

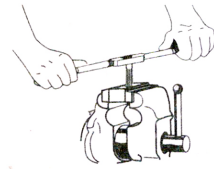
TAP AND DIE SET MANUAL

TOPEX

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STARTING A TAP

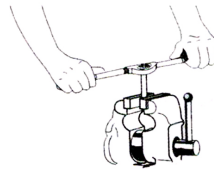
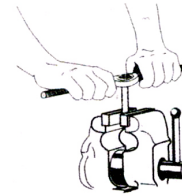
After the hole has been drilled, hold workpiece securely with hole upright. Apply cutting oil. Place tap in hole while holding adjustable tap wrench with both hands near tap as shown in illustration. (If smaller T-tap wrench is used, hold with hand directly over tap). To start tap, make sure tap is square 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 the tap. Continue until the desired depth is achieved.

STARTING A DIE

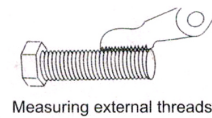
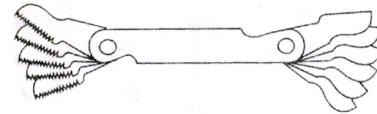
Make a small bevel on the edge to be threaded before starting. Insert the die into the die stock with the size markings visible. Tighten the set screw to secure die into die stock. Apply cutting oil. Hold stock with both hands near die as shown in illustration. Place tapered side of die over end to be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

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

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

METRIC SIZE

Tap Size	Tap Size	Tap Size	Tap Size
M3 X 0.5	2.5mm	M7 X 1.00	6mm
M3 X 0.6	2.4mm	M8 X 1.00	7mm
M4 X 0.7	3.3mm	M8 X 1.25	6.8mm
M4 X 0.75	3.25mm	M10 X 1.25	8.8mm
M5 X 0.8	4.2mm	M10 X 1.5	8.6mm
M5 X 0.9	4.1mm	M12 X 1.5	10.5mm
M6 X 0.75	5.2mm	M12 X 1.75	10.2mm
M6 X 1.00	5mm	1/8 - 27 NPT	8.2mm
M7 X 0.75	6.2mm		

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