24"	.001"	PR202024	460.00

## DIGITAL ELECTRONIC MULTI-ANVIL MICROMETERS

- 5 key Deluxe Model micrometer head
- Friction thimble for exact repetitive readings.
- Chrome-Plated frame.
- Carbide-tipped spindle.
- Interchangeable anvils permit quick accurate measurement of tubing, cylindrical walls, from a hole or slot to an edge, and many hard-to-reach locations.



Range	Graduation	Order No.	Price
0-1" / 0-25mm	0.00005" / 0.001mm	PR7254001	192.00
1-2" / 25-50mm	0.00005" / 0.001mm	PR7254012	222.50

## INTERCHANGEABLE DIGITAL ELECTRONIC ANVIL MICROMETERS

### FEATURES

- Friction Thimble
- With 5 key deluxe micrometer head
- Carbide Measuring Faces
- With Standards
- Fitted Case



Range	Graduation	Order No.	Price
0-6" / 0-150mm	0.00005" / 0.001mm	PR7256006	242.00
6-12" / 150-300mm	0.00005" / 0.001mm	PR7256612	332.00

## 7 - PC. PRECISION MICROMETER ATTACHMENT KIT

All anvils are held on with its own individual boot. Hardened and ground. Finest quality steel. Highest quality surface finish. Each anvil hand inspected. Plastic case. Micrometer not included.



Anvil Type	Specifications
Disc	.500
Ball	.200
Spline	.100
Super Spline	.050
Comparator	.040 Face x 30°
Blade	.030
Knife	.020 Face x 30°
Order No.	Price
PR5250007	19.00

### MICROMETER STAND

- Designed to allow bench-top use with hand micrometers or other gages which have frame area sufficient to grab onto.
- For 0-4"/100mm micrometers.
- Adjustable to any position and angle
- Attractive finish.



Order No.	Price
PR5252000	28.00

### BLADE MICROMETERS

- Non-rotating spindle.
- .0001" Graduation.
- Laser engraved graduations.
- Ratchet friction trimble.
- Enamel frame.



Range	Order No.	Price
0 - 1"	PR2030014	136.80
1 - 2"	PR2030015	159.60

### DIGITAL ELECTRONIC BLADE MICROMETER

- Friction thimble
- Chrome-plated frame.
- 5 key deluxe micrometer head.

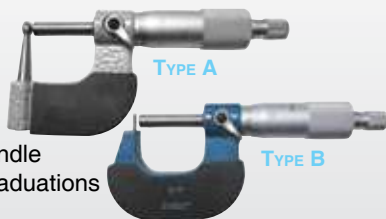


Range	Graduation	Order No.	Price
0-1" / 0-25mm	0.00005" / 0.001mm	PR7257001	230.00

### TUBE MICROMETERS

**FEATURES**

- Ratchet stop
- Carbide-tipped spindle
- Laser engraved graduations
- Enamel frame



Range	Graduation	Order No.	Price
0 - 1" (A)	.0001"	PR1462020	44.00
0 - 1" (B)	.0001"	PR1462025	48.00

### DISC MICROMETERS (GEAR TOOTH)

**SPECIAL FEATURES :**

- Anvil and spindle hardened and precision ground micro-lap finish on measuring faces.
- Quick and easy zero adjustment.
- Every thousandth is numbered micro-fine for easy reading.
- Deluxe heat-insulator on satin chrome finished forged steel frame, tapered for hard to get at places.
- Disc type anvil and spindle - simplifies measuring thicknesses of difficult, closely spaced sections, ribs, keys, fins, cutting edges on forming tools, chordal thickness of gear teeth, etc.
- Positive locking clamp.
- Large diameter, disc will enter inaccessible places such as narrow grooves, slots and recesses over .030" width.



Range	Graduation	Order No.	Price
0 - 1"	.001"	PR1475901	82.00
1 - 2"	.001"	PR1475902	95.00
0 - 25 mm	.01mm	PR1475903	95.00
25 - 50 mm	.01mm	PR1475904	110.00

### DIGITAL ELECTRONIC DISC MICROMETER

- Friction thimble.
- Chrome-plated frame.
- With 5 key deluxe model micrometer head.



Range	Graduation	Order No.	Price
0-1" / 0-25mm	.00005" / .001mm	PR7253001	197.00

### INDICATOR MICROMETERS

- Carbide faces
- Chrome-plated frame
- Premium quality
- Can be used as Go/No Go gage



Range	Graduation	Order No.	Price
<b>INCH</b>			
0 - 1"	.00005"	PR2030005	320.00
1 - 2"	.00005"	PR2030009	350.00
<b>METRIC</b>			
0 - 25mm	.001mm	PR2030007	320.00

## SCREW THREAD MICROMETERS

- Ratchet Stop
- Laser engraved graduations.
- Enamel frame.
- V-Anvils included
- Graduation .001" or .01mm

Range	Order No.	Price
<b>INCH</b>		
0 - 1"	PR2030001	130.00
1 - 2"	PR2030002	142.00
2 - 3"	PR2030003	158.00
3 - 4"	PR2030004	234.00
<b>METRIC</b>		
0 - 25mm	PR9030025	138.50



## DEPTH MICROMETERS

Rods are easily interchangeable and adjustable. Base fully hardened and lapped for highest accuracy. All surfaces are satin-chrome plated. Ratchet stop. Graduated in .001" or .01mm.



Range	Length of Base	No. of Rods	Order No.	Price
0 - 4"	2½"	4	PR5001502	66.00
0 - 4"	4"	4	PR5001503	67.00
0 - 6"	4"	6	PR5001504	86.00

Range	Length of Base	No. of Rods	Order No.	Price
0 - 100mm	63mm	4	PR5001100	113.40
0 - 100mm	101.5mm	4	PR5001125	124.10
0 - 150mm	101.5mm	6	PR5001150	134.90

## DIGITAL ELECTRONIC DEPTH MICROMETER

- 5 key Deluxe Model micrometer head
- Spherical rod end
- High accuracy interchangeable rods
- Friction thimble
- .00005"/.001mm
- 4" Base



Range	No. of Rods	Order No.	Price
0 - 6" / 0 - 150mm	6	PR7258001	190.00

## INSIDE MICROMETERS



- Graduations .001" or .01mm
- Caliper type jaws.
- Chrome-plated
- Carbide measuring faces.
- Ratchet stop for exact repetitive readings.
- Complete with fitted case.

Range	Order No.	Price
0.2 - 1.2"	PR2050212	63.50
1 - 2"	PR2051020	77.00
5 - 30mm	PR2050530	63.50
25 - 50mm	PR2052550	77.00

## DIGITAL ELECTRONIC INSIDE MICROMETERS

- Graduation .00005"/.001mm
- With 5 key deluxe model micrometer head



Range	Order No.	Price
0.2 - 1.2" / 5 - 30mm	PR7250212	190.00
1 - 2" / 25 - 50mm	PR7251021	212.50

## INSIDE DIAMETER MICROMETERS LARGE RANGE TUBULAR TYPE

- Carbide measuring faces
- Laser engraved graduations
- Thermal insulator on each rod
- Each rod marked with length
- Laser engraved grads.
- Carbide measuring faces
- Chrome-plated



Range	Graduation	Order No.	Price
2 - 10"	.001"	PR203210	127.50
4 - 36"	.001"	PR203436	670.00
6 - 55"	.001"	PR203655	1104.00



### DIAL BORE GAGE SETS

For close tolerance I.D. measurements. Sets include dial indicator with protective cover, anvils, and spacers, in a fitted case.



INCH - Graduation .0005"			
Range	Bore Depth	Order No.	Price
.25 - .40"	1.57	PR5670010	120.00
.40 - .70"	4	PR5670018	120.00
.7 - 1.5"	5	PR5670035	120.00
1.4 - 2.4"	6	PR5670060	120.00
2.0 - 6.0"	6	PR5670150	120.00

METRIC - Graduation .01mm			
Range	Bore Depth	Order No.	Price
6 - 10mm	40mm	PR5670610	120.00
10 - 18mm	100mm	PR5671018	120.00
18 - 35mm	125mm	PR5671835	120.00
35 - 50mm	150mm	PR5673550	120.00
50 - 100mm	150mm	PR5675010	120.00
50 - 160mm	150mm	PR5675016	120.00

### DIGITAL BORE GAGES

- For inside measurements
- Zero setting at any position
- With data output interface
- Metric/Inch system conversion at any position
- Resolution: 0.005"/0.01mm



Range	Order No.	Price
2" - 4" / 50 - 100mm	PR5670204	171.70
2" - 6.125" / 50 - 160mm	PR5670206	171.70
4" - 6.125" / 100 - 160mm	PR5670406	220.00
6.125" - 10" / 160 - 250mm	PR5671610	230.00

### TAPER (BORE) GAGE



- Handy gage for measuring cylindrical bores, bearing work and for gaging slots.
- Made from polished stainless steel
- Clearly etched graduations for precise measurement. (Inch one side, mm's on the other)

Order No.	Range		Price
	Inch	mm	
PR2470115	1/32 - 5/8"	1 to 15	10.20

### PRECISION VERNIER CALIPERS WITH LOCKING SCREW



#### SPECIAL FEATURES:

All measurements can be read directly from vernier scale. Micro-fine black graduation on a satin chrome finish for easy reading. Jaws designed for outside, inside, and step measurement. Satin chrome finish with clear black engravings. Made of fully hardened stainless steel throughout. Includes fitted case.

Range	Vernier Scale		Order No.	Price
	Top	Bottom		
6" / 150mm	1 / 1000"	.02 mm	PR1480106	23.00
8" / 200mm	1 / 1000"	.02 mm	PR1480108	32.00
12" / 300mm	1 / 1000"	.02 mm	PR1480112	51.50

### PRECISION VERNIER CALIPERS WITH THUMB LOCK

All the features of the Locking Screw calipers. The jaw can be moved only when spring loaded thumb clamp is depressed.



Range	Vernier Scale		Order No.	Price
	Top	Bottom		
150mm / 6"	1 / 1000"	1 / 20mm	PR1485106	20.50

### PRECISION VERNIER CALIPERS WITH FINE ADJUSTMENT

All the features of the Locking Screw Calipers with additional fine adjustment feature for more precise measurement.



Range	Vernier Scale		Order No.	Price
	Top	Bottom		
150mm / 6"	1 / 1000"	.02mm	PR2140006	25.00
200mm / 8"	1 / 1000"	.02mm	PR2140008	34.00
300mm / 12"	1 / 1000"	.02mm	PR2140012	54.00

## HEAVY DUTY CHROME FINISHED VERNIER CALIPERS



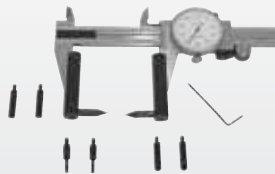
**SPECIAL FEATURES :**

- Machine divided and engraved from master for extreme accuracy.
- Made of hardened stainless steel throughout, ground and lapped for accuracy.
- Stepped jaws for inside measurements.
- "Double Spaced" vernier scales with easy to read, clear graduations on satin chrome finish.
- Longer jaws permit greater accessibility and simpler measurement of larger work-pieces.
- Fine adjustment screw.
- Fitted case.

Measuring Range	Jaw Depth	Vernier Scale		Order No.	Price
		Top	Bottom		
12" / 300mm	4"	1/50mm	1/1000"	PR5301012	60.50
18" / 450mm	4	1/50mm	1/1000"	PR5301018	95.00
24" / 600mm	4	1/50mm	1/1000"	PR5301024	129.00
40" / 1000mm	6½"	1/50mm	1/1000"	PR5301040	365.00
60" / 1500mm	8	1/50mm	1/1000"	PR5301060	595.00

## UNIVERSAL CALIPER ACCESSORY KIT

- Fits Dial Calipers & Verniers 4-8 In. Range
- Measures, slots, grooves, webs, shoulders, holes, pockets, etc.
- Saves Time and Money
- Will not scar or mar Jaws
- Adapts to all brands
- Measures hard to reach places



Order No.	Price
PR1495000	19.70

Caliper not included

**KIT CONTAINS :**

- 2 Universal Jaw Clamp Ons
- 8 Accessory Points (4pair) 2 ea.
- Flat - Conical - Stem - Ball End
- User friendly Instructions
- All parts packaged in a high impact clear box

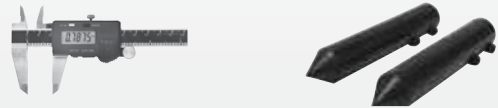
## 4" BRASS CALIPER



Top scale graduated in 16ths of an inch, and bottom in millimeters. Fixed pin in the center of the scale allows smooth, easy adjustment.

Order No.	Price
PR12660240	13.30

## CENTERLINE GAGE SETS



- Designed for dial, vernier, and digital calipers to measure centerline distance.
- Sold in pairs, these gages quickly adapt to most calipers.
- Centerline measurements read in exact figures; no adding or subtracting is required.
- The 60 degree conical probe fits snugly into holes. Takes guesswork away from center distance measurements or to edge from a hole.
- Constructed of high quality alloy steel hardened to 50 RC, black oxide finished.
- Outside diameter and cone ground for accuracy.
- Each probe has two small holding nuts and is supplied with a hex wrench.

Description	Dia-meter	Jaw Length	Thick-ness	Order No.	Price
For 4",6",8" calipers	.375"	2.195"	.155"	PR1495001	12.10
For 10",12" calipers	.500"	2.750"	.188"	PR1495004	15.20

Caliper not included

## DIAL CALIPERS

Of stainless steel, hardened throughout with satin-chrome finish. Suitable for outside, inside and depth measurement. Thumb roll. Direct reading in .001" or .02mm with adjustable dial setting and locknut. Covered rack for longer life. Fitted case. .100" or 2mm per revolution.



INCH				
Range	White Face		Black Face	
	Order No.	Price	Order No.	Price
0 - 4"	PR1495104	31.00	-	-
0 - 6"	PR1495106	36.00	PR1495206	36.00
0 - 8"	PR1495108	64.50	PR1495208	64.50
0 - 12"	PR1495112	97.50	PR1495212	97.50

METRIC		
Range	White Face	
	Order No.	Price
0 - 150mm	PR1495306	39.00

## 6" PLASTIC INCH & METRIC CALIPER



Order No.	Range	Graduations	Price
PR12660071	6"	1/128" top ; 0.1 mm bottom	2.90

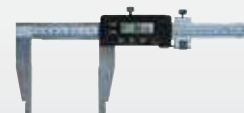
### INCH AND METRIC COMBINATION DIAL CALIPER



Range	Graduation	Order No.	Price
0 - 6" / 0-150mm	.001" / .02mm	PR2156150	52.00

### ELECTRONIC CALIPERS - HEAVY DUTY TYPE WITH FINE ADJUSTMENT

- Inch/mm conversion.
- Resolution .0005"/.01mm
- Manual power on / off
- Zero settings at any position.
- SPC output



Range	Order No.	4" Jaw Length Order No.	6" Jaw Length Price	Price
24" / 600mm	PR7255600	-	-	290.00
40" / 1000mm	-	PR7251000	-	750.00

### SHOCK / DUST PROOF & TIN COATED DIAL CALIPERS

- Manufactured to close tolerances for excellent repeat ability and accuracy
- Smooth movement
- Swiss design casing



- Titanium nitride coating provides superior wear and corrosion resistance
- Swiss design metal casing



1495600

.001" Per Revolution / Stainless Steel			
Range	Graduation	Order No.	Price
0 - 6"	.001"	PR2155006	44.00
0 - 8"	.001"	PR2155008	72.00
0 - 12"	.001"	PR2155012	112.00
0 - 6" TiN	.001"	PR1495600	58.50

### VERNIER HEIGHT GAGES

Amplly proportioned measuring beams and bases for extra rigidity.

- Satin - chrome Finish
- Double Spaced Vernier
- Vernier Scale : 1/1000" x 1/50mm
- Magnifying Glass
- Fitted Case



Sliding scale permitting all measurement to start from an even reference point.

Range	Order No.	Price
0 - 12" / 0 - 300mm	PR1500112	94.00
0 - 18" / 0 - 450mm	PR1500118	133.50
0 - 24" / 0 - 600mm	PR1500124	224.00

### ELECTRONIC CALIPERS

Rugged construction of stainless steel with no rack, no pinion, and no glass scale.

**FEATURES:**

- 5 Digit high contrast display
- Inch / Metric switch
- Floating "Zero" reference point
- Resolution ± .0005" / 0.01mm
- Accuracy .001"
- SPC Output
- Includes: fitted case / battery

Description	Order No.	Price
4" Caliper	PR7251004	36.00
6" Caliper	PR7251006	68.00
8" Caliper	PR7251008	89.00
12" Caliper	PR7251012	115.00



### DOUBLE BEAM HEIGHT GAGES WITH COUNTER

Furnished with two error proof digital counters which can be reset individually anywhere within the range for quick and easy upward and downward reading. The last digit on the counter is .1" or 1.0mm. The dial face is graduated in .001" or .01mm.

- Bottom surface of the base is stainless steel, hardened and ground
- With fine-adjusting wheel and lock
- Carbide tipped scriber



INCH		
Range	Order No.	Price
0 - 12"	PR2160000	310.00
0 - 18"	PR2160001	370.00
0 - 24"	PR2160002	405.00

## ELECTRONIC DIGITAL DOUBLE BEAM HEIGHT GAGES

### FEATURES :

- Rigid twin column structure
- 6 digit LCD display and minus sign (-)
- Large size feed wheel
- Lock on measuring slider
- Battery furnished
- Carbide tipped scriber

### FUNCTIONS :

- Zero setting,
- Inch/mm conversion
- Data hold
- Plus/minus presetting



Range	Graduation	Order No.	Price
0 - 12" / 0 - 300mm	.001" / .01mm	PR7255012	390.00
0 - 18" / 0 - 450mm	.001" / .01mm	PR7255018	490.00
0 - 24" / 0 - 600mm	.001" / .01mm	PR7255024	595.00

## ELECTRONIC HEIGHT GAGES

Rugged construction of stainless steel with no rack, no pinion, and no glass scale.

### FEATURES:

- 5 Digit high contrast display
- Inch / Metric switch
- Floating "Zero" reference point
- Resolution  $\pm .0005"$  / 0.01mm
- Accuracy .001"
- Includes: fitted case / battery



Range	Order No.	Price
0 - 12" / 0 - 300mm	PR7251112	238.00
0 - 18" / 0 - 450mm	PR7251118	285.00
0 - 24" / 0 - 600mm	PR7251124	340.00

## UNIVERSAL INDICATOR HOLDER

- Ideal for Bridgeport®-type machines.
- A quicker way of indicating.
- Suitable for all popular indicators with 5/32" shank or dovetail.
- Mounts with a single screw directly on machine quill, bypassing the working tool.
- Adapts immediately for fast and positive indicating.



Order No.	Price
PR2199500	29.50

## DIAL TRAVEL INDICATORS

These Indicators are graduated in .001" or .01mm with the second hand reading every .010" or .1mm. Range per revolution .10" or 1.0mm. Reading 0-100. Back has clamping lug.



Travel	White Face		Black Face	
	Order No.	Price	Order No.	Price
1/4"	PR1530025	17.80	-	
1/2"	PR1530005	18.20	-	
1"	PR1530010	21.80	PR1530011	21.80
2"	PR1530020	62.40	PR1530021	62.40

## MAGNETIC BASE & INDICATOR SETS

Magnetic Base	Indicator	Order No.	Price
Standard	1" Travel	PR1540001	35.50
Fine/Adj.	1" Travel	PR1540006	37.00



## 22 PIECE INDICATOR POINT KIT

- All points have standard 4-48 threads.
- For use with Series 1-2-3-4 Dial Indicators.
- Carefully knurled stem for ease of operation.
- Plastic case.

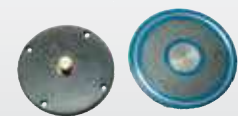
Order No.	Price
PR2190022	8.50



## MAGNETIC BACK FOR DIAL INDICATORS

### PRODUCT DESCRIPTION :

- Permanent powerful magnet
- Attaches to the back of 2" diameter AGD dial indicators



Diameter		Thickness		Order No.	Price
in.	mm	in.	mm		
2 1/4	57	1/2	12.5	PR2210000	6.50

### ELECTRONIC INDICATOR

Range : 0 - .5" / 0 - 12.7mm  
Resolution : 0.0005" / 0.01mm

**FUNCTIONS INCLUDE:**  
in/mm conversion, zero-set.



Order No.	Price
PR7250102	122.50

### ELECTRONIC INDICATORS

**FEATURES:**

- Zero setting at any position
- Auto power on/off
- Data output
- Metric/Inch system conversion at any position



Range	Resolution	Order No	Price
0 - 0.4" / 0 - 10mm	.0005" / 0.01mm	PR7250104	95.50
0 - 1.2" / 0 - 30mm	.0005" / 0.01mm	PR7250105	144.50
0 - 2" / 0 - 50mm	.0005" / 0.01mm	PR 7250106	174.20
0 - .6" / 0 - 15mm	.00005" / 0.001mm	PR7250107	123.20

### DIAL TEST INDICATORS

- Automatic Reversing
- Satin Chrome Finish
- Adjustable Bezel
- Three-way Dovetail mounting
- Carbide point
- 5/32" and 3/8" mounting stems
- Fitted case



Range	Dial Grad.	Reading	Type	Order No.	Price
.030"	.0005"	0 - 15 - 0	Horizontal	PR2198000	42.50
.030"	.0005"	0 - 15 - 0		PR2198005*	42.50
.008"	.0001"	0 - 4 - 0		PR2198010	65.50
0.8mm	0.01mm	0 - 40 - 0	Vertical	PR2198030	51.40
.030"	.0005"	0 - 15 - 0		PR2198020	50.50
0.8mm	.001mm	0 - 40 - 0		PR2198040	77.90

\* Black Dial Face

### DIGITAL TEST INDICATOR

- Power on / off key, Zero setting key, Inch / Metric key, Tolerance key.
- Contact Point Diameter: 1/8" / 2.5mm
- Accuracy: ± 0.001" / 0.02mm

**RANGE:** ± 0.02" / 0.5mm  
**GRAD.:** 0.0005" / 0.01mm



Order No.	Price
PR2190010	210.00

### CENTERING INDICATOR

Supplied complete with:  
restraining rod, center point feeler, 4" straight feeler, 8" straight feeler, 12" straight feeler, 4" curved feeler, 8" curved feeler, 12" curved feeler, fitted case

- Designed for quick and accurate centering of a work piece or fixture.
- Operates at any angle.
- Use on vertical and horizontal machines
- Use for internal and external diameters.
- While spindle rotates, the centering indicator remains stationary and always faces the operator



INCH			
Specifications	Order No.	Price	
<b>Length:</b> 6 7/8" <b>Shank:</b> 3/8" dia. x 7/8" long <b>Probe ball:</b> 1/8" diameter <b>Measuring range:</b> .250 axis offset <b>Capacity:</b> Internal: 5/32" to 4 1/4" dia. External: 0 - 4 1/4" dia. <b>Speed:</b> Not exceed 800RPM Approx. <b>Locating accuracy:</b> To within 0.00025" of true center <b>Graduation:</b> 0.0005"	PR2190005	120.00	



## MAGNETIC BASE INDICATOR HOLDERS

On/off switch controls strong permanent magnet. Complete with "V" area for clamping to round surfaces, 3 diameter dial holding rod with swivel adapter for lug back indicator to accept all AGD dial indicators, upright, swivel clamp, universal swivel attachment, and scriber.



Order No.	Description	Price
PR1540000	Standard	23.50
PR1540005	With Fine Adjustment	29.00

## MAGNETIC BASE INDICATOR HOLDER FLEXIBLE TYPE

Strong magnetic holding power includes "V" area for clamping to round surfaces. On/off switch, made of hardened and ground components, flexes almost 360°, and is rigidly locked into position with a lever. Includes 5" rod having 3 different diameters and a swivel adapter for lug back indicators to accept all AGD dial indicators.



Order No.	Price
PR1540011	49.00

## FLEXIBLE ARM MAGNETIC BASE

- Articulated arm style alnico magnetic base, positions and locks easily.
- Includes ON/OFF switch and central locking knob to tighten both arms.
- Includes two balls joints and one central cylindrical joint.
- Dial gage holder includes fine adjustment and full 360° swivel.
- Hydraulic clamping system suitable for dial gauges with stem of 1/4" (6.35 mm), 3/16 (8mm) and 3/8" (9.5mm) and dovetail indicators.
- Magnetic pull approx. 130 lbs. (60 Kgs.)



Order No.	Max Height	Base Dimension	Price
PR1540012	14" / 355mm	2 1/2 x 1 1/8 x 2 1/8" 63 x 48 x 55mm	38.50

## UNIVERSAL MAGNETIC BASE

- A universal magnetic base that will save time and improve accuracy
- Strong magnet with 45 lbs. of holding power
- Zinc die cast housing
- Size 4 1/2" x 1" x 1 1/4"
- 5 different locations for mounting accessories



Order No.	Price
PR2220000	12.95

## MAGNETIC BASE INDICATOR HOLDER

Accommodates almost all test and dial indicators. Precision adjustment controlled by thumb screw.

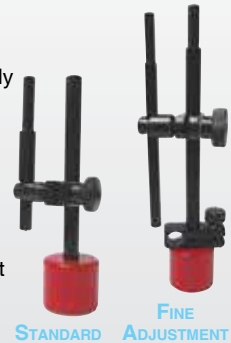


Dimensions	Order No.	Price
3 1/2" x 1 1/8" x 1 1/2" high	PR9210001	33.00

## MINI MAGNETIC BASE INDICATOR HOLDERS

Small size and strong magnetic holding power for mounting indicators in not easily accessible locations.

**Height of base:** 1"  
**Diameter of base:** 1"  
**Height of rod:** 3 1/2"  
**Diameter of rod:** 1/4"



Includes universal holder and disc on bottom for neutralizing magnet when not in use.

Order No.	Description	Price
PR1540015	Standard	35.00
PR1540020	With Fine Adjustment	39.00

## MINI MAGNETIC STANDS

- Compact and small universal permanent magnetic stand.
- High magnetic power affords maximum rigidity.
- Includes disc on bottom for neutralizing magnet when not in use.



Order No.	Description	Base Dia	Total Height	Price
PR1540016	Without fine Adjustment	1-1/8"/28mm	5"/125mm	20.50
PR1540021	With fine Adjustment	1-1/8"/28mm	5-3/8"/135mm	22.00

## UNIVERSAL MAGNETIC INDICATOR HOLDERS

- Two universal ball sockets permits adjustment to any angle or position.
- Dovetail clamp for test indicators.
- 1/4" (6.35mm) hole for 1/4" (6.35mm) stem indicators.
- Provided with extension rod 1/4" x 3 1/2" (6.35 x 90mm)
- Powerful magnetic force.



Order No.	Description	Base Dia.	Base Height	Body Height	Price
PR1540002	Without Fine Adjustment	1-3/16" /30mm	1" /25mm	5" /125mm	39.00
PR1540003	With Fine Adjustment	1-3/16" /30mm	1" /25mm	4 3/4" / 120mm	44.00

## GRANITE DIAL GAGE STAND

Black granite base can be used as a small toolmaker's and inspector's granite surface plate. Fine adjustment knob. For use with any indicator.

### SPECIFICATIONS

.00005" Flatness  
 BASE: 6" x 6" x 2" Thick  
 COLUMN HEIGHT: 10"



Order No.	Price
PR1545000	58.50

## UNIVERSAL CLAMP

- Black finished clamps for use with magnetic bases and dial gages.
- One clamp for dovetail and universal indicators.



Order No.	Clamping Hole	Price
PR2199501	1/8 - 1/4" (3 - 6.35mm)	11.00

## UNIVERSAL DIAL INDICATOR HOLDER



Fits all dial indicators.  
 Clamps all standard dovetails.  
 Swivels in all directions.  
 Shank Size: 1/4" Dia. x 3" Overall Length

Order No.	Price
PR2199000	13.40

## DIAL GAGE STAND

Precision Ground Base.  
 Fine adjustment knob.  
 For use with any indicator.

### SPECIFICATIONS:

BASE: 5 1/2" x 4 1/4"  
 COLUMN DIAMETER: 1"  
 WORKING CAPACITY: 8 1/2"



Order No.	Price
PR1545005	26.00

## DIAL COMPARATOR STAND WITH FINE ADJUSTMENT

Anvil Size: 2-3/8 (60mm)  
 Throat Depth: 3" (75mm)  
 Measuring Range: 5" (125mm)

- Compact and versatile
- Rugged enamelled cast iron base
- Rustproof chrome plated column at right angle to base
- Hardened and precision ground round serrated anvil
- Provided with fine adjustment knob for zero setting
- Suitable for all dial gages including 3/8" and 5/16" dia. stem
- Base dimension: 6" x 4" (150 x 100mm)
- Column diameter: 1" (25.4mm)



Order No.	Price
PR2230000	96.90

## MACHINIST KITS

With the high quality tools contained in these kits, O.D.'s, I.D.'s, Depths, and Lengths can be accurately and reliably measured. Fitted plastic case.



