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WHY CHOOSE ULTRA BOR?



- ✓ **Substantially longer cutting life**
The nitro-carburized flute has an increased Rockwell hardness.
- ✓ **Cuts harder materials**
The flatter point takes a smaller chip. More torque is directed to a smaller area. This allows drilling into materials with hardness of over 30 on the Rockwell "C" scale.
- ✓ **Stops drill walking**
The split point design gives accurate starting without the use of a center punch.
- ✓ **Holds tighter hole size**
The split point design is self centering. This limits the normal oversize drilling characteristics.
- ✓ **Outstanding quality appearance**
The rich amber gold color sets it apart from commodity cutting tools.
- ✓ **Runs cooler, uses less torque**
135° point takes a smaller chip resulting in less heat. Friction is reduced by amber gold surface treatment.
- ✓ **Stops chuck slippage**
Flats on drill shanks allow easy positive chuck grip.

Why Choose Ultra Bor Super Premium

ULTRA BOR SUPER PREMIUM VS. COBALT

The Ultra Bor Super Premium drills will substantially outperform cobalt drills in work hardening stainless steel applications. This performance advantage is the result of construction differences between the two types of drills. Cobalt drills, manufactured to Type J NAS 907 specs, have a very thick web. This web is necessary to limit breakage of the brittle cobalt steel. Ultra Bor Super Premium drills are made of special hi-moly tool steel, which is much tougher than cobalt steel. The web on an Ultra Bor Super Premium drill can be thinned considerably due to the toughness of the steel.

A Ultra Bor Super Premium drill with its thin web will penetrate the work hardening stainless fast enough to continually cut beneath the chip which is hardening from deformation. This means the drill is cutting softer steel. The cobalt drill, with its thick web, cannot be fed at a fast enough rate to cut beneath the area which is hardening. As a result the cobalt drill is continually drilling into hardened steel.

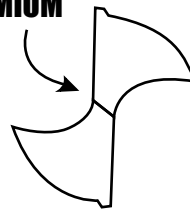
STAINLESS STEEL WORK HARDENING VS. FREE MACHINING

Work hardening grades of stainless are the 300 series with the exception of 303, which is free machining. Free machining grades include the 400 series in addition to type 303. A quick way to identify work hardening vs free machining stainless is to observe the chip formation. Work hardening chips break up during the drilling process, while free machining chips are long and stringy.

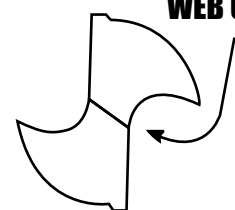
COBALT APPLICATIONS

Cobalt drills are recommended for free machining stainless (400 series & 303), titanium alloys and other high tensile strength materials. These applications require the high red hardness of cobalt steel to counter the substantial heat generated in the drilling process.

**ULTRA BOR
SUPER PREMIUM**



WEB COBALT



ULTRA BOR SUPER PREMIUM VS. COBALT

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Drill Blank

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 Fully Hardened - Precision Ground50

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Jobber Length



HSS HEAVY-DUTY NAS 907B

Type 240-UB

Ultra Bor Super Premium - 135° Split Point

- Manufactured to **NAS 907B** specification from Premium Hi-Molybdenum Steel.
- Ultra Bor will substantially outperform cobalt drills in work hardening stainless steel and other tough drilling applications.
- Nitro-Carburized.



Type 240-UB

Low temperature stress relief improves lubricity and toughness.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
05580	1/16	1-7/8	7/8	12
05590	5/64	2	1	12
05600	3/32	2-1/4	1-1/4	12
05610	7/64	2-5/8	1-1/2	12
05620	1/8	2-3/4	1-5/8	12
05630	9/64	2-7/8	1-3/4	12
05640	5/32	3-1/8	2	12
05650	11/64	3-1/4	2-1/8	12
05660	3/16	3-1/2	2-5/16	12
05670	13/64	3-5/8	2-7/16	12
05680	7/32	3-3/4	2-1/2	12
05690	15/64	3-7/8	2-5/8	12
05700	1/4	4	2-3/4	12
05710	17/64	4-1/8	2-7/8	12
05720	9/32	4-1/4	2-15/16	12
05730	19/64	4-3/8	3-1/16	6
05740	5/16	4-1/2	3-3/16	6
05750	21/64	4-5/8	3-5/16	6
05760	11/32	4-3/4	3-7/16	6
05770	23/64	4-7/8	3-1/2	6
05780	3/8	5	3-5/8	6
05790	25/64	5-1/8	3-3/4	6
05800	13/32	5-1/4	3-7/8	6
05810	27/64	5-3/8	3-15/16	6
05820	7/16	5-1/2	4-1/16	6
05830	29/64	5-5/8	4-3/16	6
05840	15/32	5-3/4	4-5/16	6
05850	31/64	5-7/8	4-3/8	6
05860	1/2	6	4-1/2	6
22210	33/64	6-5/8	4-13/16	1
22220	17/32	6-5/8	4-13/16	1
22230	35/64	6-5/8	4-13/16	1
22240	9/16	6-5/8	4-13/16	1
22250	37/64	6-5/8	4-13/16	1
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22270	39/64	7-1/8	5-3/16	1
22280	5/8	7-1/8	5-3/16	1
22290	41/64	7-1/8	5-3/16	1
22300	21/32	7-1/8	5-3/16	1
22310	43/64	7-5/8	5-5/8	1
22320	11/16	7-5/8	5-5/8	1
22330	45/64	7-5/8	5-5/8	1
22340	23/32	7-5/8	5-5/8	1
22350	47/64	7-5/8	5-5/8	1
22360	3/4	7-3/8	5-5/8	1

Larger sizes available in 280-UB section

LETTER

Part No.	Letter Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
39460	A	3-7/8	2-5/8	12
39470	B	4	2-3/4	12
39480	C	4	2-3/4	12
39490	D	4	2-3/4	12
39500	E	4	2-3/4	12
39510	F	4-1/8	2-7/8	12
39520	G	4-1/8	2-7/8	12
39530	H	4-1/8	2-7/8	12
39540	I	4-1/8	2-7/8	12
39550	J	4-1/8	2-7/8	12
39560	K	4-1/4	2-15/16	12
39570	L	4-1/4	2-15/16	12
39580	M	4-3/8	3-1/16	6
39590	N	4-3/8	3-1/16	6
39600	O	4-1/2	3-3/16	6
39610	P	4-5/8	3-5/16	6
39620	Q	4-3/4	3-7/16	6
39630	R	4-3/4	3-7/16	6
39640	S	4-7/8	3-1/2	6
39650	T	4-7/8	3-1/2	6
39660	U	5	3-5/8	6
39670	V	5	3-5/8	6
39680	W	5-1/8	3-3/4	6
39690	X	5-1/8	3-3/4	6
39700	Y	5-1/4	3-7/8	6
39710	Z	5-1/4	3-7/8	6

WIRE

Part No.	Wire Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
38940	1	3-7/8	2-5/8	12
38950	2	3-7/8	2-5/8	12
38960	3	3-3/4	2-1/2	12
38970	4	3-3/4	2-1/2	12
38980	5	3-3/4	2-1/2	12
38990	6	3-3/4	2-1/2	12
39000	7	3-5/8	2-7/16	12
39010	8	3-5/8	2-7/16	12
39020	9	3-5/8	2-7/16	12
39030	10	3-5/8	2-7/16	12
39040	11	3-1/2	2-5/16	12
39050	12	3-1/2	2-5/16	12
39060	13	3-1/2	2-5/16	12
39070	14	3-3/8	2-3/16	12
39080	15	3-3/8	2-3/16	12
39090	16	3-3/8	2-3/16	12
39100	17	3-3/8	2-3/16	12
39110	18	3-1/4	2-1/8	12
39120	19	3-1/4	2-1/8	12
39130	20	3-1/4	2-1/8	12

Wire sizes continued on page 7.

3/8" REDUCED SHANK & HSS HEAVY-DUTY NAS 907B

Type 240-UB - Continued

HSS Heavy-Duty NAS 907B
Super Premium - 135° Split Point

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
39140	21	3-1/4	2-1/8	12
39150	22	3-1/8	2	12
39160	23	3-1/8	2	12
39170	24	3-1/8	2	12
39180	25	3	1-7/8	12
39190	26	3	1-7/8	12
39200	27	3	1-7/8	12
39210	28	2-7/8	1-3/4	12
39220	29	2-7/8	1-3/4	12
39230	30	2-3/4	1-5/8	12
92310	31	2-3/4	1-5/8	12
92300	32	2-3/4	1-5/8	12
92290	33	2-5/8	1-1/2	12
92280	34	2-5/8	1-1/2	12
92270	35	2-5/8	1-1/2	12
92260	36	2-1/2	1-7/16	12
92250	37	2-1/2	1-7/16	12
92240	38	2-1/2	1-7/16	12
92230	39	2-3/8	1-3/8	12
92220	40	2-3/8	1-3/8	12
88420	41	2-3/8	1-3/8	12
88410	42	2-1/4	1-1/4	12
88400	43	2-1/4	1-1/4	12
88390	44	2-1/8	1-1/8	12
88380	45	2-1/8	1-1/8	12
88370	46	2-1/8	1-1/8	12
88360	47	2	1	12
88350	48	2	1	12
88340	49	2	1	12
88330	50	2	1	12
88320	51	2	1	12
88310	52	1-7/8	7/8	12
88300	53	1-7/8	7/8	12
88290	54	1-7/8	7/8	12
88280	55	1-7/8	7/8	12
88270	56	1-3/4	3/4	12
88260	57	1-3/4	3/4	12
88250	58	1-5/8	11/16	12
88240	59	1-5/8	11/16	12
88230	60	1-5/8	11/16	12

*These items are also available cased.
See Price List Catalog for details.*

Type 278-UB

3/8" Reduced Shank Ultra Bor Super Premium

- 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.



Type 278-UB

Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications

TYPE 278-UB 3/8" REDUCED SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
59200	25/64	5-1/8	3-3/4	6
59210	13/32	5-1/4	3-7/8	6
59220	27/64	5-3/8	3-15/16	6
59230	7/16	5-1/2	4-1/16	6
59240	29/64	5-5/8	4-3/16	6
59250	15/32	5-3/4	4-5/16	6
59260	31/64	5-7/8	4-3/8	6
59270	1/2	6	4-1/2	6
59280	17/32	6	4-1/4	1
59290	9/16	6	4-1/4	1
59300	19/32	6	4-1/4	1
59310	5/8	6	4-1/4	1

*These items are also available cased.
See Price List Catalog for details.*

NAS 907B - METRIC

Type 643-UB

Ultra Bor Super Premium -
135° Split Point, NAS 907B

- 135° split point provides fast penetration and accurate starting without a center punch.
- Withstands substantially higher drilling temperatures while maintaining sharpness.



Type 643-UB

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

METRIC

Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
48760	0.70	32	1-1/4	10	25/64	10
48780	0.80	35	1-3/8	13	1/2	10
48790	0.85	38	1-1/2	16	5/8	10
48800	0.90	38	1-1/2	16	5/8	10
49990	0.95	38	1-1/2	16	5/8	10
48690	0.98	38	1-1/2	16	5/8	10
48820	1.00	41	1-5/8	17	11/16	10
48750	1.05	41	1-5/8	17	11/16	10
48840	1.10	44	1-3/4	19	3/4	10
48850	1.15	44	1-3/4	19	3/4	10
23270	1.18	44	1-3/4	19	3/4	10
48860	1.20	48	1-7/8	22	7/8	10
48870	1.25	48	1-7/8	22	7/8	10
48880	1.30	48	1-7/8	22	7/8	10
48890	1.35	48	1-7/8	22	7/8	10
48900	1.40	48	1-7/8	22	7/8	10
48910	1.45	48	1-7/8	22	7/8	10
48920	1.50	48	1-7/8	22	7/8	10
48930	1.55	48	1-7/8	22	7/8	10
48940	1.60	48	1-7/8	22	7/8	10
48950	1.65	51	2	25	1	10
48960	1.70	51	2	25	1	10
48970	1.75	51	2	25	1	10
48980	1.80	51	2	25	1	10
49000	1.90	51	2	25	1	10
49020	2.00	51	2	25	1	10
49030	2.05	54	2-1/8	29	1-5/32	10
49040	2.10	54	2-1/8	29	1-5/32	10
49060	2.20	57	2-1/4	32	1-1/4	10
49080	2.30	57	2-1/4	32	1-1/4	10
49100	2.40	60	2-23/64	35	1-3/8	10
49120	2.50	60	2-23/64	35	1-3/8	10
49130	2.60	64	2-1/2	37	1-29/64	10
49140	2.70	64	2-1/2	37	1-15/32	10
49150	2.80	67	2-5/8	38	1-1/2	10
49160	2.90	70	2-3/4	41	1-5/8	10
49170	3.00	70	2-3/4	41	1-5/8	10
49180	3.10	70	2-3/4	41	1-5/8	10
49190	3.20	70	2-3/4	41	1-5/8	10
49200	3.30	73	2-7/8	45	1-3/4	10
49210	3.40	73	2-7/8	45	1-3/4	10
49220	3.50	73	2-7/8	45	1-3/4	10
49230	3.60	76	3	48	1-7/8	10
49240	3.70	76	3	48	1-7/8	10
49250	3.80	76	3	48	1-7/8	10
49260	3.90	79	3-1/8	51	2	10

Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
49270	4.00	83	3-1/4	54	2-1/8	10
49280	4.10	83	3-1/4	54	2-1/8	10
49290	4.20	83	3-1/4	54	2-1/8	10
49300	4.30	83	3-1/4	54	2-1/8	10
49310	4.40	86	3-3/8	56	2-13/64	10
49320	4.50	86	3-3/8	56	2-13/64	10
49330	4.60	86	3-3/8	56	2-13/64	10
49340	4.70	89	3-1/2	59	2-21/64	10
49350	4.80	89	3-1/2	59	2-21/64	10
49360	4.90	92	3-5/8	62	2-7/16	10
49370	5.00	92	3-5/8	62	2-7/16	10
49380	5.10	92	3-5/8	62	2-7/16	10
49390	5.20	95	3-3/4	64	2-1/2	10
49400	5.30	95	3-3/4	64	2-1/2	10
49410	5.40	95	3-3/4	64	2-1/2	10
49420	5.50	95	3-3/4	64	2-1/2	10
49430	5.60	98	3-7/8	67	2-5/8	10
49440	5.70	98	3-7/8	67	2-5/8	10
49450	5.80	98	3-7/8	67	2-5/8	10
49460	5.90	98	3-7/8	67	2-5/8	10
49470	6.00	102	4	70	2-3/4	10
49480	6.10	102	4	70	2-3/4	10
49490	6.20	102	4	70	2-3/4	10
49500	6.30	102	4	70	2-3/4	10
49510	6.40	105	4-1/8	73	2-7/8	10
49520	6.50	105	4-1/8	73	2-7/8	10
49530	6.60	105	4-1/8	73	2-7/8	10
49540	6.70	105	4-1/8	73	2-7/8	10
49550	6.80	105	4-1/8	73	2-7/8	10
49560	6.90	105	4-1/8	73	2-7/8	10
49570	7.00	105	4-1/8	73	2-7/8	10
49580	7.10	108	4-1/4	75	2-61/64	10
49590	7.20	108	4-1/4	75	2-61/64	10
49600	7.30	108	4-1/4	75	2-61/64	10
49610	7.40	111	4-3/8	78	3	10
49620	7.50	111	4-3/8	78	3	5
49630	7.60	111	4-3/8	78	3	5
49640	7.70	114	4-1/2	81	3-3/16	5
49650	7.80	114	4-1/2	81	3-3/16	5
49660	7.90	114	4-1/2	81	3-3/16	5
49670	8.00	114	4-1/2	81	3-3/16	5
49680	8.10	117	4-9/16	84	3-5/16	5
49690	8.20	117	4-9/16	84	3-5/16	5
49700	8.30	117	4-9/16	84	3-5/16	5
49710	8.40	121	4-3/4	87	3-27/64	5

Metric sizes continued on page 9

NAS 907B - METRIC

Type 643-UB

Ultra Bor Super Premium - NAS 907B 135° Split Point



Type 643-UB

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

- 135° split point provides fast penetration and accurate starting without a center punch.
- Withstands substantially higher drilling temperatures while maintaining sharpness.

METRIC

Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack	Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches				MM	Inches	MM	Inches	
49720	8.50	121	4-3/4	87	3-27/64	5	12470	10.90	140	5-1/2	103	4-1/16	5
49730	8.60	121	4-3/4	87	3-27/64	5	49910	11.00	140	5-1/2	103	4-1/16	5
49740	8.70	121	4-3/4	87	3-27/64	5	12480	11.10	140	5-1/2	103	4-1/16	5
49750	8.80	124	4-7/8	89	3-1/2	5	49920	11.20	143	5-5/8	106	4-7/32	5
49760	8.90	124	4-7/8	89	3-1/2	5	50240	11.30	143	5-5/8	106	4-7/32	5
49770	9.00	124	4-7/8	89	3-1/2	5	12490	11.40	143	5-5/8	106	4-7/32	5
49780	9.10	124	4-7/8	89	3-1/2	5	49930	11.50	143	5-5/8	106	4-7/32	5
49790	9.20	127	5	92	3-5/8	5	12500	11.60	143	5-5/8	106	4-7/32	5
49800	9.30	127	5	92	3-5/8	5	50250	11.70	146	5-3/4	110	4-11/32	5
49810	9.40	127	5	92	3-5/8	5	49940	11.80	146	5-3/4	110	4-11/32	5
49820	9.50	127	5	92	3-5/8	5	12520	11.90	146	5-3/4	110	4-11/32	5
49830	9.60	130	5-1/8	95	3-3/4	5	49950	12.00	149	5-7/8	111	4-3/8	5
49840	9.70	130	5-1/8	95	3-3/4	5	12530	12.10	149	5-7/8	111	4-3/8	5
49850	9.80	130	5-1/8	95	3-3/4	5	49960	12.20	149	5-7/8	111	4-3/8	5
49860	9.90	130	5-1/8	95	3-3/4	5	50260	12.30	149	5-7/8	111	4-3/8	5
49870	10.00	130	5-1/8	95	3-3/4	5	12540	12.40	149	5-7/8	111	4-3/8	5
12450	10.10	130	5-1/8	95	3-3/4	5	49970	12.50	152	6	114	4-1/2	5
49880	10.20	133	5-15/64	98	3-7/8	5	12550	12.60	152	6	114	4-1/2	5
12510	10.30	133	5-15/64	98	3-7/8	5	12570	12.70	152	6	114	4-1/2	5
50220	10.40	133	5-15/64	98	3-7/8	5	50270	12.80	152	6	114	4-1/2	5
49890	10.50	133	5-15/64	98	3-7/8	5	12560	12.90	152	6	114	4-1/2	5
12460	10.60	137	5-3/8	100	3-15/16	5	49980	13.00	152	6	114	4-1/2	5
50230	10.70	137	5-3/8	100	3-15/16	5							
49900	10.80	140	5-1/2	103	4-1/16	5							

Larger sizes in 280-UBM section page 46

Jobber Length



HSS HEAVY-DUTY NAS 907B

Type 240-A, Type 240-AN

135° Split Point

- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135° split point is self-centering for reduce thrust and easier penetration
- Manufactured to **NAS 907B** aerospace specification



Type 240-A

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-AN

Titanium nitride (TiN) coating adds lubricity and hardness, enhancing chip flow, finish hole quality and drill life.

FRACTIONAL

Type 240-A Black Oxide Part Number	Type 240-AN TiN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Type 240-A Black Oxide Qty. per/Pack	Type 240-AN TiN Coated Qty. per/Pack
04490	97890	1/16	1-7/8	7/8	12	6
04500	97880	5/64	2	1	12	6
04510	97870	3/32	2-1/4	1-1/4	12	6
04520	97860	7/64	2-5/8	1-1/2	12	6
04530	97850	1/8	2-3/4	1-5/8	12	6
04540	97840	9/64	2-7/8	1-3/4	12	6
04550	97830	5/32	3-1/8	2	12	6
04560	97820	11/64	3-1/4	2-1/8	12	6
04570	97810	3/16	3-1/2	2-5/16	12	6
16600	97800	13/64	3-5/8	2-7/16	12	6
16610	97790	7/32	3-3/4	2-1/2	12	6
16620	97780	15/64	3-7/8	2-5/8	12	6
16630	97770	1/4	4	2-3/4	12	6
16640	97760	17/64	4-1/8	2-7/8	12	6
16650	97750	9/32	4-1/4	2-15/16	12	6
16670	97740	19/64	4-3/8	3-1/16	6	3
16680	97730	5/16	4-1/2	3-3/16	6	3
16690	97720	21/64	4-5/8	3-5/16	6	3
16700	97710	11/32	4-3/4	3-7/16	6	3
16710	97700	23/64	4-7/8	3-1/2	6	3
16720	97690	3/8	5	3-5/8	6	3
16730	97680	25/64	5-1/8	3-3/4	6	3
16740	97670	13/32	5-1/4	3-7/8	6	3
16750	97660	27/64	5-3/8	3-15/16	6	3
16760	97650	7/16	5-1/2	4-1/16	6	3
16770	97640	29/64	5-5/8	4-3/16	6	3
16780	97630	15/32	5-3/4	4-5/16	6	3
16790	97620	31/64	5-7/8	4-3/8	6	3
16800	97610	1/2	6	4-1/2	6	3

LETTER

Type 240-A Black Oxide Part Number	Type 240-AN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 240-A Black Oxide Qty. per/pack	Type 240-AN TiN Coated Qty. per/pack
05300	95710	A	3-7/8	2-5/8	12	6
05310	95700	B	4	2-3/4	12	6
05320	95690	C	4	2-3/4	12	6
05330	95680	D	4	2-3/4	12	6
05340	95670	E	4	2-3/4	12	6
05350	95660	F	4-1/8	2-7/8	12	6
05360	95650	G	4-1/8	2-7/8	12	6
05370	95640	H	4-1/8	2-7/8	12	6
05380	95630	I	4-1/8	2-7/8	12	6
05390	95620	J	4-1/8	2-7/8	12	6
05400	95610	K	4-1/4	2-15/16	12	6
05410	95600	L	4-1/4	2-15/16	12	6
05420	95590	M	4-3/8	3-1/16	6	3
05430	95580	N	4-3/8	3-1/16	6	3
05440	95570	O	4-1/2	3-3/16	6	3
05450	95560	P	4-5/8	3-5/16	6	3
05460	95550	Q	4-3/4	3-7/16	6	3
05470	95540	R	4-3/4	3-7/16	6	3
05480	95530	S	4-7/8	3-1/2	6	3

Letter sizes continued on page 11.

TiN

HSS Twist Drills - Heavy Duty HSS NAS 907B

HSS HEAVY-DUTY NAS 907B

Type 240-A, Type 240-AN

135° Split Point



Type 240-A

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-AN

Titanium nitride (TiN) coating adds lubricity and hardness, enhancing chip flow, finish hole quality and drill life.

- 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
 - Manufactured to **NAS 907B** aerospace specification

LETTER

Type 240-A Black Oxide Part Number	Type 240-AN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 240-A Black Oxide Qty. per/pack	Type 240-AN TiN Coated Qty. per/pack
05490	95520	T	4-7/8	3-1/2	6	3
05500	95510	U	5	3-5/8	6	3
05510	95500	V	5	3-5/8	6	3
05520	95490	W	5-1/8	3-3/4	6	3
05530	95480	X	5-1/8	3-3/4	6	3
05540	95470	Y	5-1/4	3-7/8	6	3
05550	95460	Z	5-1/4	3-7/8	6	3

WIRE

Type 240-A Black Oxide Part Number	Type 240-AN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 240-A Black Oxide Qty. per/pack	Type 240-AN TiN Coated Qty. per/pack
04780	98520	1	3-7/8	2-5/8	12	6
04790	98510	2	3-7/8	2-5/8	12	6
04800	98500	3	3-3/4	2-1/2	12	6
04810	98490	4	3-3/4	2-1/2	12	6
04820	98480	5	3-3/4	2-1/2	12	6
04830	98470	6	3-3/4	2-1/2	12	6
04840	98460	7	3-5/8	2-7/16	12	6
04850	98450	8	3-5/8	2-7/16	12	6
04860	98440	9	3-5/8	2-7/16	12	6
04870	98430	10	3-5/8	2-7/16	12	6
04880	98420	11	3-1/2	2-5/16	12	6
04890	98410	12	3-1/2	2-5/16	12	6
04900	98400	13	3-1/2	2-5/16	12	6
04910	98390	14	3-3/8	2-3/16	12	6
04920	98380	15	3-3/8	2-3/16	12	6
04930	98370	16	3-3/8	2-3/16	12	6
04940	98360	17	3-3/8	2-3/16	12	6
04950	98350	18	3-1/4	2-1/8	12	6
04960	98340	19	3-1/4	2-1/8	12	6
04970	98330	20	3-1/4	2-1/8	12	6
04980	98320	21	3-1/4	2-1/8	12	6
04990	98310	22	3-1/8	2	12	6
05000	98300	23	3-1/8	2	12	6
05510	98290	24	3-1/8	2	12	6
05520	98280	25	3	1-7/8	12	6
05530	98270	26	3	1-7/8	12	6
05540	98260	27	3	1-7/8	12	6
05550	98250	28	2-7/8	1-3/4	12	6
05560	98240	29	2-7/8	1-3/4	12	6
05070	98230	30	2-3/4	1-5/8	12	6
05080	98220	31	2-3/4	1-5/8	12	6
05090	98210	32	2-3/4	1-5/8	12	6
05100	98200	33	2-5/8	1-1/2	12	6
05110	98190	34	2-5/8	1-1/2	12	6
05120	98180	35	2-5/8	1-1/2	12	6
05130	98170	36	2-1/2	1-7/16	12	6
05140	98160	37	2-1/2	1-7/16	12	6
05150	98150	38	2-1/2	1-7/16	12	6
05160	98140	39	2-3/8	1-3/8	12	6
05170	98130	40	2-3/8	1-3/8	12	6
05180	98120	41	2-3/8	1-3/8	12	6
05190	98110	42	2-1/4	1-1/4	12	6
05200	98100	43	2-1/4	1-1/4	12	6
05210	98090	44	2-1/8	1-1/8	12	6
05220	98080	45	2-1/8	1-1/8	12	6
05230	98070	46	2-1/8	1-1/8	12	6
05240	98060	47	2	1	12	6
05250	98050	48	2	1	12	6
05260	98040	49	2	1	12	6
05270	98030	50	2	1	12	6
05280	98020	51	2	1	12	6
05290	98010	52	1-7/8	7/8	12	6

Jobber Length



HSS HEAVY-DUTY NAS 907B



Type 240-ACN, Type 240-ALN

- 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
- TiCN is harder and has a lower coefficient of friction than TiN coating.
- Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification



TiCN Coating

Titanium carbon nitride (TiCN) coating raises cutting surface hardness greatly increasing resistance to wear.



TiAlN Coating

Titanium aluminum nitride (TiAlN) designed for use in high temperature operations and difficult to machine material

FRACTIONAL

Type 240 - ACN TiCN Coated Part Number	Type 240-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80002	80000	1/16	1-7/8	7/8	6
80012	80010	5/64	2	1	6
80022	80020	3/32	2-1/4	1-1/4	6
80032	80030	7/64	2-5/8	1-1/2	6
80042	80040	1/8	2-3/4	1-5/8	6
80052	80050	9/64	2-7/8	1-3/4	6
80062	80060	5/32	3-1/8	2	6
80072	80070	11/64	3-1/4	2-1/8	6
80082	80080	3/16	3-1/2	2-5/16	6
80092	80090	13/64	3-5/8	2-7/16	6
80102	80100	7/32	3-3/4	2-1/2	6
80112	80110	15/64	3-7/8	2-5/8	6
80122	80120	1/4	4	2-3/4	6
80132	80130	17/64	4-1/8	2-7/8	6
80142	80140	9/32	4-1/4	2-15/16	6
80152	80150	19/64	4-3/8	3-1/16	3
80162	80160	5/16	4-1/2	3-3/16	3
80172	80170	21/64	4-5/8	3-5/16	3
80182	80180	11/32	4-3/4	3-7/16	3
80192	80190	23/64	4-7/8	3-1/2	3
80202	80200	3/8	5	3-5/8	3
80212	80210	25/64	5-1/8	3-3/4	3
80222	80220	13/32	5-1/4	3-7/8	3
80232	80230	27/64	5-3/8	3-15/16	3
80242	80240	7/16	5-1/2	4-1/16	3
80252	80250	29/64	5-5/8	4-3/16	3
80262	80260	15/32	5-3/4	4-5/16	3
80272	80270	31/64	5-7/8	4-3/8	3
80282	80280	1/2	6	4-1/2	3

LETTER

Type 240 - ACN TiCN Coated Part Number	Type 240-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80292	80290	A	3-7/8	2-5/8	6
80302	80300	B	4	2-3/4	6
80312	80310	C	4	2-3/4	6
80322	80320	D	4	2-3/4	6
80332	80330	E	4	2-3/4	6
80342	80340	F	4-1/8	2-7/8	6
80352	80350	G	4-1/8	2-7/8	6
80362	80360	H	4-1/8	2-7/8	6
80372	80370	I	4-1/8	2-7/8	6
80382	80380	J	4-1/8	2-7/8	6
80392	80390	K	4-1/4	2-15/16	6
80402	80400	L	4-1/4	2-15/16	6
80412	80410	M	4-3/8	3-1/16	3
80422	80420	N	4-3/8	3-1/16	3
80432	80430	O	4-1/2	3-3/16	3

Letter sizes continued on page 13

TiCN / TiAlN

Twist Drills - HSS Heavy-Duty NAS 907B



HSS HEAVY-DUTY NAS 907B

Type 240-ACN, Type 240-ALN



TiCN Coating

Titanium carbon nitride (TiCN) coating raises cutting surface hardness greatly increasing resistance to wear.



TiAlN Coating

Titanium aluminum nitride (TiAlN) designed for use in high temperature operations and difficult to machine material

- 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
- TiCN is harder and has a lower coefficient of friction than TiN coating.
 - Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification

LETTER

Type 240- ACN TiCN Coated Part Number	Type 240-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80442	80440	P	4-5/8	3-5/16	3
80452	80450	Q	4-3/4	3-7/16	3
80462	80460	R	4-3/4	3-7/16	3
80472	80470	S	4-7/8	3-1/2	3
80482	80480	T	4-7/8	3-1/2	3
80492	80490	U	5	3-5/8	3
80502	80500	V	5	3-5/8	3
80512	80510	W	5-1/8	3-3/4	3
80522	80520	X	5-1/8	3-3/4	3
80532	80530	Y	5-1/4	3-7/8	3
80542	80540	Z	5-1/4	3-7/8	3

WIRE

Type 240- ACN TiCN Coated Part Number	Type 240-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80552	80550	1	3-7/8	2-5/8	6
80562	80560	2	3-7/8	2-5/8	6
80572	80570	3	3-3/4	2-1/2	6
80582	80580	4	3-3/4	2-1/2	6
80592	80590	5	3-3/4	2-1/2	6
80602	80600	6	3-3/4	2-1/2	6
80612	80610	7	3-5/8	2-7/16	6
80622	80620	8	3-5/8	2-7/16	6
80632	80630	9	3-5/8	2-7/16	6
80642	80640	10	3-5/8	2-7/16	6
80652	80650	11	3-1/2	2-5/16	6
80662	80660	12	3-1/2	2-5/16	6
80672	80670	13	3-1/2	2-5/16	6
80682	80680	14	3-3/8	2-3/16	6
80692	80690	15	3-3/8	2-3/16	6
80702	80700	16	3-3/8	2-3/16	6
80712	80710	17	3-3/8	2-3/16	6
80722	80720	18	3-1/4	2-1/8	6
80732	80730	19	3-1/4	2-1/8	6
80742	80740	20	3-1/4	2-1/8	6
80752	80750	21	3-1/4	2-1/8	6
80762	80760	22	3-1/8	2	6
80772	80770	23	3-1/8	2	6
80782	80780	24	3-1/8	2	6
80792	80790	25	3	1-7/8	6
80802	80800	26	3	1-7/8	6
80812	80810	27	3	1-7/8	6
80822	80820	28	2-7/8	1-3/4	6
80832	80830	29	2-7/8	1-3/4	6
80842	80840	30	2-3/4	1-5/8	6
80852	80850	31	2-3/4	1-5/8	6
80862	80860	32	2-3/4	1-5/8	6
80872	80870	33	2-5/8	1-1/2	6
80882	80880	34	2-5/8	1-1/2	6
80892	80890	35	2-5/8	1-1/2	6
80902	80900	36	2-1/2	1-7/16	6

Wire sizes continued on page 14

Jobber Length



HSS HEAVY-DUTY NAS 907B



Type 240-ACN, Type 240-ALN

- 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
- TiCN is harder and has a lower coefficient of friction than TiN coating.
- Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification



TiCN Coating

Titanium carbon nitride (TiCN) coating raises cutting surface hardness greatly increasing resistance to wear.



TiAlN Coating

Titanium aluminum nitride (TiAlN) designed for use in high temperature operations and difficult to machine material

WIRE

Type 240- ACN TiCN Coated Part Number	Type 240-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80912	80910	37	2-1/2	1-7/16	6
80922	80920	38	2-1/2	1-7/16	6
80932	80930	39	2-3/8	1-3/8	6
80942	80940	40	2-3/8	1-3/8	6
80952	80950	41	2-3/8	1-3/8	6
80962	80960	42	2-1/4	1-1/4	6
80972	80970	43	2-1/4	1-1/4	6
80982	80980	44	2-1/8	1-1/8	6
80992	80990	45	2-1/8	1-1/8	6
81002	81000	46	2-1/8	1-1/8	6
81012	81010	47	2	1	6
81022	81020	48	2	1	6
81032	81030	49	2	1	6
81042	81040	50	2	1	6
81052	81050	51	2	1	6
81062	81060	52	1-7/8	7/8	6

TiCN / TiAlN

Twist Drills - HSS Heavy-Duty NAS 907B

GOLDSTRIKE™ & V-LINE HEAVY DUTY

Type 240-GF

GOLDSTRIKE™

Premium - 135° Split Point

Gold Surface Treated 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 keyless chucks.



Type 240-GF

Heavy-duty construction makes it ideal for difficult to drill materials.

Type 248-A

V-Line - Heavy-Duty

Black Oxide 135° Split Point

- American made value line drill.
- 135° split point drills are self centering and perform well in harder metals.
- Heavy-duty construction makes this series of drills ideal for the medium to light tensile strength metal drilling applications.



Type 248-A

Designed for the user whose applications are well served without the need for the tighter tolerances of our standard Type 240-A.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
40490	1/16	1-7/8	7/8	12
40500	5/64	2	1	12
40510	3/32	2-1/4	1-1/4	12
40520	7/64	2-5/8	1-1/2	12
40530	1/8	2-3/4	1-5/8	12
40540	9/64	2-7/8	1-3/4	12
40550	5/32	3-1/8	2	12
40560	11/64	3-1/4	2-1/8	12
40561	3/16	3-1/2	2-5/16	12
40562	13/64	3-5/8	2-7/16	12
40563	7/32	3-3/4	2-1/2	12
40564	15/64	3-7/8	2-5/8	12
40569	1/4	4	2-3/4	12
40571	17/64	4-1/8	2-7/8	12
40572	9/32	4-1/4	2-15/16	12
40573	19/64	4-3/8	3-1/16	6
40574	5/16	4-1/2	3-3/16	6
40579	21/64	4-5/8	3-5/16	6
40581	11/32	4-3/4	3-7/16	6
40582	23/64	4-7/8	3-1/2	6
40583	3/8	5	3-5/8	6
40584	25/64	5-1/8	3-3/4	6
40589	13/32	5-1/4	3-7/8	6
40591	27/64	5-3/8	3-15/16	6
40592	7/16	5-1/2	4-1/16	6
40593	29/64	5-5/8	4-3/16	6
40594	15/32	5-3/4	4-5/16	6
40601	31/64	5-7/8	4-3/8	6
40602	1/2	6	4-1/2	6

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02782	1/16	1-7/8	7/8	12
02792	5/64	2	1	12
02802	3/32	2-1/4	1-1/4	12
02812	7/64	2-5/8	1-1/2	12
02822	1/8	2-3/4	1-5/8	12
02832	9/64	2-7/8	1-3/4	12
02842	5/32	3-1/8	2	12
02852	11/64	3-1/4	2-1/8	12
02862	3/16	3-1/2	2-5/16	12
02872	13/64	3-5/8	2-7/16	12
02882	7/32	3-3/4	2-1/2	12
02892	15/64	3-7/8	2-5/8	12
02902	1/4	4	2-3/4	12
02912	17/64	4-1/8	2-7/8	12
02922	9/32	4-1/4	2-15/16	12
02932	19/64	4-3/8	3-1/16	6
02942	5/16	4-1/2	3-3/16	6
02952	21/64	4-5/8	3-5/16	6
02962	11/32	4-3/4	3-7/16	6
02972	23/64	4-7/8	3-1/2	6
02982	3/8	5	3-5/8	6
02992	25/64	5-1/8	3-3/4	6
03002	13/32	5-1/4	3-7/8	6
03012	27/64	5-3/8	3-15/16	6
03022	7/16	5-1/2	4-1/16	6
03032	29/64	5-5/8	4-3/16	6
03042	15/32	5-3/4	4-5/16	6
03052	31/64	5-7/8	4-3/8	6
03062	1/2	6	4-1/2	6

Type 240-GFR

GOLDSTRIKE™ Reduced Shank -

135° Split Point with 3/8" Reduced Shank with Flats



3/8" WITH FLATS ON SHANK

Part No.	Description of Sizes	Per Pack	Part No.	Description of Sizes	Per Pack
40633	25/64	6	40622	29/64	6
40634	13/32	6	40623	15/32	6
40639	27/64	6	40624	31/64	6
40621	7/16	6	40629	1/2	6

HSS BLACK OXIDE 118° SPLIT POINT NAS 907A

Type 340-A

- 118° split point is self-centering for reduced thrust and easier penetration
- Black oxide finish for increased wear resistance and added lubricity
- Manufactured to **NAS 907A** aerospace specification



Type 340-A

General-purpose geometry with 118° split point for drilling in a wide range of drilling operations and materials.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
35730	1/16	1-7/8	7/8	12
35740	5/64	2	1	12
35750	3/32	2-1/4	1-1/4	12
35760	7/64	2-5/8	1-1/2	12
35770	1/8	2-3/4	1-5/8	12
35780	9/64	2-7/8	1-3/4	12
35790	5/32	3-1/8	2	12
35800	11/64	3-1/4	2-1/8	12
35810	3/16	3-1/2	2-5/16	12
35820	13/64	3-5/8	2-7/16	12
35830	7/32	3-3/4	2-1/2	12
35840	15/64	3-7/8	2-5/8	12
35850	1/4	4	2-3/4	12
35860	17/64	4-1/8	2-7/8	12
35870	9/32	4-1/4	2-15/16	12
35880	19/64	4-3/8	3-1/16	6
35890	5/16	4-1/2	3-3/16	6
35900	21/64	4-5/8	3-5/16	6
35910	11/32	4-3/4	3-7/16	6
35920	23/64	4-7/8	3-1/2	6
35930	3/8	5	3-5/8	6
35940	25/64	5-1/8	3-3/4	6
35950	13/32	5-1/4	3-7/8	6
35960	27/64	5-3/8	3-15/16	6
35970	7/16	5-1/2	4-1/16	6
35980	29/64	5-5/8	4-3/16	6
35990	15/32	5-3/4	4-5/16	6
36000	31/64	5-7/8	4-3/8	6
36010	1/2	6	4-1/2	6

LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
82750	A	3-7/8	2-5/8	12
82760	B	4	2-3/4	12
82770	C	4	2-3/4	12
82780	D	4	2-3/4	12
82790	E	4	2-3/4	12
82800	F	4-1/8	2-7/8	12
82810	G	4-1/8	2-7/8	12
82820	H	4-1/8	2-7/8	12
82830	I	4-1/8	2-7/8	12
82840	J	4-1/8	2-7/8	12
82850	K	4-1/4	2-15/16	12
82860	L	4-1/4	2-15/16	12
82870	M	4-3/8	3-1/16	6
82880	N	4-3/8	3-1/16	6
82890	O	4-1/2	3-3/16	6
82900	P	4-5/8	3-5/16	6
82910	Q	4-3/4	3-7/16	6
82920	R	4-3/4	3-7/16	6
82930	S	4-7/8	3-1/2	6
82940	T	4-7/8	3-1/2	6
82950	U	5	3-5/8	6
82960	V	5	3-5/8	6
82970	W	5-1/8	3-3/4	6
82980	X	5-1/8	3-3/4	6
82990	Y	5-1/4	3-7/8	6
83000	Z	5-1/4	3-7/8	6

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
66710	1	3-7/8	2-5/8	12
57280	2	3-7/8	2-5/8	12
66700	3	3-3/4	2-1/2	12
57370	4	3-3/4	2-1/2	12
95430	5	3-3/4	2-1/2	12
66690	6	3-3/4	2-1/2	12
66680	7	3-5/8	2-7/16	12
66770	8	3-5/8	2-7/16	12
66760	9	3-5/8	2-7/16	12
92630	10	3-5/8	2-7/16	12
66670	11	3-1/2	2-5/16	12
66220	12	3-1/2	2-5/16	12
92640	13	3-1/2	2-5/16	12
66660	14	3-3/8	2-3/16	12
66650	15	3-3/8	2-3/16	12
66640	16	3-3/8	2-3/16	12
57290	17	3-3/8	2-3/16	12
66810	18	3-1/4	2-1/8	12
57550	19	3-1/4	2-1/8	12
66630	20	3-1/4	2-1/8	12
66620	21	3-1/4	2-1/8	12
57630	22	3-1/8	2	12
66610	23	3-1/8	2	12
66720	24	3-1/8	2	12
57360	25	3	1-7/8	12
66600	26	3	1-7/8	12
66750	27	3	1-7/8	12
57700	28	2-7/8	1-3/4	12
66590	29	2-7/8	1-3/4	12
95420	30	2-3/4	1-5/8	12
66800	31	2-3/4	1-5/8	12
66350	32	2-3/4	1-5/8	12
66580	33	2-5/8	1-1/2	12
66740	34	2-5/8	1-1/2	12
57350	35	2-5/8	1-1/2	12
66570	36	2-1/2	1-7/16	12
66560	37	2-1/2	1-7/16	12
66550	38	2-1/2	1-7/16	12
57560	39	2-3/8	1-3/8	12
66540	40	2-3/8	1-3/8	12

GENERAL PURPOSE

Type 240, 240-B, 240-BN

118° Point



Type 240

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-B

Recommended for non-ferrous metals, wood and plastic.



