# Dometic

| RECORD THIS UNIT INFORMATION FOR FUTURE REFERENCE: | |
|---|---|
| Model Number | |
| Serial Number | |
| ADB Model Number | |
| ADB Serial Number | |
| Date Purchased | |

| Roof Top Unit | | | |
|---|---|---|---|
| Description | Model | Use With Air Distribution Box | |
| | | Model | Control |
| Air Conditioner | 640312<br>640315 | 3105457.XXX | Integral Mechanical |


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C SA® US

**⚠ 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

| | |
|---|---|
| 640312.30X | 640315C35X |
| 640312C35X | 640315.80X |
| 640312.80X | 640315.83X |
| 640312.83X | 640315.84X |
| 640312C85X | 640315C85X |
| 640315.30X | |


**REVISION**
Form No. 3313382.016 10/11
(Replaces 3313382.000)
(French 3313383.014)



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 air conditioner (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 inch and maximum of 4 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 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 640312.30X | 11,000 | | 10.5 | 53.0 | 3.5 | 10.0 | 19.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640312C35X | 11,000 | | 10.5 | 53.0 | 3.5 | 10.0 | 19.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640312.80X | 11,000 | | 11.5 | 53.0 | 2.6 | 8.5 | 20.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640312.83X | 11,000 | | 12.5 | 63.0 | 2.6 | 8.5 | 18.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640312C85X | 11,000 | | 11.5 | 53.0 | 2.6 | 8.5 | 20.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315.30X | 13,500 | | 12.5 | 61.0 | 3.5 | 10.0 | 17.5 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315C35X | 13,500 | | 12.5 | 61.0 | 3.5 | 10.0 | 17.5 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315.80X | 13,500 | | 12.6 | 63.0 | 2.6 | 8.5 | 18.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315.83X | 13,500 | | 12.5 | 63.0 | 2.6 | 8.5 | 19.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315.84X | 13,500 | | 12.5 | 63.0 | 3.5 | 8.5 | 19.0 | | 20 Amp | 3.5 KW / 5.0 KW |
| 640315C85X | 13,500 | | 12.6 | 63.0 | 2.6 | 8.5 | 18.0 | | 20 Amp | 3.5 KW / 5.0 KW |

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

** Dometic, LLC 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 Breaker Required.

# INSTALLATION INSTRUCTIONS

## A. Precautions

**⚠ WARNING**

**Improper installation may damage equipment, could endanger life, cause serious injury and/ or property damage.**

1. Read Installation and Operating Instructions carefully before attempting to start this unit installation.
2. Dometic, LLC 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, LLC.
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:

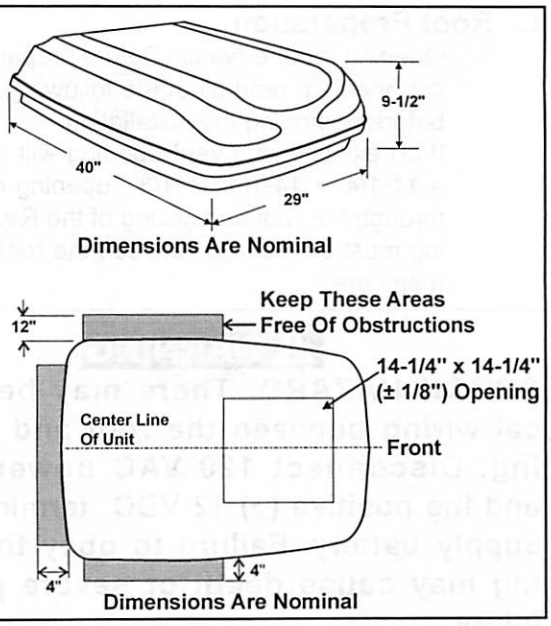
- Size of RV;
- Window area (increases heat gain);
- Amount of insulation in walls and roof;
- Geographical location where the RV will be used;
- Personal comfort level required.

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



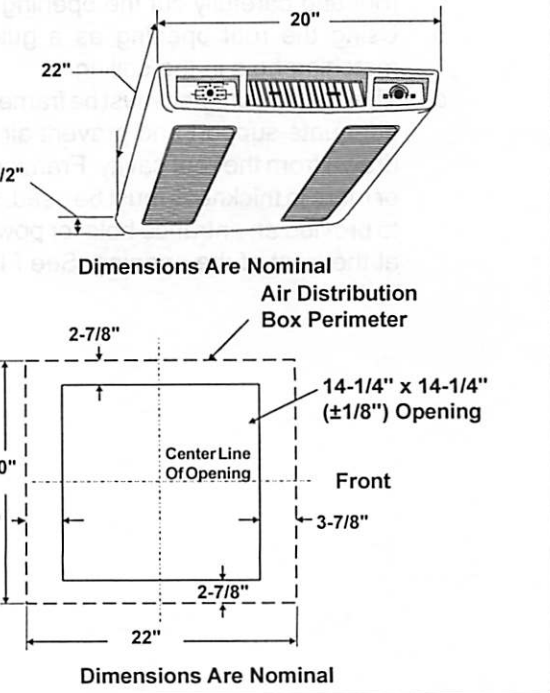

b. The roof must be designed to support 130 pounds when the RV is in motion. Normally a 200 lb. static load design will meet this requirement.

**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. Water standing around the unit may leak into the interior causing 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

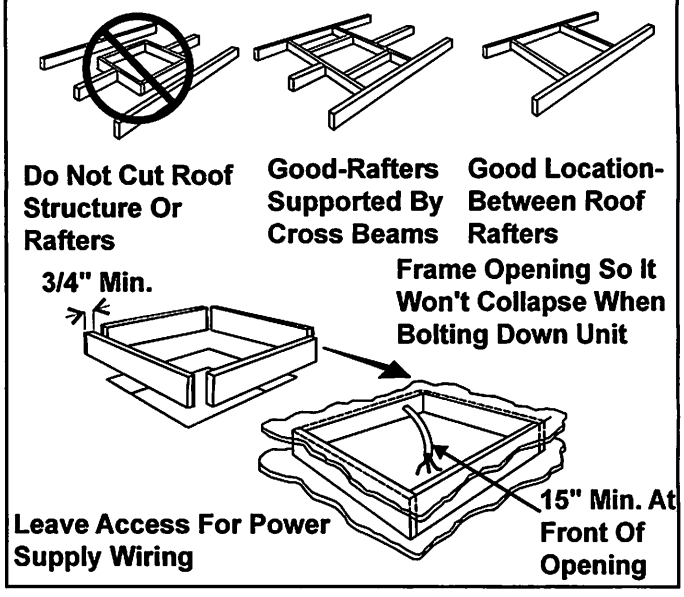
1. Opening requirements - Before preparing the ceiling opening, read all of the following instructions before beginning the installation.
   If an existing roof vent opening will not be used a 14-1/4" x 14-1/4" (± 1/8") opening must be cut through the roof and ceiling of the RV. This opening must be 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" (±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" (±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" (±1/8").
3. New opening - (Installation other than vent opening)
   a. Mark a 14-1/4" x 14-1/4" (±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" or more in thickness must be used. Remember to provide an entrance hole for power supplies at the front of the 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. Water standing around the unit may leak into the interior causing 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" (±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.

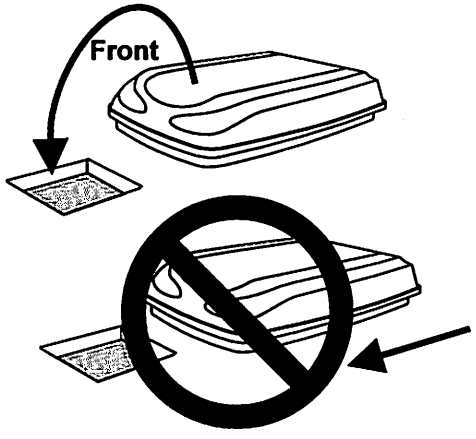
## E. Placing The Unit On The Roof

**⚠ 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.

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.**

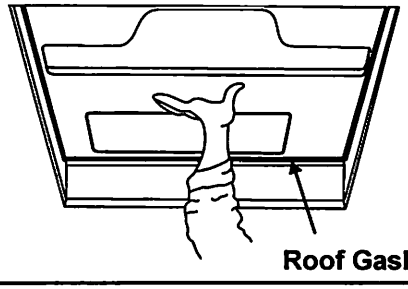
4. Place the air distribution box kit inside the RV. This box contains mounting hardware for the unit and will be used inside the RV.

