



**OPERATION AND MAINTENANCE
INSTRUCTIONS
FOR
7000 & 8000 SERIES
ROOF TOP AIR CONDITIONERS
AND
7300 SERIES CEILING PLENUMS**

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SECTION I - GENERAL INFORMATION

NOTE

The optional Elect-A-Heat heating assembly is intended to take the chill out of the indoor air when the air is a few degrees too cool for comfort. The heating assembly is an effective "chill chaser". It is not a substitute for a furnace.

These air conditioners were designed to operate from a 115 VAC, 60 HZ, 1 Phase power supply. Anytime an air conditioner is not operating properly, the power supply should be examined by a qualified technician to verify that the air conditioner is receiving the proper power supply.

When searching for a qualified technician, please reference your RV Products Authorized Service Center List. The servicers listed are familiar with your Recreation Vehicle product. If the air conditioner is still under warranty, an authorized servicer must be used for any repair required on the air conditioner. Using an unauthorized servicer may void your warranty.

This is due to the limited electrical power normally available in most trailer parts and/or economic limitations on the use of generators with enough capacity to handle large air conditioners. If more than 1 ton of cooling is desired, then the use of two air conditioners is recommended.

The ability of the air conditioner to maintain the desired inside temperature depends on the heat gain of the recreational vehicle.

The size of the vehicle, amount of window area, amount of insulation, direct exposure to the sun, outside temperature and the number of people in the recreational vehicle may increase the heat gain to such an extent that the capacity of the air conditioner is exceeded.

As a general rule, air entering the air conditioner will be cooled about 15 to 20 degrees, depending on the outside temperature and humidity conditions.

For example, if the air entering the return air grilles in the air conditioner is 80°F, the air leaving the discharge grilles in the air conditioner will be 60° to 65°F.

As long as this temperature difference is being maintained between the return air and discharge air, the air conditioner is operating at its capacity. If the desired inside temperature (normally 80°F) cannot be maintained, then the heat gain of the RV is too great for the capacity of the air conditioner.

Parking the vehicle in a shaded area, keeping windows and doors shut and avoiding the use of heat producing appliances in the vehicle will help to reduce the heat gain. When possible, the addition of insulation and tinted glass (especially in uninsulated vans) should be considered.

SECTION II - CONTROL PANEL

If your RV air conditioner is operated from the control panel located in the ceiling assembly, then there are three controls on the ceiling assembly that help you control the air conditioner. They are as follows:

- A. The Selector Switch - The selector switch determines which mode of operation the air conditioner will be in. By rotating the selector switch, the operator can obtain any system function desired. System

functions vary depending upon options of both the roof top unit and ceiling assembly. Figures 1 and 2 show selector switch location and list all available functions by model.

The "Operation" section explains the operational characteristics of each mode of operation.

- B. The Thermostat (temperature control) - In the cooling mode, the thermostat regulates the "ON" and "OFF" temperature setting at which the compressor will operate.

For "Heat/Cool" models, the thermostat also controls the "ON" and "OFF" temperature settings of the heater assembly. See Figures 1 and 2.

- C. Louvers - The louvers are located at both ends of the ceiling assembly shroud and are used in directing the discharge air from the unit.

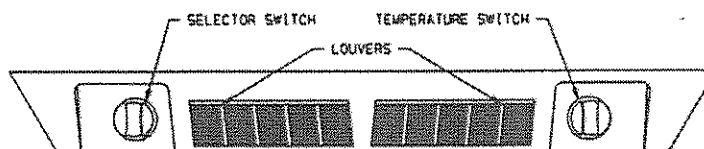
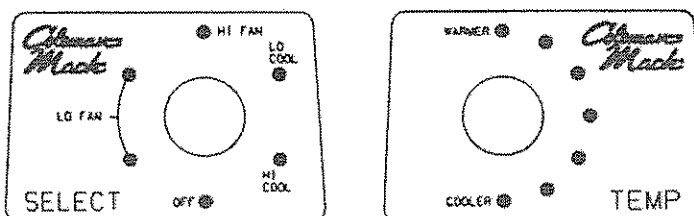
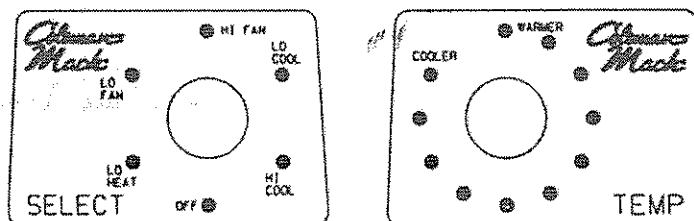


