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WHY CHOOSE MAGNUM?

- **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.

MAGNUM SUPER PREMIUM vs. COBALT

The Magnum 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. Magnum Super Premium drills are made of special hi-moly tool steel, which is much tougher than cobalt steel. The web on an Magnum Super Premium drill can be thinned considerably due to the toughness of the steel.

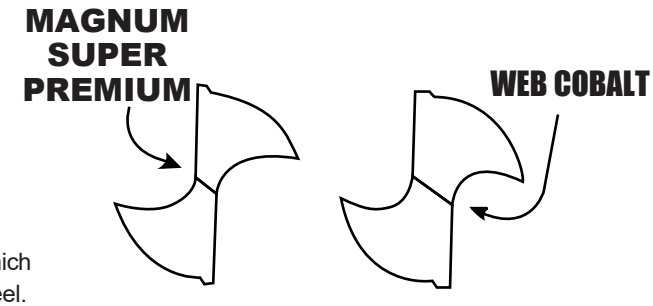
An Magnum Super Premium drill with its thin web will penetrate the work hardening stainless fast enough to continually cut beneath the chip which is hardening from deformation. This means the drill is cutting softer steel. The cobalt drill, with its thick web, cannot be fed at a fast enough rate to cut 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.



NORSEMAN MAGNUM SUPER PREMIUM™ VS. COBALT

Magnum 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.

Twist Drill Index

Jobber Length
NAS 907B Heavy Duty 135º Split Pt
Type 190-AG Heavy Duty Magnum 6
Type 190-CN CN-TECH™ Cryo Nitride 7
Type 170-AG . . . . . 8 - 9
*Type 128-AG 3/8" Shank 7
Type 190 Black Oxide . . . . . 10 - 11
*Type 198 V-Line Black Oxide. 15
Type 190-AN Titanium Nitride . . . . 10 - 11
Type 190-ACN Titanium Carbon Nitride 12 -14
Type 190-ALN Aluminum Titanium Nitride 12 -14
*Type 190-GF Gold Strike™ 3-flats on Shank 15
*Type 190-GFR Gold Strike™ 3/8" Shank . . . 15
* Not NAS907B

Mechanic Length 135º Split point
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Jobber Length
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Type 115 Black Oxide. . . . . 17 - 21
Type 170-W Metric - Bright Finish 22
Type 128 3/8" Reduced - Bright Finish 23
Type 100-BN Titanium Nitride Coated . . 17 - 21
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Type 118 V-Line Black Oxide 21
Type 230 Tang Drive. 27

Jobber Length Parabolic 135º Split Pt
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Jobber Length Hi-Helix 135º SP
Type 190-SS Black & Gold 9

Jobber Length Hi-Helix 118º point
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* Not NAS907B

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Jobber Length

NORSEMAN/CTD CN-TECH™ & HEAVY-DUTY SUPER PREMIUM NAS 907B

Cryogenic Nitrided HSS Products

Type 190-CN

CRYO/NITRIDE, 135° Split Point

- Nitride coating creates a case hardened surface that is resistant to rust, heat and extends tool life.
- Excellent for truck & trailer repair, and all MRO applications.

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
47032	1/16	1-7/8	7/8	12
47042	5/64"	2"	1"	12
47052	3/32	2-1/4	1-1/4	12
47062	7/64	2-5/8	1-1/2	12
47072	1/8	2-3/4	1-5/8	12
47082	9/64	2-7/8	1-3/4	12
47092	5/32"	3-1/8"	2"	12
47102	11/64	3-1/4	2-1/8	12
47112	3/16	3-1/2	2-5/16	12
47122	13/64	3-5/8	2-7/16	12
47132	7/32	3-3/4	2-1/2	12
47142	15/64	3-7/8	2-5/8	12
47152	1/4"	4"	2-3/4"	12
47162	17/64	4-1/8	2-7/8	12
47172	9/32	4-1/4	2-15/16	12
47182	19/64	4-3/8	3-1/16	6
47192	5/16	4-1/2	3-3/16	6
47202	21/64	4-5/8	3-5/16	6
47212	11/32	4-3/4	3-7/16	6
47222	23/64	4-7/8	3-1/2	6
47232	3/8"	5"	3-5/8"	6
47242	25/64	5-1/8	3-3/4	6
47252	13/32	5-1/4	3-7/8	6
47262	27/64	5-3/8	3-15/16	6
47272	7/16"	5-1/2	4-1/16	6
47282	29/64	5-5/8	4-3/16	6
47292	15/32	5-3/4	4-5/16	6
47302	31/64	5-7/8	4-3/8	6
47312	1/2"	6"	4-1/2"	6

LETTER

Part #	Letter Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
47522	A	3-7/8	2-5/8	12
47532	B	4"	2-3/4	12
47542	C	4"	2-3/4	12
47552	D	4"	2-3/4	12
47562	E	4"	2-3/4	12
47572	F	4-1/8	2-7/8	12
47582	G	4-1/8	2-7/8	12
47592	H	4-1/8	2-7/8	12
47602	I	4-1/8	2-7/8	12
47612	J	4-1/8	2-7/8	12
47622	K	4-1/4	2-15/16	12
47632	L	4-1/4	2-15/16	12
47642	M	4-3/8	3-1/16	6
47652	N	4-3/8	3-1/16	6
47662	O	4-1/2	3-3/16	6
47672	P	4-5/8	3-5/16	6
47682	Q	4-3/4	3-7/16	6
47692	R	4-3/4	3-7/16	6
47702	S	4-7/8	3-1/2	6
47712	T	4-7/8	3-1/2	6
47722	U	5"	3-5/8	6
47732	V	5"	3-5/8	6
47742	W	5-1/8	3-3/4	6
47752	X	5-1/8	3-3/4	6
47762	Y	5-1/4	3-7/8	6
47772	Z	5-1/4	3-7/8	6

WIRE

Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
47782	1	3-7/8	2-5/8	12
47792	2	3-7/8	2-5/8	12
47802	3	3-3/4	2-1/2	12
47812	4	3-3/4	2-1/2	12
47822	5	3-3/4	2-1/2	12
47832	6	3-3/4	2-1/2	12
47842	7	3-5/8	2-7/16	12
47852	8	3-5/8	2-7/16	12
47862	9	3-5/8	2-7/16	12

Wire Continued Next Column

Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
47872	10	3-5/8	2-7/16	12
47882	11	3-1/2	2-5/16	12
47892	12	3-1/2	2-5/16	12
47902	13	3-1/2	2-5/16	12
47912	14	3-3/8	2-3/16	12
47922	15	3-3/8	2-3/16	12
47932	16	3-3/8	2-3/16	12
47942	17	3-3/8	2-3/16	12
47952	18	3-1/4	2-1/8	12
47962	19	3-1/4	2-1/8	12
47972	20	3-1/4	2-1/8	12
47982	21	3-1/4	2-1/8	12
47992	22	3-1/8	2"	12
48002	23	3-1/8	2"	12
48012	24	3-1/8	2"	12
48022	25	3"	1-7/8	12
48032	26	3"	1-7/8	12
48042	27	3"	1-7/8	12
48052	28	2-7/8	1-3/4	12
48062	29	2-7/8	1-3/4	12
48072	30	2-3/4	1-5/8	12
48082	31	2-3/4	1-5/8	12
48092	32	2-3/4	1-5/8	12
48102	33	2-5/8	1-1/2	12
48112	34	2-5/8	1-1/2	12
48122	35	2-5/8	1-1/2	12
48132	36	2-1/2	1-7/16	12
48142	37	2-1/2	1-7/16	12
48152	38	2-1/2	1-7/16	12
48162	39	2-3/8	1-3/8	12
48172	40	2-3/8	1-3/8	12
48182	41	2-3/8	1-3/8	12
48192	42	2-1/4	1-1/4	12
48202	43	2-1/4	1-1/4	12
48212	44	2-1/8	1-1/8	12
48222	45	2-1/8	1-1/8	12
48232	46	2-1/8	1-1/8	12
48242	47	2"	1"	12
48252	48	2"	1"	12
48262	49	2"	1"	12
48272	50	2"	1"	12
48282	51	2"	1"	12
48292	52	1-7/8	7/8	12
48302	53	1-7/8	7/8	12
48312	54	1-7/8	7/8	12
48322	55	1-7/8	7/8	12
48332	56	1-3/4	3/4	12
48342	57	1-3/4	3/4	12
48352	58	1-5/8	11/16	12
48362	59	1-5/8	11/16	12
48372	60	1-5/8	11/16	12

Type 190-AG

NAS 907B Super Premium - 135° Split Point

- Nitro-Carburized
- Magnum will substantially outperform cobalt drills in work hardening stainless steel and other tough drilling applications.

Type 190-AG

Low temperature stress relief improves lubricity and toughness.

Part #	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

Larger sizes available in 130-AG section

Letter Continued on page 7

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HSS HEAVY-DUTY NAS 907B

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
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
22260	19/32	7-1/8	5-3/16	1
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

LETTER

Part #	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 #	Wire Sizes	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

Wire Continued Next Column

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

Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
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
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

Type 128-AG

3/8" Reduced Shank Magnum 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 128-AG

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

Part #	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 carded. See Price List Catalog for details.

Jobber Length

NAS 907B - METRIC

Type 170-AG

Magnum Super Premium - 135˚ Split Point, NAS 907B

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

Type 170-AG

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

METRIC

Part No.	Dia. MM	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
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
49010	1.95	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
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 & HIGH HELIX FLUTES

Type 170-AG

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

Type 170-AG
Magnum Super Premium
- NAS 907B 135˚Split Point

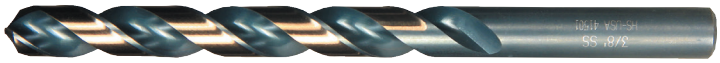
- 135º split point provides fast penetration and accurate starting without a center punch.
- Withstands substantially higher drilling tempertures while maintaining sharpness.

METRIC

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

Larger sizes in Metric 130-AGM section page 46

HIGH HELIX FLUTES



Type 190-SS
Magnum Super Premium
135˚Split Point

- High Helix Flute design allows for increased feed rates.
- 135º split point provides fast penetration and accurate starting without a center punch.
- Recommended for stainless steel, aluminum, brass and all other non-ferrous metals.

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
41301	1/16"	1-7/8	7/8	12
41311	5/64"	2"	1"	12
41321	3/32"	2-1/4	1-1/4	12
41331	7/64"	2-5/8	1-1/2	12
41341	1/8"	2-3/4	1-5/8	12
41351	9/64"	2-7/8	1-3/4	12
41361	5/32"	3-1/8"	2"	12
41371	11/64"	3-1/4	2-1/8	12
41381	3/16"	3-1/2	2-5/16	12
41391	13/64"	3-5/8	2-7/16	12
41401	7/32"	3-3/4	2-1/2	12
41411	15/64"	3-7/8	2-5/8	12
41421	1/4"	4"	2-3/4"	12
41431	17/64"	4-1/8	2-7/8	12
41441	9/32"	4-1/4	2-15/16	12
41451	19/64"	4-3/8	3-1/16	6
41461	5/16"	4-1/2	3-3/16	6
41471	21/64"	4-5/8	3-5/16	6
41481	11/32"	4-3/4	3-7/16	6
41491	23/64"	4-7/8	3-1/2	6
41501	3/8"	5"	3-5/8"	6
41511	25/64"	5-1/8	3-3/4	6
41521	13/32"	5-1/4	3-7/8	6
41531	27/64"	5-3/8	3-15/16	6
41541	7/16"	5-1/2	4-1/16	6
41551	29/64"	5-5/8	4-3/16	6
41561	15/32"	5-3/4	4-5/16	6
41571	31/64"	5-7/8	4-3/8	6
41581	1/2"	6"	4-1/2"	6

HSS HEAVY-DUTY NAS 907B

Type 190, Type 190-AN Titanium Nitride Coated

135˚ Split Point

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

Type 190
Black oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 190-AN
Titanium nitride (TiN) coating adds lubricity and hardness, enhancing chip flow, finish hole quality and drill life.

FRACTIONAL

Type 190 Black Oxide Part Number	Type 190-AN Titanium Nitride Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Type 190 Black Oxide Qty. per/Pack	Type 190-AN Titanium Nitride 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
04580	97800	13/64	3-5/8	2-7/16	12	6
04590	97790	7/32	3-3/4	2-1/2	12	6
04600	97780	15/64	3-7/8	2-5/8	12	6
04610	97770	1/4	4	2-3/4	12	6
04620	97760	17/64	4-1/8	2-7/8	12	6
04630	97750	9/32	4-1/4	2-15/16	12	6
04640	97740	19/64	4-3/8	3-1/16	6	3
04650	97730	5/16	4-1/2	3-3/16	6	3
04660	97720	21/64	4-5/8	3-5/16	6	3
04670	97710	11/32	4-3/4	3-7/16	6	3
04680	97700	23/64	4-7/8	3-1/2	6	3
04690	97690	3/8	5	3-5/8	6	3
04700	97680	25/64	5-1/8	3-3/4	6	3
04710	97670	13/32	5-1/4	3-7/8	6	3
04720	97660	27/64	5-3/8	3-15/1	6	3
04730	97650	7/16	5-1/2	4-1/16	6	3
04740	97640	29/64	5-5/8	4-3/16	6	3
04750	97630	15/32	5-3/4	4-5/16	6	3
04760	97620	31/64	5-7/8	4-3/8	6	3
04770	97610	1/2	6	4-1/2	6	3

LETTER

Type 190 Black Oxide Part Number	Type 190-AN Titanium Nitride Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 190 Black Oxide Qty. per/pack	Type 190-AN Titanium Nitride 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.

