



K.L. Jack



- EASILY ONE OF NEW ENGLAND'S -
LARGEST INVENTORIES
OF FASTENERS & HARDWARE

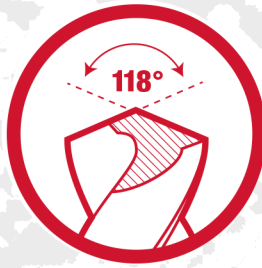
- Abrasives
 - Assortments
 - Drills / Taps
 - Electrical Supplies
- FASTENERS - ALL TYPES**
 - Brass Pipe & Tube Fittings
 - Maintenance Chemicals
 - Masonry Anchors
 - Power Tools
- Safety-PPE
 - Saw Blades
 - Strut / Fittings
 - Wire Rope / Fittings



K.L. Jack is a family owned industrial distributor headquartered in Portland, Maine. Since 1979 we have been committed to supplying our customers with quality products and great service. We specialize in wholesale industrial fasteners and supplies for the MRO, Construction, Manufacturing and Marine markets. Operating from our multiple locations, our experienced sales staff offers customers an array of value-added services that help them to stay productive, work safely and save money.

Visit us online at KLJack.com to order online & manage your account!

CHOOSING THE BEST BIT FOR YOUR JOB



CHOOSING A DRILL POINT ANGLE

135° Drill Points with Split Point: For daily use in the shop or on the jobsite we recommend using a 135° bit. They are ideal for general purpose drilling in higher grade steel, work-hardening Stainless steels, aluminum, wood, brass and plastic. 135° bits have a flatter point with a longer cutting edge that more aggressively removes material. This is a critical feature that helps prevent work hardening, particularly in stainless steel. The Split Point feature of our 135° bits minimizes surface walking when starting a hole and promotes a straighter cut, particularly useful when drilling using hand-held tools.

118° Drill Points: For consumer or retail grade drill bits the 118-degree angle is most common due to its lower cost of manufacture. The 118° bits are suitable for general purpose drilling in softer materials such as low carbon steels, aluminum, wood, brass and plastic. When used with a hand-held tool these bits will "walk" on harder materials such as stainless steel and steel and generally require the use of a center punch to keep them in place for the initial cut.

POPULAR DRILL BIT MATERIALS

High-Speed Steel (HSS) is a popular material good for drilling into most steels as well as wood and plastic. High quality HSS bits like our Ultra-Bor series can successfully drill stainless steel when used correctly. HSS bits are the economical choice for most shop and maintenance drilling applications.

Cobalt is considered an upgrade from HSS for some applications due to the addition of Cobalt to the drill material. Cobalt bits feature higher resistance to heat and can hold their edge sharpness longer when drilling materials that are prone to work hardening, such as stainless steel. While Cobalt offers some advantages it is more brittle, making it a poor choice for use in hand-held drill motors where it is prone to breakage. Most of the benefits of Cobalt can be met using a quality HSS bit along with a cutting oil, at much less cost per bit.



Black & Gold



Black Oxide



Bright Finish



Gold Oxide



TIN

FINISHES AND COATINGS

Black & Gold: The Black & Gold Oxide finish increases lubricity to reduce turning resistance and extend tool life.

Black Oxide: The Black Oxide finish resists corrosion and is commonly seen in bits meant for use with ferrous metals.

Bright Finish: An uncoated but polished surface commonly seen in bits used for drilling softer materials

Gold Oxide: Similar to the Black & Gold finish, Gold Oxide increases lubricity and extends tool life.

TIN: An abbreviation for Titanium Nitride. TIN is a gold colored ceramic finish applied to a HSS bit to help the bit keep its edge sharper for longer and to extend bit life. TIN reduces friction allowing for deeper drilling in hard materials and for faster drilling speeds.



WHY CHOOSE ULTRA-BOR?

Ultra-Bor Heavy-Duty drill bits excel in demanding applications. The split point design is self-centering and prevents the bit from walking on the material surface. Positive chuck grip is achieved with the *3-Flat shank design, making the bits ideal for use in hand-held drills with keyless chucks. Made in America using hi-moly alloy tool steel, their heavy-duty construction makes Ultra-Bor Super Premium bits ideal for use with hard metals, work hardening grades of stainless steel and other difficult to drill materials.

**fractional sizes only*

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A ULTRA-BOR SUPER PREMIUM DRILL BITS

- Great for Hard Metals & Stainless
- 135° Split Point
- Black & Gold Finish
- 3-Flats on Shank for Positive Grip
- Jobber Length

OUR MOST POPULAR BIT

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/16"	1-7/8"	7/8"	12	6RDHD
5/64"	2"	1"	12	7RDHD
3/32"	2-1/4"	1-1/4"	12	9RDHD
7/64"	2-5/8"	1-1/2"	12	10RDHD
1/8"	2-3/4"	1-5/8"	12	12RDHD
9/64"	2-7/8"	1-3/4"	12	14RDHD
5/32"	3-1/8"	2"	12	15RDHD
11/64"	3-1/4"	2-1/8"	12	17RDHD
3/16"	3-1/2"	2-5/16"	12	18RDHD
13/64"	3-5/8"	2-7/16"	12	20RDHD
7/32"	3-3/4"	2-1/2"	12	21RDHD
15/64"	3-7/8"	2-5/8"	12	23RDHD
1/4"	4"	2-3/4"	12	25RDHD
17/64"	4-1/8"	2-7/8"	12	26RDHD
9/32"	4-1/4"	2-15/16"	12	28RDHD
19/64"	4-3/8"	3-1/16"	6	29RDHD
5/16"	4-1/2"	3-3/16"	6	31RDHD
21/64"	4-5/8"	3-5/16"	6	32RDHD
11/32"	4-3/4"	3-7/16"	6	34RDHD
23/64"	4-7/8"	3-1/2"	6	35RDHD
3/8"	5"	3-5/8"	6	37RDHD
25/64"	5-1/8"	3-3/4"	6	39RDHD
13/32"	5-1/4"	3-7/8"	6	40RDHD
27/64"	5-3/8"	3-15/16"	6	42RDHD
7/16"	5-1/2"	4-1/16"	6	43RDHD
29/64"	5-5/8"	4-3/16"	6	45RDHD
15/32"	5-3/4"	4-5/16"	6	46RDHD
31/64"	5-7/8"	4-3/8"	6	48RDHD
1/2"	6"	4-1/2"	6	50RDHD

B M42 COBALT JOBBER DRILL BITS

- For Stainless-Titanium-Hard Metals
- 135° Split Point / NAS 907B Spec
- Use only with rigidly held positive feed drilling equipment

NOT RECOMMENDED FOR ALUMINUM

DIA	FLUTE LENGTH	PKG QTY	SKU
3/64"	1-3/4"	12	4RDCCO
1/16"	1-7/8"	12	6RDCCO
5/64"	2"	12	7RDCCO
3/32"	2-1/4"	12	9RDCCO
7/64"	2-5/8"	12	10RDCCO
1/8"	2-3/4"	12	12RDCCO
9/64"	2-7/8"	12	14RDCCO
5/32"	3-1/8"	12	15RDCCO
11/64"	3-1/4"	12	17RDCCO
3/16"	3-1/2"	12	18RDCCO
13/64"	3-5/8"	12	20RDCCO
7/32"	3-3/4"	12	21RDCCO
15/64"	3-7/8"	12	23RDCCO
1/4"	4"	12	25RDCCO
17/64"	4-1/8"	12	26RDCCO
9/32"	4-1/4"	12	28RDCCO
19/64"	4-3/8"	6	29RDCCO
5/16"	4-1/2"	6	31RDCCO
21/64"	4-5/8"	6	32RDCCO
11/32"	4-3/4"	6	34RDCCO
23/64"	4-7/8"	6	35RDCCO
3/8"	5"	6	37RDCCO
25/64"	5-1/8"	6	39RDCCO
13/32"	5-1/4"	6	40RDCCO
27/64"	5-3/8"	6	42RDCCO
7/16"	5-1/2"	6	43RDCCO
29/64"	5-5/8"	6	45RDCCO
15/32"	5-3/4"	6	46RDCCO
31/64"	5-7/8"	6	48RDCCO
1/2"	6"	6	50RDCCO

C TITANIUM NITRIDE COATED JOBBER BITS

- TiN Coating for added lubricity
- 135° Split Point / NAS 907B
- Longer life in tough to drill metals

BUY FULL PACK QUANTITIES FOR BEST PRICE OR BUY SINGLY AS NEEDED

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU	DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/16"	1-7/8"	7/8"	6	6RDTN	19/64"	4-3/8"	3-1/16"	3	29RDTN
5/64"	2"	1"	6	7RDTN	5/16"	4-1/2"	3-3/16"	3	31RDTN
3/32"	2-1/4"	1-1/4"	6	9RDTN	21/64"	4-5/8"	3-5/16"	3	32RDTN
7/64"	2-5/8"	1-1/2"	6	10RDTN	11/32"	4-3/4"	3-7/16"	3	34RDTN
1/8"	2-3/4"	1-5/8"	6	12RDTN	23/64"	4-7/8"	3-1/2"	3	35RDTN
9/64"	2-7/8"	1-3/4"	6	14RDTN	3/8"	5"	3-5/8"	3	37RDTN
5/32"	3-1/8"	2"	6	15RDTN	25/64"	5-1/8"	3-3/4"	3	39RDTN
11/64"	3-1/4"	2-1/8"	6	17RDTN	13/32"	5-1/4"	3-7/8"	3	40RDTN
3/16"	3-1/2"	2-5/16"	6	18RDTN	27/64"	5-3/8"	3-15/16"	3	42RDTN
13/64"	3-5/8"	2-7/16"	6	20RDTN	7/16"	5-1/2"	4-1/16"	3	43RDTN
7/32"	3-3/4"	2-1/2"	6	21RDTN	29/64"	5-5/8"	4-3/16"	3	45RDTN
15/64"	3-7/8"	2-5/8"	6	23RDTN	15/32"	5-3/4"	4-5/16"	3	46RDTN
1/4"	4"	2-3/4"	6	25RDTN	31/64"	5-7/8"	4-3/8"	3	48RDTN
17/64"	4-1/8"	2-7/8"	6	26RDTN	1/2"	6"	4-1/2"	3	50RDTN
9/32"	4-1/4"	2-15/16"	6	28RDTN					

D ULTRA-BOR SUPER PREMIUM NUMBER DRILL BITS

- Great for Hard Metals & Stainless
- 135° Split Point / NAS 907B Spec
- Black and Gold Finish
- Nitro-Carburized surface treatment