0-1" Micrometer	6" Dial Caliper	6" Rule
<ul style="list-style-type: none"> <li>• .0001" grad.</li> <li>• Carbide tipped faces</li> <li>• Friction thimble</li> <li>• Satin chrome sleeve</li> </ul>	<ul style="list-style-type: none"> <li>• Reading .001"</li> <li>• Fully hardened stainless steel</li> <li>• Outside, inside and depth measurement</li> <li>• Satin chrome finish</li> </ul>	<ul style="list-style-type: none"> <li>• 1/8, 1/16, 1/32, 1/64 graduations</li> <li>• Satin chrome finish</li> <li>• Stainless steel</li> <li>• Fully flexible</li> <li>• Locknut</li> </ul>
Order No.	Price	
PR6400001	65.00	

## 3" THIN SINE BAR



Precision ground and hardened. Two 1/4" holes are provided for mounting. 7/32" wide. Fits in bottom of vise to accurately set work piece to desired angle. Can be used for accurately setting swivel vise or angle vise, to set work piece at an angle to T-Slots of milling table, back rail of magnetic chuck, setting milling machine head etc.

Order No.	Price
PR2530000	19.80

### 5" ECONOMY SINE BAR



Sine bar and rolls are made of quality tool steel, hardened and ground for extreme accurate to .00003" per inch of length. Parallelism .00004". Rolls are accurate to within .0002" center to center. The bottom part of the bar extends past the bottom of the rolls, when the tool is moved over the surface plate, all wear is eliminated from the rolls.

Dist. of Roll	Center body size	Dimensions	Order No.	Price
5"	1" x 1/2	5-7/8 x 1" x 1"	PR12910066	29.00

### DELUXE SINE BARS



Parallelism .00004". Top surface accuracy: .00003". Bar and rolls are hardened and ground. Center to center distance between rolls is accurate to within .0002". Sine bars have tapped holes for holding down. Bottom of tool protrudes past rolls which eliminates wear.

Dist. of Roll	Center body size	Dimensions	Order No.	Price
5"	15/16 x 1-1/8	6-1/4 x 15/16 x 1-3/4	PR12911165	70.40
10"	1-1/4 x 1-1/2	12-1/16 x 1-1/4 x 3	PR12911170	126.40

### 3 PIECE 6" MINI COMBINATION SQUARE SET



Includes: Square head, Center Head, 6" 4 R (8,16,32,64, graduations), Satin Chrome Finish. Flitted Case.

Order No.	Price
PR12790100	55.00

### PLANER AND SHAPER GAGE

Max Range 1/4 - 9 1/4" with extension rod. Makes setting of planer and shaper tools easy. Set gage with micrometer, surface gage or caliper and bring cutting tool in contact with it. Gives the operator a reliable starting point, thus eliminating trial cuts. Also use in conjunction with Dial Indicator to level large plates for planing, etc.



Order No.	Price
PR2470100	116.00

### SINE BARS AND SINE PLATE



- Body and rolls made of hardened and precise ground tool steel.
- Perfect tool for angular inspection and measurement.
- Top parallel to bottom of rolls  $\pm .0004"$
- Distance between center of rolls  $\pm .0004"$

Order No.	Width	Distance Between Rollers	Price
PR1715005	15/16"	5"	76.90
PR1715010	1"	10"	152.60
PR1715050	2"	5"	83.50

### COMBINATION SQUARE SET - 4 PIECE

Hardened and Ground. Set includes 12" stainless steel chrome plated blade with 4R inch (8ths, 16ths, 32nds, 64ths) graduations, double indexed and reversible Protractor Head with full 180° graduation and spirit level, Square Head with level and scribe, and Center Head.



Order No.	Price
PR1600112	76.50

### CENTER SQUARE

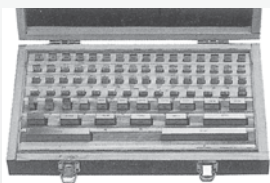
- Made from ground tool steel.
- Hardened and tempered blade.
- Useful square for rapid location of round bar or disc center.
- To execute, place the round bar between the centre square. Scribe different lines on the work piece each time changing its position. Center of the scribed lines will give the accurate center of the work piece.



MAX. WORK DIA.		Order No.	Price
Inch	mm		
1 1/2	38	PR2290112	11.60
3	75	PR2290375	25.00

### GAGE BLOCK SETS

Can be supplied with a certificate traceable to the U.S. National Bureau of Standards. Please inquire for price and delivery.



Pieces	Grade	Order No.	Price
<b>RECTANGULAR</b>			
81	2	PR1575281	385.00
81	3	PR1575381	385.00
81	B	PR1550810	245.00
36	2	PR1575236	230.00
36	3	PR1575336	144.70
36	B	PR1550036	139.00
<b>SQUARE</b>			
81	2	PR1560281	1624.00
81	3	PR1560381	1376.00
81	B	PR1560481	636.00

81 pc. sets consist of the following blocks:	36 pc. sets consist of the following blocks:
9 blocks from .1001" to 1.009"	1 block .050"
49 blocks from .101" to .149"	10 blocks from .1000" to .1009"
19 blocks from .050" to .950"	9 blocks from .101" to .109"
4 blocks from 1.000" to 4.000"	9 blocks from .110" to .190"
	4 blocks from .200" to .500"
	3 blocks 1.000" - 2.000" - 4.000"

### PLUG GAGE HANDLE

Handles all Plug Gage sizes from 1/32" thru 1/2", 0.79 to 12.7mm diameter. GO and NO-GO clearly marked.



Order No.	Price
PR4630567	14.75

### HANDLES FOR PIN GAGES



One set uses one handle, 8 handles cover all sizes. 8 size collets are spring adjusting and self-centering design, which are used for whole range of sizes of pins (Collets for MO are self-expanding design). Handles & collets are made from aluminum to protect gages. (Collets for Mo are made of copper). Color coded handle for GO/NOGO checking. Powder coated handle body. Includes One handle with two free collets

Description	Order No.	Price
.011-.060 for MO 50 pc set	PR13270150	12.60
.061-to .250 for M11 190 pc set	PR13270155	15.00
.251 to .500 for M2 250 pc set	PR13270160	17.00
.501 to .625 for M3 125 pc set	PR13270165	19.90
.626 to .750 for M4 125 pc set	PR13270170	24.00
.751 to .832 for M5 82 pc set	PR13270175	28.00
.833 to .916 for M6 84 pc set	PR13270180	28.00
.917 to 1.000 for M7 84 pc set	PR13270185	30.00

### SPACE BLOCK SET - 36 PIECES

Can often take the place of gage blocks. Outside diameter is .750"; inside diameter has 1/4" - 28 thread for accurately connecting the individual blocks. 4 threaded connecting studs included. Hardened, ground, and lapped to ±.0001". Supplied in fitted wooden case.



SET CONSISTS OF THE FOLLOWING

- 36 BLOCKS :
- 9 pcs. .101" - .109" by .001"
  - 15 pcs. .050" - .190" by .010"
  - 9 pcs. .200" - 1.000" by .100"
  - 1 pc. .0625"      • 1 pc. .125"
  - 1 extra block 1.000"

Order No.	Price
PR1570036	78.00

### PIN GAGE SETS

EACH GAGE IS :

- Centerless lapped to a 10 micro finish or better
- 2" Long
- Hardened to 60 - 62 RC.
- Electro etched with size (over .060")



Useful for checking locations, measuring hole sizes and depths, GO and NO-GO gaging, setting micrometers, checking distances between holes etc.

#### US TOLERANCE SETS + .0002" - .0000"

Range	No. of Mem	Order No.	Price
.011" - .060"	50	PR4630001	39.00
.061 - .250	190	PR4630010	84.00
.251 - .500	250	PR4630020	128.00
.501 - .625	125	PR4630030	140.00
.626 - .750	125	PR4630040	170.00

#### MINUS TOLERANCE SETS - .0002" + .0000"

Range	No. of Mem	Order No.	Price
.011" - .060"	50	PR4630100	39.00
.061 - .250	190	PR4630110	84.00
.251 - .500	250	PR4630120	128.00
.501 - .625	125	PR4630130	140.00
.626 - .750	125	PR4630140	170.00

Precision lapped to a microlapped finish. Each gage is clearly marked with size and are 2" long. Center-less lapped to 10 micro-finish. Fully hardened, Rockwell 60-62. Price includes delux fitted case.

Range	Pcs.	Accuracy	Order No.	Price
.011-.250	240	+0.000-.0002	PR13270035	170.00
.751-.832	81	+0.000-.0002	PR13270067	185.00
.833-.916	84	+0.002-.0000	PR13270070	195.00
.833-.916	84	+0.000-.0002	PR13270072	195.00
.917-1.000	84	+0.002-.0000	PR13270075	235.00
.917-1.000	84	+0.000-.0002	PR13270077	235.00

## PRECISION RULES

Highly accurate, made of the finest quality steel, hardened and tempered, with satin-chrome finish.



FLEXIBLE RULE

RIGID RULE

GRADUATIONS:

4R - 8ths, 16ths, 32nds, 64ths

5R - 32nds, 64ths, 10ths, 100ths

### FLEXIBLE & RIGID RULES

Length	Width	Grad.	FLEXIBLE Order No.	RIGID Order No.	Price
6	1/2	4R	PR2510006	PR2520006	3.85
6	1/2	5R	PR2510106	PR2520106	3.85
12	1/2	4R	PR2510012	PR2520012	8.50
12	1/2	5R	PR2510112	PR2520112	8.50
18	3/4	4R	PR2510018	PR2520018	19.90
18	3/4	5R	PR2510118	PR2520118	19.90
24	3/4	4R	PR2510024	PR2520024	27.10
24	3/4	5R	PR2510124	PR2520124	27.10

### WIDE RIGID RULES

Length	Width	Grad.	Order No.	Price
6	3/4	4R	PR2515006	4.60
6	3/4	5R	PR2515106	4.60
12	1	4R	PR2515012	7.50
12	1	5R	PR2515112	7.50
18	1 1/8	4R	PR2515018	19.90
18	1 1/8	5R	PR2515118	19.90
24	1 1/8	4R	PR2515024	27.10
24	1 1/8	5R	PR2515124	27.10

## CLIP RULE



ROUND END RULES WITH DEPTH GAGE POCKET CLIP.

Description	Order No.	Price
FRONT - mm, 32nds, BACK - Conversion Table	PR2180500	2.80

## CYLINDER SQUARES

These squares are hardened, and the ends are lapped to 90° angular accuracy with the cylinders as follows: 6" square to ± .00010", 12" square to ± .00015". Includes fitted case.



Height	Diameter	Order No.	Price
6	3	PR1620003	149.00
12	4	PR1620004	240.00

## STRAIGHT EDGES



with Double Bevel Blades  
Hardened & Precision Ground

Description	Order No.	Price
5" Long	PR13020165	6.35
7" Long	PR13020170	7.95

## BEVEL EDGE SQUARES

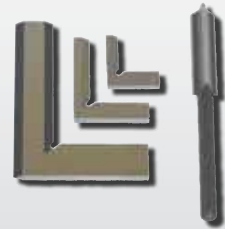
Made from a single piece of high grade tool steel. Entire square is hardened, accurately ground, and lapped for straightness and parallelism. Blades are beveled on both edges of each side.



Size & Lgth. of Blade	Lgth. of Beam	Order No.	Price
1 3/8	1	PR1585001	15.50
2 3/8	1 3/8	PR1585002	16.50
3 3/8	2	PR1585003	19.75
4	2 1/2	PR1585004	24.00
5	3	PR1585005	29.00
6 3/4	4	PR1585006	32.50
8 1/2	5 1/8	PR1585008	40.00
10 1/2	6 3/8	PR1585010	68.00

## DIE MAKERS' SQUARE SET

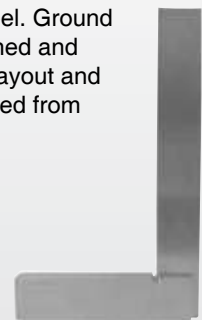
Especially made for precise miniature layout. Set consists of three hardened bevel edged squares 3/4", 1 1/4", and 2 3/8" long, plus a 1 1/2" triangular straight edge with a removable handle. Includes fitted case.



Order No.	Price
PR1590000	74.30

## PRECISION SQUARES

Accurately made of fine grade tool steel. Ground and polished blade and beam. Hardened and tempered blade. Suitable for precise layout and measuring. Length of blade is measured from inner edge of beam to end of blade.



SET INCLUDES:

2", 3", 4" & 6"  
in a wooden case.

Order No.	Price
PR2290000	48.50

In/mm	In/mm	Squareness of Blade	Order No.	Price
2" / 50mm	2 / 50	.001"/25 microns	PR1580002	11.40
3" / 75mm	2 1/2 / 63	.001"/25 microns	PR1580003	12.10
4" / 100mm	3 / 75	.001"/25 microns	PR1580004	13.60
6" / 150mm	4 / 100	.001"/25 microns	PR1580006	19.70
8" / 225mm	6 / 150	.001"/25 microns	PR1580009	28.80
12" / 300mm	8 / 200	.002"/50 microns	PR1580012	45.50
18" / 450mm	10 / 250	.0038"/90 microns	PR1580018	119.60
24" / 600mm	13 / 33	.0038"/90 microns	PR1580024	165.00





## DIAL THICKNESS GAGES

Designed to measure outer thickness. Ideally suited for quick inspection of paper, leather, wire, plastic, sheet metal etc. Measuring faces are finely ground for precise measurement to .001" or .02mm. Dial Reading 0 - 100.



Type	Range	Throat Depth	Grad.	Order No.	Price
Standard	.4"	1.125"	.001"	PR6330112	57.00
Pocket	.5"	.5"	.001"	PR6330510	57.00
	10mm		.01mm	PR6330520	60.00

## SURFACE GAGES

Hardened Base. "V" Groove in bottom of base for cylindrical work. Spindle can be set below base level. Tension screw permits fine adjustment.

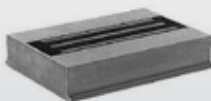


Base Size (L x W x H)	Spindle Length	Order No.	Price
2 <sup>3</sup> / <sub>16</sub> x 1 <sup>5</sup> / <sub>8</sub> x <sup>3</sup> / <sub>4</sub>	4 & 7	PR1630398	28.50
3 <sup>1</sup> / <sub>4</sub> x 2 <sup>1</sup> / <sub>2</sub> x 1	9 & 12	PR1630399	31.90
4 x 3 <sup>1</sup> / <sub>2</sub> x 1 <sup>1</sup> / <sub>8</sub>	12 & 18	PR1630400	51.90

## HIGH POWER MAGNETIC ADAPTOR PLATE

Top & bottom surface magnetic. Makes your surface gage a magnetic base. Can be used as magnetic grinding chuck for precision operations.

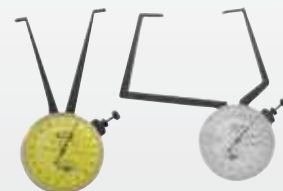
2-1/2" W x 7/8" H x 3-1/2" L  
.001" top & bottom parallel



Order No.	Price
PR19710005	29.00

## INTERNAL & EXTERNAL DIAL CALIPERS

- For measuring inside diameters, recesses, etc.
- Can be set with a micrometer or ring gage.
- Graduated in .001".
- Arms automatically open and close at the touch of a button.
- Supplied in a fitted case.



INSIDE      OUTSIDE

Range	INTERNAL DIAL		EXTERNAL DIAL	
	Order No.	Price	Order No.	Price
0 - 1	-		PR653601	125.00
3/8 - 1 3/8	PR653611	110.00	PR653602	60.00
3/4 - 1 3/4	PR653612	125.00	PR653603	64.00
1 1/8 - 2 1/8	PR653613	135.00	PR653604	77.00
1 1/2 - 2 1/2	PR653614	140.00	PR653605	82.00
1 7/8 - 2 7/8	PR653615	158.00	PR653606	84.05
2 1/4 - 3 1/4	PR653616	175.00	PR653607	88.00
2 7/8 - 3 7/8	PR653617	178.00	PR653608	90.00
3 1/4 - 4 1/4	PR653618	182.00	PR653609	97.00
3 5/8 - 4 5/8	PR653619	195.00	-	
4 - 5	PR653620	240.00	-	

## ELECTRONIC DIGITAL THICKNESS GAGES

- Graduation .01mm / .0005"
- Throat Depth .5"
- Zero Set
- Inch/mm conversion.



Range	Order No.	Price
0-.6" / 0-15mm	PR7250000	119.00

## SPRING CALIPERS, DIVIDERS AND SETS



LEGS MACHINED TO RIGID LENGTH AND BALANCE.  
HARDENED AND TEMPERED SPRING. POLISHED FINISH. FLAT LEG PATTERN.

Size Inch	Outside Caliper Order No.	Inside Caliper Order No.	Spring Divider Order No.	Price
3	PR1710103	PR1710303	PR1710603	5.50
4	PR1710104	PR1710304	PR1710604	5.50
6	PR1710106	PR1710306	PR1710606	6.50
8	PR1710108	PR1710308	PR1710608	8.00
10	PR1710110	PR1710310	PR1710610	12.50
12	PR1710112	PR1710312	PR1710612	14.25
18	PR1710118	PR1710318	PR1710618	25.00
24	PR1710124	PR1710324	PR1710624	42.00
36	PR1710136	PR1710336	PR1710636	64.00

### SETS

- Three piece set consists of one each of Divider, Inside Caliper, and Outside Caliper.
- Set packed in a box.

Divider and Caliper Sets			
Catalog No.	Size		Price
	Inch	mm	
PR1710704	4	100	15.00
PR9710706	6	150	19.00
PR1710708	8	200	23.00
PR1710710	10	250	36.00
PR1710712	12	300	42.00

## DEPTH AND ANGLE GAGES



- Hardened and ground steel body.
- Spring tension knurled nut for easy depth measurement and locking.
- Fitted with stainless steel rule graduated 64th one side and 0.5 mm on reverse.
- Rule measures 7/32" (5.5mm) wide and .041"(1.05mm) thick.
- Angular depth gage has an added feature permitting its use as a protractor for measuring angles.

Order No.	Description	Length	Body Dimension	Price
PR1655001	Plain Depth Gage	6"(150mm)	1-1/2 x 2-1/4 x 1/8" 40 x 58 x 3.2mm	12.50
PR1655000	Angular Depth Gage	6"(150mm)	1-1/2 x 2-1/4 x 1/8" 40 x 58 x 3.2mm	13.10

## PROTRACTOR / DEPTH GAGE

- Graduated from 0-180°
- Spring tension nut to secure rule to desired depth and angle.
- Narrow 6" (150mm) rule graduated 64th on one side and 0.5mm at reverse.



Order No.	Description	Price
PR2431015	Round	13.80
PR2431020	Rectangular	13.80

## UNIVERSAL BEVEL PROTRACTOR WITH DIAL READING

- Direct reading to 5 minutes from 1 3/8" diameter dial.
- Two-color rotating disc shows 10° graduations and direction of indication in window.
- Two-color fixed dial clearly indicates the measured values in far spread degree and 5 minute increments.
- Indicating range 4 x 90°.
- Stainless steel head and blades, hardened and ground.
- Head satin chromed. Positive locks.
- High accuracy and extreme versatility.
- Includes: Bevel Protractor, 12" blade, acute angle attachment, case.



Order No.	Price
PR2280000	120.00

## PRECISION ANGLE BLOCK SET - 1/4 - 45°

- Made from hardened steel.
- Use for grinding and milling machine operations.
- Complete in fitted case.
- 17pc. set includes the following angles: 1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°, 35°, 40°, and 45° plus 2 riser blocks.



Order No.	Price
PR1570150	102.00

## UNIVERSAL ANGLE BLOCK SET

An accurate and direct method for angle set-ups in production and inspection.

### SET INCLUDES:

3 "V" Blocks - 10°, 15°, 30°  
5 Angle Blocks - 1°, 2°, 3°, 4°, 5°

### DIMENSIONS (L x W x H):

"V" Blocks - 3 x 1-3/16 x 13/16

Angle Blocks - 2-3/4 x 13/16

All blocks are made of hardened steel and precision ground to ±10 second accuracy.

Includes fitted case.



Order No.	Price
PR1570100	103.50

## PRECISION ANGLE BLOCK SET - 1° - 30°

An accurate and direct method for angle set-ups in production and inspection.

Set Includes: 10 Blocks; 1° increments up to 5° and 5° increments up to 30°  
Dimensions: 3" Long x 1/4" Thick  
Made of hardened steel and precision ground to ±.0001" accuracy. Includes fitted case.



Order No.	Price
PR1570010	89.70

## UNIVERSAL BEVEL PROTRACTOR

This precision instrument with magnifying lens has the features of an optical protractor. The rotating disc is graduated in 4 x 90°. Made of stainless steel with satin-chrome finish for easy reading. Permits setting and reading to 5 minutes or 1/12°. Included are 6" and 12" hardened blades and an acute angle attachment. Supplied in fitted case.



Order No.	Price
PR1575000	89.70

## PRECISION PARALLEL SETS

**TOLERANCE:** Parallel 0.0003" on 2 sides, top and bottom.

**DIMENSIONS:** within 0.001" allowance.

**HARDNESS:** Case hardened to RC 55 to 62 on 2 sides top and bottom only.

The holes are designed for easier handling and set-ups. Made from fine quality tool steel, stress relieved against distortion, precision ground, and hardened. These precision parallels are recommended for layout work, standards and set-ups.

### STEEL PARALLEL SETS - 3/16" AND 1/2"

Each set consists of 4 pairs of hardened and ground parallels. All parallels are 6" long. Includes fitted case.



Height	Thickness	Hole Dia.	Order No.	Price
1	3/16	5/16	PR1645001	49.00
1 1/4	3/16	3/8		
1 1/2	3/16	7/16		
1 3/4	3/16	1/2		
1	1/2	5/16	PR1645002	59.00
1 1/4	1/2	3/8		
1 1/2	1/2	7/16		
1 3/4	1/2	1/2		
1	3/16	5/16	PR1645003	49.50
1 1/4	3/16	5/16		
1 1/2	1/2	1/2		
1 3/4	1/2	1/2		

## PRECISION WAVY PARALLELS

- Unique innovation in the field of clamping-aid techniques.
- Engineered to exceed the practical application possibilities of conventional precision parallels.
- New concept, practical and reliable for the precision vertical positioning of workpiece.
- Economical, simple and easy to use in precision clamping of parts in drilling, boring, milling, grinding, assembly work, etc.
- Ideal for clamping a group of flat workpieces.
- Can readily be used as classic shims.
- Thin and fragile workpieces can be secured without damage by utilizing the spring pressure of these parallels, for example in assembly applications, etc.
- Range of 9 pair set 1/2" to 1 1/2" in 1/8" height increments.
- Each parallel is .012" Thick x 4 9/16" Long
- Made of high quality spring steel, hardened, stress relieved & precision ground.
- Guaranteed to size in height & parallelism ±.0002".
- Set of 9 pairs furnished in attractive fitted case.



Order No.	Price
PR2410000	72.00

## 1/4" STEEL PARALLEL SET

Parallels in matched pairs made of special steel hardened and precision ground. 2 holes in each parallel. 9 pair in fitted case.



Each parallel is 1/4" wide and 6" long. Height : 1 pair each

3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4". Includes fitted case.

Order No.	Price
PR2410009	95.00

## 1/8" THIN STYLE STEEL PARALLEL SET

Parallels in matched pairs made of special steel, hardened and precision ground. 2 holes in each parallel. 10 pair in fitted case.



Each parallel is 1/8" wide and 6" long.

Height: 1 pair each 1/2 - 1 5/8 x 8ths. Includes fitted case.

Order No.	Price
PR1645004	69.50

## 1/32" ULTRA-THIN STEEL PARALLEL SET

All are 6" long and only 1/32" thick. Set includes: 20 pairs: 1/2, 9/16, 5/8, 11/16, 3/4, 11/16, 7/8, 11/16, 1, 1 1/16, 1 1/8, 1 11/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16".



- Includes fitted case.

Order No.	Price
PR2410020	89.00

## ILLUMINATED MAGNIFIER

3" diameter lens. 5-1/2" long handle, 3 power.

Uses two "C" batteries (not included).

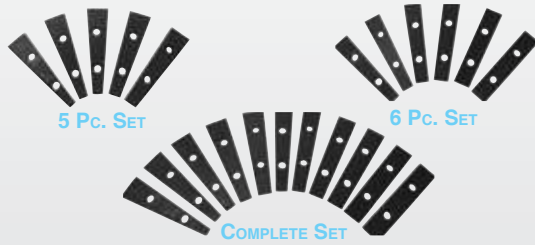


Illuminate work or inspection with this quality affordable magnifier. Plastic body.

Tool No.	Price Each
PR66023575	7.95

## THIN ANGLE BLOCK SETS

- Hardened and precision ground on working surfaces.
- Two 1/4" holes for mounting 3 1/2" Long x 5/32" Thick.
- Fitted case.



\*Using two blocks a range of  
1/2° - 10 1/2° x 1/2°  
can be covered.

Consists of	Order No.	Price
1/2° & 1° - 5° x 1°	1570006	15.80
6° - 10° x 1°	1570005	15.80
All Above Blocks	1570011	19.50

## STEEL PARALLELS

Made of quality steel, hardened and precision ground to very close tolerances on all four sides. Parallels are finished, packed and sold in pairs.



Dim.	Tool No.	Price
1/4 x 1/2 x 6	PR2411632	19.80
1/4 x 5/8 x 6	PR2411640	21.30
1/4 x 3/4 x 6	PR2411648	22.90
3/8 x 1/2 x 6	PR2412432	22.90
3/8 x 3/4 x 6	PR2412448	23.40
1/2 x 3/4 x 6	PR2413248	28.00
1/2 x 1 x 6	PR2413264	31.00
1/2 x 3/4 x 9	PR2413249	52.00
1/2 x 1 x 9	PR2413265	52.00
3/4 x 1 x 9	PR2414864	53.50
3/4 x 1 x 12	PR2414865	74.00
3/4 x 1-1/4 x 12	PR2414872	85.22
1 x 2 x 12	PR2416499	93.30
1-1/4 x 1-1/2 x 12	PR2418096	107.80
1-1/4 x 2 x 12	PR2418099	111.70
1-1/2 x 2 x 12	PR2419620	117.10
1-1/2 x 3 x 12	PR2419630	179.50

## 0°- 60° PRECISION ANGLE BLOCKS

Fast, simple, easy to use for drilling, milling and set-up applications.

### FEATURES:

- 0°- 60° Adjustable angle by locking the hex screw on the bottom.
- 90° "V"
- Squareness .0002"
- Angle accuracy ± 10 seconds.
- Hardened to HRC 50-55°



Length x Height x Width	Width of "V"	Order No.	Price
4 x 1 1/8 x 1 1/8	1 1/8	PR2270001	82.00
4 x 1 1/8 x 1 3/16	1 1/8	PR2270002	74.00
3 x 1 1/4 x 1	1	PR2270003	70.00

## ADJUSTABLE PARALLEL SET

Useful for layout, inspecting and gaging work. Highly accurate dovetail construction. The 2 halves slide smoothly and are quickly locked into position. The 6 piece set is supplied in an attractive plastic wallet and has the following range:



3/8"	to	1/2"
1/2"	to	11/16"
11/16"	to	15/16"
13/16"	to	15/16"
15/16"	to	1 3/4"
1 3/4"	to	2 1/4"

6 PIECE (3/8" - 2 1/4")	
Order No.	Price
PR1650016	63.70

## SOLID ANGLE PLATES

Made of hardened steel, precision ground angles for convenient set-ups in tooling production and inspection. Four holes for easy mounting. 1/4" Thick.



Dimensions	Angles	Order No.	Price
3 x 3"	45°, 45°, 90°	PR1570201	25.00
2 x 3 3/8"	30°, 60°, 90°	PR1570202	25.00
Above two in a plastic case.		PR1570200	48.00

## THIN PARALLEL SET

Set consists of 4 matched pairs of hardened and precision ground parallels 5/32" thick, 3" long in 1/2, 5/8, 3/4, and 7/8 heights. Two 1/4" holes in each parallel. Useful for fast setting of work pieces to needed height in vise jaws



Order No.	Price
PR2410500	14.70

### STEPPED ANGLE PLATE

**PRODUCT DESCRIPTION**

- Solid one piece construction for longer life
- Hardened to 55 to 62 HRC
- Ground flat, square and parallel within .0002"/.005mm
- Made from alloy steel



Size	Thread Size	Order No.	Price
3" x 3" x 3"	1/4" - 20 UNC	PR2276456	149.00

### TELESCOPING GAGE SET

Double action, self centering, for measuring inside diameters, widths of slots, etc. Contact points are hardened and precision-ground to a radius.



Set of 6, in a plastic wallet with the following range:

5/16	to	1/2"
1/2	to	3/4"
3/4	to	1 1/4"
1 1/4	to	2 1/8"
2 1/8	to	3 1/2"
3 1/2	to	6"

Order No.	Price
PR1625000	21.60

### 1-2-3, 2-4-6 AND 25MM x 50MM x 75MM BLOCK SETS

Used in layout and setup work. Each set consists of 2 matched, hardened and precision-ground blocks. The squareness on all sides is within .0001" per inch. The blocks are supplied with a plus allowance of .0001" to .0003" to allow nominal lapping. Five 3/8"-16 tapped holes are provided for clamping.



Size	Order No.	Price
1 x 2 x 3	PR1720123	29.50
2 x 4 x 6	PR1720246	149.00
25-50-75mm	PR1720124	27.00

### SMALL HOLE GAGE SETS

SUPPLIED IN TWO DIFFERENT STYLES :

1. Full ball construction
2. Half ball - flat bottom construction; for measuring inside diameters or widths of small shallow holes or slots where regular gages are not accessible.



