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LEFT-HAND SPIRAL JOBBER LENGTH, LEFT-HAND **VORTEX-POINT™**

Type 240-AL 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.
- Ideal for removing broken studs.

Part #	Diameter Inches	OAL 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 250-VTL

Left-Hand **VORTEX-POINT™** & Spiral Hi-Carbon Screw Pipe Extractor

- Unique tip geometry reduces heat generation & cutting tool wear increasing tool life.
- Remove broken screws, bolts threaded parts, and pipes.

Part #	Diameter Inches	OAL Inches	Flute Length Inches
35582	1/8"	2-1/2"	1-7/16"
35622	3/16"	3"	2-7/8"
35662	1/4"	3-1/2"	2"
35702	5/16"	4"	2-1/2"
35742	3/8"	4-1/4"	2-11/16"

TYPE 420-UB & VORTEX-POINT™ SET

LEFT-HAND **VORTEX-POINT™** & SPIRAL EXTRACTOR

Part #	Description of Sizes	Qty of each
35852	BR-10VT EX 1, 2, 3, 4, 5 + 1/8", 3/16" 1/4", 5/16", 3/8"	1

BROKEN BOLT REMOVER COMBO

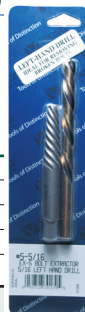
Type 420-AL

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

Part #	Screw Extractor Number	Description of Sizes	Qty of each
30130	EX-1	3/32" LH Drill	1
30140	EX-2	1/8" LH Drill	1
30150	EX-3	3/16" LH Drill	1
30160	EX-4	1/4" LH Drill	1
30170	EX-5	5/16" LH Drill	1

PRODUCT: TIPS

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



TYPE 240-AL LEFT-HAND SPIRAL SETS

Part #	Description of Sizes	Qty of each
8 Pc.		
87650	LF-8 1/16 - 1/2" by 16ths	1

Part #	Description of Sizes	Qty of each
12 Pc.		
87651	LF-12 1/16 - 5/16" by 32nds, 3/8, 7/16 & 1/2"	1

Part #	Description of Sizes	Qty of each
13 Pc.		
87652	LF-13 1/16 - 1/4" by 64ths	1

Part #	Description of Sizes	Qty of each
15 Pc.		
87654	LF-15 1/16 - 1/2" by 32nds	1

Part #	Description of Sizes	Qty of each
17 Pc.		
87853	LF-17 1/16 - 1/4" by 64ths, 5/16-1/2" by 16ths	1

Part #	Description of Sizes	Qty of each
29 Pc.		
87854	LF-29 1/16 - 1/2" by 64ths	1

Part #	Description of Sizes	Qty of each
29 Pc. - Ultra Dex		
87859	LF-29P 1/16 - 1/2" by 64ths	1

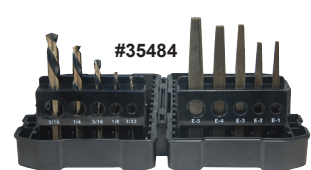
Left-Hand Screw Machine Length 135° Split Point, 3-Flats on Shank 3/16" & Larger

Type 260-AL Black & Gold

- Ideal for removing broken studs in tight areas.
- Left hand spiral drills often remove bolt without the need for an extractor.



Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
35214	3/32"	1-3/4"	3/4"	6
35234	1/8"	1-7/8"	7/8"	6
35254	5/32"	2-1/16"	1"	6
35274	3/16"	2-3/16"	1-1/8"	6
35294	7/32"	2-3/8"	1-1/4"	6
35314	1/4"	2-1/2"	1-3/8"	6
35334	9/32"	2-11/16"	1-1/2"	3
35354	5/16"	2-13/16"	1-5/8"	3
35374	11/32"	3"	1-11/16"	3
35394	3/8"	3-1/8"	1-13/16"	3
35414	13/32"	3-5/16"	1-15/16"	3
35434	7/16"	3-7/16"	2-1/16"	3
35454	15/32"	3-5/8"	2-1/8"	3
35474	1/2"	3-3/4"	2-1/4"	3



TYPE 421-UB SETS

SQUARE EXTRACTOR

Part #	Description of Sizes	Qty of each
35484	BR-10SQ E 1, 2, 3, 4, 5 + 3/32", 1/8" 3/16", 1/4", 5/16"	1
35491	BR-10SQX E 1, 2, 3, 4, 5 + 1/8" 3/16", 1/4", 5/16", 3/8"	1

HI-CARBON SCREW, STUD & 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.
- COO-CHINA



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 #	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-UB

Studout™ Screw, Stud and Pipe Extractors - 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.