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.

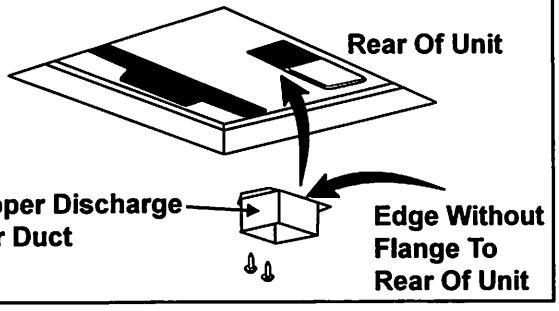
FIG. 5 **Center Unit From Below**




2. Remove air distribution box and mounting hardware from carton. The upper duct is shipped inside the lower duct which is part of the ceiling template.
3. All models listed in this manual will use a three (3) bolt pattern for installing the air distribution box kit. These bolts along with the Romex connector and junction box cover are furnished in this kit.
4. Remove upper duct from ceiling template and locate it over blower discharge. See FIG. 6.

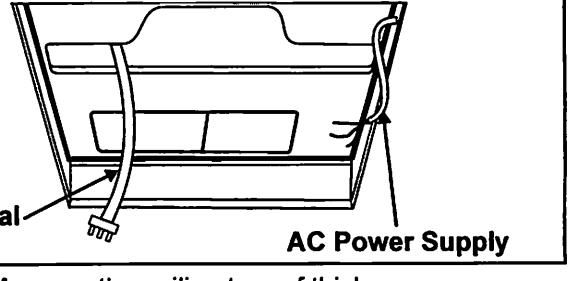
**Note:** Edge without flange installs toward **REAR** of opening.

FIG. 6



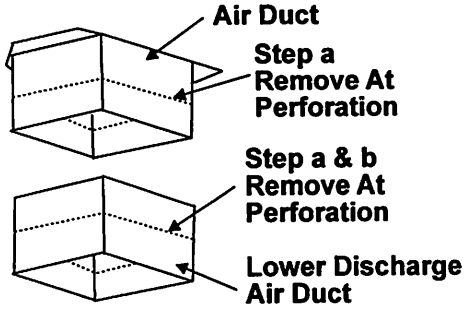

5. Use two (2) sharp pointed #10 sheet metal screws to hold duct to base pan. Screw holes are provided in bottom of base pan for these screws.
6. Reach up into the return air opening and pull the unit electrical cord down.

FIG. 7



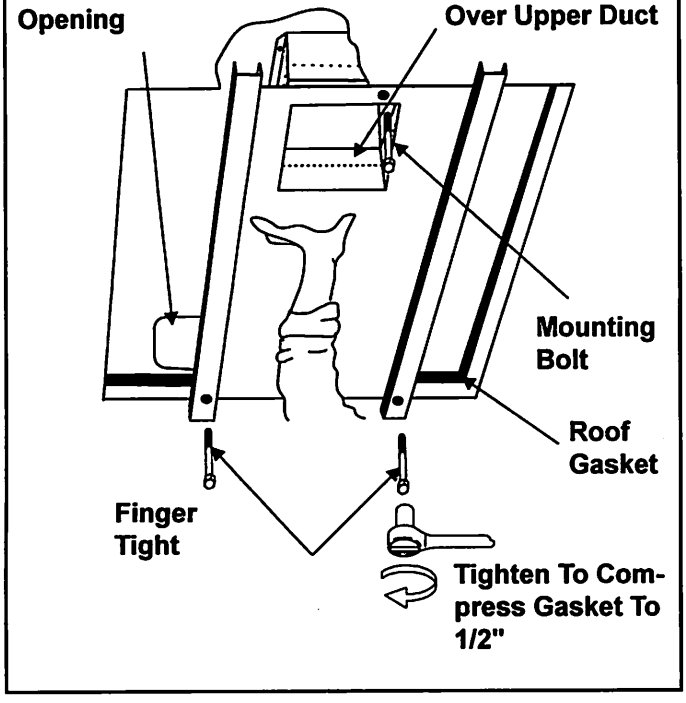

7. Measure the ceiling to roof thickness:
   a. If distance is 1"-2", remove perforated tabs from both upper and lower ducts. See FIG. 8.
   b. If distance is 2"-3", remove perforated tabs from lower duct. See FIG. 8.
   c. If distance is 3"-4", install ducts as received. See FIG. 8.
   d. If distance is 4"-6", use optional 318556.000 Duct Adaptor and 3100895.006 Bolt Kit.

FIG. 8




8. Install ceiling template by sliding lower duct over upper duct. See FIG. 9.
9. Hold the ceiling template up to the 14-1/4" x 14-1/4" (±1/8") opening.
   a. Start each mounting bolt through the ceiling template and up into the unit base pan by hand. See FIG. 9.

FIG. 9




- **Evenly tighten the three 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. 9.**

**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.**

## G. Wiring The System

**⚠WARNING**

**SHOCK HAZARD. Disconnect 120 VAC. Failure to obey this warning could result in death or severe personal injury.**

**Note:** 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.

Reach up into the return air opening and pull the remaining wires down.

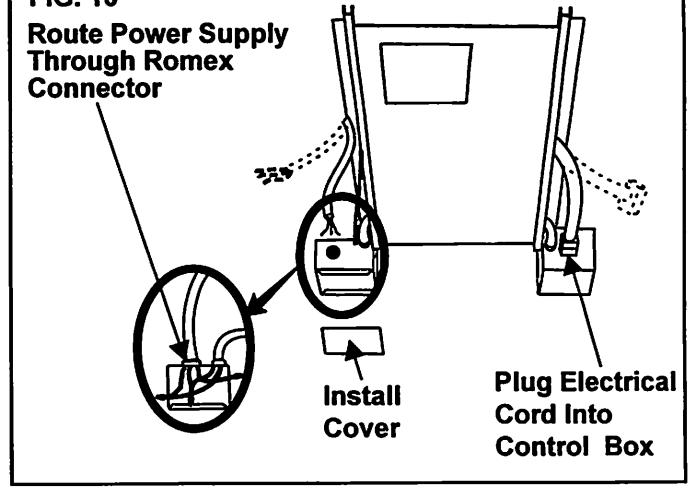
1. 120 VAC Power Supply Connection
   a. Install Romex connector in junction box.
   b. Route power supply wire through Romex connector into junction box. Tighten connector making sure not to damage wires.

**⚠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 sized twist connectors.
   d. Tape the twist wire connectors to the supply wire to assure they don't vibrate off.
   e. Push the wires into the box.
   f. Install the cover onto the junction box.

FIG. 10



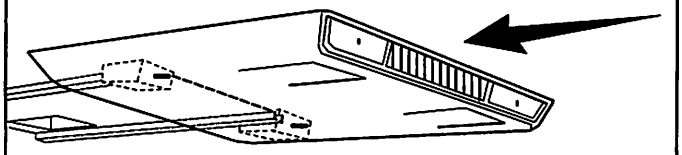

**Note:** If optional electric heater is part of this installation, now is the time to install it. Installation instructions are provided with the electric heater kit.

   g. Plug the unit electrical cord into the mating connector on the control box. See FIG. 10.

## H. Air Distribution Box Installation

1. Remove the two return air grills and filters.
2. Slide the front end of the air distribution box over the shafts of the thermostat and selector switch. See FIG. 11.