HALF BALL FULL BALL

Measuring Range

.125 - .200"	3.2 - 5.1mm
.200 - .300"	5.1 - 7.6mm
.300 - .400"	7.6 - 10.2mm
.400 - .500"	10.2 - 12.7mm

Each set consists of the following 4 gages in a plastic wallet.

Description	Order No.	Price
Half ball construction	PR1640096	19.50
Full ball construction	PR1640097	19.50

### 1-2-3 DELUXE BLOCK SET

Used in layout and setup work. Each set consists of 2 matched, hardened and precision-ground blocks. The squareness on all sides is within .0001" per inch. The blocks are supplied with a plus allowance of .0001" to .0003" to allow nominal lapping. Five 3/8"-16 tapped holes are provided for clamping. 5 stainless steel socket head 3/8" - 16 cap screws, one hex key in a plastic fitted case.



Order No.	Price
PR1725123	36.00

### RADIUS GAGES

- Handy device for checking radii of tools and dies easier and faster.
- Gage features leaves for measuring both concave and convex radii.
- Each leaf is clearly stamped with the radius size.



Order No.	Range	No. of Leaves	Price
PR1680030	1/32" to 1/4" by 1/64"	30	15.00
PR1680032	1/16" to 1/2" by 1/64"	32	16.00

### PROTRACTORS

Used to set bevels, transfer angles etc.. Stainless steel with permanently etched graduations from 0-180° in opposite directions. Protractor arm of 6". Head size: 3 1/2 x 2".



Description	Order No.	Price
Round Head	PR2280005	12.95
Rectangular Head	PR2280010	12.95

### RADIUS GAGE SETS

For inspection and layout work. Each gage is marked with its radius size and has five measuring surfaces for concave and convex radii. Satin chrome finish. Each set comes in fitted wallet.

No. of Leaves	Range	Order No.	Price
25	1/64 - 17/64 x 64ths 9/32 - 1/2 x 32nds	PR1680025	79.00
8	9/16 - 1 x 16ths	PR1685300	149.00
25	.010 - .030 x .005 .040 - .100 x .010 .120 - .220 x .020 .240 - .320 x .040 .350 - .500 x .050	PR1683300	79.00





### THREAD MEASURING WIRE SET

48 Wires - 16 different sizes - to measure external threads by the 3 wire method. Measures all threads from 3-48 TPI and metric threads from .5mm to 6mm pitch. Wires are fitted in a plastic pouch marked with sizes. Includes a laminated chart compiled from the U.S. Standard Handbook.



Order No.	Price
PR2450000	13.90

### SCREW CUTTING GAGE

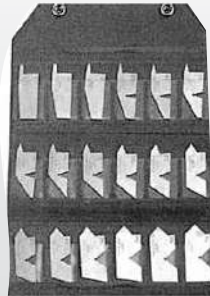
- Made from ground stainless steel
- Clearly etched Graduation.
- Used for gaging thread profiles 47½° British Association, 14½° Acme, 60° American and metric, 55° Whitworth and BSF.



Order No.	Overall length	Price
PR2355000	2"/50mm	7.20

### 18 PIECE ANGLE GAGE SET

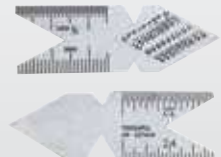
- Eight gaging surfaces per gage,
- Each gage checks primary, ½ primary and complimentary angles.
- Quick and accurate inspection of angles and I.D. or O.D. Chamfers in or out of the machine.
- Indispensable for every inspector, toolmaker, machinist, layout and draftsman.
- Complete with fitted case.



Order No.	Price
PR2470018	39.00

### CENTER GAGES

- Very handy gage used in grinding and setting screw cutting tools.
- Clearly etched scale for finding number of threads per inch.
- Made of tempered stainless steel.
- Inch gage is graduated in 14ths, 20ths, 24ths, 32nds and features a table of double depth of thread for determining size of tap drills.
- Metric Gage graduated in mm and ½mm.
- Supplied in a plastic pouch.



Order No.	Description	Price
PR1690060	American Unified National Standard 60°	4.50
PR1690560	Metric 60°	9.50

### 29° ACME SCREW THREAD GAGE

Used in grinding and setting tools when cutting Acme threads.  
Range: 1-10 threads per inch.



Order No.	Price
PR2450029	14.50

### TWIST DRILL GRINDING GAGE

- For twist drills with acute angle of 118° up to 2" (50mm) diameter.
- Made from Stainless Steel.



Order No.	Overall length	Price
PR1615002	4½" / 114mm	7.20

### UNIVERSAL GRINDING GAGE

- Made of polished Stainless Steel.
- Clearly etched graduations.
- Combines twist drill grinding gages, thread gage.
- Measures square and hexagonal angles of 120°, 118°, 90°, 60°, 55°



Order No.	Overall length	Price
PR1615003	3¾" / 95mm	7.20

### TAPER (BORE) GAGE

- Handy gage for measuring cylindrical bores, bearing work and for gaging slots.
- Made from matte finished stainless steel
- Clearly etched graduations for precise measurement.



Order No.	Range	Price
PR2470115	½ - 5/8" 1 to 15mm	10.20

### WIRE GAGES

- Popular gage for iron wire, hot and cold rolled sheet steel.
- Made from bright finished and polished hardened stainless steel.
- Gages have a convenient decimal equivalent of each number.
- Clear permanently etched graduations in USA Standard.



Order No.	Description	Price
PR1660400	Rectangular	20.80
PR1660300	Round	20.80

## FEELER OR THICKNESS GAGES

- Each gage set comprised of thin polished steel blades within a steel case.
- Appropriate thickness clearly marked on each blade (inch and millimeter).
- Approximate length 3½" (90mm)
- Used to check bearing clearance in auto industry, flatness of jigs and fixtures, adjusting spark plugs, etc.



No. of Leaves	Leaf Thickness Range	Straight Blades		Tapered Blades	
		Tool No.	Price Each	Tool No.	Price Each
9	.0015" - .015"	PR1680009	5.95	PR1682009	5.95
26	.0015" - .025"	PR1680026	10.50	PR1682026	10.45
20	.05 - 1.00mm	PR1685120	11.55	PR1685020	11.55

## SCREW PITCH (THREAD) GAGES

### PRODUCT DESCRIPTION

- Very handy gage to quickly determine the pitch of various threads
- Made of high quality polished tool steel
- Features a locking device at both ends to securely lock the leaves
- All leaves clearly marked with size
- Comes in a plastic pouch



**FOR GAGING OF 60° "V" THREAD (EXCEPT WHERE NOTED).  
EACH LEAF SWINGS OUT AND CAN BE LOCKED INTO POSITION.  
EACH GAGE IS MARKED WITH ITS SIZE.**

TPI Range No. of Leaves	Range of Pitches	Tool No.	Price
4 - 42 (30)	4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42	PR1665442	7.20
4 - 84 (51)	All of above plus: 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84	PR1670484	14.90
0.25 - 2.5mm (28)	.25, .30, .35, .40, .45, .50, .55, .60, .65, .70, .75, .80, .85, .90, 1.00, 1.10, 1.20, 1.25, 1.30, 1.40, 1.50, 1.60, 1.70, 1.75, 1.80, 1.90, 2.00, 2.50	PR1675001	7.20
.40 - 6.0mm (20)	.40, .45, .50, .60, .70, .75, .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, 5.50, 6.00	PR1675002	7.50
4 - 42 & 0.25 to 6.0mm (31 + 24 = 55)	Combination-American Nat'l 60° and Metric 60° Threads	PR2451116	11.00
4 - 62 & 0.25 to 6.0mm (28 + 24 = 52)	Combination-Whitworth Standard 55° and Metric Standard 60°	PR2451118	13.00
4 - 62G (28)	Whitworth Standard 55°	PR1451120	8.10
0.25 - 6mm (24)	.25, .30, .35, .40, .45, .50, .60, .70, .75, .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, 5.50, 6.00	PR12890040	6.80

## MACHINIST GAGE SETS

### 4 PIECES — INCH

4 to 84 Screw Pitch Gage, 1/32" to 1/4" Radius Gage, 60° Center Gage & .0015 to .25" Feeler Gage



### 4 PIECES — METRIC

0.4 to 6 Screw Pitch Gage, 1-7mm Radius Gage, 55° Center Gage & .05 to 1.0mm Feeler Gage

Type	Order No.	Price
Inch	PR2472203	48.50
Metric	PR2472298	48.50

## ROUND BAR CENTER FINDER

- Accurately and quickly locates center on round workpiece.
- For execution place the tool in drill chuck or collet and line up pointer with line scribed on shaft.
- Supplied with instructions



Order No.	Shank Dia.	Overall Length	Price
PR1700025	3/8" / 9.5mm	4 1/8" / 105mm	8.70

## ELECTRONIC EDGE FINDER

Highly sensitive for fast and accurate positioning. Lights up on contact. T.I.R. within .0002". 3/4" Shank Diameter. .400 Probe Diameter.



Order No.	Price
PR5440500	69.00

## FINDERS (EDGE AND CENTER)

To locate work edges shoulders, grooves, center points, and scribed lines for accurate machining such as jig boring, etc. All parts hardened and ground.

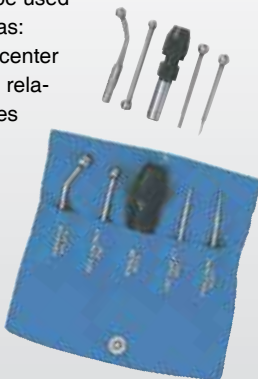


Style/Type	Shank Dia.	Contact Dia.	Order No.	Price
Single End / Edge	3/8"	.200"	PR1700001	7.10
Single End / Edge	1/2"	.500"	PR1700002	7.50
Double End / Edge	1/2"	.200 & .500"	PR1700003	7.50
Double End / Edge & Center	1/2"	.200 & Ptd. Contact	PR1700004	7.90
Double End / Edge & Center	3/8"	.200 & Ptd. Contact	PR1700005	7.50
Single End / Edge	1/2"	.200"	PR1700006	7.90
Single End / Center	3/8"	Pointed Contact	PR1700007	7.50
Single End / Center	1/2"	Pointed Contact	PR1700008	7.90
Single End / Edge	10mm	10mm	PR1700026	8.50
Single End / Edge	12mm	5mm	PR1700027	8.50

Sets	Order No.	Price
4pc Set of #'s 1700001 - PR1700004	PR1700021	29.00
4pc Set of #'s 1700005 - PR1700008	PR1700022	30.50
6pc Set of #'s 1700006 - PR1700006	PR1700023	40.00
8pc Set of #'s 1700001 - PR1700008	PR1700024	56.50

## WIGGLER OR CENTER FINDER

The attachments permit this tool to be used for many different applications such as: checking concentricity, establishing center distances, positioning tool spindle in relation to work surfaces, etc. Set includes body and the following interchangeable attachments:



- Ball contact (.250" dia.)
- Disc contact (.100" Dia.)
- Needle point
- Offset indicator holder

Order No.	Price
PR1700500	13.00

## COMPARATORS AND MAGNIFIERS

Combination of lenses produces different powers

Magnification range of 4x, 7x, and 10x

Focal length of 2.5", 1.5" and 1" or 6cm, 3.8cm and 2.5cm



Tool No.	Price Each
PRMGP	11.40

## EYE LOUPES

Hand – Free Magnification  
Lenses made of ground and polished optical glass



Magnification Power	Focal Length	Tool No.	Price Each
2X	4.5"/114mm	PRMGL2	2.55
3X	3.5"/89mm	PRMGL3	3.25
4X	2.5"/63mm	PRMGL4	4.55
5X	2.0"/50mm	PRMGL5	5.15
10X	1.0"/25mm	PRMGL10	8.45

## POCKET COMPARATOR

Has a precision ground achromatic lens (3 element, 2 groups), photo etched scale, with 7x magnification.



Order No.	Price
PR1001975	121.00

## POCKET COMPARATOR SET

Includes the Model 1975 comparator with the 5 most popular reticles, namely #1, #5, #7, #8, and #12 in fitted case.



Order No.	Price
PR1001976	175.00

## POCKET COMPARATOR

Has a precisely ground achromatic lens (coated 4 elements, 2 groups), photo etched scale with a 10x magnification.



Order No.	Price
PR1001983	133.25

## POCKET COMPARATOR SET

Includes the Model 1983 comparator with the 5 most popular reticles, namely, #1, #5, #7, #8 and #12 in fitted case.



Order No.	Price
PR1002004	265.00

## FLASHLIGHT MAGNIFIER

With 10x magnification is an excellent instrument. It features a built-in lighting device that works on two 1.5 Volt batteries.



Order No.	Price
PR1001966	47.80

## FLASHLIGHT MAGNIFIER AND COMPARATOR

Combination with 7x magnification consists of a magnifying unit and a section to insert batteries.



Order No.	Price
PR1001998	133.25

## STEREO MICROSCOPES

- Fully coated, excellent optics give an upright image over a wide field of view, sharp and clear
- Provides the original true color of the viewed object
- Accurate alignment ensures the observer fatigue-free viewing
- 45° inclined binocular head, with locked-in eyepieces.
- Left ocular-tube with diopter adjustment range of +5mm
- Interpupillary distance adjustable between 2.16 - 2.95"
- Working distance 2.09"
- Includes paired eyecaps, a dust cover, paired clips
- Well-painted metal base
- Precise and smooth rack & pinion focus system
- Equipped with an arm stand.



Order No.	Price
PR5100600	345.00

### CARBIDE TIPPED SCRIBERS



- For use on hard surfaces
- Fixed points on round or hexagonal steel body.
- 6" (150mm) long, provided with clip.

Description	Tool No.	Price Each
Carbide Scriber in Steel Body	PR7020825	3.70

### FOLDABLE LENS MAGNIFIER

2 Power 4" dia. Stands 7-1/2" H.  
5-1/4" x 7-1/2" Base.



Inch and metric scale on base.

Tool No.	Price Each
PR66023705	7.95

### POCKET MICROSCOPE



50 POWER (Microscope has inverted image)		
Model No.	Order No.	Price
2013	PR5105010	103.00

### MACHINISTS SCRIBERS

- Points hardened for accurate work.
- Ideal marking tool.
- Moderately priced.



Size	Description	Tool No.	Price Each
8-1/2" /215mm	Double end scriber w/ knurled body (A)	PR7020812	3.15
7" /175mm	Single point heavy duty scriber with knurled body (H)	PR7020819	2.70
9" /225mm	Double point heavy duty scriber with knurled body (I)	PR7020820	3.25
6-1/2" /165mm	Chisel type scriber with one end sharp point and other knife edge (J)	PR7020821	3.25

### POCKET MICROSCOPES

ILLUMINATED WITH FOCUSING WHEEL:

For reading fine print, industrial quality control, fine inspections, textiles, etc. Uses 2 AA batteries (not included).



Size	Order No.	Price Each
40X	PR66020090	15.95
60-100X	PR66020095	23.95

### MAGNIFYING READING GLASSES

2" x 1-3/16 lens. With metal frame



Power	Tool No.	Price Each
1.5	PR66023577	3.15
2	PR66023578	3.15
2.5	PR66023579	3.15
3	PR66023580	3.15

### POCKET MICRO STAND



This powerful microscope stand is available in 30x and 40x power. Self-Standing with adjustable focus.

Size	Order No.	Price Each
MS-30 30X	PR66023945	47.95
MS-40 40X	PR66023950	49.95

### RATCHET MACHINE COUNTER

- 5 Digits with rotary reset knob
- 4 Flange holes for rigid mounting
- Lever furnished with spring and can be set in any position



Tool No.	Price
PRMC5	8.45

### POT MAGNETS

- Has unlimited applications such as magnetic fasteners, displays, holding maps etc.
- Has tapped hole of 1/4" - 20
- Comes with Plated Keepers



Tool No.	Diameter	Height	Pull	Price
<b>MG2391116</b>	11/16"	5/8"	6 lbs.	<b>5.24</b>
<b>MG2391316</b>	13/16"	3/4"	10 lbs.	<b>6.47</b>
<b>MG2391016</b>	1-1/16"	1"	14 lbs.	<b>9.09</b>
<b>MG2390138</b>	1-3/8"	1-3/16"	30 lbs.	<b>14.09</b>

### MAGNETIC SEPARATOR

- Specially designed for separating ferrous sheets or particles.
- Very useful in workshops for cleaning machine beds, agriculture industry, etc.
- Powerful magnetic force can be demagnetized by simply pulling up the handle.



Tool No.	Diameter	Price
<b>MG9990002</b>	9-1/4 x 5-1/4 x 1"/ 235 x 135 x 25mm	<b>35.27</b>

### SHALLOW POT CERAMIC MAGNETS

- Permanent, Powerful Magnets to hold, lift and attract metal parts.
- Shallow Depth permits use in confined spaces
- Model 2390134 has 10 x 24 threaded Center Hole for fastening with machine screw.
- Large Sizes have 3/8" clearance holes for fastening with rods or bolts.



Tool No.	Diameter	Depth	Pull	Price
<b>MG2390134</b>	1-3/4"	1/4"	10 lbs.	<b>5.16</b>
<b>MG2390200</b>	2"	3/8"	20 lbs.	<b>5.78</b>
<b>MG2390234</b>	2-3/4"	7/16"	35 lbs.	<b>7.47</b>
<b>MG2391138</b>	3-1/8"	1/2"	50 lbs.	<b>11.01</b>

### MAGNETIC RACK (ORGANIZER)



- Specially designed for separating ferrous sheets or particles.
- Very useful in workshops for cleaning machine beds, agriculture industry, etc.
- Powerful magnetic force can be demagnetized by simply pulling up the handle.

Tool No.	Length	Price
<b>MG9990012</b>	12"/300mm	<b>21.71</b>
<b>MG2390018</b>	18"/450mm	<b>26.72</b>
<b>MG2390024</b>	24"/600mm	<b>37.88</b>

### EXTRA POWER MAGNETIC HOLDFASTS

- Have tremendous power.
- Provided with Push Off Screw to push work away from the holdfasts as this cannot be done by hand.
- Also provided with plated Keepers which protect and retain magnetic field.
- Can be used to hold work for welding, grinding. Ideal for making inexpensive lifting devices and jigs.
- Have many applications in material handling and machine shop.



Tool No.	Diameter	Magnetic Pull	Price
<b>MG2391340</b>	1-3/4"	45 lbs.	<b>43.35</b>
<b>MG2392180</b>	2-1/8"	70 lbs.	<b>54.13</b>
<b>MG2392340</b>	2-3/4"	110 lbs.	<b>64.91</b>

### MAGNETIC QUICK CLAMPS



- Designed to enable fast and accurate holding of ferrous metals for welding and assembly.
- Small compact design with powerful magnetic force.
- Body holes enable the clamps to be built into jigs or hung when not in use.

Tool No.	Diameter	Angles	Price
<b>MG2394258</b>	4-3/8" x 3-3/4"	30°, 90°, 135°	<b>14.17</b>
<b>MG2394380</b>	4" x 2-5/8"	30°, 45°, 60°, 75°, and 90°	<b>12.01</b>

### MAGNETIC WELDING LINK

- Ideal for holding steel parts for welding, brazing etc.
- Wing nut adjustment.
- No clamp needed
- Two heavy magnetic blocks 2-3/8"(60mm) long x 1-1/8"(28mm) square linked together for easy adjustment.

Tool No.	Price
<b>MG9990001</b>	<b>27.72</b>







# Cushman Chucks

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# CUSHMAN CHUCKS

SINCE 1862



# 3-Jaw Self-Centering Universal Accra-Set Chucks



**High Quality, Steel Body, Scroll Chuck**

**Special Features:**

- Sizes 6" through 32" (larger sizes available)
- American Standard Tongue & Groove Jaw Mount
- Straight recess
- Two piece/reversible stepped hard jaws
- For use with mounting plates

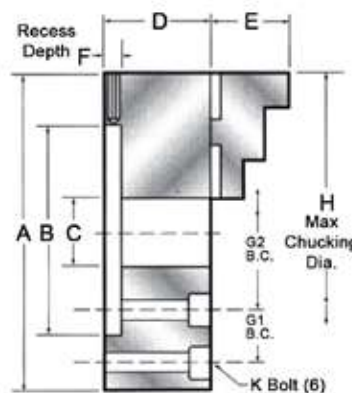


*For Mounting Plates See page 476.*

**Series Y10-104**

Chuck Size	Model No.	Est. Gross Weight (lbs)	Gripping Capacity		Max Rpm	Price
			Min	Max		
6"	Y10-104-06-000Z	26	3/16	5	4900	1,360.00
8"	Y10-104-08-000Z	46	3/16	6-1/2	4200	2,080.00
10"	Y10-104-10-000Z	71	3/16	8	3300	2,560.00
12"	Y10-104-12-000Z	112	3/4	10	2300	3,520.00
15"	Y10-104-15-000Z	146	1-1/2	13	2000	6,080.00
18"	Y10-104-18-000Z	270	1-1/2	16	1300	15,120.00
*20"	Y10-104-20-000Z	450	1-1/2	18	—	16,800.00
24"	Y10-104-24-000Z	550	2	18	850	20,450.00
*28"	Y10-104-28-000Z	730	2	26	—	25,688.00
*32"	Y10-104-32-000Z	960	2	30	—	34,225.00

\*Not Accra-Set, Not Fine Adjustment. Please call for dimensional data.



**Chuck Dimensions**

Chuck Size	A	B*	C	D	E	F	Bolt Pattern		H	K
							G1	G2		
6"	6.31	3.125	1.81	2.88	1.59	0.69	5.34	—	7.31	1/4
8"	8.25	4.750	2.25	3.25	1.75	0.75	7.50	—	9.25	3/8
10"	9.85	6.375	3.00	3.63	2.13	0.81	—	4.38	11.00	7/16
12"	12.20	7.906	4.06	4.00	2.28	0.84	—	5.25	14.00	1/2
15"	15.74	11.781	4.56	5.13	3.16	1.13	—	6.75	17.00	5/8
18"	18.00	11.781	5.025	5.781	3.27	1.125	—	6.75	19.00	5/8
24"	24.00	16.030	7.025	6.530	3.27	1.188	—	9.25	25.00	3/4

\* Tolerance: -0.000/+0.001"

# 6-Jaw Self-Centering Universal Accra-Set Chucks



High Quality, Steel Body, Scroll Chuck

**Special Features:**

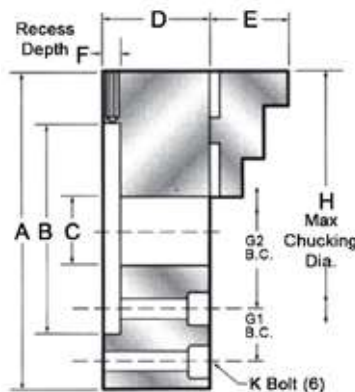
- Medium duty steel body
- Sizes 6" through 18" (larger sizes available)
- American Standard Tongue & Groove Jaw Mount
- Straight recess
- Two piece/reversible stepped hard jaws
- For use with mounting plates



*For Mounting Plates See page 476.*

**Series Y10-174**

Chuck Size	Model No.	Est. Gross Weight (lbs)	Gripping Capacity		Max Rpm	Price
			Min	Max		
6"	Y10-174-06-000Z	27	3/16	5	2500	2,275.00
8"	Y10-174-08-000Z	49	3/16	6-1/2	2200	2,690.00
10"	Y10-174-10-000Z	76	3/16	8	1900	3,490.00
12"	Y10-174-12-000Z	116	3/4	10	1500	4,560.00
15"	Y10-174-15-000Z	205	1-1/2	13	1300	8,160.00
18"	Y10-174-18-000Z	290	1-1/2	16	1100	23,600.00



**Chuck Dimensions**

Chuck Size	A	B*	C	D	E	F	Bolt Pattern		H	K
							G1	G2		
6"	6.31	3.125	1.81	2.88	1.59	0.69	5.34	—	7.31	1/4
8"	8.25	4.750	2.25	3.25	1.75	0.75	7.50	—	9.25	3/8
10"	9.85	6.375	3.00	3.63	2.13	0.81	—	4.38	11.00	7/16
12"	12.20	7.906	4.06	4.00	2.28	0.84	—	5.25	14.00	1/2
15"	15.74	11.781	4.56	5.13	3.16	1.13	—	6.75	17.00	5/8
18"	18.00	11.781	5.025	5.781	3.27	1.125	—	6.75	19.00	5/8



# 3-Jaw Self-Centering Heavy Duty Chucks



## High Quality, Steel Body Scroll Chuck

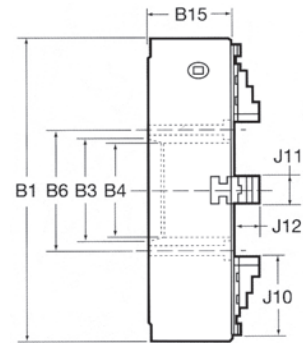
- Forged steel body
- Extra heavy duty American Standard, hard top and master jaws
- Gripping surfaces serrated for more holding power
- Large thru-holes standard
- Hardened scroll gear for long life



For Mounting Plates See page 476.

### Series Y10-114

Chuck Size	Model No.	Mount	Thru Hole	Max RPMs	Approx. Weight	Price
*12"	Y10-114-12-000Z	Flat Back	3.13	*	152 lbs	14,800.00
*15"	Y10-114-15-000Z	Flat Back	5.13	*	235 lbs	18,480.00
20"	Y10-114-20-A11Z	A2-11	6.75	1100	475 lbs	19,560.00
24"	Y10-114-24-A15Z	A2-15	10.75	850	695 lbs	24,560.00
24"	Y10-114-24-A20Z	A2-20	12.50	850	670 lbs	24,560.00
28"	Y10-114-28-A15Z	A2-15	10.75	750	890 lbs	32,340.00
28"	Y10-114-28-A20Z	A2-20	12.50	750	870 lbs	32,340.00
32"	Y10-114-32-A15Z	A2-15	10.75	600	1290 lbs	38,730.00
32"	Y10-114-32-A20Z	A2-20	14.50	600	1270 lbs	38,730.00



\*Dimensional table will be provided upon request.

### Dimensional Data - 3-Jaw Self-Centering Heavy Duty Chuck

Model No.	B1 O.D.	Mount Type	B3 Mount Recess	B4 Thru Hole	B6 Mounting Bolt Radius	B15 Body Width	J10 Master Jaw Length	J11 Top Jaw Width	J12 Top Jaw Height
Y10-114-20-A11Z	19.68	A2-11	7.75	6.75	4.625	6.34	6.50	2.36	3.27
Y10-114-24-A15Z	24.80	A2-15	11.25	10.75	6.50	6.61	6.50	2.36	3.27
Y10-114-24-A20Z	24.80	A1-20	16.25	12.50	7.25	6.69	6.50	2.36	3.27
Y10-114-28-A15Z	27.56	A2-15	11.25	10.75	6.50	6.81	8.50	2.95	3.62
Y10-114-28-A20Z	27.56	A1-20	16.25	12.50	7.25	6.89	8.50	2.95	3.62
Y10-114-32-A15Z	31.49	A2-15	11.25	10.75	6.50	7.01	9.84	2.95	3.62
Y10-114-32-A20Z	31.49	A2-20	16.25	14.50	9.175	7.09	8.50	2.95	3.62

NOTE: Note to be used for design purposes unless approved by the factory.

### Component Parts - Series Y10-114 - Old Style (Price on Application)

Chuck Size	Component Model Numbers							
	Scroll	Pinion	Pinion Retainer	Pinion Bushing	Pinion Bushing Retainer	Wrench	Jaws - Set of 3	
							No. 6 Master Jaws	No. 6 Top Jaws
8"	Y03-001521-F1	Y03-001521-03	Y05-000895-00	—	—	Y06-201801-00	Y03-001521-F4	Y03-001521-F2
10"	Y05-003542-F0	Y03-001089-02	Y05-000896-00	—	—	Y06-201848-00	Y03-003541-F0	Y03-001089-F3
12"	Y04-008003-F0	Y05-006367-00	Y05-006375-00	Y04-008720-00	Y05-002242-00	Y06-201848-00	Y05-006374-F0	Y03-001438-F3
15"	Y04-007965-F0	Y05-006193-00	Y05-006307-00	Y04-008052-00	Y05-002242-00	Y06-201868-00	Y04-007839-F0	Y04-007840-F0
18"	Y03-005896-F0	Y05-006286-00	Y05-006307-00	Y04-008072-00	Y05-002242-00	Y06-201868-00	Y04-007913-F0	Y04-007840-F0
21"	Y03-005925-F0	Y05-006398-00	Y05-006307-00	Y04-007978-00	Y05-002242-00	Y06-201868-00	Y04-008030-F0	Y04-007840-F0
24"	Y03-002692-F2	Y04-007977-00	Y05-006307-00	Y04-007978-00	Y05-002242-00	Y06-201868-00	Y04-007979-F0	Y04-007840-F0



# 3 & 6-Jaw Plain Back Semi-Steel Shop Chucks *New*



## Semi-Steel Body Plain Back with Fine Adjustment

- 0.0005" T.I.R.
- Two-piece American Standard reversible jaws
- Two-piece body design
- 10", 12" and 15" chucks provided with the pinion in the bushing

## Standard Accessories

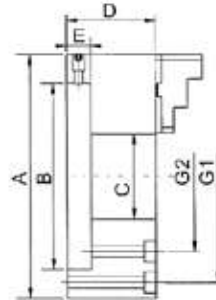
- 1 Set of hard master jaws
- 1 Set of hard top reversible jaws
- 1 Chuck wrench
- 2 Hex keys
- 1 Semi-steel body
- 1 Pinion
- 1 Set of mounting screws



Series Y10-161



Series Y10-171



See page 476 for mounting plates.