• COO-CHINA

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-UB STUDOUT™ SCREW, STUD & PIPE EXTRACTOR

Part #	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

Type 421-USA

Screw, Stud & Pipe Extractors - 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-USA SCREW, STUD & PIPE EXTRACTOR

Part #	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
20890	E-1	3/16" - 9/32"	3/16"	1/8"	1/8"	5
20900	E-2	9/32" - 11/32"	1/4"	11/64"	3/16"	5
20910	E-3	11/32" - 1/2"	5/16"	7/32"	1/4"	5
20920	E-4	1/2" - 3/4"	3/8"	9/32"	5/16"	5
20930	E-5	5/8" - 7/8"	7/16"	21/64"	3/8"	5
20940	E-6	7/8" - 1"	1/2"	7/16"	1/2"	1
20950	E-7	1" - 1-1/4"	5/8"	1/2"	9/16"	1
20960	E-8	1-1/8" - 1-1/2"	3/4"	9/16"	5/8"	1
20970	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-UB - 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 #	Description of Sizes	Qty of each
47170	EX 2, 3, 4 & 5	1

SE-5N - Type 420

Part #	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 & 240-AL

Part #	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 & 240-AL

Part #	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-UB BOLT EXTRACTOR SETS

SQE-4 - Type 421-UB

Part #	Description of Sizes	Qty of each
70840	EX 2, 3, 4 & 5	1

TYPE 421-UB BOLT EXTRACTOR SETS - LEFT HAND DRILL

BR-8SQ - Type 421-UB & 240-AL

Part #	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.
- COO-CHINA



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"
56580	4pc. GT-4 1/8", 3/16", 1/4", 5/16"

Individually packaged in clear hanging tubes

CAR REAMERS & HEX NUT REAMERS

Type 50-UB

Car Reamers, Standard Flute 3-Flats on Shank

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



Part#	Shank Dia.	Overall Length	Dia. Inches	Point Dia.	Min. Starting Hole Size	Qty. per/Pk
06390	3/8"	4-5/8"	*3/8"	0.244	9/32"	1
06400	1/2"	5-7/8"	*1/2"	0.291	5/16"	1
06410	1/2"	5-7/8"	9/16"	0.291	5/16"	1
06420	1/2"	6-3/8"	*5/8"	0.323	11/32"	1
06430	1/2"	6-3/8"	11/16"	0.385	13/32"	1
06440	1/2"	6-7/8"	*3/4"	0.416	7/16"	1
06450	1/2"	6-7/8"	13/16"	0.478	1/2"	1
06460	1/2"	6-7/8"	7/8"	0.510	17/32"	1
06470	1/2"	6-7/8"	15/16"	0.595	19/32"	1
06480	1/2"	6-7/8"	1"	0.604	5/8"	1
06504	1/2"	6-7/8"	1-1/16"	0.635	21/32"	1

Part#	Shank Dia.	Overall Length	Dia. Inches	Point Dia.	Min. Starting Hole Size	Qty. per/Pk
06514	1/2"	6-7/8"	1-1/8"	0.670	11/16"	1
06524	1/2"	6-7/8"	1-3/16"	0.710	3/4"	1
06484	1/2"	6-7/8"	1-1/4"	0.729	3/4"	1
06534	3/4"	6-7/8"	1-5/16"	0.785	13/16"	1
06544	3/4"	6-7/8"	1-3/8"	0.820	7/8"	1
06554	3/4"	6-7/8"	1-7/16"	0.860	29/32"	1
06564	3/4"	6-7/8"	1-1/2"	0.900	15/16"	1

SET TYPE 50-UB Includes
 12270 *4PC. CR-4SP 3/8", 1/2", 5/8", 3/4"

Type 51-UB

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.
- The 51-UB, 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.



Part#	Shank Dia.	Overall Length	Dia. Inches	Point Dia.	Min. Starting Hole Size	Qty. per/Pk
06381	5/16"	4-5/8"	*5/16"	0.182	3/16"	1
06391	3/8"	4-5/8"	*3/8"	0.244	1/4"	1
06501	7/16"	5-7/8"	*7/16"	0.260	9/32"	1
06401	1/2"	5-7/8"	*1/2"	0.291	5/16"	1
06411	1/2"	5-7/8"	9/16"	0.291	5/16"	1
06421	1/2"	6-3/8"	*5/8"	0.323	11/32"	1
06432	1/2"	6-3/8"	0.652	0.385	13/32"	1
06431	1/2"	6-3/8"	11/16"	0.385	13/32"	1
06441	1/2"	6-7/8"	*3/4"	0.416	7/16"	1
06531	1/2"	6-7/8"	0.776	0.416	7/16"	1
06451	1/2"	6-7/8"	13/16"	0.478	1/2"	1
06461	1/2"	6-7/8"	7/8"	0.510	17/32"	1
06471	1/2"	6-7/8"	15/16"	0.595	19/32"	1

Part#	Shank Dia.	Overall Length	Dia. Inches	Point Dia.	Min. Starting Hole Size	Qty. per/Pk
06481	1/2"	6-7/8"	1"	0.604	5/8"	1
06491	1/2"	6-7/8"	1-1/16"	0.635	21/32"	1
06541	1/2"	6-7/8"	1-1/8"	0.670	11/16"	1
06551	1/2"	6-7/8"	1-3/16"	0.710	3/4"	1
06482	1/2"	6-7/8"	1-1/4"	0.729	3/4"	1
06561	3/4"	6-7/8"	1-5/16"	0.785	13/16"	1
06571	3/4"	6-7/8"	1-3/8"	0.820	7/8"	1
06581	3/4"	6-7/8"	1-7/16"	0.860	29/32"	1
06591	3/4"	6-7/8"	1-1/2"	0.900	15/16"	1

