

User manual for Threading and Tapping



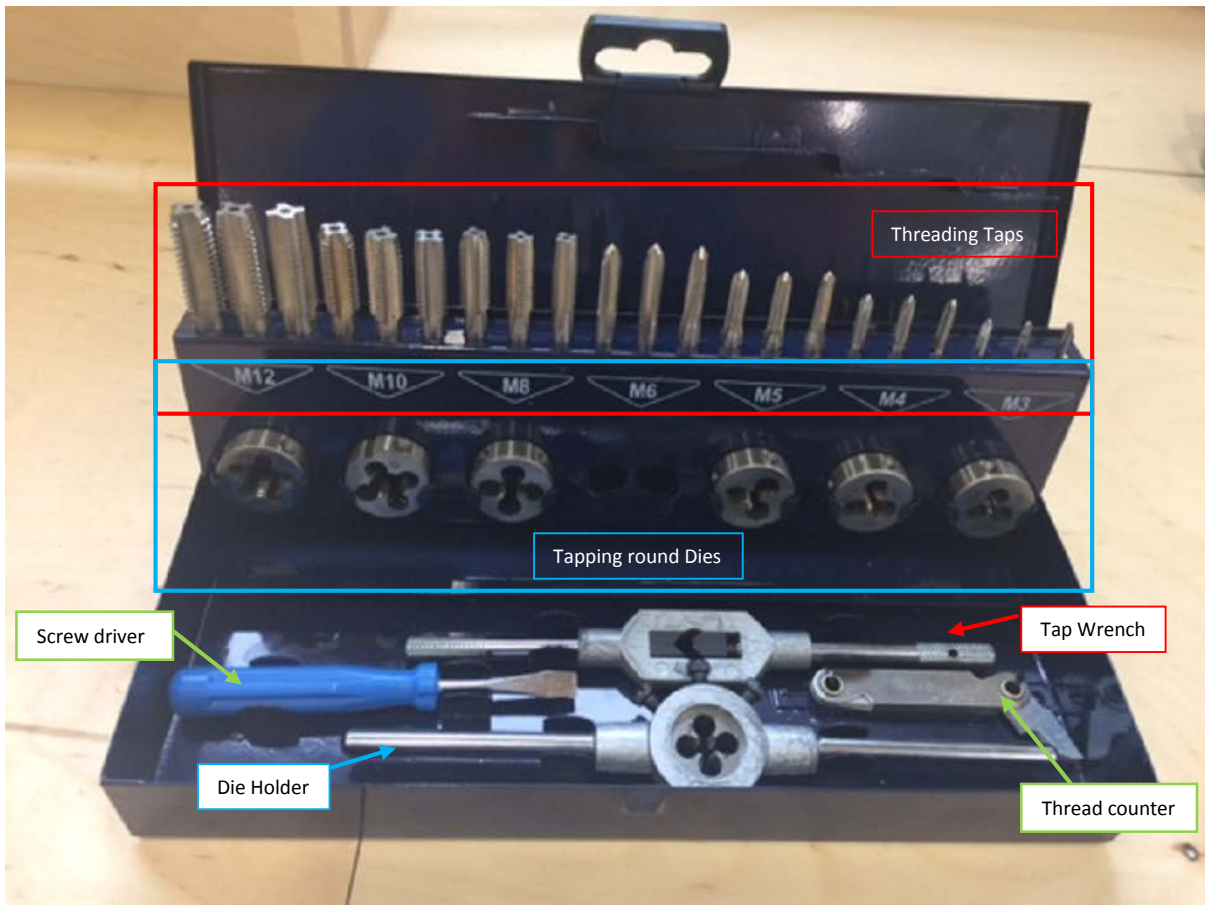
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Tap and Die user manual

1.0 Tools Familiarisation



1.1 Threading

Three thread taps are provided for each measurement from M3 to M12 to work your way through each of the taps to create a clean thread



Start with the thread with the single line and once through move to the double line followed by the tap with no line indication.

The Tap wrench ensures the tap is secure and maximum pressure can be applied whilst still keeping the tap wrench level

1.2 Tapping



The die fits in the centre of the Die holder using the screws on the 4 radial sides and the last screw to fit into the slot to be the top of the die to ensure the die is the correct way up and position. Once secured the die holder can then be used to ensure the tap is level/square and the thread is even on all sides of the rod.