FIG. 11

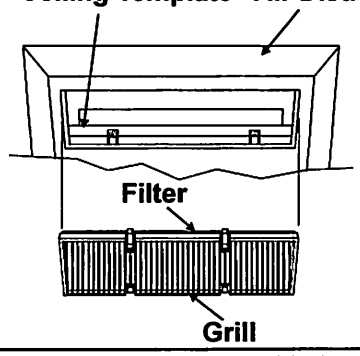


Slide Air Distribution Box Over Controls

**Note:** There are four optional mounting holes on the outer edge of the return air opening for which no screws are provided. These are only required where an uneven ceiling does not allow proper fitting of the air distribution box.

3. Install the filter-grills by pushing them into place. See FIG. 12.

FIG. 12 Ceiling Template Air Distribution Box



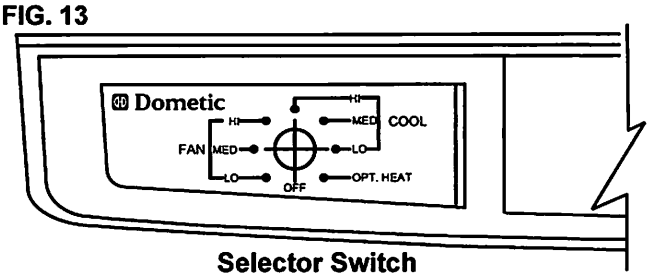

4. Install the two knobs provided on the ends of the thermostat and selector switch shafts.
5. The power supply to the unit may now be turned **"ON"**.
6. Your unit is now installed and ready for operation. Please read the following instructions before attempting to run the unit.

# OPERATING INSTRUCTIONS

## A. Controls

1. The Selector Switch has eight positions including **"OFF"**. This controls fan speed, cooling modes and heating modes (optional). See FIG. 13.

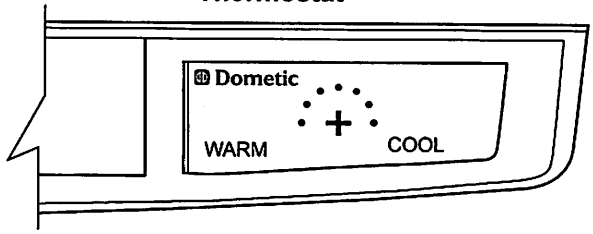
FIG. 13




Selector Switch

2. The thermostat controls the temperature range at the filter between approximately 65° F to 90° F. See FIG. 14.

FIG. 14 Thermostat




**Note:** The thermostat does not control the unit optional electric heater if installed.

## B. Cooling Operation

1. Set the thermostat at the desired temperature level.
2. Select the fan speed that best satisfies your needs:
   a. **HIGH COOL**: Selected when maximum cooling and dehumidification required.
   b. **MED COOL**: Selected when normal or average cooling required.
   c. **LOW COOL**: Selected when room is at desired comfort level and needs to be maintained. Normally this speed used for night time operation.

**Note:** The compressor will cycle off when the thermostat is satisfied. The fan runs when the compressor is off to help keep the temperature uniform throughout the RV.

**Important: When the unit is turned on and the thermostat calls for cooling, 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 pressure in the system to equalize so the compressor may restart.**

## C. Fan Operation

1. This will circulate the air in your RV without cooling or heating. There are three positions: **HIGH FAN, MED FAN** or **LOW FAN** to select from, depending upon personal choice. See FIG. 13.

## D. Heating Operation: (With Optional Heat Kit Installed)

**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 **"OPT HEAT"**. See FIG. 13.
2. The Heater will come on and begin heating.
3. When desired temperature level in RV is reached, move the selector switch to **"OFF"** or **"FAN"** position.

**Note:** Thermostat does not control heater **ON/OFF** cycle.

## E. "OFF" Position

1. This is to turn unit off.

# MAINTENANCE

## A. Air Filter

1. Periodically (a minimum of every 2 weeks of operation) remove the return air filter located behind the return air grill and wash the filter with soap and warm water, let dry and then reinstall.

**Note:** Never run the unit without return air filter 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 and control panel 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 On Cooling Coil

1. 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.

# 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.

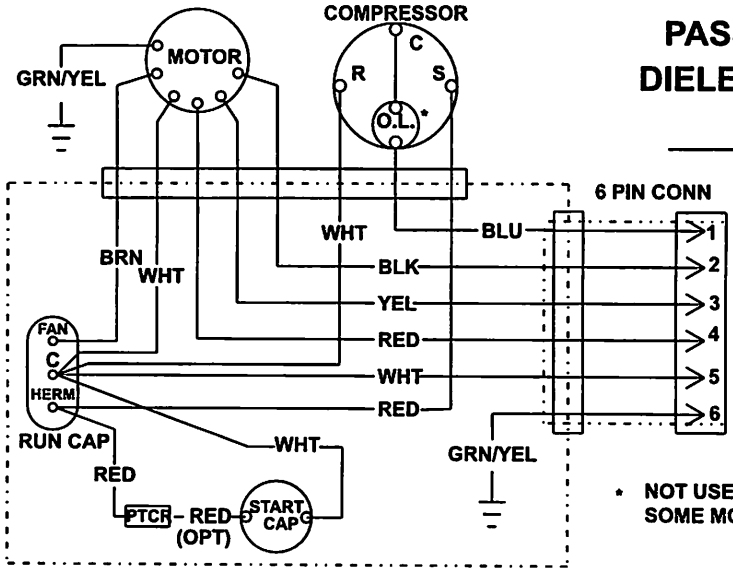
**E.** If any wiring or supply cord is damaged and needs to be replaced, it must be replaced by the manufacturer or its service agent or a similarly qualified person.

**F.** When calling for service, always give the following:

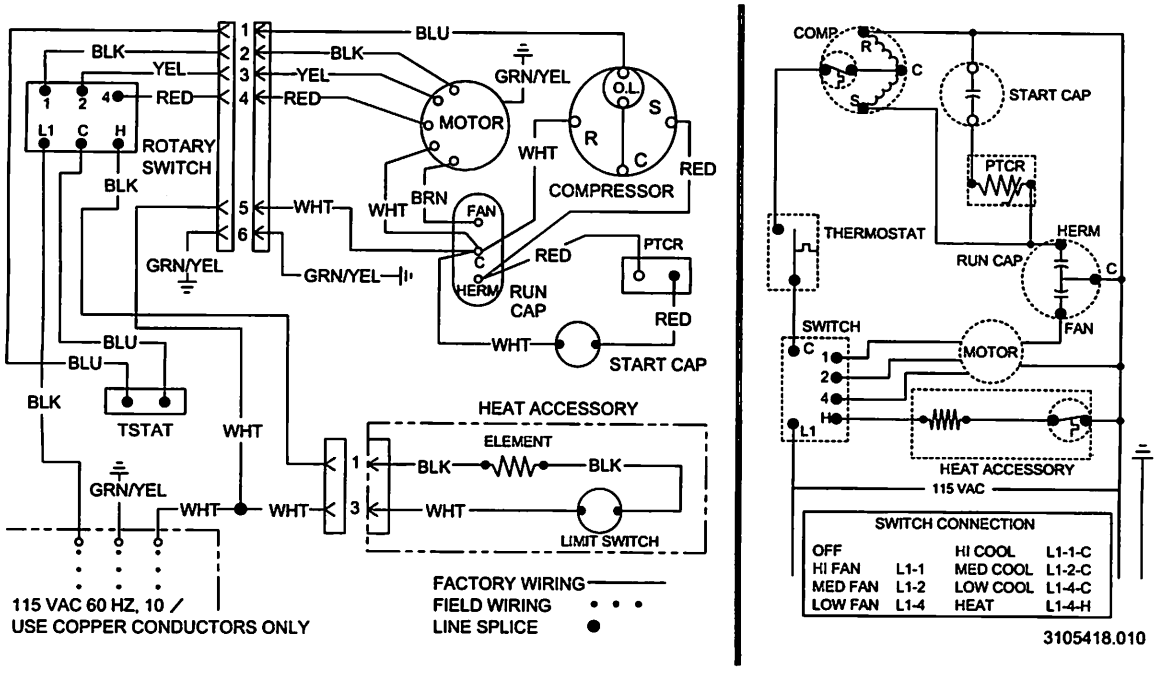
1. Unit type and serial number found on the identification label located on base pan of unit bottom. Return air grill must be removed from air distribution box to view.
2. Air distribution box model and serial number found on rating plate located on ceiling template. Observe this rating plate through the filter opening.