SET TYPE 51-UB Includes
 12271 *4PC. CR-4FS 3/8", 1/2", 5/8", 3/4"
 12281 *4PC. SM-4FS 5/16, 3/8", 7/16", 1/2"



Type 52-UB - Bridge Length Type 53-UB - 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 52-UB BRIDGE LENGTH					
Part#	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	Qty. per/Pk
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 53-UB CAR LENGTH					
Part#	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	Qty. per/Pk
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 & STEP REAMERS

Type 54-UB - Straight Flute Type 55-UB - 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-UB STRAIGHT FLUTE

Part #	Diameter Inches	Flute Length	Overall Length	Morse Taper	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-UB SPIRAL FLUTE

Part #	Diameter Inches	Flute Length	Overall Length	Morse Taper	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 51-UBM

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

- For use in enlarging previously formed or drilled holes.
- These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels.



Part #	Diameter Inches	OAL Inches	Point Diameter	Min. Starting Hole Size	Qty. per/pack
82100	3/8"	4.160	.183	3/16"	1
82120	1/2"	4.625	.245	1/4"	1
82140	5/8"	5.200	.310	5/16"	1
82170	3/4"	5.750	.370	3/8"	1

Type VT&R-8P

VORTEX-POINT™ & Car Reamers Mechanics Length

- VORTEX-POINT™ Split-point design gives accurate starting and its self-centering eliminating the need for the use of a center punch.
- VORTEX-POINT™ Unique tip geometry reduces heat generation & cutting tool wear increasing tool life.
- Type 51-UBM Mechanics Length reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels.



Set

8 Pc. Ultra Dex

Part #	3/16", 1/4", 5/16", 3/8" + 3/8", 1/2", 5/8", 3/4"	Qty of ea.
82340	VORTEX-POINT™ + Fast Spiral Car Reamer Type 250-VT & 51-UBM	1

Type 78-GR -Gold Oxide

Type 78-ZR -White Gold & SETS

HSS Step Reamers, 3-Flats on Shank

- Accurately starts, enlarge and deburrs in holes in material up to 1/2" thick.
- 90° notch point starts holes easily.
- Each reamer has five hole enlargement steps.



Gold Oxide - low temperature stress relief that enhances lubricity, reduces friction and increases toughness.

Zirconium Nitride - cutting machining aluminum magnesium, titanium alloys. Increased lubricity.

TYPE 78-GR GOLD OXIDE & TYPE 78-ZR WHITE GOLD

78-GR Gold Oxide Part #	78-ZR Zirconium Nitride Part #	Hole Sizes	Range	Shank Sizes	Step Thickness
83710	99940	5	5/16" - 9/16"	3/8"	1/2"
83720	99950	5	9/16" - 13/16"	3/8"	1/2"
83730	99960	5	13/16" - 1-1/16"	3/8"	1/2"

SETS

78-GR Part #	78-ZR Part #	Hole Sizes	Range	Shank Sizes	Step Thickness	
83750	99980	3pc.	5	5/16" - 1-1/16"	3/8"	1/2"
83760	99990	2pc.	5	5/16" - 9/16"	3/8"	1/2"



#83750



#99980

STANDARD WOOD AUGERS, HOLE HOG™, DRYWAL BITS

Type 284-UB & Sets

Hole Hog™ 1/2" Shank 4-Flute Core Drill
Super Premium, 3-Flats on Shank

- 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.



This tool is designed exclusively for enlarging existing holes.

TYPE 284-UB FRACTIONAL

Part #	Diameter Inches	Min. Starting Hole Size	OAL 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

SETS -- TYPE 284-UB

SP-8HH Set Contains 1ea:

Part# 38880

284-UB Core drill sizes: 3/8", 1/2", 5/8" & 3/4"

250-UB Drill sizes: 1/4", 5/16", 25/64" & 15/32"

SP-6HHL Set Contains 1ea:

Part# 38870

284-UB Core drill sizes: 1/2", 5/8" & 3/4"

250-UB Drill sizes: 5/16", 25/64" & 15/32"

SP-6HHS Set Contains 1ea:

Part# 38860

284-UB Core drill sizes: 3/8", 1/2" & 5/8"

250-UB Drill sizes: 1/4", 5/16" & 25/64"



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

Type 950- 9", Type 951 - 16" Wood Auger Bits Type 952- 18", Type 953 - 24" Wood Auger 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"

Part #	Flute Length	Description of Sizes
53200	5"	3/8"
53210	5"	1/2"
53220	5"	9/16"
53230	5"	5/8"
53240	5"	11/16"
53250	5"	3/4"
53260	5"	7/8"
53270	5"	15/16"
53280	5"	1"
53290	5"	1-1/8"

