



RECORD THIS UNIT INFORMATION FOR FUTURE REFERENCE:

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

ADB Number \_\_\_\_\_

ADB Serial Number \_\_\_\_\_

Date Purchased \_\_\_\_\_

Roof Top Unit				
Description	Model	Use With Air Distribution Box		
		Model	Control	Electric Heat
Heat Pump	630025 650015	3311670.XXX	Integral Mechanical	N/A

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[www.eDometic.com](http://www.eDometic.com)



**Note: Installation requires a #2 phillips screwdriver with 9/32" maximum diameter x 1-1/4" minimum length.**

**⚠ WARNING**  
 This manual must be read and understood before installation, adjustment, service, or maintenance is performed. This unit must be installed by a qualified service technician. Modification of this product can be extremely hazardous and could result in personal injury or property damage.

**⚠ AVERTISSEMENT**  
 Lire et comprendre ce manuel avant de procéder à l'installation, à des réglages, de l'entretien ou des réparations. L'installation de ce produit doit être effectuée par un réparateur qualifié. Toute modification de ce produit peut être extrêmement dangereuse et entraîner des blessures ou dommages matériels.

# INSTALLATION & OPERATING INSTRUCTIONS

- MODELS**
- 630025.331
  - 650015.30X
  - 650015C35X
  - 650015.80X
  - 650015C85X

**REVISION A**  
 Form No. 3313214.029 11/16  
 (French 3313215.026\_A)  
 ©2016 Dometic Corporation  
 LaGrange, IN 46761

**⚠ Read these instructions carefully. These instructions MUST stay with this product.**

## IMPORTANT SAFETY INSTRUCTIONS

This manual has safety information and instructions to help users eliminate or reduce the risk of accidents and injuries.

### RECOGNIZE SAFETY INFORMATION



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

### UNDERSTAND SIGNAL WORDS

A signal word, when used with the safety alert symbol, will identify a safety hazard and its level of risk for personal injury. A signal word, without the safety alert symbol, will be used for property damage messages only.

**⚠ WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE** NOTICE is used to address practices not related to personal injury.

**⚠ WARNING**  
Read and follow all safety information and instructions to avoid personal injury.

## GENERAL INFORMATION

- A.** Product features or specifications as described or illustrated are subject to change without notice.
- B.** This heat pump (hereinafter referred to as the "unit") is designed for:
1. Installation on a recreational vehicle during or after the time the vehicle is manufactured.
  2. Mounting on the roof of a recreational vehicle.
  3. Roof construction with rafters/joists on minimum of 16 inch centers.
  4. Minimum of 1.00 inch and maximum of 5.5 inches distance between roof to ceiling of recreational vehicle.
- C.** The ability of the air conditioner to maintain the desired inside temperature depends on the heat gain of the RV.  
Some preventative measures taken by the occupants of the RV can reduce the heat gain and improve the performance of the air conditioner. During extremely high outdoor temperatures, the heat gain of the RV may be reduced by:
1. Parking the RV in a shaded area
  2. Using window shades (blinds and/or curtains)
  3. Keeping windows and doors shut or minimizing usage
  4. Avoiding the use of heat producing appliances

Operation on High Fan/Cooling mode will give optimum or maximum efficiency in high humidity or high outside temperature.

Starting the air conditioner early in the morning and giving it a "head start" on the expected high outdoor ambient will greatly improve its ability to maintain the desired indoor temperature.

For a more permanent solution to a high heat gain, accessories like Dometic outdoor patio and window awnings will reduce heat gain by removing the direct exposure to the sun. They also add a nice area to enjoy company during the cool of the evening.

### D. Condensation

**Note:** The manufacturer of this unit will not be responsible for damage caused by condensed moisture on ceilings or other surfaces. Air contains moisture and this moisture tends to condense on cold surfaces. When air enters the RV, condensed moisture may appear on the ceiling, windows, metal parts, etc. During normal operation this unit removes moisture from the air. Keeping doors and windows closed when this air conditioner is in operation will minimize condensed moisture on cold surfaces.