Type 240-BN

Performs well in mild drilling applications with abrasive wear characteristics.

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

FRACTIONAL

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
01000	02750	97920	1/64	3/4	3/16	12	6
01010	02760	97910	1/32	1-3/8	1/2	12	6
01020	02770	97900	3/64	1-3/4	3/4	12	6
01030	02780	22570	1/16	1-7/8	7/8	12	6
01040	02790	22580	5/64	2	1	12	6
01050	02800	22590	3/32	2-1/4	1-1/4	12	6
01060	80030	22600	7/64	2-5/8	1-1/2	12	6
01070	80040	22610	1/8	2-3/4	1-5/8	12	6
01080	02830	22620	9/64	2-7/8	1-3/4	12	6
01090	02840	22630	5/32	3-1/8	2	12	6
01100	02850	22640	11/64	3-1/4	2-1/8	12	6
01110	02860	22650	3/16	3-1/2	2-5/16	12	6
05930	16870	22660	13/64	3-5/8	2-7/16	12	6
05940	16880	22670	7/32	3-3/4	2-1/2	12	6
05950	16890	22680	15/64	3-7/8	2-5/8	12	6
05960	16900	22690	1/4	4	2-3/4	12	6
05970	16910	22700	17/64	4-1/8	2-7/8	12	6
05980	16920	22710	9/32	4-1/4	2-15/16	12	6
05990	16930	22720	19/64	4-3/8	3-1/16	6	3
06000	16940	22730	5/16	4-1/2	3-3/16	6	3
06010	16950	22740	21/64	4-5/8	3-5/16	6	3
06020	16960	22750	11/32	4-3/4	3-7/16	6	3
06030	16970	22760	23/64	4-7/8	3-1/2	6	3
06040	16980	22770	3/8	5	3-5/8	6	3
06050	16990	22780	25/64	5-1/8	3-3/4	6	3
06060	17000	22790	13/32	5-1/4	3-7/8	6	3
06070	17010	22800	27/64	5-3/8	3-15/16	6	3
06080	17020	22810	7/16	5-1/2	4-1/16	6	3
06090	17030	22820	29/64	5-5/8	4-3/16	6	3
06100	17040	22830	15/32	5-3/4	4-5/16	6	3
06110	17050	22840	31/64	5-7/8	4-3/8	6	3
06120	17060	22850	1/2	6	4-1/2	6	3
01320	48370	32500	33/64	6-5/8	4-13/16	1	1
01330	48380	32510	17/32	6-5/8	4-13/16	1	1
01340	48390	32520	35/64	6-5/8	4-13/16	1	1
01350	48400	32530	9/16	6-5/8	4-13/16	1	1
01360	48410	32540	37/64	6-5/8	4-13/16	1	1
01370	48420	32550	19/32	7-1/8	5-3/16	1	1
01380	48430	32560	39/64	7-1/8	5-3/16	1	1
01390	48440	32570	5/8	7-1/8	5-3/16	1	1
01400	48450	32580	41/64	7-1/8	5-3/16	1	1
01410	48460	32590	21/32	7-1/8	5-3/16	1	1
01420	48470	32600	43/64	7-5/8	5-5/8	1	1
01430	48480	32610	11/16	7-5/8	5-5/8	1	1

TiN

Twist Drills - General Purpose

GENERAL PURPOSE

Type 240, 240-B, 240-BN

118° Point

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



Type 240

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-B

It is recommended for non-ferrous metals, wood and plastic.



Type 240-BN

Performs well in mild drilling applications with abrasive wear characteristics.

TiN

Twist Drills - General Purpose

LETTER

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
02410	04160	22890	A	3-7/8	2-5/8	12	6
02420	04170	22900	B	4	2-3/4	12	6
02430	04180	22910	C	4	2-3/4	12	6
02440	04190	22920	D	4	2-3/4	12	6
02450	04200	22930	E	4	2-3/4	12	6
02460	04210	22940	F	4-1/8	2-7/8	12	6
02470	04220	22950	G	4-1/8	2-7/8	12	6
02480	04230	22960	H	4-1/8	2-7/8	12	6
02490	04240	22970	I	4-1/8	2-7/8	12	6
02500	04250	22980	J	4-1/8	2-7/8	12	6
02510	04260	22990	K	4-1/4	2-15/16	12	6
02520	04270	23000	L	4-1/4	2-15/16	12	6
02530	04280	23010	M	4-3/8	3-1/16	6	3
02540	04290	23020	N	4-3/8	3-1/16	6	3
02550	04300	23030	O	4-1/2	3-3/16	6	3
02560	04310	23040	P	4-5/8	3-5/16	6	3
02570	04320	23050	Q	4-3/4	3-7/16	6	3
02580	04330	23060	R	4-3/4	3-7/16	6	3
02590	04340	23070	S	4-7/8	3-1/2	6	3
02600	04350	23080	T	4-7/8	3-1/2	6	3
02610	04360	22790	U	5	3-5/8	6	3
02620	04370	23100	V	5	3-5/8	6	3
02630	04380	23110	W	5-1/8	3-3/4	6	3
02640	04390	23120	X	5-1/8	3-3/4	6	3
02650	04400	23130	Y	5-1/4	3-7/8	6	3
02660	04410	23140	Z	5-1/4	3-7/8	6	3

WIRE

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
01440	03190	47790	1	3-7/8	2-5/8	12	6
01450	03200	47800	2	3-7/8	2-5/8	12	6
01460	03210	47810	3	3-3/4	2-1/2	12	6
01470	03220	47820	4	3-3/4	2-1/2	12	6
01480	03230	47830	5	3-3/4	2-1/2	12	6
01490	03240	47840	6	3-3/4	2-1/2	12	6
01500	03250	47850	7	3-5/8	2-7/16	12	6

Wire sizes continued on page 19

GENERAL PURPOSE

Type 240, 240-B, 240-BN
118° Point



Type 240

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-B

It is recommended for non-ferrous metals, wood and plastic.



Type 240-BN

Performs well in mild drilling applications with abrasive wear characteristics.

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

WIRE

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
01510	03260	47860	8	3-5/8	2-7/16	12	6
01520	03270	47870	9	3-5/8	2-7/16	12	6
01530	03280	47880	10	3-5/8	2-7/16	12	6
01540	03290	47890	11	3-1/2	2-5/16	12	6
01550	03300	47900	12	3-1/2	2-5/16	12	6
01560	03310	47910	13	3-1/2	2-5/16	12	6
01570	03320	47920	14	3-3/8	2-3/16	12	6
01580	03330	47930	15	3-3/8	2-3/16	12	6
01590	03340	47940	16	3-3/8	2-3/16	12	6
01600	03350	47950	17	3-3/8	2-3/16	12	6
01610	03360	47960	18	3-1/4	2-1/8	12	6
01620	03370	47970	19	3-1/4	2-1/8	12	6
01630	03380	47980	20	3-1/4	2-1/8	12	6
01640	03390	47990	21	3-1/4	2-1/8	12	6
01650	03400	48000	22	3-1/8	2	12	6
01660	03410	48010	23	3-1/8	2	12	6
01670	03420	48020	24	3-1/8	2	12	6
01680	03430	48030	25	3	1-7/8	12	6
01690	03440	48040	26	3	1-7/8	12	6
01700	03450	48050	27	3	1-7/8	12	6
01710	03460	48060	28	2-7/8	1-3/4	12	6
01720	03470	48070	29	2-7/8	1-3/4	12	6
01730	03480	48080	30	2-3/4	1-5/8	12	6
01740	03490	48090	31	2-3/4	1-5/8	12	6
01750	03500	48100	32	2-3/4	1-5/8	12	6
01760	03510	48110	33	2-5/8	1-1/2	12	6
01770	03520	48120	34	2-5/8	1-1/2	12	6
01780	03530	48130	35	2-5/8	1-1/2	12	6
01790	03540	48140	36	2-1/2	1-7/16	12	6
01800	03550	48150	37	2-1/2	1-7/16	12	6
01810	03560	48160	38	2-1/2	1-7/16	12	6
01820	03570	48170	39	2-3/8	1-3/8	12	6
01830	03580	48180	40	2-3/8	1-3/8	12	6
01840	03590	48190	41	2-3/8	1-3/8	12	6
01850	05600	48200	42	2-1/4	1-1/4	12	6
01860	05610	48210	43	2-1/4	1-1/4	12	6
01870	05620	48220	44	2-1/8	1-1/8	12	6
01880	05630	48230	45	2-1/8	1-1/8	12	6
01890	05640	48240	46	2-1/8	1-1/8	12	6
01900	05650	48250	47	2	1	12	6
01910	05660	48260	48	2	1	12	6
01920	05670	48270	49	2	1	12	6
01930	05680	48280	50	2	1	12	6
01940	05690	48290	51	2	1	12	6

Wire sizes continued on page 20

GENERAL PURPOSE

Type 240, 240-B, 240-BN

118° Point

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



Type 240

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-B

It is recommended for non-ferrous metals, wood and plastic.



Type 240-BN

Performs well in mild drilling applications with abrasive wear characteristics.

WIRE

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
01950	03700	48300	52	1-7/8	7/8	12	6
01960	03710	98000	53	1-7/8	7/8	12	6
01970	03720	97990	54	1-7/8	7/8	12	6
01980	03730	97980	55	1-7/8	7/8	12	6
01990	03740	97970	56	1-3/4	3/4	12	6
02000	03750	97960	57	1-3/4	3/4	12	6
02010	03760	97950	58	1-5/8	11/16	12	6
02020	03770	97940	59	1-5/8	11/16	12	6
02030	03780	97930	60	1-5/8	11/16	12	6
02040	03790		61	1-5/8	11/16	12	----
02050	03800		62	1-1/2	5/8	12	----
02060	03810		63	1-1/2	5/8	12	----
02070	03820		64	1-1/2	5/8	12	----
02080	03830		65	1-1/2	5/8	12	----
02090	03840		66	1-3/8	1/2	12	----
02100	03850		67	1-3/8	1/2	12	----
02110	03860		68	1-3/8	1/2	12	----
02120	03870		69	1-3/8	1/2	12	----
02130	03880		70	1-1/4	3/8	12	----
02140	03890		71	1-1/4	3/8	12	----
02150	03900		72	1-1/8	5/16	12	----
02160	03910		73	1-1/8	5/16	12	----
02170	03920		74	1	1/4	12	----
02180	03930		75	1	1/4	12	----
02190	03940		76	7/8	3/16	12	----
02200	03950		77	7/8	3/16	12	----
02210	03960		78	7/8	3/16	12	----
02220	03970		79	3/4	1/8	12	----
02230	03980		80	3/4	1/8	12	----
	03990		81	3/4	1/8	12	----
	04000		82	3/4	1/8	12	----
	04010		83	3/4	1/8	12	----
	04020		84	3/4	3/32	12	----
	04030		85	3/4	3/32	12	----

Wire sizes continued on page 21

GENERAL PURPOSE

Type 240, 240-B, 240-BN
118° Point



Type 240

Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.



Type 240-B

It is recommended for non-ferrous metals, wood and plastic.



Type 240-BN

Performs well in mild drilling applications with strong abrasive wear characteristics.

- Widely used in general purpose applications.

- Designed for a wide range of operating conditions and materials.

WIRE

Black Oxide Type 240 Part Number	Bright Type 240-B Part Number	TiN Coated Type 240-BN Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Black Oxide / Bright Type 240 / Type 240-B Qty. per/Pack	TiN Coated Type 240-BN Qty. per/Pack
	04040		86	3/4	3/32	12	
	04050		87	3/4	3/32	12	
	04060		88	3/4	5/64	12	
	04070		89	3/4	5/64	12	
	04080		90	3/4	5/64	12	
	04090		91	3/4	5/64	12	
	04100		92	3/4	1/16	12	
	04110		93	3/4	1/16	12	
	04120		94	3/4	1/16	12	
	04130		95	3/4	1/16	12	
	04140		96	3/4	1/16	12	
	04150		97	3/4	1/16	12	

Type 248

V-line - General Purpose Black Oxide, 118° point



- 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 240.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack	Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02783	1/16	1-7/8	7/8	12	02923	9/32	4-1/4	2-15/16	12
02793	5/64	2	1	12	02933	19/64	4-3/8	3-1/16	6
02803	3/32	2-1/4	1-1/4	12	02943	5/16	4-1/2	3-3/16	6
02813	7/64	2-5/8	1-1/2	12	02953	21/64	4-5/8	3-5/16	6
02823	1/8	2-3/4	1-5/8	12	02963	11/32	4-3/4	3-7/16	6
02833	9/64	2-7/8	1-3/4	12	02973	23/64	4-7/8	3-1/2	6
02843	5/32	3-1/8	2	12	02983	3/8	5	3-5/8	6
02853	11/64	3-1/4	2-1/8	12	02993	25/64	5-1/8	3-3/4	6
02863	3/16	3-1/2	2-5/16	12	03003	13/32	5-1/4	3-7/8	6
02873	13/64	3-5/8	2-7/16	12	03013	27/64	5-3/8	3-15/16	6
02883	7/32	3-3/4	2-1/2	12	03023	7/16	5-1/2	4-1/16	6
02893	15/64	3-7/8	2-5/8	12	03033	29/64	5-5/8	4-3/16	6
02903	1/4	4	2-3/4	12	03043	15/32	5-3/4	4-5/16	6
02913	17/64	4-1/8	2-7/8	12	03053	31/64	5-7/8	4-3/8	6
					03063	1/2	6	4-1/2	6

GENERAL PURPOSE - SURFACED TREATED & BRIGHT FINISH

Type 643

METRIC

118° Point General Purpose - Black Oxide

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

Type 643-W

METRIC

118° Point General Purpose - Bright Finish

- This 118° point, high-speed steel drill performs well in a wide variety of drilling applications.
- It is recommended for non-ferrous metals, wood and plastics.



METRIC

Type 643 Part #	Type 643-W Part #	Dia. MM	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
20630	17160	.75	35	1-3/8	13	1/2	10
20640	17070	.80	35	1-3/8	13	1/2	10
20650	17080	.85	38	1-1/2	16	5/8	10
20660	29020	.90	38	1-1/2	16	5/8	10
20670	29030	.95	38	1-1/2	16	5/8	10
20680	29040	1.00	41	1-5/8	17	11/16	10
20690	29050	1.05	41	1-5/8	17	11/16	10
20700	29060	1.10	44	1-3/4	19	3/4	10
20710	17100	1.15	44	1-3/4	19	3/4	10
20720	29070	1.20	48	1-7/8	22	7/8	10
20730	17150	1.25	48	1-7/8	22	7/8	10
20740	29080	1.30	48	1-7/8	22	7/8	10
20750	29090	1.35	48	1-7/8	22	7/8	10
20760	29100	1.40	48	1-7/8	22	7/8	10
20780	17100	1.50	48	1-7/8	22	7/8	10
20800	29110	1.60	48	1-7/8	22	7/8	10
20820	29010	1.70	51	2	25	1	10
20830	17120	1.75	51	2	25	1	10
20840	17130	1.80	51	2	25	1	10
20860	29120	1.90	51	2	25	1	10
20880	20881	2.00	51	2	25	1	10
20980	20981	2.50	60	2-23/64	35	1-3/8	10
21040	21041	3.00	70	2-3/4	41	1-5/8	10
21110	21111	3.50	73	2-7/8	45	1-3/4	10
21170	21171	4.00	83	3-1/4	54	2-1/8	10
21230	21231	4.50	86	3-3/8	56	2-13/64	10
21290	21291	5.00	92	3-5/8	62	2-7/16	10
21350	21351	5.50	95	3-3/4	64	2-1/2	10
21410	21411	6.00	102	4	70	2-3/4	10
21470	21471	6.50	105	4-1/8	73	2-7/8	10
21530	21531	7.00	105	4-1/8	73	2-7/8	10
21590	21591	7.50	111	4-3/8	78	3	5
21650	21651	8.00	114	4-1/2	81	3-3/16	5
21710	21711	8.50	121	4-3/4	87	3-27/64	5
21770	21771	9.00	124	4-7/8	89	3-1/2	5
21830	21831	9.50	127	5	92	3-5/8	5
21890	21891	10.00	130	5-1/8	95	3-3/4	5
21900	21901	10.50	133	5-15/64	98	3-7/8	5
21910	21911	11.00	140	5-1/2	103	4-1/16	5
21920	21921	11.50	143	5-5/8	106	4-7/32	5
21930	21931	12.00	149	5-7/8	111	4-3/8	5
21940	21941	12.50	152	6	114	4-1/2	5
21950	21951	13.00	152	6	114	4-1/2	5

Jobber Length

1/4" & 3/8" REDUCED SHANK

Type 275

General Purpose 118° point - Bright Finish
1/4" Reduced Shank - Shorter than Jobber Length

- Shorter than Jobber length increases rigidity and improves drilling performance.
- Designed for use in portable air and electric drilling equipment with 1/4" chucks.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
28800	17/64	3-1/2	1-7/8	12
28810	9/32	3-19/32	1-31/32	12
28820	19/64	3-23/32	2-1/16	6
28830	5/16	3-27/32	2-3/16	6
28840	21/64	4	2-9/32	6
28850	11/32	4-1/32	2-11/32	6
28860	23/64	4-5/32	2-15/32	6
28870	3/8	4-1/4	2-9/16	6
28880	25/64	4-11/32	2-5/8	6
28890	13/32	4-15/32	2-3/4	6
28900	27/64	4-9/16	2-27/32	6
28910	7/16	4-11/16	2-15/16	6
28920	29/64	4-25/32	3-1/32	6
28930	15/32	4-7/8	3-1/8	6
28940	31/64	5	3-7/32	6
28950	1/2	5	3-7/32	6

*These items are also available carded.
See Price List Catalog for details.*

Type 278

General Purpose 118° point - Bright Finish
3/8" Reduced Shank - Jobber Length

- 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".



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
59570	25/64	5-1/8	3-3/4	6
59580	13/32	5-1/4	3-7/8	6
59590	27/64	5-3/8	3-15/16	6
59500	7/16	5-1/2	4-1/16	6
59600	29/64	5-5/8	4-3/16	6
59510	15/32	5-3/4	4-5/16	6
59610	31/64	5-7/8	4-3/8	6
59520	1/2	6	4-1/2	6
59530	17/32	6	4-1/4	1
59540	9/16	6	4-1/4	1
59550	19/32	6	4-1/4	1
59560	5/8	6	4-1/4	1

*These items are also available carded.
See Price List Catalog for details.*

FAST SPIRAL HIGH HELIX

Type 240-F

Fast Spiral High Helix - 118° Point Bright Finish

- HSS drill performs well in deep hole drilling of low tensile strength material such as aluminum, zinc, copper, wood, refrigeration die castings, auto hardware & epoxy based plastics.
- Use to drill free machining steels, brass & bronze.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
06550	1/32	1-3/8	1/2	12
06560	3/64	1-3/4	3/4	12
06570	1/16	1-7/8	7/8	12
06580	5/64	2	1	12
06590	3/32	2-1/4	1-1/4	12
06600	7/64	2-5/8	1-1/2	12
06610	1/8	2-3/4	1-5/8	12
06620	9/64	2-7/8	1-3/4	12
06630	5/32	3-1/8	2	12
06640	11/64	3-1/4	2-1/8	12
06650	3/16	3-1/2	2-5/16	12
06660	13/64	3-5/8	2-7/16	12
06670	7/32	3-3/4	2-1/2	12
06680	15/64	3-7/8	2-5/8	12
06690	1/4	4	2-3/4	12
06700	17/64	4-1/8	2-7/8	12
06710	9/32	4-1/4	2-15/16	12
06720	19/64	4-3/8	3-1/16	6
06730	5/16	4-1/2	3-3/16	6
06740	21/64	4-5/8	3-5/16	6
06750	11/32	4-3/4	3-7/16	6
06760	23/64	4-7/8	3-1/2	6
06770	3/8	5	3-5/8	6
06780	25/64	5-1/8	3-3/4	6
06790	13/32	5-1/4	3-7/8	6
06800	27/64	5-3/8	3-15/16	6
06810	7/16	5-1/2	4-1/16	6
06820	29/64	5-5/8	4-3/16	6
06830	15/32	5-3/4	4-5/16	6
06840	31/64	5-7/8	4-3/8	6
06850	1/2	6	4-1/2	6

LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
07660	A	3-7/8	2-5/8	12
07670	B	4	2-3/4	12
07680	C	4	2-3/4	12
07690	D	4	2-3/4	12
07700	E	4	2-3/4	12
07710	F	4-1/8	2-7/8	12
07720	G	4-1/8	2-7/8	12
07730	H	4-1/8	2-7/8	12
07740	I	4-1/8	2-7/8	12
07750	J	4-1/8	2-7/8	12
07760	K	4-1/4	2-15/16	12
07770	L	4-1/4	2-15/16	12
07780	M	4-3/8	3-1/16	6
07790	N	4-3/8	3-1/16	6
07800	O	4-1/2	3-3/16	6
07810	P	4-5/8	3-5/16	6
07820	Q	4-3/4	3-7/16	6
07830	R	4-3/4	3-7/16	6
07840	S	4-7/8	3-1/2	6
07850	T	4-7/8	3-1/2	6
07860	U	5	3-5/8	6
07870	V	5	3-5/8	6
07880	W	5-1/8	3-3/4	6
07890	X	5-1/8	3-3/4	6
07900	Y	5-1/4	3-7/8	6
07910	Z	5-1/4	3-7/8	6

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
06860	1	3-7/8	2-5/8	12
06870	2	3-7/8	2-5/8	12
06880	3	3-3/4	2-1/2	12
06890	4	3-3/4	2-1/2	12
06900	5	3-3/4	2-1/2	12
06910	6	3-3/4	2-1/2	12
06920	7	3-5/8	2-7/16	12
06930	8	3-5/8	2-7/16	12
06940	9	3-5/8	2-7/16	12
06950	10	3-5/8	2-7/16	12
06960	11	3-1/2	2-5/16	12
06970	12	3-1/2	2-5/16	12
06980	13	3-1/2	2-5/16	12
06990	14	3-3/8	2-3/16	12
07000	15	3-3/8	2-3/16	12
07010	16	3-3/8	2-3/16	12
07020	17	3-3/8	2-3/16	12
07030	18	3-1/4	2-1/8	12
07040	19	3-1/4	2-1/8	12
07050	20	3-1/4	2-1/8	12
07060	21	3-1/4	2-1/8	12
07070	22	3-1/8	2	12
07080	23	3-1/8	2	12
07090	24	3-1/8	2	12
07100	25	3	1-7/8	12
07110	26	3	1-7/8	12
07120	27	3	1-7/8	12
07130	28	2-7/8	1-3/4	12
07140	29	2-7/8	1-3/4	12
07150	30	2-3/4	1-5/8	12
07160	31	2-3/4	1-5/8	12
07170	32	2-3/4	1-5/8	12
07180	33	2-5/8	1-1/2	12
07190	34	2-5/8	1-1/2	12
07200	35	2-5/8	1-1/2	12
07210	36	2-1/2	1-7/16	12
07220	37	2-1/2	1-7/16	12
07230	38	2-1/2	1-7/16	12
07240	39	2-3/8	1-3/8	12
07250	40	2-3/8	1-3/8	12
07260	41	2-3/8	1-3/8	12
07270	42	2-1/4	1-1/4	12
07280	43	2-1/4	1-1/4	12
07290	44	2-1/8	1-1/8	12
07300	45	2-1/8	1-1/8	12
07310	46	2-1/8	1-1/8	12
07320	47	2	1	12
07330	48	2	1	12
07340	49	2	1	12
07350	50	2	1	12
07360	51	2	1	12
07370	52	1-7/8	7/8	12
07380	53	1-7/8	7/8	12
07390	54	1-7/8	7/8	12
07400	55	1-7/8	7/8	12
07410	56	1-3/4	3/4	12
07420	57	1-3/4	3/4	12
07430	58	1-5/8	5/8	12
07440	59	1-5/8	5/8	12
07450	60	1-5/8	5/8	12

HEAVY-DUTY & TiN COATED PARABOLIC FLUTE

Type 240-P

135° Split Point - Black Oxide

Type 240-PT

135° Split Point - TiN Coated

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

- Parabolic flute drills are designed to allow deep hole drilling without frequent drill removal to clear chips.
- Exceptional high performance drill with the super hard TiN coating extends tool life 500% or more in very abrasive drilling applications.



Type 240-P Black Oxide		FRACTIONAL			Type 240-P Black Oxide	
Part Number	Type 240-PT TiN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack	Type 240-PT TiN Coated Qty. per/Pack
36800	37870	1/16	1-7/8	7/8	12	6
36810	37880	5/64	2	1	12	6
36820	37890	3/32	2-1/4	1-1/4	12	6
36830	37900	7/64	2-5/8	1-1/2	12	6
36840	37910	1/8	2-3/4	1-5/8	12	6
36850	37920	9/64	2-7/8	1-3/4	12	6
36860	37930	5/32	3-1/8	2	12	6
36870	37940	11/64	3-1/4	2-1/8	12	6
36880	37950	3/16	3-1/2	2-5/16	12	6
36890	37960	13/64	3-5/8	2-7/16	12	6
36900	37970	7/32	3-3/4	2-1/2	12	6
36910	37980	15/64	3-7/8	2-5/8	12	6
36920	37990	1/4	4	2-3/4	12	6
36930	38000	17/64	4-1/8	2-7/8	12	6
36940	38010	9/32	4-1/4	2-15/16	12	6
36950	38020	19/64	4-3/8	3-1/16	6	3
36960	38030	5/16	4-1/2	3-3/16	6	3
36970	38040	21/64	4-5/8	3-5/16	6	3
36980	38050	11/32	4-3/4	3-7/16	6	3
36990	38060	23/64	4-7/8	3-1/2	6	3
37000	38070	3/8	5	3-5/8	6	3
37010	38080	25/64	5-1/8	3-3/4	6	3
37020	38090	13/32	5-1/4	3-7/8	6	3
37030	38100	27/64	5-3/8	3-15/16	6	3
37040	38110	7/16	5-1/2	4-1/16	6	3
37050	38120	29/64	5-5/8	4-3/16	6	3
37060	38130	15/32	5-3/4	4-5/16	6	3
37070	38140	31/64	5-7/8	4-3/8	6	3
37080	38150	1/2	6	4-1/2	6	3
Type 240-P Black Oxide		WIRE			Type 240-P Black Oxide	
Part Number	Type 240-PT TiN Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/Pack	Type 240-PT TiN Coated Qty. per/Pack
68161	68162	1	3-7/8	2-5/8	12	6
68171	68172	2	3-7/8	2-5/8	12	6
68181	68182	3	3-3/4	2-1/2	12	6
68191	68192	4	3-3/4	2-1/2	12	6
68201	68202	5	3-3/4	2-1/2	12	6
68211	68212	6	3-3/4	2-1/2	12	6
68221	68222	7	3-5/8	2-7/16	12	6
68231	68232	8	3-5/8	2-7/16	12	6
68241	68242	9	3-5/8	2-7/16	12	6
68251	68252	10	3-5/8	2-7/16	12	6
68261	68262	11	3-1/2	2-5/16	12	6
68271	68272	12	3-1/2	2-5/16	12	6
68281	68282	13	3-1/2	2-5/16	12	6
68291	68292	14	3-3/8	2-3/16	12	6
		15	3-3/8	2-3/16	12	6
		16	3-3/8	2-3/16	12	6

Wire sizes continued on page 26

HEAVY-DUTY & TiN COATED PARABOLIC FLUTE

Type 240-P

135° Split Point - Black Oxide

Type 240-PT

135° Split Point - TiN Coated



TiN

Twist Drills - Parabolic & TiN Coated Parabolic Flutes

Type 240-P Black Oxide	Type 240-PT TiN Coated	WIRE			Type 240-P Black Oxide	Type 240-PT TiN Coated
Part Number	Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/Pack	Qty. per/Pack
68301	68302	17	3-3/8	2-3/16	12	6
58591	58592	18	3-1/4	2-1/8	12	6
68311	68312	19	3-1/4	2-1/8	12	6
58381	58382	20	3-1/4	2-1/8	12	6
58721	58722	21	3-1/4	2-1/8	12	6
68321	68322	22	3-1/8	2	12	6
68331	68332	23	3-1/8	2	12	6
68341	68342	24	3-1/8	2	12	6
58901	58902	25	3	1-7/8	12	6
68351	68352	26	3	1-7/8	12	6
68361	68362	27	3	1-7/8	12	6
68371	68372	28	2-7/8	1-3/4	12	6
37321	37322	29	2-7/8	1-3/4	12	6
68381	68382	30	2-3/4	1-5/8	12	6
68391	68392	31	2-3/4	1-5/8	12	6
68401	68402	32	2-3/4	1-5/8	12	6
58441	58442	33	2-5/8	1-1/2	12	6
68411	68412	34	2-5/8	1-1/2	12	6
68421	68422	35	2-5/8	1-1/2	12	6
58581	58582	36	2-1/2	1-7/16	12	6
37721	37722	37	2-1/2	1-7/16	12	6
68431	68432	38	2-1/2	1-7/16	12	6
58451	58452	39	2-3/8	1-3/8	12	6
38321	38322	40	2-3/8	1-3/8	12	6
Type 240-P Black Oxide	Type 240-PT TiN Coated	LETTER			Type 240-P Black Oxide	Type 240-PT TiN Coated
Part Number	Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/Pack	Qty. per/Pack
70880	58372	A	3-7/8	2-5/8	12	6
70890	58402	B	4	2-3/4	12	6
70900	58412	C	4	2-3/4	12	6
70910	58462	D	4	2-3/4	12	6
71950	58472	E	4	2-3/4	12	6
58481	58482	F	4-1/8	2-7/8	12	6
70920	58492	G	4-1/8	2-7/8	12	6
70930	58512	H	4-1/8	2-7/8	12	6
70940	58532	I	4-1/8	2-7/8	12	6
70950	58542	J	4-1/8	2-7/8	12	6
71960	58552	K	4-1/4	2-15/16	12	6
70960	58562	L	4-1/4	2-15/16	12	6
70970	58572	M	4-3/8	3-1/16	6	3
70980	58602	N	4-3/8	3-1/16	6	3
70990	58612	O	4-1/2	3-3/16	6	3
71000	58622	P	4-5/8	3-5/16	6	3
71010	58632	Q	4-3/4	3-7/16	6	3
71020	58642	R	4-3/4	3-7/16	6	3
71030	58652	S	4-7/8	3-1/2	6	3
71040	58662	T	4-7/8	3-1/2	6	3
71050	58672	U	5	3-5/8	6	3
71060	58732	V	5	3-5/8	6	3
71070	58682	W	5-1/8	3-3/4	6	3
72000	58692	X	5-1/8	3-3/4	6	3
71080	58702	Y	5-1/4	3-7/8	6	3
71090	58712	Z	5-1/4	3-7/8	6	3

AUTOMOTIVE SERIES TANGED DRIVE

Type 230



Automotive Series Tanged Drive
118° Point General Purpose - Black Oxide

- Tang drive used with A.S.A. split sleeve drill drivers

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
13300	1/8	2-3/4	1-5/8	12
13360	9/64	2-7/8	1-3/4	12
13400	5/32	3-1/8	2	12
13440	11/64	3-1/4	2-1/8	12
13490	3/16	3-1/2	2-5/16	12
13540	13/64	3-5/8	2-7/16	12
13570	7/32	3-3/4	2-1/2	12
13600	15/64	3-7/8	2-5/8	12
13630	1/4	4	2-3/4	12
13670	17/64	4-1/8	2-7/8	12
13700	9/32	4-1/4	2-15/16	12
13730	19/64	4-3/8	3-1/16	6
13760	5/16	4-1/2	3-3/16	6
13790	21/64	4-5/8	3-5/16	6
13820	11/32	4-3/4	3-7/16	6
13850	23/64	4-7/8	3-1/2	6
13870	3/8	5	3-5/8	6
13890	25/64	5-1/8	3-3/4	6
13910	13/32	5-1/4	3-7/8	6
13920	27/64	5-3/8	3-15/16	6
13930	7/16	5-1/2	4-1/16	6
13940	29/64	5-5/8	4-3/16	6
13950	15/32	5-3/4	4-5/16	6
13960	31/64	5-7/8	4-3/8	6
13970	1/2	6	4-1/2	6
13980	33/64	6-5/8	4-13/16	1
13990	17/32	6-5/8	4-13/16	1
14000	35/64	6-5/8	4-13/16	1
14010	9/16	6-5/8	4-13/16	1
14020	37/64	6-5/8	4-13/16	1
14030	19/32	7-1/8	5-3/16	1
14040	39/64	7-1/8	5-3/16	1
14050	5/8	7-1/8	5-3/16	1
14060	41/64	7-1/8	5-3/16	1
14070	21/32	7-1/8	5-3/16	1
14080	43/64	7-5/8	5-5/8	1
14090	11/16	7-5/8	5-5/8	1

Twist Drills - Automotive Series Tanged Drive

HSS ULTRA BOR

Type 250-UB

Ultra Bor Super Premium
3-Flats on Shank - 135° Split Point

- 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.



3 - FLATS ON SHANK

PartNo.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
22860	1/16	1-7/8	7/8	12
22870	5/64	2	1	12
22880	3/32	2-1/4	1-1/4	12
86950	7/64	2-3/8	1-5/16	12
86960	1/8	2-1/2	1-7/16	12
86970	9/64	2-5/8	1-9/16	12
86980	5/32	2-3/4	1-11/16	12
86990	11/64	2-7/8	1-13/16	12
87000	3/16	3	1-7/8	12
87010	13/64	3-1/8	1-15/16	12
87020	7/32	3-1/4	2	12
87030	15/64	3-3/8	2-1/16	12
87040	1/4	3-1/2	2	12
87050	17/64	3-5/8	2-1/8	12
87060	9/32	3-3/4	2-1/4	12
87070	19/64	3-7/8	2-3/8	6
87080	5/16	4	2-1/2	6
87090	21/64	4-1/16	2-9/16	6
87100	11/32	4-1/8	2-5/8	6
87110	23/64	4-3/16	2-11/16	6
87120	3/8	4-1/4	2-11/16	6
87130	25/64	4-5/16	2-3/4	6
87140	13/32	4-3/8	2-13/16	6
87150	27/64	4-7/16	2-7/8	6
87160	7/16	4-1/2	2-15/16	6
87170	29/64	4-5/8	3	6
87180	15/32	4-3/4	3-1/8	6
87190	31/64	4-7/8	3-1/4	6
87200	1/2	5	3-3/8	6

These items are also available carded.
See Price List Catalog for details.

Type 258-UB

Ultra Bor Super Premium - 135° Split Point
3-Flats on Shank - 3/8" Reduced Shank

- Reduced shank with flats for positive chuck grip.



3 - FLATS ON SHANK - 3/8" SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
81560	13/32	4-3/8	2-13/16	6
81570	27/64	4-7/16	2-7/8	6
81580	7/16	4-1/2	2-15/16	6
81590	29/64	4-5/8	3	6
81600	15/32	4-3/4	3-1/8	6
81610	31/64	4-7/8	3-1/4	6
81620	1/2	5	3-3/8	6

25/64 250-UB drills with flats will fit a 3/8" chuck without reducing the shank diameter

These items are also available carded. See Price List Catalog for details.

Type 241-A

V-line, CAD-HD Series -
Black Oxide 135° Split Point

- American made value line drill
- New advances in drill making technology have allowed us to make an excellent drill for the very price sensitive portions of the business.
- The black surface treatment prevents chip welding and increases abrasion resistance.



Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
04492	1/16	1-7/8	7/8	12
04502	5/64	2	1	12
04512	3/32	2-1/4	1-1/4	12
04522	7/64	2-3/8	1-5/16	12
04532	1/8	2-1/2	1-7/16	12
04542	9/64	2-5/8	1-9/16	12
04552	5/32	2-3/4	1-11/16	12
04562	11/64	2-7/8	1-13/16	12
04572	3/16	2	1-1/2	12
04582	13/64	3-1/8	1-5/8	12
04592	7/32	3-1/4	1-3/4	12
04602	15/64	3-3/8	1-7/8	12
04612	1/4	3-1/2	2	12
04622	17/64	3-5/8	2-1/8	12
04632	9/32	3-3/4	2-1/4	12
04642	19/64	3-7/8	2-3/8	6
04652	5/16	4	2-1/2	6
04662	21/64	4-1/16	2-9/16	6
04672	11/32	4-1/8	2-5/8	6
04682	23/64	4-3/16	2-11/16	6
04692	3/8	4-1/4	2-11/16	6
04702	25/64	4-5/16	2-3/4	6
04712	13/32	4-3/8	2-13/16	6
04722	27/64	4-7/16	2-7/8	6
04732	7/16	4-1/2	2-15/16	6
04742	29/64	4-5/8	3	6
04752	15/32	4-3/4	3-1/8	6
04762	31/64	4-7/8	3-1/4	6
04772	1/2	5	3-3/8	6

Mechanic Length



HEX SHANK - 1/4" QUICK RELEASE

Type QR-UB

Ultra Bor Super Premium Quick Release Drills - 135° Split Point



- A mechanic length with a quick release shank
 - Special Hi-Molybdenum tool steel.
 - 135° split point for fast penetration and accurate starting without center punch.
- Body and clearance are gold treated for maximum lubricity.
- Specially designed for hand held drill and impact tools.
 - Recommended use in work hardening grades of stainless steel and other hard metal drill applications.

QR-UB 1/4" HEX SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34501	1/16	2-5/8	7/8	6
34521	3/32	3-1/4	1-1/4	6
34541	1/8	3-1/2	1-7/16	6
34561	5/32	3-1/2	1-11/16	6
34581	3/16	3-3/4	1-7/8	6
34611	7/32	4"	2"	6
34631	1/4	4-1/4	2"	6
34651	9/32	3-13/16	2-1/4	6
34671	5/16	4	2-1/2	3
34691	11/32	4-7/32	2-5/8	3
34711	3/8	4-1/4	2-11/16	3
34731	13/32	4-1/2	2-13/16	3
34751	7/16	4-1/2	2-15/16	3
34771	15/32	4-7/8	3-1/8	3
34791	1/2	5	3-3/8	3

34801 Quick Release Adaptor

QR-UB 1/4" HEX SHANK CARDED

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34507	1/16	2-5/8	7/8	2
34527	3/32	3-1/4	1-1/4	2
34547	1/8	3-1/2	1-7/16	2
34567	5/32	3-1/2	1-11/16	2
34587	3/16	3-3/4	1-7/8	2
34617	7/32	4"	2"	1
34637	1/4	4-1/4	2"	1
34657	9/32	3-13/16	2-1/4	1
34677	5/16	4	2-1/2	1
34697	11/32	4-7/32"	2-5/8"	1
34717	3/8	4-1/4	2-11/16	1
34737	13/32	4-1/2"	2-13/16"	1
34757	7/16	4-1/2	2-15/16	1
34777	15/32	4-7/8"	3-1/8"	1
34797	1/2	5	3-3/8	1

34807 Quick Release Adaptor

SETS HEX SHANK - 1/4" QUICK RELEASE



QR12-UB SET HARD CASE - INDEX

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 Adaptor	1



QR16-UB SET SOFT POUCH - INDEX

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 Adaptor	1

QR 7A-UB - SOFT POUCH INDEX

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

QR 7B-UB SET SOFT POUCH - INDEX

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

Mechanic Length - Hex Shank - 1/4" Quick Release Ultra Bor

M42 COBALT & TiN COATED NAS 907J

Type 240-D -M42 Cobalt , Type 240-DN -TiN Coated 135° Split Point - 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 240-D

Use to drill hard, tough metals, free machining stainless steel, titanium alloys and certain abrasive plastics.



Type 240-DN

TiN coating for lubricity, and extended tool life.

