

TAP & REAMER WRENCHES

- Accessories for every threading job, economy, and professional type.
- Rugged construction.
- Tap wrench jaws heat treated and hardened for long life.
- Offered in display packages as indicated.

Type 725

Tap & Reamer Wrench - Professional Quality

- Hardened steel jaws. Adjusts easily by turning handles

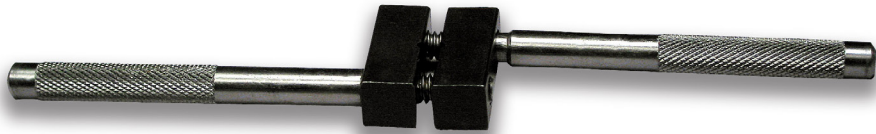


Part No.	For Tap Sizes	Package Type	Qty. per/pack
50350	1/4-3/4	Bulk	1
50360	1/2-1-1/8	Bulk	1
50347	4-1/2	Carded	1

Type 726

Tap & Reamer Wrench - Economy

- For taps up to 1/2"
- Chrome finished, knurled handles with black center



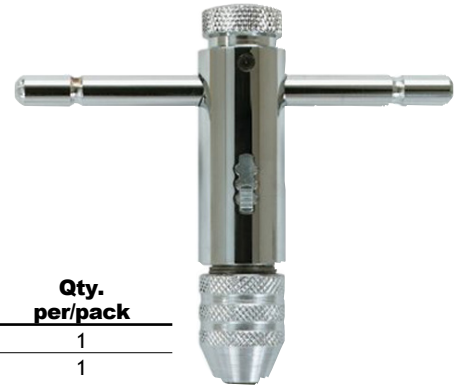
Part No.	For Tap Sizes	Package Type	Qty. per/pack
50337	Up to 1/2	Carded	1

Type 727R

Ratcheting T-Handle Tap Wrenches



- Three position gear box for quick efficient ratcheting action
- Designed for use with taps, reamers, screw extractors and other tools with a square shank.
- Chrome plated for long life and rust resistance

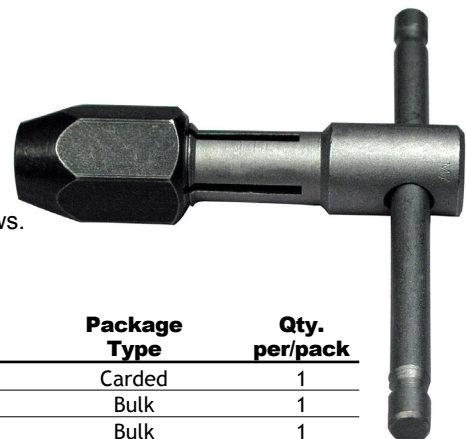


Part No.	For Tap Sizes	Package Type	Qty. per/pack
50190	0 - 1/4" (3mm - 6mm)	Bulk	1
50200	1/4 - 1/2" (6mm - 12mm)	Bulk	1

Type 727

T-Handle Tap Wrenches

- Sliding T-handle with spring tension to hold taps in place, self equalizing jaws.
- No. 50320 has removable handle and 3/8" female square drive for extensions, ratchet, and power drive.



Part No.	For Tap Sizes	Package Type	Qty. per/pack
50307	0-1/4	Carded	1
50310	3/16-1/2	Bulk	1
50320	3/16-1/2	Bulk	1

DIE STOCKS AND SCREW PITCH GAUGES

- Accessories for every threading job, economy and professional type.
- Rugged construction. Offered in display packages as indicated.



Type 728
Die Stock
- Economy Solid

- Designed to hold either 1"- Round or Hex dies.

TYPE 728 DIE STOCK

Part No.	Across Flats	Package Type	Qty. per/pack
50377	1" round or hex	Carded	1



Type 729
Die Stock
- Professional Quality

Numbers 50387 and 50390 have 3-jaw self centering adjustable guides to assure straight threads and easy starting.

- Number 50400 is a sturdy cast hex die stock with chromed steel handles.

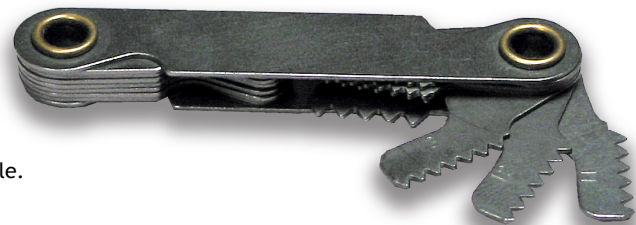
TYPE 729 DIE STOCK

Part No.	Across Flats	Package Type	Qty. per/pack
50390	1-1/2" Round, 1-7/16 Hex	Bulk	1
50400	1-7/8" Hex	Bulk	1
50387	1" Round or Hex	Carded	1

Type 730

- Screw Pitch Gauges

- Made with flat thread forms on top of each blade.
- Gives screw pitches on V-threads, U.S. and Metric gauges available.



TYPE 730 SCREW PITCH GAUGES

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50417	US 12 - 40 U.S.	Carded	1
50427	METRIC 0.5 - 1.75 mm, #27 and #28	Carded	1

Technical Reference

STANDARD CUTTING TAPS

Machine Screw Sizes

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Theoretical % of Thread	Prob-able Oversize (Mean)	Prob-able Hole Size	Percentage of Thread
0-80	56	.0465	83	.0015	.0480	74
	5/64	.0469	81	.0015	.0484	71
1-64	54	.0550	89	.0015	.0565	81
1-72	53	.0595	75	.0015	.0610	67
2-56	51	.0670	82	.0017	.0687	74
	50	.0700	69	.0017	.0717	62
2-64	50	.0700	79	.0017	.0717	70
3-48	48	.0760	85	.0019	.0779	78
	5/64	.0781	77	.0019	.0800	70
	47	.0785	76	.0019	.0804	69
	46	.0810	67	.0019	.0829	60
3-56	46	.0810	78	.0019	.0829	69
	45	.0820	73	.0019	.0839	65
4-40	44	.0860	80	.0020	.0880	74
	43	.0890	71	.0020	.0910	65
4-48	42	.0935	68	.0020	.0955	61
	3/32	.0938	68	.0020	.0958	60
5-40	40	.0980	83	.0023	.1003	76
	39	.0995	79	.0023	.1018	71
	38	.1015	72	.0023	.1038	65
5-44	38	.1015	79	.0023	.1038	72
	37	.1040	71	.0023	.1063	63
6-32	37	.1040	84	.0023	.1063	78
	36	.1065	78	.0026	.1091	71
	7/64	.1094	70	.0026	.1120	64
	35	.1100	69	.0026	.1126	63
	34	.1110	67	.0026	.1136	60
6-40	34	.1110	83	.0026	.1136	75
	33	.1130	77	.0026	.1156	69
	32	.1160	68	.0026	.1186	60
8-32	29	.1360	69	.0029	.1389	62
8-36	29	.1360	78	.0029	.1389	70
10-24	27	.1440	85	.0032	.1472	79
	26	.1470	79	.0032	.1502	74
	25	.1495	75	.0032	.1527	69
	24	.1520	70	.0032	.1552	64
	23	.1540	67	.0032	.1572	61
	22	.1570	61	.0032	.1602	55
10-32	3/32	.1563	83	.0032	.1595	75
	22	.1570	81	.0032	.1602	73
	21	.1590	76	.0032	.1622	68
	20	.1610	71	.0032	.1642	64
12-24	17/64	.1719	82	.0035	.1754	75
	17	.1730	79	.0035	.1765	73
	16	.1770	72	.0035	.1805	66
	15	.1800	67	.0035	.1835	60
12-28	16	.1770	84	.0035	.1805	77
	15	.1800	78	.0035	.1835	70
	14	.1820	73	.0035	.1855	66

These tables show both the theoretical percentage of thread represented by the drill size and the percentage that would normally be obtained in drilling.

Fractional Sizes

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Theoretical % of Thread	Prob-able Oversize (Mean)	Prob-able Hole Size	Percentage of Thread
1/4-20	9	.1960	83	.0038	.1998	77
	8	.1990	79	.0038	.2028	73
	7	.2010	75	.0038	.2048	70
	13/64	.2031	72	.0038	.2069	66
	6	.2040	71	.0038	.2078	65
	5	.2055	69	.0038	.2093	63
	4	.2090	63	.0038	.2128	57
1/4-28	3	.2130	80	.0038	.2168	72
5/16-18	F	.2570	77	.0038	.2608	72
	G	.2610	71	.0041	.2651	66
5/16-24	H	.2660	86	.0041	.2701	78
	I	.2720	75	.0041	.2761	67
3/8-16	3/16	.3125	77	.0044	.3169	72
	O	.3160	73	.0044	.3204	68
3/8-24	27/64	.3281	87	.0044	.3325	79
	Q	.3320	79	.0044	.3364	71
7/16-14	T	.3580	86	.0046	.3626	81
	23/64	.3594	84	.0046	.3640	79
	U	.3680	75	.0046	.3726	70
	3/8	.3750	67	.0046	.3796	62
	V	.3770	65	.0046	.3816	60
7/16-20	W	.3860	79	.0046	.3906	72
	25/64	.3906	72	.0046	.3952	65
1/2-13	27/64	.4219	78	.0047	.4266	73
1/2-20	29/64	.4531	72	.0047	.4578	65
9/16-12	15/32	.4688	87	.0048	.4736	82
	31/64	.4844	72	.0048	.4892	68
9/16-18	1/2	.5000	87	.0048	.5048	80
5/8-11	17/32	.5313	79	.0049	.5362	75
	35/64	.5469	66	.0049	.5518	62
5/8-18	3/16	.5625	87	.0049	.5674	80
3/4-10	41/64	.6406	84	.0050	.6456	80
	21/32	.6563	72	.0050	.6613	68
3/4-16	11/16	.6875	77	.0050	.6925	71
7/8-9	49/64	.7656	76	.0052	.7708	72
	29/32	.7812	65	.0052	.7864	61
7/8-14	51/64	.7969	84	.0052	.8021	79
	13/16	.8125	67	.0052	.8177	62
1"-8	55/64	.8594	87	.0059	.8653	83
	3/8	.8750	77	.0059	.8809	73
	55/64	.8906	67	.0059	.8965	64
1"-12	23/32	.9063	87	.0060	.9122	81
	49/64	.9219	72	.0060	.9279	67
1"-14	59/64	.9219	84	.0060	.9279	78
	15/16	.9375	67	.0060	.9435	61
1 1/8-7	31/32	.9688	84	.0062	.9750	81
	63/64	.9844	76	.0067	.9911	72
	1"	1.0000	67	.0070	1.0070	64
1 1/8-12	1 1/32	1.0313	87	.0071	1.0384	80
	1 3/64	1.0469	72	.0072	1.0541	66
1 1/4-7	1 3/32	1.0938	84			
	1 7/64	1.1094	76			
	1 1/8	1.1250	67			
1 1/4-12	1 5/32	1.1563	87			
	1 11/64	1.1719	72			
1 3/8-6	1 3/16	1.1875	87			
	1 13/64	1.2031	79			
	1 7/32	1.2188	72			
	1 15/64	1.2344	65			
1 3/8-12	1 9/32	1.2813	87			
	1 19/64	1.2969	72			
1 1/2-6	1 1/16	1.3125	87			
	1 21/64	1.3281	79			
	1 11/32	1.3438	72			
	1 27/64	1.3594	65			
1 1/2-12	1 13/32	1.4063	87			
	1 27/64	1.4219	72			

Reaming Recommended

Metric Cutting Taps

Metric Tap Size	Basic Major Dia. (Ins.)	Tap Drill Size	Decimal Equiv. of Tap Drill (Ins.)	Theoretical Percent of Thread	Probable Mean Over-Size (Ins.)	Probable Hole Size (Ins.)	Probable Percent of Thread
M1.6 x 0.35	.0630	1.25 mm	.0492	77	.0015	.0507	69
M1.8 x 0.35	.0709	1.45 mm	.0571	77	.0015	.0586	69
M2 x 0.4	.0787	1/16" 1.60 mm #52	.0625 .0630 .0635	79 77 74	.0015 .0017 .0017	.0640 .0647 .0652	72 69 66
M2.2 x 0.45	.0866	1.75 mm	.0689	77	.0017	.0706	70
M2.5 x 0.45	.0984	2.05 mm #46 #45	.0807 .0810 .0820	77 76 71	.0019 .0019 .0019	.0826 .0829 .0839	69 67 63
M3 x 0.5	.1181	#40 2.5 mm #39	.0980 .0984 .0995	79 77 73	.0023 .0023 .0023	.1003 .1007 .1018	70 68 64
M3.5 x 0.6	.1378	#33 2.9 mm #32	.1130 .1142 .1160	81 77 71	.0026 .0026 .0026	.1156 .1168 .1186	72 68 63
M4 x 0.7	.1575	*3.25 mm #30 3.3 mm	.1280 .1285 .1299	82 81 77	.0029 .0029 .0029	.1309 .1314 .1328	74 73 69
M4.5 x 0.75	.1772	3.7 mm #26 *3.75 mm #25	.1457 .1470 .1476 .1495	82 79 77 72	.0032 .0032 .0032 .0032	.1489 .1502 .1508 .1527	74 70 69 64
M5 x 0.8	.1968	4.2 mm #19	.1654 .1660	77 75	.0032 .0032	.1686 .1692	69 68
M6 x 1	.2362	#10 #9 5 mm #8	.1935 .1960 .1968 .1990	84 79 77 73	.0038 .0038 .0038 .0038	.1973 .1998 .2006 .2028	76 71 70 65
M7 x 1	.2756	"A" 1 1/64" 6 mm "B"	.2340 .2344 .2362 .2380	81 81 77 74	.0038 .0038 .0038 .0038	.2378 .2382 .2400 .2418	74 73 70 66
M8 x 1.25	.3150	6.7 mm 1 7/64" *6.75 mm "H" 6.8 mm	.2638 .2656 .2657 .2660 .2677	80 77 77 77 74	.0041 .0041 .0041 .0041 .0041	.2679 .2697 .2698 .2701 .2718	74 71 71 70 68
M8 x 1	.3150	7 mm "J"	.2756 .2770	77 74	.0041 .0041	.2797 .2811	69 66
M10 x 1.5	.3937	8.4 mm "Q" 8.5 mm	.3307 .3320 .3346	82 80 77	.0044 .0044 .0044	.3351 .3364 .3390	76 75 71
M10 x 1.25	.3937	8.7 mm 1 1/32" *8.75 mm	.3425 .3438 .3445	80 78 77	.0046 .0046 .0046	.3471 .3483 .3491	73 71 70
M12 x 1.75	.4724	10.2 mm "Y" 1 1/32"	.4016 .4040 .4062	79 76 74	.0047 .0047 .0047	.4063 .4087 .4109	74 71 69

Metric Tap Size	Basic Major Dia. (Ins.)	Tap Drill Size	Decimal Equiv. of Tap Drill (Ins.)	Theoretical Percent of Thread	Probable Mean Over-Size (Ins.)	Probable Hole Size (Ins.)	Probable Percent of Thread
M12 x 1.25	.4724	2 1/64" 10.8 mm	.4219 .4252	79 74	.0047 .0047	.4266 .4299	72 66
M14 x 2	.5512	1 1/32" 12 mm	.4688 .4724	81 77	.0048 .0048	.4736 .4772	76 72
M14 x 1.5	.5512	12.5 mm	.4921	77	.0048	.4969	71
M16 x 2	.6299	3 5/64" 14 mm	.5469 .5512	81 77	.0049 .0049	.5518 .5561	76 72
M16 x 1.5	.6299	14.5 mm	.5709	77	.0049	.5758	71
M18 x 2.5	.7087	3 9/64" 15.5 mm	.6094 .6102	78 77	.0050 .0050	.6144 .6152	74 73
M18 x 1.5	.7087	4 1/64" 16.5 mm 2 1/32"	.6406 .6496 .6562	89 77 68	.0050 .0050 .0050	.6456 .6546 .6612	82 70 62
M20 x 2.5	.7874	1 1/16" 17.5 mm	.6875 .6890	78 77	.0050 .0052	.6925 .6942	74 73
M20 x 1.5	.7874	18.5 mm	.7283	77	.0052	.7335	70
M22 x 2.5	.8661	4 9/64" 19.5 mm	.7656 .7677	79 77	.0052 .0052	.7708 .7729	75 73
M22 x 1.5	.8661	20.5 mm	.8071	77	.0052	.8123	70
M24 x 3	.9449	21 mm 5 3/64"	.8268 .8281	77 76	.0059 .0059	.8327 .8340	73 72
M24 x 2	.9449	22 mm	.8661	77	.0059	.8720	71
M27 x 3	1.0630	1 5/16" 24 mm	.9375 .9449	82 77	.0060 .0062	.9435 .9511	78 73
M27 x 2	1.0630	25 mm 6 3/64"	.9843 .9844	77 77	.0070 .0070	.9913 .9914	70 70
M30 x 3.5	1.1811	26.5 mm 1 3/4"	1.0433 1.0469	77 75			
M30 x 2	1.1811	28 mm 1 7/64"	1.1024 1.1094	77 70			
M33 x 3.5	1.2992	1 1/32" 29.5 mm 1 1/4"	1.1562 1.1614 1.1719	80 77 71			
M33 x 2	1.2992	1 1/32" 31 mm	1.2188 1.2205	79 77			
M36 x 4	1.4173	1 1/4" 32 mm	1.2500 1.2598	82 77			
M36 x 3	1.4173	1 9/64" 33 mm	1.2969 1.2992	78 77			
M39 x 4	1.5354	1 3/8" 35 mm	1.3750 1.3780	78 77			
M39 x 3	1.5354	36 mm 1 3/4"	1.4173 1.4219	77 74			

REAMING RECOMMENDED

Note: Sizes with an asterisk (*) are not standard drills.

METRIC THREAD FORMULAE

$$\text{Basic major dia. (mm)} - \frac{\% \text{ thread} \times \text{mm pitch}}{76.980} = \text{Drilled hole size (mm)}$$

$$\frac{76.980}{\text{mm pitch}} \times [\text{Basic major dia. (mm)} - \text{Drilled hole size (mm)}] = \% \text{ of thread}$$

Taps

Problems encountered in tapping are often the fault of the tapping machine, tap holding devices and conditions of the hole to be tapped. The tapping machine should be checked for spindle, fixture and work alignment; for slipping belts, wear and power. The tap holding device should be checked as to correct type, for wear and alignment with the hole. The drilled hole should be checked for diameter and trueness in round and axis to assure correct percentage of thread engagement. Blind holes must have sufficient chip room at the bottom.

General Suggestions

1. If holes are undersize or oversize check against the setup instructions. Check the tap for correct pitch diameter limit for desired class of thread, and the drill for correct size.
2. If the tap is producing rough thread it generally means that the tap is pushing or tearing the metal instead of cutting it. The tap may be dull, have galled threads or may be running at too slow a speed. If none of these, increase the hook angle of the cutting face.
3. If the tap is loading (metal clinging to the tap) or galling, check the lubrication. Here, too, the tap may be dull, or it may be producing too high a percentage of thread. Shift to a surface-treated tap.
4. If tap breakage is encountered the tap may be cutting too high a percentage of thread, be insufficiently lubricated or have too little clearance for chips at the bottom of the blind hole. If none of these conditions exist, increase the speed, except in hard or tough materials. In these materials, lower the speed.

Trouble	Cause
Tap Breakage	<ol style="list-style-type: none"> 1. Wrong type of tap. 2. Dull tap. 3. Tap incorrectly ground. 4. Tap drill too small. 5. Drilled hole too shallow. 6. Misalignment of tap and hole. 7. Wrong machine. 8. Incorrect fixture or holding device. 9. Work hardened material/ 10. Lack of lubricant, or use of wrong type.
Tap Failure on Reversal	<ol style="list-style-type: none"> 1. Tap cutting too tightly. Cutting face angle should be increased. 2. Tap galling. Face angle on back of land should be increased. 3. Chips wedged between flutes. (See the following)
Chips Clogging Flutes	<ol style="list-style-type: none"> 1. Wrong type of tap. 2. Insufficient chamfer. 3. Incorrect cutting face angle. 4. Rough Flutes. 5. Flutes improperly reground. 6. Lack of lubrication, or use of wrong type.
Stripped or Chipped Tap Threads	<ol style="list-style-type: none"> 1. Misalignment. 2. Careless handling. 3. Dull Tap 4. Tap too hard. 5. Wrong application of surface treated taps. 6. Improper sharpening of tap.
Torn Threads in Tapped Part	<ol style="list-style-type: none"> 1. Incorrect cutting face angle (usually too small). 2. Tap drill too small. 3. Chips clogging flutes. 4. Broken threads on taps. 5. Improper resharpening of tap. 6. Lack of lubricant, or use of wrong type.
Tap Sticking or Binding	<ol style="list-style-type: none"> 1. Tap drill too small. 2. Tap lands too wide. 3. Incorrect cutting face angle. 4. Lack of lubricant, or use of wrong type. 5. Surface treatment (lubricant) required.
Excessive Tap Wear	<ol style="list-style-type: none"> 1. Material is abrasive, or inclusions present. Surface treated tap required. 2. Misalignment.
Cutting Face Breakdown	<ol style="list-style-type: none"> 1. Incorrect cutting face angle. 2. Surface treatment required.
Overheating of Tap	<ol style="list-style-type: none"> 1. Excessive land width. 2. Lack of lubricant, or use of wrong type. 3. Dull tap. 4. Excessive flank contact, pitch diameter relief required. 5. Excessive tapping speeds.
Poor Finish on Thread in Tapped Part	<ol style="list-style-type: none"> 1. Pitch diameter relief required. 2. Incorrect cutting face angle, usually too small. 3. Tap drill too small. 4. Insufficient number of chamfered threads. 5. Dull tap. 6. Lack of lubricant, or use of wrong type.
Excessive Frictional Drag and Power Requirement	<ol style="list-style-type: none"> 1. Pitch diameter relief required. 2. Point size on tap too small. 3. Dull tap. 4. Incorrect cutting face angle. 5. Incorrect tapping speed. 6. Lack of lubricant, or use of wrong type. 7. Incorrect or inadequate equipment. 8. Misalignment.

Tap Limits, Product Limits

CLASS OF THREAD

We sometimes receive requests for a Class 3B (or other class) tap. Many times the customer will ask for a tap to produce a "Class 3B Fit". Ordering taps by these specifications is incorrect and often impractical. The following information is presented to clarify the difference between the terms Class of Thread, Tap Limits and Product Limits to make ordering taps easier and aid the customer in obtaining the tap best suited for their requirements.

Class of Thread

Class of Thread refers simply to the tolerances that control the closeness of fit between two threaded mating parts. This term should be used only in reference to a threaded assembly, as, for example, a screw and nut.

Product Limits

Product Limits refer to the limits and tolerances of the internal or female thread. The degree of tolerance is expressed by the terms Class 2, 2B, 3 and 3B. Product limits refer to the various limits and tolerances applying to nuts or internal threads and are identified by the terms Class 2, 2B, 3 or 3B.

Tap Limits

Tap Limits refer to the various sizes of taps manufactured to permit selection of a tap which will produce an internal thread within the desired product limit. Tap limits are designated as L-1, H-1, H-2, H-3, etc.

In the chart on this page we have illustrated the difference between tap and product limit, using a 1/4-20 tapped hole as the example.

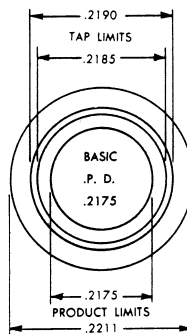
Although ground thread taps are produced to precision tolerances under closely controlled manufacturing processes and are guaranteed for accuracy of individual elements, there is always the possibility of the presence of unknown factors which can be detrimental to good tap performance. The tap manufacturer, therefore, is not able to guarantee the size of the tapped hole.

To summarize, the following points should be remembered:

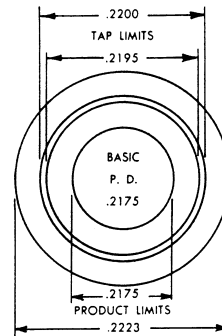
1. A tap cannot produce a Class of Thread. It can produce a tapped hole within specific product limits.
2. Since it is used only in tapping a hole, or producing an internal thread, a tap has no control over the fitting properties of the mating external thread.
3. To product what is commonly referred to as a "Class of Thread," both the external and internal threads must be within their respective product limits. Only when both members of a threaded assembly fall within the desired class limits can the proper fit be assured.
4. The acceptability of any class of threaded hole is determined only by an accurate "Go" or "Hi" thread plug gage of the corresponding class. Similarly, the acceptability of a male part with an external thread is also determined by a corresponding "Go" or "Lo" thread ring gage.
5. When ordering taps, specify either the tap limit or the class of thread that identifies the limit of the tapped hole.
6. In special applications, supply as much information as possible. The more information our engineers have to work with, the better they can recommend a tap to do the job properly with least expense.
7. Remember, it is not always the most expensive tap which will do the job best. Our files contain many examples of special jobs which were solved with inexpensive standard taps.

1/4 - 20 Tapped Hole

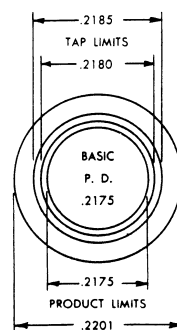
Class 2 Limit GH-3 Tap



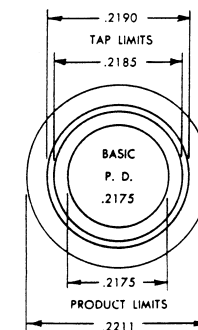
Class 2B Limit GH-5 Tap



Class 3 Limit GH-2 Tap



Class 3B Limit GH-3 Tap



Thread Constants for Various Percentages

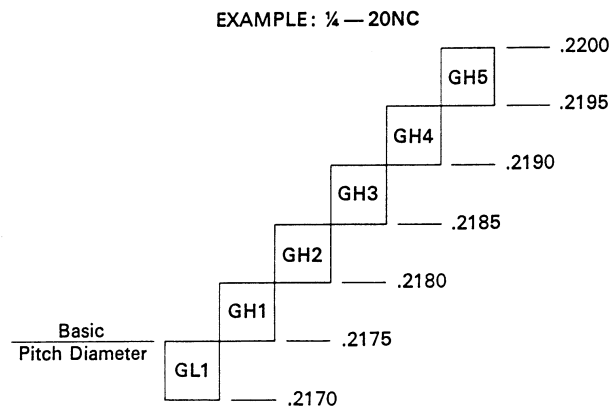
TAPS

EXAMPLE: To find the hole size for obtaining 75% of thread in a ¼-20 tapped hole, follow first column to 20 threads, then across to 75% of thread. This figure (.0485) when subtracted from the .250 diameter leaves .2015, which is the required diameter of the hole for a ¼-20 thread.

Relation of Tap Pitch Diameter to Basic Pitch Diameter

Relation of Tap Pitch Diameter To Basic Pitch Diameter

American tap manufacturers use a series of tap pitch diameter limits. These limits feature a .0005" tolerance in tap sizes #0 through 1", and a .001" or greater tolerance in tap sizes above 1" through 1½" diameter, inclusive. The chart shows the relationship between tap pitch diameter limits and basic (nominal) pitch diameter.



FORMULA FOR OBTAINING TAP DRILL SIZES

(Select nearest commercial stock drill)

$$\left(\begin{array}{c} \text{Outside Diam.} \\ \text{of Thread} \end{array} \right) - \left(\frac{.01299 \times \text{Amount of percentage of full thread}}{\text{Number of threads per inch}} \right) = \text{Drilled Hole Size}$$

$$\left(\begin{array}{c} \text{No. of Threads} \\ \text{per inch} \end{array} \right) \times \left(\frac{\text{Outside Diam. of thread} - \text{Selected Drill Diam.}}{.01299} \right) = \text{Percentage of Full Thread}$$

Figures in table show amount to subtract from O.D. of screw to obtain specific percentages of thread.