# SPECIFICATIONS

Model No.	Nominal Capacity (BTU HR) Cooling	Electrical Rating 120 VAC 60Hz. 1PH	Compressor Cooling Rated Load Amps	Compressor Locked Rotor Amps	Fan Motor Rated Load Amps	Fan Motor Locked Rotor Amps	Refrigerant R-22 (Oz.)	Minimum Wire Size* 12 AWG Copper Up to 24'	AC Circuit Protection ***Installer Supplied	Minimum Generator Size** 1 Unit / 2 Units
630025.331	13,500		12.4	61.0	3.5	10.0	23.5		20 Amp	3.5 KW / 5.0 KW

Model No.	Nominal Capacity (BTU HR) Cooling	Electrical Rating 120 VAC 60Hz. 1PH	Compressor Cooling Rated Load Amps	Compressor Locked Rotor Amps	Fan Motor Rated Load Amps	Fan Motor Locked Rotor Amps	Refrigerant R-410A (Oz.)	Minimum Wire Size* 12 AWG Copper Up to 24'	AC Circuit Protection ***Installer Supplied	Minimum Generator Size** 1 Unit / 2 Units
650015.30X	13,500		12.5	61.0	3.3	8.5	25.0		20 Amp	3.5 KW / 5.0 KW
650015C35X	13,500		12.5	61.0	3.3	8.5	25.0		20 Amp	3.5 KW / 5.0 KW
650015.80X	13,500		13.1	63.0	2.6	8.5	24.0		20 Amp	3.5 KW / 5.0 KW
650015C85X	13,500		13.1	63.0	2.6	8.5	22.0		20 Amp	3.5 KW / 5.0 KW

\* For wire length over 24 ft., consult the National Electric Code for proper sizing.

\*\* Dometic Corporation gives **GENERAL** guidelines for generator requirements. These guidelines come from experiences people have had in actual applications. When sizing the generator, the total power usage of your recreational vehicle must be considered. Keep in mind generators lose power at high altitudes and from lack of maintenance.

\*\*\* CIRCUIT PROTECTION: Time Delay Fuse or Circuit Breakers Required.

# INSTALLATION INSTRUCTIONS

## A. Precautions

### **⚠ WARNING**

**PERSONAL INJURY HAZARD.** Failure to obey these installation instructions may cause serious personal injury and/or property damage.

1. Read installation and operating instructions carefully before attempting to start this unit installation.
2. Dometic Corporation will not be liable for any damages or injury incurred due to failure in following these instructions.
3. Installation **MUST** comply with the National Electrical Code ANSI/NFPA-70 and CSA Standard C22.1 (latest edition) and any State or Local Codes or regulations.
4. Do **NOT** add any devices or accessories to this unit except those specifically authorized in writing by Dometic Corporation.
5. This equipment **MUST** be serviced by qualified personnel and some states require these people to be licensed.

## B. Choosing Proper Location For The Unit

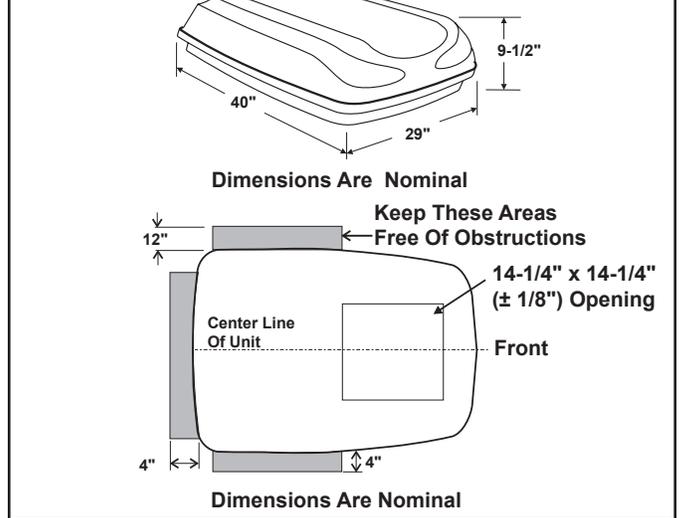
This unit is specifically designed for installation on the roof of a recreational vehicle (RV). When determining your cooling requirements, the following should be considered:

- Size of RV;
  - Window area (increases heat gain);
  - Amount of insulation in walls and roof;
  - Geographical location where the RV will be used;
  - Personal comfort level required.
1. Normal locations-The unit is designed to fit over an existing roof vent opening.
  2. Other locations-When no roof vent is available or another location is desired, the following is recommended:
    - a. For one unit installation: The unit should be mounted slightly forward of center (front to back) and centered from side to side.
    - b. For two unit installations: Install one unit 1/3 and one unit 2/3's from front of RV and centered from side to side.

It is preferred that the unit be installed on a relatively flat and level roof section with the RV parked on a level surface but up to a 8° tilt is acceptable.