FRACTIONAL

240-D Part #	240-DN TiN Coated Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	240-D Qty. per/pack	240-DN Qty. per/pack
08000	-----	3/64	1-3/4	3/4	12	6
08010	79600	1/16	1-7/8	7/8	12	6
08020	79610	5/64	2	1	12	6
08030	79620	3/32	2-1/4	1-1/4	12	6
08040	79630	7/64	2-5/8	1-1/2	12	6
08050	79640	1/8	2-3/4	1-5/8	12	6
08060	79650	9/64	2-7/8	1-3/4	12	6
08070	79660	5/32	3-1/8	2	12	6
08080	79670	11/64	3-1/4	2-1/8	12	6
08090	79680	3/16	3-1/2	2-5/16	12	6
08100	79690	13/64	3-5/8	2-7/16	12	6
08110	79700	7/32	3-3/4	2-1/2	12	6
08120	79710	15/64	3-7/8	2-5/8	12	6
08130	79720	1/4	4	2-3/4	12	6
08140	79730	17/64	4-1/8	2-7/8	12	6
08150	79740	9/32	4-1/4	2-15/16	12	6
08160	79750	19/64	4-3/8	3-1/16	6	3
08170	79760	5/16	4-1/2	3-3/16	6	3
08180	79770	21/64	4-5/8	3-5/16	6	3
08190	79780	11/32	4-3/4	3-7/16	6	3
08200	79790	23/64	4-7/8	3-1/2	6	3
08210	79800	3/8	5	3-5/8	6	3
08220	79810	25/64	5-1/8	3-3/4	6	3
08230	79820	13/32	5-1/4	3-7/8	6	3
08240	79830	27/64	5-3/8	3-15/16	6	3
08250	79840	7/16	5-1/2	4-1/16	6	3
08260	79850	29/64	5-5/8	4-3/16	6	3
08270	79860	15/32	5-3/4	4-5/16	6	3
08280	79870	31/64	5-7/8	4-3/8	6	3
08290	79880	1/2	6	4-1/2	6	3

LETTER

240-D Part #	240-DN TiN Coated Part #	Overall Letter Sizes	Flute Length Inches	Length Inches	240-D Qty. per/pack	240-DN Qty. per/pack
08940	79320	A	3-7/8	2-5/8	12	6
08950	79330	B	4	2-3/4	12	6
08960	79340	C	4	2-3/4	12	6
08970	79350	D	4	2-3/4	12	6
08980	79360	E	4	2-3/4	12	6
08990	79370	F	4-1/8	2-7/8	12	6
09000	79380	G	4-1/8	2-7/8	12	6
09010	79390	H	4-1/8	2-7/8	12	6
09020	79400	I	4-1/8	2-7/8	12	6
09030	79410	J	4-1/8	2-7/8	12	6
09040	79420	K	4-1/4	2-15/16	12	6
09050	79430	L	4-1/4	2-15/16	12	6
09060	79440	M	4-3/8	3-3/16	6	3
09070	79450	N	4-3/8	3-1/16	6	3
09080	79460	O	4-1/2	3-3/16	6	3
09090	79470	P	4-5/8	3-5/16	6	3
09100	79780	Q	4-3/4	3-7/16	6	3
09110	79490	R	4-3/4	3-7/16	6	3
09120	79500	S	4-7/8	3-1/2	6	3
09130	79510	T	4-7/8	3-1/2	6	3
09140	79520	U	5	3-5/8	6	3
09150	79530	V	5	3-5/8	6	3
09160	79540	W	5-1/8	3-3/4	6	3
09170	79550	X	5-1/8	3-3/4	6	3
09180	79560	Y	5-1/4	3-7/8	6	3
09190	79570	Z	5-1/4	3-7/8	6	3

WIRE

240-D Part #	240-DN TiN Coated Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	240-D Qty. per/pack	240-DN Qty. per/pack
08300	77001	1	3-7/8	2-5/8	12	6
08310	77011	2	3-7/8	2-5/5	12	6
08320	77021	3	3-3/4	2-1/2	12	6
08330	77031	4	3-3/4	2-1/2	12	6
08340	77041	5	3-3/4	2-1/2	12	6
08350	77051	6	3-3/4	2-1/2	12	6
08360	77061	7	3-5/8	2-7/16	12	6
08370	77071	8	3-5/8	2-7/16	12	6
08380	77081	9	3-5/8	2-7/16	12	6
08390	77091	10	3-5/8	2-7/16	12	6
08400	77101	11	3-1/2	2-5/16	12	6
08410	77111	12	3-1/2	2-5/16	12	6
08420	77121	13	3-1/2	2-5/16	12	6
08430	77131	14	3-3/8	2-3/16	12	6
08440	77141	15	3-3/8	2-3/16	12	6
08450	77151	16	3-3/8	2-3/16	12	6
08460	77161	17	3-3/8	2-3/16	12	6
08470	77171	18	3-1/4	2-1/8	12	6
08480	77181	19	3-1/4	2-1/8	12	6
08490	77191	20	3-1/4	2-1/8	12	6
08500	77201	21	3-1/4	2-1/8	12	6
08510	77211	22	3-1/8	2	12	6
08520	77221	23	3-1/8	2	12	6
08530	77321	24	3-1/8	2	12	6
08540	77241	25	3	1-7/8	12	6
08550	77261	26	3	1-7/8	12	6
08560	77271	27	3	1-7/8	12	6
08570	77281	28	2-7/8	1-3/4	12	6
08580	77291	29	2-7/8	1-3/4	12	6
08590	77301	30	2-3/4	1-5/8	12	6
08600	77311	31	2-3/4	1-5/8	12	6
08610	77321	32	2-3/4	1-5/8	12	6
08620	77331	33	2-5/8	1-1/2	12	6
08630	77341	34	2-5/8	1-1/2	12	6
08640	77351	35	2-5/8	1-1/2	12	6
08650	77361	36	2-1/2	1-7/16	12	6
08660	77371	37	2-1/2	1-7/16	12	6
08670	77381	38	2-1/2	1-7/16	12	6
08680	77391	39	2-3/8	1-3/8	12	6
08690	77401	40	2-3/8	1-3/8	12	6
08700	77411	41	2-3/8	1-3/8	12	6
08710	77411	42	2-1/4	1-1/4	12	6
08720	77421	43	2-1/4	1-1/4	12	6
08730	77431	44	2-1/8	1-1/8	12	6
08740	77441	45	2-1/8	1-1/8	12	6
08750	77451	46	2-1/8	1-1/8	12	6
08760	77461	47	2	1	12	6
08770	77471	48	2	1	12	6
08780	77481	49	2	1	12	6
08790	77491	50	2	1	12	6
08800	77501	51	2	1	12	6
08810	77511	52	1-7/8	7/8	12	6
08820	77521	53	1-7/8	7/8	12	6
08830	77531	54	1-7/8	7/8	12	6
08840	77541	55	1-7/8	7/8	12	6
08850	77551	56	1-3/4	3/4	12	6
08860	77561	57	1-3/4	3/4	12	6
08870	77571	58	1-5/8	11/16	12	6
08880	77581	59	1-5/8	11/16	12	6
08890	77591	60	1-5/8	11/16	12	6

M42 COBALT NAS 907J

Type 643-D

Ultra Bor Super Premium Jobber Length
M42 Cobalt - NAS 907J



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

METRIC

Part No.	Diameter		Overall Length		Flute Length		Qty. per/pack	Part No.	Diameter		Overall Length		Flute Length		Qty. per/pack
	MM	Inches	MM	Inches	MM	Inches			MM	Inches	MM	Inches	MM	Inches	
27050	0.90	38	1-1/2	16	5/8	10	34040	5.90	98	3-7/8	67	2-5/8	10		
27060	0.95	38	1-1/2	16	5/8	10	34050	6.00	102	4	70	2-3/4	10		
27070	1.00	41	1-5/8	17	11/16	10	34060	6.10	102	4	70	2-3/4	10		
27080	1.05	41	1-5/8	17	11/16	10	34070	6.20	102	4	70	2-3/4	10		
27100	1.20	48	1-7/8	22	7/8	10	34080	6.30	102	4	70	2-3/4	10		
27110	1.30	48	1-7/8	22	7/8	10	34090	6.40	105	4-1/8	73	2-7/8	10		
08831	1.40	48	1-7/8	22	7/8	10	34100	6.50	105	4-1/8	73	2-7/8	10		
27130	1.50	48	1-7/8	22	7/8	10	34110	6.60	105	4-1/8	73	2-7/8	10		
27140	1.60	48	1-7/8	22	7/8	10	34120	6.70	105	4-1/8	73	2-7/8	10		
27150	1.70	51	2	25	1	10	34130	6.80	105	4-1/8	73	2-7/8	10		
27160	1.80	51	2	25	1	10	34140	6.90	105	4-1/8	73	2-7/8	10		
27170	1.90	51	2	25	1	10	34150	7.00	105	4-1/8	73	2-7/8	10		
26460	2.00	51	2	25	1	10	34160	7.10	108	4-1/4	75	2-61/64	10		
26940	2.05	54	2-1/8	25	1-5/32	10	34170	7.20	108	4-1/4	75	2-61/64	10		
26470	2.10	54	2-1/8	29	1-5/32	10	34180	7.30	108	4-1/4	75	2-61/64	10		
26480	2.20	57	2-1/4	32	1-1/4	10	34190	7.40	111	4-3/8	78	3	10		
26490	2.30	57	2-1/4	32	1-1/4	10	34200	7.50	111	4-3/8	78	3	5		
26500	2.40	60	2-23/64	35	1-3/8	10	34210	7.60	111	4-3/8	78	3	5		
26510	2.50	60	2-23/64	35	1-3/8	10	34220	7.70	114	4-1/2	81	3-3/16	5		
26520	2.60	64	2-1/2	37	1-29/64	10	34230	7.80	114	4-1/2	81	3-3/16	5		
26530	2.70	64	2-1/2	37	1-15/32	10	34240	7.90	114	4-1/2	81	3-3/16	5		
26540	2.80	67	2-5/8	38	1-1/2	10	34250	8.00	114	4-1/2	81	3-3/16	5		
26550	2.90	70	2-3/4	41	1-5/8	10	34260	8.10	117	4-9/16	84	3-5/16	5		
26560	3.00	70	2-3/4	41	1-5/8	10	34270	8.20	117	4-9/16	84	3-5/16	5		
26570	3.10	70	2-3/4	41	1-5/8	10	34280	8.30	117	4-9/16	84	3-5/16	5		
26580	3.20	70	2-3/4	41	1-5/8	10	34290	8.40	121	4-3/4	87	3-27/64	5		
26590	3.30	73	2-7/8	45	1-3/4	10	34300	8.50	121	4-3/4	87	3-27/64	5		
26600	3.40	73	2-7/8	45	1-3/4	10	34310	8.60	121	4-3/4	87	3-27/64	5		
26610	3.50	73	2-7/8	45	1-3/4	10	34320	8.70	121	4-3/4	87	3-27/64	5		
26620	3.60	76	3	48	1-7/8	10	34330	8.80	124	4-7/8	89	3-1/2	5		
26630	3.70	76	3	48	1-7/8	10	34320	8.90	124	4-7/8	89	3-1/2	5		
26640	3.80	76	3	48	1-7/8	10	34350	9.00	124	4-7/8	89	3-1/2	5		
26650	3.90	79	3-1/8	51	2	10	34360	9.10	124	4-7/8	89	3-1/2	5		
26660	4.00	83	3-1/4	54	2-1/8	10	34370	9.20	127	5	92	3-5/8	5		
26670	4.10	83	3-1/4	54	2-1/8	10	34380	9.30	127	5	92	3-5/8	5		
26680	4.20	83	3-1/4	54	2-1/8	10	34390	9.40	127	5	92	3-5/8	5		
26690	4.30	83	3-1/4	54	2-1/8	10	34400	9.50	127	5	92	3-5/8	5		
34570	4.40	86	3-3/8	56	2-13/64	10	34410	9.60	130	5-1/8	95	3-3/4	5		
26700	4.50	86	3-3/8	56	2-13/64	10	34420	9.70	130	5-1/8	95	3-3/4	5		
26710	4.60	86	3-3/8	56	2-13/64	10	34430	9.80	130	5-1/8	95	3-3/4	5		
26720	4.70	89	3-1/2	59	2-21/64	10	34450	10.00	130	5-1/8	95	3-3/4	5		
26730	4.80	89	3-1/2	59	2-21/64	10	34460	10.20	133	5-15/64	98	3-7/8	5		
26740	4.90	92	3-5/8	62	2-7/16	10	34461	10.30	133	5-15/64	98	3-7/8	5		
26750	5.00	92	3-5/8	62	2-7/16	10	34470	10.50	133	5-15/64	98	3-7/8	5		
33960	5.10	92	3-5/8	62	2-7/16	10	34480	10.80	140	5-1/2	103	4-1/16	5		
33970	5.20	95	3-3/4	64	2-1/2	10	34490	11.00	140	5-1/2	103	4-1/16	5		
33980	5.30	95	3-3/4	64	2-1/2	10	34500	11.20	143	5-5/8	106	4-7/32	5		
33990	5.40	95	3-3/4	64	2-1/2	10	34510	11.50	143	5-5/8	106	4-7/32	5		
34000	5.50	95	3-3/4	64	2-1/2	10	34520	11.80	146	5-3/4	110	4-11/32	5		
34010	5.60	98	3-7/8	67	2-5/8	10	34530	12.00	149	5-7/8	111	4-3/8	5		
34020	5.70	98	3-7/8	67	2-5/8	10	34540	12.20	149	5-7/8	111	4-3/8	5		
34030	5.80	98	3-7/8	67	2-5/8	10	34550	12.50	152	6	114	4-1/2	5		
							34580	12.70	152	6	114	4-1/2	5		
							34560	13.00	152	6	114	4-1/2	5		

DIN Length



HSS M42 COBALT DIN 338

Type XGT-J

DIN 338 Length - 135° Split Point
M-42 Cobalt High Speed Steel



Type XGT-J
Heavy duty wide land parabolic.

- Gyroidal Torsion flute and wide land construction yields exceptional performance in deep hole drilling.
- Recommended for a wide range of steels, castings and other hard metal drilling applications.
- Cobalt steel is abrasion and heat resistant.
- Allows deep hole drilling without drill retraction.

* M2 TiN Coated sizes 1.00 - 1.59mm

METRIC

Part #	Dia. MM	Frac/ Wire/ Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
*00200	1.00		41	1 5/8	17	11/16	10
*00201	1.02	60	41	1 5/8	17	11/16	10
*00202	1.04	59	41	1 5/8	17	11/16	10
*00203	1.05		41	1 5/8	17	11/16	10
*00204	1.07	58	41	1 5/8	17	11/16	10
*00210	1.09	57	44	1 3/4	19	3/4	10
*00211	1.10		44	1 3/4	19	3/4	10
*00212	1.15		44	1 3/4	19	3/4	10
*00213	1.18	56	44	1 3/4	19	3/4	10
*00214	1.19	3/64	44	1 3/4	19	3/4	10
*00220	1.20		48	1 7/8	22	7/8	10
*00221	1.25		48	1 7/8	22	7/8	10
*00222	1.30		48	1 7/8	22	7/8	10
*00223	1.32	55	48	1 7/8	22	7/8	10
*00224	1.35		48	1 7/8	22	7/8	10
*00230	1.40	54	48	1 7/8	22	7/8	10
*00232	1.45		48	1 7/8	22	7/8	10
*00233	1.50		48	1 7/8	22	7/8	10
*00234	1.51	53	48	1 7/8	22	7/8	10
*00240	1.55		48	1 7/8	22	7/8	10
00241	1.59	1/16	48	1 7/8	22	7/8	10
00242	1.60		48	1 7/8	22	7/8	10
00243	1.61	52	48	1 7/8	22	7/8	10
00244	1.65		51	2	25	1	10
00250	1.70	51	51	2	25	1	10
00252	1.75		51	2	25	1	10
00253	1.78	50	51	2	25	1	10
00254	1.80		51	2	25	1	10
00260	1.85	49	51	2	25	1	10
00262	1.90		51	2	25	1	10
00263	1.93	48	51	2	25	1	10
00264	1.95		51	2	25	1	10
00270	1.98	5/64	51	2	25	1	10
00271	1.99	47	51	2	25	1	10
00272	2.00		51	2	25	1	10
00273	2.05		54	2 1/8	29	1 5/32	10
00274	2.06	46	54	2 1/8	29	1 5/32	10
00280	2.08	45	54	2 1/8	29	1 5/32	10
00281	2.10		54	2 1/8	29	1 5/32	10
00282	2.15		54	2 1/8	29	1 5/32	10
00283	2.18	44	54	2 1/8	29	1 5/32	10
00284	2.20		57	2 1/4	32	1 1/4	10
00290	2.25		57	2 1/4	32	1 1/4	10
00291	2.26	43	57	2 1/4	32	1 1/4	10
00292	2.30		57	2 1/4	32	1 1/4	10
00293	2.35		57	2 1/4	32	1 1/4	10
00294	2.37	42	57	2 1/4	30	1 3/16	10
00300	2.38	3/32	57	2 1/4	30	1 3/16	10
00301	2.40		57	2 1/4	30	1 3/16	10
00302	2.44	41	57	2 1/4	30	1 3/16	10
00303	2.45		57	2 1/4	30	1 3/16	10
00304	2.49	40	57	2 1/4	30	1 3/16	10
00310	2.50		57	2 1/4	30	1 3/16	10
00311	2.53	39	57	2 1/4	30	1 3/16	10
00231	2.55		57	2 1/4	30	1 3/16	10
00312	2.58	38	57	2 1/4	30	1 3/16	10

METRIC

Part #	Dia. MM	Frac/ Wire/ Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
00313	2.60		57	2 1/4	30	1 3/16	10
00314	2.64	37	57	2 1/4	30	1 3/16	10
00251	2.65		57	2 1/4	30	1 3/16	10
00320	2.70		61	2 13/32	33	1 19/64	10
00321	2.71	36	61	2 13/32	33	1 19/64	10
00261	2.75		61	2 13/32	33	1 19/64	10
00322	2.78	7/64	61	2 13/32	33	1 19/64	10
00323	2.79	35	61	2 13/32	33	1 19/64	10
00324	2.80		61	2 13/32	33	1 19/64	10
00330	2.82	34	61	2 13/32	33	1 19/64	10
00360	2.85		61	2 13/32	33	1 19/64	10
00331	2.87	33	61	2 13/32	33	1 19/64	10
00332	2.90		61	2 13/32	33	1 19/64	10
00333	2.95	32	61	2 13/32	33	1 19/64	10
00334	3.00		61	2 13/32	33	1 19/64	10
00340	3.05	31	65	2 9/16	36	1 7/16	10
00341	3.10		65	2 9/16	36	1 7/16	10
00342	3.17	1/8	65	2 9/16	36	1 7/16	10
00343	3.20		65	2 9/16	36	1 7/16	10
00371	3.25		65	2 9/16	36	1 7/16	10
00344	3.26	30	65	2 9/16	36	1 7/16	10
00350	3.30		65	2 9/16	36	1 7/16	10
00351	3.40		70	2 3/4	39	1 17/32	10
00352	3.45	29	70	2 3/4	39	1 17/32	10
00353	3.50		70	2 3/4	39	1 17/32	10
00354	3.57	9/64-28	70	2 3/4	39	1 17/32	10
00361	3.60		70	2 3/4	39	1 17/32	10
00362	3.66	27	70	2 3/4	39	1 17/32	10
00363	3.70		70	2 3/4	39	1 17/32	10
00364	3.73	26	70	2 3/4	39	1 17/32	10
00370	3.80	25	75	2 15/16	43	1 11/16	10
00372	3.86	24	75	2 15/16	43	1 11/16	10
00373	3.90		75	2 15/16	43	1 11/16	10
00374	3.91	23	75	2 15/16	43	1 11/16	10
00380	3.97	5/32	75	2 15/16	43	1 11/16	10
00381	3.99	22	75	2 15/16	43	1 11/16	10
00382	4.00		75	2 15/16	43	1 11/16	10
00383	4.04	21	75	2 15/16	43	1 11/16	10
00384	4.09	20	75	2 15/16	43	1 11/16	10
00390	4.10		75	2 15/16	43	1 11/16	10
00391	4.15		75	2 15/16	43	1 11/16	10
00392	4.20		75	2 15/16	43	1 11/16	10
00393	4.22	19	75	2 15/16	43	1 11/16	10
00480	4.25		75	2 15/16	43	1 11/16	10
00394	4.30		80	3 5/32	47	1 27/32	10
00680	4.31	18	80	3 5/32	47	1 27/32	10
00400	4.37	11/64	80	3 5/32	47	1 27/32	10
00401	4.39	17	80	3 5/32	47	1 27/32	10
00402	4.40		80	3 5/32	47	1 27/32	10
00403	4.50	16	80	3 5/32	47	1 27/32	10
00404	4.55		80	3 5/32	47	1 27/32	10
00410	4.57	15	80	3 5/32	47	1 27/32	10
00411	4.60		80	3 5/32	47	1 27/32	10
00412	4.62	14	80	3 5/32	47	1 27/32	10
00413	4.70	13	80	3 5/32	47	1 27/32	10
00414	4.75		80	3 5/32	47	1 27/32	10
00420	4.76	3/16	86	3 3/8	52	2 1/16	10
00421	4.80	12	86	3 3/8	52	2 1/16	10
00423	4.85	11	86	3 3/8	52	2 1/16	10
00424	4.90		86	3 3/8	52	2 1/16	10

Metric sizes continued on page 33

HSS M42 COBALT DIN 338



Type XGT-J
Heavy duty wide land parabolic.

Type XGT-J

DIN 338 Length - 135° Split Point
M-42 Cobalt High-Speed Steel

METRIC

Part No.	Dia. MM	Frac/Wire Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
00430	4.91	10	86	3 3/8	52	2 1/16	10
00431	4.98	9	86	3 3/8	52	2 1/16	10
00432	5.00		86	3 3/8	52	2 1/16	10
00433	5.05	8	86	3 3/8	52	2 1/16	10
00434	5.10		86	3 3/8	52	2 1/16	10
00440	5.11	7	86	3 3/8	52	2 1/16	10
00441	5.16	13/64	86	3 3/8	52	2 1/16	10
00442	5.18	6	86	3 3/8	52	2 1/16	10
00443	5.20		86	3 3/8	52	2 1/16	10
00444	5.22	5	86	3 3/8	52	2 1/16	10
00481	5.25		86	3 3/8	52	2 7/32	10
00450	5.30		93	3 21/32	57	2 7/32	10
00451	5.31	4	93	3 21/32	57	2 7/32	10
00452	5.40		93	3 21/32	57	2 7/32	10
00453	5.41	3	93	3 21/32	57	2 7/32	10
00454	5.50		93	3 21/32	57	2 7/32	10
00460	5.56	7/32	93	3 21/32	57	2 7/32	10
00461	5.60		93	3 21/32	57	2 7/32	10
00462	5.61	2	93	3 21/32	57	2 7/32	10
00463	5.70		93	3 21/32	57	2 7/32	10
00482	5.75		93	3 21/32	57	2 7/32	10
00464	5.79	1	93	3 21/32	57	2 7/32	10
00470	5.80		93	3 21/32	57	2 7/32	10
00471	5.90		93	3 21/32	57	2 7/32	10
00472	5.94	A	93	3 21/32	57	2 7/32	10
00473	5.95	15/64	93	3 21/32	57	2 7/32	10
00474	6.00		93	3 21/32	57	2 7/32	10
00483	6.05	B	101	3 31/32	63	2 15/32	10
00484	6.10		101	3 31/32	63	2 15/32	10
00490	6.15	C	101	3 31/32	63	2 15/32	10
00491	6.20		101	3 31/32	63	2 15/32	10
00492	6.25	D	101	3 31/32	63	2 15/32	10
00493	6.30		101	3 31/32	63	2 15/32	10
00494	6.35	1/4-E	101	3 31/32	63	2 15/32	10
00500	6.40		101	3 31/32	63	2 15/32	10
00501	6.50		101	3 31/32	63	2 15/32	10
00502	6.53	F	101	3 31/32	63	2 15/32	10
00503	6.60		101	3 31/32	63	2 15/32	10
00504	6.63	G	101	3 31/32	63	2 15/32	10
00510	6.70		101	3 31/32	63	2 15/32	10
00511	6.75	17/64-H	109	4 9/32	69	2 23/32	10
00513	6.80		109	4 9/32	69	2 23/32	10
00514	6.90	I	109	4 9/32	69	2 23/32	10
00520	7.00		109	4 9/32	69	2 23/32	10
00521	7.04	J	109	4 9/32	69	2 23/32	10
00522	7.10		109	4 9/32	69	2 23/32	10
00524	7.14	9/32-K	109	4 9/32	69	2 23/32	10
00530	7.20		109	4 9/32	69	2 23/32	10
00531	7.30		109	4 9/32	69	2 23/32	10
00532	7.37	L	109	4 9/32	69	2 23/32	10
00533	7.40		109	4 9/32	69	2 23/32	10
00540	7.50	M	109	4 9/32	69	2 23/32	5
00541	7.54	19/64	117	4 19/32	75	2 15/16	5
00542	7.60		117	4 19/32	75	2 15/16	5
00543	7.67	N	117	4 19/32	75	2 15/16	5
00544	7.70		117	4 19/32	75	2 15/16	5
00550	7.80		117	4 19/32	75	2 15/16	5
00551	7.90		117	4 19/32	75	2 15/16	5
00552	7.94	5/16	117	4 19/32	75	2 15/16	5
00553	8.00	O	117	4 19/32	75	2 15/16	5
00554	8.03		117	4 19/32	75	2 15/16	5

METRIC

Part No.	Dia. MM	Frac/Wire Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
00560	8.10	P	117	4 19/32	75	2 15/16	5
00561	8.20		117	4 19/32	75	2 15/16	5
00562	8.30		117	4 19/32	75	2 15/16	5
00563	8.33	21/64	117	4 19/32	75	2 15/16	5
00564	8.40		117	4 19/32	75	2 15/16	5
00570	8.43	Q	117	4 19/32	75	2 15/16	5
00571	8.50		117	4 19/32	75	2 15/16	5
00572	8.60	R	125	4 29/32	81	3 3/16	5
00573	8.70		125	4 29/32	81	3 3/16	5
00574	8.73	11/32	125	4 29/32	81	3 3/16	5
00580	8.80		125	4 29/32	81	3 3/16	5
00581	8.84	S	125	4 29/32	81	3 3/16	5
00582	8.90		125	4 29/32	81	3 3/16	5
00583	9.00		125	4 29/32	81	3 3/16	5
00584	9.10	T	125	4 29/32	81	3 3/16	5
00590	9.13	23/64	125	4 29/32	81	3 3/16	5
00591	9.20		125	4 29/32	81	3 3/16	5
00592	9.30		125	4 29/32	81	3 3/16	5
00593	9.35	U	125	4 29/32	81	3 3/16	5
00594	9.40		125	4 29/32	81	3 3/16	5
00600	9.50		125	4 29/32	81	3 3/16	5
00601	9.52	3/8	125	4 29/32	87	3 7/16	5
00602	9.58	V	125	4 29/32	87	3 7/16	5
00603	9.60		133	5 1/4	87	3 7/16	5
00604	9.70		133	5 1/4	87	3 7/16	5
00610	9.80	W	133	5 1/4	87	3 7/16	5
00611	9.90		133	5 1/4	87	3 7/16	5
00612	9.92	25/64	133	5 1/4	87	3 7/16	5
00613	10.00		133	5 1/4	87	3 7/16	5
00614	10.08	X	133	5 1/4	87	3 7/16	5
00620	10.10		133	5 1/4	87	3 7/16	5
00621	10.20		133	5 1/4	87	3 7/16	5
00622	10.26	Y	133	5 1/4	87	3 7/16	5
00623	10.30		133	5 1/4	87	3 7/16	5
00624	10.32	13/32	133	5 1/4	87	3 7/16	5
00630	10.40		133	5 1/4	87	3 7/16	5
00631	10.50	Z	133	5 1/4	87	3 7/16	5
00632	10.60		133	5 1/4	87	3 7/16	5
00633	10.70		142	5 19/32	94	3 11/16	5
00634	10.72	27/64	142	5 19/32	94	3 11/16	5
00640	10.80		142	5 19/32	94	3 11/16	5
00641	10.90		142	5 19/32	94	3 11/16	5
00642	11.00		142	5 19/32	94	3 11/16	5
00643	11.10		142	5 19/32	94	3 11/16	5
00644	11.11	7/16	142	5 19/32	94	3 11/16	5
00650	11.20		142	5 19/32	94	3 11/16	5
00651	11.30		142	5 19/32	94	3 11/16	5
00652	11.40		142	5 19/32	94	3 11/16	5
00653	11.50		142	5 19/32	94	3 11/16	5
00654	11.51	29/64	142	5 19/32	94	3 11/16	5
00660	11.60		142	5 19/32	94	3 11/16	5
00661	11.70		142	5 19/32	94	3 11/16	5
00662	11.75		142	5 19/32	94	3 11/16	5
00663	11.80		142	5 19/32	94	3 11/16	5
00664	11.91	15/32	151	5 15/16	101	3 31/32	5
00670	12.00		151	5 15/16	101	3 31/32	5
00671	12.30	31/64	151	5 15/16	101	3 31/32	5
00672	12.50		151	5 15/16	101	3 31/32	5
00673	12.70	1/2	151	5 15/16	101	3 31/32	5
00674	13.00		151	5 15/16	101	3 31/32	5

METRIC

Twist Drills - HSS M42 Cobalt DIN 338

Screw Machine Length



M42 COBALT & TiN COATED SCREW MACHINE

Type 260-D - M42 Cobalt , Type 260-DN -TiN Coated
135° Split Point - M42 Cobalt - High-Speed Steel

- Manufactured from M42 HSS contains 8% Cobalt increasing hot hardness.
- High hot hardness of cobalt permits speeds 30% over regular high-speed steel drills.



Type 260-D

Use to drill hard, tough metals, free machining stainless steel, titanium alloys and certain abrasive plastics.



Type 260-DN

TiN coating for lubricity, abrasion extended tool life.

FRACTIONAL

Type 260-D Part #	Type 260-DN TiN Coated Part#	Dia. Inches	Overall Length Inches	Flute Length Inches	260-D Qty. per/pack	260-DN Qty. per/pack
39800	81800	1/16	1-5/8	5/8	12	6
39810	81810	5/64	1-11/16	11/16	12	6
39820	81820	3/32	1-3/4	3/4	12	6
39830	81830	7/64	1-13/16	13/16	12	6
39840	81840	1/8	1-7/8	7/8	12	6
39850	81850	9/64	1-15/16	15/16	12	6
39860	81860	5/32	2-1/16	1	12	6
39870	81870	11/64	2-1/8	1-1/16	12	6
39880	81880	3/16	2-3/16	1-1/8	12	6
39890	81890	13/64	2-1/4	1-3/16	12	6
39900	81900	7/32	2-3/8	1-1/4	12	6
39910	81910	15/64	2-7/16	1-5/16	12	6
39920	81920	1/4	2-1/2	1-3/8	12	6
39930	81930	17/64	2-5/8	1-7/16	12	6
39940	81940	9/32	2-11/16	1-1/2	12	6
39950	81950	19/64	2-3/4	1-9/16	6	3
39960	81960	5/16	2-13/16	1-5/8	6	3
39970	81970	21/64	2-15/16	1-11/16	6	3
39980	81980	11/32	3	1-11/16	6	3
39990	81990	23/64	3-1/16	1-3/4	6	3
40000	82000	3/8	3-1/8	1-13/16	6	3
40010	82010	25/64	3-1/4	1-7/8	6	3
40020	82020	13/32	3-5/16	1-15/16	6	3
40030	82030	27/64	3-3/8	2	6	3
40040	82040	7/16	3-7/16	2-1/16	6	3
40050	82050	29/64	3-9/16	2-1/8	6	3
40060	82060	15/32	3-5/8	2-1/8	6	3
40070	82070	31/64	3-11/16	2-3/16	6	3
40080	82080	1/2	3-3/4	2-1/4	6	3

WIRE

Type 260-D Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
40250	17	2-3/16	1-1/8	12
40260	18	2-1/8	1-1/16	12
40270	19	2-1/8	1-1/16	12
40280	20	2-1/8	1-1/16	12
40290	21	2-1/8	1-1/16	12
40300	22	2-1/8	1-1/16	12
40310	23	2-1/16	1	12
40320	24	2-1/16	1	12
40330	25	2-1/16	1	12
40340	26	2-1/16	1	12
40350	27	2-1/16	1	12
40360	28	1-15/16	15/16	12
40370	29	1-15/16	15/16	12
40380	30	1-15/16	15/16	12
40390	31	1-7/8	7/8	12
40400	32	1-7/8	7/8	12
40410	33	1-7/8	7/8	12
40420	34	1-7/8	7/8	12
40430	35	1-7/8	7/8	12
40440	36	1-13/16	13/16	12
40450	37	1-13/16	13/16	12
40460	38	1-13/16	13/16	12
40470	39	1-13/16	13/16	12
40480	40	1-13/16	13/16	12
42410	41	1-13/16	13/16	12
42420	42	1-3/4	3/4	12
42430	43	1-3/4	3/4	12
42440	44	1-3/4	3/4	12
42450	45	1-3/4	3/4	12
42460	46	1-3/4	3/4	12
42470	47	1-3/4	3/4	12
42480	48	1-11/16	11/16	12
42490	49	1-11/16	11/16	12
42500	50	1-11/16	11/16	12
42510	51	1-11/16	11/16	12
42520	52	1-11/16	11/16	12
42530	53	1-5/8	5/8	12
42540	54	1-5/8	5/8	12
42550	55	1-5/8	5/8	12
42560	56	1-3/8	1/2	12
42570	57	1-3/8	1/2	12
42580	58	1-3/8	1/2	12
42590	59	1-3/8	1/2	12
42600	60	1-3/8	1/2	12

WIRE

Type 260-D Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
40090	1	2-7/16	1-5/16	12
40100	2	2-7/16	1-5/16	12
40110	3	2-3/8	1-1/4	12
40120	4	2-3/8	1-1/4	12
40130	5	2-3/8	1-1/4	12
40140	6	2-3/8	1-1/4	12
40150	7	2-1/4	1-3/16	12
40160	8	2-1/4	1-3/16	12
40170	9	2-1/4	1-3/16	12
40180	10	2-1/4	1-3/16	12
40190	11	2-1/4	1-3/16	12
40200	12	2-1/4	1-3/16	12
40210	13	2-3/16	1-1/8	12
40220	14	2-3/16	1-1/8	12
40230	15	2-3/16	1-1/8	12
40240	16	2-3/16	1-1/8	12

Screw Machine - M42 Cobalt & TiN Coated

NAS 907C - SCREW MACHINE

Type 260-UB

NAS 907C

Ultra Bor Super Premium, 135° Split Point

- Special Hi-Moybdenum tool steel.
- Gold surface treated body and clearance for maximum lubricity.
- Heavy-duty construction, 135° split point, no center punch needed - will not walk.
- Recommended for work hardening grades of stainless steel and other hard metal drilling applications.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
87710	1/16	1-5/8	5/8	12
87720	5/64	1-11/16	11/16	12
87730	3/32	1-3/4	3/4	12
87740	7/64	1-13/16	13/16	12
87750	1/8	1-7/8	7/8	12
87760	9/64	1-15/16	15/16	12
87770	5/32	2-1/16	1	12
87780	11/64	2-1/8	1-1/16	12
87790	3/16	2-3/16	1-1/8	12
87800	13/64	2-1/4	1-3/16	12
87810	7/32	2-3/8	1-1/4	12
87820	15/64	2-7/16	1-5/16	12
87830	1/4	2-1/2	1-3/8	12
87840	17/64	2-5/8	1-7/16	12
87850	9/32	2-11/16	1-1/2	12
87860	19/64	2-3/4	1-9/16	6
87870	5/16	2-13/16	1-5/8	6
87880	21/64	2-15/16	1-11/16	6
87890	11/32	3	1-11/16	6
87900	23/64	3-1/16	1-3/4	6
87910	3/8	3-1/8	1-13/16	6
87920	25/64	3-1/4	1-7/8	6
87930	13/32	3-5/16	1-15/16	6
87940	27/64	3-3/8	2	6
87950	7/16	3-7/16	2-1/16	6
87960	29/64	3-9/16	2-1/8	6
87970	15/32	3-5/8	2-1/8	6
87980	31/64	3-11/16	2-3/16	6
87990	1/2	3-3/4	2-1/4	6
88000	33/64	3-7/8	2-3/8	1
88010	17/32	3-7/8	2-3/8	1
88020	35/64	4	2-1/2	1
88030	9/16	4	2-1/2	1
88040	37/64	4-1/8	2-5/8	1
88050	19/32	4-1/8	2-5/8	1
88060	39/64	4-1/4	2-3/4	1
88070	5/8	4-1/4	2-3/4	1
88080	41/64	4-1/2	2-7/8	1
88090	21/32	4-1/2	2-7/8	1
89210	43/64	4-1/2	2-7/8	1
89220	11/16	4-1/2	2-7/8	1
89230	45/64	4-3/4	3	1
89240	23/32	4-3/4	3	1
89250	47/64	5	3-1/8	1
89260	3/4	5	3-1/8	1

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
87600	1	2-7/16	1-5/16	12
87590	2	2-7/16	1-5/16	12
87580	3	2-3/8	1-1/4	12
87570	4	2-3/8	1-1/4	12
87560	5	2-3/8	1-1/4	12
87550	6	2-3/8	1-1/4	12
87540	7	2-1/4	1-3/16	12
87530	8	2-1/4	1-3/16	12
87520	9	2-1/4	1-3/16	12
87510	10	2-1/4	1-3/16	12
87500	11	2-1/4	1-3/16	12
87490	12	2-1/4	1-3/16	12
87480	13	2-3/16	1-1/8	12
87470	14	2-3/16	1-1/8	12
87460	15	2-3/16	1-1/8	12
87450	16	2-3/16	1-1/8	12
87440	17	2-3/16	1-1/8	12
87430	18	2-1/8	1-1/16	12
87420	19	2-1/8	1-1/16	12
87410	20	2-1/8	1-1/16	12
87400	21	2-1/8	1-1/16	12
87390	22	2-1/8	1-1/16	12
87380	23	2-1/16	1	12
87370	24	2-1/16	1	12
87360	25	2-1/16	1	12
87350	26	2-1/16	1	12
87340	27	2-1/16	1	12
87330	28	1-15/16	15/16	12
87320	29	1-15/16	15/16	12
87310	30	1-15/16	15/16	12
87300	31	1-7/8	7-8	12
87290	32	1-7/8	7-8	12
87280	33	1-7/8	7-8	12
87270	34	1-7/8	7-8	12
87260	35	1-7/8	7-8	12
87250	36	1-13/16	13/16	12
87240	37	1-13/16	13/16	12
87230	38	1-13/16	13/16	12
87220	39	1-13/16	13/16	12
87210	40	1-13/16	13/16	12
23360	41	1-13/16	13/16	12
23370	42	1-3/4	3/4	12
23380	43	1-3/4	3/4	12
23390	44	1-3/4	3/4	12
23400	45	1-3/4	3/4	12
23410	46	1-3/4	3/4	12
23420	47	1-3/4	3/4	12
23430	48	1-11/16	11/16	12
23440	49	1-11/16	11/16	12
23450	50	1-11/16	11/16	12
23460	51	1-11/16	11/16	12
23470	52	1-11/16	11/16	12
23480	53	1-5/8	5/8	12
23490	54	1-5/8	5/8	12
23500	55	1-5/8	5/8	12
23510	56	1-3/8	1/2	12
23520	57	1-3/8	1/2	12
23530	58	1-3/8	1/2	12
23540	59	1-3/8	1/2	12
23550	60	1-3/8	1/2	12

Letter sizes continued on page 36

Screw Machine Length



SCREW MACHINE & HEAVY-DUTY 1/4" REDUCED SHANK

Type 260-UB - (Continued)

NAS 907C

Ultra Bor Super Premium, 135° Split Point

- Special Hi-Moybdenum tool steel.
- Gold surface treated body and clearance for maximum lubricity.
- Heavy-duty construction, 135° split point, no center punch needed - will not walk.
- Recommended for work hardening grades of stainless steel and other hard metal drilling applications.



Type 260-QT

1/4" Reduced Shank - Heavy-Duty Surfaced Treated, 135° Split Point

- This HSS drill is recommended for "punch"drilling in hard, tough sheet metal applications where quick and accurately located holes are required.



TYPE 260-QT 1/4" REDUCED SHANK

LETTER				
Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
23601	A	2-7/16	1-5/16	12
23611	B	2-1/2	1-3/8	12
23621	C	2-1/2	1-3/8	12
23631	D	2-1/2	1-3/8	12
23641	E	2-1/2	1-3/8	12
23651	F	2-5/8	1-7/16	12
23661	G	2-5/8	1-7/16	12
23671	H	2-11/16	1-1/2	12
23681	I	2-11/16	1-1/2	12
23691	J	2-11/16	1-1/2	12
23701	K	2-11/16	1-1/2	12
23711	L	2-3/4	1-9/16	12
23721	M	2-3/4	1-9/16	6
23731	N	2-13/16	1-5/8	6
23741	O	2-15/16	1-11/16	6
23751	P	2-15/16	1-11/16	6
23761	Q	3	1-11/16	6
23771	R	3	1-11/16	6
23781	S	3-1/16	1-3/4	6
23791	T	3-1/16	1-3/4	6
23801	U	3-1/8	1-13/16	6
23811	V	3-1/4	1-7/8	6
23821	W	3-1/4	1-7/8	6
23831	X	3-5/16	1-15/16	6
23841	Y	3-5/16	1-15/16	6
23851	Z	3-3/8	2	6

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
22410	17/64	2-5/8	1-7/16	12
22420	9/32	2-11/16	1-1/2	12
22430	19/64	2-3/4	1-9/16	6
22440	5/16	2-13/16	1-5/8	6
22450	21/64	2-15/16	1-11/16	6
22460	11/32	3	1-11/16	6
22470	23/64	3-1/16	1-3/4	6
22480	3/8	3-1/8	1-13/16	6
22490	25/64	3-1/4	1-7/8	6
22500	13/32	3-5/16	1-15/16	6
22510	27/64	3-3/8	2	6
22520	7/16	3-7/16	2-1/16	6
22530	29/64	3-9/16	2-1/8	6
22540	15/32	3-5/8	2-1/8	6
22550	31/64	3-11/16	2-3/16	6
22560	1/2	3-3/4	2-1/4	6



Product Tips

NEED A TAPPING LUBE?

