

# NORSEMAN/CTD DRILL & TOOL

America's Finest High-Speed Steel Cutting Tools™



 Proudly Manufactured in the USA

## Twist Drills

### Jobber Length

#### NAS 907B Heavy Duty 135° Split point

<b>NEW</b> Type 190-CN	CN-TECH™ Cryo Nitride	6
Type 190-AG	Heavy Duty Magnum	6 - 7
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Type 190	Black Oxide	10 - 11
<b>*Type 198</b>	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
<b>*Type 190-GF</b>	Gold Strike™ 3-flats on Shank	15
<b>*Type 190-GFR</b>	Gold Strike™ 3/8" Shank	15
<b>* Not NAS907B</b>		

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# WHY CHOOSE MAGNUM?

NORSEMAN/CTD  
DRILL & TOOL

- ✓ **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.

A 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.

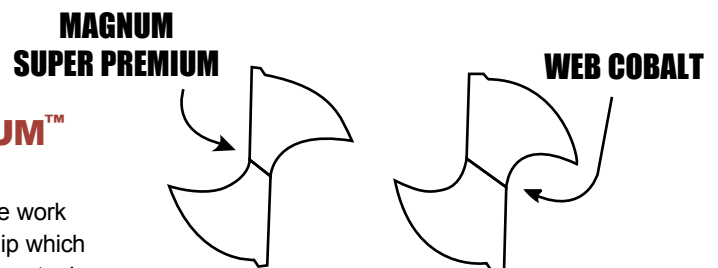
## COBALT APPLICATIONS

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

A 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.



**Jobber Length**

**NAS 907B Heavy Duty 135° Split Pt**

<b>NEW</b> Type 190-CN	CN-TECH™ Cryo Nitride . . . . .	6
Type 190-AG	Heavy Duty Magnum . . . . .	6 - 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
<b>* Not NAS907B</b>		

**Mechanic Length 135° Split point**

Type 175-AG	. . . . .	28
Type 178-AG	Magnum 3/8" Shank . . . . .	28
<b>NEW</b> Type QR-AG	Magnum 1/4" Hex Shank. . . . .	29
Type QR-AG	Extensions 3",6",12" . . . . .	29
Type 191-A	V-line Black Oxide . . . . .	28

**Jobber Length**

**NAS 907A**

Type 340-A	Black Oxide 118° Split point . . . . .	16
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**Jobber Length**

**General Purpose 118° point**

Type 100	Bright Finish . . . . .	17 - 21
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
Type 170	Metric - Black Oxide. . . . .	22
Type 118	V-Line Black Oxide . . . . .	21
Type 230	Tang Drive. . . . .	27

**Jobber Length Parabolic 135° Split Pt**

Type 190-P	Black Oxide . . . . .	25 - 26
Type 190-PT	Titanium Nitride Coated . . . . .	25 - 26

**Jobber Length Hi-Helix 118° point**

Type 240-F	Bright Finish . . . . .	24
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**Screw Machine Length NAS 907C**

Type 135-AG	. . . . .	35 - 36
Type 135	Black Oxide . . . . .	37
Type 135-TN	Titanium Nitride Coated . . . . .	37
Type 260-TW	Bright Finish . . . . .	37
*Type 125	1/4" Reduced Shank. . . . .	36
<b>* Not NAS907B</b>		

**Screw Machine Length 118° point**

Type 260	Bright Finish . . . . .	38 - 39
Type 260-BN	Titanium Nitride Coated. . . . .	38 - 39

**1/4" Shank 118° Point**

Type 120	. . . . .	23
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**Drill Blank**

Type 240-DB	. . . . .	50
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**Jobber Length Cobalt NAS 907J**

Type 150	M42 135° Split point . . . . .	30
Type 150-DN	M42 Titanium Nitride Coated . . . . .	30
<b>NEW</b> Type 150-ALN	M42 Titanium Aluminum Nitride . . . . .	30
Type 150-M	M42 Metric - 135° Split point. . . . .	31

**DIN Length Wide Land Parabolic Cobalt**

Type XGT-J	M42 135° Split point . . . . .	32 - 33
<b>NEW</b> Type XGT-JN	M42 135° SP Titanium Nitride. . . . .	33

**Screw Machine Length Cobalt**

Type 260-D	M42 135° Split point . . . . .	34
Type 260-DN	M42 Titanium Nitride. . . . .	34
<b>NEW</b> Type 260-AND	M42 Titanium Aluminum Nitride . . . . .	34

**Silver & Deming 1/2" Shank**

Type 130-AG	Magnum 135° Split point . . . . .	45
Type 130-AGM	Metric - 135° Split point . . . . .	46
Type 130-AGX	118° Split point 3 - Flats . . . . .	45
Type 130-MRO	1/2" Reduced Shank . . . . .	47
Type 130	118° point - Round Shank . . . . .	46
Type 130-D	M42 135° Split point. . . . .	47
Type EXT	Extension OAL 7-1/2" . . . . .	47

**Silver & Deming 3/4" Shank**

Type 131-AG	. . . . .	46
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**Taper Length**

Type 210	118° pt. - General Purpose. . . . .	40 - 41
Type 220	118° point - Tang Drive . . . . .	41
Type 221-P	Parabolic - Tang Drive . . . . .	42
Type 221-PT	Titanium Nitride Coated 135° SP . . . . .	42

**Extra Length**

Type XGT-AG	6" 9" 12" . . . . .	43
Type 160	12" - OAL 9" Flute . . . . .	43
Type 165	18" - OAL 12" Flute . . . . .	43

**Aircraft Extension**

Type 166	6" - OAL Black Oxide . . . . .	44
Type 167-D	6" - OAL Cobalt NAS 907J . . . . .	44
Type 168	12" - OAL Black Oxide NAS 907B . . . . .	44
Type 169-D	12" - OAL Cobalt NAS 907J . . . . .	44

**Taper Shank**

Type 510	Regular Shanks . . . . .	48 - 49
Type 520	Larger than Standard. . . . .	49
Type 500	Smaller than Standard . . . . .	49

**Technical Reference. . . 51 - 53**



# Jobber Length

## HSS HEAVY-DUTY CN-TECH™ & HEAVY-DUTY NAS 907B

### Type 190-CN CN-TECH™ 135° Split Point



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



**Type 190-CN**

Nitride process case hardening resulting in superior tool life and exceptional corrosion resistance.

Part No.	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

### Type 190-AG Magnum Super Premium - 135° Split Point

- Nitro-Carburized
- Manufactured to **NAS 907B** specification from Premium Hi-Molybdenum Steel.
- 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 No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
05580	1/16	1-7/8	7/8	12
05590	5/64	2"	1	12
05600	3/32	2-1/4	1-1/4	12
05610	7/64	2-5/8	1-1/2	12
05620	1/8	2-3/4	1-5/8	12
05630	9/64	2-7/8	1-3/4	12
05640	5/32	3-1/8	2	12
05650	11/64	3-1/4	2-1/8	12
05660	3/16	3-1/2	2-5/16	12
05670	13/64	3-5/8	2-7/16	12
05680	7/32	3-3/4	2-1/2	12
05690	15/64	3-7/8	2-5/8	12
05700	1/4	4"	2-3/4	12
05710	17/64	4-1/8	2-7/8	12
05720	9/32	4-1/4	2-15/16	12
05730	19/64	4-3/8	3-1/16	6
05740	5/16	4-1/2	3-3/16	6
05750	21/64	4-5/8	3-5/16	6
05760	11/32	4-3/4	3-7/16	6
05770	23/64	4-7/8	3-1/2	6
05780	3/8	5"	3-5/8	6
05790	25/64	5-1/8	3-3/4	6
05800	13/32	5-1/4	3-7/8	6
05810	27/64	5-3/8	3-15/16	6
05820	7/16	5-1/2	4-1/16	6
05830	29/64	5-5/8	4-3/16	6
05840	15/32	5-3/4	4-5/16	6
05850	31/64	5-7/8	4-3/8	6
05860	1/2	6"	4-1/2	6
22210	33/64	6-5/8	4-13/16	1
22220	17/32	6-5/8	4-13/16	1
22230	35/64	6-5/8	4-13/16	1
22240	9/16	6-5/8	4-13/16	1
22250	37/64	6-5/8	4-13/16	1
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

Larger sizes available in 130-AG section

**LETTER**

Part No.	Diameter Inches	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

Letter Continued on page 7

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

Super Premium  
Twist Drills - HSS NAS 907B & 3/8" Reduced Shank

**LETTER**

Part No.	Letter Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
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

**Type 190-AG**  
HSS Heavy-Duty NAS 907B  
Super Premium - 135° Split Point

Part No.	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
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

Wire Continued Next Column

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

**Type 190-AG**  
HSS Heavy-Duty NAS 907B  
Super Premium - 135° Split Point

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

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



## NAS 907B - METRIC

### Type 170-AG

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

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



**Type 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		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
48760	0.70	32	1-1/4	10	25/64	10
48780	0.80	35	1-3/8	13	1/2	10
48790	0.85	38	1-1/2	16	5/8	10
48800	0.90	38	1-1/2	16	5/8	10
49990	0.95	38	1-1/2	16	5/8	10
48690	0.98	38	1-1/2	16	5/8	10
48820	1.00	41	1-5/8	17	11/16	10
48750	1.05	41	1-5/8	17	11/16	10
48840	1.10	44	1-3/4	19	3/4	10
48850	1.15	44	1-3/4	19	3/4	10
23270	1.18	44	1-3/4	19	3/4	10
48860	1.20	48	1-7/8	22	7/8	10
48870	1.25	48	1-7/8	22	7/8	10
48880	1.30	48	1-7/8	22	7/8	10
48890	1.35	48	1-7/8	22	7/8	10
48900	1.40	48	1-7/8	22	7/8	10
48910	1.45	48	1-7/8	22	7/8	10
48920	1.50	48	1-7/8	22	7/8	10
48930	1.55	48	1-7/8	22	7/8	10
48940	1.60	48	1-7/8	22	7/8	10
48950	1.65	51	2	25	1	10
48960	1.70	51	2	25	1	10
48970	1.75	51	2	25	1	10
48980	1.80	51	2	25	1	10
49000	1.90	51	2	25	1	10
49020	2.00	51	2	25	1	10
49030	2.05	54	2-1/8	29	1-5/32	10
49040	2.10	54	2-1/8	29	1-5/32	10
49060	2.20	57	2-1/4	32	1-1/4	10
49080	2.30	57	2-1/4	32	1-1/4	10
49100	2.40	60	2-23/64	35	1-3/8	10
49120	2.50	60	2-23/64	35	1-3/8	10
49130	2.60	64	2-1/2	37	1-29/64	10
49140	2.70	64	2-1/2	37	1-15/32	10
49150	2.80	67	2-5/8	38	1-1/2	10
49160	2.90	70	2-3/4	41	1-5/8	10
49170	3.00	70	2-3/4	41	1-5/8	10
49180	3.10	70	2-3/4	41	1-5/8	10
49190	3.20	70	2-3/4	41	1-5/8	10
49200	3.30	73	2-7/8	45	1-3/4	10
49210	3.40	73	2-7/8	45	1-3/4	10
49220	3.50	73	2-7/8	45	1-3/4	10
49230	3.60	76	3	48	1-7/8	10
49240	3.70	76	3	48	1-7/8	10
49250	3.80	76	3	48	1-7/8	10
49260	3.90	79	3-1/8	51	2	10

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

Metric sizes continued on page 9

**NAS 907B - METRIC**



**Type 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**

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

**METRIC**

Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
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

Part No.	Dia. MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
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

## 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
- 135° 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	3-15/16	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.

TiN

HSS Twist Drills - Heavy Duty HSS NAS 907B

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

**LETTER**

<b>Type 190</b> Black Oxide Part Number	<b>Type 190-AN</b> TiN Coated Part Number	<b>Letter</b> <b>Sizes</b>	<b>Overall</b> <b>Length</b> <b>Inches</b>	<b>Flute</b> <b>Length</b> <b>Inches</b>	<b>Type 190</b> Black Oxide Qty. per/pack	<b>Type 190-AN</b> 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**

<b>Type 190</b> Black Oxide Part Number	<b>Type 190-AN</b> TiN Coated Part Number	<b>Letter</b> <b>Sizes</b>	<b>Overall</b> <b>Length</b> <b>Inches</b>	<b>Flute</b> <b>Length</b> <b>Inches</b>	<b>Type 190</b> Black Oxide Qty. per/pack	<b>Type 190-AN</b> 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
- 135° split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- TiCN is harder and has a lower coefficient of friction than TiN coating.
- Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification



**TiCN Coating**

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



**TiAlN Coating**

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

### FRACTIONAL

Type 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	3-15/16	3
80242	80240	7/16	5-1/2	4-1/16	3
80252	80250	29/64	5-5/8	4-3/16	3
80262	80260	15/32	5-3/4	4-5/16	3
80272	80270	31/64	5-7/8	4-3/8	3
80282	80280	1/2	6	4-1/2	3

### LETTER

Type 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

TiCN / TiAlN

Twist Drills - HSS Heavy-Duty NAS 907B

**HSS HEAVY-DUTY NAS 907B**



**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

**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
- 135° split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- TiCN is harder and has a lower coefficient of friction than TiN coating.
  - Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification

**LETTER**

Type 190- ACN TiCN Coated Part Number	Type 190-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80442	80440	P	4-5/8	3-5/16	3
80452	80450	Q	4-3/4	3-7/16	3
80462	80460	R	4-3/4	3-7/16	3
80472	80470	S	4-7/8	3-1/2	3
80482	80480	T	4-7/8	3-1/2	3
80492	80490	U	5	3-5/8	3
80502	80500	V	5	3-5/8	3
80512	80510	W	5-1/8	3-3/4	3
80522	80520	X	5-1/8	3-3/4	3
80532	80530	Y	5-1/4	3-7/8	3
80542	80540	Z	5-1/4	3-7/8	3

**WIRE**

Type 190- ACN TiCN Coated Part Number	Type 190-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80552	80550	1	3-7/8	2-5/8	6
80562	80560	2	3-7/8	2-5/8	6
80572	80570	3	3-3/4	2-1/2	6
80582	80580	4	3-3/4	2-1/2	6
80592	80590	5	3-3/4	2-1/2	6
80602	80600	6	3-3/4	2-1/2	6
80612	80610	7	3-5/8	2-7/16	6
80622	80620	8	3-5/8	2-7/16	6
80632	80630	9	3-5/8	2-7/16	6
80642	80640	10	3-5/8	2-7/16	6
80652	80650	11	3-1/2	2-5/16	6
80662	80660	12	3-1/2	2-5/16	6
80672	80670	13	3-1/2	2-5/16	6
80682	80680	14	3-3/8	2-3/16	6
80692	80690	15	3-3/8	2-3/16	6
80702	80700	16	3-3/8	2-3/16	6
80712	80710	17	3-3/8	2-3/16	6
80722	80720	18	3-1/4	2-1/8	6
80732	80730	19	3-1/4	2-1/8	6
80742	80740	20	3-1/4	2-1/8	6
80752	80750	21	3-1/4	2-1/8	6
80762	80760	22	3-1/8	2	6
80772	80770	23	3-1/8	2	6
80782	80780	24	3-1/8	2	6
80792	80790	25	3	1-7/8	6
80802	80800	26	3	1-7/8	6
80812	80810	27	3	1-7/8	6
80822	80820	28	2-7/8	1-3/4	6
80832	80830	29	2-7/8	1-3/4	6
80842	80840	30	2-3/4	1-5/8	6
80852	80850	31	2-3/4	1-5/8	6
80862	80860	32	2-3/4	1-5/8	6
80872	80870	33	2-5/8	1-1/2	6
80882	80880	34	2-5/8	1-1/2	6
80892	80890	35	2-5/8	1-1/2	6
80902	80900	36	2-1/2	1-7/16	6

Wire sizes continued on page 14

TiCN / TiAlN

Twist Drills - HSS Heavy-Duty NAS 907 B

## 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
- 135° split point is self-centering for reducing thrust and easier penetration
- Provides exceptional oxidation resistance and extreme hardness
- TiCN is harder and has a lower coefficient of friction than TiN coating.
- Recommended where moderate temperatures are generated.
- Manufactured to **NAS 907B** aerospace specification



**TiCN Coating**

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



**TiAlN Coating**

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

### WIRE

Type 190-ACN TiCN Coated Part Number	Type 190-ALN TiAlN Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack
80912	80910	37	2-1/2	1-7/16	6
80922	80920	38	2-1/2	1-7/16	6
80932	80930	39	2-3/8	1-3/8	6
80942	80940	40	2-3/8	1-3/8	6
80952	80950	41	2-3/8	1-3/8	6
80962	80960	42	2-1/4	1-1/4	6
80972	80970	43	2-1/4	1-1/4	6
80982	80980	44	2-1/8	1-1/8	6
80992	80990	45	2-1/8	1-1/8	6
81002	81000	46	2-1/8	1-1/8	6
81012	81010	47	2	1	6
81022	81020	48	2	1	6
81032	81030	49	2	1	6
81042	81040	50	2	1	6
81052	81050	51	2	1	6
81062	81060	52	1-7/8	7/8	6

TiCN / TiAlN

Twist Drills - HSS Heavy-Duty NAS 907B

**GOLDSTRIKE™ & V-LINE HEAVY DUTY**

**Type 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 135° Split Point

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



**Type 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	Part #	Description of Sizes	Per Pack
40633	25/64	6	40622	29/64	6
40634	13/32	6	40623	15/32	6
40639	27/64	6	40624	31/64	6
40621	7/16	6	40629	1/2	6

**Twist Drills - GOLDSTRIKE™ & V-Line**



## HSS BLACK OXIDE 118° SPLIT POINT NAS 907A

### Type 340-A

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



### Type 340-A

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

### FRACTIONAL

Part #	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

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

Twist Drills - HSS Black Oxide 118° NAS 907A

**GENERAL PURPOSE & TITANIUM NITRIDE COATED**



**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.

**Type 115, 100, 100-BN Titanium Nitride  
118° Point**

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

TiN  
Twist Drills - General Purpose & TiN Coated

**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	02820	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 118° 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.