FIGURE 1



COOLING ONLY MODELS



COOLING / HEATING MODELS
7330 SERIES CEILING ASSEMBLY DECALS

FIGURE 2

SECTION III - OPERATION

1. For Cooling (Refer to Figure 1 and 2, page 3).

- A. Turn the selector switch to the "LOW COOL" or "HIGH COOL" position.
- B. Rotate the thermostat (temperature control) to the position that is the most comfortable to you. The thermostat will turn the compressor on when the temperature of the air entering the air conditioner

rises a few degrees above the setting you have selected. When the temperature of the air entering continue to cycle the compressor on and off in the above mentioned fashion until the selector switch is turned to another mode of operation.

- C. Position the louvers to the desired direction the discharge air is to flow.

II. Operation During Cooler Nights (Cooling Operation).

It is important, when the outdoor temperature drops in the evening or during the night to below 75°F, that the thermostat (temperature control) be set at a midpoint between "Warmer" and "Cooler". If the setting is at "Cooler", the cooler (evaporator) coil may become iced-up and stop cooling. During the day when the temperatures have risen above 75°F, reset the thermostat switch to the desired setting.

NOTE

Should icing-up occur, it is necessary to let the cooling (evaporator) coil defrost before normal cooling operation is resumed. During this time, operate the unit in the "HIGH FAN" position with the system at maximum air flow. When increased or full air flow is observed, the cooling coil should be clear of ice.

III. Short Cycling

When an air conditioner is in operation, its compressor circulates refrigerant under high pressure. Once off, it will take two to three minutes for this high pressure to equalize.

The air conditioning compressor is unable to start against high pressure. Therefore, once the air conditioner is turned off, it is important to leave it off for two to three minutes before restarting.

Short cycling the compressor (or starting it before pressures have equalized), will in some instances, kick the circuit breaker or overload.

IV. For Heating ("Elect-A-Heat" Ceiling Assembly Model Only) Refer To Figure 1 and 2, page 3).

The optional Elect-A-Heat heating assembly is intended to take the chill out of the indoor air when the air is a few degrees too cool for comfort. The heating assembly is an effective "chill chaser". It is not a substitute for a furnace.

Do not expect the heating coil on your heater to glow. Because the fan draws in cold air and forces it over the coil, the coil will not turn red. A hint of red may occur where the moving air does not directly touch the coil.

- A. Turn the selector switch to the "LOW HEAT" position. At "LOW HEAT", the fan operates on low speed with heat output at maximum.
- B. Rotate the thermostat (temperature control) switch to the position that is the most comfortable to you. The thermostat will turn the heater on when the temperature of the air entering the air conditioning unit drops below this setting a few degrees and automatically turns off when the temperature of the air entering the air conditioner rises a few degrees above this setting. The heater will continue to cycle on and off in this fashion until the selector switch is turned to another mode of operation.

- C. Position the louvers to the desired direction the discharge air is to flow.

Discharge air temperature can be controlled to some extent by opening or closing the louvers.

When the louvers are closed, the warmest localized discharge air is achieved. Fully opened louvers will throw the warm discharge air to the back and front of the vehicle for more efficient circulation and faster warm-up. Although the air temperature is lower with the louvers fully opened, the heating capacity is still the same.

For Air Circulation Only (Refer To Figure 1 & 2, pg. 3).

- A. Turn the selector switch for "LOW FAN" or for maximum air flow, to "HIGH FAN".
- B. Position the louvers to the desired direction the discharge air is to flow.

