

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.



## 4.0 CFM SINGLE STAGE VACUUM PUMP

### FOR CUSTOMER SERVICE

Technical Question?

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

### UNPACKING

After unpacking the 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 the carrier. DO NOT use the OEMTOOLS® 4.0 CFM Single Stage Vacuum Pump if broken, bent, cracked or damaged parts (including labels) are noted. Any Vacuum Pump that appears damaged in any way, operates abnormally, or is missing parts should be removed from service immediately. If you suspect that the Vacuum Pump 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 Vacuum Pump 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 Vacuum Pump. Failure to follow instructions listed below may result in serious injury. In addition, make sure that anyone who 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 register your new tool at [www.oem-tools.com](http://www.oem-tools.com) and 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 product is designed for certain applications only. OEMTOOLS® cannot be responsible for issues arising from modification. We strongly recommend that this product 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 product until you have first contacted customer service to determine if it can or should be performed on the product.

**⚠ WARNING:** Pursuant to California Proposition 65, this product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.



## 4.0 CFM SINGLE STAGE VACUUM PUMP

### IMPORTANT INSTRUCTIONS AND SAFETY RULES

1. Know your product. Read this manual carefully. Learn the product's applications and limitations, as well as potential hazards specific to it.
2. Maintain labels and nameplates on this product. These carry important information. If unreadable or missing, contact OEMTOOLS® for a replacement.
3. Keep work area clean and well lit. Cluttered or dark work areas invite accidents.
4. Keep children away. All children should be kept away from the work area. Never let a child handle tools or equipment without strict adult supervision.
5. DO NOT operate this product 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.
6. 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.
7. Wear proper apparel. Loose clothing, gloves, neck-ties, rings, bracelets or other jewelry may present a potential hazard when operating this product. Keep all apparel clear of the product.
8. DO NOT overreach. Keep proper footing and balance at all times when operating this product.
9. Check for damage. Check equipment regularly. If part of the product is damaged, it should be carefully inspected to make sure that it can perform its intended function correctly. If in doubt, discontinue use of product.
10. Keep away from flammables. DO NOT attempt to operate this product near flammable materials or combustibles. Failure to comply may cause serious injury or death.
11. Store this product out of the reach of children and untrained persons. This product may be dangerous in the hands of untrained users.
12. Keep this product dry and clean.
13. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one product may become hazardous when used on another product.
14. Service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
15. When servicing a product, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
16. 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.
17. Keep this product dry, clean, and free from brake fluid, oil, and grease.
18. Avoid accidental fire. DO NOT smoke near this product.
19. 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.
20. 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 their own discretion and risk. We assume no responsibility for results or damages incurred from the use of such information in whole or in part.

21. The manufacturer declines any and all responsibility for property damage or injury 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.
22. The procedures documented in this manual are to serve as guidelines for the use of this equipment.
23. The use of this equipment is simple and straightforward if you follow the instructions. When operating this equipment, use common sense, and only use this equipment for its intended purpose.

### PRODUCT DESCRIPTION

The OEMTOOLS® 24501 4.0 CFM Single Stage Vacuum Pump is specifically designed for the air conditioning and refrigeration service industry. The vacuum pump utilizes an electrical motor and oil filled rotary vacuum pump cartridge construction.

### PRODUCT SPECIFICATIONS

Stages	1
Motor Size	4.0 CFM
HP	1/3
Weight	15.4 Lb. / 7 kg
Operating Temp. Range	0°C (32°F) to 52°C (125°F)
Power Source	115 VAC 50-60 Hz
Ultimate Vacuum	As low as 100 Microns
Oil Capacity	11 Oz./330 ml
Construction	Heavy gauge aluminum chassis with reinforced base and rubber lined steel handle
Overload Protection	Motor thermally protected, dual voltage units have extra IEC fuse
Control System	ON-OFF Power Switch
Free Air Displacement	4.0 CFM @ 60 Hz-48 l/m @ 50 Hz
Intake Fittings	1/4" SAE, 1/2" ACME Male

### CONTENTS

- 4.0 CFM Single Stage Vacuum Pump
- Vacuum Pump Oil

### SPECIFIC SAFETY INSTRUCTIONS AND WARNINGS

Thoroughly read and understand all instructions in this product manual before using this product. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

**ONLY QUALIFIED SERVICE PERSONNEL SHOULD OPERATE THIS UNIT. SOME STATES MAY REQUIRE THE USER TO BE LICENSED. PLEASE CHECK WITH YOUR LOCAL GOVERNMENT AGENCY.**

**⚠ WARNING:** Avoid breathing refrigerant vapors and lubricant vapor mist. Breathing high concentration levels may cause heart arrhythmia, loss of consciousness, or even suffocation.