TiN

Twist Drills - General Purpose & TiN Coated

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**

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.

**Type 115, 100, 100-BN Titanium Nitride**

**118° Point**

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

**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

TiN

Twist Drills - General Purpose & TiN Coated

## GENERAL PURPOSE & TITANIUM NITRIDE COATED

### Type 115, 100, 100-BN Titanium Nitride

#### 118° 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	----	61	1-5/8	11/16	12	----
02050	03800	----	62	1-1/2	5/8	12	----
02060	03810	----	63	1-1/2	5/8	12	----
02070	03820	----	64	1-1/2	5/8	12	----
02080	03830	----	65	1-1/2	5/8	12	----
02090	03840	----	66	1-3/8	1/2	12	----
02100	03850	----	67	1-3/8	1/2	12	----
02110	03860	----	68	1-3/8	1/2	12	----
02120	03870	----	69	1-3/8	1/2	12	----
02130	03880	----	70	1-1/4	3/8	12	----
02140	03890	----	71	1-1/4	3/8	12	----
02150	03900	----	72	1-1/8	5/16	12	----
02160	03910	----	73	1-1/8	5/16	12	----
02170	03920	----	74	1	1/4	12	----
02180	03930	----	75	1	1/4	12	----
02190	03940	----	76	7/8	3/16	12	----
02200	03950	----	77	7/8	3/16	12	----
02210	03960	----	78	7/8	3/16	12	----
02220	03970	----	79	3/4	1/8	12	----
02230	03980	----	80	3/4	1/8	12	----
----	03990	----	81	3/4	1/8	12	----
----	04000	----	82	3/4	1/8	12	----
----	04010	----	83	3/4	1/8	12	----
----	04020	----	84	3/4	3/32	12	----
----	04030	----	85	3/4	3/32	12	----

Wire sizes continued on page 21

TiN

Twist Drills - General Purpose & TiN Coated

**GENERAL PURPOSE & TITANIUM NITRIDE COATED**



**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.

**Type 115, 100, 100-BN Titanium Nitride  
118° Point**

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

TiN

Twist Drills - General Purpose & TiN Coated

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	----
----	04090	----	91	3/4	5/64	12	----
----	04100	----	92	3/4	1/16	12	----
----	04110	----	93	3/4	1/16	12	----
----	04120	----	94	3/4	1/16	12	----
----	04130	----	95	3/4	1/16	12	----
----	04140	----	96	3/4	1/16	12	----
----	04150	----	97	3/4	1/16	12	----

**Type 118**

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

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



- This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard **Type 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	17100	1.50	48	1-7/8	22	7/8	10
20800	29110	1.60	48	1-7/8	22	7/8	10
20820	29010	1.70	51	2"	25	1	10
20830	17120	1.75	51	2"	25	1	10
20840	17130	1.80	51	2"	25	1	10
20860	29120	1.90	51	2"	25	1	10
20880	20881	2.00	51	2"	25	1	10
20980	20981	2.50	60	2-23/64	35	1-3/8	10
21040	21041	3.00	70	2-3/4	41	1-5/8	10
21110	21111	3.50	73	2-7/8	45	1-3/4	10
21170	21171	4.00	83	3-1/4	54	2-1/8	10
21230	21231	4.50	86	3-3/8	56	2-13/64	10
21290	21291	5.00	92	3-5/8	62	2-7/16	10
21350	21351	5.50	95	3-3/4	64	2-1/2	10
21410	21411	6.00	102	4"	70	2-3/4	10
21470	21471	6.50	105	4-1/8	73	2-7/8	10
21530	21531	7.00	105	4-1/8	73	2-7/8	10
21590	21591	7.50	111	4-3/8	78	3	5
21650	21651	8.00	114	4-1/2	81	3-3/16	5
21710	21711	8.50	121	4-3/4	87	3-27/64	5
21770	21771	9.00	124	4-7/8	89	3-1/2	5
21830	21831	9.50	127	5"	92	3-5/8	5
21890	21891	10.00	130	5-1/8	95	3-3/4	5
21900	21901	10.50	133	5-15/64	98	3-7/8	5
21910	21911	11.00	140	5-1/2	103	4-1/16	5
21920	21921	11.50	143	5-5/8	106	4-7/32	5
21930	21931	12.00	149	5-7/8	111	4-3/8	5
21940	21941	12.50	152	6"	114	4-1/2	5
21950	21951	13.00	152	6"	114	4-1/2	5

METRIC

Twist Drills - General Purpose Black Oxide & Bright Finish

## 1/4" & 3/8" REDUCED SHANK

### Type 120

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

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



**FRACTIONAL**

Part #	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 118° point - Bright Finish  
3/8" Reduced Shank - Jobber Length

- General purpose 118° point HSS drill is designed for use in portable air or electric drilling equipment with 3/8" chucks.
- **NOTE:** Surface treated flutes on sizes larger than 1/2".



**FRACTIONAL**

Part #	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.

Twist Drills - General Purpose 1/4" & 3/8" Reduced Shank



## 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

**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 perform 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.



TiN

Twist Drills - Heavy-Duty & TiN Coated Parabolic Flute

Type 190-P Black Oxide	Type 190-PT Titanium Nitride	FRACTIONAL			Type 190-P Black Oxide	Type 190-PT Titanium Nitride
Part Number	Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/Pack	Qty. per/Pack
36800	37870	1/16	1-7/8	7/8	12	6
36810	37880	5/64	2	1	12	6
36820	37890	3/32	2-1/4	1-1/4	12	6
36830	37900	7/64	2-5/8	1-1/2	12	6
36840	37910	1/8	2-3/4	1-5/8	12	6
36850	37920	9/64	2-7/8	1-3/4	12	6
36860	37930	5/32	3-1/8	2	12	6
36870	37940	11/64	3-1/4	2-1/8	12	6
36880	37950	3/16	3-1/2	2-5/16	12	6
36890	37960	13/64	3-5/8	2-7/16	12	6
36900	37970	7/32	3-3/4	2-1/2	12	6
36910	37980	15/64	3-7/8	2-5/8	12	6
36920	37990	1/4	4	2-3/4	12	6
36930	38000	17/64	4-1/8	2-7/8	12	6
36940	38010	9/32	4-1/4	2-15/16	12	6
36950	38020	19/64	4-3/8	3-1/16	6	3
36960	38030	5/16	4-1/2	3-3/16	6	3
36970	38040	21/64	4-5/8	3-5/16	6	3
36980	38050	11/32	4-3/4	3-7/16	6	3
36990	38060	23/64	4-7/8	3-1/2	6	3
37000	38070	3/8	5	3-5/8	6	3
37010	38080	25/64	5-1/8	3-3/4	6	3
37020	38090	13/32	5-1/4	3-7/8	6	3
37030	38100	27/64	5-3/8	3-15/16	6	3
37040	38110	7/16	5-1/2	4-1/16	6	3
37050	38120	29/64	5-5/8	4-3/16	6	3
37060	38130	15/32	5-3/4	4-5/16	6	3
37070	38140	31/64	5-7/8	4-3/8	6	3
37080	38150	1/2	6	4-1/2	6	3
Type 190-P Black Oxide	Type 190-PT Titanium Nitride	WIRE			Type 190-P Black Oxide	Type 190-PT Titanium Nitride
Part Number	Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/Pack	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
68171	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



TiN

Twist Drills - Parabolic & TiN Coated Parabolic Flutes

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

<b>Part #</b>	<b>Diameter Inches</b>	<b>Overall Length Inches</b>	<b>Flute Length Inches</b>	<b>Qty. per/pack</b>
13300	1/8	2-3/4	1-5/8	12
13360	9/64	2-7/8	1-3/4	12
13400	5/32	3-1/8	2	12
13440	11/64	3-1/4	2-1/8	12
13490	3/16	3-1/2	2-5/16	12
13540	13/64	3-5/8	2-7/16	12
13570	7/32	3-3/4	2-1/2	12
13600	15/64	3-7/8	2-5/8	12
13630	1/4	4	2-3/4	12
13670	17/64	4-1/8	2-7/8	12
13700	9/32	4-1/4	2-15/16	12
13730	19/64	4-3/8	3-1/16	6
13760	5/16	4-1/2	3-3/16	6
13790	21/64	4-5/8	3-5/16	6
13820	11/32	4-3/4	3-7/16	6
13850	23/64	4-7/8	3-1/2	6
13870	3/8	5	3-5/8	6
13890	25/64	5-1/8	3-3/4	6
13910	13/32	5-1/4	3-7/8	6
13920	27/64	5-3/8	3-15/16	6
13930	7/16	5-1/2	4-1/16	6
13940	29/64	5-5/8	4-3/16	6
13950	15/32	5-3/4	4-5/16	6
13960	31/64	5-7/8	4-3/8	6
13970	1/2	6	4-1/2	6
13980	33/64	6-5/8	4-13/16	1
13990	17/32	6-5/8	4-13/16	1
14000	35/64	6-5/8	4-13/16	1
14010	9/16	6-5/8	4-13/16	1
14020	37/64	6-5/8	4-13/16	1
14030	19/32	7-1/8	5-3/16	1
14040	39/64	7-1/8	5-3/16	1
14050	5/8	7-1/8	5-3/16	1
14060	41/64	7-1/8	5-3/16	1
14070	21/32	7-1/8	5-3/16	1
14080	43/64	7-5/8	5-5/8	1
14090	11/16	7-5/8	5-5/8	1

Twist Drills - Automotive Series Tanged Drive

# Mechanic Length

**NORSEMAN/CTD**  
DRILL & TOOL

## 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.



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

## 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	3-1/4	1-1/4	6
34541	1/8	3-1/2	1-7/16	6
34561	5/32	3-1/2	1-11/16	6
34581	3/16	3-3/4	1-7/8	6
34611	7/32	4"	2"	6
34631	1/4	4-1/4	2"	6
34651	9/32	3-13/16	2-1/4	6
34671	5/16	4"	2-1/2	3
34691	11/32	4-7/32	2-5/8	3
34711	3/8	4-1/4	2-11/16	3
34731	13/32	4-1/2	2-13/16	3
34751	7/16	4-1/2	2-15/16	3
34771	15/32	4-7/8	3-1/8	3
34791	1/2	5"	3-3/8	3
34801	Quick Release 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	3-1/4	1-1/4	2
34547	1/8	3-1/2	1-7/16	2
34567	5/32	3-1/2	1-11/16	2
34587	3/16	3-3/4	1-7/8	2
34617	7/32	4"	2"	1
34637	1/4	4-1/4	2"	1
34657	9/32	3-13/16	2-1/4	1
34677	5/16	4"	2-1/2	1
34697	11/32	4-7/32	2-5/8	1
34717	3/8	4-1/4	2-11/16	1
34737	13/32	4-1/2	2-13/16	1
34757	7/16	4-1/2	2-15/16	1
34777	15/32	4-7/8	3-1/8	1
34797	1/2	5"	3-3/8	1
34807	Quick Release Adapter (CARDED)			

### NEW TYPE QR-AG EXTENSIONS

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



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

## 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 TAIN Part#	150-ALN TAIN 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 TAIN Part#	150-ALN TAIN 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	79780	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 TAIN Part#	150-ALN TAIN Part#	Wire Sizes	Overall Diameter Inches	Flute Length Inches	150 Qty. per/Pk	150-N/150-?? 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
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	77261	80803	26	3"	1-7/8	12	6
08560	77271	80813	27	3"	1-7/8	12	6
08570	77281	80823	28	2-7/8	1-3/4	12	6
08580	77291	80833	29	2-7/8	1-3/4	12	6
08590	77301	80843	30	2-3/4	1-5/8	12	6
08600	77311	80853	31	2-3/4	1-5/8	12	6
08610	77321	80863	32	2-3/4	1-5/8	12	6
08620	77331	80873	33	2-5/8	1-1/2	12	6
08630	77341	80883	34	2-5/8	1-1/2	12	6
08640	77351	80893	35	2-5/8	1-1/2	12	6
08650	77361	80903	36	2-1/2	1-7/16	12	6
08660	77371	80913	37	2-1/2	1-7/16	12	6
08670	77381	80923	38	2-1/2	1-7/16	12	6
08680	77391	80933	39	2-3/8	1-3/8	12	6
08690	77401	80943	40	2-3/8	1-3/8	12	6
08700	77411	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

**M42 COBALT NAS 907J**



**Type 150-M**

**METRIC - Jobber Length 135° Split 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		Overall Length		Flute Length		Qty. per/pack
	MM	Inches	MM	Inches	MM	Inches	
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	
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	

Part #	Diameter		Overall Length		Flute Length		Qty. per/pack
	MM	Inches	MM	Inches	MM	Inches	
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	
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	
34470	10.50	133	5-15/64	98	3-7/8	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	
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	
34530	12.00	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	
34560	13.00	152	6"	114	4-1/2	5	

**METRIC**

**Twist Drills - M42 Cobalt NAS 907J**



## HSS M42 COBALT DIN 338

### Type XGT-J

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

### METRIC

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

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



**METRIC**

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

TiN  
METRIC  
Twist Drills - HSS M42 Cobalt DIN 338

# Screw Machine Length

**NORSEMAN/CTD**  
DRILL & TOOL

## M42 COBALT - TiN & TITANIUM ALUMINUM NITRIDE SCREW MACHINE

**Type 260-D - M42 Cobalt, Type 260-DN - Titanium Nitride, Type 260-AND - Titanium Aluminum Nitride** NEW  
135° Split Point - M42 Cobalt - High-Speed Steel

- Manufactured from M42 High Speed Steel 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**

Titanium Nitride 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%.

NEW

260-D Part #	260-DN TiN Part #	260-AND TiAlN Part #	Overall Dia. Inches	Flute Length Inches	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	--

### 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

TiAlN

TiN

Screw Machine - M42 Cobalt & TiN & Titanium Aluminum Nitride

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## 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 36

# Screw Machine Length

**NORSEMAN/CTD**  
DRILL & TOOL

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

### 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

### Type 125

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

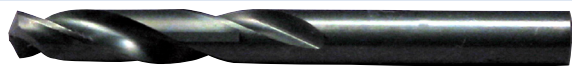
- This HSS drill is recommended for "punch"drilling in hard, tough sheet metal applications where quick and accurately located holes are required.



#### 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

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

### 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 3/4" 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 Part #	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 3/4" 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	-----

TiN

Screw Machine - HSS Screw Machine Bright Finish



## HSS TAPER LENGTH

### Type 210

#### High-Speed Steel 118° Point



- Bright finish thru 1" diameter.
- Surface treated flutes over 3/4" diameter.
- General purpose 118° point, recommended for mild drilling applications where longer than jobber length drills are required.

Twist Drills - HSS Taper Length

### 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

TiN

Twist Drills - Heavy Duty Parabolic Taper Length

**EXTRA LENGTH DRILLS & LONGBOY DRILLS**

**Type XGT-AG**

**Heavy Duty 135° 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

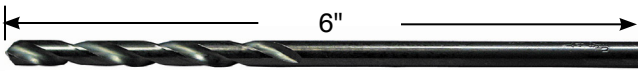
Aircraft 6", 135° Split Point  
Solid Construction M42 Cobalt

### Type 168 - NAS 907B

12" Extension Drill, Black Oxide

### Type 169-D - NAS 907J

12" Extension Drill, M42 Cobalt



**Type 166 - NAS 907B**

The black surface treatment prevents chip welding and increases abrasion resistance



**Type 168 - NAS 907B**

The black oxide treatment prevents chip welding and increases abrasion resistance



**Type 167-D - NAS 907J**

M42 Cobalt steel increases heat and 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
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

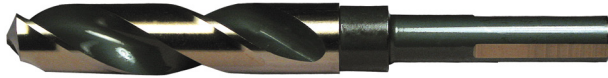
Twist Drills - 6" & 12" AIRCRAFT - TYPE NAS 907B / NAS 907J

**SILVER & DEMING - 1/2" REDUCED SHANK**

**Type 130-AG**

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

- Special Hi-Molybdenum tool steel.
- One piece solid construction.
- Sizes greater than 1", 118° split point.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.
- Body and clearance are gold surface treated for maximum lubricity.



Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
29550	33/64	6	1
29560	17/32	6	1
29570	35/64	6	1
29580	9/16	6	1
29590	37/64	6	1
29600	19/32	6	1
29610	39/64	6	1
29620	5/8"	6	1
29630	41/64	6	1
29640	21/32	6	1
29650	43/64	6	1
29660	11/16	6	1
29670	45/64	6	1
29680	23/32	6	1
29690	47/64	6	1
29700	3/4"	6	1
29710	49/64	6	1
29720	25/32	6	1
29730	51/64	6	1
29740	13/16	6	1
29750	53/64	6	1
29760	27/32	6	1
29770	55/64	6	1
29780	7/8"	6	1
29790	57/64	6	1
29800	29/32	6	1
29810	59/64	6	1
29820	15/16	6	1
29830	61/64	6	1
29840	31/32	6	1
29850	63/64	6	1
29860	1"	6	1
29870	1-1/32	6	1
29880	1-1/16	6	1
29890	1-3/32	6	1
29900	1-1/8	6	1
29910	1-5/32	6	1
29920	1-3/16	6	1
29930	1-7/32	6	1
29940	1-1/4	6	1
29950	1-5/16	6	1
29960	1-3/8	6	1
29970	1-7/16	6	1
29980	1-1/2	6	1

**Sets - Type 130-AG**

**4 Pc.**

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

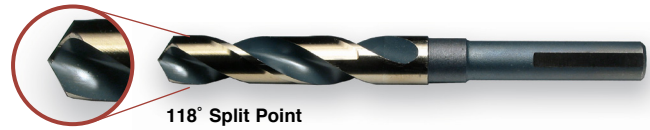
**8 Pc.**

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

**Type 130-AGX**

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

- M2 High speed steel.
- Precision ground point, flutes, body and clearance.
- 118° split point for superior general purpose drilling in metal, wood and plastic.



**FRACTIONAL**

Part #	Diameter Inches	Overall Length Inches	Qty. per/pack
74001	33/64	6	1
74011	17/32	6	1
74021	35/64	6	1
74031	9/16	6	1
74041	37/64	6	1
74051	19/32	6	1
74061	39/64	6	1
74071	5/8"	6	1
74081	41/64	6	1
74091	21/32	6	1
74101	43/64	6	1
74111	11/16	6	1
74121	45/64	6	1
74131	23/32	6	1
74141	47/64	6	1
74151	3/4"	6	1
74161	49/64	6	1
74171	25/32	6	1
74181	51/64	6	1
74191	13/16	6	1
74201	53/64	6	1
74211	27/32	6	1
74221	55/64	6	1
74231	7/8"	6	1
74241	57/64	6	1
74251	29/32	6	1
74261	59/64	6	1
74271	15/16	6	1
74281	61/64	6	1
74291	31/32	6	1
74301	63/64	6	1
74311	1"	6	1
74321	1-1/16	6	1
74331	1-1/8	6	1
74341	1-5/32	6	1
74351	1-3/16	6	1
74361	1-1/4	6	1

**Sets - Type 130-AGX**

**4 Pc.**

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

**8 Pc.**

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

# Reduced Shank

**NORSEMAN/CTD**  
DRILL & TOOL

## SILVER & DEMING - 1/2" REDUCED SHANK

### Type 130-AGM - METRIC

1/2" Reduced Shank Silver & Deming  
135° Split Point Magnum Super Premium,  
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	Overall Length Inches	Part #	Dia. MM	Overall Length Inches
25500	14.0	6	25520	20.0	6
25502	15.0	6	25522	21.0	6
25504	16.0	6	25524	22.0	6
25510	17.0	6	25530	23.0	6
25512	18.0	6	25532	24.0	6
25514	19.0	6	25534	25.0	6

Qty. per package 1

Qty. per package 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.
- Precision ground point, body and drill diameter for accuracy and high performance.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



#### FRACTIONAL

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

### 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.



#### FRACTIONAL

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

**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.**

Part #	9/16, 5/8, 3/4, 1"	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.**

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

**8 Pc.**

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

**Type EXT**

**Silver and Deming - Extension**

Includes an "Allen Wrench"



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

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



## HSS TAPER SHANK - REGULAR

### Type 510

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

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



### FRACTIONAL

Part #	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
14150	1/8	.1250	1	5-1/8	1-7/8
14160	9/64	.1406	1	5-3/8	2-1/8
14170	5/32	.1562	1	5-3/8	2-1/8
14180	11/64	.1719	1	5-3/4	2-1/2
14190	3/16	.1875	1	5-3/4	2-1/2
14200	13/64	.2031	1	6	2-3/4
14210	7/32	.2188	1	6	2-3/4
14220	15/64	.2344	1	6-1/8	2-7/8
14230	1/4	.2500	1	6-1/8	2-7/8
14240	17/64	.2656	1	6-1/4	3
14250	9/32	.2812	1	6-1/4	3
14260	19/64	.2969	1	6-3/8	3-1/8
14270	5/16	.3125	1	6-3/8	3-1/8
14280	21/64	.3281	1	6-1/2	3-1/4
14290	11/32	.3438	1	6-1/2	3-1/4
14300	23/64	.3594	1	6-3/4	3-1/2
14310	3/8	.3750	1	6-3/4	3-1/2
14320	25/64	.3906	1	7	3-5/8
14330	13/32	.4062	1	7	3-5/8
14340	27/64	.4219	1	7-1/4	3-7/8
14350	7/16	.4375	1	7-1/4	3-7/8
14360	29/64	.4531	1	7-1/2	4-1/8
14370	15/32	.4688	1	7-1/2	4-1/8
14380	31/64	.4844	2	8-1/4	4-3/8
14390	1/2	.5000	2	8-1/4	4-3/8
14400	33/64	.5156	2	8-1/2	4-5/8
14410	17/32	.5312	2	8-1/2	4-5/8
14420	35/64	.5469	2	8-3/4	4-7/8
14430	9/16	.5625	2	8-3/4	4-7/8
14440	37/64	.5781	2	8-3/4	4-7/8
14450	19/32	.5938	2	8-3/4	4-7/8
14460	39/64	.6094	2	8-3/4	4-7/8
14470	5/8	.6250	2	8-3/4	4-7/8
14480	41/64	.6406	2	9	5-1/8
14490	21/32	.6562	2	9	5-1/8
14500	43/64	.6719	2	9-1/4	5-3/8
14510	11/16	.6875	2	9-1/4	5-3/8
14520	45/64	.7031	2	9-1/2	5-5/8
14530	23/32	.7188	2	9-1/2	5-5/8
14540	47/64	.7344	2	9-3/4	5-7/8
14550	3/4	.7500	2	9-3/4	5-7/8
14560	49/64	.7656	2	9-7/8	6
14570	25/32	.7812	2	9-7/8	6
14580	51/64	.7969	3	10-3/4	6-1/8
14590	13/16	.8125	3	10-3/4	6-1/8
14600	53/64	.8281	3	10-3/4	6-1/8
14610	27/32	.8438	3	10-3/4	6-1/8
14620	55/64	.8594	3	10-3/4	6-1/8
14630	7/8	.8750	3	10-3/4	6-1/8
14640	57/64	.8906	3	10-3/4	6-1/8
14650	29/32	.9062	3	10-3/4	6-1/8
14660	59/64	.9219	3	10-3/4	6-1/8
14670	15/16	.9375	3	10-3/4	6-1/8
14680	61/64	.9531	3	11	6-3/8
14690	31/32	.9688	3	11	6-3/8
14700	63/64	.9844	3	11	6-3/8
14710	1"	1.0000	3	11	6-3/8
14720	1-1/64	1.0156	3	11-1/8	6-1/2

### FRACTIONAL

Part #	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

## 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

## HSS TAPER SHANK - REGULAR

### 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

HSS Taper Shank - Smaller than Regular & Larger than Regular

## 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

## Decimal Equivalent & Tap Drill Sizes Chart

Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal
0.10	.0039	54	.0550	26	.1470	<b>17/64</b>	<b>.2656</b>	11.50	.4528
97	.0059	1.40	.0551	25	.1495	H	.2660	<b>29/64</b>	<b>.4531</b>
96	.0063	1.45	.0571	3.80	.1496	6.80	.2677	11.80	.4646
95	.0067	1.50	.0591	24	.1520	6.90	.2717	<b>15/32</b>	<b>.4688</b>
94	.0071	53	.0595	3.90	.1535	I	.2720	12.00	.4724
93	.0075	1.55	.0610	23	.1540	J	.2756	12.20	.4803
92	.0079	<b>1/16</b>	<b>.0625</b>	<b>5/32</b>	<b>.1562</b>	7.00	.2770	<b>31/64</b>	<b>.4844</b>
0.20	.0079	1.60	.0630	22	.1570	7.10	.2795	12.50	.4921
91	.0083	52	.0635	4.00	.1575	K	.2810	<b>1/2</b>	<b>.5000</b>
90	.0087	1.65	.0650	21	.1590	<b>9/32</b>	<b>.2812</b>	13.00	.5118
89	.0091	1.70	.0669	20	.1610	7.20	.2835	33/64	.5156
88	.0095	51	.0670	4.10	.1614	7.30	.2874	17/32	.5312
87	.0100	1.75	.0689	4.20	.1654	L	.2900	13.50	.5315
86	.0105	50	.0700	19	.1660	7.40	.2913	35/64	.5469
85	.0110	1.80	.0709	4.30	.1693	M	.2950	14.00	.5512
84	.0115	1.85	.0728	18	.1695	7.50	.2953	<b>9/16</b>	<b>.5625</b>
0.30	.0118	49	.0730	<b>11/64</b>	<b>.1719</b>	<b>19/64</b>	<b>.2969</b>	14.50	.5709
83	.0120	1.90	.0748	17	.1730	7.60	.2992	37/64	.5781
82	.0125	48	.0760	4.40	.1732	N	.3020	15.00	.5906
81	.0130	1.95	.0768	16	.1770	7.70	.3031	19/32	.5938
80	.0135	<b>5/64</b>	<b>.0781</b>	4.50	.1772	7.80	.3071	39/64	.6094
0.35	.0138	47	.0785	15	.1800	7.90	.3110	15.50	.6102
79	.0145	2.00	.0787	4.60	.1811	<b>5/16</b>	<b>.3125</b>	<b>5/8</b>	<b>.6250</b>
<b>1/64</b>	<b>.0156</b>	2.05	.0807	14	.1820	8.00	.3150	16.00	.6299
0.40	.0157	46	.0810	13	.1850	O	.3160	41/64	.6406
78	.0160	45	.0820	4.70	.1850	8.10	.3189	16.50	.6496
0.45	.0177	2.10	.0827	<b>3/16</b>	<b>.1875</b>	8.20	.3228	21/32	.6562
77	.0180	2.15	.0846	12	.1890	P	.3230	17.00	.6693
0.50	.0197	44	.0860	4.80	.1890	8.30	.3268	43/64	.6719
76	.0200	2.20	.0866	11	.1910	<b>21/64</b>	<b>.3281</b>	<b>11/16</b>	<b>.6875</b>
75	.0210	2.25	.0886	4.90	.1929	8.40	.3307	17.50	.6890
0.55	.0217	43	.0890	10	.1935	Q	.3320	45/64	.7031
74	.0225	2.30	.0906	9	.1960	8.50	.3346	18.00	.7087
0.60	.0236	2.35	.0925	5.00	.1969	8.60	.3386	23/32	.7188
73	.0240	42	.0935	8	.1990	R	.3390	18.50	.7283
72	.0250	<b>3/32</b>	<b>.0938</b>	5.10	.2008	8.70	.3425	47/64	.7344
0.65	.0256	2.40	.0945	7	.2010	<b>11/32</b>	<b>.3438</b>	19.00	.7480
71	.0260	41	.0960	<b>13/64</b>	<b>.2031</b>	8.80	.3465	<b>3/4</b>	<b>.7500</b>
0.70	.0276	2.45	.0965	6	.2040	S	.3480	49/64	.7656
70	.0280	40	.0980	5.20	.2047	8.90	.3504	19.50	.7677
69	.0292	2.50	.0984	5	.2055	9.00	.3543	25/32	.7812
0.75	.0295	39	.0995	5.30	.2087	T	.3580	20.00	.7874
68	.0310	38	.1015	4	.2090	9.10	.3583	51/64	.7969
<b>1/32</b>	<b>.0312</b>	2.60	.1024	5.40	.2126	<b>23/64</b>	<b>.3594</b>	20.50	.8071
0.80	.0315	37	.1040	3	.2130	9.20	.3622	<b>13/16</b>	<b>.8125</b>
67	.0320	2.70	.1063	5.50	.2165	9.30	.3661	21.00	.8268
66	.0330	36	.1065	<b>7/32</b>	<b>.2188</b>	U	.3680	53/64	.8281
0.85	.0335	<b>7/64</b>	<b>.1094</b>	5.60	.2205	9.40	.3701	27/32	.8438
65	.0350	35	.1100	2	.2210	9.50	.3740	21.50	.8465
0.90	.0354	2.80	.1102	5.70	.2244	<b>3/8</b>	<b>.3750</b>	55/64	.8594
64	.0360	34	.1110	1	.2280	V	.3770	22.00	.8661
63	.0370	33	.1130	5.80	.2283	9.60	.3780	<b>7/8</b>	<b>.8750</b>
0.95	.0374	2.90	.1142	5.90	.2323	9.70	.3819	22.50	.8858
62	.0380	32	.1160	A	.2340	9.80	.3858	57/64	.8906
61	.0390	3.00	.1181	<b>15/64</b>	<b>.2344</b>	W	.3860	23.00	.9055
1.00	.0394	31	.1200	6.00	.2362	9.90	.3898	29/32	.9062
60	.0400	3.10	.1220	B	.2380	<b>25/64</b>	<b>.3906</b>	59/64	.9219
59	.0410	<b>1/8</b>	<b>.1250</b>	6.10	.2402	10.00	.3937	23.50	.9252
1.05	.0413	3.20	.1260	C	.2420	X	.3970	<b>15/16</b>	<b>.9375</b>
58	.0420	3.25	.1280	6.20	.2441	10.20	.4016	24.00	.9449
57	.0430	30	.1285	D	.2460	Y	.4040	61/64	.9531
1.10	.0433	3.30	.1299	6.30	.2480	10.30	.4058	24.50	.9646
1.15	.0453	3.40	.1339	<b>1/4</b>	<b>.2500</b>	<b>13/32</b>	<b>.4062</b>	31/32	.9688
56	.0465	29	.1360	E	.2500	Z	.4130	25.00	.9843
<b>3/64</b>	<b>.0469</b>	3.50	.1378	6.40	.2520	10.50	.4134	63/64	.9844
1.20	.0472	28	.1405	6.50	.2559	<b>27/64</b>	<b>.4219</b>	<b>1"</b>	<b>1.0000</b>
1.25	.0492	<b>9/64</b>	<b>.1406</b>	F	.2570	10.80	.4252		
1.30	.0512	3.60	.1417	6.60	.2598	11.00	.4331		
55	.0520	27	.1440	G	.2610	<b>7/16</b>	<b>.4375</b>		
1.35	.0531	3.70	.1457	6.70	.2638	11.20	.4409		

### TAP DRILL SIZES

Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill
0-80	3/64	M3.0-.5	2.50M	12-28	14	7/16-20	25/64	M18-1.5	16.5M
M1.6-.35	1.25M	5-40	38	M6.0-1	5.0M	M12-1.75	Y	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-.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-.4	1.60M	M3.5-.6	2.90M	5/16-18	F	M14-2	12.0M	7/8-9	49/64
2-56	51	M4.0-.7	3.30M	M8.0-1.25	H	9/16-12	31/64	M22-2.5	19.5M
M2.2-.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	M8.0-1	7.0M	9/16-18	33/64	7/8-14	13/16
3-48	47	M4.5-.75	26	3/8-16	5/16	M16-2	14.0M	M24-3	21.0M
M2.5-.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-.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

Technical Reference - Decimal Equivalent

## Drill Feed & Speeds

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

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

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

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

## Recommended Feeds

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

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

## Recommended Speeds

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

## Formulas

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

**R.P.M.** = Revolutions Per Minute

**I.P.R.** = Inches Per Revolution

**S.F.M.** = Surface Feet Per Minute

**Feed Stroke** = Drill Depth + 1/3

**I.P.M.** = Inches Per Minute

**Car Reamer** = 1/2 Speed of Drill

## Cutting Speed

DRILL SIZE	CUTTING SPEED — FEET PER MINUTE				
	20		40		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
<b>BROKEN DRILL</b>	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
<b>BROKEN TANG</b>	1. Shank or socket damaged	—Repair or replace
	2. Drill not properly seated in socket	—Check for positive, secure fit
<b>CHIPS NOT BREAKING UP</b>	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
<b>DAMAGED POINT</b>	1. Using hard object to tap drill into tool holder	—Use soft lead, brass, plastic, etc. hammer
	2. Dropping, mishandling drill	—Handle with care
<b>OVERSIZE HOLE</b>	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
<b>ROUGH HOLE</b>	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
<b>POOR TOOL LIFE</b>	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
<b>WEB SPLITS</b>	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
<b>CHIPPED LIPS</b>	1. Excessive lip clearance and/or heel relief	—Repoint or replace with properly pointed drill
<b>BROKEN OUTER CORNERS</b>	1. Insufficient or incorrect coolant	—Correct and adjust
	2. Excessive speed	—Reduce speed
	3. Scale, hard spots encountered in material	—No final remedy if this condition is prevalent; lower feeds and speeds may help