Threads per Inch	Double Depth	60% Thread	65% Thread	70% Thread	75% Thread	80% Thread	85% Thread
6	.21651	.1300	.1408	.1517	.1625	.1733	.1842
7	.18558	.1114	.1207	.1300	.1393	.1486	.1579
8	.16238	.0975	.1056	.1138	.1219	.1300	.1381
9	.14434	.0866	.0939	.1011	.1083	.1156	.1228
10	.12990	.0779	.0844	.0909	.0974	.1039	.1105
11	.11809	.0708	.0767	.0826	.0885	.0944	.1005
12	.10825	.0649	.0702	.0755	.0808	.0861	.0921
13	.09992	.0599	.0649	.0699	.0749	.0799	.0850
14	.09278	.0556	.0602	.0648	.0694	.0740	.0789
16	.08119	.0486	.0526	.0566	.0606	.0646	.0691
18	.07217	.0431	.0466	.0501	.0536	.0571	.0614
20	.06495	.0389	.0421	.0453	.0485	.0517	.0553
24	.05412	.0326	.0354	.0382	.0410	.0438	.0460
27	.04811	.0288	.0312	.0336	.0360	.0384	.0409
28	.04639	.0276	.0298	.0324	.0347	.0370	.0395
30	.04330	.0260	.0282	.0304	.0326	.0348	.0368
32	.04059	.0243	.0263	.0283	.0303	.0323	.0345
36	.03608	.0216	.0234	.0252	.0270	.0288	.0307
40	.03247	.0194	.0210	.0226	.0242	.0258	.0276
44	.02952	.0177	.0192	.0207	.0222	.0237	.0251
48	.02706	.0161	.0174	.0187	.0200	.0213	.0230
56	.02319	.0138	.0149	.0160	.0171	.0182	.0197
64	.02029	.0121	.0131	.0141	.0151	.0161	.0173
72	.01804	.0107	.0115	.0123	.0131	.0139	.0153
80	.01623	.0097	.0105	.0113	.0121	.0129	.0138

SA Style

Cylinder Shape - No End Cut 85

SB Style

Cylinder Shape - with End Cut 85

SC Style

Cylinder Shape - Radius End 86

SD Style

Ball Shape 86

SE Style

Oval / Egg Shape 87

SF Style

Tree Shape Radius 87

SG Style

Pointed Tree Shape 88

SH Style

Flame Shape 88

SJ Style

60° Cone Shape 88

SK Style

90° Cone Shape 88

SL Style

Taper Shape Radius -
14° Included Angle 88

SM Style

Pointed Cone Shape 89

SN Style

Inverted Cone Shape 89

Premium Carbide Burrs Sets

Double Cut Sets

Set A - 9 pcs 89

Set B - 9 pcs 89

Set C - 9 pcs 89

Set D - 9 pcs 89

Set E - 8 pcs 89

Set F - 8 pcs 89

Double Cut Display

48 pcs.

Double Cut- 1/8 Shank 89

Double Cut- 1/4 Shank 89

Aluma Cut- 1/4 Shank 89

24 pcs.

Double Cut- 1/4 Shank 89

QUICK INDEX - Premium Carbide Burrs

Double Cut

The most popular burr for ferrous applications.



The flutes are ground in both the left and right hand directions, offering better operator control and rapid stock removal in harder materials.

The double cut geometry reduces the size of the chips and can be used at slower than normal speeds.

Aluma Cut

Designed for used on aluminum, non-ferrous metals, soft steel, reinforced plastics and other soft materials.



The burrs are designed with a high flute finish for easy chip flow and fast stock removal and excellent work piece finishes.

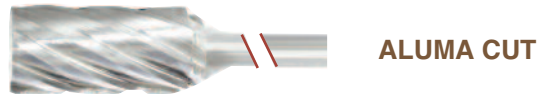
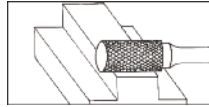
MATERIALS	Aluma Cut	Double Cut
Aluminum	✓	
Brass		✓
Bronze		✓
Copper		✓
Cast Iron		✓
Plastics	✓	
Steel (40-50 RC)		✓
Steel (55-60 RC)		✓
Steel (Carbon)		✓
Steel (Nickel Chrome)		✓
Stainless Steel		✓
Steel Weldments		✓
Titanium		✓
Zinc	✓	

Recommended RPM

Diameter	Standard Materials	Stainless Steel	Diameter	Standard Materials	Stainless Steel
1/16	72500	97500	5/16	28000	28000
3/32	65500	89000	3/8	25000	25000
1/8	56000	76000	7/16	22000	22000
5/32	46000	70000	1/2	18800	18800
3/16	40000	65500	5/8	17000	17000
1/4	35000	61000	3/4	14900	14900
			1"	12600	12600

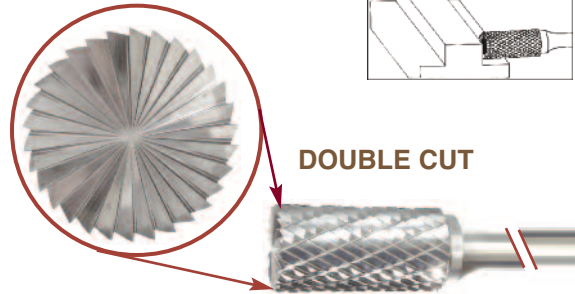
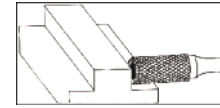
SA CYLINDER SHAPE - NO END CUT

Application: Deburring



SB CYLINDER SHAPE - WITH END CUT

Application: Peripheral Milling & Face Milling



SA - CYLINDER SHAPE - NO END CUT - DOUBLE CUT

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17079	SA-41	1/16	1/4	1/8	1
17089	SA-42	3/32	7/16	1/8	1
17099	SA-43	1/8	9/16	1/8	1
17109	SA-11	1/8	1/2	1/4	1
17119	SA-12	1/8	5/8	1/4	1
17129	SA-52	5/32	1/2	1/8	1
17139	SA-13	5/32	5/8	1/4	1
17149	SA-14	3/16	5/8	1/4	1
17159	SA-51	1/4	1/2	1/8	1
17169	SA-1	1/4	5/8	1/4	1
17179	SA-1L	1/4	1	1/4	1
17209	SA-2	5/16	3/4	1/4	1
17219	SA-3	3/8	3/4	1/4	1
17229	SA-3L	3/8	1	1/4	1
17249	SA-3X	3/8	1-1/2	1/4	1
17269	SA-4	7/16	1	1/4	1
17279	SA-5	1/2	1	1/4	1
17309	SA-6	5/8	1	1/4	1
17329	SA-15	3/4	1/2	1/4	1
17339	SA-16	3/4	3/4	1/4	1
17349	SA-7	3/4	1	1/4	1
17369	SA-8	7/8	1	1/4	1
17379	SA-9	1	1	1/4	1

SA - CYLINDER SHAPE - NO END CUT - ALUMA

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17199	SA-1NF	1/4	5/8	1/4	1
17259	SA-3NF	3/8	3/4	1/4	1
17299	SA-5NF	1/2	1	1/4	1
17319	SA-6NF	5/8	1	1/4	1
17359	SA-7NF	3/4	1	1/4	1

SA - CYLINDER SHAPE - NO END CUT 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17189	SA-1L6	1/4	5/8	1/4	1
17239	SA-3L6	3/8	3/4	1/4	1
17289	SA-5L6	1/2	1	1/4	1

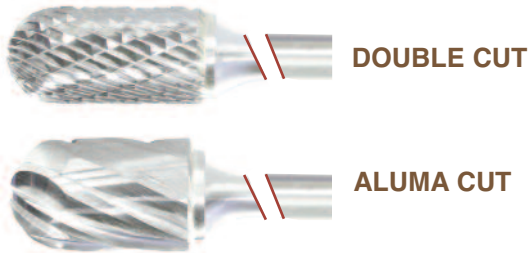
SB - CYLINDER SHAPE - WITH END CUT - DOUBLE CUT

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17409	SB-41	1/16	1/4	1/8	1
17419	SB-42	3/32	7/16	1/8	1
17429	SB-43	1/8	9/16	1/8	1
17439	SB-11	1/8	1/2	1/4	1
17449	SB-12	1/8	5/8	1/4	1
17459	SB-13	5/32	5/8	1/4	1
17469	SB-14	3/16	5/8	1/4	1
17479	SB-51	1/4	3/16	1/8	1
17489	SB-1	1/4	5/8	1/4	1
17499	SB-1L	1/4	1	1/4	1
17509	SB-2	5/16	3/4	1/4	1
17519	SB-3	3/8	3/4	1/4	1
17529	SB-3L	3/8	1-1/2	1/4	1
17539	SB-3X	3/8	1	1/4	1
17549	SB-4	7/16	1	1/4	1
17559	SB-5	1/2	1	1/4	1
17569	SB-6	5/8	1	1/4	1
17579	SB-15	3/4	1/2	1/4	1
17589	SB-16	3/4	3/4	1/4	1
17599	SB-7	3/4	1	1/4	1
17619	SB-8	7/8	1	1/4	1
17629	SB-9	1	1	1/4	1

SA / SB - Cylinder Shape - with End Cut & No End Cut

SC CYLINDER SHAPE - RADIUS END

Application: Surface Milling & Contouring



SC - CYLINDER SHAPE - RADIUS END - DOUBLE CUT

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17659	SC-41	3/32	7/16	1/8	1
17669	SC-42	1/8	9/16	1/8	1
17679	SC-11	1/8	1/2	1/4	1
17689	SC-12	1/8	5/8	1/4	1
17699	SC-52	5/32	1/2	1/8	1
17709	SC-13	5/32	5/8	1/4	1
17719	SC-53	3/16	1/2	1/8	1
17729	SC-14	3/16	5/8	1/4	1
17739	SC-51	1/4	1/2	1/8	1
17749	SC-1	1/4	5/8	1/4	1
17759	SC-1L	1/4	1	1/4	1
17789	SC-2	5/16	3/4	1/4	1
17799	SC-3	3/8	3/4	1/4	1
17809	SC-3L	3/8	1	1/4	1
17829	SC-3X	3/8	1-1/2	1/4	1
17849	SC-4	7/16	1	1/4	1
17859	SC-5	1/2	1	1/4	1
17889	SC-6	5/8	1	1/4	1
17909	SC-15	3/4	1/2	1/4	1
17919	SC-16	3/4	3/4	1/4	1
17929	SC-7	3/4	1	1/4	1
17949	SC-9	1	1	1/4	1

SC - CYLINDER SHAPE - RADIUS END - ALUMA

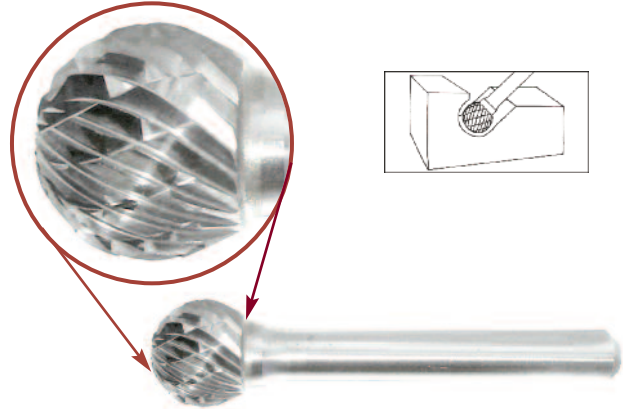
Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17779	SC-1NF	1/4	5/8	1/4	1
17839	SC-3NF	3/8	3/4	1/4	1
17879	SC-5NF	1/2	1	1/4	1
17899	SC-6NF	5/8	1	1/4	1
17939	SC-7NF	3/4	1	1/4	1

SC-CYLINDER SHAPE - RADIUS END - 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17769	SC-1L6	1/4	1	1/4	1
17819	SC-3L6	3/8	1	1/4	1
17869	SC-5L6	1/2	1	1/4	1

SD - BALL SHAPE

Application: Contouring, Hole deburring, Build-up Welding preparation



SD - BALL SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
17979	SD-41	3/32	3/32	1/8	1
17989	SD-42	1/8	1/8	1/8	1
17999	SD-11	1/8	1/8	1/4	1
18019	SD-53	3/16	3/16	1/8	1
18029	SD-14	3/16	3/16	1/4	1
18039	SD-51	1/4	1/4	1/8	1
18049	SD-1	1/4	1/4	1/4	1
18079	SD-2	5/16	5/16	1/4	1
18089	SD-3	3/8	3/8	1/4	1
18119	SD-4	7/16	7/16	1/4	1
18129	SD-5	1/2	1/2	1/4	1
18159	SD-6	5/8	5/8	1/4	1
18179	SD-7	3/4	3/4	1/4	1
18199	SD-9	1	1	1/4	1

SD - BALL SHAPE - ALUMA

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18069	SD-1NF	1/4	1/4	1/4	1
18109	SD-3NF	3/8	3/8	1/4	1
18149	SD-5NF	1/2	1/2	1/4	1
18169	SD-6NF	5/8	5/8	1/4	1
18189	SD-7NF	3/4	3/4	1/4	1

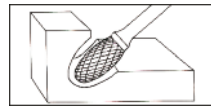
SD - BALL SHAPE - 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18059	SD-1L6	1/4	7/32	1/4	1
18099	SD-3L6	3/8	5/16	1/4	1
18139	SD-5L6	1/2	7/16	1/4	1

SC - Cylinder Shape - Radius End / SD - Ball Shape

SE - OVAL / EGG SHAPE

Application: Contouring



DOUBLE CUT



ALUMA CUT

SE - OVAL/EGG SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18239	SE-41	1/8	7/32	1/8	1
18249	SE-53	3/16	9/32	1/8	1
18259	SE-11	3/16	5/16	1/4	1
18269	SE-51	1/4	3/8	1/8	1
18279	SE-1	1/4	3/8	1/4	1
18299	SE-3	3/8	5/8	1/4	1
18329	SE-5	1/2	7/8	1/4	1
18359	SE-6	5/8	1	1/4	1
18379	SE-7	3/4	1	1/4	1

SE - OVAL/EGG SHAPE - ALUMA

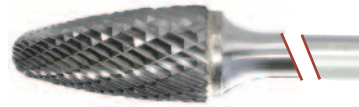
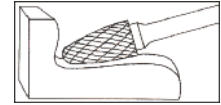
Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18319	SE-3NF	3/8	5/8	1/4	1
18349	SE-5NF	1/2	7/8	1/4	1
18369	SE-6NF	5/8	1	1/4	1
18389	SE-7NF	3/4	1	1/4	1

SE - OVAL/EGG 6" EXTENDED SHANK LENGTH

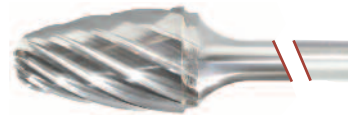
Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18289	SE-1L6	1/4	3/8	1/4	1
18309	SE-3L6	3/8	19/32	1/4	1
18339	SE-5L6	5/8	7/8	1/4	1

SF - TREE SHAPE RADIUS

Application: Narrow Contours



DOUBLE CUT



ALUMA CUT

SF - TREE SHAPE RADIUS

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18429	SF-41	1/8	1/4	1/8	1
18439	SF-42	1/8	1/2	1/8	1
18449	SF-11	1/8	1/2	1/4	1
18459	SF-53	3/16	1/2	1/8	1
18469	SF-51	1/4	1/2	1/8	1
18479	SF-1	1/4	5/8	1/4	1
18509	SF-3	3/8	3/4	1/4	1
18539	SF-4	7/16	1	1/4	1
18549	SF-13	1/2	3/4	1/4	1
18559	SF-5	1/2	1	1/4	1
18589	SF-6	5/8	1	1/4	1
18609	SF-7	3/4	1	1/4	1
18629	SF-14	3/4	1-1/4	1/4	1
18649	SF-15	3/4	1-1/2	1/4	1

SF - TREE SHAPE RADIUS - ALUMA

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18499	SF-1NF	1/4	5/8	1/4	1
18529	SF-3NF	3/8	3/4	1/4	1
18579	SF-5NF	1/2	1	1/4	1
18599	SF-6NF	5/8	1	1/4	1
18619	SF-7NF	3/4	1	1/4	1
18639	SF-14NF	3/4	1-1/4	1/4	1

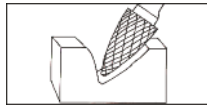
SF - TREE SHAPE RADIUS 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18489	SF-1L6	1/4	5/8	1/4	1
18519	SF-3L6	3/8	3/4	1/4	1
18569	SF-5L6	1/2	1	1/4	1

SE - Oval/Egg Shape / SF - Tree Shape

SG - POINTED TREE SHAPE

Application: Milling, Acute Angle, Narrow Contouring



DOUBLE CUT

SG - POINTED TREE SHAPE

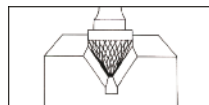
Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18679	SG-41	1/8	1/4	1/8	1
18689	SG-42	1/8	5/16	1/8	1
18699	SG-43	1/8	3/8	1/8	1
18709	SG-44	1/8	1/2	1/8	1
18719	SG-53	3/16	1/2	1/8	1
18729	SG-51	1/4	1/2	1/8	1
18739	SG-1	1/4	5/8	1/4	1
18759	SG-2	5/16	3/4	1/4	1
18769	SG-3	3/8	3/4	1/4	1
18789	SG-13	1/2	3/4	1/4	1
18799	SG-5	1/2	1	1/4	1
18819	SG-6	5/8	1	1/4	1
18829	SG-7	3/4	1	1/4	1
18839	SG-15	3/4	1-1/2	1/4	1

SG - POINTED TREE SHAPE 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18749	SG-1L6	1/4	5/8	1/4	1
18779	SG-3L6	3/8	3/4	1/4	1
18809	SG-5L6	1/2	1	1/4	1

SJ - 60° CONE SHAPE

Application: Acute Angle Matching



DOUBLE CUT

SJ - 60° CONE SHAPE

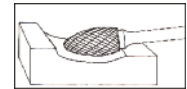
Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18979	SJ-42	1/8	3/32	1/8	1
18989	SJ-1	1/4	3/16	1/4	1
18999	SJ-3	3/8	5/16	1/4	1
19009	SJ-5	1/2	7/16	1/4	1
19019	SJ-6	5/8	9/16	1/4	1
19029	SJ-7	3/4	11/16	1/4	1
19039	SJ-9	1	15/16	1/4	1

SH - FLAME SHAPE

Contouring & Milling



DOUBLE CUT



SH - FLAME SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18869	SH-41	1/8	1/4	1/8	1
18879	SH-53	3/16	3/8	1/8	1
18889	SH-1	1/4	5/8	1/4	1
18899	SH-2	5/16	3/4	1/4	1
18919	SH-5	1/2	1-1/4	1/4	1
18939	SH-6	5/8	1-7/16	1/4	1
18949	SH-7	3/4	1-5/8	1/4	1

SH - FLAME SHAPE 6" EXTENDED SHANK LENGTH

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
18909	SH-2L6	5/16	3/4	1/4	1
18929	SF-5L6	1/2	1-1/4	1/4	1

SK - 90° CONE SHAPE

Application: Acute Angle Machining Chamfering, Countersinking



DOUBLE CUT



SK - 90° CONE SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
19069	SK-42	1/8	1/16	1/8	1
19079	SK-1	1/4	1/8	1/4	1
19089	SK-3	3/8	3/16	1/4	1
19099	SK-5	1/2	1/4	1/4	1
19109	SK-6	5/8	5/16	1/4	1
19119	SK-7	3/4	3/8	1/4	1
19129	SK-9	1	1/2	1/4	1

SL - TAPER SHAPE RADIUS - 14° INCLUDED ANGLE

Application: Surface Machining, Narrow Contours and Surfaces



DOUBLE CUT



SL - TAPER SHAPE RADIUS 14° INCLUDED ANGLE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Qty.
19159	SL-41	1/8	3/8	1/8	1
19169	SL-42	1/8	1/2	1/8	1
19179	SL-53	3/16	1/2	1/8	1
19189	SL-1	1/4	5/8	1/4	1
19209	SL-2	5/16	7/8	1/4	1
19219	SL-3	3/8	1-1/16	1/4	1
19249	SL-4	1/2	1-1/8	1/4	1
19279	SL-5	5/8	1-3/16	1/4	1
19299	SL-6	5/8	1-5/16	1/4	1
19329	SL-7	3/4	1-1/2	1/4	1

SL - TAPER SHAPE RADIUS 14° INCLUDED ANGLE - ALUMA CUT

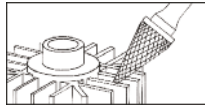
19239	SL-3NF	3/8	1-1/16	1/4	1
19269	SL-4NF	1/2	1-1/8	1/4	1
19289	SL-5NF	5/8	1-3/16	1/4	1
19309	SL-6NF	5/8	1-5/16	1/4	1
19329	SL-7NF	3/4	1-1/2	1/4	1

SL - TAPER SHAPE RADIUS 14° INCLUDED ANGLE - EXTRA LENGTH

19199	SL-1L6	1/4	5/8	1/4	1
19229	SL-3L6	3/8	1-1/16	1/4	1
19256	SL-4L6	1/2	1-1/8	1/4	1

SM - POINTED CONE SHAPE

Application: Surface Machining, Narrow Contours



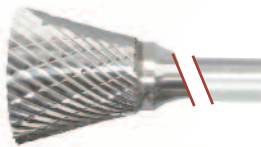
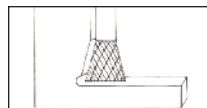
DOUBLE CUT

SM - POINTED CONE SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Included Angle	Qty.
19359	SM-41	1/8	11/32	1/8	12°	1
19369	SM-42	1/8	7/16	1/8	14°	1
19379	SM-43	1/8	5/8	1/8	7°	1
19389	SM-53	3/16	1/2	1/8	16°	1
19399	SM-51	1/4	1/2	1/8	22°	1
19409	SM-1	1/4	1/2	1/4	22°	1
19419	SM-2	1/4	3/4	1/4	14°	1
19429	SM-3	1/4	1	1/4	10°	1
19439	SM-4	3/8	5/8	1/4	28°	1
19449	SM-5	1/2	7/8	1/4	28°	1
19459	SM-6	5/8	1	1/4	31°	1

SN - INVERTED CONE SHAPE

Application: Edge Milling, Rear Machining on difficult to reach areas



DOUBLE CUT

SN - INVERTED CONE SHAPE

Product #	Size	Cut Diameter	Length of Cut	Shank Diameter	Included Angle	Qty.
19489	SN-41	3/32	1/8	1/8	10°	1
19499	SN-42	1/8	3/16	1/8	10°	1
19509	SN-53	3/16	1/4	1/8	10°	1
19519	SN-51	1/4	1/4	1/8	10°	1
19529	SN-1	1/4	5/16	1/4	10°	1
19539	SN-2	3/8	3/8	1/4	13°	1
19549	SN-4	1/2	1/2	1/4	28°	1
19559	SN-6	5/8	3/4	1/4	18°	1
19569	SN-7	3/4	5/8	1/4	30°	1

PREMIUM CARBIDE DOUBLE CUT BURR SETS

Burrs Set A - 9 pcs. Part #19669
SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51, SN-51

Burrs Set B - 9 pcs. Part #19649
SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SF-1, SF-3, SF-5

Burrs Set C - 9 pcs. Part #19639
SB-1, SB-3, SB-5, SD-1, SD-3, SD-5, SE-1, SE-3, SE-5

Burrs Set D - 9 pcs. Part #19629
SB-1, SB-3, SB-5, SC-1, SC-3, SC-5SF-1, SF-3, SF-5

Burrs Set E - 8 pcs. Part #19619
SA-5, SC-5, SD-5, SE-5, SG-5, SH-5, SK-5, SM-5

Burrs Set F - 8 pcs. Part #19609
SB-5, SC-5, SD-5, SF-5, SG-5, SH-5, SJ-5, SK-5

PREMIUM CARBIDE DOUBLE & ALUMA CUT BURR DISPLAYS



11 1/2 x 6 1/2 (H) x 12 (W)

Burrs Display - 48 pcs . . Part #19689

Double Cut: (1/8 SHANK)
SA-51DC, SB-5DC, SC-51DC, SD-51DC, SE-51DC, SF-51DC, SG-51DC, SM-51DC, SN-51DC

Double Cut: (1/4 SHANK)
SA-1DC, SA-3DC, SA-5DC, SC-1DC, SC-3DC, SC-5DC, SD-1DC, SD-3DC, SD-5DC, SE-1DC, SE-3DC, SE-5DC, SF-1DC, SF-3DC, SF-5DC, SG-1DC, SG-3DC, SG-5DC, SL-4DC, SL-3DC, SL-1DC, SM-5DC, SM-4DC, SM-3DC

Aluma Cut: (1/4 SHANK)
SA-1NF, SA-3NF, SA-5NF, SC-1NF, SC-3NF, SC-5NF, SD-5NF, SD-3NF, SE-5NF, SE-3NF, SF-5NF, SF-3NF, SF-1NF, SL-4NF, SL-3NF



9 x 6 1/2 (H) x 9 1/2 (W)

24 pcs. Burrs Display Part #19679

Double Cut: (1/4 SHANK)
SA-5DC, SA-3DC, SA-1DC, SC-5DC, SC-3DC, SC-1DC, SD-5DC, SD-3DC, SD-1DC, SE-5DC, SE-3DC, SE-1DC, SF-5DC, SF-3DC, SF-1DC, SG-5DC, SG-3DC, SG-1DC, SL-4DC, SL-3DC, SL-1DC, SM-5DC, SM-4DC, SM-3DC

SM- Pointed Cone Shape / SN- Inverted Cone Shape / Sets , Displays

Magnetic Base Drill & Annular Cutters

Annular Cutters

Type14 & 14L M35 Cobalt 92
 Type15 & 15L M42 Cobalt 92
 Type13SP &13LSP M2 HSS 92

Counter Display High-Speed Steel

Annular Sets 93
 Counter Displays 93

Spira-Broach™

MBD 4500 Low Profile 91
 MBD 5500 Standard - Duty 91
 MBD 6500 Heavy - Duty 91
 MBD 7000 Heavy Duty - Reverse . . 91



*Using the Latest Manufacturing and
 Design Technology to provide hole-cutting solutions*

for a Wide Range of Industries: • Construction • Steel Fabrication

- Oil & Gas • Mining • Shipyards • Offshore Oil/Gas Rigs • Structural Steelwork
- Automotive • Highway and Railroad Bridgework • Petrochemical Plants • Welding Shops
- Railroads • HVAC • Machinery Installation

SPIRA-BROACH™ MAG-BASED DRILLS

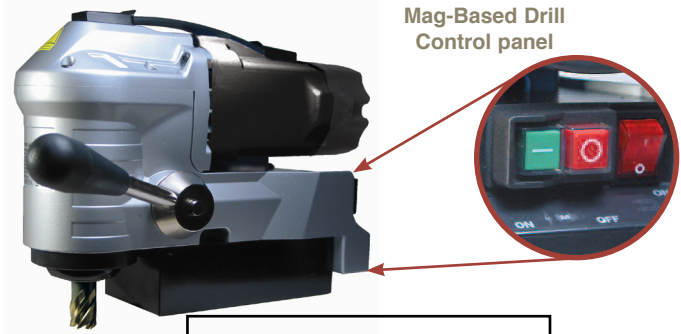
MBD 4500 - Low Profile

Spira-Broach™ MBD 4500 Magnetic-Based Drill

- Features:**
- Quick release chuck
 - Low height for confined spaces
 - LED light for improved vision in dark areas
 - Accepts standard 3/4" shank annular cutters
 - Removable handle can be used on either side
 - 1- 3/8" cutters capacity
 - Horsepower 1.5
 - RPM load 390
 - Weight 25 pounds
 - Magnetic Strength: 3,300 lbs.

Part No.	Description/ Size	Qty.
12400	MBD 4500	1

Height: 7-3/4"



Removable handle can be used on either side.

SPIRA-BROACH™ MAG-BASED DRILLS

MBD 5500

The Spira-Broach™ MBD 5500 is an extremely light, yet powerful magnetic drill featuring the **Kwik-Lok Arbor**. These attributes give the operator the ability to cut large diameter holes up to 1-3/8" with a minimum amount of effort and time.

- Features:** Integral Arbor Support For Added Rigidity
New super-safe control panel which includes:

- Visual indication of status, solid state electronics.
- Time delay magnetic release
- 1-3/8 inch broaching capacity
- Lubrication reservoir
- Ultimate in versatility at 22 lbs.
- Complete with molded carrying case
- RPM Load 390

Special Feature: Kwik-Lok Arbor

- Ability To Convert To Twist Drilling In Seconds
- Internal lubricant system

Special Features:
**KWIK-LOK
ARBOR**

Part No.	Size	Qty.
12850	MBD5500	1
12860	1/2" Drill Chuck & Key (5500-DC)	1



MBD 6500 - Heavy Duty

Spira-Broach™ MBD 6500 variable speed Magnetic based drill.

