ⓓ Dometic®

MODEL
620515, 620525, 620526
Roof-Top Air Conditioner
630515, 630516
Roof Top Heat Pump
used with one of following:

3105007 Return Air Cover
3105935 Quick Cool Return Air Cover
3308120 Genesis Air Filtration System
and
3109228.001 (White) Comfort Control Center™
3109228.019 (Black) Comfort Control Center™

THIS UNIT IS DESIGNED FOR OEM INSTALLATION
ALL INITIAL INSTALLATIONS MUST BE APPROVED BY THE SALES DEPT.

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For Service Center Assistance Call:
800-544-4881

CSA® 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 INSTRUCTIONS

Models

620515.331	620526.336
620515.336	630515.331
620525.331	630515.336
620525.336	630516.331
620526.331	630516.336

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 5.50 inches distance between roof to ceiling of recreational vehicle. Alternate installation methods will allow for roofs more than 5.50 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 us age
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 Amps	Heater Watts	Compressor Rated Load Amps	Compressor Locked Rotor Amps	Fan Motor Rated Load Amps	Fan Motor Locked Rotor Amps	SCFM-High Speed Max./Min. W.C.	Total Static Max./Min.	Refrigerant R-22 (Oz.)	Minimum Wire Size*	AC Circuit Protection ** User Supplied	Installed Weight (Pounds)	Minimun Generator Size** 1Unit/2Units
620515.331	13,500	120VAC 60Hz. 1Phase	1530	12.4	60.0	3.5	10.0	335/250	.012/0.65	16.5	12 AWG Copper Up To 24'	20Amp	95	3.5KW/5.0KW
620515.336	13,500		1530	12.4	60.0	3.5	10.0	335/250	.012/0.65	16.5		20Amp	95	3.5KW/5.0KW
620525.331	13,500		1530	12.4	60.0	3.5	10.0	335/250	.012/0.65	16.5		20Amp	95	3.5KW/5.0KW
620525.336	13,500			12.4	60.0	3.5	10.0	335/250	.012/0.65	16.5		20Amp	95	3.5KW/5.0KW
620526.331	15,000			12.0	64.0	3.3	8.2	335/250	.012/0.65	20.0		20Amp	95	3.5KW/5.0KW
620526.336	15,000			12.0	64.0	3.3	8.2	380/250	.012/0.65	20.0		20Amp	95	3.5KW/5.0KW
630515.331	13,500			12.4	60.0	3.5	10.0	380/250	.012/0.65	23.5		20Amp	95	3.5KW/5.0KW
630515.336	13,500			12.4	60.0	3.5	10.0	335/250	.012/0.65	23.5		20Amp	95	3.5KW/5.0KW
630516.331	15,000			12.0	64.0	3.3	8.5	335/250	.012/0.65	20.0		20Amp	95	3.5KW/5.0KW
630516.336	15,000			12.0	64.0	3.3	8.5	335/250	.012/0.65	20.0		20Amp	95	3.5KW/5.0KW

*   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
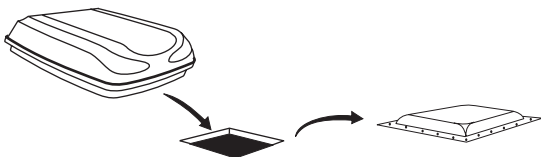
2. Other Locations-When no roof vent is available or another location is desired, the following is recommended:
   a. For one unit installation: The air conditioner should be mounted slightly forward of center (front to back) and centered from side to side.

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
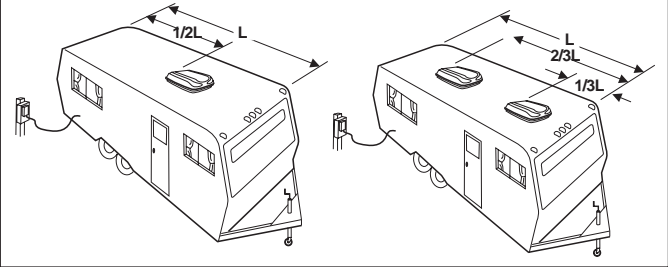
It is preferred that the air conditioner be installed on a relatively **flat and level** roof section measured with the RV parked on a level surface.

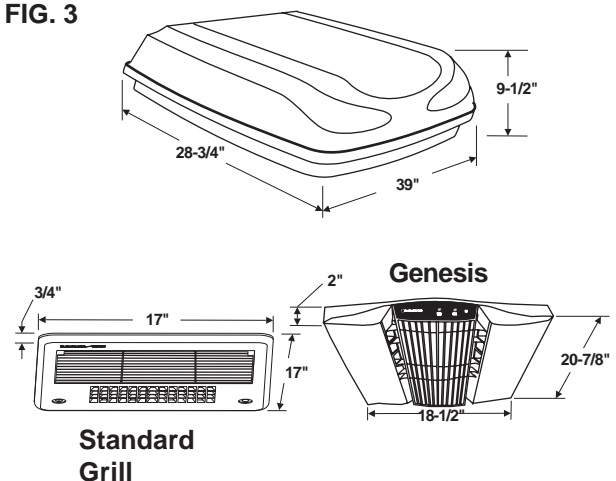**Note:** A 8° slant to **either** side, or front to back, is acceptable for all units.

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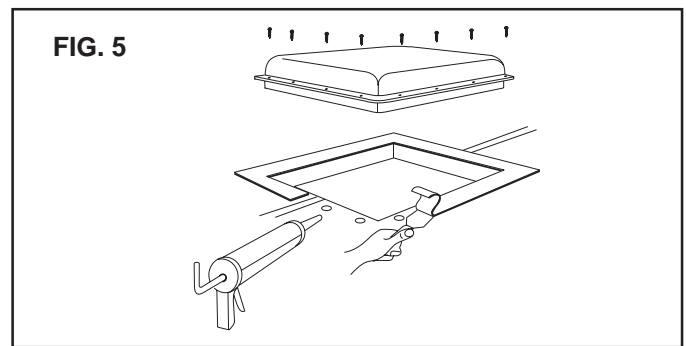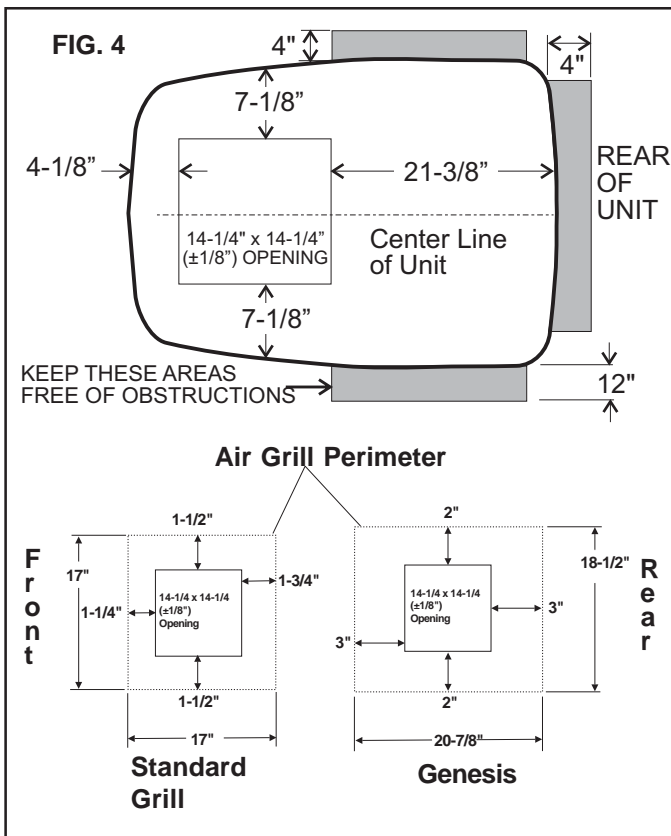
> **CAUTION**
>
> **It is the responsibility of the installer of this air conditioner system to ensure structural integrity of the RV roof. Never create a low spot on the roof where water will collect. Water standing around the air conditioner may leak into the interior causing damage to the product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

9-1/2"
28-3/4"
39"

3/4"
2"
17"
17"
20-7/8"
18-1/2"

Genesis

Standard Grill

FIG. 4

4"

4"

7-1/8"

4-1/8"

21-3/8"

REAR OF UNIT

14-1/4" x 14-1/4" (±1/8") OPENING

Center Line of Unit

7-1/8"