## Taps & Dies

### HSS Spiral Point Taps

Type 20-AG Fractional / Machine Screw . . . .	55
Type 20-AGN Fractional / Machine Screw . . . .	55
Type 20 Fractional / Machine Screw . . . . .	55
Type 21-AG Metric . . . . .	55
Type 21-AGN Metric - TiN Coated . . . . .	55
Type 21 Metric . . . . .	55

### HSS Straight Flute Taps

Type 23-AG Taper . . . . .	58 - 60
Type 23-AGN Taper - TiN Coated . . . . .	58 - 60
Type 23 Taper . . . . .	58 - 60
Type 24-AG Plug . . . . .	58 - 60
Type 24-AGN Plug - TiN Coated . . . . .	58 - 60
Type 24 Plug . . . . .	58 - 60
Type 25-AG Bottoming . . . . .	58 - 60
Type 25-AGN Bottoming - TiN Coated . . . . .	58 - 60
Type 25 Bottoming . . . . .	58 - 60
Type 26-AG Sets . . . . .	61
Type 26-AGN Sets TiN Coated . . . . .	61
Type 26 Sets . . . . .	61

### HSS Straight Flute -Metric

Type 31-AG Taper . . . . .	62
Type 31-AGN Taper - TiN Coated . . . . .	62
Type 31 Taper - Metric . . . . .	62
Type 32-AG Plug . . . . .	62
Type 32-AGN Plug - TiN Coated . . . . .	62
Type 32 Plug - Metric . . . . .	62
Type 33-AG Bottoming . . . . .	62
Type 33-AGN Bottoming - TiN Coated . . . . .	62

Type 33 Bottoming - Metric . . . . .	62
Type 35-AG Sets . . . . .	63
Type 35-AGN Sets - TiN Coated . . . . .	63

### HSS Straight Flute -Left-Hand Thread

Type 23L-AG Taper . . . . .	64
Type 24L-AG Plug . . . . .	64
Type 25L-AG Bottoming . . . . .	64

### **NEW** HSS Combination Drill & Tap

Type 40-AG . . . . .	65
Type 40-QR . . . . .	65

### Drill & Tap Combo

Type 34-AG . . . . .	65
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### HSS Hex Dies

Type 27-AG . . . . .	66
Type 27-AG Metric . . . . .	66

### High Performance Spiral Tap

Type 29-AG . . . . .	56
Type 29-AGN . . . . .	56
Type 29-ACN . . . . .	57
Type 29-ALN . . . . .	57

### **NEW** M42 Cobalt Taps & TiN Coated

Type 24-RNC . . . . .	58
Type 24-RNCN Cobalt . . . . .	58

### Taper Pipe Taps

Type 30-AG . . . . .	63
Type 30-AGN - TiN Coated . . . . .	63
Type 30-B Black Oxide . . . . .	63
Type 30 Bright . . . . .	63

### Interrupted Taper Pipe Taps

Type I30-AG Interrupted . . . . .	63
Type I30-AGN TiN Coated - Interrupted . . . . .	63
Type I30-B Black Oxide - Interrupted . . . . .	63
Type I30 Bright - Interrupted . . . . .	63

### HSS Tap & Drill Sets

SF-18TDC Straight Flute . . . . .	65
SF-18TDF Spiral Flute . . . . .	65
SP-10TD Straight Point . . . . .	65
SP-12TD Spiral Point . . . . .	65
SP-18TD Spiral Point . . . . .	65

SP-18TDM Spiral Point . . . . .	65
B-18TD HSS Drill & Tap Set . . . . .	65

### HSS Tap Sets

SP-19T Spiral Point . . . . .	66
SP-10T Spiral Point . . . . .	66
SF-10T Straight Flute . . . . .	66

### Drill, Tap & Countersink Set

TDC-12 . . . . .	66
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### HSS Tap & Die Assortments

Magnum Super Premium	
14pc, 15pc Metric . . . . .	67
23pc, 25pc Metric . . . . .	67
40pc . . . . .	68
58pc . . . . .	68

### Hi-Carbon Steel Taps

Type 720 Plug - Fractional . . . . .	69
Type 721 Plug - Machine Screw . . . . .	69
Type 740 Taper - Fractional . . . . .	69
Type 741 Plug - Machine Screw . . . . .	69
Type 760 Bottoming - Fractional . . . . .	70
Type 761 Bottoming - Machine Screw . . . . .	70
Type 722 3 pcs. Set - Fractional . . . . .	70
Type 723 3 pcs. Set - Machine Screw . . . . .	70
Type 780 Plug Taps Metric . . . . .	73

### Hi-Carbon Steel Pipe Taps

Type 410 Fractional . . . . .	73
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### Hi-Carbon Steel Dies

Type 400 - Round . . . . .	72
Type 405 - Hex . . . . .	71
Type 415 - Adjustable . . . . .	72
Type 790 - Hex Metric . . . . .	71

### Hi-Carbon Tap & Die Sets

Type 724	
14pc, 16pc . . . . .	74
24pc, 37pc . . . . .	75
40pc . . . . .	76

### Tap & Reamer

#### Wrenches / Die Stocks

Type 725 . . . . .	77
Type 726 . . . . .	77
Type 727 . . . . .	77
Type 727R Ratcheting T-Handle . . . . .	77
Type 728 . . . . .	78
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**HSS SPIRAL POINT PLUG TAPS**

**Gun Tap - Machine Screw / Fractional & METRIC - Ground Thread - Magnum Super Premium**

**Types 20-AG Gold Oxide, Type 20-AGN TiN Coated & Type 20 Bright**

**METRIC Types 21-AG Gold Oxide, Type 21-AGN TiN Coated & Type 21 Bright**

- Spiral point taps are designed for machine tapping through holes in a wide variety of materials. The point of the tap continuously ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage.



**Type 20-AG**

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



**Type 20-AGN Titanium Nitride**

Titanium Nitride - increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.



**Type 20 Bright Finish**  
Bright Finish

**Red Bold** = most common used Taps

20-AG Part #	20-AGN Part #	20 Part #	Size	# of Flutes	H Limit	Qty. per/pack
67502	10502	60101	0-80	2	H1	3
<b>60100</b>	<b>10512</b>	<b>67501</b>	<b>0-80</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67512	10522	60111	1-64	2	H1	3
<b>60110</b>	<b>10532</b>	<b>67511</b>	<b>1-64</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67522	10542	67521	1-72	2	H1	3
<b>60120</b>	<b>10552</b>	<b>60121</b>	<b>1-72</b>	<b>2</b>	<b>H2</b>	<b>3</b>
<b>60130</b>	<b>10562</b>	<b>60131</b>	<b>2-56</b>	<b>2</b>	<b>H2</b>	<b>3</b>
<b>60140</b>	<b>10572</b>	<b>60141</b>	<b>2-64</b>	<b>2</b>	<b>H2</b>	<b>3</b>
<b>60150</b>	<b>10582</b>	<b>60151</b>	<b>3-48</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67532	10592	67531	3-56	2	H1	3
<b>60160</b>	<b>10602</b>	<b>60161</b>	<b>3-56</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67542	10612	67541	4-40	2	H1	3
<b>60170</b>	<b>10622</b>	<b>60171</b>	<b>4-40</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67552	10632	67551	4-48	2	H1	3
<b>60180</b>	<b>10642</b>	<b>60181</b>	<b>4-48</b>	<b>2</b>	<b>H2</b>	<b>3</b>
<b>60190</b>	<b>10652</b>	<b>60191</b>	<b>4-36</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67562	10662	67561	5-40	2	H1	3
<b>60200</b>	<b>10672</b>	<b>60201</b>	<b>5-40</b>	<b>2</b>	<b>H2</b>	<b>3</b>
<b>60210</b>	<b>10682</b>	<b>60211</b>	<b>5-44</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67572	10692	67571	6-32	2	H1	3
67582	10702	67581	6-32	2	H2	3
<b>60220</b>	<b>10712</b>	<b>60221</b>	<b>6-32</b>	<b>2</b>	<b>H3</b>	<b>3</b>
<b>60230</b>	<b>10722</b>	<b>60231</b>	<b>6-40</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67592	10732	67591	8-32	2	H1	3
67602	10742	67601	8-32	2	H2	3
<b>60240</b>	<b>10752</b>	<b>60241</b>	<b>8-32</b>	<b>2</b>	<b>H3</b>	<b>3</b>
<b>60250</b>	<b>10762</b>	<b>60251</b>	<b>8-36</b>	<b>2</b>	<b>H2</b>	<b>3</b>
67612	10772	67611	10-24	2	H1	3
67622	10782	67621	10-24	2	H2	3
<b>60260</b>	<b>10792</b>	<b>60261</b>	<b>10-24</b>	<b>2</b>	<b>H3</b>	<b>3</b>
67632	10802	67631	10-32	2	H1	3
67642	10812	67641	10-32	2	H2	3
<b>60270</b>	<b>10822</b>	<b>60271</b>	<b>10-32</b>	<b>2</b>	<b>H3</b>	<b>3</b>
<b>60280</b>	<b>10832</b>	<b>60281</b>	<b>12-24</b>	<b>2</b>	<b>H3</b>	<b>3</b>
<b>60290</b>	<b>10842</b>	<b>60291</b>	<b>12-28</b>	<b>2</b>	<b>H3</b>	<b>3</b>
67652	10852	67651	1/4-20	2	H1	3
67662	10862	67661	1/4-20	2	H2	3
<b>60320</b>	<b>10872</b>	<b>60321</b>	<b>1/4-20</b>	<b>2</b>	<b>H3</b>	<b>3</b>
67672	10882	67671	1/4-20	2	H5	3
67682	10892	67681	1/4-20	3	H3	3
67692	10902	67691	1/4-20	3	H5	3
67702	10912	67701	1/4-28	2	H1	3
67712	10922	67711	1/4-28	2	H2	3
<b>60330</b>	<b>10932</b>	<b>60331</b>	<b>1/4-28</b>	<b>2</b>	<b>H3</b>	<b>3</b>

20-AG Part #	20-AGN Part #	20 Part #	Size	# of Flutes	H Limit	Qty. per/pack
67722	10942	67721	1/4-28	2	H4	3
67732	10952	67731	1/4-28	3	H2	3
67742	10962	67741	1/4-28	3	H4	3
67752	10972	67751	5/16-18	2	H1	3
67762	10982	67761	5/16-18	2	H2	3
<b>60340</b>	<b>10992</b>	<b>60341</b>	<b>5/16-18</b>	<b>2</b>	<b>H3</b>	<b>3</b>
67772	11002	67771	5/16-18	2	H5	3
67782	11012	67781	5/16-18	3	H3	3
67792	11022	67791	5/16-18	3	H5	3
67802	11032	67801	5/16-24	2	H1	3
67812	11042	67811	5/16-24	2	H2	3
<b>60350</b>	<b>11052</b>	<b>60351</b>	<b>5/16-24</b>	<b>2</b>	<b>H3</b>	<b>3</b>
67822	11062	67821	5/16-24	2	H4	3
67832	11072	67831	5/16-24	3	H2	3
67842	11082	67841	5/16-24	3	H4	3
67852	11092	67851	3/8-16	3	H1	3
67862	11102	67861	3/8-16	3	H2	3
<b>60360</b>	<b>11112</b>	<b>60361</b>	<b>3/8-16</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67872	11122	67871	3/8-16	3	H5	3
67882	11132	67881	3/8-24	3	H1	3
67892	11142	67891	3/8-24	3	H2	3
<b>60370</b>	<b>11152</b>	<b>60371</b>	<b>3/8-24</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67902	11162	67901	3/8-24	3	H4	3
67912	11172	67911	7/16-14	3	H2	3
<b>60380</b>	<b>11182</b>	<b>60381</b>	<b>7/16-14</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67922	11192	67921	7/16-14	3	H5	3
<b>60390</b>	<b>11202</b>	<b>60391</b>	<b>7/16-20</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67932	11212	67931	7/16-20	3	H5	3
67942	11222	67941	1/2-13	3	H2	3
<b>60400</b>	<b>11232</b>	<b>60401</b>	<b>1/2-13</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67952	11242	67951	1/2-13	3	H5	3
67962	11252	67961	1/2-20	3	H1	3
67972	11262	67971	1/2-20	3	H2	3
<b>60410</b>	<b>11272</b>	<b>60411</b>	<b>1/2-20</b>	<b>3</b>	<b>H3</b>	<b>3</b>
67982	11282	67981	1/2-20	3	H5	3
<b>67992</b>	<b>-----</b>	<b>60461</b>	<b>9/16-12</b>	<b>3</b>	<b>H3</b>	<b>1</b>
<b>68002</b>	<b>-----</b>	<b>60471</b>	<b>9/16-18</b>	<b>3</b>	<b>H3</b>	<b>1</b>
<b>60420</b>	<b>11292</b>	<b>60421</b>	<b>5/8-11</b>	<b>3</b>	<b>H3</b>	<b>1</b>
68012	11302	67991	5/8-11	3	H5	1
<b>60430</b>	<b>11312</b>	<b>60431</b>	<b>5/8-18</b>	<b>3</b>	<b>H3</b>	<b>1</b>
<b>60440</b>	<b>11322</b>	<b>60441</b>	<b>3/4-10</b>	<b>3</b>	<b>H3</b>	<b>1</b>
68022	11332	68001	3/4-10	3	H5	1
<b>60450</b>	<b>11342</b>	<b>60451</b>	<b>3/4-16</b>	<b>3</b>	<b>H3</b>	<b>1</b>

**TYPE 21-AG, TYPE 21-AGN TIN COATED & TYPE 21**

**METRIC - PLUG**

21-AG Part #	21-AGN Part #	21 Part #	Size	# of Flutes	PD Limit	Qty. per/pck
68602	10509	68601	1.6 - 0.35	2	D3	3
68612	10519	68611	1.8 - 0.35	2	D3	3
68622	10529	68621	2.0 - 0.40	2	D3	3
68632	10539	68631	2.20 - 0.45	2	D3	3
60500	10549	68641	2.5 - 0.45	2	D3	3
60510	10559	60102	3.0 - 0.50	2	D3	3
60520	10569	60103	3.5 - 0.60	2	D4	3
60530	10579	60104	4.0 - 0.70	2	D4	3
68642	10589	68651	4.50 - 0.75	2	D4	3
60550	10599	60114	5.0 - 0.80	2	D4	3
60560	10609	60124	6.0 - 1.00	2	D5	3
68652	10619	68661	7.0 - 1.00	2	D5	3

21-AG Part #	21-AGN Part #	21 Part #	Size	# of Flutes	PD Limit	Qty. per/pck
68662	10629	68671	8.0 - 1.00	2	D5	3
60580	10639	60234	8.0 - 1.25	2	D5	3
68672	10649	68681	10.0 - 1.25	3	D5	3
60600	10659	60152	10.0 - 1.50	3	D6	3
68682	10669	68691	12.0 - 1.25	3	D5	3
60620	10679	60162	12.0 - 1.75	3	D6	3
68692	10689	68701	14.0 - 1.50	3	D6	1
60630	10699	60164	14.0 - 2.00	3	D7	1
68702	10709	68711	16.0 - 1.50	3	D6	1
60640	10719	60173	16.0 - 2.00	3	D7	1
60650	10729	60174	18.0 - 2.50	3	D7	1
68712	10739	68721	20.0 - 2.50	3	D7	1

**METRIC**  
**HSS Taps - Spiral Point Plug Taps**



# Taps & Dies

**NORSEMAN/CTD**  
DRILL & TOOL

## HIGH PERFORMANCE REDUCED NECK - SPIRAL POINT TAPS

Machine Screw / Fractional & **METRIC** - Magnum Super Premium

**Type 29-AG - Gold Oxide**

**Type 29-AGN - Titanium Nitride**

- Special tool geometry creates less torque, better removal of chips and runs cooler.
- Designed for difficult materials including: **stainless steel, alloy steels and high carbon steel.**