3. After Location Has Been Selected
  - a. Check for obstructions in the area where unit will be installed. See FIG. 1.

FIG. 1



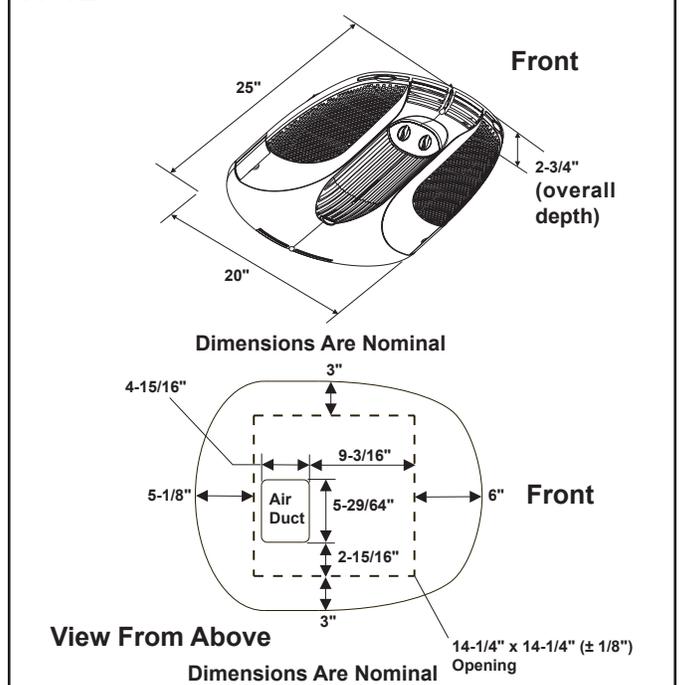
- b. The roof must be designed to support 130 pounds when the RV is in motion. Normally a 200 lb. static load design will meet this requirement.

### **NOTICE**

**PROPERTY DAMAGE HAZARD.** It is the responsibility of the installer of this system to ensure structural integrity of the RV roof. Never create a low spot on the roof where water will collect. Failure to obey this warning may cause water damage to the product and the RV.

- c. Check inside the RV for air distribution box obstructions. (i.e. door openings, room dividers, curtains, ceiling fixtures, etc.) See FIG. 2.

FIG. 2



## C. Roof Preparation

1. Opening Requirements - Before preparing the ceiling opening, read all of the following instructions before beginning the installation.

If a existing roof vent opening will not be used a 14-1/4" x 14-1/4" ( $\pm 1/8$ ") opening must be cut through the roof and ceiling of the RV. This opening must be located between the roof reinforcing members.

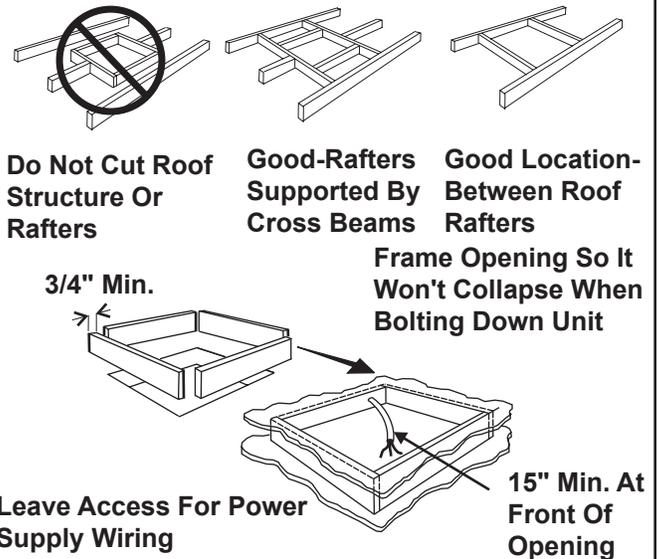
### **⚠ WARNING**

**SHOCK HAZARD.** There may be electrical wiring between the roof and the ceiling. Disconnect 120 VAC power supply and the positive (+) 12 VDC terminal at the supply battery. Failure to obey this warning may cause death or severe personal injury.

The 14-1/4" x 14-1/4" ( $\pm 1/8$ ") opening is part of the return air system of the unit and **MUST** be finished in accordance with ANSI A119.2.

2. Roof Vent Removal
  - a. Unscrew and remove the roof vent.
  - b. Remove all caulking compound around opening.
  - c. Seal all screw holes and seams where the roof gasket will be located. Use a good grade of all weather sealant.
  - d. If the opening exceeds 14-3/8" x 14-3/8", it will be necessary to re-size the opening to 14-1/4" x 14-1/4" ( $\pm 1/8$ ").
  - e. If the opening is less than 14-1/8" x 14-1/8", it must be enlarged to 14-1/4" x 14-1/4" ( $\pm 1/8$ ").
3. New opening-(installations other then vent openings)
  - a. Mark a 14-1/4" x 14-1/4" ( $\pm 1/8$ ") square on the roof and carefully cut the opening.
  - b. Using the roof opening as a guide, cut the matching hole in the ceiling.
  - c. The opening created must be framed to provide adequate support and prevent air from being drawn from the roof cavity. Framing stock 3/4" thick or more must be used. Remember to provide an entrance hole for power supplies at front of opening. See FIG. 3.

