REPLACEMENT PARTS LIST

| PART NO. | DESCRIPTION |
|----------|---|
| 41184 | Handle |
| 48104 | Gas Ballast Valve |
| 13191 | Exhaust Plug |
| 15135 | Shell and Sight Glass Assembly (no drain) |
| 41186 | Base and Foot Assembly |
| | |

Because of ongoing product improvements, we reserve the right to change design, materials, and specifications without notice.



Call our toll-free Technical Support Line

1-800-822-5561

in the continental U.S. or Canada or visit our web site

www.robinair.com

In all other locations, contact your local distributor. To help us serve you better, please be prepared to provide the model number, serial number, and date of purchase.

To validate your warranty, you must complete the warranty card attached to your unit and return it within ten days from date of purchase.

Manufactured under one or more of the following patents: U.S.: 4,523,897; 4,631,006. Other Patents Pending.



SPX Corporation 655 Eisenhower Drive Owatonna, MN 55060-0995 USA Technical Services: 1-800-822-5561 Fax: 1-800-822-7805 Customer Service: 1-800-533-6127 Fax: 1-800-322-2890 Web Site: www.robinair. com



Operating Manual



1.2 cfm (at 60 Hz)

Model 15145/15225 Two-Stage, Direct Drive Vacuum Pump

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PARTS IDENTIFICATION



For use on A/C-R systems using CFCs, HCFCs, and HFCs in conjunction with mineral oil, ester oil, alkylbenzene oil and PAG oil as lubricants. Not for use with ammonia or lithium bromide systems. Not for use with flammable refrigerants.

OUT OF WARRANTY

Any Robinair high vacuum pump which is beyond the one-year warranty period and fails to operate properly should be returned to the distributor with a full written explanation of the problem, or you may return it yourself to the factory. Go to Robinair.com or call 1-800-822-5561 for instructions on returning a pump.

Prior to returning an out-of-warranty pump, review all maintenance procedures to avoid an unnecessary return. Note that contaminated oil or an incorrect oil level will adversely affect pump performance. These conditions should be checked before requesting service. Replacement parts are available if you desire to repair your own pump. However, this should be considered only in out-of-warranty situations.

SPECIFICATIONS

| Model | 15145 | 15225 |
|--------------------------|--|--|
| Number of Stages | 2 | 2 |
| Free Air Displacement | 1.2 cfm* | 1.0 cfm |
| Factory Micron Rating | 50 | 50 |
| Oil Capacity | 5 oz. 148 ml | 5 oz. 148 ml |
| Weight | 10 lbs. 4.54 kg | 10 lbs. 4.54 kg |
| Width | 4¹/₂" 11.4 cm | 4¹/₂" 11.4 cm |
| Length | 9 ^{13/} 16" 25 cm | 9 ¹³ / ₁₆ " 25 cm |
| Height | 8¹/₂" 21.6 cm | 8¹/₂" 21.6 cm |
| Intake Fitting | 1/4" MFL | 1/4" MFL |
| Motor Size | ¹/ ₈ hp Capacitor Start | ¹/₀ hp Capacitor Start |
| Voltage | 100V 50/60 Hz | 250V 50 Hz |
| Operating Temperature | 185º F 85º C | 185º F 85º C |
| | *1.2 cfm at 60 Hz 1 cfm at 50 Hz | |

Failure To Start

- 1. Check the line voltage. Your vacuum pump is designed to start at minus ten percent of rated voltage and at 32° F (0° C). However, at or near these extremes, there may be some hesitation in starting.
- 2. If the pump is accidentally shut down in a vacuum condition, the pump may hesitate when restarted. This is because the vacuum pump oil has been drawn into the pump module. The pump will run normally after clearing the oil from the module.

Oil Leakage

- 1. Verify the oil is not a residual accumulation due to spillage, overfilling, or similar causes.
- 2. If the pump is actually leaking oil, you may have to replace the O-ring in the end shell, or return the pump to the factory for servicing.

WARRANTY

Robinair high vacuum pumps are warranted against defects in material or workmanship for a period of one year of normal use from date of purchase. If within one year from date of purchase, the vacuum pump should prove faulty due to manufacturer error, return it to the distributor from whom you originally purchased the vacuum pump. You must provide the distributor with proof of purchase and the warranty claim check tag which is supplied with each vacuum pump.

Upon determining that a valid warranty claim exists, the Robinair distributor is authorized to exchange the faulty vacuum pump for a new vacuum pump of the same model at no additional charge. If a vacuum pump is returned for a warranty claim and the claim is determined to be invalid, a minimum service charge plus the cost of repair parts and return freight will be charged. Final determination of valid warranty claims will be made by Robinair, Owatonna, MN.

The warranty shall not apply to any product or part which has been subject to misuse, negligence, or accident. The Seller shall not be responsible for any special or consequential damages, and the Warranty as set forth is in lieu of all other warranties either expressed or implied. *However, the Seller makes no warranty of merchantability in respect to any of the goods offered in the manual and any applicable manufacturer's shop or service manuals referred to therein, including any subsequent service bulletins.*

INTRODUCTION

Your vacuum pump has been factory tested and meets Robinair's stringent quality standards. This high performance pump will provide you with years of trouble-free service if you follow these instructions for operating and maintaining the pump. The pump's offset rotary vane design provides high efficiency operation. The motor is properly sized to ensure 32° F (0°C) starting at 90 percent of the rated voltage.

