

AMTOVL 4PCS Deburring External Chamfer Tool & Countersink Drill Bit Set

AMTOVL 4PCS Deburring External Chamfer Tool & Countersink Drill Bit Set Instruction Manual

Model: 4PCS Deburring External Chamfer Tool & Countersink Drill Bit Set

1. INTRODUCTION

This instruction manual provides essential information for the safe and effective use of your AMTOVL 4-piece Deburring External Chamfer Tool & Countersink Drill Bit Set. This set is designed for deburring, chamfering, and countersinking various metal and wood materials, including stainless steel, hardened steel, copper, brass, aluminum, and wood. Please read this manual thoroughly before operation and retain it for future reference.

2. SAFETY INFORMATION

Always adhere to general workshop safety practices when using these tools. Failure to follow safety guidelines may result in injury or damage to the tools or workpiece.

- **Eye Protection:** Always wear safety glasses or goggles to protect against flying debris.
- **Hand Protection:** Wear appropriate gloves to protect hands from sharp edges and heat.
- **Secure Workpiece:** Ensure the workpiece is firmly clamped in a vise or other securing device to prevent movement during operation.
- **Correct Speed:** Operate the drill at low speeds (0-400 RPM) with light pressure. High speeds can cause overheating, premature wear, and potential tool breakage.
- **Lubrication:** Use lubricating oil, especially when working on hardened steel, to extend blade life and ensure smooth cutting.
- **Tool Condition:** Inspect tools for damage or wear before each use. Do not use damaged tools.
- **Storage:** Store tools in their protective case when not in use to prevent damage and maintain sharpness.

3. PRODUCT OVERVIEW

The AMTOVL 4-piece set includes two external deburring chamfer tools, one countersink drill bit, and a quick-release bit holder.



Figure 3.1: Complete AMTOVL 4-piece Deburring and Countersink Tool Set, showing all components.



Figure 3.2: Labeled components including the M2 External Five-Flute Chamfer Tool, 60mm Quick-Release Bit Holder, and two sizes of external chamfer tools.

Components:

- **Large External Chamfer Tool:** Designed for bolts and rods from 9/16" to 1-3/8" (14-35mm). Features 3 YG8 Tungsten Carbide blades and a 3/8" hex shank.
- **Small External Chamfer Tool:** Designed for bolts and rods from 1/8" to 3/4" (3-19mm). Features 5 YG8 Tungsten Carbide blades and a 1/4" hex shank.
- **Countersink Drill Bit:** M2 HSS 5-blade design for countersinking holes from 1/8" to 5/8" (3-16mm).
- **Quick-Release Bit Holder:** 60mm length for fast and efficient tool changes.

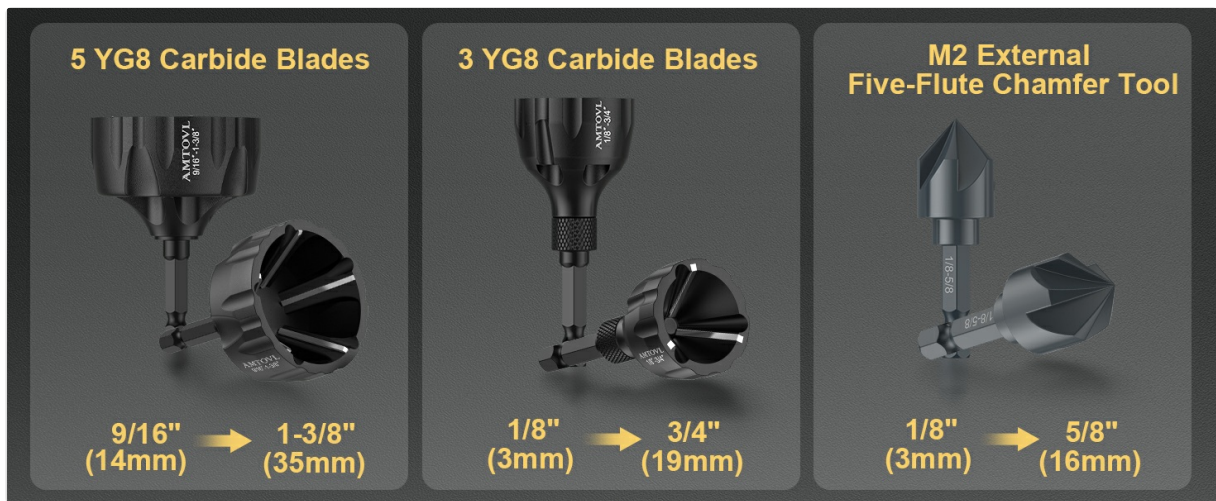


Figure 3.3: Visual comparison of the large external chamfer tool (9/16"-1-3/8"), small external chamfer tool (1/8"-3/4"), and the M2 external five-flute chamfer tool (1/8"-5/8").