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
#1	3-7/8"	2-5/8"	12	1DDHD
#2	3-7/8"	2-5/8"	12	2DDHD
#3	3-3/4"	2-1/2"	12	3DDHD
#4	3-3/4"	2-1/2"	12	4DDHD
#5	3-3/4"	2-1/2"	12	5DDHD
#6	3-3/4"	2-1/2"	12	6DDHD
#7	3-5/8"	2-7/16"	12	7DDHD
#8	3-5/8"	2-7/16"	12	8DDHD
#9	3-5/8"	2-7/16"	12	9DDHD
#10	3-5/8"	2-7/16"	12	10DDHD
#11	3-1/2"	2-5/16"	12	11DDHD
#12	3-1/2"	2-5/16"	12	12DDHD
#13	3-1/2"	2-5/16"	12	13DDHD
#14	3-3/8"	2-3/16"	12	14DDHD
#15	3-3/8"	2-3/16"	12	15DDHD
#16	3-3/8"	2-3/16"	12	16DDHD
#17	3-3/8"	2-3/16"	12	17DDHD
#18	3-1/4"	2-1/8"	12	18DDHD
#19	3-1/4"	2-1/8"	12	19DDHD
#20	3-1/4"	2-1/8"	12	20DDHD
#21	3-1/4"	2-1/8"	12	21DDHD
#22	3-1/8"	2"	12	22DDHD
#23	3-1/8"	2"	12	23DDHD
#24	3-1/8"	2"	12	24DDHD
#25	3"	1-7/8"	12	25DDHD
#26	3"	1-7/8"	12	26DDHD
#27	3"	1-7/8"	12	27DDHD
#28	2-7/8"	1-3/4"	12	28DDHD
#29	2-7/8"	1-3/4"	12	29DDHD
#30	2-3/4"	1-5/8"	12	30DDHD
#31	2-3/4"	1-5/8"	12	31DDHD
#39	2-3/8"	1-3/8"	12	39DDHD
#40	2-3/8"	1-3/8"	12	40DDHD
#41	2-3/8"	1-3/8"	12	41DDHD
#42	2-1/4"	1-1/4"	12	42DDHD
#43	2-1/4"	1-1/4"	12	43DDHD
#44	2-1/8"	1-1/8"	12	44DDHD
#45	2-1/8"	1-1/8"	12	45DDHD
#46	2-1/8"	1-1/8"	12	46DDHD
#47	2"	1"	12	47DDHD
#48	2"	1"	12	48DDHD
#49	2"	1"	12	49DDHD
#55	1-7/8"	7/8"	12	55DDHD
#56	1-3/4"	3/4"	12	56DDHD
#57	1-3/4"	3/4"	12	57DDHD
#58	1-5/8"	11/16"	12	58DDHD
#59	1-5/8"	11/16"	12	59DDHD
#60	1-5/8"	11/16"	12	60DDHD

E ULTRA-BOR SUPER PREMIUM LETTER DRILL BITS A - Z

- Great for Hard Metals & Stainless
- 135° Split Point / NAS 907B Spec
- Black and Gold Finish
- Nitro-Carburized surface treatment

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
A	3-7/8"	2-5/8"	12	ARDLD
B	4"	2-3/4"	12	BRDLD
C	4"	2-3/4"	12	CRDLD
D	4"	2-3/4"	12	DRDLD
E	4"	2-3/4"	12	ERDLD
F	4-1/8"	2-7/8"	12	FRDLD
G	4-1/8"	2-7/8"	12	GRDLD
H	4-1/8"	2-7/8"	12	HRDLD
I	4-1/8"	2-7/8"	12	IRDLD
J	4-1/8"	2-7/8"	12	JRDLD
K	4-1/4"	2-15/16"	12	KRDLD
L	4-1/4"	2-15/16"	12	LRDLD
M	4-3/8"	3-1/16"	6	MRDLD
N	4-3/8"	3-1/16"	6	NRDLD
O	4-1/2"	3-3/16"	6	ORDLD
P	4-5/8"	3-5/16"	6	PRDLD
Q	4-3/4"	3-7/16"	6	QRDLD
R	4-3/4"	3-7/16"	6	RRDLD
S	4-7/8"	3-1/2"	6	SRDLD
T	4-7/8"	3-1/2"	6	TRDLD
U	5"	3-5/8"	6	URDLD
V	5"	3-5/8"	6	VRDLD
W	5-1/8"	3-3/4"	6	WRDLD
X	5-1/8"	3-3/4"	6	XRDLD
Y	5-1/4"	3-7/8"	6	YRDLD
Z	5-1/4"	3-7/8"	6	ZRDLD

Ultra-Bor Bit Sets and Indexes beginning on PAGE 18



(A)

(B)

(C)

(D)

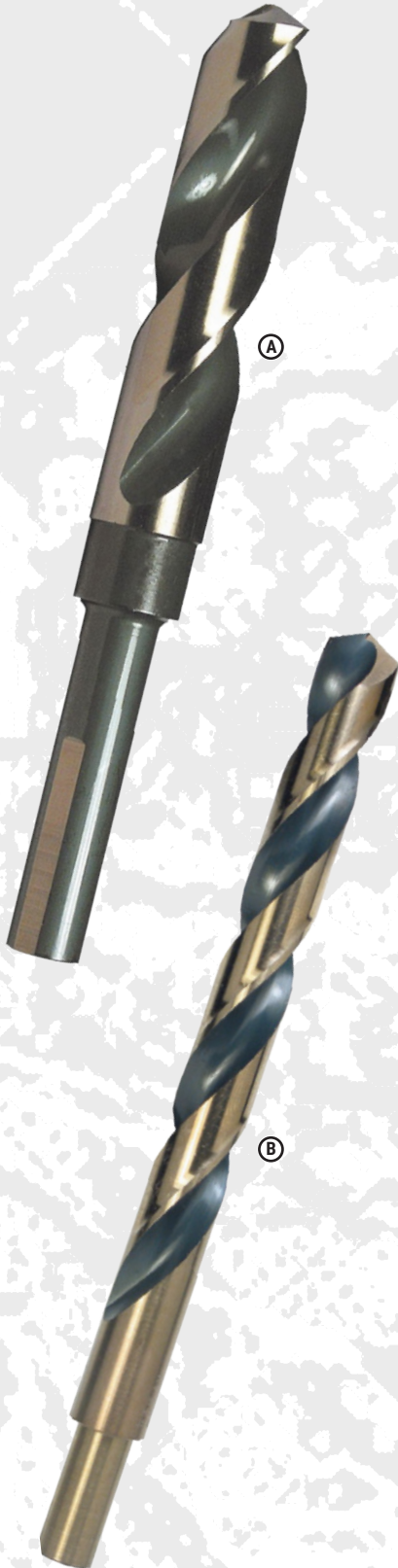
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DRILLING STAINLESS?

See our Tips for Drilling Stainless Steel like a Pro on PAGE 21

Jobber Length Bits

Large diameter reduced shank drills are called "Silver & Deming Bits" They were invented during the 1800's by Albert R. Silver and John Deming. These two men founded the Silver & Deming Mfg Co., a manufacturer of farming machinery and blacksmithing tools.



A HEAVY DUTY SILVER & DEMING 1/2" REDUCED SHANK BITS

- Great for Hard Metals & Stainless
- Special Hi-Moly Tool Steel
- 135° Split Point
- Black & Gold Finish
- 3-Flats on Shank for Positive Grip

Find our complete line-up of cutting oils, lubes and wax sticks on PAGE 22.

DIA	OAL	PKG QTY	SKU	DIA	OAL	PKG QTY	SKU
33/64"	6"	1	51RD12	27/32"	6"	1	84RD12
17/32"	6"	1	53RD12	55/64"	6"	1	85RD12
35/64"	6"	1	54RD12	7/8"	6"	1	87RD12
9/16"	6"	1	56RD12	57/64"	6"	1	89RD12
37/64"	6"	1	57RD12	29/32"	6"	1	90RD12
19/32"	6"	1	59RD12	59/64"	6"	1	92RD12
39/64"	6"	1	60RD12	15/16"	6"	1	93RD12
5/8"	6"	1	62RD12	61/64"	6"	1	95RD12
41/64"	6"	1	64RD12	31/32"	6"	1	96RD12
21/32"	6"	1	65RD12	63/64"	6"	1	98RD12
43/64"	6"	1	67RD12	1"	6"	1	100RD12
11/16"	6"	1	68RD12	1-1/32"	6"	1	103RD12
45/64"	6"	1	70RD12	1-1/16"	6"	1	106RD12
23/32"	6"	1	71RD12	1-1/8"	6"	1	112RD12
47/64"	6"	1	73RD12	1-5/32"	6"	1	115RD12
3/4"	6"	1	75RD12	1-3/16"	6"	1	118RD12
49/64"	6"	1	76RD12	1-1/4"	6"	1	125RD12
25/32"	6"	1	78RD12	1-5/16"	6"	1	131RD12
51/64"	6"	1	79RD12	1-3/8"	6"	1	137RD12
13/16"	6"	1	81RD12	1-7/16"	6"	1	143RD12
53/64"	6"	1	82RD12	1-1/2"	6"	1	150RD12

B MAGNUM SUPER PREMIUM 3/8" SHANK BITS

- Features a 3/8" Reduced Shank
- Great for Hard Metals & Stainless
- 135° Split Point
- Black and Gold Finish

Silver & Deming Bit Sets in stock
-See PAGE 18 for details.

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
25/64"	5-1/8"	3-3/4"	6	39RDRX
13/32"	5-1/4"	3-7/8"	6	40RDRX
27/64"	5-3/8"	3-15/16"	6	42RDRX
7/16"	5-1/2"	4-1/16"	6	43RDRX
29/64"	5-5/8"	4-3/16"	6	45RDRX
15/32"	5-3/4"	4-5/16"	6	46RDRX
31/64"	5-7/8"	4-3/8"	6	48RDRX
1/2"	6"	4-1/2"	6	50RDRX
17/32"	6"	4-1/4"	1	53RDRX
9/16"	6"	4-1/4"	1	56RDRX
5/8"	6"	4-1/4"	1	62RDRX

A 12" LONGBOY METAL DRILL BITS

- 118° Point
- High-speed steel
- Ideal for deep hole drilling applications in metal and other materials.
- Shank diameter equals drill diameter

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/8"	12"	9"	1	12RDLB
9/64"	12"	9"	1	14RDLB
5/32"	12"	9"	1	15RDLB
11/64"	12"	9"	1	17RDLB
3/16"	12"	9"	1	18RDLB
7/32"	12"	9"	1	21RDLB
15/64"	12"	9"	1	23RDLB
1/4"	12"	9"	1	25RDLB
17/64"	12"	9"	1	26RDLB
9/32"	12"	9"	1	28RDLB
5/16"	12"	9"	1	31RDLB
3/8"	12"	9"	1	37RDLB
25/64"	12"	9"	1	39RDLB
13/32"	12"	9"	1	40RDLB
7/16"	12"	9"	1	43RDLB
29/64"	12"	9"	1	45RDLB
15/32"	12"	9"	1	46RDLB
1/2"	12"	9"	1	50RDLB
9/16"	12"	9"	1	56RDLB
5/8"	12"	9"	1	62RDLB
3/4"	12"	9"	1	75RDLB

B 6" AIRCRAFT EXTENSION DRILL BITS

- Heavy Duty High-Speed Steel
- Black Oxide Surface Treated
- 135° Split Point / NAS 907B Spec
- Extra length bits for drilling metals and other materials.

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
3/32"	6"	1-1/4"	6	9RDAE
7/64"	6"	1-1/2"	6	10RDAE
1/8"	6"	1-5/8"	6	12RDAE
9/64"	6"	1-3/4"	6	14RDAE
5/32"	6"	2"	6	15RDAE
11/64"	6"	2-1/8"	6	17RDAE
3/16"	6"	2-5/16"	6	18RDAE
13/64"	6"	2-7/16"	6	20RDAE
7/32"	6"	2-1/2"	6	21RDAE
15/64"	6"	2-5/8"	6	23RDAE
1/4"	6"	2-3/4"	6	25RDAE
5/16"	6"	3-3/16"	6	31RDAE
11/32"	6"	3-7/16"	6	34RDAE
3/8"	6"	4"	3	37RDAE

Carbide Tipped Masonry Bits stocked in diameters 3/16" to 2" to fit all popular Hammer Drills including Hilti®. See KLJACK.COM for details.