KEEP THESE AREAS FREE OF OBSTRUCTIONS

12"

Air Grill Perimeter

F r o n t

1-1/2"

17"

1-1/4"

14-1/4 x 14-1/4 (±1/8") Opening

1-3/4"

1-1/2"

17"

Standard Grill

2"

18-1/2"

14-1/4 x 14-1/4 (±1/8") Opening

3"

3"

2"

20-7/8"

R e a r
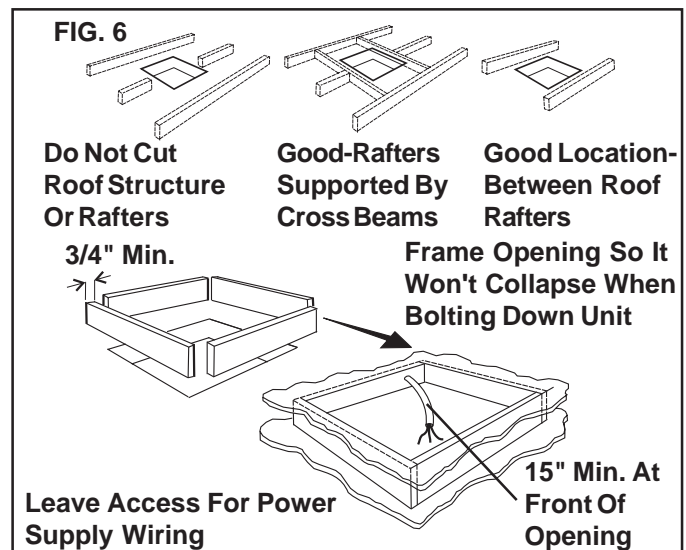
Genesis

C. Roof Preparation

1. Opening Requirements - Before preparing the ceiling opening, the type of system options must be decided upon. 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, furnace wiring and a seven-conductor cable, 18 to 22 AWG is to be used for analog thermostat connections.

FIG. 6

Do Not Cut Roof Structure Or Rafters

Good-Rafters Supported By Cross Beams

Good Location- Between Roof Rafters

3/4" Min.

Frame Opening So It Won't Collapse When Bolting Down Unit

Leave Access For Power Supply Wiring

15" Min. At Front Of Opening

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.

4. Air Distribution System Sizing & Design

CAUTION

It is the responsibility of the installer to insure the ductwork will not collapse or bend during and after the installation. Dometic Corporation will not be liable for roof structural or ceiling damage due to improperly insulated, sealed or collapsed ductwork.

The Installer of this air conditioner system must design the air distribution system for their particular application. Several requirements for this system **MUST** be met for the air conditioner to operate properly. These requirements are as follows:

a. The duct material must meet or exceed any agency or RVIA Standard that may be in existence at the time the RV is produced.

b. All discharge air ducts must be properly insulated to prevent condensation from forming on their surfaces or adjacent surfaces during operation of the air conditioner. This insulation must be R-7 minimum.

c. Ducts and their joints must be sealed to prevent condensation from forming on adjacent surfaces during operation of the air conditioner.

d. Return air openings must have 40 square inches minimum free area including the filter.

e. Return air to the air conditioner must be filtered to prevent dirt accumulation on air conditioner cooling surface.

5. Air Distribution System Installation

a. Dometic Corporation recommends the basic configuration shown on page 7, for installing this air conditioner system. We have found by testing, that this configuration works best in most applications of this air conditioner system. It is the responsibility of the Installer of this system to review each RV floor plan and determine the following:

- Duct size
- Duct layout
- Register size
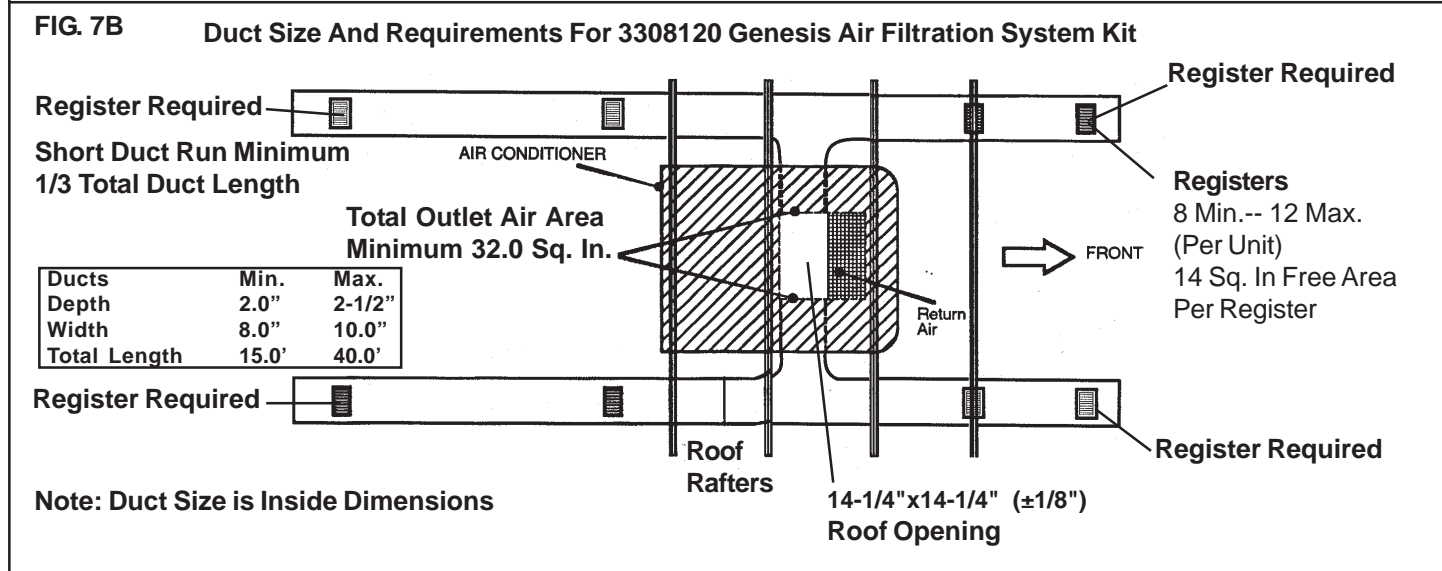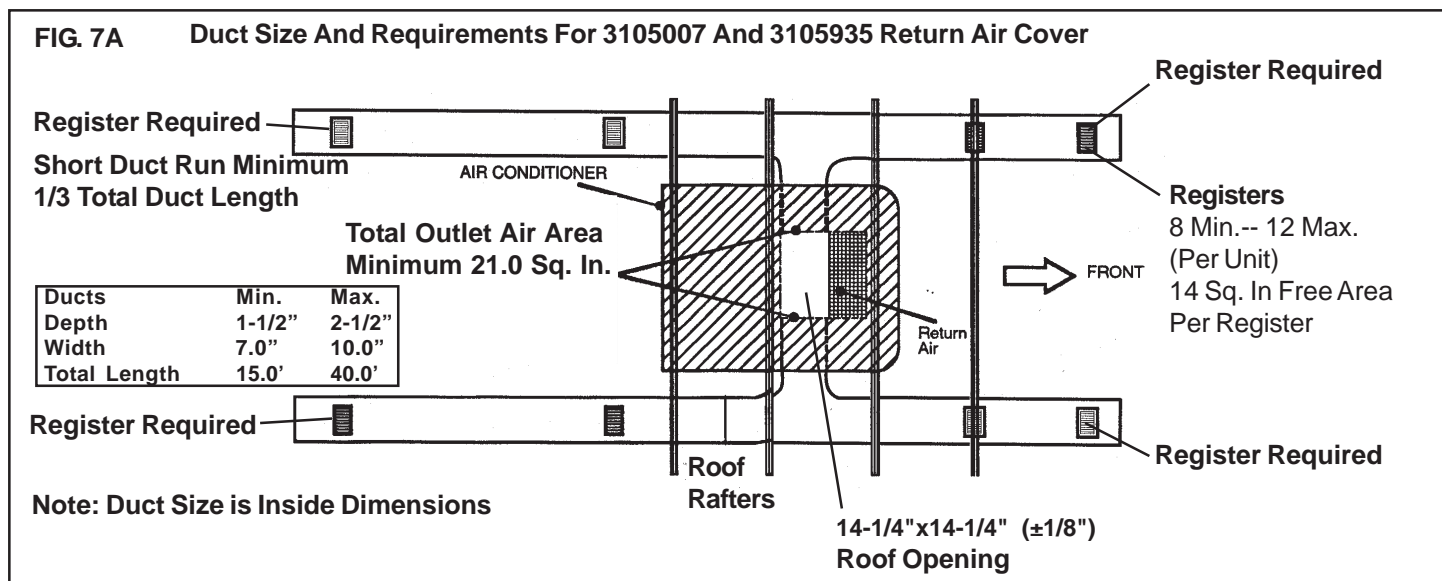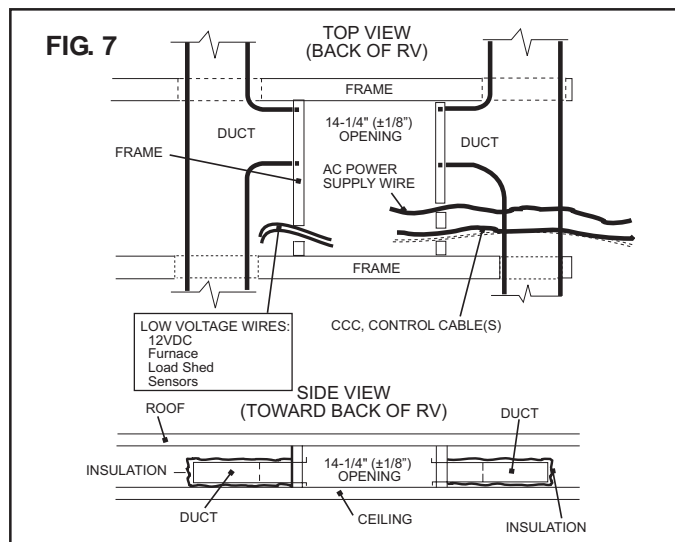- Register location
- Thermostat location

