



RECORD THIS INFORMATION FOR FUTURE REFERENCE:

Model Number _____

Serial Number _____

Date Purchased _____

INSTALLATIONS INSTRUCTIONS

Roof Top Unit Used With 3315910.XXX, 3315920.XXX, 3317404.XXX or 3315940.XXX				
Return Air Grille				
Description	Model	Electronic Control Kit	Thermostat	Optional Indoor Temperature Sensor
Air Conditioner				
CCC 2 Controls	H540315 H540316 457915 459516 459530 B57915 B59516 B59530	3312020.000	3314082.000 CCC 2-Blk 3314082.011 CCC 2-Wht	3311931.000-20' 3311931.012-40' 3311931.020-60'
LCD SZ Controls	H540315 H540316	3313189.000 C/F-Wht 3313189.015 C/F-Blk	3313192.000 C/F-Wht 3313192.019 C/F-Blk	N/A
Heat Pump				
CCC 2 Controls	459186 B59186	3312020.000	3314082.000 CCC 2-Blk 3314082.011 CCC 2-Wht	3311931.000-20' 3311931.012-40' 3311931.020-60'

This Unit is designed for OEM installation. All initial installations must be approved by Dometic Corporation.



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

REVISION C

Form No. 3316589.000 1/20
(French 3316590.000_C)
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INTRODUCTION

This air conditioner/heat pump (hereinafter referred to as “unit” or “product”) is designed and intended for installation on the roof of a Recreational Vehicle (hereinafter referred to as “RV”) during the time it is manufactured.

Read these instructions and highlight the appropriate steps for your particular procedure before starting the installation.

This unit can be installed by one person with brief help from additional personnel. Use these instructions to ensure a properly installed, and properly functioning product.

Dometic Corporation reserves the right to modify appearances and specifications without notice.

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DOCUMENT SYMBOLS



Indicates additional information that is **NOT** related to physical injury.

IMPORTANT SAFETY INSTRUCTIONS

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

A. Recognize Safety Information



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

B. Understand Signal Words

A signal word will identify safety messages and property damage messages, and will indicate the degree or level of hazard seriousness.

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

⚠ CAUTION indicates a hazardous situation that, if **NOT** avoided, could result in minor or moderate injury.

NOTICE is used to address practices **NOT** related to physical injury.

C. Supplemental Directives



Read and follow all safety information and instructions to avoid possible injury or death.

Read and understand these instructions before [installing / using / servicing / performing maintenance on] this product.

Incorrect [installation / operation / servicing / maintaining] of this product can lead to serious injury. Follow all instructions.

The installation **MUST** comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code

CANADA

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

D. General Safety Messages



⚠ WARNING Failure to obey the following warnings could result in death or serious injury:

- This product **MUST** be [installed / serviced] by a qualified service technician.
- Do **NOT** modify this product in any way. Modification can be extremely hazardous.
- Do **NOT** add any devices or accessories to this product except those specifically authorized in writing by Dometic Corporation.

SPECIFICATIONS

A. Unit Data

NOTICE Maintain the structural integrity. Otherwise damage to the product and/or RV could occur.

The roof must be designed to support 130 lbs (59 kg) when the RV is in motion. Normally a 200 lbs. (91 kg) static load design will meet this requirement.

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	Refrigerant R-410A (oz)	Minimum Wire Size*	AC Circuit Protection ***Installer Supplied	Minimum Generator Size** 1 Unit / 2 Units
H540315.72X	13,500	120 VAC 60 Hz 1 ph	12.7	68.0	2.8	8.0	19.5	12 AWG Copper Up to 24'	20 Amp	3.5 kW / 5.0 kW
H540316.72X	15,000		13.2	70.0	2.8	8.0	21.0		20 Amp	3.5 kW / 5.0 kW
457915.30X	13,500		12.4	61.0	2.5	5.8	20.0		20 Amp	3.5 kW / 5.0 kW
457915.70X	13,500		12.4	63.0	2.5	5.8	18.0		20 Amp	3.5 kW / 5.0 kW
457915.71X	13,500		12.4	68.0	2.5	5.8	18.0		20 Amp	3.5 kW / 5.0 kW
B57915.71X	13,500		12.4	68.0	2.5	5.8	16.0		20 Amp	3.5 kW / 5.0 kW
459186.70X	15,000		13.3	66.0	2.0	5.6	29.0		20 Amp	3.5 kW / 5.0 kW
459186.71X	15,000		13.3	70.0	2.0	5.6	29.0		20 Amp	3.5 kW / 5.0 kW
B59186.71X	15,000		13.3	70.0	2.0	5.6	29.0		20 Amp	3.5 kW / 5.0 kW
459516.30X	15,000		13.4	64.0	2.0	5.6	27.5		20 Amp	3.5 kW / 5.0 kW
459516.70X	15,000		13.3	66.0	2.0	5.6	27.5		20 Amp	3.5 kW / 5.0 kW
459516.71X	15,000		13.3	70.0	2.0	5.6	27.5		20 Amp	3.5 kW / 5.0 kW
B59516.71X	15,000		13.3	70.0	2.0	5.6	27.5		20 Amp	3.5 kW / 5.0 kW
459530.70X	N/A		8.6	50.0	2.5	5.8	20.0		15 Amp	2.5 kW / 4.0 kW
B59530.71X	N/A		8.6	50.0	2.5	5.8	20.0		15 Amp	2.5 kW / 4.0 kW

* For wire length over 24 ft. (7 m), consult the National Electrical 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 RV 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.

B. Roof Requirements

- A 14-1/4" x 14-1/4" (±1/8") (36.20 cm x 36.20 cm) square opening (hereinafter referred to as "roof opening") is required for installing this unit. This opening is part of the return air system of the unit and **MUST** be finished in accordance with NFPA 1192.
- Roof construction with rafters/joists support frames on a minimum of 16" (40.64 cm) centers.
- Minimum of 2" (50 mm) and maximum of 5" (127 mm) distance between roof to ceiling of RV.

SPECIFICATIONS

C. Table - Air Distribution Duct Sizing & Design

Return Air Grille Kit	33159X0.XXX 3317404.XXX
Roof Cavity Depth	2.0" - 5" (50 mm - 127 mm)
Duct Cross Sectional Area	21.0 Sq. In. Min.
Duct Size	
Depth	1-1/2" Min. - 2-1/2" Max. (38 mm Min. - 63.5 mm Max.)
Width	7.0" Min. - 10.0" Max. (178 mm Min. - 254 mm Max.)
Total Duct Length	15.0 Ft. Min. - 40.0 Ft. Max. (4.5 m - 12 m)
Duct Length (short run)	1/3 Total Duct Length
Register Requirements per A/C Unit	
Number Required	4 Min. - 8 Max.
Supply Register Free Air Area	14.0 Sq. In. (90 sq. cm)
Return Register Free Air Area	40.0 Sq. In. (258 sq. cm)
Distance From Duct End	5.0" Min. - 8.0" Max. (127 mm Min. - 203 mm Max.)
Distance From Elbow	15.0" (381 mm)
Total System Static Air Pressure Blower at High Speed, Filter & Grille In Place	0.55 - 1.10 In. W.C.

INSTALLATION INSTRUCTIONS

A. Choosing A Proper Unit Location

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

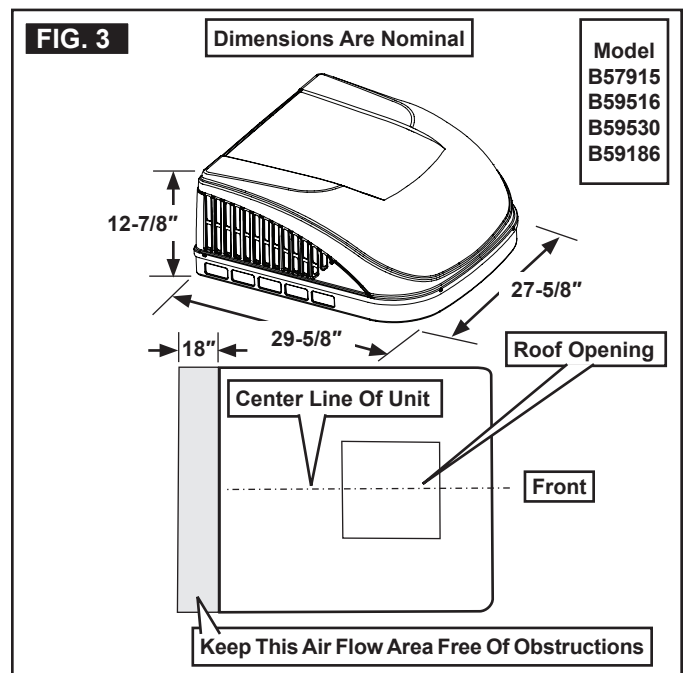
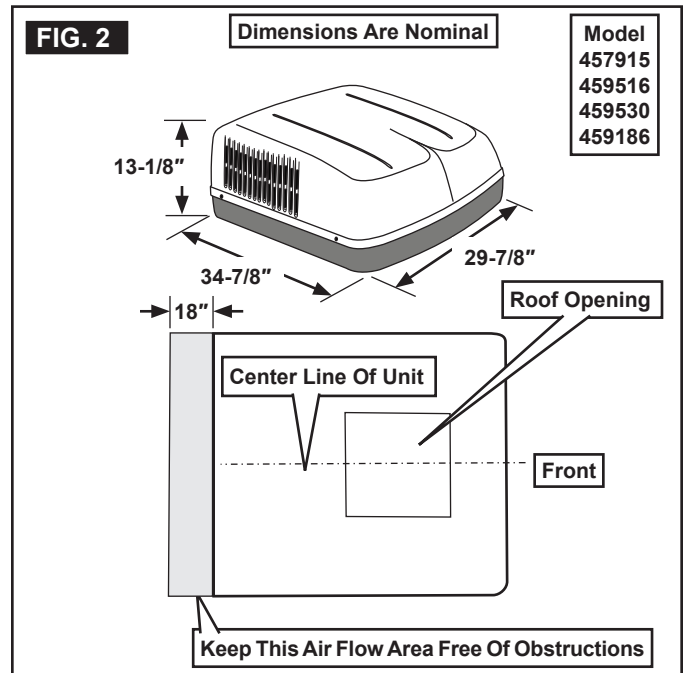
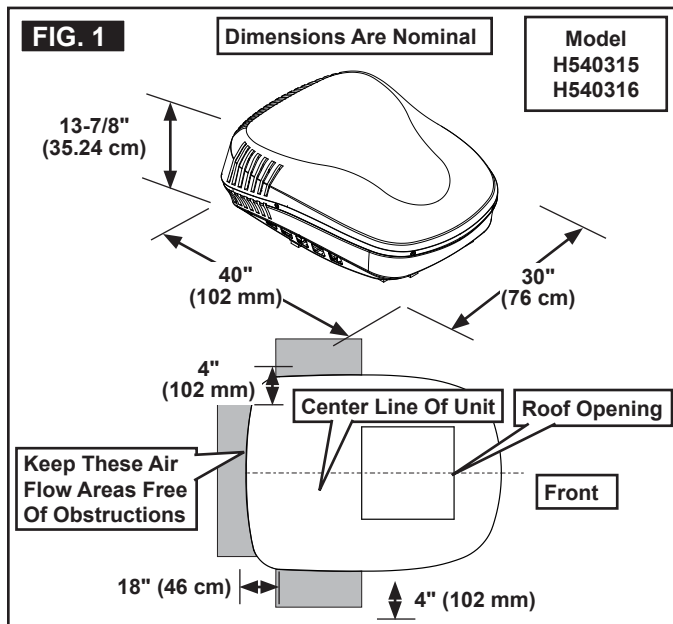
- Size of RV
- Window area (increases heat gain)
- Amount of insulation in walls and roof
- Geographical location where the RV will be used
- Personal comfort level required