NOTE

When the selector switch is in the "LOW FAN" or "HIGH FAN" position, the blower motor will operate continuously.

SECTION IV - MAINTENANCE

I. Owner

One of the biggest advantages to your new RV Products air conditioner is that the maintenance needed to keep the unit in good care is minimal. In fact about the only thing you, the owner, must take care of is the cleaning and replacement of the filters.

Filters are made from long life non-allergenic natural fibers which can be cleaned and reused, and which completely filter the circulated air when the air conditioner is in operation. If the filters are not cleaned at regular intervals, they may become partially clogged with lint, dirt, grease, etc. A clogged filter will produce a loss of air volume and may eventually cause an icing-up of the cooling (evaporator) coil.

IMPORTANT

Do not operate your air conditioner for extended periods of time without the filter installed.

An even more serious condition occurs when the air conditioner is operated without a filter. When this happens the lint, dirt, grease, etc. that are normally stopped by the filter are now accumulating in the cooling coil. This not only leads to a loss of air volume and a possible icing-up of the cooling coil, but could also result in serious damage to the operating components of the air conditioner.

We recommend that the filters be cleaned and changed at least every two weeks when the air conditioner is in operation.

Cleaning and/or changing the filters:

1. Remove the selector switch and thermostat knobs from the ceiling assembly.
2. Remove the two screws that secure the ceiling assembly shroud to the ceiling assembly. See Figure 3.
3. Lower the shroud and gently slide it off the control knob shafts.
4. Take filters out and either clean or exchange with other filters (See Figure 3).
5. If the vehicle is equipped with a flush mount ceiling assembly, remove the four return air grill screws.

6. Remove filter from grill and either clean or exchange with new filters.

NOTE

If replacement filters are necessary, the filters can be purchased from most RV Products Authorized Service Centers. It is recommended that spare filters be carried with the RV at all times to replace worn, torn or deteriorated filters.

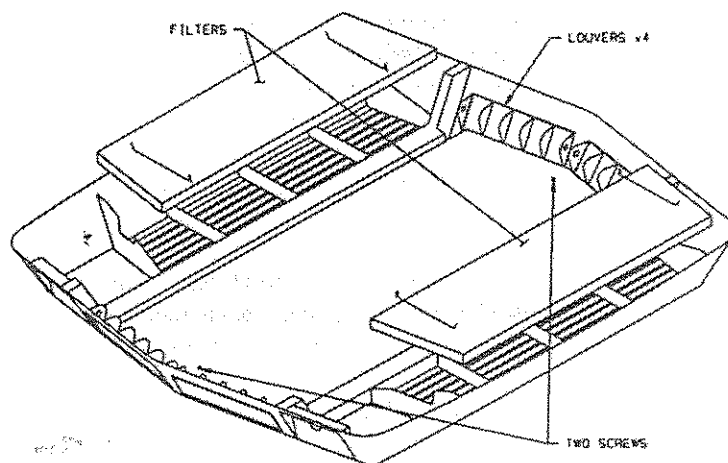


FIGURE 3

II. Service Person

- A. Electrical - All electrical work and/or inspection should be performed only by qualified service personnel. Contact your nearest RV Products Service Center if electrical problems should arise.
- B. Check Points - Failure to start or to cool the air are sometimes problems with air conditioning units. The RV Products RV air conditioner is designed to operate on 115 volt electrical power. If the compressor on the air conditioner fails to start, check with your RV Products Service Center to determine that the proper wire size is connected to the unit, the proper circuit breakers are installed as protection devices on the electrical circuit and the proper sized extension cord is being used for the distance covered from the utility outlet to the RV. The required minimum wire size is #12 AWG for lengths up to 25 feet (larger wire size for greater distances). Each air conditioning unit must be protected with a 20 amp time delay fuse or circuit breaker.

If the air conditioner continues to trip off the circuit breakers, have an electrician check the starting amperage and running amperage on the unit. If the circuit breaker continues to trip off and the electrical consumption is found to be normal, it will require the replacement of the faulty circuit breaker.