AIR DISTRIBUTION
DUCT SIZING & DESIGN CHART

Return Air Cover Model	3105007 3105935	3308120 Genesis Air Filtration System
Roof Cavity Depth	2.0 In. Min. - 5-1/2 In. Max.	2.0 In. Min. - 5-1/2 In. Max.
Duct Cross Sectional Area	21.0 Sq. In. Min.	32.0 Sq. In. Min.

Duct Size
     Depth
     Width
     Total Duct Length
     Duct Length (short run)
	
	 1-1/2 In. Min. - 2-1/2 In. Max.
	 7.0 In. Min. - 10.0 In. Max.
	 15.0 Ft. Min. - 40.0 Ft. Max.
	 1/3 Total Duct Length
		
		 2.0 In. Min. - 2-1/2 In. Max.
		 8.0 In. Min. - 10.0 In. Max.
		 15.0 Ft. Min. - 40.0 Ft. Max.
		 1/3 Total Duct Length

Center Duct System (Only)
     Depth
     Width
     Total Duct Length
     Duct Length (Short Run)
		
		 2.0" In. Min. - 2.0" Max.
		 8.0 In. Min. - 8.0 In. Max.
		 15.0 Ft Min. - 40 Ft. Max.
		 1/3 Total Length

Register Requirements
     Number Required Per Run
     Register Free Air Area
     Distance From Duct End
     Distance From Elbow
	
	 4 Min.
	 14.0 Sq. In.
	 5.0 In. Min. - 8.0 In. Max.
	 15.0 In.
		
		 4 Min.
		 14.0 Sq. In.
		 5.0 In. Min. - 8.0 In. Max.
		 15.0 In.

Duct Static
     Blower at High Speed,
     Filter & Grill In Place
	
	 0.12 - 0.65 In. W.C.
		
		 0.12 - 0.65 In. W.C.

Note: Duct sizes listed are inside dimensions.

These items must be determined in conjunction with the Air Distribution System and Sizing and Design Requirements listed in the chart on page 6. Terminate the start of the duct at the back edge of the 14-1/4" x 14-1/4" (±1/8"). See FIG. 7, 7A, and 7B.

Important: Alternate configurations and methods may be used which still allow the air conditioner to operate properly; however, these alternate configurations and methods must be approved by the Dometic Corporation in writing. The following instructions are based upon the use of 3105007 Dometic Return Air Kit, 3105935 Dometic Return Air Kit or 3308120 Genesis Air Filtration System and a 3109228.001 and/or 3109228.019 Comfort Control Center™.

FIG. 7

TOP VIEW (BACK OF RV)

FRAME
DUCT
14-1/4" (±1/8") OPENING
DUCT
FRAME
AC POWER SUPPLY WIRE
FRAME

LOW VOLTAGE WIRES:
12VDC
Furnace
Load Shed
Sensors

CCC, CONTROL CABLE(S)

SIDE VIEW (TOWARD BACK OF RV)
ROOF
DUCT
INSULATION
14-1/4" (±1/8") OPENING
DUCT
CEILING
INSULATION

FIG. 7A   Duct Size And Requirements For 3105007 And 3105935 Return Air Cover

Register Required

Register Required

AIR CONDITIONER

Short Duct Run Minimum 1/3 Total Duct Length

Total Outlet Air Area Minimum 21.0 Sq. In.

Registers
8 Min.-- 12 Max. (Per Unit)
14 Sq. In Free Area Per Register

FRONT

Return Air

Ducts	Min.	Max.
Depth	1-1/2"	2-1/2"
Width	7.0"	10.0"
Total Length	15.0'	40.0'

Register Required

Register Required

Roof Rafters

14-1/4"x14-1/4" (±1/8") Roof Opening

Note: Duct Size is Inside Dimensions

FIG. 7B   Duct Size And Requirements For 3308120 Genesis Air Filtration System Kit

Register Required

Register Required

AIR CONDITIONER

Short Duct Run Minimum 1/3 Total Duct Length

Total Outlet Air Area Minimum 32.0 Sq. In.

Registers
8 Min.-- 12 Max. (Per Unit)
14 Sq. In Free Area Per Register

FRONT

Return Air

Ducts	Min.	Max.
Depth	2.0"	2-1/2"
Width	8.0"	10.0"
Total Length	15.0'	40.0'

Register Required

Register Required

Roof Rafters

14-1/4"x14-1/4" (±1/8") Roof Opening

Note: Duct Size is Inside Dimensions

7

D. Wiring Requirements

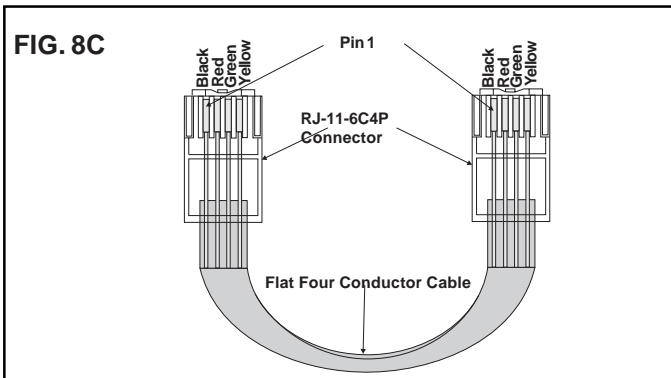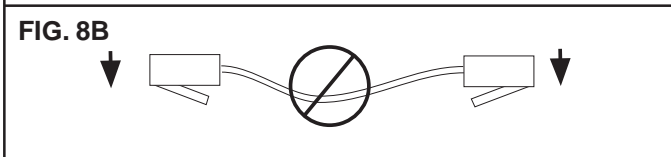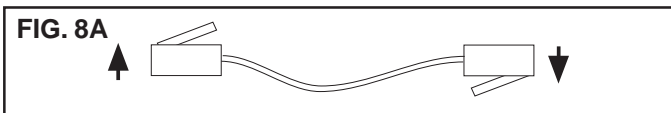1. 120 VAC Supply Line

   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.

2. Route a dedicated 12 VDC supply line (18-22 AWG) from the RV's converter(filtered terminals) or battery 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. Make sure that at least 15" of supply wire extends into the roof opening.

   c. **In a multiple zone installation, this wiring is required in only one of the 14-1/4" x 14-1/4" (±1/8") openings.**

3. If a Remote Temperature Sensor is used, the connector end must be routed from the sensor location to the roof opening of the system which it will control. Make sure that at least 15" of the sensor cable extends into the roof opening. Refer to the Remote Sensor Instructions for details of the installation.