1. Choose your installation location:

- One Unit Installation: Mount the unit slightly forward of center (front to back) and centered from side to side.
- Two Unit Installation: Install one unit one-thirds and second unit two-thirds from the front of the RV and centered from side to side.

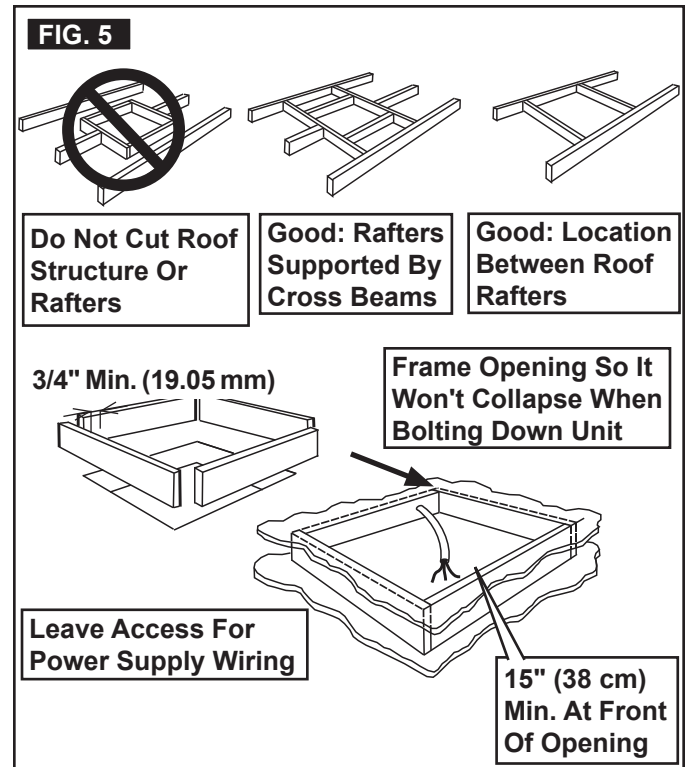
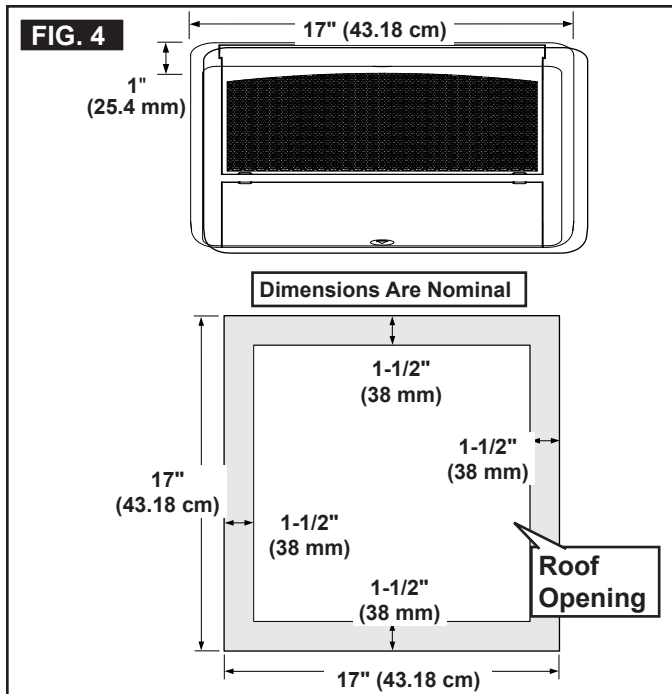
Install on a relatively flat and level roof section measured with the RV parked on a level surface. The maximum acceptable tilt is 15°.

2. Check for obstructions in the area where the unit will be installed. See FIG. 1, FIG. 2, and FIG. 3.



- ### 3. Check inside the RV for the return air grille (hereinafter referred to as "RAG") obstructions (i.e. door openings, room dividers, curtains, ceiling fixtures, etc.). See FIG. 4.

INSTALLATION INSTRUCTIONS



B. Preparing The Roof

⚠ WARNING FIRE OR ELECTRICAL SHOCK HAZARD. Make sure there are no obstacles (wires, pipes, etc.) inside RV's [roof / floor / walls]. Shut **OFF** gas supply, disconnect 120 Vac power from RV, and disconnect positive (+) 12 Vdc terminal from supply battery **BEFORE** drilling or cutting into RV. Failure to obey these warnings could result in death or serious injury.

i Opening Requirements - Before preparing the ceiling opening, decide on the type of system options. Read all of the following instructions before beginning the installation.

1. Carefully mark and cut the required roof opening.
2. Using the roof opening as a guide, cut the matching hole in the ceiling.

NOTICE Maintain structural integrity. Otherwise damage to product and/or RV could occur.

NOTICE **NEVER** create a low spot on RV roof. Otherwise, water will pool and could cause a leak.

The opening created must be framed to provide adequate support and prevent air from being drawn from the roof cavity. Framing stock 3/4" (19.05 mm) or more in thickness must be used. Remember to provide an entrance hole for power supplies, indoor temperature sensor (if applicable), thermostat communication cable, and furnace wires (if applicable) at the front of the opening. See FIG. 5.

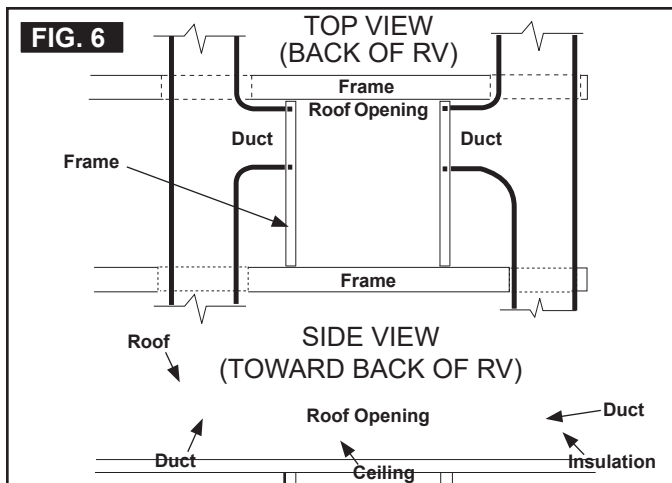
C. Air Distribution Duct Sizing & Design

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

NOTICE Make sure ductwork will **NOT** bend or collapse during and after installation, and that it is correctly insulated and sealed. Otherwise, damage to roof structure and ceiling could occur.

- Properly insulate and seal all discharge air ducts to prevent condensation from forming on their surfaces or adjacent surfaces during operation of the unit. This insulation must be R-7 minimum. See FIG. 6.
- Return air openings must have 40 square inches (258 square centimeters) minimum free area including the filter.
- Return air to the unit must be filtered to prevent dirt accumulation on the unit cooling surface.