If all electrical power to the air conditioner is normal but neither the fan or the compressor will operate, the connector plug located behind the ceiling assembly control box should be checked to determine whether it is faulty.

On the heating-cooling air conditioner models, if all electrical power to the unit is normal and the fan runs but you never get any heated air, then the electrical plug to the heating unit should be checked for a secure connection. If this does not correct the malfunction, the heating thermostat or limit switch may be faulty.

- C. Mechanical Integrity - The air conditioner should be inspected periodically to be sure that the bolts which secure the unit to the roof are tight and in good

shape. Also, an examination of the plastic shroud covering the air conditioner on the top of the roof should be made periodically. Be sure the four mounting screws and washers are snug and holding the shroud to the air conditioner. Also examine the shroud to be sure it is not developing cracks or has suffered damage from impact.

- D. Lubrication

DANGER

DISCONNECT THE POWER SUPPLY TO THE UNIT BEFORE SERVICING TO PREVENT A SHOCK HAZARD OR POSSIBLE INJURY FROM MOVING PARTS.

The blower drive motor on some units may include oiling cups at the top of the motor. There is no requirement to oil the journals under normal operating conditions. However, if lubrication to the unit is desired, use only SAE 20 non-detergent type oil. **DO NOT OVER OIL** - three to four drops in each oil hole once a year is sufficient.

SECTION V - WALL THERMOSTAT IDENTIFICATION AND OPERATION

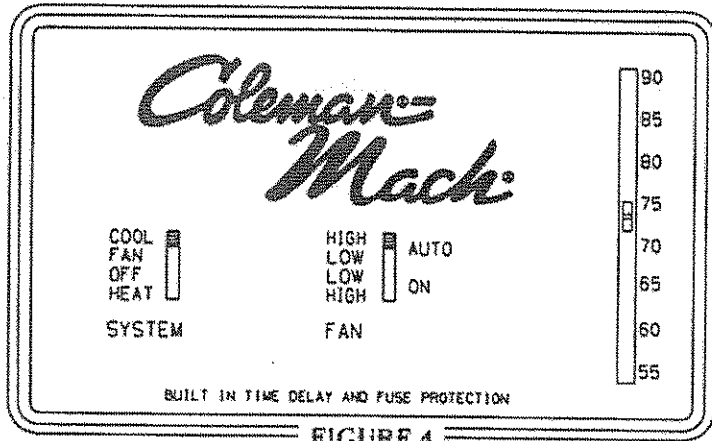
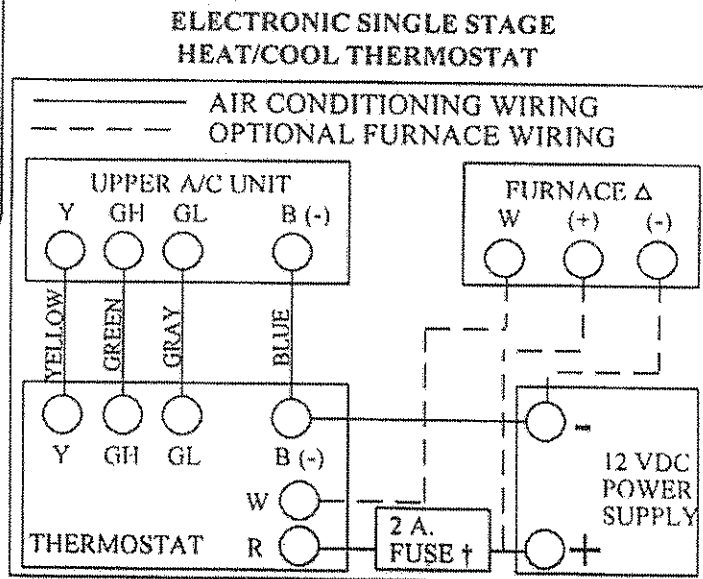


FIGURE 4

Heat/Cool Thermostat Shown.

"Cool Only" Model Has No Reference To Heat On Face Of Thermostat.