Be careful when removing the pump and contents from the shipping carton. If there is any apparent shipping damage to the pump, the shipping company should be notified immediately and the container saved for inspection.

IMPORTANT! This pump is not intended to pump any type of liquid (oil, water, refrigerant, etc.). To do so, or to allow the accumulation of contaminants in the pump reservoir, can result in premature failure and can void the warranty.

OPERATING INSTRUCTIONS



WARNING! Wear safety goggles when working with refrigerants. Contact with refrigerant can cause eye injury. Use a recovery unit to remove all refrigerant before using the pump to pull a vacuum.

- 1. Remove and discard the red plastic plug at the top of the finned reservoir.
- 2. Fill the pump reservoir to the "OIL LEVEL" line on the sight glass on the front of the pump. Use the oil packaged with the vacuum pump or fresh Robinair All Climate Vacuum Pump Oil, available at your supplier.
- 3. Install the black plastic operating exhaust plug. Note that the operating plug is notched to allow exhaust flow.

CAUTION! Do *not* attempt to operate the pump with the exhaust port plugged. To do so could result in permanent damage to the pump or could cause the plug to be blown from the pump reservoir.

4. Note the electric motor voltage rating, and connect to the proper power source. Avoid long extension cords, which drop voltage below ten percent of the line voltage, causing poor starting or motor heating.

You are now ready to remove the 1/4" male flare cap and to connect the pump to the air conditioning system. Follow the system manufacturer's directions for proper evacuation.

USING THE GAS BALLAST (Vented Exhaust)

All Robinair high vacuum pumps feature a gas ballast for more thorough evacuation and longer pump life. As vapors from an A/C or refrigerant system containing more than the average amount of moisture pass through a vacuum pump, they condense into liquid and combine with the vacuum pump oil. When these vapors mix with the oil, it becomes contaminated, raises the vapor pressure of the vacuum pump oil, and reduces the pump's ability to reach its ultimate attainable vacuum. Opening the ballast valve purges a small amount of atmospheric air through the exhaust chamber. This extra volume of air mixes with the vapors from the A/C or refrigerant system, prevents them from being condensed, and helps them to be exhausted from the pump in vapor form.

After the pump has started, the gas ballast valve (see the diagram on page 1) should be opened until the system has reached approximately 1000 microns. At this time, close the valve to allow the pump to pull its ultimate vacuum level. The gas ballast valve may be opened or closed at any time during pump operation. The valve is fully open at two turns counterclockwise.

SHUTTING DOWN THE PUMP

Follow these procedures when shutting down your pump to ensure long life and easy starting.

- 1. Shut off all gauges to the A/C system.
- 2. Close any valve between the pump and the A/C system.
- 3. Turn off the pump, and open the inlet port to atmosphere immediately at shutdown.
- 4. Cap the inlet port immediately to prevent any contamination or loose particles from entering the port.

For maximum performance, Robinair recommends changing vacuum pump oil after each use. Use only a high quality oil. Robinair recommends its All Climate High Vacuum Pump Oil, which has been specially blended to maintain optimum viscosity at high and low operating temperatures.

CHANGING THE OIL

- 1. Verify the pump is warmed up and the inlet is opened to the atmosphere.
- 2. Disconnect the pump from the AC electrical power source.
- 3. Remove the black operating exhaust plug from the top of the pump reservoir.
- 4. Hold the pump upside down, tilting it forward and backward to drain all the oil from the reservoir into a suitable container.

Note: If the drained oil is badly contaminated, the pump may need to be flushed. If flushing is necessary, run the pump (CAUTION: To prevent damage to the pump, do not run the pump more than 30 seconds without any oil.) and slowly pour clean oil through the pump inlet (being careful not to slug, or bog down, the pump). Drain the oil, and repeat this procedure as necessary before going to Step 5.

- 5. Refill the pump reservoir to the "OIL LEVEL" line on the sight glass with fresh Robinair All Climate Vacuum Pump Oil.
- 6. Replace the black operating exhaust plug.

Cleaning Your Pump

Clean the pump with soap and water only. Do not use commercial cleaners that contain degreasing agents that can damage polycarbonates. The pump handle and base are made of Lexan*, one of the toughest polycarbonate plastics available. However, it is sensitive to degreasing agents.

*Lexan is a registered trademark of General Electric

TROUBLESHOOTING TIPS

Before returning any Robinair vacuum pump, in or out of warranty, review the following troubleshooting guide:

Failure To Pull Good Vacuum

1. Verify the gauge and connections are leak-free and in good condition. You can confirm this by monitoring the vacuum with a thermistor vacuum gauge while applying vacuum pump oil at connections or suspected leak points. The vacuum will improve briefly while the oil seals the leak, then revert to the previous level.

Note: Checking pump vacuum through a charging hose is not recommended. Refrigerant and other contaminants contained in the hose may adversely affect the vacuum reading.

- 2. Verify the pump oil is clean. A badly contaminated pump may require several oil flushes (see "Changing the Oil") before you are able to reach the rated vacuum level.
- 3. Verify the oil is at the proper level. For optimum vacuum operation, the oil must be level with the sight glass oil line. Overfilling will not affect vacuum operation, but may result in oil blowing from the exhaust during free air operation.
- 4. Verify the gas ballast valve is fully closed.