C BELL HANGER DRILL BITS

- Use for wire pulling
- Wire hole in drill tip
- Available in 12", 18", 24" lengths
- For use in Wood, Drywall, Plaster

DIA	OAL	SHANK DIA	PKG QTY	SKU
3/16"	18"	3/16"	1	18RDBM
1/4"	24"	1/4"	1	25RDBL
1/4"	18"	1/4"	1	25RDBM
1/4"	12"	1/4"	1	25RDBS
5/16"	18"	5/16"	1	31RDBM
3/8"	24"	3/8"	1	37RDBL
3/8"	18"	3/8"	1	37RDBM
3/8"	12"	3/8"	1	37RDBS
7/16"	18"	3/8"	1	43RDBM
1/2"	24"	3/8"	1	50RDBL
1/2"	18"	3/8"	1	50RDBM
5/8"	18"	3/8"	1	62RDBM

D 18" NAIL-CHIPPER WOOD AUGER BITS

- Tri-Cut head drills through nails.
- Made of Induction Hardened Steel
- Precision Cut lead Screw
- 7/16" Quick Change Hex Shank

DIA	PKG QTY	SKU
3/8"	1	37RDSA
7/16"	1	43RDSA
1/2"	1	50RDSA
9/16"	1	56RDSA
5/8"	1	62RDSA
11/16"	1	68RDSA
3/4"	1	75RDSA
13/16"	1	81RDSA
7/8"	1	87RDSA
15/16"	1	93RDSA
1"	1	100RDSA
1-1/16"	1	106RDSA
1-1/8"	1	112RDSA
1-1/4"	1	125RDSA
1-3/8"	1	137RDSA
1-1/2"	1	150RDSA



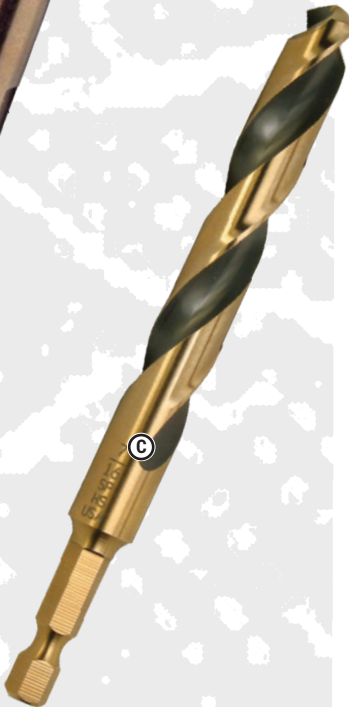
Extra Long Bits



(A)



(B)



(C)

Use a drill for best results when drilling thicker metals/stainless steel. Impact drivers work best for driving fasteners, drilling holes in wood and for light duty drilling in thin gauge metals.

A TWIN END HEAVY DUTY DRILL BIT

- 135° Split Point
- Black Oxide Finish
- Drills thin gauge metal or wood

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
3/32"	1-3/4"	9/16"	12	9RDDE
1/8"	1-15/16"	5/8"	12	12RDDE
5/32"	2-1/8"	5/8"	12	15RDDE
3/16"	2-5/16"	5/8"	12	18RDDE
7/32"	2-9/16"	3/4"	12	21RDDE
1/4"	2-5/8"	13/16"	12	25RDDE
NUMBER SIZES ALSO AVAILABLE				
#11	2-5/16"	5/8"	12	11DDDE
#20	2-1/8"	5/8"	12	20DDDE
#30	2"	5/8"	12	30DDDE

B ULTRA-BOR MECHANICS LENGTH DRILL BITS

- Special High-Moly Tool Steel
- Black & Gold Finish
- 135° Split Point
- 3-Flats on Shank for Positive Grip
- Great for Hard Metals & Stainless

DIA	OAL	FLUTE LENGTH	SHANK DIA	PKG QTY	SKU
1/16"	1-7/8"	7/8"	1/16"	12	6RDML
5/64"	2"	1"	5/64"	12	7RDML
3/32"	2-1/4"	1-1/4"	3/32"	12	9RDML
7/64"	2-3/8"	1-5/16"	7/64"	12	10RDML
1/8"	2-1/2"	1-7/16"	1/8"	12	12RDML
9/64"	2-5/8"	1-9/16"	9/64"	12	14RDML
5/32"	2-3/4"	1-11/16"	5/32"	12	15RDML
11/64"	2-7/8"	1-13/16"	11/64"	12	17RDML
3/16"	3"	1-7/8"	3/16"	12	18RDML
13/64"	3-1/8"	1-15/16"	13/64"	12	20RDML
7/32"	3-1/4"	2"	7/32"	12	21RDML
15/64"	3-3/8"	2-1/16"	15/64"	12	23RDML
1/4"	3-1/2"	2"	1/4"	12	25RDML
17/64"	3-5/8"	2-1/8"	17/64"	12	26RDML
9/32"	3-3/4"	2-1/4"	9/32"	12	28RDML
19/64"	3-7/8"	2-3/8"	19/64"	6	29RDML
5/16"	4"	2-1/2"	5/16"	6	31RDML
21/64"	4-1/16"	2-9/16"	21/64"	6	32RDML
11/32"	4-1/8"	2-5/8"	11/32"	6	34RDML
23/64"	4-3/16"	2-11/16"	23/64"	6	35RDML
3/8"	4-1/4"	2-11/16"	3/8"	6	37RDML
25/64"	4-5/16"	2-3/4"	25/64"	6	39RDML
13/32"	4-3/8"	2-13/16"	3/8"	6	40RDML
27/64"	4-7/16"	2-7/8"	3/8"	6	42RDML
7/16"	4-1/2"	2-15/16"	3/8"	6	43RDML
29/64"	4-5/8"	3"	3/8"	6	45RDML
15/32"	4-3/4"	3-1/8"	3/8"	6	46RDML
31/64"	4-7/8"	3-1/4"	3/8"	6	48RDML
1/2"	5"	3-3/8"	3/8"	6	50RDML

C ULTRA-BOR SUPER PREMIUM QUICK RELEASE DRILL BITS

- Mechanic Length with 1/4" Quick Release Shank
- Special Hi-Moly tool steel
- 135° Split Point
- Black & Gold Finish
- For hand-held Drills and Impact Tools
- Great for Hard Metals and Stainless

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/16"	2-5/8"	7/8"	2	34507
3/32"	3-1/4"	1-1/4"	2	34527
1/8"	3-1/4"	1-7/16"	2	34547
5/32"	3-1/2"	1-11/16"	2	34567
3/16"	3-3/4"	1-7/8"	2	34587
7/32"	4"	2"	1	34617
1/4"	4-1/4"	2"	1	34637
9/32"	3-13/16"	2-1/4"	1	34657
5/16"	4"	2-1/2"	1	34677
11/32"	4-7/32"	2-5/8"	1	34697
3/8"	4-1/4"	2-11/16"	1	34717
13/32"	4-1/2"	2-13/16"	1	34737
7/16"	4-1/2"	2-15/16"	1	34757
15/32"	4-7/8"	3-1/8"	1	34777
1/2"	5"	3-3/8"	1	34797



QUICK RELEASE ADAPTER

- Allows chucked tools to use Quick Release Style Bits

..... 34807

A ULTRA-BOR SCREW MACHINE LENGTH DRILL BITS (STUBBY)

- Special High-Moly Tool Steel
- Black & Gold Finish
- 135° Split Point / NAS 907C
- Great for Hard Metals & Stainless

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/16"	1-5/8"	5/8"	12	6RDST
5/64"	1-11/16"	11/16"	12	7RDST
3/32"	1-3/4"	3/4"	12	9RDST
7/64"	1-13/16"	13/16"	12	10RDST
1/8"	1-7/8"	7/8"	12	12RDST
9/64"	1-15/16"	15/16"	12	14RDST
5/32"	2-1/16"	1"	12	15RDST
11/64"	2-1/8"	1-1/16"	12	17RDST
3/16"	2-3/16"	1-1/8"	12	18RDST
13/64"	2-1/4"	1-3/16"	12	20RDST
7/32"	2-3/8"	1-1/4"	12	21RDST
15/64"	2-7/16"	1-5/16"	12	23RDST
1/4"	2-1/2"	1-3/8"	12	25RDST
17/64"	2-5/8"	1-7/16"	12	26RDST
9/32"	2-11/16"	1-1/2"	12	28RDST
19/64"	2-3/4"	1-9/16"	6	29RDST
5/16"	2-13/16"	1-5/8"	6	31RDST
21/64"	2-15/16"	1-11/16"	6	32RDST
11/32"	3"	1-11/16"	6	34RDST
23/64"	3-1/16"	1-3/4"	6	35RDST
3/8"	3-1/8"	1-13/16"	6	37RDST
25/64"	3-1/4"	1-7/8"	6	39RDST
13/32"	3-5/16"	1-15/16"	6	40RDST
27/64"	3-3/8"	2"	6	42RDST
7/16"	3-7/16"	2-1/16"	6	43RDST
29/64"	3-9/16"	2-1/8"	6	45RDST
15/32"	3-5/8"	2-1/8"	6	46RDST
31/64"	3-11/16"	2-3/16"	6	48RDST
1/2"	3-3/4"	2-1/4"	6	50RDST

B COMBO DRILL & TAP BITS

- Hi-Moly Tool Steel
- 135° Split Point
- Drills and Taps threaded holes (Class 2B) in one step.
- Simple to use and saves time

DIA	TPI	THREAD TYPE	PKG QTY	SKU
#8	32	Coarse	1	8CDDT
#10	24	Coarse	1	10CDDT
#10	32	Fine	1	10FDDT
1/4"	20	Coarse	1	25CDDT
5/16"	18	Coarse	1	31CDDT
3/8"	16	Coarse	1	37CDDT
7/16"	14	Coarse	1	43CDDT
1/2"	13	Coarse	1	50CDDT

C LEFT HAND SPIRAL JOBBER DRILL BIT

- Special High-Moly Tool Steel
- 135° Split Point
- Gold Surface Treated
- Left hand twist ideal for removing broken studs and bolts

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1/16"	1-7/8"	7/8"	6	6RDLH
5/64"	2"	1"	6	7RDLH
3/32"	2-1/4"	1-1/4"	6	9RDLH
7/64"	2-5/8"	1-1/2"	6	10RDLH
1/8"	2-3/4"	1-5/8"	6	12RDLH
9/64"	2-7/8"	1-3/4"	6	14RDLH
5/32"	3-1/8"	2"	6	15RDLH
11/64"	3-1/4"	2-1/8"	6	17RDLH
3/16"	3-1/2"	2-5/16"	6	18RDLH
13/64"	3-5/8"	2-7/16"	6	20RDLH
7/32"	3-3/4"	2-1/2"	6	21RDLH
1/4"	4"	2-3/4"	6	25RDLH
17/64"	4-1/8"	2-7/8"	6	26RDLH
9/32"	4-1/4"	2-15/16"	6	28RDLH
19/64"	4-3/8"	3-1/16"	3	29RDLH
5/16"	4-1/2"	3-3/16"	3	31RDLH
11/32"	4-3/4"	3-7/16"	3	34RDLH
3/8"	5"	3-5/8"	3	37RDLH
13/32"	5-1/4"	3-7/8"	3	40RDLH
7/16"	5-1/2"	4-1/16"	3	43RDLH
15/32"	5-3/4"	4-5/16"	3	46RDLH
1/2"	6"	4-1/2"	3	50RDLH

D SCREW AND PIPE EXTRACTORS

- Hi-Carbon Steel
- Spiral Flute Style
- Removes Broken Fasteners & Pipe
- For Use with Left Hand Drill Bits

EXTRACTOR #	SHANK DIA	POINT DIA	DRILL SIZE*	FOR REMOVING	PKG QTY	SKU
EX-1	1/8"	0.105	5/64"	3/32" to 5/32"	5	1NDSE
EX-2	3/16"	0.138	7/64"	5/32" to 7/32"	5	2NDSE
EX-3	1/4"	0.146	5/32"	7/32" to 9/32"	5	3NDSE
EX-4	5/16"	0.186	1/4"	9/32" to 3/8" and 1/8" pipe	5	4NDSE
EX-5	7/16"	0.272	17/64"	3/8" to 5/8" and 1/4" pipe	5	5NDSE
EX-6	5/8"	0.336	13/32"	5/8" to 7/8" and 3/8" pipe	1	6NDSE
EX-7	7/8"	0.510	17/32"	7/8" to 1-1/8" and 1/2" pipe	1	7NDSE

* Pilot Drills must be Left Hand Twist for best result.