# WIRING DIAGRAM

## Unit Wiring Diagram




## Air Distribution Box Wiring Diagram



Dometic®

RECORD THIS UNIT INFORMATION FOR FUTURE REFERENCE:
Model Number_____
Serial Number_____
Date Purchased_____

# MODEL 6003 Series
# Roof-Top Air Conditioner
## used with
## 3105457 Mechanical Air Distribution Box


USA
SERVICE OFFICE
Dometic Corporation
2320 Industrial Parkway
Elkhart, IN 46516
574-294-2511

CANADA
Dometic Corporation
46 Zatonski, Unit 3
Brantford, ON N3T 5L8
CANADA
519-720-9578

For Service Center Assistance Call:
800-544-4881


C US

**⚠ 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 cet appareil doit être effectuée par un réparateur qualifié. Toute modification de cet appareil peut être extrêmement dangereuse et entraîner des blessures ou dommages matériels.**

# INSTALLATION & OPERATING INSTRUCTIONS

**Models**
**600312.331**
**600315.331**
**600315.336**


REVISION:
Form No. 3309032.013 9/07
(Replaces 3309032.005)
(French 3309033.011)



LaGrange, IN 46761


**Important:** These Instructions must stay with unit.
Owner read carefully.

## 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. When you see this symbol in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating instructions.

## UNDERSTAND SIGNAL WORDS

A signal word , **WARNING** OR **CAUTION** is used with the safety-alert symbol. They give the level of risk for potential injury.

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

**⚠ CAUTION** indicates a potentially hazardous situation which, if not avoided may result in minor or moderate injury.

**CAUTION** used without the safety alert symbol indicates, a potentially hazardous situation which, if not avoided may result in property damage.

Read and follow all safety information and instructions.

## GENERAL INFORMATION

**A.** Product features or specifications as described or illustrated are subject to change without notice.

### B. This Air Conditioner Is Designed For:

1. Installation on a recreational vehicle during 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 2.00 inches and maximum of 4.00 inches distance between roof to ceiling of recreational vehicle. Alternate installation methods will allow for roofs more than 4.00 inches thick.

**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 vehicle 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 temperatures.

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 high heat gain, accessories like A&E outdoor patio and window awnings will reduce heat gain by removing the direct sun. They also add a nice area to enjoy company during the cool of the evening.

### D. Condensation

**Note:** The manufacturer of this air conditioner 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. The air conditioner removes this moisture from the air during normal operation. 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 | Compressor Rated Load Amps | Compressor Locked Rotor Amps | Fan Motor Rated Load Amps | Fan Motor Locked Rotor Amps | SCFM-High Speed Max/Min | Total Static Max/Min W.C. | Refrigerant R-22 (Oz.) | Minimum Wire Size* | AC Circuit Protection ***User Supplied | Installed Weight (Pounds) | Minimum Generator Size** 1Unit/2Units |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600312.331 | 11,000 | 120VAC, | 9.5 | 53.0 | 3.5 | 10.0 | 335/250 | .012/0.65 | 17.0 | 12AWG | 20 Amp | 97 | 2.5KW/4.0KW |
| 600315.331 | 13,500 | 60 Hz., 1 PH | 12.4 | 60.0 | 3.5 | 10.0 | 335/250 | .012/0.65 | 15.2 | Copper | 20 Amp | 95 | 3.5KW/5.0KW |
| 600315.336 | 13,500 | | 12.4 | 60.0 | 3.5 | 10.0 | 335/250 | .012/0.65 | 15.2 | Up To 24' | 20 Amp | 95 | 3.5KW/5.0KW |
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* 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 HACR Circuit Breakers Required.

# INSTALLATION INSTRUCTIONS

## A. Precautions

**⚠ WARNING**

**Improper installation may damage equipment, could endanger life, cause serious injury and/ or property damage.**

1. Read Installation and Operating Instructions carefully before attempting to start your air conditioner 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 air conditioner except those specifically authorized by Dometic.
5. This equipment must be serviced by qualified personnel and some states require these people to be licensed.

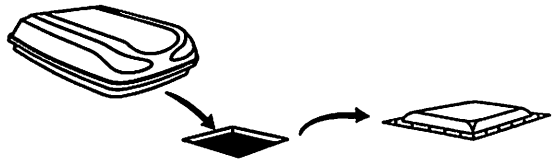
## B. Choosing Proper Location For The Air Conditioner

This air conditioner 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.

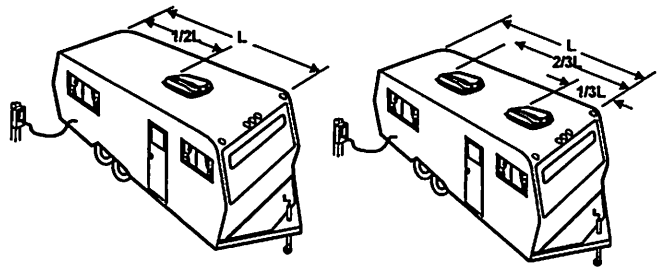
1. Normal Location-The air conditioner is designed to fit over an existing roof vent opening.

FIG. 1



2. Other Locations-When no roof vent is available or another location is desired, the following is recommended:
   a. For one unit installation: The air conditioner should be mounted slightly forward of center (front to back) and centered from side to side.
   b. For two unit installations: Install one Air Conditioner 1/3 and one Air Conditioner 2/3's from front of RV and centered from side to side.

FIG. 2




It is preferred that the air conditioner be installed on a relatively flat and level roof section measured with the RV parked on a level surface.
**Note:** A 8° slant to either side, or front to back, is acceptable for all units.

3. After Location Has Been Selected:
   a. Check for obstructions in the area where air conditioner will be installed. See FIG. 4.
   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.

**CAUTION**

**It is the responsibility of the installer of this air conditioner system to ensure structural integrity of the RV roof. Never create a low spot on the roof where water will collect. Water standing around the air conditioner may leak into the interior causing damage to the product and the RV.**

   c. Check inside the RV for return air kit obstructions (i.e. door openings, room dividers, curtains, ceiling fixtures, etc.) See FIG. 3 & 4.