† Suggested Fuse To Protect Wiring Leading To Thermostat
Δ Not Found In "Cool Only" Applications

FIGURE 5

OPERATION

The chart below shows the system functions with the "Heat/Cool" thermostat. After the entire air conditioning system (and furnace system) is installed, check each position function. Disregard references to heat functions when using the "Cool Only" thermostat.

SHOWS POSITION OF SWITCH								OPERATION
SYSTEM				FAN				
* HEAT	COOL	OFF	FAN	AUTO HI	LO	ON LO	HI	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No functions occur.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Air conditioner fan runs at high speed continuously regardless of fan switch setting or setpoint. No other functions occur.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Air conditioner compressor and high speed fan cycle to satisfy setpoint.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Air conditioner compressor and low speed fan cycle to satisfy setpoint.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Air conditioner compressor cycles to satisfy setpoint. Air conditioner low speed fan runs continuously.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Air conditioner compressor cycles to satisfy setpoint. Air conditioner high speed fan runs continuously.
<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Furnace and furnace blower cycles to satisfy setpoint. Furnace blower operates from sequencer or time delay in furnace. Air conditioner blower does not run.
<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

All cooling functions controlling to setpoint have a short cycle protection time delay of 3 minutes. There will be no delay if the cycle **OFF** time exceeds 3 minutes.

* There is no heat switch or furnace function available with the "Cool Only" thermostat.

SECTION VI - OPTIONAL SOLAR BATTERY CHARGERS FOR RV PRODUCTS AIR CONDITIONERS

OPERATING INSTRUCTIONS

RV Products supplies custom engineered photovoltaic systems using the highest quality components available. To enjoy the maximum benefit from your solar maintenance system, please take a few moments to read the important information in this section.

The Problem

When not in use over a period of time, the house battery for a motor home will naturally "self-discharge". This is true even when the battery disconnect switch is open, preventing any power draw. Batteries allowed to self-discharge can result in "sulfation"; a condition which results in permanent damage, decreasing the effective life of the battery. It isn't always convenient to run power for battery maintenance to where a motor home is stored, and it's even less convenient to remove and relocate the battery each time the motor home will be stored.

The Solution

Your solar electric maintenance system provides an ideal method of keeping your battery maintained during storage. All that is required to keep a full charge on the house battery is for your RV to be stored where the solar panel is exposed to direct sunlight. When kept properly charged, your house battery will provide many years of trouble-free performance.

Operation

Your solar maintenance system will operate any time the solar panel is exposed to sufficient sunlight and the voltage output from the panel is greater than the supply voltage in your house batteries.

The red L.E.D. solar monitor light, located on the rear of the ceiling assembly will be illuminated only when the batteries are actually needing and receiving a charge from the panel. So don't be alarmed if your indicator light is not on all the time. The batteries may be fully charged already.

How Your System Works

Solar electric generation (technically known as photovoltaic power) is the technology of producing electricity directly from sunlight. Your solar charging system is 100% "Solid State" -- meaning that there are absolutely no moving parts when solar charging occurs.

This maintenance kit provides a single 5 watt solar panel mounted on top of the RV Products air conditioner shroud, located on the roof. This panel generates enough power to keep your house battery fully charged during storage, but is self-regulating in power output to prevent overcharging.

Your solar panel will operate even on cloudy days or with partial shading, although the amount of charging power generated will be reduced.

In total darkness, the solar panel and monitor will not discharge the battery in any manner because of our special circuit design.

Maintenance

Your solar panel is virtually maintenance free. Occasional cleaning of the solar panel will assure optimum performance. Simply use the same product used for cleaning your windshield, avoiding harsh chemicals. During winter months, accumulation of snow will reduce the effectiveness of the panel and should be brushed away. No other maintenance is required.

Performance Limitations

Your solar maintenance system is designed to generate enough power to maintain a full charge on your house battery only during storage when all devices and appliances are off (or when so equipped, the battery disconnect switch is activated). It will not maintain the charge on a battery which is subject to discharge by any type of power draw, nor is it powerful enough to recharge a discharged battery.

