

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

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 product if broken, bent, cracked or damaged parts (including labels) are noted.



⚠ WARNING

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

The following safety information is provided as a guideline to help you operate your A/C 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 service system. Failure to follow instructions listed may result in serious injury. In addition, make certain that anyone that uses the equipment understands and follows these safety instructions as well.



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Thank you very much for choosing an OEMTools Product!

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

Part# _____ **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 machine is designed for certain applications only. OEMTools cannot be responsible for issues arising from modification. We strongly recommend this machine 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 machine until you have first contacted OEMTools to determine if it can or should be performed on the product.



IMPORTANT INSTRUCTIONS AND SAFETY RULES

- Keep bystanders, children, and visitors away while operating the OEMTools A/C Vacuum Pump. Distractions can cause you to lose control. Protect others in the work area from injury.
- Stay alert. Watch what you are doing, and use common sense when operating the OEMTools A/C Vacuum Pump. Do not use the tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the power tool in unexpected situations.
- Use safety equipment.
- Wear ANSI-approved safety glasses underneath a full face safety shield. Nonskid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
- Do not force the tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.
- Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.
- Maintain tools with care.
- Keep tools dry and clean.
- Properly maintained tools are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
- Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation.
- If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
- 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.
- Keep the handle dry, clean, and free from brake fluid, oil, and grease.
- 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.
- To reduce the risk of discomfort, illness, or death, read, understand, and follow the following safety instructions. Avoid breathing A/C refrigerant and lubricant vapor mist. Exposure may irritate eyes, nose, and throat. To remove R134a from the A/C system, use service equipment certified to meet the requirements of SAE J2788--R134a recycling equipment. Additional health and safety information may be obtained from refrigerant and lubricant manufacturers.
- Always perform vehicle service in a properly



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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.

- 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.
- Be alert for hot engine parts to avoid accidental burns.
- When under pressure, refrigerants become liquid. When accidentally released from the liquid state they evaporate and become gaseous. As they evaporate, they can freeze tissue very rapidly. When these gases are breathed in, the lungs can be seriously damaged. If sufficient quantities are taken into the lungs, death can result. If you believe you have exposed your lungs to released refrigerant, seek immediate medical assistance. Refrigerants can cause frostbite and severe burns to exposed skin. Refrigerants are under pressure and can be forcibly sprayed in all directions if carelessly handled. Avoid contact with refrigerants and always wear protective gloves and make certain other exposed skin is properly covered. Refrigerants can also severely injure or cause permanent blindness to unprotected eyes. Avoid contact with refrigerants and always wear safety goggles.
- Avoid accidental fire and/or explosion. Do not smoke near engine fuel and battery components.
- 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.
- 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.
- This product contains one of more chemicals known

to the State of California to cause cancer or birth defects or other reproductive harm. Wash hands thoroughly after handling.

DISPOSAL

- At the end of the useful life of the OEMTools A/C 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.

GENERAL INFORMATION

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

- **DANGER** - Avoid breathing refrigerant vapors and lubricant vapor mist. Breathing high concentration levels may cause heart arrhythmia, loss of consciousness, or even suffocation.
- **DANGER - 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. (2,5mm²) 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.
- **CAUTION: 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. CAUTION: DO NOT RUN THIS EQUIPMENT WITH LOW OR NO OIL. RUNNING THIS EQUIPMENT WITH NO LUBRICATION WILL CAUSE PREMATURE FAILURE.**





4.0 CFM SINGLE STAGE VACUUM PUMP

Introduction

Thank you for purchasing the **OEM**[®] A/C vacuum pump series. Our vacuum pumps are specifically designed for the air-conditioning and refrigeration service industry. The vacuum pumps utilize an electrical motor and oil filled rotary vacuum pump cartridge construction.

Features:

- Equipped with oil mist free exhaust port
- **Sure-Grip** handle, ergonomically designed for superior comfort and portability
- Reinforced base provides extreme shock resistance
- Air cooled motor design allows for operation under high temperature conditions
- Equipped with 1/4" SAE and 1/2" ACME Male inlet tees.
- Accessible oil drain port & sight glass make both oil maintenance and accuracy easy

To help you get a good start, please continue to carefully read the balance of this manual. This manual contains important information on the proper procedures for operating this equipment. Please pay close attention to the: **Safety Information, Warnings, and Cautions** provided throughout this manual.