HSS HEAVY-DUTY NAS 907B

Type 190, Type 190-AN Titanium Nitride Coated

135˚Split Point

Type 190
Black oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 190-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
- 135º split point is self-centering for reducing thrust and easier penetration
- Manufactured to **NAS 907B** aerospace specification

LETTER

Type 190 Black Oxide Part Number	Type 190-AN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 190 Black Oxide Qty. per/pack	Type 190-AN Titanium Nitride 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 190 Black Oxide Part Number	Type 190-AN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 190 Black Oxide Qty. per/pack	Type 190-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
05010	98290	24	3-1/8	2	12	6
05020	98280	25	3	1-7/8	12	6
05030	98270	26	3	1-7/8	12	6
05040	98260	27	3	1-7/8	12	6
05050	98250	28	2-7/8	1-3/4	12	6
05060	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

HSS HEAVY-DUTY NAS 907B

Type 190-ACN Titanium Carbon Nitride
Type 190-ALN Titanium Aluminum Nitride

- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135º 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 then 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 190-ACN TiCN Coated Part Number	Type 190-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	3-15/1	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 190- ACN TiCN Coated Part Number	Type 190-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

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TiCN Coating

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

TiAIN Coating

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

HSS HEAVY-DUTY NAS 907B

Type 190-ACN Titanium Carbon Nitride
Type 190-ALN Titanium Aluminum Nitride

- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135º 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 then TiN coating.
- Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification

LETTER

Type 190- ACN TiCN Coated Part Number	Type 190-ALN TiAIN 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 190- ACN TiCN Coated Part Number	Type 190-ALN TiAIN 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

HSS HEAVY-DUTY NAS 907B

Type 190-ACN Titanium Carbon Nitride
Type 190-ALN Titanium Aluminum Nitride

- Heavy-duty construction for drilling in tougher materials
- Manufactured from premium high-speed steel
- 135º 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 then 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.

TiAIN Coating

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

WIRE

Type 190- ACN TiCN Coated Part Number	Type 190-ALN TiAIN 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

GOLDSTRIKE™ & V-LINE HEAVY DUTY

Type 190-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 key-less chucks.

Type 190-GF
Heavy-duty construction makes it ideal for difficult to drill materials.

Type 198
V-Line - Heavy-Duty
Black Oxide 135º 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 198
Designed for the user whose applications are well served without the need for the tighter tolerances of our standard **Type 190**.

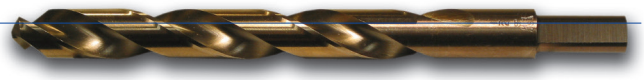
FRACTIONAL

Part #	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 #	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 190-GFR
GOLDSTRIKE™ Reduced Shank - 135˚Split Point with 3/8" Reduced Shank with Flats



3/8" WITH FLATS ON SHANK

Part #	Description of Sizes	Per Pack
40633	25/64	6
40634	13/32	6
40639	27/64	6
40621	7/16	6

Part #	Description of Sizes	Per Pack
40622	29/64	6
40623	15/32	6
40624	31/64	6
40629	1/2	6

HSS BLACK OXIDE 118º SPLIT POINT NAS 907A

Type 340-A

- 118º 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 118º split point for drilling in a wide range of drilling operations and materials.

FRACTIONAL

Part #	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 #	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 #	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 & TITANIUM NITRIDE COATED

Type 115, 100, 100-BN Titanium Nitride
118º Point

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

Type 115
Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 100
Recommended for non-ferrous metals, wood and plastic.

Type 100-BN
Performs well in mild drilling applications with abrasive wear characteristics.

FRACTIONAL

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/Pack	Type 100-BN TiN Coated 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	02810	22600	7/64	2-5/8	1-1/2	12	6
01070	02820	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
01120	02870	22660	13/64	3-5/8	2-7/16	12	6
01130	02880	22670	7/32	3-3/4	2-1/2	12	6
01140	02890	22680	15/64	3-7/8	2-5/8	12	6
01150	02900	22690	1/4	4	2-3/4	12	6
01160	02910	22700	17/64	4-1/8	2-7/8	12	6
01170	02920	22710	9/32	4-1/4	2-15/16	12	6
01180	02930	22720	19/64	4-3/8	3-1/16	6	3
01190	02940	22730	5/16	4-1/2	3-3/16	6	3
01200	02950	22740	21/64	4-5/8	3-5/16	6	3
01210	02960	22750	11/32	4-3/4	3-7/16	6	3
01220	02970	22760	23/64	4-7/8	3-1/2	6	3
01230	02980	22770	3/8	5	3-5/8	6	3
01240	02990	22780	25/64	5-1/8	3-3/4	6	3
01250	03000	22790	13/32	5-1/4	3-7/8	6	3
01260	03010	22800	27/64	5-3/8	3-15/16	6	3
01270	03020	22810	7/16	5-1/2	4-1/16	6	3
01280	03030	22820	29/64	5-5/8	4-3/16	6	3
01290	03040	22830	15/32	5-3/4	4-5/16	6	3
01300	03050	22840	31/64	5-7/8	4-3/8	6	3
01310	03060	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
12370	48730	32650	3/4	7-5/8	5-5/8	1	1

Letter sizes continued on page 18

GENERAL PURPOSE & TITANIUM NITRIDE COATED

Type 115, 100, 100-BN Titanium Nitride

118º Point

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

Type 115
Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 100
It is recommended for non-ferrous metals, wood and plastic.

Type 100-BN
Performs well in mild drilling applications with abrasive wear characteristics.

LETTER

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/pack	Type 100-BN TiN Coated 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

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/Pack	Type 100-BN TiN Coated 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 & TITANIUM NITRIDE COATED

Type 115, 100, 100-BN Titanium Nitride
118º Point

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

Type 115
Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 100
It is recommended for non-ferrous metals, wood and plastic.

Type 100-BN
Performs well in mild drilling applications with abrasive wear characteristics.

WIRE

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/Pack	Type 100-BN TiN Coated 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	03600	48200	42	2-1/4	1-1/4	12	6
01860	03610	48210	43	2-1/4	1-1/4	12	6
01870	03620	48220	44	2-1/8	1-1/8	12	6
01880	03630	48230	45	2-1/8	1-1/8	12	6
01890	03640	48240	46	2-1/8	1-1/8	12	6
01900	03650	48250	47	2	1	12	6
01910	03660	48260	48	2	1	12	6
01920	03670	48270	49	2	1	12	6
01930	03680	48280	50	2	1	12	6
01940	03690	48290	51	2	1	12	6

Wire sizes continued on page 20

GENERAL PURPOSE & TITANIUM NITRIDE COATED

Type 115, 100, 100-BN Titanium Nitride
118º Point

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

Type 115
Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 100
It is recommended for non-ferrous metals, wood and plastic.

Type 100-BN
Performs well in mild drilling applications with abrasive wear characteristics.

WIRE

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/Pack	Type 100-BN TiN Coated 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	81200	61	1-5/8	11/16	12	----
02050	03800	81210	62	1-1/2	5/8	12	----
02060	03810	81220	63	1-1/2	5/8	12	----
02070	03820	81230	64	1-1/2	5/8	12	----
02080	03830	81240	65	1-1/2	5/8	12	----
02090	03840	81250	66	1-3/8	1/2	12	----
02100	03850	81260	67	1-3/8	1/2	12	----
02110	03860	81270	68	1-3/8	1/2	12	----
02120	03870	81280	69	1-3/8	1/2	12	----
02130	03880	81290	70	1-1/4	3/8	12	----
02140	03890	81300	71	1-1/4	3/8	12	----
02150	03900	81310	72	1-1/8	5/16	12	----
02160	03910	81320	73	1-1/8	5/16	12	----
02170	03920	81330	74	1	1/4	12	----
02180	03930	81340	75	1	1/4	12	----
02190	03940	81350	76	7/8	3/16	12	----
02200	03950	81360	77	7/8	3/16	12	----
02210	03960	81370	78	7/8	3/16	12	----
02220	03970	81380	79	3/4	1/8	12	----
02230	03980	81390	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 & TITANIUM NITRIDE COATED

Type 115, 100, 100-BN Titanium Nitride 118º Point

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

Type 115
Black Oxide surface finish increases wear resistance and adds lubricity to improve chip flow.

Type 100
It is recommended for non-ferrous metals, wood and plastic.

Type 100-BN
Performs well in mild drilling applications with strong abrasive wear characteristics.

WIRE

Type 115 Black Oxide Part Number	Type 100 Bright Part Number	Type 100-BN TiN Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 115 / Type 100 Black Oxide/Bright Qty. per/Pack	Type 100-BN TiN Coated 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	----

Type 118

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

- American made value line drill
- Theses general purpose 118º point HSS drills are ideal for a wide variety of light tensile strength metal drilling applications.

- This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard **Type 115.**

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02783	1/16	1-7/8	7/8	12
02793	5/64	2	1	12
02803	3/32	2-1/4	1-1/4	12
02813	7/64	2-5/8	1-1/2	12
02823	1/8	2-3/4	1-5/8	12
02833	9/64	2-7/8	1-3/4	12
02843	5/32	3-1/8	2	12
02853	11/64	3-1/4	2-1/8	12
02863	3/16	3-1/2	2-5/16	12
02873	13/64	3-5/8	2-7/16	12
02883	7/32	3-3/4	2-1/2	12
02893	15/64	3-7/8	2-5/8	12
02903	1/4	4	2-3/4	12
02913	17/64	4-1/8	2-7/8	12

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02923	9/32	4-1/4	2-15/16	12
02933	19/64	4-3/8	3-1/16	6
02943	5/16	4-1/2	3-3/16	6
02953	21/64	4-5/8	3-5/16	6
02963	11/32	4-3/4	3-7/16	6
02973	23/64	4-7/8	3-1/2	6
02983	3/8	5	3-5/8	6
02993	25/64	5-1/8	3-3/4	6
03003	13/32	5-1/4	3-7/8	6
03013	27/64	5-3/8	3-15/16	6
03023	7/16	5-1/2	4-1/16	6
03033	29/64	5-5/8	4-3/16	6
03043	15/32	5-3/4	4-5/16	6
03053	31/64	5-7/8	4-3/8	6
03063	1/2	6	4-1/2	6

GENERAL PURPOSE - BLACK OXIDE AND BRIGHT FINISH

Type 170 - METRIC
118˚ Point General Purpose - Black Oxide

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

Type 170-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 170 Part Number	Type 170-W Part Number	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	17110	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

1/4" & 3/8" REDUCED SHANK

Type 120

General Purpose 118º 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 #	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 128

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

- General purpose 118º 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 #	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 #	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 #	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 #	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

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HEAVY-DUTY & TITANIUM NITRIDE PARABOLIC FLUTE

Type 190-P
135˚ Split Point - Black Oxide

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

Type 190-PT
135˚ Split Point - Titanium Nitride Coated

- 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 190-P Black Oxide Part Number	Type 190-PT Titanium Nitride Part Number	FRACTIONAL Diameter Inches	Overall Length Inches	Flute Length Inches	Type 190-P Black Oxide Qty. per/Pack	Type 190-PT Titanium Nitride 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	3-15/1	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 190-P Black Oxide Part Number	Type 190-PT Titanium Nitride Part Number	WIRE Wire Sizes	Overall Length Inches	Flute Length Inches	Type 190-P Black Oxide Qty. per/Pack	Type 190-PT Titanium Nitride 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
38171	38172	3	3-3/4	2-1/2	12	6
68181	68182	4	3-3/4	2-1/2	12	6
68191	68192	5	3-3/4	2-1/2	12	6
68201	68202	6	3-3/4	2-1/2	12	6
58421	58422	7	3-5/8	2-7/16	12	6
68211	68212	8	3-5/8	2-7/16	12	6
68221	68222	9	3-5/8	2-7/16	12	6
68231	68232	10	3-5/8	2-7/16	12	6
68241	68242	11	3-1/2	2-5/16	12	6
68251	68252	12	3-1/2	2-5/16	12	6
68261	68262	13	3-1/2	2-5/16	12	6
68271	68272	14	3-3/8	2-3/16	12	6
68281	68282	15	3-3/8	2-3/16	12	6
68291	68292	16	3-3/8	2-3/16	12	6