- Features:**
- Two gear ranges
 - Morse Taper allows for quick conversion to twist drilling
 - Convenient carrying case

Technical Specifications:	• Power 1.5hp • Cutter Capacity 2"
	• Morse Taper -2 • Speed Ranges - 280/ 500 rpm
	• Magnet Adhesion - 2000 lbs. • Weight - 40 lbs.
Includes:	• Integral lubrication system • Warranty
	• Allen keys • Safety strap & guard

MBD 7000 - Heavy Duty w/ Reverse

Spira-Broach™ MBD 7000 variable speed Magnetic based drill with reversible motor

- Features:**
- Reversible motor for tapping
 - Variable Speed Control
 - Morse Taper allows for quick conversion to twist drilling
 - Two gear ranges
 - Convenient carrying case
 - 2-Inch cutter capacity

Part No.	Description	Qty.
17920	MBD 6500	1
17930	MBD 7000	1
00952	Drill Chuck with #2 Morse Taper	1



SPIRA-BROACH™ ANNULAR CUTTERS

Types 13SP, Type 13LSP

M2 High-Speed Steel Cutters

- High tungsten content increases abrasion resistance resulting in a tough tool with long lasting durability

M2 excellent all purpose capability

Type 14, Types 14L

**M35 Cobalt Cutters
Gold Finish**

- Similar to M2, 6% cobalt added to increase heat resistance.

M35 Increased hardness for tough jobs

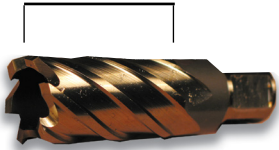
Types 15, Type 15L

**M42 Gold Finish
Super Cobalt Steel**

- Molybdenum-chromium vanadium tungsten with 8% cobalt superior red hot hardness compared to conventional high speed steel.

M42 longest tool life in the most difficult applications

1" CUT DEPTH



Type 13SP
M2, Hi-Tungsten



Type 14
M35, 6% COBALT



Type 15
M42, 8% COBALT

2" CUT DEPTH



Type 13LSP
M2, Hi-Tungsten



Type 14L
M35, 6% COBALT



Type 15L
M42, 8% COBALT

Annular Cutters - Spira-Broach™ M2 M35 & M42

Type 13SP M2 Part #	Type 14 M35 Part #	Type 15 M42 Part #	Cutter Diameter	Qty.
16311	16631	14351	7/16	1
16321	16641	14391	1/2	1
16331	16651	14431	9/16	1
16341	16661	14471	5/8"	1
16351	16671	14511	11/16	1
16361	16681	14551	3/4	1
16371	16691	14591	13/16	1
16381	16701	14631	7/8"	1
16391	16711	14671	15/16	1
16401	16721	14711	1"	1
16411	16731	14751	1-1/16	1
16421	16741	14791	1-1/8	1
16431	16751	14831	1-3/16	1
16441	16761	14871	1-1/4	1
16451	16771	14911	1-5/16	1
16461	16781	14951	1-3/8	1
16471	16791	14991	1-7/16	1
16481	16801	15031	1-1/2	1
16491	16811	15051	1-9/16	1
16501	16821	15071	1-5/8	1
16511	16831	15091	1-11/16	1
16521	16841	15111	1-3/4	1
16531	16851	15131	1-13/16	1
16541	16861	15151	1-7/8	1
16551	16871	15171	1-15/16	1
16561	16881	15191	2"	1
16571	16891	15211	2-1/16	1
16581	-----	15231	2-1/8	1
16591	-----	15251	2-3/16	1
16601	-----	15271	2-1/4	1
16611	-----	15281	2-5/16	1
16621	-----	15291	2-3/8	1

Type 13LSP M2 Part #	Type 14L M35 Part #	Type 15L M42 Part #	Cutter Diameter	Qty.
16312	16632	14352	7/16	1
16322	16642	14392	1/2"	1
16332	16652	14432	9/16	1
16342	16662	14472	5/8"	1
16352	16672	14512	11/16	1
16362	16682	14552	3/4"	1
16372	16692	14592	13/16	1
16382	16702	14632	7/8	1
16392	16712	14672	15/16	1
16402	16722	14712	1"	1
16412	16732	14752	1-1/16	1
16422	16742	14792	1-1/8	1
16432	16752	14832	1-3/16	1
16442	16762	14872	1-1/4	1
16452	16772	14912	1-5/16	1
16462	16782	14952	1-3/8	1
16472	16792	14992	1-7/16	1
16482	16802	15032	1-1/2	1
16492	16812	15052	1-9/16	1
16502	16822	15072	1-5/8	1
16512	16832	15092	1-11/16	1
16522	16842	15112	1-3/4	1
16532	16852	15132	1-13/16	1
16542	16862	15152	1-7/8	1
16552	16872	15172	1-15/16	1
16562	16882	15192	2"	1
16572	16892	15212	2-1/16	1
16582	-----	15232	2-1/8	1
16592	-----	15252	2-3/16	1
16602	-----	15272	2-1/4	1
16612	-----	15282	2-5/16	1
16622	-----	15292	2-3/8	1

Pilot Pins for 1" Cut Depth

Part No.	Description	Size
00902	1/4" dia. pin fits one inch depth cutters 1/2" & larger	PP1/4x1

Part No.	Description
13710	11/64" dia. pin fits 7/16" -- 1" depth cutter

Pilot Pins for 2" Cut Depth

Part No.	Description	Size
00903	1/4" dia. pin fits two inch depth cutters 1/2" & larger	PP 1/4x2

Part No.	Description
13720	11/64" dia. pin fits 7/16" -- 2" depth cutter

SPIRA-BROACH™ ANNULAR CUTTERS & COUNTER DISPLAY

Spira-Broach™ Annular Cutters

These unique cutters reduce time and power requirements by cutting larger diameter holes at the periphery leaving solid slug in the center.

SPIRA-BROACH Cutters

- Give the lowest cost per hole
- Cut on curved surfaces
- Allow overlapping cuts on existing holes
- Stay sharp much longer
- Leaves a burr-free hole



SB-5 1" & 2" LENGTH

9/16", 11/16", 13/16", 15/16", 1-1/16"

Part #	Pin	Type	Metal
15301	1" Pin	15	M42
15302	2" Pin	15L	M42
16901	1" Pin	14	M35
16902	2" Pin	14L	M35
16624	1" Pin	13SP	M2 HSS
16629	2" Pin	13LSP	M2 HSS



ANNULAR CUTTER DISPLAYS

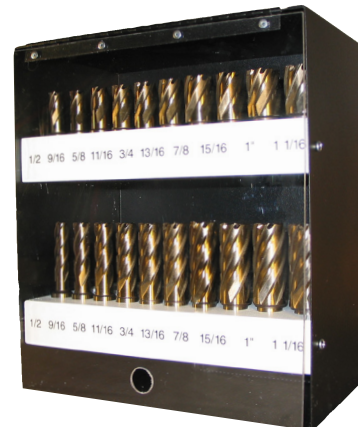
Annular Cutters

- Compact metal case attractively displays annular cutters.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.
- Includes: 1" pins and 2" pins for each size

ANNULAR CUTTERS COUNTER DISPLAY

1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1-1/16"

Part #	Size	Type	Qty.
00943	M-42	SB-20	15
00944	M-35	SB-20HS	14
00949	M-2 HSS	SB-20SP	13SP



Annular Cutters - Spira-Broach™ Counter Display & Sets

Acrylic Drills

Type 183-AG 104

Auger Bits

Type 940, 941 & 942 100
Type 950, 951 952 & 953..... 100

Bell Hanger Bits

Type 601 103

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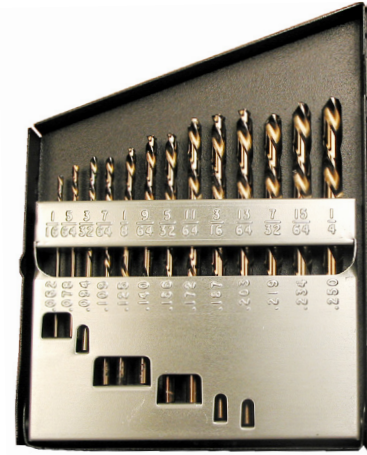


LEFT-HAND HEAVY DUTY JOBBER LENGTH DRILLS

Type 190-AL

Magnum Super Premium - Left Hand Spiral

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Ideal for removing broken studs.



TYPE 190-AL LEFT HAND SPIRAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
92430	1/16	1-7/8	7/8	6
23150	5/64	2"	1"	6
89290	3/32	2-1/4	1-1/4	6
23160	7/64	2-5/8	1-1/2	6
92440	1/8	2-3/4	1-5/8	6
92441	9/64	2-7/8	1-3/4	6
23170	5/32	3-1/8	2"	6
92442	11/64	3-1/4	2-1/8	6
92450	3/16	3-1/2	2-5/16	6
92443	13/64	3-5/8	2-7/16	6
92444	7/32	3-3/4	2-1/2	6
92451	15/64	3-7/8	2-5/8	6
92460	1/4	4"	2-3/4	6
92452	17/64	4-1/8	2-7/8	6
92453	9/32	4-1/4	2-15/16	6
23180	19/64	4-3/8	3-1/16	3
92470	5/16	4-1/2	3-3/16	3
92471	21/64	4-5/8	3-5/16	3
92472	11/32	4-3/4	3-7/16	3
92473	23/64	4-7/8	3-1/2	3
92480	3/8	5"	3-5/8	3
92481	25/64	5-1/8	3-3/4	3
92482	13/32	5-1/4	3-7/8	3
92483	27/64	5-3/8	3-15/16	3
92490	7/16	5-1/2	4-1/16	3
92491	29/64	5-5/8	4-3/16	3
92492	15/32	5-3/4	4-5/16	3
92493	31/64	5-7/8	4-3/8	3
92500	1/2	6"	4-1/2"	3

TYPE 190-AL LEFT-HAND SPIRAL SETS

8 Pc.

Part No.	Description of Sizes	Qty of each
87650	LF-8 1/16-1/2 by 16ths	1

12 Pc.

Part No.	Description of Sizes	Qty of each
87651	LF-12 1/16-5/16 by 32nds 3/8, 7/16 & 1/2	1

13 Pc.

Part No.	Description of Sizes	Qty of each
87652	LF-13 1/16-1/4 by 64ths	1

15 Pc.

Part No.	Description of Sizes	Qty of each
87654	LF-15 1/16 - 1/2 by 32nds	1

17 Pc.

Part No.	Description of Sizes	Qty of each
87853	LF-17 1/16-1/4 by 64ths, 5/16-1/2 by 16ths	1

29 Pc.

Part No.	Description of Sizes	Qty of each
87854	LF-29 1/16-1/2 by 64ths	1

29 Pc. - Ultra Dex

Part No.	Description of Sizes	Qty of each
87859	LF-29P 1/16-1/2 by 64ths	1

Broken Bolt Remover Combo

Type 420-AL

- Carded left hand drill combined with spiral style screw extractor is ideal for removing broken studs.

Part No.	Screw Extractor Number	Description of Sizes	Qty of each
30137	EX-1	3/32 LH drill	1
30147	EX-2	1/8 LH drill	1
30157	EX-3	3/16 LH drill	1
30167	EX-4	1/4 LH drill	1
30177	EX-5	5/16 LH drill	1



PRODUCT: TIPS

Bolt Remover Sets Include BOTH Left-Hand Spiral Drills and Bolt/Screw Extractors.

HI-CARBON SCREW, STUD AND PIPE EXTRACTORS

Type 420

Screw & Pipe Extractors Hi-Carbon Steel - Spiral Style



- Remove broken screws, bolts, threaded parts, and pipes.
- Broken piece is extracted with out damage to threads.

To remove the broken threaded part:

Drill a hole in the end of the broken part (left hand spiral heavy duty drills are recommended for this drilling operation), insert extractor, then turn counterclockwise using a wrench on the exposed end of the extractor.

TYPE 420 SCREW & PIPE EXTRACTORS

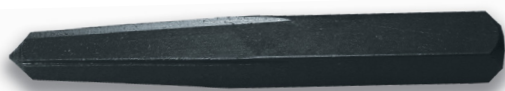
Part No.	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
57100	EX-1	3/32 to 5/32	1/8	.060	5/64	5
57110	EX-2	5/32 to 7/32	3/16	.080	7/64	5
57120	EX-3	7/32 to 9/32	1/4	1/8	5/32	5
57130	EX-4	9/32 to 3/8 and 1/8 pipe	5/16	3/16	1/4	5
57140	EX-5	3/8 to 5/8 and 1/4 pipe	7/16	1/4	17/64	5
57150	EX-6	5/8 to 7/8 and 3/8 pipe	5/8	3/8	13/32	1
57160	EX-7	7/8 to 1-1/8 and 1/2 pipe	7/8	15/32	17/32	1
57170	EX-8	1-1/8 to 1-3/8 and 3/4 pipe	11/32	3/4	13/16	1
57180	EX-9	1-3/8 up and 1" pipe	1-9/32	1	1-1/8	1

TYPE 420 SCREW & PIPE EXTRACTORS - CARDED

57107	EX-1	3/32 to 5/32	1/8	.060	5/64	1
57117	EX-2	5/32 to 7/32	3/16	.080	7/64	1
57127	EX-3	7/32 to 9/32	1/4	1/8	5/32	1
57137	EX-4	9/32 to 3/8 and 1/8 pipe	5/16	3/16	1/4	1
57147	EX-5	3/8 to 5/8 and 1/4 pipe	7/16	1/4	17/64	1

Type 421-AG

Studout™ Screw, Stud and Pipe Extractors Super Premium - Square Style Forged Hi-Carbon Steel



- The square shape of these extractors gives the tools the ability to remove broken bolts, screws, and pipes with minimum deformation of the broken part.

- These extractors will not chew up or expand the object being removed.

To remove the broken threaded part: Drill a hole in the end of the broken part (left hand spiral heavy duty drills are recommended for this drilling operation), insert extractor, then turn counterclockwise using a wrench on the exposed end of the extractor.

TYPE 421-AG STUDOUT™ SCREW, STUD & PIPE EXTRACTOR

Part No.	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
70760	E-1	3/16-9/32	3/16"	1/8"	1/8"	5
70770	E-2	9/32-11/32	1/4	11/64	3/16	5
70780	E-3	11/32-1/2	5/16	7/32	1/4	5
70800	E-4	1/2-3/4	3/8	9/32	5/16	5
70810	E-5	5/8-7/8	7/16	21/64	3/8	5
70820	E-6	7/8-1"	1/2	7/16	1/2	1
70830	E-7	1"-1-1/4	5/8	1/2	9/16	1
70860	E-8	1-1/8 - 1-1/2	3/4	9/16	5/8	1
70870	E-9	1-1/4 - 1-3/4	7/8	5/8	11/16	1

BOLT EXTRACTOR SETS / GLASS TILE

Type 420 -Bolt Extractor Set Type 421-AG -Bolt Extractor Set

- Fast and easy stud removal
- Left-hand spiral drills often eliminate the need for use of extractor.
- Drill loosens bolt stud with counter clockwise rotation.
- 135° split point for fast penetration and accurate starting without center punch.
- Most broken studs are work hardened during the breaking process.



BR-10

TYPE 420 BOLT EXTRACTOR SETS - SPIRAL EXTRACTOR

SE-4N - Type 420

Part No.	Description of Sizes	Qty of each
47170	EX 2, 3, 4 & 5	1

SE-5N - Type 420

Part No.	Description of Sizes	Qty of each
47180	EX 1, 2, 3, 4 & 5	1

TYPE 420 BOLT EXTRACTOR SETS - LEFT HAND DRILL

BR-8 - Type 420 & 190-AL

Part No.	Description of Sizes	Qty of each
88550	EX 1, 2, 3, 4 + 3/32, 1/8, 3/16 & 1/4	1

BR-10 - Type 420 & 190-AL

Part No.	Description of Sizes	Qty of each
58510	EX 1, 2, 3, 4 & 5 + 3/32, 1/8, 3/16, 1/4, 5/16	1

TYPE 421-AG BOLT EXTRACTOR SETS

SQE-4 - Type 421-AG

Part No.	Description of Sizes	Qty of each
70840	EX 2, 3, 4 & 5	1

TYPE 421-AG BOLT EXTRACTOR SETS - LEFT HAND DRILL

BR-8SQ - Type 421-AG & 190-AL

Part No.	Description of Sizes	Qty of each
70850	EX 1, 2, 3 & 4 + 1/8, 3/16, 1/4 & 5/16	1

GLASS & TILE DRILLS

Type 626

Carbide Tipped with Spear Point

- Designed for drilling in glass, tile, mirrors and ceramic materials.
- Spear point allows clean penetration with reduced cutting pressure and breakout.
- Carbide tip insures long tool life.



TYPE 626 CARBIDE TIPPED

Part #	Size Inches
56510	1/8"
56520	5/32
56530	3/16
56540	1/4
56550	5/16
56560	3/8
56570	1/2

Individually packaged in clear hanging tubes.

CAR REAMERS & HEX NUT REAMERS

Part #	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
06390	3/8	0.250	5/16	4-5/8	3/8
06400	1/2	0.281	3/8	5-7/8	1/2
06410	9/16	0.343	7/16	5-7/8	1/2
06420	5/8	0.343	7/16	6-3/8	1/2
06430	11/16	0.375	15/32	6-3/8	1/2
06440	3/4	0.406	1/2	6-7/8	1/2
06450	13/16	0.468	35/64	6-7/8	1/2
06460	7/8	0.500	19/32	6-7/8	1/2
06470	15/16	0.585	5/8	6-7/8	1/2
06480	1"	0.594	7/8	6-7/8	1/2
06484	1-1/4	0.719	1"	6-7/8	1/2

SET	TYPE 50-AG	Includes
12270	CR-4SP	3/8, 1/2, 5/8, 3/4

Part #	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
06381	5/16	0.215	17/64"	4-5/8	5/16
06391	3/8	0.250	5/16	4-5/8	3/8
06501	7/16	0.250	3/8	5-7/8	7/16
06401	1/2"	0.281	3/8	5-7/8	1/2
06411	9/16	0.343	7/16	5-7/8	1/2
06421	5/8	0.343	7/16	6-3/8	1/2
06432	0.652	0.375	15/32	6-3/8	1/2
06431	11/16	0.375	15/32	6-3/8	1/2
06441	3/4	0.406	1/2	6-7/8	1/2
06531	0.776	0.406	1/2	6-7/8	1/2
06451	13/16	0.468	35/64	6-7/8	1/2
06461	7/8	0.500	19/32	6-7/8	1/2
06471	15/16	0.585	5/8	6-7/8	1/2
06481	1"	0.594	7/8	6-7/8	1/2
06491	1-1/16	0.807	7/8	6-7/8	1/2
06482	1-1/4	0.719	1"	6-7/8	1/2

SET	TYPE 51-AG	Includes
12271	CR-4FS	3/8, 1/2, 5/8, 3/4
12281	SM-4FS	5/16, 3/8, 7/16, 1/2



TYPE 52-AG BRIDGE LENGTH

Part #	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	No. per/pack
20480	9/16	1-1/16	5-1/8	6-7/8	1
20490	5/8	1-1/16	6-1/8	7-7/8	1
20510	11/16	1-1/16	7-1/8	9-1/4	1
20520	3/4	1-1/4	7-3/8	9-3/8	1
20530	13/16	1-1/4	7-3/8	9-3/8	1
20540	7/8	1-7/16	7-3/8	9-3/8	1
20550	15/16	1-7/16	7-3/8	9-3/8	1
20560	1"	1-7/16	7-3/8	9-3/8	1
20570	1-1/16	1-5/8	7-3/8	9-3/8	1
20500	1-1/8	1-5/8	7-3/8	9-3/8	1
20580	1-3/16	1-13/16	7-3/8	9-3/8	1
20590	1-5/16	2	7-3/8	10	1
21120	1-3/8	2	7-3/8	10	1
21130	1-7/16	2	7-3/8	10	1
21140	1-1/2	2	7-3/8	10	1
21150	1-9/16	2	7-3/8	10	1
21160	1-5/8	2	7-1/2	10	1

Type 50-AG

Car Reamers, Standard Flute
3-Flats on Shank



- These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels.
- For use in enlarging previously formed or drilled holes.
- All tools are constructed with left-hand spiral and right-hand cut.

Type 51-AG

Car Reamers - Fast Spiral
Hole Buster™ Super Premium
3-Flats on Shank



- Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity.
- These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels.
- The **51-AG**, with the fast spiral, is the more aggressive of the two styles. It also will fit the needs of users who prefer a stop collar.

Type 52-AG -Bridge Length Type 53-AG -Car Length

Hex Nut Reamers Black & Gold Finish HSS-Spiral Flute

- Designed for aligning and enlarging holes in structural steel applications.
- Gold treated for maximum lubricity.

TYPE 53-AG CAR LENGTH

Part #	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	No. per/pack
35580	9/16	1-1/16	4	5-1/2	1
35590	5/8	1-1/16	4-1/2	6	1
35610	11/16	1-1/16	4-1/2	6-3/8	1
35620	3/4	1-1/4	5	7	1
35630	13/16	1-1/4	5	7	1
35640	7/8	1-7/16	5	7	1
35650	15/16	1-7/16	5	7	1
35660	1"	1-7/16	5	7	1
35670	1-1/16	1-5/8	5	7	1
35600	1-1/8	1-5/8	5	7	1
35680	1-3/16	1-13/16	5	7	1
35690	1-5/16	2	5	7-7/8	1

BRIDGE REAMERS & HOLE HOG™

Type 54-AG -Straight Flute Type 55-AG -Spiral Flute

Bridge Reamers - Straight & Spiral Flutes - Taper Shank High-Speed Steel, Surface Treated

- These special Hi-Tungsten tool steel reamers with gold surface treated body and clearance are designed to be used with Taper shank equipment.
- They are available in both straight and spiral flute configuration and are designed for heavy-duty reaming as encountered in the fabrication of structural steel assemblies, bridge erection, and ship construction.



TYPE 54-AG STRAIGHT FLUTE

Part #	Diameter Inches	Flute Length	Overall Length	Taper Shank	Qty. per/pack
81630	7/16	4-3/8	8-1/4	#2	1
81640	1/2	5-1/8	9	#2	1
81650	9/16	5-1/8	9	#2	1
81660	5/8	6-1/8	10	#2	1
81670	11/16	7-1/8	11-3/4	#3	1
81680	3/4	7-3/8	12	#3	1
81690	13/16	7-3/8	12	#3	1
81700	7/8	7-3/8	12	#3	1
81710	15/16	7-3/8	12	#3	1
81720	1"	7-3/8	12	#3	1
81730	1-1/16	7-3/8	12	#3	1
81740	1-1/8	7-3/8	12	#3	1
81750	1-3/16	7-3/8	12	#3	1
81760	1-1/4	7-3/8	13	#4	1
81770	1-5/16	7-3/8	13	#4	1

TYPE 55-AG SPIRAL FLUTE

Part #	Diameter Inches	Flute Length	Overall Length	Taper Shank	Qty. per/pack
83310	7/16	4-3/8	8-1/4	#2	1
83320	1/2	5-1/8	9	#2	1
83330	9/16	5-1/8	9	#2	1
83340	5/8	6-1/8	10	#2	1
83350	11/16	7-1/8	11-3/4	#3	1
83360	3/4	7-3/8	12	#3	1
83370	13/16	7-3/8	12	#3	1
83380	7/8	7-3/8	12	#3	1
83390	15/16	7-3/8	12	#3	1
83400	1"	7-3/8	12	#3	1
83410	1-1/16	7-3/8	12	#3	1
83420	1-1/8	7-3/8	12	#3	1
83430	1-3/16	7-3/8	12	#3	1
83440	1-1/4	7-3/8	13	#4	1
83450	1-5/16	7-3/8	13	#4	1

Type 134-AG

Hole Hog™ 4-Flute Core Drill Super Premium, 3-Flats on Shank

- This tool is designed exclusively for enlarging existing holes.
- The 4-flute design eliminates the catching and hogging-in experienced with standard S & D drills when breaking through thinner materials such as truck frames.
- These core drills may replace tapered reamers in many applications.



Hole Hog™ Sets
1/2" Shank 3-flats on Shank 4-Flute Core Drill
Magnum Super Premium

- A selection of core drills and companion (minimum starting hole size) pilot drills in a black steel index.



TYPE 134-AG FRACTIONAL

Part #	Diameter Inches	Minimum Starting Hole Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
22030	3/8	1/4	4-5/16	1-7/8	1
22040	1/2	5/16	4-5/16	1-7/8	1
22060	9/16	3/8	4-5/16	1-7/8	1
22080	5/8	25/64	4-5/16	1-7/8	1
22100	11/16	7/16	4-5/16	1-7/8	1
22120	3/4	15/32	4-5/16	1-7/8	1

TYPE 134-AG SETS

SP-8HH Set contains 1 each:

134-AG core drill sizes 3/8, 1/2, 5/8 & 3/4.
175-AG drill sizes 1/4, 5/16, 25/64 & 15/32

Part No. 38880

SP-6HHL Set contains 1 each:

134-AG core drill sizes 1/2, 5/8 & 3/4.
175-AG drill sizes 5/16, 25/64 & 15/32.

Part No. 38870

SP-6HHS Set contains 1 each:

134-AG core drill sizes: 3/8, 1/2 & 5/8.
175-AG drill sizes 1/4, 5/16 & 25/64

Part No. 38860

AUGER BITS CARBIDE

Type 940 -12" Bits Type 941 -18" Bits Type 942 -24" Bits Carbide-Tipped Auger Bit

- A carbide cutting tip combined with a hardened steel cutting edge, allows it to bore holes in all types of wood quickly.
- A clean, smooth hole is provided.
- Requires less torque to operate and can be used with electric, air or gasoline powered drill motors, and impact wrenches.
- The carbide cutter is brazed onto the steel body and the hardened steel cutting edge can be resharpened.



TYPE 940 12" AUGER BITS

Part No.	Description of Sizes
51300	1/2"
51310	9/16
51320	5/8
51330	11/16
51340	3/4
51350	13/16
51360	7/8
51370	15/16
51380	1"
51390	1-1/16
51400	1-1/8

TYPE 941 18" AUGER BITS

Part No.	Description of Sizes
51410	1/2"
51420	9/16
51430	5/8
51440	11/16
51450	3/4
51460	13/16
51470	7/8
51480	15/16
51490	1"
51500	1-1/16
51510	1-1/8

TYPE 942 24" AUGER BITS

Part No.	Description of Sizes
51520	1/2"
51530	9/16
51540	5/8
51550	11/16
51560	3/4
51570	13/16
51580	7/8
51590	15/16
51600	1"
51610	1-1/16
51620	1-1/8

STANDARD WOOD AUGERS

Types 950 -9" Bits Type 951 -16" Bits Type 952 -18" Bits Type 953 -24" Bits

- High quality auger bits with hex shanks produced from alloy tool steel.
- For deep drilling wood applications, quickly and easily drill holes in all types of wood products.



TYPE 950 9" AUGER BITS

Part No.	Description of Sizes
53200	3/8"
53210	1/2
53220	9/16
53230	5/8
53240	11/16
53250	3/4
53260	7/8
53270	15/16
53280	1"
53290	1-1/8

TYPE 951 16" AUGER BITS

Part No.	Description of Sizes
53300	3/8"
53310	1/2
53320	9/16
53330	5/8
53340	11/16
53350	3/4
53360	7/8
53370	15/16
53380	1"
53390	1-1/8

TYPE 952 18" AUGER BITS

Part No.	Description of Sizes
53400	3/8"
53410	1/2
53420	9/16
53430	5/8
53440	11/16
53450	3/4
53460	7/8
53470	15/16
53480	1"
53490	1-1/8

TYPE 953 24" AUGER BITS

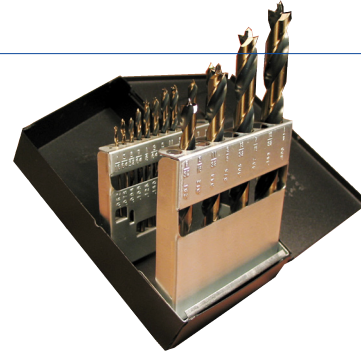
Part No.	Description of Sizes
53500	3/8"
53510	1/2
53520	9/16
53530	5/8
53540	11/16
53550	3/4
53560	7/8
53570	15/16
53580	1"
53590	1-1/8"

BRAD POINT DRILLS & POWER BITS

Type 16-AG

Jobber Length - Burrou™ Brad Point Super Premium

- These high performance drills made from Hi-Moly tool steel will cut holes in wood or plastics and leave no burr.
- The special **BURROUT™** point cuts at the circumference of the hole to avoid the break through burr problems common with standard point drills.



Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
01041	5/64	2"	1"	12
01051	3/32	2 1/4	1 1/4	12
01061	7/64	2 5/8	1 1/2	12
01071	1/8	2 3/4	1 5/8	12
01081	9/64	2 7/8	1 3/4	12
01091	5/32	3 1/8	2"	12
01101	11/64	3 1/4	2 1/8	12
01111	3/16	3 1/2	2 5/16	12
01131	7/32	3 3/4	2 1/2	12
01151	1/4	4"	2 3/4	12
01191	5/16	4 1/2	3 3/16	6
01231	3/8	5"	3 5/8	6
01271	7/16	5 1/2	4 1/16	6
01311	1/2	6"	4 1/2	6

TYPE 16-AG BURROUT™ SETS

BF-10

Part No.	Description of Sizes	Qty of each
42001	5/64-3/16 by 64ths + 7/32, 1/4	1

BF-14

Part No.	Description of Sizes	Qty of each
42031	5/64-3/16 by 64ths + 7/32, 1/4-1/2 by 16ths	1

POWER BITS

Type 935

Quick Release 1/4" Hex Shank - Power Bits

- Cuts clean accurate holes in all soft and hard woods plus foam core, plastic, many non-metallic building siding, and foam insulation.

TYPE 935 1/4" HEX SHANK SETS

EASY-CUT 4 PIECE SET

One each: 3/8, 1/2, 5/8 & 3/4 in plastic pouch.
Part No. 52185

EASY-CUT 6 PIECE SET

One each: 3/8, 1/2, 5/8, 3/4, 7/8 & 1" in plastic pouch.
Part No. 52195

EASY-CUT 13 PIECE SET

One each: 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" in plastic pouch.
Part No. 52205

EASY-CUT 6" - 12" EXTENSION

For all bits with 1/4" shanks.
For those jobs that require extra reach.
With Allen wrench.



Quick Release 1/4" Hex Shank

TYPE 935 1/4" HEX SHANK

Part No.	Diameter Inches	Qty. per/pack
52005	1/4	1
52015	5/16	1
52025	3/8	1
52035	7/16	1
52045	1/2	1
52055	9/16	1
52065	5/8	1
52075	11/16	1
52085	3/4	1
52095	13/16	1
52105	7/8	1
52115	15/16	1
52125	1 INCH	1
52135	1-1/8	1
52145	1-1/4	1
52155	1-3/8	1
52165	1-1/2	1

EXTENSIONS

Part No.	Size	Qty. per/pack
27555	6"	1
52175	12"	1

TYPE QR-AG EXTENSIONS

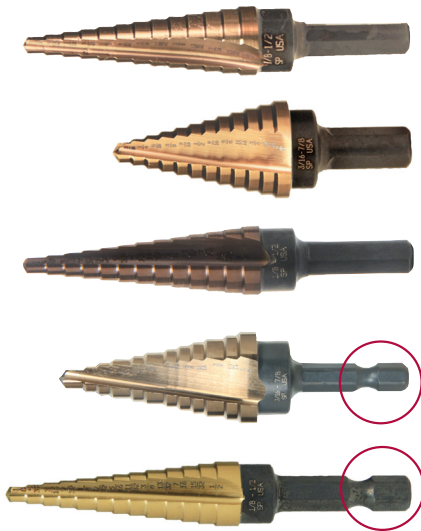


- One handed operation – Simply push your PTA into the extension and it will automatically load and lock the accessory.
- Patented All Hex connection system will hold any 1/4" hex shape including, Power Groove and Notched product
- Patented All Hex connection system holds the accessory without any wobble or play. Tight fit for a professional feel.
- **Made in the USA.**
- **Not intended for Impact Tools.**



Part No.	Size	Qty. per/pack
34821	3" Quick release Extension	1
34831	6" Quick release Extension	1
34841	12" Quick release Extension	1

STEP DRILLS ULTRA BIT™ MULTI-DIAMETER



Type 78-AG Gold Oxide, 3-flats on Shank - Blister pak

- Special Axial and Radial flute design increases work piece penetration.
- Dual flute construction drills clean accurate holes in thin materials, quickly and easily.

Type 78-AGN Titanium Nitride Coated, 3-flats on Shank - Blister pak

- Titanium nitride coated tools last six times longer than uncoated tools.
 - Cutting edge stays sharper longer.
 - Titanium nitride coating reduces friction.

Type 78-ACN Titanium Carbon Nitride Coated, 3-flats on Shank - Blister pak

- 2 - 4x the tool life of Titanium Nitride coated tools.
- Improved lubricity for better performance in steel and aluminum.
 - Twice as hard as titanium nitride coating.

Ultra Bit™ Multi-Diameter - Quick Release

Type 78-QR Gold Oxide

- Use for all thin metals, rigid plastics, wood or composite materials with a thickness equal to or less than the step thickness.
- Split point self centers and easily starts with no pilot hole required.

Type 78-QRN Titanium Nitride Coated

- Titanium nitride coated tools last six times longer than uncoated tools.
 - Cutting edge stays sharper longer.
 - Titanium nitride coating reduces friction.
- Made in the U.S.A.

TYPE B78-AG, B78-AGN, B78-ACN 3-FLATTED SHANK

B78-AG Gold Oxide Part #	B78-AGN Titanium Nitride Part #	B78-ACN Titanium Carbon Nitride Part #	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
45401	45701	65301	1	13	1/8 - 1/2"	1/4	1/32	1/8
45441	45751	65311	2	8	9/16 - 1"	3/8	1/16	5/32
45431	45731	65321	3	9	1/4 - 3/4"	3/8	1/16	5/32
45411	45711	65331	4	6	3/16 - 1/2"	1/4	1/16	3/8
45481	45741	65341	7	11	1/4 - 7/8"	3/8	1/16	1/16
45421	45721	65351	8	12	3/16 - 7/8"	3/8	1/16	1/8
45501	----	----	9	3	7/8 - 1-7/32"	3/8	7/8	----
45471	45771	65361	11	2	7/8 - 1-1/8"	3/8	27/64	9/64
45461	45791	65371	12	10	1/4 - 1-3/8"	3/8	1/8	*SEE NOTE
45491	45781	65381	1/4 A	16	1/4 - 1-1/8"	3/8	1/16	1/16
45451	45761	65391	13/16	10	13/16 - 1-3/8"	1/2	1/32	5/32

NOTE: Parts # 45461, 45791, 65371 -- 7/8", 1 - 1/8" (1/2 and 3/4" conduit)

3 & 4 PC. SETS

Gold Oxide	Titanium Nitride	Titanium Carbon Nitride	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
01911	01811	65411		1/8 - 1/2", 3/16 - 1/2"	& 1/4 - 3/4"			(#1, #4, #3)
01921	01821	65421		1/8 - 1/2", 3/16 - 1/2"	& 3/16 - 7/8"			(#1, #4, #8)
01931	01831	----		1/8 - 1/2", 3/16 - 7/8"	& 7/8 - 1-1/8"			(#1, #4, #11)
01941	01841	65431		1/8 - 1/2", 3/16 - 1/2"	& 9/16 - 1"			(#1, #4, #2)
4pc. 01981	01871	65441		1/8 - 1/2", 1/4 - 3/4", 1/4 - 7/8", 7/8 - 1-1/8"				(#1, #3, #7, #11)

TYPE 78-QR, 78-QRN QUICK RELEASE

78-QR Gold Oxide Part #	78-QRN Titanium Nitride Part #	Impact Ready!	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
01401	68491		1	13	1/8 - 1/2"	1/4	1/32	1/8
01411	68534		2	8	9/16 - 1"	1/4	1/16	5/32
01404	68521		3	9	1/4 - 3/4"	1/4	1/16	5/32
01402	68501		4	6	3/16 - 1/2"	1/4	1/16	3/8
01412	68541		7	11	1/4 - 7/8"	1/4	1/16	1/16
01403	68511		8	12	3/16 - 7/8"	1/4	1/16	1/8
01419	68554		9	3	7/8 - 1-7/32"	1/4	7/8	----
01409	68531		11	2	7/8 - 1-1/8"	1/4	27/64	9/64
01414	68524		12	10	1/4 - 1-3/8"	1/4	1/8	*SEE NOTE
01413	68551		1/4 A	16	1/4 - 1-1/8"	1/4	1/16	1/16

NOTE: Parts # 01414, 68542 -- 7/8", 1 - 1/8" (1/2" and 3/4" conduit)

3 PC. SETS

Gold Oxide	Titanium Nitride	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
01451	68571			1/8 - 1/2", 3/16 - 1/2"	& 1/4 - 3/4"		(#1, #4, #3)
01441	68561			1/8 - 1/2", 3/16 - 1/2"	& 3/16 - 7/8"		(#1, #4, #8)
01961	68581			1/8 - 1/2", 3/16 - 7/8"	& 7/8 - 1-1/8"		(#1, #4, #11)

TWIN END & PILOT DRILLS, BELL HANGER BITS

TYPE 140-G - SUPER PREMIUM TYPE 140 - HEAVY DUTY

Twin End - Super Premium 135° Split Point

- Special Hi-Molybdenum tool steel, gold surface treated for maximum lubricity.
- 135° split point for fast penetration and accurate starting without a center punch.



TYPE 140-G FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
95090	3/32	1-3/4	9/16	12
95080	7/64	1-15/16	5/8	12
95980	1/8	1-15/16	5/8	12
95070	9/64	2	5/8	12
95060	5/32	2-1/8	5/8	12
95050	3/16	2-5/16	5/8	12
95040	7/32	2-9/16	3/4	12
95030	1/4	2-5/8	13/16	12

TYPE 140-G WIRE

Part No.	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
95020	10	2-5/16	5/8	12
95010	11	2-5/16	5/8	12
95000	20	2-1/8	5/8	12
94990	30	2	5/8	12

Twin End - Heavy-Duty - 135° Split Point

- This twin end drill has wide applications in drilling any thin sheet metal or wood.
- Automotive body shops will find twin end drills especially productive.
- Black Oxide finish.



TYPE 140 FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
28470	3/32	1-3/4	9/16	12
28480	7/64	1-15/16	5/8	12
28490	1/8	1-15/16	5/8	12
28500	9/64	2	5/8	12
28510	5/32	2-1/8	5/8	12
28530	3/16	2-5/16	5/8	12
28550	7/32	2-9/16	3/4	12
28570	1/4	2-5/8	13/16	12

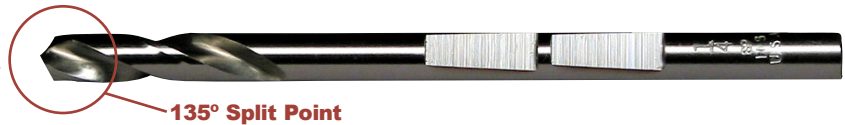
TYPE 140 WIRE

Part No.	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
27940	10	2-5/16	5/8	12
27950	11	2-5/16	5/8	12
28040	20	2-1/8	5/8	12
28140	30	2	5/8	12

PILOT DRILLS

Type 185

Pilot Drills For HSS Hole Saws



Part #	Size Inches	Description	Diameter Inches	Overall Length Inches	Qty. per/pack
95100	1/4 x 4	Universal pilot with two whistle notch flats. Fits most hole saws needing 4" length - Bright finish	1/4	4"	12
95101	1/4 x 3	Fits most arbors with one set screw: Lennox, Starrett, Morse, Milwaukee & more. One flat on shank. Bright finish.	1/4	3	12
95102	1/4 x 4L	Three long flats on shank allow for set screw and eliminate slippage through the arbor drive. (Replaces Lennox and others). Surface treated.	1/4	4	12
95103	1/4 x 3L	Same as 95101 except surface treated. (Replaces Lennox and others).	1/4	3	12
95104	1/4 x 4-1/4L	Three long flats on shank allow for set screw and eliminate slippage through the arbor drive. (Replaces Lennox L-series). Black Surface treated.	1/4	4-1/4	12

BELL HANGER BITS

Type 601

Carbide Tipped, Alloy Steel Shanks



(Hole in flute for pulling wire)

- Flutes are designed for quick chip clearance.
- Recommended for all telephone, electrical, cable T.V. installers.
- Excellent for drilling through wood, metal lathe, plaster, wallboard.

Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32000	1/4	1/4	12	1
32010	5/16	5/16	12	1
32020	3/8	3/8	12	1
32030	1/2	3/8	12	1
32040	1/4	1/4	18	1
32050	5/16	5/16	18	1
32060	3/8	3/8	18	1
32070	1/2	3/8	18	1
32080	1/4	1/4	24	1
32090	5/16	5/16	24	1

Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32100	3/8	3/8	24	1
32110	1/2	3/8	24	1
32120	1/4	1/4	36	1
32130	5/16	5/16	36	1
32140	3/8	3/8	36	1
32150	1/2	3/8	36	1
32160	1/4	1/4	48	1
32170	5/16	5/16	48	1
32180	3/8	3/8	48	1
32190	1/2	3/8	48	1



ACRYLIC, HARD STEEL, SOLID CARBON DRILL, SHEETERS DRILLS & CUTTING TOOL LUBRICANT

Type 183-AG

Acrylic Drills with Chipfree™ Point Magnum Super Premium

- Super **CHIPFREE™** point is precision ground at a 60° angle for gradual penetration to avoid cracking and chipping of the acrylic material.
- Special 0° rake angle on cutting edge eliminates “grabbing” when drill breaks through plastic, acrylic, or laminate surfaces.
- All sizes over 1/4" have 1/4" shanks.



Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
32260	3/32	2-1/4	1-1/4	12
31500	1/8	2-5/8	1-5/8	12
31510	5/32	3	2	12
31520	3/16	3-3/8"	2-5/16"	12
32210	13/64	3-21/32	2-7/16	12
32220	7/32	3-13/16	2-1/2	12
31530	1/4	3-15/16	2-3/4	12
32240	9/32	3-9/16	1-31/32	12
32230	19/64	3-3/8"	2-1/16"	12
31540	5/16	3-13/16	2-3/16	6
32290	11/32	4-1/32	2-11/32	6
31550	3/8	4-1/4	2-9/16	6
32250	25/64	4-11/32"	2-5/8"	6
32460	13/32	4-15/32	2-3/4	6
31560	7/16	4-11/16	2-15/16	6
32470	15/32	4-7/8	3-1/8	6
31570	1/2	5"	3-7/32"	6

Type 224

Sheeters Drill - Black Surface Treated

Heavy-duty 135° split point high-speed steel drill is excellent for drilling sheet metal and corrugated construction panels.



Part #	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
27010	1	3	1-5/16	12
27030	1	4-1/2	1-5/16	12
27040	1	6	1-5/16	12

Type 600

Flex Shaft Drill Bits - Installer Drill Bits/Wire Fishing Drill Bits

Flexible steel drill bits used for installing wire or cable

- Self feeding lead screw point and fishing eye
- Special 3/16" flexible shaft
- Drill bit penetrates wood effortlessly
- Shaft designed with flex memory retention and maximum torque translation

Part #	Diameter / Overall Length	Shank Length	Qty. per/pack
89610	3/8" x 54"	3/8	1
89611	3/8" x 72"	3/8	1
89620	1/2" x 54"	3/8	1
89621	1/2" x 54"	3/8	1
89630	9/16" x 54"	3/8	1
89631	9/16" x 72"	1/4	1
89640	3/4" x 54"	1/4	1
89641	3/4" x 72"	1/4	1

CUTTING TOOL LUBRICANT

Type 11-AG Ultra S/P™ Super Premium High Viscosity

- Super concentrated no run formula.
- Clings to vertical surfaces for continual lubrication.
- Virtually smoke free in even the most heat prone applications.
- Contains no ozone depleting substances.

This fluid will extend tool life and yield a super machined finish.



Type 602-C Solid Carbide



Solid Carbide Drills, Straight Flute

- Excellent for removing broken screw extractors, tap and drills bits. For use in extremely hard and difficult to machine materials. Produces accurate holes.



Type 602-C

Designed for drilling holes in 48-65 RC hardened steel, stainless steels, and high temperature alloys.

Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
36173	1/16	1/16	1-5/8	1
36193	3/32	3/32	1-3/4	1
36213	1/8	1/8	1-7/8	1
36233	5/32	5/32	2-1/16	1
36253	3/16	3/16	2-3/16	1
36273	7/32	7/32	2-3/8	1
36293	1/4	1/4	2-1/2	1
36313	9/32	9/32	2-11/16	1
36333	5/16	1/4	2-13/16	1
36353	11/32	11/32	3	1
36373	3/8	3/8	3-1/8	1
36393	13/32	13/32	3-5/16	1
36413	7/16	7/16	3-7/16	1
36433	15/32	15/32	3-5/8	1
36453	1/2	1/2	3-3/4	1
36473	5/8	5/8	4	1
36483	3/4	3/4	4	1

Type 602 Carbide Tipped Hard Steel Drills Carbide

Tipped, Straight Flute

- Used for drilling broken studs, springs, bolts, die sections, broken easy outs, extra tough or exotic metals, and brake drums.



Type 602

These drills are made for use in drilling hardened steel in the range of 48 to 65 Rockwell C.

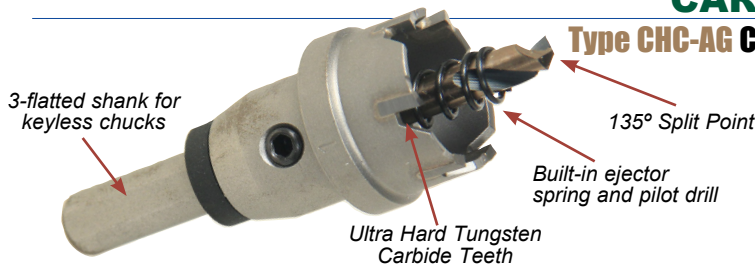
Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32300	1/8	1/8	2-3/4	1
32310	5/32	5/32	3	1
32320	11/64	11/64	3	1
32330	3/16	3/16	3	1
32340	7/32	7/32	4	1
32350	1/4	1/4	4	1
32360	1/4	1/4	6	1
32370	9/32	9/32	4	1
32380	5/16	1/4	4	1
32390	5/16	5/16	6	1
32400	3/8	1/4	4	1
32410	3/8	3/8	6	1
32420	7/16	3/8	6	1
32430	1/2	1/2	6	1
32440	9/16	1/2	6	1
32450	5/8	1/2	6	1

Part No.	Size MM	Bottles Per Case	Weight Per Case
96050	12 - 4 OZ.	12	4.4 Lbs./2 Kgs.
96060	48 - 4 OZ.	48	18 Lbs./8.2 Kgs.
96070	12 - 16 OZ.	12	15 Lbs./6.8 Kgs.

Part No. 96071 is a self selling display with an attractive attention getting decal applied to the inside of the display flap. Dispose of display when empty.

CARBIDE TIPPED HOLECUTTERS

Type CHC-AG Carbide Tipped Holecutters CUTS UP TO 3/16"



Part#	Diameter Inches	Shank Diameter	Qty. per/pack
62000	9/16	3/8	1
62010	5/8	3/8	1
62020	11/16	3/8	1
62030	3/4	3/8	1
62040	13/16	3/8	1
62050	7/8	3/8	1
62060	15/16	3/8	1
62070	1"	3/8	1
62080	1-1/16	3/8	1
62090	1-1/8	3/8	1
62100	1-3/16	3/8	1
62110	1-1/4	3/8	1
62120	1-5/16	3/8	1
62130	1-3/8	3/8	1

Part#	Diameter Inches	Shank Diameter	Qty. per/pack
62140	1-7/16	3/8	1
62150	1-1/2	3/8	1
62160	1-9/16	3/8	1
62170	1-5/8	3/8	1
62180	1-11/16	3/8	1
62190	1-3/4	3/8	1
62200	1-13/16	3/8	1
62210	1-7/8	3/8	1
62220	1-15/16	3/8	1
62230	2"	3/8	1
62240	2-1/16	3/8	1
62250	2-1/8	3/8	1
62260	2-3/16	3/8	1
62270	2-1/4	3/8	1

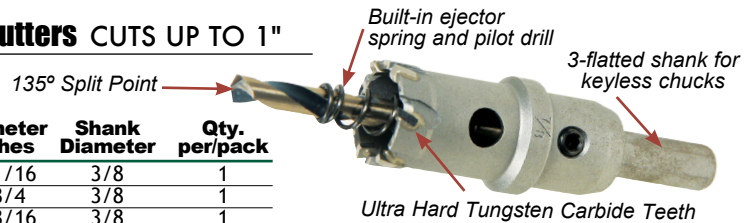
Part#	Diameter Inches	Shank Diameter	Qty. per/pack
62280	2-5/16	3/8	1
62290	2-3/8	3/8	1
62300	2-7/16	3/8	1
62310	2-1/2	3/8	1
62320	2-9/16	3/8	1
62330	2-5/8	3/8	1
62340	2-11/16	1/2	1
62350	2-3/4	1/2	1
62360	2-13/16	1/2	1
62370	2-7/8	1/2	1
62380	2-15/16	1/2	1
62390	3"	1/2	1
62400	3-1/4	1/2	1
62410	3-1/2	1/2	1
62420	3-3/4	1/2	1
62430	4"	1/2	1
62440	4-1/4	1/2	1
62450	4-1/2	1/2	1
62460	4-3/4	1/2	1
62470	5"	1/2	1
62480	PILOT DRILL		1
62490	SCREW		1
62500	SPRING		1

Type CHD-AG Deephole Carbide Tipped Holecutters CUTS UP TO 1"

- Produces overlapping and interrupted holes easily
- Cuts 3 times faster than bi-metal hole saws.

Part #	Diameter Inches	Shank Diameter	Qty. per/pack
63990	9/16	3/8	1
64000	5/8	3/8	1
64010	11/16	3/8	1
64020	3/4	3/8	1
64030	13/16	3/8	1
64040	7/8	3/8	1
64050	15/16	3/8	1
64060	1"	3/8	1
64070	1-1/16	3/8	1
64080	1-1/8	3/8	1
64090	1-3/16	3/8	1
64100	1-1/4	3/8	1
64110	1-5/16	3/8	1
64120	1-3/8	3/8	1
64130	1-7/16	3/8	1
64140	1-1/2	3/8	1
64150	1-9/16	3/8	1
64160	1-5/8	3/8	1

Part #	Diameter Inches	Shank Diameter	Qty. per/pack
64170	1-11/16	3/8	1
64180	1-3/4	3/8	1
64190	1-13/16	3/8	1
64200	1-7/8	3/8	1
64210	1-15/16	3/8	1
64220	2"	3/8	1
64240	2-1/16	3/8	1
64250	2-1/8	3/8	1
64260	2-3/16	3/8	1
64270	2-1/4	3/8	1
64280	2-5/16	3/8	1
64290	2-3/8	3/8	1
64330	2-7/16	3/8	1
64340	2-1/2	3/8	1
64350	2-9/16	3/8	1
64360	2-5/8	3/8	1
64370	2-11/16	1/2	1
64380	2-3/4	1/2	1
64390	2-13/16	1/2	1



Part #	Diameter Inches	Shank Diameter	Qty. per/pack
64400	2-7/8	1/2	1
64410	2-15/16	1/2	1
64420	3"	1/2	1
64430	3-1/4	1/2	1
64440	3-1/2	1/2	1
64450	3-3/4	1/2	1
64460	4"	1/2	1
64470	4-1/4	1/2	1
64480	4-1/2	1/2	1
64490	4-3/4	1/2	1
64231	PILOT DRILL		1
62490	SCREW		1
62530	SPRING		1

Type CHC-QR Carbide Tipped Holecutters

1/4" Quick Release

- 3-flatted shank for keyless chucks.
- Produces overlapping and interrupted holes easily
- Cuts 3 times faster than bi-metal hole saws.

Part#	Diameter Inches	Shank Diameter	Qty. per/pack
83470	5/8	1/4	1
83480	11/16	1/4	1
83490	3/4	1/4	1
83500	13/16	1/4	1
83510	7/8	1/4	1
83520	15/16	1/4	1
83530	1"	1/4	1
83540	1-1/16	1/4	1
83550	1-1/8	1/4	1
83560	1-3/16	1/4	1
83580	1-1/4	1/4	1
83590	1-5/16	1/4	1
83600	1-3/8	1/4	1
83950	PILOT DRILL		1
83960	SCREW		1
83970	SPRING		1



Quick Release
1/4" Hex Shank

Type EXT

Carbide Tipped Holecutter - Extension

Includes "Allen Wrench" (For CHC-AG & CHD-AG Holecutter only)

Part #	Bore/Shank	Diameter	Overall Length	Ext Length	Qty. per/pack
62710	3/8"	7/8"	6-1/4"	5 inches	1
62720	1/2"	7/8"	6-1/4"	5 inches	1

Type CHC-18

CARBIDE TIPPED HOLECUTTER HANGING DISPLAY

Contents	Size	# of Each
CHC-AG	13/16, 7/8, 15/16, 1", 1-1/16	1
Depth of cut	3/16"	1-1/8, 1-3/16, 1-1/4, 1-3/8
CHD-AG	13/16, 7/8, 15/16, 1", 1-1/16	1
Depth of cut	1"	1-1/8, 1-3/16, 1-1/4, 1-3/8
Display Rack	16" width x 27" height	1
(Display Rack Only Part # 14120)		



COUNTERSINKS

Type 82-AG -Piloted Type 82-AG -Pilotless Type 90-AG -Deburring

**Type 82-AG Chatter proof™ Countersinks
Type 90-AG Chatter proof™ Deburring Tools**



Type 82-AG - Piloted



Type 82-AG - Pilotless



Type 90-AG - Deburring

Special Hi-Molybdenum tool steel, gold surface treated for maximum lubricity.