4. If a furnace is to be controlled by the system, the two furnace thermostat leads must be routed to the roof opening of the air conditioner that will control it. Make sure that at least 15" of the furnace thermostat wires extend into the roof opening.

5. If an Energy Management System (load shed feature) is to be used with the control, two wires must be routed to the roof opening of the zone to be managed. The signal required for this function is normally open relay contact. When the EMS calls for the compressor to shut off, the relay contacts should close. Make sure at least 15" of the EMS wires extend into the roof opening.

6. Route a 4-conductor control cable from the **Comfort Control Center**™ mounting position into the 14-1/4" x 14-1/4" (±1/8") roof opening. Make sure that at least 15" of the wire extends into the roof opening and 6" extend from the wall at the mounting position of the **Comfort Control Center**™. See Section E-2.

7. In the event that other Air Conditioners are installed (additional zones) an additional 4-conductor control cable must be routed to the other Air Conditioners. Make sure that at least 15" of the wire extends into the roof opening. See FIG. 27.

8. If an automatic generator start kit (AGS) will be installed, a 4-conductor control cable must be routed from the last air conditioner to location of AGS kit. Follow AGS kit instructions for installation.

E. Dometic Comfort Control Center™ & Cable Installation

1. Location

   a. If the system is to be used **WITHOUT** a **Remote Temperature Sensor**, the proper location of the **Comfort Control Center**™ is very important to ensure that it will provide a comfortable RV temperature. Observe the following rules when selecting a location:

      • Locate the **Comfort Control Center**™ 54" above the floor.

      • Install the **Comfort Control Center**™ on a partition, not on an outside wall.

      • **NEVER** expose it to direct heat from lamps, sun or other heat producing items.

      • Avoid locations close to doors that lead outside, windows or adjoining outside walls.

      • Avoid locations close to supply registers and the air from them.

   b. If the system is to be used **WITH** a **Remote Temperature Sensor** in **ALL** zones, the **Comfort Control Center™** may be mounted anywhere that is convenient in the coach. Try to avoid hard to reach and hard to see areas.

      • Refer to the instructions provided with the **Remote Temperature Sensor** for details of installation.

   c. A 3/8" diameter hole will be needed to route the cable through the wall. See Section D-3.

2. Control Cable Installation

   A 4-conductor control cable must be routed from the roof opening to the **Comfort Control Center™.**

   a. Choose the shortest, most direct route from the 14-1/4" x 14-1/4" (±1/8") opening to the **Comfort Control Center™** location selected. Leave 6" of cable extending through the wall. See Section D-6.

   b. The control cable that should be used is a flat, 4-conductor telephone cable.

   c. The control cable must be terminated with two (2) RJ-11-6C4P telephone connectors. Refer to the crimp tool manufacture for crimping instructions. See FIG. 8A, 8B and 8C.

FIG. 8A

FIG. 8B

FIG. 8C

Pin 1

Black
Red
Green
Yellow

Black
Red
Green
Yellow

RJ-11-6C4P
Connector

Flat Four Conductor Cable

Important: RJ-11-6C4P connectors must be installed as shown in FIG. 8A, 8B & 8C.

3. Comfort Control Center™ Installation

   a. Carefully remove the base plate from the **Comfort Control Center™**. This may be accomplished by inserting a small screwdriver under the tab on the bottom edge of the front cover and gently prying. See FIG. 9.

   b. Insert the control cable through the hole in the base plate and mount the plate to the wall with two (2) screws provided. Check the alignment to ensure level installation.

   c. Install the control cable RJ-11-6C4P connector into the back of the **Comfort Control Center™** and snap onto the base plate. See FIG. 9.

FIG. 9

MODE
FAN
UP
DOWN
ZONE
OFF   ON
TEMP

Insert Screwdriver under Tab
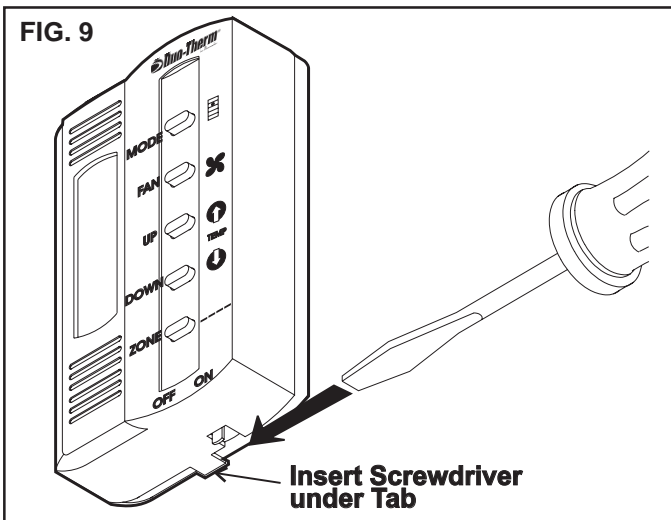
F. Placing Air Conditioner On The Roof
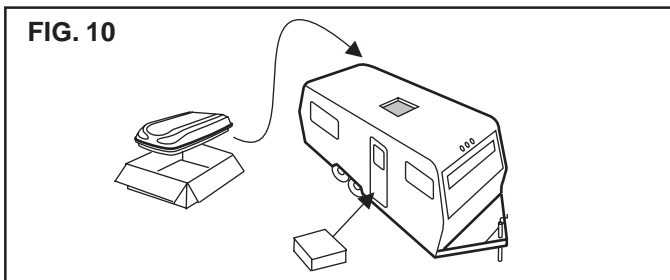
FIG. 10

⚠ **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. 10.
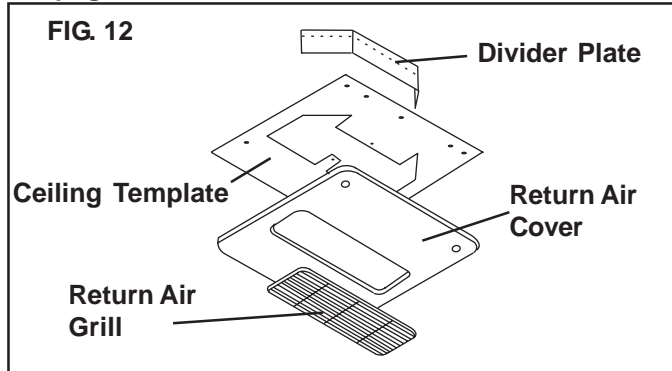2. Place the air conditioner on the roof.

CAUTION

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

FIG. 11

FRONT
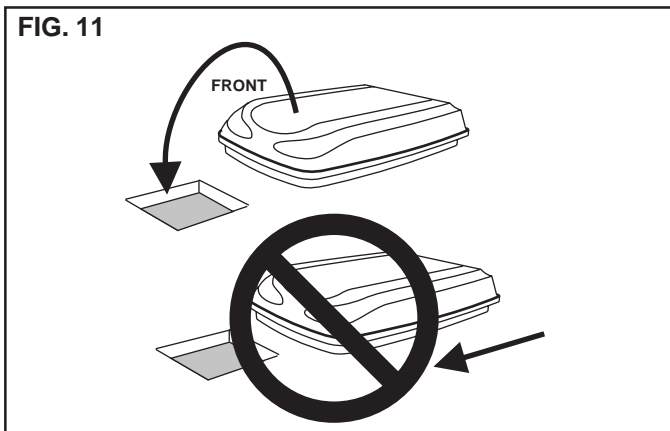
3. Lift and place the unit over the prepared opening using the gasket on the unit as a guide. See FIG. 11.
4. Place the Return Air Kit inside the RV. This box contains mounting hardware for the air conditioner and will be used inside the RV.

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

G. Installing The Air Conditioner

■ **Installing Unit with 3105007 or 3105935 Return Air Kit. For unit with Genesis Air Filtration System, see page 11.**

FIG. 12

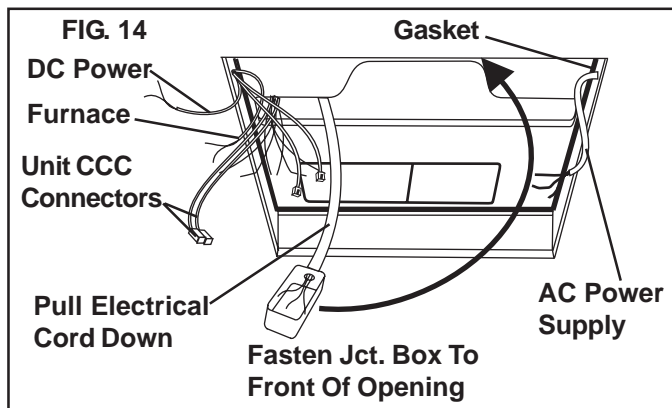Divider Plate

Ceiling Template

Return Air Cover

Return Air Grill

1. Installation Of Ceiling Template
   a. Check gasket alignment of the air conditioner over the roof opening and adjust if necessary. Unit may be moved from below by slightly lifting and moving. See FIG. 13.