Note

The RV Products Solar Battery Charger is also available as an aftermarket add-on kit. This product is called the Solar Pal (part #7330-4101). It attaches easily to any full sized RV Products air conditioner. See your local dealer for details.

CUT

**APPLICATION FOR OPTIONAL FOUR (4) YEAR
COMPRESSOR PARTS CONTRACT
(DOES NOT INCLUDE LABOR)**

APPLICATION MUST BE MADE WITHIN 90 DAYS OF
PURCHASE DATE OF THE AIR CONDITIONER OR THE
RECREATIONAL VEHICLE IF THE AIR CONDITIONER IS
ORIGINAL EQUIPMENT.

Date of Purchase (Air Conditioner) _____
Air Conditioner Model Number _____
Air Conditioner Serial Number _____

Name of Purchaser _____
Address _____
City _____ State _____ Zip _____

BE SURE TO ENCLOSE A CHECK OR MONEY ORDER FOR \$39.95.

CUT

* This compressor replacement contract is not available (offered) for
compressors that are a component of Roughneck or Packaged off-roof
air conditioners.

MAKE CHECK PAYABLE:

RV PRODUCTS
A DIVISION OF AIRXCEL, INC.
CUSTOMER SERVICES DEPT. 546
P.O. BOX 4020
WICHITA, KS 67204

SECTION VII - WARRANTY SERVICE

Let's face it. Sometimes even the best products may need service. If that's true of your RV Products air conditioner, you can get service on your unit at most of the firms listed in the Authorized Service Center List included with your product. If you fail to receive your Service Center List or you need to obtain qualified factory trained service, contact us at the following address:

RV Products
A Division of Airxcel, Inc.
P.O. Box 4020
Wichita, KS 67204

IMPORTANT

1. Carefully read your limited one year product warranty which is packed with the product.
2. An optional limited four year parts contract on the compressor ONLY is available at an additional cost of \$39.95. To obtain this optional four year parts contract, fill out the application included in this book and send it with a check or money order to:

RV Products
A Division of Airxcel, Inc.
Customer Services Dept. 546
P.O. Box 4020
Wichita, KS 67204

The optional four year parts contract begins upon the expiration of the initial warranty. Before applying, carefully read the parts contract reproduced on the back page of this manual.

3. Any applications for the extended compressor parts contract must be made **within 90 days** from the purchase date of the air conditioner or the recreational vehicle if the air conditioner is original equipment.
4. Inquiries to your RV Products Representative or RV Products on this unit must include the units **model and serial number**. The model number and serial number can be found on the I.D. Label located at the bottom of the roof unit, See Figure 6. Access to this label is accomplished by lowering the ceiling assembly. The rating plate can be read without requiring the removal of any parts, See Figure 8. Use **only the roof unit model and serial numbers** when sending in the optional four year parts contract.
5. Inquiries on the Ceiling Assembly should contain the ceiling assembly part, serial or code date number. This information can be found on the I.D. Label, See Figure 6.

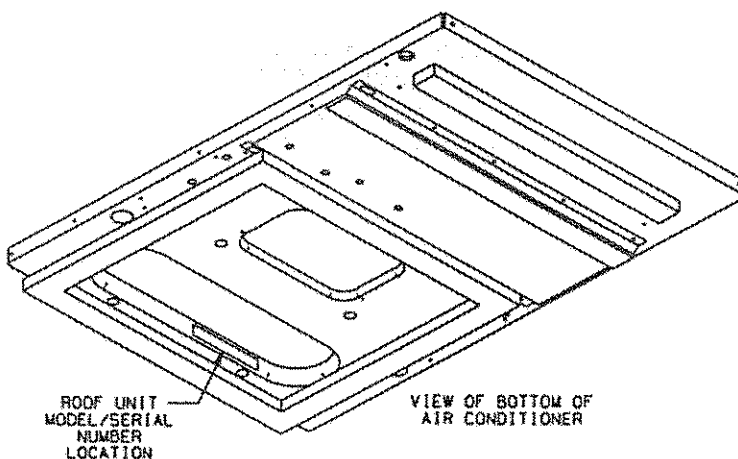


FIGURE 6

OPTIONAL FOUR YEAR COMPRESSOR REPLACEMENT CONTRACT



RECREATIONAL VEHICLE AIR CONDITIONING COMPRESSORS

NOT RENEWABLE (OPTIONAL at ADDITIONAL COST) NOT REFUNDABLE
A/C MODEL NUMBER _____ A/C SERIAL NUMBER _____
CONTRACT # _____ EFFECTIVE COMPRESSOR CONTRACT DATE _____

