OMT Orion Motor Tech

M3-M12 Thread Cutter Set

OMT M3-M12 Thread Cutter Set User Manual

Contents

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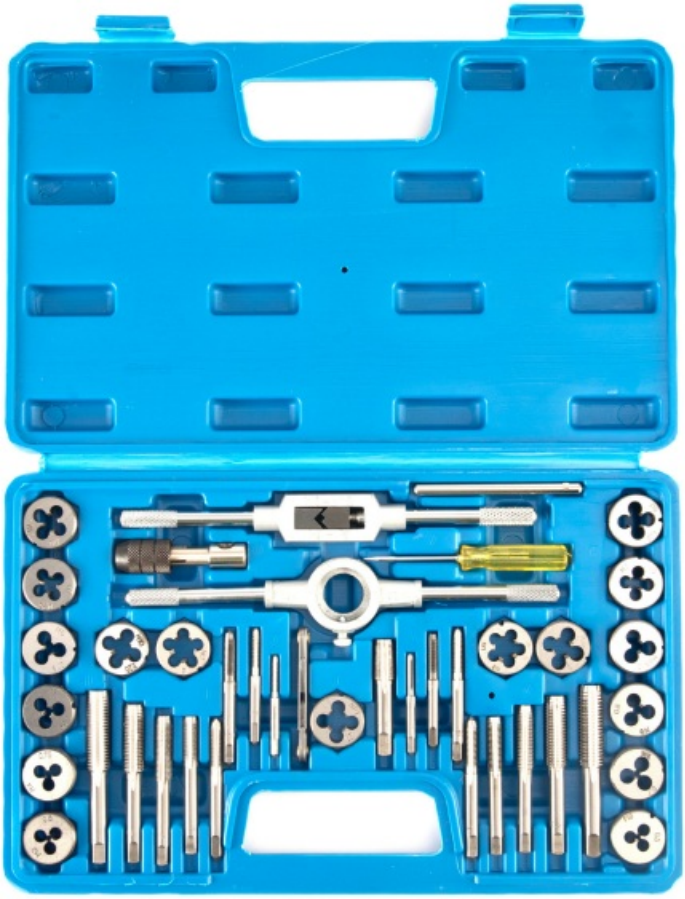


Safety Information

Danger

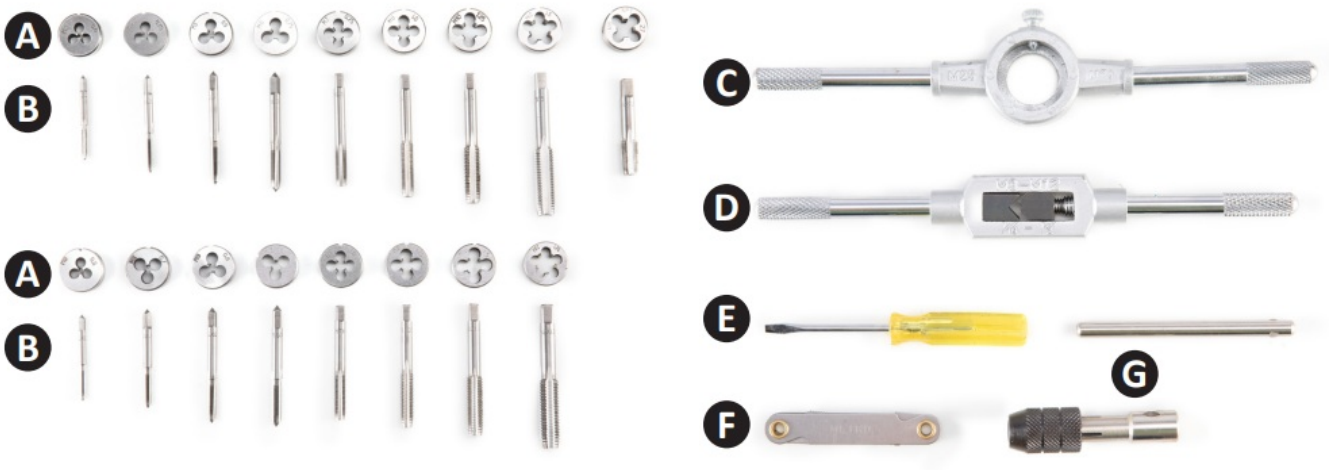
- The instructions provided herein are only for general information. Failure to do so may result in serious property damage and severe personal injury.
- ONLY use this product for its intended purpose, creating internal or external threads.
- Keep the fingers clear of the tool threads while cutting internal threads.
- DO NOT allow use by children, by persons whose mental or physical condition precludes safe use, or by persons unfamiliar with this product. Do not use while under the influence of alcohol, drugs, or any medication that negatively affects your judgment or reflexes. Keep children and bystanders away during use.
- Keep your work site clean and well-lit. Cluttered and dark work areas invite accidents.
- For best results, keep the kit clean and dry. Remove any fluid, oil, or grease before and after work.
- ALWAYS use personal protective equipment (PPE) suitable to your task. Always wear ANSI and OSHA-approved eye, breathing, and hand protection while using this product. Normal use of this product typically produces microscopic particles known to the state of California to cause cancer, birth defects, or other reproductive harm. Nonslip footwear is also highly recommended. Other equipment such as ear, head, and body protection may also be necessary depending on your work, work environment, and other equipment.
- DO NOT wear loose clothing or jewelry and keep hair, clothing, gloves, hoses, and tools away from any moving parts during use.
- ALWAYS know and understand the specific safety warnings and instructions for your material before using this kit. Use the correct fluids, pressures, adapters, etc. for your work.
- DO NOT overreach. Keep proper footing and balance at all times.
- DO NOT use excessive pressure with this product and do not force it or its attachments.