ALWAYS REMEMBER “ SAFETY FIRST ”



4.0 CFM SINGLE STAGE VACUUM PUMP

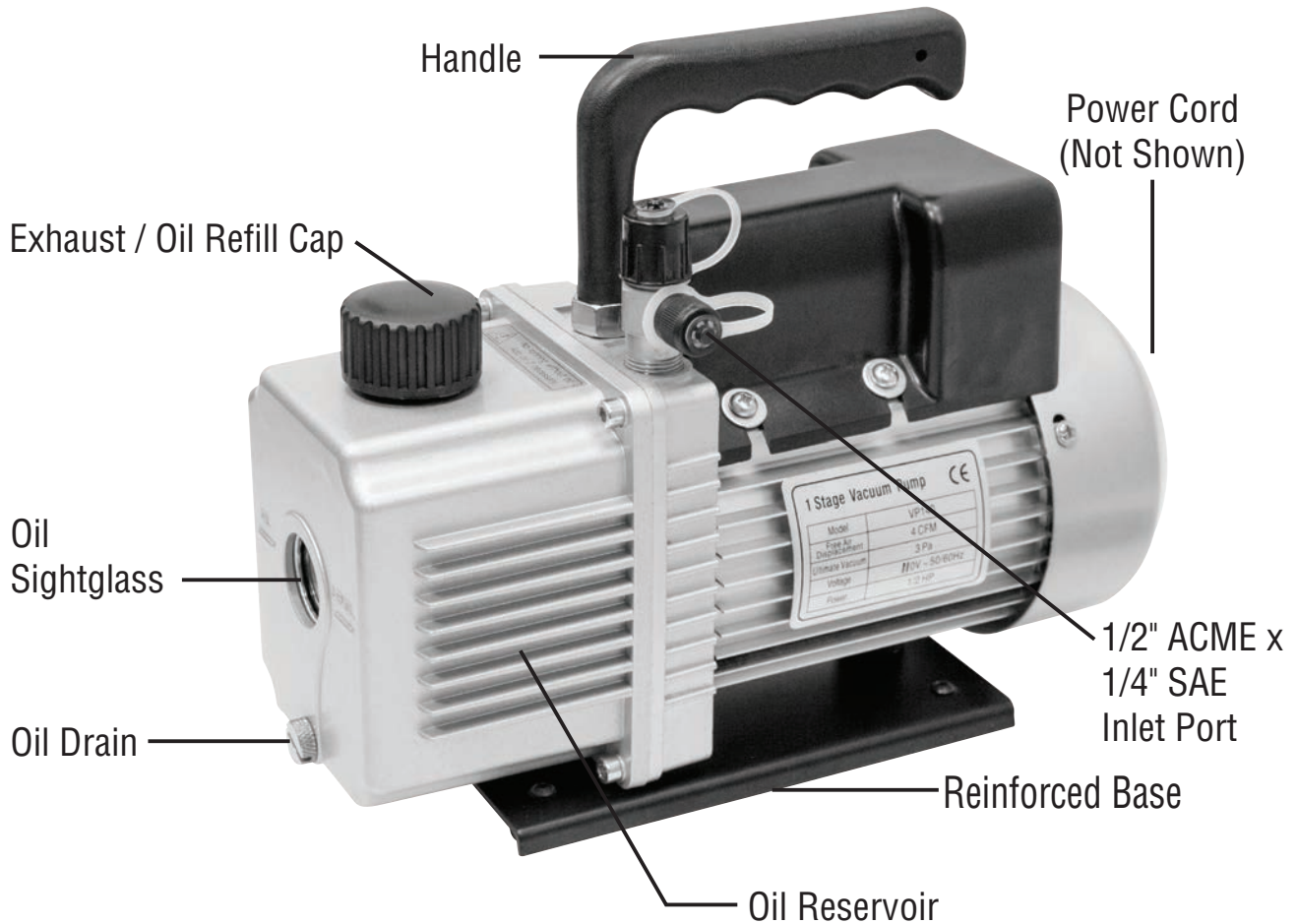
Specifications

Model Number	24501
Stages	1
Motor Size (HP)	4 CFM / 1/3 HP
RPM @ 50/60Hz	2880 / 3440
Dimensions (Inches)	11 x 4.5 x 9
Weight	15.4 lb / 7 kg
Operating Temperature Range	0°C (32°F) to 52°C (125°F)
Power Source	115 VAC 50 - 60Hz
Ultimate Vacuum	as low as 100 Microns
Oil Capacity	11 oz / 330 ml
Construction	Heavy Gauge Aluminum Chasis 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 @ 60Hz - 48 l/m @ 50Hz
Intake Fittings	1/4" SAE and 1/2" ACME Male



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Unit Layout



Unit consists of:

- OEM® 24501 model vacuum pump
- Vacuum pump oil
- Operational manual



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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.