**Type 29-AG Gold Oxide**

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



**Type 29-AGN Titanium Nitride**

**Titanium Nitride** - increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.

**GOLD OXIDE**

**TYPE 29-AG**

**METRIC**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
44264	2-56	2	H2	3
44284	3-48	2	H2	3
44300	4-40	2	H2	3
44294	4-48	2	H2	3
44304	5-40	2	H2	3
44309	5-44	2	H2	3
44310	6-32	3	H3	3
44320	6-40	3	H2	3
44334	8-32	2	H3	3
44330	8-32A	3	H3	3
44344	8-36	2	H2	3
44340	8-36A	3	H2	3
44354	10-24	2	H3	3
44350	10-24A	3	H3	3
44364	10-32	2	H3	3

Part #	Size	# of Flutes	H Limits	Qty. per /pack
44360	10-32A	3	H3	3
44374	12-24	2	H3	3
44370	12-24A	3	H3	3
44384	12-28	2	H3	3
44380	12-28A	3	H3	3
20013	1/4-20	2	H3	3
20010	1/4-20A	3	H3	3
20023	1/4-28	2	H3	3
20020	1/4-28A	3	H2	3
20033	5/16-18	2	H3	3
20030	5/16-18A	3	H3	3
20043	5/16-24	2	H3	3
20040	5/16-24A	3	H2	3
20050	3/8-16	3	H3	3
20060	3/8-24	3	H3	3

Part #	Size	# of Flutes	H Limits	Qty. per /pack
20100	7/16-14	3	H3	3
20110	7/16-20	3	H3	3
20120	1/2-13	3	H3	3
20130	1/2-20	3	H3	3
20163	9/16-12	3	H3	1
20173	9/16-18	3	H3	1
20183	5/8-11	3	H3	1
20193	5/8-18	3	H3	1
20203	3/4-10	3	H3	1
20213	3/4-16	3	H3	1
20223	7/8-9	3	H3	1
20233	7/8-14	3	H3	1
20243	1-8	3	H3	1
20253	1-14	3	H3	1

Part #	Size	# of Flutes	PD Limits	Qty. per /pack
24494	3-.50	2	D3	3
24514	4-.70	3	D4	3
24534	5-.80	3	D4	3
24544	6-1.00	3	D5	3
24574	8-1.25	3	D5	3
24594	10-1.50	3	D6	3
24614	12-1.75	3	D6	3
24634	14-2.00	3	D7	1
24654	16-2.00	3	D7	1

**TITANIUM NITRIDE**

**TYPE 29-AGN**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
09501	2-56	2	H2	3
09511	3-48	2	H2	3
09521	4-40	2	H2	3
09531	4-48	2	H2	3
09541	5-40	2	H2	3
09551	5-44	2	H2	3
09561	6-32	3	H3	3
09571	6-40	3	H2	3
09581	8-32	2	H3	3
09591	8-32A	3	H3	3
09601	8-36	2	H2	3
09611	8-36A	3	H2	3
09621	10-24	2	H3	3
09631	10-24A	3	H3	3
09641	10-32	2	H3	3
09651	10-32A	3	H3	3
09661	12-24	2	H3	3
09671	12-24A	3	H3	3
09681	12-28	2	H3	3

Part #	Size	# of Flutes	H Limits	Qty. per /pack
09691	12-28A	3	H3	3
09701	1/4-20	2	H3	3
09711	1/4-20A	3	H3	3
09721	1/4-28	2	H3	3
09731	1/4-28A	3	H2	3
09741	5/16-18	2	H3	3
09751	5/16-18A	3	H3	3
09761	5/16-24	2	H3	3
09771	5/16-24A	3	H2	3
09781	3/8-16	3	H3	3
09791	3/8-24	3	H3	3
09801	7/16-14	3	H3	3
09811	7/16-20	3	H3	3
09821	1/2-13	3	H3	3
09831	1/2-20	3	H3	3
09841	9/16-12	3	H3	1
09851	9/16-18	3	H3	1
09861	5/8-11	3	H3	1
09871	5/8-18	3	H3	1

Part #	Size	# of Flutes	H Limits	Qty. per /pack
09881	3/4-10	3	H3	1
09891	3/4-16	3	H3	1
09901	7/8-9	3	H3	1
09911	7/8-14	3	H3	1
09921	1-8	3	H3	1
09931	1-14	3	H3	1

**METRIC**

Part #	Size	# of Flutes	PD Limits	Qty. per /pack
09941	3-.50	2	D3	3
09951	4-.70	3	D4	3
09961	5-.80	3	D4	3
09971	6-1.00	3	D5	3
09981	8-1.25	3	D5	3
09991	10-1.50	3	D6	3
10001	12-1.75	3	D6	3
10011	14-2.00	3	D7	1
10021	16-2.00	3	D7	1



**METRIC**

**TiCN / TiAlN**

**Tap & Dies - HSS High Performance Reduced Neck - Spiral Point Taps**

**HIGH PERFORMANCE REDUCED NECK - SPIRAL POINT TAPS**  
**Machine Screw / Fractional & METRIC - Magnum Super Premium**

**Type 29-ACN - Titanium Carbon Nitride**  
**Type 29-ALN - Titanium Aluminum Nitride**

- **Titanium Carbon Nitride** - TiCN coating that is harder than TiN coating resulting in longer tool life and enhanced performance.
- Designed for use in multiple applications.

**Titanium Aluminum Nitride** - TiAlN coating provides extreme toughness, recommended for high temperature operations and difficult to machine materials.

- Designed for hardened steels and cast iron up to 45 Rockwell C.



**TiCN Coating**

**Titanium Carbon Nitride (TiCN)** Hi productivity when threading stainless steel, nickel and aluminum for use in multiple applications



**TiAlN Coating**

**Titanium Aluminum Nitride (TiAlN)** ideal for threading hard materials designed for hardened steels and cast iron up to 45 Rockwell C.

**TITANIUM CARBON NITRIDE**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
31001	2-56	2	H2	3
31011	3-48	2	H2	3
31021	4-40	2	H2	3
31031	4-48	2	H2	3
31041	5-40	2	H2	3
31051	5-44	2	H2	3
31061	6-32	3	H3	3
31071	6-40	3	H2	3
31081	8-32	2	H3	3
31091	8-32A	3	H3	3
31101	8-36	2	H2	3
31111	8-36A	3	H2	3
31121	10-24	2	H3	3
31131	10-24A	3	H3	3
31141	10-32	2	H3	3
31151	10-32A	3	H3	3
31161	12-24	2	H3	3
31171	12-24A	3	H3	3
31181	12-28	2	H3	3

**TYPE 29-ACN**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
31191	12-28A	3	H3	3
31201	1/4-20	2	H3	3
31211	1/4-20A	3	H3	3
31221	1/4-28	2	H3	3
31231	1/4-28A	3	H2	3
31241	5/16-18	2	H3	3
31251	5/16-18A	3	H3	3
31261	5/16-24	2	H3	3
31271	5/16-24A	3	H2	3
31281	3/8-16	3	H3	3
31291	3/8-24	3	H3	3
31301	7/16-14	3	H3	3
31311	7/16-20	3	H3	3
31321	1/2-13	3	H3	3
31331	1/2-20	3	H3	3
31341	9/16-12	3	H3	1
31351	9/16-18	3	H3	1
31361	5/8-11	3	H3	1

Part #	Size	# of Flutes	H Limits	Qty. per /pack
31371	5/8-18	3	H3	1
31381	3/4-10	3	H3	1
31391	3/4-16	3	H3	1
31401	7/8-9	3	H3	1
31411	7/8-14	3	H3	1
31421	1-8	3	H3	1
31431	1-14	3	H3	1

**METRIC**

Part#	Size	# of Flutes	PD Limits	Qty. per /pack
31441	3-.50	2	D3	3
31451	4-.70	3	D4	3
31461	5-.80	3	D4	3
31471	6-1.00	3	D5	3
31481	8-1.25	3	D5	3
31491	10-1.50	3	D6	3
31501	12-1.75	3	D6	3
31511	14-2.00	3	D7	1
31521	16-2.00	3	D7	1

**TITANIUM ALUMINUM NITRIDE**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
56301	2-56	2	H2	3
56311	3-48	2	H2	3
56321	4-40	2	H2	3
56331	4-48	2	H2	3
56341	5-40	2	H2	3
56351	5-44	2	H2	3
56361	6-32	3	H3	3
56371	6-40	3	H2	3
56381	8-32	2	H3	3
56391	8-32A	3	H3	3
56401	8-36	2	H2	3
56411	8-36A	3	H2	3
56421	10-24	2	H3	3
56431	10-24A	3	H3	3
56441	10-32	2	H3	3
56451	10-32A	3	H3	3
56461	12-24	2	H3	3
56471	12-24A	3	H3	3

**TYPE 29-ALN**

Part #	Size	# of Flutes	H Limits	Qty. per /pack
56481	12-28	2	H3	3
56491	12-28A	3	H3	3
56501	1/4-20	2	H3	3
56511	1/4-20A	3	H3	3
56521	1/4-28	2	H3	3
56531	1/4-28A	3	H2	3
56541	5/16-18	2	H3	3
56551	5/16-18A	3	H3	3
56561	5/16-24	2	H3	3
56571	5/16-24A	3	H2	3
56581	3/8-16	3	H3	3
56591	3/8-24	3	H3	3
56601	7/16-14	3	H3	3
56611	7/16-20	3	H3	3
56621	1/2-13	3	H3	3
56631	1/2-20	3	H3	3
56641	9/16-12	3	H3	1
56651	9/16-18	3	H3	1
56661	5/8-11	3	H3	1

Part #	Size	# of Flutes	H Limits	Qty. per /pack
56671	5/8-18	3	H3	1
56681	3/4-10	3	H3	1
56691	3/4-16	3	H3	1
56701	7/8-9	3	H3	1
56711	7/8-14	3	H3	1
56721	1-8	3	H3	1
56731	1-14	3	H3	1

**METRIC**

Part#	Size	# of Flutes	PD Limits	Qty. per /pack
56741	3-.50	2	D3	3
56751	4-.70	3	D4	3
56761	5-.80	3	D4	3
56771	6-1.00	3	D5	3
56781	8-1.25	3	D5	3
56791	10-1.50	3	D6	3
56801	12-1.75	3	D6	3
56811	14-2.00	3	D7	1
56821	16-2.00	3	D7	1

# Taps & Dies

**NORSEMAN/CTD**  
DRILL & TOOL

## M42 COBALT TAPS & TITANIUM NITRIDE NEW

### Type 24-RNC Bright Finish Type 24-RNCN Titanium Nitride Fractional - Taps for Hardened Steel and Iron

- M-42 plug taps for tapping through holes in mold steel and hardened steel with Rockwell C hardness between C30 – C45.
- Titanium coated M-42 plug taps last twice as long as uncoated taps, titanium coatings lubricity produces smooth threads. For use in cast iron, brass, bronze, armor plate with a Rockwell C hardness between C30 – C45 and hard plastics



Gold Oxide Part #	Titanium Nitride Part #	Thread Size	Thread Length	Overall Length	Shank Diameter	Drill Bit Size	# of Flutes	Pitch Limit Diameter	Qty Per Pack
10052	13802	4-40	5/16"	1-7/8"	0.1405	#43	3	H2	3
10072	13822	5-40	5/16"	1-15/16"	0.1405	#38	3	H2	3
10092	13842	6-32	3/8"	2"	0.1405	#36	3	H3	3
10112	13862	8-32	3/8"	2-1/8"	0.1675	#29	3	H3	3
10132	13882	10-24	1/2"	2-3/8"	0.1935	#25	3	H3	3
10142	13892	10-32	1/2"	2-3/8"	0.1935	#21	3	H3	3
10172	13922	1/4-20	5/8"	2-1/2"	0.2545	#7	3	H3	3
10182	13932	1/4-28	5/8"	2-1/2"	0.2545	#3	3	H3	3
10192	13942	5/16-18	11/16"	2-23/32"	0.3175	F	4	H3	3
10202	13952	5/16-24	11/16"	2-23/32"	0.3175	I	4	H3	3
10212	13962	3/8-16	3/4"	2-15/16"	0.3805	5/16"	4	H3	3
10222	13972	3/8-24	3/4"	2-15/16"	0.3805	Q	4	H3	3
10232	13982	7/16-14	7/8"	3-5/32"	0.3225	U	4	H3	3
10242	13992	7/16-20	7/8"	3-5/32"	0.3225	25/64"	4	H3	3
10272	14002	1/2-13	15/16"	3-3/8"	0.3665	27/64"	4	H3	3
10282	14012	1/2-20	15/16"	3-3/8"	0.3665	29/64"	4	H3	3
10292	14042	5/8-11	1-3/32"	3-13/16"	0.4795	17/32"	4	H3	1
10302	14052	5/8-18	1-3/32"	3-13/16"	0.4795	37/64"	4	H3	1
10312	14062	3/4-10	1-7/32"	4-1/4"	0.5895	21/32"	4	H3	1
10322	14072	3/4-16	1-7/32"	4-1/4"	0.5895	11/16"	4	H3	1

## HSS STRAIGHT FLUTE HAND TAPS

### Machine Screw / Fractional - Ground Thread Types 23-AG, Type 24-AG & Type 25-AG Gold Oxide

### Types 23-AGN, Type 24-AGN & Type 25-AGN Titanium Nitride Types 23, Type 24 & Type 25 Bright Finish

- The most common style of tap
- Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
- Use for through hole or blind hole tapping.



**Type 23-AG - Taper**

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



**Type 24-AGN - Plug**

Titanium Nitride - increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.



**Type 25 - Bottoming**  
Bright Finish

23-AG Taper Part#	24-AG Plug Part #	25-AG Bottoming Part #	23-AGN Taper Part #	24-AGN Plug Part #	25-AGN Bottoming Part #	23 Taper Part #	24 Plug Part #	25 Bottoming Part #	Size	# of Flutes	H Limit	QTY per/pack
72701	72702	72703	45981	45982	45983	71661	71662	71663	0-80	2	H1	3
72711	72712	72713	45991	45992	45993	71671	71672	71673	0-80	2	H2	3
72721	72722	72723	44101	44102	44103	71681	71682	71683	1-64	2	H1	3
72731	72732	72733	44111	44112	44113	71691	71692	71693	1-64	2	H2	3
72741	72742	72743	44121	44122	44123	71701	71702	71703	1-72	2	H1	3
72751	72752	72753	44131	44132	44133	71711	71712	71713	1-72	2	H2	3
72761	72762	72763	44141	44142	44143	71721	71722	71723	2-56	3	H1	3
<b>60660</b>	<b>60661</b>	<b>60662</b>	<b>46001</b>	<b>46002</b>	<b>46003</b>	<b>71231</b>	<b>71232</b>	<b>71233</b>	<b>2-56</b>	<b>3</b>	<b>H2</b>	<b>3</b>
72771	72772	72773	44151	44152	44153	71731	71732	71733	2-64	3	H2	3
72781	72782	72783	44161	44162	44163	71741	71742	71743	3-48	3	H1	3
<b>60680</b>	<b>60681</b>	<b>60682</b>	<b>46011</b>	<b>46012</b>	<b>46013</b>	<b>71251</b>	<b>71252</b>	<b>71253</b>	<b>3-48</b>	<b>3</b>	<b>H2</b>	<b>3</b>
60710	60711	60712	45931	45932	45933	71751	71752	71753	3-56	3	H2	3
<b>60700</b>	<b>60701</b>	<b>60702</b>	<b>46021</b>	<b>46022</b>	<b>46023</b>	<b>61001</b>	<b>61002</b>	<b>61003</b>	<b>4-40</b>	<b>3</b>	<b>H2</b>	<b>3</b>
60720	60721	60722	45951	45952	45953	61011	61012	61013	4-48	3	H2	3
72791	72792	72793	44191	44192	44193	71761	71762	71763	5-40	3	H1	3
<b>60730</b>	<b>60731</b>	<b>60732</b>	<b>46031</b>	<b>46032</b>	<b>46033</b>	<b>61021</b>	<b>61022</b>	<b>61023</b>	<b>5-40</b>	<b>3</b>	<b>H2</b>	<b>3</b>
<b>60740</b>	<b>60741</b>	<b>60742</b>	<b>45971</b>	<b>45972</b>	<b>45973</b>	<b>61031</b>	<b>61032</b>	<b>61033</b>	<b>5-44</b>	<b>3</b>	<b>H2</b>	<b>3</b>
72801	72802	72803	44211	44212	44213	71771	71772	71773	6-32	3	H1	3
72811	72812	72813	44221	44222	44223	71781	71782	71783	6-32	3	H2	3
<b>60750</b>	<b>60751</b>	<b>60752</b>	<b>46041</b>	<b>46042</b>	<b>46043</b>	<b>61041</b>	<b>61042</b>	<b>61043</b>	<b>6-32</b>	<b>3</b>	<b>H3</b>	<b>3</b>
72821	72822	72823	44231	44232	44233	71791	71792	71793	6-40	3	H1	3
<b>60760</b>	<b>60761</b>	<b>60762</b>	<b>46051</b>	<b>46052</b>	<b>46053</b>	<b>61051</b>	<b>61052</b>	<b>61053</b>	<b>6-40</b>	<b>3</b>	<b>H2</b>	<b>3</b>
72831	72832	72833	44241	44242	44243	71801	71802	71803	8-32	4	H1	3
72841	72842	72843	44251	44252	44253	71811	71812	71813	8-32	4	H2	3
<b>60770</b>	<b>60771</b>	<b>60772</b>	<b>46061</b>	<b>46062</b>	<b>46063</b>	<b>61061</b>	<b>61062</b>	<b>61063</b>	<b>8-32</b>	<b>4</b>	<b>H3</b>	<b>3</b>
<b>60780</b>	<b>60781</b>	<b>60782</b>	<b>46071</b>	<b>46072</b>	<b>46073</b>	<b>61071</b>	<b>61072</b>	<b>61073</b>	<b>8-36</b>	<b>4</b>	<b>H2</b>	<b>3</b>
72851	72852	72853	44261	44262	44263	71821	71822	71823	10-24	4	H1	3

Red Bold = most common used Taps



**HSS STRAIGHT FLUTE HAND TAPS**  
Machine Screw / Fractional - Ground Thread - Magnum Super Premium

**Types 23-AG, Type 24-AG & Type 25-AG Gold Oxide**  
**Types 23-AGN, Type 24-AGN & Type 25-AGN Titanium Nitride**  
**Types 23, Type 24 & Type 25 Bright Finish**

- The most common style of tap
- Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
- Use for through hole or blind hole tapping



**Type 23-AG - Taper**

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



**Type 24-AGN - Plug**

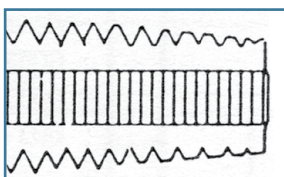
**Titanium Nitride** - increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.