FIG. 13   Center Unit From Below

Roof Gasket
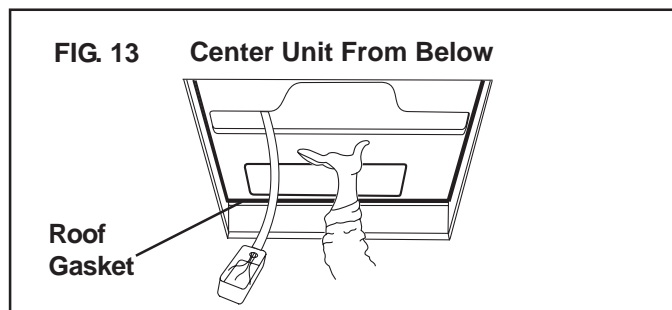
   b. Remove return air cover and ceiling template from the 3105007 or 3105935 carton.
   c. Locate the four (8" x 1/4- 20) unit mounting bolts, junction box cover and Romex connector in the 3107180 bolt kit.
   d. Pull down the unit's electrical cord and fasten the junction box with screws to the framing in the front of the 14-1/4" x 14-1/4" (±1/8") opening. See FIG. 14.

FIG. 14

Gasket

DC Power

Furnace

Unit CCC Connectors

Pull Electrical Cord Down

Fasten Jct. Box To Front Of Opening

AC Power Supply

   e. Install the Romex connector in the junction box.
   f. Hold the ceiling template up to the 14-1/4" x 14-1/4" (±1/8") opening. Be sure the large plate faces the rear of the RV.
   g. Start each mounting bolt through the ceiling template and up into the unit base pan by hand. Install wood screw in each end of the ceiling template. This insures a tight fit of the return air cover to ceiling. See FIG. 14. **Evenly tighten mounting bolts to compress gasket to 1/2" this will be a torque of 40 - 50 inch pounds. The bolts are self locking so over tightening is not necessary. See FIG. 15.**
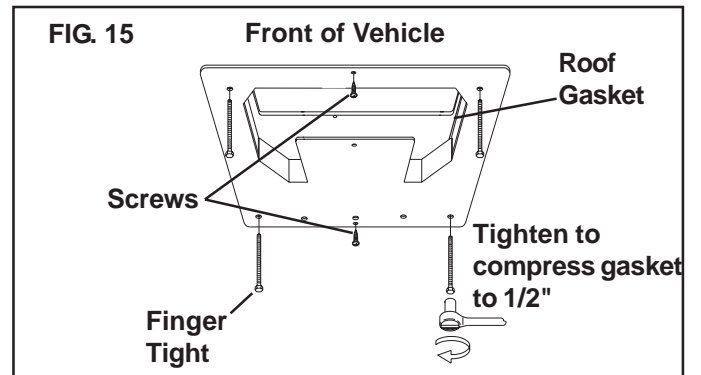
FIG. 15   Front of Vehicle

Roof Gasket

Screws

Finger Tight

Tighten to compress gasket to 1/2"

CAUTION

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

---

2. Installation of Divider Plate
   a. Measure the ceiling to roof thickness:
      • If distance is 2.0" - 3-3/4", remove perforated tab from divider plate.
      • If distance is 3-3/4" - 5-1/2", remove no tabs.
   b. Remove the backing paper from double sided tape located on ceiling template. See FIG. 16.

FIG. 16

Backing Paper

2.00-3.75"

10
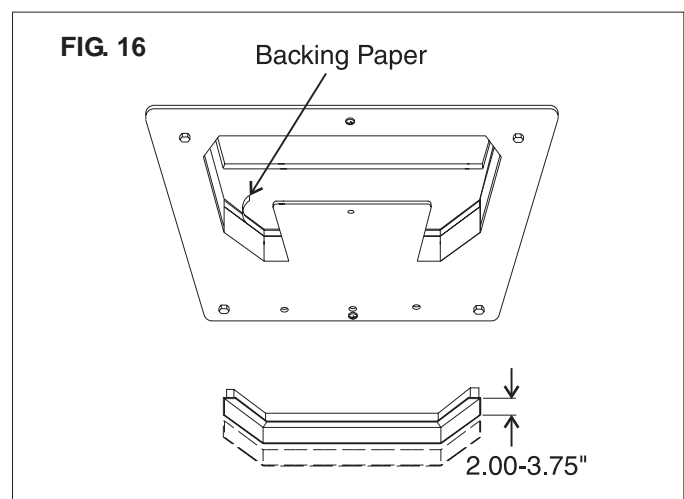
c. Place divider plate up to bottom of air conditioner base pan firmly. The foam tape on the divider plate must seal to bottom of base pan. See FIG. 17.

CAUTION

Improper installation and sealing of divider plate will cause the compressor to quick cycle on the cold control. This may result in fuse or circuit breaker opening and/or lack of cooling.


FIG. 17
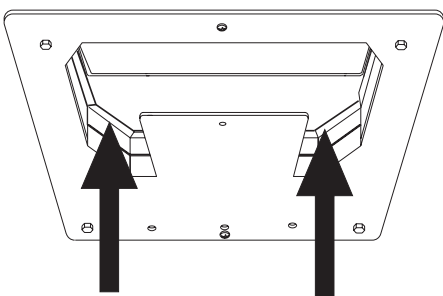
Push Divider Plate firmly onto Template

Note: The adhesive on the insulation is extremely sticky. Be sure the part is located where desired before pressing into place.

d. With slight pressure then push the divider plate against the double sided tape on the ceiling template.

e. Locate the 1/8" x 7" x 18" self -adhesive insulation supplied with the return air kit. Remove the backing paper from the insulation and carefully stick onto the ceiling template divider panel. See FIG. 18.

FIG. 18

Place insulation in position
(Do not Cover unit rating plate)
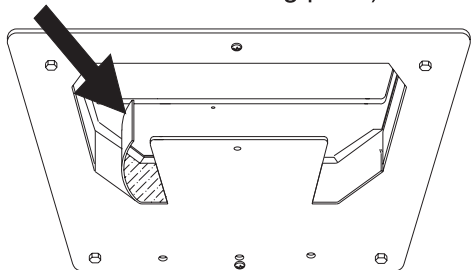
• Excess width is intended to seal the divider plate to the sides of the 14-1/4" x 14-1/4" (±1/8") opening. This is to help prevent cold air discharge from circulating into the air conditioner return air opening.

• If the insulation is too high, stick excess height of insulation to the air conditioner base pan. Do not cover up unit rating plate.

■ **Installing unit with 3308120 Genesis Air Filtration System Return Air Kit. For unit with 3105007 or 3105935 Return Air Kit, see page 9.**
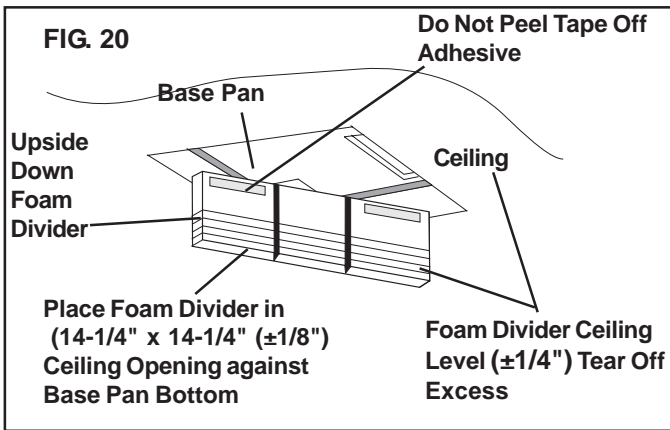
FIG. 19   Genesis Air Filtration System Return Air Kit