DRILLING TIP

For drilling small diameter holes (<1/4") consider using the shorter "Stubby" length bits. Stubby bits are less prone to breaking as the user applies extra pressure to the bit when drilling tough materials.



See PAGE 19 for our 58510 Extractor and Bit Set

PURPOSES & BENEFITS OF REAMERS

Sometimes referred to as "Chassis Reamers" they easily and accurately enlarge smaller holes with a high degree of precision. They can clean and debur punched holes and are often used to align holes in structural steel, plates and truck frames.

A HOLE BUSTER™ CAR REAMER

- Made from Hi - Tungsten tool steel
- Fast Spiral design for fast work
- Used to enlarge existing holes
- Left-hand spiral and right-hand cut
- 3-Flats on shank for positive grip
- Gold Surface Treated body
- Features a stop collar

DIA	OAL	SHANK DIA	POINT DIA	DRILL SIZE	PKG QTY	SKU
3/8"	4-5/8"	3/8"	0.25	5/16"	1	37RDRC
1/2"	5-7/8"	1/2"	0.281	3/8"	1	50RDRC
9/16"	5-7/8"	1/2"	0.343	7/16"	1	56RDRC
5/8"	6-3/8"	1/2"	0.343	7/16"	1	62RDRC
11/16"	6-3/8"	1/2"	0.375	15/32"	1	68RDRC
3/4"	6-7/8"	1/2"	0.406	1/2"	1	75RDRC
13/16"	6-7/8"	1/2"	0.468	35/64"	1	81RDRC
7/8"	6-7/8"	1/2"	0.5	19/32"	1	87RDRC
15/16"	6-7/8"	1/2"	0.585	5/8"	1	93RDRC
1"	6-7/8"	1/2"	0.594	7/8"	1	100RDRC
1-1/16"	6-7/8"	1/2"	0.635	7/8"	1	106RDRC
1-1/4"	6-7/8"	1/2"	0.719	1"	1	125RDRC

B ULTRA BIT™ MULTI-DIAMETER STEP DRILL

- Split Point and Radial flutes for quick starting and penetration
- Dual-flutes for clean accurate holes
- Gold surface treated body
- 3-Flats on shank for positive grip

DIA	OAL	# OF HOLE SIZES	SIZE	SHANK DIA	STEP INCREMENTS	PKG QTY	SKU
1/8" - 1/2"	3"	13	1	1/4"	1/32"	1	00700
1/4" - 1"	3"	8	2	3/8"	1/16"	1	00704
1/4" - 3/4"		9	3	3/8"	1/16"	1	00703
3/16" - 1/2"	3-1/8"	6	4	1/4"	1/16"	1	00701
1/4" - 7/8"		11	7	3/8"	1/16"	1	00714
3/16" - 7/8"		12	8	3/8"	1/16"	1	00702
7/8" - 1-1/8"		2	11	3/8"	27/64"	1	00713
1/4" - 1-3/8"		5	12	3/8"	1/8"	1	00711

C 3-FLUTE 82° COUNTERSINK

- Hi-Speed Steel
- 82° Angle for Flat Head Screws
- 3-Flute Center Reaming Design
- For use in metal

DIA	OAL	# OF FLUTES	SHANK DIA	PKG QTY	SKU
1/4"	1-1/2"	3	1/4"	1	25RDSC
5/16"	1-5/8"	1	1/4"	1	31RDSC
3/8"	1-3/4"	3	1/4"	1	37RDSC
1/2"	2"	3	3/8"	1	50RDSC
5/8"	2-1/4"	3	3/8"	1	62RDSC
3/4"	2-5/8"	3	1/2"	1	75RDSC
1"	2-3/4"	3	1/2"	1	100RDSC
1-1/4"	3"	3	1/2"	1	125RDSC
1-1/2"	3"	3	3/4"	1	150RDSC

D 60° COMBINED DRILL & COUNTERSINK

- 60° Included Angle
- Hi-Speed Steel
- For pre-drilling 60° live center holes
- For countersinking & spot drilling
- Double-end for quick tool changes

DIA	BODY DIA	DRILL DIA × LENGTH	OAL	PKG QTY	SKU
#2	3/16"	5/64 × 5/64	1-7/8"	1	2NDDC
#3	1/4"	7/64 × 7/64	2"	1	3NDDC
#4	5/16"	1/8 × 1/8	2-1/8"	1	4NDDC
#7	5/8"	1/4 × 1/4	3-1/4"	1	7NDDC
#8	3/4"	5/16 × 5/16	3-1/2"	1	8NDDC



TAPER HSS HAND TAPS - STRAIGHT FLUTE

- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- Taper Style for Easy Threading
- First 8 to 10 threads are chamfered

DIA	# OF FLUTES	TAP DRILL SIZE	TPI	H LIMIT	THREAD TYPE	PKG QTY	SKU
#1	3	#53	72	H2	Fine	3	1FDTT
#2	3	#50	56	H2	Coarse	3	2CDTT
#3	3	#47	48	H2	Coarse	3	3CDTT
#4	3	#43	40	H2	Coarse	3	4CDTT
#5	3	#39	40	H2	Coarse	3	5CDTT
#6	3	#36	32	H3	Coarse	3	6CDTT
#6	3	#33	40	H2	Fine	3	6FDTT
#8	4	#29	32	H3	Coarse	3	8CDTT
#8	4	#29	36	H2	Fine	3	8FDTT
#10	4	#25	24	H3	Coarse	3	10CDTT
#10	4	#21	32	H3	Fine	3	10FDTT
#12	4	#17	24	H3	Coarse	3	12CDTT
#12	4	#15	28	H3	Fine	3	12FDTT
1/4"	4	#7	20	H3	Coarse	3	25CDTT
1/4"	4	#3	28	H3	Fine	3	25FDTT
5/16"	4	F	18	H3	Coarse	3	31CDTT
5/16"	4	I	24	H3	Fine	3	31FDTT
3/8"	4	5/16"	16	H3	Coarse	3	37CDTT
3/8"	4	Q	24	H3	Fine	3	37FDTT
7/16"	4	U	14	H3	Coarse	3	43CDTT
7/16"	4	W	20	H3	Fine	3	43FDTT
1/2"	4	27/64"	13	H3	Coarse	3	50CDTT
1/2"	4	29/64"	20	H3	Fine	3	50FDTT
9/16"	4	31/64"	12	H3	Coarse	1	56CDTT
9/16"	4	33/64"	18	H3	Fine	1	56FDTT
5/8"	4	17/32"	11	H3	Coarse	1	62CDTT
5/8"	4	37/64"	18	H3	Fine	1	62FDTT
3/4"	4	21/32"	10	H3	Coarse	1	75CDTT
3/4"	4	11/16"	16	H3	Fine	1	75FDTT
7/8"	4	49/64"	9	H4	Coarse	1	87CDTT
7/8"	4	13/16"	14	H4	Fine	1	87FDTT
1"	4	7/8"	8	H4	Coarse	1	100CDTT
1"	4	15/16"	14	H4	Fine*	1	100FDTT
1-1/8"	4	63/64"	7	H4	Coarse	1	112CDTT
1-1/8"	4	1-3/64"	12	H4	Fine	1	112FDTT
1-1/4"	4	1-7/64"	7	H4	Coarse	1	125CDTT
1-1/4"	6	1-11/64"	12	H4	Fine	1	125FDTT
1-3/8"	4	1-7/32"	6	H4	Coarse	1	137CDTT
1-1/2"	4	1-11/32"	6	H4	Coarse	1	150CDTT
1-1/2"	6	1-27/64"	12	H4	Fine	1	150FDTT



TAPER STYLE TAPS

Taper Taps have a chamfer on the first 8-10 threads. The chamfered threads assist the tapping process by helping start the tap square to the pilot hole and by progressively removing more material with each rotation of the tap until it eventually creates a full thread. The high number of chamfered threads means that Taper Taps are the easiest taps to use when tapping by hand. Taper taps are often called Starter Taps and are used either for through-hole tapping or as a starter tap for blind holes.



See **PAGE 16** for more Tapping Tips

PLUG HSS HAND TAPS - STRAIGHT FLUTE

- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- Plug Style for general use
- First 3 to 5 threads are chamfered

Inch & Metric Tap and Die Sets in Stock - See PAGE 19



DIA	# OF FLUTES	TAP DRILL SIZE	TPI	H LIMIT	THREAD TYPE	PKG QTY	SKU
#1	3	#53	64	H2	Coarse	3	1CDTP
#2	3	#50	56	H2	Coarse	3	2CDTP
#3	3	#47	48	H2	Coarse	3	3CDTP
#3	3	#46	56	H2	Fine	3	3FDTP
#4	3	#43	40	H2	Coarse	3	4CDTP
#4	3	#42	48	H2	Fine	3	4FDTP
#5	3	#39	40	H2	Coarse	3	5CDTP
#6	3	#36	32	H3	Coarse	3	6CDTP
#6	3	#33	40	H2	Fine	3	6FDTP
#8	4	#29	32	H3	Coarse	3	8CDTP
#10	4	#25	24	H3	Coarse	3	10CDTP
#10	4	#21	32	H3	Fine	3	10FDTP
#12	4	#17	24	H3	Coarse	3	12CDTP
#12	4	#15	28	H3	Fine	3	12FDTP
1/4"	4	#7	20	H3	Coarse	3	12CDTP
1/4"	4	#3	28	H3	Fine	3	25FDTP
5/16"	4	F	18	H3	Coarse	3	31CDTP
5/16"	4	I	24	H3	Fine	3	31FDTP
3/8"	4	5/16"	16	H3	Coarse	3	37CDTP
3/8"	4	Q	24	H3	Fine	3	37FDTP
7/16"	4	U	14	H3	Coarse	3	43CDTP
7/16"	4	W	20	H3	Fine	3	43FDTP
1/2"	4	27/64"	13	H3	Coarse	3	50CDTP
1/2"	4	29/64"	20	H3	Fine	3	50FDTP
9/16"	4	31/64"	12	H3	Coarse	1	56CDTP
9/16"	4	33/64"	18	H3	Fine	1	56FDTP
5/8"	4	17/32"	11	H3	Coarse	1	62CDTP
5/8"	4	37/64"	18	H3	Fine	1	62FDTP
3/4"	4	21/32"	10	H3	Coarse	1	75CDTP
3/4"	4	11/16"	16	H3	Fine	1	75FDTP
7/8"	4	49/64"	9	H4	Coarse	1	87CDTP
7/8"	4	13/16"	14	H4	Fine	1	87FDTP
1"	4	7/8"	8	H4	Coarse	1	100CDTP
1"	4	15/16"	12	H4	Fine	1	100EDTP
1"	4	15/16"	14	H4	Fine*	1	100FDTP
1-1/8"	4	63/64"	7	H4	Coarse	1	112CDTP
1-1/8"	4	1-3/64"	12	H4	Fine	1	112FDTP
1-1/4"	4	1-7/64"	7	H4	Coarse	1	125CDTP
1-1/4"	6	1-11/64"	12	H4	Fine	1	125FDTP
1-3/8"	4	1-7/32"	6	H4	Coarse	1	137CDTP
1-1/2"	4	1-11/32"	6	H4	Coarse	1	150CDTP
1-1/2"	6	1-27/64"	12	H4	Fine	1	150FDTP

PLUG STYLE TAPS

Plug taps have a 3 to 5 thread chamfer and perform similarly to Taper taps by progressively removing the material at the beginning of the tapping process until a full thread is created. In some instances a Plug Tap can be used to start holes but there is more turning resistance than with a Taper tap due to fewer lead threads being chamfered. Plug taps are ideal for use after a Taper tap and before a Bottom tap to get threads closer to the bottom of a blind tapped hole. They can also be used for through-hole tapping.



