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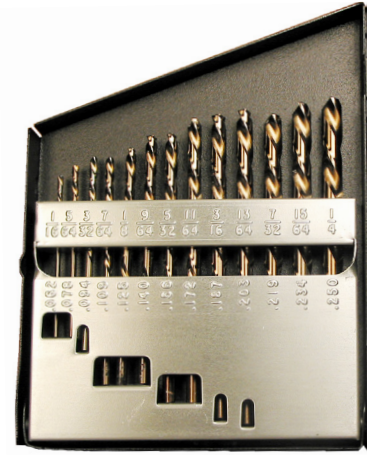


## LEFT-HAND HEAVY DUTY JOBBER LENGTH DRILLS

### 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

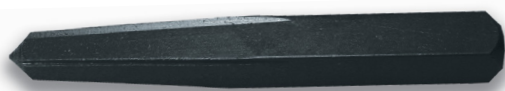
Part No.	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
57100	EX-1	3/32 to 5/32	1/8	.060	5/64	5
57110	EX-2	5/32 to 7/32	3/16	.080	7/64	5
57120	EX-3	7/32 to 9/32	1/4	1/8	5/32	5
57130	EX-4	9/32 to 3/8 and 1/8 pipe	5/16	3/16	1/4	5
57140	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

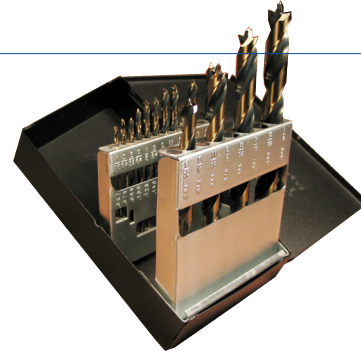
Part No.	Description of Sizes
53500	3/8"
53510	1/2
53520	9/16
53530	5/8
53540	11/16
53550	3/4
53560	7/8
53570	15/16
53580	1"
53590	1-1/8"

## 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.



### 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



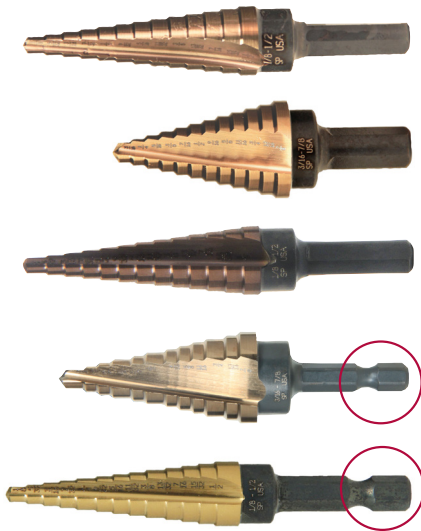
- One handed operation – Simply push your PTA into the extension and it will automatically load and lock the accessory.
- Patented All Hex connection system will hold any 1/4" hex shape including, Power Groove and Notched product
- Patented All Hex connection system holds the accessory without any wobble 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

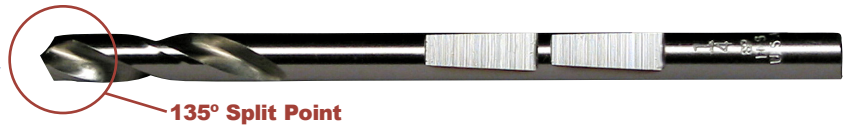
TYPE 140 WIRE

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 Fits 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 Fits 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.

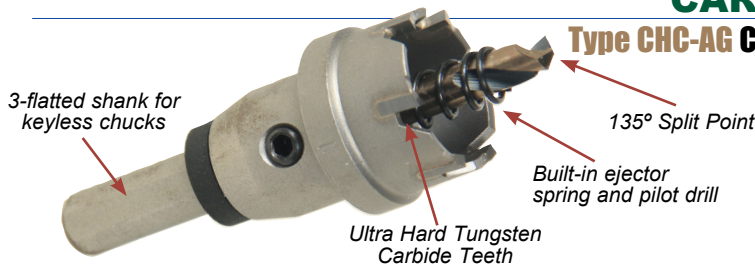
Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32300	1/8	1/8	2-3/4	1
32310	5/32	5/32	3	1
32320	11/64	11/64	3	1
32330	3/16	3/16	3	1
32340	7/32	7/32	4	1
32350	1/4	1/4	4	1
32360	1/4	1/4	6	1
32370	9/32	9/32	4	1
32380	5/16	1/4	4	1
32390	5/16	5/16	6	1
32400	3/8	1/4	4	1
32410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