FIG. 3



### **NOTICE**

**PROPERTY DAMAGE HAZARD.** It is the responsibility of the installer of this system to ensure structural integrity of the RV roof. Never create a low spot on the roof where water will collect. Failure to obey this warning may cause water damage to the product and the RV.

## D. Wiring Requirements

1. Route a copper, with ground, 120 VAC supply wire from the time delay fuse or circuit breaker box to the roof opening. The proper size wire can be determined from chart on page 3.

**Note:** If vent fan was removed, the existing wire may be used provided it is of proper size, location, and correctly fused.

- a. This supply wire must be located in the front portion of the 14-1/4" x 14-1/4" ( $\pm 1/8$ ") opening.
- b. The power **MUST** be on an appropriately sized separate time delay fuse or circuit breaker. The proper size protection can be determined from the chart on page 3.
- c. Make sure at least 15" of wire extends into the roof opening. This will insure easy connection at the junction box.
- d. Wiring **MUST** comply with the National Electrical Code ANSI/NFPA-70 and CSA Standard C22.1 (latest edition) and any State or Local Codes or regulations.
- e. Protect the wire where it passes into the opening with approved method. See paragraph "d" above.

## E. Placing The Unit On The Roof

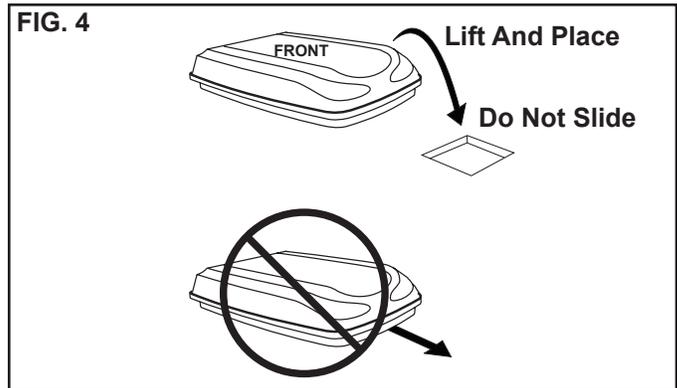
### **⚠ WARNING**

**PERSONAL INJURY HAZARD.** This unit weighs approximately 100 pounds. To prevent back injury, use a mechanical hoist to place unit on roof. Failure to obey this warning could cause severe personal injury.

1. Remove the unit from the carton and discard carton.
2. Place the unit on the roof.
3. Lift and place the unit over the prepared opening using the gasket on the unit as a guide. See FIG. 4.

### **NOTICE**

**PROPERTY DAMAGE HAZARD.** Do not slide the unit. Failure to obey this warning may damage the neoprene gasket attached to the bottom and create a leaky installation.

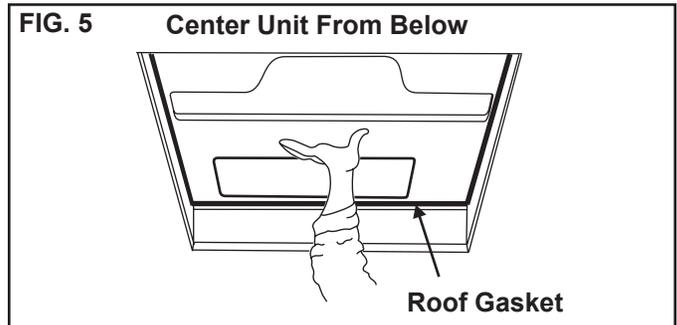


4. Place the air distribution box kit inside the RV. This box contains mounting hardware for the unit and will be used inside the RV.

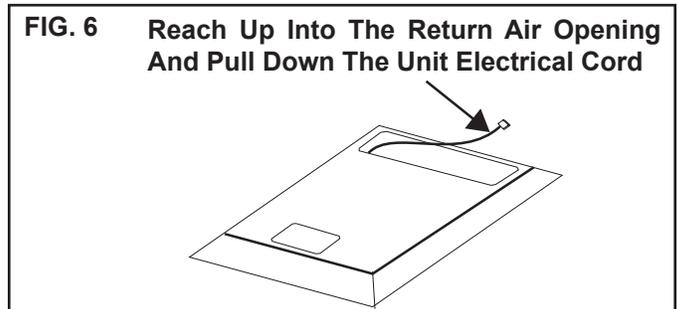
This completes the outside work. Minor adjustments can be done from inside the RV if required.