INSTALLATION INSTRUCTIONS



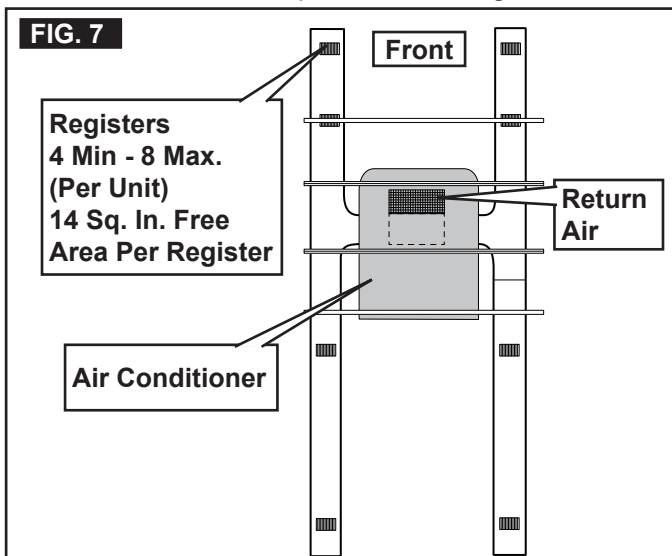
D. Air Distribution System Installation

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

- Duct size
- Duct layout
- Register size
- Register location
- Thermostat location
- Indoor temperature sensor location (if applicable)

These items must be determined in conjunction with "C. Air Distribution Duct Sizing & Design" on page 7.

i Alternate configurations and methods may be used which will allow the unit to operate properly; however, these alternate configurations and methods **MUST** be approved by Dometic Corporation in writing.



E. 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. Use a listed/certified non metallic - sheathed single strand cable. See "A. Unit Data" on page 4.
 - a. This supply wire must be located in the front portion of the roof opening.
 - b. The power **MUST** be on an appropriately sized separate time delay fuse or circuit breaker. See "A. Unit Data" on page 4.
 - c. Make sure that at least 15" (38 cm) of supply wire extends into the roof opening. This ensures an easy connection at the junction box.
 - d. Protect the wire where it passes into the opening with approved method.
2. Route a dedicated 12 VDC supply wire (18-22 AWG) from the RV converter (filtered side) or battery to the roof opening.

i When a Comfort Control Center 2 (herein-after referred to as CCC 2) thermostat is being installed with more than 2 zones, route a dedicated 12 VDC supply wire (18-22 AGW) to the zone 1 and zone 3 roof openings.

- a. This supply wire must be located in the front portion of the roof opening.
 - b. Make sure that at least 15" (38 cm) of supply wire extends into the roof opening.
3. Thermostat Communication Cable

- CCC 2 Thermostat

Route a 4-conductor communication cable from the roof opening to the thermostat mounting location using the shortest most direct route. Make sure that at least 15" (38 cm) of the wire extends into the roof opening and 6" (150 mm) extends from the wall at the thermostat mounting location. See "F. Choosing Thermostat Location" on page 9.

i When more than one unit is being installed (additional zones) with the CCC 2 thermostat, an additional 4-conductor communication cable **MUST** be routed to each additional unit roof opening. Make sure that at least 15" (38 cm) of the wire extends into the roof opening. See FIG. 7.

INSTALLATION INSTRUCTIONS

- LCD SZ Thermostat

Route a 3-conductor communication cable, 18 to 22 AWG, from the roof opening to the Liquid Crystal Display Single Zone (hereinafter referred to as LCD SZ) thermostat mounting location. Make sure that at least 15" (38 cm) of the wire extends into the roof opening and 6" (15 cm) extends from the wall at the thermostat mounting location. See "F. Choosing Thermostat Location" on page 9.

4. (CCC 2 system only) Optional Indoor Temperature Sensor

Route an indoor temperature sensor (optional) from the roof opening to the indoor temperature sensor location. The 2-pin connector end goes to the roof opening. See indoor temperature sensor installation instructions for proper sensor location.

5. If system includes a gas furnace, route two 18 gauge thermostat wires from the furnace to the roof opening of the unit that will control it. If more than one furnace is to be used, route the second set of thermostat wires to the second unit. Make sure that at least 15" (38 cm) of wire extends into the opening.
6. (CCC 2 system only) 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 an open relay contact. When the EMS calls for the compressor to shut off, the relay contacts should close. Make sure that at least 15" (38 cm) of the EMS wire extends into the roof opening.
7. (CCC 2 system only) If an Automatic Generator Start (AGS) kit will be installed, route an additional 4-conductor communication cable from the last unit to the location of the AGS kit. Follow AGS kit instructions for installation.

F. Choosing Thermostat Location

- CCC 2 system without an optional indoor temperature sensor and LCD SZ system

The proper location of the thermostat is very important to ensure that it will provide a comfortable RV temperature. Observe the following rules when selecting a location.

1. Locate the thermostat 54" (137 cm) above the floor.
2. Install the thermostat on a partition, not on an outside wall.
3. **NEVER** expose the thermostat to direct heat from lamps, sun, or other heat producing items.

4. Avoid locations close to doors that lead outside, windows, or adjoining outside walls.
5. Avoid locations close to supply registers and the air from them.

- CCC 2 system with an optional indoor temperature sensor in ALL zones

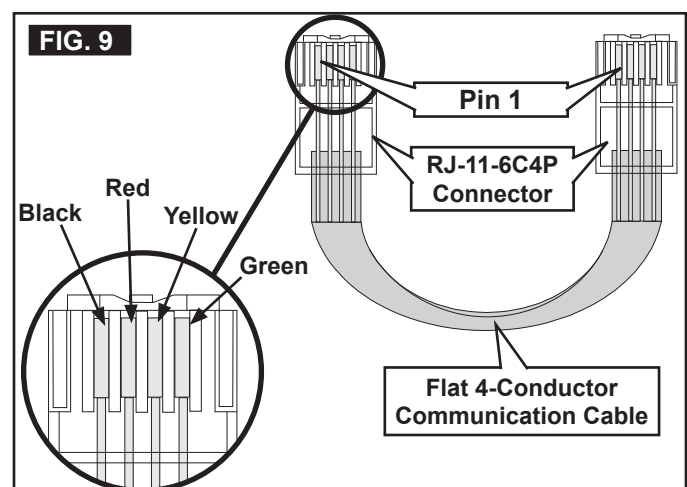
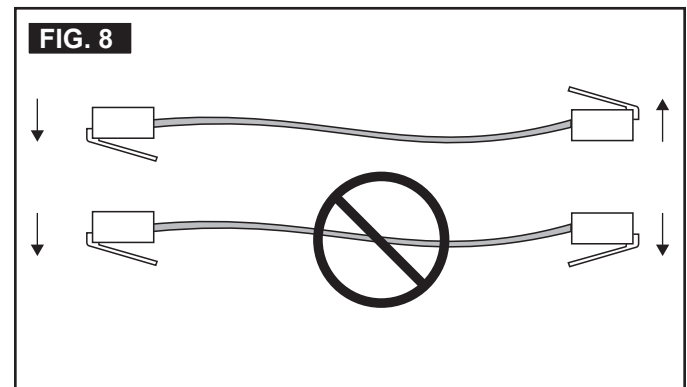
- a. The thermostat may be mounted anywhere in the RV that is convenient. Try to avoid hard to reach and hard to see areas. Refer to the instructions provided with the indoor temperature sensor for details of installation.

G. Installing The Optional Indoor Temperature Sensor & Thermostat Communication Cable

CCC 2 System

1. The previously run communication cable (4-conductor telephone cable) must be terminated with two (2) RJ-11-6C4P telephone connectors. Refer to the crimp tool manufacturer for crimping instructions. See FIG. 8 & FIG. 9.

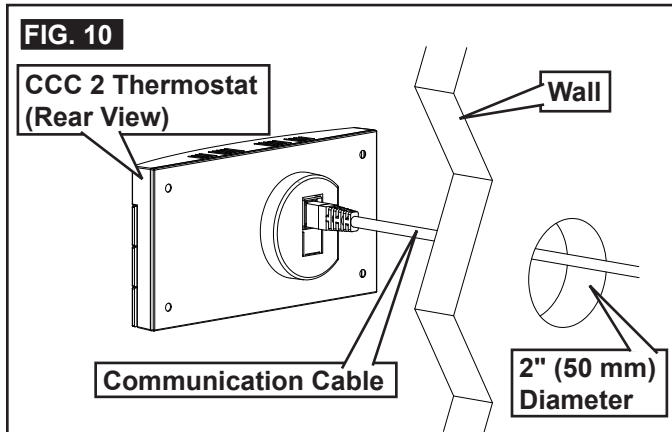
 RJ-11-6C4P connectors **MUST** be installed as shown in FIG. 9.



INSTALLATION INSTRUCTIONS

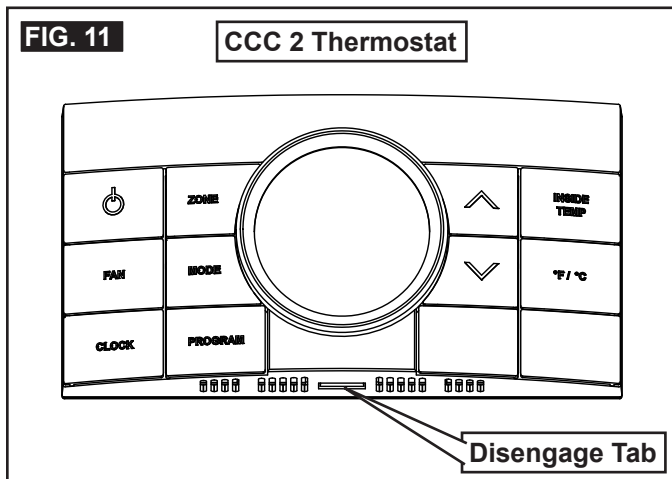
2. Route the communication cable through the 2" (50 mm) diameter hole in the wall required for the thermostat. See FIG. 10.

i For the optional Indoor Temperature Sensor, refer to the instructions provided with the sensor for installation details.