**Type 25 - Bottoming Bright Finish**

**Red Bold** = most common used Taps

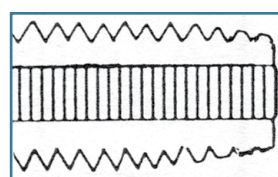
23-AG Taper Part#	24-AG Plug Part #	25-AG Bottoming Part #	23-AGN Taper Part #	24-AGN Plug Part #	25-AGN Bottoming Part #	23 Taper Part #	24 Plug Part #	25 Bottoming Part #	Size	# of Flutes	H Limit	QTY per/pack
72861	72862	72863	44271	44272	44273	71831	71832	71833	10-24	4	H2	3
<b>60790</b>	<b>60791</b>	<b>60792</b>	<b>46081</b>	<b>46082</b>	<b>46083</b>	<b>61081</b>	<b>61082</b>	<b>61083</b>	<b>10-24</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72871	72872	72873	44281	44282	44283	71841	71842	71843	10-32	4	H1	3
72881	72882	72883	44291	44292	44293	71851	71852	71853	10-32	4	H2	3
<b>60800</b>	<b>60801</b>	<b>60802</b>	<b>46091</b>	<b>46092</b>	<b>46093</b>	<b>61091</b>	<b>61092</b>	<b>61093</b>	<b>10-32</b>	<b>4</b>	<b>H3</b>	<b>3</b>
<b>60810</b>	<b>60811</b>	<b>60812</b>	<b>46101</b>	<b>46102</b>	<b>46103</b>	<b>61101</b>	<b>61102</b>	<b>61103</b>	<b>12-24</b>	<b>4</b>	<b>H3</b>	<b>3</b>
<b>60820</b>	<b>60821</b>	<b>60822</b>	<b>46111</b>	<b>46112</b>	<b>46113</b>	<b>61111</b>	<b>61112</b>	<b>61113</b>	<b>12-28</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72891	72892	72893	44301	44302	44303	71861	71862	71863	1/4-20	4	H1	3
72901	72902	72903	44311	44312	44313	71871	71872	71873	1/4-20	4	H2	3
<b>60830</b>	<b>60831</b>	<b>60832</b>	<b>46121</b>	<b>46122</b>	<b>46123</b>	<b>61121</b>	<b>61122</b>	<b>61123</b>	<b>1/4-20</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72911	72912	72913	44321	44322	44323	71881	71882	71883	1/4-20	4	H5	3
72921	72922	72923	44331	44332	44333	71891	71892	71893	1/4-28	4	H1	3
72931	72932	72933	44341	44342	44343	71901	71902	71903	1/4-28	4	H2	3
<b>60840</b>	<b>60841</b>	<b>60842</b>	<b>46131</b>	<b>46132</b>	<b>46133</b>	<b>61131</b>	<b>61132</b>	<b>61133</b>	<b>1/4-28</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72941	72942	72943	44351	44352	44353	71911	71912	71913	1/4-28	4	H4	3
72951	72952	72953	44361	44362	44363	71921	71922	71923	5/16-18	4	H2	3
<b>60850</b>	<b>60851</b>	<b>60852</b>	<b>46141</b>	<b>46142</b>	<b>46143</b>	<b>61141</b>	<b>61142</b>	<b>61143</b>	<b>5/16-18</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72961	72962	72963	44371	44372	44373	71931	71932	71933	5/16-18	4	H5	3
72971	72972	72973	44381	44382	44383	71941	71942	71943	5/16-24	4	H2	3
<b>60860</b>	<b>60861</b>	<b>60862</b>	<b>46151</b>	<b>46152</b>	<b>46153</b>	<b>61151</b>	<b>61152</b>	<b>61153</b>	<b>5/16-24</b>	<b>4</b>	<b>H3</b>	<b>3</b>
72981	72982	72983	44391	44392	44393	71951	71952	71953	5/16-24	4	H4	3
72991	72992	72993	44401	44402	44403	71961	71962	71963	3/8-16	4	H1	3
73001	73002	73003	44411	44412	44413	71971	71972	71973	3/8-16	4	H2	3
<b>60870</b>	<b>60871</b>	<b>60872</b>	<b>46161</b>	<b>46162</b>	<b>46163</b>	<b>61161</b>	<b>61162</b>	<b>61163</b>	<b>3/8-16</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73011	73012	73013	44421	44422	44423	71981	71982	71983	3/8-16	4	H5	3
73021	73022	73023	44431	44432	44433	71991	71992	71993	3/8-24	4	H1	3
73031	73032	73033	44441	44442	44443	72001	72002	72003	3/8-24	4	H2	3
<b>60880</b>	<b>60881</b>	<b>60882</b>	<b>46171</b>	<b>46172</b>	<b>46173</b>	<b>61171</b>	<b>61172</b>	<b>61173</b>	<b>3/8-24</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73041	73042	73043	44451	44452	44453	72011	72012	72013	3/8-24	4	H4	3
<b>60890</b>	<b>60891</b>	<b>60892</b>	<b>46181</b>	<b>46182</b>	<b>46183</b>	<b>61181</b>	<b>61182</b>	<b>61183</b>	<b>7/16-14</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73051	73052	73053	44461	44462	44463	72021	72022	72023	7/16-14	4	H5	3
<b>60900</b>	<b>60901</b>	<b>60902</b>	<b>46191</b>	<b>46192</b>	<b>46193</b>	<b>61191</b>	<b>61192</b>	<b>61193</b>	<b>7/16-20</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73061	73062	73063	44471	44472	44473	72031	72032	72033	7/16-20	4	H5	3
73071	73072	73073	44481	44482	44483	72041	72042	72043	1/2-13	4	H1	3
<b>60910</b>	<b>60911</b>	<b>60912</b>	<b>46201</b>	<b>46202</b>	<b>46203</b>	<b>61201</b>	<b>61202</b>	<b>61203</b>	<b>1/2-13</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73081	73082	73083	44491	44492	44493	72051	72052	72053	1/2-13	4	H5	3
73091	73092	73093	44501	44502	44503	72061	72062	72063	1/2-20	4	H1	3
<b>60920</b>	<b>60921</b>	<b>60922</b>	<b>46211</b>	<b>46212</b>	<b>46213</b>	<b>61211</b>	<b>61212</b>	<b>61213</b>	<b>1/2-20</b>	<b>4</b>	<b>H3</b>	<b>3</b>
73101	73102	73103	44511	44512	44513	72071	72072	72073	1/2-20	4	H5	3
<b>60950</b>	<b>60951</b>	<b>60952</b>	<b>46221</b>	<b>46222</b>	<b>46223</b>	<b>55011</b>	<b>55012</b>	<b>55013</b>	<b>9/16-12</b>	<b>4</b>	<b>H3</b>	<b>1</b>



**TAPER**

**Type 23-AG, 23-AGN, 23 Type 31-AG, 31-AGN, 31**

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



**PLUG**

**Type 24-AG, 24-AGN, 24 Type 32-AG, 32-AGN, 32**

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

Tap & Dies - HSS Straight Flute Hand Taps

## HSS STRAIGHT FLUTE HAND TAPS

Machine Screw / Fractional - Ground Thread - Magnum Super Premium

Types 23-AG, Type 24-AG & Type 25-AG - Gold Oxide

Types 23-AGN, Type 24-AGN & Type 25-AGN - Titanium Nitride

Types 23, Type 24 & Type 25 - Bright Finish

- The most common style of tap
- Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
- Use for through hole or blind hole tapping



**Type 23-AG - Taper**

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



**Type 24-AGN - Plug**

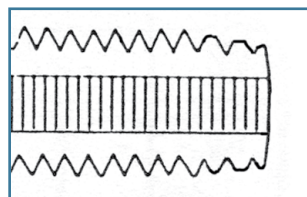
Titanium Nitride- increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.



**Type 25 - Bottoming  
Bright Finish**

Red Bold = most common used Taps

Taper Part #	Plug Part #	Bottoming Part #	Taper Part #	Plug Part #	Bottoming Part #	Taper Part #	Plug Part #	Bottoming Part #	Size	# of Flutes	H Limit	QTY per/pack
73111	73112	73113	44521	44522	44523	72081	72082	72083	9/16-12	4	H5	1
73121	73122	73123	44531	44532	44533	72091	72092	72093	9/16-18	4	H2	1
<b>60960</b>	<b>60961</b>	<b>60962</b>	<b>46231</b>	<b>46232</b>	<b>46233</b>	<b>55021</b>	<b>55022</b>	<b>55023</b>	<b>9/16-18</b>	<b>4</b>	<b>H3</b>	<b>1</b>
73131	73132	73133	44541	44542	44543	72101	72102	72103	9/16-18	4	H5	1
73141	73142	73143	44551	44552	44553	72111	72112	72113	5/8-11	4	H2	1
<b>60970</b>	<b>60971</b>	<b>60972</b>	<b>46241</b>	<b>46242</b>	<b>46243</b>	<b>55031</b>	<b>55032</b>	<b>55033</b>	<b>5/8-11</b>	<b>4</b>	<b>H3</b>	<b>1</b>
73151	73152	73153	44561	44562	44563	72121	72122	72123	5/8-11	4	H5	1
73161	73162	73163	44571	44572	44573	72131	72132	72133	5/8-18	4	H2	1
<b>60980</b>	<b>60981</b>	<b>60982</b>	<b>46251</b>	<b>46252</b>	<b>46253</b>	<b>55041</b>	<b>55042</b>	<b>55043</b>	<b>5/8-18</b>	<b>4</b>	<b>H3</b>	<b>1</b>
73171	73172	73173	44581	44582	44583	72141	72142	72143	5/8-18	4	H5	1
73181	73182	73183	44591	44592	44593	72151	72152	72153	11/16-11	4	H3	1
73191	73192	73193	44601	44602	44603	72161	72162	72163	11/16-16	4	H3	1
<b>60990</b>	<b>60991</b>	<b>60992</b>	<b>46261</b>	<b>46262</b>	<b>46263</b>	<b>55051</b>	<b>55052</b>	<b>55053</b>	<b>3/4-10</b>	<b>4</b>	<b>H3</b>	<b>1</b>
73201	73202	73203	44611	44612	44613	72171	72172	72173	3/4-10	4	H5	1
73211	73212	73213	44621	44622	44623	72181	72182	72183	3/4-16	4	H1	1
73221	73222	73223	44631	44632	44633	72191	72192	72193	3/4-16	4	H2	1
<b>61400</b>	<b>61401</b>	<b>61402</b>	<b>46271</b>	<b>46272</b>	<b>46273</b>	<b>55061</b>	<b>55062</b>	<b>55063</b>	<b>3/4-16</b>	<b>4</b>	<b>H3</b>	<b>1</b>
73231	73232	73233	44641	44642	44643	72201	72202	72203	3/4-16	4	H5	1
<b>61410</b>	<b>61411</b>	<b>61412</b>	<b>46281</b>	<b>46282</b>	<b>46283</b>	<b>55071</b>	<b>55072</b>	<b>55073</b>	<b>7/8-9</b>	<b>4</b>	<b>H4</b>	<b>1</b>
73241	73242	73243	44651	44652	44653	72211	72212	72213	7/8-9	4	H6	1
73251	73252	73253	44661	44662	44663	72221	72222	72223	7/8-14	4	H2	1
<b>61420</b>	<b>61421</b>	<b>61422</b>	<b>46291</b>	<b>46292</b>	<b>46293</b>	<b>55081</b>	<b>55082</b>	<b>55083</b>	<b>7/8-14</b>	<b>4</b>	<b>H4</b>	<b>1</b>
73261	73262	73263	44671	44672	44673	72231	72232	72233	7/8-14	4	H6	1
<b>61430</b>	<b>61431</b>	<b>61432</b>	<b>46301</b>	<b>46302</b>	<b>46303</b>	<b>55091</b>	<b>55092</b>	<b>55093</b>	<b>1"-8</b>	<b>4</b>	<b>H4</b>	<b>1</b>
73271	73272	73273	44681	44682	44683	72241	72242	72243	1"-8	4	H6	1
61440	61441	61442	46311	46312	46313	55101	55102	55103	1"-12	4	H4	1
27570	27571	27572	46321	46322	46323	55111	55112	55113	1"-14	4	H4	1
61450	61451	61452	46331	46332	46333	55121	55122	55123	1" 1/8-7	4	H4	1
61460	61461	61462	46341	46342	46343	55131	55132	55133	1" 1/8-12	4	H4	1
61470	61471	61472	46351	46352	46353	55141	55142	55143	1" 1/4-7	4	H4	1
61480	61481	61482	46361	46362	46363	55151	55152	55153	1" 1/4-12	6	H4	1
61490	61491	61492	46371	46372	46373	55161	55162	55163	1" 3/8-6	4	H4	1
61500	61501	61502	46381	46382	46383	55171	55172	55173	1" 3/8-12	6	H4	1
61510	61511	61512	46391	46392	46393	55181	55182	55183	1" 1/2-6	4	H4	1
61520	61521	61522	46401	46402	46403	55191	55192	55193	1" 1/2-12	6	H4	1



### BOTTOMING

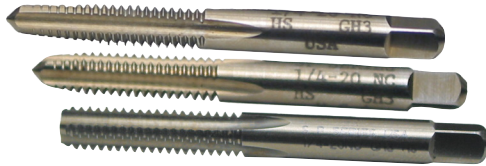
**Type 25-AG, 25-AGN, 25**  
**Type 33-AG, 33-AGN, 33**

One to Two threads chamfered. To use after threads have been started for tapping to the bottom of a hole.

**STRAIGHT FLUTES HAND TAPS SETS**

**Straight Flute Hand Taps Machine Screw / Fractional - Taper, Plug, Bottoming  
Ground Thread - High Speed Steel**

- Includes one each Taper, Plug and Bottoming
  - The most common style of tap
  - Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
  - Use for through hole or blind hole tapping



**Type 26-AG - Gold Oxide**

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

**Type 26-AGN - Titanium Nitride**

TiN coating increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.