Foam Divider

Ceiling Template

Slider

Filter

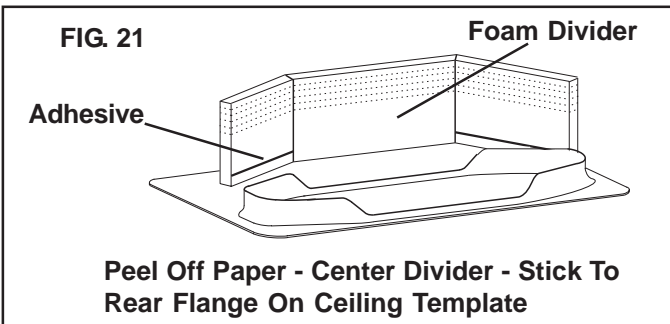Return Air Cover

Grill

Handle
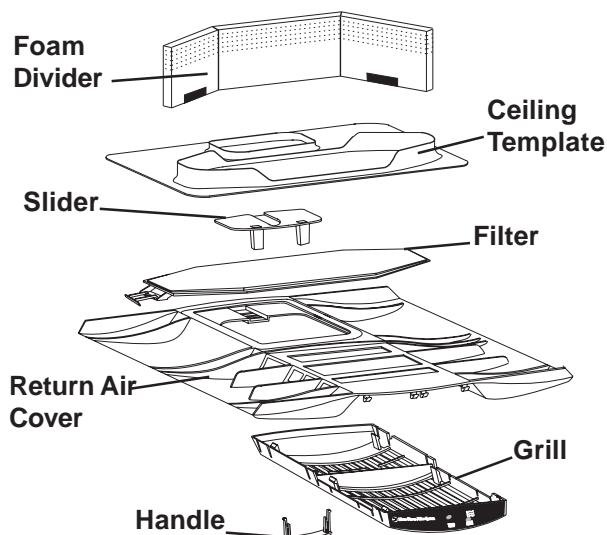
1. All Non-Center Duct Installations

Note: The Genesis Air Filtration System can be installed on units that use a center discharge duct through the 14-1/4" x 14-1/4" (±1/8") opening. Installing units with the center discharge duct go to Section 1. "Center Discharge Duct Application Installation", on page 6.

a. Check gasket alignment of the air conditioner over the roof opening and adjust if necessary. Unit may be moved from below by slightly lifting and moving. See FIG. 13.

• Remove return air cover, ceiling template, foam divider and air filter from the 3308120 carton.

• Locate the four (8" x 1/4-20) unit mounting bolts, junction box cover and Romex connector in the 3107180 bolt kit.

• Pull down the unit's electrical cord and fasten the junction box with screws to the framing in the front of the 14-1/4" x 14-1/4" (±1/8") opening. See FIG. 14.

b. Installing Foam Divider

• Locate the foam divider and insert it corner to corner in the 14-1/4" x 14-1/4" (±1/8") opening with the adhesive tape up (Do not remove paper to expose adhesive). The foam divider should be level with the ceiling (±1/4"). Tear off the excess at the pre-cut perforations in divider. See FIG. 20.

FIG. 20

Do Not Peel Tape Off Adhesive

Base Pan

Ceiling

Upside Down Foam Divider

Place Foam Divider in (14-1/4" x 14-1/4" (±1/8") Ceiling Opening against Base Pan Bottom

Foam Divider Ceiling Level (±1/4") Tear Off Excess

c. Install Ceiling Template

- Peel the paper off of the foam divider and stick it in place on the center of the rear flange of the return air opening on the ceiling template. See FIG. 21.
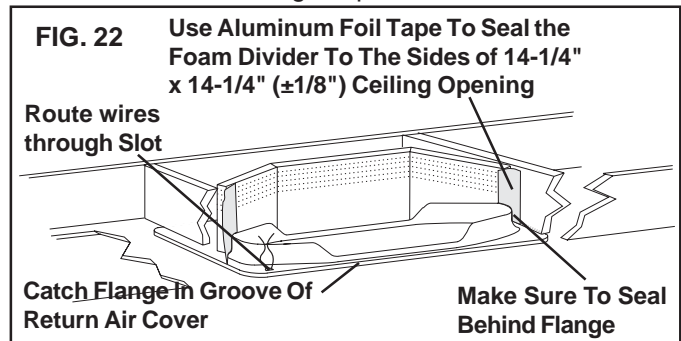
FIG. 21

Foam Divider

Adhesive

Peel Off Paper - Center Divider - Stick To Rear Flange On Ceiling Template

d. Start each mounting bolt through the ceiling template and up into the unit base pan by hand. **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 adequate roof seal or if over tightened, damage may occur to the air conditioner base or ceiling template. Tighten to specifications listed in this manual.

e. Use Aluminum foil tape (not supplied) to seal the ends of the foam divider to the sides of the opening. Make sure the area behind the flange on the ceiling template is sealed. See FIG. 22.

FIG. 22 Use Aluminum Foil Tape To Seal the Foam Divider To The Sides of 14-1/4" x 14-1/4" (±1/8") Ceiling Opening

Route wires through Slot

Catch Flange In Groove Of Return Air Cover

Make Sure To Seal Behind Flange

CAUTION

Improper installation and sealing of foam divider will cause the compressor to quick cycle on the cold control. This may result in fuse or circuit breaker opening and/or lack of cooling.

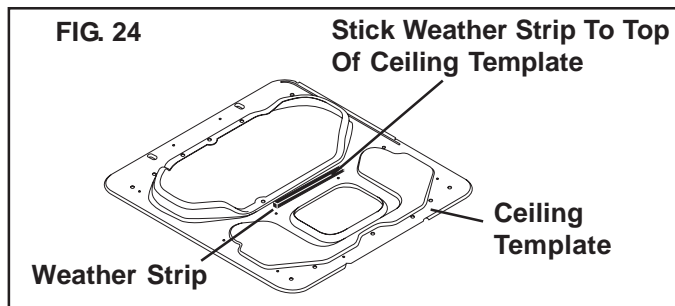2. Center Discharge Duct Application Installation

Note: If using non-center duct installation, go to Section 1. "All Non-Center Duct Installations", on page 11.

Important: A duct adapter (not supplied) must be installed between the unit discharge and the customer installed center duct. This duct adapter must be approved by Dometic.

a. Check gasket alignment of the air conditioner over the roof opening and adjust if necessary. Unit may be moved from below by slightly lifting and moving. See FIG. 13.

- Remove return air cover, ceiling template, foam divider and air filter from the 3308120 carton.
- Locate the four (8" x 1/4-20) unit mounting bolts, junction box cover and Romex connector in the 3107180 bolt kit.
- Pull down the unit's electrical cord and fasten the junction box with screws to the framing in the front of the 14-1/4" x 14-1/4" (±1/8") opening. See FIG. 14.

b. Installing Foam Divider

- Cut notch in the center section of the foam divider to fit (approximately 2 x 8 inches) snugly around duct. See FIG. 23.

FIG. 23 Tape Covered Adhesive

Foam Divider

Mark And Cut 2" x 8" Opening For Center Duct
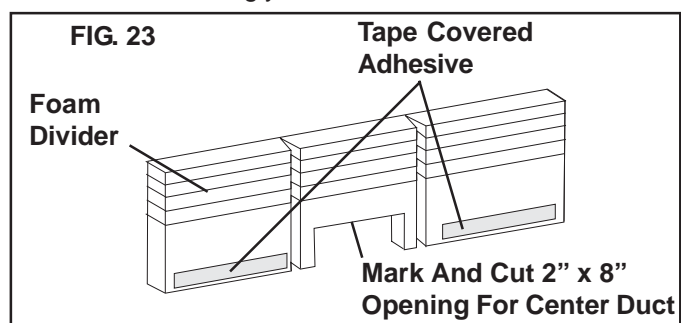
- Place the foam divider in the return air opening above the center duct before installing ceiling template.

c. Install Ceiling Template

- Apply a piece of foam weather stripping (not supplied) to the upper side of ceiling template to make a seal between it and the duct. Use a soft piece of foam weather strip 1 x 3/4 x 10 inches. See FIG. 24.

FIG. 24   **Stick Weather Strip To Top Of Ceiling Template**

Weather Strip

Ceiling Template

d. Start each mounting bolt through the ceiling template and up into the unit base pan by hand. **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 adequate roof seal or if over tightened, damage may occur to the air conditioner base or ceiling template. Tighten to specifications listed in this manual.

e. Use Aluminum foil tape (not supplied) to seal the ends of the foam divider to the sides of the opening. Make sure the area behind the flange on the ceiling template is sealed. See FIG. 22.