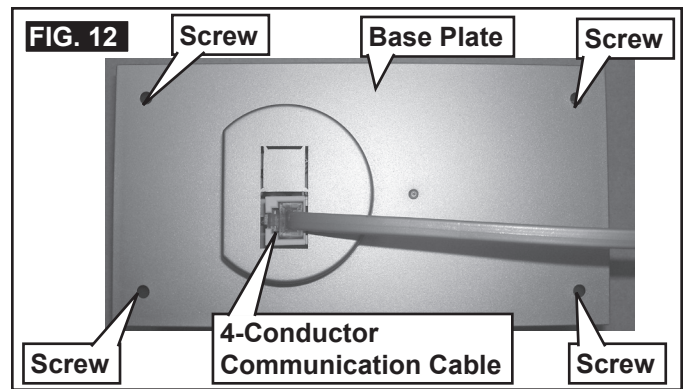


H. Installing The CCC 2 Thermostat

1. Carefully separate the thermostat base plate from the thermostat cover. Insert a small screwdriver into the slot on the bottom of the thermostat and disengage the tab. See FIG. 11.



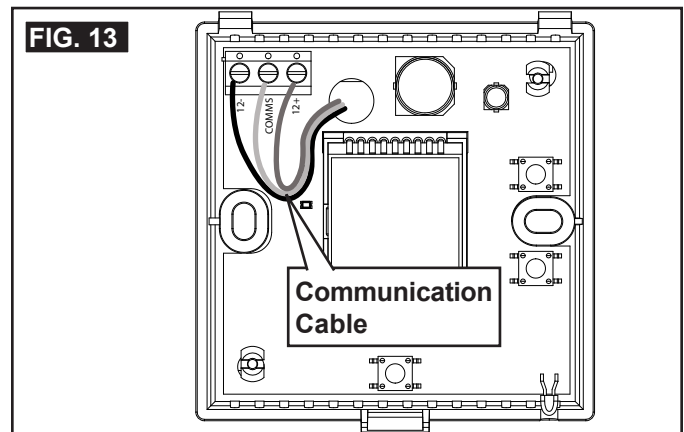
2. Insert the 4-conductor communication cable through the hole in the base plate. Align the thermostat base plate with the hole in the wall. Make sure the base plate is level and attach the base plate to the wall using the four (4) supplied screws.
3. Insert the 4-conductor communication cable connector (RJ-11-6C4P) into the connector on the back of the thermostat. See FIG. 12.
4. Align the thermostat with the back plate and snap into position.



I. Installing The LCD SZ Thermostat

i Wire colors listed for the communication cable (3-conductor cable) match the wire colors in the unit wire harness and the wire harness at the LCD SZ electronic control box. Available wire colors may vary.

1. Separate the cover from the LCD SZ thermostat by pressing down on the tab located at the bottom of the base.
2. Insert the previously run communication cable (3-conductor cable) through the hole in the base assembly.
3. Cut back the outer cable sheathing approximately 3" (76.2 mm) and strip 1/4" (6 mm) insulation from each wire.
4. Mount the thermostat level on the wall using the screws provided.
5. Connect the wires. See FIG. 13.
6. Inspect all connections to make sure they are tight and not touching any other terminals or wires.
7. Push the wires back through the base into the wall. Place the cover on the thermostat and push until an audible click is heard.



- Red/white wire to the 12V+ terminal
- Black wire to the 12V- terminal
- Orange wire to the "COMMS" terminal

INSTALLATION INSTRUCTIONS

J. Placing The Unit On The Roof

1. Remove the unit from the carton and discard the carton.

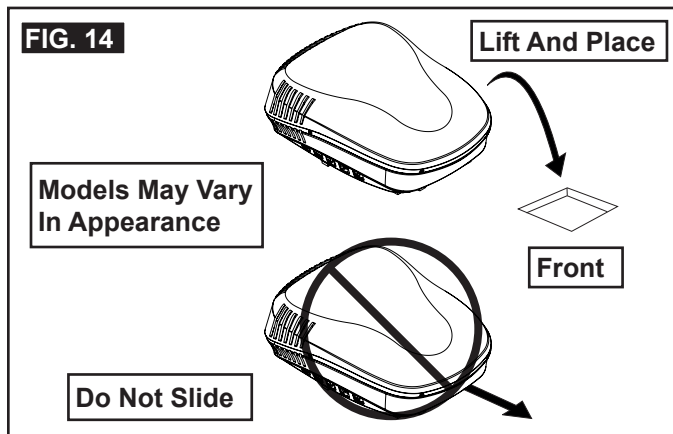
⚠ CAUTION LIFTING HAZARD. Use proper lifting technique and control when lifting product. Failure to obey this caution could result in injury.

2. Place the unit on the roof.

NOTICE Do **NOT** slide unit. Otherwise, damage to gasket (on bottom of unit) may occur, and could cause a leak.

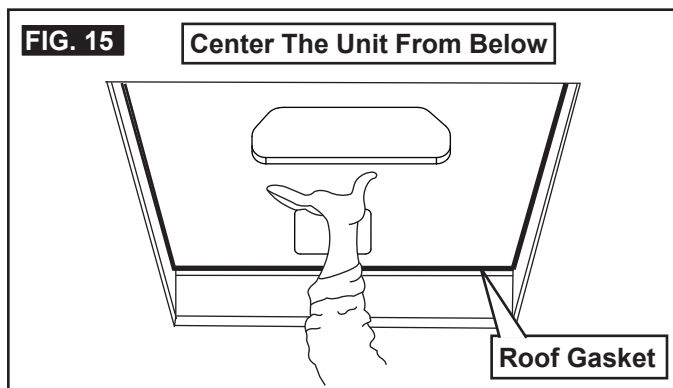
3. Lift and place the unit over the prepared opening using the gasket on the unit as a guide. See FIG. 14.
4. Place the electronic control box kit and the RAG kit inside the RV. These boxes contain mounting hardware for the unit and will be used inside the RV.

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



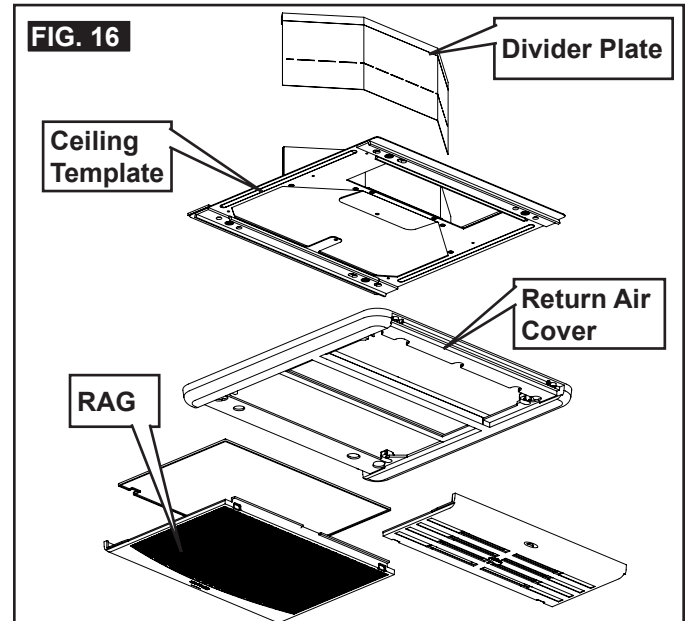
K. Installing The Unit

1. Check the gasket alignment of the unit over the roof opening and adjust if necessary. The unit may be moved from below by slightly lifting. See FIG. 15.

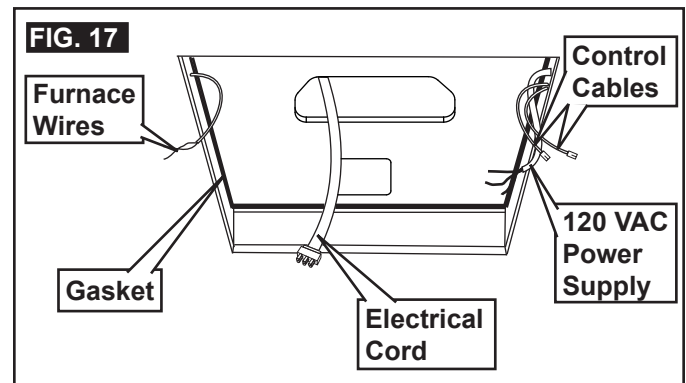


2. Remove the return air cover and ceiling template from the carton. See FIG. 16.

i All models listed in this manual will use a four (4) bolt pattern for installing the RAG kit. These bolts and the electronic control box cover are furnished in the CCC 2 control kit.



3. Reach up into the return air opening and pull the unit electric cord down for later connection. See FIG. 17.

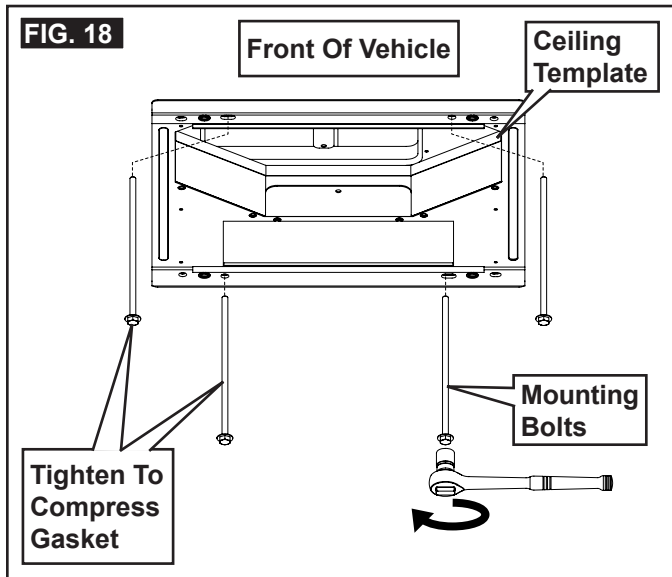


4. Hold the ceiling template up to the roof opening. Make sure the large plate faces the rear of the RV.
 - a. Start each mounting bolt through the ceiling template and up into the unit base pan by hand. Install a wood screw in each end of the ceiling template. This ensures a tight fit of the return air cover to the ceiling. See FIG. 18.

