

Please read and save these instructions. Read through this owner's manual carefully before using product. Protect yourself and others by observing all safety information, warnings, and cautions. Failure to comply with instructions could result in personal injury and/or damage to product or property. Please retain instructions for future reference.



ORIFICE TUBE REMOVER

FOR CUSTOMER SERVICE

Technical Question?

CALL 1-866-458-2472
customerservice@oem-tools.com

UNPACKING

After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. If any damage is observed, a shipping damage claim must be filed with carrier. Do not use the OEMTOOLS® Orifice Tube Remover if broken, bent, cracked or damaged parts (including labels) are noted. Any Orifice Tube Remover that appears damaged in any way, operates abnormally or is missing parts should be removed from service immediately. If you suspect that the Orifice Tube Remover was subjected to shock load (a load that was dropped suddenly, unexpectedly, etc.) immediately discontinue use until it has been checked by a factory authorized service center.



⚠ WARNING

The following safety information is provided as a guideline to help you operate your Orifice Tube Remover under the safest possible conditions. Any tool or piece of equipment can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your service system. Failure to follow instructions listed below may result in serious injury. In addition, make certain that anyone that uses the equipment understands and follows these safety instructions as well.

Explanation of Safety Signal Words

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTES: Provide clarity and helpful information.

Thank you very much for choosing an OEMTOOLS Product!

For future reference, please complete the owner's record below:

Model: _____ **Purchase Date:** _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it. This tool is designed for certain applications only. OEMTOOLS cannot be responsible for issues arising from modification. We strongly recommend this tool is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the tool until you have first contacted OEMTOOLS to determine if it can or should be performed on the product.

For technical questions please call 1-866-458-2472.



ORIFICE TUBE REMOVER



IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your tool. Read this manual carefully. Learn the tool's applications and limitations, as well as, potential hazards specific to it.
 2. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
 3. Keep children away. All children should be kept away from the work area. Never let a child handle a tool without strict adult supervision.
 4. Do not operate this tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to operate.
 5. Use safety equipment. Eye protection should be worn at all times when operating this tool. Use ANSI approved safety glasses. Everyday eyeglasses are NOT safety glasses. Dust mask, non-skid safety shoes, hard hat or hearing protection should be used in appropriate conditions.
 6. Wear proper apparel. Loose clothing, gloves, neck-ties, rings, bracelets or other jewelry may present a potential hazard when operating this tool. Keep all apparel clear of the tool.
 7. Don't overreach. Keep proper footing and balance at all times when operating this tool.
 8. Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.
 9. Store idle tools out of the reach of children and untrained persons. Tools may be dangerous in the hands of untrained users.
- Maintain tools with care.
 - Keep tools dry and clean.
 - Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
 - Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.
 - Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
 - When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
 - Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use this product in a damp or wet location.
 - Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEMTOOLS for a replacement.
 - Before use, read and understand all warnings, safety precautions, and instructions as outlined in the vehicle manufacturer's service manual. It is beyond the scope of this manual to properly describe the correct procedure and test data for each vehicle.
- Always perform vehicle service in a properly ventilated area. Never run an engine without proper ventilation for its exhaust. Stop work and take necessary steps to improve ventilation in the work area if you develop momentary eye, nose, or throat irritation as this indicates inadequate ventilation.

WARNING

- Engine parts that are in motion and unexpected movement of a vehicle can injure or kill. When working near moving engine parts, wear snug fit clothing and keep hands and fingers away from moving parts. Keep hoses and tools clear of moving parts. Always stay clear of moving engine parts. Hoses and tools can be thrown through the air if not kept clear of moving engine parts. The unexpected movement of a vehicle can injure or kill. When working on vehicles always set the parking brake or block the wheels.
- Avoid accidental fire and/or explosion. Do not smoke near engine fuel and battery components.
- For safety purposes and the prevention of damage to expensive components it is advised that the user have an understanding of basic automotive repair and a working knowledge of automotive systems.
- We believe the information contained herein to be reliable. However, general technical information is given by us without charge and the user shall employ such information at his own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part. Always refer to specific instructions and technical information supplied by vehicle manufacturer.

NOTE: The manufacturer declines any and all responsibility for damage to vehicles or components if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.

WARNING

Read Rules for Safe Operation and Instructions Carefully.

IMPORTANT SAFETY INSTRUCTIONS

The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

DISPOSAL

At the end of the useful life of the Orifice Tube Remover, dispose of the components according to all state, federal, and local regulations

All technicians opening the refrigeration circuit in automotive air conditioning systems must now be certified in refrigerant recovery and recycling procedures to be in compliance with Section 609 of the Clean Air Act Amendments of 1990. For information on certification call MACS Worldwide at (215) 631-7020.



ORIFICE TUBE REMOVER

PURPOSE

The OEMTOOLS 5 piece universal kit will remove and install any style orifice tube installed in cycling clutch automotive A/C systems. Includes blow mold case.

The 1990 amendments to the United States Clean Air Act mandate that all personnel who service refrigerant systems must be trained and certified. Fines are in place for violations and compliance is now being monitored by the U.S. EPA.

CAUTION

DO NOT vent refrigerant to the atmosphere. Use appropriate recovery equipment.

Confirm system refrigerant type before servicing vehicle. Cross contamination of refrigerants can cause damage to A/C system, service tools and equipment. Do not blend refrigerants in a system or in the same container.

WARNING

This tool is intended only for professional use by personnel trained in performing the service functions for which it has been designed.

The procedures documented below are to serve as guidelines for the use of this tool.

In addition to these guidelines, always follow the vehicle manufacturer's recommended procedures and safety precautions when servicing each unique vehicle.

CAUTION

DO NOT attempt to remove the orifice tube with pliers or to twist or rotate the orifice tube in the tube. To do so will break the orifice tube in the tube. Use only the recommended tool following the recommended service procedures.