FIG. 3

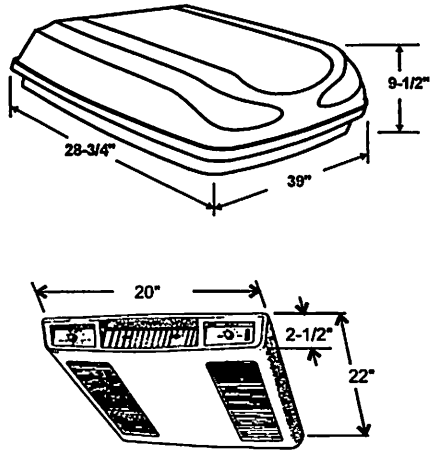
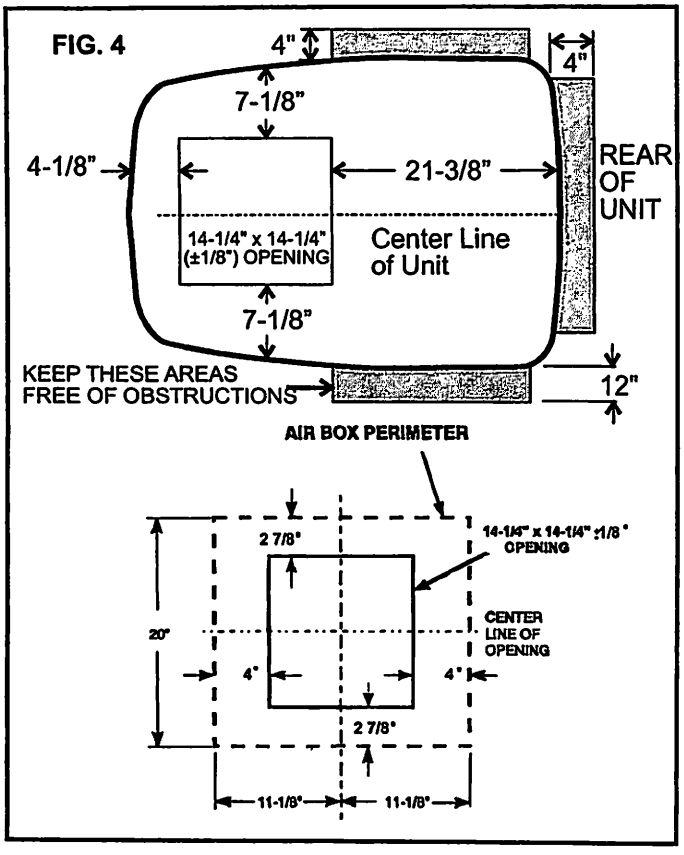


FIG. 4




## C. Roof Preparation

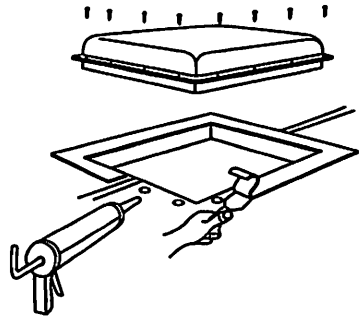
1. Opening Requirements - Before preparing the ceiling opening, read all of the following instructions before beginning the installation.
   If a roof vent opening will not be used a 14-1/4" x 14-1/4" (±1/8") opening must be cut through the roof and ceiling of the RV. This opening must be located between the roof reinforcing members.

**⚠ WARNING**

**There may be electrical wiring between the roof and the ceiling. Disconnect 120 volt AC power cord and the positive (+) 12 volt DC terminal at the supply battery. Failure to follow this instruction may create a shock hazard causing death or severe personal injury.**

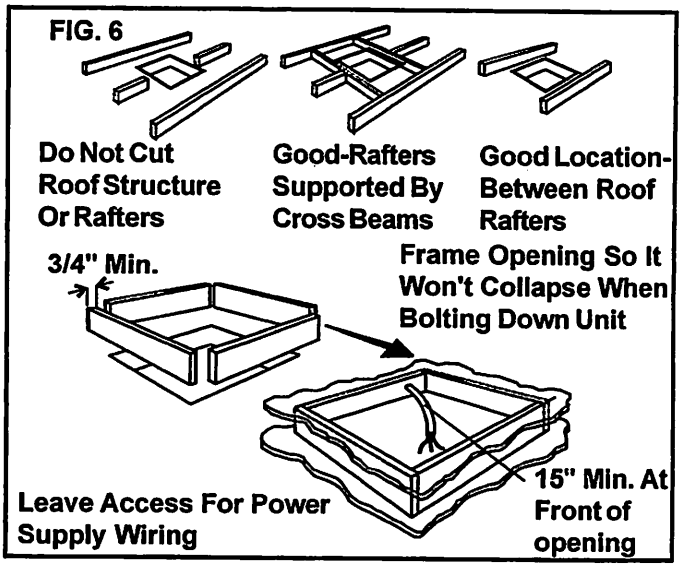
   The 14-1/4" x 14-1/4" (±1/8") opening is part of the return air system of the Air Conditioner and must be finished in accordance with NFPA Standard 501C Section 2.7.2.
2. Roof Vent Removal
   a. Unscrew and remove the roof vent.
   b. Remove all caulking compound around opening.
   c. Seal all screw holes and seams where the roof gasket is located. Use a good grade of all weather sealant. See FIG. 5.

FIG. 5



   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" (±1/8").
   e. If the opening is less than 14-1/8" x 14-1/8", it must be enlarged.
3. New Opening - (Installation Other Than Vent Opening)
   a. Mark a 14-1/4" x 14-1/4" (±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. Lumber 3/4" or more in thickness must be used. Remember to provide an entrance hole for power supplies at the front of the opening. See FIG. 6.

FIG. 6




**CAUTION**

**It is the responsibility of the installer of this air conditioner system to ensure structural integrity of the RV roof. Never create a low spot on the roof where water will collect. Water standing around the air conditioner may leak into the interior causing damage to the product and the RV.**

## D. Wiring Requirements

1. 120 VAC Supply Line
   Route a copper 12 AWG, with ground, 120 VAC supply line from the time delay fuse or circuit breaker box to the roof opening.
   a. This supply line must be located in the front portion of the 14-1/4" x 14-1/4" (±1/8") opening.
   b. The power MUST be on a separate 20 Amp time delay fuse or HACR circuit breaker.
   c. Make sure that at least 15" of supply wire extends into the roof opening. This ensures and easy connection at the junction box.
   d. Wiring must comply with all National, State and Local Wiring Codes.
   e. Use a steel sleeve and a grommet or equivalent methods to protect the wire where it passes into the opening.

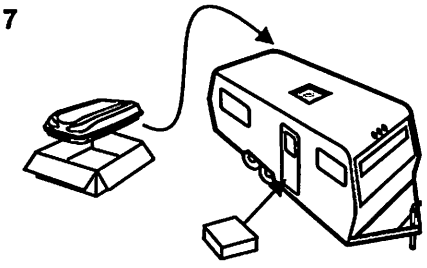
## E. Placing Air Conditioner On The Roof

**⚠ CAUTION**

**This unit weighs approximately 100 pounds. To prevent back injury, use a mechanical hoist to place Air Conditioner on roof.**

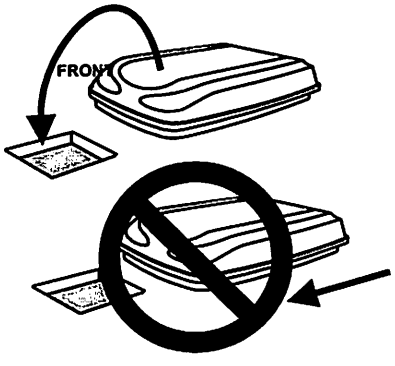
1. Remove the air conditioner from the carton and discard carton. See FIG. 7.

FIG. 7



2. Place the air conditioner on the roof.
3. Lift and place the unit over the prepared opening using the gasket on the unit as a guide. See FIG. 8.

FIG. 8




**CAUTION**

**Do not slide the unit. This may damage the roof gasket attached to the bottom and may create a leaky installation.**

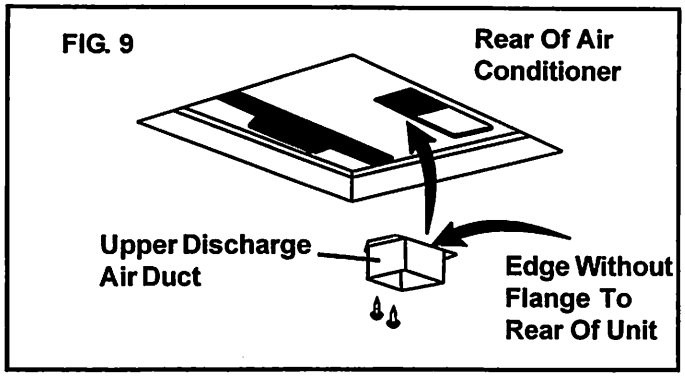
4. Place the 3105457 Mechanical Air Distribution Box Kit inside the RV. This box contains mounting hardware for the air conditioner and will be used inside the RV. See FIG. 7.