4. SETUP

Before operating, ensure your drill is powered off and unplugged (if corded) or has its battery removed (if cordless).

1. **Select the Appropriate Tool:** Choose the external chamfer tool or countersink drill bit suitable for your task and material size.
2. **Attach Quick-Release Holder (Optional):** If using the quick-release bit holder, insert its hex shank into your drill chuck and tighten securely.
3. **Insert Tool:** Insert the hex shank of the selected deburring or countersink tool directly into the drill chuck, or into the quick-release bit holder. Ensure it is fully seated and tightened securely to prevent wobbling during operation.

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Video 4.1: Demonstration of attaching the deburring and chamfering tools to a drill and their application on various materials.

5. OPERATING INSTRUCTIONS

Follow these steps for effective and safe operation:

1. **Secure Workpiece:** Firmly secure the bolt, rod, pipe, or material in a vise or clamp.
2. **Apply Lubrication (if needed):** For hardened steel or to prolong blade life, apply a small amount of lubricating oil to the area to be deburred or chamfered.
3. **Start Drill:** Begin drilling at a low speed (0-400 RPM).
4. **Apply Tool:** Gently bring the deburring or countersink tool into contact with the end of the bolt/rod or the edge of the hole. Apply light, consistent pressure.
5. **Deburr/Chamfer:** Allow the tool to slowly remove material until the desired chamfer or deburred edge is achieved. The 5-blade external chamfer design ensures faster cutting and smooth edges.
6. **Retract Tool:** Once complete, retract the tool from the workpiece before turning off the drill.
7. **Inspect:** Check the finished edge for smoothness and consistency.



Figure 5.1: Images showing the external chamfer tool deburring a bolt and the countersink drill bit creating a chamfered hole in metal.

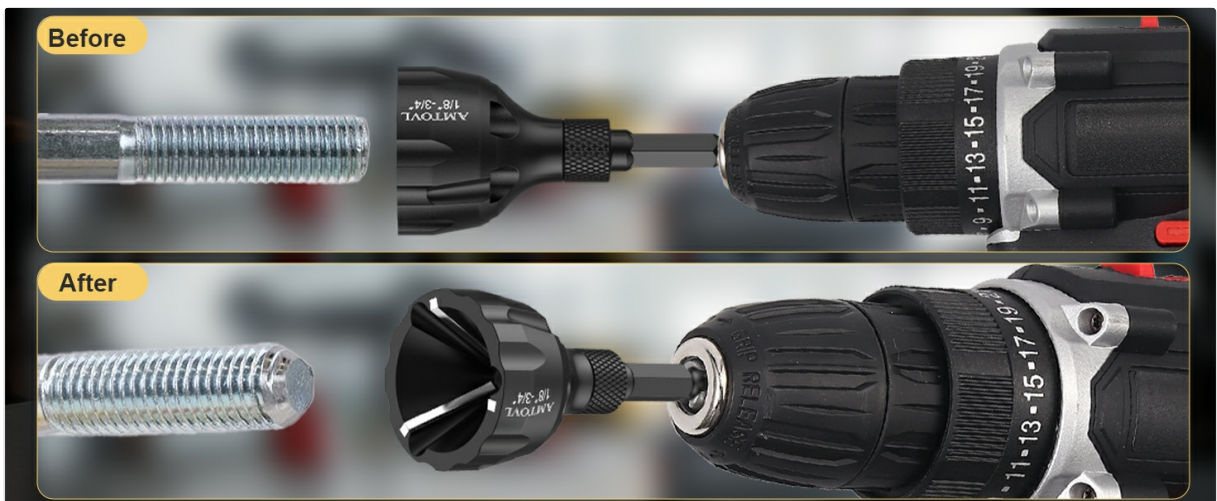


Figure 5.2: A visual comparison demonstrating the effectiveness of the deburring tool on a threaded bolt, showing a clean, chamfered edge after use.