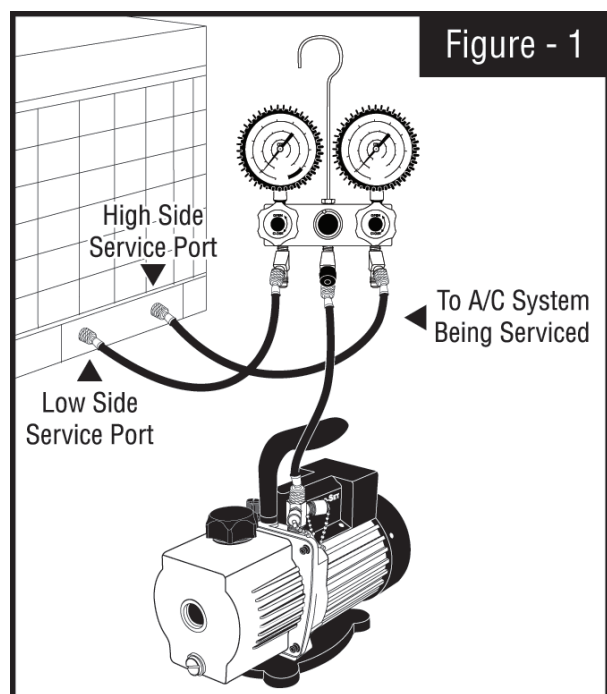
VACUUM PUMP IS NOW READY FOR USE.

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 "ON".
7. Run vacuum pump until final vacuum level is met.
8. Once the final vacuum level is reached, close manifold valves, turn power switch "OFF".

VACUUM OPERATION COMPLETE





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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 **"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.



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Troubleshooting Chart

Condition	Possible Problem	Solution
Unusually noisy	<ol style="list-style-type: none"> 1. Bad bearings. 2. Loose motor bolts. 3. Coupling drive. 4. Dirty, low, or improper oil. 5. Air leaks in connections. 	<ol style="list-style-type: none"> 1. Replace motor. 2. Tighten bolts. 3. Adjust or replace coupling. 4. Replace oil. 5. Fix leaks.
High temperature	<ol style="list-style-type: none"> 1. Low or improper voltage. 2. Worn bearings. 3. Low oil level. 	<ol style="list-style-type: none"> 1. Check power source voltage. 2. Replace motor. 3. Add or replace.
Poor vacuum	<ol style="list-style-type: none"> 1. System leaks. 2. Low oil level. 3. Dirty oil. 4. Air leaks at connection. 5. Air leak through seal. 6. Worn rotary mechanism. 	<ol style="list-style-type: none"> 1. Fix leaks. 2. Add or replace oil. 3. Flush and replace oil. 4. Fix leaks. 5. Replace shaft seal. 6. Replace pump.
Oil leaks	<ol style="list-style-type: none"> 1. Oil leaks through exhaust. 2. Oil leaks through shaft seal. 3. Oil leaks through reservoir. 4. System vented pressure. 5. Pump tipped over. 	<ol style="list-style-type: none"> 1. Oil level too high. 2. Replace shaft seal. 3. Tighten bolts or replace gasket. 4. Check oil level. 5. Check oil level.
Pump does not start	<ol style="list-style-type: none"> 1. No power to motor. 2. Damaged motor. 3. Thermal cutout. 	<ol style="list-style-type: none"> 1. Check power cord. 2. Replace motor. 3. Wait for thermal switch to reset. Check for cause of thermal.
Thermal cutout	<ol style="list-style-type: none"> 1. Low or incorrect voltage. 2. Cold weather. 3. Dirty Oil. 	<ol style="list-style-type: none"> 1. Check voltage, supply. 2. Start and run vacuum pump with the intake fitting closed for 1 minute to warm up oil. 3. Flush and replace oil.