Wire sizes continued on page 26

HEAVY-DUTY & TITANIUM NITRIDE PARABOLIC FLUTE

Type 190-P
135˚Split Point - Black Oxide

Type 190-PT
135˚Split Point - Titanium Nitride Coated

Type 190-P Black Oxide Part Number	Type 190-PT Titanium Nitride Part Number	WIRE Wire Sizes	Overall Length Inches	Flute Length Inches	Type 190-P Black Oxide Qty. per/Pack	Type 190-PT Titanium Nitride 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 190-P Black Oxide Part Number	Type 190-PT Titanium Nitride Part Number	LETTER Letter Sizes	Overall Length Inches	Flute Length Inches	Type 190-P Black Oxide Qty. per/Pack	Type 190-PT Titanium Nitride 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 #	Diameter Inches	OAL 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

LETTER

Part #	Letter Sizes	OAL Inches	Flute Length Inches	Qty. per/pack
71830	A	3-7/8	2-5/8	12
71840	B	4	2-3/4	12
71850	C	4	2-3/4	12
13620	D	4	2-3/4	12
71860	E	4	2-3/4	12
13650	F	4-1/8	2-7/8	12
13660	G	4-1/8	2-7/8	12
71870	H	4-1/8	2-7/8	12
13680	I	4-1/8	2-7/8	12
13690	J	4-1/8	2-7/8	12
71880	K	4-1/4	2-15/16	12
71890	L	4-1/4	2-15/16	12
71900	M	4-3/8	3-1/16	6
13740	N	4-3/8	3-1/16	6
13770	O	4-1/2	3-3/16	6
13780	P	4-5/8	3-5/16	6
13800	Q	4-3/4	3-7/16	6
13810	R	4-3/4	3-7/16	6
13830	S	4-7/8	3-1/2	6
71910	T	4-7/8	3-1/2	6
13860	U	5	3-5/8	6
71920	V	5	3-5/8	6
13880	W	5-1/8	3-3/4	6
13900	X	5-1/8	3-3/4	6
71930	Y	5-1/4	3-7/8	6
71940	Z	5-1/4	3-7/8	6

WIRE

Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
13590	1	3-7/8"	2-5/8	12
71820	2	3-7/8"	2-5/8	12
13560	3	3-3/4"	2-1/2	12
13550	4	3-3/4"	2-1/2	12
71810	5	3-3/4"	2-1/2	12
71800	6	3-3/4"	2-1/2	12
71790	7	3-5/8"	2-7/16	12
13530	8	3-5/8"	2-7/16	12
13520	9	3-5/8"	2-7/16	12
13510	10	3-5/8"	2-7/16	12
13500	11	3-1/2"	2-5/16	12
71780	12	3-1/2"	2-5/16	12
13480	13	3-1/2"	2-5/16	12
71770	14	3-3/8"	2-3/16	12
13470	15	3-3/8"	2-3/16	12
13460	16	3-3/8"	2-3/16	12
13450	17	3-3/8”	2-3/16	12
13430	18	3-1/4”	2-1/8	12
13420	19	3-1/4”	2-1/8	12
13410	20	3-1/4”	2-1/8	12
71760	21	3-1/4”	2-1/8	12
71750	22	3-1/8	2	12
71740	23	3-1/8	2	12
13390	24	3-1/8	2	12
71730	25	3	1-7/8	12
13380	26	3	1-7/8	12
13370	27	3	1-7/8	12
71720	28	2-7/8	1-3/4	12
13340	29	2-7/8	1-3/4	12
13310	30	2-3/4	1-5/8	12

Mechanic Length

HSS MAGNUM

Type 175-AG
Magnum 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.
- Flats on shank give positive chuck-grip (3/16" and Larger).

3 - FLATS ON SHANK

Part #	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 178-AG
Magnum 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 #	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" **175-AG** 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 191
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 #	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	1-1/4	12
04532	1/8	2-1/2	1-5/16	12
04542	9/64	2-5/8	1-3/8	12
04552	5/32	2-3/4	1-7/16	12
04562	11/64	2-7/8	1-1/2	12
04572	3/16	2	1-9/16	12
04582	13/64	3-1/8	1-5/8	12
04592	7/32	3-1/4	1-11/16	12
04602	15/64	3-3/8	1-3/4	12
04612	1/4	3-1/2	1-13/16	12
04622	17/64	3-5/8	1-7/8	12
04632	9/32	3-3/4	1-15/16	12
04642	19/64	3-7/8	2"	6
04652	5/16	4	2-1/16	6
04662	21/64	4-1/16	2-1/8	6
04672	11/32	4-1/8	2-3/16	6
04682	23/64	4-3/16	2-3/16	6
04692	3/8	4-1/4	2-3/16	6
04702	25/64	4-5/16	2-1/4	6
04712	13/32	4-3/8	2-1/4	6
04722	27/64	4-7/16	2-5/16	6
04732	7/16	4-1/2	2-5/16	6
04742	29/64	4-5/8	2-3/8	6
04752	15/32	4-3/4	2-7/16	6
04762	31/64	4-7/8	2-1/2	6
04772	1/2	5	2-9/16	6

HEX SHANK - 1/4" QUICK RELEASE

Type QR-AG Magnum 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 stain-less steel and other hard metal drill applications.

QR-AG 1/4" HEX SHANK

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34501	1/16	2-5/8	7/8	6
34521	3/32	3	1-1/4	6
34541	1/8	3-1/4	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 Adapter

CARDED QR-AG 1/4" HEX SHANK

Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34507	1/16	2-5/8	7/8	2
34527	3/32	3	1-1/4	2
34547	1/8	3-1/4	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 Adapter (CARDED)

TYPE QR-AG EXTENSIONS

- One handed operation – Simply push your PTA into the extension and it will automatically load and lock the accessory.
- Patented All Hex connection system will hold any ¼" hex shape including, Power Groove and Notched product.
- Patented All Hex connection system holds the accessory without any wobble or play. Tight fit for a professional feel.
- **Made in the USA.**
- **Not intended for Impact Tools.**

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

SETS HEX SHANK - 1/4" QUICK RELEASE

QR-12 SET HARD CASE - INDEX

Part #	Description of Sizes	Qty of each
34811	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 7/16, 1/2" & Quick Release Adapter	1

QR-16 SET SOFT POUCH - INDEX

Part #	Description of Sizes	Qty of each
34812	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8" 13/32, 7/16, 15/32, 1/2 & Quick Release Adapter	1

QR-7A - SOFT POUCH INDEX

Part #	Description of Sizes	Qty of each
34803	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4"	1

QR-7B SET SOFT POUCH - INDEX

Part #	Description of Sizes	Qty of each
34804	1/8, ,3/16, 1/4, 5/16, 3/8, 7/16, 1/2"	1

M42 COBALT-TITANIUM NITRIDE & TITANIUM ALUMINUM NITRIDE NAS 907J

Type 150-M42 Cobalt , Type 150-N-TiN Coated
Type 150-ALN-Titanium Aluminum Nitride
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.
- Titanium Aluminum Nitride can be used in machining stainless steel, nickel based and titanium alloys, not recommended for aluminum.
- Manufactured to **NAS 907J** specifications.

Type 150
Use to drill hard, tough metals, free machining stainless steel, titanium alloys and certain abrasive plastics.

Type 150-N
Titanium nitride coating for lubricity ,and extended tool life.

Type 150-ALN
Titanium aluminum nitride designed for use where extreme temperatures are found, allows for increased machining speeds up to 200%.

FRACTIONAL

150 Part#	150-N TiN Part#	150-ALN TiAlN Part#	Overall Diameter Inches	Flute Length Inches	Length Inches	150 Qty. per/Pk	150-N /150-ALN Qty. per/Pk
08000	------	------	3/64	1-3/4	3/4	12	6
08010	79600	80003	1/16	1-7/8	7/8	12	6
08020	79610	80013	5/64 "	2 "	1 "	12	6
08030	79620	80023	3/32	2-1/4	1-1/4	12	6
08040	79630	80033	7/64	2-5/8	1-1/2	12	6
08050	79640	80043	1/8 "	2-3/4 "	1-5/8 "	12	6
08060	79650	80053	9/64	2-7/8	1-3/4	12	6
08070	79660	80063	5/32 "	3-1/8 "	2 "	12	6
08080	79670	80073	11/64	3-1/4	2-1/8	12	6
08090	79680	80083	3/16	3-1/2	2-5/16	12	6
08100	79690	80093	13/64	3-5/8	2-7/16	12	6
08110	79700	80103	7/32	3-3/4	2-1/2	12	6
08120	79710	80113	15/64	3-7/8	2-5/8	12	6
08130	79720	80123	1/4 "	4 "	2-3/4 "	12	6
08140	79730	80133	17/64	4-1/8	2-7/8	12	6
08150	79740	80143	9/32	4-1/4	2-15/16	12	6
08160	79750	80153	19/64	4-3/8	3-1/16	6	3
08170	79760	80163	5/16	4-1/2	3-3/16	6	3
08180	79770	80173	21/64	4-5/8	3-5/16	6	3
08190	79780	80183	11/32	4-3/4	3-7/16	6	3
08200	79790	80193	23/64	4-7/8	3-1/2	6	3
08210	79800	80203	3/8 "	5 "	3-5/8 "	6	3
08220	79810	80213	25/64	5-1/8	3-3/4	6	3
08230	79820	80223	13/32	5-1/4	3-7/8	6	3
08240	79830	80233	27/64	5-3/8	3-15/16	6	3
08250	79840	80243	7/16	5-1/2	4-1/16	6	3
08260	79850	80253	29/64	5-5/8	4-3/16	6	3
08270	79860	80263	15/32	5-3/4	4-5/16	6	3
08280	79870	80273	31/64	5-7/8	4-3/8	6	3
08290	79880	80283	1/2 "	6 "	4-1/2 "	6	3

LETTER

150 Part#	150-N TiN Part#	150-ALN TiAlN Part#	Letter Sizes	Overall Length Inches	Flute Length Inches	150 Qty. per/Pk	150-N /150-ALN Qty. per/Pk
08940	79320	80293	A	3-7/8	2-5/8	12	6
08950	79330	80303	B	4 "	2-3/4	12	6
08960	79340	80313	C	4 "	2-3/4	12	6
08970	79350	80323	D	4 "	2-3/4	12	6
08980	79360	80333	E	4 "	2-3/4	12	6
08990	79370	80343	F	4-1/8	2-7/8	12	6
09000	79380	80353	G	4-1/8	2-7/8	12	6
09010	79390	80363	H	4-1/8	2-7/8	12	6
09020	79400	80373	I	4-1/8	2-7/8	12	6
09030	79410	80383	J	4-1/8	2-7/8	12	6
09040	79420	80393	K	4-1/4	2-15/16	12	6
09050	79430	80403	L	4-1/4	2-15/16	12	6
09060	79440	80413	M	4-3/8	3-3/16	6	3
09070	79450	80423	N	4-3/8	3-1/16	6	3
09080	79460	80433	O	4-1/2	3-3/16	6	3
09090	79470	80443	P	4-5/8	3-5/16	6	3
09100	79480	80453	Q	4-3/4	3-7/16	6	3
09110	79490	80463	R	4-3/4	3-7/16	6	3
09120	79500	80473	S	4-7/8	3-1/2	6	3
09130	79510	80483	T	4-7/8	3-1/2	6	3
09140	79520	80493	U	5 "	3-5/8	6	3
09150	79530	80503	V	5 "	3-5/8	6	3
09160	79540	80513	W	5-1/8	3-3/4	6	3
09170	79550	80523	X	5-1/8	3-3/4	6	3
09180	79560	80533	Y	5-1/4	3-7/8	6	3
09190	79570	80543	Z	5-1/4	3-7/8	6	3

WIRE

150 Part#	150-N TiN Part#	150-ALN TiAlN Part#	Wire Sizes	Overall Diameter Inches	Flute Length Inches	150 Qty. per/Pk	150N/150ALN Qty. per/Pk
08300	77001	80553	1	3-7/8	2-5/8	12	6
08310	77011	80563	2	3-7/8	2-5/5	12	6
08320	77021	80573	3	3-3/4	2-1/2	12	6
08330	77031	80583	4	3-3/4	2-1/2	12	6
08340	77041	80593	5	3-3/4	2-1/2	12	6
08350	77051	80603	6	3-3/4	2-1/2	12	6
08360	77061	80613	7	3-5/8	2-7/16	12	6