Chuck Size	3-Jaw Model Number	RPM Max	Price Each	6-Jaw Model Number	RPM Max	Price Each
6"	Y10-161-006-000Z	3400	1,000.00	Y10-171-006-000Z	2500	1,400.00
8"	Y10-161-008-000Z	3100	1,500.00	Y10-171-008-000Z	2200	1,600.00
10"	Y10-161-010-000Z	2700	1,900.00	Y10-171-010-000Z	2000	2,000.00
12"	Y10-161-012-000Z	2200	2,600.00	Y10-171-012-000Z	1500	2,800.00
15"	Y10-161-015-000Z	1800	5,000.00	—	—	—

## Chuck Dimensions

Chuck Size	A	B	C	D	E	G1	G2	Qty of Bolts	G1/G2 Thread
6"	6.0	3.125	1.540	2.35	0.69	5.34	—	6	1/4"-20
8"	8.25	4.700	2.348	3.15	0.75	7.50	—	6	3/8"-16
10"	10.0	6.375	2.850	3.40	0.81	—	4.38	6	7/16"-14
12"	12.0	1.906	3.295	4.00	0.84	—	5.25	6	1/2"-13
15"	15.0	11.781	4.280	6.78	1.13	—	6.75	6	5/8"-11

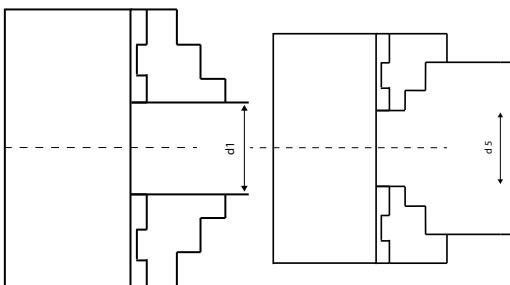
## Gripping Capacity

### 3 Jaw Chuck

Chuck Dia. D	Min d1	Max d5
6-1/4	0.118	6.30
8	0.157	7.87
10	0.197	9.84
12-1/2	0.394	12.40
15-3/4	0.394	15.75

### 6 Jaw Chuck

Chuck Dia. D	Min d1	Max d5
6-1/4	0.315	6.30
8	0.315	7.67
10	0.470	9.84
12-1/2	0.470	12.40
15-3/4	0.690	15.75



# Mounting Plates for 3 & 6-Jaw Chucks



## For Independent Chucks - Series Y10-104, Y10-174, Y10-114, Y10-161, Y10-171 (Old Type Design)

Mounting plates are precision machined to suit the spindle nose of your machine. For maximum accuracy of Accra-Set™ mounting plates, mount plate on machine spindle nose, place a dial indicator on the chuck side face of the adapter close to the mounting holes, rotate the adapter, and if the total indicator reading (TIR) exceeds .0005", take a light truing cut across the face of the mounting plate.

### Type D Mounting Plates - "Camlock"

Spindle	Model Number						
	6"	8"	10"	12"	15"	18"	24"
D-3	<b>Y03-0605020</b>	<b>Y03-0805020</b>	—	—	—	—	—
Price	440.00	465.00	—	—	—	—	—
D-4	<b>Y03-0605021</b>	<b>Y03-0805021</b>	<b>Y03-1005021</b>	—	—	—	—
Price	440.00	465.00	595.00	—	—	—	—
D-5	<b>Y03-0605022</b>	<b>Y03-0805022</b>	<b>Y03-1005022</b>	—	—	—	—
Price	500.00	500.00	660.00	—	—	—	—
D-6	—	<b>Y03-0805023</b>	<b>Y03-1005023</b>	<b>Y03-1205023</b>	<b>Y03-1505023</b>	—	—
Price	—	500.00	660.00	770.00	1,008.00	—	—
D-8	—	—	<b>Y03-1005024</b>	<b>Y03-1205024</b>	<b>Y03-1505024</b>	<b>Y03-1805024</b>	<b>Y03-2405024</b>
Price	—	—	720.00	880.00	1,040.00	1,435.00	2,040.00
D-11	—	—	—	<b>Y03-1205025</b>	<b>Y03-1505025</b>	<b>Y03-1805025</b>	<b>Y03-2405025</b>
Price	—	—	—	1,008.00	1,200.00	1,595.00	2,075.00

### Type A American Standard Short Taper A-1 & A-2 Spindles

Spindle	Model Number						
	6"	8"	10"	12"	15"	18"	24"
A-4	<b>Y03-0605009</b>	—	—	—	—	—	—
Price	450.00	—	—	—	—	—	—
A-5	<b>Y03-0605010</b>	<b>Y03-0805010</b>	<b>Y03-1005010</b>	—	—	—	—
Price	450.00	480.00	635.00	—	—	—	—
A-6	—	<b>Y03-0805011</b>	<b>Y03-1005011</b>	<b>Y03-1205011</b>	—	—	—
Price	—	480.00	690.00	705.00	—	—	—
A-8	—	—	<b>Y03-1005012</b>	<b>Y03-1205012</b>	<b>Y03-1505012</b>	<b>Y03-1805012</b>	—
Price	—	—	690.00	705.00	1,008.00	1,450.00	—
A-11	—	—	—	—	<b>Y03-1505013</b>	<b>Y03-1805013</b>	<b>Y03-2405013</b>
Price	—	—	—	—	1,008.00	1,595.00	2,040.00
A-15	—	—	—	—	—	—	<b>Y03-2405014</b>
Price	—	—	—	—	—	—	2,075.00

### Type L American Standard Long Taper Key Drive Spindle

Spindle	Model Number						
	6"	8"	10"	12"	15"	18"	24"
L-00	<b>Y03-0605031</b>	<b>Y03-0805031</b>	<b>Y03-1005031</b>	—	—	—	—
Price	560.00	625.00	740.00	—	—	—	—
L-0	<b>Y03-0605032</b>	<b>Y03-0805032</b>	<b>Y03-1005032</b>	<b>Y03-1205032</b>	—	—	—
Price	560.00	625.00	740.00	1,025.00	—	—	—
L-1	—	<b>Y03-0805033</b>	<b>Y03-1005033</b>	<b>Y03-1205033</b>	<b>Y03-1505033</b>	<b>Y03-1805033</b>	<b>Y03-2405033</b>
Price	—	720.00	740.00	1,025.00	1,440.00	2,075.00	3,035.00
L-2	—	—	<b>Y03-1005034</b>	<b>Y03-1205034</b>	<b>Y03-1505034</b>	<b>Y03-1805034</b>	<b>Y03-2405034</b>
Price	—	—	955.00	1,025.00	1,440.00	2,555.00	3,035.00
L-3	—	—	—	—	<b>Y03-1505035</b>	<b>Y03-1805035</b>	<b>Y03-2405035</b>
Price	—	—	—	—	1,440.00	2,715.00	3,035.00

### For Hardinge® and Elgin Lathe

Spindle	Model Number	
	5"	6"
4" Taper	<b>Y03-0505044</b>	<b>Y03-0605044</b>
Price	400.00	475.00
2-3/16"-10 Threaded	<b>Y03-0505045</b>	<b>Y03-0605045</b>
Price	400.00	475.00

Plates for rotary tables also available.

### Threaded & Blank Mountings for Accra-Set™ Chucks

Spindle	Model Number				
	5"	6"	8"	10"	12"
Blank	<b>Y03-0505040</b>	<b>Y03-0605040</b>	<b>Y03-0805040</b>	<b>Y03-1005040</b>	<b>Y03-1205040</b>
Price	340.00	340.00	440.00	450.00	480.00
1-1/2"-8	<b>Y03-0505041</b>	<b>Y03-0605041</b>	<b>Y03-0805041</b>	—	—
Price	440.00	440.00	480.00	—	—
1-3/4"-8	<b>Y03-0505042</b>	<b>Y03-0605042</b>	<b>Y03-0805042</b>	—	—
Price	465.00	465.00	480.00	—	—
2-1/4"-8	<b>Y03-0505043</b>	<b>Y03-0605043</b>	<b>Y03-0805043</b>	—	—
Price	465.00	465.00	480.00	—	—
2-3/8"-6	—	<b>Y03-0605046</b>	<b>Y03-0805046</b>	—	—
Price	—	640.00	688.00	—	—

\* Threaded adapter plates and special plates are available upon request.

"Accra-Set™" chucks and adapters are shipped unassembled unless ordered assembled at an extra charge. When ordering special adapters, give make, model number, size, and spindle dimensions of machine.

# Component Parts



CHUCKS

## Independent Chucks - Series Y10-001, Y10-002, Y10-003, Y10-004 (Old Type Design)

For older model Cushman chucks manufacturer prior to 2006

Chuck Size	Model Letter	Component Model Numbers					
		Operating Screw	Thrust Bearing	Wrench	Jaws - Set of 4 only		
					Solid One-Piece Reversible	2-Pc Tongue and Groove Type	
					No. 6 Master Jaws	No. 6 Top Jaws	
10"	C	Y05-002184-00	Y06-201883-00	Y06-201260-00	Y05-003019-F0	Y04-001201-F2	Y04-001201-F1
12"	C	Y05-002185-00	Y06-201883-00	Y06-201260-00	Y05-003019-F0	Y04-001202-F2	Y04-001202-F1
15"	C	Y05-002187-00	Y06-201883-00	Y06-201260-00	Y05-006534-F0	Y04-001213-F1	Y04-001213-F2
18"	C	Y05-002199-00	Y06-201866-00	Y06-201264-00	Y04-004551-F0	Y04-003948-F0	Y04-003947-F0
21"	C	Y05-002195-00	Y06-201866-00	Y06-201264-00	Y04-004551-F0	Y04-002065-F0	Y04-003947-F0
24"	C	Y04-002559-00	Y06-201866-00	Y06-201264-00	Y04-004551-F0	Y04-002065-F0	Y04-003947-F0
28"	C	Y04-002560-00	Y06-201866-00	Y06-201264-00	Y04-004551-F0	Y04-002065-F0	Y04-003947-F0
32"	C	Y04-000309-02	Y06-201851-00	Y06-201885-00	Y04-000612-F0	Y03-001981-F1	Y03-001981-F2

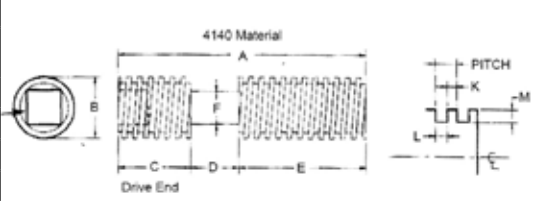
## Independent Chucks - Series 10-003, 10-004

Chuck Size	Model Letter	Component Model Numbers					
		Operating Screw	Thrust Bearing	Wrench	Jaws - Set of 4 only		
					Solid One-Piece Reversible	2-Pc Tongue and Groove Type	
					No. 6 Master Jaws	No. 6 Top Jaws	
10"	C, D, E	Y05-002184-00	Y06-201883-00	Y06-201260-00	Y05-003019-F0	Y04-001201-F2	Y04-001201-F1
12"	C, D, E	Y05-002185-00	Y06-201883-00	Y06-201260-00	Y05-003019-F0	Y04-001202-F2	Y04-001202-F1
15"	C, D, E	Y05-002187-00	Y06-201883-00	Y06-201260-00	Y05-006534-F0	Y04-001213-F1	Y04-001213-F2
18"	D, E	Y05-210722-00	Y06-201851-00	Y06-201885-00	Y04-210721-F0	Y03-210871-F0	Y03-001981-F2
21"	D, E	Y05-211793-00	Y06-201851-00	Y06-201885-00	Y04-210721-F0	Y03-210871-F0	Y03-001981-F2
24"	D, E	*Y05-209524-00	Y06-201881-00	Y06-201867-00	Y03-209509-F0	Y03-209504-F0	Y04-001941-F0
28"	D, E	**Y05-211858-00	Y06-201881-00	Y06-201867-00	Y03-209509-F0	Y03-209504-F0	Y04-001941-F0
32"	D, E	Y05-211423-00	Y06-201881-00	Y06-201867-00	Y03-209509-F0	Y03-209504-F0	Y04-001941-F0

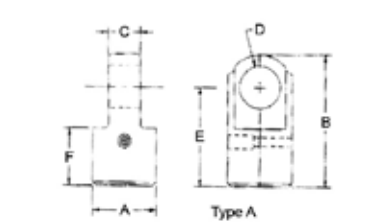
\* Chuck Size 24" A11/D11 E Model Mount, use Operating Screw Part No. Y05-225822-00.  
 \*\* Chuck Size 28" 000 D Model, Straight Recess Mount, use Operating Screw Part No. Y05-216862-00.  
 NOTE: Please refer to the factory when ordering component parts for Chuck Models A & B.

## Replacement Screws & Thrust Bearings

Single End	
Double End	
Internal	
External	
Hex	
Square	
Depth	



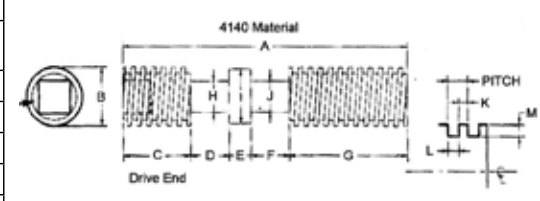
Pitch	
Right	
Left	
Acme	
Square	



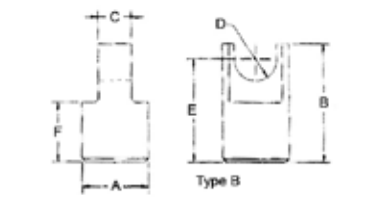
Quantity:	Approved By:					Date:		
A	B	C	D	E	F	K	L	M

A*	B	C	D*	E	F
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Single End	
Double End	
Internal	
External	
Hex	
Square	
Depth	



Pitch	
Right	
Left	
Acme	
Square	



Quantity:	Approved By:								Date:			
A	B	C	D	E	F	G	H	I	J	K	L	M

A*	B	C	D*	E	F
----	---	---	----	---	---

\* Diameter

Qty:	Approved By:	Date:
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# 4-Jaw Independent Iron Body Chucks *New*



- High value and lower cost
- One year warranty
- Hardened and ground operating screws
- High tensile strength iron body
- Straight recess for adapter mounting
- Available with A, D, L and straight recess mounting
- 1 Set of Solid Reversible Jaws

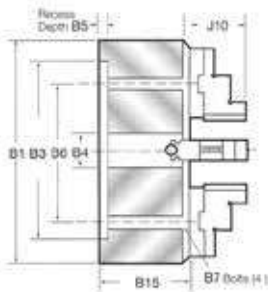


## Iron Body Flatback

Chuck Size	Model No.	Spindle	Price
5"	Y10-051-05-000	Flatback	460.00
6"	Y10-051-06-000	Flatback	540.00
8"	Y10-051-08-000	Flatback	750.00
10"	Y10-051-10-000	Flatback	780.00
12"	Y10-051-12-000	Flatback	950.00
16"	Y10-051-16-000	Flatback	1,350.00
18"	Y10-051-18-000	Flatback	2,000.00
20"	Y10-051-20-000	Flatback	2,800.00
24"	Y10-051-24-000	Flatback	4,200.00

## Iron Body Type D Mountings

Chuck Size	Model No.	Spindle	Price
5"	Y10-051-006-0D3	D-3	680.00
6"	Y10-051-006-0D4	D-4	680.00
8"	Y10-051-008-0D3	D-3	820.00
8"	Y10-051-008-0D4	D-4	820.00
8"	Y10-051-008-0D5	D-5	820.00
10"	Y10-051-010-0D5	D-5	1,050.00
10"	Y10-051-010-0D6	D-6	1,050.00
12"	Y10-051-012-0D6	D-6	1,250.00
12"	Y10-051-012-0D8	D-8	1,250.00
16"	Y10-051-016-0D8	D-8	1,750.00
16"	Y10-051-016-D11	D-11	1,750.00
18"	Y10-051-018-0D8	D-8	2,300.00
18"	Y10-051-018-D11	D-11	2,300.00
20"	Y10-051-020-0D8	D-8	3,200.00
20"	Y10-051-020-D11	D-11	3,200.00
24"	Y10-051-024-0D8	D-8	4,600.00



## Dimensional Data 4-Jaw Independent Iron Body Chucks

Chuck Size	B1	B3	B4	B5	B6	B7	B9	B15	J10
6"	6.30	2.56	1.77	.197	3.74	(4) M-10	2.36	2.56	1.24
8"	7.87	4.92	1.97	.236	4.11	(4) M-10	4.33	2.95	1.37
10"	9.84	4.33	2.56	.236	4.72	(4) M-12	4.62	3.29	1.39
12"	12.40	5.51	3.74	.236	6.49	(4) M-16	5.27	3.54	1.73
16"	15.75	6.30	4.92	.315	7.28	(4) M-16	5.63	3.74	1.89
18"	17.71	7.08	5.51	.315	8.07	(4) M-16	5.79	3.94	1.85
20"	19.68	7.87	6.30	.315	9.29	(4) M-20	6.39	4.17	2.16
24"	24.80	8.66	7.08	.394	10.26	(4) M-20	7.06	4.64	2.56

Note: Dimensions are for flatback-mounted chucks; on A, L and D mounted chucks dimension B15 will vary. All A & D-11 mount chucks have a 6.5" thru-hole as standard.

# High Quality Steel Body Independent 4-Jaw Chucks



## High Quality, Steel Body Scroll Chuck

- Broadest line available
- Solid reversible or two-piece American Standard Jaws available as noted
- Straight recess
- Steel body
- Sizes 6" to 48"



Series Y10-003



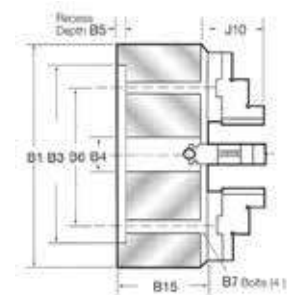
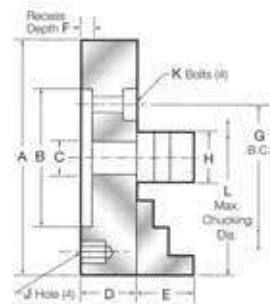
Series Y10-004

### Series Y10-003 Steel Body Solid Reversible Jaws

Chuck Size	Model No.	Est. Gross Wgt. Lbs	Price
6"	Y10-003-06-000Z	16	1,185.00
8"	Y10-003-08-000Z	31	1,475.00
10"	Y10-003-10-000Z	43	1,680.00
12"	Y10-003-12-000Z	72	2,225.00
14"	Y10-003-14-000Z	126	2,680.00
16"	Y10-003-16-000Z	180	3,190.00

### Series Y10-004 Steel Body American Standard 2-Piece Tongue & Groove Jaws

Chuck Size	Model No.	Est. Gross Wgt. Lbs	Price
16"	Y10-004-16-000Z	200	6,400.00
18"	Y10-004-18-000Z	310	8,800.00
20"	Y10-004-20-000Z	390	10,080.00
24"	Y10-004-24-000Z	475	12,320.00
28"	Y10-004-28-000Z	560	15,840.00
32"	Y10-004-32-000Z	715	18,480.00



### Dimensional Data Y10-003 4-Jaw Independent Steel Body Chucks

Chuck Size	A	B	C	D	E	F	G	H	J	K	L	Gripping Capacity	
												Min.	Max.
6"	6.30	4.921	1.77	2.12	.87	.16	5.512	.94	M10	M10	7-1/8	5/16	5
8"	7.87	4.921	1.97	2.83	1.22	.16	5.512	1.26	M10	M10	9-1/4	5/16	7
10"	9.84	7.874	2.36	2.83	1.22	.19	8.819	1.26	M12	M12	12	1/2	8
12"	12.40	7.874	2.95	3.15	1.42	.19	8.819	1.42	M12	M12	14	1/2	10
14"	13.80	10.236	2.95	3.58	1.47	.19	11.26	1.42	-	M12	16	3/4	12
16"	15.75	10.236	2.95	3.58	1.47	.19	11.26	1.42	-	M12	18	3/4	14

### Dimensional Data Y10-004 4-Jaw Independent Steel Body Chucks

Chuck Dia.	B1	B3	B4	B5	B6	B7	B15	J10
16"	15.8	7.874	4.055	.196	6.61	M-20	3.15	2.00
18"	17.7	7.874	4.055	.196	6.61	M-20	4.33	2.00
20"	19.6	9.842	4.055	.196	8.66	M-20	4.33	2.00
24"	23.6	9.842	4.055	.196	8.66	M-20	4.92	3.75
28"	27.5	9.842	4.72	.196	8.66	M-20	4.92	3.75
32"	31.5	9.842	5.31	.196	8.66	M-20	4.92	3.75



# Mounting Plates for 4-Jaw Independent Chucks



Mounting plates are precision machined to suit the spindle nose of your machine. Plates are stocked semifinished.

If ordering plates separately, specify the model number of your chuck so that Cushman can finish machine the adapter to suit your Cushman chuck.

## Type D Mounting Plates - "Camlock"

Spindle	Model Number					
	6"	8"	10"	12"	14"	16"
D-3	<b>Y03-0603020</b>	<b>Y03-0603020</b>	<b>Y03-1003020</b>	<b>Y03-1003020</b>	—	—
Price	400.00	400.00	545.00	545.00	—	—
D-4	<b>Y03-0603021</b>	<b>Y03-0603021</b>	<b>Y03-1003021</b>	<b>Y03-1003021</b>	—	—
Price	400.00	400.00	545.00	545.00	—	—
D-5	<b>Y03-0603022</b>	<b>Y03-0603022</b>	<b>Y03-1003022</b>	<b>Y03-1003022</b>	<b>Y03-1203022</b>	—
Price	450.00	450.00	560.00	560.00	865.00	—
D-6	—	<b>Y03-0603023</b>	<b>Y03-1003023</b>	<b>Y03-1003023</b>	<b>Y03-1203023</b>	<b>Y03-1203023</b>
Price	—	515.00	580.00	580.00	865.00	865.00
D-8	—	—	<b>Y03-1003024</b>	<b>Y03-1003024</b>	<b>Y03-1203024</b>	<b>Y03-1203024</b>
Price	—	—	675.00	675.00	930.00	930.00
D-11	—	—	—	—	<b>Y03-1203025</b>	<b>Y03-1203025</b>
Price	—	—	—	—	1,040.00	1,040.00

## Type A American Standard Short Taper A-1 & A-2 Spindles

Spindle	Model Number					
	6"	8"	10"	12"	14"	16"
A-5	<b>Y03-0603010</b>	<b>Y03-0603010</b>	<b>Y03-1003010</b>	—	—	—
Price	400.00	400.00	610.00	—	—	—
A-6	<b>Y03-0603011</b>	<b>Y03-0603011</b>	<b>Y03-1003011</b>	<b>Y03-1003011</b>	—	—
Price	400.00	400.00	640.00	640.00	—	—
A-8	—	—	<b>Y03-1003012</b>	<b>Y03-1003012</b>	<b>Y03-1203012</b>	<b>Y03-1203012</b>
Price	—	—	640.00	640.00	720.00	720.00
A-11	—	—	—	—	<b>Y03-1203013</b>	<b>Y03-1203013</b>
Price	—	—	—	—	930.00	930.00

## Type L American Standard Long Taper Key Drive Spindle

Spindle	Model Number					
	6"	8"	10"	12"	14"	16"
L-00	<b>Y03-0603031</b>	<b>Y03-0603031</b>	<b>Y03-1003031</b>	—	—	—
Price	510.00	510.00	610.00	—	—	—
L-0	<b>Y03-0603032</b>	<b>Y03-0603032</b>	<b>Y03-1003032</b>	<b>Y03-1003032</b>	<b>Y03-1203032</b>	—
Price	510.00	510.00	610.00	610.00	880.00	—
L-1	—	—	<b>Y03-1003033</b>	<b>Y03-1003033</b>	<b>Y03-1203033</b>	<b>Y03-1203033</b>
Price	—	—	625.00	625.00	880.00	880.00
L-2	—	—	<b>Y03-1003034</b>	<b>Y03-1003034</b>	<b>Y03-1203034</b>	<b>Y03-1203034</b>
Price	—	—	945.00	945.00	980.00	980.00

## Hardinge® 4° Taper Plate

Spindle	Model Number	
	6"	8"
4° Taper	<b>Y03-0604044</b>	<b>Y03-0604044</b>
Price	610.00	610.00

## Threaded Spindles

Spindle	Model Number		
	6"	8"	10"
1-1/2-8	<b>Y03-0603041</b>	<b>Y03-0603041</b>	—
Price	340.00	340.00	—
1-3/4-8	<b>Y03-0603042</b>	<b>Y03-0603042</b>	—
Price	390.00	390.00	—
2-1/4-8	<b>Y03-0603043</b>	<b>Y03-0603043</b>	<b>Y03-1003043</b>
Price	390.00	390.00	465.00

Special adapter plates available upon request. Specify chuck number and spindle nose specifications.

# 4-Jaw Extra Heavy Duty Independent Oil Country Chucks



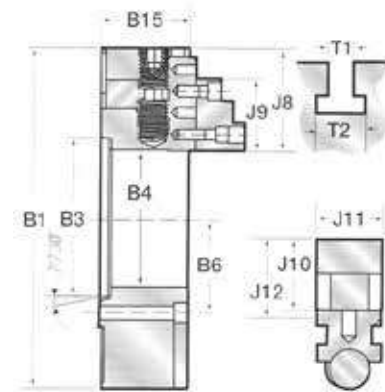
## Extra Heavy-Duty Oil Country Chuck Sizes 18" through 48"

- Forged steel body
- Extra heavy duty American Standard, hard top and master jaws
- Gripping surfaces serrated for more holding power
- Larger thru-holes standard
- T-Slots standard
- Direct A type mounting
- One year warranty
- Available in smaller and larger sizes on request



### Series Y10-014

Chuck Size	Model No.	Mount	Thru Hole	Max RPMs	Approx. Weight	Price
18"	Y10-014-18-A11Z	A2-11	6.50	1100	350	12,880.00
21"	Y10-014-21-A11Z	A2-11	6.50	1000	540	12,560.00
21"	Y10-014-21-A15Z	A2-15	7.30	1000	533	12,560.00
24"	Y10-014-24-A11Z	A2-11	6.50	850	720	15,920.00
24"	Y10-014-24-A15Z	A2-15	10.50	850	700	15,920.00
24"	Y10-014-24-A20Z	A2-20	12.59	850	685	15,920.00
28"	Y10-014-28-A15Z	A2-15	10.50	700	905	19,840.00
28"	Y10-014-28-A20Z	A2-20	12.59	700	920	19,840.00
32"	Y10-014-32-A15Z	A2-15	10.50	600	1265	23,200.00
32"	Y10-014-32-A20Z	A2-20	12.59	600	1255	23,200.00
36"	Y10-014-36-A20Z	A2-20	12.59	600	1930	POA*
40"	Y10-014-40-A20Z	A2-20	12.59	500	2350	POA*
40"	Y10-014-40-A28Z	A2-28	18.50	500	2275	POA*



\* Consult factory for 36", 40" and larger sizes.

### Chuck Dimensions

Model No.	B1 O.D.	Mount Type	B3 Mount Recess	B4 Thru Hole	B6 Mounting Bolt Radius	B15 Body Width	J8 Master Jaw Length	J9 Top Jaw Length	J10 Top Jaw Height	J11 Top Jaw Width	J12 Top Jaw Height from Face	T1 T-Slot	T2 T-Slot
Y10-014-18-A11Z	18	A2-11	7.75	6.50	4.625	5.75	6.50	5.00	2.87	2.40	3.26	.855	1.565
Y10-014-21-A11Z	21	A2-11	7.75	6.57	4.625	5.75	6.50	5.00	2.87	2.40	3.26	.855	1.565
Y10-014-21-A15Z	21	A2-15	11.25	7.30	6.500	5.75	6.50	5.00	2.87	2.40	3.26	.855	1.565
Y10-014-24-A11Z	24	A2-11	7.75	6.57	4.625	6.10	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-24-A15Z	24	A2-15	11.25	10.51	6.500	6.10	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-24-A20Z	24	A2-20	16.25	12.59	9.125	6.10	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-28-A15Z	28	A2-15	11.25	10.51	6.500	6.10	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-28-A20Z	28	A2-20	16.25	12.59	9.125	6.10	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-32-A15Z	32	A2-15	11.25	10.51	6.500	6.50	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-32-A20Z	32	A2-20	16.25	12.59	9.125	6.50	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-36-A20Z	36	A2-20	16.25	12.59	9.125	6.50	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-40-A20Z	39.37	A2-20	16.25	12.59	9.125	6.50	8.00	5.00	3.26	3.00	3.62	.855	1.565
Y10-014-40-A28Z	39.37	A2-28	23.00	18.50	12.750	6.50	8.00	5.00	3.26	3.00	3.62	.855	1.565

NOTE: Not to be used for design purposes unless approved by the factory.

# 3-Jaw High Speed Power Chucks



## High Quality, Lever Style, High Speed Power Chuck

Cushman thru-hole high speed chucks, hydraulic cylinders and tooling are integrated, power operated workholding packages. Acme serrated master jaws are standard on these thru-hole cylinder and chuck combinations.