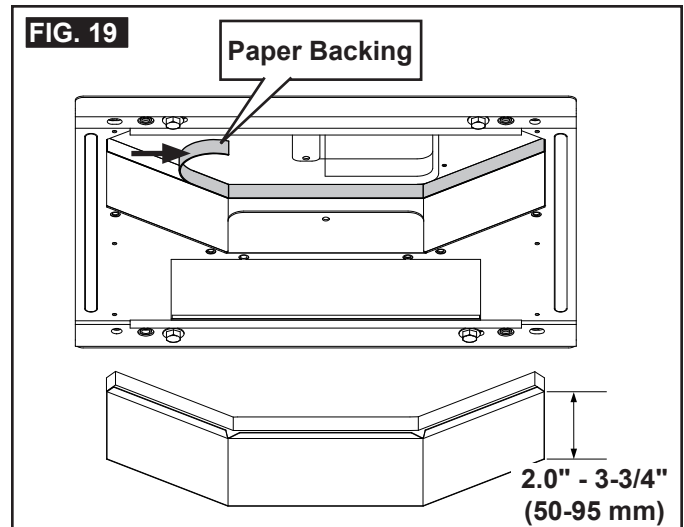
INSTALLATION INSTRUCTIONS

- b. **NOTICE** Tighten mounting bolts to correct torque specifications. Overtightening could damage unit's base pan or ceiling template. Not enough torque will allow an inadequate roof seal, and could cause a leak. Tighten all four (4) mounting bolts **EVENLY** within 40-50 lbf-in (4.5-5.6 N-m). See FIG. 18.

i This will compress the roof gasket to approximately 3/4" (19 mm) on H540315 & H540316 models. All other models should compress the roof gasket to approximately 1/2" (12 mm).



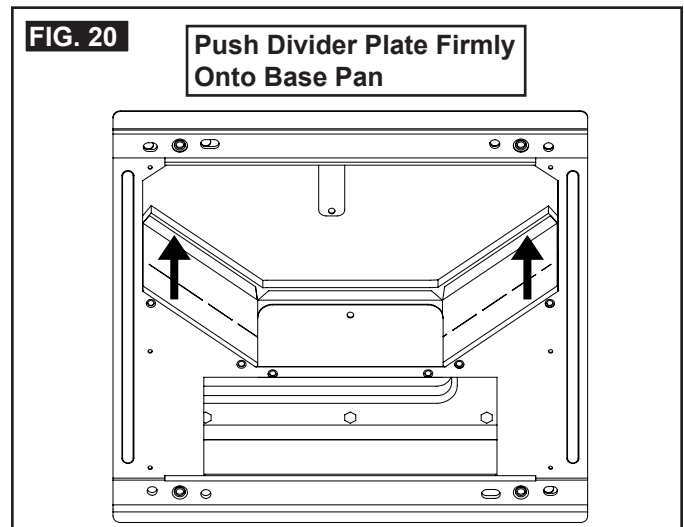
5. Install the divider plate:
- Measure the ceiling to roof thickness:
 - If the distance is 2.0" - 3-3/4", (50 - 95 mm) remove the perforated tabs from the divider plate.
 - If the distance is 3-3/4" - 5-1/2", (95 - 140 mm) do not remove the tabs.
 - Remove the backing paper from the double-sided tape located on the ceiling template. See FIG. 19.



- c. **NOTICE** Divider plate **MUST** be installed correctly. Incorrect installation could cause compressor to quick-cycle, and could result in supply circuit overload and reduced product performance.

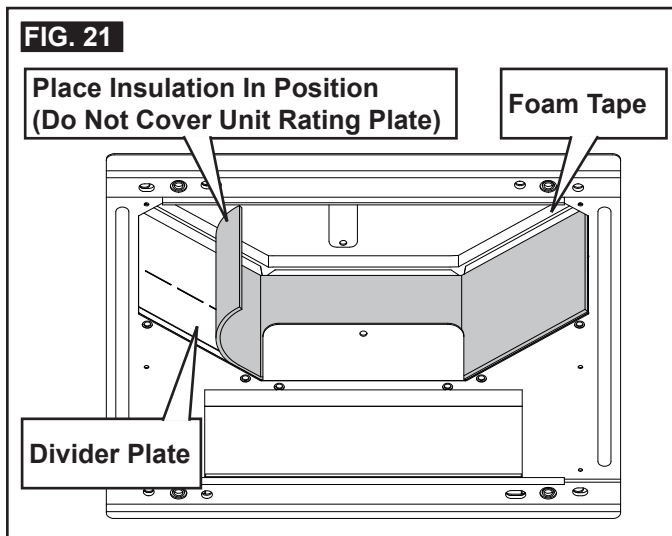
i The adhesive on the double-sided tape is extremely sticky. Make sure the divider plate is properly positioned before pressing into place.

Place the divider plate up to the bottom of the unit base pan firmly. The foam tape on the divider plate must seal to the bottom of the base pan. See FIG. 20.



INSTALLATION INSTRUCTIONS

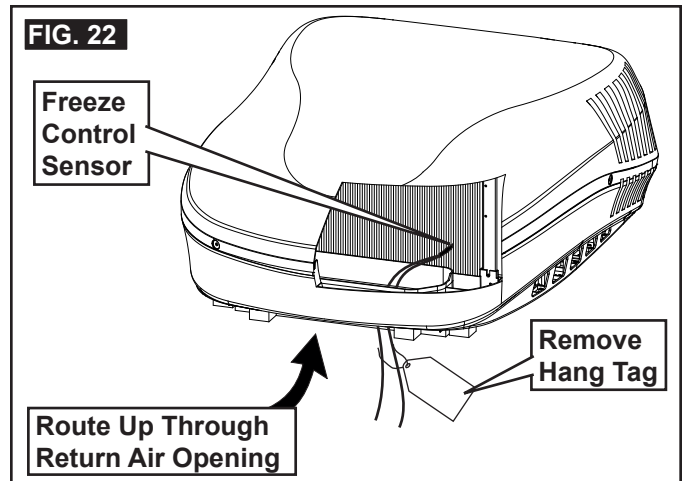
- d. With slight pressure push the divider plate against the double-sided tape on the ceiling template.
- e. Remove the backing paper from the 1/8" x 7" x 18" self-adhesive insulation supplied with the RAG kit. Stick it onto the ceiling template divider plate. See FIG. 21.
 - Excess width is intended to seal the divider plate to the sides of the roof opening. This is to help prevent cold air discharge from circulating into the unit return air opening.
 - If the insulation is too high, stick excess height of the insulation to the unit base pan. Do not cover up the unit rating plate.



- f. Place the electronic control box on the ceiling template with the white 6-pin plug on the curb side of the RV. Do NOT attach at this time.
- g. Plug the 6-pin electrical cord from the unit into the matching 6-pin connector in the electronic control box. The plug is polarized and will only fit in one direction.
- h. Plug the freeze control into the matching black 2-pin connector in the electronic control box.
- i. Insert the freeze control sensor:
 - For H540315 & H540316 models, insert the freeze control sensor into the evaporator coil fins approximately 2-1/2" (63.5 mm) above the bottom of the coil fins and in 2-1/2" (63.5 mm) from the right side. See FIG. 22.

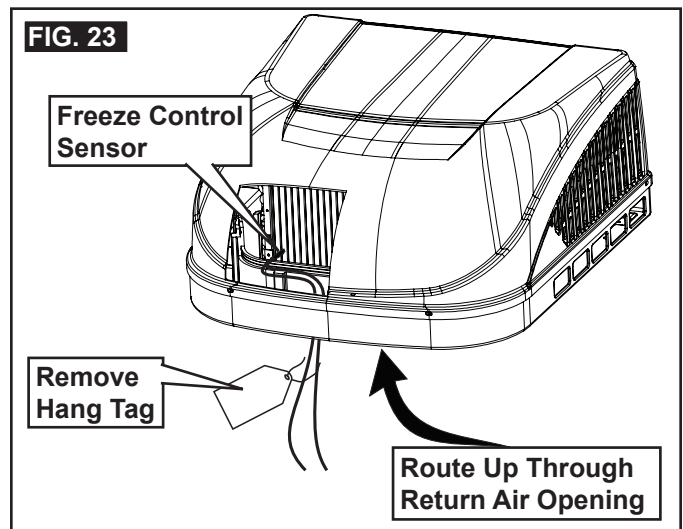


For H540315 & H540316 models, insert the freeze control sensor into the evaporator coil fins approximately 2-1/2" (63.5 mm) above the bottom of the coil fins and in 2-1/2" (63.5 mm) from the right side. See FIG. 22.