2.0 Creating a threaded hole by using a tap



1. Turn the handle of the wrench to widen the jaws, fit the threading tap with with **single groove** to start.
2. Use a centre punch mark to centre the drill point.
3. Drill a hole smaller than the measure needed for the tap

BOLT	PITCH (MM)	DRILL SIZE (MM)
M4	0.70	3.3
M5	0.80	4.2
M6	1.00	5.0
M8	1.25	6.8
M10	1.50	8.5
M12	1.75	10.2

(for further detail **please see Appendix A**)

4. Put some Rocol cutting compound on the end of the tap.
5. Holding the level and square to the material turn the tap wrench until the first cut into the material has been made.
6. Once a grip on the material has been made turn **half a turn into the material and then a quarter turn back** this will ensure that the tap doesn't get clogged with the offcuts of material and a better thread is created.
7. Keep turning until all the way through the material and most of the way through the thread, there should be no resistance once the cut has been made the full distance through the material when turning in or out using the tap wrench.

8. Once through the material using this tap repeat the process using the tap with 2 grooves and then finally again using the tap with no grooves.
9. Check the threading using the appropriate sized bolt.

NOTE: Ensure that equal pressure is applied to the wrench or the thread will be angled.



3.0 Creating the thread



1. Fit the die with the sizing information on the die facing up and the top screw fitting into the slot, making sure all the screws are loose to allow the die to sit flush.



2. Tighten up the screw on the die holder to keep the die in place, ensure all the screws fit in the indences in the die.
3. Put some Rocol cutting greese on the end of the rod to be threaded,

4. Place the rod in a vice square and tighten, use a set square to ensure the rod is square in the vice.
5. Place the die on top of the rod and turn to create the first cut.

NOTE: Ensure that equal pressure is applied to the die or the thread will be angled or wonky

6. Once a grip on the material has been made turn **half a turn into the material and then a quarter turn back** this will ensure that the die doesn't get clogged with the offcuts of material and a better thread is created.
7. Keep turning until the depth of thread is achieved, there should be no resistance once the cut has been made level and square to the rod
8. Check the threading using the appropriate sized nut.

Appendix A- Table of other thread sizes

Course Thread Sizes		Fine Thread sizes	
Thread Size	Tap Drill (mm)	Thread Size	Tap Drill (mm)
M1 x 0.25	0.75	M4 x 0.35	3.6
M1.1 x 0.25	0.85	M4 x 0.5	3.5
M1.2 x 0.25	0.95	M5 x 0.5	4.5
M1.4 x 0.3	1.1	M6 x .5	5.5
M1.6 x 0.35	1.25	M6 x .75	5.25
M1.8 x 0.35	1.45	M7 x .75	6.25
M2 x 0.4	1.6	M8 x .5	7
M2.2 x 0.45	1.75	M8 x .75	7.25
M2.5 x 0.45	2.05	M8 x 1	7.5
M3 x 0.5	2.5	M9 x 1	8
M3.5 x 0.6	2.9	M10 x 0.75	9.25
M4 x 0.7	3.3	M10 x 1	9
M4.5 x 0.75	3.7	M10 x 1.25	8.8
M5 x 0.8	4.2	M11 x 1	10
M6 x 1	5	M12 x .75	11.25
M7 x 1	6	M12 x 1	11
M8 x 1.25	6.8	M12 x 1.5	10.5
M9 x 1.25	7.8	M14 x 1	13
M10 x 1.5	8.5	M14 x 1.25	12.8
M11 x 1.5	9.5	M14 x 1.5	12.5
M12 x 1.75	10.2	M16 x 1	15
M14 x 2	12	M16 x 1.5	15
M16 x 2	14	M18 x 1	17
M18 x 2.5	15.5	M18 x 2	16
M20 x 2.5	17.5	M20 x 1	19
M22 x 2.5	19.5	M20 x 1.5	18.5
M24 x 3	21	M20 x 2	18
M27 x 3	24	M22 x 1	21
M30 x 3.5	26.5	M22 x 1.5	20.5
M33 x 3.5	29.5	M22 x 2	20
M36 x 4	32	M24 x 1.5	22.5
M39 x 4	35	M24 x 2	22
M42 x 4.5	37.5	M26 x 1.5	24.5
M45 x 4.5	40.5	M27 x 1.5	25.5
M48 x 5	43	M27 x 2	25
M52 x 5	47	M28 x 1.5	26.5
M56 x 5.5	50.5	M30 x 1.5	28.5
M60 x 5.5	54.5	M30 x 2	28
M64 x 6	58	M33 x 2	31
M68 x 6	62	M36 x 3	33

NOTES