Wire sizes continued next Column

150 Part#	150-N TiN Part#	150-ALN TiAlN Part#	Wire Sizes	Overall Diameter Inches	Flute Length Inches	150 Qty. per/Pk	150-N /150-ALN Qty. per/Pk
08370	77071	80623	8	3-5/8	2-7/16	12	6
08380	77081	80633	9	3-5/8	2-7/16	12	6
08390	77091	80643	10	3-5/8	2-7/16	12	6
08400	77101	80653	11	3-1/2	2-5/16	12	6
08410	77111	80663	12	3-1/2	2-5/16	12	6
08420	77121	80673	13	3-1/2	2-5/16	12	6
08430	77131	80683	14	3-3/8	2-3/16	12	6
08440	77141	80693	15	3-3/8	2-3/16	12	6
08450	77151	80703	16	3-3/8	2-3/16	12	6
08460	77161	80713	17	3-3/8	2-3/16	12	6
08470	77171	80723	18	3-1/4	2-1/8	12	6
08480	77181	80733	19	3-1/4	2-1/8	12	6
08490	77191	80743	20	3-1/4	2-1/8	12	6
08500	77201	80753	21	3-1/4	2-1/8	12	6
08510	77211	80763	22	3-1/8	2"	12	6
08520	77221	80773	23	3-1/8	2"	12	6
08530	77231	80783	24	3-1/8	2"	12	6
08540	77241	80793	25	3"	1-7/8	12	6
08550	77251	80803	26	3"	1-7/8	12	6
08560	77261	80813	27	3"	1-7/8	12	6
08570	77271	80823	28	2-7/8	1-3/4	12	6
08580	77281	80833	29	2-7/8	1-3/4	12	6
08590	77291	80843	30	2-3/4	1-5/8	12	6
08600	77301	80853	31	2-3/4	1-5/8	12	6
08610	77311	80863	32	2-3/4	1-5/8	12	6
08620	77321	80873	33	2-5/8	1-1/2	12	6
08630	77331	80883	34	2-5/8	1-1/2	12	6
08640	77341	80893	35	2-5/8	1-1/2	12	6
08650	77351	80903	36	2-1/2	1-7/16	12	6
08660	77361	80913	37	2-1/2	1-7/16	12	6
08670	77371	80923	38	2-1/2	1-7/16	12	6
08680	77381	80933	39	2-3/8	1-3/8	12	6
08690	77491	80943	40	2-3/8	1-3/8	12	6
08700	77401	80953	41	2-3/8	1-3/8	12	6
08710	77411	80963	42	2-1/4	1-1/4	12	6
08720	77421	80973	43	2-1/4	1-1/4	12	6
08730	77431	80983	44	2-1/8	1-1/8	12	6
08740	77441	80993	45	2-1/8	1-1/8	12	6
08750	77451	81003	46	2-1/8	1-1/8	12	6
08760	77461	81013	47	2"	1"	12	6
08770	77471	81023	48	2"	1"	12	6
08780	77481	81033	49	2"	1"	12	6
08790	77491	81043	50	2"	1"	12	6
08800	77501	81053	51	2"	1"	12	6
08810	77511	81063	52	1-7/8	7/8	12	6
08820	77521	81073	53	1-7/8	7/8	12	6
08830	77531	81083	54	1-7/8	7/8	12	6
08840	77541	81093	55	1-7/8	7/8	12	6
08850	77551	81103	56	1-3/4	3/4	12	6
08860	77561	81113	57	1-3/4	3/4	12	6
08870	77571	81123	58	1-5/8	11/16	12	6
08880	77581	81133	59	1-5/8	11/16	12	6
08890	77591	81143	60	1-5/8	11/16	12	6
08900	-----	-----	61	1-5/8	11/16	12	6
08910	-----	-----	62	1-1/2	5/8	12	6
08921	-----	-----	63	1-1/2	5/8	12	6
08931	-----	-----	64	1-1/2	5/8	12	6
08941	-----	-----	65	1-1/2	5/8	12	6
08951	-----	-----	66	1-3/8	1/2	12	6
08961	-----	-----	67	1-3/8	1/2	12	6
08971	-----	-----	68	1-3/8	1/2	12	6
08981	-----	-----	69	1-3/8	1/2	12	6
08991	-----	-----	70	1-1/4	3/8	12	6
09001	-----	-----	71	1-1/4	3/8	12	6
09011	-----	-----	72	1-1/8	5/16	12	6
09021	-----	-----	73	1-1/8	5/16	12	6
09031	-----	-----	74	1"	1/4	12	6
09041	-----	-----	75	1"	1/4	12	6
09051	-----	-----	76	7/8	3/16	12	6
09061	-----	-----	77	7/8	3/16	12	6
09071	-----	-----	78	7/8	3/16	12	6
09081	-----	-----	79	3/4	3/16	12	6
09091	-----	-----	80	3/4	3/16	12	6

M42 COBALT NAS 907J

Type 150-M

METRIC - Jobber Length 135ºSplit Point
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 #	Diameter MM	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
27050	0.90	38	1-1/2	16	5/8	10
27060	0.95	38	1-1/2	16	5/8	10
27070	1.00	41	1-5/8	17	11/16	10
27080	1.05	41	1-5/8	17	11/16	10
27090	1.10	44	1-3/4	19	3/4	10
27100	1.20	48	1-7/8	22	7/8	10
27110	1.30	48	1-7/8	22	7/8	10
08831	1.40	48	1-7/8	22	7/8	10
27130	1.50	48	1-7/8	22	7/8	10
27140	1.60	48	1-7/8	22	7/8	10
27150	1.70	51	2"	25	1	10
27160	1.80	51	2"	25	1	10
27170	1.90	51	2"	25	1	10
26460	2.00	51	2"	25	1	10
26940	2.05	54	2-1/8	25	1-5/32	10
26470	2.10	54	2-1/8	29	1-5/32	10
26480	2.20	57	2-1/4	32	1-1/4	10
26490	2.30	57	2-1/4	32	1-1/4	10
26500	2.40	60	2-23/64	35	1-3/8	10
26510	2.50	60	2-23/64	35	1-3/8	10
26520	2.60	64	2-1/2	37	1-29/64	10
26530	2.70	64	2-1/2	37	1-15/32	10
26540	2.80	67	2-5/8	38	1-1/2	10
26550	2.90	70	2-3/4	41	1-5/8	10
26560	3.00	70	2-3/4	41	1-5/8	10
26570	3.10	70	2-3/4	41	1-5/8	10
26580	3.20	70	2-3/4	41	1-5/8	10
26590	3.30	73	2-7/8	45	1-3/4	10
26600	3.40	73	2-7/8	45	1-3/4	10
26610	3.50	73	2-7/8	45	1-3/4	10
26620	3.60	76	3"	48	1-7/8	10
26630	3.70	76	3"	48	1-7/8	10
26640	3.80	76	3"	48	1-7/8	10
26650	3.90	79	3-1/8	51	2	10
26660	4.00	83	3-1/4	54	2-1/8	10
26670	4.10	83	3-1/4	54	2-1/8	10
26680	4.20	83	3-1/4	54	2-1/8	10
26690	4.30	83	3-1/4	54	2-1/8	10
34570	4.40	86	3-3/8	56	2-13/64	10
26700	4.50	86	3-3/8	56	2-13/64	10
26710	4.60	86	3-3/8	56	2-13/64	10
26720	4.70	89	3-1/2	59	2-21/64	10
26730	4.80	89	3-1/2	59	2-21/64	10
26740	4.90	92	3-5/8	62	2-7/16	10
26750	5.00	92	3-5/8	62	2-7/16	10
33960	5.10	92	3-5/8	62	2-7/16	10
33970	5.20	95	3-3/4	64	2-1/2	10
33980	5.30	95	3-3/4	64	2-1/2	10
33990	5.40	95	3-3/4	64	2-1/2	10
34000	5.50	95	3-3/4	64	2-1/2	10
34010	5.60	98	3-7/8	67	2-5/8	10
34020	5.70	98	3-7/8	67	2-5/8	10
34030	5.80	98	3-7/8	67	2-5/8	10
34040	5.90	98	3-7/8	67	2-5/8	10
34050	6.00	102	4"	70	2-3/4	10
34060	6.10	102	4"	70	2-3/4	10
34070	6.20	102	4"	70	2-3/4	10
34080	6.30	102	4"	70	2-3/4	10
34090	6.40	105	4-1/8	73	2-7/8	10
34100	6.50	105	4-1/8	73	2-7/8	10
34110	6.60	105	4-1/8	73	2-7/8	10
34120	6.70	105	4-1/8	73	2-7/8	10
34130	6.80	105	4-1/8	73	2-7/8	10
34140	6.90	105	4-1/8	73	2-7/8	10
34150	7.00	105	4-1/8	73	2-7/8	10
34160	7.10	108	4-1/4	75	2-61/64	10
34170	7.20	108	4-1/4	75	2-61/64	10
34180	7.30	108	4-1/4	75	2-61/64	10
34190	7.40	111	4-3/8	78	3	10
34200	7.50	111	4-3/8	78	3	5
34210	7.60	111	4-3/8	78	3	5
34220	7.70	114	4-1/2	81	3-3/16	5
34230	7.80	114	4-1/2	81	3-3/16	5
34240	7.90	114	4-1/2	81	3-3/16	5
34250	8.00	114	4-1/2	81	3-3/16	5
34260	8.10	117	4-9/16	84	3-5/16	5
34270	8.20	117	4-9/16	84	3-5/16	5
34280	8.30	117	4-9/16	84	3-5/16	5
34290	8.40	121	4-3/4	87	3-27/64	5
34300	8.50	121	4-3/4	87	3-27/64	5
34310	8.60	121	4-3/4	87	3-27/64	5
34320	8.70	121	4-3/4	87	3-27/64	5
34330	8.80	124	4-7/8	89	3-1/2	5
34340	8.90	124	4-7/8	89	3-1/2	5
34350	9.00	124	4-7/8	89	3-1/2	5
34360	9.10	124	4-7/8	89	3-1/2	5
34370	9.20	127	5"	92	3-5/8	5
34380	9.30	127	5"	92	3-5/8	5
34390	9.40	127	5"	92	3-5/8	5
34400	9.50	127	5"	92	3-5/8	5
34410	9.60	130	5-1/8	95	3-3/4	5
34420	9.70	130	5-1/8	95	3-3/4	5
34430	9.80	130	5-1/8	95	3-3/4	5
34440	9.90	130	5-1/8	95	3-3/4	5
34450	10.00	130	5-1/8	95	3-3/4	5
34452	10.10	133	5-15/64	98	3-7/8	5
34460	10.20	133	5-15/64	98	3-7/8	5
34461	10.30	133	5-15/64	98	3-7/8	5
34462	10.40	133	5-1/4	98	3-7/8	5
34470	10.50	133	5-15/64	98	3-7/8	5
34472	10.60	136	5-3/8	100	3-15/16	5
34512	10.70	136	5-3/8	100	3-15/16	5
34480	10.80	140	5-1/2	103	4-1/16	5
34482	10.90	140	5-1/2	103	4-1/16	5
34490	11.00	140	5-1/2	103	4-1/16	5
34492	11.10	140	5-1/2	103	4-1/16	5
34502	11.30	143	5-5/8	106	4-7/32	5
34500	11.20	143	5-5/8	106	4-7/32	5
34504	11.40	143	5-5/8	106	4-7/32	5
34510	11.50	143	5-5/8	106	4-7/32	5
34514	11.60	146	5-3/4	110	4-11/32	5
34519	11.70	146	5-3/4	110	4-11/32	5
34520	11.80	146	5-3/4	110	4-11/32	5
34522	11.90	146	5-3/4	109	4-5/16	5
34530	12.00	149	5-7/8	111	4-3/8	5
34532	12.10	149	5-7/8	111	4-3/8	5
34540	12.20	149	5-7/8	111	4-3/8	5
34542	12.30	149	5-7/8	111	4-3/8	5
34544	12.40	152	6"	114	4-1/2	5
34550	12.50	152	6"	114	4-1/2	5
34552	12.60	152	6"	114	4-1/2	5
34580	12.70	152	6"	114	4-1/2	5
34590	12.80	152	6"	114	4-1/2	5
34980	12.90	152	6"	114	4-1/2	5
34560	13.00	152	6"	114	4-1/2	5

HSS M42 COBALT DIN 338

Type XGT-J - METRIC

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

- 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.

Type XGT-J
Heavy duty wide land parabolic.