## F. Installing The Unit

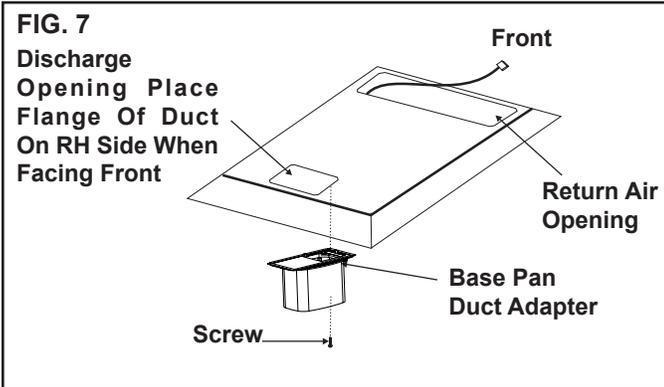
1. Check gasket alignment of the unit over the roof opening and adjust if necessary. Unit may be moved from below by slightly lifting. See FIG. 5.



2. Remove air distribution box and mounting hardware from the air distribution box kit carton.
3. Remove wire tie holding center of rear aluminum bracket to plastic template.
4. Reach up into return air opening of the unit and pull the unit electrical cord down for later connection. See FIG. 6.



5. Base Pan Duct Adapter.
  - a. Remove the liner from the foam tape and position on the base so screw hole and air openings are aligned. See FIG. 7.
  - b. Install provided screw to help hold duct adapter to base pan if desired.



6. 120 VAC Power Supply Connection

**⚠ WARNING**

**SHOCK HAZARD. Disconnect 120 VAC. Failure to obey this warning could create a shock hazard causing death or severe personal injury.**

**Note:** Wiring **MUST** comply with National Electrical Code ANSI/NFPA-70 and CSA Standard C22.1 (latest edition) and any State or Local Codes or regulations.

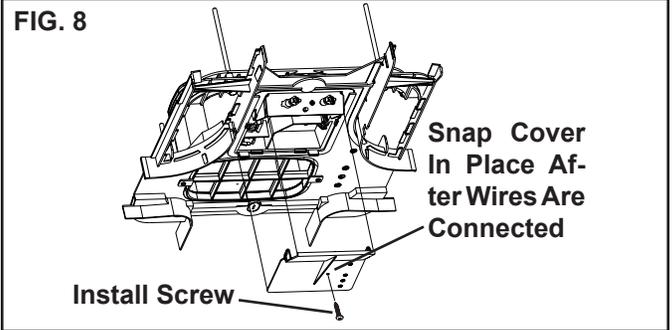
- a. Install the strain relief in the junction box.
- b. Route the previously run 120 VAC power supply wire through the strain relief and into the junction box. Tighten connector making sure not to damage wires.

**Note:** Connect wiring per schematic with UL listed wire connectors for size of wire being connected.

**⚠ WARNING**

**SHOCK HAZARD. This product is equipped with a 3 wire (grounded) system for protection against shock hazard. Make sure that the unit is wired into a properly grounded 120 VAC circuit and the polarity is correct. Failure to do so could result in death, personal injury or damage to the equipment.**

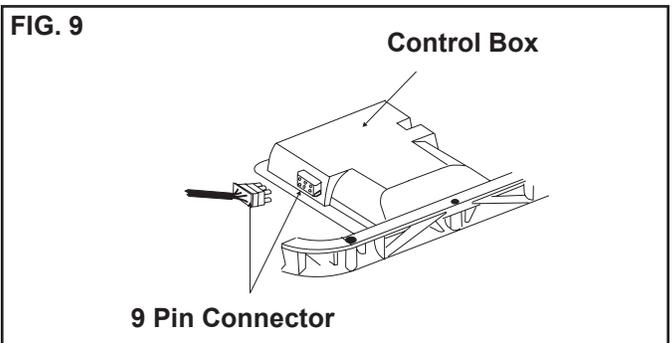
- c. Connect white to white; black to black; and green to green or bare copper wire using appropriate size connectors.
- d. Tape the connectors to the supply wire to assure they don't vibrate off.
- e. Push the wires into the box.
- f. Insert back edge of cover under tabs and snap control box cover into place. Secure cover with screw provided. See FIG. 8.