TYPE 951 16"

Part #	Flute Length	Description of Sizes
53300	12"	3/8"
53310	12"	1/2"
53320	12"	9/16"
53330	12"	5/8"
53340	12"	11/16"
53350	12"	3/4"
53360	12"	7/8"
53370	12"	15/16"
53380	12"	1"
53390	12"	1-1/8"

TYPE 952 18"

Part #	Flute Length	Description of Sizes
53400	14"	3/8"
53410	14"	1/2"
53420	14"	9/16"
53430	14"	5/8"
53440	14"	11/16"
53450	14"	3/4"
53460	14"	7/8"
53470	14"	15/16"
53480	14"	1"
53490	14"	1-1/8"

TYPE 953 24"

Part #	Flute Length	Description of Sizes
53500	18"	3/8"
53510	18"	1/2"
53520	18"	9/16"
53530	18"	5/8"
53540	18"	11/16"
53550	18"	3/4"
53560	18"	7/8"
53570	18"	15/16"
53580	18"	1"
53590	18"	1-1/8"

DRYWALL BITS FOR CUTOUTS

Type 180-GP - Black & Gold

High-Speed Steel - Guide Point Left-Hand Cut

- Cuts material Up to 1" thick
- Left-hand spiral, Right hand cut.
- For use with Rotozip Spiral saws.

Type 180-SA - Bright Finish

High-Speed Steel - Left-Hand Cut

- Can cut material Up to 1" thick.
- Left hand spiral, Right hand cut.
- For use in Rotozip Spiral saws.
- Cuts a variety of materials from wood to fiberglass.



Type 180-GP

Gold oxide treated body and clearance for maximum lubricity.



Type 180-SA

It is recommended for non-ferrous metals wood and fiberglass.

TYPE 180-GP DRYWALL BITS

Part No	Diameter Inches	Overall Length Inches	Qty per/pack
68000	1/8"	2-1/4"	8
68020	5/32"	2-1/4"	10
68070	1/4"	2-7/8"	2

TYPE 180-SA DRYWALL BITS

Part No	Diameter Inches	Overall Length Inches	Qty per/pack
68030	1/8"	2-1/4"	8
68040	5/32"	2-1/4"	2

CAUTION: Safety glasses and dust mask must be worn at all times when using super Drywall bits.

BRAD POINT DRILLS

Type 16-UB

Jobber Length - Burout™ 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.

(Sizes 7/16" and 1/2" have 3/8" Reduced Shanks)



Part #	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-UB BURROUT™ SETS

BF-10

Part #	Description of Sizes	Qty of each
42001	5/64-3/16" by 64ths + 7/32", 1/4"	1

BF-14

Part #	Description of Sizes	Qty of each
42031	5/64-3/16" by 64ths + 7/32, 1/4"-1/2" by 16ths	1

TYPE QR-UB 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.
- **Not intended for Impact Tools.** • **Made in the USA.**



Part #	Size	Qty. per/pack
34821	3" Quick Release Extension	1
34831	6" Quick Release Extension	1
34841	12" Quick Release Extension	1

VORTEX-POINT™

Type 250-VT

Mechanic Length, 3-Flat on Shank

Step drill design

3-Flats on Shank eliminates slippage



Mechanic length - Shorter sturdier construction

- Unique tip geometry reduces heat generation & cutting tool wear increasing tool life.
- Easily enlarges existing holes without damaging the point.
- Stay sharp up to 4X longer compared to conventional and other specialty tip designs.
- Recommended for **Cast iron, Brass, Sheet metal, Plastic, Mild steel, Copper, Hardened steel.**

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

Part #	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 #	Size	Qty. per/pack
27555	6"	1
52175	12"	1

TYPE 935 1/4" HEX SHANK SETS

4pc. SET EASY-CUT

One each: 3/8", 1/2", 5/8" & 3/4" in plastic pouch.

Part# 52185

6pc. SET EASY-CUT

One each: 3/8", 1/2", 5/8", 3/4", 7/8" & 1" in plastic pouch.

Part# 52195

13pc. SET EASY-CUT

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# 52205

EASY-CUT 6" - 12" EXTENSION

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



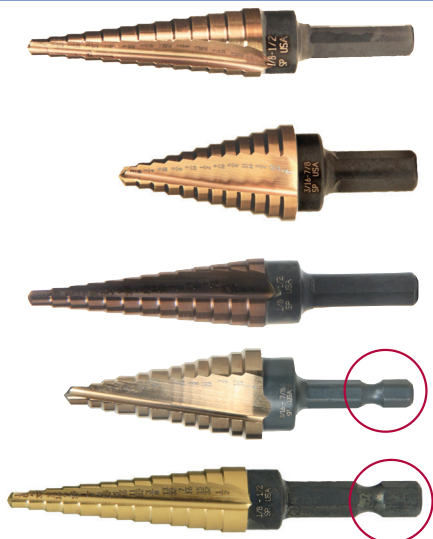
Part #	Diameter Inches	Qty. per/pack	Part #	Diameter Inches	Qty. per/pack
22573	1/16"	6	22763	23/64"	3
22583	5/64"	6	22773	3/8"	3
22593	3/32"	6	22783	25/64"	3
22603	7/64"	6	22793	13/32"	3
22613	1/8"	6	22803	27/64"	3
22623	9/64"	6	22813	7/16"	3
22633	5/32"	6	22823	29/64"	3
22643	11/64"	6	22833	15/32"	3
22653	3/16"	6	22843	31/64"	3
22663	13/64"	6	22853	1/2"	3
22673	7/32"	6			
22683	15/64"	6			
22693	1/4"	6			
22703	17/64"	6			
22713	9/32"	6			
22723	19/64"	3			
22733	5/16"	3			
22743	21/64"	3			
22753	11/32"	3			

