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# LASER<sup>®</sup>

## Tap and Die Set with Ratchet 20pc

Instructions



### Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear and tear are excluded as are consumable items and abuse.



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CONNECTION**  
The Complete Connection

Distributed by The Tool Connection Ltd

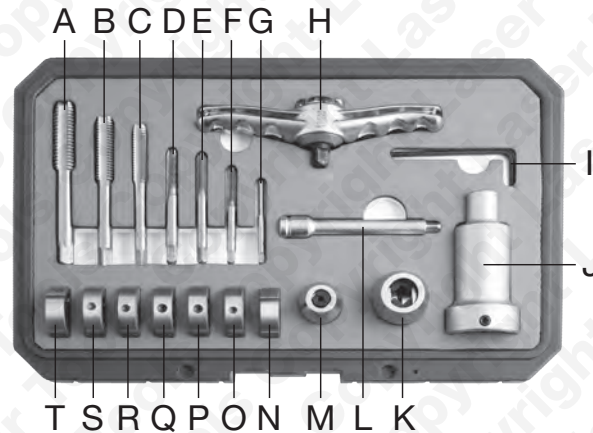
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## Tap and Die Set with Ratchet 20pc

A comprehensive tap and die set complete with essential accessories for completing the job



Components: (Refer to diagram)			Spare Part No. (Replacement parts are available)
A	Taps	M12 (1.75)	(Spare Part No. 0078)
B		M10 (1.50)	(Spare Part No. 0077)
C		M8 (1.25)	(Spare Part No. 0076)
D		M6 (1.00)	(Spare Part No. 0075)
E		M5 (0.80)	(Spare Part No. 0074)
F		M4 (0.70)	(Spare Part No. 0073)
G		M3 (0.50)	(Spare Part No. 0072)
H	Dies	Quick-Release Ratchet T-handle	(Spare Part No. 0086)
I		Hex Key 2.5mm	
J		Die Chuck (25mm die)	
K		Tap Chuck (M5-M12)	(Spare Part No. 0104)
L		Extension Bar 75mm (3")	
M		Tap Chuck (M3-M8)	(Spare Part No. 0103)
N		M3 (0.50)	(Spare Part No. 0079)
O		M4 (0.70)	(Spare Part No. 0080)
P		M5 (0.80)	(Spare Part No. 0081)
Q		M6 (1.00)	(Spare Part No. 0082)
R		M8 (1.25)	(Spare Part No. 0083)
S		M10 (1.50)	(Spare Part No. 0084)
T		M12 (1.75)	(Spare Part No. 0085)

Due to the nature of the task and tools, the seven taps are regarded as consumable and not therefore covered by the Tool Connection guarantee. (Replacement parts are available.)



**Safety First. Be Protected.**

## Instructions

### A) Cutting internal threads:

- First, drill a correctly sized hole using a tapping drill. Refer to table below:

Recommended Tap Drill Sizes:		
	Pitch (mm)	Tapping Drill Ø (mm)
M3	0.50	2.50
M4	0.70	3.30
M5	0.80	4.20
M6	1.00	5.00
M8	1.25	6.80
M10	1.50	8.50
M12	1.75	10.20

- Make sure the drilled hole is clean, free from swarf and burrs.
- Fit the desired size of tap to the tap chuck (two sizes supplied) and tighten the chuck securely. Apply lubricant to the tip of the tap.
- Fit the tap chuck to the ratchet T-handle (use extension bar if necessary).
- Place tap in hole, apply steady pressure and turn clockwise to start cutting. Make sure that the tap is kept square during the cutting operation.
- Continue to turn for approximately half a turn or until slightly more resistance is felt. Then turn back approximately a quarter turn anticlockwise until a slight click or 'give' is felt. This is the removed metal from the clockwise twist being broken off.
- Continue with this cutting procedure (half turn clockwise, quarter turn back) until the desired length of internal thread has been cut. Then carefully turn anticlockwise to remove tap.
- Clean out the tapped hole and ensure that no swarf remains. Then carefully clean the tap before returning it to the case.

### Precautions:

- Use of worn out drills give a smaller hole which increases the torque required for tapping which can result in breakage of the tap.
- Keep the tap well lubricated throughout the cutting operation.
- If cutting a long internal thread, periodically withdraw the tap and clean away the swarf from both the tap and the hole. Then continue with the cutting operation.
- If cutting a thread in a blind hole, take care not to jam the tap in the bottom of the hole as this can result in breakage of the tap.

### B) Cutting external threads:

- Chamfer the end of the workpiece to be threaded and apply lubricant.
- Ideally, the diameter of the workpiece should be 0.025mm to 0.125mm undersize of the die.
- Insert the correct sized die into the die chuck ensuring that the chamfered threads side is facing out (size of die is stamped on chamfered threads side). Line up the depression in the side of the die with one of the four grub screws in the chuck, then secure the die by tightening the grub screws with the supplied 2.5 hex key.
- Commence the threading operation by rotating the die clockwise on the workpiece. Make sure the die is kept square to the workpiece throughout the cutting operation.
- Continue to turn for approximately half a turn, then turn back approximately a quarter turn anticlockwise to release the cut metal into the holes in the die. Continue with the cutting operation, turning the die anticlockwise a quarter turn after every half turn clockwise, until the desired length of thread has been cut.
- Finish off by thoroughly cleaning the newly cut thread and clean the die before returning it to the case.

### Precautions:

- Make sure that a suitable lubricant is applied regularly.
- Make sure the die is presented to the workpiece squarely.