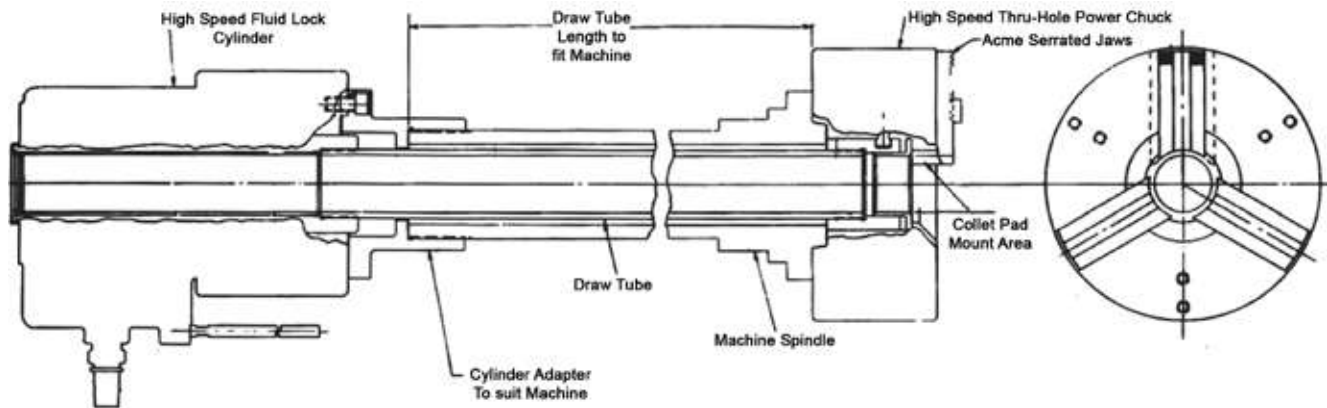
With a work clearance hole through both hydraulic cylinder and chuck, a Cushman high speed workholding package affords great flexibility for users of conventional bar and chucking machines as well as automatic N/C equipment.

Cushman high speed chucks counter centrifugal force using a system of counter weights to reduce the tendency of the jaws to release at higher speeds.

*NOTE: Master Jaws, Levers, Lever Pins, Plungers, Bushings, and Counterweights are available from stock upon request.*



All chucks are priced on application.



## High-Speed Thru-Hole Chucks Series Y10-590

### Recommended Operating Limits

Model No.	Size (Inches)	Est. Gross Wgt. (lbs)	Thru Hole (Inches)	Max Rec. Speed (R.P.M.) (2)	Max Rec. Draw-Tube Pull (lbs) (1)	Jaw Force @ Max Rec. D.T.P. (lbs/Jaw) (1)	Jaw Force @ Max Rec. D.T.P. (lbs/Jaw) (2)	Max Top Jaw WR for Rated Speed (lb.-in.) (2)
Y10-590-08-A06A	08	58	1.50	4,500	14,000	5,300	2,650	3.03
Y10-590-10-A06A	10	100	2.56	4,000	16,500	6,100	3,050	6.74
Y10-590-10-A08A	10	100	2.56	4,000	16,500	6,100	3,050	6.74
Y10-590-12-A08C	12	150	2.56	3,500	18,000	9,500	4,750	10.16
Y12-590-12-A08A	12	150	3.13	3,500	18,000	9,500	4,750	10.16
Y10-590-15-A08C	15	260	2.56	3,000	24,950	15,200	7,600	24.23
Y12-590-15-A08A	15	260	3.13	3,000	24,950	15,200	7,600	24.23
Y10-590-15-A11C	15	260	4.62	3,000	24,950	15,200	7,600	24.23
Y10-590-18-A11C	18	390	4.62	2,250	24,950	18,500	9,250	29.68

(1) Rated jaw force is based on static conditions (O.R.P.M.) with factory lubrication. Variations in jaw force due to changes in chuck, lubrication or both may occur. Jaw force may increase with use. This will not be detrimental to the chuck as long as the increase does not exceed 20%.

(2) Maximum recommended speeds are based on 50% jaw force retention at the stated WR (weight x radius to center-of-gravity) value. Specific applications must be reviewed by the user to establish that the jaw force is adequate for the loads to be encountered. Higher speeds may be permissible but must be reviewed. Contact your Cushman representative.

# Serrated Jaw Self-Centering Power Chucks



## Type A American Standard Spindles

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life.

*Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots.*

*†To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number Y20-670-12-A06 with a draw tube, change the reference number to Y20-673-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.*

Chucks with serrated master jaws are especially recommended for production and chucking operations where it is necessary to provide a wide range of jaw capacity, and is achieved by "stepping" the top jaw along the master jaw. One set of master jaw keys are furnished with each chuck; top jaws are not included. Balanced to eliminate vibration and chatter at high RPM.

All chucks are priced on application.

## Series Y20-670 - 3-Jaw Chucks

American Standard Serrated Master Jaws\*

(For Draw Tube type, change number to Y20-673)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
10"	Y20-670-10-A06	12"	Y20-670-12-A08	18"	Y20-670-18-A11	21"	Y20-670-21-A15
10"	Y20-670-10-A08	15"	Y20-670-15-A08	18"	Y20-670-18-A15	24"	Y20-670-24-A15
12"	Y20-670-12-A06	15"	Y20-670-15-A11	21"	Y20-670-21-A11		

\*Accralock Angular Serrated Master Jaws can be furnished at slight extra cost.

Series:  
• Y20-670  
• Y20-673



## Series Y20-671 - 2-Jaw Chucks

American Standard Serrated Master Jaws\*

(For Draw Tube type, change number to Y20-674)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
10"	Y20-671-10-A06	12"	Y20-671-12-A08	18"	Y20-671-18-A11	21"	Y20-671-21-A15
10"	Y20-671-10-A08	15"	Y20-671-15-A08	18"	Y20-671-18-A15	24"	Y20-671-24-A15
12"	Y20-671-12-A06	15"	Y20-671-15-A11	21"	Y20-671-21-A11		

\*Accralock Angular Serrated Master Jaws can be furnished at slight extra cost.

Series:  
• Y20-671  
• Y20-674



## Series Y20-672 - 2 & 3-Jaw Chucks

American Standard Serrated Master Jaws\*

(For Draw Tube type, change number to Y20-675)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
10"	Y20-672-10-A06	15"	**Y20-672-15-A08	18"	Y20-672-18-A15	21"	Y20-672-21-A15
10"	Y20-672-10-A08	15"	Y20-672-15-A11	21"	Y20-672-21-A11	24"	Y20-672-24-A15
12"	Y20-672-12-A08	18"	Y20-672-18-A11				

\*Accralock Angular Serrated Master Jaws can be furnished at slight extra cost.

\*\*Adapter for mounting included.

Series:  
• Y20-672  
• Y20-675



# Non-Adjustable Jaw Self-Centering Power Chucks



## Type A American Standard Spindles

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life.

*Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots.*

*†To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number Y20-620-12-A06 with a draw tube, change the reference number to Y20-623-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.*

Recommended for general manufacturing service where adjustability of individual jaws is not required. Particularly suited for repetitive operations, especially heavy workpieces. Provides a simple and economical method of workholding, eliminating costly special devices. Balanced to eliminate vibration and chatter at high RPM.

All chucks are priced on application.

## Series Y20-620 - 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-623)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
6"	Y20-620-06-A05	10"	Y20-620-10-A06	15"	Y20-620-15-A08	21"	Y20-620-21-A11
6"	Y20-620-06-A06	10"	Y20-620-10-A08	15"	Y20-620-15-A11	21"	Y20-620-21-A15
8"	Y20-620-08-A06	12"	Y20-620-12-A06	18"	Y20-620-18-A11	24"	Y20-620-24-A15
8"	Y20-620-08-A08	12"	Y20-620-12-A08	18"	Y20-620-18-A15		

Series:  
• Y20-620  
• Y20-623



## Series Y20-621 - 2-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-624)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
6"	Y20-621-06-A05	10"	Y20-621-10-A06	15"	Y20-621-15-A08	21"	Y20-621-21-A11
6"	Y20-621-06-A06	10"	Y20-621-10-A08	15"	Y20-621-15-A11	21"	Y20-621-21-A15
8"	Y20-621-08-A06	12"	Y20-621-12-A06	18"	Y20-621-18-A11	24"	Y20-621-24-A15
8"	Y20-621-08-A08	12"	Y20-621-12-A08	18"	Y20-621-18-A15		

Series:  
• Y20-621  
• Y20-624



## Series Y20-622 - 2 & 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-625)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
8"	Y20-622-08-A06	10"	Y20-622-10-A08	15"	Y20-622-15-A11	21"	Y20-622-21-A11
8"	Y20-622-08-A08	12"	Y20-622-12-A08	18"	Y20-622-18-A11	21"	Y20-622-21-A15
10"	Y20-622-10-A06	15"	**Y20-622-15-A08	18"	Y20-622-18-A15	24"	Y20-622-24-A15

Series:  
• Y20-622  
• Y20-625



\*\*Adapter for mounting included.



# Adjustable Jaw Self-Centering Power Chucks



## Type A American Standard Spindles

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life.

*Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots.*

*†To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number Y20-640-12-A06 with a draw tube, change the reference number to Y20-643-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.*

Self-centering Power Chucks with American Standard Master Jaws providing independent jaw action are simple and quick to adjust. This series of chucks is designed for accurate, expeditious holding of irregularly shaped workpieces. Initial accuracy maintained on repetitive chucking operations. Balanced to eliminate vibration and chatter at high RPM.

All chucks are priced on application.

### Series Y20-640 - 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-643)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
8"	Y20-640-08-A06	12"	Y20-640-12-A06	18"	Y20-640-18-A11	21"	Y20-640-21-A15
8"	Y20-640-08-A08	12"	Y20-640-12-A08	18"	Y20-640-18-A15	24"	Y20-640-24-A11
10"	Y20-640-10-A06	15"	Y20-640-15-A08	21"	Y20-640-21-A11	24"	Y20-640-24-A15
10"	Y20-640-10-A08	15"	Y20-640-15-A11				

- Series:  
• Y20-640  
• Y20-643



### Series Y20-641 - 2-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-644)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
8"	Y20-641-08-A06	12"	Y20-641-12-A06	15"	Y20-641-15-A11	21"	Y20-641-21-A11
8"	Y20-641-08-A08	12"	Y20-641-12-A08	18"	Y20-641-18-A11	21"	Y20-641-21-A15
10"	Y20-641-10-A06	15"	Y20-641-15-A08	18"	Y20-641-18-A15	24"	Y20-641-24-A11
10"	Y20-641-10-A08						

- Series:  
• Y20-641  
• Y20-644



### Series Y20-642 - 2 & 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws  
(For Draw Tube type, change number to Y20-645)† See statement at top of page.

Size	Model Number	Size	Model Number	Size	Model Number	Size	Model Number
8"	Y20-642-08-A06	12"	Y20-642-12-A08	18"	Y20-642-18-A11	21"	Y20-642-21-A15
8"	Y20-642-08-A08	15"	**Y20-642-15-A08	18"	Y20-642-18-A15	24"	Y20-642-24-A11
10"	Y20-642-10-A06	15"	Y20-642-15-A11	21"	Y20-642-21-A11	24"	Y20-642-24-A15
10"	Y20-642-10-A08						

- Series:  
• Y20-642  
• Y20-645



\*\*Adapter for mounting included.

# Self-Centering Power Chucks

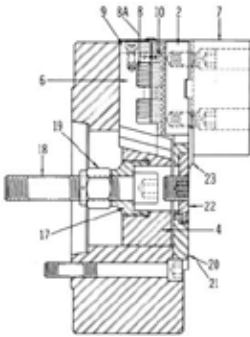
## Component Parts List



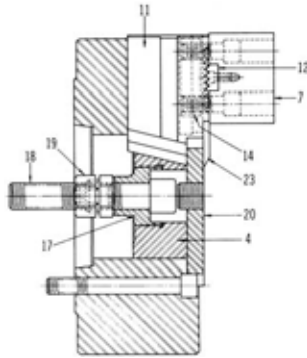
### Serrated/Adjustable/Non-Adjustable Jaw Types

Series: Y20-620; Y20-621; Y20-622; Y20-623; Y20-624; Y20-625  
 Series: Y20-670; Y20-671; Y20-672; Y20-673; Y20-674; Y20-675  
 Series: Y20-640; Y20-641; Y20-642; Y20-643; Y20-644; Y20-645

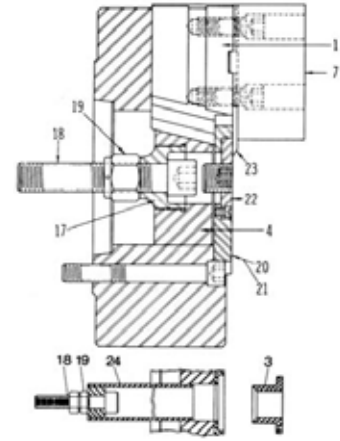
### Non-Adjustable Jaw Type



Adjustable Jaw Type



Serrated Jaw Type



Draw Tube Assembly

Chuck Size (Inches)	Component Model Numbers										
	1	2	3	4	6	8	9	10	11	12	14
	Master Jaws NonAdjustable Tongue and Groove	Master Jaws Adjustable Tongue and Groove	Center Hole Bushing	Wedge	Screw Carrier	Adjusting Screw	Screw Locking Plate	Screw Locking Washer	Master Jaw Acme Serrated	Acme Serrated Jaw Key	Jaw Nut
6"	Y03200269F0	—	Y2500389300	Y2400389000	—	—	—	—	—	—	—
8"	Y24009673F0	Y25009552F0	Y2500427000	Y2400426800	Y04207492F0	Y3500487400	Y3500487500	Y3500487600	—	—	—
10"	Y23009782F0	Y23009675F0	Y3500593700	Y2400431400	Y0420749300	Y2500847500	Y2500847600	Y3500486000	Y23010917F0	Y2501091200	Y2501091800
12" A-6 Spindle	Y23009632F0	Y23009681F0	Y3500593700	Y2400431400	Y04207495F0	Y3500486400	Y2500847600	Y3500486000	Y23013875F0	Y2501091200	Y2501091100
12" A-8 Spindle	Y23009685F0	Y23009681F0	Y2500430400	Y2400429900	Y04207495F0	Y3500486400	Y2500836600	Y3500486000	Y23010909F0	Y2501091200	Y2501091100
15"	Y24011821F0	Y23009710F0	Y2501239300	Y2401223100	Y04207496F0	Y3500488600	Y2500836600	Y3500488700	Y23010906F0	Y2501090700	Y2501091600
18"	Y23009718F0	Y23009715F0	Y2500447400	Y2400447200	Y04214857F0	Y3500567400	Y2500836600	Y3500488700	Y23010914F0	Y2501090700	Y2501091600
21"	Y03204131F0	Y03204138F0	Y0520329800	Y2301778900	Y0421496100	Y3500497900	Y3500741800	Y3500488700	Y03204613F0	Y2501119900	Y2501120000
24"	Y03205889F0	Y03203276	Y0520329800	Y2301778900	Y0421541900	Y3500497900	Y3500741800	Y3500488700	Y03205381F0	Y2501119900	Y2501120000

Chuck Size (Inches)	Component Model Numbers									
	15	16	17	18	19	20	21	22	23	24
	Hard Stepped Top Jaw	Wrench	Wedge Plug	Draw Rod Stud	Draw Rod Lock Nut	Protector Plate	Protector Plate with Cover Plate Recess	Cover Plate	Chip Plates	Draw Tube Assembly
6" A5	—	—	Y2500448100	Y9820645100	Y9823806400	—	Y2400929900	Y2500520400	Y0520027000	Y2601302300
6" A6	—	—	Y2500448100	Y9820645100	Y9823806400	—	Y2400389200	Y2500520400	Y0520027000	Y2601302300
8" A6	—	Y2601252300	Y2500448200	Y9820645100	Y9823806400	—	Y3400447200	Y2500520500	Y2500955500	Y2601302400
8" A8	—	Y2601252300	Y2500448200	Y9820645100	Y9823806400	—	Y3400831300	Y2500520500	Y2500955500	Y2601302400
10" A6	—	Y2601250400	Y2500448300	Y9820644700	Y9820644500	—	Y3400318500	Y2500520600	Y2500967700	Y2601302500
10" A8	—	Y2601250400	Y2500448300	Y9820644700	Y9820644500	—	Y3400451000	Y2500520600	Y2500967700	Y2601302500
12" A6	Y24010957F0	Y2601250400	Y2500448300	Y9820644700	Y9820644500	—	Y3400318500	Y2500520600	Y2500967700	Y2601302500
12" A8	Y24010957F0	Y2601250400	Y2500448400	Y9820644900	Y9820644500	—	Y3400447700	Y2500524400	Y2500967700	Y2601302600
15" A8	Y24011058F0	Y2601405300	Y3500238200	Y9820644900	Y9820645000	—	Y2401144100	Y2500520800	Y2501143900	Y2601302700
15" A11	Y24011058F0	Y2601405300	Y3500238200	Y9820644900	Y9820645000	—	Y2401225200	Y2500520800	Y2501143900	Y2601302700
18"	Y24011058F0	Y2601405300	Y3500447500	Y9820644900	Y9820645000	—	Y2401180300	Y2500520800	Y2500971900	Y2601302800
21" A11	Y24011205F0	Y2601405300	Y2500448600	Y9820644900	Y9820645000	Y0420298100	—	—	Y0520449300	Y2620330200
21" A15	Y24011205F0	Y2601405300	Y2500448600	Y9820644900	Y9820645000	Y0420426800	—	—	Y0520449300	Y2620330200
24" A11	Y24011205F0	Y2601405300	Y2500448600	Y9820644900	Y9820645000	Y0420298100	—	—	Y0520449300	Y2620330200
24" A15	Y24011205F0	Y2601405300	Y2500448600	Y9820644900	Y9820645000	Y0420426800	—	—	—	Y2620330200

# Workholding Power Chucks



## Direct replacement chucks for Kitagawa B200

- Sizes 6" through 12"
- Easy retrofit
- Interchangeable top tooling 1.5mm x 60° serrations
- High speed
- Full 1 year warranty on parts and labor
- Hardened jaw ways, master jaws and internal parts
- Large thru-holes, plus quick change cover plate for closed center applications
- Chuck accuracy +/- .0005" repeatability
- Great price and value



## Series Y20-679

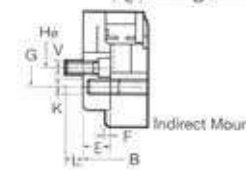
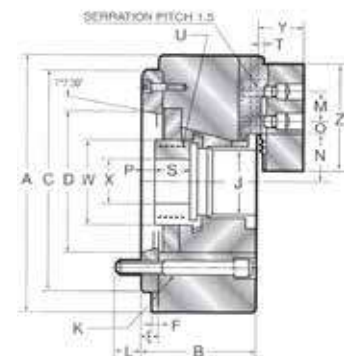
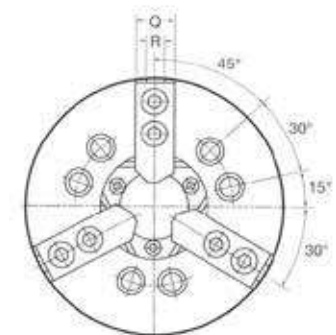
Chuck Size	Model Number	Mount	Thru Hole Dia.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
						Max	Min.					
6"	Y20-679-06A5DZ	A2-5	1.771	.216	.472	6.65	.590	4,945	12,813	6000	30	2,480.00
8"	Y20-679-08A5IZ	A2-5	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	2,800.00
8"	Y20-679-08A6DZ	A2-6	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	2,800.00
10"	Y20-679-10A6IZ	A2-6	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	3,745.00
10"	Y20-679-10A8DZ	A2-8	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	3,745.00
12"	Y20-679-12A6IZ	A2-6	3.582	.417	.905	11.97	1.653	12,363	32,372	3300	148	4,640.00
12"	Y20-679-12A8DZ	A2-8	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	4,640.00
12"	Y20-679-12A11IZ	A2-11	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	4,640.00

I - Indirect Mount

D - Direct Mount

## Dimensional Data

Model	06A5D	08A5I	08A6D	10A6I	10A8D	12A6I	12A8D	12A11I
A	6.63	8.26	8.26	10.00	10.00	11.97	11.97	11.97
B	3.582	-	4.055	4.724	4.449	5.079	4.832	-
C	5.512	6.693	6.693	8.661	8.661	8.661	8.661	8.661
D	3.250	3.250	4.188	4.188	5.501	4.188	5.501	7.751
E	.590	-	.669	.984	.708	.984	.708	-
F	.167	.167	.167	.167	.167	.236	.236	.236
G	-	5.252	5.252	6.748	6.748	6.748	6.748	6.748
H	4.126	4.126	-	5.252	6.748	5.252	6.748	9.250
J	1.771	2.047	2.047	2.953	2.953	3.582	3.582	3.582
K	6-M10	6-M12	6-M12	6-M16	6-M16	6-M16	6-M16	6-M16
L	.630	-	.708	.728	.945	.728	.984	-
M	.787	.984	.984	1.181	1.181	1.181	1.181	1.181
N max	1.259	1.523	1.523	2.007	2.007	2.413	2.413	2.413
N min	1.151	1.378	1.378	1.834	1.834	2.204	2.204	2.204
O max	.895	1.171	1.171	1.329	1.326	1.801	1.801	1.801
O min	.364	.581	.581	.581	.581	.620	.620	.620
P max	1.023	-	1.240	1.319	1.043	1.299	1.299	1.299
P min	.551	-	.610	.571	.295	.394	.394	.394
Q	1.220	1.378	1.378	1.575	1.575	1.968	1.968	1.968
R	.472	.551	.551	.630	.630	.827	.827	.827
S	.748	.807	.807	.984	.984	1.102	1.102	1.102
T	.0789	.0789	.0789	.0789	.0789	.0789	.0789	.0789
U max	M55x2.0	M60x2.0	M60x2.0	M85x2.0	M85x2.0	M90x2.0	M100x2.0	-
V	M10	M10	-	6-M12	-	6-M12	-	6-M20
W	2.362	2.598	2.598	3.701	3.701	4.252	4.252	4.252
X	.787	1.181	1.181	1.771	1.771	1.968	1.968	1.968
Y	1.142	1.535	1.535	1.693	1.693	2.009	2.009	2.009
Z	2.834	3.740	3.740	4.331	4.331	4.370	4.370	4.370



# Workholding Large-Diameter Open Center Power Chucks



## Direct replacement chucks for Kitagawa B200

- Sizes 15" through 24"
- Easy retrofit
- Interchangeable top tooling 1.5mm x 60° serrations 15" and 18" chucks, and 3mm x 60° on 21" and 24" chucks
- High speed
- Full 1 Year warranty on parts and labor
- Hardened jaw ways, master jaws and internal parts
- Large thru-holes, plus quick change cover plate for closed center applications
- Chuck accuracy +/- .0005" repeatability

## Series Y20-679

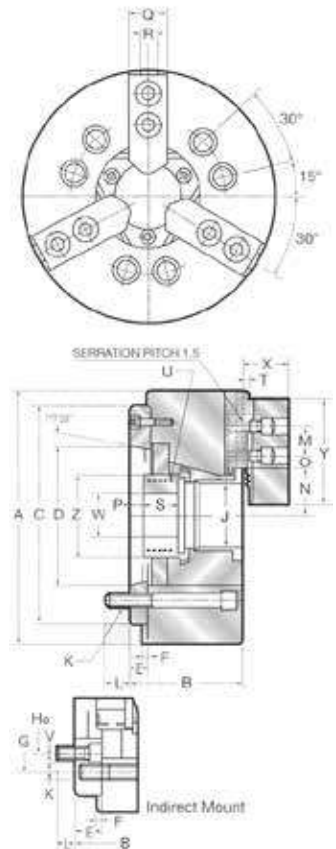
Chuck Size	Model Number	Mount	Thru Hole Dia.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
						Max	Min.					
15"	<b>Y20-679-15A8IZ</b>	A2-8	4.626	.417	.905	15.00	1.181	15,961	40,465	2500	295	10,800.00
15"	<b>Y20-679-15A11DZ</b>	A2-11	4.626	.417	.905	15.00	1.181	15,961	40,465	2500	280	10,800.00
18"	<b>Y20-679-18A11DZ</b>	A2-11	4.626	.417	.905	17.71	1.181	15,961	40,465	2000	392	15,920.00
21"	<b>Y20-679-21A11IZ</b>	A2-11	5.512	.417	.905	20.86	3.425	20,231	43,940	1700	542	20,400.00
21"	<b>Y20-679-21A15DZ</b>	A2-15	5.512	.417	.905	20.86	3.425	20,231	43,940	1700	542	20,400.00
24"	<b>Y20-679-24A11IZ</b>	A2-11	6.496	.417	.905	24.01	4.331	20,231	43,940	1400	670	25,840.00
24"	<b>Y20-679-24A15DZ</b>	A2-15	6.496	.417	.905	24.01	4.331	20,231	43,940	1400	670	25,840.00

I - Indirect Mount

D - Direct Mount

## Dimensional Data

Model	15A8I	15A11D	18A11D	21A11I	21A15D	24A11I	24A15D
A	15.00	15.00	17.72	20.86	20.86	24.01	24.01
B	6.299	5.860	5.860	6.338	6.338	6.693	6.693
C	11.811	11.811	14.960	14.960	14.960	14.960	14.960
D	5.501	7.751	7.751	11.251	11.251	11.251	11.251
E	1.299	.866	.866	.866	1.063	.866	1.063
F	.234	.234	.234	.234	.234	.234	.234
G	9.252	9.252	9.250	13.000	13.000	13.000	13.000
Hø	6.748	9.552	-	9.252	13.000	9.252	13.000
J	4.626	4.626	4.626	5.511	5.511	6.496	6.496
K	6-M20	6-M20	6-M20	6-M22	6-M22	6-M22	6-M22
L	.945	1.102	1.102	1.338	1.338	1.378	1.378
M	1.693	1.693	1.693	2.362	2.362	2.362	2.362
N max	3.228	3.228	3.228	3.878	3.878	4.252	4.252
N min	3.016	3.016	3.016	3.669	3.669	4.043	4.043
O max	1.722	1.722	3.081	3.445	3.445	4.626	4.626
O min	.718	.718	.718	.846	.846	.846	.846
P max	1.732	1.142	1.299	1.496	1.496	1.850	1.850
P min	.827	.236	.394	.590	.590	.945	.945
Q	.244	.244	.244	.256	.256	.256	.256
R	.866	.866	.866	.866	.866	.866	.866
S	1.555	1.555	1.555	1.555	1.555	1.575	1.575
T	.197	.197	.197	.197	.197	.197	.197
U max	M130x2.0	M130x2.0	M130x2.0	M155x2.0	M155x2.0	M175x2.0	M175x2.0
V	6-M16	-	-	6-M20	-	6-M20	-
W	2.362	2.362	2.362	3.146	3.146	3.146	3.146
X	2.756	2.756	2.756	2.874	2.874	2.874	2.874
Y	6.496	6.496	6.496	7.046	7.046	7.046	7.046
Z	5.472	5.472	5.472	6.693	6.693	7.362	7.362





# Workholding Large Bore Power Chucks



- Sizes 6" through 12"
- Easy retrofit
- Interchangeable top tooling 1.5mm x 60° serrations
- High Speed
- Full 1 Year warranty on parts and labor
- Hardened jaw ways, master jaws and internal parts
- Super large thru-hole, plus quick change cover plate for closed center applications
- Chuck accuracy +/- .0005" repeatability



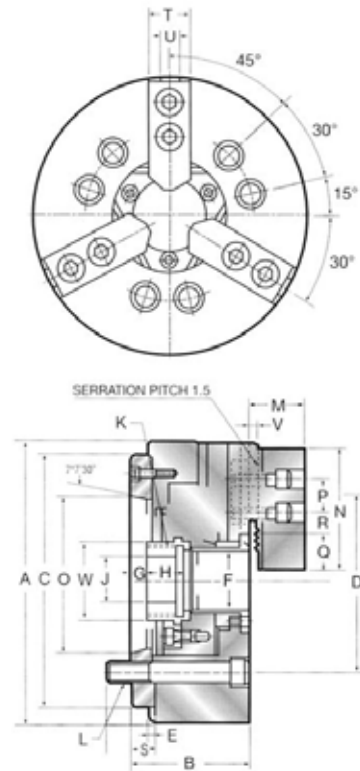
CHUCKS

## Series Y20-689

Chuck Size	Model Number	Mount	Thru Hole Dia.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
						Max	Min.					
6"	<b>Y20-689-06A5Z</b>	A2-5	2.047	.252	.591	6.89	.649	5,624	12,815	6000	26	3,040.00
8"	<b>Y20-689-08A5Z</b>	A2-5	2.598	.291	.689	8.27	.905	7,928	19,554	5000	51	3,440.00
8"	<b>Y20-689-08A6Z</b>	A2-6	2.598	.291	.689	8.27	.905	7,928	19,554	5000	51	3,440.00
10"	<b>Y20-689-10A6Z</b>	A2-6	3.030	.346	.748	10.00	1.220	24,953	19,554	4200	89	4,080.00
10"	<b>Y20-689-10A8Z</b>	A2-8	3.030	.346	.748	10.00	1.220	24,953	19,554	4200	89	4,080.00
12"	<b>Y20-689-12A8Z</b>	A2-8	4.055	.417	.905	12.40	2.126	12,363	32,376	2800	123	5,040.00
12"	<b>Y20-689-12A11Z</b>	A2-11	4.055	.417	.905	12.40	2.126	12,363	32,376	2800	123	5,040.00