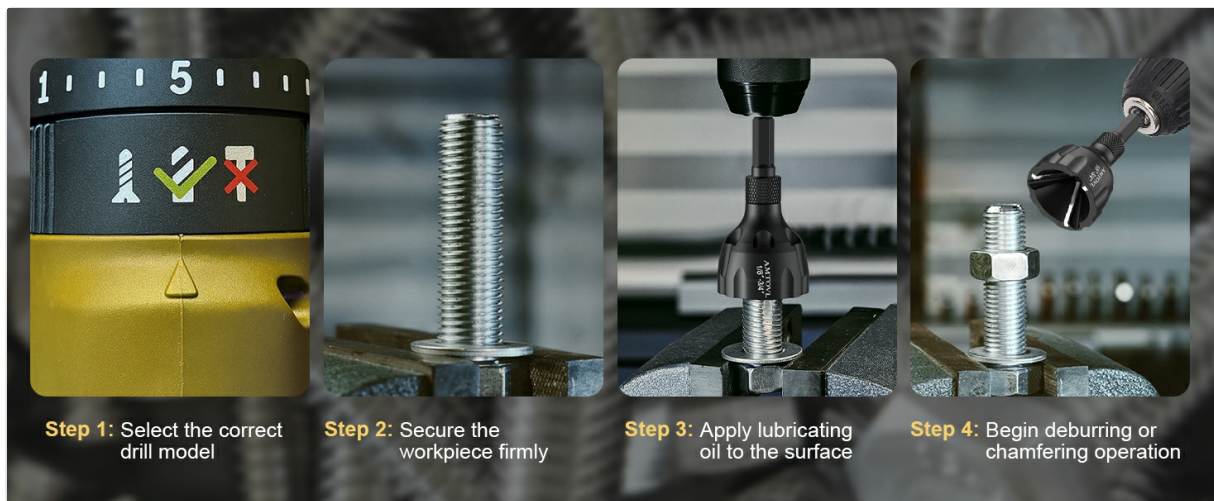


Figure 5.3: A four-step visual guide illustrating the process: 1) Select drill mode, 2) Secure workpiece, 3) Apply lubricating oil, 4) Begin deburring/chamfering.

6. MAINTENANCE

Proper maintenance ensures the longevity and performance of your tools.

- **Cleaning:** After each use, clean any metal shavings or debris from the tools using a brush or compressed air.
- **Lubrication:** Periodically apply a light oil to the cutting edges to prevent rust and maintain sharpness, especially after cleaning.
- **Storage:** Store the tools in their original portable storage bucket or a similar protective container to prevent damage to the blades and hex shanks.
- **Inspection:** Regularly inspect the blades for signs of dullness, chipping, or damage. Replace tools if significant wear is observed.

7. TROUBLESHOOTING

If you encounter issues during operation, consider the following:

- **Poor Cutting Performance:**
 - Ensure the drill speed is low (0-400 RPM).
 - Apply light, consistent pressure.
 - Check if the blades are dull or damaged.
 - Use lubricating oil, especially on harder materials.
- **Tool Wobbling:**
 - Ensure the tool's hex shank is fully inserted and securely tightened in the drill chuck or quick-release holder.
 - Verify the drill chuck is properly tightened.
- **Overheating:**
 - Reduce drill speed.
 - Apply lubricating oil.
 - Allow the tool to cool down between uses.

8. SPECIFICATIONS

Feature	Detail
Product Dimensions	5.91 x 3.94 x 2.36 inches
Item Weight	10.93 ounces
Brand	AMTOVL
Shank Type	Hex
Finish Type	Black Oxide
Tool Flute Type	Spiral (for countersink) / Multi-blade (for chamfer)
Material (Chamfer Tools)	YG8 Tungsten Carbide Blades
Material (Countersink Bit)	M2 High-Speed Steel
Chamfering Range (Large)	9/16" - 1-3/8" (14-35mm)
Chamfering Range (Small)	1/8" - 3/4" (3-19mm)
Countersink Range	1/8" - 5/8" (3-16mm)

9. WARRANTY AND SUPPORT

Information regarding product warranty and customer support is not available in this manual. Please refer to the product packaging or the manufacturer's official website for details on warranty coverage and how to contact customer support.