SAMPLE

See Cut Out Application In This Publication

1. Upon receipt of the required fee, RV Products agrees to replace its RV Products recreational vehicle refrigerant compressors for four years if defective in material and workmanship. This compressor replacement contract is in addition to the original one-year warranty. The compressor replacement contract is transferable from owner to owner. This agreement must be purchased within 90 days of the purchase of a new recreational vehicle or of a new air conditioner, if purchased separately from a recreational vehicle. The consumer must establish these dates by copy of the sales receipt.
2. Any defective compressor will be replaced on an exchange basis when returned with transportation charges prepaid to RV Products, 3050 N. St. Francis, Wichita, KS 67219. Compressors replaced under the term of the contract may contain recycled parts. The replacement compressor will be shipped from Wichita, Kansas transportation charges prepaid. This compressor contract does not cover any labor charges or other charges.
3. The compressor replacement contract duration shall be calculated as follows:
 - 3.1 The contract duration on replacement compressors furnished under this compressor replacement contract shall be for the unexpired duration under this contract.
 - 3.2 If the air conditioner is installed as original equipment in a recreational vehicle, the duration shall begin one (1) year from the date of the original purchase of the recreational vehicle.
 - 3.3 If the air conditioner is installed in a recreational vehicle previously purchased by the consumer, the duration shall begin one (1) year from the date of the purchase of the air conditioner.
 - 3.4 The consumer must establish these dates by presenting this certificate at the time the claim is made.
4. The consumer should proceed as follows to obtain contract performance:
 - 4.1 Consult the Authorized Service Center List packed with the product or the yellow pages of the telephone book under Air Conditioning Equipment for the name, address and telephone number of the nearest Authorized RV Products Service Center. Schedule appointments for service assistance. It is the contracted consumer's responsibility to transport the air conditioner to the servicers location. Collect service agreement calls will not be accepted by RV Products or field servicers.

EXCEPTIONS AND EXCLUSIONS

5. To the extent any or all of the following exclusions or any other provisions of this compressor replacement contract are prohibited by any federal, state or municipal law, and cannot be preempted, they shall not be applicable.
 - 5.1 THERE ARE NO OTHER COMPRESSOR REPLACEMENT CONTRACTS.
 - 5.2 THIS COMPRESSOR REPLACEMENT CONTRACT DOES NOT COVER CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES OR INCIDENTAL EXPENSES, INCLUDING DAMAGE TO PROPERTY.
 - 5.3 This compressor replacement contract applies only to products sold at retail in the United States or Canada.
 - 5.4 This compressor replacement contract does not cover damages caused by mishandling, neglect, lightning, corrosive atmosphere, improper installation, improper application or improper energy supply.
 - 5.5 This compressor replacement contract does not cover damages caused by failure to perform normal and routine maintenance as set out in the operation and maintenance instructions.
 - 5.6 This compressor replacement contract does not cover damages or equipment failure caused by the use of non-R.V. Products parts or components.
 - 5.7 This compressor replacement contract shall not apply if the nameplate is removed or defaced.
 - 5.8 This compressor replacement contract shall not apply if the vehicle on which the air conditioner is installed for maritime activities.
 - 5.9 This compressor replacement contract shall not apply if the vehicle on which the air conditioner is installed is used for commercial purposes involving off highway travel.
 - 5.10 This compressor replacement contract shall not apply if the air conditioner is installed on a semi-tractor and/or trailer.
 - 5.11 This compressor replacement contract is not available (offered) for compressors that are a component of Roughneck or Packaged off-roof air conditioners.

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