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

## F. Installing The Air Conditioner

1. Remove air box and mounting hardware from carton. The upper duct is shipped inside the lower duct which is part of the ceiling template.
2. Check for correct alignment and adjust the unit as necessary (Roof Gasket centers over 14-1/4" ±1/8" opening).

FIG. 9

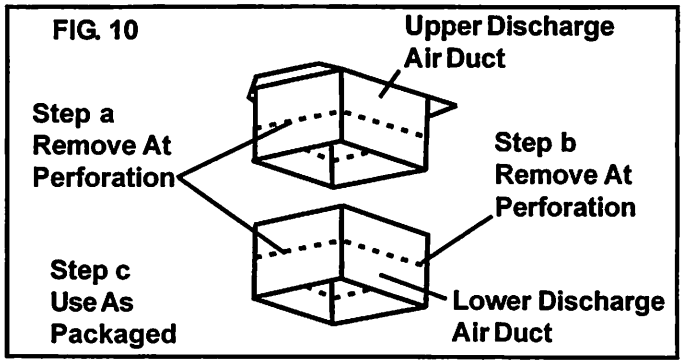



3. Remove upper duct from ceiling template and locate it over blower discharge. See FIG.9.

**Note:** Edge without flange installs toward REAR of opening.

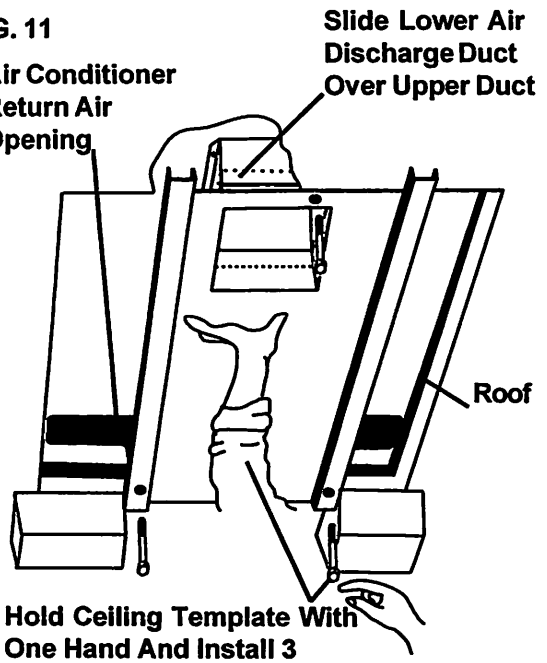
4. Use two (2) sharp pointed #10 sheet metal screws to hold duct to base pan. Screw holes are provided in bottom of base pan for these screws.
5. Reach up into return air opening of the air conditioner and pull the unit electrical cord down for later connection.
6. Measure the ceiling to roof thickness:
   a. If distance is 1"-2", remove perforated tabs from both upper and lower ducts. See FIG. 10.
   b. If distance is 2"-3", remove perforated tabs from bottom duct only. See FIG. 10.
   c. If distance is 3"-4", install ducts as received. See FIG. 10.
   d. If distance is 4"-6", use optional 318556.000 Duct Adaptor and 3100895.006 Bolt Kit. See FIG. 10.

FIG. 10



7. Install ceiling template by sliding lower duct over upper duct. See FIG. 11.

FIG. 11




8. Hold the ceiling template with one hand and with the other, install the three 1/4" mounting bolts through the template and into the base pan.
   a. Finger-tighten the bolts and check alignment. There should be an equal opening on each side and the rear flange must be tight against the roof opening.
   b. **EVENLY tighten the three 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 over tightening is not necessary.**

**CAUTION**

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

## G. Wiring The System

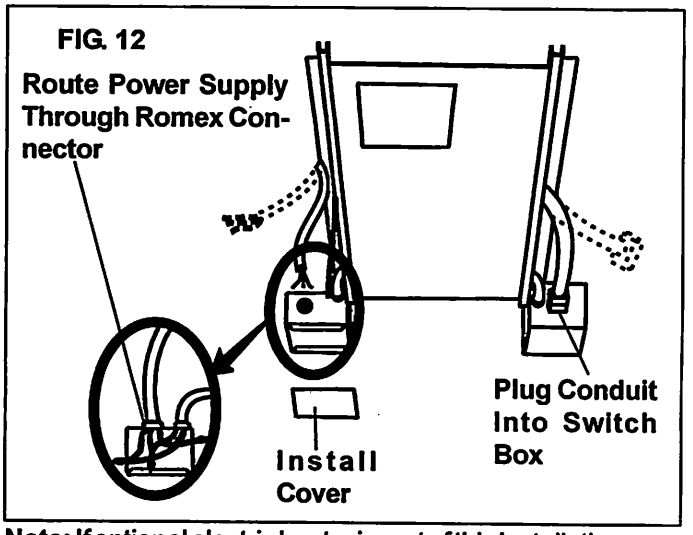
**⚠ WARNING**

**Disconnect 120 volt AC. Failure to follow these instructions could create a shock hazard causing death or severe personal injury.**

Reach up into the return air opening and pull the remaining wires down.

1. Connection of 120 VAC (refer to FIG. 12)
   a. Route power supply line through Romex connector into junction box. Tighten connector, being careful not to pinch or short wires.
   b. Connect white to white; black to black; and green to green or bare copper wire using appropriate sized twist connectors.
   c. Tape the twist wire connectors to the supply wire to assure they don't vibrate off.
   d. Push the wires into the box.
   e. Install the cover onto the junction box.

FIG. 12



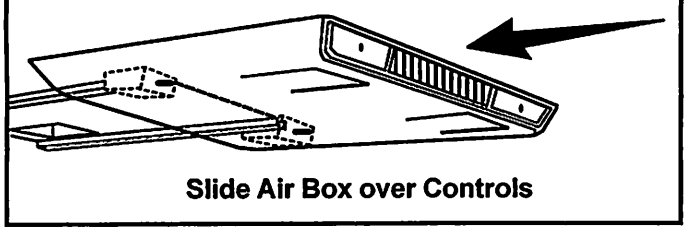

**Note:** If optional electric heater is part of this installation, now is the time to install it. Installation instructions are provided with the electric heater kit.

   f. Plug the electrical conduit from the upper unit into the mating switch box connector. See FIG. 12.

## H. Air Distribution Box Installation

1. Remove the two return air grills and filters.
2. Slide the front end of the air box over the shafts of the thermostat and selector switch. See FIG. 13.

FIG. 13



Slide Air Box over Controls

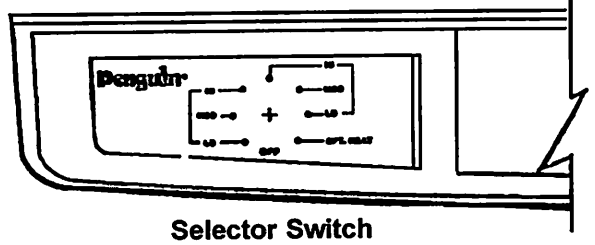
3. Install four screws through legs in air box into the pre-punched holes in the ceiling template.
4. Install the return air grills and filters by simply pushing them into place.
5. Install the two knobs provided on the ends of the thermostat and selector switch shafts.
6. The power supply to the air conditioner may now be turned **"ON"**.
7. Your air conditioner is now installed and ready for operation. Please read the following instructions before attempting to run the unit.

# OPERATING INSTRUCTIONS

## A. Controls

1. The Selector Switch has eight positions including **"OFF"**. This controls fan speed, heating mode, and cooling modes. See FIG. 14.