CAUTION

Improper installation and sealing of foam divider will cause the compressor to quick cycle on the cold control. This may result in fuse or circuit breaker opening and/or lack of cooling.

f. Cut the opening in the center duct using the discharge opening in the ceiling template for a pattern. Seal the center duct to the ceiling template using foil tape, foam insulation or silicon sealant.

H. Wiring The System

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

1. Connection Of Low Voltage Wires

CAUTION

Disconnect the positive (+) 12 volt DC terminal at the supply battery. Damage to equipment could occur if the 12 volt DC is not shut off.

Note: If solar panel is installed see instructions packaged with solar panel option.

Note: If using the Genesis Air Filtration System step "b" is to be completed when installing the decorative cover.

a. Route **Remote Temperature Sensor** cable, if applicable, and attach it to the connector that matches its color in the control box.

b. Connect the previously run 12 VDC to the red and black wires protruding from the control box. (In multiple zone installations, this needs to be done at only one zone.) Connect +12 VDC to the red wire; −12 VDC to the black wire.

c. Connect the previously run furnace thermostat wires (if applicable) to the blue wires protruding from the control box. The polarity of these connections does not matter.

d. Connect the previously run Energy Management System wires (if applicable) to the yellow wires protruding from the control box. The polarity of these connections does not matter.

e. Terminate the 4-conductor control cable(s) protruding into the 14-1/4" x 14-1/4" (±1/8") roof opening. The cable(s) must be terminated with a telephone RJ-11-6C4P connector. Refer to the crimp tool manufacturer for crimping instructions.

Important: RJ-11-6C4P connectors must be installed as shown in FIG. 8A, 8B & 8C.

f. Plug the control cable(s) into the telephone jack(s) on the control box. (It does not matter which one.)

g. Locate the ambient sensor plug coming from the unit, and attach it to the connector that matches its color in the control box.

2. Connection Of 120 Volt Power Supply

WARNING

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

a. Route power supply line through Romex connector into junction box on side away from the ceiling template. 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.


⚠ WARNING

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

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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.

I. Installing Decorative Inside Cover

■ **Installing unit with 3105007 or 3105935 Return Air Cover. For Genesis Air Filtration System Return Air Kit, see page 14.**

1. Remove the return air grill from the return air cover.
2. Place the return air cover up to the ceiling template.
3. Install cover to template with #8 x 3/8" blunt point Phillips head screws provided (6 required).
4. Reinstall filter return air grill into return air cover. Align tabs with mating notches and snap into place
5. Install two hole plugs into screw holes in back of return air cover. See FIG. 24.

FIG. 24

Return Air Cover

Hole Plugs

Return Air Grill
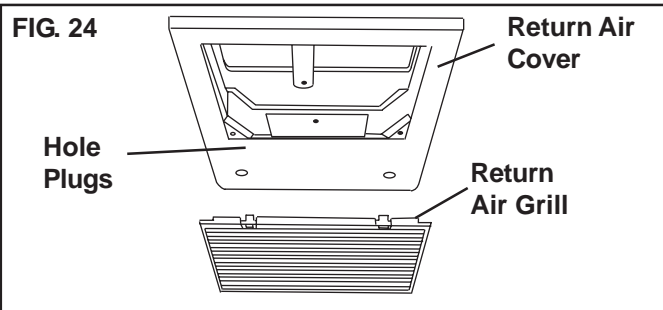
6. This completes the installation of the air conditioner. We recommend that power be supplied to the air conditioner and check for proper operation. Refer to Operating Manual or Users Guide for a description of the air conditioner operation.

■ **Installing unit with 3308120 Genesis Air Filtration System Return Air Kit. For 3105007 or 3105935 Return Air Kit, see page 14.**

FIG. 25 Genesis Air Filtration System Return Air Kit

Foam Divider

Ceiling Template

Slider

Filter

Return Air Cover

Grill

Handle
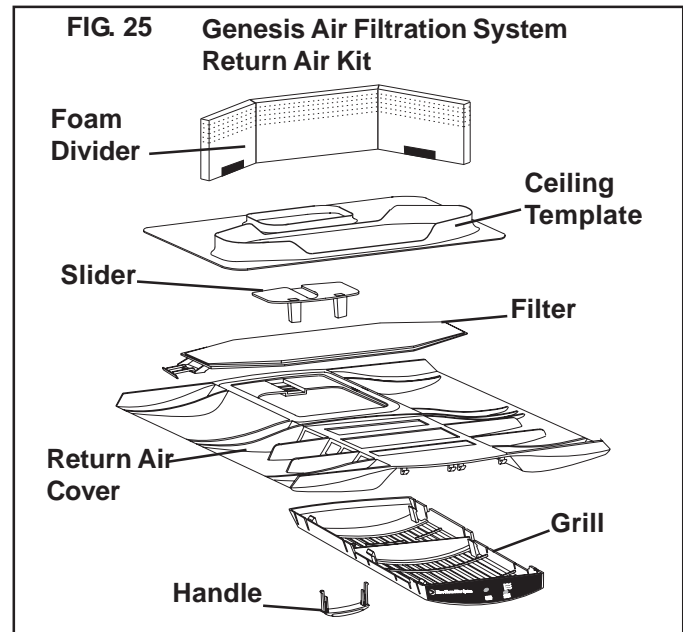
1. Install the slider in the return air cover and raise it to the ceiling template. Route the filter indicator wires from the return air cover through the template slot leaving about 3" between. Place the front of the return air cover against the ceiling and slide towards the rear. The flange on the ceiling template will catch in the groove on the return cover. Adjust the position (right to left) and install the front two screws. Start and tighten the remaining screws to hold it in place. Connect together the wires from the thermostat, unit and filter indicator.

Note: If solar panel is installed see instructions packaged with solar panel option.

a. Connect the red wire from the unit, the red wire from the filter indicator light with the red DC positive power lead. See FIG. 21.

b. Connect the black (-12V) wire from the unit, the black wire from the filter indicator light with the black (-12V) power lead.

Note: Number 10 cabinet screw can be used to replace the two front screws when the ceiling material is hard.
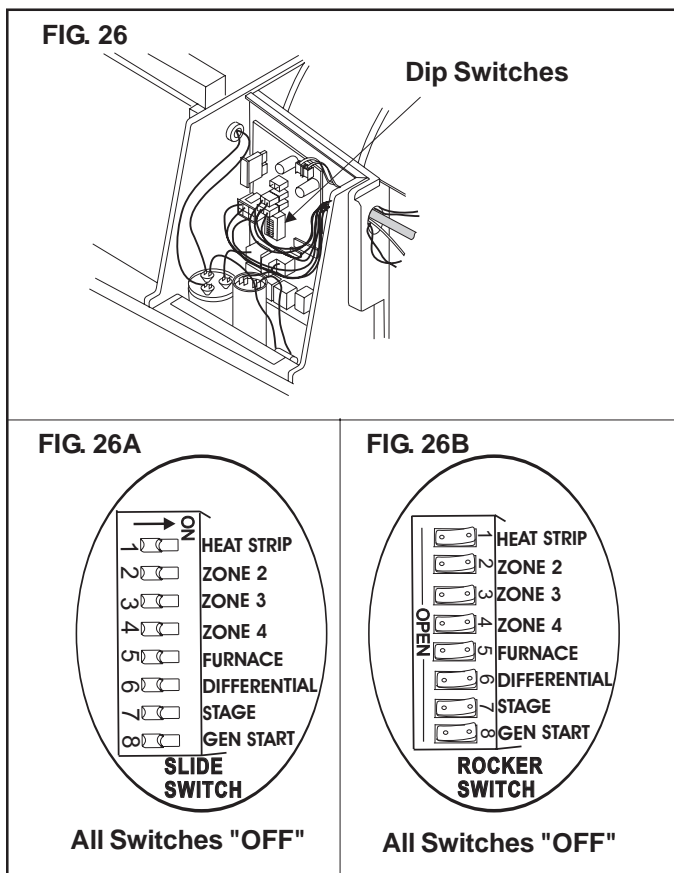
2. Tighten the screws holding the return air cover. Slide the filter from the right side (looking toward the RV front) over the wires. Make sure the wires are above the filter and are out of its way.

3. Place grill on return air cover and snap in place, and install decal on end over circuit board.

4. Place slide handle through slots in grill into the slide posts. Handle will fit in either direction.

5. This completes the installation of the air conditioner. We recommend that power be supplied to the air conditioner and check for proper operation. Refer to Operating Manual or User's Guide for a description of the air conditioner operation.