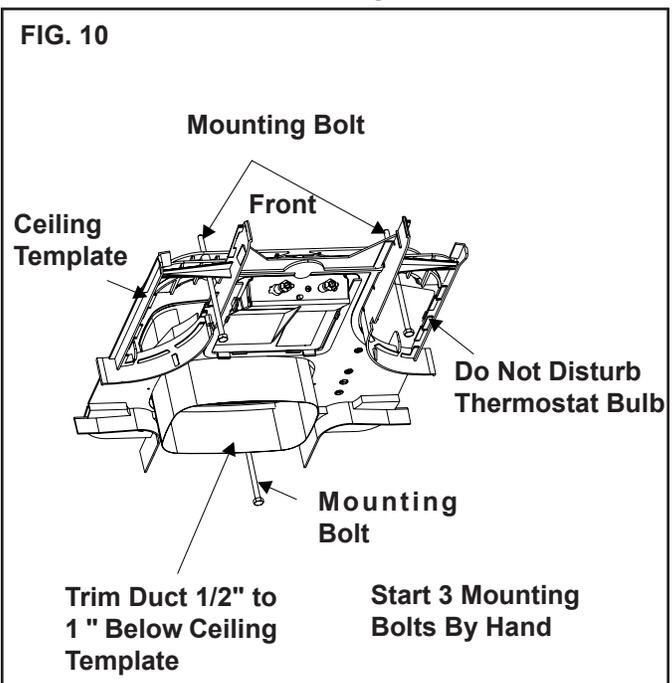
7. Ceiling template installation.

**Note:** The large center hole in the ceiling template goes to the rear. Insure that the thermostat bulb is not moved during installation.

- a. Plug the nine pin cord into the control box on the ceiling template. See Fig. 9.



- b. Start each mounting bolt by hand before tightening any of them. The threaded inserts in the base pan can be seen to aid in starting the bolts.
  - i. This installation uses a 3 bolt pattern, one in the rear center and two in the front corners. See Fig. 10.



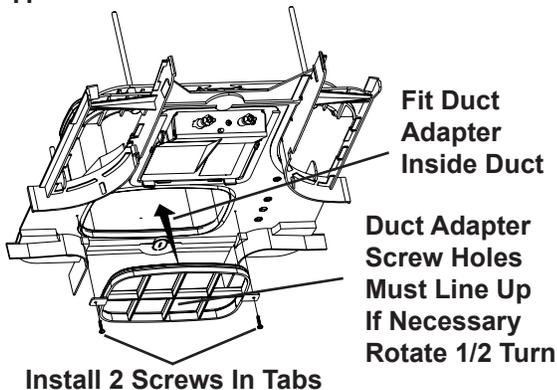
- Evenly tighten the bolts to a torque of 40 to 50 inch pounds. This will compress the roof gasket to approximately 1/2". The bolts are self locking so further tightening is not necessary. See FIG. 10.

### NOTICE

**PROPERTY DAMAGE HAZARD.** If bolts are left loose there may not be an adequate roof seal or if over tightened, damage may occur to the unit base or ceiling template. Tighten to torque specifications listed in this manual.

8. Template/Duct connector
  - a. Pull duct down through template opening.
  - b. Cut the duct 1/2"-1" below template opening. See Fig. 10.
  - c. Align the template duct adapter with the template duct hole making sure the screw holes line up (if not rotate 1/2 turn). Insert template duct adapter into duct. Leave one loop of duct wire below the duct adapter groove. Do not insert tabs inside of the duct.
  - d. Snap duct adapter into template and install 2 screws through the duct adapter tabs into the ceiling template. See Fig. 11.

FIG. 11

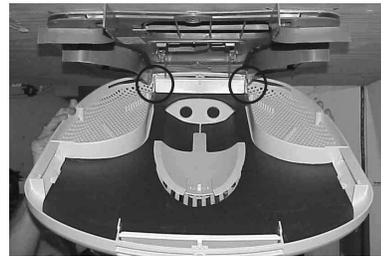


## G. Air Distribution Box Installation

**Important:** The inner walls of the ADB go inside the walls of the ceiling template during installation.

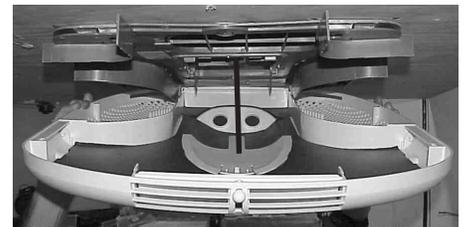
1. Working from the rear looking forward with the rear tipped down, place the air distribution box inner walls against the inside of the ceiling template walls. Slide the air distribution box backwards until it touches the template. Raise the air distribution box to the ceiling. See FIG. 12.