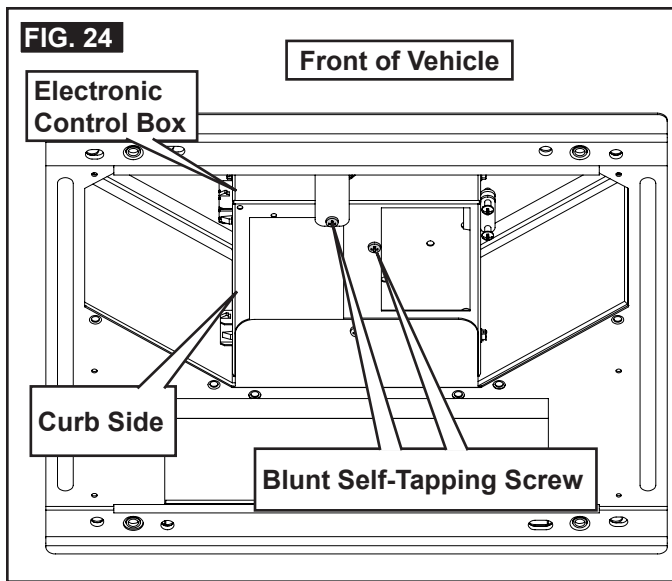
For all other models, insert the freeze control sensor into the evaporator coil fins approximately 1" (25.4 mm) above the bottom of the coil fins and on the left side. See FIG. 23.

- j. Bend the fins over the sensor to secure in place.
- k. Plug the 6-wire harness into the matching 6-pin connector in the electronic control box.



- l. Attach electronic control box to the ceiling template using the two (2) blunt self-tapping screws provided in the electronic control box kit. See FIG. 24.

INSTALLATION INSTRUCTIONS



L. Connecting The LCD SZ System Low Voltage Wires

Reach up into the return air opening and pull down the remaining wires. See FIG. 17.

NOTICE Make sure the positive (+) 12 Vdc terminal is disconnected from supply battery. Otherwise, damage to unit could occur.

1. Connect the previously run +12 VDC supply wire to the red wire at the electronic control box.
2. Connect the previously run -12 VDC supply wire to both the black wire at the electronic control box and to the wire of the three wire cable that goes to the thermostat 12V- terminal.
3. Connect the previously run furnace thermostat wires (if applicable) to the 1/4" (6 mm) connectors at the electronic control box using the supplied 1/4" (6 mm) insulated connectors. The polarity of this connection does not matter.
4. Connect the red/white wire at the electronic control box to the wire of the three wire cable that goes to the thermostat 12V+ terminal.
5. Connect the orange wire at the electronic control box to the wire of the three wire cable that goes to the thermostat COMMS terminal.

M. Connecting The CCC 2 System Low Voltage Wires

Reach up into the return air opening and pull down the remaining wires. See FIG. 17.

NOTICE Make sure the positive (+) 12 Vdc terminal is disconnected from supply battery. Otherwise, damage to unit could occur.

1. Connect the previously run 12 VDC wires to the

red and black wires in the 6-wire harness. Connect +12 VDC to the red wire; -12 VDC to the black wire.

2. Connect the previously run furnace wires (if applicable) to the blue wires in the 6-wire harness at the electronic control box. The polarity of this connection does not matter.
3. Terminate the 4-conductor communication cable(s) protruding from the roof opening. The cable(s) must be terminated with a telephone RJ-11-6C4P connector. Refer to the crimp tool manufacturer for crimping instructions.



RJ-11-6C4P connectors **MUST** be installed as shown in FIG. 6 & FIG. 7.

4. Plug the 4-conductor communication cable into one of the RJ-11-6C4P telephone couplers in the electronic control box. If more than one zone is used, the second coupler is used to join each additional zone.
5. Plug the indoor temperature sensor cable (if applicable) into the P4 (white) 2-pin matching connector in the electronic control box.
6. Connect the previously run Energy Management System wires (if applicable) to the yellow wires in the 6-wire harness. The polarity of these connections does not matter.
7. If an Automatic Generator Start (AGS) kit is installed, follow installation instructions furnished with the AGS kit.

N. Connecting The 120 VAC Power Supply



WARNING ELECTRICAL SHOCK HAZARD. Make sure 120 Vac power is disconnected from RV. Failure to obey this warning could result in death or serious injury.




WARNING ELECTRICAL SHOCK HAZARD. Provide grounding in compliance with all applicable electrical codes. Failure to obey this warning could result in death or serious injury.

1. Route the previously run 120 VAC power supply wire through the strain relief and into the junction box. Tighten the strain relief making sure not to damage wires. Leave enough wire inside the junction box to connect to unit 120 VAC wires.
2. Connect white to white; black to black; and green to green or bare copper wire using appropriate size connectors.
3. Tape the connectors to the supply wire to ensure they do not vibrate loose.
4. Push the wires into the electronic control box.

INSTALLATION INSTRUCTIONS

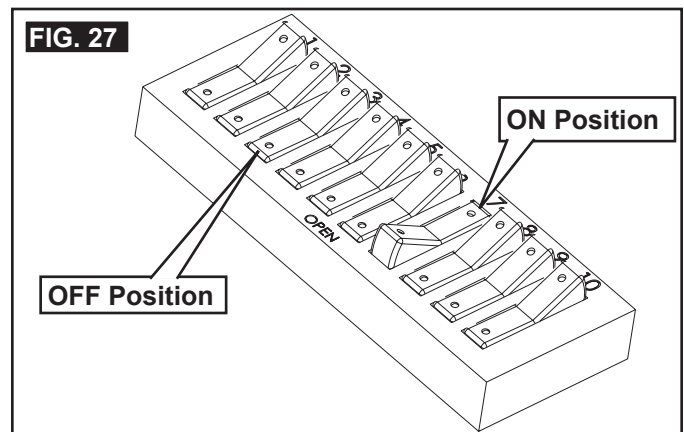
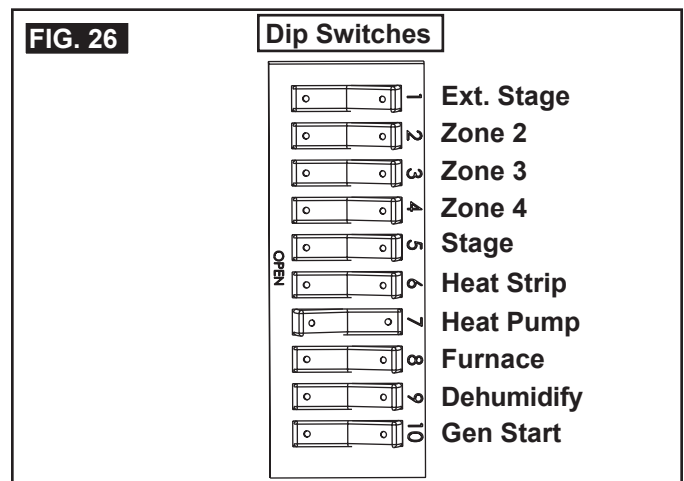
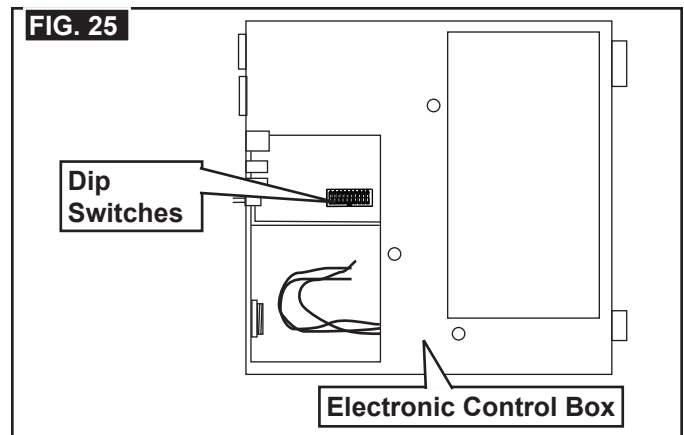
O. System Configuration

Now that the system is installed, it is necessary to do a system configuration of the electronic controls. Depending on the equipment options installed by the RV 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 FIG. 5, FIG. 22 & FIG. 23.

 Dip switches are in the "OFF" position when shipped from the factory except heat pump models. On these models the appropriate dip switch is in the "ON" position from the factory. They are visible through the opening in the electronic control box. See FIG. 25, FIG. 26 & FIG. 27.

This list describes the dip switch settings in FIG. 26:

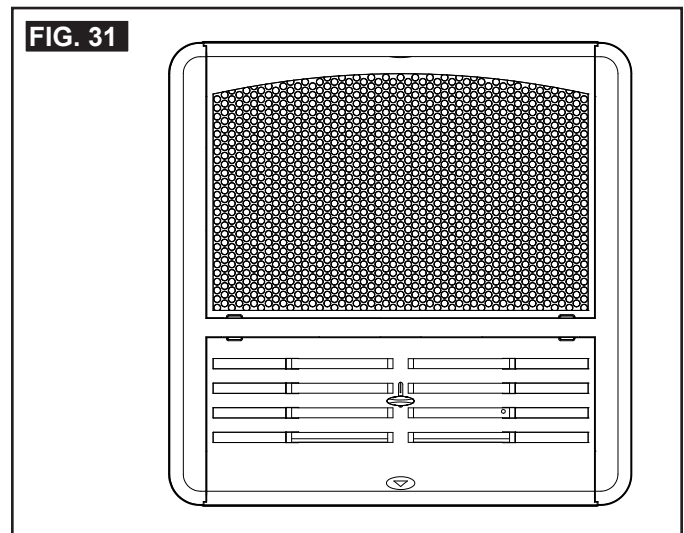
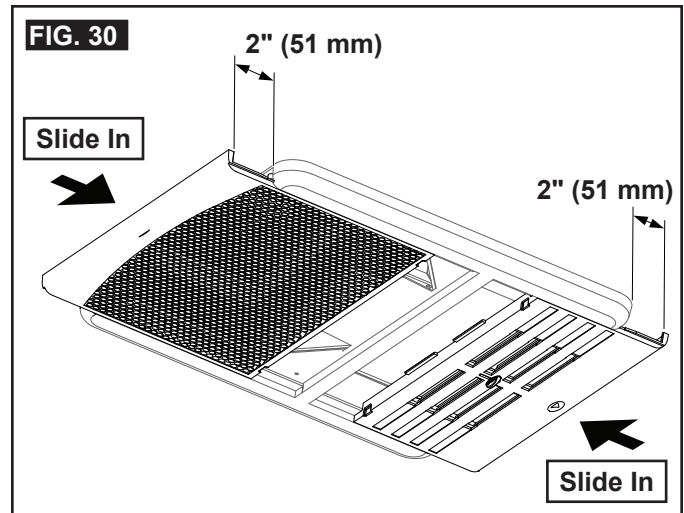
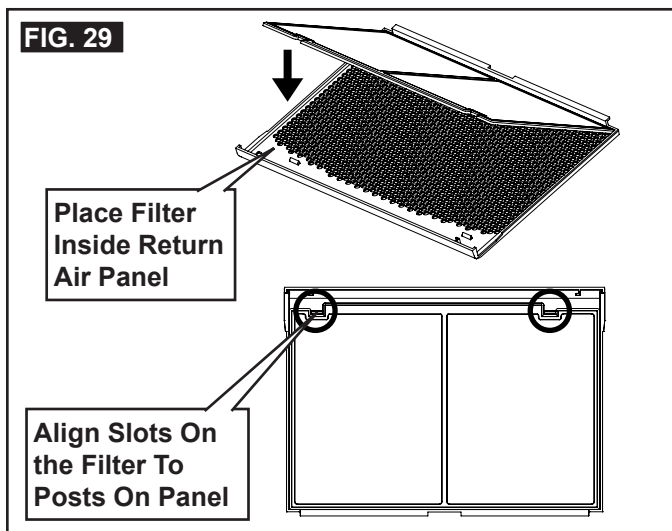
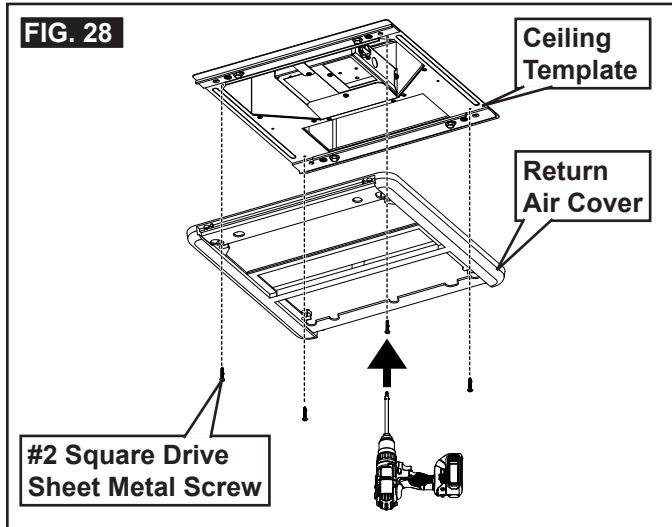
- **Ext. Stage** - Ext. Stage is not used on this unit. Leave in the "OFF" position.
 - **Zone Selection** - Each CCC 2 thermostat can have up to 4 zones. When only one unit is installed it becomes Zone 1 and no dip switch setting is required. Each additional unit must be assigned a zone (2 through 4). Each unit must have a different zone setting.
 - **Stage Selection** - Stage is not used on this unit. Leave in the "OFF" position.
 - **Heat Strip** - Heat strip is not used in these models. Leave in the "OFF" position.
 - **Heat Pump** - On heat pump models the #7 dip switch is in the "ON" position from the factory. Non heat pump models remain in the "OFF" position.
 - **Furnace** - If a Furnace/Aqua heat system has been connected to this unit, the furnace dip switch must be placed in the "ON" position.
 - **Dehumidify** - Dehumidify is not used on this unit. Leave in the "OFF" position.
 - **Gen. Start Selection** - Leave in the "OFF" position.
1. Install the electronic control box cover.
 2. Repeat these configuration settings for each additional zone.



INSTALLATION INSTRUCTIONS

P. Installing The Return Air Cover

1. Remove the filter and frame from return air cover.
2. Remove the vent cover from the return air cover.
3. Attach the return air cover to the ceiling template with the 4 #2 square drive screws provided. See FIG. 28.
4. Attach the filter frame and vent cover by allowing an overhang of 2" on the return air cover before sliding in place. See FIG. 30.



Q. (CCC 2 System Only) System Reset & Verifying The System

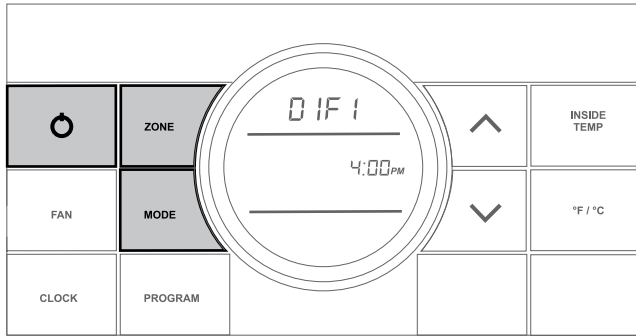
System Reset

After setting the dip switches in the electronic control, do a system reset. See FIG. 32.

1. Re-connect the 12 VDC and 120 VAC power supplies.
2. Make sure the CCC 2 thermostat is in the **OFF** mode.
3. Simultaneously press the **MODE** and **Zone** buttons. The LCD will display "Init" and all available zones.
4. Release the **MODE** and **Zone** buttons.
5. Press the **ON/OFF** button to exit system set up.
6. When a dip switch is turned on after initial configuration, a system reset will need to be done before the CCC 2 thermostat will recognize the updated selection.

INSTALLATION INSTRUCTIONS

FIG. 32



Verifying The System

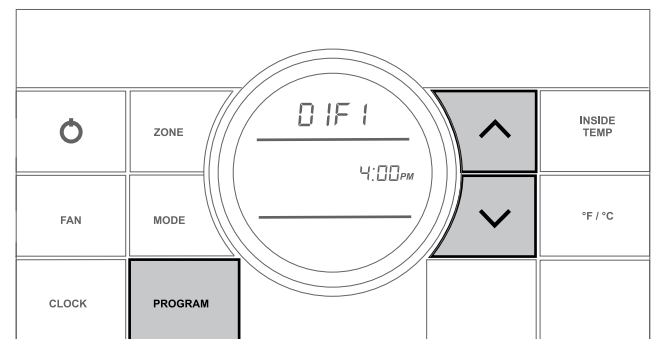
Verify that all features of the installed system work. See CCC 2 Thermostat Operating Instructions or User's Guide. Check the fan mode, cooling mode, heating mode (if applicable), and furnace mode (if applicable) operation. If the features do not work, disconnect the 120 VAC and 12 VDC power supplies and verify that all wiring is correct and that the correct dip switches have been set to the "ON" position.

R. (CCC 2 System Only) Furnace / Aqua Temperature Differential Setting

This system can be configured to operate using an ON/OFF differential of either 1° or 2°. See FIG. 33.

1. To set the 1-degree differential, simultaneously press the PROGRAM button and the ^ button on the CCC 2 thermostat. 0 IF 1 will appear in the display while the buttons are pressed. See FIG. 33. To set the 2-degree differential, simultaneously press the PROGRAM button and the v button. 0 IF 2 will appear in the display while the buttons are pressed.

FIG. 33



GENERAL INFORMATION

A. Frost Formation On Cooling Coil

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 hole with the filter 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.

B. Heat Gain

The ability of this 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 can 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. Avoid 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 Dometic 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.