These high performance, flute-less tools are:

- Free cutting - for ease of use.
- Designed for fast stock removal.
- Chatter proof - for a micro smooth finish.
- Easily resharpened - for extra long life.
- Available in a wide selection of styles.
- Recommended for smooth finishes on metal, plastic and wood applications.
- **Made in the U.S.A.**

TYPE 82-AG 82° PILOTED COUNTERSINK

Part No.	Size	Style	Screw Size	Shank Diameter		Overall Length		D	E	F	No. per/pack
				A	B	C					
67010	CS1/4	1	1/4	1/4	3/8	2	33/64	1	5/32		1
67020	CS1/4A	1	1/4	17/64	3/8	2	33/64	1	5/32		1
67030	CS5/16	1	5/16	5/16	3/8	2-3/16	41/64	1-3/16	5/32		1
67040	CS5/16A	1	5/16	21/64	3/8	2-3/16	41/64	1-3/16	5/32		1
67050	CS3/8	1	3/8	3/8	1/2	2-5/8	49/64	1-3/8	5/32		1
67060	CS3/8A	1	3/8	25/64	1/2	2-5/8	49/64	1-3/8	5/32		1
67070	CS7/16	1	7/16	7/16	1/2	2-3/4	53/64	1-1/2	7/32		1
67080	CS7/16A	1	7/16	29/64	1/2	2-3/4	53/64	1-1/2	7/32		1
67090	CS1/2	1	1/2	1/2	1/2	2-13/16	15/16	1-9/16	1/4		1
67100	CS1/2A	1	1/2	33/64	1/2	2-13/16	15/16	1-9/16	1/4		1

See next page for technical diagram

TYPE 82-AG 82° PILOT LESS COUNTERSINK

Part No.	Size	Style	Diameter of Cut		Screw Size	Shank Diameter		Overall Length		D	E	No. per/pack
			Min	Max		B	C					
67110	CS073	3	0.073	15/64		1/4	1-3/4					1
67120	CS3/16	2	3/16	17/32		1/4	1-15/16	9/16	1			1
67130	CS307	2	0.307	25/32		1/2	2-5/8	13/16	1-3/8			1
67140	CS307A	2	0.307	25/32		1/4	2-1/16	13/16	1-1/4			1
67150	CS431	2	0.431	7/8		1/2	2-13/16	1-1/8	1-9/16			1
67160	CS1/2B	2	1/2	1-15/32		1/2	3-1/2	1-1/2	2-1/8			1
67170	CS5S	2			No. 4	1/4	1-1/2	17/64	5/8			1
67180	CS6S	2			No. 6	1/4	1-1/2	19/64	5/8			1
67190	CS8S	2			No. 8	1/4	1-5/8	11/32	3/4			1
67200	CS10S	2			No. 10	1/4	1-5/8	25/64	3/4			1

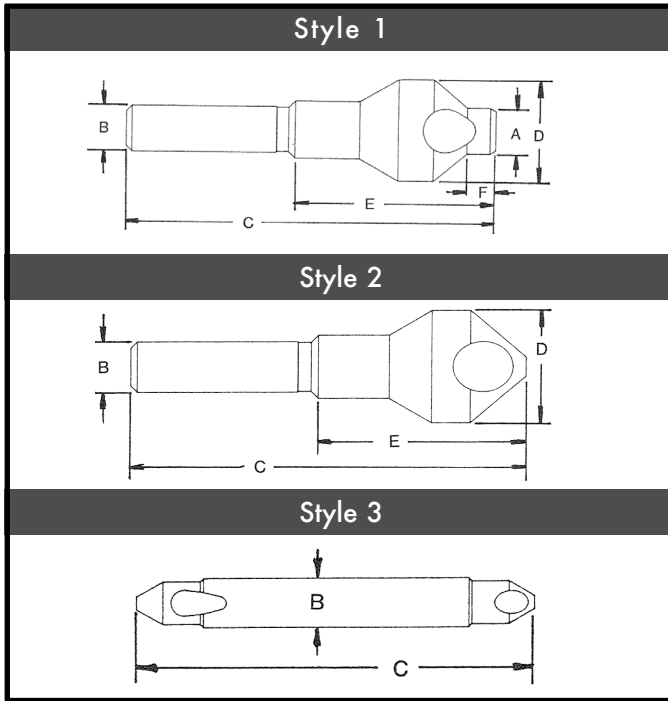
See next page for technical diagram

TYPE 90-AG 90°DEBURRING TOOLS

Part No.	Size	Style	Diameter of Cut		Shank Diameter B	Overall Length		D	E	No. per/pack
			Min	Max		C				
67210	DB1/64	3	1/64	11/64	3/16	1-1/2				1
67220	DB1/16	3	1/16	11/64	3/16	1-1/2				1
67230	DB1/8	3	1/8	15/64	1/4	1-3/4				1
67240	DB5/32	2	5/32	13/32	1/4	1-11/16	7/16	13/16		1
67250	DB3/16	2	3/16	17/32	1/4	1-7/8	9/16	1		1
67260	DB5/16	2	5/16	25/32	1/2	2-19/32	13/16	1-3/8		1
67270	DB5/16C	2	5/16	25/32	1/4	2-1/32	13/16	1-5/32		1
67280	DB9/16	2	9/16	1-3/32	1/2	2-13/16	1-1/8	1-9/16		1
67290	DB1/2	2	1/2	1-15/32	1/2	3-1/2	1-1/2	2-1/8		1

See next page for technical diagram

COUNTERSINK TECHNICAL DIAGRAMS & COMBINED DRILLS



TYPE 82-AG & TYPE 90-AG SETS

Part No.	Description of Sizes
SP-4CS 10440	82-AG C/S sizes: CS5S, CS6S, CS8S, CS10S
SP-4ACS 10442	82-AG C/S sizes: CS6S, CS8S, CS10S, CS3/16
SP-6DB 10450	90-AG D/B sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
SP-9CS 10443	82-AG C/S sizes: CS5S, CS6S, CS8S, CS10S, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2



COMBINED DRILLS & COUNTERSINK SET

Type 296 - Plain

Type 296- Plain

Drill ends are of equal diameter. The included angle is 60°



TYPE 296 PLAIN COUNTERSINKS

Part No.	Size	Dia. of Body Inches	Dia. & Length of drills	Overall Length Inches	Std. Pack
26760	00	1/8	.025x.030	1-7/32	6
26770	0	1/8	1/32x.038	1-7/32	6
26780	1	1/8	3/64x3/64	1-1/4	6
26790	2	3/16	5/64x5/64	1-7/8	6
26800	3	1/4	7/64x7/64	2	6
26810	4	5/16	1/8x1/8	2-1/8	6
26820	5	7/16	3/16x3/16	2-3/4	6
26830	6	1/2	7/32x7/32	3	6
26840	7	5/8	1/4x1/4	3-1/4	1
26850	8	3/4	5/16x5/16	3-1/2	1

COMBINED DRILL AND COUNTER-SINK - SET

26861 5pcs. Set Sizes: 1, 2, 3, 4 and 5

SUPER COBALT - WELDOUT™ CARBIDE SPOT WELD DRILLS

Carbide ALTiN

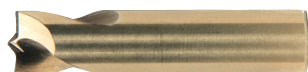
Specialty Tools - Spotweld Drills

Type 186

Weldout™ Spot weld Super Cobalt High-Speed Steel Gold Finish - Heavy-Duty Spur Point

- This rugged high performance drill is designed to effectively cut auto body panel spot welds.

High red hardness of cobalt steel permits speeds 30% greater than high speed Steel drill



Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
66420	6.5mm	1/4	1.56	.44	5
37240	6.5mm	1/4	1.49	.44	5
37520	6.5mm	1/4	1.75	none	5
37660	6.5mm TE*	1/4	3.62	none	5
66430	8.0mm	5/16	1.56	.44	5
37250	8.0mm	5/16	1.49	.44	5
37510	8.0mm	5/16	1.69	.75	5
37470	8.0mm	5/16	1.75	none	5
37670	8.0mm TE*	5/16	3.62	none	5
37530	10.0mm	3/8	1.75	none	5
37680	10.0mm TE*	3/8	3.62	none	5

The spur point on the **Type 186** is designed to cut through the weld on one panel while leaving the second panel free of holes.

Type 187

Weldout™ Spotweld Super Cobalt High-Speed Steel Gold Finish - Heavy-Duty Spur Point

- This rugged high performance drill is designed to effectively cut auto body panel spot welds.



Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
66180	8.0	5/16	2.25	none	5
66190	10.00	3/8	2.25	none	5
37671	8.0 TE*	5/16	3.62	none	5
37681	10 TE	3/8	3.62	none	5

The modified point on the **Type 187** drill is chip resistant with slightly greater penetration into the second panel.

Weldout™ Spot weld Drills Sets

Selection of the most popular sizes of spot weld drills in an attractive, rugged black steel case.

TYPE 186 WO-6 SET

Part No.	Description of Sizes
35010	6.5mm, 8.0mm & 10.0mm single-end drills with 1.75" length
	6.5mm, 8.0mm & 10.0mm twin end drills with 3.62" length

TYPE 187 WO-4 SET

Part No.	Description of Sizes
35050	8.0mm & 10mm Single-end
	8.0mm & 10mm Twin-end In Type 187 Length

Type 187-B

Carbide ALTiN Coated Spot weld Drills

- Designed to cut spot welds from Boron Steel
- Use in high temperature operations and difficult to machine materials. ALTiN coating improves lubricity, eliminating lubrication requirements.
- **Recommended (900 RPM - 1,000 RPM)**



Carbide ALTiN coating improves lubricity.

TYPE 187-B

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
85890	8.0	5/16	2.00	NONE	1
85900	10.0	3/8	2.25	NONE	1

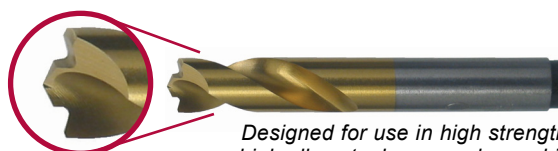
TYPE 187-B WITH FLAT

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
85880	8.0	5/16	1.75	.750	1

Type 187-DN

Titanium Nitride Weldout™ Spot weld Drills M42 Cobalt High-Speed Steel - Heavy-Duty Spur Point

- Titanium nitride coated M42 cobalt steel spot weld drills are designed for use in high strength high alloy steel commonly used in the automobile industry.
- Titanium nitride coating doubles the tool life, gives additional lubricity and protects the cutting edges of the drill in tough removal applications.
- Titanium nitride drills require a slower speed (490 RPM) when drilling difficult materials.



Heavy-Duty Spur Point

Designed for use in high strength high alloy steel commonly used in the automobile industry.

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
73450	8.0	5/16	2.25	none	1
73460	10.00	3/8	2.25	none	1
73470	8.0 TE*	5/16	3.62	none	1
73480	10 TE	3/8	3.62	none	1

Impact Hammer Drills

- Type 606 Slot Drive System 114
- Type 609 Extra Heavy-Duty 116

Masonry Drill & Sets

- Type 214 All-Purpose, HD 112
- Type 215 Fast Spiral, HD 110
- Type 216 Slow Spiral Flute, HD ... 111
- Type 217 Tapcon Style 112
- Type 225 Slow Spiral, HD 110

Percussion Bits

- Type 607 A-taper 117

Percussion Core Drills

- Type 605 Spiral Flute 113

Rebar Cutters

- Type 612 Bitsaver™ 118

Spline Bits,

Impact Hammer

- Type 614 115
- Type 615 115
- Type 616 115

Carbide Tipped with Spear Point

- Type 626 118



MASONRY FAST & SLOW SPIRAL

Type 215

Fast Spiral, Heavy-Duty Rotary

- Carbide tipped, hardened steel bodies & bright finish.
- These masonry drills are designed with the fast spiral flutes to drill faster in the extra hard masonry products.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46000	1/8	3	12
46010	3/16	3	12
46020	3/16	4	12
46040	1/4	4	12
46050	1/4	6	12
46060	5/16x1/4	4	6
46070	5/16x1/4	6	6
46080	3/8x1/4	4	6
46090	3/8x1/4	6	6
46220	3/8	12	6
46380	3/8	18	6
46100	7/16x1/4	4	6
46110	7/16x1/4	6	6
46120	1/2x1/4	4	6
46130	1/2x3/8	6	6
46360	1/2x1/4	6	6
46230	1/2x3/8	12	6
46390	1/2x3/8	18	6
46140	9/16x1/2	6	1
46370	9/16x3/8	6	1
46150	5/8x1/2	6	1
46160	11/16x1/2	6	1
46170	3/4x1/2	6	1
46180	7/8x1/2	6	1
46190	1x1/2	6	1

Type 225

Slow Spiral, Heavy-Duty Rotary

- Carbide tipped, hardened steel bodies & bright finish.
- Fastest, easiest way to drill holes in brick, tile, cement, asbestos, marble, concrete, etc.
- No special equipment needed.
- Use them in any regular electric drill.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46240	1/8	2	12
45800	1/8	3	12
46400	1/8	6	12
46250	5/32	3	12
46260	11/64	3	12
45810	3/16	3	12
45820	3/16	4	12
45830	3/16	6	12
46270	13/64	3	12
46280	7/32	4	12
46420	7/32	6	12
46290	1/4	3	12
45840	1/4	4	12
45850	1/4	6	12
46300	9/32x1/4	4	12
46440	9/32x1/4	6	12
45860	5/16x1/4	4	6
45870	5/16x1/4	6	6
46460	5/16	6	6
45880	3/8x1/4	4	6
45890	3/8x1/4	6	6
46480	3/8	6	6
45900	7/16x1/4	4	6
45910	7/16x1/4	6	6
46490	7/16x3/8	6	6
45920	1/2x1/4	4	6
45930	1/2x1/4	6	6
46860	1/2x3/8	6	6
46870	1/2	6	6
45940	9/16x3/8	6	1
45950	5/8x1/2	6	1
46310	5/8x3/8	6	1
45960	11/16x1/2	6	1
45970	3/4x1/2	6	1
46320	13/16x1/2	6	1
45980	7/8x1/2	6	1
45990	1x1/2	6	1
45120	1-1/8x1/2	6	1
45130	1-1/4x1/2	6	1
46340	1-3/8x1/2	6	1
45140	1-1/2x1/2	6	1

SLOW SPIRAL - HEAVY DUTY ROTARY

Type 216

Slow Spiral, Heavy-Duty Rotary

- Carbide tipped, hardened steel bodies & bright finish.
- Fastest easiest way to drill in brick, tile, cement, asbestos, marble, concrete etc.
- No special equipment needed.
- Use them in any electric drill. For Drills shorter than 12" see Type 215 on page 107.

FLUTE LENGTH Maximum standard flute for drills 18 through 48 inches long with 1/4 through 3/4 inch diameter is 16 inches. All drills over 3/4 inch diameter have a maximum standard flute length of 5 1/2 inches.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46500	1/8	12	1
46620	1/8	18	1
46510	3/16	12	1
46630	3/16	18	1
46520	7/32	12	1
46640	7/32	18	1
45680	1/4	12	1
45500	1/4	18	1
47200	1/4	24	1
47370	1/4	36	1
46740	1/4	48	1
46530	9/32x1/4	12	1
46650	9/32x1/4	18	1
47210	9/32x1/4	24	1
47380	9/32x1/4	36	1
45690	5/16x1/4	12	1
46540	5/16	12	1
45510	5/16x1/4	18	1
46660	5/16	18	1
47220	5/16	24	1
47390	5/16	36	1
46750	5/16	48	1
45700	3/8x5/16	12	1
46550	3/8	12	1
45520	3/8x5/16	18	1
46670	3/8	18	1
47230	3/8	24	1
47400	3/8	36	1
46760	3/8	48	1
45710	7/16x3/8	12	1
45530	7/16x3/8	18	1
47240	7/16x3/8	24	1
47410	7/16x3/8	36	1
45720	1/2x3/8	12	1
45540	1/2x3/8	18	1
47250	1/2x3/8	24	1
47420	1/2	36	1
46770	1/2	48	1
45730	9/16x3/8	12	1
45550	9/16x3/8	18	1
47260	9/16x3/8	24	1
47430	9/16x1/2	36	1
45740	5/8x1/2	12	1
45560	5/8x1/2	18	1
47270	5/8x1/2	24	1

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
47440	5/8x1/2	36	1
46780	5/8x1/2	48	1
46560	11/16x1/2	12	1
46680	11/16x1/2	18	1
47280	11/16x1/2	24	1
47450	11/16x1/2	36	1
45750	3/4x1/2	12	1
45570	3/4x1/2	18	1
47290	3/4x1/2	24	1
47460	3/4x1/2	36	1
46790	3/4x1/2	48	1
46570	13/16x1/2	12	1
46690	13/16x1/2	18	1
47300	13/16x1/2	24	1
47470	13/16x1/2	36	1
45760	7/8x1/2	12	1
45580	7/8x1/2	18	1
47310	7/8x1/2	24	1
47480	7/8x1/2	36	1
46800	7/8x1/2	48	1
45770	1x1/2	12	1
45590	1x1/2	18	1
47320	1x1/2	24	1
47490	1x1/2	36	1
46810	1x1/2	48	1
46580	1-1/8x1/2	12	1
46700	1-1/8x1/2	18	1
47330	1-1/8x1/2	24	1
47500	1-1/8x1/2	36	1
46820	1-1/8x1/2	48	1
46590	1-1/4x1/2	12	1
46710	1-1/4x1/2	18	1
47340	1-1/4x1/2	24	1
47510	1-1/4x1/2	36	1
46830	1-1/4x1/2	48	1
46600	1-3/8x1/2	12	1
46720	1-3/8x1/2	18	1
47350	1-3/8x1/2	24	1
47520	1-3/8x1/2	36	1
46840	1-3/8x1/2	48	1
46610	1-1/2x1/2	12	1
46730	1-1/2x1/2	18	1
47360	1-1/2x1/2	24	1
47530	1-1/2x1/2	36	1
46850	1-1/2x1/2	48	1

HEAVY DUTY - HIGH PERFORMANCE

Type 214

All Purpose, Heavy-Duty

- Carbide tipped, hardened steel bodies (3/8" diameter and smaller), 6% cobalt carbide grade, lifetime tip warranty against braze failure, and slow spiral.
- Black surface finish with bronze colored tip.
- Recommended for both impact and rotary use.
- Especially suited for drilling **2500-5000 psi** concrete.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
94600	1/8	3	12
94610	3/16	4	12
94620	3/16	6	12
94640	1/4	4	12
94650	1/4	6	12
94660	1/4	13	1
94670	5/16x1/4	4	6
94680	5/16x1/4	6	6
94700	3/8x1/4	4	6
94710	3/8x1/4	6	6
94720	3/8x1/4	13	1
94730	3/8x3/8	6	6
94740	3/8x3/8	13	1
94750	7/16x1/4	4	6
94760	7/16x1/4	6	6
94770	7/16x1/4	13	1
94810	1/2x1/4	6	6
94820	1/2x1/4	13	1
94830	1/2x3/8	6	6
94840	1/2x3/8	13	1
94860	9/16x3/8	13	1
94870	9/16x1/2	6	1
94880	9/16x1/2	13	1
94890	5/8x3/8	6	1
94910	5/8x1/2	6	1
94920	5/8x1/2	13	1

Type 217

High-Performance - Tapcon™ Style

- 217 Series high performance drills are designed for use in the Tapcon™ style anchoring systems used for setting masonry anchor screws with self-tapping threads.
- The 217 series fits most standard installation tools.
- Constructed of hardened alloy steel and a close tolerance carbide tip which provide long life and superior performance.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
19910	5/32	3-1/2	12
19920	5/32	4-1/2	12
19930	5/32	5-1/2	12
19940	3/16	3-1/2	12
19950	3/16	4-1/2	12
19960	3/16	5-1/2	12
19970	3/16	6-1/2	12
19980	3/16	7-1/2	12

Heavy Duty - High Performance

TIPS



Drill bit storage solutions can be found in the Displays, Cabinets & Index Sections.
Turn to Pages 139 - 152

PERCUSSION CORE DRILLS SPIRAL FLUTE

Type 605

Multiple Insert - Spiral Flute Carbide Tipped

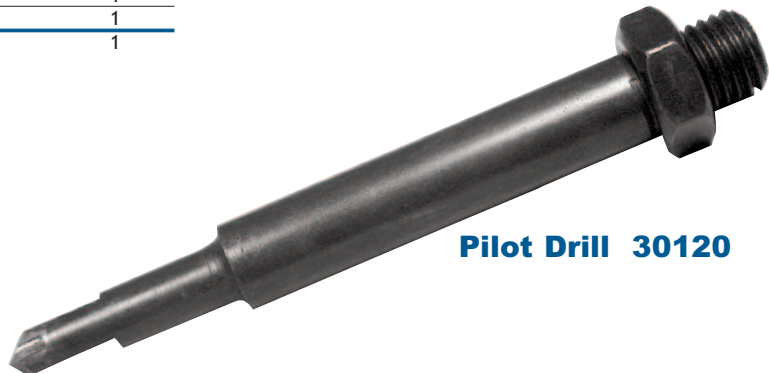
These rugged Percussion Core Bits are designed for the heavy-duty hammer-action electric tools. Special carbide tips used are designed for continuous hammering action and matched with extra tough alloy bodies to give maximum drilling life under the most demanding conditions.

- Bodies are drilled and threaded to receive 3/4-10 threaded shank
- Tough alloy body's for long life
- Deep spirals for fast dust removal & reduced heat build-up
- Specially engineered percussion carbide tips

These core bits can also be utilized for heavy rotary drilling, using standard rotary core drill shanks. They can also be used for rotary drilling in diamond core machines by using a conversion adapter.

TYPE 605

Part No.	Diameter Inches	Body Length Inches	Qty. per/pack
30000	1"	6	1
30010	1-1/8	6	1
30020	1-1/4	6	1
30030	1-1/2	6	1
30040	1-3/4	6	1
30050	2"	6	1
30060	2-1/2	6	1
30070	2-3/4	6	1
30080	3"	6	1
30090	3-1/2	6	1
30100	4"	6	1
30110	4-1/2	6	1
30120	Pilot Drill	-----	1



The **Percussion Core Drill Starter Bit** is interchangeable with all type 605 Percussion Core Drills. The Starter Bit is used to make the initial starting groove and then removed before drilling is continued. To be used only with 1-1/2" diameter and larger core drills.

IMPACT HAMMER DRILLS - SLOT DRIVE

Type 606

"Slot Drive System"

- These impact hammer drills are designed to fit all rotary hammers that specify an SDS shank.
- Positive drive slots deliver maximum torque and hammering energy for faster drilling.
- Performance of these drills is excellent over a wide variety of masonry applications



Impact Hammer Drills - Slot Drive System

Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack	Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
58990	3/16	4	2-1/2	1	33160	1/2	18	16-7/8	1
33000	3/16	6	4-1/2	1	33170	9/16	6	4-7/8	1
33010	1/4	4	2-1/2	1	33180	9/16	9	7-7/8	1
33020	1/4	6	4-1/2	1	33190	9/16	12	10-7/8	1
33030	5/16	6	4-1/2	1	33200	9/16	18	16-7/8	1
33040	5/16	9	7-1/2	1	33210	5/8	6	4-7/8	1
33050	5/16	12	10-1/2	1	33220	5/8	9	7-7/8	1
33060	3/8	6	4-1/2	1	33230	5/8	12	10-7/8	1
33070	3/8	9	7-1/2	1	33240	5/8	18	16-7/8	1
33080	3/8	12	10-1/2	1	33260	3/4	9	7-1/4	1
33090	3/8	20	18	1	33270	3/4	12	10-1/4	1
33100	7/16	6	4-1/2	1	33280	3/4	18	16-1/4	1
33110	7/16	12	10-1/2	1	33310	7/8	9	7-1/4	1
33120	7/16	18	16-1/2	1	33320	7/8	12	10-1/4	1
33130	1/2	6	4-7/8	1	33330	7/8	18	16-1/4	1
33140	1/2	9	7-7/8	1	33340	1	12	10-1/4	1
33150	1/2	12	10-7/8	1	33350	1	18	16-1/4	1

DRILL FITS:

- AEG PH 210, PHE 16RL & PHE 19 RL, 26
- B&D 5014, 5016-09
- Bosch 11207, 11210VSR, 11212VSR, 11215 DVSR & 11213RK
- Hilti TE 10, 12, 14, 15, 17 & 22
- Hitachi VRT-22A, VA 16 & DH 22
- Kango 285, 327, 422 & 426
- Makita HR 2511 & HR 1821
- Metabo 6020, 6026 & 6018
- Phillips 555 & 715
- Porter Cable 639
- Ramset 425
- Ryobi ED-211
- Skil 1740
- Milwaukee 5366, 5368 & 5371
- * SDS Plus

SPLINE BITS - HEAVY DUTY

Type 614, 615 & 616

Spline Bits - Heavy-Duty

Percussion grade carbide tip with extra strength shank for the most demanding hammer drill applications.

Heavy-Duty shanks to fit the following popular hammer drills:

- AEG PH-350, 350D, 350HD, 240D & 38, PHD38 & 26
- B & D 5041, 5042, 5043 & 5044(Macho)
- Bosch 11202, 11203, 11204, 11205, 11209 & 11214
- Hitachi DH 50SB, DH 38YA, 38YE & 38YF
- Kango 430S, 501S, 637S, 638S & 950S
- Makita HR 3851
- Metabo RH66, RH99, RH99X & 1129
- Milwaukee 5343, 5344, 5347 & 5348
- Phillips 747-2
- Ramset 442, 445 & 475
- Ryobi ED 382P & ER 382
- Wacker 11/110



Type 614



Type 615



Type 616

11" & 17" lengths are packaged in plastic hang up tubes.

TYPE 614			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47540	3/8	6	11
47550	1/2	6	11
47560	5/8	6	11
47570	3/4	6	11
47580	1	6	11
47590	1-1/8	6	11

Package quantity is 1.

TYPE 615			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47600	3/8	12	17
47610	1/2	12	17
47620	9/16	12	17
47630	5/8	12	17
47640	11/16	12	17
47650	3/4	12	17
47660	7/8	12	17
47670	1	12	17
47680	1-1/8	12	17
47690	1-1/4	12	17
47700	1-1/2	12	17

Package quantity is 1.

TYPE 616			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47710	1/2	18	23
47720	5/8	18	23
47730	3/4	18	23
47740	7/8	18	23
47750	1	18	23
47760	1-1/8	18	23
47770	1-1/4	18	23
47780	1-1/2	18	23

Package quantity is 1.

IMPACT HAMMER DRILLS - EXTRA HEAVY DUTY

Type 609

Extra Heavy-Duty

- Straight shank impact hammer bit is designed for use in the hard hitting impact tools using a Jacobs type chuck.
- These extra tough bits will give outstanding performance in the roughest drilling applications.
- The specially heat treated alloy steel body, coupled with extra tough percussion tips will stay sharp longer, and can be resharpened many times for extra long life. 6" and shorter lengths are carded.

Over 6" lengths are packaged in plastic hang up tubes



FRACTIONAL

Part No.	Diameter Inches	O.A.L.	Shank Diameter Inches	No. per/pack	Part No.	Diameter Inches	O.A.L.	Shank Diameter Inches	No. per/pack
30450	1/8	2	1/8	1	30920	1/2	18	3/8	1
30470	5/32	3	5/32	1	30660	9/16	6	3/8	1
30460	11/64	3	11/64	1	30830	9/16	12	3/8	1
30480	3/16	3	3/16	1	30930	9/16	18	3/8	1
30490	3/16	4	3/16	1	30670	5/8	6	1/2	1
30500	3/16	6	3/16	1	30840	5/8	12	1/2	1
30510	13/64	3	13/64	1	30940	5/8	18	1/2	1
30520	7/32	4	7/32	1	30680	11/16	6	1/2	1
30530	1/4	4	1/4	1	30850	11/16	12	1/2	1
30540	1/4	6	1/4	1	30950	11/16	18	1/2	1
30780	1/4	12	1/4	1	30690	3/4	6	1/2	1
30550	9/32	4	1/4	1	30860	3/4	12	1/2	1
30560	5/16	4	1/4	1	30960	3/4	18	1/2	1
30580	5/16	6A	1/4	1	30700	13/16	6	1/2	1
30590	5/16	6B	5/16	1	30710	27/32	6	1/2	1
30790	5/16	12	5/16	1	30720	7/8	6	1/2	1
30570	3/8	4	1/4	1	30870	7/8	12	1/2	1
30600	3/8	6A	1/4	1	30970	7/8	18	1/2	1
30610	3/8	6B	3/8	1	30730	1	6	1/2	1
30800	3/8	12A	5/16	1	30880	1	12	1/2	1
30810	3/8	12B	3/8	1	30440	1	18	1/2	1
30900	3/8	18A	5/16	1	30740	1-1/8	6	1/2	1
30910	3/8	18B	3/8	1	30890	1-1/8	12	1/2	1
30620	7/16	6	3/8	1	30430	1-1/8	18	1/2	1
30630	15/32	6	3/8	1	30750	1-1/4	6	1/2	1
30640	1/2	6A	1/4	1	30760	1-3/8	6	1/2	1
30650	1/2	6B	3/8	1	30770	1-1/2	6	1/2	1
30820	1/2	12	3/8	1					

Impact Hammer Drills - Extra Heavy-Duty

PERCUSSION BITS A-TAPER

Type 607

Heavy-Duty A-Taper

- Percussion grade carbide tip and strong alloy steel body
- These taper shank bits are excellent performers in all types of masonry drilling applications.
- The bits are designed to fit all standard taper chucks.



FRACTIONAL 3/16" - 9/16"

Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
31000	3/16	4	2-3/4	1
31040	1/4	6	4-3/4	1
31050	9/32	6	4-3/4	1
31020	5/16	4	2-3/4	1
31060	5/16	6	4-3/4	1
31200	5/16	9	7-1/2	1
31340	5/16	12	10-3/4	1
31030	3/8	4	2-3/4	1
31070	3/8	6	4-3/4	1
31210	3/8	9	7-1/2	1
31350	3/8	12	10-3/4	1
31080	7/16	6	4-3/4	1
31220	7/16	9	7-1/2	1
31090	15/32	6	4-3/4	1
31230	15/32	9	7-1/2	1
31100	1/2	6	4-3/4	1
31240	1/2	9	7-1/2	1
31360	1/2	12	10-3/4	1
31440	1/2	19	17-3/4	1
31110	17/32	6	4-3/4	1
31250	17/32	9	7-1/2	1
31120	9/16	6	4-3/4	1
31260	9/16	9	7-1/2	1
31370	9/16	12	10-3/4	1

FRACTIONAL 9/16" - 7/8"

Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
31450	9/16	19	17-3/4	1
31130	5/8	6	4-3/4	1
31270	5/8	9	7-1/2	1
31380	5/8	12	10-3/4	1
31460	5/8	19	17-3/4	1
31140	21/32	6	4-3/4	1
31280	21/32	9	7-1/2	1
31150	11/16	6	4-3/4	1
31290	11/16	9	7-1/2	1
31390	11/16	13	11	1
31470	11/16	19	17-3/4	1
31160	3/4	5	4-3/4	1
31300	3/4	9	7-1/2	1
31400	3/4	13	11	1
31480	3/4	19	17-3/4	1
31170	13/16	6	4-3/4	1
31320	13/16	9	7-1/2	1
31410	13/16	13	11	1
31180	27/32	6	4-3/4	1
31310	27/32	9	7-1/2	1
31420	27/32	13	11	1
31190	7/8	6	4-3/4	1
31330	7/8	9	7-1/2	1
31430	7/8	13	11	1

REBAR CUTTER - BITSAVER™

Type 612

Rebar Cutter - Bitsaver™

- The Bitsaver™ Rebar Cutter is the answer to your damaged impact hammer bit problem.
- The rebar cutter is to be used in the rotary drilling mode only.
 - Using the impact hammer mode will damage the cutter.
- The Bitsaver cutter can be used in any 1/2" capacity drill motor with a rated no-load speed of **400 to 1200 RPM**.
 - Includes most hammer drills with 3-jawed chucks.