BOTTOM HSS HAND TAPS - STRAIGHT FLUTE

- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- 1 or 2 threads are chamfered
- Use as secondary tap to run existing threads to bottom of hole

DIA	# OF FLUTES	TAP DRILL SIZE	TPI	H LIMIT	THREAD TYPE	PKG QTY	SKU
#2	3	#50	56	H2	Coarse	3	2CDTB
#4	3	#43	40	H2	Coarse	3	4CDTB
#5	3	#39	40	H2	Coarse	3	5CDTB
#6	3	#36	32	H3	Coarse	3	6CDTB
#8	4	#29	32	H3	Coarse	3	8CDTB
#8	4	#29	36	H2	Fine	3	8FDTB
#10	4	#25	24	H3	Coarse	3	10CDTB
#10	4	#21	32	H3	Fine	3	10FDTB
#12	4	#17	24	H3	Coarse	3	12CDTB
#12	4	#15	28	H3	Fine	3	12FDTB
1/4"	4	#7	20	H3	Coarse	3	25CDTB
1/4"	4	#3	28	H3	Fine	3	25FDTB
5/16"	4	F	18	H3	Coarse	3	31CDTB
5/16"	4	I	24	H3	Fine	3	31FDTB
3/8"	4	5/16"	16	H3	Coarse	3	37CDTB
3/8"	4	Q	24	H3	Fine	3	37FDTB
7/16"	4	U	14	H3	Coarse	3	43CDTB
7/16"	4	W	20	H3	Fine	3	43FDTB
1/2"	4	27/64"	13	H3	Coarse	3	50CDTB
1/2"	4	29/64"	20	H3	Fine	3	50FDTB
9/16"	4	31/64"	12	H3	Coarse	1	56CDTB
9/16"	4	33/64"	18	H3	Fine	1	56FDTB
5/8"	4	37/64"	11	H3	Fine	1	62CDTB
5/8"	4	37/64"	18	H3	Fine	1	62FDTB
3/4"	4	21/32"	10	H3	Coarse	1	75CDTB
3/4"	4	11/16"	16	H3	Fine	1	75FDTB
7/8"	4	49/64"	9	H4	Coarse	1	87CDTB
7/8"	4	13/16"	14	H4	Fine	1	87FDTB
1"	4	7/8"	8	H4	Coarse	1	100CDTB
1"	4	15/16"	14	H4	Fine*	1	100FDTB
1-1/8"	4	63/64"	7	H4	Coarse	1	112CDTB
1-1/8"	4	1-3/64"	12	H4	Fine	1	112FDTB
1-1/4"	4	1-7/64"	7	H4	Coarse	1	125CDTB
1-1/4"	4	1-11/64"	12	H4	Fine	1	125FDTB
1-3/8"	4	1-7/32"	6	H4	Coarse	1	137CDTB
1-1/2"	4	1-11/32"	6	H4	Coarse	1	150CDTB
1-1/2"	4	1-27/64"	12	H4	Fine	1	150FDTB



BOTTOM STYLE TAPS

Bottom taps have a 1 to 1-1/2 thread chamfer and are used to make threads close to the bottom of a blind tapped hole. They are the final tap used to finish a hole after the initial threading work has been done using a Taper and/or Plug tap. Bottom taps should not be used to start holes due to high turning resistance and the likelihood of tap breakage.



See PAGE 16 for more Tapping Tips



SPIRAL POINT HSS TAPS

- High Speed Steel
- Plug Chamfer with Straight Flutes
- Bright Surface Finish
- For Machine Tapping operations
- Spiral Point ejects metal chips
- Designed for Through-Hole Tapping

DIA	# OF FLUTES	TAP DRILL SIZE	TPI	H LIMIT	THREAD TYPE	PKG QTY	SKU
#2	2	#50	56	H2	Coarse	3	2CDTG
#3	2	5/64"	48	H2	Coarse	3	3CDTG
#3	2	#45	56	H2	Fine	3	3FDTG
#4	2	#43	40	H2	Coarse	3	4CDTG
#4	2	#42	48	H2	Fine	3	4FDTG
#5	2	#39	40	H2	Coarse	3	5CDTG
#6	2	#36	32	H3	Coarse	3	6CDTG
#6	2	#33	40	H2	Fine	3	6FDTG
#8	2	#29	32	H3	Coarse	3	8CDTG
#8	2	#29	36	H2	Fine	3	8FDTG
#10	2	#25	24	H3	Coarse	3	10CDTG
#10	2	#21	32	H3	Fine	3	10FDTG
#12	2	#17	24	H3	Coarse	3	12CDTG
#12	2	#15	28	H3	Fine	3	12FDTG
1/4"	2	#7	20	H3	Coarse	3	25CDTG
1/4"	2	#3	28	H3	Fine	3	25FDTG
5/16"	2	F	18	H3	Coarse	3	31CDTG
5/16"	2	I	24	H3	Fine	3	31FDTG
3/8"	3	5/16"	16	H3	Coarse	3	37CDTG
3/8"	3	Q	24	H3	Fine	3	37FDTG
7/16"	3	U	14	H3	Coarse	3	43CDTG
7/16"	3	W	20	H3	Fine	3	43FDTG
1/2"	3	27/64"	13	H3	Coarse	3	50CDTG
1/2"	3	29/64"	20	H3	Fine	3	50FDTG
9/16"	3	31/64"	12	H3	Coarse	1	56CDTG
5/8"	3	17/32"	11	H3	Coarse	1	62CDTG
5/8"	3	37/64"	18	H3	Fine	1	62FDTG
3/4"	3	21/32"	10	H3	Coarse	1	75CDTG



SPIRAL POINT TAPS

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

See **PAGE 16** for more Tapping Tips

THREAD REPAIR HEX DIE

- High Carbon Steel
- Hex shape for use with wrench
- For restoring damaged threads



DIA	TPI	THREAD TYPE	WIDTH ACROSS FLATS	SKU
#4	40	Coarse	1"	4CDDH
#5	40	Coarse	1"	5CDDH
#6	32	Coarse	1"	6CDDH
#8	32	Coarse	1"	8CDDH
#10	24	Coarse	1"	10CDDH
#10	32	Fine	1"	10FDDH
#12	24	Coarse	1"	12CDDH
1/4"	20	Coarse	1"	25CDDH
1/4"	28	Fine	1"	25FDDH
5/16"	18	Coarse	1"	31CDDH
5/16"	24	Fine	1"	31FDDH
3/8"	16	Coarse	1"	37CDDH
3/8"	24	Fine	1"	37FDDH
7/16"	14	Coarse	1"	43CDDH
7/16"	20	Fine	1"	43FDDH
1/2"	13	Coarse	1"	50CDDH
1/2"	20	Fine	1"	50FDDH
9/16"	12	Coarse	1-7/16"	56CDDH
9/16"	18	Fine	1-7/16"	56FDDH
5/8"	11	Coarse	1-7/16"	62CDDH
5/8"	18	Fine	1-7/16"	62FDDH
3/4"	10	Coarse	1-7/16"	75CDDH
3/4"	16	Fine	1-7/16"	75FDDH
7/8"	9	Coarse	1-5/8"	87CDDH
7/8"	14	Fine	1-5/8"	87FDDH
1"	8	Coarse	1-13/16"	100CDDH
1"	14	Fine	1-13/16"	100FDDH
1-1/8"	7	Coarse	2"	112CDDH
1-1/8"	12	Fine	2"	112FDDH
1-1/4"	7	Coarse	2-3/16"	125CDDH
1-1/4"	12	Fine	2-3/16"	125FDDH
1-3/8"	6	Coarse	2-3/8"	137CDDH
1-1/2"	6	Coarse	2-9/16"	150CDDH
1-1/2"	12	Fine	2-9/16"	150FDDH
2"	4.5	Coarse	3-1/2"	200CDDH

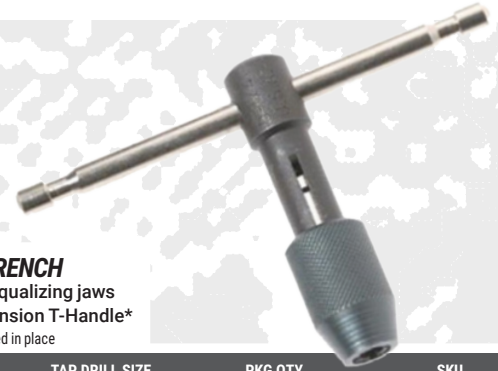


HEAVY DUTY ADJUSTABLE DIE STOCK

3-jaw self centering adjustable guides to assure straight threads and easy starting.

- Fits 1-7/16" W.A.F.Hex Dies
- Fits 1-1/2" Dia. Round Dies

1-7/16" 143NDDS



T-STYLE TAP WRENCH

- Hardened self-equalizing jaws
- Sliding spring tension T-Handle*

* 1NDTH T-handles are fixed in place

SIZE	TAP DRILL SIZE	PKG QTY	SKU
#1	#0 - #6		1NDTH
#2	0 - 1/4		2NDTH
#3	3/16 - 1/2		3NDTH



TAP & REAMER WRENCH 1/4"-3/4"

- Pro quality heat treated jaws
- Turning jaw adjustment handles

SIZE	TAP DRILL SIZE	PKG QTY	SKU
1/4" - 3/4"	1/4" - 3/4"		4NDTH



NPT TAPERED PIPE TAP

- High Carbon Steel
- American Standard Taper Pipe Thread
- Taper Ratio = 3/4" per foot

DIA	# OF FLUTES	TAP DRILL SIZE	TPI	THREAD TYPE	SKU
1/16"	4	D	27	Pipe	6KDPT
1/8"	4	11/32"	27	Pipe	12KDPT
1/4"	4	7/16"	18	Pipe	25KDPT
3/8"	4	37/64"	18	Pipe	37KDPT
1/2"	4	23/32"	14	Pipe	50KDPT
3/4"	5	59/64"	14	Pipe	75KDPT
1"	5	1-5/32"	11-1/2	Pipe	100KDPT
1-1/4"	5	1-1/2"	11-1/2	Pipe	125KDPT
1-1/2"	7	1-47/64"	11-1/2	Pipe	150KDPT
2"	7	2-7/32"	11-1/2	Pipe	200KDPT

NPT or "National Pipe Thread" is shorthand for the American National Standard Pipe Thread. NPT threads are for general use and usually need a sealing agent applied during assembly to ensure non-leakage.