- In case of an accident or injury, have a first aid kit and a communication device (e.g., a phone) readily available. Know the location of emergency medical facilities.
- Use caution and avoid excessive force or improper use of the tool to avoid damage or injury.
- For an abundance of safety, we recommend you take training before using these tools. Serious injury could happen due to a lack of training.
- Inspect before every use. Do not use it if parts are loose or damaged. Do not use cracked or chipped taps or dies.
- Keep the handles clean, dry, and free from oil and grease at all times.
- The flutes on these tools are sharp and can cut you. Handle with care.
- DO NOT use any high-speed means (such as a lathe or drill press) to cut threads with these taps and dies. High-speed use will void the warranty and may overheat the tool, causing loss of heat treatment and premature failure.
- These taps and dies are heat-treated, and not designed to be sharpened. After considerable use and with corrosion buildup these tools may lose their cutting edge.
- Use clamps (sold separately) or other practical means to secure and support your workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
- DO NOT apply excessive force on the cutters. Allow the tool to do the work. Use cutting oil when tapping or threading hard materials.
- Maintain this product. Check for misalignment, binding, wear, or other damage before use. If any damage is detected, repair or replace the problematic components before further use. In a large shop, mark such tools “DO NOT USE” until they have been repaired. Only replace components with identical parts.
- This manual cannot cover all possible situations that may arise, and training, common sense, and care must be supplied by the operator.

Specifications

Material	GCr15 Bearing Steel	
Coarse Thread Sizes (Metric)	M3 × 0.5 mm	M3 × 0.6 mm
	M4 × 0.7 mm	M4 × 0.75 mm
	M5 × 0.8 mm	M5 × 0.9 mm
	M6 × 0.75 mm	M6 × 1.0 mm
	M7 × 0.75 mm	M7 × 1.0 mm
	M8 × 1.0 mm	M8 × 1.25 mm
	M10 × 1.25 mm	M10 × 1.5 mm
	M12 × 1.5 mm	M12 × 1.75 mm
Pipe Thread Size (NPT)	1/8–27	
Long Handle Adjustable Die Wrench	M25	
Adjustable Tap Wrench	M3–12	
T-Handle Tap Wrench	M3–6	

Package List



No.	Name	Qty.
A	Dies	17
B	Taps	17
C	Long Handle Adjustable Die Wrench	1
D	Adjustable Tap Wrench	1
E	Mini ⅛″ Flathead Screwdriver	1
F	Metric Thread Pitch Gauge	1
G	T-Handle Tap Wrench Set	1

Operation

Warning

- Before using taps or dies, test the hardness of the material by attempting to mark the material with a file. If it can be marked, the material should be suitable for cutting with the tool. If it cannot be marked with a file, do not cut threads to avoid damage.
- Use correct tools and personal protective equipment (PPE) before use. Be extremely careful with possible sharp, moving parts, or parts that may suddenly spring out.
- For an abundance of safety, we recommend you take training before using these tools. Serious injury could happen due to a lack of training.

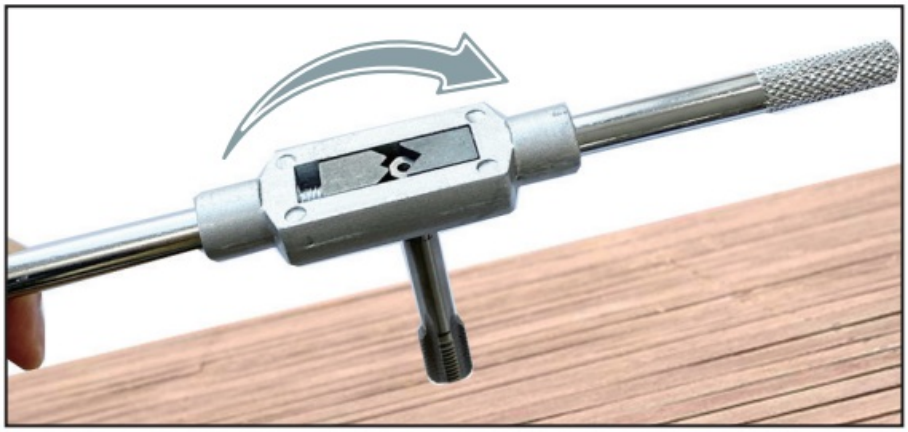
Taps

Taps are used to cut or clean internal threads into a predrilled hole, such as in a nut or component part.