Bitsaver™ Drilling Process

Drill into the concrete with an impact or rotary hammer carbide masonry bit. When the bit comes into contact with reinforcing bar or wire mesh, stop immediately.

Continued drilling will most likely damage the carbide tip. Use a

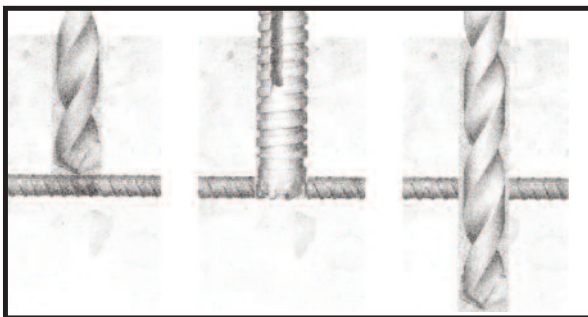
1/2" rotary drill motor or switch the hammer drill into rotary only mode.

The Bitsaver cutter is inserted into the 3 jawed chuck and then placed into the hole with the rebar or mesh obstruction.

Drill using constant

and even pressure until you have cut through the rebar or wire mesh.

Return to the original masonry bit and hammer drill after you have finished cutting the rebar or mesh and have removed the debris from the hole.



Part No.	Diameter Inches	Overall Length Inches	No. pe/pack
45211	1/2	12	1
45221	9/16	12	1
45231	5/8	12	1
45241	11/16	12	1
45251	3/4	12	1
45261	7/8	12	1
45271	1"	12	1
45281	1-1/8	12	1
45291	1-1/4	12	1
45301	1-3/8	12	1
45311	1-1/2	12	1
45321	1-3/4	12	1
45331	2"	12	1
45341	2-1/2	12	1
45351	3"	12	1

Rebar Cutter, Carbide Tipped & Diamond Tipped Drills

CARBIDE TIPPED WITH SPEAR POINT

Type 626

Carbide Tipped with Spear Point



- These drills are designed for drilling in glass, tile, mirrors, and ceramic materials.
- The spear point allows clean penetration with reduced cutting pressure and breakout.
- The carbide tip insures long tool life. Fits drills with 3/8" or larger chucks. Individually packaged in clear hanging tubes.

Part No.	Size Inches
56510	1/8
56520	5/32
56530	3/16
56540	1/4
56550	5/16
56560	3/8
56570	1/2

Type 626 SET Part # 56580

Convenient set includes four commonly used sizes;
1/8, 3/16, 1/4 & 5/16

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NORSEMAN/CTD
DRILL & TOOL

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QUICK INDEX - Cutting Tool Sets

JOBBER LENGTH, METRIC, 3/8" REDUCED SHANK

Type 190-CN

CN-TECH™ 135° Split point

- Cryogenic treatment creates a more uniform "grain" structure by transforming retained austenite into martensite.
- Modifies the carbon micro-structure through precipitation of carbides increasing resistance to wear.
- Nitride process diffuses nitrogen into the surface to create a case hardening resulting in superior tool life and exceptional corrosion resistance.

Type 190-AG NAS 907B

135° Split point Black & Gold Magnum Super Premium

- Manufactured to **NAS 907B** aerospace specification
- Body and clearance are gold surface treated for maximum lubricity.
- Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

13 Pc.

Part No.	1/16-1/4 by 64ths	Qty of each
44110 SP-13	Black & Gold Super Premium 135° Split point	1
47492 CT-13	 CN-TECH™ Cryo Nitride	1

15 Pc.

Part No.	1/16-1/2 by 32nds	Qty of each
44120 SP-15	Black & Gold Super Premium 135° Split point	1
47472 CT-15	 CN-TECH™ Cryo Nitride	1

15 Pc. Ultra Dex

Part No.	1/16-1/2 by 32nds	Qty of each
47482 CT-15P	 CN-TECH™ Cryo Nitride	1

21 Pc.

Part No.	1/16-3/8 by 64ths	Qty of each
44130 SP-21	Black & Gold Super Premium 135° Split point	1


26 Pc.

Part No.	A - Z	Qty of each
88660 SP-26	Black & Gold Super Premium 135° Split point	1

29 Pc.

Part No.	1/16-1/2 by 64ths	Qty of each
44150 SP-29	Black & Gold Super Premium 135° Split point	1
47452 CT-29	 CN-TECH™ Cryo Nitride	1

29 Pc. Ultra Dex

Part No.	1/16-1/2 by 64ths	Qty of each
44170 SP-29P	Black & Gold Super Premium 135° Split point	1
47462 CT-29P	 CN-TECH™ Cryo Nitride	1

29 Pc. Ultra Dex - Blaze Orange

Part No.	1/16-1/2 by 64ths	Qty of each
44190 SP-29PON	Black & Gold Super Premium 135° Split point	1

60 Pc.

Part No.	# 1 - 60	Qty of each
88640 SP-60	Black & Gold Super Premium 135° Split point	1

115 Pc.

Part No.	1/16-1/2 x 64ths + A-Z & 1-60	Qty of each
93840 SP-115	Black & Gold Super Premium 135° Split point	1

Type 128-AG

135° Split point 3/8" Reduced Shank Black & Gold - Magnum Super Premium

- Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

21 Pc.

Part No.	Description of Sizes	Qty of each
92170 SP-21R	1/16-1/4 by 64ths, 9/32-1/2 by 32nds	1

15 Pc.

Part No.	Description of Sizes	Qty of each
92110 RSP-15	1/16-1/2 by 32nds	1

29 Pc.

Part No.	Description of Sizes	Qty of each
92100 RSP-29	1/16-1/2 by 64ths	1

29 Pc. - Ultra Dex

Part No.	Description of Sizes	Qty of each
92150 RSP-29P	1/16-1/2 by 64ths	1

Type 170-AG - Metric

NAS 907B Black & Gold Magnum Super Premium, 135° Split point

- Manufactured to **NAS 907B** aerospace specification
- Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

11 Pc. - Metric

Part #	1.0mm - 6.0mm x .5mm	Qty of each
58650 SP-11M	Black & Gold Super Premium	1

13 Pc. - Metric

Part #	1.0mm - 7.0mm x .5mm	Qty of each
49042 SP-13M	Black & Gold Super Premium	1

19 Pc. - Metric

Part #	1.0mm - 10.0mm x .5mm	Qty of each
58920 SP-19M	Black & Gold Super Premium	1

25 Pc. - Metric

Part #	1.0mm - 13.0mm x .5mm	Qty of each
58660 SP-25M	Black & Gold Super Premium	1

41 Pc. - Metric

Part #	6.0mm - 10.0mm x .1mm	Qty of each
49043 SP-41M	Black & Gold Super Premium	1

118 Pc. - Metric

Part #	1.00 - 2.05mm by 0.05mm, 2.10 - 10.00 10mm by 0.1mm & 10.20, 10.50, 10.80, 11.00, 11.20, 11.50, 11.80, 12.00, 12.20, 12.50, 12.80 & 13.00	Qty of each
60090 SP-118M	Black & Gold Super Premium	1

Cutting Tool Sets - Mechanic Length

QUICK RELEASE 1/4" HEX SHANK & 3/8" REDUCED SHANK

Type 175-AG

Mechanic Length - 135° Split point
Black & Gold Magnum Super Premium
3-Flats on Shank 3/16" and Larger

- Body and clearance are gold surface treated for maximum lubricity.
- Especially designed for hand held drills.
- Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

13 Pc.

Part No.	Description of Sizes	Qty of each
66460 SPM-13	1/16-1/4 by 64ths	1

15 Pc.

Part No.	Description of Sizes	Qty of each
66470 SPM-15	1/16-1/2 by 32nds	1

21 Pc.

Part No.	Description of Sizes	Qty of each
57810 SPM-21	1/16-3/8 by 64ths	1

29 Pc.

Part No.	Description of Sizes	Qty of each
66480 SPM-29	1/16-1/2 by 64ths	1

29 Pc. Black- Ultra Dex

Part No.	Description of Sizes	Qty of each
66820 SPM-29P	1/16-1/2 by 64ths - w/ Ultra Dex	1

NEW 29 Pc. Blaze Orange- Ultra Dex

Part No.	Description of Sizes	Qty of each
67650 SPM-29PO	1/16-1/2 by 64ths	1

Type 178-AG

Mechanics Length -135° Split point
3/8" Reduced Shank with 3-Flats Shank
Black & Gold - Magnum Super Premium

21 Pc.

Part No.	Description of Sizes	Qty of each
92340 RSPM-21R	1/16-1/4 by 64ths + 9/32-1/2 by 32nds (3/8" shank)	1

15 Pc.

Part No.	Description of Sizes	Qty of each
57910 RSPM-15	1/16-1/2 by 32nds (3/8" shank)	1

29 Pc.

Part No.	Description of Sizes	Qty of each
57920 RSPM-29	1/16-1/2 by 64ths (3/8" shank)	1

29 Pc. Black- Ultra Dex

Part No.	Description of Sizes	Qty of each
57950 RSPM-29P	1/16-1/2 by 64ths (3/8" shank) - w/ Ultra Dex	1

NEW 29 Pc. Blaze Orange- Ultra Dex

Part No.	Description of Sizes	Qty of each
58150 RSPM-29PO	1/16-1/2 by 64ths (3/8" shank) - w/ Ultra Dex	1

TYPE QR-AG 1/4" QUICK RELEASE

Quick Release Drills - 135° Split point
Mechanic Length -
Magnum Super Premium

- 135° Split point - Magnum Super Premium with 1/4" Hex Shanks
- Perfect for use with impactor tools.



TYPE QR12-AG HARD CASE SET

Part No.	Description of Sizes	Qty of each
34811	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 7/16, 1/2" & Quick Release Adapter	1



TYPE QR16-AG SOFT POUCH SET

Part No.	Description of Sizes	Qty of each
34812	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2", & Quick Release Adapter	1

TYPE QR7A-AG SOFT POUCH SET

Part No.	Description of Sizes	Qty of each
34804	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2"	1

Sets QR-7A and QR-7B
do not include Quick Release Adapters

TYPE QR7B-AG SOFT POUCH SET

Part No.	Description of Sizes	Qty of each
34803	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4"	1



NAS 907B TITANIUM NITRIDE / TiCN / TiAlN & BLACK OXIDE

Type 190 Black Oxide NAS 907B - Heavy-Duty

- The 135° Split point makes this drill self-centering and requires less thrust in drilling harder metal than a general purpose drill.
- Recommended for medium hardness drilling applications.

Type 190-AN Titanium Nitride Coated NAS 907B - 135° Split point Heavy-Duty

- TiN coating provides a super hard surface with high lubricity.
- Greatly extends tool life in high wear or very abrasive applications.

Type 190-ACN Titanium Carbon Nitride (TiCN) NAS 907B - 135° Split point - HSS Heavy Duty

- TiCN is harder and has a lower coefficient of friction than Titanium nitride coating recommended where moderate temperatures are generated
- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135° Split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- Manufactured to **NAS 907B** aerospace specification.

Type 190-ALN Titanium Aluminum Nitride (TiAlN) NAS 907B - 135° Split point - HSS Heavy Duty

- TiAlN provides extreme hardness and oxidation resistance, superior hot hardness when compared to other coatings.
- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135° Split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- Manufactured to **NAS 907B** aerospace specification.



A-13



A-15



ACN-15

10 Pc.

1/16-5/32 by 64ths + 3/16, 7/32, 1/4

Part #	Qty of each
43330 A-10	Black Oxide - 135° Split point 1

11 Pc.

1/16 - 3/8 by 32nds

Part #	Qty of each
43320 A-11	Black Oxide - 135° Split point 1

13 Pc.

1/16 - 1/4 by 64ths

Part #	Qty of each
43340 A-13	Black Oxide - 135° Split point 1
88670 AN-13	Titanium Nitride - 135° Split point 1

15 Pc.

1/16 - 1/2 by 32nds

Part #	Qty of each
43350 A-15	Black Oxide 135° Split point 1
88680 AN-15	Titanium Nitride 135° Split point 1
81182 ACN-15	Titanium Carbon Nitride 135° SP 1
81150 ALN-15	Titanium Aluminum Nitride 135° SP 1

21 Pc.

1/16 - 3/8 by 64ths

Part #	Qty of each
43360 A-21	Black Oxide - 135° Split point 1
96740 AN-21	Titanium Nitride 135° Split point 1
88680 ACN-21	Titanium Carbon Nitride 135° Point 1
81160 ALN-21	Titanium Aluminum Nitride 135° SP 1

NAS 907B TITANIUM NITRIDE / TiCN / TiAlN & BLACK OXIDE

Type 190 Heavy-Duty NAS 907B - Black Oxide

- The 135° Split point makes this drill self-centering and requires less thrust in drilling harder metal than a general purpose drill.
- It is recommended for medium hardness drilling applications.

Type 190-AN Titanium Nitride NAS 907B 135° Split point Heavy-Duty

- Titanium nitride provides a super hard surface with high lubricity.
- Greatly extends tool life in high wear or very abrasive applications.

Type 190-ACN Titanium Carbon Nitride (TiCN) NAS 907B - 135° Split point Heavy-Duty

- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135° Split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- Manufactured to **NAS 907B** aerospace specification.

Type 190-ALN Titanium Aluminum Nitride (TiAlN) NAS 907B - 135° Split point Heavy-Duty

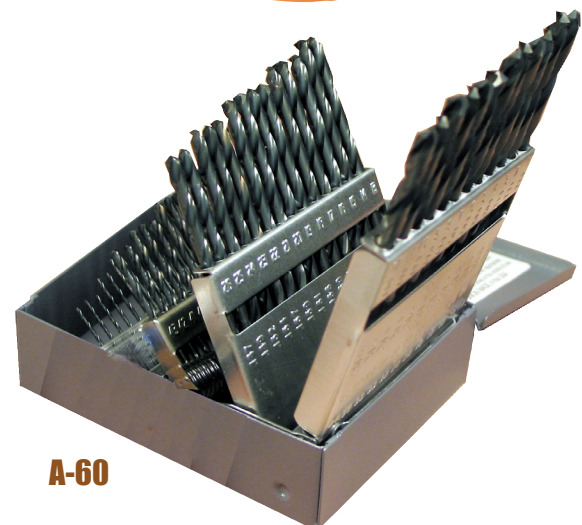
- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135° Split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- Manufactured to **NAS 907B** aerospace specification.



AN-29



AN-29PON



A-60

26 Pc.

Part #	A - Z	Qty of each
43370	A-26 Black Oxide - 135° Split point	1
81172	ACN-26 Titanium Carbon Nitride 135° Split point	1
81170	ALN-26 Titanium Aluminum Nitride 135° Split point	1

29 Pc.

Part #	1/16 - 1/2 by 64ths	Qty of each
43380	A-29 Black Oxide - 135° Split point	1
96690	AN-29 Titanium Nitride - 135° Split point	1
81162	ACN-29 Titanium Carbon Nitride 135° Split point	1
81180	ALN-29 Titanium Aluminum Nitride 135° Split point	1

29 Pc. Blaze Orange - Ultra Dex

Part No.	1/16-1/2 by 64ths	Qty of each
96770	AN-29PON Titanium Nitride - 135° Split point	1

60 Pc.

Part #	# 1 - 60	Qty of each
43390	A-60 Black Oxide - 135° Split point	1
96700	AN-60 Titanium Nitride - 135° Split point	1

115 Pc.

Part #	1/16 - 1/2 by 64ths + A - Z, #1 - 60	Qty of each
43420	A-115 Black Oxide - 135° Split point	1
95110	AN-115 Titanium Nitride - 135° Split point	1

Cutting Tool Sets - NAS 907B TiN / TiCN / TiAlN Coated & Black Oxide

V-LINE, GOLD STRIKE & 3/8" REDUCED SHANK - JOBBER LENGTH



SA-21



GF-21RS



GF-29P

Type 198 V-Line Heavy-Duty Black Oxide

- American made value line drill.
- These 135° Split point drills are self centering and perform well in hard metals.
- This series is designed for the user whose applications are well served with out the need for the tighter tolerances of our standard **Type 190**.

Type 190-GF Gold-Strike™

3-Flats on Shank 3/16" and Larger

- Heavy-duty 135° Split point drills perform well in very demanding applications.
- Ideal for use with hand held drills with key-less chucks.

Type 190-GFR 3/8" Reduced Shank with Flats

- Heavy-duty gold finish 135° Split point drills perform well in very demanding applications.
- The flats on shank give positive chuck grip, ideal for use with hand held drills with key-less chucks.

13 Pc.

1/16 - 1/4" by 64ths

Part #		Qty of each
06072 SA-13	Black Oxide - 135° Split point	1
40611 GF-13	Gold Strike™ - 135° Split point	1

15 Pc.

1/16 - 1/2" by 32nds

Part #		Qty of each
06082 SA-15	Black Oxide - 135° Split point	1
40612 GF-15	Gold Strike™ - 135° Split point	1

21 Pc.

1/16 - 3/8" by 64ths

Part #		Qty of each
06092 SA-21	Black Oxide - 135° Split point	1
40613 GF-21	Gold Strike™ - 135° Split point (1/16 - 1/4" by 64ths & 9/32 - 1/2" by 32nds 3/8" reduced shank)	1
40631 GF-21RS	3/8"- Reduced Shank Gold Strike™	1

29 Pc.

1/16 - 1/2" by 64ths

Part #		Qty of each
06102 SA-29	Black Oxide - 135° Split point	1
40604 GF-29	Gold Strike™ - 135° Split point	1
40641 GF-29RS	3/8"- Reduced Shank Gold Strike™	1

29 Pc. -Ultra Dex

1/16 - 1/2" by 64ths

Part #		Qty of each
40614 GF-29P	Gold Strike™ - 135° Split point	1
40651 GF-29RSP	3/8"- Reduced Shank Gold Strike™	1

COBALT HEAVY DUTY 135° SPLIT POINT - JOBBER LENGTH

Type 150 M42 Cobalt NAS 907J

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
- Cobalt drills require rigidly held positive feed drilling equipment.
- Manufactured to **NAS 907J** specifications.

Type 150-N M42 Cobalt NAS 907J - Titanium Nitride

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
- Cobalt drills require rigidly held positive feed drilling equipment.
- Titanium Nitride extends tool life.
- Manufactured to **NAS 907J** specifications.

Type 150-M M42 Cobalt NAS 907J - Metric

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
- Cobalt drills require rigidly held positive feed drilling equipment.
- Manufactured to **NAS 907J** specifications.

13 Pc.

1/16 - 1/4" by 64ths

Part #		Qty of each
68320 D-13	M42 Cobalt NAS 907J	1
76890 DN-13	M42 Cobalt NAS 907J Titanium Nitride	1

15 Pc.

1/16-1/2" by 32nds

Part #		Qty of each
68340 D-15	M42 Cobalt NAS 907J	1
79900 DN-15	M42 Cobalt NAS 907J Titanium Nitride	1

20 Pc.

#60 - 80

Part #		Qty of each
68310 D-20	M42 Cobalt NAS 907J	1

21 Pc.

1/16-3/8" by 64ths

Part #		Qty of each
68360 D-21	M42 Cobalt NAS 907J	1
79910 DN-21	M42 Cobalt NAS 907J Titanium Nitride	1

26 Pc.

A - Z

Part #		Qty of each
68380 D-26	M42 Cobalt NAS 907J	1
79930 DN-26	M42 Cobalt NAS 907J Titanium Nitride	1

29 Pc.

1/16-1/2" by 64ths

Part #		Qty of each
68400 D-29	M42 Cobalt NAS 907J	1
79920 DN-29	M42 Cobalt NAS 907J Titanium Nitride	1

29 Pc. -Ultra Dex

1/16-1/2" by 64ths

Part #		Qty of each
68410 D-29P	M42 Cobalt NAS 907J	1



DN-21



D-29

Cutting Tool Sets - Cobalt Heavy Duty 135 ° Split point

COBALT HEAVY DUTY 135° SPLIT POINT - JOBBER LENGTH

Type 150 M42 Cobalt NAS 907J

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
 - Cobalt drills require rigidly held positive feed drilling equipment.
 - Manufactured to **NAS 907J** specifications.

Type 150-DN M42 Cobalt NAS 907J - Titanium Nitride

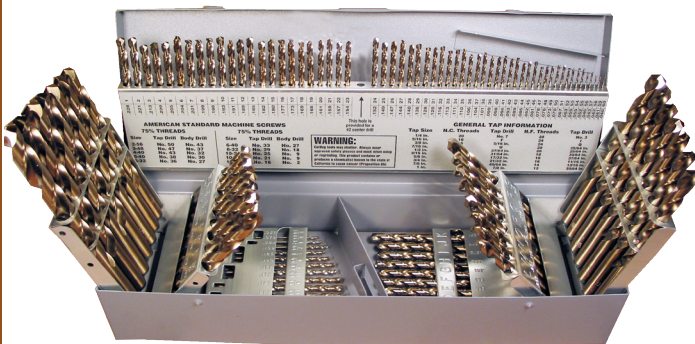
- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
 - Cobalt drills require rigidly held positive feed drilling equipment.
 - Manufactured to **NAS 907J** specifications.

Type 150-M Metric M42 Cobalt NAS 907J

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
 - Cobalt drills require rigidly held positive feed drilling equipment.
 - Manufactured to **NAS 907J** specifications.

METRIC

Cutting Tool Sets - Cobalt Heavy Duty 135° Split point / TiN Coated



D-115

60 Pc.

#1 - 60

Part #		Qty of each
68420	D-60 M42 Cobalt NAS 907J	1
79940	DN-60 M42 Cobalt NAS 907J Titanium Nitride	1

115 Pc.

1/16-1/2" by 64ths + A - Z , #1 - 60

Part #		Qty of each
69280	D-115 M42 Cobalt NAS 907J	1
79950	DN-115 M42 Cobalt NAS 907J Titanium Nitride	1



D-13M

11 Pc. - Metric

1.0mm - 6.0mm x .5mm

Part #		Qty of each
58670	D-11M M42 Cobalt NAS 907J Gold Oxide	1

13 Pc. - Metric

1.0mm - 7.0mm x .5mm

Part #		Qty of each
49082	D-13M M42 Cobalt NAS 907J Gold Oxide	1

19 Pc. - Metric

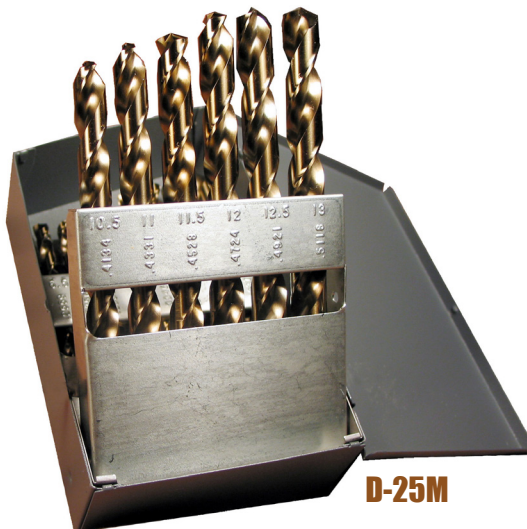
1.0mm - 10.0mm x .5mm

Part #		Qty of each
49081	D-19M M42 Cobalt NAS 907J Gold Oxide	1

25 Pc. - Metric

1.0mm - 13.0mm x .5mm

Part #		Qty of each
58680	D-25M M42 Cobalt NAS 907J Gold Oxide	1



D-25M

41 Pc. - Metric

6.0mm - 10.0mm x .1mm

Part #		Qty of each
49083	D-41M M42 Cobalt NAS 907J Gold Oxide	1

GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 115 Black Oxide

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100 Bright Finish

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100-BN Titanium Nitride

- Titanium Nitride extends cutting tool life.
- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 128 Bright Finish 3/8" Reduced Shank

- General purpose 118° point HSS drill is designed for use in portable air or electric drilling equipment with 3/8" chucks.

Type 118 V-Line Black Oxide

- American made value line drill
- These general purpose 118° point HSS drills are ideal for a wide variety of light tensile strength metal drilling applications.
- This series is designed for the user whose applications are well served with out the need for the tighter tolerances of our **standard Type 115**.



B-13



B-21



BN-15

10 Pc.

1/16 - 5/32" by 64ths + 3/16", 7/32", 1/4"

Part #			Qty of each
42000	B-10	Black Oxide - 118° Point	1
43400	J-10	Bright Finish - 118° Point	1

11 Pc.

1/16 - 3/8" by 32nds

Part #			Qty of each
42010	B-11	Black Oxide - 118° Point	1
43410	J-11	Bright Finish - 118° Point	1

13 Pc.

1/16 - 1/4" by 64ths

Part #			Qty of each
42020	B-13	Black Oxide - 118° Point	1
43430	J-13	Bright Finish - 118° Point	1
48310	BN-13	Titanium Nitride - 118° Point	1
06073	SJ-13	V-Line Black Oxide - 118° Point	1

15 Pc.

1/16 - 1/2" by 32nds

Part #			Qty of each
42030	B-15	Black Oxide - 118° Point	1
43450	J-15	Bright Finish - 118° Point	1
48320	BN-15	Titanium Nitride - 118° Point	1
44540	R-15	3/8" Reduced Shank Bright Finish	1
06083	SJ-15	V-Line Black Oxide - 118° Point	1

GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 115 Black Oxide

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100 Bright Finish

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100-BN Titanium Nitride

- Titanium Nitride extends cutting tool life.
- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 128 Bright Finish, 3/8" Reduced Shank

- General purpose 118° point HSS drill is designed for use in portable air or electric drilling equipment with 3/8" chucks.

Type 118 V-Line, Black Oxide

- American made value line drill
- These general purpose 118° point HSS drills are ideal for a wide variety of light tensile strength metal drilling applications.
- This series is designed for the user whose applications are well served without the need for the tighter tolerances of our **standard Type 115**.



J-29



SJ-29

20 Pc.

61 - 80

Part #			Qty of each
42040	B-20	Black Oxide - 118° Point	1
43460	J-20	Bright Finish - 118° Point	1
48360	BN-20	Titanium Nitride - 118° Point	1

21 Pc.

1/16 - 3/8" by 64ths

Part #			Qty of each
42050	B-21	Black Oxide - 118° Point	1
43480	J-21	Bright Finish - 118° Point	1
06093	SJ-21	V-Line Black Oxide - 118° Point	1

26 Pc.

A - Z

Part #			Qty of each
42060	B-26	Black Oxide - 118° Point	1
48640	BN-26	Titanium Nitride - 118° Point	1
43500	J-26	Bright Finish - 118° Point	1

29 Pc.

1/16 - 1/2" by 64ths

Part #			Qty of each
42070	B-29	Black Oxide - 118° Point	1
43520	J-29	Bright Finish - 118° Point	1
48330	BN-29	Titanium Nitride - 118° Point	1
44530	R-29	3/8" Reduced Shank Bright Finish	1
06103	SJ-29	V-Line Black Oxide - 118° Point	1

60 Pc.

1 - 60

Part #			Qty of each
42080	B-60	Black Oxide - 118° Point	1
43540	J-60	Bright Finish - 118° Point	1
48340	BN-60	Titanium Nitride - 118° Point	1

GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 115 Black Oxide

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100 Bright Finish

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 100-BN Titanium Nitride

- Titanium Nitride extends cutting tool life.
- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.

Type 128 Bright Finish 3/8" Reduced Shank

- General purpose 118° point HSS drill is designed for use in portable air or electric drilling equipment with 3/8" chucks.

NOTE: Surface treated flutes on sizes larger than 1/2".

Type 170 Black Oxide - METRIC

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.



R-29

Part #	80 Pc. #1 - 80	Qty of each
43300 B-80	Black Oxide - 118° Point	1

Part #	114 Pc. 1/16 - 1/2 by 64ths, #1 - 60 , 1.0mm - 13.0mm by .5mm	Qty of each
43310 B-114	Black Oxide - 118° Point	1

Part #	115 Pc. 1/16 - 1/2 by 64ths + A - Z , #1-60	Qty of each
43440 B-115	Black Oxide - 118° Point	1
43550 J-115	Bright Finish - 118° Point	1
48350 BN-115	Titanium Nitride - 118° Point	1
44520 R-115	3/8" Reduced Shank Bright Finish	1

Part #	11 Pc. - Metric 1.0mm - 6.00 by .5mm	Qty of each
44050 M-11	Black Oxide - 118° Point	1

Part #	13 Pc.- Metric 1.0mm - 7.0mm x .5mm	Qty of each
44180 M-13	Black Oxide - 118° Point	1

Part #	25 Pc. - Metric 1.0mm - 13.0mm by .5mm	Qty of each
44060 M-25	Black Oxide - 118° Point	1



M-11

METRIC

Cutting Tool Sets - Bright / TIN Coated / Black Oxide

BRIGHT 1/4" SHANK JOBBER LENGTH - COBALT SCREW MACHINE

Type 120

1/4" Shank - General Purpose 118° Point

- For use in portable air and electric equipment with 1/4" chucks, the shorter-than-jobber length greatly increases rigidity and improves performance.