**Type 26 - Bright Finish**

<b>26-AG Gold Oxide Part #</b>	<b>26-AGN Titanium Nitride Part #</b>	<b>Type 26 Bright Part #</b>	<b>Size</b>	<b># of Flutes</b>	<b>H Limit</b>	<b>Qty. per/pack each</b>
60663	46004	71724	2-56	3	H2	1
60683	46014	71744	3-48	3	H2	1
60703	46024	61004	4-40	3	H2	1
60723	45954	61014	4-48	3	H2	1
60733	46034	61024	5-40	3	H2	1
60743	45974	61034	5-44	3	H2	1
60753	46044	61044	6-32	3	H3	1
60763	46054	61054	6-40	3	H2	1
60773	46064	61064	8-32	4	H3	1
60783	46074	61074	8-36	4	H2	1
60793	46084	61084	10-24	4	H3	1
60803	46094	61094	10-32	4	H3	1
60813	46104	61104	12-24	4	H3	1
60823	46114	61114	12-28	4	H3	1
60833	46124	61124	1/4-20	4	H3	1
60843	46134	61134	1/4-28	4	H3	1
60853	46144	61144	5/16-18	4	H3	1
60863	46154	61154	5/16-24	4	H3	1
60873	46164	61164	3/8-16	4	H3	1
60883	46174	61174	3/8-24	4	H3	1
60893	46184	61184	7/16-14	4	H3	1
60903	46194	61194	7/16-20	4	H3	1
60913	46204	61204	1/2-13	4	H3	1
60923	46214	61214	1/2-20	4	H3	1
60953	46224	55014	9/16-12	4	H3	1
60963	46234	55024	9/16-18	4	H3	1
60973	46244	55034	5/8-11	4	H3	1
60983	46254	55044	5/8-18	4	H3	1
60993	46264	55054	3/4-10	4	H3	1
61403	46274	55064	3/4-16	4	H3	1
61413	46284	55074	7/8-9	4	H4	1
61423	46294	55084	7/8-14	4	H4	1
61433	46304	55094	1"-8	4	H4	1
61443	46314	55104	1"-12	4	H4	1
27573	46324	55114	1"-14	4	H4	1
61453	46334	55124	1 1/8-7	4	H4	1
61463	46344	55134	1 1/8-12	4	H4	1
61473	46354	55144	1 1/4-7	4	H4	1
61483	46364	55154	1 1/4-12	6	H4	1
61493	46374	55164	1 3/8-6	4	H4	1
61503	46384	55174	1 3/8-12	6	H4	1
61513	46394	55184	1 1/2-6	4	H4	1
61523	46404	55194	1 1/2-12	6	H4	1

## METRIC - STRAIGHT FLUTE HAND TAPS

### Straight Flute Hand Taps - Gold Oxide Ground Thread - High Speed Steel

#### Type 31-AG, 31-AGN, 31 -Taper, Type 32-AG, 32-AGN, 32 -Plug Type 33-AG, 33-AGN, 33 -Bottoming

- The most common style of tap
- Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
- Use for through hole or blind hole tapping



**Type 31-AG - Taper**

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



**Type 32-AGN - Plug**

**Titanium Nitride** - increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life..



**Type 33 - Bottoming**

Bright Finish

31-AG Taper Part #	32-AG Plug Part #	33-AG Bottoming Part#	31-AGN Taper Part #	32-AGN Plug Part #	33-AGN Bottoming Part #	31 Taper Part #	32 Plug Part #	33 Bottoming Part #	Size	# of Flutes	PD Limit	QTY. per/pack
60329	61569	61561	-----	-----	-----	54691	54692	54693	1.6-0.35	2	D3	3
60339	61579	61571	-----	-----	-----	54701	54702	54703	1.8-0.35	2	D3	3
60349	61589	61581	-----	-----	-----	54711	54712	54713	2.0-0.40	3	D3	3
60359	61599	61591	-----	-----	-----	54721	54722	54723	2.2-0.45	3	D3	3
60379	61629	61681	37731	37732	37733	54731	54732	54733	2.5-0.45	3	D3	3
60389	61631	61682	37741	37742	37743	54741	54742	54743	3.0-0.50	3	D3	3
60519	61632	61683	37751	37752	37753	54751	54752	54753	3.5-0.60	3	D4	3
60529	61633	61684	37761	37762	37763	54761	54762	54763	4.0-0.70	4	D4	3
60369	61634	61689	37771	37772	37773	54771	54772	54773	4.5-0.75	4	D4	3
60539	61639	61691	37781	37782	37783	54781	54782	54783	5.0-0.80	4	D4	3
60549	61641	61692	37791	37792	37793	54791	54792	54793	6.0-1.00	4	D5	3
60559	61642	61693	37801	37802	37803	54801	54802	54803	7.0-1.00	4	D5	3
60569	61643	61694	37811	37812	37813	54811	54812	54813	8.0-1.00	4	D5	3
60579	61644	61699	37821	37822	37823	54821	54822	54823	8.0-.1.25	4	D5	3
60589	61649	61701	37831	37832	37833	54831	54832	54833	10.0-1.25	4	D5	3
60611	61651	61702	37841	37842	37843	54841	54842	54843	10.0-1.50	4	D6	3
61601	61652	61703	37851	37852	37853	54851	54852	54853	12.0-1.25	4	D5	3
61901	61911	61921	38451	38452	38453	55201	55202	55203	12.0-1.50	4	D5	3
61602	61653	61704	37861	37862	37863	54861	54862	54863	12.0-1.75	4	D6	3
61603	61654	61709	37871	37872	37873	54871	54872	54873	14.0-1.50	4	D6	1
61604	61659	61711	37881	37882	37883	54881	54882	54883	14.0-2.00	4	D7	1
61609	61661	61712	37891	37892	37893	54891	54892	54893	16.0-1.50	4	D6	1
61611	61662	61713	37901	37902	37903	54901	54902	54903	16.0-2.00	4	D7	1
61281	61282	61283	38491	38492	38493	54911	54912	54913	18.0-1.50	4	D6	1
61612	61663	61714	37911	37912	37913	54921	54922	54923	18.0-2.50	4	D7	1
66361	66362	66363	38501	38502	38503	55251	55252	55253	20.0-1.50	4	D6	1
61613	61664	61719	37921	37922	37923	54931	54932	54933	20.0-2.50	4	D7	1
66371	66372	66373	38521	38522	38523	55261	55262	55263	22.0-1.50	4	D6	1
66381	66382	66383	38531	38532	38533	55271	55272	55273	22.0-2.50	4	D7	1
66391	66392	66393	38541	38542	38543	55281	55282	55283	24.0-2.00	4	D7	1
61614	61669	61721	37931	37932	37933	54941	54942	54943	24.0-3.00	4	D8	1
66401	66402	66403	-----	-----	-----	55291	55292	55293	27.0-2.00	4	D7	1
61619	61671	61722	-----	-----	-----	54951	54952	54953	27.0-3.00	4	D8	1
66411	66412	66413	-----	-----	-----	55301	55302	55303	30.0-2.00	4	D7	1
61621	61672	61723	-----	-----	-----	54961	54962	54963	30.0-3.50	4	D9	1
66421	66422	66423	-----	-----	-----	55311	55312	55313	33.0-2.00	6	D7	1
61622	61673	61724	-----	-----	-----	54971	54972	54973	33.0-3.50	4	D9	1
66431	66432	66433	-----	-----	-----	55321	55322	55323	36.0-3.00	4	D8	1
61623	61674	61729	-----	-----	-----	54981	54982	54983	36.0-4.00	4	D9	1
66441	66442	66443	-----	-----	-----	55331	55332	55333	39.0-3.00	6	D8	1
61624	61679	61731	-----	-----	-----	54991	54992	54993	39.0-4.00	6	D9	1

## PRODUCT TIPS

### Tap Wrenches:

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



**Taper Tap**

This section cuts full-size thread



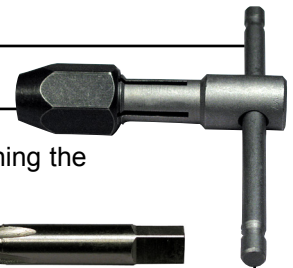
**Plug Tap**

This section cuts full-size thread



**Bottoming Tap**

This section cuts full-size thread





**SETS STRAIGHT FLUTE TAP & TAPER PIPE TAPS**

**Type 35-AG, 35-AGN & Type 35 Sets**  
**Straight Flute Hand Taps - Taper, Plug, Bottoming Ground Thread - High Speed Steel**

- The most common style of tap
- Can be used by hand or for tapping under power
- Versatile taps for use in general machine tapping or CNC tapping applications
- Use for through hole or blind hole tapping

**Type 35-AG - Gold Oxide**  
Gold Oxide - low temperature stress relief that enhances lubricity, reduces friction and increases tap toughness.

**Type 35-AGN - Titanium Nitride**  
TiN coating increases wear resistance by producing a higher surface hardness and exceptional lubricity resulting in longer tool life.

**Type 35 - Bright Finish**

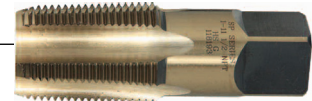
( Includes one each Taper, Plug and Bottoming tap )

35-AG Gold Oxide Part #	35-AGN TiN Coated Part #	Type 35 Bright Part #	Size	# of Flutes	PD Limit	Qty per/pck
61741	37744	54744	3.0-0.50	3	D3	1
61742	37764	54764	4.0-0.70	4	D4	1
61743	37784	54784	5.0-0.80	4	D4	1
61744	37794	54794	6.0-1.00	4	D5	1
61749	37804	54804	7.0-1.00	4	D5	1
61751	37814	54814	8.0-1.00	4	D5	1
61752	37824	54824	8.0-1.25	4	D5	1
61753	37834	54834	10.0-1.25	4	D5	1
61754	37844	54844	10.0-1.50	4	D6	1
61759	37854	54854	12.0-1.25	4	D5	1
61761	37864	54864	12.0-1.75	4	D6	1
61762	37874	54874	14.0-1.50	4	D6	1
61763	37884	54884	14.0-2.00	4	D7	1
61764	37894	54894	16.0-1.50	4	D6	1
61769	37904	54904	16.0-2.00	4	D7	1
61772	37914	54924	18.0-2.50	4	D7	1
61774	37924	54934	20.0-2.50	4	D7	1

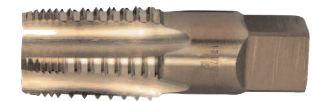
**TAPER PIPE TAPS**

**Regular - Type 30-AG, 30-AGN, 30-B & 30**  
**Interrupted - Type I30-AG, I30-AGN, I30-B & I30**

- Regular Thread NPT Taper Pipe taps are used for tapping pipe fittings and couplings in a wide variety of materials.
- Interrupted Thread Taper Pipe taps reduce friction, increase chip capacity, and enhance coolant flow. Recommended for a wide variety of materials including soft ductile materials that produce long stringy chips. ( \*Black Oxide Taper Pipe Tap used on Cast Iron )



Type 30-AG



Type I30-AG Interrupted

NPT Regular				NPT INTERRUPTED				Size NPT	# of Flutes	OAL	Shank Diameter	Tap Drill Size	Qty. per/pack
30-AG Gold Oxide Part #	30-AGN TiN Coated Part #	Type 30-B Black Part #	Type 30 Bright Part #	I30-AG Gold Oxide Part #	I30-AGN TiN Coated Part #	*I30-B Black Oxide Part #	I30 Bright Part #						
60570	59343	59342	59341	-----	-----	-----	-----	1/16-27	4	2-1/8"	.3125	D	3
61240	59353	59352	59351	-----	-----	-----	-----	1/8-27(5/16 Shk)	4	2-1/8"	.3125	11/32	3
61250	59363	59362	59361	81410	95722	95771	95770	1/8-27	4	2-1/8"	.4375	11/32	3
61260	59373	59372	59371	81420	95782	95781	95780	1/4-18	4	2-7/16"	.5625	7/16	3
61270	59383	59382	59381	81430	95792	95791	95790	3/8-18	4	2-9/16"	.7000	37/64	1
61280	59393	59392	59391	81440	95802	95801	95800	1/2-14	4	3-1/8"	.6875	23/32	1
61290	59403	59402	59401	81450	95812	95811	95810	3/4-14	5	3-1/4"	.9063	59/64	1
61300	59413	59412	59411	81460	95822	95821	95820	1"- 11 1/2	5	3-3/4"	1.1250	1-5/32	1
61310	59423	59422	59421	81470	95832	95831	95830	1 1/4" - 11 1/2	5	4"	1.3125	1-1/2	1
61320	59433	59432	59431	81480	95842	95841	95840	1 1/2" - 11 1/2	7	4-1/4"	1.500	1-47/64	1
61330	59443	59442	59441	81490	95852	95851	95850	2" - 11 1/2	7	4-1/2"	1.8750	2-7/32	1

METRIC

Taps - Straight Flute Hand Tap Sets & TiN Coated / Taper Pipe Taps



## STRAIGHT FLUTE TAPS - LEFT HAND THREAD

**Type 23L-AG -Taper , Type 24L-AG -Plug , Type 25L-AG -Bottoming**  
Magnum Super Premium

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

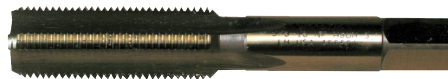


### TYPE 23L-AG TAPER STYLE LEFT HAND THREAD

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

### TYPE 24L-AG PLUG STYLE LEFT HAND THREAD

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



### TYPE 25L-AG BOTTOMING LEFT HAND THREAD

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

HSS Tap - Straight Flute Taps - Left-Hand Thread

**DRILL & TAP COMBO & SETS**  
Magnum Super Premium

SP-18TD



Includes corresponding drill with tap in a durable metal case.

**TAP & DRILL SETS**

**SP-18TD (SPIRAL POINT, NC)**

Part#	57580	Description of Sizes
190-AG Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64	
20-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18, 3/8-16, 7/16-14 & 1/2-13	

**SP-18TDM (SPIRAL POINT, METRIC)**

Part#	57990	Description of Sizes
170-AG Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.50 & 10.20	
21-AG Tap Sizes (mm)	2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75	

**SP-18TDF (SPIRAL POINT, NF)**

Part#	58010	Description of Sizes
190-AG Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64	
20-AG Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20	

**SP-12TD (SPIRAL POINT, NC)**

Part#	58501	Description of Sizes
190-AG Drill Sizes	#36, 29, 25, 21, 7, F	
20-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18	

**SF-18TDC (STRAIGHT FLUTE, NC)**

Part#	60930	Description of Sizes
190-AG Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64	
24-AG Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14 & 1/2-13	

**SF-18TDF (STRAIGHT FLUTE, NF)**

Part#	60940	Description of Sizes
190-AG Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64	
24-AG Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20	

**SF-10TD (STRAIGHT FLUTE, NC)**

Part#	58500	Description of Sizes
190-AG Drill Size	31/64	
130-AG Drill Sizes	17/32, 21/32, 49/64 & 7/8	
24-AG Tap Sizes	9/16-12, 5/8-11, 3/4-10, 7/8-9 & 1-8	

**B-18TD BRIGHT FINISH 118° POINT - DRILL & TAP COMBO SET**

Part#	60541	Description of Sizes
Type 100 Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64	
Type 20 Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14 & 1/2-13	

**DRILL & TAP COMBO**

**Type 34-AG**

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

Part No.	Thread Size	Drill Size	Part No.	Thread Size	Drill Size
51807	6-32	36	51897	1/4-28	3
51817	6-40	33	51907	5/16-18	F
51827	8-32	29	51917	5/16-24	I
51837	8-36	29	51927	3/8-16	5/16
51847	10-24	25	51937	3/8-24	Q
51857	10-32	21	51947	7/16-14	U
51867	12-24	16	51957	7/16-20	25/64
51877	12-28	14	51967	1/2-13	27/64
51887	1/4-20	7	51977	1/2-20	29/64

Carded Hanging Display page 66

**HSS Taps**

**COMBINATION DRILL & TAP**  
**Type 40-AG**

**NEW**

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



Pitch Diameter and Thread tolerances are designed to produce a Class 2B fit.

Part #	Size	Max Material Thickness	Thread Length
73770	4-40	0.368	0.564
73780	4-48	0.369	0.564
73790	5-40	0.403	0.624
73800	5-44	0.404	0.624
73810	6-32	0.468	0.376
73820	6-40	0.470	0.376
73830	8-32	0.539	0.376
73840	8-36	0.540	0.376
73850	10-24	0.606	0.496
73860	10-32	0.608	0.496
73870	12-24	0.677	0.496
73880	12-28	0.678	0.496
73890	1/4-20	0.746	0.626
73900	1/4-28	0.750	0.626
73910	5/16-18	0.889	0.683
73920	5/16-24	0.893	0.683
73930	3/8-16	1.031	0.746
73940	3/8-24	1.036	0.746
73950	7/16-14	1.172	0.882
73960	7/16-20	1.178	0.880
73970	1/2-13	1.378	0.940
73980	1/2-20	1.384	0.940
75540	9/16-12	1.395	0.940
75550	9/16-18	1.403	0.940
75560	5/8-11	1.412	0.940
75570	5/8-18	1.421	0.940

Pitch Diameter and Thread tolerances are designed to produce a Class 6H fit.

Part #	MM Size	Max Material Thickness	Thread Length
85921	3.0 x 0.5	0.403	0.624
85931	4.0 x 0.7	0.538	0.376
85941	5.0 x 0.8	0.610	0.496
85951	6.0 x 1.00	0.746	0.626
85961	7.0 x 1.00	0.882	0.686
85971	8.0 x 1.25	0.892	0.686
85991	10.0 x 1.50	1.037	0.746
86001	12.0 x 1.75	1.373	0.942

Part#	SETS	Description of Sizes
21330	40-AG - DT-6	6pc. set 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
73991	40-AG - DT-7F	7pc. set 8-36, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20
73990	40-AG - DT-7C	7pc. set 8-32, 10-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13

**1/4" QUICK RELEASE DRILL & TAP COMBO**  
**Type 40-QR**

**NEW**



- Hi-Molybdenum tool steel ensures longer tool life.
- Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production environments.



Pitch Diameter and Thread tolerances are designed to produce a Class 2B fit.

Part#	Size	Max Material Thickness	Thread Length
73814	6-32	0.170	0.283
73834	8-32	0.200	0.283
73854	10-24	0.200	0.363
73864	10-32	0.200	0.363
73874	12-24	0.200	0.369
73894	1/4-20	0.230	0.326
73904	1/4-28	0.230	0.326
73914	5/16-18	0.480	0.614
73934	3/8-16	0.480	0.585

Pitch Diameter and Thread tolerances are designed to produce a Class 6H fit.