TYPE 250-VT SETS

22863	VT-13	1/16" - 1/4" by 64ths
22873	VT-15	1/16" - 1/2" by 32nd
22883	VT-21	1/16" - 3/8" by 64ths
22893	VT-29	1/16" - 1/2" by 64ths
22903	VT-29P	1/16" - 1/2" by 64ths
22913	VT-29PO	1/16" - 1/2" by 64ths

STEP DRILLS ULTRA BIT™ MULTI-DIAMETER

Made in the U.S.A.



Type 78-UB 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-UBN Titanium Nitride, 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, 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.

Quick Release - Ultra Bit™ Multi-Diameter

Type 78-QR, Gold Oxide - 1/4" Hex Shank

- 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 - 1/4" Hex Shank

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

TYPE 78-UB, 78-UBN, 78-ACN 3-FLATTED SHANK

78-UB Gold Oxide Part #	78-UBN Titanium Nitride Part #	78-ACN Titanium Carbon Nitride Part #	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
00700	69130	65300	1	13	1/8 - 1/2"	1/4"	1/32"	1/8
00704	69180	65310	2	8	1/4" - 1"	3/8"	1/16"	5/32
00703	69160	65320	3	9	1/4 - 3/4"	3/8"	1/16"	5/32
00701	69140	65330	4	6	3/16 - 1/2"	1/4"	1/16"	3/8
00714	69170	65340	7	1	1/4 - 7/8"	3/8"	1/16"	1/16
00702	69150	65350	8	12	3/16 - 7/8"	3/8"	1/16"	1/8
00770	69270	----	9	3	1/4 - 1-7/32"	3/8"	7/8"	----
00713	69200	65370	11	2	1/4 - 1-1/8"	3/8"	27/64"	9/64
*00711	69220	65380	12	5	1/4 - 1-3/8"	3/8"	1/8"	*SEE NOTE
00719	69210	65400	1/4 A	16	1/4 - 1-1/8"	3/8"	1/16"	1/16
00710	69190	65390	13/16	10	13/16 - 1-3/8"	1/2"	1/32"	5/32

*NOTE: Parts # 00711, 69220, 65380 - 7/8", 1 - 1/8", 1 - 7/32", 1 - 1/4", 1 - 3/8" (1/2" and 3/4" conduit)

HANGING TUBES

00693	----	----	10	----	1/2"	1/4"	----	1/16"
00694	----	----	12	----	3/8"	1/4"	----	----
00750	----	----	13	1	1-1/8"	1/2"	----	----

3 & 4 PC. SETS

Gold Oxide	Titanium Nitride	Titanium Carbon Nitride	
00741	69250	65430	1/8 - 1/2", 3/16 - 1/2" & 1/4 - 3/4" (#1, #4, #3)
00721	69230	65410	1/8 - 1/2", 3/16 - 1/2" & 3/16 - 7/8" (#1, #4, #8)
00731	69240	65420	1/8 - 1/2", 3/16 - 1/2" & 1/4" - 1" (#1, #4, #2)
4pc. 00781	68781	65440	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 #	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	1/4" - 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	1	1/4 - 7/8"	1/4"	1/16"	1/16"
01403	68511	8	12	3/16 - 7/8"	1/4"	1/16"	1/8"
01409	68531	11	2	1/4 - 1-1/8"	1/4"	27/64"	9/64"
*01414	68524	12	5	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, 68524 - 7/8", 1 - 1/8", 1 - 7/32", 1 - 1/4", 1 - 3/8" (1/2" and 3/4" conduit)

3 PC. SETS

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)
01461	68581	1/8 - 1/2", 3/16 - 7/8" & 7/8 - 1-1/8" (#1, #8, #11)

All tools individually packed in clear tubes

TWIN END & PILOT DRILLS, ALL PURPOSE HEAVY-DUTY

TYPE 490-G -SUPER PREMIUM TYPE 490 -HEAVY DUTY

Twin End - Ultra Bor 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.