## Dimensional Data

Model	06A5	08A5	08A6	10A6	10A8	12A8	12A11
A	6.889	8.267	8.267	10.00	10.00	12.401	12.401
B	4.173	5.354	5.118	4.724	4.449	5.512	5.827
C	5.512	6.693	6.693	8.661	8.661	11.811	11.811
D	4.126	5.252	5.252	6.748	6.748	9.252	9.252
E	.197	.197	.197	.167	.167	.236	.236
F	2.204	2.598	2.598	3.033	3.033	4.055	4.055
G max	.551	.275	.275	1.319	1.319	.315	.315
G min	-.039	-.354	-.354	.571	.295	-.590	-.590
H	.689	1.082	1.082	.984	.984	1.102	1.102
J	.787	1.578	1.578	1.771	1.771	1.968	1.968
K	M60x2.0	M74x1.5	M74x1.5	M85x2.0	M85x2.0	M112x2.0	M112x2.0
L	6-M10x95	6-M12x120	6-M12x120	6-M16	6-M16	6-M20x130	6-M20x130
M	1.279	1.535	1.535	1.693	1.693	1.988	1.988
N	2.834	3.740	3.740	6.748	6.748	4.370	4.370
O	3.201	3.201	4.188	4.188	5.501	5.501	7.751
P	.787	.984	1.181	1.181	1.181	1.181	1.181
Q max	1.496	1.799	1.799	2.007	2.007	2.649	2.649
Q min	1.370	1.653	1.653	1.834	1.834	2.441	2.441
R max	.856	.935	.935	1.329	1.801	1.801	1.801
R min	.903	.462	.462	.581	.620	.620	.620
S	1.181	1.969	1.733	.984	.708	1.417	1.732
T	1.229	1.378	1.378	1.575	1.575	1.968	1.968
U	.472	.551	.551	.630	.630	.708	.708
V	.078	.078	.078	.078	.078	.078	.078
W	2.559	3.149	3.149	3.701	3.701	4.882	4.882





# Workholding 2 Jaw High Speed Open Center Power Chuck



- 1.5mm x 60° master jaw
- Repeatability +/- .0005"
- Large thru-hole
- Hardened jaw ways and all internal parts
- All steel body
- High RPM

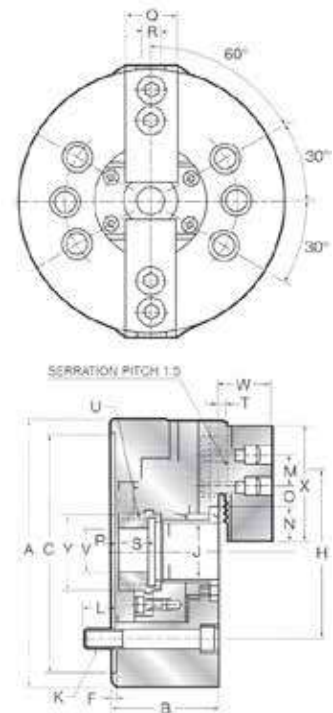


## Series Y20-687

Chuck Size	Model Number	Mount	Thru Hole Dia.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
						Max	Min.					
6"	Y20-687-06A5DZ	A2-5	1.771	.216	.472	6.65	.590	4,945	12,813	6000	30	4,560.00
8"	Y20-687-08A5IZ	A2-5	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	5,520.00
8"	Y20-687-08A6DZ	A2-6	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	5,520.00
10"	Y20-687-10A6IZ	A2-6	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	6,320.00
10"	Y20-687-10A8DZ	A2-8	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	6,320.00
12"	Y20-687-12A6IZ	A2-6	3.582	.417	.905	11.97	1.653	12,363	32,372	3300	148	7,600.00
12"	Y20-687-12A8DZ	A2-8	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	7,600.00
12"	Y20-687-12A11IZ	A2-11	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	8,400.00

## Dimensional Data

Model	06A5D	08A5I	08A6D	10A6I	10A8D	12A6I	12A8D	12A11I
A	6.63	8.26	8.26	10.00	10.00	11.97	11.97	11.97
B	3.582	-	4.055	4.724	4.449	5.079	4.832	-
C	5.512	6.693	6.693	8.661	8.661	8.661	8.661	8.661
D	3.201	3.201	4.188	4.188	5.501	4.118	5.501	7.751
E	.590	-	.669	.984	.708	.984	.708	-
F	.167	.167	.167	.167	.167	.236	.236	.236
G	4.126	5.252	5.252	6.748	6.748	6.748	6.748	6.748
H	4.126	-	5.252	5.252	6.748	5.252	6.748	9.250
J	1.771	2.047	2.047	2.953	2.953	3.582	3.582	3.582
K	6-M10	6-M12	6-M12	6-M16	6-M16	6-M16	6-M16	6-M16
L	.630	-	.708	.728	.945	.728	.984	-
M	.787	.984	.984	1.181	1.181	1.181	1.181	1.181
N max	1.259	1.523	1.523	2.007	2.007	2.413	2.413	2.413
N min	1.151	1.378	1.378	1.834	1.834	2.204	2.204	2.204
O max	.895	1.171	1.171	1.329	1.326	1.801	1.801	1.801
O min	.364	.581	.581	.581	.581	.620	.620	.620
P max	1.023	-	1.240	1.319	1.043	1.299	1.299	1.299
P min	.551	-	.610	.571	.295	.394	.394	.394
Q	1.220	1.378	1.378	1.575	1.575	1.968	1.968	1.968
R	.472	.551	.551	.630	.630	.827	.827	.827
S	.748	.807	.807	.984	.984	1.102	1.102	1.102
T	.0789	.0789	.0789	.0789	.0789	.0789	.0789	.0789
U max	M55x2.0	M60x2.0	M60x2.0	M85x2.0	M85x2.0	M90x2.0	M100x2.0	-
V	-	6-M10	-	6-M12	-	6-M12	-	6-M20
W	2.362	2.598	2.598	3.701	3.701	4.252	4.252	4.252
X	.787	1.181	1.181	1.771	1.771	1.968	1.968	1.968
Y	1.142	1.535	1.535	1.693	1.693	2.009	2.009	2.009



# Workholding 2/3 Jaw Thru-Hole Power Chuck



- Used as 2 jaw or 3 jaw power chuck
- Thru-hole and long stroke
- Adapter mounted
- Serration pitch 1.5mm 8", 10" & 12" - 3mm 15"
- Larger diameters available upon request

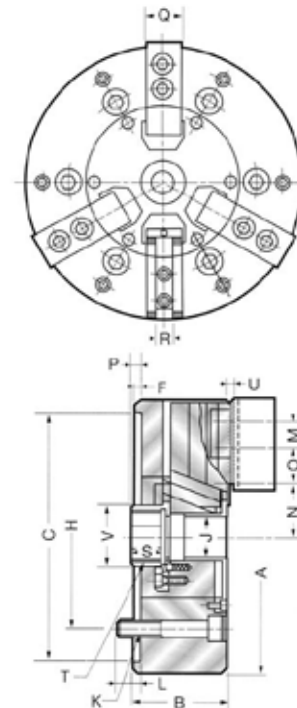


## Series Y20-677

Chuck Size	Model Number	Jaw Stroke Dia.	Sleeve Stroke	Gripping Diameter		Maximum Pull		Max Grip		Max RPM	Wt Lbs	Price
				2 Jaw Max	3 Jaw Min	2 Jaw (lbs)	3 Jaw (lbs)	2 Jaw (lbs)	3 Jaw (lbs)			
6"	Y20-677-08-A5Z	.378	.709	7.87	1.181	3,306	4,409	7,275	9,700	3000	44	10,000.00
8"	Y20-677-08-A6Z	.378	.709	7.87	1.181	3,306	4,409	7,275	9,700	3000	44	10,000.00
10"	Y20-677-10-A6Z	.728	.984	9.84	1.181	5,070	7,716	9,038	13,668	3000	70	11,600.00
10"	Y20-677-10-A8Z	.728	.984	9.84	1.181	5,070	7,716	9,038	13,668	3000	70	11,600.00
12"	Y20-677-12-A8Z	.803	1.102	11.81	1.967	6,613	9,920	11,684	17,636	2500	121	14,000.00
12"	Y20-677-12-A11Z	.803	1.102	11.81	1.967	6,613	9,920	11,684	17,636	2500	121	14,000.00
15"	Y20-677-15-A8Z	.803	1.102	13.78	2.756	8,818	13,227	15,652	23,148	2000	218	21,600.00
15"	Y20-677-15-A11Z	.803	1.102	13.78	2.756	8,818	13,227	15,652	23,148	2000	218	21,600.00

## Dimensional Data

Model	8	10	12	15
A	8.26	10	11.97	15
B	2.874	3.346	3.819	4.803
C	7.480	9.055	11.024	13.760
F	.197	.197	.197	.276
H	5.250	6.750	7.874	9.843
J	1.378	1.575	2.165	2.953
K	6-M12	6-M16	6-M20	6-M20
L	.787	.866	.984	1.063
M	.984	1.181	1.181	1.969
N max	1.803	2.020	2.891	3.378
N min	1.614	1.661	2.189	2.976
O max	1.181	1.654	1.831	2.608
O min	.295	.374	.413	.591
P max	.827	0	0	0
P min	.118	-.984	-1.102	-1.102
Q	1.181	1.378	1.575	1.575
R	.475	.630	.630	.826
S	1.063	1.102	1.181	1.575
T	M42	M50	M65	M85
U	.197	.197	.197	.197
V	1.890	2.283	2.953	3.740

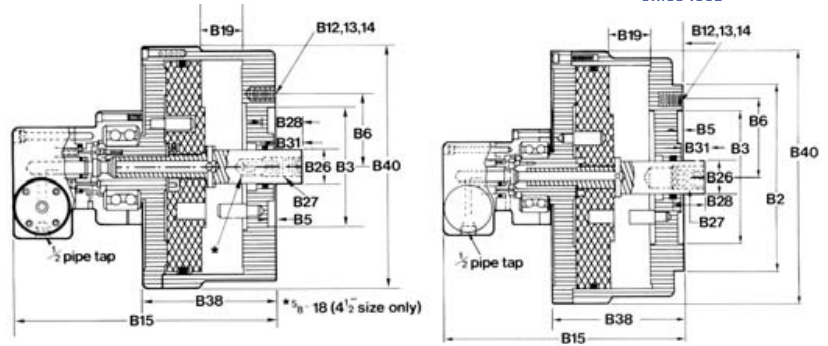


# Air Cylinder



These double-acting, rotating, aluminum body, air operated cylinders are especially designed for power chuck actuation.

Trouble-free service is due to precision finishing bores and the patented swivel connection which provides maximum performance.



## Series Y10-752

Model Number	Y10-752-04Z	Y10-752-06Z	Y10-752-08Z*	Y10-752-10Z*	Y10-752-12Z*	Y10-752-14Z*	Y10-752-16Z*	Y10-752-18Z*	Y10-752-20Z
Price	6,400.00	6,400.00	8,000.00	8,000.00	8,000.00	10,880.00	11,200.00	14,720.00	16,000.00
Piston Diameter	4.50	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00
Piston Area Sq. Inch	15.14	27.05	49.04	76.77	111.33	152.17	197.92	251.34	309.25
Piston Stroke	1.0	1.50	1.50	1.50	1.50	2.00	2.00	2.00	2.00
Max. Recommended Speed RPM	4,000	4,000	3,900	3,000	2,400	*1,980	1,560	1,470	1,300
Draw Bar Pull at Max Pressure Lbs.*	1,226	2,191	3,972	6,218	9,018	12,326	16,032	20,359	29,049
Max. Pressure PSI	90	90	90	90	90	90	90	90	90
Weight Lbs.	17	32	39	57	72	112	137	212	227
WR <sup>2</sup> Inertia Lbs. Ft. <sup>2</sup>	.3	.8	3.1	4.2	8.0	19.5	28.0	52.6	80.0

\*Operating Efficiency 90%

## Dimensional Data

Size	4"	6"	8"	10"	12"	14"	16"	18"	20"
B-2	—	—	6.750	8.380	8.380	10.880	10.880	10.880	10.880
B-3	3.001	4.501	4.501	6.001	6.001	6.001	6.001	6.001	6.001
B-5	.312	.312	.312	.312	.312	.312	.312	.312	.312
B-6	1.875	2.750	2.750	3.500	3.500	3.500	3.500	3.500	3.500
R-2	—	—	—	—	—	4.750	4.750	4.750	4.750
B-12	.375-16UNC	.500-13UNC	.500-13UNC	.625-11UNC	.625-11UNC	.625-11UNC	.625-11UNC	.625-11UNC	.750-10UNC
B-13*	.750	1.000	1.000	1.120	1.120	1.120	1.120	1.120	1.250
B-14†	4.000	4.000	4.000	6.000	6.000	12.000	12.000	12.000	12.000
B-15	8.880	9.880	9.880	10.500	12.130	12.130	12.130	12.130	12.130
B-19	1.000	1.500	1.500	1.500	1.500	2.000	2.000	2.000	2.000
B-26	1.000	1.250	1.250	1.500	1.500	1.500	2.000	2.000	2.500
B-27	.750-16UNF	.750-16UNF	.750-16UNF	1.000-14UNS	1.000-14UNS	1.000-14UNS	1.250-12UNF	1.250-12UNF	1.500-12UNF
B-28	1.500	1.500	1.500	1.500	1.500	1.500	1.880	1.880	2.520
B-31	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
B-38	4.000	5.000	5.000	5.750	5.750	7.310	7.310	7.310	7.310
B-40	5.500	7.130	9.130	11.250	13.250	15.250	17.500	19.380	21.500

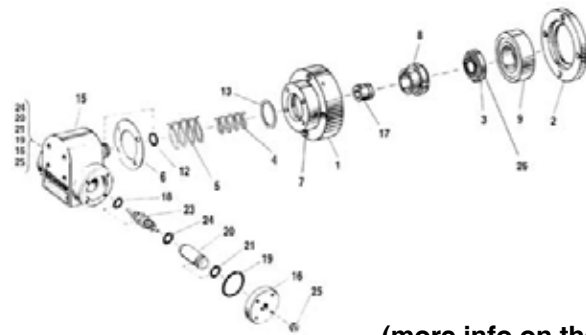
\*B-13 Full depth of thread †B-14 Number of tapped holes

### Air Lock/Air Swivel Connection for Series Y10-752 Air Cylinders

Complete Swivel Assembly **Model Number Y06-214827-00** 2,400.00

## Parts Kits For Series Y10-752

Cylinder Size in Inches	Model Number	Price
4	<b>Y06-217201-00</b>	580.00
6	<b>Y06-217202-00</b>	625.00
8	<b>Y06-217203-00</b>	625.00
10	<b>Y06-217204-00</b>	625.00
12	<b>Y06-217205-00</b>	680.00
14	<b>Y06-217206-00</b>	680.00
16	<b>Y06-217207-00</b>	760.00
18	<b>Y06-217208-00</b>	825.00
20	<b>Y06-217209-00</b>	925.00



(more info on the next page)

# Component Parts



Series Y10-752

(more info on the previous page)

Component Model Numbers									
Detail No.	2	3	4	5	6	7	8	9	
Cylinder Size in.	Guide Pin	CylinderBody "O Ring"	Piston Rod	Piston Rod "O" Ring	Piston	Piston "O" Ring	Cylinder Cap	Gasket	Parts Kit*
4"	Y15-002181-00	YARP568 02140	Y04-207155-00	YARP568 01140	Y04-205450-00	YAPR568 03460	Y14-001023-00	Y98-00218000	Y06-217201-00
6"	Y15-002235-00	YARP568 02180	Y04-205445-00	YARP568 01140	Y04-205451-00	YAPR568 04330	Y14-001065-00	Y98-00223700	Y06-217202-00
8"	Y15-002235-00	YARP568 02180	Y04-205445-00	YARP568 01140	Y04-205452-00	YAPR568 04430	Y13-000658-00	Y98-00107000	Y06-217203-00
10"	Y15-002412-00	YARP568 03250	Y04-209517-00	YARP568 01140	Y04-205453-00	YAPR568 04480	Y13-000695-00	Y98-00278300	Y06-217204-00
12"	Y15-002412-00	YARP568 03250	Y04-209517-00	YARP568 01140	Y04-205454-00	YAPR568 04520	Y12-001129-00	Y98-00278200	Y06-217205-00
14"	Y15-000167-00	YARP568 03250	Y04-205447-00	YARP568 01140	Y03-205455-00	YAPR56804560	Y12-001328-00	Y98-00017600	Y06-217206-00
16"	Y15-000167-00	YARP568 03290	Y04-205448-00	YARP568 01140	Y03-205456-00	YAPR568 04600	Y12-001559-00	Y98-00080000	Y06-217207-00
18"	Y15-000167-00	YARP568 03290	Y04-205448-00	YARP568 01140	Y03-205457-00	Y98-206901-00	Y12-001891-00	Y98-00298000	Y06-217208-00
20"	Y15-000167-00	YARP568 03330	Y04-205449-00	YARP568 01140	Y03-205458-00	Y98-206902-00	Y12-002270-00	Y98-00394400	Y06-217209-00

\*Parts kit includes Cylinder Details #3, 5, 7, and 9, as well as Air Swivel Connection Details #4, 5, 6, 8, 12, 13, 17, 18, 19, 21, 24 and 26

## Air Lock / Air Swivel Connection for Series Y10-752 Air Cylinders

Complete Swivel Assembly - **Model No. Y06-214827-00** 2,400.00 (see previous page)

Component Model Numbers							
Detail No.	1	2	3	4	5	6	7
For All Cylinder Sizes	Swivel Body Assembly	Swivel Clamp Ring	Bearing Plate	Inner Spring	Outer Spring	Swivel Cap Gasket	Swivel Lockscrew
Part No.	Y06-208009-00	Y15-002179-00	Y15-003578-00	Y98-003747-00	Y98-003597-00	Y98-002520-00	Y15-002164-00
Quantity	1	1	1	1	1	1	1

Detail No.	8	9	10	11	12	13	14
For All Cylinder Sizes	Outer Bearing Assembly	Ball Bearing	Socket Head Capscrew	Socket Head Capscrew	"O" Ring	"O" Ring	Low Head Socket Lockscrew
Part No.	Y06-201719-00	Y98-206492-00	YSC-1620 22500	YSC1620 12500	YARP568 01140	YARP568 02220	Y98-234217-00
Quantity	1	1	4	4	1	1	4

Detail No.	15	16	17	18	19	20	21
For All Cylinder Sizes	Swivel Cap	End Cap	Inner Bearing	"O" Ring	"O" Ring	Check Value	"O" Ring
Part No.	Y03-214574-00	Y05-214576-00	Y06-201720-00	YARP568 00130	YARP568 00260	Y98-214642-00	YARP568 00150
Quantity	1	2	1	1	2	2	2

Detail No.	22	23	24	25	26
For All Cylinder Sizes	Button Head Screw Cap	Valve Pin	Stop Washer	Plug	Bearing Plate Gasket
Part No.	YBH1024 06250	Y05-214577-00	Y98-214636-00	YFPP827	Y98-241581-00
Quantity	8	1	2	2	1

Check Valve Kit\*  
Y06-231281-00

\*Kit includes 2 each of Details #19, 20 & 21; and 1 each of Detail #18. Priced on application.

# Workholding Closed Center Rotating Hydraulic Cylinder



## RCV With Safety Device/Optional Stroke Sensing

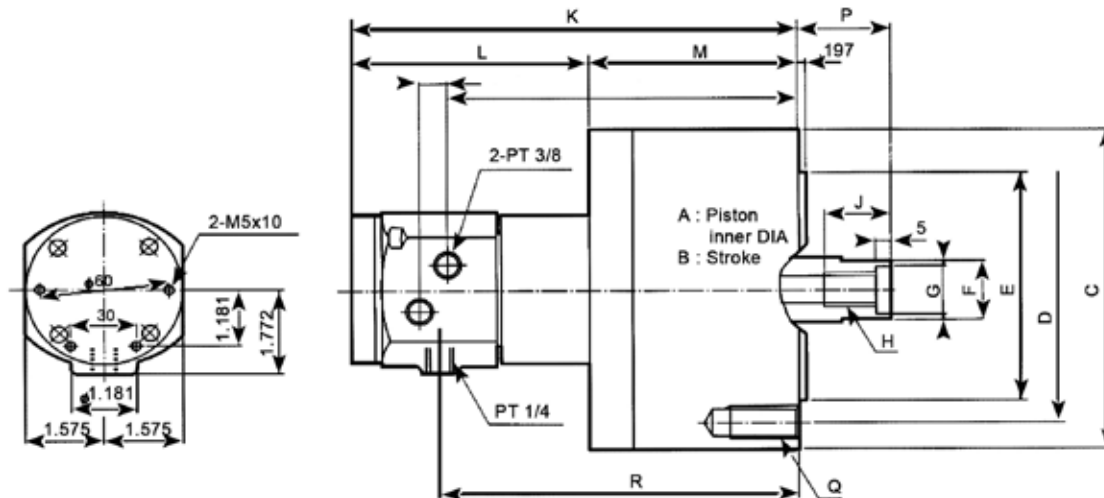
- High speed closed center hydraulic cylinder
- This can be installed in both horizontal and vertical applications
- Equipped with safety check valves, preventing loss of grip if power supply is interrupted
- Available with stroke sensing



### Series Y10-766

Model Number*	Piston Area (Sp. In.)		Piston Stroke	Max Speed RPM	Draw Bar Pull lb/f	Max Pressure PSI	Drain gal/min	Wt. lbs.	Price
	Push	Pull							
Y10-766-0750Z	6.83	5.73	.591	6000	3,325	580	.2	9	2,080.00
Y10-766-1000Z	13.33	12.24	.787	6000	7,100	580	.2	16	2,320.00
Y10-766-1250Z	18.91	17.52	.984	6000	10,160	580	.2	22	2,800.00
Y10-766-1500Z	27.28	24.80	1.181	5500	14,385	580	.2	30	3,170.00
Y10-766-2000Z	48.67	44.95	1.378	5500	26,100	580	.2	49	5,360.00
Y10-766-2500Z	67.30	70.80	2.360	2000	63,720	900	.2	193	14,880.00

\* For stroke sensing, add RE to the end of the part number (Example: 10-766-0750ZRE)



### Dimensional Data

Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P		Q	R
														Max	Min		
0750Z	2.953	.591	4.094	3.543	2.559	1.181	.827	M20x2.5	1.378	6.772	4.173	2.598	5.000	1.811	1.220	6-M6x20	5.236
1000Z	4.134	.787	5.345	3.937	3.150	1.181	.827	M20x2.5	1.378	7.756	4.252	3.504	5.984	1.772	.984	6-M10x20	6.220
1250Z	4.921	.984	6.299	5.118	4.331	1.378	.984	M24x3.0	1.732	8.071	4.252	3.819	6.299	2.008	1.024	6-M12x24	6.535
1500Z	5.906	1.181	7.480	5.118	4.331	1.772	1.220	M30x3.5	1.772	8.425	4.252	4.173	6.654	2.005	1.024	6-M12x24	6.890
2000Z	7.874	1.378	9.646	5.709	4.724	2.165	1.457	M36x4.0	2.362	8.976	4.173	4.803	2.205	2.717	1.339	12-M16x30	7.441
2500Z	9.842	1.968	11.810	10.827	6.298	2.559	1.732	M42x3.0P	2.165	12.400	4.921	7.283	9.720	2.953	.590	6-M16x190	10.000



# Workholding Closed Center Rotating Hydraulic Double Cylinder



- Special double acting cylinder has two separate piston actuations
- Can integrate rear attachments such as air sensing, air blow, coolant, etc
- Available with stroke control
- Can be used vertically or horizontally
- Optionally add rotary union for air sensing, air blow, or coolant
- Priced on Application



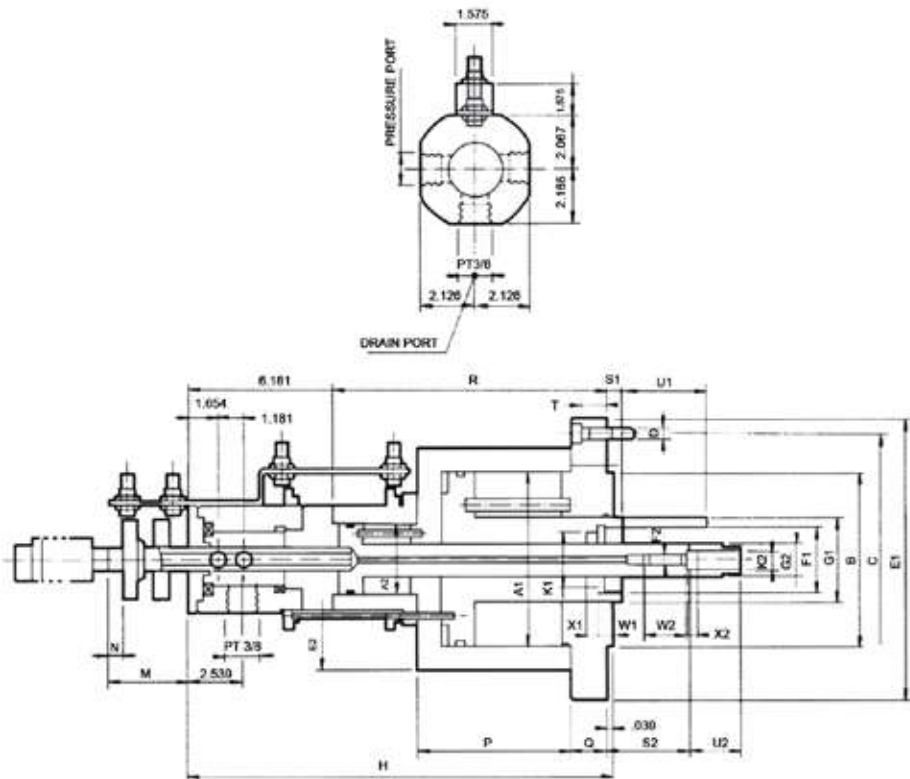
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## Series Y10-767

Model Number	Piston Area (Sp. In.)		Max Piston Stroke	Max Speed RPM	Max Pressure PSI	Weight lbs.
	Piston 1	Piston 2				
Y10-767-1370Z	17.52/19.38	4.96/5.58	2.756/.787	5000	735	66
Y10-767-1770Z	29.14/34.10	4.96/5.58	3.223/.787	4000	735	110

## Dimensional Data

Model	1370Z	1770Z
A1	5.118	6.693
A2	2.756	2.756
B	5.118	6.693
C	7.480	9.252
D	6-M12	6-M16
E1	8.465	10.630
E2	6.693	8.268
F1	M42xP1.5	M42xP1.5
F2	M16	M16
G1	1.969	2.756
G2	1.102	1.102
H	15.039	15.906
I	.197	.197
K1	1.102	1.969
K2	.708	.708
M	2.559	2.559
N	.591	.591
P	5.197	5.748
Q	1.024	1.339
R	8.661	9.528
S1 (min)	.394	.394
S2 (min)	3.701	2.835
T	.551	.709
U1	2.756	3.228
U2	.787	.787
W1	.709	.787
W2	.984	.984
X1	.472	.472
X2	.472	.472



# Face Plate Jaws



- Face plate jaws furnished for tables with single radial slots
- Face plate available with solid reversible jaws in sets of 4
- Face plate jaws sizes 6", 8"

## Series Y10-063 Steel Body Set of 4 with Solid Reversible Jaws

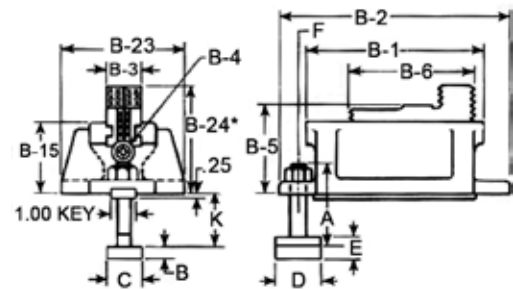
Size	Model Number	Est. Gross Wgt. lbs	Price
6"	Y10-061-06-000D	160	13,120.00
8"	Y10-063-08-000D	280	14,080.00



### Dimensional Data

Jaw Size	6	8
B-1	6.25	8.25
B-2	8.50	10.50
B-3	1.69	1.69
B-4	1.17	1.17
B-5	4.38	4.38
B-6	5.00	5.00
B-15	3.75	3.75
B-23	5.00	5.50
B-24	5.25	5.25

Note: 4" Face Plate Jaws #Y10-061-04-000 are available



### T-Bolt Dimensional Data

Jaw Size	A	B	C	D	E	F	Std. K Min.
4 thru 8	3.00	.53	1.31	1.75	.97	3/4-10	1.437-.750

# Boring Mill Jaws

- Boring mill jaws furnished for tables with double parallel slots
- Boring mill jaws available with solid reversible jaws in sets of 4
- Boring mill jaws sizes 8", 10", 12", 14"
- Two piece boring mill jaws available upon request

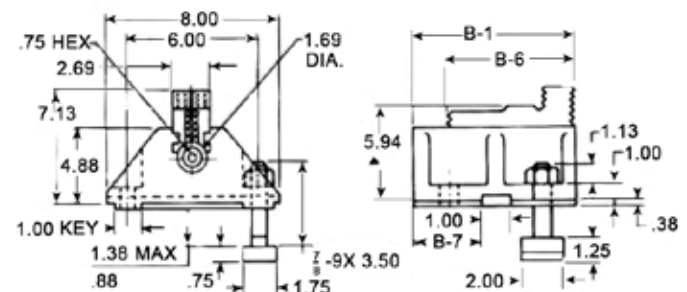
## Series 10-073 Steel Body Set of 4 with Solid Reversible Jaws

Jaw Size	Model Number	Est. Gross Wgt. lbs.	Price
8"	Y10-073-08-000B	260	13,600.00
10"	Y10-073-10-000B	320	18,400.00
12"	Y10-073-12-000B	360	20,000.00
14"	Y10-073-14-000B	420	23,200.00



### Dimensional Data

Jaw Size	8"	10"	12"	14"
B-1	8.00	10.00	12.00	14.00
B-6	6.00	6.00	8.00	8.00
B-7	3.50	3.00	3.50	4.50



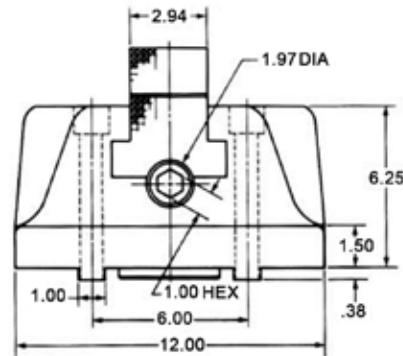
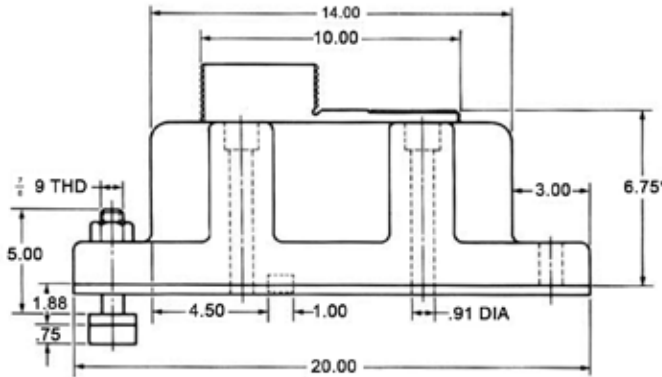
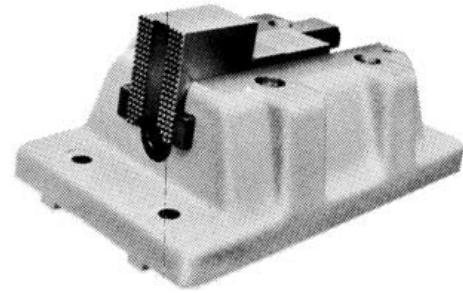
# Heavy-Duty Boring Mill Jaws



## Series Y10-076 Steel Bodies Set of 4 with Solid Reversible Jaws

For tables with double parallel slots

Size	Model Number	Est. Gross Wgt. lbs.	Price
14"	Y10-076-14-000A	1,250	40,800.00



\*Will be uniform in sets within .003.