High Performance Ultra Lube™ will do the job! Found on page 97

Screw Machine Length

TiN COATED, BRIGHT FINISHED HEAVY-DUTY



Type 260-T

Sturdy drill for use in portable power drilling.



Type 260-TW

Bright finish accurate centering, fast penetration.



Type 260-TN

TiN coating provides a super hard surface with high lubricity.

NOTE: * TiN Coated Package Quantity

(6 qty. - 1/16 thru 9/32 A-L #1 - 60) (3 qty. - 19/64 - 1/2")

FRACTIONAL

Type 260-T Part #	Type *260-TN Part #	Type 260-TW Part #	Overall Diameter Inches	Flute Length Inches	Length Inches	Qty. per/pack
25560	97600	52240	1/16	1-5/8	5/8	12
25570	97590	52250	5/64	1-11/16	11/16	12
25580	97580	52260	3/32	1-3/4	3/4	12
25590	97570	52270	7/64	1-13/16	13/16	12
25600	97540	52280	1/8	1-7/8	7/8	12
25610	97550	52290	9/64	1-15/16	15/16	12
25620	97540	52300	5/32	2-1/16	1	12
25630	97530	52310	11/64	2-1/8	1-1/16	12
25640	97520	52320	3/16	2-3/16	1-1/8	12
06190	97510	52330	13/64	2-1/4	1-3/16	12
06200	97500	52340	7/32	2-3/8	1-1/4	12
06210	97490	52350	15/64	2-7/16	1-5/16	12
06220	97480	52360	1/4	2-1/2	1-3/8	12
06230	97470	52370	17/64	2-5/8	1-7/16	12
06240	97460	52380	9/32	2-11/16	1-1/2	12
06250	97450	52390	19/64	2-3/4	1-9/16	6
06260	97440	52400	5/16	2-13/16	1-5/8	6
06270	97430	52410	21/64	2-15/16	1-11/16	6
06280	97420	52420	11/32	3	1-11/16	6
06290	97410	52430	23/64	3-1/16	1-3/4	6
06300	97400	52440	3/8	3-1/8	1-13/16	6
06310	97390	52450	25/64	3-1/4	1-7/8	6
06320	97380	52460	13/32	3-5/16	1-15/16	6
06330	97370	52470	27/64	3-3/8	2	6
06340	97360	52480	7/16	3-7/16	2-1/16	6
06350	97350	52490	29/64	3-9/16	2-1/8	6
06360	97340	52500	15/32	3-5/8	2-1/8	6
06370	97330	52510	31/64	3-11/16	2-3/16	6
06380	97320	52520	1/2	3-3/4	2-1/4	6

For Letter Sizes use Type 260-UB page 35

NOTE: * TiN Coated Package Quantity

(6 qty. - 1/16 thru 9/32 A-L #1 - 60) (3 qty. - 19/64 - 1/2")

WIRE

Type 260-T Part #	Type *260-TN Part #	Type 260-TW Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
25850	96670	52530	1	2-7/16	1-5/16	12
25860	96660	52540	2	2-7/16	1-5/16	12
25870	96650	52550	3	2-3/8	1-1/4	12
25880	96640	52560	4	2-3/8	1-1/4	12
25890	96630	52570	5	2-3/8	1-1/4	12
25900	96620	52580	6	2-3/8	1-1/4	12
25910	96610	52590	7	2-1/4	1-3/16	12
25920	96600	52600	8	2-1/4	1-3/16	12

Type 260-T, Type 260-TN, Type 260-TW Heavy-Duty 135° Split Point

- A sturdy drill for use in portable power drilling.
- Accurate centering, fast penetration. Ideal for thin metal work.
- Sizes smaller than #52 are not split pointed.

NOTE: For letter sizes, see 260-UB page 36

NOTE: * TiN Coated Package Quantity

(6 qty. - 1/16 thru 9/32 A-L #1 - 60) (3 qty. - 19/64 - 1/2")

WIRE - CONTINUED

Type 260-T Part #	Type *260-TN Part #	Type 260-TW Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
25930	96590	52610	9	2-1/4	1-3/16	12
25940	96580	52620	10	2-1/4	1-3/16	12
25960	96570	52630	11	2-1/4	1-3/16	12
25970	96560	52640	12	2-1/4	1-3/16	12
25980	96550	52650	13	2-3/16	1-1/8	12
25990	96540	52660	14	2-3/16	1-1/8	12
26000	96530	52670	15	2-3/16	1-1/8	12
26010	96520	52680	16	2-3/16	1-1/8	12
26020	96510	52690	17	2-3/16	1-1/8	12
26030	96500	52700	18	2-1/8	1-1/16	12
26040	96490	52710	19	2-1/8	1-1/16	12
26050	96480	52720	20	2-1/8	1-1/16	12
26060	96470	52730	21	2-1/8	1-1/16	12
26070	96460	52740	22	2-1/8	1-1/16	12
26080	96450	52750	23	2-1/16	1	12
26090	96440	52760	24	2-1/16	1	12
26100	96430	52770	25	2-1/16	1	12
26110	96420	52780	26	2-1/16	1	12
26120	96410	52790	27	2-1/16	1	12
26130	96400	52800	28	1-15/16	15/16	12
26140	96390	52810	29	1-15/16	15/16	12
26150	96380	52820	30	1-15/16	15/16	12
26160	96370	52830	31	1-7/8	7/8	12
26170	96360	52840	32	1-7/8	7/8	12
26180	96350	52850	33	1-7/8	7/8	12
26190	96340	52860	34	1-7/8	7/8	12
26200	96330	52870	35	1-7/8	7/8	12
26210	96320	52880	36	1-13/16	13/16	12
26220	96310	52890	37	1-13/16	13/16	12
26230	96300	52900	38	1-13/16	13/16	12
26240	96290	52910	39	1-13/16	13/16	12
26250	96280	52920	40	1-13/16	13/16	12
26260	96270	52930	41	1-13/16	13/16	12
26270	96260	52940	42	1-3/4	3/4	12
26280	96250	52950	43	1-3/4	3/4	12
26290	96240	52960	44	1-3/4	3/4	12
26300	96230	52970	45	1-3/4	3/4	12
26310	96220	52980	46	1-3/4	3/4	12
26320	96210	52990	47	1-3/4	3/4	12
26330	96200	53000	48	1-11/16	11/16	12
26340	96190	53010	49	1-11/16	11/16	12
26350	96180	53020	50	1-11/16	11/16	12
26360	96170	53030	51	1-11/16	11/16	12
26370	96160	53040	52	1-11/16	11/16	12
26380	96150	53050	53	1-5/8	5/8	12
26390	96140	53060	54	1-5/8	5/8	12
26400	96130	53070	55	1-5/8	5/8	12
26410	96120	53080	56	1-3/8	1/2	12
26420	96110	53090	57	1-3/8	1/2	12
26430	96100	53100	58	1-3/8	1/2	12
26440	96090	53110	59	1-3/8	1/2	12
26450	96080	53120	60	1-3/8	1/2	12

Screw Machine Length



HSS SCREW MACHINE

Type 260

118° Point - High-Speed Steel - General Purpose,

Bright-Flute thru 3/4" diameter.
Surface treated flutes over 3/4" diameter.



- The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.
- Can be used for all screw machine operations.
- This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials.
- May also be used in portable drilling equipment. Drill sizes over 1-1/16 have a reduced shank.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
23860	3/64	1-3/8	1/2	12
23870	1/16	1-5/8	5/8	12
23880	5/64	1-11/16	11/16	12
23890	3/32	1-3/4	3/4	12
23900	7/64	1-13/16	13/16	12
23910	1/8	1-7/8	7/8	12
23920	9/64	1-15/16	15/16	12
23930	5/32	2-1/16	1	12
23940	11/64	2-1/8	1-1/16	12
23950	3/16	2-3/16	1-1/8	12
23960	13/64	2-1/4	1-3/16	12
23970	7/32	2-3/8	1-1/4	12
23980	15/64	2-7/16	1-5/16	12
23990	1/4	2-1/2	1-3/8	12
24000	17/64	2-5/8	1-7/16	12
24010	9/32	2-11/16	1-1/2	12
24020	19/64	2-3/4	1-9/16	6
24030	5/16	2-13/16	1-5/8	6
24040	21/64	2-15/16	1-11/16	6
24050	11/32	3	1-11/16	6
24060	23/64	3-1/16	1-3/4	6
24070	3/8	3-1/8	1-13/16	6
24080	25/64	3-1/4	1-7/8	6
24090	13/32	3-5/16	1-15/16	6
24100	27/64	3-3/8	2	6
24110	7/16	3-7/16	2-1/16	6
24120	29/64	3-9/16	2-1/8	6
24130	15/32	3-5/8	2-1/8	6
24140	31/64	3-11/16	2-3/16	6
24150	1/2	3-3/4	2-1/4	6
24160	33/64	3-7/8	2-3/8	1
24170	17/32	3-7/8	2-3/8	1
24180	35/64	4	2-1/2	1
24190	9/16	4	2-1/2	1
24200	37/64	4-1/8	2-5/8	1
24210	19/32	4-1/8	2-5/8	1
24220	39/64	4-1/4	2-3/4	1
24230	5/8	4-1/4	2-3/4	1
24240	41/64	4-1/2	2-7/8	1
24250	21/32	4-1/2	2-7/8	1
24260	43/64	4-1/2	2-7/8	1
24270	11/16	4-1/2	2-7/8	1
24280	45/64	4-3/4	3	1
24290	23/32	4-3/4	3	1
24300	47/64	5	3-1/8	1
24310	3/4	5	3-1/8	1
24320	49/64	5-1/8	3-1/4	1
24330	25/32	5-1/8	3-1/4	1

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
24340	51/64	5-1/4	3-3/8	1
24350	13/16	5-1/4	3-3/8	1
24360	53/64	5-3/8	3-1/2	1
24370	27/32	5-3/8	3-1/2	1
24380	55/64	5-3/8	3-1/2	1
24390	7/8	5-3/8	3-1/2	1
24400	57/64	5-5/8	3-5/8	1
24410	29/32	5-5/8	3-5/8	1
24420	59/64	5-3/4	3-3/4	1
24430	15/16	5-3/4	3-3/4	1
24440	61/64	5-7/8	3-7/8	1
24450	31/32	5-7/8	3-7/8	1
24460	63/64	6	4	1
24470	1"	6	4	1
24480	1-1/16	6-1/4	4	1
24490	1-1/8	6-3/8	4	1
24500	1-3/16	6-5/8	4-1/4	1
24510	1-1/4	6-3/4	4-3/8	1
24520	1-5/16	7	4-3/8	1
24530	1-3/8	7-1/8	4-1/2	1
24540	1-7/16	7-3/8	4-3/4	1
24550	1-1/2	7-1/2	4-7/8	1
24560	1-9/16	7-3/4	4-7/8	1
24570	1-5/8	7-3/4	4-7/8	1
24580	1-11/16	8	5-1/8	1
24590	1-3/4	8	5-1/8	1
24600	1-13/16	8-1/4	5-3/8	1
24610	1-7/8	8-1/4	5-3/8	1
24620	1-15/16	8-1/2	5-5/8	1
24630	2"	8-1/2	5-5/8	1

Wire, Letter sizes continued on page 39

Drill Size	Shank Diameter
1-1/16" to 1-1/4"	1"
1- 5/16" to 1-1/2"	1-1/4"
1-9/16" to 2"	1-1/2"

HSS SCREW MACHINE

Type 260

High-Speed Steel - General Purpose - 118° Point



- The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.
- May also be used in portable drilling equipment.

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
24640	1	2-7/16	1-5/16	12
24650	2	2-7/16	1-5/16	12
24660	3	2-3/8	1-1/4	12
24670	4	2-3/8	1-1/4	12
24680	5	2-3/8	1-1/4	12
24690	6	2-3/8	1-1/4	12
24700	7	2-1/4	1-3/16	12
24710	8	2-1/4	1-3/16	12
24720	9	2-1/4	1-3/16	12
24730	10	2-1/4	1-3/16	12
24740	11	2-1/4	1-3/16	12
24750	12	2-1/4	1-3/16	12
24760	13	2-3/16	1-1/8	12
24770	14	2-3/16	1-1/8	12
24780	15	2-3/16	1-1/8	12
24790	16	2-3/16	1-1/8	12
24800	17	2-3/16	1-1/8	12
24810	18	2-1/8	1-1/16	12
24820	19	2-1/8	1-1/16	12
24830	20	2-1/8	1-1/16	12
24840	21	2-1/8	1-1/16	12
24850	22	2-1/8	1-1/16	12
24860	23	2-1/16	1	12
24870	24	2-1/16	1	12
24880	25	2-1/16	1	12
24890	26	2-1/16	1	12
24900	27	2-1/16	1	12
24910	28	1-15/16	15/16	12
24920	29	1-15/16	15/16	12
24930	30	1-15/16	15/16	12
24940	31	1-7/8	7/8	12
24950	32	1-7/8	7/8	12
24960	33	1-7/8	7/8	12
24970	34	1-7/8	7/8	12
24980	35	1-7/8	7/8	12
24990	36	1-13/16	13/16	12
25000	37	1-13/16	13/16	12
25010	38	1-13/16	13/16	12
25020	39	1-13/16	13/16	12
25030	40	1-13/16	13/16	12
25040	41	1-13/16	13/16	12
25050	42	1-3/4	3/4	12
25060	43	1-3/4	3/4	12
25070	44	1-3/4	3/4	12
25080	45	1-3/4	3/4	12
25090	46	1-3/4	3/4	12
25100	47	1-3/4	3/4	12
25110	48	1-11/16	11/16	12
25120	49	1-11/16	11/16	12
25130	50	1-11/16	11/16	12
25140	51	1-11/16	11/16	12
25150	52	1-11/16	11/16	12
25160	53	1-5/8	5/8	12
25170	54	1-5/8	5/8	12
25180	55	1-5/8	5/8	12
25190	56	1-3/8	1/2	12
25200	57	1-3/8	1/2	12
25210	58	1-3/8	1/2	12
25220	59	1-3/8	1/2	12
25230	60	1-3/8	1/2	12

LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
23600	A	2-7/16	1-5/16	12
23610	B	2-1/2	1-3/8	12
23620	C	2-1/2	1-3/8	12
23630	D	2-1/2	1-3/8	12
23640	E	2-1/2	1-3/8	12
23650	F	2-5/8	1-7/16	12
23660	G	2-5/8	1-7/16	12
23670	H	2-11/16	1-1/2	12
23680	I	2-11/16	1-1/2	12
23690	J	2-11/16	1-1/2	12
23700	K	2-11/16	1-1/2	12
23710	L	2-3/4	1-9/16	12
23720	M	2-3/4	1-9/16	6
23730	N	2-13/16	1-5/8	6
23740	O	2-15/16	1-11/16	6
23750	P	2-15/16	1-11/16	6
23760	Q	3	1-11/16	6
23770	R	3	1-11/16	6
23780	S	3-1/16	1-3/4	6
23790	T	3-1/16	1-3/4	6
23800	U	3-1/8	1-13/16	6
23810	V	3-1/4	1-7/8	6
23820	W	3-1/4	1-7/8	6
23830	X	3-5/16	1-15/16	6
23840	Y	3-5/16	1-15/16	6
23850	Z	3-3/8	2	6

Taper Length



HSS TAPER LENGTH

Type 210

High-Speed Steel 118° Point



- Bright finish thru 3/4" diameter.
- Surface treated flutes over 3/4" diameter.
- General purpose 118° point, recommended for mild drilling applications where longer than jobber length drills are required.

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
10490	3/64	2-1/4	1-1/8	12
10500	1/16	3	1-3/4	12
10510	5/64	3-3/4	2	12
10520	3/32	4-1/4	2-1/4	12
10530	7/64	4-5/8	2-1/2	12
10540	1/8	5-1/8	2-3/4	12
10550	9/64	5-3/8	3	12
10560	5/32	5-3/8	3	12
10570	11/64	5-3/4	3-3/8	12
10580	3/16	5-3/4	3-3/8	12
10590	13/64	6	3-5/8	12
10600	7/32	6	3-5/8	12
10610	15/64	6-1/8	3-3/4	12
10620	1/4	6-1/8	3-3/4	12
10630	17/64	6-1/4	3-7/8	12
10640	9/32	6-1/4	3-7/8	12
10650	19/64	6-3/8	4	6
10660	5/16	6-3/8	4	6
10670	21/64	6-1/2	4-1/8	6
10680	11/32	6-1/2	4-1/8	6
10690	23/64	6-3/4	4-1/4	6
10700	3/8	6-3/4	4-1/4	6
10710	25/64	7	4-3/8	1
10720	13/32	7	4-3/8	1
10730	27/64	7-1/4	4-5/8	1
10740	7/16	7-1/4	4-5/8	1
10750	29/64	7-1/2	4-3/4	1
10760	15/32	7-1/2	4-3/4	1
10770	31/64	7-3/4	4-3/4	1
10780	1/2	7-3/4	4-3/4	1
10790	33/64	8	4-3/4	1
10800	17/32	8	4-3/4	1
10810	35/64	8-1/4	4-7/8	1
10820	9/16	8-1/4	4-7/8	1
10830	37/64	8-3/4	4-7/8	1
10840	19/32	8-3/4	4-7/8	1
10850	39/64	8-3/4	4-7/8	1
10860	5/8	8-3/4	4-7/8	1
10870	41/64	9	5-1/8	1
10880	21/32	9	5-1/8	1
10890	43/64	9-1/4	5-3/8	1
10900	11/16	9-1/4	5-3/8	1
10910	45/64	9-1/2	5-5/8	1
10920	23/32	9-1/2	5-5/8	1
10930	47/64	9-3/4	5-7/8	1
10940	3/4	9-3/4	5-7/8	1
10950	49/64	9-7/8	6	1
10960	25/32	9-7/8	6	1
10970	51/64	10	6-1/8	1
10980	13/16	10	6-1/8	1
10990	53/64	10	6-1/8	1
11000	27/32	10	6-1/8	1
11010	55/64	10	6-1/8	1
11020	7/8	10	6-1/8	1
11030	57/64	10	6-1/8	1
11040	29/32	10	6-1/8	1
11050	59/64	10-3/4	6-1/8	1

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
11060	15/16	10-3/4	6-1/8	1
11070	61/64	11	6-3/8	1
11080	31/32	11	6-3/8	1
11090	63/64	11	6-3/8	1
11100	1"	11	6-3/8	1
11110	1-1/64	11-1/8	6-1/2	1
11120	1-1/32	11-1/8	6-1/2	1
11130	1-3/64	11-1/4	6-5/8	1
11140	1-1/16	11-1/4	6-5/8	1
11150	1-5/64	11-1/2	6-7/8	1
11160	1-3/32	11-1/2	6-7/8	1
11170	1-7/64	11-3/4	7-1/8	1
11180	1-1/8	11-3/4	7-1/8	1
11190	1-9/64	11-7/8	7-1/4	1
11200	1-5/32	11-7/8	7-1/4	1
11210	1-11/64	12	7-3/8	1
11220	1-3/16	12	7-3/8	1
11230	1-13/64	12-1/8	7-1/2	1
11240	1-7/32	12-1/8	7-1/2	1
11250	1-15/64	12-1/2	7-7/8	1
11260	1-1/4	12-1/2	7-7/8	1
11270	1-9/32	14-1/8	8-1/2	1
11280	1-5/16	14-1/4	8-5/8	1
11290	1-11/32	14-3/8	8-3/4	1
11300	1-3/8	14-1/2	8-7/8	1
11310	1-13/32	14-5/8	9	1
11320	1-7/16	14-3/4	9-1/8	1
11330	1-15/32	14-7/8	9-1/4	1
11340	1-1/2	15	9-3/8	1
11350	1-9/16	15-1/4	9-5/8	1
11360	1-5/8	15-5/8	9-7/8	1
11370	1-3/4	16-1/4	10-1/2	1

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11640	1	6-1/8	3-3/4	12
11650	2	6-1/8	3-3/4	12
11660	3	6	3-5/8	12
11670	4	6	3-5/8	12
11680	5	6	3-5/8	12
11690	6	6	3-5/8	12
11700	7	6	3-5/8	12
11710	8	6	3-5/8	12
11720	9	6	3-5/8	12
11730	10	6	3-5/8	12
11740	11	6	3-5/8	12
11750	12	6	3-5/8	12
11760	13	5-3/4	3-3/8	12
11770	14	5-3/4	3-3/8	12
11780	15	5-3/4	3-3/8	12
11790	16	5-3/4	3-3/8	12
11800	17	5-3/4	3-3/8	12
11810	18	5-3/4	3-3/8	12
11820	19	5-3/4	3-3/8	12

Twist Drills - HSS Taper Length

Taper Length

HSS TAPER LENGTH & AUTOMOTIVE TANG DRIVE

Type 210 - (Continued)

WIRE				
Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11830	20	5-3/4	3-3/8	12
11840	21	5-3/4	3-3/8	12
11850	22	5-3/4	3-3/8	12
11860	23	5-3/8	3	12
11870	24	5-3/8	3	12
11880	25	5-3/8	3	12
11890	26	5-3/8	3	12
11900	27	5-3/8	3	12
11910	28	5-3/8	3	12
11920	29	5-3/8	3	12
11930	30	5-3/8	3	12
11940	31	5-1/8	2-3/4	12
11950	32	5-1/8	2-3/4	12
11960	33	5-1/8	2-3/4	12
11970	34	5-1/8	2-3/4	12
11980	35	5-1/8	2-3/4	12
11990	36	4-5/8	2-1/2	12
12000	37	4-5/8	2-1/2	12
12010	38	4-5/8	2-1/2	12
12020	39	4-5/8	2-1/2	12
12030	40	4-5/8	2-1/2	12
12040	41	4-5/8	2-1/2	12
12050	42	4-1/4	2-1/4	12
12060	43	4-1/4	2-1/4	12
12070	44	4-1/4	2-1/4	12
12080	45	4-1/4	2-1/4	12
12090	46	4-1/4	2-1/4	12
12100	47	4-1/4	2-1/4	12
12110	48	3-3/4	2	12
12120	49	3-3/4	2	12
12130	50	3-3/4	2	12
12140	51	3-3/4	2	12
12150	52	3-3/4	2	12
12160	53	3	1-3/4	12
12170	54	3	1-3/4	12
12180	55	3	1-3/4	12
12190	56	2-1/4	1-1/8	12
12200	57	2-1/4	1-1/8	12
12210	58	2-1/4	1-1/8	12
12220	59	2-1/4	1-1/8	12
12230	60	2-1/4	1-1/8	12

LETTER				
Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11380	A	6-1/8	3-3/4	12
11390	B	6-1/8	3-3/4	12
11400	C	6-1/8	3-3/4	12
11410	D	6-1/8	3-3/4	12
11420	E	6-1/8	3-3/4	12
11430	F	6-1/4	3-7/8	12
11440	G	6-1/4	3-7/8	12
11450	H	6-1/4	3-7/8	12
11460	I	6-1/4	3-7/8	12
11470	J	6-1/4	3-7/8	12
11480	K	6-1/4	3-7/8	12
11490	L	6-3/8	4	12
11500	M	6-3/8	4	6
11510	N	6-3/8	4	6
11520	O	6-1/2	4-1/8	6
11530	P	6-1/2	4-1/8	6
11540	Q	6-1/2	4-1/8	6
11550	R	6-1/2	4-1/8	6
11560	S	6-3/4	4-1/4	6
11570	T	6-3/4	4-1/4	6
11580	U	6-3/4	4-1/4	6
11590	V	7	4-3/8	1
11600	W	7	4-3/8	1
11610	X	7	4-3/8	1
11620	Y	7	4-3/8	1
11630	Z	7-1/4	4-5/8	1

Type 220

Automotive Series - Tang Drive
High-Speed Steel - General Purpose, 118° Point

- Tanged and surface treated. When used with A.S.A. split sleeve drill drivers, these drills serve as economical substitutes for taper shank drills.



FRACTIONAL				
Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
12870	1/8	5-1/8	2-3/4	12
12880	9/64	5-3/8	3	12
12890	5/32	5-3/8	3	12
12900	11/64	5-3/4	3-3/8	12
12910	3/16	5-3/4	3-3/8	12
12920	13/64	6	3-5/8	12
12930	7/32	6	3-5/8	12
12940	15/64	6-1/8	3-3/4	12
12950	1/4	6-1/8	3-3/4	12
12960	17/64	6-1/4	3-7/8	12
12970	9/32	6-1/4	3-7/8	12
12980	19/64	6-3/8	4	6
12990	5/16	6-3/8	4	6
13000	21/64	6-1/2	4-1/8	6
13010	11/32	6-1/2	4-1/8	6
13020	23/64	6-3/4	4-1/4	6
13030	3/8	6-3/4	4-1/4	6
13040	25/64	7	4-3/8	1
13050	13/32	7	4-3/8	1
13060	27/64	7-1/4	4-5/8	1
13070	7/16	7-1/4	4-5/8	1
13080	29/64	7-1/2	4-3/4	1
13090	15/32	7-1/2	4-3/4	1
13100	31/64	7-3/4	4-3/4	1
13110	1/2	7-3/4	4-3/4	1
13120	33/64	8	4-3/4	1
13130	17/32	8	4-3/4	1
13140	35/64	8-1/4	4-7/8	1
13150	9/16	8-1/4	4-7/8	1
13160	37/64	8-3/4	4-7/8	1
13170	19/32	8-3/4	4-7/8	1
13180	39/64	8-3/4	4-7/8	1
13190	5/8	8-3/4	4-7/8	1
13200	41/64	9	5-1/8	1
13240	21/32	9	5-1/8	1
13220	43/64	9-1/4	5-3/8	1
13230	11/16	9-1/4	5-3/8	1
72530	47/64	9-3/4	5-7/8	1
72540	3/4	9-3/4	5-7/8	1

HEAVY DUTY PARABOLIC

Type 221-PT

Heavy-Duty - Parabolic Flute -Taper Length
TiN Coated - Tang Drive 135° Split Point

- This high performance drill combines the superior wear resistance of TiN coating, and the deep hole drilling advantages of parabolic flutes.
- The exceptional qualities of these drills can provide high productivity and extended tool life when compared to uncoated high-speed steel.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34600	1/8	5-1/8	3-3/8	6
34610	9/64	5-3/8	3-5/8	6
34620	5/32	5-3/8	3-3-4	6
34630	11/64	5-3/4	4-1/8	6
34640	3/16	5-3/4	4-1/8	6
34650	13/64	6	4-3/8	6
34660	7/32	6	4-3/8	6
34670	15/64	6-1/8	4-13/16	6
34680	1/4	6-1/8	4-13/16	6
34690	17/64	6-1/4	5	6
34700	9/32	6-1/4	5-	6
34710	19/64	6-3/8	5-1/8	3
34720	5/16	6-3/8	5-1/8	3
34730	21/64	6-1/2	5-1/4	3
34740	11/32	6-1/2	5-1/4	3
34750	23/64	6-3/4	5-3/8	3
34760	3/8	6-3/4	5-3/8	3
34770	25/64	7	5-5/8	1
34780	13/32	7	5-5/8	1
34790	27/64	7-1/4	5-11/16	1
34800	7/16	7-1/4	5-11/16	1
34810	29/64	7-1/2	5-3/4	1
34820	15/32	7-1/2	5-3/4	1
34830	31/64	7-3/4	5-3/4	1
34840	1/2	7-3/4	5-3/4	1

Type 221-P

Heavy-Duty - Parabolic Flute Taper Length 135°
Split Point - Tang Drive - Black Oxide

- Parabolic flute drills are designed to eliminate the need for frequent drill retraction when deep hole drilling in low to medium tensile strength materials.
- The split point and heavy-duty design provide superior performance by permitting higher feed rates and continuous drilling of deep holes.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
35320	1/8	5-1/8	3-3/8	12
35330	9/64	5-3/8	3-5/8	12
35340	5/32	5-3/8	3-3-4	12
35350	11/64	5-3/4	4-1/8	12
35360	3/16	5-3/4	4-1/8	12
35370	13/64	6	4-3/8	12
35380	7/32	6	4-3/8	12
35390	15/64	6-1/8	4-13/16	12
35400	1/4	6-1/8	4-13/16	12
35410	17/64	6-1/4	5	12
35420	9/32	6-1/4	5	12
35430	19/64	6-3/8	5-1/8	6
35440	5/16	6-3/8	5-1/8	6
35450	21/64	6-1/2	5-1/4	6
35460	11/32	6-1/2	5-1/4	6
35470	23/64	6-3/4	5-3/8	6
35480	3/8	6-3/4	5-3/8	6
35490	25/64	7	5-5/8	1
35500	13/32	7	5-5/8	1
35510	27/64	7-1/4	5-11/16	1
35520	7/16	7-1/4	5-11/16	1
35530	29/64	7-1/2	5-3/4	1
35540	15/32	7-1/2	5-3/4	1
35550	31/64	7-3/4	5-3/4	1
35560	1/2	7-3/4	5-3/4	1

EXTRA LENGTH DRILLS & LONGBOY DRILLS

Type XGT-UB

Ultra Bor Super Premium- 6" - 9" - 12"

- Gyroidal Torsion flute and wide land construction yield exceptional performance in deep hole drilling applications.
- Recommended for work hardening grades of stainless steel and other hard metal drilling operations.
- Will drill 12 or more diameters deep without drill removal to clear chips. Feed rates may be twice that of standard drills.



FRACTIONAL

Part No.	Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
39240	1/8x6	6	4	3
39250	#29x6	6	4	3
39260	9/64x6	6	4	3
39270	5/32x6	6	4	3
39280	11/64x6	6	4	3
39300	3/16x6	6	4	3
39310	#10x6	6	4	3
39320	13/64x6	6	4	3
39330	7/32x6	6	4	3
39340	#1x6	6	4	3
39350	15/64x6	6	4	3
39360	1/4x6	6	4	3
39370	"F"x6	6	4	3
39380	9/32x6	6	4	3
39390	5/16x6	6	4	3
39400	11/32x6	6	4	3
39410	3/8x6	6	4	1
39420	13/32x6	6	4	1
39430	7/16x6	6	4	1
39440	1/2x6	6	4	1
40780	1/8x9	9	6	3
40890	9/64	9	6	3
40790	5/32x9	9	6	3
53140	11/64	9	6	3
40800	3/16x9	9	6	3
53160	13/64	9	6	3
40810	7/32x9	9	6	3
53180	15/64	9	6	3
40820	1/4x9	9	6	3
40830	9/32x9	9	6	3
40840	5/16x9	9	6	3
40850	11/32x9	9	6	3
40860	3/8x9	9	6	1
40870	7/16x9	9	6	1
40880	1/2x9	9	6	1
43050	1/8x12	12	9	3
53130	9/64	12	9	3
43060	5/32x12	12	9	3
53150	11/64	12	9	3
43070	3/16x12	12	9	3
53170	13/64	12	9	3
43080	7/32x12	12	9	3
53190	15/64	12	9	3
43090	1/4x12	12	9	3
43100	9/32x12	12	9	3
43110	5/16x12	12	9	3
43120	11/32x12	12	9	3
43130	3/8x12	12	9	1
43140	7/16x12	12	9	1
43150	1/2x12	12	9	1

Type 200 & 208

Longboy Drills Bright Finish - 12" & 18"

- General purpose 118° point high-speed steel drill recommended for a wide range of deep hole drilling applications.



TYPE 200 12" LONGBOY

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
27200	1/8	12	9	1
27210	9/64	12	9	1
27220	5/32	12	9	1
27230	11/64	12	9	1
27240	3/16	12	9	1
27250	13/64	12	9	1
27260	7/32	12	9	1
27270	15/64	12	9	1
27280	1/4	12	9	1
27290	17/64	12	9	1
27300	9/32	12	9	1
27310	19/64	12	9	1
27320	5/16	12	9	1
27330	21/64	12	9	1
27340	11/32	12	9	1
27350	23/64	12	9	1
27360	3/8	12	9	1
27370	25/64	12	9	1
27380	13/32	12	9	1
27390	27/64	12	9	1
27400	7/16	12	9	1
27410	29/64	12	9	1
27420	15/32	12	9	1
27430	31/64	12	9	1
27440	1/2	12	9	1
27450	17/32	12	9	1
27460	9/16	12	9	1
27470	19/32	12	9	1
27480	5/8	12	9	1
27490	11/16	12	9	1
27500	3/4	12	9	1

TYPE 208 18" LONGBOY

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
27600	3/16	18	10	1
27610	7/32	18	10	1
27620	1/4	18	12	1
27630	9/32	18	12	1
27640	5/16	18	12	1
27650	11/32	18	12	1
27660	3/8	18	12	1
27670	13/32	18	12	1
27680	7/16	18	12	1
27690	15/32	18	12	1
27700	1/2	18	12	1
27710	17/32	18	12	1
27720	9/16	18	12	1
27730	19/32	18	12	1
27740	5/8	18	12	1

6" AIRCRAFT TYPEB & 12" WELDED CONSTRUCTION EXTENSION

Type 211 - NAS 907B

Aircraft 6", 135° Split Point
Solid Construction Black Oxide

- This Heavy-duty surfaced treated 135° split point high-speed steel drill is used extensively in Aircraft and transportation applications for drilling holes in hard to reach places.



Type 212

Welded Construction - 12"
Extension Drill, Black Oxide

- Heavy-duty 135° split point high-speed steel drill is used for drilling holes in hard to reach places.
- Black oxide finish for increased lubricity and enhanced chip removal.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
68170	1/16	6	7/8	6
68180	5/64	6	1	6
68190	9/32	6	2-15/16	6
68200	11/32	6	3-7/16	6
68450	21/64	6	3-5/16	6
68470	3/32	6	1-1/4	6
68490	7/64	6	1-1/2	6
68500	1/8	6	1-5/8	6
68510	9/64	6	1-3/4	6
68520	5/32	6	2	6
68530	11/64	6	2-1/8	6
68540	3/16	6	2-5/16	6
68550	13/64	6	2-7/16	6
68560	7/32	6	2-1/2	6
68570	15/64	6	2-5/8	6
68580	1/4	6	2-3/4	6
68760	5/16	6	3-3/16	6
68770	3/8	6	3-5/8	6
68780	7/16	6	4-1/16	6
68790	1/2	6	4-1/2	6

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
68590	#1	6	2-5/8	6
37400	2	6	2-5/8	6
68330	5	6	2-1/2	6
68600	10	6	2-7/16	6
68610	11	6	2-5/16	6
68350	19	6	2-1/8	6
68620	20	6	2-1/8	6
68630	21	6	2-1/8	6
68370	25	6	1-7/8	6
68640	29	6	1-3/4	6
68650	30	6	1-5/8	6
37490	40	6	1-3/8	6

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
68800	1/8	12	1-5/8	1
68810	9/64	12	1-3/4	1
68820	5/32	12	2	1
68830	11/64	12	2-1/8	1
68840	3/16	12	2-5/16	1
68850	13/64	12	2-7/16	1
68860	7/32	12	2-1/2	1
68870	15/64	12	2-5/8	1
68880	1/4	12	2-3/4	1
68890	17/64	12	2-7/8	1
68900	9/32	12	2-15/16	1
68910	19/64	12	3-1/16	1
68920	5/16	12	3-3/16	1
68930	21/64	12	3-5/16	1
68940	11/32	12	3-7/16	1
68950	23/64	12	3-1/2	1
68960	3/8	12	3-5/8	1
68970	25/64	12	3-3/4	1
68980	13/32	12	3-7/8	1
68990	27/64	12	3-15/16	1
69000	7/16	12	4-1/16	1
69010	29/64	12	4-3/16	1
69020	15/32	12	4-5/16	1
69030	31/64	12	4-3/8	1
69040	1/2	12	4-1/2	1

WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
69050	#1	12	2-5/8	1
69060	10	12	2-7/16	1
69070	11	12	2-5/16	1
69080	20	12	2-1/8	1
69090	21	12	2-1/8	1
69100	29	12	1-3/4	1
69110	30	12	1-5/8	1
02370	40	12	1-3/8	1

SILVER & DEMING - 1/2" REDUCED SHANK

Type 280-UB

1/2" Reduced Shank Ultra Bor Super Premium 3-Flats on Shank Heavy-Duty, 135° Split Point

- Special Hi-Molybdenum tool steel.
- One piece solid construction
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.
- Body and clearance are gold surface treated for maximum 1/2 lubricity.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
29550	33/64	6	1
29560	17/32	6	1
29570	35/64	6	1
29580	9/16	6	1
29590	37/64	6	1
29600	19/32	6	1
29610	39/64	6	1
29620	5/8	6	1
29630	41/64	6	1
29640	21/32	6	1
29650	43/64	6	1
29660	11/16	6	1
29670	45/64	6	1
29680	23/32	6	1
29690	47/64	6	1
29700	3/4	6	1
29710	49/64	6	1
29720	25/32	6	1
29730	51/64	6	1
29740	13/16	6	1
29750	53/64	6	1
29760	27/32	6	1
29770	55/64	6	1
29780	7/8	6	1
29790	57/64	6	1
29800	29/32	6	1
29810	59/64	6	1
29820	15/16	6	1
29830	61/64	6	1
29840	31/32	6	1
29850	63/64	6	1
29860	1"	6	1
29870	1-1/32	6	1
29880	1-1/16	6	1
29890	1-3/32	6	1
29900	1-1/8	6	1
29910	1-5/32	6	1
29920	1-3/16	6	1
29930	1-7/32	6	1
29940	1-1/4	6	1
29950	1-5/16	6	1
29960	1-3/8	6	1
29970	1-7/16	6	1
29980	1-1/2	6	1

Sets - Type 280-UB 4 Pcs.

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

8 Pcs.

Part #	9/16 - 1" by 16ths	Qty of each
92400 S&D-8SP	1/2" Shank - Silver & Deming	1

Type 280-UBX

1/2" Reduced 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 superior general purpose drilling in metal, wood and plastic



118° Split Point

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
74001	33/64	6	1
74011	17/32	6	1
74021	35/64	6	1
74031	9/16	6	1
74041	37/64	6	1
74051	19/32	6	1
74061	39/64	6	1
74071	5/8	6	1
74081	41/64	6	1
74091	21/32	6	1
74101	43/64	6	1
74111	11/16	6	1
74121	45/64	6	1
74131	23/32	6	1
74141	47/64	6	1
74151	3/4	6	1
74161	49/64	6	1
74171	25/32	6	1
74181	51/64	6	1
74191	13/16	6	1
74201	53/64	6	1
74211	27/32	6	1
74221	55/64	6	1
74231	7/8	6	1
74241	57/64	6	1
74251	29/32	6	1
74261	59/64	6	1
74271	15/16	6	1
74281	61/64	6	1
74291	31/32	6	1
74301	63/64	6	1
74311	1"	6	1
74321	1-1/16	6	1
74331	1-1/8	6	1
74341	1-5/32	6	1
74351	1-3/16	6	1
74361	1-1/4	6	1

Sets - Type 280-UBX 4 Pcs.

Part #	9/16, 5/8, 3/4, 1"	Qty of each
74771 S&D-4UBX	1/2" Shank-Silver & Deming	1

8 Pcs.

Part #	9/16 - 1" by 16ths	Qty of each
74781 S&D-8UBX	1/2" Shank - Silver & Deming	1

SILVER & DEMING - 1/2" REDUCED SHANK

Type 280-MRO

Maintenance Length - 1/2" Reduced Shank
135° Split Point 3-Flats on Shank Surfaced
Treated Flutes

- The 280-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 280-MRO has a 135° split point to insure fast hole starts without drill walking.
- The three flats on the shank insure positive chucking with out slippage.



FRACTIONAL

Part No.	Size / Inches	Overall Length	Qty. per/pack
54291	33/64	5	1
54300	17/32	5	1
54301	35/64	5	1
54310	9/16	5	1
54311	37/64	5	1
54320	19/32	5	1
54321	39/64	5	1
54330	5/8	5	1
54331	41/64	5	1
54340	21/32	5	1
54341	43/64	5	1
54350	11/16	5	1
54351	45/64	5	1
54360	23/32	5	1
54361	47/64	5	1
54370	3/4	5	1
54371	49/64	5	1
54380	25/32	5	1
54381	51/64	5	1
54390	13/16	5	1
54391	53/64	5	1
54400	27/32	5	1
54401	55/64	5	1
54410	7/8	5	1
54411	57/64	5	1
54420	29/32	5	1
54421	59/64	5	1
54430	15/16	5	1
54431	61/64	5	1
54440	31/32	5	1
54441	63/64	5	1
54450	1"	5	1

Set - Type 280-MRO

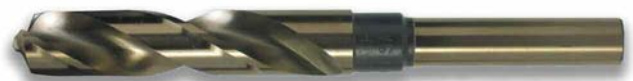
4 Pcs.

Part #	9/16, 5/8, 3/4, 1"	Qty of each
54520 S&D-4	1/2" Shank-Silver & Deming	1

Type 280-D

1/2" Reduced Shank Silver & Deming
Super High-Speed- M42 Cobalt

- Heavy-duty 135° split point with gold finish for use in drilling hard tough metals, free machining stainless steel, high temperature alloys, titanium and certain plastics.
- High red hot hardness of cobalt steel permits speeds 30% higher than regular high speed steel drills.
- Cobalt drills require rigidly held, positive feed drilling equipment.



FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
29131	33/64	6	1
29141	17/32	6	1
29151	35/64	6	1
29161	9/16	6	1
29171	37/64	6	1
29181	19/32	6	1
29191	39/64	6	1
29201	5/8	6	1
29211	41/64	6	1
29221	21/32	6	1
29231	43/64	6	1
29241	11/16	6	1
29251	45/64	6	1
29261	23/32	6	1
29271	47/64	6	1
29281	3/4	6	1
29331	25/32	6	1
29321	13/16	6	1
24341	27/32	6	1
29361	7/8	6	1
29381	29/32	6	1
29401	15/16	6	1
29421	31/32	6	1
29441	1"	6	1

Sets- Type 280-D

4 Pcs.

Part #	9/16, 5/8, 3/4, 1"	Qty of each
29551 S&D-4D	M42 Cobalt 135° Split point	1

8 Pcs.

Part #	9/16 - 1" by 16ths	Qty of each
29571 S&D-8D	M42 Cobalt 135° Split point	1

Silver & Deming - 1/2" Reduced Shank Cobalt / Maintenance Length

Taper Shank



HSS TAPER SHANK - STANDARD

Type 510

High-Speed Steel 118° Point Taper Shank
Regular Shank - Black Oxide Flutes & Clearance



- Taper shank drills are made to fit tapered holders.
- Precision ground flutes, clearance and point.
- Designed to perform well under a wide variety of conditions in a wide range of materials.
- Made in the U.S.A.

FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
14150	1/8	.1250	1	5-1/8	1-7/8
14160	9/64	.1406	1	5-3/8	2-1/8
14170	5/32	.1562	1	5-3/8	2-1/8
14180	11/64	.1719	1	5-3/4	2-1/2
14190	3/16	.1875	1	5-3/4	2-1/2
14200	13/64	.2031	1	6	2-3/4
14210	7/32	.2188	1	6	2-3/4
14220	15/64	.2344	1	6-1/8	2-7/8
14230	1/4	.2500	1	6-1/8	2-7/8
14240	17/64	.2656	1	6-1/4	3
14250	9/32	.2812	1	6-1/4	3
14260	19/64	.2969	1	6-3/8	3-1/8
14270	5/16	.3125	1	6-3/8	3-1/8
14280	21/64	.3281	1	6-1/2	3-1/4
14290	11/32	.3438	1	6-1/2	3-1/4
14300	23/64	.3594	1	6-3/4	3-1/2
14310	3/8	.3750	1	6-3/4	3-1/2
14320	25/64	.3906	1	7	3-5/8
14330	13/32	.4062	1	7	3-5/8
14340	27/64	.4219	1	7-1/4	3-7/8
14350	7/16	.4375	1	7-1/4	3-7/8
14360	29/64	.4531	1	7-1/2	4-1/8
14370	15/32	.4688	1	7-1/2	4-1/8
14380	31/64	.4844	2	8-1/4	4-3/8
14390	1/2	.5000	2	8-1/4	4-3/8
14400	33/64	.5156	2	8-1/2	4-5/8
14410	17/32	.5312	2	8-1/2	4-5/8
14420	35/64	.5469	2	8-3/4	4-7/8
14430	9/16	.5625	2	8-3/4	4-7/8
14440	37/64	.5781	2	8-3/4	4-7/8
14450	19/32	.5938	2	8-3/4	4-7/8
14460	39/64	.6094	2	8-3/4	4-7/8
14470	5/8	.6250	2	8-3/4	4-7/8
14480	41/64	.6406	2	9	5-1/8
14490	21/32	.6562	2	9	5-1/8
14500	43/64	.6719	2	9-1/4	5-3/8
14510	11/16	.6875	2	9-1/4	5-3/8
14520	45/64	.7031	2	9-1/2	5-5/8
14530	23/32	.7188	2	9-1/2	5-5/8
14540	47/64	.7344	2	9-3/4	5-7/8
14550	3/4	.7500	2	9-3/4	5-7/8
14560	49/64	.7656	2	9-7/8	6
14570	25/32	.7812	2	9-7/8	6
14580	51/64	.7969	3	10-3/4	6-1/8
14590	13/16	.8125	3	10-3/4	6-1/8
14600	53/64	.8281	3	10-3/4	6-1/8
14610	27/32	.8438	3	10-3/4	6-1/8
14620	55/64	.8594	3	10-3/4	6-1/8
14630	7/8	.8750	3	10-3/4	6-1/8
14640	57/64	.8906	3	10-3/4	6-1/8
14650	29/32	.9062	3	10-3/4	6-1/8
14660	59/64	.9219	3	10-3/4	6-1/8
14670	15/16	.9375	3	10-3/4	6-1/8
14680	61/64	.9531	3	11	6-3/8
14690	31/32	.9688	3	11	6-3/8
14700	63/64	.9844	3	11	6-3/8
14710	1"	1.0000	3	11	6-3/8
14720	1-1/64	1.0156	3	11-1/8	6-1/2

FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
14730	1-1/32	1.0312	3	11-1/8	6-1/2
14740	1-3/64	1.0469	3	11-1/4	6-5/8
14750	1-1/16	1.0625	3	11-1/4	6-5/8
14760	1-5/64	1.0781	4	12-1/2	6-7/8
14770	1-3/32	1.0938	4	12-1/2	6-7/8
14780	1-7/64	1.1094	4	12-3/4	7-1/8
14790	1-1/8	1.1250	4	12-3/4	7-1/8
14800	1-9/64	1.1406	4	12-7/8	7-1/4
14810	1-5/32	1.1562	4	12-7/8	7-1/4
14820	1-11/64	1.1719	4	13	7-3/8
14830	1-3/16	1.1875	4	13	7-3/8
14840	1-13/64	1.2031	4	13-1/8	7-1/2
14850	1-7/32	1.2188	4	13-1/8	7-1/2
14860	1-15/64	1.2344	4	13-1/2	7-7/8
14870	1-1/4	1.2500	4	13-1/2	7-7/8
14880	1-17/64	1.2656	4	14-1/8	8-1/2
14890	1-9/32	1.2812	4	14-1/8	8-1/2
14900	1-19/64	1.2969	4	14-1/4	8-5/8
14910	1-5/16	1.3125	4	14-1/4	8-5/8
14920	1-21/64	1.3281	4	14-3/8	8-3/4
14930	1-11/32	1.3438	4	14-3/8	8-3/4
14940	1-23/64	1.3594	4	14-1/2	8-7/8
14950	1-3/8	1.3750	4	14-1/2	8-7/8
14960	1-25/64	1.3906	4	14-5/8	9
14970	1-13/32	1.4062	4	14-5/8	9
14980	1-27/64	1.4219	4	14-3/4	9-1/8
14990	1-7/16	1.4375	4	14-3/4	9-1/8
15000	1-29/64	1.4531	4	14-7/8	9-1/4
15010	1-15/32	1.4688	4	14-7/8	9-1/4
15020	1-31/64	1.4844	4	15	9-3/8
15030	1-1/2	1.5000	4	15	9-3/8
15040	1-17/32	1.5312	5	16-3/8	9-3/8
15050	1-9/16	1.5625	5	16-5/8	9-5/8
15060	1-19/32	1.5938	5	16-7/8	9-7/8
15070	1-5/8	1.6250	5	17	10
15080	1-21/32	1.6562	5	17-1/8	10-1/8
15090	1-11/16	1.6875	5	17-1/8	10-1/8
15100	1-23/32	1.7188	5	17-1/8	10-1/8
15110	1-3/4	1.7500	5	17-1/8	10-1/8
15120	1-25/32	1.7812	5	17-1/8	10-1/8
15130	1-13/16	1.8125	5	17-1/8	10-1/8
15140	1-27/32	1.8438	5	17-1/8	10-1/8
15150	1-7/8	1.8750	5	17-3/8	10-3/8
15160	1-29/32	1.9062	5	17-3/8	10-3/8
15170	1-15/16	1.9375	5	17-3/8	10-3/8
15180	1-31/32	1.9688	5	17-3/8	10-3/8
15190	2"	2.0000	5	17-3/8	10-3/8
15200	2-1/32	2.0312	5	17-3/8	10-3/8
15210	2-1/16	2.0625	5	17-3/8	10-1/4
15220	2-3/32	2.0938	5	17-3/8	10-1/4
15230	2-1/8	2.1250	5	17-3/8	10-1/4
15240	2-5/32	2.1562	5	17-3/8	10-1/4
15250	2-3/16	2.1875	5	17-3/8	10-1/4
15260	2-7/32	2.2188	5	17-3/8	10-1/8
15270	2-1/4	2.2500	5	17-3/8	10-1/8
15280	2-5/16	2.3125	5	17-3/8	10-1/8
15290	2-3/8	2.3750	5	17-3/8	10-1/8
15300	2-7/16	2.4375	5	18-3/4	11-1/4
15310	2-1/2	2.5000	5	18-3/4	11-1/4

Taper Shank

HSS TAPER SHANK - REGULAR

Type 500

High-Speed Steel Taper Shank -
Shank Smaller than Standard - Black Oxide

- Taper shank drills are made to fit tapered holders.
- They are designed to perform well under a variety of normal conditions in a wide range of materials.
- Packaged individually.



Type 510 - Continued

High-Speed Steel Taper Shank Regular Shank - Black Oxide

LETTER

Part No.	Letter Size	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
15700	A	.234	1	6-1/8	2-7/8
15710	B	.238	1	6-1/8	2-7/8
15720	C	.242	1	6-1/8	2-7/8
15730	D	.246	1	6-1/8	2-7/8
15740	E	.250	1	6-1/8	2-7/8
15750	F	.257	1	6-1/4	3
15760	G	.261	1	6-1/4	3
15770	H	.266	1	6-1/4	3
15780	I	.272	1	6-1/4	3
15790	J	.277	1	6-1/4	3
15800	K	.281	1	6-1/4	3
15810	L	.290	1	6-3/8	3-1/8
15820	M	.295	1	6-3/8	3-1/8
15830	N	.302	1	6-3/8	3-1/8
15840	O	.316	1	6-1/2	3-1/4
15850	P	.323	1	6-1/2	3-1/4
15860	Q	.332	1	6-1/2	3-1/4
15870	R	.339	1	6-1/2	3-1/4
15880	S	.348	1	6-3/4	3-1/2
15890	T	.358	1	6-3/4	3-1/2
15900	U	.368	1	6-3/4	3-1/2
15910	V	.377	1	7	3-5/8
15920	W	.386	1	7	3-5/8
15930	X	.397	1	7	3-5/8
15940	Y	.404	1	7	3-5/8
15950	Z	.413	1	7-1/4	3-7/8

Type 520

High-Speed Steel Taper Shank -
Shank Larger than Regular -Black Oxide

- Taper shank drills are made to fit tapered holders.
- They are designed to perform well under a variety of normal conditions in a wide range of materials.
- Packaged individually.



FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
15450	3/8	.3750	2	7-3/8	3-1/2
15460	25/64	.3906	2	7-1/2	3-5/8
15470	13/32	.4062	2	7-1/2	3-5/8
15480	27/64	.4219	2	7-3/4	3-7/8
15490	7/16	.4375	2	7-3/4	3-7/8
15500	29/64	.4531	2	8	4-1/8
15510	15/32	.4688	2	8	4-1/8
15520	41/64	.6406	3	9-3/4	5-1/8
15530	21/32	.6262	3	9-3/4	5-1/8
15540	43/64	.6719	3	10	5-3/8
15550	11/16	.6875	3	10	5-3/8
15560	45/64	.7031	3	10-1/4	5-5/8
15570	23/32	.7188	3	10-1/4	5-5/8
15580	47/64	.7344	3	10-1/2	5-7/8
15590	3/4	.7500	3	10-1/2	5-7/8
15600	49/64	.7656	3	10-5/8	6
15610	25/32	.7812	3	10-5/8	6
15620	1"	1.0000	4	12	6-3/8
15630	1-1/32	1.0312	4	12-1/8	6-1/2
15640	1-1/16	1.0625	4	12-1/4	6-5/8

FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
16050	31/64	.4844	1	7-3/4	4-3/8
16060	1/2	.5000	1	7-3/4	4-3/8
16070	33/64	.5156	1	8	4-5/8
16080	17/32	.5312	1	8	4-5/8
16090	35/64	.5469	1	8-1/4	4-7/8
16100	9/16	.5625	1	8-1/4	4-7/8
16110	51/64	.7969	2	10	6-1/8
16120	13/16	.8125	2	10	6-1/8
16130	53/64	.8281	2	10	6-1/8
16140	27/32	.8438	2	10	6-1/8
16150	55/64	.8594	2	10	6-1/8
16160	7/8	.8750	2	10	6-1/8
16170	57/64	.8906	2	10	6-1/8
16180	29/32	.9062	2	10	6-1/8
16190	1-5/64	1.0781	3	11-1/2	6-7/8
16200	1-3/32	1.0938	3	11-1/2	6-7/8
16210	1-7/64	1.1094	3	11-3/4	7-1/8
16220	1-1/8	1.1250	3	11-3/4	7-1/8
16230	1-9/64	1.1406	3	11-7/8	7-1/4
16240	1-5/32	1.1562	3	11-7/8	7-1/4
16250	1-11/64	1.1719	3	12	7-3/8
16260	1-3/16	1.1875	3	12	7-3/8
16270	1-13/64	1.2031	3	12-1/8	7-1/2
16280	1-7/32	1.2188	3	12-1/8	7-1/2
16290	1-15/64	1.2344	3	12-1/2	7-7/8
16300	1-1/4	1.2500	3	12-1/2	7-7/8
16320	1-17/32	1.5312	4	15	9-3/8
16340	1-9/16	1.5625	4	15-1/4	9-5/8
16360	1-19/32	1.5938	4	15-1/2	9-7/8
16380	1-5/8	1.6250	4	15-5/8	10
16400	1-21/32	1.6562	4	15-3/4	10-1/8
16420	1-11/16	1.6875	4	15-3/4	10-1/8
16440	1-23/32	1.7188	4	15-3/4	10-1/8
16460	1-3/4	1.7500	4	16-1/4	10-3/8
16470	1-25/32	1.7812	4	16-1/4	10-3/8
16480	1-13/16	1.8125	4	16-1/4	10-3/8
16490	1-27/32	1.8438	4	16-1/4	10-3/8
16500	1-7/8	1.8750	4	16-1/2	10-1/2
16510	1-29/32	1.9062	4	16-1/2	10-1/2
16520	1-15/16	1.9375	4	16-5/8	10-5/8
16530	1-31/32	1.9688	4	16-5/8	10-5/8
16540	2"	2.0000	4	16-5/8	10-5/8

DRILL BLANK

Type 240-DB

Jobbers Length

Hardened and Ground - Bright Finish

- Fully hardened drill blanks typically used as hole size and bushing gauges.
- May also be used as guide pins for die sets.

Tolerances: +.0000 -.0005 thru 1/4" +.0000 -.0007 over 1/4

FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
02769	1/32	1-3/8	12
02779	3/64	1-3/4	12
02789	1/16	1-7/8	12
02799	5/64	2	12
02809	3/32	2-1/4	12
02819	7/64	2-5/8	12
02829	1/8	2-3/4	12
02839	9/64	2-7/8	12
02849	5/32	3-1/8	12
02859	11/64	3-1/4	12
02869	3/16	3-1/2	12
02879	13/64	3-5/8	12
02889	7/32	3-3/4	12
02899	15/64	3-7/8	12
02909	1/4	4	12
16919	17/64	4-1/8	12
16929	9/32	4-1/4	12
16939	19/64	4-3/8	6
16949	5/16	4-1/2	6
16959	21/64	4-5/8	6
16969	11/32	4-3/4	6
16979	23/64	4-7/8	6
16989	3/8	5	6
16999	25/64	5-1/8	6
17009	13/32	5-1/4	6
17019	27/64	5-3/8	6
17029	7/16	5-1/2	6
17039	29/64	5-5/8	6
17049	15/32	5-3/4	6
17059	31/64	5-7/8	6
17069	1/2	6	6

LETTER

Part No.	Letter Sizes	Qty. per/pack
02419	A	12
02429	B	12
02439	C	12
02449	D	12
02459	E	12
02469	F	12
02479	G	12
02489	H	12
02499	I	12
02509	J	12
02519	K	12
02529	L	12
02539	M	6
02549	N	6
02559	O	6
02569	P	6
02579	Q	6
02589	R	6
02599	S	6
02609	T	6
02619	U	6
02629	V	6
02639	W	6
02649	X	6
02659	Y	6
26960	Z	6

WIRE

Part No.	Wire Sizes	Overall Length Inches	Qty. per/pack
03199	1	3-7/8	12
03209	2	3-7/8	12
03219	3	3-3/4	12
03229	4	3-3/4	12
03239	5	3-3/4	12
03249	6	3-3/4	12
03259	7	3-5/8	12
03269	8	3-5/8	12
03279	9	3-5/8	12
03289	10	3-5/8	12
03299	11	3-1/2	12
03309	12	3-1/2	12
03319	13	3-1/2	12
03329	14	3-3/8	12
03339	15	3-3/8	12
03349	16	3-3/8	12
03359	17	3-3/8	12
03369	18	3-1/4	12
03379	19	3-1/4	12
03389	20	3-1/4	12
03399	21	3-1/4	12
03409	22	3-1/8	12
03419	23	3-1/8	12
03429	24	3-1/8	12
03439	25	3	12
03449	26	3	12
03459	27	3	12
03469	28	2-7/8	12
03479	29	2-7/8	12
03489	30	2-3/4	12
03499	31	2-3/4	12
03509	32	2-3/4	12
03519	33	2-5/8	12
03529	34	2-5/8	12
03539	35	2-5/8	12
03549	36	2-1/2	12
03559	37	2-1/2	12
03569	38	2-1/2	12
03579	39	2-3/8	12
03589	40	2-3/8	12
03599	41	2-3/8	12
03609	42	2-1/4	12
03619	43	2-1/4	12
03629	44	2-1/8	12
03639	45	2-1/8	12
03649	46	2-1/8	12
03659	47	2	12
03669	48	2	12
03679	49	2	12
03689	50	2	12
03699	51	2	12
03709	52	1-7/8	12
03719	53	1-7/8	12
03729	54	1-7/8	12
03739	55	1-7/8	12
03749	56	1-3/4	12
03759	57	1-3/4	12
03769	58	1-5/8	12
03779	59	1-5/8	12
03789	60	1-5/8	12
03799	61	1-5/8	12
03809	62	1-1/2	12
03819	63	1-1/2	12
03829	64	1-1/2	12
03839	65	1-1/2	12
03849	66	1-3/8	12
03859	67	1-3/8	12
03869	68	1-3/8	12
03879	69	1-3/8	12
03889	70	1-1/4	12
03899	71	1-1/4	12
03919	72	1-1/8	12
03929	73	1-1/8	12
03939	74	1	12
03949	75	1	12
03959	76	7/8	12
03969	77	7/8	12
03979	78	7/8	12
03989	79	3/4	12
03999	80	3/4	12

Technical Reference

Decimal Equivalent & Tap Drill Sizes Chart

Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal
00.10	.0039	54	.0550	25	.1495	H	.2660	29/64	.4531
97	.0059	01.40	.0551	03.80	.1496	06.80	.2677	11.80	.4646
96	.0063	01.45	.0571	24	.1520	06.90	.2717	15/32	.4688
95	.0067	01.50	.0591	03.90	.1535	I	.2720	12.00	.4724
94	.0071	53	.0595	23	.1540	07.00	.2756	12.20	.4803
93	.0075	01.55	.0610	5/32	.1562	J	.2770	31/64	.4844
92	.0079	1/16	.0625	22	.1570	07.10	.2795	12.50	.4921
00.20	.0079	01.60	.0630	04.00	.1575	K	.2810	1/2	.5000
91	.0083	52	.0635	21	.1590	9/32	.2812	13.00	.5118
90	.0087	01.65	.0650	20	.1610	07.20	.2835	33/64	.5156
89	.0091	01.70	.0669	04.10	.1614	07.30	.2874	17/32	.5312
88	.0095	51	.0670	04.20	.1654	L	.2900	13.50	.5315
87	.0100	01.75	.0689	19	.1660	07.40	.2913	35/64	.5469
86	.0105	50	.0700	04.30	.1693	M	.2950	14.00	.5512
85	.0110	01.80	.0709	18	.1695	07.50	.2953	9/16	.5625
84	.0115	01.85	.0728	11/64	.1719	19/64	.2969	14.50	.5709
00.30	.0118	49	.0730	17	.1730	07.60	.2992	37/64	.5781
83	.0120	01.90	.0748	04.40	.1732	N	.3020	15.00	.5906
82	.0125	48	.0760	16	.1770	07.70	.3031	19/32	.5938
81	.0130	01.95	.0768	04.50	.1772	07.80	.3071	39/64	.6094
80	.0135	5/64	.0781	15	.1800	07.90	.3110	15.50	.6102
00.35	.0138	47	.0785	04.60	.1811	5/16	.3125	5/8	.6250
79	.0145	02.00	.0787	14	.1820	08.00	.3150	16.00	.6299
1/64	.0156	02.05	.0807	13	.1850	O	.3160	41/64	.6406
00.40	.0157	46	.0810	04.70	.1850	08.10	.3189	16.50	.6496
78	.0160	45	.0820	3/16	.1875	08.20	.3228	21/32	.6562
00.45	.0177	02.10	.0827	12	.1890	P	.3230	17.00	.6693
77	.0180	02.15	.0846	04.80	.1890	08.30	.3268	43/64	.6719
00.50	.0197	44	.0860	11	.1910	21/64	.3281	11/16	.6875
76	.0200	02.20	.0866	04.90	.1929	08.40	.3307	17.50	.6890
75	.0210	02.25	.0886	10	.1935	Q	.3320	45/64	.7031
00.55	.0217	43	.0890	9	.1960	08.50	.3346	18.00	.7087
74	.0225	02.30	.0906	05.00	.1969	08.60	.3386	23/32	.7188
00.60	.0236	02.35	.0925	8	.1990	R	.3390	18.50	.7283
73	.0240	42	.0935	05.10	.2008	08.70	.3425	47/64	.7344
72	.0250	3/32	.0938	7	.2010	11/32	.3438	19.00	.7480
00.65	.0256	02.40	.0945	13/64	.2031	08.80	.3465	3/4	.7500
71	.0260	41	.0960	6	.2040	S	.3480	49/64	.7656
00.70	.0276	02.45	.0965	05.20	.2047	08.90	.3504	19.50	.7677
70	.0280	40	.0980	5	.2055	09.00	.3543	25/32	.7812
69	.0292	02.50	.0984	05.30	.2087	T	.3580	20.00	.7874
00.75	.0295	39	.0995	4	.2090	09.10	.3583	51/64	.7969
68	.0310	38	.1015	05.40	.2126	23/64	.3594	20.50	.8071
1/32	.0312	02.60	.1024	3	.2130	09.20	.3622	13/16	.8125
00.80	.0315	37	.1040	05.50	.2165	09.30	.3661	21.00	.8268
67	.0320	02.70	.1063	7/32	.2188	U	.3680	53/64	.8281
66	.0330	36	.1065	05.60	.2205	09.40	.3701	27/32	.8438
00.85	.0335	7/64	.1094	2	.2210	09.50	.3740	21.50	.8465
65	.0350	35	.1100	05.70	.2244	3/8	.3750	55/64	.8594
00.90	.0354	02.80	.1102	1	.2280	V	.3770	22.00	.8661
64	.0360	34	.1110	05.80	.2283	09.60	.3780	7/8	.8750
63	.0370	33	.1130	05.90	.2323	09.70	.3819	22.50	.8858
00.95	.0374	02.90	.1142	A	.2340	09.80	.3858	57/64	.8906
62	.0380	32	.1160	15/64	.2344	W	.3860	23.00	.9055
61	.0390	03.00	.1181	06.00	.2362	09.90	.3898	29/32	.9062
01.00	.0394	31	.1200	B	.2380	25/64	.3906	59/64	.9219
60	.0400	03.10	.1220	06.10	.2402	10.00	.3937	23.50	.9252
59	.0410	1/8	.1250	C	.2420	X	.3970	15/16	.9375
01.05	.0413	03.20	.1260	06.20	.2441	10.20	.4016	24.00	.9449
58	.0420	30	.1285	D	.2460	Y	.4040	61/64	.9531
57	.0430	03.30	.1299	06.30	.2480	10.30	.4055	24.50	.9646
01.10	.0433	03.40	.1339	1/4	.2500	13/32	.4062	31/32	.9688
01.15	.0453	29	.1360	E	.2500	Z	.4130	25.00	.9843
56	.0465	03.50	.1378	06.40	.2520	10.50	.4134	63/64	.9844
3/64	.0469	28	.1405	06.50	.2559	27/64	.4219	1	1.0000
01.20	.0472	9/64	.1406	F	.2570	10.80	.4252		
01.25	.0492	03.60	.1417	06.60	.2598	11.00	.4331		
01.30	.0512	27	.1440	G	.2610	7/16	.4375		
55	.0520	03.70	.1457	06.70	.2638	11.20	.4409		
01.35	.0531	26	.1470	17/64	.2658	11.50	.4528		

Technical Reference - Decimal Equivalent

TAP DRILL SIZES							
Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill
0-80	3/64	6-32	36	M8.0-1.25	H	M16-2	14.0M
M1.6-.35	1.25M	6-40	33	5/16-24	I	5/8-11	17/32
1-64	54	M3.5-.6	2.90M	M8.0-1	7.0M	M16-1.5	14.5M
M1.8-.35	1.45M	M4.0-.7	3.30M	3/8-16	5/16	5/8-18	37/64
1-72	53	8-32	29	3/8-24	Q	M18-2.5	15.5M
M2.0-.4	1.60M	8-36	29	M10-1.5	8.5M	M18-1.5	16.5M
2-56	51	M4.5-.75	26	M10-1.25	11/32	3/4-10	21/32
M2.2-.45	1.75M	10-24	25	7/16-14	U	3/4-16	11/16
2-64	50	10-32	21	7/16-20	25/64	M20-2.5	17.5M
3-48	47	M5.0-.8	4.20M	M12-1.75	Y	M20-1.5	18.5M
M2.5-.45	2.05M	12-24	16	1/2-13	27/64	7/8-9	49/64
3-56	45	12-28	14	M12-1.25	10.8M	M22-2.5	19.5M
4-40	43	M6.0-1	5.0M	1/2-20	29/64	M22-1.5	20.5M
4-48	42	1/4-20	7	M14-2	12.0M	7/8-14	13/16
M3.0-.5	2.50M	1/4-28	3	9/16-12	31/64	M24-3	21.0M
5-40	38	M7.0-1	6.0M	M14-1.5	12.5M	M24-2	22.0M
5-44	37	5/16-18	F	9/16-18	33/64	1-8	7/8
						1-12	59/64
						1-14	15/16

Drill Feed & Speeds

Different drilling conditions make it impossible to develop any rigid rules for feeds and speeds. The following tables contain guidelines which can be utilized when drilling standard materials. Also, the following "rules of thumb" can be used to determine proper feeds and speeds for drilling ferrous materials (note: varying conditions can easily require adjustments).

Feed equals .001" per revolution for every 1/16" of drill diameter, plus or minus .001" on the total.

Speed equals 80 surface feet per minute in 100 Brinell hardness material and the speed should be reduced 10 surface feet per minute for each additional 50 points Brinell hardness.

Feed and speed rates should be reduced up to 45-50 % when drilling holes deeper than 4 drill diameters.

Recommended Feeds

RECOMMENDED FEEDS FOR VARIOUS DIAMETER DRILLS	
Diameter of Drill—Inches	Feed Inches per Revolution
Under 1/8	.001 to .003
1/8 to 1/4	.002 to .006
1/4 to 1/2	.004 to .010
1/2 to 1	.007 to .015
1 inch and over	.015 to .025

NOTE: It is best to start with a moderate speed and feed, increasing either one, or both, after observing the action and condition of the drill.

Recommended Speeds

RECOMMENDED SPEEDS FOR STANDARD MATERIALS WITH H.S.S. DRILLS	
Material	Recommended Speed (sfm)
Aluminum and its Alloys	200—300
Brass and Bronze (ordinary)	150—300
Bronze (High Tensile)	70—150
Die Castings (Zinc Base)	300—400
Iron—Cast (soft)	75—125
Cast (medium hard)	50—100
Hard Chilled	10—20
Malleable	80—90
Magnesium and its Alloys	250—400
Monel Metal or High-Nickel Steel	30—50
Plastics or Similar Materials	100—300
Steel—	
Mild .2 carbon to .3 carbon	80—110
Steel .4 carbon to .5 carbon	70—80
Tool 1.2 carbon	50—60
Forgings	40—50
Alloy—300 to 400 Brinell	20—30
High Tensile (Heat Treated)	
35 to 40 Rockwell "C"	30—40
40 to 45 Rockwell "C"	25—35
45 to 50 Rockwell "C"	15—25
50 to 55 Rockwell "C"	7—15
Stainless Steel	
Free Machining Grades	30—80
Work Hardening Grades	15—50
Titanium Alloy Sheet	50—60
Titanium Alloys	
Ti-75A (Commercially Pure)	50—60
RS-120	40—60
Ti-150A	40—50
Ti-140A	30—40
RC-130B	30—40
MST 6A1-4 Va.	20—35
MST 3A1-5 Cr.	10—20

Cutting Speed

DRILL SIZE	CUTTING SPEED — FEET PER MINUTE				
	20	40	60	80	100
	REVOLUTIONS PER MINUTE (000)				
1/64	4.89	9.78	14.78	19.72	24.45
1/16	1.22	2.44	3.70	4.93	6.11
1/8	.61	1.22	1.83	2.44	3.06
3/16	.41	.82	1.23	1.63	2.04
1/4	.30	.61	.92	1.22	1.53
5/16	.24	.49	.74	.98	1.22
3/8	.20	.41	.61	.81	1.02
7/16	.18	.35	.52	.70	.87
1/2	.15	.31	.46	.61	.76
9/16	.14	.27	.41	.54	.68
5/8	.12	.24	.37	.49	.61
11/16	.11	.22	.34	.45	.56
3/4	.10	.20	.31	.41	.51
13/16	.09	.19	.28	.38	.47
7/8	.09	.18	.26	.35	.44
15/16	.08	.16	.25	.33	.41
1	.08	.15	.23	.30	.38

PROBLEM	CAUSE	CORRECTION
BROKEN DRILL	1. Flutes clogged with chips, drill binds in hole (common in deep holes)	—Use drill with wider flutes and/or faster helix angle —Consider polished flutes —Withdraw drill at regular intervals to clear chips —If chips are not broken up, consider heavier feeds—or a chip breaker design
	2. Drill binding due to worn outer corners	—Repoint or replace drill —Check for excessive speed, inadequate or incorrect coolant, excessive run out as drill enters work
	3. Work insecurely held	—Use adequate holding or clamping devices
	4. Excessive feed	—Reduce feed
	5. Improper point	—Check for correct lip clearance —Use proper type of drill and point for the application
	6. Drill is dull	—Replace before dulling occurs. Check feeds, speeds, and No. 5 for premature dulling
BROKEN TANG	1. Shank or socket damaged	—Repair or replace
	2. Drill not properly seated in socket	—Check for positive, secure fit
CHIPS NOT BREAKING UP	1. Insufficient feed	—Increase feed
	2. Improper style of drill and/or point	—Consider use of chip-breaker design drill and/or chip-breaker point grind
DAMAGED POINT	1. Using hard object to tap drill into socket	—Use soft lead, brass, plastic, etc. hammer
	2. Dropping, mishandling drill	—Handle with care
OVERSIZE HOLE	1. Drill point off center	—Repoint accurately or replace with properly pointed drill
	2. Machine spindle not rigid or not running true	—Repair if possible; consider use of bushing
	3. Work piece loose and/or vibrating	—Tighten and hold securely
ROUGH HOLE	1. Incorrect point grind and/or dull drill	—Repoint or replace with properly pointed drill
	2. Excessive feed	—Reduce feed
	3. Incorrect or insufficient coolant	—Correct and adjust
POOR TOOL LIFE	1. Coolant not reaching drill point or insufficient or incorrect coolant	—Correct and adjust
	2. Speed too high and/or feed too low	—Review and adjust
	3. Wrong type of point and/or drill for application	—Review requirements and conditions
WEB SPLITS	1. Insufficient lip clearance	—Repoint or replace with properly pointed drill
	2. Point thinned too much	—Repoint or replace with properly pointed drill
	3. Excessive feed	—Reduce feed
CHIPPED LIPS	1. Excessive lip clearance and/or heel relief	—Repoint or replace with properly pointed drill
BROKEN OUTER CORNERS	1. Insufficient or incorrect coolant	—Correct and adjust
	2. Excessive speed	—Reduce speed
	3. Scale, hard spots encountered in material	—No final remedy if this condition is prevalent; lower feeds and speeds may help

Taps & Dies

HSS Spiral Point Taps

Type 20-UB Plug - Fractional / Machine Screw	.55
Type 20 Plug - Fractional / Machine Screw	.63
Type 21-UB Plug - Metric	.55
Type 21 Plug - Metric	.63

HSS Straight Flute Taps

Type 23-UB Taper	.56
Type 23-UBN Taper - Titanium Coated	.56
Type 23 Taper	.64
Type 24-UB Plug	.56
Type 24-UBN Plug - Titanium Coated	.56
Type 24 Plug	.64
Type 25-UB Bottoming	.57
Type 25-UBN Bottoming - Titanium Coated	.57
Type 25 Bottoming	.65
Type 26-UB Sets	.57
Type 26-UBN Sets Titanium Coated	.57
Type 26 Sets	.65

HSS Straight Flute -Metric

Type 31-UB Taper	.58
Type 31-UBN Taper - Titanium Coated	.58
Type 32-UB Plug	.58
Type 32-UBN Plug - Titanium Coated	.58
Type 33-UB Bottoming	.59
Type 33-UBN Bottoming-Titanium Coated	.59
Type 35-UB Sets	.59
Type 35-UBN Sets Titanium Coated	.59

HSS Straight Flute -Left-Hand Thread

Type 23L-UB Taper	.60
Type 24L-UB Plug	.60
Type 25L-UB Bottoming	.60

HSS Combination Drill & Tap

Type 40-UB	.61
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Drill & Tap Combo

Type 34-UB	.61
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HSS Hex Dies

Type 27-UB	.62
Type 27-UB Metric	.62

Reduced Neck

Type 29-UB	.55
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Taper Pipe Taps

Type 30-UB	.59
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HSS Tap & Drill Sets

SF-18TDC Straight Flute	.61
SF-18TDF Straight Flute	.61
SP-10TD Spiral Point	.61
SP-12TD Spiral Point	.61
SP-18TD Spiral Point	.61
SP-18TDM Spiral Point	.61

HSS Tap Sets

SP-19T Spiral Point	.62
SP-10T Spiral Point	.62
SF-10T Straight Flute	.62

HSS Tap & Die Assortments

Ultra Bor Super Premium	
14pc Metric	.66
15pc	.66
23pc Metric	.66
25pc	.66
40pc	.67
58pc	.67

Hi-Carbon Steel Taps

Type 720 Plug - Fractional	.68
Type 721 Plug - Machine Screw	.68
Type 740 Taper - Fractional	.68
Type 741 Plug - Machine Screw	.68
Type 760 Bottoming - Fractional	.69
Type 761 Bottoming - Machine Screw	.69
Type 722 3pcs - Fractional Set	.69
Type 723 3 pcs - Machine Screw	.69
Type 780 Metric Plug Taps	.72

Hi-Carbon Steel Pipe Taps

Type 410 Fractional	.72
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Hi-Carbon Steel Dies

Type 400 - Round	.71
Type 405 - Hex	.70
Type 415 - Adjustable	.71
Type 790 - Metric - Hex	.70

Hi-Carbon Tap & Die Sets

Type 724	
14pc	.73
16pc	.73
24pc	.74
37pc	.74
40pc	.75

Tap & Reamer

Wrenches / Die Stocks

Type 725	.76
Type 726	.76
Type 727	.76
Type 728	.77
Type 729	.77
Type 730	.77

Technical Reference .78 - 82



HSS SPIRAL POINT - PLUG STYLE & REDUCED NECK TAPS

Type 20-UB & 21-UB

Plug- Style -Ultra Bor Super Premium

- Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity.
- Spiral point construction drives chips ahead of the tap, permitting higher speeds and faster cutting with less torque.
- Recommended for thru tapping in hard steel, aluminum, magnesium, malleable cast iron



TYPE 20-UB PLUG STYLE

Part No.	Size	Flutes	GH Limit	Qty. per/pack
60100	0-80	2	2	3
60110	1-64	2	2	3
60120	1-72	2	2	3
60130	2-56	2	2	3
60140	2-64	2	2	3
60150	3-48	2	2	3
60160	3-56	2	2	3
60170	4-40	2	2	3
60180	4-48	2	2	3
60190	4-36	2	2	3
60200	5-40	2	2	3
60210	5-44	2	2	3
60220	6-32	2	3	3
60230	6-40	2	2	3
60240	8-32	2	3	3
60250	8-36	2	2	3
60260	10-24	2	3	3
60270	10-32	2	3	3
60280	12-24	2	3	3
60290	12-28	2	3	3
60320	1/4-20	2	3	3
60330	1/4-28	2	3	3
60340	5/16-18	2	3	3
60350	5/16-24	2	3	3
60360	3/8-16	3	3	3
60370	3/8-24	3	3	3
60380	7/16-14	3	3	3
60390	7/16-20	3	3	3
60400	1/2-13	3	3	3
60410	1/2-20	3	3	3
60420	5/8-11	3	3	1
60430	5/8-18	3	3	1
60440	3/4-10	3	3	1
60450	3/4-16	3	3	1

TYPE 21-UB METRIC - PLUG STYLE

Part No.	Size/Pitch	Flutes	Pitch Diameter Limits	Qty. per/pack
60500	2.5-0.45	2	D3	3
60510	3.0-0.50	2	D3	3
60520	3.5-0.60	2	D4	3
60530	4.0-0.70	2	D4	3
60550	5.0-0.80	2	D4	3
60560	6.0-1.00	2	D5	3
60580	8.0-1.25	2	D5	3
60600	10.0-1.50	3	D6	3
60620	12.0-1.75	3	D6	3
60630	14.0-2.00	3	D7	1
60640	16.0-2.00	3	D7	1
60650	18.0-2.50	3	D7	1

Type 29-UB

High-Speed Spiral Point - Ultra Bor Super Premium

- Reduced neck maximizes coolant flow in machine tapping applications for ferrous and non-ferrous materials.
- Excellent for aluminum, magnesium, malleable cast iron and steel materials.



TYPE 29-UB HSS SPIRAL POINT

Part No.	Size	H Limits	Flutes	Qty. per/pack
44300	4-40	H2	2	3
44310	6-32	H3	2	3
44320	6-40	H2	2	3
44330	8-32	H3	3	3
44340	8-36	H2	3	3
44350	10-24	H3	3	3
44360	10-32	H3	3	3
44370	12-24	H3	3	3
44380	12-28	H3	3	3
20010	1/4-20	H3	3	3
20020	1/4-28	H3	3	3
20030	5/16-18	H3	3	3
20040	5/16-24	H3	3	3
20050	3/8-16	H3	3	3
20060	3/8-24	H3	3	3
20100	7/16-14	H3	3	3
20110	7/16-20	H3	3	3
20120	1/2-13	H3	3	3
20130	1/2-20	H3	3	3



Product Tips

NEED A TAPPING LUBE?

High Performance Ultra Lube™

will do the job! Found on page 97

HSS STRAIGHT FLUTE & TiN COATED TAPS

Types 23-UB -Taper & Types 24-UB -Plug

Ultra Bor Super Premium

- Precision ground threads for the ultimate in accuracy and performance.
- These high performance taps are available in complete sets of one taper, plug and bottoming tap of the same size.
- For general use in production tapping or hand operations.



