



RV Products Division

**OPERATION AND MAINTENANCE INSTRUCTIONS
FOR
9000 SERIES
ROOF TOP AIR CONDITIONERS
AND
CEILING PLENUMS**



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I. GENERAL INFORMATION

These air conditioners were designed to operate from a 240 VAC, 50 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.

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 F (8 to 12 degrees C), depending on the outside temperature and humidity conditions.

For example, if the air entering the return air grilles in the air conditioner is 80 degrees F (27 degrees C), the air leaving the discharge grilles in the air conditioner will be 60 to 65 degrees F (15 to 19 degrees C).

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 degrees F) (27 degrees C) 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.

NOTE

The optional 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.

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. Figure 1 shows selector switch location and lists 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 Figure 1).

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.

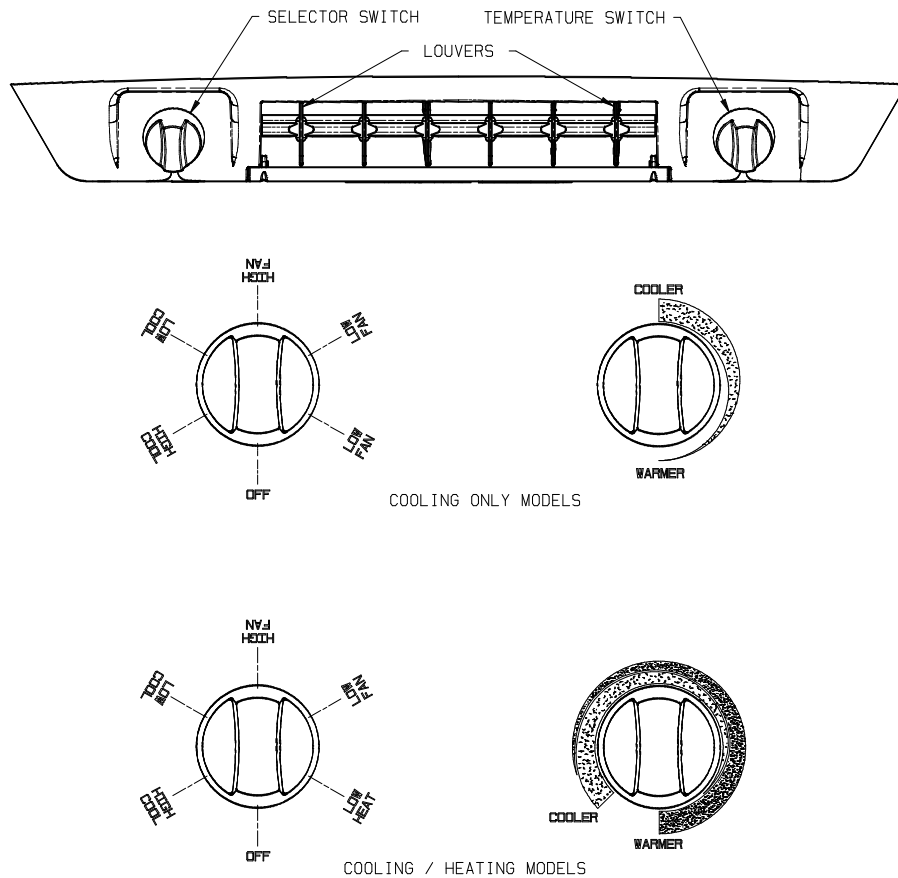


FIGURE 1

III. OPERATION

I. For Cooling (Refer to Figure 1, 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. Then the temperature of the air entering continues 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.

Note: The fan operation is constant, only the compressor cycles on the thermostat.

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 degrees F (24 degrees C), that the thermostat (temperature control) be set at a midpoint between “Warmer” and “Cooler”. If the setting is at “Cooler”, the evaporator coil may become iced-up and stop cooling. During the day when the temperatures have risen above 75 degrees F (24 degrees C), 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, 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. With 9000 series ceiling assemblies, the heater coil is not externally visible.

- 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 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.**

V. For Air Circulation Only (Refer to Figure 1, page 3).

- A. Turn the selector switch to “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.

IV. MAINTENANCE

I. Owner

One of the biggest advantages to your new Coleman-Mach 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 or foam 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 with 8000 series ceiling assemblies:

1. Disengage the two 1/4-turn fasteners that secure the ceiling assembly grille to the ceiling assembly (See Figure 2).
2. Lower the grille and filters from the ceiling assembly.
3. Take filters out and either clean or exchange with other filters (See Figure 2).
4. If the vehicle is equipped with a flush mount ceiling assembly, remove the four return air grille screws. Remove filter from grille and either clean or exchange with new filters.