Q-29

15 Pc.

Part #	1/16 - 1/2 by 32nds	Qty of each
43580 Q-15	Black Oxide Flutes - 118° Point	1

21 Pc.

Part #	1/16 - 1/2 by 32nds	Qty of each
43600 Q-21	Black Oxide Flutes - 118° Point	1

29 Pc.

Part #	1/16 - 1/2 by 64ths	Qty of each
43620 Q-29	Black Oxide Flutes - 118° Point	1



SPT-26

Type 135-AG

Screw Machine Length, Magnum Super Premium Black & Gold, 135° Split point

- Special Hi-Molybdenum surface treated body and clearance for maximum lubricity.
- Recommended for work hardening grades of stainless steel and other hard metal drilling applications.

26 Pc.

Part No.	Description of Sizes	Qty of each
66850 SPT-26	A - Z	1

29 Pc.

Part No.	Description of Sizes	Qty of each
66490 SPT-29	1/16-1/2 by 64ths	1

60 Pc.

Part No.	Description of Sizes	Qty of each
23560 SPT-60	#1-60	1

Type 100 Bright Finish

- Widely used in general purpose applications.
- Designed for a wide range of operating conditions and materials.



PL-13

7 Pc.

Part #	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4	Qty of each
44267 PL-7	Bright Finish - 118° Point	1

10 Pc.

Part #	1/16 - 5/32 by 64ths + 3/16, 7/32, 1/4	Qty of each
44277 PL-10	Bright Finish - 118° Point	1

13 Pc.

Part #	1/16 - 1/4 by 64ths	Qty of each
44287 PL-13	Bright Finish - 118° Point	1

Type 260-D

135° Split point M42-Cobalt Screw Machine NAS 907C High-Speed Steel Heavy-Duty Gold Finish

- Use to drill hard, tough metals, free machining stainless steel, titanium alloys and certain abrasive plastics.
- High red hardness of cobalt permits speed 30% over regular high-speed drills

13 Pc.

Part No.	1/16 - 1/4 by 64ths	Qty of each
42610 DT-13	M42 Cobalt NAS 907C	1

15 Pc.

Part No.	1/16 - 1/2 by 32nds	Qty of each
42620 DT-15	M42 Cobalt NAS 907C	1

21 Pc.

Part No.	1/16 - 3/8 by 64ths	Qty of each
42640 DT-21	M42 Cobalt NAS 907C	1

29 Pc.

Part No.	1/16 - 1/2 by 64ths	Qty of each
42630 DT-29	M42 Cobalt NAS 907C	1

PARABOLIC TITANIUM NITRIDE & BLACK OXIDE

Type 190-P

Parabolic Flute 135° Split point Black Oxide

- Parabolic flute drills are designed to allow deep hole drilling without frequent drill removal to clear chips.
- Drills perform best in low to medium tensile strength materials.

Type 190-PT

Parabolic Flute 135° Split point - Titanium Nitride

- Exceptional high-performance drill with the Titanium Nitride coating may extend tool life 500% or more in very abrasive drilling applications.
- The parabolic flutes eliminate the need for frequent drill removal in deep hole drilling.

13 Pc.

Part #	1/16-1/4 by 64ths	Qty of each
68080 P-13	Black Oxide -135° Split point	1
68090 PT-13	Titanium Nitride -135° Split point	1

15 Pc.

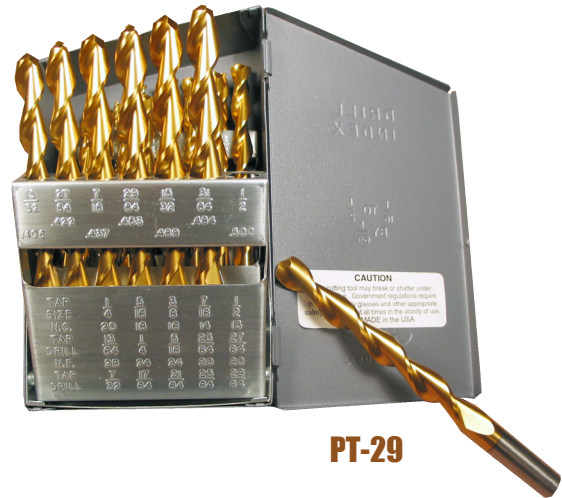
Part #	1/16-1/2 by 32nds	Qty of each
68100 P-15	Black Oxide -135° Split point	1
68110 PT-15	Titanium Nitride -135° Split point	1

21 Pc.

Part #	1/16-3/8 by 64ths	Qty of each
68120 P-21	Black Oxide -135° Split point	1
68130 PT-21	Titanium Nitride -135° Split point	1

29 Pc.

Part #	1/16-1/2 by 64ths	Qty of each
68150 P-29	Black Oxide -135° Split point	1
68160 PT-29	Titanium Nitride -135° Split point	1



PT-29



P-21

CAD-HD, SCREW MACHINE AND ACRYLIC DRILLS



CAD-15A



AD-7

Type 191 CAD-HD - Mechanic Length

V-Line Heavy-Duty Black Oxide - 135° Split point

- Black oxide prevents chip welding and increases abrasion resistance.
- American made value line drill

13 Pc.

Part #	1/16 - 1/4 by 64ths	Qty of each
43342 CAD-13A	Black Oxide - 135° Split point	1

15 Pc.

Part #	1/16 - 1/2 by 32nds	Qty of each
43352 CAD-15A	Black Oxide - 135° Split point	1

21 Pc.

Part #	1/16 - 3/8 by 64ths	Qty of each
43362 CAD-21A	Black Oxide - 135° Split point	1

29 Pc.

Part #	1/16 - 1/2 by 64ths	Qty of each
43382 CAD-29A	Black Oxide - 135° Split point	1

Type 183-AG

Super Premium Acrylic Drills

- Super **CHIPFREE™** point is precision ground at a 60° angle for gradual penetration to avoid cracking and chipping of the acrylic material.
- Special 0° rake angle on cutting edge eliminates "grabbing" when drill breaks through plastic, acrylic, or laminate surfaces.
- All sizes over 1/4" have 1/4" shanks.

7 Pc.

Part #	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	Qty of each
31580 AD-7	Acrylic Drills Super ChipFree™	1

Type 260

118° Point Screw Machine Length High Speed Steel - General Purpose

- The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.
- This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials.

Type 260-BN

118° Point Screw Machine Length Titanium Nitride High Speed Steel

- The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.
- Can be used for all screw machine operation.
- This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials

29 Pc.

Part #	1/16 - 1/2 by 64ths	Qty of each
10390 SM-29	Screw Machine - 118° Point	1

60 Pc.

Part #	#1 - 60	Qty of each
35210 SM-60	Screw Machine - 118° Point	1

29 Pc.

Part #	1/16 - 1/2 by 64ths	Qty of each
25243 SMN-29	Titanium Nitride - Screw Machine	1

60 Pc.

Part #	#1 - 60	Qty of each
25253 SMN-60	Titanium Nitride - Screw Machine	1

BLACK OXIDE & TITANIUM NITRIDE - SCREW MACHINE LENGTH

Type 135 Screw Machine Length,
NAS 907C Black Oxide 135° Split point

- A sturdy drill for use in portable power drilling.
- Accurate centering, fast penetration. Ideal for thin metal work.

Type 135-TN Titanium Nitride
NAS 907C Screw Machine Length
Heavy-Duty 135° Split point

- A sturdy drill for use in portable power drilling.
- Accurate centering, fast penetration. Ideal for thin metal work.
- TiN coating extends tool life.

Type 135-AG
Screw Machine Length Black & Gold
Super Premium 135° Split point

- Special Hi-Molybdenum surface treated body and clearance for maximum lubricity.
- Recommended for work hardening grades of stainless steel and other hard metal drilling applications.

10 Pc.

1/16 - 5/32 by 64ths + 3/16, 7/32, 1/4

Part #		Qty of each
43660	T-10 Black Oxide - 135° Split point	1

11 Pc.

1/16 - 3/8 by 32nds

Part #		Qty of each
43670	T-11 Black Oxide - 135° Split point	1

13 Pc.

1/16 - 1/4 by 64ths

Part #		Qty of each
43690	T-13 Black Oxide - 135° Split point	1

21 Pc.

1/16 - 3/8 by 64ths

Part #		Qty of each
43710	T-21 Black Oxide - 135° Split point	1

26 Pc.

A - Z

Part No.		Qty of each
66850	SPT-26 Black & Gold - 135° Split point	1

29 Pc.

1/16 - 1/2 by 64ths

Part #		Qty of each
43730	T-29 Black Oxide - 135° Split point	1
96680	TN-29 Titanium Nitride - 135° Split point	1
66490	SPT-29 Black & Gold - 135° Split point	1

60 Pc.

1 - 60

Part #		Qty of each
43750	T-60 Black Oxide - 135° Split point	1
96730	TN-60 Titanium Nitride - 135° Split point	1
23560	SPT-60 Black & Gold - 135° Split point	1



TN-29



TN-60

Cutting Tool Sets - Black Oxide / TiN Coated Screw Machine Length

1/2" SHANK SILVER & DEMING


S&D-4SP

4 Pc.

Part #	9/16, 5/8, 3/4, 1"	Qty of each
12260 S&D-4	1/2" Shank-Silver & Deming	1
12250 S&D-4SP	1/2" Shank-Silver & Deming	1
74771 S&D-4AGX	1/2" Shank-Silver & Deming	1
29551 S&D-4D	M42 Cobalt	1

8 Pc.

Part #	9/16 - 1" by 16ths	Qty of each
43200 S&D-8	1/2" Shank - Silver & Deming	1
92400 S&D-8SP	1/2" Shank - Silver & Deming	1
74781 S&D-8AGX	1/2" Shank - Silver & Deming	1
29571 S&D-8D	M42 Cobalt	1

33 Pc.

Part #	1/2 - 1" by 64ths	Qty of each
43201 S&D-33	1/2" Shank Silver & Deming 130	1
92401 S&D-33SP	1/2" Shank Silver & Deming 130-AG	1

4 Pc. - MRO

Part No.	9/16, 5/8, 3/4 & 1"	Qty of each
54520 S&D-4MRO	1/2" Shank Silver & Deming 130-MRO	1

Type 130-AG

1/2" Shank Silver & Deming
Magnum Super Premium,
3-Flats on Shank
Heavy-Duty 135° Split point

- 135° Split point for fast penetration and accurate starting without a center punch.
- One piece solid construction
- Sizes larger than 1" diameter have 118° Split point.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.

Type 130-AGX

1/2" Shank Silver & Deming,
Premium - 3-Flats on Shank
118° Split point

- M2 High Speed Steel
- Precision ground point, flutes, body and clearance.
- 118° Split point for general purpose drilling in metal, wood and plastic.

Type 130-D

1/2" Shank Silver & Deming
M42 Cobalt 135° Split point

- Manufactured from M42 HSS containing 8% cobalt which increases high red hardness.
- Cobalt drills require rigidly held positive feed drilling equipment.

Type 130

1/2" Shank Silver & Deming
118° General Purpose

- This general purpose 118° point high-speed steel drill is recommended for use in portable air and electric drilling equipment with 1/2" chucks.
- **Type 130** drills may be used in power applications such as drill presses where a short rigid drill is required.

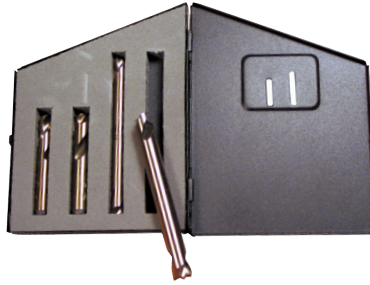
Type 130-MRO

Silver & Deming, 135° Split point,
3-Flats on Shank

- The **130-MRO** is a shorter (5") tougher version of our very popular 1/2" reduced shank product.
- Designed specifically for the needs of the MRO market, the **130-MRO** has a split point (135°) to insure fast hole starts without drill walking.
- This feature packed tool provides tremendous value for your drilling dollar.

WELDOUT™ SPOTWELD DRILLS SETS

- This rugged high performance drill is designed to effectively cut auto body panel spot welds.
- The high red hardness of cobalt steel permits speeds 30% greater than HSS drills.
- Cobalt steel is substantially more abrasion resistant, resulting in long wearing cutting edges.
- A selection of the most popular sizes of spot weld drills in an attractive, rugged black steel case.



TYPE 187 WO-4

Part #	Description of Sizes
35050	8.0mm & 10mm Single-end 8.0mm & 10mm Twin-end

TYPE 186 WO-6

Part #	Description of Sizes
35010	6.5mm, 8.0mm & 10.0mm single-end drills. 6.5mm, 8.0mm & 10.0mm twin end drills.

LEFT HAND DRILL SETS

Type 190-AL

Magnum Super Premium - Left Hand Spiral 135° Split point

- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Ideal for drilling broken studs.
- Need for screw and bolt extractor may be eliminated.

8 Pc.

Part No.	Description of Sizes	Qty of each
87650 LF-8	1/16, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2"	1

12 Pc.

Part No.	Description of Sizes	Qty of each
87651 LF-12	1/16 - 5/16 by 32nds, 3/8, 7/16 & 1/2"	1

13 Pc.

Part No.	Description of Sizes	Qty of each
87652 LF-13	1/16 - 1/4 by 64ths	1

15 Pc.

Part No.	Description of Sizes	Qty of each
87654 LF-15	1/16 - 1/2" by 32nds	1

17 Pc.

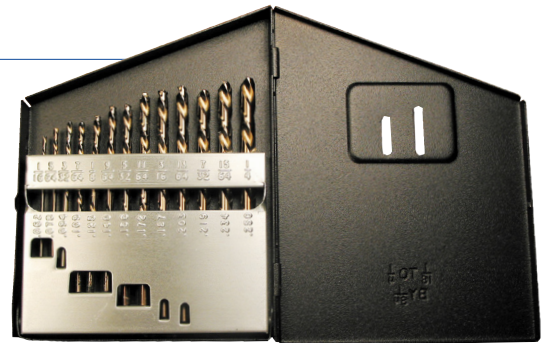
Part No.	Description of Sizes	Qty of each
87853 LF-17	1/16-1/4 by 64ths, 5/16-1/2 by 16ths	1

29 Pc.

Part No.	Description of Sizes	Qty of each
87854 LF-29	1/16-1/2 by 64ths	1

29 Pc. -Ultra Dex

Part No.	Description of Sizes	Qty of each
87859 LF-29P	1/16-1/2 by 64ths	1

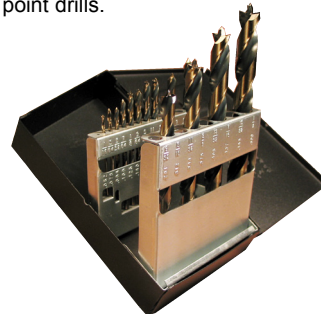


BRAD POINT DRILLS

Type 16-AG

Jobber Length Burrout™ Brad Point Super Premium

- These high performance drills made from Hi-Moly tool steel will cut holes in wood or plastics and leave no burr.
- They will also drill splinter free holes in wood.
- The special BURROUT™ point cuts at the circumference of the hole to avoid the break through burr problems common with standard point drills.



10 Pc.

Part No.	Description of Sizes	Qty of each
42001 BF-10	5/64 - 3/16 by 64ths + 7/32, 1/4"	1

14 Pc.

Part No.	Description of Sizes	Qty of each
42031 BF-14	5/64 - 3/16 by 64ths + 7/32, 1/4 - 1/2" by 16ths	1

NEW **TAP & DRILL, COMBINATION DRILL & TAPS SETS**

Type 40-AG

**Combination Drill & Tap Sets -
Magnum Super Premium**



- Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production and other applications where one pass drilling and tapping saves time and costs.
- Gold surface treatment for maximum lubricity.
- Self-centering Split point insures excellent drilling precision and accuracy.



DT-7F

7 Pc.

Part No.	Description of Sizes
73991	40-AG - DT-7F
Fine	8-36, 10-32, 1/4"-28, 5/16-24, 3/8-24, 7/16-20, 1/2"-20

7 Pc.

Part No.	Description of Sizes
73990	40-AG - DT-7C
Coarse	8-32, 10-24, 1/4" -20, 5/16-18, 3/8-16, 7/16-14, 1/2"-13

6 Pc.

Part No.	Description of Sizes
21330	40-AG - DT-6
	6-32, 8/32, 10-24, 10-32, 12-24, 1/4"-20

5 Pc.

Part No.	Description of Sizes
21324	40-QR - DT-5
	6-32, 8/32, 10-24, 10-32, 12-24, 1/4"-20



DT-6

TAP & DRILL SETS

Magnum Super Premium

- Hi-Molybdenum super premium twist drill combined with the corresponding Hi-Tungsten Magnum Super Premium tap.
- Both tools are gold surface treated for maximum lubricity, and precision ground for the ultimate in accuracy and performance.

SP-18TD SPIRAL POINT, NC

Part No.	Description of Sizes
57580	
190-AG Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
20-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 7 5/16-18, 3/8-16, 7/16-14 & 1/2-13

SP-18TDM SPIRAL POINT, METRIC

Part No.	Description of Sizes
57990	
170-AG Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20 5.00, 6.70, 8.50 & 10.20
21-AG Tap Sizes (mm)	2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75

SP-18TDF SPIRAL POINT, NF

Part No.	Description of Sizes
58010	
190-AG Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
20-AG Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20

SP-12TD SPIRAL POINT, NC

Part No.	Description of Sizes
58501	
190-AG Drill Sizes	#36, 29, 25, 21, 7, F
20-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18

SF-18TDC STRAIGHT FLUTE, NC

Part No.	Description of Sizes
60930	
190-AG Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
24-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14 & 1/2-13

SF-18TDF STRAIGHT FLUTE, NF

Part No.	Description of Sizes
60940	
190-AG Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
24-AG Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20

SF-10TD STRAIGHT FLUTE, NC

Part No.	Description of Sizes
58500	
190-AG Drill Sizes	31/64
130-AG Drill Sizes	17/32, 21/32, 49/64 & 7/8
24-AG Tap Sizes	9/16-12, 5/8-11, 3/4-10, 7/8-9 & 1-8

BRIGHT FINISH 118° POINT DRILL & HSS GENERAL PURPOSE TAPS

B-18TD 118° POINT DRILLS MAINT.

Part No.	Description of Sizes
60541	
100 Drill Sizes	# 7, 21, 25, 29, 36, F, U, 5/16, 27/64
100 Drill Sizes	# 7, 21, 25, 29, 36, F, U
20 Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 5/16-18 3/8-16, 7/16-14, 1/2-13

Cutting Tool Sets - Tap & Drill, Combination Drill & Tap Sets

STEP DRILL SETS

Type 78-AG 3-Flatted Shank Type 78-AGN Titanium Nitride Type 78-QR Quick Release

Type 78-QRN Titanium Nitride Type 78-ACN Titanium Carbon Nitride

Ultra Bit™ Multi-Diameter Step Drill 3-Flats on Shank

Type 78-AG Gold Oxide SETS - 3 & 4pc.

01911	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"
01921	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8"
01931	1/8 - 1/2, 3/16 - 1/2, 7/8 & 1-1/8" ELECTRICIANS - SET
01941	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1"
01981 4pc.	1/8 - 1/2, 1/4 - 3/4, 1/4 - 7/8, 7/8 - 1-1/8"

Type 78-AGN Titanium Nitride SETS - 3 & 4pc.

01811	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"
01821	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8"
01831	1/8 - 1/2, 3/16 - 1/2, 7/8 & 1-1/8" ELECTRICIANS - SET
01841	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1"
01871 4pc.	1/8 - 1/2, 1/4 - 3/4, 1/4 - 7/8, 7/8 - 1-1/8"

Type 78-QR Quick Release SETS - 3 pc.

01441	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8"
01451	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"
01461	1/8 - 1/2, 3/16 - 1/2, 7/8 & 1-1/8" ELECTRICIANS - SET

Type 78-QRN Titanium Nitride SETS - 3 pc.

68561	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8"
68571	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"
68581	1/8 - 1/2, 3/16 - 1/2, 7/8 & 1-1/8" ELECTRICIANS - SET

Type 78-ACN Titanium Carbon Nitride SETS - 3 & 4pc. NEW

65411	1/8 - 1/2, 3/16 - 1/2 & 1/4 - 3/4"	(#1, #4, #3)
65421	1/8 - 1/2, 3/16 - 1/2 & 3/16 - 7/8"	(#1, #4, #8)
65431	1/8 - 1/2, 3/16 - 1/2 & 9/16 - 1"	(#1, #4, #2)
65441 4pc.	1/8 - 1/2, 1/4 - 3/4, 1/4 - 7/8, 7/8 - 1-1/8"	(#1, #3, #7, #11)



BOLT EXTRACTOR SETS

Type 420 & Type 421-AG Sets

- Left-hand spiral drills often eliminate the need for bolt extractors.
- Drill may loosen bolt stud with counter clockwise rotation.

Spiral Bolt Extractor Sets

Left Hand Drill

BR-8 Type 420 & 190-AL

Part #	Sizes	Qty of each
88550	EX 1, 2, 3, 4 + 3/32, 1/8, 3/16, 1/4 drills	1

BR-10 Type 420 & 190-AL

Part #	Sizes	Qty of each
58510	EX 1, 2, 3, 4, 5 + 3/32, 1/8, 3/16, 1/4, 5/16 drills	1



Spiral Extractor

Bolt Extractor Set

SE-4N Type 420

Part #	Sizes	Qty of each
47170	EX 2, 3, 4, 5	1

SE-5N Type 420

Part #	Sizes	Qty of each
47180	EX 1, 2, 3, 4, 5	1

Square Extractor Set

Left Hand Drill

BR-8SQ Type 421-AG, Square and 190-AL

Part #	Sizes	Qty of each
70850	E 1, 2, 3, 4 + 1/8, 3/16, 1/4, 5/16	1

Square Extractor

Bolt Extractor Sets

SQE-4 Type 421-AG

Part #	Sizes	Qty of each
70840	E 2, 3, 4, 5	1



CHATTER-PROOF™ COUNTER SINK SETS

Type 82-AG Countersinks
Type 90-AG Deburring Tools

These high performance, flute-less tools are:

- Single cutting edge - for fast stock removal
- Chatter proof - for a micro smooth finish
- Wide selection of styles & angles - a tool for any job

Recommended for smoother finishes on metal, plastic and wood applications.

TYPE 82-AG & 90-AG SETS

Part No.	Sizes
SP-4CS 10440	82-AG C/S Sizes: CS5S, CS6S, CS5S, CS10S
SP-4ACS 10442	82-AG C/S Sizes: CS6S, CS8S, CS10S, CS3/16S
SP-6DB 10450	90-AG D/B Sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
SP-9CS 10443	82-AG C/S Sizes: CS5S, CS6S, CS8S, CS10S, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2

NORSEMAN/CTD
DRILL & TOOL

Cutting Tool Sets

HOLE EXPANSION TOOLS

Type 50-AG

Car Reamers, Standard Flute 3-Flats on Shank



- Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity.
- These reamers are designed for the reaming of hardened steel commonly found in truck frames, rail cars, bridges, and pressure vessels.
- Use only to enlarge previously formed or drilled holes.

SET - Contains 1 ea.

12270	CR-4SP	3/8, 1/2, 5/8, 3/4"
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Type 51-AG

Car Reamers - Fast Spiral Hole Buster™
3-Flats on Shank



- Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity.
- These reamers are designed for the reaming of hardened steel commonly found in truck frames, rail cars, bridges, and pressure vessels.

SET - Contains 1 ea.

12271	CR-4FS	3/8, 1/2, 5/8, 3/4"
12281	SM-4FS	5/16, 3/8, 7/16, 1/2"

The 51-AG, with the fast spiral, is the more aggressive of the two styles. It also will fit the needs of users who prefer a stop collar.

HOLE HOG™ SETS

Type 134-AG

Magnum Super Premium 1/2" Shank
3-flats on Shank, 4 - Flute Core Drill

- A selection of core drills and companion (minimum starting hole size) pilot drills in a black steel index.



SP-8HH Set contains:

Part# 38880

- 1 each: **134-AG** core drill sizes 3/8, 1/2, 5/8 & 3/4"
- 175-AG** drill sizes 1/4, 5/16, 25/64 & 15/32"

SP-6HHL Set contains:

Part# 38870

- 1 each: **134-AG** core drill sizes 1/2, 5/8 & 3/4"
- 175-AG** drill sizes 5/16, 25/64 & 15/32"

SP-6HHS Set contains:

Part# 38860

- 1 each: **134-AG** core drill sizes: 3/8, 1/2 & 5/8"
- 175-AG** drill sizes 1/4, 5/16 & 25/64"

3pc. CARBIDE HOLE CUTTER SETS

Type CHC-AG

- Ideal for stainless steel, structural steel studs and electrical boxes.
- Can be used on cast iron, brass, aluminum and other thin non-ferrous metals.
- Burr free holes.
- **For material up to 3/16"**



Size	Steel	Stainless Steel
11/16" to 13/16"	700-1000 RPM	300-700 RPM
7/8" to 1-3/16"	500-800 RPM	200-450 RPM
1-1/4" to 1-9/16"	300-600 RPM	175-315 RPM
1-5/8" to 2"	200-500 RPM	120-225 RPM
2-1/16" to 2-3/8"	200-400 RPM	95-195 RPM
2-7/16 to 3"	150-300 RPM	80-150 RPM

SET - Contains 1 ea.

62590	3pc.	7/8", 1-1/8" and 1-3/8"
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CARBIDE HOLE CUTTER SETS

Type CHC-AG & CHD-AG

Magnum Premium



Type CHC-AG Cuts up to 3/16" Thin Material

HC-4B Part # 62600

Set contains: **1 each:**
Fractional sizes: 11/16, 13/16, 15/16, 1-1/16"

HC-4A Part # 62610

Set contains: **1 each:**
Fractional sizes: 5/8, 3/4, 7/8, 1-inch

HC-5C Part # 62620

Set contains: **1 each:**
Fractional sizes: 7/8, 1-1/8, 1-3/8, 1-3/4, 2-inch
CHC-AG Individual Sizes Available 9/16" to 5-inch

Type CHD-AG Cuts up to 1" Thick Material

HCD-4B Part # 64300

Set contains: **1 each:**
Fractional sizes: 11/16, 13/16, 15/16, 1-1/16"

HCD-4A Part # 64310

Set contains: **1 each:**
Fractional sizes: 5/8, 3/4, 7/8, 1-inch.

HCD-5C Part # 64320

Set contains: **1 each:**
Fractional sizes: 7/8, 1-1/8, 1-3/8, 1-3/4, 2-inch.

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QUICK INDEX - - Displays, Cabinets & Indexes

STOCK MASTER DISPENSERS & DISPLAYS



Type 925

Fractional Drills - 300 Piece Assortment

- Assortment is complete with lexan front display pictured on the left side of this page.
- Case stocks **29 fractional sizes -1/16" thru 1/2" by 64ths** - each size in a separate compartment.
 - Individual compartments are plainly marked with drill sizes.
- Drills will be attractively displayed yet secure with the lexan locking cover.

BLACK Counter Top Display are available stocked with Type 190-AG, 175-AG

BEIGE Counter Top Display are available stocked with Type 150, 190, 115, 100 or 190-GF drills



Type 190-AG



Type 175-AG



Type 115

300 PC. ASSORTMENT EACH. DISPLAY CONTAINS

Part No.	Assortment No.	Drill Type	No. of Drills	Fractional Size
06490	300-SP	190-AG	24	1/16"
06520	300-HD	190	12	5/64"
54720	300-BR	100	24	3/32"
54750	300-BL	115	18	7/64"
57640	300-SPM	175-AG	48	1/8"
57641	300-RSPM	175/178-AG	18	9/64"
68460	300-D	150	18	5/32"
40632	300-GF	190-GF	12	11/64"
			24	3/16"
			6	13/64"
			12	7/32"
			6	15/64"
			24	1/4"
			6	17/64"
			6	9/32"
			2	19/64"
			6	5/16"
			2	21/64"
			3	11/32"
			2	23/64"
			6	3/8"
			2	25/64"
			2	13/32"
			2	27/64"
			3	7/16"
			2	29/64"
			2	15/32"
			2	31/64"
			6	1/2"

Total 300

ACCESSORIES

Part No.	Description	Qty. per/pack
58350	Replacement Lock & key	1

DISPLAY Only
Part #45150

SILVER DEMING DISPLAY

Silver & Deming Drills

- Compact Lexan case attractively displays S&D drills.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.



