



INSTRUCTIONS FOR:

# TAP & DIE SET 45pc METRIC

MODEL NO: **AK303.V2**

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions and maintained properly, give you years of trouble free performance.

**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instruction manual



Wear eye protection

## 1. SAFETY

- WARNING!** Ensure Health & Safety, local authority, and general workshop practice regulations are adhered to when using this equipment.
- WARNING!** Wear approved safety eye protection when using this set. (standard spectacles are not adequate protection).
- DO NOT** hold the workpiece by hand. Use clamps or a vice to secure the workpiece.
- DO NOT** use the tool for any purpose other than that for which it is designed.
- ✓ Replace or repair damaged parts. Use genuine parts only. Unauthorised parts may be dangerous and will invalidate the warranty.
- ✓ Remove ill fitting clothing and wear appropriate protective clothing. Remove ties, loose jewellery, and contain and/or tie back long hair.
- ✓ Keep work area clean and uncluttered and ensure that there is adequate lighting.
- ✓ Maintain correct balance and footing. Ensure the floor is not slippery and wear non-slip shoes.
- DO NOT** use tool when tired or under the influence of alcohol, drugs or intoxicating medication.
- ✓ Keep children and unauthorised persons away from the working area.
- ✓ Keep cutting tools lubricated at all times to ensure extended tool life, and also cleaner, more accurately formed threads.
- ✓ When not in use, return all parts to the case, and store in a safe, dry, childproof location.

## 2. INTRODUCTION

Precision machined, alloy steel taps and dies. Dies are split to facilitate the fine adjustment of core diameter. Set includes Imperial coarse and fine sizes together with sliding jaw type tap wrench and T-Bar type tap wrench together with steel die holder with knurled screws. Supplied in heavy duty carry case.

**Tap Drills & Screw Thread Chart - preferred thread.**

Nominal Ø of threads in mm.	Pitch (P) in mm.	Tapping Drill Ø in mm.	Nominal Ø of threads in mm.	Pitch (P) in mm.	Tapping Drill Ø in mm.
M6	0.75	5.20	M16	1.50	14.50
M6	1.00	5.00	M16	2.00	14.00
M8	1.00	7.00	M18	1.50	16.50
M8	1.25	6.80	M18	2.50	15.50
M10	1.25	8.80	M20	1.50	18.50
M10	1.50	8.50	M20	2.50	17.50
M12	1.50	10.50	M22	1.50	20.50
M12	1.75	10.20	M22	2.50	19.50
M14	1.50	12.50	M24	1.50	22.50
M14	2.00	12.00	M24	3.00	21.00



## 3. OPERATION

### 3.1. CUTTING INTERNAL THREADS

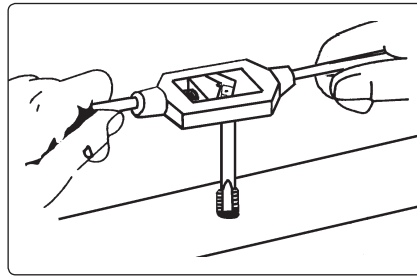
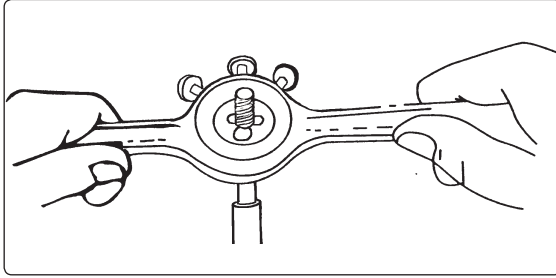
- 3.1.1. To cut an internal thread **through** a solid piece of material, Drill a correctly sized hole using a tapping drill - refer to the chart above
- 3.1.2. Ensure that the drilled hole is free from burrs and clear of swarf, apply a smear of suitable lubricant.
- 3.1.3. Select a tap of the correct size and required thread. Secure it in the tap wrench. Apply a smear of lubricant to the tip of the tap.
- 3.1.4. Place the tap in the hole and grasp the tap wrench with both hands. Apply even pressure and turn the tap clockwise until it begins to bite. Ensure that the tap is kept square to the workpiece at all times.
- 3.1.5. Continue to turn the wrench until more resistance is felt (usually about 1/2 a turn) then give it a 1/4 turn anti-clockwise until a slight click is felt. This is the swarf from the clockwise twist being broken off.
- 3.1.6. Continue to repeat this action until the tap has run almost its complete length (ensure that a suitable lubricant is applied regularly).  
To cut a thread in a **blind** hole, use the same instructions as above but take care not to jam the tap in the bottom of the hole.

### 3.2. CUTTING EXTERNAL THREADS

- 3.2.1. Bevel the end of the workpiece to be threaded in order to make starting easier, and apply smear of lubricant to it.  
**Note:** the width of the workpiece should ideally be 0.125mm to 0.025mm undersize of the die.
- 3.2.2. Select a die of the correct size and required thread, and apply a smear of lubricant in it.
- 3.2.3. Insert the die into the die stock, placing the chamfered threads side opposite to the lip of the die stock, and turn the set screws, fitting them into the recesses on the outside surface of the die. For the smaller dies, use the adaptor to fit them into the die stock.
- 3.2.4. Ensure that the die stock is kept square to the workpiece at all times. Leading with the chamfered side of the die, start the threading operation by rotating the die clockwise on the workpiece until it starts cutting into it.
- 3.2.5. Continue to turn the die, the cut metal will fill the holes in the die and these should be broken off by turning the die a ¼ turn anti-clockwise, every ½ a turn clockwise.
- 3.2.6. Continue to repeat this action until a thread of the desired length has been cut (ensure that a suitable lubricant is applied regularly).

### 3.3. THREAD RENEWAL

- 3.3.1. The taps and dies in this set can also be used for thread renewal to damaged and/or rusty threads. Ensure that the above instructions are followed and that care is taken when starting the re-threading to ensure the original threads are used to avoid cross-threading.



Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to [www.sealey.co.uk](http://www.sealey.co.uk), email [sales@sealey.co.uk](mailto:sales@sealey.co.uk) or telephone 01284 757500

#### ENVIRONMENT PROTECTION



Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

**Note:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

**Important:** No Liability is accepted for incorrect use of this product.

**Warranty:** Guarantee is 12 months from purchase date, proof of which is required for any claim.

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