FIG. 14

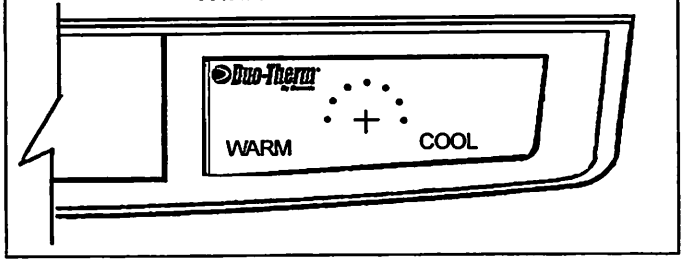



Selector Switch

2. The thermostat controls the compressor ON/OFF operation in cooling temperature range of 65° to 90°F. See FIG. 15.

FIG. 15

THERMOSTAT




**Note:** The thermostat does not control the unit optional electric heater if installed.

## B. Cooling Operation

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

**Note: The** blower runs continuously to circulate air and maintain an even temperature. The compressor will come on as cooling is required to maintain the selected temperature level.

## C. Fan Operation:

1. This will circulate the air in your RV without cooling or heating. There are three positions: **HIGH FAN, MED FAN or LOW FAN** to select from, depending upon personal choice. See FIG.14.

## D. Heating Operation: (With Optional Heat Kit Installed)

**Note:** This electric heater 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 **"OPT HEAT"**. See FIG. 14
2. The Heater will come on and begin heating.
3. When desired temperature level in RV is reached, move the selector switch to **"OFF"** or **"FAN"** position.

**Note:** Thermostat does not control heater **ON/OFF** cycle.)

## E. "OFF" Position

1. This is to turn Unit off.

## G. Customer Maintenance

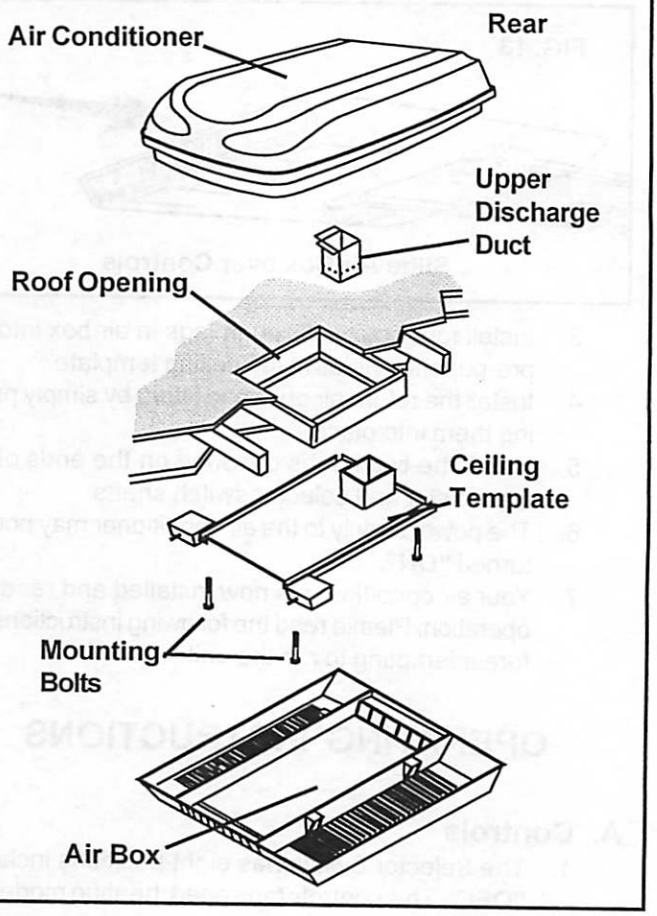
1. Periodically remove the return air filters located above the removable panels in the air box. Wash the filters with soap and warm water, let dry and the reinstall.

**Note:** Never run the air conditioner without return air filter in place. This may plug the unit evaporator coil with dirt and may substantially affect the performance of the unit.

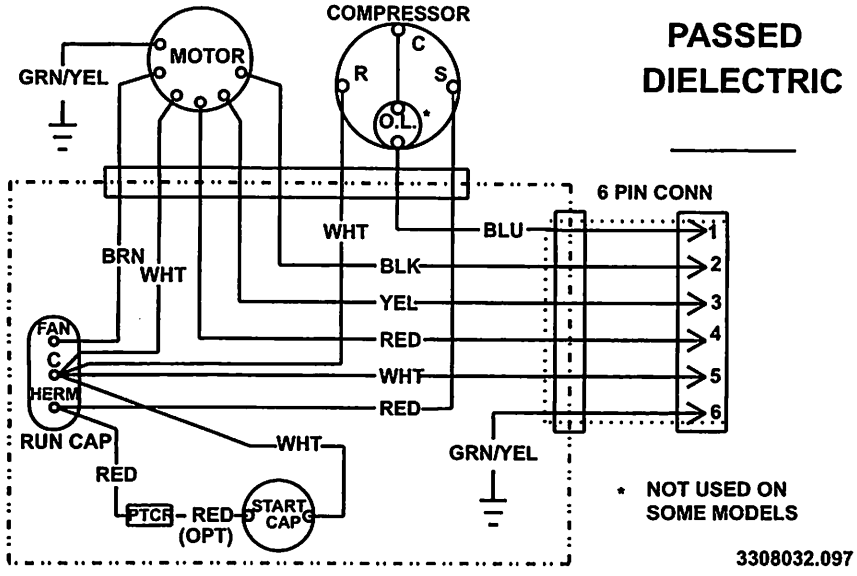
2. Clean air box housing and control panel with a soft cloth dampened with a mild detergent. Never use furniture polish or scouring powders.
3. The blower motor is factory lubricated and requires no service under normal use.

4. Under certain conditions, frost may form on the evaporator coil. If this should occur, inspect the filter and clean if dirty. Make sure air louvers are not obstructed. Air conditioners 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 LOW, MED, or HIGH FAN only setting until the cooling coil is free of frost.
5. If your unit fails to operate or operated 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 air conditioner load and it is plugged into power supply.
   c. Check your fuse or circuit breaker to see if it is open.
   d. After the above checks, call your local service center for further help. This unit must serviced by qualified service personnel only.
6. When calling for service, always give the following:
   a. Air Conditioner Model and Serial Number found on rating plate located on base pan of air conditioner bottom.
   b. Air Distribution Box Kit Part and Serial Number found on rating plate located on ceiling template. Observe this rating plate through the air box filter grill opening.