SILVER & DEMING COUNTER DISPLAY		
Contents	Part No. 00940	No. of Each
Type 130-AG	9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 & 1"	1

DISPLAY Only
Part #00934

REAMER COUNTER DISPLAY

Type 50-AG -Standard Flute **Type 51-AG -Fast Spiral**
Reamers

- Compact case attractively displays reamers.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.



CR8SPA

Part #	Type	Contents	No. of Each
00941	CR8SPA 50-AG	3/8, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1"	1
00942	CR8FSA 51-AG	3/8, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1"	1

Display Only Part #00934

Display, Cabinets & Indexes - Silver & Deming / Annular Cutters

ANNULAR CUTTERS DISPLAYS

Annular Cutters

- Compact metal case attractively displays annular cutters.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.



DISPLAY CONTENT

1 of each, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1", 1-1/16 by 1" depth and same sizes as above by 2" depth. Both include five pins.



DISPLAY only
Part #00939

ANNULAR CUTTERS COUNTER DISPLAY

Part No.	Size/Type
00943	SB-20 /15 & 15L
00944	SB-20HS /14 & 14L
00949	SB-20SP/13SP & 13LSP

SPIRA-BROACH™ ANNULAR CUTTERS

- These unique cutters reduce time and power requirements by cutting larger diameter holes as a ring to produce a solid slug.
- The effort required is a fraction what is needed when using a twist drill or indexable tooling.



SPIRA-BROACH™ Annular Cutters

- Gives the lowest cost per hole
 - Cuts on curved surfaces
 - Leaves a burr-free hole
 - Uses less power
- Allows overlapping cuts on existing holes
 - Stays sharp much longer



SB-5 1" LENGTH

Part No.	Type	Components
15301	M-42 15	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16901	M-35 14	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16624	M-2 13SP	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16

SB-5 2" LENGTH

Part No.	Type	Components
15302	M-42 15L	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16902	M-35 14L	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16629	M-2 13LSP	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16

STOCKING CASES, FRACTIONAL, WIRE, LETTER, METRIC & SILVER DEMING ASSORTMENT

Type 925

Closed Drawer All-Steel Stocking Units

Stocking cases for Fractional, Wire Gauge, Letter, Metric, and Silver & Deming drills.



Fractional & Metric Sizes = 3 Drawers

Wire Sizes = 5 Drawers

Letter Sizes = 3 Drawers

Silver & Deming = 4 Drawers

CABINET ONLY

Fractional Sizes: Part # 44920

Wire Sizes: Part # 44930

Letter Sizes: Part # 44940

Metric Sizes: Part # 08930

Silver & Deming: Part # 43203

FRACTIONAL DRILLS

Part No.	Assortment No.	Drill Type
06500	96-SP	190-AG
16010	96-HD	190
37270	96-SPM	175-AG
54690	96-BR	100
54760	96-BL	115
68440	96-D	150
37271	96-RSPM	175/178-AG

FRACTIONAL DRILLS - 96PC. ASSORTMENT

Drill Size - Contains	Quantity
1/16, 3/32, 1/8, 5/32, 11/64, 3/16, 7/32 & 1/4	6 each
5/64, 7/64, 9/64, 13/64, 15/64, 9/32, 5/16, 11/32	3 each
17/64, 21/64, 23/64, 3/8, 25/64, 13/32, 27/64, 7/16 & 29/64	2 each
15/32 & 1/2	2 each
19/64 & 31/64	1 each

WIRE GAUGE

Part No.	Assortment No.	Drill Type
16030	249-HD	190
35070	249-SP	190-AG
54700	249-BR	100
54770	249-BL	115

WIRE GAUGE DRILLS - 249 PC. ASSORTMENT

Drill Size - Contains	Quantity
1-22	3 each
23-29	4 each
30-60	5 each

LETTER DRILLS

Part No.	Assortment No.	Drill Type
16020	72-HD	190
35080	72-SP	190-AG
54710	72-BR	100
54780	72-BL	115

LETTER DRILLS - 72 PC. ASSORTMENT

Drill Size - Contains	Quantity
A-T	3 each
U-Z	2 each

METRIC DRILLS

Part No.	Assortment No.	Drill Type
18910	91-SP	170-AG

METRIC DRILLS - 91 PC. ASSORTMENT

Drill Size - Contains	Quantity
2.5, 3.5, 4.5, 5.0, 5.5, 6.0 & 6.5	5 each
1.5, 2.0, 3.0, 7.0, 8.0 & 8.5	4 each
1.0, 4.0, 9.0, 9.5, 10.0, 10.5, 11.0 & 12.0	3 each
7.5, 11.5, 12.5 & 13.0	2 each

SILVER & DEMING

Part No.	Assortment No.	Drill Type
43202	S&D 13	130
92402	S&D 13-SP	130-AG

SILVER & DEMING - 13PC. ASSORTMENT

Drill Size - Contains	Quantity
9/16 & 5/8	3
3/4	2
11/16, 13/16, 7/8, 15/16 & 1"	1

SILVER & DEMING DRILL DISPENSERS

Type 914



HUOT MODEL 13166

Part No.	Dimensions Inches	Weight	Qty. per/pack
00950	14-5/8 W x 7-3/8 D x 7-3/4 H	13-1/4 lbs.	1

Holds: 2 each Reduced Shank S & D bits from 33/64ths to 63/64ths by 64ths.



HUOT MODEL 13167

Part No.	Dimensions Inches	Weight	Qty. per/pack
00951	14-5/8 W x 7-3/8 D x 7-3/4 H	10-3/4 lbs.	1

Holds: 2 each Reduced Shank S & D bits from 1, 1-1/32, 1-1/16, 1-1/8, 1-5/32, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16 & 1-1/2.

DRAWER-MOUNT DRILL ORGANIZER

Type 914

Drawer-Mount



The latest thing in organizing, sorting, storing, and securing your cutting tools. The outer shell can be mounted underneath a work bench, desk, shelf, inside a cabinet, or just about anywhere. The drawer has a cam-lock to keep your cutting tools safely locked away.

- Workbench-space-saver.
- Out-of-the way convenience.
- Security-Built in cam lock and two keys.
- Heavy-duty ball bearing drawer slides.
- Time-saving Cutting tools are stored away in their proper locations making it fast and easy to find the right tool.
- Each space clearly marked for the proper tool.
- Decimal equivalent shown under each size tool.

Overall Dimensions: 26 -1/8" W x 12-1/2" D x 4-1/2" H

Drawer Dimensions: 23 -1/8" W x 11" D x 3" H

Shipping Weight: 14 -1/2 pounds

PART NO. 01021

Huot Model 30000
For Fractional Drills 1/16" to 1/2" x 64ths.

PART NO. 01023

Huot Model 30050
For Letter Drills from A to Z

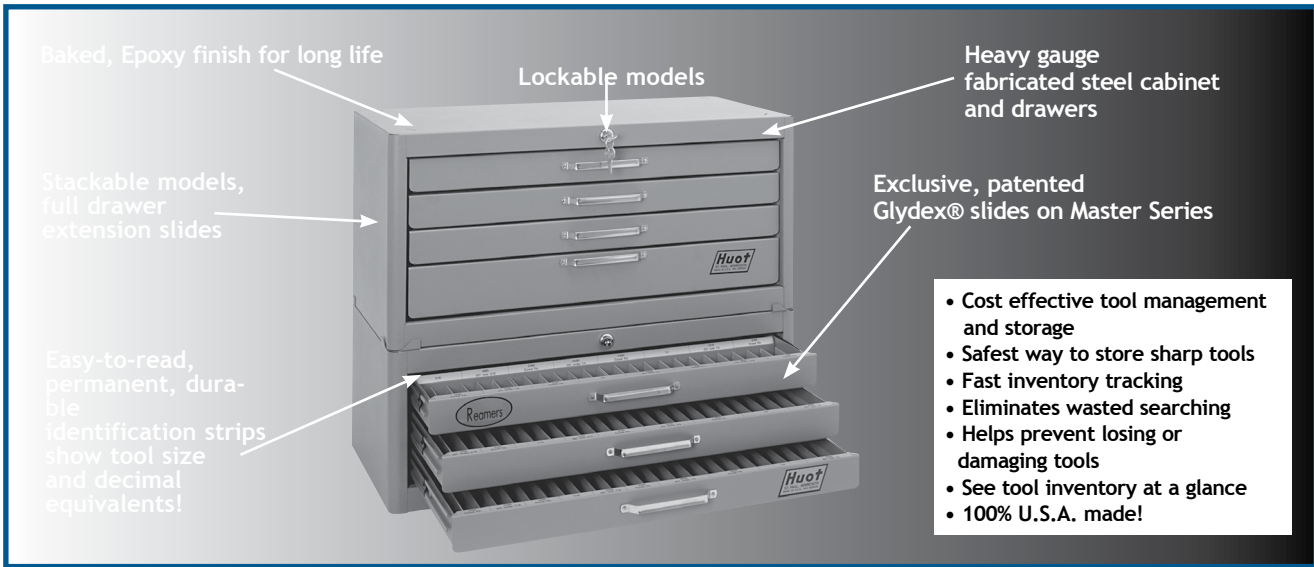
PART NO. 01022

Huot Model 30025
For Wire Gauge Drills #1 to #60.

PART NO. 01024

Huot Model 30001
Empty drawer-mount drawer, no dividers
for miscellaneous storage space.

MASTER DRILL DISPENSERS



- Cost effective tool management and storage
- Safest way to store sharp tools
- Fast inventory tracking
- Eliminates wasted searching
- Helps prevent losing or damaging tools
- See tool inventory at a glance
- 100% U.S.A. made!

Type 914

Master Drill Dispensers (U.S. and Metric Sizes)

Feature:

- All steel cabinet with vinyl dividers to help protect and separate bits.
- Each cabinet is lockable with its own set of 2 keys.
- Each drawer measures 23-1/8" wide; 11" front to back.
- Stackable for larger inventories at one location.
- Lower drawer is undivided for extra long drills, reamers, and miscellaneous tools.
- Drawer Divider Kit available for lower drawer.

U.S. Sizes

Part No. 00682

Holds full packages (minimum of 12 pc.) of jobber or screw machine length drills, fractional, letter, and wire gauge sizes in one complete cabinet.

- Top drawer holds fractional drills 1/16" to 1/2" by 64th with 42 compartments.
- 2nd drawer is for #1 to #60 wire gauge with 75 compartments.
- 3rd drawer for letter size A to Z with 42 compartments.

HUOT MODEL 13175 - U.S. SIZE DRILLS

Part No.	Dimensions Inches	Weight	Qty. per/pack
00682	26" W x 12" D x 12 - 1/2" H	43 lbs.	1

Metric Sizes

Part No. 00681

Holds metric drills from .35mm to 13.00mm.

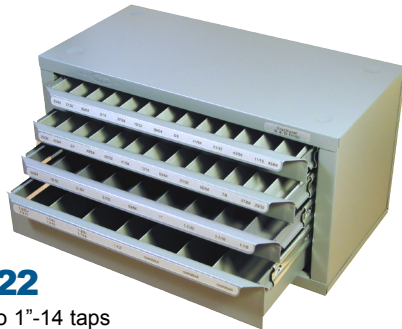
Sizes include: .35mm to 2.50mm by .05mm, 2.6mm to 10.0mm by .1mm, 10.2mm, 10.5mm, 10.8mm, 11.0mm, 11.2mm, 11.5mm, 11.8mm, 12.0mm, 12.2mm, 12.5mm, and 13.0mm.

138 compartments to store and inventory all your metric drill bits. Same great features as our #00682 jobber length master cabinet.

HUOT MODEL 13180 - METRIC SIZE DRILLS

Part No.	Dimensions Inches	Weight	Qty. per/pack
00681	26" W x 12" D x 12 - 1/2" H	43 lbs.	1

MASTER TAPS DISPENSERS



Part #01322

For sizes 1/4"-20 to 1"-14 taps
Many compartments hold multiples of a given size tap.

Holds - Bottom, Plug and Taper of each size:

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				

Holds - Taper, Plug, Bottom and Spiral:

2-56	3-48	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			

Type 914

- Holds most common NC/NF sizes from 1/4" to 1-1/2"
- Holds metrics from 2.5 mm to 30 mm.
- Holds machine screw size 2-56 thru 12-28, taper, plug, bottom, and spiral.
- Extruded vinyl drawer dividers protect taps.
- Top drawer has 40 compartments.
- Second drawer has 78 compartments.
- Third drawer has 21 compartments.
- Fourth drawer has 13 compartments.
- Stackable for larger inventories.
- Lockable.

Part # 01321

HUOT MODEL 13585

Part No.	Dimensions Inches	Weight	Qty. per/pack
01321	26" W x 12" D x 12 - 1/2" H	46 lbs.	1

HUOT MODEL 13580

Part No.	Dimensions Inches	Weight	Qty. per/pack
01322	26" W x 12" D x 12 - 1/2" H	46 lbs.	1

MASTER TAPS DISPENSERS

Type 914

- Holds all sizes of National Pipe taps (NPT) from 1/16 to 2.
- Top drawer has 13 compartments measuring 3/4" W x 7/8" H x 4-1/2" D.
- 2 compartments for 1/16-27, 2 for 1/8-27, 3 for 1/4-18, 3 for 3/8-18 and 3 for 1/2-14.
- Middle drawer has 9 compartments for 3 for 3/4-14, 3 for 1-11-1/2, 3 for 1-1/4-11-1/2.
- Bottom drawer has 7 compartments measuring 1-3/4" W x 2" H x 7" D.
- 3 compartments for 1-1/2-11-1/2 and 1 large compartment for 2-11-1/2

Part # 01323

HUOT MODEL 13560

Part No.	Description	Qty. per/pack
01323	National Pipe Taps (NPT)	1

HUOT MODEL 13595

Part No.	Description	Qty. per/pack
01324	Taps, Drill & Dies	1

Display, Cabinets & Indexes - Master Tap Dispensers



Part # 01324

Holds Metric, Taps, Drills and Dies.

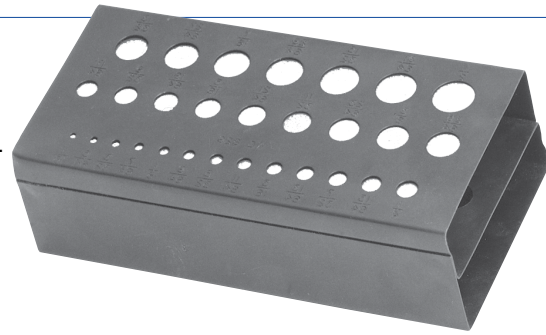
From 2.5 x .45 tap to 12.0 x 1.75 tap and holds the following sizes:

- Top drawer holds 2.5 x .45 tap - 2.05 drill dies, 3.0 x .50 tap-2.50 drill - dies, 3.5 x .60 tap - 2.90 drill - dies, 4.0 x .70 tap -3.30 drill-dies.
- Middle drawer holds 5.0 x .80 tap -4.20 drill-dies, 6.0 x 1.00 tap - 5.00 drill-dies, 8.0 x 1.25 tap - 6.70 drill-dies.
- Bottom drawer holds 10.0 x 1.50 tap - 8.50 drill-dies, 12.0 x 1.75 tap - 10.20 drill-dies.
- Room in top drawer for your T-handle wrench.

DRILL STANDS

Type 914

- These drill stands can be hung on a wall, used on a bench, or mounted on a press.
- Durably made from a single piece of prime steel, rigidly formed.



Part # 01011

Letter sizes A to Z inclusive

Part # 01012

Fractional drills 1/16" to 1/2" by 64ths inclusive

Part # 57430

Silver & Deming drills from 1/2"-1" by 64ths. Held by shank.

HUOT MODEL 11985 PART #57430		
Part No.	Dimensions Inches	Qty. per/pack
57430	13" W x 5" D x 2" H	1

HUOT MODEL 11850 PART #01011		
Part No.	Dimensions Inches	Qty. per/pack
01011	5-5/8" W x 2-5/8" D x 1-1/2" H	1

HUOT MODEL 11900 PART #01012		
Part No.	Dimensions Inches	Qty. per/pack
01012	5-5/8" W x 2-5/8" D x 1-1/2" H	1

DRILL GAUGES

Type 914

- Economical gauge made from prime steel and finished

Part # 58520

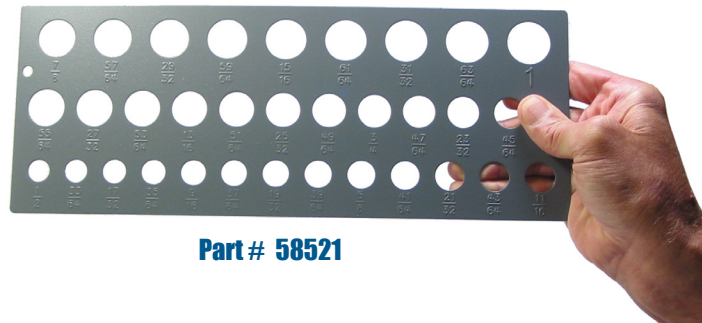
For measuring 1/16" to 1/2" by 64ths drill bits.

Part # 58522

For measuring #1 to 60 wire gauge drill bits.

Part # 58521

For measuring drills 1/2" to 1" by 64ths.



Part # 58521

HUOT MODEL 12250 PART #58520		
Part No.	Dimensions Inches	Qty. per/pack
58520	6" W x 3" D	1

HUOT MODEL 12280 PART #58521		
Part No.	Dimensions Inches	Qty. per/pack
58521	13" W x 5" D	1

HUOT MODEL 12260 PART #58522		
Part No.	Dimensions Inches	Qty. per/pack
58522	5-1/4" W x 2" D	1

STOCKED COUNTER DISPLAYS

- Compact metal case attractively displays complete assortment of taps, dies, and wrenches.
- Locking scratch proof Lexan front reduces pilferage and keeps merchandise clean.
- Broad range of sizes. Practically all customers can be served with small investment.
- Price strips furnished on each display for quick reference at point of sale
- Furnished with hex or round dies.

Part # 50010 - Display with Round Dies

Part # 50210 - Display with Hex Dies

DISPLAY ONLY
#45000



DISPLAY CONTENTS

Contents	Size	No. of Each
Plug Tap	1/4-20 NC	6
	1/4-28 NF	6
	5/16-18 NC	6
	5/16-24 NF	6
	3/8-16 NC	6
	3/8-24 NF	6
	7/16-14NC	6
	7/16-20NF	6
	1/2-13 NC	6
	1/2-20 NF	6
	9/16-12NC	6
	9/16-18NF	6
	5/8-11NC	6
	5/8-18NF	6
	3/4-10NC	6
	3/4-16NF	6
	4-40NC	12
	6-32NC	12
8-32NC	12	
10-24NC	12	
10-32NF	12	
12-24NC	12	
Pipe Tap	1/8-27NPT	6
Round or Hex Die	1/4-20NC	3
	1/4-28NF	3
	5/16-18NC	3
	5/16-24NF	3
	3/8-16NC	3
	3/8-24NF	3
	7/16-14NC	3
	7/16-20NF	3
	1/2-13NC	3
	1/2-20NF	3
	9/16-12NC	3
	9/16-18NF	3
	5/8-11NC	3
	5/8-18NF	3
	3/4-10NC	3
	3/4-16NF	3
	4-40NC	3
	6-32NC	3
	8-32NC	3
	10-24NC	3
10-32NF	3	
12-24NC	3	
1/8-27NPT	3	
T-Handle Tap Wrench	0 to 1/4"	3
T-Handle Tap Wrench	3/16" to 1/2"	3
Economy Die Stock	1" Round Hex	3

When Ordering Specify Round or Hex Dies

TAP & DIE COUNTER-TOP

Magnum Super Premium

**Super Premium Tap & Die Counter Top Dispenser
53 Piece, Straight Flute Taps
& Hex Dies**

53-SF Assortment contains:

Super Premium straight flute tap sizes:

- 3 each 6-32, 8-32, 10-24, 10-32 & 1/4-20;
- 2 each 5/16-18, 3/8-16, 7/16-14 & 1/2-13;
- 1 each 4-40, 12-24, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-12, 5/8-11 & 3/4-10.

Super Premium hex die sizes:

- 1 each 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 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, 5/8-11 & 3/4-10;
- 2 each 1/4-20.

Includes glass front stocking cabinet.

PART # 35150

**Super Premium Tap & Die Counter Top
Dispenser 55 Piece, Spiral Point Taps
& Hex Dies**

55-SP Assortment contains:

Super Premium spiral point tap sizes:

- 3 each 6-32, 8-32, 10-24, 10-32 & 1/4-20;
- 2 each 5/16-18, 3/8-16, 7/16-14 & 1/2-13;
- 1 each 4-40, 12-24, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-11, 5/8-18, 3/4-10 & 3/4-16

Super Premium hex die sizes:

- 1 each 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 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, 5/8-11, 5/8-18, 3/4-10 & 3/4-16
- 2 each 1/4-20

Includes glass front stocking cabinet.

PART # 35160

TAP & DRILL ASSORTMENTS

Magnum Super Premium

- Special Hi - Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity.
- Recommended for use in production tapping and drilling of work hardening grades of stainless steel and other hard metal applications.
- Precision ground tap threads for the ultimate in accuracy and performance.



CABINET ONLY
PART #35100

Super Premium Tap & Drill Dispenser Assortment **67 Piece**, Spiral Point Taps & Jobber Length Drills

67-SP Assortment contains:

Type 190-AG - Super Premium jobber drill sizes:

- 6 each #36, 29, 25, 21
- 3 each #7, F & 5/16
- 2 each #3, I, Q, U, 25/64, 27/64 & 29/64

Type 20-AG - Super Premium spiral point plug tap sizes:

- 3 each 1/4-20
- 2 each 6-32, 8-32, 10-24, 10-32 and 1 each 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

Includes 3 drawer stocking cabinet.

PART # 35121

Super Premium Tap & Drill Dispenser Assortment **123 Piece**, Spiral Point Taps & Jobber Length Drills

123-SP Assortment contains:

Type 190-AG - Super Premium Jobber drill sizes:

- 12 each #36, 29, 25, 21
- 6 each #7, F & 5/16
- 3 each #3, I, Q, U, 25/64, 27/64 & 29/64

Type 20-AG - Super Premium Spiral point plug tap sizes:

- 6 each 1/4-20
- 3 each 6-32, 8-32, 10-24, 10-32, 5/16-18 & 3/8-16
- 2 each 1/4-28, 5/16-24, 3/8-24, 7/16-14 & 1/2-13
- 1 each 7/16-20 & 1/2-20

Includes 3 drawer stocking cabinet

PART # 35120

Super Premium Tap & Drill Dispenser Assortment **123 Piece**, Straight Flute Taps & Jobber Length Drills

123-SF Assortment contains:

Type 190-AG - Super Premium jobber drill sizes:

- 12 each #36, 29, 25, 21
- 6 each #7, F & 5/16
- 3 each #3, I, Q, U, 25/64, 27/64 & 29/64

Type 24-AG - Super Premium Straight flute plug tap sizes:

- 6 each 1/4-20
- 3 each 6-32, 8-32, 10-24, 10-32, 5/16-18 & 3/8-16
- 2 each 1/4-28, 5/16-24, 3/8-24, 7/16-14 & 1/2-13
- 1 each 7/16-20 & 1/2-20

Includes 3 drawer stocking cabinet

PART # 35110

DISPLAY PACKAGES

Type 175-AG

**Mechanic Length Drills
Magnum Super Premium -
Black & Gold - 135° Split Point**

- Super Premium drills in attractive, displays.
- All drills are packed on cards with logo and scanable bar code.
- **178-AG drills** with flattened reduced shanks are used where indicated.

All displays contain an attractive header card and 1/4" peg board fasteners.



DISPLAY NO. DC145SP

Part # 81651

Contents	Size	No. of Cards
175-AG	3/16, 1/4	5
1/16 thru 1/2	1/16, 5/64, 3/32, 7/64, 1/8, 5/16	4
	9/64, 5/32, 11/64, 13/64, 7/32	3
17/64, 9/32, 19/64, 21/64, 11/32	15/64, 3/8	2
	23/64, 7/16, 1/2	
	25/64, 13/32, 27/64, 29/64	
	15/32, 31/64	1

* 1/16" thru 1/8" = 3 per card, 9/64" thru 1/4" = 2 per card

DISPLAY NO. DC116SP

Part # 81631

Contents	Size	No. of Cards
175-AG 1/16 thru 13/32	1/8"	7
	1/16, 3/32"	5
	5/32"	3
178-AG 7/16 thru 1/2	1/4"	7
	3/16, 5/16"	6
	9/32, 11/32, 3/8"	4
	13/32, 7/32, 7/16"	3
	1/2"	2
	15/32"	1

DISPLAY NO. DC72SP

Part # 81641

Contents	Size	No. of Cards
175-AG 1/16 thru 3/8	1/8	7
	1/16, 3/32	5
	5/32	3
178-AG 7/16 thru 1/2	1/4	7
	3/16, 5/16	6
	3/8	4
	7/32, 7/16	3
	1/2	2

* 1/16" thru 1/8" = 3 per card, 9/64" thru 1/4" = 2 per card

Type CHC-AG

**Carbide Tipped Hole cutter Display
Magnum Super Premium**

- Magnum Super Premium Carbide tipped hole cutters are made with ultra-hard tungsten carbide teeth for cutting through tough alloys.
- The design provides sharp, crisp cuts without burrs and prevents over penetration.
- The built-in pilot drill with ejector spring quickly discharges the slug effortlessly.



Display Rack Only

Part # 14120

CARBIDE HOLE CUTTERS DISPLAY

Part # 62700

Contents	Size	No. of Each
CHC-AG	13/16, 7/8, 15/16, 1"	1
Depth of cut	1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-3/8	
	3/16"	
CHD-AG	13/16, 7/8, 15/16, 1",	1
Depth of cut	1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-3/8	
	1"	
Display Rack	16" width x 27" height	1
(Display Rack Only Part #14120)		

INDEXES ONLY

Type 902

Jobber Indexes

Part No.	Description	Qty. per/pack
43870	I-11	1
43760	I-13	1
49044	I-13M	1
43770	I-15	1
43780	I-20	1
43790	I-21	1
43880	I-25	1
43800	I-26	1
43810	I-29	1
49049	I-41	1
43860	I-60	1
43940	I-115	1
43850	H-13	1



Silver & Deming Indexes

Part No.	Description	Qty. per/pack
43930	I-SD	1
12240	PL-4SD	1
12243	PL-8SD	1
57430	A-33	1

Screw Machine Indexes

Part No.	Description	Qty. per/pack
43890	S-13	1
43900	S-21	1
43910	S-29	1
43920	S-60	1

Plastic Indexes & Cases

Part No.	Description	Qty. per/pack
44000	13-PL	1
44020	I-25TDI	1
44040	I-40TDI	1
61670	I-58TDI	1

BLACK INDEXES - ID PLATE SLOT

Type 902



Display, Cabinets & Indexes - Black Indexes / ID Plate Slot

Jobber Indexes

Part No.	Description	Qty. per/pack
28580	I-3SP	1
57460	I-13SP	1
57470	I-15SP	1
57480	I-21SP	1
57490	I-26SP	1
57500	I-29SP	1
57510	I-60SP	1
57520	I-115SP	1
58930	I-25SP	1
99860	I-21SPR	1

Screw Machine Index

Part No.	Description	Qty. per/pack
23250	I-29SPT	1

Silver & Deming Indexes

Part No.	Description	Qty. per/pack
57440	ISD-8SP	1

Hole Hog™ Index

Part No.	Description	Qty. per/pack
38850	I-8HH	1

Tap & Drill Indexes

Part No.	Description	Qty. per/pack
58320	I-10TD	1
57570	I-18TD	1
57980	I-18TDM	1
58000	I-18TDF	1
58502	I-12TD	1

Drill & Extractor Index

Part No.	Description	Qty. per/pack
58331	I-BRSQ	1

Tap Indexes

Part No.	Description	Qty. per/pack
61630	I-19T	1
61640	I-10T	1

Spotweld™ Indexes

Part No.	Description	Qty. per/pack
35000	I-6WO	1
16040	I-4WO	1