**⚠ WARNING:** ELECTRICAL SHOCK HAZARD - Always disconnect power source when servicing this equipment.

**⚠ WARNING:** DO NOT operate the vacuum pump on systems under pressure. Damage to the pump may occur.

**⚠ CAUTION:** To reduce the risk of fire, avoid the use of extension cords thinner than NO. 14 awg. (2,5mm<sup>2</sup>) to prevent the overheating of this cord please keep length to a minimum.

**⚠ CAUTION:** DO NOT use this equipment in the vicinity of spilled or open containers of gasoline or other flammable substances. Make certain that all safety devices are functioning properly before operating the equipment.

**⚠ WARNING:** THIS EQUIPMENT IS INTENDED FOR USE OF FINAL EVACUATION OF A REFRIGERANT SYSTEM. THE EVACUATION OF MATERIALS ABOVE 5 PSIG MAY CONTAMINATE OR DAMAGE THE VACUUM PUMP.



## 4.0 CFM SINGLE STAGE VACUUM PUMP

**⚠ WARNING:** DO NOT RUN THIS EQUIPMENT WITH LOW OR NO OIL. RUNNING THIS EQUIPMENT WITH NO LUBRICATION WILL CAUSE PREMATURE FAILURE.

### INITIAL PREPARATION

1. Connect vacuum pump to the proper voltage power supply.
2. The vacuum pump is shipped without oil in the reservoir. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure cap.
3. Remove the 1/4" inlet service port cap, turn on the vacuum pump. After 15 seconds, replace 1/4" cap back on inlet port.
4. Re-check vacuum pump oil level. Add or remove oil if necessary. To achieve good final vacuum levels, the oil level should be visually seen through sight glass.

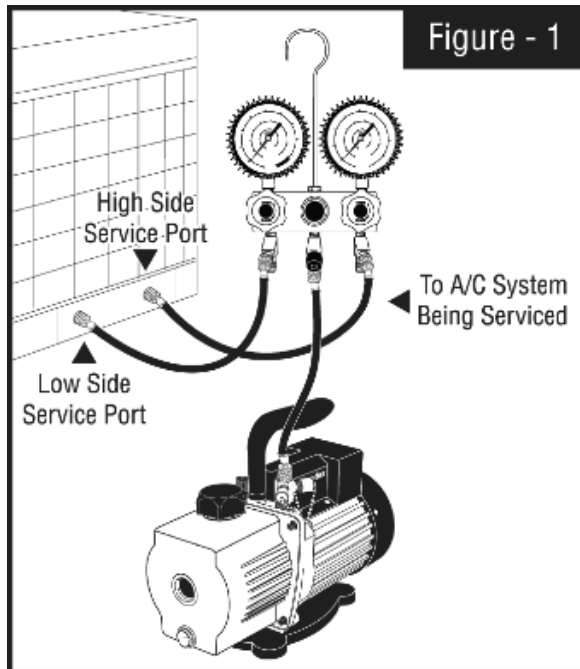
**CAUTION:** DO NOT RUN THIS EQUIPMENT WITH LOW OR NO OIL. RUNNING THIS EQUIPMENT WITH NO LUBRICATION WILL CAUSE PREMATURE FAILURE.

Vacuum pump is now ready for use.

### VACUUM PUMP OPERATION

**⚠ WARNING:** DO NOT operate on systems under pressure. Damage to the pump may occur.

1. Check the correct power supply outlet to be used.
2. Connect vacuum pump to the proper voltage power supply.
3. Check oil level in vacuum pump.
4. Connect vacuum pump as shown in Figure - 1.
5. Open manifold valves.
6. Turn vacuum pump power switch to ON.
7. Run vacuum pump until final vacuum level is met.
8. Once the final vacuum level is reached, close manifold valves and turn power switch to OFF. Vacuum operation is complete.