METRIC SUPER PREMIUM DRILL BITS

- Great for Hard Metals & Stainless
- 135° Split Point / NAS 907B Spec
- Black and Gold Finish
- Highest Quality Ultra-Bor Series

DIA	OAL	FLUTE LENGTH	PKG QTY	SKU
1mm	41mm (1-5/8")	17mm (1-5/8")	10	.1DDMJ
1.5mm	48mm (1-7/8")	22mm (7/8")	10	.15DDMJ
2mm	51mm (2")	25mm (1")	10	.2DDMJ
2.05mm	54mm (2-1/8")	29mm (1-5/32")	10	.205DDMJ
2.1mm	54mm (2-1/8")	29mm (1-5/32")	10	.21DDMJ
2.5mm	60mm (2-23/64")	35mm (1-3/8")	10	.25DDMJ
2.9mm	70mm (2-3/4")	41mm (1-5/8")	10	.29DDMJ
3mm	70mm (2-3/4")	41mm (1-5/8")	10	.3DDMJ
3.3mm	73mm (2-7/8")	45mm (1-3/4")	10	.33DDMJ
3.5mm	73mm (2-7/8")	45mm (1-3/4")	10	.35DDMJ
4mm	83mm (3-1/4")	54mm (2-1/8")	10	.4DDMJ
4.2mm	83mm (3-1/4")	54mm (2-1/8")	10	.42DDMJ
4.5mm	86mm (3-3/8")	56mm (2-13/64")	10	.45DDMJ
5mm	92mm (3-5/8")	62mm (2-7/16")	10	.5DDMJ
5.5mm	95mm (3-3/4")	64mm (2-1/2")	10	.55DDMJ
6mm	102mm (4")	70mm (2-3/4")	10	.6DDMJ
6.5mm	105mm (4-1/8")	73mm (2-7/8")	10	.65DDMJ
6.6mm	105mm (4-1/8")	73mm (2-7/8")	10	.66DDMJ
7mm	105mm (4-1/8")	73mm (2-7/8")	10	.7DDMJ
8mm	114mm (4-1/2")	81mm (3-3/16")	5	.8DDMJ
8.5mm	121mm (4-3/4")	87mm (3-27/64")	5	.85DDMJ
9mm	124mm (4-7/8")	89mm (3-1/2")	5	.9DDMJ
9.5mm	127mm (5")	92mm (3-5/8")	5	.95DDMJ
10.5mm	133mm (5-15/64")	98mm (3-7/8")	5	.105DDMJ
10mm	130mm (5-1/8")	95mm (3-3/4")	5	.10DDMJ
11mm	140mm (5-1/2")	103mm (4-1/16")	5	.11DDMJ
12mm	149mm (5-7/8")	111mm (4-3/8")	5	.12DDMJ
13mm	152mm (6")	114mm (4-1/2")	5	.13DDMJ



METRIC TAPER STYLE HAND TAPS - STRAIGHT FLUTE

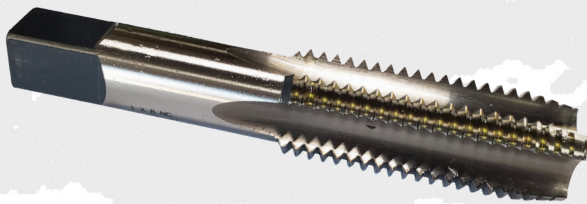
- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- Taper Style for Easy Threading
- First 8 to 10 threads are chamfered

DIA	# OF FLUTES	TAP DRILL SIZE	THREAD PITCH	PD LIMIT	THREAD TYPE	PKG QTY	SKU
M3	3	2.5mm	0.50	D3	Coarse	3	.3CDTT
M4.5	4	3.75mm	0.75	D4	Coarse	3	.45CDTT
M4	4	3.75mm	0.70	D4	Coarse	3	.4CDTT
M5	4	4.2mm	0.80	D4	Coarse	3	.5CDTT
M6	4	5mm	1.00	D5	Coarse	3	.6CDTT
M7	4	6mm	1.00	D5	Coarse	3	.7CDTT
M8	4	17/64"	1.25	D5	Coarse	3	.8CDTT
M8	4	7mm	1.00	D5	Fine	3	.8FDTT
M10	4	11/32"	1.50	D6	Coarse	3	.10CDTT
M10	4	8.75mm	1.25	D5	Fine	3	.10MDTT
M12	4	27/64"	1.75	D6	Coarse	3	.12CDTT
M12	4	10.5mm	1.25	D5	Fine	3	.12FDTT
M14	4	15/32"	2.00	D7	Coarse	1	.14CDTT
M16	4	14mm	2.00	D7	Coarse	1	.16CDTT
M16	4	14.5mm	1.50	D6	Fine	1	.16FDTT
M18	4	39/64"	2.50	D7	Coarse	1	.18CDTT
M18	4	21/32"	1.50	D6	Fine	1	.18FDTT
M20	4	18.5mm	1.50	D6	Fine	1	.20FDTT
M24	4	21mm	3.00	D8	Coarse	1	.24CDTT
M27	4	24mm	3.00	D8	Coarse	1	.27CDTT
M30	4	26.5mm	3.50	D9	Coarse	1	.30CDTT

TAPPING TIPS

1. Clean holes prior to tapping. Avoid tap binding and breakage by using forced air or flush the holes with fluid to remove chips and debris.
2. For full thread engagement in a blind hole drill slightly deeper for clearance. A rule of thumb is to drill an additional depth equal to or slightly greater than the length of the chamfered threads at the end of the tap. Consult manufacturer for specific recommendations.
3. Chamfer hole edges prior to tapping. Chamfering eases tap starting, helps keep the tap straight and reduces breakage. A simple metal countersink held in a drill works nicely for this. See page 10 for K.L.Jack's countersinking bits for metal.
4. Listed tap drill sizes are for reference only. Hard metals or deep hole tapping may require a larger pilot hole to ease the work while retaining an acceptable percentage of thread engagement.
5. When cutting threads the use of an appropriate lubricant is critical to tapping successfully.





METRIC PLUG STYLE HAND TAPS - STRAIGHT FLUTE

- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- Plug Style for general use
- First 3 to 5 threads are chamfered

BOTTOM STYLE HAND TAPS - STRAIGHT FLUTE

- High Speed Steel
- Bright Surface Finish
- For Hand or Machine Tapping
- 1 or 2 threads are chamfered
- Use as secondary tap to run existing threads to bottom of hole

DIA	# OF FLUTES	TAP DRILL SIZE	THREAD PITCH	PD LIMIT	THREAD TYPE	PKG QTY	SKU
M2	3	1.6mm	0.40	D3	Coarse	3	.2CDTP
M3	3	2.5mm	0.50	D3	Coarse	3	.3CDTP
M4.5	4	3.75mm	0.75	D4	Coarse	3	.45CDTP
M4	4	1/8"	0.70	D4	Coarse	3	.4CDTP
M5	4	4.2mm	0.80	D4	Coarse	3	.5CDTP
M6	4	5mm	1.00	D5	Coarse	3	.6CDTP
M7	4	6mm	1.00	D5	Coarse	3	.7CDTP
M8	4	17/64"	1.25	D5	Coarse	3	.8CDTP
M8	4	7mm	1.00	D5	Fine	3	.8FDTP
M10	4	11/32"	1.50	D6	Coarse	3	.10CDTP
M10	4	23/64"	1.00	D5	Fine	3	.10FDTP
M12	4	27/64"	1.75	D6	Coarse	3	.12CDTP
M12	4	10.5mm	1.25	D5	Fine	3	.12FDTP
M14	4	15/32"	2.00	D7	Coarse	1	.14CDTP
M14	4	1/2"	1.50	D6	Fine	1	.14FDTP
M16	4	14mm	2.00	D7	Coarse	1	.16CDTP
M16	4	37/64"	1.50	D6	Fine	1	.16FDTP
M18	4	39/64"	2.50	D7	Coarse	1	.18CDTP
M20	4	17.5mm	2.50	D7	Coarse	1	.20CDTP
M20	4	19mm	1.00	D7	Fine	1	.20XDTP
M24	4	53/64"	3.00	D8	Coarse	1	.24CDTP
M24	4	22mm	2.00	D7	Fine	1	.24FDTP
M30	4	26.5mm	3.50	D9	Coarse	1	.30CDTP

DIA	# OF FLUTES	TAP DRILL SIZE	THREAD PITCH	PD LIMIT	THREAD TYPE	PKG QTY	SKU
M4	4	1/8"	0.70	D4	Coarse	3	.4CDTB
M5	4	4.2mm	0.80	D4	Coarse	3	.5CDTB
M6	4	5mm	1.00	D5	Coarse	3	.6CDTB
M7	4	6mm	1.00	D5	Coarse	3	.7CDTB
M8	4	17/64"	1.25	D5	Coarse	3	.8CDTB
M8	4	7mm	1.00	D5	Fine	3	.8FDTB
M10	4	11/32"	1.50	D6	Coarse	3	.10CDTB
M10	4	8.7mm	1.25	D5	Medium	3	.10MDTB
M12	4	27/64"	1.75	D6	Coarse	3	.12CDTB
M12	4	10.5mm	1.25	D5	Fine	3	.12FDTB
M12	4	10.7mm	1.50	D6	Medium	3	.12MDTB
M14	4	15/32"	2.00	D7	Coarse	1	.14CDTB
M16	4	14mm	2.00	D7	Coarse	1	.16CDTB
M16	4	14.5mm	1.50	D6	Fine	1	.16FDTB
M18	4	39/64"	2.50	D7	Coarse	1	.18CDTB
M18	4	21/32"	1.50	D6	Fine	1	.18FDTB
M20	4	17.5mm	2.50	D7	Coarse	1	.20CDTB
M22	4	49/64"	2.50	D7	Coarse	1	.22CDTB
M24	4	53/64"	3.00	D8	Coarse	1	.24CDTB
M30	4	26.5mm	3.50	D9	Coarse	1	.30CDTB

METRIC THREAD REPAIR HEX DIE

- High Carbon Steel
- Hex shape for use with wrench
- For restoring damaged threads



See PAGE 19 for our Tap & Die Sets

DIA	THREAD PITCH	THREAD TYPE	WIDTH ACROSS FLATS	SKU	DIA	THREAD PITCH	THREAD TYPE	WIDTH ACROSS FLATS	SKU
M6	1.0	Coarse	1"	.6CDDH	M14	2.0	Coarse	1-7/16"	.14CDDH
M7	1.0	Coarse	1"	.7CDDH	M16	2.0	Coarse	1-7/16"	.16CDDH
M8	1.25	Coarse	1"	.8CDDH	M16	1.5	Fine	1-7/16"	.16FDDH
M8	1.0	Fine	11/16"	.8FDDH	M20	2.5	Coarse	1-7/16"	.20CDDH
M10	1.5	Coarse	1"	.10CDDH	M20	1.5	Fine	1-7/16"	.20FDDH
M10	1.0	Fine	1"	.10FDDH	M24	3.0	Coarse	1-13/16"	.24CDDH
M12	1.75	Coarse	1"	.12CDDH	M24	2.0	Fine	1-13/16"	.24FDDH
M12	1.25	Fine	1"	.12FDDH					



SILVER & DEMING BIT SET 4 PIECE

- 135° Split Point
- 1/2" Reduced Shank
- Includes: 9/16", 5/8", 3/4" & 1"
- 4 piece SD4SP



SILVER & DEMING DRILL SET 8 PIECE

- 135° Split Point
- 1/2" Reduced Shank
- Includes: 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16" & 1"
- 8 piece SD8SP



ULTRA-BOR 1/16"-1/4" BIT SET 13 PIECE

- 135° Split Point
- x 64th Increments
- 13 piece SP13



ULTRA-BOR 1/16"-3/8" BIT SET 21 PIECE

- 135° Split Point
- x 64th Increments
- Includes: 1/16" to 3/8" x 64ths
- 21 piece SP21

DRILLING STAINLESS?