METRIC

Part #	Dia. MM	Frac/ Wire/ Letter	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
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
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
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

METRIC sizes continued on page 33

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METRIC

Part #	Dia. MM	Frac/ Wire/ Letter	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
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
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

HSS M42 COBALT DIN 338

Type XGT-J METRIC

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

Part #	Dia. MM	Frac/ Wire/ Letter	Overall Length MM	Overall Length Inches	Flute Length MM	Flute Length Inches	Qty. per/pack
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

HSS M42 COBALT DIN 338

Type XGT-JN TiN Titanium Nitride

DIN 338 Length - 135˚Split Point M-42 Cobalt

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
38603	1/16	1-7/8	7/8	10
38613	5/64	2	1	10
38623	3/32	2-1/4	1-3/16	10
38633	7/64	2-13/32	1-19/64	10
38643	1/8	2-9/16	1-7/16	10
38653	9/64	2-3/4	1-17/32	10
38663	5/32	2-15/16	1-11/16	10
38673	11/64	3-5/32	1-27/32	10
38683	3/16	3-3/8	2-1/16	10
38693	13/64	3-1/8	2-1/16	10
38703	7/32	3-21/32	2-7/32	10
38713	15/64	3-21/32	2-7/32	10
38723	1/4	3-31/32	2-15/32	10
38733	17/64	4-9/32	2-23/32	10
38743	9/32	4-9/32	2-23/32	10
38753	19/64	4-19/32	2-15/16	5
38763	5/16	4-19/32	2-15/16	5
38773	21/64	4-19/32	2-15/16	5
38783	11/32	4-29/32	3-3/16	5
38793	23/64	4-29/32	3-3/16	5
38803	3/8	4-29/32	3-7/16	5
38813	25/64	5-1/4	3-7/16	5
38823	13/32	5-1/4	3-7/16	5
38833	27/64	5-19/32	3-11/16	5
38843	7/16	5-19/32	3-11/16	5
38853	29/64	5-19/32	3-11/16	5
38863	15/32	5-15/16	3-31/32	5
38873	31/64	5-15/16	3-31/32	5
38883	1/2	5-15/16	3-31/32	5

NAS 907C - SCREW MACHINE

Type 135-AG - NAS 907C

Magnum 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 #	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 #	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 35

NAS 907C - SCREW MACHINE

Type 135-AG - NAS 907C
Magnum 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.

LETTER

Part #	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

M42 COBALT - TiN & TITANIUM ALUMINUM NITRIDE SCREW MACHINE

Type 260-D - M42 Cobalt ,Type 260-DN -Titanium Nitride ,Type 260-AND -Titanium Aluminum Nitride
135˚Split Point - M42 Cobalt 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.
- Titanium Aluminum Nitride can be used in machining stainless steel, nickel based and titanium alloys, not recommended for aluminum.

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 resistance extended tool life.

Type 260-AND
Titanium aluminum nitride designed for use where extreme temperatures are found, allows for increased machining speeds up to 200%.

260-D Part #	260-DN TiN Part#	260-AND TiAlN Part#	Dia. Inches	Overall Length Inches	Flute Length Inches	260-D Qty. per/Pk	260-DN/260-AND Qty. per/Pk
39800	81800	37103	1/16	1-5/8	5/8	12	6
39810	81810	37113	5/64	1-11/16	11/16	12	6
39820	81820	37123	3/32	1-3/4	3/4	12	6
39830	81830	37133	7/64	1-13/16	13/16	12	6
39840	81840	37143	1/8"	1-7/8	7/8	12	6
39850	81850	37153	9/64	1-15/16	15/16	12	6
39860	81860	37163	5/32	2-1/16	1	12	6
39870	81870	37173	11/64	2-1/8	1-1/16	12	6
39880	81880	37183	3/16	2-3/16	1-1/8	12	6
39890	81890	37193	13/64	2-1/4	1-3/16	12	6
39900	81900	37203	7/32	2-3/8	1-1/4	12	6
39910	81910	37213	15/64	2-7/16	1-5/16	12	6
39920	81920	37223	1/4"	2-1/2	1-3/8	12	6
39930	81930	37233	17/64	2-5/8	1-7/16	12	6
39940	81940	37243	9/32	2-11/16	1-1/2	12	6
39950	81950	37253	19/64	2-3/4	1-9/16	6	3
39960	81960	37263	5/16	2-13/16	1-5/8	6	3
39970	81970	37273	21/64	2-15/16	1-11/16	6	3
39980	81980	37283	11/32	3	1-11/16	6	3
39990	81990	37293	23/64	3-1/16	1-3/4	6	3
40000	82000	37303	3/8"	3-1/8	1-13/16	6	3
40010	82010	37313	25/64	3-1/4	1-7/8	6	3
40020	82020	37323	13/32	3-5/16	1-15/16	6	3
40030	82030	37333	27/64	3-3/8	2	6	3
40040	82040	37343	7/16"	3-7/16	2-1/16	6	3
40050	82050	37353	29/64	3-9/16	2-1/8	6	3
40060	82060	37363	15/32	3-5/8	2-1/8	6	3
40070	82070	37373	31/64	3-11/16	2-3/16	6	3
40080	82080	37383	1/2"	3-3/4	2-1/4	6	3
51630	-----	-----	33/64	3-7/8	2-3/8	1	--
51640	-----	-----	17/32	3-7/8	2-3/8	1	--
51650	-----	-----	35/64	4	2-1/2	1	--
51660	-----	-----	9/16	4	2-1/2	1	--
51670	-----	-----	37/64	4-1/8	2-5/8	1	--
51680	-----	-----	19/32	4-1/8	2-5/8	1	--
51690	-----	-----	39/64	4-1/4	2-3/4	1	--
51700	-----	-----	5/8"	4-1/4	2-3/4	1	--
51710	-----	-----	41/64	4-1/2	2-7/8	1	--
51720	-----	-----	21/32	4-1/2	2-7/8	1	--
51730	-----	-----	43/64	4-1/2	2-7/8	1	--
51740	-----	-----	11/16	4-1/2	2-7/8	1	--
51750	-----	-----	45/64	4-3/4	3	1	--
51760	-----	-----	23/32	4-3/4	3	1	--
51770	-----	-----	47/64	5	3-1/8	1	--
51780	-----	-----	3/4"	5	3-1/8	1	--

Screw Machine Length

M42 COBALT - TiN & TITANIUM ALUMINUM NITRIDE SCREW MACHINE

Type 260-D - M42 Cobalt ,Type 260-DN -Titanium Nitride ,Type 260-AND -Titanium Aluminum Nitride 135˚Split Point - M42 Cobalt 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.
- Titanium Aluminum Nitride can be used in machining stainless steel, nickel based and titanium alloys, not recommended for aluminum.

WIRE

260-D Part #	Wire Sizes	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
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

HEAVY-DUTY 1/4" REDUCED SHANK

Type 125

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 125 1/4" REDUCED SHANK

Part #	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

TiN COATED, BRIGHT FINISHED NAS 907C HEAVY-DUTY

Type 135
Sturdy drill for use in portable power drilling.

Type 260-TW
Bright finish accurate centering, fast penetration.

Type 135-TN
Titanium nitride coating provides a super hard surface with high lubricity.

Type 135, Type 135-TN, Type 260-TW
NAS 907C 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 **135-AG page 36**

NOTE: * TiN Coated Package Quantity
(6 qty. - 1/16 thru 9/32 A-L #1 - 60) (3 qty. - 19/64 - 1/2")

NOTE: * TiN Coated Package Quantity
(6 qty. - 1/16 thru 9/32 A-L #1 - 60) (3 qty. - 19/64 - 1/2")

FRACTIONAL

Type 135 Part #	*Type 135-TN Part #	Type 260-TW Part #	Diameter Inches	Overall Length Inches	Flute 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	97560	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
25650	97510	52330	13/64	2-1/4	1-3/16	12
25660	97500	52340	7/32	2-3/8	1-1/4	12
25670	97490	52350	15/64	2-7/16	1-5/16	12
25680	97480	52360	1/4"	2-1/2	1-3/8	12
25690	97470	52370	17/64	2-5/8	1-7/16	12
25700	97460	52380	9/32	2-11/16	1-1/2	12
25710	97450	52390	19/64	2-3/4	1-9/16	6
25720	97440	52400	5/16"	2-13/16	1-5/8	6
25730	97430	52410	21/64	2-15/16	1-11/16	6
25740	97420	52420	11/32	3	1-11/16	6
25750	97410	52430	23/64	3-1/16	1-3/4	6
25760	97400	52440	3/8"	3-1/8	1-13/16	6
25770	97390	52450	25/64	3-1/4	1-7/8	6
25780	97380	52460	13/32	3-5/16	1-15/16	6
25790	97370	52470	27/64	3-3/8	2	6
25800	97360	52480	7/16"	3-7/16	2-1/16	6
25810	97350	52490	29/64	3-9/16	2-1/8	6
25820	97340	52500	15/32	3-5/8	2-1/8	6
25830	97330	52510	31/64	3-11/16	2-3/16	6
25840	97320	52520	1/2"	3-3/4	2-1/4	6

For Letter Sizes use Type 135-AG page 35

WIRE

Type 135 Part #	*Type 135-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

WIRE - CONTINUED

Type 135 Part #	*Type 135-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

HSS SCREW MACHINE & TITANIUM NITRIDE COATED

Type 260 & Type 260-BN Titanium Nitride Coated
118˚point - High-Speed Steel - General Purpose

Bright-Flute thru 3/4" diameter.
Surface treated flutes over 1" diameter.

- Can be used for all screw machine qualified to run in all applications.
- 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.

Type 260
The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.

Type 260-BN
Performs well in mild drilling applications with abrasive wear characteristics.

FRACTIONAL

260 Part #	260-BN TiN Coated Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	260 Qty. per/pack	260-BN Qty. per/pack
23860	-----	3/64	1-3/8	1/2	12	-----
23870	01501	1/16	1-5/8	5/8	12	6
23880	01511	5/64	1-11/16	11/16	12	6
23890	01521	3/32	1-3/4	3/4	12	6
23900	01531	7/64	1-13/16	13/16	12	6
23910	01541	1/8	1-7/8	7/8	12	6
23920	01551	9/64	1-15/16	15/16	12	6
23930	01561	5/32	2-1/16	1	12	6
23940	01571	11/64	2-1/8	1-1/16	12	6
23950	01581	3/16	2-3/16	1-1/8	12	6
23960	01591	13/64	2-1/4	1-3/16	12	6
23970	01601	7/32	2-3/8	1-1/4	12	6
23980	01611	15/64	2-7/16	1-5/16	12	6
23990	01621	1/4	2-1/2	1-3/8	12	6
24000	01631	17/64	2-5/8	1-7/16	12	6
24010	01641	9/32	2-11/16	1-1/2	12	6
24020	01651	19/64	2-3/4	1-9/16	6	3
24030	01661	5/16	2-13/16	1-5/8	6	3
24040	01671	21/64	2-15/16	1-11/16	6	3
24050	01681	11/32	3	1-11/16	6	3
24060	01691	23/64	3-1/16	1-3/4	6	3
24070	01701	3/8	3-1/8	1-13/16	6	3
24080	01711	25/64	3-1/4	1-7/8	6	3
24090	01721	13/32	3-5/16	1-15/16	6	3
24100	01731	27/64	3-3/8	2	6	3
24110	01741	7/16	3-7/16	2-1/16	6	3
24120	01751	29/64	3-9/16	2-1/8	6	3
24130	01761	15/32	3-5/8	2-1/8	6	3
24140	01771	31/64	3-11/16	2-3/16	6	3
24150	01781	1/2	3-3/4	2-1/4	6	3
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

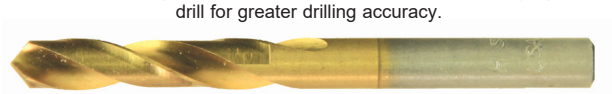
260 Part #	260-BN TiN Coated	Diameter Inches	Overall Length Inches	Flute Length Inches	260 Qty. per/pack	260-BN Qty. per/pack
24340	-----	51/64	5-1/4	3-3/8	1	-----
24350	-----	13/16	5-1/4	3-3/8	1	-----
24360	-----	53/64	5-3/8	3-1/2	1	-----
24370	-----	27/32	5-3/8	3-1/2	1	-----
24380	-----	55/64	5-3/8	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 & TITANIUM NITRIDE COATED

Type 260
The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy.



Type 260-BN
Performs well in mild drilling applications with abrasive wear characteristics.

Type 260, Type 260-BN Titanium Nitride Coated
High-Speed Steel - General Purpose - 118˚ Point

Bright-Flute thru 3/4" diameter.
Surface treated flutes over 1" diameter.