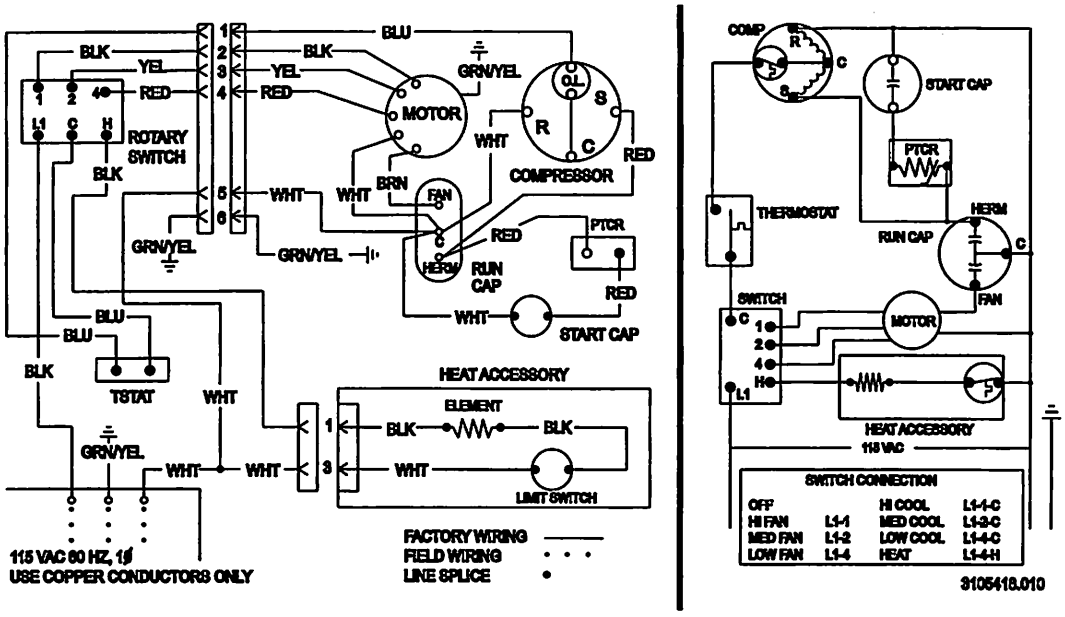
FIG. 16
Roof Mount Assembly



## AIR CONDITIONER WIRING DIAGRAM




## AIR BOX WIRING DIAGRAM



# Dometic

## LIMITED TWO-YEAR WARRANTY AIR CONDITIONERS & HEAT PUMPS

**THE SELLER NAMED BELOW MAKES THE FOLLOWING WARRANTY WITH RESPECT TO THE DOMETIC PRODUCT:**

1. This warranty is made only to the first purchaser (herein after referred to as the "Original Purchaser") who acquires the product for his own use and is installed and operated within the continental United States and Canada.
2. This warranty will be in effect for two years on parts and freight and two years on labor from the date of purchase by the Original Purchaser. It is suggested that the Original Purchaser retain a copy of the dated bill of sale as evidence of the date of purchase.
3. This warranty covers only specified Dometic parts, which shall be free from defects in material and workmanship under normal use. This warranty does not cover conditions unrelated to the material and workmanship of the product. Such unrelated conditions include, but are not limited to: (a) damage not reported within 7 days; (b) faulty installation or installation that does not comply to the RVIA standards and any damage resulting from such; (c) the need for normal maintenance and any damage resulting from the failure to provide such maintenance; (d) failure to follow Sellers instructions for use of this product; (e) any accident to or misuse of any part of this product and any alteration by anyone other than the Seller or its authorized representative; (f) damage or failure caused by installation of accessories or parts not manufactured and marketed by the Seller will void any warranty, implied or written; (g) corrosion, salt water; (h) radio frequency interference (RFI) or electromotive interference (EMI) and (i) installation on semi trucks or off-road vehicles.
4. The specified parts covered by this warranty are as follows: switches, thermostats (excluding infrared remote controls, which are covered for a period of one year, not including batteries), relays, capacitors, motors, electronic module boards, solar panels and the sealed system; compressor, evaporator coil, condenser coil, refrigerant lines, capillary tubes and reversing valve.
5. It is suggested the Original Purchaser provide preventative maintenance on a yearly basis. Suggested preventative maintenance is: (a) check mounting/anchor bolts for proper torque; (b) inspect/clean and comb condenser fins; (c) inspect/clean and comb evaporator fins; (d) inspect/clean evaporator blower wheel and condenser fan blade/blower wheel; (e) clean return air filter. The cost of preventative maintenance is the Original Purchaser's responsibility and should take about one hour.
6. In order to obtain the benefits of this warranty, the Original Purchaser must return the product which is found defective to the Seller named below or to a Dometic Authorized Service Center during the period that this warranty is in effect. The Original Purchaser is responsible for all charges incurred in delivery of the product to the Seller or Dometic Authorized Service Center, and in pick up after the warranty service has been completed. To obtain the location of the nearest Authorized Service Center, please call 1-800-544-4881 or in Canada call 1-519-653-4390.
7. Any item returned in the manner described in paragraph 6 will be examined by the Seller or the Authorized Dometic Service Center. If it is found that the returned item was defective in material and workmanship, the Seller or the Authorized Dometic Service Center will repair the product per the terms outlined in paragraph 4. CONFIRM THE SERVICE AGENCY IS AN AUTHORIZED DOMETIC SERVICE CENTER. DO NOT PAY THE SERVICE AGENCY FOR WARRANTY REPAIRS. SUCH PAYMENTS WILL NOT BE REIMBURSED.
8. The Seller does not authorize any person or company to create any warranty obligations or liability on their behalf. This warranty is not extended by the length of time which you are deprived of the use of the product. Repairs and replacement parts provided under the terms of this warranty shall carry only the non-expired portion of this warranty.
9. In no event shall either Seller be liable for incidental or consequential damages. This includes any damage to another product or products resulting from such a defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply.
10. Any implied warranty, including the implied warranty of merchantability and fitness for any purpose, is limited to the duration of this limited warranty. Some states do not allow limitations on how long an implied warranty can last, so the above limitation may not apply.
11. THIS WARRANTY GIVES SPECIFIC LEGAL RIGHTS, YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. No action to enforce this warranty shall be commenced later than ninety (90) days after the expiration of the warranty period. Claims must be submitted in writing to the Dometic Warranty Department for arbitration.
12. All products (except those specifically built for commercial use) are warranted only when installed in vehicles built to current edition R.V.I.A. A119.2 and C.R.V.A. Z-240 Standards.
13. The Seller reserves the right to change the design of any product without notice and with no obligation to make corresponding changes in products previously manufactured.

**REVISION:**
Form. No. 3307601.033 4/09
(Replaces 3307601.025)
(French 3307602.031)

LaGrange, IN 46761

**Dometic, LLC**
Warranty Department
2320 Industrial Parkway
Elkhart, Indiana 46516
Phone: 574-294-2511
Fax: 574-389-3975

IMPORTANT: Return Within 10 Days

# Dometic

## OWNER'S REGISTRATION CARD

**Return the attached card within 10 days to ensure your:**

- **WARRANTY VERIFICATION**
- **FACTORY COMMUNICATION**
- **OWNER CONFIRMATION**
- **2 PLUS 3 SERVICE CONTRACT**

Fold here. Close with tape.

IMPORTANT: Return Within 10 Days

# Dometic

## Owner's Registration Card

Registering your product is an essential step to ensure that you receive all the benefits you are entitled to as a Dometic customer. Complete the information below and mail to us or register on-line at www.edometic.com. **Be sure to include your email address so that we can communicate with you quickly and efficiently. Your address will remain confidential and will not be distributed to third parties.**

**Name** _____

**Address** _____

**City** _____ **State/Prov.** _____

**Date of Purchase** ___ ___ ___ **MO. DAY YEAR** **Zip/Postal Code** _____

**Email Address** _____

☐ Email me exclusive offers and information on new products from Dometic.

☐ Email me offers and information from Dometic partners.

| AIR CONDITIONER MODEL NUMBER | SERIAL NUMBER |
|---|---|
| | |

3102578.089 5/11
(French 3109477.046)

- **WARRANTY VERIFICATION**
  Your prompt registration records your right to protection under the terms and conditions of your warranty.
- **FACTORY COMMUNICATION**
  Returning your card or registering on-line guarantees you will receive product information and specials. Leaving your email address below will allow us to communicate with you quickly and efficiently.
- **OWNER CONFIRMATION**
  Your completed Owner's registration card serves as confirmation of ownership in the event of product damage or theft.
- **2 PLUS 3 SERVICE CONTRACT**
  Returning the card below or registering on-line assures you of an invitation to take advantage of an Optional 2 Plus 3 Full Service Contract which allows you to add up to 3 years of additional warranty coverage.

Tape Here

**TIME-DATED MATERIAL**
**Please Process Promptly!**

PLEASE PLACE STAMP HERE

Dometic

**Dometic Processing Center**
**2320 Industrial Parkway**
**Elkhart, IN 46516**

## *Protection for Your New Investment*

*We truly appreciate that you have chosen to purchase a Dometic product for your recreational vehicle and we want to help you protect this wise investment. We at Dometic back our products with one of the most comprehensive warranties in the industry. Complete the registration card on reverse side and mail to us or register your Product on-line at www.edometic.com.*