Type 23-UB



Type 23-UBN
*Packaged Individually



Type 24-UB



Type 24-UBN
*Packaged Individually

Types 23-UBN -TiN Coated Taper

Types 24-UBN -TiN Coated Plug

Ultra Bor Super Premium

- TiN coated increases lubricity and extends tool life.
- Precision ground threads

TYPE 23-UB & TYPE 23-UBN TAPER STYLE

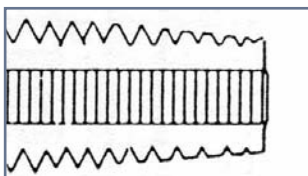
Type 23-UB Part #	Type *23-UBN TiN Coated Part #	Size	Flutes	GH Limit	Qty. per/pack
60660	46001	2-56	3	2	3
60680	46011	3-48	3	2	3
60700	46021	4-40	3	2	3
60730	46031	5-40	3	2	3
60750	46041	6-32	3	3	3
60760	46051	6-40	3	2	3
60770	46061	8-32	4	3	3
60780	46071	8-36	4	2	3
60790	46081	10-24	4	3	3
60800	46091	10-32	4	3	3
60810	46101	12-24	4	3	3
60820	-----	12-28	4	3	3
60830	46121	1/4-20	4	3	3
60840	46131	1/4-28	4	3	3
60850	46141	5/16-18	4	3	3
60860	46151	5/16-24	4	3	3
60870	46161	3/8-16	4	3	3
60880	46171	3/8-24	4	3	3
60890	46181	7/16-14	4	3	3
60900	46191	7/16-20	4	3	3
60910	46201	1/2-13	4	3	3
60920	46211	1/2-20	4	3	3
60950	46221	9/16-12	4	3	1
60960	-----	9/16-18	4	3	1
60970	46241	5/8-11	4	3	1
60980	46251	5/8-18	4	3	1
60990	46261	3/4-10	4	3	1
61400	46271	3/4-16	4	3	1
61410	46281	7/8-9	4	4	1
61420	46291	7/8-14	4	4	1
61430	46301	1"-8	4	4	1
61440	46311	1"-12	4	4	1
27570	-----	1"-14	4	4	1
61450	46331	1 1/8-7	4	4	1
61460	46341	1 1/8-12	4	4	1
61470	46351	1 1/4-7	4	4	1
61480	46361	1 1/4-12	6	4	1
61490	-----	1 3/8-6	4	4	1
61500	-----	1 3/8-12	6	4	1
61510	-----	1 1/2-6	4	4	1
61520	-----	1 1/2-12	6	4	1

TYPE 24-UB & TYPE 24-UBN PLUG STYLE

Type 24-UB Part #	Type *24-UBN TiN Coated Part #	Size	Flutes	GH Limit	Qty. per/pack
60661	46002	2-56	3	2	3
60681	46012	3-48	3	2	3
60701	46022	4-40	3	2	3
60731	46032	5-40	3	2	3
60751	46042	6-32	3	3	3
60761	46052	6-40	3	2	3
60771	46062	8-32	4	3	3
60781	46072	8-36	4	2	3
60791	46082	10-24	4	3	3
60801	46092	10-32	4	3	3
60811	46102	12-24	4	3	3
60821	-----	12-28	4	3	3
60831	46122	1/4-20	4	3	3
60841	46132	1/4-28	4	3	3
60851	46142	5/16-18	4	3	3
60861	46152	5/16-24	4	3	3
60871	46162	3/8-16	4	3	3
60881	46172	3/8-24	4	3	3
60891	46182	7/16-14	4	3	3
60901	46192	7/16-20	4	3	3
60911	46202	1/2-13	4	3	3
60921	46212	1/2-20	4	3	3
60951	46222	9/16-12	4	3	1
60961	-----	9/16-18	4	3	1
60971	46242	5/8-11	4	3	1
60981	46252	5/8-18	4	3	1
60991	46262	3/4-10	4	3	1
61401	46272	3/4-16	4	3	1
61411	46282	7/8-9	4	4	1
61421	46292	7/8-14	4	4	1
61431	46302	1"-8	4	4	1
61441	46312	1"-12	4	4	1
27571	-----	1"-14	4	4	1
61451	46332	1 1/8-7	4	4	1
61461	46342	1 1/8-12	4	4	1
61471	46352	1 1/4-7	4	4	1
61481	46362	1 1/4-12	6	4	1
61491	-----	1 3/8-6	4	4	1
61501	-----	1 3/8-12	6	4	1
61511	-----	1 1/2-6	4	4	1
61521	-----	1 1/2-12	6	4	1

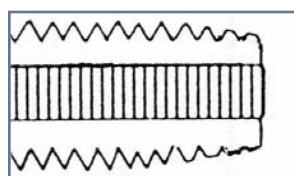
TAPER Type 23-UB Type 23-UBN

Eight to ten threads chamfered for easy thread starting in tough materials.



PLUG Type 24-UB Type 24-UBN

Three to five threads chamfered. For general use when tapping into the bottom of the hole is not critical. (This is the most widely used style.)



STRAIGHT FLUTES & TiN COATED

Type 25-UB -Bottoming

Types 25-UBN -TiN Coated Bottoming

Ultra Bor Super Premium



Type 25-UB

Precision ground threads for the ultimate in accuracy and performance.



Type 25-UBN

Tin coating increases lubricity and extends tool life.

***Packaged Individually**

Types 26-UB Sets

Types 26-UBN Sets

Ultra Bor Super Premium

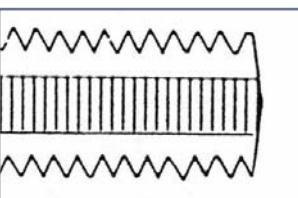
• Includes one each Taper, Plug and Bottoming

TYPE 26-UB & TYPE 26-UBN SETS

Type 26-UB Part #	Type 26-UBN TiN Coated Part #	Size	Flutes	GH Limit	Qty. per/pack each
60663	46004	2-56	3	2	1
60683	46014	3-48	3	2	1
60703	46024	4-40	3	2	1
60733	46034	5-40	3	2	1
60753	46044	6-32	3	3	1
60763	46054	6-40	3	2	1
60773	46064	8-32	4	3	1
60783	46074	8-36	4	2	1
60793	46084	10-24	4	3	1
60803	46094	10-32	4	3	1
60813	46104	12-24	4	3	1
60823	-----	12-28	4	3	1
60833	46124	1/4-20	4	3	1
60843	46134	1/4-28	4	3	1
60853	46144	5/16-18	4	3	1
60863	46154	5/16-24	4	3	1
60873	46164	3/8-16	4	3	1
60883	46174	3/8-24	4	3	1
60893	46184	7/16-14	4	3	1
60903	46194	7/16-20	4	3	1
60913	46204	1/2-13	4	3	1
60923	46214	1/2-20	4	3	1
60953	46224	9/16-12	4	3	1
60963	-----	9/16-18	4	3	1
60973	46244	5/8-11	4	3	1
60983	46254	5/8-18	4	3	1
60993	46264	3/4-10	4	3	1
61403	46274	3/4-16	4	3	1
61413	46284	7/8-9	4	4	1
61423	46294	7/8-14	4	4	1
61433	46304	1"-8	4	4	1
61443	46314	1"-12	4	4	1
27573	-----	1"-14	4	4	1
61453	46334	1 1/8-7	4	4	1
61463	46344	1 1/8-12	4	4	1
61473	46354	1 1/4-7	4	4	1
61483	46364	1 1/4-12	6	4	1
61493	-----	1 3/8-6	4	4	1
61503	-----	1-3/8-12	6	4	1
61513	-----	1-1/2-6	4	4	1
61523	-----	1-1/2-12	6	4	1

TYPE 25-UB & TYPE 25-UBN BOTTOMING STYLE

Type 25-UB Part #	Type 25-UBN TiN Coated Part #	Size	Flutes	GH Limit	Qty. per/pack
60662	46003	2-56	3	2	3
60682	46013	3-48	3	2	3
60702	46023	4-40	3	2	3
60732	46033	5-40	3	2	3
60752	46043	6-32	3	3	3
60762	46053	6-40	3	2	3
60772	46063	8-32	4	3	3
60782	46073	8-36	4	2	3
60792	46083	10-24	4	3	3
60802	46093	10-32	4	3	3
60812	46103	12-24	4	3	3
60822	-----	12-28	4	3	3
60832	46123	1/4-20	4	3	3
60842	46133	1/4-28	4	3	3
60852	46143	5/16-18	4	3	3
60862	46153	5/16-24	4	3	3
60872	46163	3/8-16	4	3	3
60882	46173	3/8-24	4	3	3
60892	46183	7/16-14	4	3	3
60902	46193	7/16-20	4	3	3
60912	46203	1/2-13	4	3	3
60922	46213	1/2-20	4	3	3
60952	46223	9/16-12	4	3	1
60962	-----	9/16-18	4	3	1
60972	46243	5/8-11	4	3	1
60982	46253	5/8-18	4	3	1
60992	46263	3/4-10	4	3	1
61402	46273	3/4-16	4	3	1
61412	46283	7/8-9	4	4	1
61422	46293	7/8-14	4	4	1
61432	46303	1"-8	4	4	1
61442	46313	1"-12	4	4	1
27572	-----	1"-14	4	4	1
61452	46333	1 1/8-7	4	4	1
61462	46343	1 1/8-12	4	4	1
61472	46353	1 1/4-7	4	4	1
61482	46363	1 1/4-12	6	4	1
61492	-----	1 3/8-6	4	4	1
61502	-----	1 3/8-12	6	4	1
61512	-----	1 1/2-6	4	4	1
61522	-----	1 1/2-12	6	4	1



BOTTOMING Type 25-UB Type 25-UBN

One-and-one half threads chamfered. To use after threads have been started for tapping to the bottom of a hole.

Type 26-UB / Type 26-UBN Includes One of Each Taper, Plug and Bottoming



HSS Taps - Straight Flute & TiN Coated Taps

METRIC - STRAIGHT FLUTE & TiN COATED

Type 31-UB -Taper, Type 32-UB -Plug

Ultra Bor Super Premium

- Precision ground threads for the ultimate in accuracy and performance.
- Taper, plug and bottoming styles provide great versatility in tough materials, both blind and through holes.
- For general use in production tapping or hand operations.



Type 31-UB



Type 31-UBN

*Packaged Individually



Type 32-UBN



Type 32-UBN

*Packaged Individually

Types 31-UBN -TiN Coated Taper

Types 32-UBN -TiN Coated Plug

Ultra Bor Super Premium

- TiN coated increases lubricity and extends tool life.
- Precision ground threads

METRIC

HSS Taps - Metric Straight Flute & TiN Coated Taps

TYPE 31-UB & TYPE 31-UBN (METRIC) - TAPER STYLE

Type 31-UB Part #	Type *31-UBN TiN Coated Part #	Size MM	Flutes	Pitch Diameter Limit	Qty. per/pack
60379	37731	2.5-.45	3	D-3	3
60389	37741	3.0-.50	3	D-3	3
60519	37751	3.5-.60	3	D-4	3
60529	37761	4.0-.70	4	D-4	3
60369	37771	4.5-.75	4	D-4	3
60539	37781	5.0-.80	4	D-4	3
60549	37791	6.0-1.00	4	D-5	3
60559	37801	7.0-1.00	4	D-5	3
60569	37811	8.0-1.00	4	D-5	3
60579	37821	8.0-.1.25	4	D-5	3
60589	38411	10.0-1.25	4	D-5	3
60611	37841	10.0-1.50	4	D-6	3
61601	37851	12.0-1.25	4	D-5	3
61602	37861	12.0-1.75	4	D-6	3
61603	38461	14.0-1.50	4	D-6	1
61604	37881	14.0-2.00	4	D-7	1
61609	38471	16.0-1.50	4	D-6	1
61611	37901	16.0-2.00	4	D-7	1
61612	37911	18.0-2.50	4	D-7	1
61613	37921	20.0-2.50	4	D-7	1
61614	37931	24.0-3.00	4	D-8	1
61619	-----	27.0-3.00	4	D-8	1
61621	-----	30.0-3.50	4	D-8	1
61622	-----	33.0-3.50	4	D-8	1
61623	-----	36.0-4.00	4	D-8	1
61624	-----	39.0-4.00	4	D-8	1

TYPE 32-UB & TYPE 32-UBN (METRIC) - PLUG STYLE

Type 32-UB Part #	Type *32-UBN TiN Coated Part #	Size MM	Flutes	Pitch Diameter Limit	Qty. per/pack
61629	37732	2.5-.45	3	D-3	3
61631	37742	3.0-.50	3	D-3	3
61632	37752	3.5-.60	3	D-4	3
61633	37762	4.0-.70	4	D-4	3
61634	37772	4.5-.75	4	D-4	3
61639	37782	5.0-.80	4	D-4	3
61641	37792	6.0-1.00	4	D-5	3
61642	37802	7.0-1.00	4	D-5	3
61643	37812	8.0-1.00	4	D-5	3
61644	37822	8.0-.1.25	4	D-5	3
61649	38412	10.0-1.25	4	D-5	3
61651	37842	10.0-1.50	4	D-6	3
61652	38452	12.0-1.25	4	D-5	3
61653	37862	12.0-1.75	4	D-6	3
61654	38462	14.0-1.50	4	D-6	1
61659	37882	14.0-2.00	4	D-7	1
61661	38472	16.0-1.50	4	D-6	1
61662	37902	16.0-2.00	4	D-7	1
61663	37912	18.0-2.50	4	D-7	1
61664	37922	20.0-2.50	4	D-7	1
61669	37932	24.0-3.00	4	D-8	1
61671	-----	27.0-3.00	4	D-8	1
61672	-----	30.0-3.50	4	D-8	1
61673	-----	33.0-3.50	4	D-8	1
61674	-----	36.0-4.00	4	D-8	1
61679	-----	39.0-4.00	4	D-8	1

Taper Style

Starts the thread square with workpiece.

Plug Style

Generally used in thru holes or in blind holes with sufficient clearance.

PRODUCT TIPS

Tap Wrenches:

They come in two sizes, large & small. Make sure tap is securely locked in place by turning the hex head as tightly as possible with your fingers. Do not use a wrench to tighten.



Taper Tap

This section cuts full-size thread



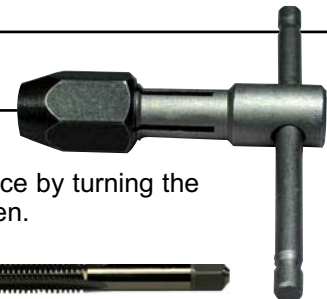
Plug Tap

This section cuts full-size thread



Bottoming Tap

This section cuts full-size thread



STRAIGHT FLUTE TAP & TAPER PIPE TAPS

Type 33-UB -Bottoming, Type 35-UB Sets

- Includes one each Taper, Plug and Bottoming



TYPE 33-UB & TYPE 33-UBN (METRIC) - BOTTOM STYLE

Type 33-UB Part #	Type 33-UBN TiN Coated Part #	Size MM	Number of Flutes	Pitch Diameter Limit	Qty. per/pack
-----	38333	2.0-.40	3	D-3	1
61681	37733	2.5-.45	3	D-3	3
61682	37743	3.0-.50	3	D-3	3
61683	37753	3.5-.60	3	D-4	3
61684	37763	4.0-.70	4	D-4	3
61689	37773	4.5-.75	4	D-4	3
61691	37783	5.0-.80	4	D-4	3
61692	37793	6.0-1.00	4	D-5	3
61693	37803	7.0-1.00	4	D-5	3
61694	37813	8.0-1.00	4	D-5	3
61699	37823	8.0-1.25	4	D-5	3
61701	38413	10.0-1.25	4	D-5	3
61702	37843	10.0-1.50	4	D-6	3
61703	37853	12.0-1.25	4	D-5	3
-----	38453	12.0-1.50	4	D-6	1
61704	37863	12.0-1.75	4	D-6	3
61709	38463	14.0-1.50	4	D-6	1
61711	37883	14.0-2.00	4	D-7	1
61712	38473	16.0-1.50	4	D-6	1
61713	37903	16.0-2.00	4	D-7	1
61714	37913	18.0-2.50	4	D-7	1
61719	37923	20.0-2.50	4	D-7	1
61721	37933	24.0-3.00	4	D-8	1
61722	-----	27.0-3.00	4	D-8	1
61723	-----	30.0-3.50	4	D-8	1
61724	-----	33.0-3.50	4	D-8	1
61729	-----	36.0-4.00	4	D-8	1
61731	-----	39.0-4.00	4	D-8	1

Bottoming Style

Generates the thread to the bottom of blind holes.

TAPER PIPE TAPS

Type 30-UB

Ultra Bor Super Premium

- Special Hi-Tungsten and Hi-Molybdenum tool steels, black surface treated threads for wear resistance and gold surface treated body for rich, high quality appearance.
- Available in plug style with 3 to 3-1/2 thread chamfer.



TYPE 30-UB

Part No.	Size NPT	Number of Flutes	Tap Drill Size	Qty. per/pack
61240	1/8-27(5/16 Shk)	4	11/32	3
61250	1/8-27	4	11/32	3
61260	1/4-18	4	7/16	3
61270	3/8-18	4	37/64	1
61280	1/2-14	4	23/32	1
61290	3/4-14	5	59/64	1
61300	1"-11 1/2	5	1-5/32	1
61310	1 1/4-11 1/2	5	1-1/2	1
61320	1 1/2-11 1/2	7	1-47/64	1
61330	2"-11 1/2	7	2-7/32	1

TYPE 35-UB & TYPE 35-UBN SETS

Type 35-UB Part #	Type 35-UBN TiN Coated Part #	Size	Number of Flutes	GH Limit	Qty. per/pack each
61741	37744	3.0-.50	3	D-3	1
61742	37764	4.0-.70	4	D-4	1
61743	37784	5.0-.80	4	D-4	1
61744	37794	6.0-1.00	4	D-5	1
61749	37804	7.0-1.00	4	D-5	1
61751	37374	8.0-1.00	4	D-5	1
61752	37824	8.0-1.25	4	D-5	1
61753	38414	10.0-1.25	4	D-5	1
61754	37844	10.0-1.50	4	D-6	1
61759	38444	12.0-1.25	4	D-5	1
61761	37864	12.0-1.75	4	D-6	1
61762	38464	14.0-1.50	4	D-6	1
61763	37884	14.0-2.00	4	D-7	1
61764	38474	16.0-1.50	4	D-6	1
61769	37904	16.0-2.00	4	D-7	1
61772	37914	18.0-2.50	4	D-7	1
61774	37924	20.0-2.50	4	D-7	1

Type 35-UB / Type 35-UBN

Includes One of Each Same Size:

- Types 31-UB (Taper)
Types 31-UBN (Taper)
- Types 32-UB (Plug)
Types 32-UBN (Plug)
- Types 33-UB (Bottoming) taps.
Types 33-UBN (Bottoming) taps.



STRAIGHT FLUTE TAPS - LEFT HAND THREAD

Type 23L-UB -Taper , Type 24L-UB -Plug , Type 25L-UB -Bottoming
Ultra Bor Super Premium

- Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity.
- Taper, plug and bottoming styles provide great versatility in tough materials, both blind and through holes.
- For general use in production tapping or left hand tapping operations.



TYPE 23L-UB TAPER STYLE LEFT HAND THREAD

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60223	6-32	3	3	3
60243	8-32	4	3	3
60263	10-24	4	3	3
60273	10-32	4	3	3
60323	1/4-20	4	3	3
60333	1/4-28	4	3	3
60343	5/16-18	4	3	3
60353	5/16-24	4	3	3
60363	3/8-16	4	3	3
60373	3/8-24	4	3	3
60383	7/16-14	4	3	3
60393	7/16-20	4	3	3
60403	1/2-13	4	3	3
60413	1/2-20	4	3	3
60423	9/16-12	4	3	1
60433	9/16-18	4	3	1
60443	5/8-11	4	3	1
60453	5/8-18	4	3	1
60463	11/16-11	4	3	1
60473	11/16-16	4	3	1
60483	3/4-10	4	3	1
60493	3/4-16	4	3	1
60503	7/8-9	4	4	1
60513	7/8-14	4	4	1
60523	1-8	4	4	1
60533	1-12	4	4	1
60543	1-14	4	4	1
60553	1-1/8-7	4	4	1
60563	1-1/8-12	4	4	1
60573	1-1/4-7	4	4	1
60583	1-1/4-12	6	4	1
60593	1-3/8-6	4	4	1
60603	1-3/8-12	6	4	1
60613	1-1/2-6	6	4	1
60609	1-1/2-12	4	4	1

TYPE 24L-UB PLUG STYLE LEFT HAND THREAD

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60222	6-32	3	3	3
60242	8-32	4	3	3
60262	10-24	4	3	3
60272	10-32	4	3	3
60322	1/4-20	4	3	3
60332	1/4-28	4	3	3
60342	5/16-18	4	3	3
60352	5/16-24	4	3	3
60362	3/8-16	4	3	3
60372	3/8-24	4	3	3
60382	7/16-14	4	3	3
60392	7/16-20	4	3	3
60402	1/2-13	4	3	3
60412	1/2-20	4	3	3
60422	9/16-12	4	3	1
60432	9/16-18	4	3	1
60442	5/8-11	4	3	1
60452	5/8-18	4	3	1
60462	11/16-11	4	3	1
60472	11/16-16	4	3	1
60482	3/4-10	4	3	1
60492	3/4-16	4	3	1
60502	7/8-9	4	4	1
60512	7/8-14	4	4	1
60522	1-8	4	4	1
60532	1-12	4	4	1
60542	1-14	4	4	1
60552	1-1/8-7	4	4	1
60562	1-1/8-12	4	4	1
60572	1-1/4-7	4	4	1
60582	1-1/4-12	6	4	1
60592	1-3/8-6	4	4	1
60602	1-3/8-12	6	4	1
60612	1-1/2-6	4	4	1
60619	1-1/2-12	6	4	1

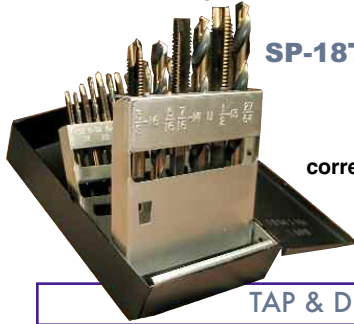


TYPE 25L-UB BOTTOMING LEFT HAND THREAD

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack	Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack	Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60224	6-32	3	3	3	60404	1/2-13	4	3	3	60524	1-8	4	4	1
60244	8-32	4	3	3	60414	1/2-20	4	3	3	60534	1-12	4	4	1
60264	10-24	4	3	3	60424	9/16-12	4	3	1	60544	1-14	4	4	1
60274	10-32	4	3	3	60434	9/16-18	4	3	1	60554	1-1/8-7	4	4	1
60324	1/4-20	4	3	3	60444	5/8-11	4	3	1	60564	1-1/8-12	4	4	1
60334	1/4-28	4	3	3	60454	5/8-18	4	3	1	60574	1-1/4-7	4	4	1
60344	5/16-18	4	3	3	60464	11/16-11	4	3	1	60584	1-1/4-12	6	4	1
60354	5/16-24	4	3	3	60474	11/16-16	4	3	1	60594	1-3/8-6	4	4	1
60364	3/8-16	4	3	3	60484	3/4-10	4	3	1	60599	1-3/8-12	6	4	1
60374	3/8-24	4	3	3	60494	3/4-16	4	3	1	60614	1-1/2-6	6	4	1
60384	7/16-14	4	3	3	60504	7/8-9	4	4	1	60604	1-1/2-12	4	4	1
60394	7/16-20	4	3	3	60514	7/8-14	4	4	1					

DRILL & TAP COMBO & SETS

Ultra Bor Super Premium



SP-18TD

Includes corresponding drill with tap in a durable metal case.

TAP & DRILL SETS

SP-18TD (SPIRAL POINT, NC)

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

SP-18TDM (SPIRAL POINT, METRIC)

Part No.	Description of Sizes
57990	
643-UB Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.50 & 10.20.
21-UB 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	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64.
20-UB 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	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F,
20-UB 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	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64.
24-UB 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	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64.
24-UB 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
8500	
240-UB Drill Sizes	31/64.
280-UB Drill Sizes	17/32, 21/32, 49/64 & 7/8.
24-UB Tap Sizes	9/16-12, 5/8-11, 3/4-10, 7/8-9 & 1-8.

COMBINATION DRILL & TAP

Type 40-UB

- Hi-Molybdenum tool steel ensures longer tool life.
- Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production environments.
- The self-centering helical point provides excellent drilling precision and accuracy.



TYPE 40-UB

COMBO DRILL & TAP

Part No.	Size	Part No.	Size	Part No.	Size
73770	4-40	73850	10-24	73930	3/8-16
73780	4-48	73860	10-32	73940	3/8-24
73790	5-40	73870	12-24	73950	7/16-14
73800	5-44	73880	12-28	73960	7/16-20
73810	6-32	73890	1/4-20	73970	1/2-13
73820	6-40	73900	1/4-28	73980	1/2-20
73830	8-32	73910	5/16-18		
73840	8-36	73920	5/16-24		

SETS

Part No.	Description of Sizes
73991	7 pc set
40-UB - DT-7F	8-36, 10-32, 1/4-28,
Fine	5/16-24, 3/8-24, 7/16-20, 1/2-20
73990	7 pc set
40-UB - DT-7C	8-32, 10-24, 1/4-20,
Coarse	5/16-18, 3/8-16, 7/16-14, 1/2-13

DRILL & TAP COMBO

Type 34-UB

Ultra Bor Super Premium

- Includes the correct drill with corresponding size tap on a hanging card.
- Both tools are gold surface treated for maximum lubricity, and precision ground for the ultimate in accuracy and performance.
- Hi-Molybdenum super premium twist drill combined with the corresponding Hi-Tungsten Ultra Bor spiral point tap.

Part No.	Thread Size	Drill Size	Part No.	Thread Size	Drill Size
51800	6-32	36	51890	1/4-28	3
51810	6-40	33	51900	5/16-18	F
51820	8-32	29	51910	5/16-24	I
51830	8-36	29	51920	3/8-16	5/16
51840	10-24	25	51930	3/8-24	Q
51850	10-32	21	51940	7/16-14	U
51860	12-24	16	51950	7/16-20	25/64
51870	12-28	14	51960	1/2-13	27/64
51880	1/4-20	7	51970	1/2-20	29/64

Carded Hanging Display

38 Piece MRO Pro-Pack Drilling & Tapping Combo Carded Super Premium Black & Gold Twist Drill combined with the Corresponding Hi-Tungsten Spiral Point Gold Tap.

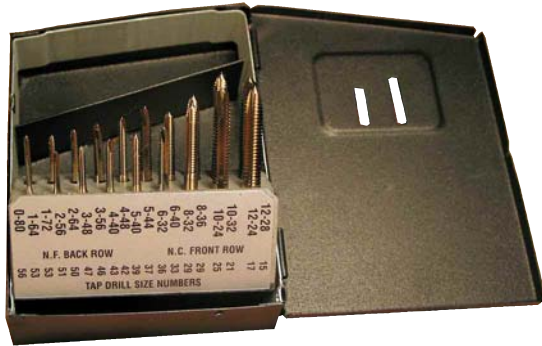
Part No. 52001

One Each of	Two Each of	Three Each of	Four Each of
6-32	8-32	5/16-18	1/4-20
6-40	8-36	3/8-16	
12-24	10-24	7/16-14	
12-28	10-32	1/2-13	
	1/4-28		
	5/16-24		
	3/8-24		
	7/16-20		
	1/2-20		

HSS TAP SETS & HEX DIES - METRIC

Ultra Bor Super Premium

- Straight flute or spiral point taps in rugged black steel index.



SPIRAL & STRAIGHT FLUTE TAP SETS

SP-19T - Type 20-UB - Spiral Point

Part No.	Sizes
61600	0-80, 1-64, 1-72, 2-56, 2-64, 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

SP-10T - Type 20-UB - Spiral Point

Part No.	Sizes
61610	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

SF-10T - Type 24-UB - Straight Flute

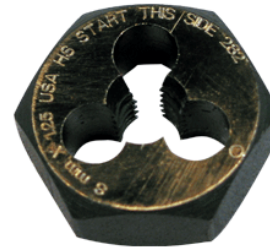
Part No.	Sizes
61620	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

HIGH-SPEED STEEL HEX DIES

Type 27-UB

Ultra Bor Super Premium Dies

- Special Hi-Molybdenum tool steel, polished gold finish with black surface treated threads for long life and rich appearance.
- These dies are used for threading rods, bolts, studs and other pieces requiring external threads.
- The outside hex configuration allows both wrench and die stock use in threading.



TYPE 27-UB

Part No.	Size	Across Flats	Qty. per/pack
61000	4-40	1"	3
61010	6-32	1"	3
61020	8-32	1"	3
61030	10-24	1"	3
61040	10-32	1"	3
61050	12-24	1"	3
61060	1/4-20	1"	3
61070	1/4-28	1"	3
61080	5/16-18	1"	3
61090	5/16-24	1"	3
61100	3/8-16	1"	3
61110	3/8-24	1"	3
61120	7/16-14	1"	3
61130	7/16-20	1"	3
61140	1/2-13	1"	3
61150	1/2-20	1"	3
61160	9/16-12	1-7/16"	1
61170	9/16-18	1-7/16"	1
61180	5/8-11	1-7/16"	1
61190	5/8-18	1-7/16"	1
61200	3/4-10	1-7/16"	1
61210	3/4-16	1-7/16"	1
61220	1/8-27	1"	1
61230	1/4-18	1-7/16"	1

TYPE 27-UB METRIC

Part No.	Size	Across Flats	Qty. per/pack
60511	3.0 x 0.50	1"	3
60521	3.5 x 0.60	1"	3
60531	4.0 x 0.70	1"	3
60551	5.0 x 0.80	1"	3
60561	6.0 x 1.00	1"	3
60581	8.0 x 1.25	1"	3
60601	10.0 x 1.50	1"	3
60621	12.0 x 1.75	1-7/16"	1
60622	14.0 x 1.50	1-7/16"	1

SPIRAL POINT TAPS

Type 20 -Fractional , Type 21 -Metric High-Speed Steel - General Purpose

- Spiral point construction drives chips ahead of the tap, permitting higher speeds and faster cutting with less torque.
- Recommended for higher tensile strength production tapping applications.
- Plug style spiral point taps are ideal for production tapping of through holes.



TYPE 20 SPIRAL POINT

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
60101	0-80	2	1	3
60111	1-64	2	1	3
60121	1-72	2	2	3
60131	2-56	2	2	3
60141	2-64	2	2	3
60151	3-48	2	2	3
60161	3-56	2	2	3
60171	4-40	2	2	3
60181	4-48	2	2	3
60191	4-36	2	2	3
60201	5-40	2	2	3
60211	5-44	2	2	3
60221	6-32	2	3	3
60231	6-40	2	2	3
60241	8-32	2	3	3
60251	8-36	2	2	3
60261	10-24	2	3	3
60271	10-32	2	3	3
60281	12-24	2	3	3
60291	12-28	2	3	3
60321	1/4-20	2	3	3
60331	1/4-28	2	3	3
60341	5/16-18	2	3	3
60351	5/16-24	2	3	3
60361	3/8-16	3	3	3
60371	3/8-24	3	3	3
60381	7/16-14	3	3	3
60391	7/16-20	3	3	3
60401	1/2-13	3	3	3
60411	1/2-20	3	3	3
60461	9/16-12	3	3	1
60471	9/16-18	3	3	1
60421	5/8-11	3	3	1
60431	5/8-18	3	3	1
60441	3/4-10	3	3	1
60451	3/4-16	3	3	1
60481	7/8-9	3	3	1
60491	7/8-14	3	3	1
60499	1-8	3	3	1
60501	1-12	3	3	1
60509	1-14	3	3	1

TYPE 21 SPIRAL POINT -METRIC

Part No.	Size	No. of Flutes	Pitch Limit	Qty. per/pack
60102	3.0-0.50	2	0.5	3
60103	3.5-0.60	2	0.6	3
60104	4.0-0.70	2	0.7	3
60114	5.0-0.80	2	0.8	3
60124	6.0-1.00	2	1	3
60234	8.0-1.25	2	1.25	3
60152	10.0-1.50	3	1.5	3
60162	12.0-1.75	3	1.75	3
60164	14.0-2.00	3	2	1
60173	16.0-2.00	3	2	1
60174	18.0-2.50	3	2.5	1

STRAIGHT FLUTE TAPS

Type 23 -Taper, Type 24 -Plug

High-Speed Steel Straight Flute - General Purpose

- Taper, plug and bottoming styles provide great versatility in many materials, both blind and through holes.
- These high quality taps are available in complete sets of one taper, plug, and bottoming tap of the same size.
- For general use in production tapping or MRO operations.



TYPE 23 TAPER STYLE

TYPE 24 PLUG STYLE

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61001	4-40	3	2	3
61011	4-48	3	2	3
61021	5-40	3	2	3
61031	5-44	3	2	3
61041	6-32	3	3	3
61051	6-40	3	2	3
61061	8-32	4	3	3
61071	8-36	4	3	3
61081	10-24	4	3	3
61091	10-32	4	3	3
61101	12-24	4	3	3
61111	12-28	4	3	3
61121	1/4-20	4	3	3
61131	1/4-28	4	3	3
61141	5/16-18	4	3	3
61151	5/16-24	4	3	3
61161	3/8-16	4	3	3
61171	3/8-24	4	3	3
61181	7/16-14	4	3	3
61191	7/16-20	4	3	3
61201	1/2-13	4	3	3
61211	1/2-20	4	3	3
55011	9/16-12	4	3	1
55021	9/16-18	4	3	1
55031	5/8-11	4	3	1
55041	5/8-18	4	3	1
55051	3/4-10	4	3	1
55061	3/4-16	4	3	1
55071	7/8-9	4	4	1
55081	7/8-14	4	4	1
55091	1"-8	4	4	1
55101	1"-12	4	4	1
55111	1"-14	4	4	1
55121	1 1/8-7	4	4	1
55131	1 1/8-12	4	4	1
55141	1 1/4-7	4	4	1
55151	1 1/4-12	6	4	1
55161	1 3/8-6	4	4	1
55171	1 3/8-12	6	4	1
55181	1 1/2-6	4	4	1
55191	1 1/2-12	6	4	1

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61002	4-40	3	2	3
61012	4-48	3	2	3
61022	5-40	3	2	3
61032	5-44	3	2	3
61042	6-32	3	3	3
61052	6-40	3	2	3
61062	8-32	4	3	3
61072	8-36	4	3	3
61082	10-24	4	3	3
61092	10-32	4	3	3
61102	12-24	4	3	3
61112	12-28	4	3	3
61122	1/4-20	4	3	3
61132	1/4-28	4	3	3
61142	5/16-18	4	3	3
61152	5/16-24	4	3	3
61162	3/8-16	4	3	3
61172	3/8-24	4	3	3
61182	7/16-14	4	3	3
61192	7/16-20	4	3	3
61202	1/2-13	4	3	3
61212	1/2-20	4	3	3
55012	9/16-12	4	3	1
55022	9/16-18	4	3	1
55032	5/8-11	4	3	1
55042	5/8-18	4	3	1
55052	3/4-10	4	3	1
55062	3/4-16	4	3	1
55072	7/8-9	4	4	1
55082	7/8-14	4	4	1
55092	1"-8	4	4	1
55102	1"-12	4	4	1
55112	1"-14	4	4	1
55122	1 1/8-7	4	4	1
55132	1 1/8-12	4	4	1
55142	1 1/4-7	4	4	1
55152	1 1/4-12	6	4	1
55162	1 3/8-6	4	4	1
55172	1 3/8-12	6	4	1
55182	1 1/2-6	4	4	1
55192	1 1/2-12	6	4	1

STRAIGHT FLUTE TAPS & SETS

Type 25 -Bottoming , Type 26 Sets -Taper, Plug, Bottoming



TYPE 25 BOTTOMING

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61003	4-40	3	2	3
61013	4-48	3	2	3
61023	5-40	3	2	3
61033	5-44	3	2	3
61043	6-32	3	3	3
61053	6-40	3	2	3
61063	8-32	4	3	3
61073	8-36	4	3	3
61083	10-24	4	3	3
61093	10-32	4	3	3
61103	12-24	4	3	3
61113	12-28	4	3	3
61123	1/4-20	4	3	3
61133	1/4-28	4	3	3
61143	5/16-18	4	3	3
61153	5/16-24	4	3	3
61163	3/8-16	4	3	3
61173	3/8-24	4	3	3
61183	7/16-14	4	3	3
61193	7/16-20	4	3	3
61203	1/2-13	4	3	3
61213	1/2-20	4	3	3
55013	9/16-12	4	3	1
55023	9/16-18	4	3	1
55033	5/8-11	4	3	1
55043	5/8-18	4	3	1
55053	3/4-10	4	3	1
55063	3/4-16	4	3	1
55073	7/8-9	4	4	1
55083	7/8-14	4	4	1
55093	1"-8	4	4	1
55103	1"-12	4	4	1
55113	1"-14	4	4	1
55123	1 1/8-7	4	4	1
55133	1 1/8-12	4	4	1
55143	1 1/4-7	4	4	1
55153	1 1/4-12	6	4	1
55163	1 3/8-6	4	4	1
55173	1 3/8-12	6	4	1
55183	1 1/2-6	4	4	1
55193	1 1/2-12	6	4	1

Correct drill size for individual taps sizes are shown on **pages 78 & 79**



TYPE 26 SETS

Part No.	Size	No. of Flutes	GH Limit	Qty. per pack/ea.
61004	4-40	3	2	1
61014	4-48	3	2	1
61024	5-40	3	2	1
61034	5-44	3	2	1
61044	6-32	3	3	1
61054	6-40	3	2	1
61064	8-32	4	3	1
61074	8-36	4	3	1
61084	10-24	4	3	1
61094	10-32	4	3	1
61104	12-24	4	3	1
61114	12-28	4	3	1
61124	1/4-20	4	3	1
61134	1/4-28	4	3	1
61144	5/16-18	4	3	1
61154	5/16-24	4	3	1
61164	3/8-16	4	3	1
61174	3/8-24	4	3	1
61184	7/16-14	4	3	1
61194	7/16-20	4	3	1
61204	1/2-13	4	3	1
61214	1/2-20	4	3	1
55014	9/16-12	4	3	1
55024	9/16-18	4	3	1
55034	5/8-11	4	3	1
55044	5/8-18	4	3	1
55054	3/4-10	4	3	1
55064	3/4-16	4	3	1
55074	7/8-9	4	4	1
55084	7/8-14	4	4	1
55094	1"-8	4	4	1
55104	1"-12	4	4	1
55114	1"-14	4	4	1
55124	1 1/8-7	4	4	1
55134	1 1/8-12	4	4	1
55144	1 1/4-7	4	4	1
55154	1 1/4-12	6	4	1
55164	1 3/8-6	4	4	1
55174	1 3/8-12	6	4	1
55184	1 1/2-6	4	4	1
55194	1 1/2-12	6	4	1

Includes One of Each Same Size:

- Types 23 (Taper)
- Types 24 (Plug)
- Types 25 (Bottoming) taps.

25PC / 23PC / 15PC / 14PC HSS TAP & DIE ASSORTMENTS

25 Piece Ultra Bor Super Premium Set Spiral Point Plug Taps & Hex Dies

Set contains:

- HSS spiral point taps & HSS hex dies sizes: 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.
 - HSS pipe tap and hex die size: 1/8-27 NPT.
 - T-Handle tap wrench: 3/16"-1/2".
 - Die stock & Screw pitch gauge.
 - SP-25TDI
- Supplied in sturdy plastic case.*

PART NO. 35173



Part # 35173

23 Piece Ultra Bor Super Premium Set - Metric Spiral Point Taps & Hex Dies

Set contains:

- HSS spiral point taps & HSS hex dies sizes: 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.
 - HSS pipe tap and hex die size: 1/8-27 NPT.
 - T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
 - Straight handle tap wrench: #4 - 1/2".
 - Die stock & Screw metric pitch gauge.
 - SP-23TDI
- Supplied in sturdy plastic case.*

PART NO. 35170

15 Piece Ultra Bor Super Premium Set Spiral Point Plug Taps & Hex Dies

Set contains:

- HSS spiral point taps & HSS hex dies sizes: 6-32, 8-32, 10-24, 10-32, 12-24 & 1/4-20.
 - T-Handle tap wrench: 0 - 1/4".
 - Economy die stock & Screw pitch gauge.
 - SP-15TDI
- Supplied in sturdy plastic case.*

PART NO. 35174

14 Piece Ultra Bor Super Premium Set - Metric Spiral Point Taps & Hex Dies

Set contains:

- HSS spiral point taps sizes: 2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80 & 6.0-1.00.
 - HSS hex dies sizes: 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80 & 6.0-1.00.
 - T-Handle tap wrench: 0 - 1/4".
 - SP-14TDI
- Economy die stock & Screw metric pitch gauge.
Supplied in sturdy plastic case.*

PART NO. 35172

58PCS & 40PCS HSS TAPS & DIE ASSORTMENTS

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



Part # 61680

58 Piece Ultra Bor Super Premium Set Straight Flute Plug Taps & Hex Dies

Set contains:

- HSS straight flute taps & HSS hex dies sizes: 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 1/8-27NPT & 1/4-18NPT.
- Straight handle tap wrenches: #4-1/2" & 1/4"-3/4".
 - Die stocks: MED R/H & 1"R/H.
 - T-handle tap wrench: 0-1/4".
 - Screw pitch gauge.
- Screw driver & Spiral flute extractors sizes: Ex 1 thru Ex 5.
 - SF-58TDI

PART NO. 61680

40 Piece Ultra Bor Super Premium Set Straight Flute Plug Taps & Hex Dies

Set contains:

- HSS straight flute taps & HSS hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20.
 - HSS pipe tap and hex die size: 1/8-27 NPT.
- T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
 - Straight handle tap wrench: #4 - 1/2".
- Die stock, Screw pitch gauge & Screw driver.
 - SF-40TDI

Supplied in sturdy red plastic case.

PART NO. 35171



Part # 35171

40 Piece Ultra Bor Super Premium Set Spiral Point Plug Taps & Hex Dies

Set contains:

- HSS spiral point taps & HSS hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20.
 - HSS pipe tap and hex die size: 1/8-27 NPT.
- T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
 - Straight handle tap wrench: #4 - 1/2".
- Die stock, Screw pitch gauge & Screw driver.
 - SP-40TDI

Supplied in sturdy red plastic case.

PART NO. 35181

Hi-Carbon Steel Taps



HI-CARBON STEEL TAPS - U.S. SIZES (PLUG & TAPER)

Type 720 -Plug -Fractional , Type 721 -Plug -Machine Screw

Type 740 -Plug -Fractional , Type 741 -Plug -Machine Screw

- Made of super tough carbon steel, these taps are ideal for hand tapping and re-threading applications.