- 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

260 Part #	260-BN TiN Coated Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	260 Qty. per/pack	260-BN Qty. per/pack
24640	24643	1	2-7/16	1-5/16	12	6
24650	24653	2	2-7/16	1-5/16	12	6
24660	24663	3	2-3/8	1-1/4	12	6
24670	24673	4	2-3/8	1-1/4	12	6
24680	24683	5	2-3/8	1-1/4	12	6
24690	24693	6	2-3/8	1-1/4	12	6
24700	24703	7	2-1/4	1-3/16	12	6
24710	24713	8	2-1/4	1-3/16	12	6
24720	24723	9	2-1/4	1-3/16	12	6
24730	24733	10	2-1/4	1-3/16	12	6
24740	24743	11	2-1/4	1-3/16	12	6
24750	24753	12	2-1/4	1-3/16	12	6
24760	24763	13	2-3/16	1-1/8	12	6
24770	24773	14	2-3/16	1-1/8	12	6
24780	24783	15	2-3/16	1-1/8	12	6
24790	24793	16	2-3/16	1-1/8	12	6
24800	24803	17	2-3/16	1-1/8	12	6
24810	24813	18	2-1/8	1-1/16	12	6
24820	24823	19	2-1/8	1-1/16	12	6
24830	24833	20	2-1/8	1-1/16	12	6
24840	24843	21	2-1/8	1-1/16	12	6
24850	24853	22	2-1/8	1-1/16	12	6
24860	24863	23	2-1/16	1	12	6
24870	24873	24	2-1/16	1	12	6
24880	24883	25	2-1/16	1	12	6
24890	24893	26	2-1/16	1	12	6
24900	24903	27	2-1/16	1	12	6
24910	24913	28	1-15/16	15/16	12	6
24920	24923	29	1-15/16	15/16	12	6
24930	24933	30	1-15/16	15/16	12	6
24940	24943	31	1-7/8	7/8	12	6
24950	24953	32	1-7/8	7/8	12	6
24960	24963	33	1-7/8	7/8	12	6
24970	24973	34	1-7/8	7/8	12	6
24980	24983	35	1-7/8	7/8	12	6
24990	24993	36	1-13/16	13/16	12	6
25000	25003	37	1-13/16	13/16	12	6
25010	25013	38	1-13/16	13/16	12	6
25020	25023	39	1-13/16	13/16	12	6
25030	25033	40	1-13/16	13/16	12	6
25040	25043	41	1-13/16	13/16	12	6
25050	25053	42	1-3/4	3/4	12	6
25060	25063	43	1-3/4	3/4	12	6
25070	25073	44	1-3/4	3/4	12	6
25080	25083	45	1-3/4	3/4	12	6
25090	25093	46	1-3/4	3/4	12	6
25100	25103	47	1-3/4	3/4	12	6
25110	25113	48	1-11/16	11/16	12	6
25120	25123	49	1-11/16	11/16	12	6
25130	25133	50	1-11/16	11/16	12	6
25140	25143	51	1-11/16	11/16	12	6
25150	25153	52	1-11/16	11/16	12	6
25160	25163	53	1-5/8	5/8	12	6
25170	25173	54	1-5/8	5/8	12	6
25180	25183	55	1-5/8	5/8	12	6
25190	25193	56	1-3/8	1/2	12	6
25200	25203	57	1-3/8	1/2	12	6
25210	25213	58	1-3/8	1/2	12	6
25220	25223	59	1-3/8	1/2	12	6
25230	25233	60	1-3/8	1/2	12	6

LETTER

260 Part #	260-BN TiN Coated Part #	Letter Sizes	Overall Length Inches	Flute Length Inches	260 Qty. per/pack	260-BN 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	-----

HSS TAPER LENGTH

Type 210
High-Speed Steel 118° Point

- Bright finish thru 1" diameter.
- Surface treated flutes over 1" diameter.
- General purpose 118° point, recommended for mild drilling applications where longer than jobber length drills are required.

FRACTIONAL

Part #	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 #	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 #	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

Wire & Letter sizes continued on page 41

HSS TAPER LENGTH & AUTOMOTIVE TANG DRIVE

Type 210 - (Continued)

WIRE

Part #	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 #	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 #	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 Titanium Nitride Coated - Tang Drive 135˚ Split Point

- This high performance drill combines the superior wear resistance of titanium nitride 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 #	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 Black Oxide - Tang Drive 135˚ Split Point

- 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 #	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-AG
Heavy Duty 135º Split Point - 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 #	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	1
40890	9/64	9	6	1
40790	5/32x9	9	6	1
53140	11/64	9	6	1
40800	3/16x9	9	6	1
53160	13/64	9	6	1
40810	7/32x9	9	6	1
53180	15/64	9	6	1
40820	1/4x9	9	6	1
40830	9/32x9	9	6	1
40840	5/16x9	9	6	1
40850	11/32x9	9	6	1
40860	3/8x9	9	6	1
40870	7/16x9	9	6	1
40880	1/2x9	9	6	1
43050	1/8x12	12	9	1
53130	9/64	12	9	1
43060	5/32x12	12	9	1
53150	11/64	12	9	1
43070	3/16x12	12	9	1
53170	13/64	12	9	1
43080	7/32x12	12	9	1
53190	15/64	12	9	1
43090	1/4x12	12	9	1
43100	9/32x12	12	9	1
43110	5/16x12	12	9	1
43120	11/32x12	12	9	1
43130	3/8x12	12	9	1
43140	7/16x12	12	9	1
43150	1/2x12	12	9	1

Type 160 & 165
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 160 12" LONGBOY

Part #	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 165 18" LONGBOY

Part #	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" & 12" AIRCRAFT NAS 907B & NAS 907J EXTENSION DRILLS

Heavy - duty 135° split point high-speed steel drills used for drilling holes in hard to reach places.

Type 166 - NAS 907B
Aircraft 6", 135° Split Point
Solid Construction Black Oxide

Type 167-D - NAS 907J
Aircraft 6", 135° Split Point
Solid Construction M42 Cobalt

Type 166 - NAS 907B
The black surface treatment prevents chip welding and increases abrasion resistance

Type 167-D - NAS 907J
M42 Cobalt steel increases heat and abrasion resistance.

Type 168 - NAS 907B
12" Extension Drill, Black Oxide

Type 169-D - NAS 907J
12" Extension Drill, M42 Cobalt

Type 168 - NAS 907B
The black oxide treatment prevents chip welding and increases abrasion resistance

Type 169-D - NAS 907J
M42 Cobalt steel increases heat and abrasion resistance.

FRACTIONAL

166 Black Oxide Part #	167-D Cobalt Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
68170	-----	1/16	6	7/8	6
68180	-----	5/64	6	1	6
68470	65090	3/32	6	1-1/4	6
68490	65100	7/64	6	1-1/2	6
68500	65110	1/8	6	1-5/8	6
68510	65120	9/64	6	1-3/4	6
68520	65130	5/32	6	2	6
68530	65140	11/64	6	2-1/8	6
68540	65150	3/16	6	2-5/16	6
68550	65160	13/64	6	2-7/16	6
68560	65170	7/32	6	2-1/2	6
68570	65180	15/64	6	2-5/8	6
68580	65190	1/4	6	2-3/4	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
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

166 Black Oxide Part #	167-D Cobalt Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
68590	65200	1	6	2-5/8	6
37400	65210	2	6	2-5/8	6
68330	-----	5	6	2-1/2	6
68600	65220	10	6	2-7/16	6
68610	65230	11	6	2-5/16	6
68350	-----	19	6	2-1/8	6
68620	65240	20	6	2-1/8	6
68630	65250	21	6	2-1/8	6
68370	-----	25	6	1-7/8	6
68640	65260	29	6	1-3/4	6
68650	65270	30	6	1-5/8	6
37490	65280	40	6	1-3/8	6

FRACTIONAL

168 Black Oxide Part #	169-D Cobalt Part #	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02710	-----	1/16"	12	7/8	1
02720	-----	5/64	12	1	1
02730	61790	3/32	12	1-1/4	1
02740	61800	7/64	12	1-1/2	1
68800	61810	1/8	12	1-5/8	1
68810	61820	9/64	12	1-3/4	1
68820	61830	5/32	12	2	1
68830	61840	11/64	12	2-1/8	1
68840	61850	3/16	12	2-5/16	1
68850	61860	13/64	12	2-7/16	1
68860	61870	7/32	12	2-1/2	1
68870	61880	15/64	12	2-5/8	1
68880	61890	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

168 Black Oxide Part #	169-D Cobalt Part #	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
69050	61900	1	12	2-5/8	1
-----	61910	2	12	2-5/8	1
02400	------	5	12	2-5/8	1
69060	61920	10	12	2-7/16	1
69070	61930	11	12	2-5/16	1
69080	61940	20	12	2-1/8	1
69090	61950	21	12	2-1/8	1
69100	61960	29	12	1-3/4	1
69110	61970	30	12	1-5/8	1
02370	61980	40	12	1-3/8	1

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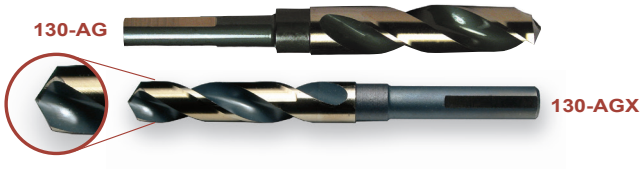
PREMIUM & CN-TECH™ 1/2" REDUCED SHANK - SILVER & DEMING

Type 130-AG
1/2" Reduced Shank Premium, 3-Flats on Shank Heavy-Duty, 135° Split Point

- Special Hi-Molybdenum tool steel.
- One piece solid construction.
- Sizes greater than 1",118º split pt.
- Use in work hardening grades of stainless steel and other hard metal drilling applications.

Type 130-AGX
1/2" Reduced Shank Premium, Silver & Deming 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.



130-AG Part#	130-AGX Part#	Diameter Inches	Overall Length Inches	Qty. per/pack
29550	74001	33/64	6	1
29560	74011	17/32	6	1
29570	74021	35/64	6	1
29580	74031	9/16	6	1
29590	74041	37/64	6	1
29600	74051	19/32	6	1
29610	74061	39/64	6	1
29620	74071	5/8"	6	1
29630	74081	41/64	6	1
29640	74091	21/32	6	1
29650	74101	43/64	6	1
29660	74111	11/16	6	1
29670	74121	45/64	6	1
29680	74131	23/32	6	1
29690	74141	47/64	6	1
29700	74151	3/4"	6	1
29710	74161	49/64	6	1
29720	74171	25/32	6	1
29730	74181	51/64	6	1
29740	74191	13/16	6	1
29750	74201	53/64	6	1
29760	74211	27/32	6	1
29770	74221	55/64	6	1
29780	74231	7/8"	6	1
29790	74241	57/64	6	1
29800	74251	29/32	6	1
29810	74261	59/64	6	1
29820	74271	15/16	6	1
29830	74281	61/64	6	1
29840	74291	31/32	6	1
29850	74301	63/64	6	1
29860	74311	1"	6	1
29870	----	1-1/32	6	1
29880	74321	1-1/16	6	1
29890	----	1-3/32	6	1
29900	74331	1-1/8	6	1
29910	74341	1-5/32	6	1
29920	74351	1-3/16	6	1
29930	----	1-7/32	6	1
29940	74361	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

4 Pc.

Part #		9/16, 5/8, 3/4, 1"	Qty of ea.
12250	S&D-4SP	1/2" Shank - Silver & Deming	1
74771	S&D-4AGX	1/2" Shank - Silver & Deming	1

8 Pc.

Part #		9/16" - 1" by 16ths	Qty of ea.
92400	S&D-8SP	1/2" Shank - Silver & Deming	1
74781	S&D-8AGX	1/2" Shank - Silver & Deming	1

NORSEMAN/CTD CN-TECH™ Cryogenic Nitrided HSS Products

Type 130-CN
CN-TECH™ CRYO/NITRIDE
1/2" Reduced Shank 135° Split Point

- Nitride coating creates a case hardened surface that is resistant to rust, heat and extends tool life.
- Excellent for truck & trailer repair, and all MRO applications.

Type 130-CN
Nitride process case hardening resulting in superior tool life and exceptional corrosion resistance.

FRACTIONAL

Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
30003	33/64"	6	1
30013	17/32	6	1
30023	35/64	6	1
30033	9/16"	6	1
30043	37/64	6	1
30053	19/32	6	1
30063	39/64	6	1
30073	5/8"	6	1
30083	41/64	6	1
30093	21/32	6	1
30103	43/64	6	1
30113	11/16	6	1
30123	45/64	6	1
30133	23/32	6	1
30143	47/64	6	1
30153	3/4"	6	1
30163	49/64	6	1
30173	25/32	6	1
30183	51/64	6	1
30193	13/16	6	1
30203	53/64	6	1
30213	27/32	6	1
30223	55/64	6	1
30233	7/8"	6	1
30243	57/64	6	1
30253	29/32	6	1
30263	59/64	6	1
30273	15/16	6	1
30283	61/64	6	1
30293	31/32	6	1
30303	63/64	6	1
30313	1"	6	1

Sets

4 Pc.

Part #		9/16, 5/8, 3/4, 1"	Qty of ea.
30323	S&D-4CN	CN-TECH™ CRYO/NITRIDE 1/2" Shank - Silver & Deming	1

8 Pc.

Part #		9/16 - 1" by 16ths	Qty of ea.
30333	S&D-8CN	CN-TECH™ CRYO/NITRIDE 1/2" Shank - Silver & Deming	1

13 Pc.

Part #		3 ea.(9/16" & 5/8") 2 ea.(3/4") 11/16", 13/16", 7/8", 15/16", 1"	Qty of ea.
30343	S&D-13CN	CN-TECH™ CRYO/NITRIDE 1/2" Shank - Silver & Deming	1

33 Pc.

Part #		1/2 - 1" by 64ths	Qty of ea.
30353	S&D-33CN	CN-TECH™ CRYO/NITRIDE 1/2" Shank - Silver & Deming	1

Reduced Shank

VORTEX-POINT™, METRIC -1/2" & 3/4" REDUCED SHANK SILVER & DEMING

Type 130-AGM - METRIC
1/2" Reduced Shank Silver & Deming
135˚Split Point, 3-Flats on Shank