J. System Configuration, Reset & Check Out

Now that the system is installed, it is necessary to check all operations and then configure the electronics. Refer to the Operating manual for a description of the air conditioner operation.

1. Electronic Control Kit Configuration

   Depending on the equipment options installed by the recreational vehicle manufacturer, the appropriate dip switches will need to be switched to the "ON" position. Placing the switch in the "ON" position selects that option. See FIGS. 26, 26A & 26B.

FIG. 26

Dip Switches

FIG. 26A

HEAT STRIP
ZONE 2
ZONE 3
ZONE 4
FURNACE
DIFFERENTIAL
STAGE
GEN START

SLIDE SWITCH

All Switches "OFF"

FIG. 26B

HEAT STRIP
ZONE 2
ZONE 3
ZONE 4
FURNACE
DIFFERENTIAL
STAGE
GEN START

ROCKER SWITCH

All Switches "OFF"

Note: Dip switches are in the "OFF" position when shipped from the factory. The dip switches are visible through the opening in the ceiling template into the control box. Dip switches can be either a rocker or sliding style of a switch. See FIGS. 26, 26A & 26B.

Important: Dip switch damage will occur if they are not set in the proper manner. A ball point pen or similar object that will slip in the switch slot, can damage the switch causing loss of connection. Use only a small flat blade screw driver (wider than the dip switch slot) to move the dip switch. See FIG. 26C.

    b. Heat strip selection: Units with a heat strip, the #1 dip switch will be in the "ON" position.

    c. Furnace selection - when a furnace has been connected to a zone, place the furnace dip switch "ON" for that zone.

FIG. 26C

DO NOT USE BALL POINT PEN To Move Dip Switch

Use Flat Blade Screwdriver Wider Than Dip Switch Slot To Move Dip Switch

Not Correct

Correct
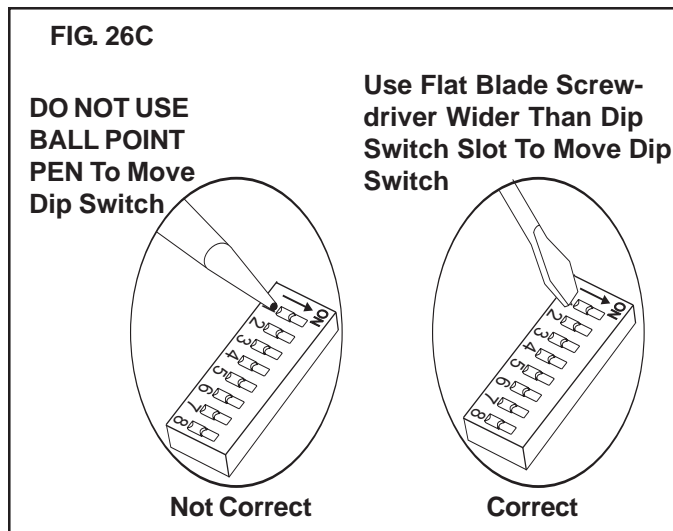
    d. Differential - differential is the temperature difference between the "ON/OFF" cycle of the thermostat in the furnace mode. The normal differential is preset in the circuit board with the dip switch set to the "OFF" position. In some situations, it may be necessary to decrease the differential. The location of the thermostat may create a condition where the normal differential will not maintain your comfort zone. If this occurs, the differential can be shortened by placing the differential dip switch to the "ON" position.

Note: Setting the differential dip switch should only be required when installation conditions are less than desirable and is not covered under the limited warranty.

    e. Stage selection - stage is not used on these units. Leave in the "OFF" position.

    f. Gen start selection - leave in the "OFF" position.

    g. Replace the unit electrical box cover.

    h. Repeat this procedure for each additional zone.

2. System Reset

   After setting the dip switches in the electronic control kit, do a system reset.

    a. Turn the ON/OFF switch to the "OFF" position.

    b. Simultaneously depress and hold the MODE and ZONE push-buttons while turning the ON/OFF switch to "ON". FF should appear in LCD display until the mode and zone push-buttons are released.

    c. When a dip switch is turned on after initial configuration, a system reset will need to be done before the **Comfort Control Center**™ will recognize the updated selection.

3. System Checkout

   Verify that all features of the installed system work. Check fan speeds, cooling mode, heat pump mode, furnace (if connected) and heat strip. If the features do not work, check all wiring and confirm that the correct options have been selected on the Electronic Control Box. See **Comfort Control Center**™ Operating Instructions.

FIG. 27
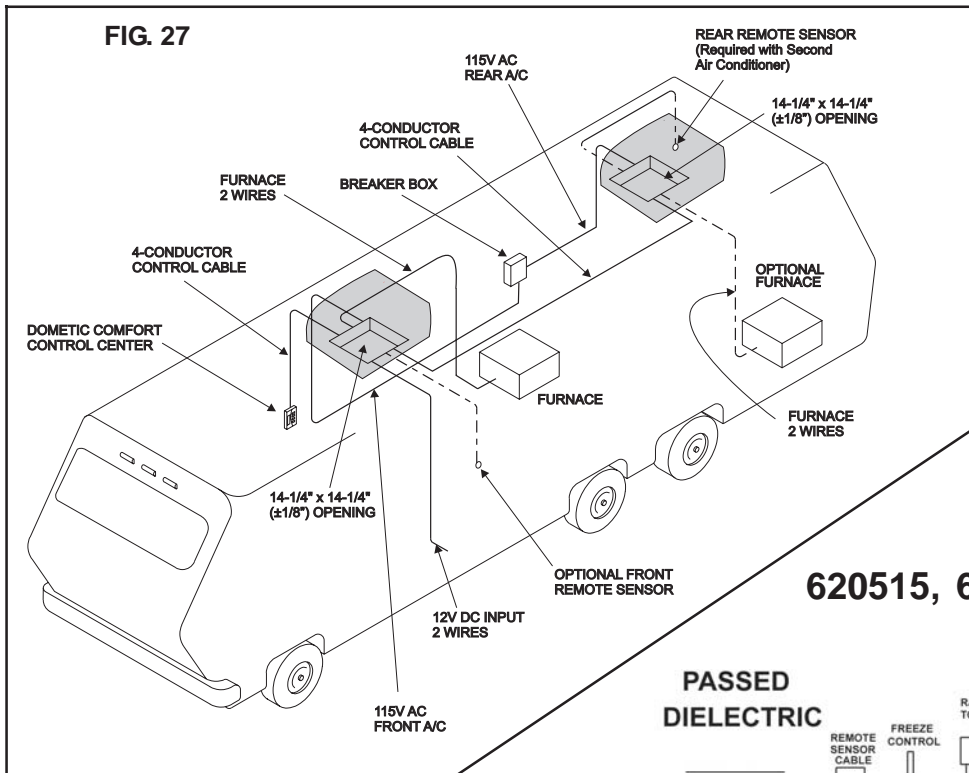
620515, 620525 & 620526 WIRING DIAGRAM

3308032.105
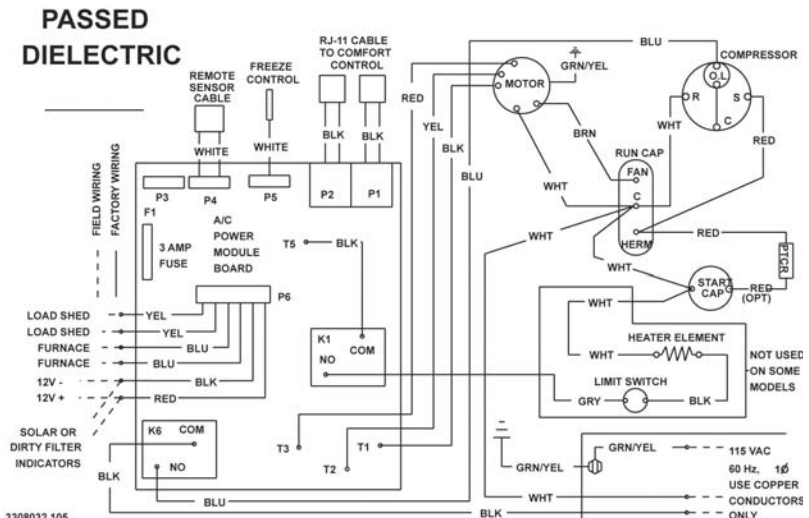
630515 & 630516 WIRING DIAGRAM

3308032.121