Part #	MM Size	Max Material Thickness	Thread Length
85924	3.0 x 0.50	0.170	0.334
85934	4.0 x 0.70	0.170	0.269
85944	5.0 x 0.80	0.200	0.404
85954	6.0 x 1.00	0.230	0.376
85974	8.0 x 1.25	0.480	0.638
85994	10.0 x 1.50	0.480	0.595

Part#	SET	Description of Sizes
21324	40-QR DT-5	5pc. set 6-32, 8-32, 10-24, 10-32, 1/4-20

# HSS Taps & Dies

**NORSEMAN/CTD**  
DRILL & TOOL

## HSS TAP SETS, HEX DIES - METRIC & CARDED HANGING DISPLAY

### Carded Hanging Display

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

**Part No. 52001**

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

### HSS TAP SETS - METRIC

#### Magnum Super Premium

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



#### SPIRAL & STRAIGHT FLUTE TAP SETS

#### SP-19T - Type 20-AG - Spiral Point

**Part No.** **Sizes**

61600 0-80, 1-64, 1-72, 2-56, 2-64, 3-48, 3-56, 4-40 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24 & 12-28

#### SP-10T - Type 20-AG - Spiral Point

**Part No.** **Sizes**

61610 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

#### SF-10T - Type 24-AG - Straight Flute

**Part No.** **Sizes**

61620 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

### 12pc. Drill, Tap & Countersink Set

Type TDC-12



**Part No.** **Sizes**

20470 Type 190-AG: Wire:#7, 21, 25, 29 and 36  
Type 20-AG: 6-32, 8/32, 10-24, 10-32 and 1/4-20  
Type 82-AG: No. 8 screw size and 3/16-17/32 range cut

### HIGH-SPEED STEEL HEX DIES

#### Type 27-AG

#### Magnum Super Premium Dies

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



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

#### METRIC

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

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

**25pc. Magnum Super Premium Set**  
**Spiral point Plug Taps & Hex Dies**

Set contains: Type 20-AG and 27-AG

- HSS spiral point taps & HSS hex dies sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20
  - HSS pipe tap and hex die size: 1/8-27 NPT.
  - T-Handle tap wrench: 3/16" - 1/2"
  - Die stock & Screw pitch gauge
  - SP-25TDI
- Supplied in sturdy plastic case

**PART NO. 35173**



**Part # 35173**

**23pc. Magnum Super Premium Set - Metric**  
**Spiral point Taps & Hex Dies**

Set contains: Type 21-AG and 27-AG

- HSS spiral point taps & HSS hex dies sizes: 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75
  - HSS pipe tap and hex die size: 1/8-27 NPT
  - T-Handle tap wrenches: 0 - 1/4" & 3/16" - 1/2"
  - Straight handle tap wrench: #4 - 1/2"
  - Die stock & Screw metric pitch gauge
  - SP-23TDI
- Supplied in sturdy plastic case

**PART NO. 35170**

**15pc. Magnum Super Premium Set**  
**Spiral point Plug Taps & Hex Dies**

Set contains: Type 20-AG and 27-AG

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

**PART NO. 35174**

**14pc. Magnum Super Premium Set - Metric**  
**Spiral point Taps & Hex Dies**

Set contains: Type 21-AG and 27-AG

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

**PART NO. 35172**

## 58 PC & 40 PC HSS TAPS & DIE ASSORTMENTS

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



**Part # 61680**

### 58pc. Magnum Super Premium Set Straight Flute Plug Taps & Hex Dies

**Set contains: Type 24-AG and 27-AG**

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

*Supplied in sturdy plastic case*

**PART NO. 61680**

### 40pc. Magnum Super Premium Set Straight Flute Plug Taps & Hex Dies

**Set contains: Type 24-AG and 27-AG**

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

*Supplied in sturdy plastic case*

**PART NO. 35171**



**Part # 35171**

### 40pc. Magnum Super Premium Set Spiral point Plug Taps & Hex Dies

**Set contains: Type 20-AG and 27-AG**

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

*Supplied in sturdy plastic case*

**PART NO. 35181**

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

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

**Type 740 Taper Fractional , Type 741 Taper Machine Screw**

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



### TYPE 720 -PLUG FRACTIONAL

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

### TYPE 740 -TAPER FRACTIONAL

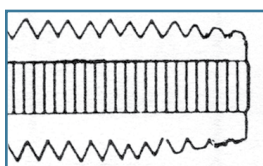
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55250	3/16x24	26	4	3
55260	3/16x32	22	4	3
55270	1/4x20	7	4	3
55280	1/4x28	3	4	3
55290	5/16x18	17/64	4	3
55300	5/16x24	17/64	4	3
55310	3/8x16	5/16	4	3
55320	3/8x24	21/64	4	3
55330	7/16x14	3/8	4	3
55340	7/16x20	25/64	4	3
55350	1/2x13	27/64	4	3
55360	1/2x20	29/64	4	3
55370	9/16x12	31/64	4	1
55380	9/16x18	33/64	4	1
55390	5/8x11	17/32	4	1
55460	5/8x18	37/64	4	1
55470	11/16x11	19/32	4	1
55480	11/16x16	5/8	4	1
55400	3/4x10	21/32	4	1
55710	3/4x16	11/16	4	1
55410	7/8x9	49/64	4	1
55420	7/8x14	13/16	4	1
55430	1x8	7/8	4	1
55440	1x12	29/32	4	1
55450	1x14	15/16	4	1

### TYPE 721 -PLUG MACHINE SCREW

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

### TYPE 741 -TAPER MACHINE SCREW

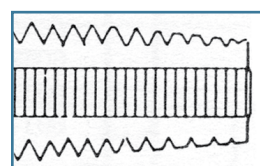
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54790	0X80	3/64	3	3
54800	1X64	53	3	3
54810	1X72	53	3	3
54820	2X56	50	3	3
54830	2X64	50	3	3
54840	3X48	47	3	3
54850	3X56	46	3	3
55900	4x36	43	3	3
55910	4x40	44	3	3
55920	5x40	38	3	3
55930	6x32	36	3	3
55940	6x40	34	3	3
55950	6x48	32	3	3
55960	8x32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



#### PLUG - Type 720 & 721

Three to five threads chamfered. For general use when tapping into the bottom of the hole is not critical.

(This is the most widely used style.)



#### TAPER - Type 740 & 741

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

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

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



Bottoming - Type 761

### TYPE 760 BOTTOMING FRACTIONAL

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55500	3/16x24	26	4	3
55510	3/16x32	22	4	3
55520	1/4x20	7	4	3
55530	1/4x28	3	4	3
55540	5/16x18	17/64	4	3
55550	5/16x24	17/64	4	3
55560	3/8x16	5/16	4	3
55570	3/8x24	21/64	4	3
55580	7/16x14	3/8	4	3
55590	7/16x20	25/64	4	3
55600	1/2x13	27/64	4	3
55610	1/2x20	29/64	4	3
55620	9/16x12	31/64	4	1
55630	9/16x18	33/64	4	1
55640	5/8x11	17/32	4	1
56040	5/8x18	37/64	4	1
56050	11/16x11	19/32	4	1
56060	11/16x16	5/8	4	1
55650	3/4x10	21/32	4	1
56070	3/4x16	11/16	4	1
55660	7/8x9	49/64	4	1
55670	7/8x14	13/16	4	1
55680	1x8	7/8	4	1
55690	1x12	29/32	4	1
55700	1x14	15/16	4	1

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

### 3 PC. SETS TYPE 722 FRACTIONAL

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

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

### TYPE 761 BOTTOMING - MACHINE SCREW

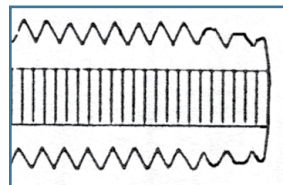
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54930	0x80	3/64	3	3
54940	1x64	53	3	3
54950	1x72	53	3	3
54960	2x56	50	3	3
54970	2x64	50	3	3
54980	3x48	47	3	3
54990	3x56	46	3	3
56100	4x36	43	3	3
56110	4x40	44	3	3
56120	5x40	38	3	3
56130	6x32	36	3	3
56140	6x40	34	3	3
56150	6x48	32	3	3
56160	8x32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

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

### 3 PC. SETS TYPE 723 MACHINE SCREW

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

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



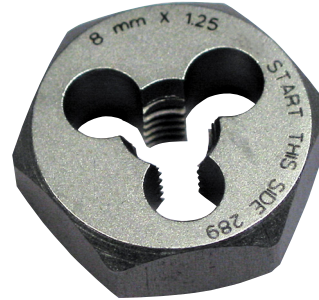
### BOTTOMING Type 760 & 761

One to Two threads chamfered. To use after threads have been started for tapping to the bottom of a hole.

## HI- CARBON STEEL DIES - HEX DIES

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

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



#### TYPE 405 MACHINE SCREW & FRACTIONAL SIZES

Part No.	Size	Across Flats	Qty. per/pack
86000	4x40	1"	3
86010	4x36	1"	3
86020	5x40	1"	3
86030	6x32	1"	3
86040	8x32	1"	3
86050	10x24	1"	3
86060	10x32	1"	3
86070	12x24	1"	3
86080	14x20	1"	3
86100	3/16x24	1"	3
86110	3/16x32	1"	3
86120	1/4x20	1"	3
86130	1/4x28	1"	3
86140	5/16x18	1"	3
86150	5/16x24	1"	3
86160	3/8x16	1"	3
86170	3/8x24	1"	3
86180	7/16x14	1"	3
86190	7/16x20	1"	3
86200	1/2x13	1"	3
86210	1/2x20	1"	3
86220	9/16x12	1-7/16"	1
86230	9/16x18	1-7/16"	1
86240	5/8x11	1-7/16"	1
86250	5/8x18	1-7/16"	1
86260	11/16x11	1-7/16"	1
86270	11/16x16	1-7/16"	1
86280	3/4x10	1-7/16"	1
86290	3/4x16	1-7/16"	1
86300	7/8x9	1-5/8"	1
86310	7/8x14	1-5/8"	1
86320	1x8	1-13/16"	1
86330	1x12	1-13/16"	1
86340	1x14	1-13/16"	1
86350	1/8x27	1"	1
86360	1/4x18	1"	1
86380	3/8x18	1-7/16"	1
86390	1/2x14	1-5/8"	1
86420	3/4x14	2"	1
86430	1-11x1/2"	2-3/8"	1

#### TYPE 790 METRIC SIZES

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

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

#### HEXAGONAL DIES: TIPS

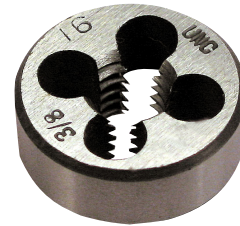
Carbon steel dies are primarily used for restoring damaged threads. Hex shape allows them to be driven in cramped quarters with a wrench.



## HI-CARBON STEEL DIES - ADJUSTABLE & ROUND

### Type 415 -Adjustable , Type 400 -Round

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



**TYPE 415 -ADJUSTABLE** MACHINE SCREW & FRACTIONAL

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

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

**TYPE 400 -ROUND** MACHINE SCREW & FRACTIONAL

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

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

### ADJUSTABLE & ROUND DIES: TIPS

#### Adjustable Dies:

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

#### Round Dies:

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

## HI-CARBON TAPS - METRIC PLUG & TAPERED PIPE TAPS

### Type 780 -Metric Plug

- All popular sizes offered for foreign car, motorcycle, and machinery threading needs.



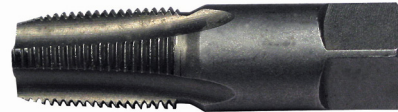
TYPE 780 -METRIC PLUG

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

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

### Type 410 Pipe Taps

- Made of tough carbon steel to industry standards.



TYPE 410 PIPE TAPS FRACTIONAL

Part No.	Diameter	Tap Drill Size	Shank	Number of Flutes	Qty. per/pack
56910	1/8 x 27	11/32	5/16"	4	3
56920	1/4 x 18	7/16	7/16"	4	3
56930	3/8 x 18	37/64	1/2"	4	1
56940	1/2 x 14	23/32	1/2"	4	1
56950	3/4 x 14	59/64	5/8"	4	1
56960	1 x 11-1/2	1-5/32	13/16"	5	1
56970	1-1/4 x 11-1/2	1-1/2	1"	5	1
56980	1-1/2 x 11-1/2	1-47/64	1-1/4"	7	1
56990	2 x 11-1/2	2-7/32	1-3/8"	7	1



## Product Tips

### NEED A TAPPING LUBE ?

High Performance Ultra SP™ will do the job!

Found on page 104

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

**Type 724**

**Professional Quality**

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



### 14pc. Hi-Carbon Steel Fractional NC - with Hex Die Set

**Set contains:**

- Hi-Carbon steel plug taps and hex dies sizes:  
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
  - Stock #HNC14pc
- Supplied in sturdy plastic case.*

**PART NO. 50090**

### 14pc. Hi-Carbon Steel Fractional NF - with Hex Die Set

**Set contains:**

- Hi-Carbon steel plug taps and hex dies sizes:  
1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
  - Stock #HNF14pc
- Supplied in sturdy plastic case.*

**PART NO. 50080**

### 14pc. Hi-Carbon Steel Fractional NC - with Round Die Set

**Set contains:**

- Hi-Carbon steel plug taps and round dies sizes:  
1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
  - Stock #RNC14pc
- Supplied in sturdy plastic case.*

**PART NO. 50030**

### 14 Piece Hi-Carbon Steel Fractional NF - with Round Die Set

**Set contains:**

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

**PART NO. 50020**

### 16pc. Hi-Carbon Steel Metric - with Hex Die Set

**Set contains:**

- Hi-Carbon steel plug taps and hex dies sizes:  
4mm x 0.70, 5mm x 0.80, 6mm x 1.00, 8mm x 1.25,  
10mm x 1.25, 10mm x 1.50, 12mm x 1.50
- T-Handle Tap Wrench: 3/16 to 1/2
- Stock #HMM16pc

**PART NO. 50140**

### 16pc. Hi-Carbon Steel Fractional NC - with Hex Die Set

**Set contains:**

- Hi-Carbon steel plug taps and hex dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
- T-Handle Tap Wrench: 0 to 1/4
- Stock #HEX16pc

**PART NO. 50100**

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

**Set contains:**

- Hi-Carbon steel plug taps and round dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
- T-Handle Tap Wrench: 0 to 1/4
- Stock #RND19pc

**PART NO. 50040**

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

### Type 724

#### Professional Quality

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



### 24pc. Hi-Carbon Steel Fractional Tap NC, NF - with Hex Die Set

#### Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:  
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,  
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2
- Economy die stock
- Stock #HEX24pc

*Supplied in sturdy plastic case.*

**PART NO. 50110**

### 24pc. Hi-Carbon Steel Fractional Tap NC, NF - with Round Die Set

#### Set contains:

- Hi-Carbon steel plug taps and round dies sizes:  
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,  
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2
- Economy die stock
- Stock #RND24pc

*Supplied in sturdy plastic case.*

**PART NO. 50050**

### 37pc. Hi-Carbon Steel Machine Screw & Fractional Tap NC, NF - with Round Die Set

#### Set contains:

- Hi-Carbon steel plug taps and round dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Economy die stock
- Stock #RND37pc

*Supplied in sturdy plastic case.*

**PART NO. 50060**

### 37pc. Hi-Carbon Steel Master Metric - with Hex Die Set

#### Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:  
3mm x 0.50, 3mm x 0.60, 4mm x 0.70, 4mm x 0.75,  
5mm x 0.80, 5mm x 0.90, 6mm x 1.00, 7mm x 1.00,  
8mm x 1.25, 9mm x 1.00, 9mm x 1.25, 10mm x 1.25,  
10mm x 1.50, 11mm x 1.50, 12mm x 1.50, 12mm x 1.75,  
1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Stock #HMM37pc

*Supplied in sturdy plastic case.*

**PART NO. 50150**

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

#### Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
- Stock #HEX37pc

*Supplied in sturdy plastic case.*

**PART NO. 50120**

## 40pc HI-CARBON MACHINE SCREW / FRACTIONAL

### Type 724

#### Professional Quality

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



### 40pc. Hi-Carbon Steel Machine Screw Fractional Tap NC, NF - with Round Die Set

#### Set contains:

- Hi-Carbon steel plug taps and round dies sizes:  
4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28,  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20,  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
  - Tap & Reamer Wrench: #4 to 1/2
  - Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
  - Stock #RND40pc
- Supplied in sturdy plastic case.*

**PART NO. 50070**

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

#### Set contains:

- Hi-Carbon steel plug taps and hex dies sizes:  
4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28,  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20,  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
  - Tap & Reamer Wrench: 0 to 1/2
  - Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
  - Stock #HEX40pc
- Supplied in sturdy plastic case.*

**PART NO. 50130**