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

METRIC

Part #	Dia. MM	OAL Inches	Part #	Dia. MM	OAL Inches
25500	14.0	6	25520	20.0	6
25501	14.5	6	25521	20.5	6
25502	15.0	6	25522	21.0	6
25541	15.5	6	25523	21.5	6
25504	16.0	6	25524	22.0	6
25542	16.5	6	25529	22.5	6
25510	17.0	6	25530	23.0	6
25511	17.5	6	25531	23.5	6
25512	18.0	6	25532	24.0	6
25543	18.5	6	25549	24.5	6
25514	19.0	6	25534	25.0	6
25544	19.5	6			
Qty. per package 1			Qty. per package 1		

Type 130-VT

VORTEX-POINT™

1/2" Shank Silver & Deming
135º Split point - 3-Flats on Shank

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

Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
26033	9/16"	6	1
26073	5/8"	6	1
26113	11/16	6	1
26153	3/4"	6	1
26193	13/16	6	1
26233	7/8"	6	1
26273	15/16	6	1
26313	1"	6	1

Sets

4 Pc.

Part #	9/16, 5/8, 3/4, 1"	Qty of ea.
26443 S&D-4VT	VORTEX-POINT™ 1/2" Shank - Silver & Deming	1

8 Pc.

Part #	9/16 - 1" by 16ths	Qty of ea.
26473 S&D-8VT	VORTEX-POINT™ 1/2" Shank - Silver & Deming	1

Type 130
1/2" Reduced Shank Silver & Deming
118˚ point - General Purpose

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

Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
29130	33/64"	6	1
29140	17/32	6	1
29150	35/64	6	1
29160	9/16"	6	1
29170	37/64	6	1
29180	19/32	6	1
29190	39/64	6	1
29200	5/8"	6	1
29210	41/64	6	1
29220	21/32	6	1
29230	43/64	6	1
29240	11/16	6	1
29250	45/64	6	1
29260	23/32	6	1
29270	47/64	6	1
29280	3/4"	6	1
29290	49/64	6	1
29300	25/32	6	1
29310	51/64	6	1
29320	13/16	6	1
29330	53/64	6	1
29340	27/32	6	1
29350	55/64	6	1
29360	7/8"	6	1
29370	57/64	6	1
29380	29/32	6	1
29390	59/64	6	1
29400	15/16	6	1
29410	61/64	6	1
29420	31/32	6	1
29430	63/64	6	1
29440	1"	6	1
29450	1-1/16	6	1
29460	1-1/8	6	1
29470	1-5/32	6	1
29480	1-3/16	6	1
29490	1-1/4	6	1
29540	1-47/64	6	1

Type 131-AG
3/4" Reduced Shank Silver & Deming
Magnum Super Premium - 135˚Split Point

- These are high performance, close tolerance, tight run out spec.
- Tools designed for drilling with Bridgeport style or other production machines with 3/4" chucks.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.

Part #	Diameter Inches	Flute Length Inches	Overall Length Inches	Qty. per/pack
29741	13/16	3-1/4	5-1/2	1
29781	7/8	3-1/4	5-1/2	1
29821	15/16	3-1/4	5-1/2	1
29861	1	3-1/4	5-1/2	1
29901	1-1/8	3-1/2	5-27/32	1
29941	1-1/4	3-1/2	5-7/8	1
29961	1-3/8	3-1/2	5-29/32	1
29981	1-1/2	3-1/2	5-15/16	1

SILVER & DEMING - 1/2" REDUCED SHANK

Type 130-MRO
Maintenance Length - 1/2" Reduced Shank 135° Split Point 3-Flats on Shank Surface Treated Flutes

- The 130-MRO is a shorter (5") tougher version of our very popular 1/2" reduced shank product.
- Designed specifically for the needs of the **MRO market**, the 130-MRO has a 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 #	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 130-MRO **4 Pc.** 9/16, 5/8, 3/4, 1"

Part #		Qty of each
54520 S&D-4	1/2" Shank-Silver & Deming	1

Type 130-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.

Part #	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
29291	49/64	6	1
29331	25/32	6	1
29311	51/64	6	1
29321	13/16	6	1
29301	53/64	6	1
29341	27/32	6	1
29351	55/64	6	1
29361	7/8	6	1
29371	57/64	6	1
29381	29/32	6	1
29391	59/64	6	1
29401	15/16	6	1
29411	61/64	6	1
29421	31/32	6	1
29431	63/64	6	1
29441	1"	6	1

SETS Type 130-D **4 Pc.** 9/16, 5/8, 3/4, 1"

Part #		Qty of each
29551 S&D-4D	M42 Cobalt 135º Split point	1

8 Pc. 9/16 - 1" by 16ths

Part #		Qty of each
29571 S&D-8D	M42 Cobalt 135º Split point	1

Type EXT
Silver and Deming - Extension

Includes an "Allen Wrench"

- **COO-CHINA**

Part #	Bore/Shank	Diameter	Overall Length	Extension Length	Qty. per/pack
62730	1/2"	7/8"	7-1/2"	6"	1

HSS TAPER SHANK - REGULAR

Type 510

High-Speed Steel 118º Point Taper Shank
Regular Shank - Black Oxide Flutes & Clearanc

- 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 #	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	.8591	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 #	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

Letter sizes continued on page 49

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HSS TAPER SHANK - REGULAR

Type 510 - Continued

High-Speed Steel Taper Shank Regular Shank - Black Oxide

LETTER

Part #	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#	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

Type 500

High-Speed Steel Taper Shank Shank Smaller 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 #	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 #	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 #	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 #	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

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Decimal Equivalent & Tap Drill Sizes Chart

Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal
80	.0135	A	.2340	28	.1405	1 7/64	.1094	1 1/16	.6875
79	.0145	15/64	.2344	27	.1440	H	.2656	11/64	.6875
78	.0156	5/16	.2500	9/64	.1406	9/32	.2812	11/16	.6875
77	.0160	B	.2570	26	.1410	5/16	.2917	13/64	.7031
76	.0165	17/64	.2656	25	.1495	I	.2969	11/32	.7031
75	.0169	C	.2660	24	.1520	7/32	.3125	1 3/16	.7188
74	.0172	9/32	.2812	23	.1540	J	.3150	15/64	.7344
73	.0180	D	.2900	5/32	.1562	9/32	.3281	3/4	.7500
72	.0185	5/16	.3125	22	.1570	5/16	.3437	13/16	.8125
71	.0189	E	.3125	21	.1590	K	.3465	7/8	.8750
70	.0193	11/64	.3281	20	.1610	11/32	.3594	15/16	.9375
69	.0197	F	.3320	19	.1660	3/8	.3750	1	1.0000
68	.0200	3/8	.3750	18	.1695	L	.3906	1 1/16	1.0625
67	.0210	G	.3770	11/64	.1719	13/32	.4062	1 1/8	1.1250
66	.0215	13/32	.4062	17	.1730	M	.4130	1 3/16	1.1875
65	.0220	H	.4090	16	.1770	7/16	.4375	1 1/4	1.2500
64	.0225	7/16	.4375	15	.1800	N	.4406	1 5/16	1.3125
63	.0230	I	.4390	14	.1820	15/32	.4688	1 3/8	1.3750
62	.0235	15/64	.4531	13	.1850	O	.4844	1 7/16	1.4375
61	.0240	J	.4570	3/16	.1875	1/2	.5000	1 1/2	1.5000
60	.0245	1/2	.5000	12	.1890	P	.5156	1 9/16	1.5625
59	.0250	K	.5160	11	.1910	17/32	.5312	1 5/8	1.6250
58	.0260	9/16	.5625	10	.1935	Q	.5469	1 11/16	1.6875
57	.0270	L	.5900	9	.1960	9/16	.5625	1 3/4	1.7500
56	.0280	5/8	.6250	8	.1990	R	.5781	1 13/16	1.8125
55	.0292	M	.6300	7	.2010	5/8	.6250	1 7/8	1.8750
54	.0295	11/16	.6875	6	.2040	S	.6406	1 15/16	1.9375
53	.0298	N	.6890	5	.2055	11/16	.6875	2	2.0000
52	.0300	3/4	.7500	4	.2090	T	.7031	2 1/16	2.0625
51	.0310	O	.7770	3	.2130	3/4	.7500	2 1/8	2.1250
50	.0320	13/16	.8125	7/32	.2187	U	.7656	2 3/16	2.1875
49	.0330	P	.8190	2	.2210	13/16	.8125	2 1/4	2.2500
48	.0340	7/8	.8750	1	.2280	V	.8437	2 5/16	2.3125
47	.0350	Q	.8850	A	.2340	7/8	.8750	2 3/8	2.3750
46	.0360	15/16	.9375	15/64	.2344	W	.8906	2 7/16	2.4375
45	.0370	R	.9400	B	.2380	15/16	.9375	2 1/2	2.5000
44	.0380	1	1.0000	C	.2420	X	.9531	2 9/16	2.5625
43	.0390	1 1/16	1.0625	D	.2460	1	1.0000	2 5/8	2.6250
42	.0400	1 1/8	1.1250	E	.2500	1 1/16	1.0625	2 11/16	2.6875
41	.0410	1 3/16	1.1875	1/4	.2500	Y	1.0781	2 3/4	2.7500
40	.0420	1 1/4	1.2500	F	.2570	1 1/8	1.1250	2 13/16	2.8125
39	.0430	1 5/16	1.3125	G	.2610	Z	1.1406	2 7/8	2.8750
38	.0440	1 3/8	1.3750	9/32	.2812	1 1/4	1.2500	2 15/16	2.9375
37	.0450	1 7/16	1.4375	H	.2890	1 3/8	1.3750	3	3.0000
36	.0465	1 1/2	1.5000	I	.2950	1 1/2	1.5000	3 1/16	3.0625
35	.0470	1 9/16	1.5625	J	.3020	1 5/8	1.6250	3 1/8	3.1250
34	.0480	1 5/8	1.6250	K	.3070	1 3/4	1.7500	3 3/16	3.1875
33	.0490	1 11/16	1.6875	L	.3125	1 7/8	1.8750	3 1/4	3.2500
32	.0500	1 3/4	1.7500	M	.3160	2	2.0000	3 5/16	3.3125
31	.0520	1 13/16	1.8125	N	.3230	2 1/8	2.1250	3 3/8	3.3750
30	.0540	1 7/8	1.8750	O	.3281	2 1/4	2.2500	3 7/16	3.4375
29	.0550	1 15/16	1.9375	P	.3390	2 3/8	2.3750	3 1/2	3.5000
28	.0560	2	2.0000	Q	.3438	2 1/2	2.5000	3 9/16	3.5625
27	.0570	2 1/16	2.0625	R	.3500	2 5/8	2.6250	3 5/8	3.6250
26	.0580	2 1/8	2.1250	S	.3580	2 3/4	2.7500	3 11/16	3.6875
25	.0590	2 3/16	2.1875	T	.3680	2 7/8	2.8750	3 3/4	3.7500
24	.0600	2 1/4	2.2500	U	.3770	3	3.0000	3 13/16	3.8125
23	.0610	2 5/16	2.3125	V	.3860	3 1/8	3.1250	3 7/8	3.8750
22	.0620	2 3/8	2.3750	W	.3970	3 1/4	3.2500	3 15/16	3.9375
21	.0630	2 7/16	2.4375	X	.4040	3 3/8	3.3750	4	4.0000
20	.0635	2 1/2	2.5000	Y	.4130	3 1/2	3.5000	4 1/16	4.0625
19	.0640	2 9/16	2.5625	Z	.4210	3 5/8	3.6250	4 1/8	4.1250
18	.0650	2 5/8	2.6250	3/8	.4375	3 3/4	3.7500	4 3/16	4.1875
17	.0660	2 11/16	2.6875	3 3/8	.4375	3 7/8	3.8750	4 1/4	4.2500
16	.0670	2 3/4	2.7500	3 1/2	.4375	4	4.0000	4 5/16	4.3125
15	.0680	2 13/16	2.8125	3 5/8	.4375	4 1/8	4.1250	4 3/8	4.3750
14	.0690	2 7/8	2.8750	3 3/4	.4375	4 1/4	4.2500	4 7/16	4.4375
13	.0700	2 15/16	2.9375	3 7/8	.4375	4 3/8	4.3750	4 1/2	4.5000
12	.0720	3	3.0000	4	.4375	4 1/2	4.5000	4 9/16	4.5625
11	.0730	3 1/16	3.0625	4 1/8	.4375	4 5/8	4.6250	4 5/8	4.6250
10	.0740	3 1/8	3.1250	4 1/4	.4375	4 3/4	4.7500	4 11/16	4.6875
9	.0750	3 3/16	3.1875	4 3/8	.4375	4 7/8	4.8750	4 3/4	4.7500
8	.0760	3 1/4	3.2500	4 1/2	.4375	5	5.0000	4 13/16	4.8125
7	.0770	3 5/16	3.3125	4 5/8	.4375	5 1/8	5.1250	4 7/8	4.8750
6	.0780	3 3/8	3.3750	4 3/4	.4375	5 1/4	5.2500	4 15/16	4.9375
5	.0790	3 7/16	3.4375	4 7/8	.4375	5 3/8	5.3750	5	5.0000
4	.0810	3 1/2	3.5000	5	.4375	5 1/2	5.5000	5 1/16	5.0625
3	.0820	3 9/16	3.5625	5 1/8	.4375	5 5/8	5.6250	5 1/8	5.1250
2	.0840	3 5/8	3.6250	5 1/4	.4375	5 3/4	5.7500	5 3/16	5.1875
1	.0860	3 11/16	3.6875	5 3/8	.4375	5 7/8	5.8750	5 1/4	5.2500
		3 3/4	3.7500	5 1/2	.4375	6	6.0000	5 5/16	5.3125
		3 13/16	3.8125	5 5/8	.4375	6 1/8	6.1250	5 3/8	5.3750
		3 7/8	3.8750	5 3/4	.4375	6 1/4	6.2500	5 7/16	5.4375
		3 15/16	3.9375	5 7/8	.4375	6 3/8	6.3750	5 1/2	5.5000
		4	4.0000	6	.4375	6 1/2	6.5000	5 9/16	5.5625
		4 1/16	4.0625	6 1/8	.4375	6 5/8	6.6250	5 5/8	5.6250
		4 1/8	4.1250	6 1/4	.4375	6 3/4	6.7500	5 11/16	5.6875
		4 3/16	4.1875	6 3/8	.4375	6 7/8	6.8750	5 3/4	5.7500
		4 1/4	4.2500	6 1/2	.4375	7	7.0000	5 13/16	5.8125
		4 5/16	4.3125	6 5/8	.4375	7 1/8	7.1250	5 7/8	5.8750
		4 3/8	4.3750	6 3/4	.4375	7 1/4	7.2500	5 15/16	5.9375
		4 7/16	4.4375	6 7/8	.4375	7 3/8	7.3750	6	6.0000
		4 1/2	4.5000	7	.4375	7 1/2	7.5000	6 1/16	6.0625
		4 9/16	4.5625	7 1/8	.4375	7 5/8	7.6250	6 1/8	6.1250
		4 5/8	4.6250	7 1/4	.4375	7 3/4	7.7500	6 3/16	6.1875
		4 11/16	4.6875	7 3/8	.4375	7 7/8	7.8750	6 1/4	6.2500
		4 3/4	4.7500	7 1/2	.4375	8	8.0000	6 5/16	6.3125
		4 13/16	4.8125	7 5/8	.4375	8 1/8	8.1250	6 3/8	6.3750
		4 7/8	4.8750	7 3/4	.4375	8 1/4	8.2500	6 7/16	6.4375
		4 15/16	4.9375	7 7/8	.4375	8 3/8	8.3750	6 1/2	6.5000
		5	5.0000	8	.4375	8 1/2	8.5000	6 9/16	6.5625
		5 1/16	5.0625	8 1/8	.4375	8 5/8	8.6250	6 5/8	6.6250
		5 1/8	5.1250	8 1/4	.4375	8 3/4	8.7500	6 11/16	6.6875
		5 3/16	5.1875	8 3/8	.4375	8 7/8	8.8750	6 3/4	6.7500
		5 1/4	5.2500	8 1/2	.4375	9	9.0000	6 13/16	6.8125
		5 5/16	5.3125	8 5/8	.4375	9 1/8	9.1250	6 7/8	6.8750
		5 3/8	5.3750	8 3/4	.4375	9 1/4	9.2500	6 15/16	6.9375
		5 7/16	5.4375	8 7/8	.4375	9 3/8	9.3750	7	7.0000
		5 1/2	5.5000	9	.4375	9 1/2	9.5000	7 1/16	7.0625
		5 9/16	5.5625	9 1/8	.4375	9 5/8	9.6250	7 1/8	7.1250
		5 5/8	5.6250	9 1/4	.4375	9 3/4	9.7500	7 3/16	7.1875
		5 11/16	5.6875	9 3/8	.4375	9 7/8	9.8750	7 1/4	7.2500
		5 3/4	5.7500	9 1/2	.4375	10	10.0000	7 5/16	7.3125
		5 13/16	5.8125	9 5/8	.4375	10 1/8	10.1250	7 3/8	7.3750
		5 7/8	5.8750	9 3/4	.4375	10 1/4	10.2500	7 7/16	7.4375
		5 15/16	5.9375	9 7/8	.4375	10 3/8	10.3750	7 1/2	7.5000
		6	6.0000	10	.4375	10 1/2	10.5000	7 9/16	7.5625
		6 1/16	6.0625	10 1/8	.4375	10 5/8	10.6250	7 5/8	7.6250
		6 1/8	6.1250	10 1/4	.4375	10 3/4	10.7500	7 11/16	7.6875
		6 3/16	6.1875	10 3/8	.4375	10 7/8	10.8750	7 3/4	7.7500
		6 1/4	6.2500	10 1/2	.4375	11	11.0000	7 13/16	7.8125
		6 5/16	6.3125	10 5/8	.4375	11 1/8	11.1250	7 7/8	7.8750
		6 3/8	6.3750	10 3/4	.4375	11 1/4	11.2500	7 15/16	7.9375
		6 7/16	6.4375	10 7/8	.4375	11 3/8	11.3750	8	8.0000
		6 1/2	6.5000	11	.4375	11 1/2	11.5000	8 1/16	8.0625
		6 9/16	6.5625	11 1/8	.4375	11 5/8	11.6250	8 1/8	8.1250
		6 5/8	6.6250	11 1/4	.4375	11 3/4	11.7500	8 3/16	8.1875
		6 11/16	6.6875	11 3/8	.4375	11 7/8	11.8750	8 1/4	8.2500
		6 3/4	6.7500	11 1/2	.4375	12	12.0000	8 5/16	8.3125
		6 13/16	6.8125	11 5/8	.4375	12 1/8	12.1250	8 3/8	8.3750
		6 7/8	6.8750	11 3/4	.4375	12 1/4	12.2500	8 7/16	8.4375
		6 15/16	6.9375	11 7/8	.4375	12 3/8	12.3750	8 1/2	8.5000
		7	7.0000	12	.4375	12 1/2	12.5000	8 9/16	8.5625
		7 1/16	7.0625	12 1/8	.4375	12 5/8	12.6250	8 5/8	8.6250
		7 1/8	7.1250	12 1/4	.4375	12 3/4	12.7500	8 11/16	8.6875
		7 3/16	7.1875	12 3/8	.4375	12 7/8	12.8750	8 3/4	8.7500
		7 1/4	7.2500	12 1/2	.4375	13	13.0000	8 13/16	8.8125
		7 5/16	7.3125	12 5/8	.4375	13 1/8	13.1250	8 7/8	8.8750
		7 3/8	7.3750	12 3/4	.4375	13 1/4	13.2500	8 15/16	8.9375
		7 7/16	7.4375	12 7/8	.4375	13 3/8	13.3750	9	9.0000
		7 1/2	7.5000	13	.4375	13 1/2	13.5000	9 1/16	9.0625
		7 9/16	7.5625	13 1/8	.4375	13 5/8	13.6250	9 1/8	9.1250
		7 5/8	7.6250	13 1/4	.4375	13 3/4	13.7500	9 3/16	9.1875
		7 11/16	7.6875	13 3/8	.4375	13 7/8	13.8750	9 1/4	9.2500
		7 3/4	7.7500	13 1/2	.4375	14	14.0000	9 5/16	9.3125
		7 13/16	7.8125	13 5/8	.4375	14 1/8	14.1250	9 3/8	9.3750
		7 7/8	7.8750	13 3/4	.4375	14 1/4	14.2500	9 7/16	9.4375
		7 15/16	7.9375	13 7/8	.4375	14 3/8	14.3750	9 1/2	9.5000
		8	8.0000	14	.4375	14 1/2	14.5000	9 9/16	9.5625
		8 1/16	8.0625	14 1/8	.4375	14 5/8	14.6250	9 5/8	9.6250
		8 1/8	8.1250	14 1/4	.4375	14 3/4	14.7500	9 11/16	9.6875
		8 3/16	8.1875	14 3/8	.4375	14 7/8	14.8750	9 3/4	9.7500
		8 1/4	8.2500	14 1/2	.4375	15	15.0000	9 13/16	9.8125
		8 5/16	8.3125	14 5/8	.4375	15 1/8	15.1250	9 7/8	9.8750
		8 3/8	8.3750	14 3/4	.4375	15 1/4	15.2500	9 15/16	9.9375
		8 7/16	8.4375	14 7/8	.4375	15 3/8	15.3750	10	10.0000
		8 1/2	8.5000	15	.4375	15 1/2	15.5000		
		8 9/16	8.5625	15 1/8	.4375	15 5/8	15.6250		
		8 5/8	8.6250	15 1/4	.4375	15 3/4	15.7500		
		8 11/16	8.6875	15 3/8	.4375	15 7/8	15.8750		
		8 3/4	8.7500	15 1/2	.4375	16	16.0000		
		8 13/16	8.8125	15 5/8	.4375	16 1/8	16.1250		
		8 7/8	8.8750	15 3/4	.4375	16 1/4	16.2500		
		8 15/16	8.9375	15 7/8	.4375	16 3/8	16.3750		
		9	9.0000	16	.4375	16 1/2	16.5000		
		9 1/16	9.0625	16 1/8	.4375	16 5/8	16.6250		
		9 1/8	9.1250	16 1/4	.4375	16 3/4	16.7500		
		9 3/16	9.1875	16 3/8	.4375	16 7/8	16.8750		
		9 1/4	9.2500	16 1/2	.4375	17	17.0000		
		9 5/16	9.3125	16 5/8	.4375	17 1/8	17.1250		
		9 3/8	9.3750	16 3/4	.4375	17 1/4	17.2500		
		9 7/16	9.4375	16 7/8	.4375	17 3/8	17.3750		
		9 1/2	9.5000	17	.4375	17 1/2	17.5000		
		9 9/16	9.5625	17 1/8	.4375	17 5/8	17.6250		
		9 5/8	9.6250	17 1/4	.4375	17 3/4	17.7500		
		9 11/16	9.6875	17 3/8	.4375	17 7/8	17.8750		
		9 3/4	9.7500	17 1/2	.4375	18	18.0000		
		9 13/16	9.8125	17 5/8	.4375	18 1/8	18.1250		
		9 7/8	9.8750	17 3/4	.4375	18 1/4	18.2500		
		9 15/16	9.9375	17 7/8	.4375	18 3/8	18.3750		
		10	10.0000	18	.4375	18 1/2	18.5000		

TAP DRILL SIZES

Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill
0-80	3/64	M3.0-0.5	2.50M	1/2-8	14	7/16-20	25/64	M18-1.5	16.5M
M1.6-0.35	1.25M	5-40	38	M6.0-1	5.0M	M12-1.75	17	3/4-10	21/32
1-64	54	5-44	37	1/4-20	7	1/2-13	27/64	3/4-16	11/16
M1.8-0.35	1.45M	6-32	36	1/4-28	3	M12-1.25	10.8M	M20-2.5	17.5M
1-72	53	6-40	33	M7.0-1	6.0M	1/2-20	29/64	M20-1.5	18.5M
M2.0-0.4	1.60M	M3.5-0.6	2.90M	5/16-18	F	M14-2	12.0M	7/8-9	49/64
2-56	51	M4.0-0.7	3.30M	M8-1.25	H	9/16-12	31/64	M22-2.5	19.5M
M2.2-0.45	1.75M	8-32	29	5/16-24	I	M14-1.5	12.5M	M22-1.5	20.5M
2-64	50	8-36	29	M8-1	7.0M	9/16-18	33/64	7/8-14	13/16
3-48	47	M4.5-0.75	36	3/8-16	5/16	M16-2	14.0M	M24-3	21.0M
M2.5-0.45	2.05M	10-24	25	3/8-24	Q	5/8-11	17/32	M24-2	22.0M
3-56	45	10-32	21	M10-1.5	8.5M	M16-1.5	14.5M	1-8	7/8
4-40	43	M5.0-0.8	4.20M	M10-1.25	11/32	5/8-18	37/64	1-12	59/64
4-48	42	12-24	16	7/16-14	U	M18-2.5	15.5M	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 %

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

Formulas

1. **R.P.M.** = (3.8197 / Drill Diameter) x S.F.M.
2. **S.F.M.** = 0.2618 x Drill Diameter x R.P.M.
3. **I.P.M.** = I.P.R. (feed) x R.P.M. (speed)
4. Machine Time (seconds) = (60 x Feed minus Stroke) / I.P.M.

R.P.M. = Revolutions Per Minute
S.F.M. = Surface Feet Per Minute
I.P.M. = Inches Per Minute
I.P.R. = Inches Per Revolution
Feed Stroke = Drill Depth + 1/3
Car Reamer = 1/2 Speed of Drill

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