## Component Parts for Older Models

### Independent Chucks - Series Y10-061, Y10-063

Size	Component Model Numbers			
	Operating Screw	Thrust Bearing	Wrench	Jaw
4"	Y05-002501-00	Y06-201883-00	Y06-201260-00	Y04-000326-F0
6"	Y05-002502-00	Y06-201883-00	Y06-201260-00	Y04-000326-F0
8"	Y05-002503-00	Y06-201883-00	Y06-201260-00	Y04-000326-F0
10"	Y05-002504-00	Y06-201866-00	Y06-201264-00	Y04-000857-F0
12"	Y05-003943-00	Y06-201866-00	Y06-201264-00	Y04-000857-F0

### Independent Chucks - Series Y10-073

Size	Component Model Numbers			
	Operating Screw	Thrust Bearing	Wrench	Jaw
8"	Y05-214201-00	Y06-217101-00	Y04-217094-00	Y03-214200-F0
10"	Y05-217522-00	Y06-217101-00	Y04-217094-00	Y03-214200-F0
12"	Y05-217099-00	Y06-217101-00	Y04-217094-00	Y03-217098-F0
14"	Y05-217518-00	Y06-217101-00	Y04-217094-00	Y03-217098-F0

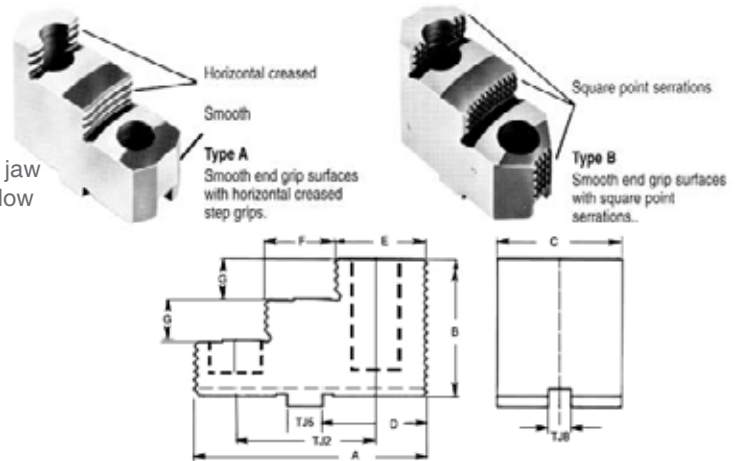
### Independent Chucks - Series Y10-076

Size	Component Model Numbers			
	Operating Screw	Thrust Bearing	Wrench	Jaw
14"	Y05-005099-00	Y06-201948-00	Y06-201914-00	Y03-207473-F0

# Hard Step Top Jaws



- For American Standard tongue and groove configuration
- Hard step top jaws can be quickly reversed for internal or external chucking
- Easily removed for applications requiring soft blank or formed top jaws
- Square point serrations, smooth, and horizontal creased jaw gripping surfaces available in combinations as shown below
- All jaws listed apply to manual chucks in this catalog
- All jaws listed will fit comparable chucks with American Standard jaw configuration
- All jaws made of high alloy steels

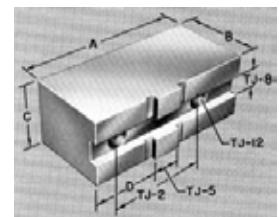


Model Number	Chuck Size	Jaw Type	A	B	C	D	E	F	G	TJ-2	TJ-5	TJ-8	Bolt Size	Bolt Length	Price (Set of 3)
Y03232927-F0	6"	A	2.68	1.47	1.18	1.13	.62	1.00	.38	1.50	.499	.313	3/8-16	3/4 & 1	770.00
Y03232771-F0	8"	A	3.12	1.50	1.18	1.37	.75	1.18	.38	1.75	.499	.313	3/8-16	3/4 & 1-1/4	890.00
Y03232799-F0	10"	A	3.75	1.81	1.44	1.56	.87	1.44	.50	2.12	.749	.502	1/2-13	1 & 1-1/2	920.00
Y03232953-F0	12"	A	4.25	1.94	1.69	1.87	1.00	1.66	.56	2.50	.749	.502	1/2-13	1 & 1-1/2	1,300.00
Y03001728-F3	15"	B	5.00	2.06	1.69	2.25	1.00	1.87	.56	3.00	.749	.502	5/8-11	1-1/4 & 1-3/4	1,350.00
Y03001736-F3	18-36"	B	5.00	2.62	.194	2.25	2.00	1.50	.69	3.00	.749	.502	3/4-10	1-3/4 & 3	1,450.00

Custom Hard Jaws are available, Please inquire

# Soft Blank Top Jaws

Number one in workholding, and in top jaws.  
 NOTE: You can machine and form Cushman top jaws for use on all chucks with American Standard, tongue and groove jaw design.



## American Standard Tongue and Groove - Rectangular Medium Duty

Chuck Size	Model Number	Standard Height								Extra Height		Standard Height Price	Extra Height Price
		Dimensions				Critical Dimensions				Model Number	Dim. B		
6"	Y0520144700	2-5/8	1-5/8	1-1/4	1-1/8	1-1/2	.499-.498	.315-.313	3/8	Y0520147100	3-3/8	32.00	72.00
8"	Y0520145000	3-1/2	1-5/8	1-1/4	1-5/8	1-3/4	.499-.498	.315-.313	3/8	Y0520147400	3-3/8	40.00	80.00
10"	Y0520145200	4-1/4	1-7/8	1-1/2	1-15/16	2-1/8	.749-.748	.503-.501	1/2	Y0520147600	3-3/8	40.00	100.00
12"	Y0520145400	4-7/8	2-3/8	1-3/4	2-5/16	2-1/2	.749-.748	.503-.501	1/2	Y0520147800	3-7/8	50.00	100.00
15"	Y0520145600	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	5/8	Y0520148000	3-3/4	65.00	104.00
18-21"	Y0520145700	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	3/4	Y0520148100	3-3/4	68.00	144.00
24-36"	Y0520145800	5-5/8	3-1/4	2-1/2	2-3/4	3	.749-.748	.503-.501	3/4	Y0520148200	4-3/4	104.00	159.00

## Heavy Duty

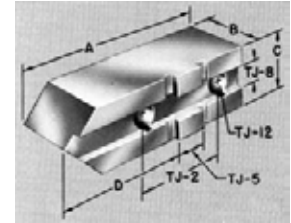
Chuck Size	Model Number	Standard Height								Extra Height		Standard Height Price	Extra Height Price
		Dimensions				Critical Dimensions				Model Number	Dim. B		
6"	Y0520144800	2-5/8	1-5/8	1-1/4	1-1/8	1-1/2	.499-.498	.315-.313	7/16	-	-	40.00	-
8"	Y0520145100	3-1/2	1-7/8	1-1/2	1-5/8	1-3/4	.499-.498	.315-.313	1/2	Y0520147500	3-3/8	52.00	72.00
10"	Y0520145300	4-1/4	2-3/8	1-3/4	1-15/16	2-1/8	.749-.748	.503-.501	5/8	Y0520147700	3-7/8	52.00	72.00
12"	Y0520145500	4-7/8	2-3/8	2	2-5/16	2-1/2	.749-.748	.503-.501	5/8	Y0520147900	3-7/8	65.00	100.00
15-36"	Y0520145700	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	3/4	Y0520148100	3-3/4	68.00	144.00
15-36"	Y0520145800	5-5/8	3-1/4	2-1/2	2-3/4	3	.749-.748	.503-.501	3/4	Y0520148200	4-3/4	104.00	159.00

# Soft Blank Top Jaws



Number one in workholding, and in top jaws.

NOTE: You can machine and form Cushman top jaws for use on all chucks with American Standard, tongue and groove jaw design.



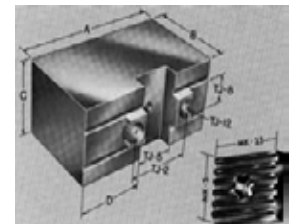
CHUCKS

## American Standard Tongue and Groove - Long Pointed Medium Duty

Chuck Size	Model Number	Standard Height								Extra Height		Standard Height Price	Extra Height Price
		Dimensions				Critical Dimensions				Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6"	Y0520145900	3-3/16	1-5/8	1-1/4	1-11/16	1-1/2	.499-.498	.315-.313	3/8	Y0520148300	3-3/8	52.00	72.00
8"	Y0520146200	3-15/16	1-5/8	1-1/4	2-1/4	1-3/4	.499-.498	.315-.313	3/8	Y0520148600	3-3/8	52.00	72.00
10"	Y0520146400	4-13/16	1-7/8	1-1/2	2-11/16	2-1/8	.749-.748	.503-.501	1/2	Y0520148800	3-3/8	65.00	80.00
12"	Y0520146600	5-3/4	2-3/8	1-3/4	3-3/8	2-1/2	.749-.748	.503-.501	1/2	Y0520149000	3-7/8	78.00	130.00
15"	Y0520146800	7-1/4	2-1/4	2	4-1/2	3	.749-.748	.503-.501	5/8	Y0520149500	3-3/4	100.00	160.00
18-36"	Y0520151900	7-1/4	3-1/4	2-1/2	4-1/2	3	.749-.748	.503-.501	3/4	Y0520152000	4-3/4	130.00	200.00

## Heavy Duty

Chuck Size	Model Number	Standard Height								Extra Height		Standard Height Price	Extra Height Price
		Dimensions				Critical Dimensions				Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6"	Y0520146000	3-3/16	1-5/8	1-1/4	1-11/16	1-1/2	.499-.498	.315-.313	7/16	Y0520148400	3-3/8	52.00	72.00
8"	Y0520146300	3-15/16	1-7/8	1-1/2	2-1/4	1-3/4	.499-.498	.315-.313	1/2	Y0520148700	3-3/8	72.00	80.00
10"	Y0520146500	4-13/16	2-3/8	1-3/4	2-11/16	2-1/8	.749-.748	.503-.501	5/8	Y0520148900	3-7/8	72.00	85.00
12"	Y0520146700	5-3/4	2-3/8	2	3-3/8	2-1/2	.749-.748	.503-.501	5/8	Y0520149100	3-7/8	85.00	130.00
15"	Y0520156900	7-1/4	2-1/4	2	4-1/2	3	.749-.748	.503-.501	3/4	Y0520149600	3-3/4	104.00	160.00
15-36"	Y0520151900	7-1/4	3-1/4	2-1/2	4-1/2	3	.749-.748	.503-.501	3/4	Y0520152000	4-3/4	130.00	200.00



## American Standard - Serrated Acme

Chuck Size	Model Number	Standard Height								Master Keys			Acme Serrated Price	Master Keys Price
		Dimensions				Critical Dimensions				Model Number	Dim. MK-5	Dim. MK-23		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12					
10"	Y2501307200	4-1/8	2-5/16	1-3/4	1-13/16	1-3/4	1.030	.750	1/2	Y2501091200	1.030	1-11/16	85.00	176.00
12"	Y2501307100	4-1/8	2-5/16	1-3/4	1-13/16	2	1.030	.875	5/8	Y2501091200	1.030	1-11/16	160.00	176.00
15-18"	Y2501307000	5-5/8	3-1/4	2-1/2	2-5/8	2-1/2	1.530	1.000	3/4	Y2501090700	1.530	2-1/16	160.00	176.00
21-24"	Y2501306900	5-7/8	3-1/4	3	2-3/4	3	1.530	1.250	7/8	Y2501119900	1.530	2-7/16	175.00	208.00
										Y040082800	1.530	2-7/8	-	200.00

## Square

Chuck Size	Model Number	Standard Height								Master Keys		Square Serrated Price	Master Keys Price
		Dimensions					Critical Dimensions				Model Number		
		A	B	C	D	E	TJ-2	TJ-5	TJ-8	TJ-12			
8"	Y0520457000	3	2	1-1/4	1-11/32	1/4-20	1-7/16	.746-.745	.503-.501	3/8	Y0522711600	100.00	176.00
10-12"	Y0520457100	4	2-1/2	1-3/4	1-5/8	5/16-18	1-3/4	.995-.994	.753-.751	1/2	Y0522729900	105.00	240.00
15-18"	Y0520457200	5	3	2-1/4	1-3/4	3/8-16	2-1/2	1.489-1.487	1.003-1.001	3/4	Y0522700500	150.00	240.00



# Key Type Drill Chucks Plain Bearing



The one piece gear ring and sleeve eliminates the possibility of tooth breakage. The jaws, gear ring and body are all totally hardened to avoid wear and lengthen the life of the drill chuck.

Fits tools up to 3/4" in diameter.

These chucks come standard with Jacobs taper mounts.

## For Portable Drilling Machines Medium Duty

Capacity	Model No.	Mount	Key No.	Price
1/64-5/32	J859-045	5/16-24	K0	140.00
1/32-1/4	J859-046	3/8-24	CK4	98.00
1/32-3/8	J859-047	3/8-24	K34	130.00
1/32-3/8	J859-048	1/2-20	K34	144.00
1/16-1/2	J859-049	1/2-20	K2	153.00
1/16-1/2	J859-050	3/8-24	K2	140.00
3/64-1/2	J859-051	3/8-24	K2	140.00
3/64-1/2	J859-052	1/2-20	K2	150.00

## For Stationary Drilling Machines Medium Duty

Capacity	Model No.	Mount	Key No.	Price
1/64-5/32	J859-060	0JT	K0	120.00
1/32-1/4	J859-061	1JT	CK4	96.00
1/32-3/8	J859-062	1JT	K34	120.00
1/32-3/8	J859-063	2JT	K34	133.00
1/16-1/2	J859-064	33JT	K2	155.00
1/16-5/8	J859-065	3JT	K3	210.00
1/8-3/4	J859-066	3JT	K4	273.00
13/64-5/8	J859-067	4JT	K4	220.00

## For Portable Drilling Machines Heavy Duty

Capacity	Model No.	Mount	Key No.	Price
1/64-5/32	J859-040	3/8-24	K0	96.00
1/32-3/8	J859-041	3/8-24	CK4	96.00
1/32-3/8	J859-042	1/2-20	K34	110.60

## For Stationary Drilling Machines Heavy Duty

Capacity	Model No.	Mount	Key No.	Price
1/32-3/8	J859-035	2JT	K34	103.00
1/32-1/2	J859-036	2JT	K3	106.00
1/32-1/2	J859-037	6JT	K3	138.00
1/32-1/2	J859-038	33JT	K3	110.00

# Key Type Drill Chucks Ball Bearing



Drill chuck with key for industrial applications that require the toughest machining conditions

Equipped with ball bearings to reduce friction in the tightening mechanism and provide a better grip on the drill shaft

All components are hardened and ground

The one piece gear ring and sleeve eliminates the possibility of tooth breakage.

Fits tools up to 1" in diameter.

These chucks come standard with Jacobs taper mounts.

## For Production Drilling Machines Heavy Duty

Capacity	Model No.	Mount	Key No.	Price
1/32-5/16	J859-025	2JT	K30	142.00
1/32-3/8	J859-026	2JT	K32	158.00
1/16-1/2	J859-027	3JT	K3	222.00
1/16-5/8	J859-028	3JT	K4	255.00
1/8-3/4	J859-029	4JT	K4	303.00
3/16-1	J859-030	5JT	K5	516.00

# Key Type Drill Chucks



**MDX**  
SUPERIOR IMPORT

CHUCKS

## For Portable Drilling Machines Medium Duty

Capacity	Model No.	Mount	Price
1/32-3/8	DCK375	3/8-24	14.99
1/32-3/8	DCK375A	1/2-20	14.99
1/32-1/2	DCK500	1/2-20	20.44

Capacity	Model No.	Mount	Price
1/32-1/2	DCK500A	33JT	20.44
1/32-1/2	DCK500B	6JT	20.44
1/32-5/8	DCK625	5/8-16	31.43

## Taper Mounted

Capacity	Model No.	Mount	Price
1/64-5/32	J859-405	0JT	61.05
1/64-1/4	J859-410	1JT	52.71
1/64-5/16	J859-415	1JT	70.61
1/32-3/8	J859-420	2JT	68.70
1/32-1/2	J859-440	2JT	76.86
1/32-1/2	J859-435	6JT	76.44
1/32-1/2	J859-430	33JT	76.44
1/16-1/2	J859-625	33JT	90.00

**RÖHM**

Capacity	Model No.	Mount	Price
3/16-1	J859-455	5JT	271.14
1/64-1/4	J859-705	3/8-24	50.00
1/64-1/4	J859-710	1/2-20	60.00
1/64-5/16	J859-715	3/8-24	46.00
1/64-5/16	J859-720	1/2-20	55.00
1/32-5/16	J859-750	1/2-20	50.00
1/32-3/8	J859-725	3/8-24	75.00
1/32-3/8	J859-738	1/2-20	50.00

# Adapters

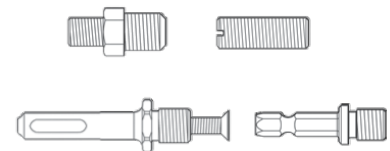
Converts drill chuck's female threaded mounts into male threaded mounts, SDS-Plus™ or 1/4" Hexagonal bit to fit drill chuck to all kinds of machines.

**CUSHMAN**  
**CHUCKS**  
SINCE 1882

Thread	Model No.	Fitting	Price
3/8" x 24	JC51-001	3/8" x 24	6.25
3/8" x 24	JC52-002	1/2-20	6.50
1/2" x 20	JC53-003	SDS-Plus	30.00
3/8" x 24	JC54-004	1/4-Hex	18.25

## SETS

Model No.	Description	Price
JCS5	4PC Set	50.00



# Chuck Keys

List No. CH100

**MDX**  
SUPERIOR IMPORT

Model No.	For Use On	Pilot Size.	No. of Teeth	Price
K0	0 Series	1/8	11	3.77
K1	1 Series	5/32	11	2.54
K2	2 Series	1/4	11	3.77
K3	3, 6, 34 Series, 14N, 55B, 56B, 58B, 75A	5/16	11	4.29
K3C	633C, 633D	5/16	11	4.49
K4	36, 37 Series, 16N, 18N, 59B	3/8	12	8.84
K5	20N	7/16	12	16.90
K7	7 Series	7/32	11	3.06
K30	30, 31 Series, 8-1/2N	15/64	10	3.58
K32	32, 33 Series, 11N	1/4	10	3.84
KK	DC8, SM8, 74K, 22BA, 23B, 24BA, 26BA, 29A	9/32	11	2.47
ST13	Small Master Chuck Keys			16.90
ST12	Large Master Chuck Keys			18.46



# Keyless Drill Chucks



Standard screw thread mount for portable drilling machines.  
 Standard tapered mount for stationary machines.  
 Self-tightening mechanism automatically increases the clamping forces in proportion to the increase in torque during the drilling operation.  
 This prevents tool slippage in clockwise rotation.



## For Portable Drilling Machines Medium Duty

Capacity	Model No.	Mount	Price
1/64-1/4	<b>J859-081</b>	3/8-24	125.00
1/32-5/16	<b>J859-082</b>	3/8-24	115.00
1/32-5/16	<b>J859-083</b>	1/2-20	145.00
1/32-3/8	<b>J859-084</b>	3/8-24	130.00
1/32-3/8	<b>J859-085</b>	1/2-20	130.00
1/16-1/2	<b>J859-086</b>	3/8-24	140.00
1/16-1/2	<b>J859-087</b>	1/2-20	145.00
1/8-5/8	<b>J859-088</b>	1/2-20	180.00
1/8-5/8	<b>J859-089</b>	5/8-16	180.00

## For Stationary Drilling Machines Medium Duty

Capacity	Model No.	Mount	Price
1/64-1/4	<b>J859-071</b>	1JT	120.00
1/32-5/16	<b>J859-072</b>	1JT	110.00
1/32-5/16	<b>J859-73</b>	2JT	110.00
1/32-3/8	<b>J859-074</b>	2JT	125.00
1/32-3/8	<b>J859-075</b>	33JT	125.00
1/32-1/2	<b>J859-076</b>	33JT	140.00
1/32-1/2	<b>J859-077</b>	6JT	140.00
1/8-5/8	<b>J859-078</b>	33JT	175.00
1/8-5/8	<b>J859-079</b>	6JT	175.00
3/16-3/4	<b>J859-080</b>	3JT	265.00

# Super Precision Keyless Drill Chucks

100% of these drill chucks are individually controlled to ensure a maximum total indicator run-out of 0.0016".  
 Self-tightening mechanism automatically increases the clamping forces in proportion to the increase in torque during the drilling operation.  
 This prevents tool slippage in clockwise rotation.  
 Engineered with milled flats for additional gripping torque with spanner wrench.  
 Light tightening with wrench increases gripping torque up to 3 times higher than hand tightening.  
 All chucks come with wrench

Standard Gripping



Extra Gripping



## Standard Gripping

Capacity	Model No.	Mount	Price
1/64-1/8	<b>J859-091</b>	1JT	250.00
1/64-1/8	<b>J859-092</b>	5/16-24	250.00
1/64-1/4	<b>J859-093</b>	1JT	265.00
1/64-5/16	<b>J859-094</b>	1JT	250.00
1/64-5/16	<b>J859-095</b>	2JT	250.00
1/32-3/8	<b>J859-096</b>	2JT	264.00
1/32-3/8	<b>J859-097</b>	33JT	264.00
1/32-1/2	<b>J859-098</b>	2JT	278.00
1/32-1/2	<b>J859-099</b>	33JT	276.00
1/32-1/2	<b>J859-100</b>	6JT	276.00
1/8-5/8	<b>J859-011</b>	33JT	320.00
1/8-5/8	<b>J859-022</b>	6JT	320.00

## Extra Gripping Torque

Capacity	Model No.	Mount	Price
1/64-1/4	<b>J859-023</b>	1JT	260.00
1/64-5/16	<b>J859-024</b>	2JT	260.00
1/32-3/8	<b>J859-031</b>	2JT	298.00
1/32-3/8	<b>J859-032</b>	33JT	298.00
1/32-1/2	<b>J859-033</b>	2JT	298.00
1/32-1/2	<b>J859-034</b>	33JT	298.00
1/32-1/2	<b>J859-039</b>	6JT	298.00
1/8-5/8	<b>J859-044</b>	6JT	360.00

# Keyless Drill Chucks

with Ball Bearing Integrated Shank



- High precision integrated shank keyless drill chucks
- One-piece construction for tighter tolerance on T.I.R.
- 100% of the drill chuck is individually controlled to ensure a maximum total indicator run-out of 0.0016"
- Compact design; no possibility of arbor slipping from drill chuck

## Precision

Capacity	Model No.	Shank	Price
1/32-1/2	<b>J859-001</b>	R8	298.00
1/8-5/8	<b>J859-002</b>	R8	305.00
1/32-1/2	<b>J859-005</b>	MT2	296.00
1/32-1/2	<b>J859-006</b>	MT3	298.00
1/32-1/2	<b>J859-007</b>	MT4	305.00
1/8-5/8	<b>J859-009</b>	MT3	300.00



## Super Precision CAT & BT Shanks

Capacity	Model No.	Shank	Price
1/8-5/8	<b>J859-010</b>	MT4	305.00
1/64-5/16	<b>J859-013</b>	CAT40	506.00
1/32-1/2	<b>J859-014</b>	CAT40	450.00
1/8-5/8	<b>J859-016</b>	CAT40	550.00
1/32-1/2	<b>J859-020</b>	BT40	360.00
1/8-5/8	<b>J859-021</b>	BT40	400.00

# Keyless Drill Chucks

- For high accuracy applications on conventional or CNC machines in drilling, boring & counter-boring operations.
- Tighten and release by hand.
- Chucks have self-tightening feature.