FIG. 12



**Position ADB Walls Inside And Against End Of Template Walls**

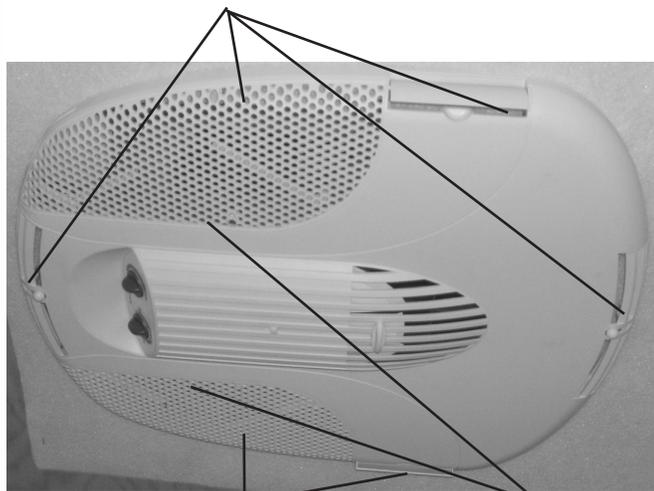
**Raise Back End Of ADB To Ceiling**



**Push Here To Engage Latches, Then Remove Labels**

2. Push up on the ADB at the locations indicated by the paper labels to engage the snap locks. There will be a quiet click heard when each latch engages. See FIG. 12.
3. Hold the air distribution box to the ceiling with one hand and install two coarse threaded 3.5 mm X 19 mm sharp pointed screws in the location shown in FIG. 13.
4. Auxiliary screws may be installed at the locations shown. These are **NOT** required to secure the ADB to the template, but may be desired for aesthetic purposes in some ceiling geometries. See FIG. 13.

**FIG. 13** Auxiliary Screw Locations



**Auxiliary Screw Locations**

**Install 2 Primary Mount Screw First**

5. Filter installation. Slide filters into slots in air distribution box. The outward curved side of the filter handle faces the ceiling. See FIG. 13.
6. Knob installation. Install the two knobs provided on the ends of the thermostat and selector switch shafts. Align slot in knob with alignment post on shaft and push into position.
7. The power supply to the unit may now be turned "ON".
8. Your unit is now installed and ready for operation. Read the following operating instructions before attempting to run the unit.

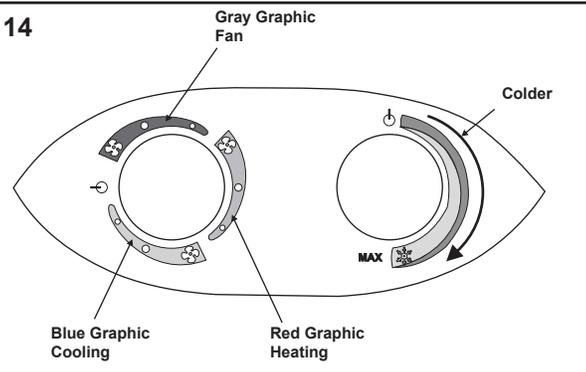
## OPERATING INSTRUCTIONS

### A. Controls

1. The selector switch has 10 positions including "OFF". This controls fan speed, heating mode, and cooling modes. See FIG. 14.
2. The thermostat controls the compressor ON/OFF operation for a temperature range from approximately 65° F. to 90° F. at the ADB inlet, depending on the knob position. See FIG. 14. The blower runs continually at the speed selected.

**Important:** When the unit is turned on and the thermostat calls for cooling or heating, the compressor will start. After shutting the unit down manually by either the selector switch or the thermostat, always wait 2-3 minutes before turning on the unit. This allows the refrigerant pressures in the unit system to equalize so the compressor may start.

**FIG. 14**



### B. Cooling Operation (Blue Graphic)

1. Set the thermostat at the desired temperature level. See FIG. 14.
2. Select the cooling mode that best satisfies your needs:
  - a. **HIGH COOL:** Selected when maximum cooling and dehumidification required.
  - b. **MEDIUM COOL:** Selected when normal or average cooling required.
  - c. **LOW COOL:** Selected to main room at desired comfort level. Normally this speed used for night time operation.

### C. Heating Operation (Red Graphic)

**Note:** The heat modes of operation will not replace a furnace for heating your RV in cold weather. The intent is to remove the chill on cool days or mornings.

1. Turn the selector switch to "HEAT" mode that best satisfies your needs. See FIG. 14.
2. Set thermostat to the desired temperature level.

### D. Fan Operation (Gray Graphic)

1. This will circulate the air in the RV without cooling or heating. Turn the selector switch to the "FAN" mode that best satisfies your needs.

### E. "OFF" Position (⊙)

## MAINTENANCE

### A. Air Filters

1. Periodically (a minimum of every 2 weeks of operation) slide out the return air filters located on the end of the air distribution box. Wash the filters with soap and warm water, let dry and then reinstall.

**Note:** To insure easy future removal the filters need to be replaced with the domed side of their handle positioned towards the ceiling.

**Note:** Never run the unit without both return air filters in place. This will plug the unit evaporator coil with dirt and may substantially degrade the performance of the unit over time.

