

## TAP-DRILL SELECTOR

Drill sizes listed are based on 75% of full thread depth. If necessary, use the next larger drill bit size

### SAE SIZES

Tap Size	Drill size	Tap Size	Drill size
4-40 NC	.....#43	5/16-24 NF	..... 9/32 in.
6-32 NC	.....#36	3/8-16 NC	..... 5/16 in.
8-32 NC	..... 9/64 in.	3/8-24 NF	..... 21/64 in.
10-24 NC	..... 5/32 in.	7/16-14 NC	..... 3/8 in.
10-32 NF	..... 11/64 in.	7/16-20 NF	..... 25/64 in.
12-24 NC	..... 3/16 in.	1/2-13 NC	..... 27/64 in.
1/4-20 NC	..... 13/64 in.	1/2-20 NF	..... 29/64 in.
1/4-28 NF	..... 7/32 in.	1/8-27 NPT	..... 21/64 in.
5/16-18 NC	..... 17/64 in.		

### METRIC SIZES

Tap Size	Drill size	Tap Size	Drill size
M3 x 0.5	..... 2.5 mm	M7 x 1.00	..... 6 mm
M3 x 0.6	..... 2.4 mm	M8 x 1.00	..... 7 mm
M4 x 0.7	..... 3.3 mm	M8 x 1.25	..... 6.8 mm
M4 x 0.75	..... 3.25 mm	M10 x 1.25	..... 8.8 mm
M5 x 0.8	..... 4.2 mm	M10 x 1.50	..... 8.6 mm
M5 x 0.9	..... 4.1 mm	M12 x 1.5	..... 10.5 mm
M6 x 0.75	..... 5.2 mm	M12 x 1.75	..... 10.2 mm
M6 x 1.00	..... 5 mm	1/8 NPT	..... 8.2 mm
M7 x 0.75	..... 6.2 mm		

NC = National Coarse  
 NF = National Fine  
 NPT = National Pipe Thread

See reverse side of card  
 for tap and die  
 instructions

**PFI**  
 Performance Tool

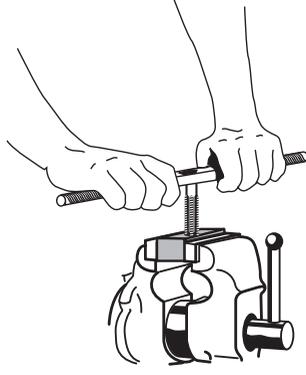


Wear safety glasses  
 when using tools

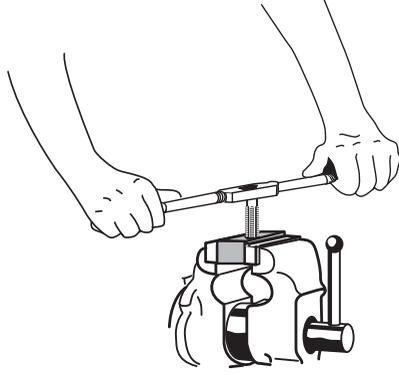
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## STARTING A TAP

After hole has been drilled, hold workpiece securely with hole upright. Apply cutting oil. Place tap in hole while holding adjustable tap wrench with both hands near tap as shown in illustration. (If smaller T-tap wrench is used, hold with hand directly over tap.) To start tap, make sure tap is square with the surface of the workpiece and press down while slowly turning clockwise. Occasionally turn counter-clockwise slightly to break chip and relieve resistance.



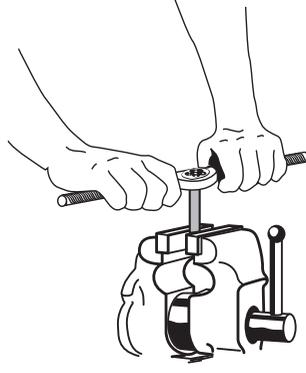
After the thread has properly started, the tap will draw itself into the workpiece. It is not necessary to continue downward pressure. Move hands to ends of wrench handle and continue turning tap. Occasionally turn counter-clockwise slightly to break chip and relieve resistance. Do not force tap. Continue until the desired depth is achieved.



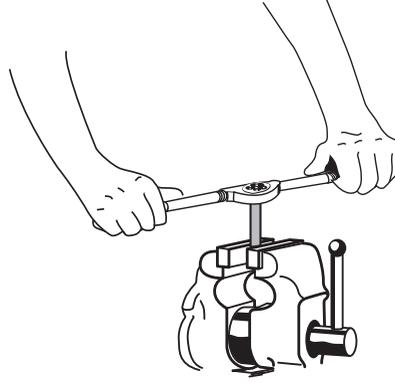
## TAP AND DIE INSTRUCTIONS

### STARTING A DIE

Make a small bevel on the edge to be threaded before starting. Insert the die into the die stock with the size markings visible. Tighten the set screw to secure die into die stock. Apply cutting oil. Hold stock with both hands near die as shown in illustration. Place tapered side of die over end to be threaded. Make sure die goes on squarely. While slowly turning clockwise apply firm pressure downward similar to using a tap.



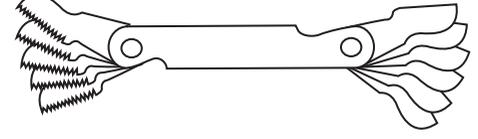
After the thread has properly started, the die will draw itself into the workpiece. It is not necessary to continue downward pressure. Move hands to ends of stock handle and continue turning. Occasionally turn counter-clockwise slightly to break chip and relieve resistance. Do not force die.



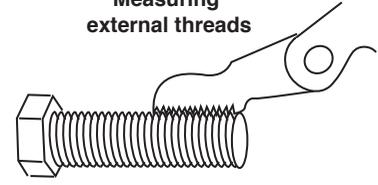
See reverse side of card for  
 tap-drill selector

### MEASURING THREADS

The fastest and most accurate way to find the number of threads per inch on a nut or bolt is with a screw pitch gauge. How to find the "pitch" of external and internal threads is shown below.



Measuring  
 external threads



Measuring  
 internal threads