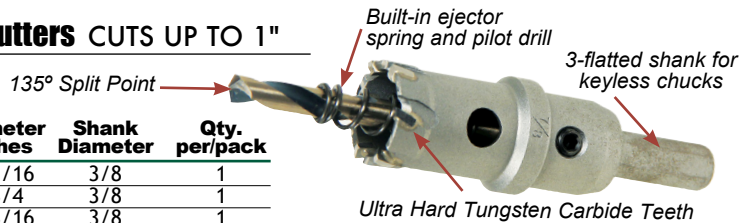
Part#	Diameter Inches	Shank Diameter	Qty. per/pack
62280	2-5/16	3/8	1
62290	2-3/8	3/8	1
62300	2-7/16	3/8	1
62310	2-1/2	3/8	1
62320	2-9/16	3/8	1
62330	2-5/8	3/8	1
62340	2-11/16	1/2	1
62350	2-3/4	1/2	1
62360	2-13/16	1/2	1
62370	2-7/8	1/2	1
62380	2-15/16	1/2	1
62390	3"	1/2	1
62400	3-1/4	1/2	1
62410	3-1/2	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

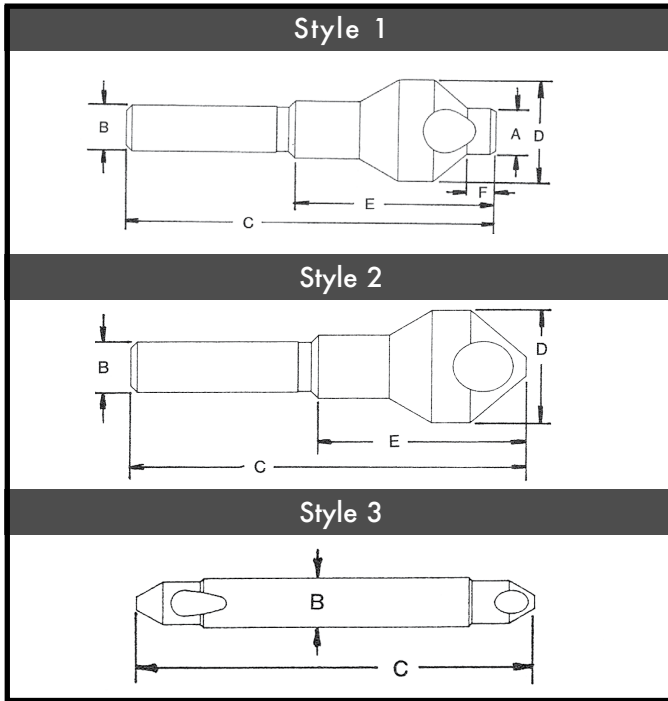
See next page for technical diagram

**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
<b>SP-4CS</b> 10440	82-AG C/S sizes: CS5S, CS6S, CS8S, CS10S
<b>SP-4ACS</b> 10442	82-AG C/S sizes: CS6S, CS8S, CS10S, CS3/16
<b>SP-6DB</b> 10450	90-AG D/B sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
<b>SP-9CS</b> 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

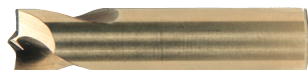
Specialty Tools - Spotweld Drills

**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

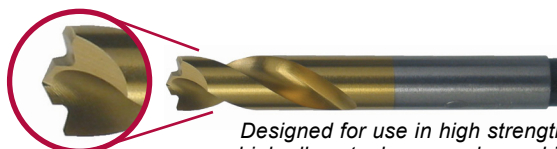
**TYPE 187-B WITH FLAT**

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