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 490-G FRACTIONAL

Part #	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 490 FRACTIONAL

Part #	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 490-G WIRE

Part #	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

TYPE 490 WIRE

Part #	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 491

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 <u>One flat on shank</u> . Bright finish. Lennox, Starrett, Morse, Milwaukee & more.	1/4	3	12
95102	1/4 x 4L	<u>Three long flats</u> on shank allow for set screw and eliminate slippage Fits through the arbor drive. Surface treated. (Replaces Lennox and others).	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	<u>Three long flats</u> on shank allow for set screw and eliminate slippage Fits through the arbor drive. Black Surface treated. (Replaces Lennox L-series).	1/4	4-1/4"	12

ALL PURPOSE HEAVY-DUTY

Type 214



- 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.

Part #	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
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

Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
94730	3/8x3/8	6	6
94750	7/16x1/4	4	6
94760	7/16x1/4	6	6
94810	1/2x1/4	6	6
94830	1/2x3/8	6	6
94860	9/16x3/8	13	1
94890	5/8x3/8	6	1
94910	5/8x1/2	6	1
94920	5/8x1/2	13	1

ACRYLIC, HARD STEEL, SHEETERS DRILLS & CUTTING TOOL LUBRICANT

Type 183-UB

Acrylic Drills with Chipfree™ Point 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



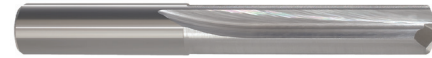
TYPE 183-UB FRACTIONAL

Part #	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
32200	9/64	2-7/8"	1-3/4"	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	3-23/32"	2"	12
31540	5/16	3-13/16"	2-1/8"	6
32290	11/32	4-1/32"	2-11/32"	6
31550	3/8	4-1/4"	2-5/16"	6
32250	25/64	4-11/32"	2-9/16"	6
32460	13/32	4-15/32"	2-11/16"	6
31560	7/16	4-11/16"	2-7/8"	6
32470	15/32	4-7/8"	3-1/16"	6
31570	1/2	5"	3-3/16"	6

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 #	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 213 Sheeter Drill

Sheeters Drill - Black Oxide Treated

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



TYPE 213 WIRE

Part #	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 11-UB Cutting Tool Lubricant

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.

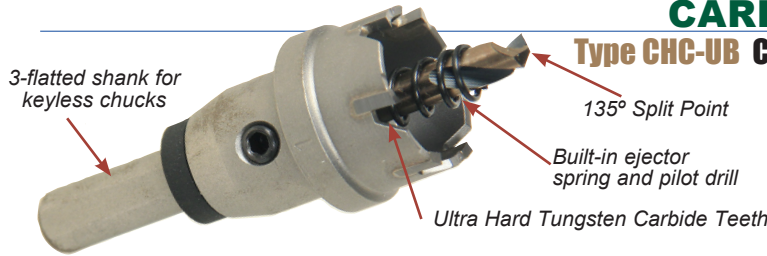
This fluid will extend tool life and yield a super machined finish.

Part #	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.



CARBIDE TIPPED HOLECUTTERS

Type CHC-UB Carbide Tipped Holecutters CUTS UP TO 3/16"
• COO-CHINA



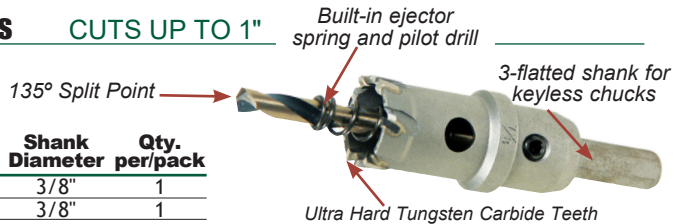
Part#	Diameter Inches	Shank Diameter	Qty. per/pack
62280	2-5/16	3/8"	1
62290	2-3/8	3/8"	1
62300	2-7/16	3/8"	1
62310	2-1/2	3/8"	1
62320	2-9/16	3/8"	1
62330	2-5/8	3/8"	1
62340	2-11/16	1/2"	1
62350	2-3/4	1/2"	1
62360	2-13/16	1/2"	1
62370	2-7/8	1/2"	1
62380	2-15/16	1/2"	1
62390	3"	1/2"	1
62400	3-1/4	1/2"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

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

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

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



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.
- COO-CHINA



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

Part#	Diameter Inches	Shank Diameter	Qty. per/pack
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

Type EXT - Extension

Carbide Tipped Holecutter - Extension

Includes: "Allen Wrench" (For CHC-UB & CHD-UB Holecutter only) • COO-CHINA



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-3QR Quick Release SETS - 3 pc.