### B. Air Distribution Box Housing

1. Clean air distribution box housing with a soft cloth dampened with a mild detergent. Never use furniture polish or scouring powders.

### C. Fan Motor

1. The blower motor is factory lubricated and requires no service.

### D. Frost Formation

1. On Cooling Coil
  - a. Frost on a small portion of the coil is not unusual. Under certain conditions, ice may form on the evaporator coil. This is indicated by very cold output at very low air speed and the icing can be seen through the air inlet holes with the filters removed. If this should occur, inspect the filter and clean if dirty. Make sure air vents are open and not obstructed. Units have a greater tendency to frost when the outside temperature is relatively low. This may be prevented by adjusting the thermostat control knob to a warmer setting (counter clockwise). Should frosting continue, operate on any fan **ONLY** setting until the cooling coil is free of frost; then resume normal operation. If frost condition persist, contact your local service center for assistance.
2. On Outdoor Coil While Heating
  - a. Operation at low outdoor temperatures causes low coil temperatures. This can result in ice forming on the out door coil in certain conditions. This is indicated by reduced heat output and could fully stop fan rotation in extreme conditions. To avoid this the system controls turn off the compressor if out door temperature drops below 42° F. and returns heating when the temperature raises 5° F.

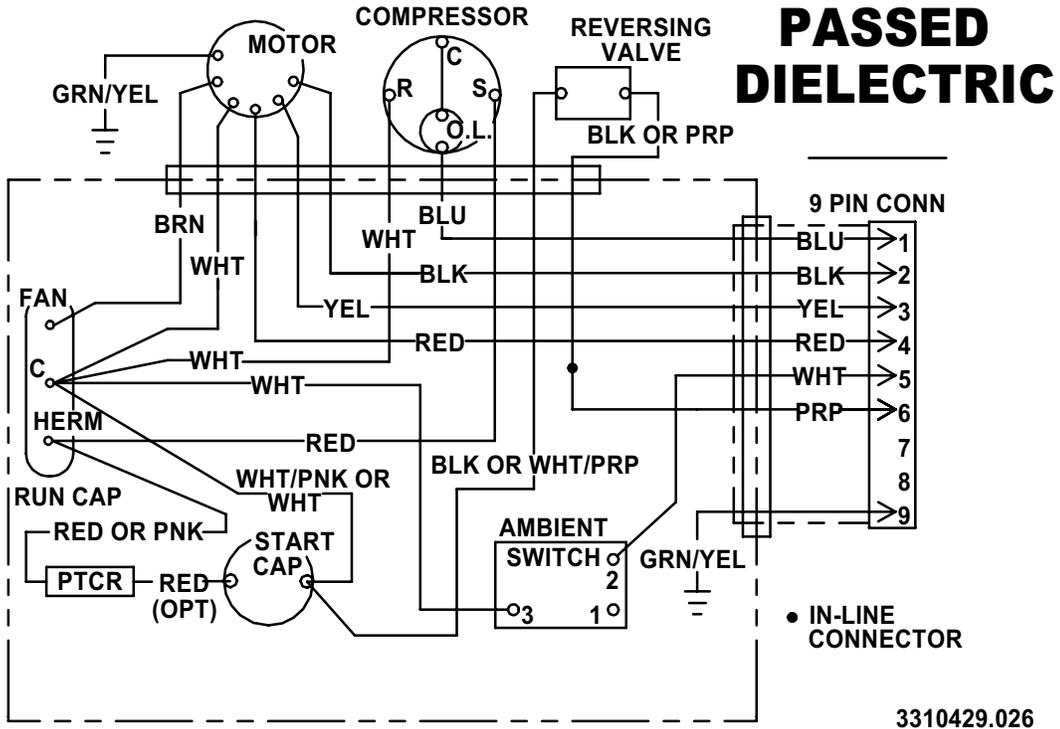
## SERVICE-UNIT DOES NOT OPERATE

If your unit fails to operate or operates improperly, check the following before calling your service center.

- A. If RV connected to motor generator, check to be sure motor generator is running and producing power.
- B. If RV connected to power supply by a land line, check to be sure line is sized properly to run unit load and it is plugged into power supply.
- C. Check your fuse or circuit breaker to see if it is open. Insure fuse is not burnt, or circuit breaker is "ON" and not activated.
- D. After the above checks, call your local service center for further help. This unit must be serviced by qualified service personnel only.
- E. When calling for service, always give the following:
  1. Unit model and serial number found on identification label located on base pan of unit bottom. (Remove filter and view through network of holes)
  2. Air distribution box model and serial number found on rating plate located on ceiling template. Observe this rating plate through the air distribution box right side vent opening.

# WIRING DIAGRAM

## Unit Wiring Diagram



## Air Distribution Box Wiring Diagram