Plug - Type 721



Taper-Type 741

TYPE 720 -PLUG FRACTIONAL

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55010	3/16x24	26	3	3
55020	3/16x32	22	3	3
55030	1/4x20	7	3	3
55040	1/4x28	3	3	3
55050	5/16x18	17/64	4	3
55060	5/16x24	17/64	4	3
55070	3/8x16	5/16	4	3
55080	3/8x24	21/64	4	3
55090	7/16x14	3/8	4	3
55100	7/16x20	25/64	4	3
55110	1/2x13	27/64	4	3
55120	1/2x20	29/64	4	3
55130	9/16x12	31/64	4	1
55140	9/16x18	33/64	4	1
55150	5/8x11	17/32	4	1
55720	5/8x18	37/64	4	1
55730	11/16x11	19/32	4	1
55740	11/16x16	5/8	4	1
55160	3/4x10	21/32	4	1
55890	3/4x16	11/16	4	1
55170	7/8x9	49/64	4	1
55180	7/8x14	13/16	4	1
55190	1x8	7/8	4	1
55200	1x12	29/32	4	1
55210	1x14	15/16	4	1

TYPE 740 -TAPER FRACTIONAL

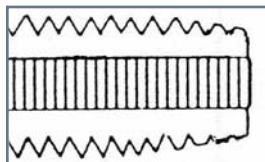
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55250	3/16x24	26	3	3
55260	3/16x32	22	3	3
55270	1/4x20	7	3	3
55280	1/4x28	3	3	3
55290	5/16x18	17/64	4	3
55300	5/16x24	17/64	4	3
55310	3/8x16	5/16	4	3
55320	3/8x24	21/64	4	3
55330	7/16x14	3/8	4	3
55340	7/16x20	25/64	4	3
55350	1/2x13	27/64	4	3
55360	1/2x20	29/64	4	3
55370	9/16x12	31/64	4	1
55380	9/16x18	33/64	4	1
55390	5/8x11	17/32	4	1
55460	5/8x18	37/64	4	1
55470	11/16x11	19/32	4	1
55480	11/16x16	5/8	4	1
55400	3/4x10	21/32	4	1
55710	3/4x16	2/3	4	1
55410	7/8x9	11/16	4	1
55420	7/8x14	13/16	4	1
55430	1x8	7/8	4	1
55440	1x12	29/32	4	1
55450	1x14	15/16	4	1

TYPE 721 -PLUG MACHINE SCREW

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54860	0x80	3/64	3	3
54870	1x64	53	3	3
54880	1x72	53	3	3
54890	2x56	50	3	3
54900	2x64	50	3	3
54910	3x48	47	3	3
54920	3x56	46	3	3
55750	4x36	43	3	3
55760	4x40	44	3	3
55770	5x40	38	3	3
55780	6x32	36	3	3
55790	6x40	34	3	3
55800	6x48	32	3	3
55810	8x32	29	3	3
55820	8x36	29	3	3
55830	8x40	28	3	3
55840	10x24	25	3	3
55850	10x32	21	3	3
55860	12x24	16	3	3
55870	12x28	16	3	3
55880	14x20	10	3	3

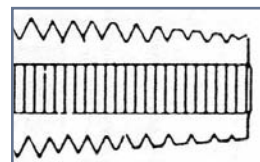
TYPE 741 -TAPER MACHINE SCREW

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54790	0X80	3/64	3	3
54800	1X64	53	3	3
54810	1X72	53	3	3
54820	2X56	50	3	3
54830	2X64	50	3	3
54840	3X48	47	3	3
54850	3X56	46	3	3
55900	4x36	43	3	3
55910	4x40	44	3	3
55920	5x40	38	3	3
55930	6x32	36	3	3
55940	6x40	34	3	3
55950	6x48	32	3	3
55960	8x32	29	3	3
55970	8x36	29	3	3
55980	8x40	28	3	3
55990	10x24	25	3	3
56000	10x32	21	3	3
56010	12x24	16	3	3
56020	12x28	16	3	3
56030	14x20	10	3	3



PLUG - Type 720 & 721

Three to five threads chamfered. For general use when tapping into the bottom of the hole is not critical. (This is the most widely used style.)



TAPER - Type 740 & 741

Eight to ten threads chamfered for easy use thread starting in tough materials.

HI-CARBON STEEL TAPS - U.S. SIZES (BOTTOMING & 3 Piece SETS)

Type 760 -Bottoming -Fractional , Type 761 -Bottoming -Machine Screw
Type 722 -3 pcs. Sets -Fractional , Type 723 -3 pcs. Sets -Machine Screw



Bottoming - Type 761

TYPE 760 BOTTOMING FRACTIONAL

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55500	3/16x24	26	3	3
55510	3/16x32	22	3	3
55520	1/4x20	7	3	3
55530	1/4x28	3	3	3
55540	5/16x18	17/64	4	3
55550	5/16x24	17/64	4	3
55560	3/8x16	5/16	4	3
55570	3/8x24	21/64	4	3
55580	7/16x14	3/8	4	3
55590	7/16x20	25/64	4	3
55600	1/2x13	27/64	4	3
55610	1/2x20	29/64	4	3
55620	9/16x12	31/64	4	1
55630	9/16x18	33/64	4	1
55640	5/8x11	17/32	4	1
56040	5/8x18	37/64	4	1
56050	11/16x11	19/32	4	1
56060	11/16x16	5/8	4	1
55650	3/4x10	21/32	4	1
56070	3/4x16	2/3	4	1
55660	7/8x9	11/16	4	1
55670	7/8x14	13/16	4	1
55680	1x8	7/8	4	1
55690	1x12	29/32	4	1
55700	1x14	15/16	4	1

These items are also available carded. See Price List Catalog for details.

TYPE 722 3 PCS. SETS FRACTIONAL

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
56300	3/16x24	26	3	1
56310	3/16x32	22	3	1
56320	1/4x20	7	3	1
56330	1/4x28	3	3	1
56340	5/16x18	17/64	4	1
56350	5/16x24	17/64	4	1
56360	3/8x16	5/16	4	1
56370	3/8x24	21/64	4	1
56380	7/16x14	3/8	4	1
56390	7/16x20	25/64	4	1
56400	1/2x13	27/64	4	1
56410	1/2x20	29/64	4	1
56420	9/16x12	31/64	4	1
56430	9/16x18	33/64	4	1
56440	5/8x11	17/32	4	1
56590	5/8x18	37/64	4	1
56740	11/16x11	19/32	4	1
56750	11/16x16	5/8	4	1
56450	3/4x10	21/32	4	1
56760	3/4x16	11/16	4	1
56460	7/8x9	49/64	4	1
56470	7/8x14	13/16	4	1
56480	1x8	7/8	4	1
56490	1x12	29/32	4	1
56500	1x14	15/16	4	1

Includes one of each same size Taper, Plug and Bottoming taps

TYPE 761 BOTTOMING MACHINE SCREW

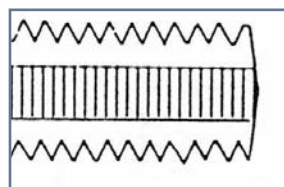
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54930	0x80	3/64	3	3
54940	1x64	53	3	3
54950	1x72	53	3	3
54960	2x56	50	3	3
54970	2x64	50	3	3
54980	3x48	47	3	3
54990	3x56	46	3	3
56100	4x36	43	3	3
56110	4x40	44	3	3
56120	5x40	38	3	3
56130	6x32	36	3	3
56140	6x40	34	3	3
56150	6x48	32	3	3
56160	8x32	29	3	3
56170	8x36	29	3	3
56180	8x40	28	3	3
56190	10x24	25	3	3
56200	10x32	21	3	3
56210	12x24	16	3	3
56220	12x28	16	3	3
56230	14x20	10	3	3

These items are also available carded. See Price List Catalog for details.

TYPE 723 3 PCS. SETS MACHINE SCREW

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
56600	4x36	43	3	1
56610	4x40	44	3	1
56620	5x40	38	3	1
56630	6x32	36	3	1
56640	6x40	34	3	1
56650	6x48	32	3	1
56660	8x32	29	3	1
56670	8x36	29	3	1
56680	8x40	28	3	1
56690	10x24	25	3	1
56700	10x32	21	3	1
56710	12x24	16	3	1
56720	12x28	16	3	1
56730	14x20	10	3	1

Includes one of each same size Taper, Plug and Bottoming taps.



BOTTOMING Type 760 & 761

One-and -one half threads chamfered. To use after threads have been started for tapping to the bottom of a hole.

HI-CARBON STEEL DIES - HEX DIES

Type 405 - Machine Screw & Fractional sizes, Type 790 - Metric

- These dies are made of high quality carbon tool steel and meet the highest industry standards.
- A complete selection of solid round, adjustable round, and solid hex dies for right hand threads is available.
- Select sizes of dies may be imported.



TYPE 405 MACHINE SCREW & FRACTIONAL SIZES

Part No.	Size	Across Flats	Qty. per/pack
86000	4x40	1"	3
86010	4x36	1"	3
86020	5x40	1"	3
86030	6x32	1"	3
86040	8x32	1"	3
86050	10x24	1"	3
86060	10x32	1"	3
86070	12x24	1"	3
86080	14x20	1"	3
86100	3/16x24	1"	3
86110	3/16x32	1"	3
86120	1/4x20	1"	3
86130	1/4x28	1"	3
86140	5/16x18	1"	3
86150	5/16x24	1"	3
86160	3/8x16	1"	3
86170	3/8x24	1"	3
86180	7/16x14	1"	3
86190	7/16x20	1"	3
86200	1/2x13	1"	3
86210	1/2x20	1"	3
86220	9/16x12	1-7/16	1
86230	9/16x18	1-7/16	1
86240	5/8x11	1-7/16	1
86250	5/8x18	1-7/16	1
86260	11/16x11	1-7/16	1
86270	11/16x16	1-7/16	1
86280	3/4x10	1-7/16	1
86290	3/4x16	1-7/16	1
86300	7/8x9	1-5/8	1
86310	7/8x14	1-5/8	1
86320	1x8	1-13/16	1
86330	1x12	1-13/16	1
86340	1x14	1-13/16	1
86350	1/8x27	1"	1
86360	1/4x18	1"	1

TYPE 790 METRIC SIZES

Part No.	Size	Across Flats	Qty. per/pack
84000	3x.50	1"	3
84010	3x.60	1"	3
84020	4x.70	1"	3
84030	4x.75	1"	3
84040	5x.80	1"	3
84050	5x.90	1"	3
84060	6x1.00	1"	3
84070	7x1.00	1"	3
84270	8x1.00	1"	3
84080	8x1.25	1"	3
84090	9x1.00	1"	3
84100	9x1.25	1"	3
84110	10x1.00	1"	3
84120	10x1.25	1"	3
84130	10x1.50	1"	3
84140	11x1.50	1"	3
84280	12x1.25	1"	3
84150	12x1.50	1"	3
84160	12x1.75	1"	3
84170	14x1.25	1-7/16	1
84290	14x1.50	1-7/16	1
84180	14x2.00	1-7/16	1
84190	16x1.50	1-7/16	1
84200	16x2.00	1-7/16	1
84210	18x1.50	1-7/16	1
84300	18x2.00	1-7/16	1
84220	18x2.50	1-7/16	1

*These items are also available carded.
See Price List Catalog for details.*

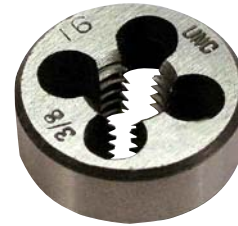
HEXAGONAL DIES: TIPS

Carbon steel dies are primarily used for restoring damaged threads. Hex shape allows them to be driven in cramped quarters with a wrench.

HI-CARBON STEEL DIES - ADJUSTABLE & ROUND

Type 415 -Adjustable , Type 400 -Round

- These dies are made of high quality carbon tool steel and meet the highest industry standards.
- We offer a complete selection of solid round and adjustable round for right hand threads.
- Select sizes of dies may be imported.



TYPE 415 -ADJUSTABLE MACHINE SCREW & FRACTIONAL

Part No.	Size	O.D.	Qty. per/pack
85000	0x80	1"	3
85010	1x64	1"	3
85020	1x72	1"	3
85030	2x56	1"	3
85040	2x64	1"	3
85050	3x48	1"	3
85060	3x56	1"	3
85070	4x40	1"	3
85080	4x36	1"	3
85090	5x40	1"	3
85100	6x32	1"	3
85110	8x32	1"	3
85120	10x24	1"	3
85130	10x32	1"	3
85140	12x24	1"	3
85150	14x20	1"	3
85170	3/16x24	1"	3
85180	3/16x32	1"	3
85190	1/4x20	1"	3
85200	1/4x28	1"	3
85210	5/16x18	1"	3
85220	5/16x24	1"	3
85230	3/8x16	1"	3
85240	3/8x24	1"	3
85250	7/16x14	1"	3
85260	7/16x20	1"	3
85270	1/2x13	1"	3
85280	1/2x20	1"	3
85290	9/16x12	1-1/2	1
85300	9/16x18	1-1/2	1
85310	5/8x11	1-1/2	1
85320	5/8x18	1-1/2	1
85330	11/16x11	2"	1
85340	11/16x16	2"	1
85350	3/4x10	2"	1
85360	3/4x16	2"	1
85370	7/8x9	2"	1
85380	7/8x14	2"	1
85390	1x8	2"	1
85400	1x12	2"	1
85410	1x14	2"	1
85420	1/8x27	1"	3
85430	1/4x18	1"	3
85440	3/8x18	1-1/2	1
85450	1/2x14	1-1/2	1

These items are also available carded. See Price List Catalog for details.

TYPE 400 -ROUND MACHINE SCREW & FRACTIONAL

Part No.	Size	O.D.	Qty. per/pack
53600	4x36	1"	3
53610	4x40	1"	3
53620	5x40	1"	3
53630	6x32	1"	3
53640	8x32	1"	3
53650	10x24	1"	3
53660	10x32	1"	3
53670	12x24	1"	3
53680	14x20	1"	3
53690	3/16x24	1"	3
53700	3/16x32	1"	3
53710	1/4x20	1"	3
53720	1/4x28	1"	3
53730	5/16x18	1"	3
53820	5/16x24	1"	3
53740	3/8x16	1"	3
53750	3/8x24	1"	3
53760	7/16x14	1"	3
53830	7/16x20	1"	3
53770	1/2x13	1"	3
53780	1/2x20	1"	3
53790	1/2x24	1"	3
53800	1/8x27 (PIPE)	1"	3
53810	1/4x18 (PIPE)	1"	3

These items are also available carded. See Price List Catalog for details.

ADJUSTABLE & ROUND DIES: TIPS

Adjustable Dies:

These dies have a recessed adjusting screw so threads can be cut slightly undersize or oversize.

Round Dies:

Inexpensive round dies are 1" wide. They will thread rods up to 1/2" diameter.

HI-CARBON TAPS - METRIC PLUG & TAPERED PIPE TAPS

Type 780 -Metric Plug, Type 410 Pipe Taps

- All popular sizes offered for foreign car, motorcycle, and machinery threading needs.
- Made of tough carbon steel to industry standards.



TYPE 780 -METRIC PLUG

Part No.	Size	Tap Drill Size	Number of Flutes	Qty. per/pack
83010	3x.50	40	3	3
83020	3x.60	3/32	3	3
83030	4x.70	1/8	3	3
83040	4x.75	1/8	3	3
83050	5x.80	11/64	3	3
83060	5x.90	20	3	3
83070	6x1.00	13/64	3	3
83080	7x1.00	15/64	4	3
84230	8x1.00	F	4	3
83090	8x1.25	17/64	4	3
83100	9x1.00	5/16	4	3
83110	9x1.25	5/16	4	3
56800	10x1.00	23/64	4	3
83130	10x1.25	S	4	3
83140	10x1.50	11/32	4	3
83150	11x1.50	3/8	4	3
84240	12x1.25	27/64	4	3
83160	12x1.50	13/32	4	3
83170	12x1.75	27/64	4	3
56810	14x1.25	33/64	4	1
84250	14x1.50	1/2	4	1
83190	14x2.00	15/32	4	1
83200	16x1.50	37/64	4	1
83210	16x2.00	35/64	4	1
56820	18x1.50	21/32	4	1
84260	18x2.00	5/8	4	1
83230	18x2.50	39/64	4	1

TYPE 410 PIPE TAPS FRACTIONAL

Part No.	Diameter	Tap Drill Size	Number of Flutes	Qty. per/pack
56910	1/8 x 27	11/32	4	3
56920	1/4 x 18	7/16	4	3
56930	3/8 x 18	37/64	4	1
56940	1/2 x 14	23/32	4	1
56950	3/4 x 14	59/64	4	1
56960	1 x 11-1/2	1-5/32	4	1
56970	1-1/4 x 11-1/2	1-1/2	4	1
56980	1-1/2 x 11-1/2	1-47/64	7	1
56990	2 x 11-1/2	2-7/32	6	1

These items are also available carded. See Price List Catalog for details.



Product Tips

NEED A TAPPING LUBE?

High Performance Ultra Lube™ will do the job! Found on page 97

14PC / 16PC HI-CARBON TAP & DIE SETS

Type 724

Professional Quality

- Made of high carbon tool steel.
- Sharp, clean cutting edges, hardened, and tempered to cut smooth threads.
- Sets are available in round and hexagon styles.
- Sets are packed in plastic cases.



14 Piece Hi-Carbon Steel Fractional NC - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
 - T-Handle Tap Wrench: 3/16 to 1/2
 - Stock #HNC14PC
- Supplied in sturdy plastic case.*

PART NO. 50090

16 Piece Hi-Carbon Steel Metric - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
4mm x 0.70, 5mm x 0.80, 6mm x 1.00, 8mm x 1.25,
10mm x 1.25, 10mm x 1.50, 12mm x 1.50
- T-Handle Tap Wrench: 3/16 to 1/2
- Stock #HMM16PC

PART NO. 50140

14 Piece Hi-Carbon Steel Fractional FC - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 1/8-27 NPT Pipe
 - T-Handle Tap Wrench: 3/16 to 1/2
 - Stock #HNF14PC
- Supplied in sturdy plastic case.*

PART NO. 50080

16 Piece Hi-Carbon Steel Fractional NC - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
- T-Handle Tap Wrench: 0 to 1/4
- Stock #HEX16PC

PART NO. 50100

14 Piece Hi-Carbon Steel Fractional NC - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and round dies sizes:
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
 - T-Handle Tap Wrench: 3/16 to 1/2
 - Stock #RNC14PC
- Supplied in sturdy plastic case.*

PART NO. 50030

16 Piece Hi-Carbon Steel Fractional NC - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and round dies sizes:
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
- T-Handle Tap Wrench: 0 to 1/4
- Stock #RND19PC

PART NO. 50040

14 Piece Hi-Carbon Steel Fractional FC - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and round dies sizes:
1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 1/8-27 NPT Pipe
 - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in sturdy plastic case.*

PART NO. 50020

24PC / 37PC HI-CARBON TAP & DIE SETS

Type 724

Professional Quality

- Made of high carbon tool steel.
- Plug taps are furnished in all sets.
- Dies are available in round and hexagon styles.
- Sets are packed in plastic.



24 Piece Hi-Carbon Steel Fractional Combination NC, NF - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2
- Stock #HEX24PC

Supplied in sturdy plastic case.

PART NO. 50110

24 Piece Hi-Carbon Steel Fractional Combination NC, NF - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2
- Stock #RND24PC

Supplied in sturdy plastic case.

PART NO. 50050

37 Piece Hi-Carbon Steel Machine Screw & Fractional NC, NF - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and round dies sizes:
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Stock #RND37PC

Supplied in sturdy plastic case.

PART NO. 50060

37 Piece Hi-Carbon Steel Master Metric - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
3mm x 0.50, 3mm x 0.60, 4mm x 0.70, 4mm x 0.75,
5mm x 0.80, 5mm x 0.90, 6mm x 1.00, 7mm x 1.00,
8mm x 1.25, 9mm x 1.00, 9mm x 1.25, 10mm x 1.25,
10mm x 1.50, 11mm x 1.50, 12mm x 1.50, 12mm x 1.75,
1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Stock #HMM37PC

Supplied in sturdy plastic case.

PART NO. 50150

37 Piece Hi-Carbon Steel Machine Screw & Fractional NC, NF - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and round hex dies sizes:
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Stock #HEX37PC

Supplied in sturdy plastic case.

PART NO. 50120

40PC HI-CARBON MACHINE SCREW / FRACTIONAL

Type 724

Professional Quality

- Taps and Dies made of high carbon steel.
 - Plug taps are furnished in all sets in sizes to fill most requirements.
- Dies are available in round and hex styles.
- Sets are packed in durable plastic cases.



40 Piece Hi-Carbon Steel Machine Screw /Fractional NC, NF - with Round Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
- Tap & Reamer Wrench: 0 to 1/2
- Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
- Stock #RND40PC

Supplied in sturdy plastic case.

PART NO. 50070

40 Piece Hi-Carbon Steel Machine Screw /Fractional NC, NF - with Hex Die Set

Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:
4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
- Tap & Reamer Wrench: 0 to 1/2
- Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
- Stock #HEX40PC

Supplied in sturdy plastic case.

PART NO. 50130

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

TYPE 725 TAP WRENCH

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

TYPE 726 TAP WRENCH

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



TYPE 727 T-HANDLE TAP WRENCH

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.	For Tap Sizes	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.

TYPE 729 DIE STOCK

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50390	1-1/2 Rd. , 1-7/16 Hex	Bulk	1
50400	1-7/8 Hex	Bulk	1
50387	1" Rd or Hex	Carded	1

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

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 9-40 U.S.	Carded	1
50427	METRIC .45 - 2.5mm	Carded	1

STANDARD CUTTING TAPS

Machine Screw Sizes

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Theoretical % of Thread	Probable Oversize (Mean)	Probable 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
	3/8	.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
	3/2	.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
	3/4	.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	.1563	63	.0032	.1595	55
10-32	22	.1570	81	.0032	.1602	73
	21	.1590	76	.0032	.1622	68
	20	.1610	71	.0032	.1642	64
	19	.1630	66	.0032	.1662	59
	18	.1650	61	.0032	.1682	52
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	Probable Oversize (Mean)	Probable 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
	3/16	.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	5/16	.3125	77	.0044	.3169	72
	O	.3160	73	.0044	.3204	68
3/8-24	7/16	.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
	3/4	.3750	67	.0046	.3796	62
7/16-20	V	.3770	65	.0046	.3816	60
	W	.3860	79	.0046	.3906	72
1/2-13	23/64	.3906	72	.0046	.3952	65
	1/2-13	23/64	.4219	78	.0047	.4266
1/2-20	23/64	.4531	72	.0047	.4578	65
	5/8-12	13/32	.4688	87	.0048	.4736
5/8-18	23/64	.4844	72	.0048	.4892	68
	1/2	.5000	87	.0048	.5048	80
5/8-11	13/32	.5313	79	.0049	.5362	75
	23/64	.5469	66	.0049	.5518	62
5/8-18	5/8	.6250	87	.0049	.6299	80
	3/4-10	41/64	.6406	84	.0050	.6456
3/4-16	23/32	.6563	72	.0050	.6613	68
	13/16	.6875	77	.0050	.6925	71
3/4-9	49/64	.7656	76	.0052	.7708	72
	23/32	.7812	65	.0052	.7864	61
3/4-14	49/64	.7969	84	.0052	.8021	79
	13/16	.8125	67	.0052	.8177	62
1"-8	49/64	.8594	87	.0059	.8653	83
	3/4	.8750	77	.0059	.8809	73
	49/64	.8906	67	.0059	.8965	64
1"-12	23/32	.9063	87	.0060	.9122	81
	49/64	.9219	72	.0060	.9279	67
1"-14	49/64	.9219	84	.0060	.9279	78
	13/16	.9375	67	.0060	.9435	61
1 1/4-7	23/32	.9688	84	.0062	.9750	81
	49/64	.9844	76	.0067	.9911	72
	1"	1.0000	67	.0070	1.0070	64
1 1/4-12	1 1/32	1.0313	87	.0071	1.0384	80
	1 1/64	1.0469	72	.0072	1.0541	66
1 1/4-7	1 1/32	1.0938	84	.0074	1.1012	77
	1 1/64	1.1094	76	.0074	1.1168	68
	1 1/8	1.1250	67	.0074	1.1324	61
1 1/4-12	1 1/32	1.1563	87	.0074	1.1637	80
	1 1/64	1.1719	72	.0074	1.1793	66
1 1/2-6	1 1/8	1.1875	87	.0074	1.1949	80
	1 1/64	1.2031	79	.0074	1.2105	72
	1 1/32	1.2188	72	.0074	1.2254	65
	1 1/64	1.2344	65	.0074	1.2418	58
1 1/2-12	1 1/32	1.2813	87	.0074	1.2887	80
	1 1/64	1.2969	72	.0074	1.3043	66
1 1/2-6	1 1/8	1.3125	87	.0074	1.3199	80
	1 1/64	1.3281	79	.0074	1.3355	72
	1 1/32	1.3438	72	.0074	1.3504	65
	1 1/64	1.3594	65	.0074	1.3668	58
1 1/2-12	1 1/32	1.4063	87	.0074	1.4137	80
	1 1/64	1.4219	72	.0074	1.4293	66

Metric Cutting Taps

Metric Tap Size	Basic Major Dia. (Ins.)	Tap Drill Size	Decimal Equiv. of Tap Drill (Ins.)	Theoretical Percent of Thread	Prob-able Mean Over-Size (Ins.)	Prob-able Hole Size (Ins.)	Prob-able 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"	.0625	79	.0015	.0640	72
		1.60 mm	.0630	77	.0017	.0647	69
		#52	.0635	74	.0017	.0652	66
M2.2 x 0.45	.0866	1.75 mm	.0689	77	.0017	.0706	70
M2.5 x 0.45	.0984	2.05 mm	.0807	77	.0019	.0826	69
		#46	.0810	76	.0019	.0829	67
		#45	.0820	71	.0019	.0839	63
M3 x 0.5	.1181	#40	.0980	79	.0023	.1003	70
		2.5 mm	.0984	77	.0023	.1007	68
		#39	.0995	73	.0023	.1018	64
M3.5 x 0.6	.1378	#33	.1130	81	.0026	.1156	72
		2.9 mm	.1142	77	.0026	.1168	68
		#32	.1160	71	.0026	.1186	63
M4 x 0.7	.1575	*3.25 mm	.1280	82	.0029	.1309	74
		#30	.1285	81	.0029	.1314	73
		3.3 mm	.1299	77	.0029	.1328	69
M4.5 x 0.75	.1772	3.7 mm	.1457	82	.0032	.1489	74
		#26	.1470	79	.0032	.1502	70
		*3.75 mm	.1476	77	.0032	.1508	69
M5 x 0.8	.1968	#25	.1495	72	.0032	.1527	64
		4.2 mm	.1654	77	.0032	.1686	69
		#19	.1660	75	.0032	.1692	68
M6 x 1	.2362	#10	.1935	84	.0038	.1973	76
		#9	.1960	79	.0038	.1998	71
		5 mm	.1968	77	.0038	.2006	70
		#8	.1990	73	.0038	.2028	65
M7 x 1	.2756	"A"	.2340	81	.0038	.2378	74
		1 3/4"	.2344	81	.0038	.2382	73
		6 mm	.2362	77	.0038	.2400	70
		"B"	.2380	74	.0038	.2418	66
M8 x 1.25	.3150	6.7 mm	.2638	80	.0041	.2679	74
		1 3/4"	.2656	77	.0041	.2697	71
		*6.75 mm	.2657	77	.0041	.2698	71
		"H"	.2660	77	.0041	.2701	70
M8 x 1	.3150	6.8 mm	.2677	74	.0041	.2718	68
		7 mm	.2756	77	.0041	.2797	69
M8 x 1	.3150	"J"	.2770	74	.0041	.2811	66
		8.4 mm	.3307	82	.0044	.3351	76
M10 x 1.5	.3937	"Q"	.3320	80	.0044	.3364	75
		8.5 mm	.3346	77	.0044	.3390	71
M10 x 1.25	.3937	8.7 mm	.3425	80	.0046	.3471	73
		1 1/2"	.3438	78	.0046	.3483	71
		*8.75 mm	.3445	77	.0046	.3491	70
M12 x 1.75	.4724	10.2 mm	.4016	79	.0047	.4063	74
		"Y"	.4040	76	.0047	.4087	71
		1 3/32"	.4062	74	.0047	.4109	69

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

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

REAMING RECOMMENDED

METRIC THREAD FORMULAE

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

T a p s

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.

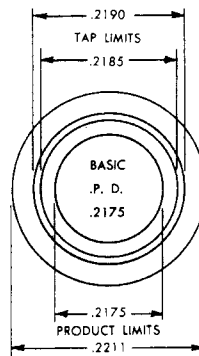
Although ground thread taps are produced to precision tolerances under closely controlled manufacturing processes and are guaranteed for accuracy of individual elements, there is always the possibility of the presence of unknown factors which can be detrimental to good tap performance. The tap manufacturer,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

To summarize, the following points should be remembered:

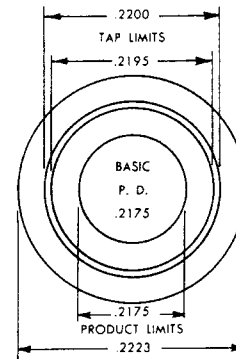
1. A tap cannot produce a Class of Thread. It can produce a tapped hole within specific product limits.
2. Since it is used only in tapping a hole, or producing an internal thread, a tap has no control over the fitting properties of the mating external thread.
3. To product what is commonly referred 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

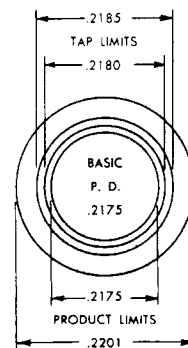
Class 2 Limit GH-3 Tap



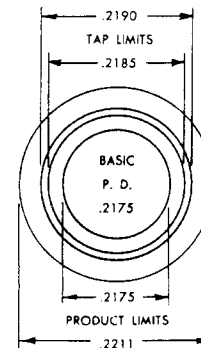
Class 2B Limit GH-5 Tap



Class 3 Limit GH-2 Tap



Class 3B Limit GH-3 Tap



Thread Constants for Various Percentages

TAPS

FORMULA FOR OBTAINING TAP DRILL SIZES

(Select nearest commercial stock drill)

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

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

EXAMPLE: To find the hole size for obtaining 75% of thread in a 1/4"-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 1/4"-20 thread.

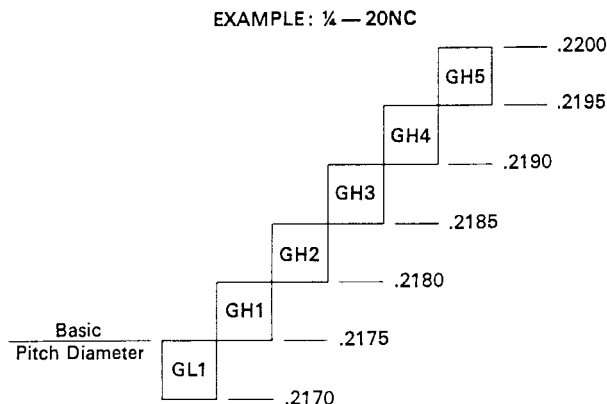
Figures in table show amount to subtract from O.D. of screw to obtain specific percentages of thread.

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

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 1 1/2" diameter, inclusive. The chart shows the relationship between tap pitch diameter limits and basic (nominal) pitch diameter.



Technical Reference - Thread Constants for Various Percentages

Magnetic Base Drill & Annular Cutters

Annular Cutters

Type14 & 14L M35 Cobalt 85
Type15 & 15L M42 Cobalt 85
Type13SP&13LSP M2 HSS 85

Counter Display High-Speed

Steel

Annular Sets 86
Counter Displays 86

Spira-Broach™

MBD 5500 84
MBD 6500 84
MBD 7000 84



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

Quick Index - Magnetic Base Drills & Annular Cutters

Magnetic Base Drill Machines



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
- No load 550 rpm

Special Feature: Kwik-Lok Arbor

Ability To Convert To Twist Drilling In Seconds

- Internal lubricant system



MBD 5500

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

Special Features:
KWIK-LOK
ARBOR

MBD 6500 - Heavy Duty

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

Features:

- Variable speed control
- Morse Taper allows for quick conversion to twist drilling
- Two gear ranges
- 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.

Also Includes:

- Integral lubrication system • Warranty
- Allen keys • Safety strap & guard



MBD 6500 / 7000

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

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

Annular Cutters

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 ASP 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

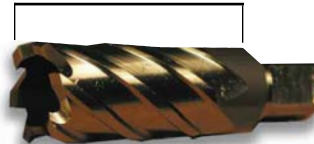


Type 14 -M35, 6% COBALT



Type 15 -M42, 8% COBALT

2" CUT DEPTH



Type 13LSP -M2, Hi-Tungsten



Type 14L -M35, 6% COBALT



Type 15L -M42, 8% COBALT

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 M42 Part #	Type 15L M35 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
16621	-----	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	

Annular Cutters



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	1
00944	M-35	SB-20HS	14	1
00949	M-2 HSS	SB-20SP	13SP	1



Acrylic Drills

Type 183-UB 97

Auger Bits

Type 940, 941 & 942 93
 Type 950, 951 952 & 953 93

Bell Hanger Bits

Type 601 96

Bolt Remover

Bolt Extractors Set 90
 Type 420 Spiral 89
 Type 421-UB Square 89

Brad Point Drills

Type 16-UB 94
 Type 16-UB Sets 94

Carbide Tipped Holecutters

Type CHC-UB 98
 Type CHD-UB 98
 Type CHC-QR 98
 Hanging Display for CHC-QR 98

Countersinks

Type 82-UB 99
 Type 90-UB 99
 Technical Diagram 100

Combined Drills & Countersinks

Type 296 100
 Type 297 100

Cutting Tool Lubricant

Type 11-UB 97

Diamond Tipped Twist Drills

Type 627 90

Glass & Tile Drills

Type 626 90

Hard Steel Drills

Type 602 97

Reamers

Type 50-UB Car Reamers 91
 Type 51-UB Car Reamers 91
 Type 52-UB Hex Bridge length 91
 Type 53-UB Hex Car length 91
 Type 54-UB Taper Shank 92
 Type 55-UB Taper Shank 92
 Type 284-UB Hole-Hog™ 92
 Type 284-UB Hole Hog™ Sets 92

Left-Hand Spiral Drills

Type 240-AL 88
 Type 240-AL Sets 88

Pilot Drills

Type 491 96

Power Bits

Type 935 94

Sheeters Drills

Type 213 97

Step Drills - Multi-Diameter

Type 78-UB 95
 Type 78-UBN 95
 Type 78-QR 95
 Step Drill Sets 95

Twin End Drills

Type 490-G 96
 Type 490 96

Weldout Spotweld Drills & Sets

Type 492-D Weldout™ Spotweld .. 101
 Type 493-D Weldout™ Spotweld .. 101
 Type 493-DN TiN Coated 101
 Type 493-DB Carbide ALTiN Coated .. 101
 Type 493-D WO-4 Set 101
 Type 492-D WO-6 Set 101

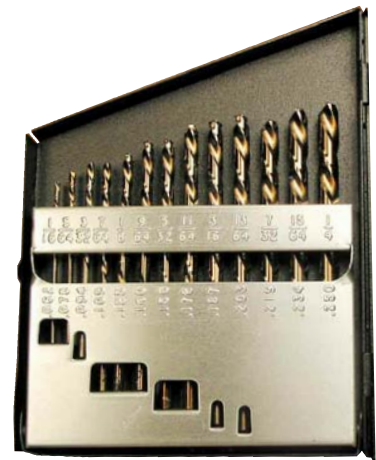


LEFT-HAND HEAVY DUTY JOBBER LENGTH DRILLS

Type 240-AL

Ultra Bor 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 240-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 240-AL LEFT-HAND SPIRAL SETS

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

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

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

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

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

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

29 Pcs - Ultra Dex			Qty of each
Part No.	Description of Sizes		
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
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 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-UB

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-UB 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 / DIAMOND TIPPED DRILL

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 left hand drill cuts harder metals than a 118° point drill.
- 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 & 240-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 & 240-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-UB BOLT EXTRACTOR SETS

SQE-4 - Type 421-UB

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

TYPE 421-UB BOLT EXTRACTOR SETS - LEFT HAND DRILL

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

Part No.	Description of Sizes	Qty of each
70850	E 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.

DIAMOND TIPPED TWIST DRILLS

FOR TILE, MARBLE AND GRAPHITE

Type 627

- Drills all ceramic, porcelain tile, and marble.
- Drills ten times faster than carbide, less chipping, and less breakout - saves time and money.

Ploy-crystalline Diamond Tip



TYPE 627 DIAMOND TIPPED TWIST DRILLS

Part No.	Diameter	Overall Length	Flute Length	Qty Per Pack
33201	3/16	3-1/2"	2-5/16"	1
33211	1/4	4"	2-3/4"	1
33221	5/16	4-1/2"	3-3/16"	1
33231	3/8	5"	3-5/8"	1
33241	1/2	6"	4-1/2"	1

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

Type 50-UB 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-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.
- 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-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.



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	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

TYPE 53-UB 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

Hole Expansion Tools & Sets



BRIDGE REAMERS & HOLE HOG™

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 284-UB

Hole Hog™ - 4-Flute Core Drill Super Premium, 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

Ultra Bor Super Premium

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



TYPE 284-UB 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 284-UB SETS

SP-8HH Set contains 1 each:

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

Part No. 38880

SP-6HHL Set contains 1 each:

284-UB core drill sizes 1/2, 5/8 & 3/4.
250-UB drill sizes 5/16, 25/64 & 15/32.

Part No. 38870

SP-6HHS Set contains 1 each:

284-UB core drill sizes: 3/8, 1/2 & 5/8.
250-UB 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"

Specialty Tools



BRAD POINT DRILLS

Type 16-UB

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.



TYPE 16-UB FRACTIONAL

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-UB SETS

Burrou™

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

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
27555	6 INCH	1
52175	12 INCH	1

EXTENSIONS

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



STEP DRILLS

Black & Gold



TYPE 78-UB 3-FLATTED SHANK

Part#	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
00700	1/8 - 1/2	13	1/8 - 1/2	1/4	1/32	1/8
00701	3/16 A	6	3/16 - 1/2	1/4	1/16	3/8
00702	3/16 B	12	3/16 - 7/8	3/8	1/16	1/8
00703	1/4 - 3/4	9	1/4 - 3/4	3/8	1/16	5/32
00704	9/16 - 1	8	9/16 - 1"	3/8	1/16	5/32
00710	13/16	10	13/16 - 1-3/8	3/8	1/32	5/32
00711	1/4 K0	10	1/4 - 1-3/8	3/8	1/8	*SEE NOTE
00713	7/8 A	2	7/8 - 1-1/8	3/8	27/64	9/64
00714	1/4 - 7/8	11	1/4 - 7/8	3/8	1/16	1/16
00719	1/4 A	16	1/4 - 1-1/8	3/8	1/16	1/16

NOTE:
Part No. 00711 3/16 steps at 7/8, 1-1/8 & -3/8 for conduit knock-outs.

TYPE 78-UB STEP DRILLS - SETS

00721	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
00731	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1
00741	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4



TYPE 78-UBN TiN COATED

Part#	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
69130	1/8 - 1/2	13	1/8 - 1/2	1/4	1/32	1/8
69140	3/16 A	6	3/16 - 1/2	1/4	1/16	3/8
69150	3/16 B	12	3/16 - 7/8	3/8	1/16	1/8
69160	1/4 - 3/4	9	1/4 - 3/4	3/8	1/16	5/32
69180	9/16 - 1	8	9/16 - 1"	3/8	1/16	5/32
69190	13/16	10	13/16 - 1-3/8	3/8	1/32	5/32
69220	1/4 K0	10	1/4 - 1-3/8	3/8	1/8	*SEE NOTE
69200	7/8 A	2	7/8 - 1-1/8	3/8	27/64	9/64
69170	1/4 - 7/8	11	1/4 - 7/8	3/8	1/16	1/16
69210	1/4 A	16	1/4 - 1-1/8	3/8	1/16	1/16

NOTE:
Part No. 69220 3/16 steps at 7/8, 1-1/8 & -3/8 for conduit knock-outs.

SETS - TYPE 78-UBN TiN COATED

69230	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
69240	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1
69250	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4

Type 78-UB 3-Flatted Shank

Type 78-QR - Quick Release

Type 78-UBN - TiN Coated

Ultra Bit™ Multi-Diameter 3-Flats on Shank

- Special Axial and Radial flute design speed work piece penetration.
- Dual flute construction drills clean accurate holes in thin materials, quickly and easily.
- Use for all thin metals, rigid plastics, wood or composite materials with a thickness equal to or less than the step thickness.
- 135° split point self centers and easily starts with no pilot hole required.
- Made in the U.S.A.



TYPE 78-QR HEX SHANK STEP DRILLS

Part#	Size	Hole Sizes	No. Range	Shank Size	Step Increments	Step Thickness
01401	1/8 - 1/2	13	1/8 - 1/2"	1/4"	1/32"	1/8"
01402	3/16 A	6	3/16 - 1/2"	1/4"	1/16"	3/8"
01403	3/16 B	12	3/16 - 7/8"	1/4"	1/16"	1/8"
01404	1/4 - 3/4	9	1/4 - 3/4	1/4"	1/16"	5/32"
01409	7/8 A	2	7/8 - 1-1/8"	1/4"	27/64"	9/64"
01412	1/4 - 7/8	11	1/4 - 7/8"	1/4"	1/16"	1/16"
01413	1/4 A	16	1/4 - 1-1/8"	1/4"	1/16"	1/16"

TYPE 78-QR STEP DRILLS - SETS

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 - 7/8, 7/8 - 1-1/8



Specialty Tools - Step Drills Quick Release, TiN Coated

TWIN END & PILOT DRILLS, BELL HANGER BITS

TYPE 490-G -ULTRA BOR 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.