1. Select the right size tap and suitable cutting oil (not included) based on the material to be tapped, the cutting speed, and the cutting tool to be used.
2. Ensure that the predrilled hole is the right size and that the workpiece is securely clamped in place.

Note: An oversized hole will result in shallow threads and poor holding power. An undersized hole may cause the tap to wear prematurely or break. The correct hole size is marked on the shank of each tap.

3. Put the tap into the tap wrench and secure it firmly.
4. Align the tap with the hole to make sure the finished thread will be accurate and centered.
5. Turn the tap clockwise while keeping it aligned with the hole to create threads.

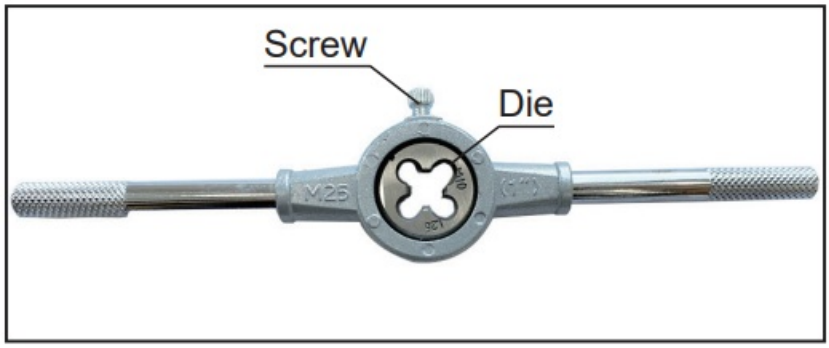


6. After every ¼ to ½ turn, rotate the tap counterclockwise an equal amount to prevent swarf from building up and breaking the tap.
7. Drip a few drops of cutting oil along the tap to make smoother threads and extend the service life of the tool.
8. Keep tapping until the tap goes through the workpiece or you reach the desired thread depth.
9. Remove the tap by threading it out backward and clean any swarf from the hole.

Dies

Dies are used to cut or clean external threads, such as on a screw or threaded rod. It will be easier to start the die correctly if the end of the work material is slightly chamfered with a grinder or file (not included).

1. Use the pitch gauge to select the right size die for the rod to be threaded.
   Note: The die can be no larger than the rod stock and should be .005″ to .010″ smaller. Oversized rod stock may damage the die and will make turning it difficult. Slightly undersized rod stock makes turning the die easier and will result in good threads for most applications.
2. Secure the rod in place ensure that it doesn't move during threading.
3. Put the die into the die wrench and tighten the screw to secure the die in place.



4. Position the chamfered side of the die onto the rod and align it in a straight line with the rod.
5. Turn the die clockwise to begin threading, applying cutting as needed.
6. After every ¼ to ½ turn, reverse the die to clear swarf, depending on the hardness of the material.
7. Use cutting oil while threading to make smoother threads and longer tool life.
8. Turn the die counterclockwise to remove it completely from the rod.

Thread Pitch Gauges

1. Align the gauge with the threaded portion of the fastener.
2. Determine the pitch by finding the matching teeth on the gauge.
3. Read the pitch measurement from the markings aligned with the matching teeth.
4. Check the pitch by testing the gauge on multiple parts of the threaded area for consistency.

Maintenance

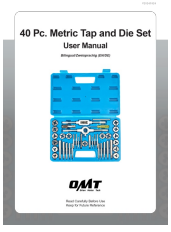
- Clean the tool with a soft damp cloth after use. Do not rinse or use abrasive cleaners or caustic chemicals.
- After each use, clean any swarf off of the dies or taps.
- For best results, lubricate the tool with high-quality anti-corrosive oil between uses.
- Check the parts of the tool periodically for any wear or damage. Repair or replace any problematic parts before further use.
- If the tool will not be used for an extended period of time, clean and lubricate it and store it in a cool dry place inaccessible to children.

Contact Us

Thank you for choosing our products! If you have any questions or comments, contact us at **support@orionmotortech.com** and we'll resolve your issue ASAP!

For a .pdf copy of the latest version of these instructions, use the appropriate app on your smartphone to scan the QR code to the right.

Documents / Resources

	**OMT M3-M12 Thread Cutter Set** [pdf] User Manual V20240326, M3-M12 Thread Cutter Set, M3-M12, Thread Cutter Set, Cutter Set, Set

References

- **User Manual**