## Heavy Duty Ball Bearing



Capacity	Model No.	Mount	Price
0-1/4	<b>JDCK1JT</b>	1JT	69.95
1/64-3/8	<b>JDCK2JT</b>	2JT	72.36
1/64-3/8	<b>JDCK33JT</b>	33JT	72.36
1/32-1/2	<b>JDCK2JTA</b>	2JT	86.03
1/32-1/2	<b>JDCK33JTA</b>	33JT	86.03
1/32-1/2	<b>JDCK6JT</b>	6JT	86.03
1/8-5/8	<b>JDCK6JTA</b>	6JT	105.12
1/8-5/8	<b>JDCK3JT</b>	3JT	105.12

## Heavy Duty Ball Bearing



Capacity	Model No.	Mount	Price
0-5/32	<b>J859-805</b>	0JT	157.35
0-1/4	<b>J859-810</b>	1JT	117.50
0-5/16	<b>J859-815</b>	1JT	118.35
0-3/8	<b>J859-820</b>	2JT	141.10
0-3/8	<b>J859-825</b>	33JT	174.10
1/32-1/2	<b>J859-830</b>	2JT	174.10
1/32-1/2	<b>J859-835</b>	6JT	174.10
1/32-1/2	<b>J859-840</b>	33JT	167.35
1/8-5/8	<b>J859-845</b>	6JT	200.70
1/8-5/8	<b>J859-850</b>	33JT	230.50

# Drill Chuck Arbors

## Straight to Jacobs Taper



Straight Shank	To Jacobs Taper	Tool No.	Price Each
1/2	0	DCS12J-0	7.48
1/2	1	DCS12J-1	7.48
1/2	2	DCS12J-2	7.48
1/2	3	DCS12J-3	7.48
1/2	33	DCS12J-33	7.48
1/2	4	DCS12J-4	10.08
1/2	6	DCS12J-6	7.48
5/8	1	DCS58J-1	7.74
5/8	2	DCS58J-2	7.74
5/8	3	DCS58J-3	8.45
5/8	33	DCS58J-33	8.45
5/8	4	DCS58J-4	10.08
5/8	6	DCS58J-6	10.08
3/4	1	DCS34J-1	11.57
3/4	2	DCS34J-2	11.57
3/4	3	DCS34J-3	11.57
3/4	33	DCS34J-33	12.35
3/4	4	DCS34J-4	12.94
3/4	6	DCS34J-6	12.35
1	1	DCS1J-1	12.94
1	2	DCS1J-2	12.94
1	3	DCS1J-3	12.94
1	33	DCS1J-33	12.94
1	4	DCS1J-4	12.94
1	6	DCS1J-6	12.94
1-1/2	3	DCS112J-3	20.67
1-1/2	4	DCS112J-4	20.67



## Morse Taper to Jacobs Taper



Morse Taper Shank	To Jacobs Taper	Tool No.	Price Each
t	33	DCM0J-33	7.74
1	0	DCM1J-0	7.74
1	1	DCM1J-1	7.74
1	2	DCM1J-2	7.74
1	3	DCM1J-3	8.45
1	33	DCM1J-33	8.45
1	5	DCM1J-5	8.45
1	6	DCM1J-6	8.45
2	0	DCM2J-0	7.74
2	1	DCM2J-1	7.74
2	2	DCM2J-2	7.74
2	3	DCM2J-3	7.74
2	33	DCM2J-33	7.74
2	4	DCM2J-4	10.08
2	5	DCM2J-5	10.08
2	6	DCM2J-6	10.08
3	0	DCM3J-0	10.34
3	1	DCM3J-1	10.34
3	2	DCM3J-2	10.34
3	3	DCM3J-3	10.34
3	33	DCM3J-33	10.34
3	4	DCM3J-4	11.38
3	5	DCM3J-5	11.38
3	6	DCM3J-6	11.38
4	1	DCM4J-1	16.25
4	2	DCM4J-2	16.25
4	3	DCM4J-3	16.25
4	33	DCM4J-33	16.25
4	4	DCM4J-4	16.25
4	5	DCM4J-5	16.25
4	6	DCM4J-6	16.25
5	2	DCM5J-2	29.58
5	3	DCM5J-3	29.58
5	33	DCM5J-33	29.58
5	4	DCM5J-4	29.58
5	5	DCM5J-5	29.58
5	6	DCM5J-6	29.58

## NMTB Taper to Jacobs Taper



Shank Number	Jacobs Taper	APT USA		MDX	
		Tool No.	Price Each	Tool No.	Price Each
30	1	QCJ3-1	135.64	DCN301	79.00
30	2	QCJ3-2	124.10	DCN302	79.00
30	3	QCJ3-3	124.10	DCN303	80.36
30	33	QCJ3-33	124.10	DCN333	80.36
30	4	QCJ3-4	128.43	DCN304	81.00
30	6	QCJ3-6	128.43	DCN306	85.00
40	2	QCJ4-2	126.98	DCN402	96.74
40	3	QCJ4-3	126.98	DCN403	99.47
40	33	QCJ4-33	126.98	DCN433	97.51
40	4	QCJ4-4	139.97	DCN404	99.47
40	6	QCJ4-6	150.07	DCN406	99.47
50	2	—	—	DCN502	184.10
50	3	—	—	DCN503	184.10
50	33	—	—	DCN533	184.10
50	5	—	—	DCN505	191.24
50	6	—	—	DCN506	191.24

## R-8 to Jacobs Taper



R-8 Shank	To Jacobs Taper	Tool No.	Price Each
R8	1	R8J1	34.84
R8	2	R8J2	34.84
R8	3	R8J3	34.84
R8	33	R8J33	34.84
R8	4	R8J4	34.84
R8	6	R8J6	34.84

## B Taper European Shanks



Shank Type	B-Shank #	Tool No.	Price Each
1/2SS	10	DCB12-10	18.00
2 M.T.	12	DCB2M-12	18.00
R8	12	DCBR8-12	18.00
1/2SS	16	DCB12-16	18.00
2 M.T.	16	DCB2MT-16	28.00
3 M.T.	16	DCB3MT-16	28.00
R8	16	DCBR8-16	28.00
3 M.T.	22	DCB3MT-22	30.00
4 M.T.	22	DCB4MT-22	30.00

## CAT V To Jacobs Taper



CAT #	Jacobs Taper	Tool No.	Price Each
40	6	DCC40J-6	98.00
40	33	DCC40J-33	98.00
50	6	DCC50J-6	175.00
50	33	DCC50J-33	175.00

## Brown & Sharpe to Jacobs Taper



B&S	Jacob Taper	Tool No.	Price Each
7 Tanged	33	DCB7T	55.00
7 Drawbar	33	DCB7D	55.00
9 Drawbar	33	DCB9D	65.00



# Vises

## Bench Vises with Swivel Base

- Removable Hardened alloy steel jaw inserts.
- Completely enclosed center screw.
- Attractive hammered enamel finish.



Jaw Width	Jaw Opening	Weight Lbs	Model No.	Price
2-1/2	2-1/2	8	J3980102	28.91
3	3	14	J3980103	31.00

## Swivel and Tilt Vises

- All features of above vises, plus.
- The base has keyway and two bolt slots for locating and mounting on machine table.
- Mounted on swivel base, providing complete 360° rotation.



Jaw Width	Jaw Depth	Jaw Opening	Model No.	Price
2-1/2	1-1/2	2-1/2	J2300002	49.15
3-1/2	1-3/8	3	J2300003	57.20
4-1/2	1-5/8	4	J2300004	79.45

## Drill Press Vises

- For small drilling, tapping and grinding
- Can be turned on either side or stood on end.
- Accurately machined and assembled from high tensile cast iron.
- Hardened and ground jaws have horizontal and vertical grooves for holding round work.



Jaw Width	Jaw Depth	Jaw Opening	Model No.	Price
2-1/2	1-1/2	2-1/2	J2290002	28.70
3-1/2	1-3/4	3-1/2	J2290003	38.50
4-1/2	1-3/4	4-1/2	J2290004	54.45

## Adjustable Angle Vises

- All Features of above vises plus
- Adjustable up to 90
- Base has slots for mounting



Jaw Width	Jaw Depth	Jaw Opening	Model No.	Price
2-1/2	1-1/2	2-3/8	J2295002	32.20
3-1/2	1-3/8	3	J2295003	40.60
4-1/2	1-5/8	4	J2295004	63.70

## Ultra Precision Milling Machine Vises with Swivel Base

Special construction prevents tilting of jaw and work. Manufactured to highest precision standards with many features including: totally enclosed lead screw, hardened and ground top and bottom surfaces, coolant trough, graduated swivel base, flame hardened vise bed, etc

Width of Jaws	Height of Jaws	Jaw Opening	Overall Length	Weight	Model No.	Price
4	1-1/8	4	4-3/4	46 lbs.	J2235104	231.00
6	1-1/2	5-1/2	6	107 lbs.	J2235106	189.00
8	2	7-3/4	7	225 lbs.	J2235108	322.00



## Universal 3-way Angle Machine Vise

- Removable Hardened alloy steel jaw inserts.
- Completely enclosed center screw.
- Attractive hammered enamel finish.



Model No.	Width of Jaws	Height of Jaws	Max Jaw Opening	Overall Length (Lowered)	Overall Height (Lowered)	Weight	Model No.	Price
UAV3	3-3/16	1-3/16	3-5/8	15-13/16	6	32 lbs.	J6650003	413.00
UAV4	4-1/4	1-1/2	4-3/16	18-7/16	6-7/8	65 lbs.	J6650004	490.00
UAV5	5-1/4	1-5/8	5-5/8	25	8-3/16	96 lbs.	J6650005	694.00

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# Logo Apparel

## Polo Shirts

Colors	Price	Order No.
WHITE	26.00	MPSW
BLACK	26.00	MPSK
NAVY BLUE	26.00	MPSB

## T-Shirts

Colors	Price	Order No.
WHITE	13.00	MTSW
NAVY BLUE	13.00	MTSB

## Sweatshirts

Colors	Price	Order No.
WHITE	32.50	MSSW
NAVY BLUE	32.50	MSSB



**MTSW**

**MSSB**

**MPSK**

Please indicate the product number and size code.  
Example: White Large T-shirt would be: MTSW-3

## Size Code

Size	Code
SMALL	-1
MEDIUM	-2
LARGE	-3



Order No. **MBCB**  
PRICE EACH: **14.95**  
One size fits all for baseball caps

# Size Conversion Charts

**3.5" X 6"**

**DECIMAL POCKET CHART**

Order No. **DPC**

Price Each **4.95**



**27" X 37"**

**DECIMAL WALL CHART**

Order No. **DWC**

Price Each **9.75**



Decimal Conversion Chart											
MICHIGAN DRILL & CUTTING TOOLS											
Decimal Equivalents and Fractions of Fractions, Number, Letter and Metric Sizes											
FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL	FRACTION	DECIMAL
1/16	.0625	1/8	.125	3/16	.1875	1/4	.25	5/16	.3125	3/8	.375
1/4	.25	1/2	.5	5/8	.625	3/4	.75	7/8	.875	1	1.0
1/8	.125	3/16	.1875	1/4	.25	5/16	.3125	3/8	.375	1/2	.5
3/16	.1875	1/4	.25	5/16	.3125	3/8	.375	1/2	.5	5/8	.625
1/2	.5	5/8	.625	3/4	.75	7/8	.875	1	1.0	1 1/8	1.125
3/4	.75	7/8	.875	1	1.0	1 1/8	1.125	1 1/4	1.25	1 3/8	1.375
7/8	.875	1	1.0	1 1/8	1.125	1 1/4	1.25	1 3/8	1.375	1 1/2	1.5
1	1.0	1 1/8	1.125	1 1/4	1.25	1 3/8	1.375	1 1/2	1.5	1 5/8	1.625
1 1/8	1.125	1 1/4	1.25	1 3/8	1.375	1 1/2	1.5	1 5/8	1.625	1 3/4	1.75
1 1/4	1.25	1 3/8	1.375	1 1/2	1.5	1 5/8	1.625	1 3/4	1.75	1 7/8	1.875
1 3/8	1.375	1 1/2	1.5	1 5/8	1.625	1 3/4	1.75	1 7/8	1.875	2	2.0
1 1/2	1.5	1 5/8	1.625	1 3/4	1.75	1 7/8	1.875	2	2.0	2 1/8	2.125
1 5/8	1.625	1 3/4	1.75	1 7/8	1.875	2	2.0	2 1/8	2.125	2 1/4	2.25
1 7/8	1.875	2	2.0	2 1/8	2.125	2 1/4	2.25	2 3/8	2.375	2 1/2	2.5
2	2.0	2 1/8	2.125	2 1/4	2.25	2 3/8	2.375	2 1/2	2.5	2 5/8	2.625
2 1/8	2.125	2 1/4	2.25	2 3/8	2.375	2 1/2	2.5	2 5/8	2.625	2 3/4	2.75
2 1/4	2.25	2 3/8	2.375	2 1/2	2.5	2 5/8	2.625	2 3/4	2.75	2 7/8	2.875
2 3/8	2.375	2 1/2	2.5	2 5/8	2.625	2 3/4	2.75	2 7/8	2.875	3	3.0
2 1/2	2.5	2 5/8	2.625	2 3/4	2.75	2 7/8	2.875	3	3.0	3 1/8	3.125
2 5/8	2.625	2 3/4	2.75	2 7/8	2.875	3	3.0	3 1/8	3.125	3 1/4	3.25
2 7/8	2.875	3	3.0	3 1/8	3.125	3 1/4	3.25	3 3/8	3.375	3 1/2	3.5
3	3.0	3 1/8	3.125	3 1/4	3.25	3 3/8	3.375	3 1/2	3.5	3 5/8	3.625
3 1/8	3.125	3 1/4	3.25	3 3/8	3.375	3 1/2	3.5	3 5/8	3.625	3 3/4	3.75
3 1/4	3.25	3 3/8	3.375	3 1/2	3.5	3 5/8	3.625	3 3/4	3.75	3 7/8	3.875
3 3/8	3.375	3 1/2	3.5	3 5/8	3.625	3 3/4	3.75	3 7/8	3.875	4	4.0
3 1/2	3.5	3 5/8	3.625	3 3/4	3.75	3 7/8	3.875	4	4.0	4 1/8	4.125
3 5/8	3.625	3 3/4	3.75	3 7/8	3.875	4	4.0	4 1/8	4.125	4 1/4	4.25
3 7/8	3.875	4	4.0	4 1/8	4.125	4 1/4	4.25	4 3/8	4.375	4 1/2	4.5
4	4.0	4 1/8	4.125	4 1/4	4.25	4 3/8	4.375	4 1/2	4.5	4 5/8	4.625
4 1/8	4.125	4 1/4	4.25	4 3/8	4.375	4 1/2	4.5	4 5/8	4.625	4 3/4	4.75
4 1/4	4.25	4 3/8	4.375	4 1/2	4.5	4 5/8	4.625	4 3/4	4.75	4 7/8	4.875
4 3/8	4.375	4 1/2	4.5	4 5/8	4.625	4 3/4	4.75	4 7/8	4.875	5	5.0
4 1/2	4.5	4 5/8	4.625	4 3/4	4.75	4 7/8	4.875	5	5.0	5 1/8	5.125
4 5/8	4.625	4 3/4	4.75	4 7/8	4.875	5	5.0	5 1/8	5.125	5 1/4	5.25
4 7/8	4.875	5	5.0	5 1/8	5.125	5 1/4	5.25	5 3/8	5.375	5 1/2	5.5
5	5.0	5 1/8	5.125	5 1/4	5.25	5 3/8	5.375	5 1/2	5.5	5 5/8	5.625
5 1/8	5.125	5 1/4	5.25	5 3/8	5.375	5 1/2	5.5	5 5/8	5.625	5 3/4	5.75
5 1/4	5.25	5 3/8	5.375	5 1/2	5.5	5 5/8	5.625	5 3/4	5.75	5 7/8	5.875
5 3/8	5.375	5 1/2	5.5	5 5/8	5.625	5 3/4	5.75	5 7/8	5.875	6	6.0
5 1/2	5.5	5 5/8	5.625	5 3/4	5.75	5 7/8	5.875	6	6.0	6 1/8	6.125
5 5/8	5.625	5 3/4	5.75	5 7/8	5.875	6	6.0	6 1/8	6.125	6 1/4	6.25
5 7/8	5.875	6	6.0	6 1/8	6.125	6 1/4	6.25	6 3/8	6.375	6 1/2	6.5
6	6.0	6 1/8	6.125	6 1/4	6.25	6 3/8	6.375	6 1/2	6.5	6 5/8	6.625
6 1/8	6.125	6 1/4	6.25	6 3/8	6.375	6 1/2	6.5	6 5/8	6.625	6 3/4	6.75
6 1/4	6.25	6 3/8	6.375	6 1/2	6.5	6 5/8	6.625	6 3/4	6.75	6 7/8	6.875
6 3/8	6.375	6 1/2	6.5	6 5/8	6.625	6 3/4	6.75	6 7/8	6.875	7	7.0
6 1/2	6.5	6 5/8	6.625	6 3/4	6.75	6 7/8	6.875	7	7.0	7 1/8	7.125
6 5/8	6.625	6 3/4	6.75	6 7/8	6.875	7	7.0	7 1/8	7.125	7 1/4	7.25
6 7/8	6.875	7	7.0	7 1/8	7.125	7 1/4	7.25	7 3/8	7.375	7 1/2	7.5
7	7.0	7 1/8	7.125	7 1/4	7.25	7 3/8	7.375	7 1/2	7.5	7 5/8	7.625
7 1/8	7.125	7 1/4	7.25	7 3/8	7.375	7 1/2	7.5	7 5/8	7.625	7 3/4	7.75
7 1/4	7.25	7 3/8	7.375	7 1/2	7.5	7 5/8	7.625	7 3/4	7.75	7 7/8	7.875
7 3/8	7.375	7 1/2	7.5	7 5/8	7.625	7 3/4	7.75	7 7/8	7.875	8	8.0
7 1/2	7.5	7 5/8	7.625	7 3/4	7.75	7 7/8	7.875	8	8.0	8 1/8	8.125
7 5/8	7.625	7 3/4	7.75	7 7/8	7.875	8	8.0	8 1/8	8.125	8 1/4	8.25
7 7/8	7.875	8	8.0	8 1/8	8.125	8 1/4	8.25	8 3/8	8.375	8 1/2	8.5
8	8.0	8 1/8	8.125	8 1/4	8.25	8 3/8	8.375	8 1/2	8.5	8 5/8	8.625
8 1/8	8.125	8 1/4	8.25	8 3/8	8.375	8 1/2	8.5	8 5/8	8.625	8 3/4	8.75
8 1/4	8.25	8 3/8	8.375	8 1/2	8.5	8 5/8	8.625	8 3/4	8.75	8 7/8	8.875
8 3/8	8.375	8 1/2	8.5	8 5/8	8.625	8 3/4	8.75	8 7/8	8.875	9	9.0
8 1/2	8.5	8 5/8	8.625	8 3/4	8.75	8 7/8	8.875	9	9.0	9 1/8	9.125
8 5/8	8.625	8 3/4	8.75	8 7/8	8.875	9	9.0	9 1/8	9.125	9 1/4	9.25
8 7/8	8.875	9	9.0	9 1/8	9.125	9 1/4	9.25	9 3/8	9.375	9 1/2	9.5
9	9.0	9 1/8	9.125	9 1/4	9.25	9 3/8	9.375	9 1/2	9.5	9 5/8	9.625
9 1/8	9.125	9 1/4	9.25	9 3/8	9.375	9 1/2	9.5	9 5/8	9.625	9 3/4	9.75
9 1/4	9.25	9 3/8	9.375	9 1/2	9.5	9 5/8	9.625	9 3/4	9.75	9 7/8	9.875
9 3/8	9.375	9 1/2	9.5	9 5/8	9.625	9 3/4	9.75	9 7/8	9.875	10	10.0
9 1/2	9.5	9 5/8	9.625	9 3/4	9.75	9 7/8	9.875	10	10.0	10 1/8	10.125
9 5/8	9.625	9 3/4	9.75	9 7/8	9.875	10	10.0	10 1/8	10.125	10 1/4	10.25
9 7/8	9.875	10	10.0	10 1/8	10.125	10 1/4	10.25	10 3/8	10.375	10 1/2	10.5
10	10.0	10 1/8	10.125	10 1/4	10.25	10 3/8	10.375	10 1/2	10.5	10 5/8	10.625
10 1/8	10.125	10 1/4	10.25	10 3/8	10.375	10 1/2	10.5	10 5/8	10.625	10 3/4	10.75
10 1/4	10.25	10 3/8	10.375	10 1/2	10.5	10 5/8	10.625	10 3/4	10.75	10 7/8	10.875
10 3/8	10.375	10 1/2	10.5	10 5/8	10.625	10 3/4	10.75	10 7/8	10.875	11	11.0
10 1/2	10.5	10 5/8	10.625	10 3/4	10.75	10 7/8	10.875	11	11.0	11 1/8	11.125
10 5/8	10.625	10 3/4	10.75	10 7/8	10.875	11	11.0	11 1/8	11.125	11 1/4	11.25
10 7/8	10.875	11	11.0	11 1/8	11.125	11 1/4	11.25	11 3/8	11.375	11 1/2	11.5
11	11.0	11 1/8	11.125	11 1/4	11.25	11 3/8	11.375	11 1/2	11.5	11 5/8	11.625
11 1/8	11.125	11 1/4	11.25	11 3/8	11.375	11 1/2	11.5	11 5/8	11.625	11 3/4	11.75

## Decimal Equivalents and Tap Sizes of Fraction, Number, Letter and Metric Sizes

Recommended Tap drill sizes for approximately 75% depth of thread

Drill Size	Decimal Inches	Drill Size	Decimal Inches	Tap Size	Drill Size	Decimal Inches	Tap Size	Drill Size	Decimal Inches	Tap Size	Drill Size	Decimal Inches	Tap Size
.075	.0059	.075	.00420		.075	.00420		H	.2660		17/32	.5312	5/8 - 11NC
.15mm	.0059	.075	.00430		.37mm	.1457		6.8mm	.2677		13.5mm	.5315	
.16mm	.0063	1.1mm	.0433		.26	.1470	3/16 - 24NS	6.9mm	.2717		35/64	.5469	
.16mm	.0063	1.15mm	.0453		3.75mm	.1476	m4.5x0.75	I	.2720	5/16-24NF	14mm	.5512	m16x2
.17mm	.0067	.56	.0465		.25	.1495	#10 - 24NC	7mm	.2756	m8x1	9/16	.5625	
.17mm	.0067	3/64	.0469	#0 - 80NF	3.8mm	.1496		J	.2770		14.5mm	.5709	m16x1.5
.18mm	.0071	1.2mm	.0472		.24	.1520		7.1mm	.2795		37/64	.5781	3/8-18 NPT PIPE 5/8-18NF
.18mm	.0071	1.25mm	.0492	m1.6x0.35	3.9mm	.1535		K	.2810		15mm	.5906	
.19mm	.0075	1.3mm	.0512		.23	.1540		9/32	.2812	5/16-32NS	19/32	.5938	3/8 - 18 NPS PIPE
.19mm	.0075	.55	.0520		5/32	.1562		7.2mm	.2835		39/64	.6094	
.19mm	.0075	1.35mm	.0531		.22	.1570	3/16 - 32NS	7.25mm	.2854		15.5mm	.6102	m18x2.5
.2mm	.0079	.54	.0550		4mm	.1575		7.3mm	.2874		5/8	.6250	11/16-16NS
.21mm	.0083	1.4mm	.0551		.21	.1590	#10 - 32NF	L	.2900		16mm	.6299	m18x2.0
.21mm	.0083	1.45mm	.0571	m1.8x0.35	.20	.1610		7.4mm	.2913		41/64	.6406	
.22mm	.0087	1.5mm	.0591		4.1mm	.1614		M	.2950		16.5mm	.6496	
.22mm	.0087	.53	.0595	#1-64, 72	4.2mm	.1654	m5x0.8	7.5mm	.2953		21/32	.6562	3/4-10NC
.23mm	.0091	1.55mm	.0610		.19	.1660		19/64	.2969		17mm	.6693	
.23mm	.0091	1/16	.0625		4.25mm	.1673		7.6mm	.2992		43/64	.6719	
.24mm	.0094	1.6mm	.0630	m2x0.4	4.3mm	.1693		N	.3020		11/16	.6875	3/4-16NF
.25mm	.0098	.52	.0635		.18	.1695		7.7mm	.3031		17.5mm	.6890	m20x2.5
.25mm	.0098	1.65mm	.0650		11/64	.1719		7.75mm	.3051	m9x1.25	45/64	.7031	
.27mm	.0100	1.7mm	.0669		.17	.1730		7.8mm	.3071		18mm	.7087	m20x2.0
.26mm	.0102	.51	.0670	#2 - 56NC	4.4mm	.1732		7.9mm	.3110		23/32	.7188	1/2-14NPT PIPE
.26mm	.0102	1.75mm	.0689	m2.2x0.45	.16	.1770	#12 - 24NC	5/16	.3125	3/8-16NC	18.5mm	.7283	m20x1.5
.27mm	.0106	.50	.0700	#2 - 64NF	4.5mm	.1772		8mm	.3150		47/64	.7344	1/2-14NPS PIPE
.28mm	.0110	1.8mm	.0709		.15	.1800		O	.3160		19mm	.7480	
.28mm	.0110	1.85mm	.0728		4.6mm	.1811		8.1mm	.3189		3/4	.7500	
.29mm	.0114	.49	.0730		.14	.1820	#12 - 28NF	8.2mm	.3228		49/64	.7656	7/8-9NC
.3mm	.0115	1.9mm	.0748	m2.3x0.4	.13	.1850		P	.3230		19.5mm	.7677	m22x2.5
.3mm	.0118	.48	.0760		4.7mm	.1850		8.25mm	.3248		25/32	.7812	
.3mm	.0120	1.95mm	.0768		4.75mm	.1870		8.3mm	.3268		20mm	.7874	m22x2.0
.32mm	.0125	5/64	.0781	#3 - 48NC	3/16	.1875		21/64	.3281		51/64	.7969	
.32mm	.0126	.47	.0785		4.8mm	.1890	7/32 - 32NS	8.4mm	.3307		20.5mm	.8071	m22x1.5
.34mm	.0130	.2mm	.0787		.12	.1890		Q	.3320	3/8-24NF	13/16	.8125	7/8-14NF
.34mm	.0134	2.05mm	.0807	m2.5x0.45	.11	.1910		8.5mm	.3346	m10x1.5	21mm	.8268	m24x3
.35mm	.0138	.46	.0810		4.9mm	.1929		8.6mm	.3386		53/64	.8281	
.36mm	.0142	1.7mm	.0820	#3 - 56NF	.10	.1935		R	.3390	1/8-27NPT PIPE	27/32	.8438	
.36mm	.0142	2.1mm	.0827		.09	.1960		8.7mm	.3425		21.5mm	.8465	
.38mm	.0150	2.15mm	.0846	m2.6x0.45	5mm	.1969	m6x1	11/32	.3438		55/64	.8594	
.38mm	.0150	.44	.0860	#4 - 36	.08	.1990		8.75mm	.3445	m10x1.25	22mm	.8661	m24x2
.4mm	.0157	2.2mm	.0866		5.1mm	.2008		8.8mm	.3465		7/8	.8750	1-8NC
.4mm	.0157	2.25mm	.0886		.07	.2010	1/4 - 20NC	S	.3480	1/8-27NPT PIPE	22.25mm	.8760	
.42mm	.0165	.43	.0890	#4 - 40NC	13/64	.2031		8.9mm	.3504		22.5mm	.8858	m24x1.50
.42mm	.0165	2.3mm	.0906		.06	.2040		9mm	.3543	m10x1.00	57/64	.8906	
.44mm	.0173	2.35mm	.0925		5.2mm	.2047		T	.3580		23mm	.9055	
.45mm	.0177	.42	.0935	#4 - 48NF	.05	.2055		9.1mm	.3583		29/32	.9062	
.46mm	.0181	3/32	.0938		5.25mm	.2067	m6x0.75	23/64	.3594		59/64	.9219	3/4-14 NPT PIPE 1-12NF
.48mm	.0189	2.4mm	.0945		5.3mm	.2087		9.2mm	.3622		23.5mm	.9252	
.48mm	.0189	.41	.0960		.04	.2090	1/4 - 24	9.25mm	.3642		15/16	.9375	3/4-14 NPS PIPE 1-14NS
.5mm	.0197	2.45mm	.0965		5.4mm	.2126		9.3mm	.3661		24mm	.9449	m27x3
.5mm	.0197	2.45mm	.0965		.03	.2130	1/4 - 28NF	U	.3680	7/16-14NC	61/64	.9531	
.55mm	.0217	2.5mm	.0984	m3x0.5	5.5mm	.2165		9.4mm	.3701		24.5mm	.9646	
.55mm	.0217	.39	.0995		7/32	.2188		9.5mm	.3740	m11x1.50	31/32	.9688	
.6mm	.0236	2.6mm	.1024		5.6mm	.2205		3/8	.3750		25mm	.9843	m27x2
.6mm	.0236	2.6mm	.1024		.02	.2210		V	.3770		63/64	.9844	1-1/8-7NC
.7mm	.0276	2.7mm	.1063		5.7mm	.2244		9.6mm	.3780		1	1.0000	
.7mm	.0276	7/64	.1094		5.75mm	.2264		9.7mm	.3819		25.5mm	1.0039	
.75mm	.0295	35	.1100		.01	.2280		9.75mm	.3839		1-1/64	1.0156	
.75mm	.0295	2.8mm	.1102		5.8mm	.2283		9.8mm	.3858		26mm	1.0236	
.75mm	.0295	.34	.1110		5.9mm	.2323		W	.3860		1-1/32	1.0312	
.8mm	.0310	33	.1130	#6 - 40NF	A	.2340		9.9mm	.3898		26.5mm	1.0433	m30x3.5
.8mm	.0310	2.9mm	.1142	m3.5x0.6	15/64	.2344		25/64	.3906	7/16 - 20NF	1-3/64	1.0469	1-1/8-12NF
.8mm	.0315	.32	.1160		6mm	.2362	m7x1	10mm	.3937	m12x1.75	1-1/16	1.0625	
.85mm	.0335	3mm	.1181		B	.2380		X	.3970		27mm	1.0630	
.85mm	.0335	3.1mm	.1220		6.1mm	.2402		Y	.4040		1-5/64	1.0781	
.9mm	.0354	3.2mm	.1260		C	.2420		13/32	.4062		27.5mm	1.0827	
.9mm	.0354	3.25mm	.1280		6.2mm	.2441		Z	.4130		1-3/32	1.0938	
.95mm	.0374	30	.1285	5/32 - 36NS	D	.2460	1/16-27NPT PIPE	10.5mm	.4134	m12x1.25	28mm	1.1024	m30x2.0
.95mm	.0374	3.3mm	.1299	m4x0.7	6.25mm	.2461		27/64	.4219	1/2 - 13	1-7/64	1.1094	1-1/4-7NC
.95mm	.0374	1/8	.1250		6.3mm	.2480		11mm	.4331		28.5mm	1.1220	
.95mm	.0374	3.2mm	.1260		E	.2500	1/16-27NPS PIPE	7/16	.4375	1/4-18NPT PIPE	1-1/8	1.1250	
.95mm	.0374	3.3mm	.1299		1/4	.2500		11.5mm	.4528		1-9/64	1.1406	
.95mm	.0374	3.3mm	.1299		6.4mm	.2520		29/64	.4531	1/4-18 NPT PIPE 1/2x20	29mm	1.1417	
.95mm	.0374	3.4mm	.1339		6.5mm	.2559		15/32	.4688		1-5/32	1.1562	1-11 1/2 NPT PIPE
.95mm	.0374	3.4mm	.1339		6.6mm	.2598	5/16 - 18NC	12mm	.4724	m14x2	29.5mm	1.1614	
.95mm	.0374	29	.1360	#8 - 32, 36	F	.2570		31/64	.4844	9/16 - 12NC	1-11/64	1.1719	1-1/4-12NF
.95mm	.0374	3.5mm	.1378		G	.2610		12.5mm	.4921	m14x1.5	30mm	1.1811	
.95mm	.0374	28	.1405		6.7mm	.2638		1/2	.5000		1-3/16	1.1875	
.95mm	.0374	9/64	.1406		6.75mm	.2656		13mm	.5118	m14x 1.25	30.5mm	1.2007	
.95mm	.0374	3.6mm	.1417		6.75mm	.2657	m8x1.25	33/64	.5156	9/16 - 18NF	1-7/32	1.2188	



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