See PAGE 21 for Tips on Drilling Stainless Steel like a Pro



METRIC ULTRA-BOR BIT SET 25 PIECE

- 135° Split Point
- Black & Gold
- Includes: 1.0mm to 13.0mm by .5mm Increments
- 25 piece SP25M



A-Z LETTER BIT SET 26 PIECE

- 135° Split Point
- Black & Gold
- Includes: A - Z Sizing
- 26 piece SP26



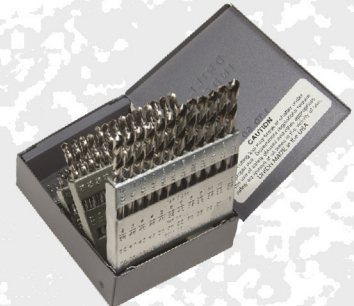
ULTRA-BOR 1/16"-1/2" BIT SET 29 PIECE

- 135° Split Point
- x 64th Increments
- Includes: 1/16" to 1/2" by 64ths
- 29 piece SP29



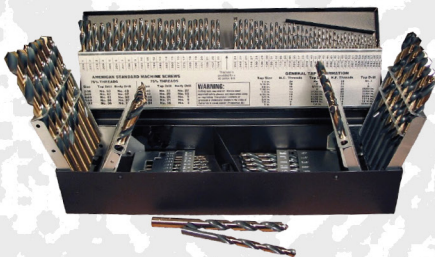
COBALT 1/16"-1/2" BIT SET 29 PIECE

- (*Not for use in Hand-Held Tools)
- 135° Split Point
- x 64th Increments
- Includes: 1/16" to 1/2" by 64ths
- 29 piece SP29C



#1 - #60 NUMBER BIT SET 60 PIECE

- 135° Split Point
- Black & Gold
- 60 piece SP60



ULTRA-BOR FULL RANGE BIT SET 115 PIECE

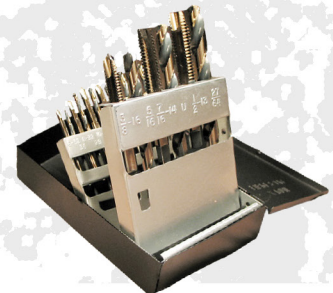
- 135° Split Point
- Black & Gold
- Includes Fractional, Number and Letter Bits
- Includes: 1/16-1/2", A-Z, #1-60
- 115 piece SP115



BEST SELLER

BULLY BIT 1/16"-1/2" BIT SET 29 PIECE

- 135° Split Point
- 3-Flats on Shank
- Hi-Impact Polymer Case
- Includes: 1/16" to 1/2" by 64ths
- 29 piece 46962



TAP/DRILL SET UNC THREAD 18 PIECE

- Includes Taps and Pilot Drills
- Black & Gold Finish
- Spiral Point Taps with Plug Chamfer
- 135° Split Point Drill Bits
- Includes: 36, 29, 25, 21, 7, F, 5/16, U & 27/64 + 6-32, 8-32, 10-24, 10-32, 1/4-20 7/5/16-18, 3/8-16, 7/16-14 & 1/2-13
- 18 piece 57580



LEFT-HAND TWIST BIT SET 12 PIECE

- 135° Split Point
 - Black & Gold
 - Ideal for Removing Broken Studs
- Includes: 1/16 - 5/16" by 32nds, 3/8", 7/16" & 1/2"
12 piece 87651



CARBIDE BURR SET 8 PIECE

- Includes: SA1, SA3, SC1, SC3, SD1, SD3, SF1, SF3 Burrs and Wood Case
8 piece CBS8



HI-CARBON UNC TAP & DIE SETS 16 PIECE

- Includes: Hi-Carbon steel plug taps and hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
Includes: T-Handle Tap Wrench: 0 to 1/4
16 Pieces 50100



STEP DRILL BIT SET 4 PIECE

- Gold surface treated
 - 3-Flats on shank
- Includes: 1/8 - 1/2", 1/4 - 3/4", 1/4 - 7/8", 7/8 - 1-1/8"
4 piece 00781



SR-3G STEP REAMER SET 3 PIECE

- Enlarge, Ream & Start Holes
 - For metal to 1/2" thick
 - 3/8" Shank with 3-Flats
 - Gold Oxide Finish
- Includes: 3 reamers for holes 5/16" to 1-1/16"
3 piece 83750



HI-CARBON STEEL METRIC - WITH HEX DIE SET 16 PIECE

- Includes: 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 1.50, 12mm x 1.50
Includes: T-Handle Tap Wrench: 3/16 to 1/2
16 Pieces 50140



LEFT HAND DRILL & SCREW EXTRACTOR SET 10 PIECE

- Includes: EX1, EX2, EX3, EX4, EX5 & 3/32", 1/8", 3/16", 1/4", 5/16" drills
10 piece 58510



CARBIDE TIP GLASS & TILE BIT SET 4 PIECE

- Includes: 1/8", 3/16", 1/4", 5/16"
4 piece 56580



HI-CARBON MASTER METRIC TAP & DIE SETS 37 PIECE

- Includes: 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
Includes: T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2
37 Pieces 50150



EMPTY 29 PIECE METAL BIT INDEX

- Fits 1/16" to 1/2" Drills in 1/64" Increments
- Metal 43810



EMPTY 29 PIECE HI-IMPACT POLYMER BIT INDEX

- Fits 1/16" to 1/2" Drills in 1/64" Increments
 - Water resistant O-Ring sealed cap
- Plastic 56240



HI-CARBON UNC/UNF TAP & DIE SET 40 PIECE

- Includes: 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
Includes: T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
Includes: Tap & Reamer Wrench: 0 to 1/2
Includes: Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
40 Pieces 50130



- FEIN**
A ANNULAR CUTTERS WITH PILOT PIN
- Stocked in 1" & 2" Cutting Depths
 - Standard 3/4" Weldon Shank
 - Durable High Grade Tool Steel
 - Pilot Pin included with Cutter

DIA	CUT DEPTH	SKU
7/16"	1"	CC437
1/2"	1"	CC500
9/16"	1"	CC562
5/8"	1"	CC625
11/16"	1"	CC687
3/4"	1"	CC750
13/16"	1"	CC812
7/8"	1"	CC875
15/16"	1"	CC937
1"	1"	CC100
1-1/16"	1"	CC106
1-1/8"	1"	CC112
1-3/16"	1"	CC118
1-1/4"	1"	CC125
1-5/16"	1"	CC131
1-3/8"	1"	CC137
1-7/16"	1"	CC143
1-1/2"	1"	CC150
1-9/16"	1"	CC156
1-5/8"	1"	CC162
1-11/16"	1"	CC168
1-3/4"	1"	CC175
1-7/8"	1"	CC187
1-15/16"	1"	CC193
2"	1"	CC200

DIA	CUT DEPTH	SKU
7/16"	2"	CC437L
1/2"	2"	CC500L
9/16"	2"	CC562L
5/8"	2"	CC625L
11/16"	2"	CC687L
3/4"	2"	CC750L
13/16"	2"	CC812L
7/8"	2"	CC875L
15/16"	2"	CC937L
1"	2"	CC100L
1-1/16"	2"	CC106L
1-1/8"	2"	CC112L
1-3/16"	2"	CC118L
1-1/4"	2"	CC125L
1-5/16"	2"	CC131L
1-3/8"	2"	CC137L
1-7/16"	2"	CC143L
1-1/2"	2"	CC150L
1-9/16"	2"	CC156L
1-5/8"	2"	CC162L
1-11/16"	2"	CC168L
1-3/4"	2"	CC175L
1-7/8"	2"	CC187L
1-15/16"	2"	CC193L
2"	2"	CC200L
2-1/4"	2"	CC225L

- FEIN**
B USA101 MAGNETIC BASE DRILL WITH CASE
- Drills to 1-1/2" x 2" deep using HSS Cutters
 - 1/2" Chuck Adapter available
- Includes: 4 Pilot Pins, Coolant Tank, Safety Strap, Chip Hook, Allen Key, Touch Guard, Carrying Handle & Case
 USA101

- FEIN • SLUGGER**
C 6-PIECE 1" DEPTH ANNULAR CUTTER SET
- 7/16" to 1-1/16" Diameter
 - 3/4" Weldon shank
- Includes: 7/16", 9/16", 11/16", 13/16", 15/16", 1-1/16" and 2 centering pins.
 6 piece 63134999087

- SLUGGER**
D 82° COUNTERSINK FOR MAG DRILL
- 3/4" Weldon Shank
- 1" JST100082
 1-1/2" JST150082

- SLUGGER**
E CUTTING FLUID
- Biodegradable and yields a 10:1 ratio when mixed with water
 - Fluid can improve surface finish and reduce heat build up when drilling
- 1 qt CUTTER
 1 gal CUTTERGAL

- SLUGGER**
F CUTTING PASTE FOR ANNULAR CUTTER
- Great for vertical or upside down applications
- 10 oz EDGECREAM

The JCM200U Reversible Mag Drill can perform tapping operations from 1/4" thru 1/2" diameter when used with Fein's Tapping Collet System.



FEIN
G JCM200U VARIABLE SPEED MAGNETIC BASE DRILL WITH REVERSE

- Cutter Quick-Change System
- 2-Speed Gearbox with Reverse.
- Drills to 1-5/8" x 2" deep using HSS Cutters
- Powerful Magnet and Motor

Includes: Coolant Tank, Safety Strap, Chip Hook, Pilot Pin 4-1/8", Ship Guard, Drift & Case

JCM200U

FEIN
H TAPPING COLLET HOLDER WITH 3/4" WELDON SHANK

Only usable on magnetic core drills with reverse rotation. Fits standard ANSI or DIN style taps in size range from 1/4" (M6) - 3/4" (M20) in combination with the matching diameter Tapping Collet.

- Fits Size #2 Fein Tapping Collets for JCM200U Mag Drill

92602089010

FEIN
I #2 TAPPING COLLET

- Tapping Collet to fit ANSI Taps

THROUGH HOLE	FITS ANSI TAP	SKU
1/4"	1/4"	69908107001
5/16"	5/16"	69908107014
3/8"	3/8"	69908107002
7/16"	7/16"	69908107003
1/2"	1/2"	69908107004

*cutter shown but not included

? SHOP TIP

HOW TO DRILL STAINLESS STEEL ... FOLLOW THE "SLOW SPEED, HARD FEED" RULE

Stainless steel has a reputation for being a difficult material that requires the use of Cobalt drill bits or specialty tooling to be cut or drilled successfully. By following a few simple rules, stainless steel can be worked with a quality HSS Drill bit, using either a hand-held drill motor or a drill press.

Contrary to popular belief, stainless does not have a high surface hardness in its normal state. The problems experienced drilling stainless are due to its tendency to "work-harden" when exposed to the extreme frictional heat caused by the drill bit tip turning on the surface of the stainless steel. Improper drilling methods will cause stainless steel to work harden, creating a material that may be nearly as hard as the drill itself and turning a simple task into an impossible one. To avoid work hardening and to successfully drill stainless steel, while preserving your drill bits and tools, follow this simple rule: **Slow speed, hard feed**, and...use plenty of cutting fluid too.