83990	7/8", 1-1/8" & 1-3/8"
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COUNTERSINKS & TECHNICAL DIAGRAMS & COMBINED DRILLS



Type 82-UB - Piloted



Type 82-UB - Pilotless



Type 90-UB - Deburring

**Type 82-UB - Piloted, Type 82-UB - Pilotless
Type 90-UB - Deburring**

Type 82-UB Chatterproof™ Countersinks
Type 90-UB Chatterproof™ Deburring Tools

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-UB 82° PILOTED COUNTERSINK

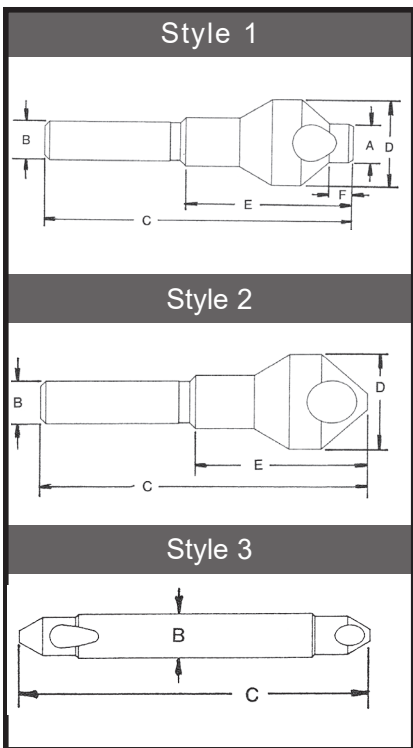
Part#	Size	Style	Screw Size	Shank Diameter			Overall Length			No. per/pack
				A	B	C	D	E	F	
67010	CS1/4	1	1/4"	1/4"	3/8"	2"	33/64"	1"	5/32"	1
67020	CS1/4A	1	1/4"	17/64"	3/8"	2"	33/64"	1"	5/32"	1
67030	CS5/16	1	5/16"	5/16"	3/8"	2-3/16"	41/64"	1-3/16"	5/32"	1
67040	CS5/16A	1	5/16"	21/64"	3/8"	2-3/16"	41/64"	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

TYPE 82-UB 82° PILOT LESS COUNTERSINK

Part#	Size	Style	Diameter of Cut		Screw Size	Shank Diameter			Overall Length	No. per/pack
			Min	Max		B	C	D		
67110	CS073	3	5/64"	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	5/16"	25/32"	---	1/2"	2-5/8"	13/16"	1-3/8"	1
67140	CS307A	2	5/16"	25/32"	---	1/4"	2-1/16"	13/16"	1-1/4"	1
67150	CS431	2	7/16"	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	CS55	2	1/8"	17/64"	No. 4	1/4"	1-1/2"	17/64"	5/8"	1
67180	CS65	2	1/8"	19/64"	No. 6	1/4"	1-1/2"	19/64"	5/8"	1
67190	CS85	2	1/8"	11/32"	No. 8	1/4"	1-5/8"	11/32"	3/4"	1
67200	CS105	2	9/64"	25/64"	No. 10	1/4"	1-5/8"	25/64"	3/4"	1

TYPE 90-UB 90° DEBURRING TOOLS

Part#	Size	Style	Diameter of Cut		Shank Diameter	Overall Length	D	E	No. per/pack
			Min	Max					
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



COMBINED DRILLS, COUNTERSINK SETS & 6-FLUTE COUNTERSINK TOOL

TYPE 82-UB & TYPE 90-UB SETS

Part #	Description of Sizes
SP-4CS 10440	82-UB C/S sizes: CS55, CS65, CS85, CS105
SP-4ACS 10442	82-UB C/S sizes: CS65, CS85, CS105, CS3/16
SP-6DB 10450	90-UB D/B sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
SP-9CS 10443	82-UB C/S sizes: CS55, CS65, CS85, CS105, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2



COMBINED DRILLS & COUNTERSINK

Type 296 -Plain

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



TYPE 296 PLAIN COUNTERSINKS

Part#	Size	Dia. of Body Inches	Dia. & Length of drills	Overall Length Inches	Std. Pack
26760	00	1/8"	.025 x .030	1-7/32"	6
26770	0	1/8"	1/32 x .038	1-7/32"	6
26780	1	1/8"	3/64 x 3/64	1-1/4"	6
26790	2	3/16"	5/64 x 5/64	1-7/8"	6
26800	3	1/4"	7/64 x 7/64	2"	6
26810	4	5/16"	1/8 x 1/8	2-1/8"	6
26820	5	7/16"	3/16 x 3/16	2-3/4"	6
26830	6	1/2"	7/32 x 7/32	3"	6
26840	7	5/8"	1/4 x 1/4	3-1/4"	1
26850	8	3/4"	5/16 x 5/16	3-1/2"	1

COMBINED DRILL AND COUNTER-SINK - SET

26861 5pc. Bright Finish Sizes: 1, 2, 3, 4 and 5



6-FLUTE 82° CHATTER-LESS HSS COUNTERSINK

Type 83-UB

- Chatter-less 6-flute design reduces vibration
- Multiple cutting edges extend tool life.
- 82° Countersink produce the ideal profile for the majority of flat head fasteners.
- 3-Flat on shank
- Made in the USA.