### ROUTINE MAINTENANCE

It is recommended to change the vacuum pump oil after 50 hours of usage. The purity of the oil will determine the final vacuum level achieved. Always use the recommended vacuum pump oil. The oil

provided with the pump has been specially blended to maintain maximum viscosity at normal running temperatures as well as cold weather starts.

### OIL CHANGE PROCEDURES

1. Be sure the pump oil is warmed up. If not warm, turn vacuum pump to ON for 10 minutes.
2. Make sure vacuum pump is not plugged in.
3. Remove the oil drain cap and drain the contaminated oil into a suitable container. Tilt the vacuum pump toward the oil drain port.
4. Once all the oil has been drained, re-secure the oil drain cap back onto the oil drain port.
5. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure exhaust/oil fill cap.

### TROUBLESHOOTING CHART

Condition	Possible Problem	Solution
Unusually noisy	Bad bearings	Replace motor
	Loose motor bolts	Tighten bolts
	Coupling drive	Adjust or replace coupling
	Dirty, low, or improper oil	Replace oil
	Air leaks in connections	Fix leaks
High temperature	Low or improper voltage	Check power source voltage
	Worn bearings	Replace motor
	Low oil level	Add or replace
Poor vacuum	System leaks	Fix leaks
	Low oil level	Add or replace oil
	Dirty oil	Flush and replace oil
	Air leaks at connection	Fix leaks
	Air leaks through seal	Replace shaft seal
Oil leaks	Worn rotary mechanism	Replace pump
	Oil leaks through exhaust	Oil level is too high
	Oil leaks through shaft seal	Replace shaft seal
	Oil leaks through reservoir	Tighten bolts or replace gasket
	System vented pressure	Check oil level
Pump does not start	Pump tipped over	Check oil level
	No power to motor	Check power cord
	Damaged motor	Replace motor
Thermal cutout	Thermal cutout	Wait for thermal switch to reset. Check for cause of thermal.
	Low or incorrect voltage	Check voltage, supply
	Cold weather	Start and run vacuum pump with the intake fitting closed for 1 minute to warm up oil
	Dirty oil	Flush and replace oil

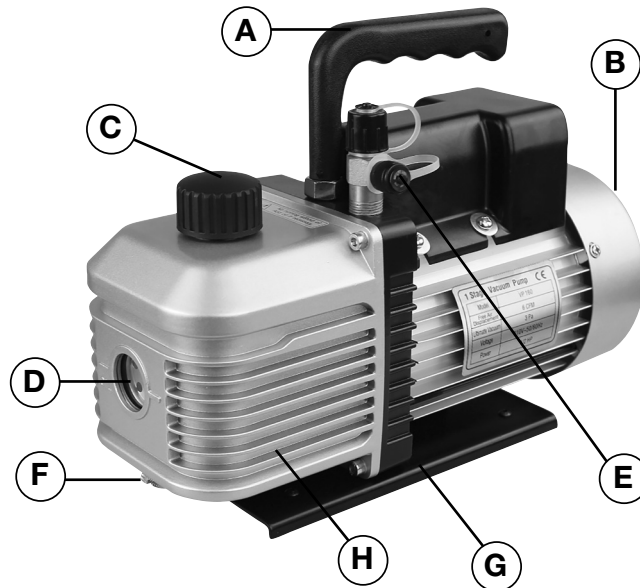
### DISPOSAL

- At the end of the useful life of the Vacuum Pump, 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.



## 4.0 CFM SINGLE STAGE VACUUM PUMP

### PRODUCT LAYOUT



### PARTS LIST

Figure	Description
A	Carry Handle
B	Power Cord (Not Shown)
C	Exhaust/Oil Refill Cap
D	Oil Sight Glass
E	1/2" ACME, 1/4" SAE
F	Oil Drain
G	Reinforced Base
H	Oil Reservoir

### WE STAND BEHIND OUR TOOLS. OEMTOOLS® 1 YEAR WARRANTY

If within 1 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 repair or replace the product, 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 ensure 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. 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.

OEMTOOLS® is not responsible for damaged shipments or shortages resulting from carrier mishandling. Notify your carrier's office immediately to file a claim. Keep damaged goods and containers for inspection until advised by the carrier as to disposal.

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.

Please contact us at [customerservice@oem-tools.com](mailto:customerservice@oem-tools.com) or call us at 901-370-1101 for additional information or questions.

Thank you for your purchase.

## CONTACT US

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