REMOVAL

NOTE: Cap all open refrigerant lines and components to prevent entry of dirt and moisture into the A/C system.

1. Discharge refrigerant from air conditioning system following recommended service procedures. Observe all safety precautions.
2. Disconnect condenser to evaporator tube from A/C evaporator core. Cap condenser to evaporator tube to prevent entrance of dirt and excessive moisture.
3. Pour a small amount of clean refrigerant oil into inlet tube to lubricate tube and o-rings during removal of orifice tube from tube.
4. Select the correct orifice tube extractor tip that fits your vehicle. You can easily match it to your replacement orifice tube. Attach it to the puller head. Use the extension adapter if necessary to reach your orifice tube.
5. Engage the orifice tube tool with the two tangs on the A/C evaporator core orifice.

CAUTION

DO NOT twist or rotate the orifice tube in the tube. It can break off in the tube.

6. Hold T-handle of orifice tube Puller Head to keep it from turning and run nut on tool down against evaporator tube until orifice tube is pulled from tube.
7. If orifice tube breaks or only part of it is removed, it must be removed from tube with the broken orifice tube extractor.
8. To remove a broken orifice tube, replace extractor tip with the broken orifice tube extractor tip. Insert screw end of broken orifice tube extractor into tube. Thread screw end of tool into brass tube in center of orifice tube. Pull orifice tube from tube.
9. If only brass center tube is removed during above step, insert screw end of the broken orifice tube extractor into tube and screw end of tool into the remaining part of the orifice tube. Pull orifice tube from evaporator tube. Clean any debris from inside the evaporator tube.

INSTALLATION

1. Lubricate o-rings on orifice tube liberally with clean refrigerant oil.
2. Place orifice tube in new orifice tube tool and insert orifice tube into tube until orifice tube is fully seated.
3. Remove orifice tube tool from orifice tube.
4. Using a new o-ring lubricated with clean refrigerant oil, reconnect condenser tube to evaporator tube. Leak test, evacuate and charge system following recommended service procedures. Observe all safety precautions.
5. Check system for proper operation.

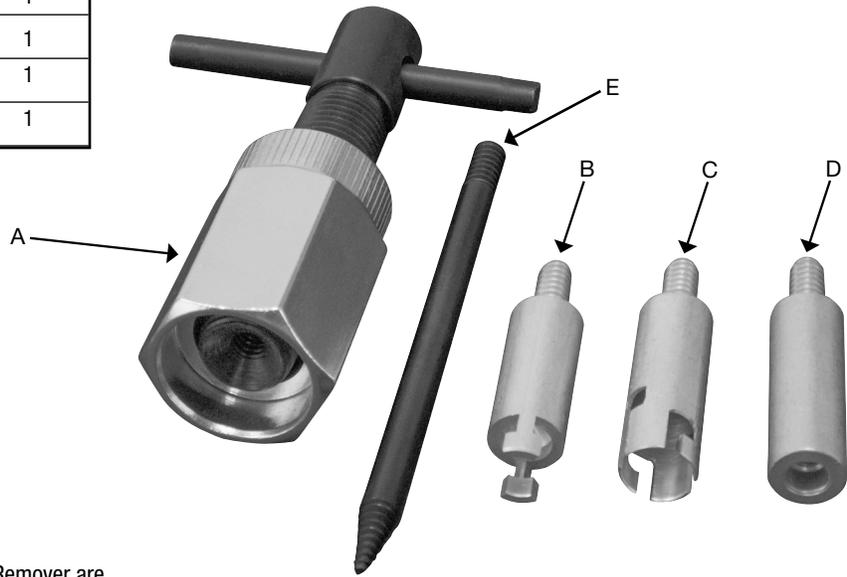
MAINTENANCE

1. Always store the Orifice Tube Remover in a well-protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements.
2. Keep the Orifice Tube Remover clean for better and safer performance.



ORIFICE TUBE REMOVER

Figure	Description	Quantity
A	Puller Head	1
B	Short Orifice Tube Extractor Tip	1
C	Long Orifice Tube Extractor Tip	1
D	Extension Adapter	1
E	Broken Orifice tube Extractor Tip	1



NOTE: Not all components of the Orifice tube Remover are replacement items, but are illustrated as a convenient reference for location and position in the assembly sequence.

OEMTOOLS® ONE YEAR WARRANTY

If for up to one year from the date of purchase of this OEMTOOLS product you find any defect in material or workmanship, through normal usage, return it to the place of purchase, or to OEMTOOLS for repair or replacement at our discretion. In order to obtain this service send your tool and proof of purchase, transportation pre-paid, to OEMTOOLS Q.A. Dept, 3580 E. Raines Road #3, Memphis, TN 38118. We will not be responsible for lost or damaged goods during transportation, please insure your package. If our inspection verifies the defect, we will either repair or replace the product at our election, or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

OEMTOOLS does not provide warranty for products labeled other than OEM or OEMTOOLS. OEMTOOLS will not provide any warranty for products subjected to abnormal use. Abnormal use includes, but is not limited to, abuse, accident, alteration, neglect, and unauthorized or unreasonable use or repairs. This warranty does not cover bits, blades, files, batteries, or calibration. We recommend that you maintain your tools and sharpen or replace blades, bits, files, and batteries as necessary. OEMTOOLS reserves the right to make any changes in construction or design at any time without any obligation in incorporating such changes to tools or equipment previously sold.

OEMTOOLS makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of one year from the date of purchase. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear or to lack of maintenance.

We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.



CONTACT US

3580 E. Raines Road, Suite 3, Memphis, TN 38118
 Tel: 1-866-458-2472
 www.oem-tools.com