NOTE

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

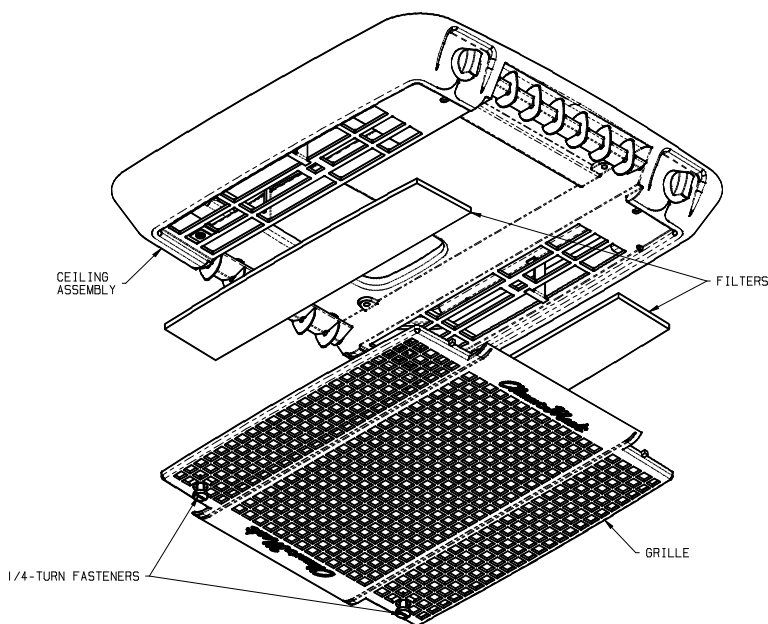


FIGURE 2

II. Service Person

- A. Electrical – All electrical work and/or inspection should be performed only by accredited service personnel. Contact your nearest Authorized 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 Coleman-Mach air conditioner is designed to operate on 240 volt electrical power. If the compressor on the air conditioner fails to start, check with your Authorized 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. Each air conditioning unit must be protected with an appropriate 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 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.

V. WALL THERMOSTAT IDENTIFICATION AND OPERATION

If your Coleman-Mach roof top air conditioner is controlled by a wall thermostat, refer to the operation manual that was included with the thermostat.

VI. WARRANTY SERVICE

LIMITED WARRANTY FOR COAST TO COAST RV SERVICES P/L RECREATIONAL VEHICLE ROOF TOP AIR CONDITIONERS

THIS IS A LIMITED ONE YEAR WARRANTY ONLY!!

This Coast to Coast RV Services product is warranted to the original purchaser to be free from defects in material and workmanship under normal use and maintenance for a period of one year from the date of purchase, regardless of the commencement date of use. It is the responsibility of the consumer/owner to establish the warranty period. Coast to Coast RV Services does not use warranty registration cards for its standard warranty. You are required to furnish proof of purchase date through a bill of sale or other payment record.

Coast to Coast RV Services will replace any parts that are found to be defective within the first year and will pay a warranty service allowance directly to the authorized Coast to Coast RV Services approved Agent at rates mutually agreed upon between Coast to Coast RV Services and its authorized service center or agent. Water heater must be returned to a Coast to Coast RV Services authorized service center. Coast to Coast RV Services will not bear costs involving traveling time from their service agents.

Some Service agents can perform warranty repairs on site but all traveling time will be paid by owner of Vehicle or Caravan.

COAST TO COAST RV SERVICES WILL NOT BE RESPONSIBLE FOR:

Normal maintenance as outlined in the "OPERATION AND MAINTENANCE INSTRUCTIONS" owner's manual including cleaning/replacement of the filters.

Initial check outs and subsequent check outs which indicates the roof top air conditioner is operating properly or diagnosis without repair.

Damage or repairs required as a consequence of faulty or incorrect installation or application not in conformance with Coast to Coast RV Services instructions.

Failure to start or operate due to loose or disconnected wire, water or dirt in controls, low or incorrect voltage supply.

Costs incurred in gaining access to the roof top air conditioner.

Parts or accessories not supplied by Coast to Coast RV Services.

Freight charges incurred from parts replacement.

Damage or repairs as a consequence of any misapplication, abuse, unreasonable use, unauthorized alteration, improper service, improper operation or failure to provide reasonable and necessary maintenance.

Coast to Coast RV Services products, whose serial number has been altered, defaced or removed.

Damage as a result of floods, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Coast to Coast RV Services.

Any special indirect or consequential property, economic or commercial damage of any nature whatsoever.

Some states do not allow the exclusion of accidental or consequential damages, so the above limitation may not apply to you.

NO REPRESENTATIVE, DEALER OR OTHER PERSON IS AUTHORIZED TO ASSUME FOR COAST TO COAST RV SERVICES ANY ADDITIONAL, DIFFERENT OR OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS COAST TO COAST RV SERVICES PRODUCT.

This warranty gives you specific legal rights. You may also have additional rights which vary from state to state.
IF YOU HAVE A PRODUCT PROBLEM –

First:

If your RV has its original roof top air conditioner and is still under the RV manufacturer's warranty, follow the steps described in the RV owner's manual.

Second:

Contact Coast to Coast RV Services for further assistance.

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