HOW TO DRILL STAINLESS STEEL LIKE A PRO

- 1.) Start with a sharp, good quality HSS drill bit and have it turning as slowly (lowest RPM's) as your hand-held drill or stationary drill press will allow. This is the "slow speed" part of the rule for drilling stainless steel.
- 2.) Now, the "hard feed" rule must be followed! Exert a lot of pressure on the drill bit, as much as you think it can safely take without breaking. An indication that you are drilling stainless correctly using the **slow speed, hard feed** rule will be that a continuous spiral of material is coming off the drill bit while drilling. That spiral of debris tells you that you are consistently cutting and removing the stainless and applying enough feed pressure to avoid work hardening the material. The "slow speed" reduces heat buildup and the "hard feed" ensures you are consistently cutting and removing fresh material with every revolution of the bit.
- 3.) Don't start yet though!...The importance of using a cutting fluid or cutting oil cannot be overstated. Cutting lubricant cools both the drill bit and the stainless. It also reduces cutting friction to extend tool life. When drilling by hand, without the benefit of an automated coolant system, the best practice is to stop drilling in intervals and apply more fluid to the bit and to the work surface. A true cutting fluid is always preferred, but any available lubricant or oil is much better than using nothing at all.

SAFETY FIRST

Always wear ANSI/CSA approved protective eyewear when using any tool. The high feed pressure needed to successfully drill stainless can lead to bit breakage/snapping, particularly on small diameter bits. Consider using a shorter than standard drill bit to reduce the possibility of breakage due to high feed pressure. Our Ultra-Bor Screw Machine (Stubby) Bits are a good choice. And finally, always secure the work surface. Smaller parts can spin violently as the drill tip begins to cut through the last bit of metal at the bottom of the hole. To avoid possible injury always clamp or restrain the item being drilled.

ALWAYS

USE A LUBRICANT WHEN CUTTING METAL

DRILL AND TAP LIKE A PRO. USE CUTTING LUBE - SAVE TIME, TOOLS AND MONEY



RELTON
A RAPID TAP CUTTING FLUID

- Semi-Synthetic blend extends tool life
- Helps achieve a fine machine finish
- Excels in tough materials
- Contains anti-mist protection
- Contains no 1, 1, 1 - trichlorethane

1 gallon	RAPIDTAPG
1 pint	RAPIDTAPP
4 oz	RAPIDTAP4

RELTON
B PIPE THREAD CUTTING OIL 1 GALLON

- Ready to cut clean, smooth threads on all pipe materials
- Extreme-pressure additive for anti-weld characteristics
- Excellent protection of tools and machined parts against corrosion
- Contains anti-mist protection

Light	TCO-16
Dark	TCO-14

RELTON
C OPTION 1 METAL-CUTTING FLUID

- Leaves no oily residue
- Water-based and Biodegradable
- Contains no 1, 1, 1 - trichloroethane
- Cleans up with dry cloth or water

1 pint	OPTION1
1 gallon	OPTION1-GAL

CRC
D TRUETAP HEAVY DUTY CUTTING FLUID

- Heavy-duty cutting fluid for tough jobs
- Thick consistency, clings to cutting tool
- For stainless steel and exotic metals
- Convenient squirt bottle

16 oz	CRC03400
-------------	----------

CRC
E CUTTING OIL

- Non-drying aerosol-Petroleum base
- Safe for use with acrylic plastics
- Working temperature: 300°-350° F
- Convenient spray can

net wgt 12 fl oz	CRC14050
------------------------	----------

LENOX
F LUBE TUBE WAX STICK LUBRICANT

- Prevents the build-up of frictional heat
- Improves overall tool life and productivity when sawing, drilling, milling, grinding, threading and tapping.)

14.5 oz	68020
---------------	-------

LENOX
G PROTOOL LUBE SQUIRT BOTTLE

- Synthetic blend extends tool life
- Reduces heat and friction
- Water-soluble, biodegradable, non-toxic
- Convenient squirt bottle

6 oz	PROLUBE
------------	---------

DRILL SIZE DECIMAL EQUIVALENT CHART

DRILL SIZE	DECIMAL	DRILL SIZE	DECIMAL	DRILL SIZE	DECIMAL	DRILL SIZE	DECIMAL	DRILL SIZE	DECIMAL	DRILL SIZE	DECIMAL
00.10	0.0039	1.05	0.0413	36	0.1065	5.1	0.2008	8	0.3150	17/32	0.5312
97	0.0059	58	0.0420	7/64	0.1094	7	0.2010	o	0.3160	13.5	0.5315
96	0.0063	57	0.0430	35	0.1100	13/64	0.2031	8.1	0.3189	35/64	0.5469
95	0.0067	1.1	0.0433	2.8	0.1102	6	0.2040	8.2	0.3228	14	0.5512
94	0.0071	1.15	0.0453	34	0.1110	5.2	0.2047	p	0.3230	9/16	0.5625
93	0.0075	56	0.0465	33	0.10	5	0.2055	8.3	0.3268	14.5	0.5709
92	0.0079	3/64	0.0469	2.9	0.1142	5.3	0.2087	21/64	0.3281	37/64	0.5781
00.20	0.0079	1.2	0.0472	32	0.1160	4	0.2090	8.4	0.3307	15	0.5906
91	0.0083	1.25	0.0492	3	0.1181	5.4	0.2126	q	0.3320	19/32	0.5938
90	0.0087	1.3	0.0512	31	0.1200	3	0.2130	8.5	0.3346	39/64	0.6094
89	0.0091	55	0.0520	3.1	0.1220	5.5	0.2165	8.6	0.3386	15.5	0.6102
88	0.0095	1.35	0.0531	1/8	0.1250	7/32	0.2188	r	0.3390	5/8	0.6250
87	0.0100	54	0.0550	3.2	0.1260	5.6	0.2205	8.7	0.3425	16	0.6299
86	0.0105	1.4	0.0551	30	0.1285	2	0.2210	11/32	0.3438	41/64	0.6406
85	0.0110	1.45	0.0571	3.3	0.1299	5.7	0.2244	8.8	0.3465	16.5	0.6496
84	0.0115	1.5	0.0591	3.4	0.1339	1	0.2280	s	0.3480	21/32	0.6562
0.3	0.0118	53	0.0595	29	0.1360	5.8	0.2283	8.9	0.3504	17	0.6693
83	0.0120	1.55	0.0610	3.5	0.1378	5.9	0.2323	9	0.3543	43/64	0.6719
82	0.0125	1/16	0.0625	28	0.1405	A	0.2340	t	0.3580	11/16	0.6875
81	0.0130	1.6	0.0630	9/64	0.1406	15/64	0.2344	9.1	0.3583	17.5	0.6890
80	0.0135	52	0.0635	3.6	0.1417	6	0.2362	23/64	0.3594	45/64	0.7031
00.35	0.0138	1.65	0.0650	27	0.1440	B	0.2380	9.2	0.3622	18	0.7087
79	0.0145	1.7	0.0669	3.7	0.1457	6.1	0.2402	9.3	0.3661	23/32	0.7188
1/64	0.0156	51	0.0670	26	0.1470	c	0.2420	u	0.3680	18.5	0.7283
0.4	0.0157	1.75	0.0689	25	0.1495	6.2	0.2441	9.4	0.3701	47/64	0.7344
78	0.0160	50	0.0700	3.8	0.1496	d	0.2460	9.5	0.3740	19	0.7480
0.45	0.0177	1.8	0.0709	24	0.1520	6.3	0.2480	3/8	0.3750	3/4	0.7500
77	0.0180	0.85	0.0728	3.9	0.1535	1/4	0.2500	v	0.3770	49/64	0.7656
0.5	0.0197	49	0.0730	23	0.1540	e	0.2500	9.6	0.3780	19.5	0.7677
76	0.0200	1.9	0.0748	5/32	0.1562	6.4	0.2520	9.7	0.3819	25/32	0.7812
75	0.0210	48	0.0760	22	0.1570	6.5	0.2559	9.8	0.3858	20	0.7874
0.55	0.0217	1.95	0.0768	4	0.1575	f	0.2570	w	0.3860	51/64	0.7969
74	0.0225	5/64	0.0781	21	0.1590	6.6	0.2598	9.9	0.3898	20.5	0.8071
0.6	0.0236	47	0.0785	20	0.1610	g	0.2610	25/64	0.3906	13/16	0.8125
73	0.0240	2	0.0787	4.1	0.1614	6.7	0.2638	10	0.3937	21	0.8268
72	0.0250	2.05	0.0807	4.2	0.1654	17/64	0.2656	x	0.3970	53/64	0.8281
0.65	0.0256	46	0.0810	19	0.1660	h	0.2660	10.2	0.4016	27/32	0.8438
71	0.0260	45	0.0820	4.3	0.1693	6.8	0.2677	y	0.4040	21.5	0.8465
0.7	0.0276	2.1	0.0827	18	0.1695	6.9	0.2717	10.3	0.4055	55/64	0.8594
70	0.0280	2.15	0.0846	11/64	0.1719	i	0.2720	13/32	0.4062	22	0.8661
69	0.0292	44	0.0860	17	0.1730	7	0.2756	z	0.4130	7/8	0.8750
0.75	0.0295	2.2	0.0866	4.4	0.1732	j	0.2770	10.5	0.4134	22.5	0.8858
68	0.0310	2.25	0.0886	16	0.1770	7.1	0.2795	27/64	0.4219	57/64	0.8906
1/32	0.0312	43	0.0890	4.5	0.1772	k	0.2810	10.8	0.4252	23	0.9055
0.8	0.0315	2.3	0.0906	15	0.1800	9/32	0.2812	11	0.4331	29/32	0.9062
67	0.0320	2.35	0.0925	4.6	0.1811	7.2	0.2835	7/16	0.4375	59/64	0.9219
66	0.0330	42	0.0935	14	0.1820	7.3	0.2874	11.2	0.4409	23.5	0.9252
0.85	0.0335	3/32	0.0938	13	0.1850	l	0.2900	11.5	0.4528	15/16	0.9375
65	0.0350	2.4	0.0945	4.7	0.1850	7.4	0.2913	29/64	0.4531	24	0.9449
0.9	0.0354	41	0.0960	3/16	0.1875	m	0.2950	11.8	0.4646	61/64	0.9531
64	0.0360	2.45	0.0965	12	0.1890	7.5	0.2953	15/32	0.4688	24.5	0.9646
63	0.0370	40	0.0980	4.8	0.1890	19/64	0.2969	12	0.4724	31/32	0.9688
0.95	0.0374	2.5	0.0984	11	0.1910	7.6	0.2992	12.2	0.4803	25	0.9843
62	0.0380	39	0.0995	4.9	0.1929	n	0.3020	31/64	0.4844	63/64	0.9844
61	0.0390	38	0.1015	10	0.1935	7.7	0.3031	12.5	0.4921	1	1.0000
1	0.0394	2.6	0.1024	9	0.1960	7.8	0.3071	1/2	0.5000		
60	0.0400	37	0.1040	5	0.1969	7.9	0.3110	13	0.5118		
59	0.0410	2.7	0.1063	8	0.1990	5/16	0.3125	33/64	0.5156		



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DRILL BIT SIZES
 1/32 27/64 7/16 29/64 15/32 31/64 1/2
 .406 .437 .469 .500
 CAUTION
 Any cutting tool may be dangerous if used improperly.