TYPE 490-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

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 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 490-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

TYPE 490 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 491

Pilot Drills For HSS Hole Saws



135° Split Point

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

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, SHEETERS DRILLS & CUTTING TOOL LUBRICANT

Type 183-UB

Acrylic Drills with Chipfree™ Point Ultra Bor 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 No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
32260	3/32	2-1/4	1-5/16	12
31500	1/8	2-1/2	1-3/8	12
31510	5/32	2-7/8	2-3/16	12
31520	3/16	3-3/16	2	12
32220	7/32	3-3/4	2-9/16	12
31530	1/4	3-9/16	2-5/16	12
32240	9/32	3-9/16	2	12
31540	5/16	3-5/16	2-3/16	6
32290	11/32	4-1/32	2-3/8	6
31550	3/8	3-5/8	2-9/16	6
32460	13/32	4-1/32	2-3/4	6
31560	7/16	4	2-15/16	6
32470	15/32	4-7/8	3-1/8	6
31570	1/2	4-1/4	3-1/4	6

Type 602

Hard Steel Drills Carbide Tipped, Straight Flute

- These drills are made for use in drilling hardened steel in the range of **48 to 65 Rockwell C**.
- Used for drilling broken studs, springs, bolts, die sections, broken easy outs, extra tough or exotic metals, and brake drums.



TYPE 602 FRACTIONAL

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

Type 213

Sheeters Drill - Black Surface Treated

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



TYPE 213 WIRE

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

CUTTING TOOL LUBRICANT

Type 11-UB

Ultra Lube™ High Performance 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.

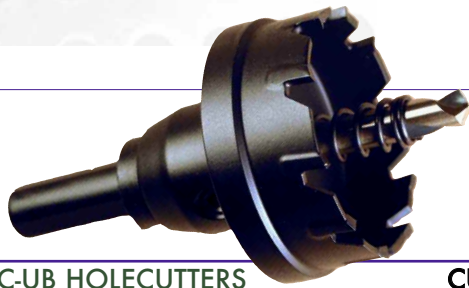


This fluid will extend tool life and yield a super machined finish.

TYPE 11-UB ULTRA LUBE™

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-UB, Type CHD-UB, Type CHC-QR

Carbide Tipped Holecutters Ultra Bor Super Premium

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

TYPE CHC-UB HOLECUTTERS

CUTS UP TO 3/16"

THIN MATERIAL

Part No.	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
62140	1-7/16	3/8"	1
62150	1-1/2	3/8"	1
62160	1-9/16	3/8"	1

Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
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
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

Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
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-UB

Deephole Carbide Tipped Holecutters Ultra Bor Super Premium

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



TYPE CHD DEEP HOLECUTTERS

CUTS UP TO 1"

THICK MATERIAL

Part No.	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

Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
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
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

Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
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	3/8"	1
64380	2-3/4	3/8"	1
64390	2-13/16	3/8"	1
64400	2-7/8	3/8"	1
64410	2-15/16	3/8"	1
64420	3	1/2"	1
64231	PILOT DRILL		1
62490	SCREW		1
62530	SPRING		1

Type CHC-QR

1/4" Quick Release

Part No.	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

NEW



Type CHC-18

CARBIDE TIPPED HOLECUTTER HANGING DISPLAY

Easily cuts large diameter holes in pipe and steel plate up to 1" thick. 18 piece display contains rack, one of each.

Hanging Display : #62700

CHC-UB holecutters
3/16" Thin Material:

13/16, 7/8, 15/16, 1",
1-1/16, 1-1/8, 1-3/16,
1-1/4, and 1-3/8.

CHD-UB holecutters
1" Thick Material:

13/16, 7/8, 15/16, 1",
1-1/16, 1-1/8, 1-3/16,
1-1/4, and 1-3/8.

COUNTERSINKS

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 Super Premium
 Type 90-UB Chatterproof™ Deburring Tools Super Premium

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

See next page for technical diagram

TYPE 82-UB 82° PILOTLESS COUNTERSINK

Part No.	Size	Style	Diameter of Cut		Screw Size	Shank Diameter B	Overall Length C	D	E	No. per/pack
			Min	Max						
67110	CS073	3	0.073	15/64		1/4	1-3/4			1
67120	CS3/16	2	3/16	17/32		1/4	1-7/8	9/16	1	1
67130	CS307	1	0.307	25/32		1/2	2-5/8	13/16	1-3/8	1
67140	CS307A	1	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	1	1/2	1-15/32		1/2	3-1/2	1-1/2	2-1/8	1
67170	CS55	2			No. 4	1/4	1-1/2	17/64	5/8	1
67180	CS65	2			No. 6	1/4	1-1/2	19/64	5/8	1
67190	CS85	2			No. 8	1/4	1-5/8	11/32	3/4	1
67200	CS105	2			No. 10	1/4	1-5/8	25/64	3/4	1

See next page for technical diagram

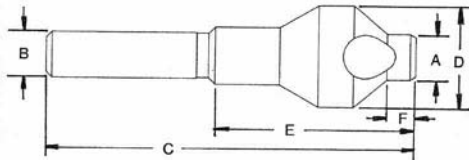
TYPE 90-UB 90° DEBURRING TOOLS

Part No.	Size	Style	Diameter of Cut		Shank Diameter B	Overall Length C	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

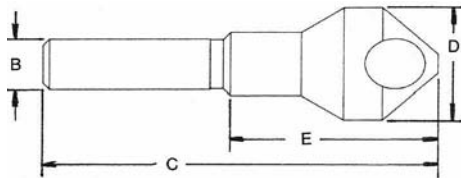
See next page for technical diagram

COUNTERSINK TECHNICAL DIAGRAM

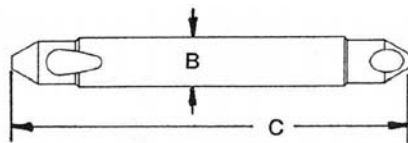
Style 1



Style 2



Style 3



TYPE 82-UB & TYPE 90-UB SETS

Part No.	Description of Sizes
SP-4CS 10440	82-UB C/S sizes: CS55, CS65, CS55, CS10S
SP-4ACS 10442	82-UB C/S sizes: CS65, CS85, CS10S, CS3/16S
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, CS10S, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2

SP-4CS

10440

82-UB C/S sizes:
CS55, CS65, CS55, CS10S

SP-4ACS

10442

82-UB C/S sizes:
CS65, CS85, CS10S, CS3/16S

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, CS10S, CS1/4,
CS5/16, CS3/8, CS7/16, & CS1/2



COMBINED DRILLS & COUNTERSINK

Type 296 -Plain, Type 297 -Bell

Type 296

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

Type 297

The included angles are 60° and 120°. The diameter at the intersection of these two angles is the bell diameter. The small 120° angular chamfer protects the edges of the center hole.



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	12
26770	0	1/8	1/32x.038	1-7/32	12
26780	1	1/8	3/64x3/64	1-1/4	12
26790	2	3/16	5/64x5/64	1-7/8	12
26800	3	1/4	7/64x7/64	2	12
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

TYPE 297 BELL COUNTERSINKS

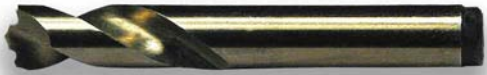
Part No.	Size	Dia. of Body Inches	Dia. & Length of drills	Dia. of Bell Inches	Overall Length Inches	Std. Pack
26860	11	1/8	3/64x3/64	.100	1-1/4	12
26870	12	3/16	1/16x1/16	.150	1-7/8	12
26880	13	1/4	3/32x3/32	.200	2	12
26890	14	5/16	7/64x7/64	.250	2-1/8	12
26900	15	7/16	5/32x5/32	.350	2-3/4	6
26910	16	1/2	3/16x3/16	.400	3	6
26920	17	5/8	7/32x7/32	.500	3-1/4	1
26930	18	3/4	1/4x1/4	.600	3-1/2	1

SUPER COBALT - WELDOUT™ CARBIDE SPOTWELD DRILLS

Types 492-D & 493-D

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.
- High red hot hardness of cobalt steel permits speeds 30% greater than H.S.S. drills.



TYPE 492-D WELDOUT™ SPOTWELD

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

TYPE 493-D WELDOUT™ SPOTWELD

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 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.

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 spotweld drills in an attractive, rugged black steel case.

TYPE 492-D 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 493-D WO-4 SET

Part No.	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 Spotweld Drills



- Designed to cut spotwelds 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)**



TYPE 493-DB

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

TYPE 493-DB WITH FLAT

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
85880	8.0	5/16	2.25	.750	1

Type 493-DN

TiN Coated Weldout™ Spotweld Drills M42 Cobalt High-Speed Steel - Heavy-Duty Spur Point

- Titanium nitride coated M42 cobalt steel spotweld drills are designed for use in high strength high alloy steel commonly used in the automobile industry.
- TiN coating doubles the tool life, gives additional lubricity and protects the cutting edges of the drill in tough removal applications.
- TiN coated drills require a slower speed (490 RPM) than standard drills (1800 RPM) when drilling difficult materials.



TYPE 493-DN TiN COATED

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

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Type CHC-UB & CHD-UB121



JOBBER LENGTH, METRIC, 3/8" REDUCED SHANK

Type 240-UB NAS 907B 135° Split Point Black & Gold Ultra Bor 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 Pcs.

Part No.	Description of Sizes	Qty of each
44110 SP-13	1/16-1/4 by 64ths	1

15 Pcs.

Part No.	Description of Sizes	Qty of each
44120 SP-15	1/16-1/2 by 32nds	1

21 Pcs.

Part No.	Description of Sizes	Qty of each
44130 SP-21	1/16-3/8 by 64ths	1

26 Pcs.

Part No.	Description of Sizes	Qty of each
88660 SP-26	A - Z	1

29 Pcs.

Part No.	Description of Sizes	Qty of each
44150 SP-29	1/16-1/2 by 64ths	1

29 Pcs. - Ultra Dex

Part No.	Description of Sizes	Qty of each
44170 SP-29P	1/16-1/2 by 64ths	1

60 Pcs.

Part No.	Description of Sizes	Qty of each
88640 SP-60	# 1 - 60	1

115 Pcs.

Part No.	Description of Sizes	Qty of each
93840 SP-115	1/16-1/2 x 64ths + A-Z & 1-60	1

13 Pcs.

Part No.	Description of Sizes	Qty of each
06510 TRI-1SP	1/16-1/4 by 64ths	1

Type 278-UB 135° Split Point 3/8" Reduced Shank Black & Gold - Ultra Bor Super Premium

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

21 Pcs.

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

15 Pcs.

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

29 Pcs.

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

29 Pcs. - Ultra Dex

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

Type 643-UB - Metric NAS 907B Black & Gold Ultra Bor 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 Pcs. - Metric

1.0mm - 6.0mm x .5mm

Part #	Description of Sizes	Qty of each
58650 SP-11M	Black & Gold Super Premium	1

13 Pcs.- Metric

1.0mm - 7.0mm x .5mm

Part #	Description of Sizes	Qty of each
49042 SP-13M	Black & Gold Super Premium	1

19 Pcs. - Metric

1.0mm - 10.0mm x .5mm

Part #	Description of Sizes	Qty of each
58920 SP-19M	Black & Gold Super Premium	1

25 Pcs. - Metric

1.0mm - 13.0mm x .5mm

Part #	Description of Sizes	Qty of each
58660 SP-25M	Black & Gold Super Premium	1

41 Pcs. - Metric

1.0mm - 13.0mm x .5mm

Part #	Description of Sizes	Qty of each
49043 SP-41M	Black & Gold Super Premium	1

118 Pcs. - Metric

Part #	Description of Sizes	Qty of each
49043 SP-118M	Black & Gold Super Premium	1
(1 - 2.45mm by 0.05mm, 2 - 5 10mm by 0.1mm & 10.2, 10.5, 10.8, 11, 11.2, 11.5, 11.8, 12, 12.2, 12.5, 12.8 & 13)		

Cutting Tool Sets - Mechanic Length

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

Type 250-UB

Mechanic Length - 135° Split Point
 Black & Gold Ultra Bor 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.

TYPE 250-UB

13 Pcs.

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

15 Pcs.

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

21 Pcs.

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

29 Pcs.

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

29 Pcs. - Ultra Dex

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

Type 258-UB

Mechanics Length -135° Split Point
 3/8" Reduced Shank
 Black & Gold - Ultra Bor Super Premium

TYPE 258-UB 3/8" SHANK WITH 3-FLATS ON SHANK

21 Pcs.

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 Pcs.

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

29 Pcs.

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

29 Pcs. - 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

TYPE QR-UB 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-UB 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 Adaptor	1



TYPE QR16-UB 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 Adaptor	1

TYPE QR7A-UB 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 Adaptors.



TYPE QR7B-UB 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 TiN / TiCN / TiAlN Coated & BLACK OXIDE



A-15



TCN-15

Type 240-A 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 240-AN (TiN) 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 240-ACN Titanium Carbonitride (TiCN) NAS 907B - 135° Split Point - HSS Heavy Duty

- TiCN is harder and has a lower coefficient of friction than TiN 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 240-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 coating.
- 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.

10 Pcs.

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 Pcs.

1/16 - 3/8 by 32nds

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

13 Pcs.

1/16 - 1/4 by 64ths

Part #		Qty of each
43340	A-13 Black Oxide - 135° Split Point	1
88670	AN-13 TiN Coated - 135° Split Point	1

15 Pcs.

1/16 - 1/2 by 32nds

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

21 Pcs.

1/16 - 3/8 by 64ths

Part #		Qty of each
43360	A-21 Black Oxide - 135° Split Point	1
96740	AN-21 TiN Coated 135° Split Point	1
81152	ACN-21 Titanium Carbonitride 135° Point	1
81160	ALN-21 Titanium Aluminum Nitride 135° SP	1

NAS 907B TiN / TiCN / TiAlN Coated & BLACK OXIDE

Type 240-A 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 240-AN (TiN) 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 240-ACN Titanium Carbonitride (TiCN) NAS 907B - 135° Split Point - HSS 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 240-ALN Titanium Aluminum Nitride (TiAlN) NAS 907B - 135° Split Point - HSS 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.

26 Pcs.

A - Z

Part #		Qty of each
43370 A-26	Black Oxide - 135° Split Point	1

29 Pcs.

1/16 - 1/2 by 64ths

Part #		Qty of each
43380 A-29	Black Oxide- 135° Split Point	1
96690 AN-29	TiN Coated- 135° Split Point	1
81162 ACN-29	Titanium Carbonitride 135° Split Point	1
81180 ALN-29	TiN Aluminum Nitride 135° SP	1

60 Pcs.

1 - 60

Part #		Qty of each
43390 A-60	Black Oxide - 135° Split Point	1
96700 AN-60	TiN Coated - 135° Split Point	1

115 Pcs.

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

Part #		Qty of each
43420 A-115	Black Oxide - 135° Split Point	1
95110 AN-115	TiN Coated - 135° Split Point	1



AN-29



A-60

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

NAS 907B BLACK OXIDE & 3/8" REDUCED SHANK - JOBBER LENGTH



SA-21

Type 248-A 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 without the need for the tighter tolerances of our standard **Type 240-A**.

Type 240-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 keyless chucks.

Type 240-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 keyless chucks.



GF-21RS

13 Pcs.

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 Pcs.

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 Pcs.

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
40631	GF-21RS 3/8"- RS Gold Strike™ (1/16 - 1/4 by 64ths & 9/32 - 1/2 by 32nds 3/8" shank)	1

29 Pcs.

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"- RS Gold Strike™ (1/16 - 1/4 by 64ths & 9/32 - 1/2 by 32nds 3/8" shank)	1

29 Pcs. -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"- RS Gold Strike™ (1/16 - 1/4 by 64ths & 9/32 - 1/2 by 32nds 3/8" shank)	1



GF-29P

COBALT HEAVY DUTY 135° SPLIT POINT - JOBBER LENGTH

Type 240-D 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 240-DN M42 Cobalt NAS 907J - TiN Coated

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

Type 643-D 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 Pcs.

1/16 - 1/4 by 64ths

Part #		Qty of each
68320 D-13	M42 Cobalt NAS 907J	1
67989 DN-13	M42 Cobalt NAS 907J TiN Coated	1

15 Pcs.

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 TiN Coated	1

21 Pcs.

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 TiN Coated	1

26 Pcs.

A - Z

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

29 Pcs.

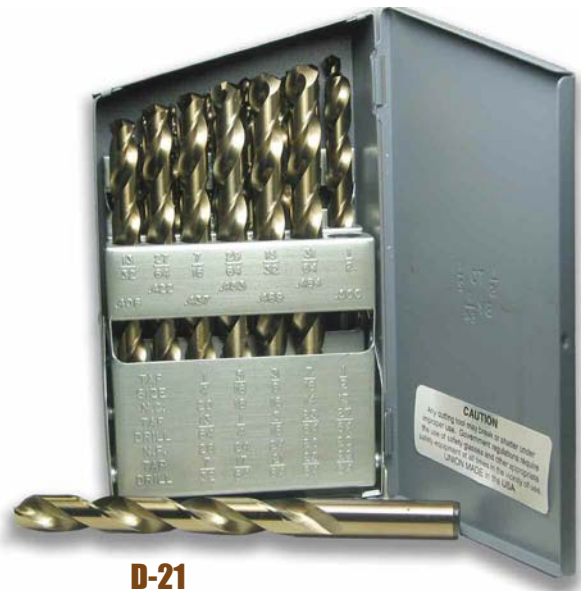
1/16-1/2 by 64ths

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

29 Pcs. -Ultra Dex

1/16-1/2 by 64ths

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



D-21

COBALT HEAVY DUTY 135° SPLIT POINT - JOBBER LENGTH

Type 240-D 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 240-DN M42 Cobalt NAS 907J - TiN Coated

- 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 643-D 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.



D-115

60 Pcs. #1 - 60

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

115 Pcs.

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 TiN Coated	1

11 Pcs. - Metric

1.0mm - 6.0mm x .5mm

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

13 Pcs.- Metric

1.0mm - 7.0mm x .5mm

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

19 Pcs. - Metric

1.0mm - 10.0mm x .5mm

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

25 Pcs. - Metric

1.0mm - 13.0mm x .5mm

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

41 Pcs. - Metric

6.0mm - 10.0mm x .1mm

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



D-25M

Cutting Tool Sets



GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 240 Black Oxide

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

Type 240-B Bright Finish

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

Type 240-BN TiN Coated

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

Type 278 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 248 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 240**.



B-13



B-21



BN-15

10 Pcs.

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 Pcs.

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 Pcs.

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	TiN Coated - 118° Point	1
06073	SJ-13	V-Line Black Oxide - 118° Point	1

15 Pcs.

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	TiN Coated - 118° Point	1
44540	R-15	3/8" Reduced Shank Bright Finish	1
06083	SJ-15	V-Line Black Oxide - 118° Point	1

Cutting Tool Sets - Bright / TiN Coated / Black Oxide

GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 240 Black Oxide

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

Type 240-B Bright Finish

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

Type 240-BN TiN Coated

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

Type 278 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 248 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 240**.



J-29



SJ-29

20 Pcs. # 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 TiN Coated - 118° Point	1

21 Pcs. 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 Pcs. A - Z

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

29 Pcs. 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 TiN Coated - 118° Point	1
44530 R-29 3/8" Reduced Shank Bright Finish	1
06103 SJ-29 V-Line Black Oxide - 118° Point	1

60 Pcs. # 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 TiN Coated - 118° Point	1

GENERAL PURPOSE 118° POINT - JOBBER LENGTH

Type 240 Black Oxide

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

Type 240-B Bright Finish

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

Type 240-BN TiN Coated

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

Type 278 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 643 Black Oxide - METRIC

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

80 Pcs.

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

114 Pcs.

1/16 - 1/2 by 64ths, #1 - 60, 1.0mm - 13.0mm by .5mm

Part #	Qty of each
43310 B-114	Black Oxide - 118° Point 1

115 Pcs.

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

Part #	Qty of each
43440 B-115	Black Oxide - 118° Point 1
43550 J-115	Bright Finish - 118° Point 1
48350 BN-115	TiN Coated - 118° Point 1
44520 R-115	3/8" Reduced Shank Bright Finish 1

11 Pcs. - Metric

1.0mm - 6.00 by .5mm

Part #	Qty of each
44050 M-11	Black Oxide - 118° Point 1

13 Pcs.- Metric

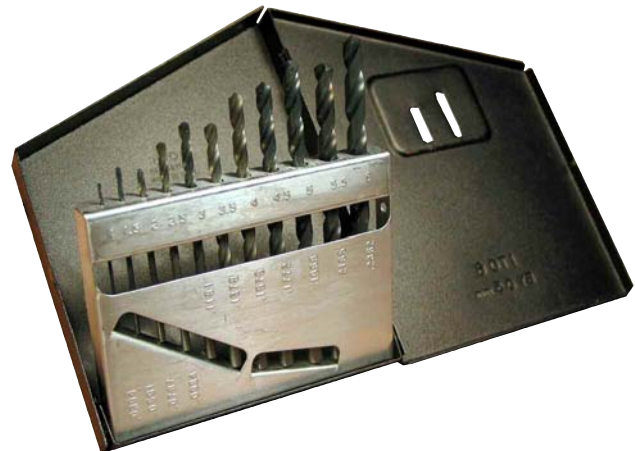
1.0mm - 7.0mm x .5mm

Part #	Qty of each
44180 M-13	Black Oxide - 118° Point 1

25 Pcs. - Metric

1.0mm - 13.0mm by .5mm

Part #	Qty of each
44060 M-25	Black Oxide - 118° Point 1



M-11



R-29

METRIC

Cutting Tool Sets - Bright / TiN Coated / Black Oxide

BRIGHT 1/4" SHANK & M42 COBALT - SCREW MACHINE LENGTH

Type 240-B Bright Finish

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

PL-13



7 Pcs.

1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4

Part #		Qty of each
44267	PL-7 Bright Finish - 118° Point	1

10 Pcs.

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

Part #		Qty of each
44277	PL-10 Bright Finish - 118° Point	1

13 Pcs.

1/16 - 1/4 by 64ths

Part #		Qty of each
44287	PL-13 Bright Finish - 118° Point	1

Type 275

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 Pcs.

1/16 - 1/2 by 32nds

Part #		Qty of each
43580	Q-15 Black Oxide - 118° Point	1

29 Pcs.

1/16 - 1/2 by 64ths

Part #		Qty of each
43620	Q-29 Black Oxide - 118° Point	1

Type 260-D

M42 Cobalt 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

Type 260-DN

M42 Cobalt TiN Coated Screw Machine Length, Heavy-Duty

- TiN coating extends tool life.
- Cobalt drills require rigidly held, positive feed drilling equipment.
- High red hardness of cobalt permits speed 30% over regular high-speed drills

13 Pcs.

1/16-1/4 by 64ths

Part #		Qty of each
42610	DT-13 M42 Cobalt	1

15 Pcs.

1/16-1/2 by 32nds

Part #		Qty of each
42620	DT-15 M42 Cobalt	1

21 Pcs.

1/16-3/8 by 64ths

Part #		Qty of each
42640	DT-21 M42 Cobalt	1

29 Pcs.

1/16-1/2 by 64ths

Part #		Qty of each
42630	DT-29 M42 Cobalt	1

Type 260-UB

Screw Machine Length, Ultra Bor 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 Pcs.

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

29 Pcs.

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

60 Pcs.

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

Cutting Tool Sets



PARABOLIC TiN COATED & SURFACE TREATED

Type 240-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 240-PT

Parabolic Flute TiN Coated - 135° Split Point

- Exceptional high-performance drill with the Titanium 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.

Cutting Tool Sets - Parabolic Titanium Coated & Black Oxide

13 Pcs.

1/16-1/4 by 64ths

Part #		Qty of each
68080 P-13	Black Oxide -135° Split Point	1
68090 PT-13	TiN Coated -135° Split Point	1

15 Pcs.

1/16-1/2 by 32nds

Part #		Qty of each
68100 P-15	Black Oxide -135° Split Point	1
68110 PT-15	TiN Coated -135° Split Point	1

21 Pcs.

1/16-3/8 by 64ths

Part #		Qty of each
68120 P-21	Black Oxide -135° Split Point	1
68130 PT-21	TiN Coated -135° Split Point	1

29 Pcs.

1/16-1/2 by 64ths

Part #		Qty of each
68150 P-29	Black Oxide -135° Split Point	1
68160 PT-29	TiN Coated -135° Split Point	1



PT-29



P-21

GENERAL PURPOSE 118° POINT & HEAVY DUTY 135° - JOBBER LENGTH



CAD-15A

Type 241-A CAD-HD - Mechanic Length

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

- American made value line drill
- New advances in drill making technology have allowed us to make an excellent drill for the very price sensitive portions of the business.
- The black surface treatment prevents chip welding and increases abrasion resistance.

Type 260

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

- 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 183-UB

Ultra Bor 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.



AD-7

7 Pcs.

1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2

Part #	Qty of each
31580 AD-7 Acrylic Drills Super ChipFree™	1

13 Pcs.

1/16 - 1/4 by 64ths

Part #	Qty of each
43342 CAD-13A Black Oxide - 135° Split Point	1

15 Pcs.

1/16 - 1/2 by 32nds

Part #	Qty of each
43352 CAD-15A Black Oxide - 135° Split Point	1

21 Pcs.

1/16 - 3/8 by 64ths

Part #	Qty of each
43362 CAD-21A Black Oxide - 135° Split Point	1

29 Pcs.

1/16 - 1/2 by 64ths

Part #	Qty of each
43382 CAD-29A Black Oxide - 135° Split Point	1

29 Pcs.

1/16 - 1/2 by 64ths

Part #	Qty of each
10390 SM-29 Screw Machine - 118° Point	1

60 Pcs.

#1 - 60

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

Cutting Tool Sets



BLACK OXIDE & TiN COATED - SCREW MACHINE LENGTH

Type 260-T 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 260-TN TiN Coated,
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.

10 Pcs.

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 Pcs.

1/16 - 3/8 by 32nds

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

13 Pcs.

1/16 - 1/4 by 64ths

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

21 Pcs.

1/16 - 3/8 by 64ths

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

29 Pcs.

1/16 - 1/2 by 64ths

Part #	Qty of each
43730 T-29	Black Oxide - 135° Split Point 1
96680 TN-29	TiN Coated - 135° Split Point 1

60 Pcs.

1 - 60

Part #	Qty of each
43750 T-60	Black Oxide - 135° Split Point 1
96730 TN-60	TiN Coated - 135° Split Point 1



TN-29

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

Cutting Tool Sets

SILVER & DEMING

Type 280-UB

1/2" Shank Silver & Deming
Ultra Bor 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 280-UBX

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 280-D

1/2" Shank Silver & Deming
M42 Cobalt 135° Split point
3 - flats on Shank

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

Type 280

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 280** drills may be used in power applications such as drill presses where a short rigid drill is required.

Type 280-MRO

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

- The **280-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 **280-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.



S&D-4SP

4 Pcs.

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-4UBX	1/2" Shank-Silver & Deming	1
29551 S&D-4D	M42 Cobalt	1

8 Pcs.

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-8UBX	1/2" Shank - Silver & Deming	1
29571 S&D-8D	M42 Cobalt	1

33 Pcs.

Part #	1/2 - 1" by 64ths	Qty of each
43201 S&D-33	1/2" Shank Silver & Deming 280-UB	1
92401 S&D-33SP	1/2" Shank Silver & Deming 280-UB	1

4 Pcs.

Part No.	Description of Sizes	Qty of each
54520 S&D-4MRO	9/16, 5/8, 3/4 & 1"	1

Cutting Tool Sets



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 H.S.S. drills.
- Cobalt steel is substantially more abrasion resistant, resulting in long wearing cutting edges.
- A selection of the most popular sizes of spotweld drills in an attractive, rugged black steel case.



TYPE 493-D WO-4

TYPE 492-D WO-6

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

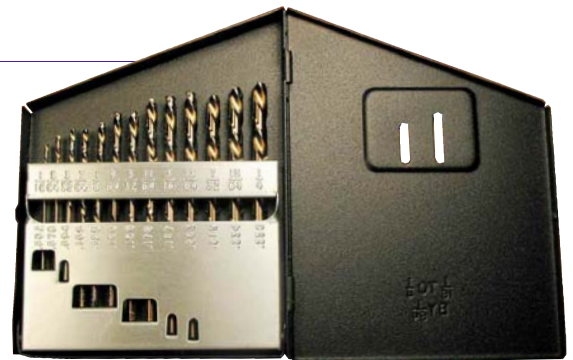
Part #	Description of Sizes
35010	6.5mm, 8.0mm & 10.0mm single-end drills. 6.5mm, 8.0mm & 10.0mm twin end drills.

LEFT HAND DRILL SETS

Type 240-AL

Ultra Bor 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 Pcs.

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 Pcs.

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 Pcs.

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

15 Pcs.

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

17 Pcs.

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 Pcs.

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

29 Pcs. -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-UB

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 Pcs.

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

14 Pcs.

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

Cutting Tool Sets - Spotweld Drill, Left Hand & Brad Point

TAP & DRILL, COMBINATION DRILL & TAPS SETS

Type 40-UB

Combination Drill & Tap Sets - Ultra Bor 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 helical point insures excellent drilling precision and accuracy.

DT-7F



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

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

TAP & DRILL SETS

Ultra Bor Super Premium

- Hi-Molybdenum super premium twist drill combined with the corresponding Hi-Tungsten Ultra Bor 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	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
20-UB 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

SP-18TDM

SPIRAL POINT, METRIC

Part No.	Description of Sizes
57990	
643-UB Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20 5.00, 6.70, 8.50 & 10.20
21-UB 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	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
20-UB 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	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F
20-UB 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	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
24-UB 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	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
24-UB 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	
240-UB Drill Sizes	31/64
280-UB Drill Sizes	17/32, 21/32, 49/64 & 7/8
24-UB 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	
240-B 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



STEP DRILL SETS

Type 78-UB, Type 78-QR, Type 78-UBN

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

- Dual flute construction drills clean accurate holes in thin materials, quickly and easily.
- Use for all thin metals, rigid plastics and wood or composite materials with a thickness equal to or less than the step thickness.
- When drilling steel with 1/8" or greater thickness, a starter hole of the smallest step diameter will speed the drilling process.



78-UB



78-QR

TYPE 78-UB SETS

SETS - 3 pc.	Sizes
00721	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
00731	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1"
00741	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"

TYPE 78-QR QUICK RELEASE SETS

SETS - 3 pc.	Sizes
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"

TYPE 78-UBN TiN COATED - SETS

SETS - 3 pc.	Sizes
69230	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
69240	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1"
69250	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"

BOLT EXTRACTOR SETS

Type 420 & Type 421-UB Sets

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

Left Hand Drill - Spiral Bolt Extractor Sets

BR-8 - Type 420 & 240-AL

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

BR-10 - Type 420 & 240-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 drills	1



BR-10

Bolt Extractor Set - 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

Left Hand Drill - Square Extractor Set

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

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

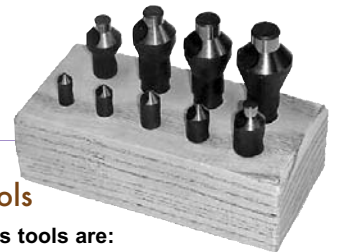
Bolt Extractor Sets - Square Extractor

SQE-4 - Type 421-UB

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

CHATTERPROOF™ COUNTERSINK SETS SUPER PREMIUM

Type 82-UB Countersinks Type 90-UB Deburring Tools



These high performance, flute-less tools are:

- Single cutting edge - for fast stock removal
- Chatterproof - 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-UB & 90-UB SETS

Part No.	Description of Sizes
SP-4CS 10440	82-UB C/S sizes: CS5S, CS6S, CS5S, CS10S
SP-4ACS 10442	82-UB C/S sizes: CS6S, CS8S, CS10S, CS3/16S
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: CS5S, CS6S, CS8S, CS10S, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2

HOLE EXPANSION TOOLS

TYPE 50-UB STANDARD FLUTE SETS

SET - Contains 1 ea.

12270	CR-4SP	3/8, 1/2, 5/8, 3/4
-------	--------	--------------------

TYPE 51-UB FAST SPIRAL SETS

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-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.

HOLE HOG™ SETS

Type 284-UB

Ultra Bor 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:

1 each:
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
Part # 38880

SP-6HHL Set contains:

1 each:
284-UB core drill sizes 1/2, 5/8 & 3/4
250-UB drill sizes 5/16, 25/64 & 15/32
Part # 38870

SP-6HHS Set contains:

1 each:
284-UB core drill sizes: 3/8, 1/2 & 5/8
250-UB drill sizes 1/4, 5/16 & 25/64
Part # 38860

Type 50 -UB

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.

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.
- These reamers are designed for the reaming of hardened steel commonly found in truck frames, rail cars, bridges, and pressure vessels.

CARBIDE HOLE CUTTER SETS

Type CHC-UB & CHD-UB

Ultra Bor Premium



All Sets Packaged in Sturdy Steel Case!

Type CHC-UB 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-UB Individual Sizes Available 9/16 to 5-inch

Type CHD-UB 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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Displays, Cabinets & Indexes



STOCK MASTER DISPENSERS & DISPLAYS

Type 925

Fractional Drills - 300 Piece Assortment

- Assortment is complete with glass 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 glass locking cover.



Counter Top Display are available stocked with Type 240-UB, 250-UB, 240-D, 240-A, 240, 240-B or 240-GF drills



300 PCS. ASSORTMENT EACH. DISPLAY CONTAINS:

Part No.	No.	Assortment Drill Type
06490	300-SP	240-UB
06520	300-HD	240-A
54720	300-BR	240-B
54750	300-BL	240
57640	300-SPM	250-UB
57641	300-RSPM	250/258-UB
68460	300-D	240-D
40632	300-GF	240-GF

No. of Drills	Fractional Size
24	1/16
12	5/64
24	3/32
18	7/64
48	1/8
18	9/64
18	5/32
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

ACCESSORIES

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

**DISPLAY Only
Part #45010**

Total 300

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 280-UB	9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 & 1"	1

DISPLAY Only
Part #00934

LEXAN COUNTER - 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.



ANNULAR CUTTERS COUNTER DISPLAY

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

DISPLAY Only
Part #00939

REAMER COUNTER DISPLAY

Type 50-UB -Standard Flute & Type 51-UB -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-UB	3/8, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1"	1
00942	CR8FSA 51-UB	3/8, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 1"	1

Display Only Part #00934

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.



SB-5 1" LENGTH

SPIRA-BROACH™ Annular Cutters

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



SB-5 2" 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

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

Display, Cabinets & Indexes - Fractional, Wire, Letter, Metric Assortments

FRACTIONAL DRILLS

Part No.	Assortment No.	Drill Type
06500	96-SP	240-UB
16010	96-HD	240-A
37270	96-SPM	250-UB
54690	96-BR	240-B
54760	96-BL	240
68440	96-D	240-D
37271	96-RSPM	250/258-UB

FRACTIONAL DRILLS - 96PCS. 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	1 each
19/64 & 31/64	1 each

WIRE GAUGE

Part No.	Assortment No.	Drill Type
16030	249-HD	240-A
35070	249-SP	240-UB
54700	249-BR	240-B
54770	249-BL	240

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	240-A
35080	72-SP	240-UB
54710	72-BR	240-B
54790	72-BL	240

LETTER DRILLS - 72 PC. ASSORTMENT

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

CABINET ONLY

Fractional Sizes: Part # 44920

Wire Sizes: Part # 44930

Letter Sizes: Part # 44940

Metric Sizes: Part # 08930

Silver & Deming: Part # 43203

METRIC DRILLS

Part No.	Assortment No.	Drill Type
18910	91-SP	643-UB

METRIC DRILLS - 91 PC. ASSORTMENT

Drill Size - Contains	Quantity
2.5, 3.5, 4.5, 5.0, 5.0, 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	280
92402	S&D 13-SP	280-UB

SILVER & DEMING - 13PCS. 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 913



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.



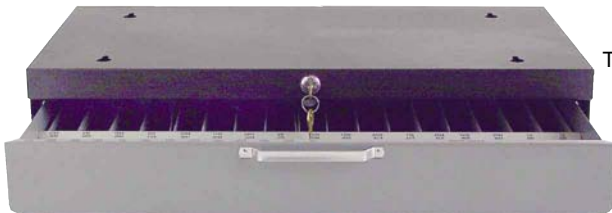
HUOT MODEL 13167

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 913
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

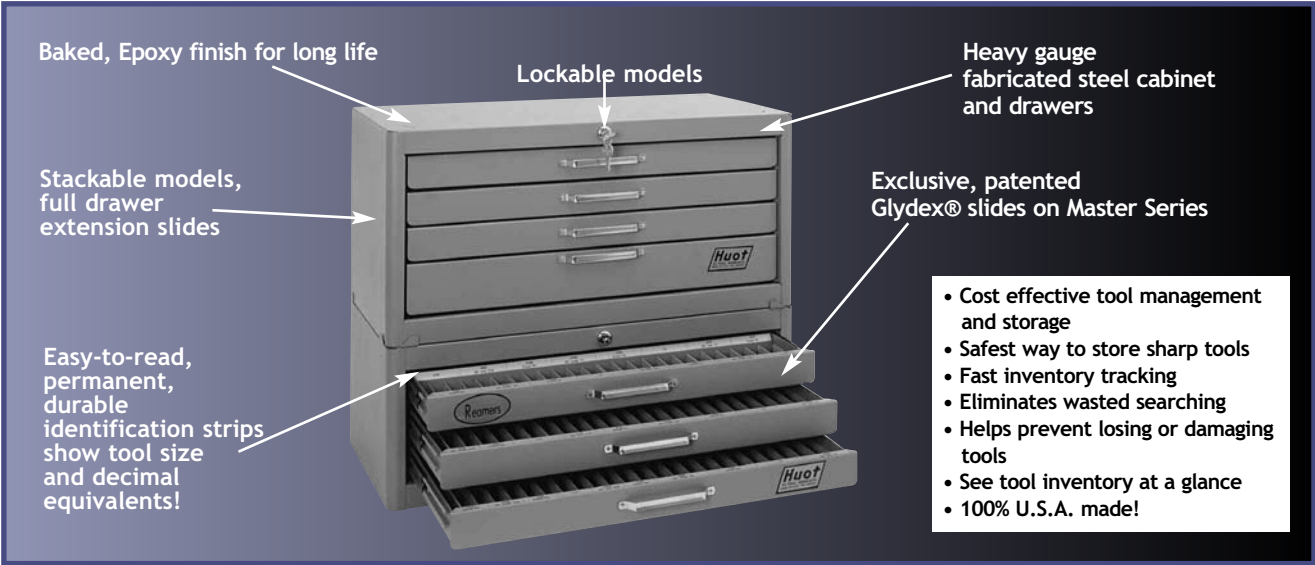
For Wire Gauge Drills #1 to #60.

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 913

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 pcs.) 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



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			



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.

MASTER TAPS DISPENSERS

Type 913

- 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 913

- 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

DRILL STANDS

Type 913

- 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 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 11985 PART #57430

Part No.	Dimensions Inches	Qty. per/pack
57430	13" W x 5" D x 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 913

- 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

Displays, Cabinets & Indexes

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 COUNTERTOP

Ultra Bor Super Premium

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

53-SF Assortment contains:

Super premium straight flute plug 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

Ultra Bor 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:

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

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:

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

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:

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

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 250-UB

Mechanic Length Drills
Ultra Bor Super Premium -
Black & Gold - 135° Split Point

- Super premium drills in attractive, displays.
- All drills are packed on cards with logo and scannable barcode.
- **250-UB 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
250-UB	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
	15/64, 3/8	2
	17/64, 9/32, 19/64, 21/64, 11/32	
	23/64, 7/16, 1/2	1
	25/64, 13/32, 27/64, 29/64	
	15/32, 31/64	

* 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
250-UB 1/16 thru 13/32	1/8	7
	1/16, 3/32	5
	5/32	3
258-UB 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
250-UB 1/16 thru 3/8	1/8	7
	1/16, 3/32	5
	5/32	3
258-UB 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-UB

Carbide Tipped Holecutter Display
Ultra Bor Super Premium

- Ultra Bor Super Premium Carbide Tipped Holecutters 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 HOLECUTTERS DISPLAY

Part # 62700

Contents	Size	No. of Each
CHC-UB	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-UB	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)		

Displays, Cabinets & Indexes



INDEXES ONLY

Type 901

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
57440	ISD-8SP	1
43930	I-SD	1
12240	PL-4SD	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 901



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

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

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Acrylic Drills 115
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A-13105
A-15105
A-21105
A-26106
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*Type 248-A V-Line Black Oxide
SA-13107
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J-15110
J-20111
J-21111
J-26111
J-29111
J-60111
J-115112

Type 278 3/8" RS Bright Finish
R-15110
R-29111
R-115112

Type 240-BN Titanium Nitride Coated
BN-13110
BN-15110
BN-29111
BN-60111
BN-115112

Type 240 Black Oxide
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 B-11110
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 B-20111
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 B-26111
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 M-13112
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