4pc. Type 83-UB



TYPE 83-UB HSS 82° COUNTERSINK

Part#	Size	Drill Diameter	Shank Size	No. per/Pack
67700	1/4"	6-flute	1/4"	1
67710	5/16"	6-flute	1/4"	1
67720	3/8"	6-flute	1/4"	1
67730	1/2"	6-flute	3/8"	1
67740	5/8"	6-flute	3/8"	1
67750	3/4"	6-flute	1/2"	1
67760	7/8"	6-flute	1/2"	1
67770	1"	6-flute	1/2"	1
67780	1-1/4"	6-flute	1/2"	1
67790	1-1/2"	6-flute	3/4"	1

4PC. HSS 82° COUNTERSINK SET

Part#	Sizes	Drill Diameter	Shank Sizes	# per/Pack
67800	1/4", 5/16", 3/8", *1/2"	6-flute	1/4", *3/8"	1

COMBINED DRILLS & COUNTERSINK

Type 296-XL - Long Length 60°

- 60° degree countersink angle fits all standard centers.
- Used for centering work ends, where the work piece is to be revolved on machine centers.
- Made in the USA.



TYPE 296-XL COMBINED DRILLS & COUNTERSINK

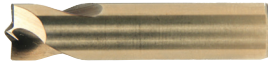
Part#	Size	Body Diameter	Drill Diameter	No. per/Pack
08603	1 x 3	1/8"	3/64"	1
08613	1 x 4	1/8"	3/64"	1
08623	1 x 5	1/8"	3/64"	1
08633	1 x 6	1/8"	3/64"	1
08643	2 x 3	3/16"	5/64"	1
08653	2 x 4	3/16"	5/64"	1
08663	2 x 5	3/16"	5/64"	1
08673	2 x 6	3/16"	5/64"	1
08683	3 x 3	1/4"	7/64"	1
08693	3 x 4	1/4"	7/64"	1
08703	3 x 5	1/4"	7/64"	1
08713	3 x 6	1/4"	7/64"	1
08723	4 x 4	5/16"	1/8"	1
08733	4 x 5	5/16"	1/8"	1
08743	4 x 6	5/16"	1/8"	1
08753	4-1/2 x 4	3/8"	9/64"	1
08763	4-1/2 x 5	3/8"	9/64"	1
08773	4-1/2 x 6	3/8"	9/64"	1
08783	5 x 4	7/16"	3/16"	1
08793	5 x 5	7/16"	3/16"	1
08803	5 x 6	7/16"	3/16"	1
08813	6 x 5	1/2"	7/32"	1
08823	6 x 6	1/2"	7/32"	1
08833	7 x 6	5/8"	1/4"	1
08843	8 x 6	3/4"	5/16"	1

SUPER COBALT - WELDOUT™ CARBIDE SPOT WELD DRILLS

Type 492-D

Weldout™ Spot weld Super Cobalt HSS 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 HSS drill.

Part #	Diameter MM	Approx. Spotweld Size, Inches	OAL 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 492-D** is designed to cut through the weld on one panel while leaving the second panel free of holes.

Type 493-D

Weldout™ Spot weld Super Cobalt HSS Gold Finish - Heavy-Duty Spur Point

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



Our Super Cobalt HSS contains 8% cobalt.

Part #	Diameter MM	Approx. Spotweld Size, Inches	AOL 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 493-D** drill is chip resistant with slightly greater penetration into the second panel.

Weldout™ Spotweld Drills Sets

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

TYPE 492-D WO-6 SET

Part #	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 493-D WO-4 SET

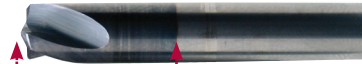
Part #	Description of Sizes
35050	8.0mm & 10mm Single-end 8.0mm & 10mm Twin-end In Type 493-D Length

Type 493-DB

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.

1-3/4" to 2-1/4" OAL - Recommended (900 RPM - 1,000 RPM)



Carbide ALTiN offers higher temperature resistance.

3" OAL with Flat & Round - Recommended (900 RPM - 1,000 RPM)



Carbide ALTiN typically last 3 to 10 times longer than uncoated tools. Created for abrasive and high temperature applications (> 800°C).

TYPE 493-DB

Part #	Diameter MM	Approx Spotweld Size, Inches	OAL Inches	Flat Length Inches	Qty. per/pack
85910	6.7	17/64"	3"	NONE	1
85890	8.0	5/16"	2.00	NONE	1
85900	10.0	3/8"	2.25	NONE	1

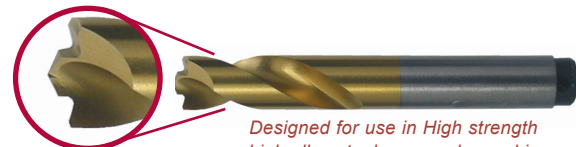
TYPE 493-DB WITH FLAT

Part #	Diameter MM	Approx Spotweld Size, Inches	OAL Inches	Flat Length Inches	Qty. per/pack
85920	6.7	17/64"	1.75"	.750	1
85880	8.0	5/16"	1.75	.750	1

Type 493-DN

Titanium Nitride Weldout™ Spot weld Drills Cobalt HSS - Heavy-Duty Spur Point

- Titanium nitride 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**) than standard drills (**1800 RPM**) when drilling difficult materials.



Heavy-Duty Spur Point

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

TYPE 493-DN TiN COATED

Part#	Diameter MM	Approx. Spotweld Size, Inches	AOL 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