C. Condensation

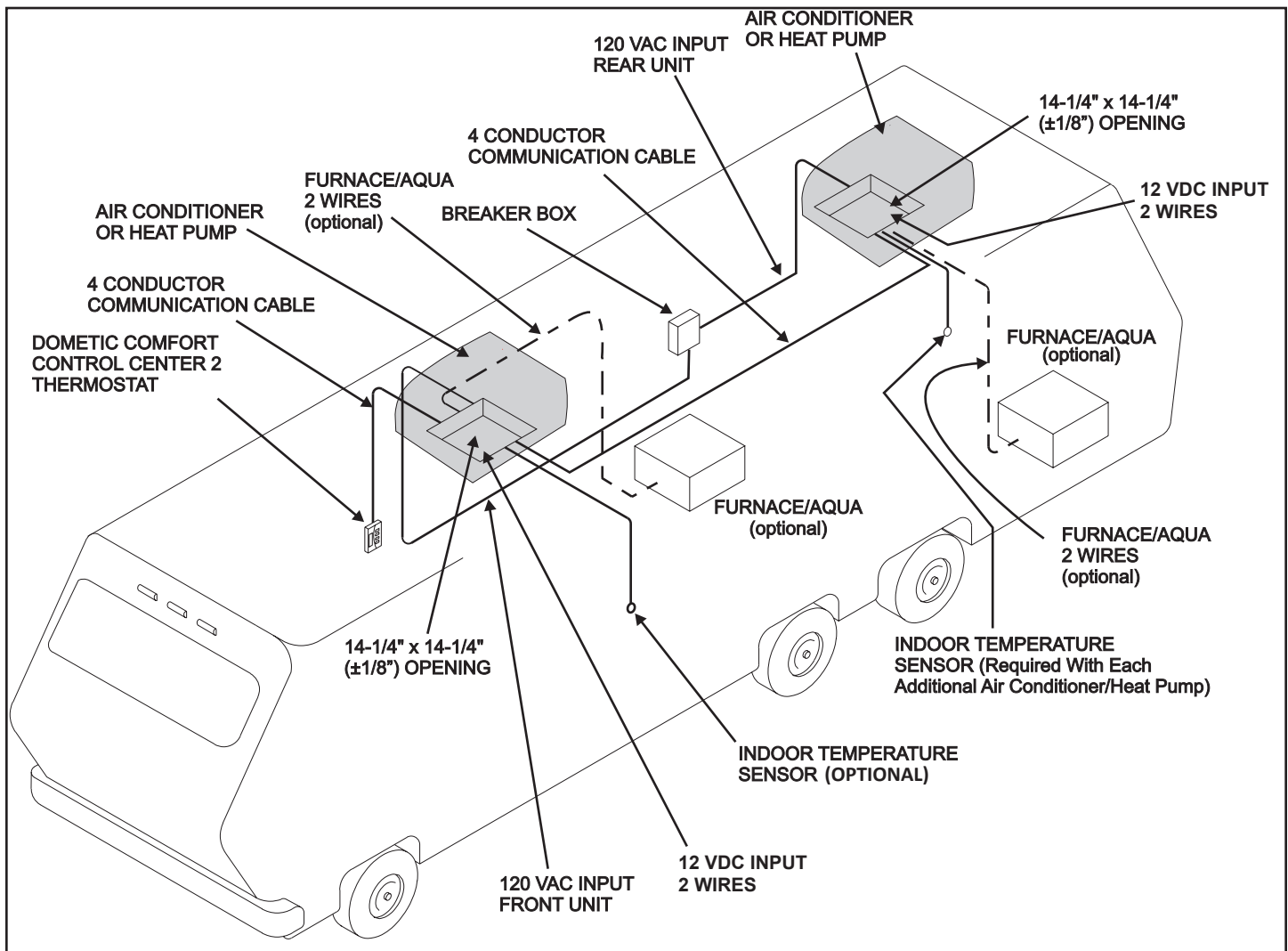
The manufacturer of this unit will not be responsible for damage caused by condensation forming on ceilings, windows, or other surfaces. Air contains water vapor which condenses when temperature of a surface is below Dew point. During normal operation this unit is designed to remove a certain amount of moisture from the air, depending on the size of the space being conditioned. Keeping doors and windows closed when this air conditioner is in operation will greatly reduce the chance of condensation forming on interior surfaces.

D. Air Distribution

Each A/C unit operating in cool mode, must have a minimum of 2 distribution vents, or the quick cool vent and one vent open, to avoid the risk of freezing coils and improper function.

WIRING DIAGRAMS

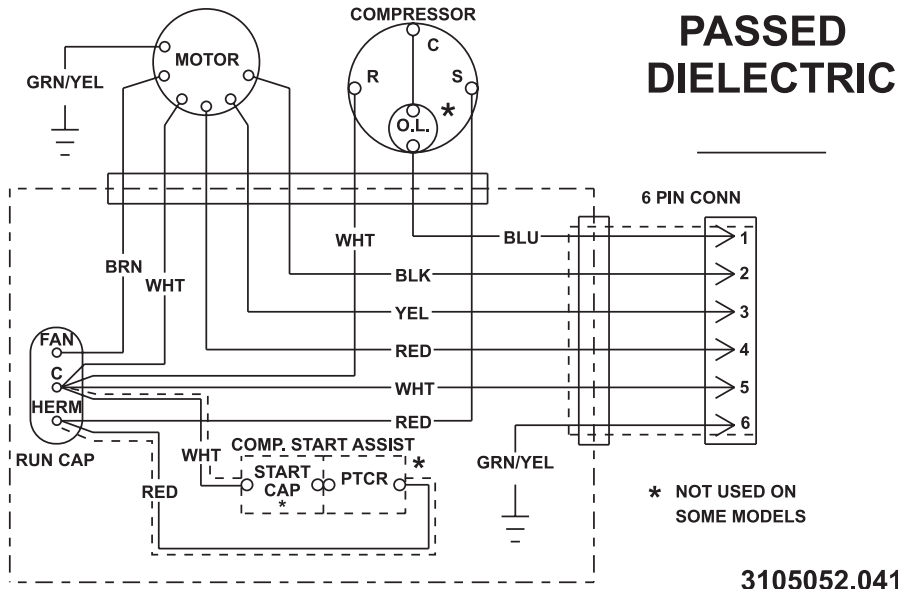
A. Simple RV Wiring Diagram



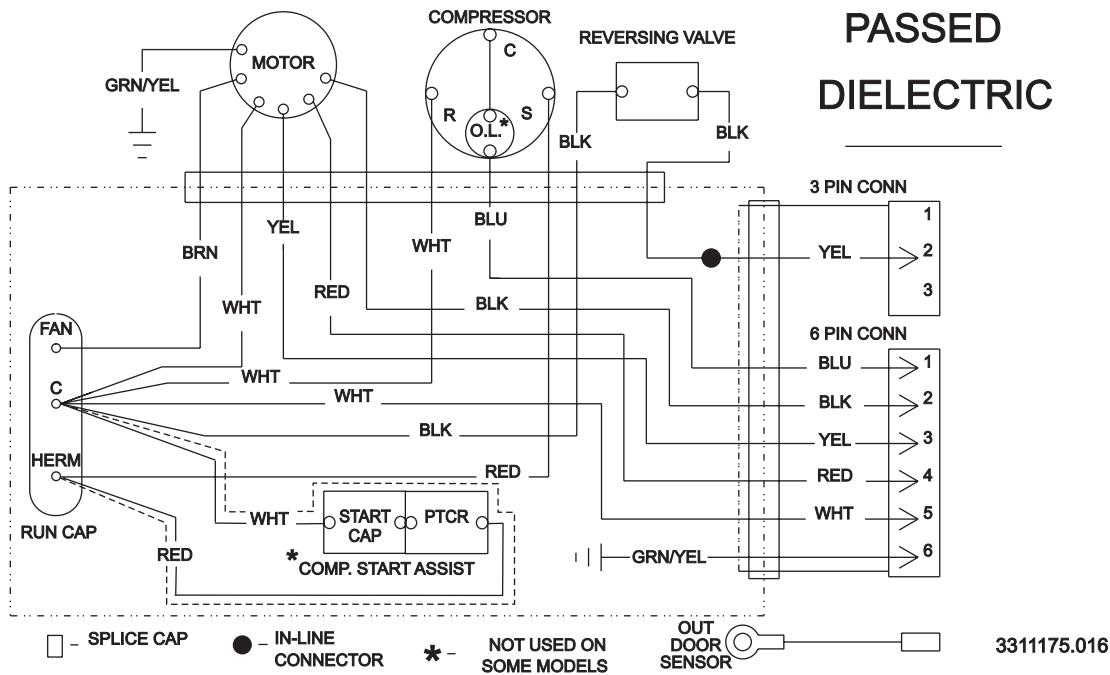
WIRING DIAGRAMS

B. Unit Wiring Diagrams

1. H540315, H540316, 4579, B579, 4595, & B595 Wiring Diagram



2. 459186 & B59186 Wiring Diagram

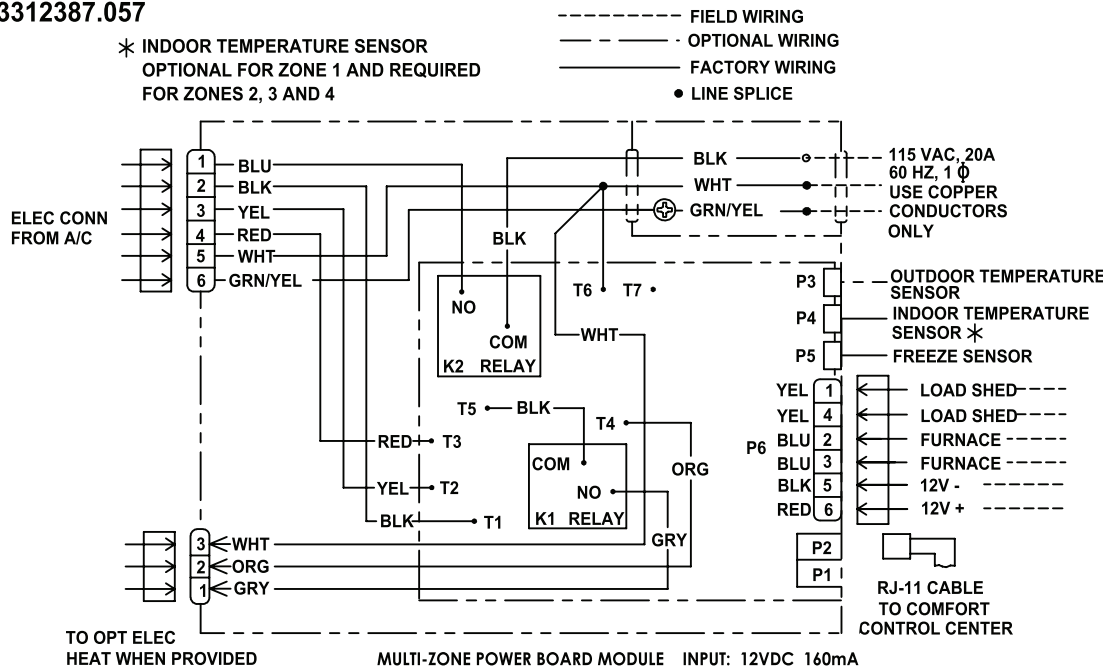


WIRING DIAGRAMS

C. Electronic Control Kit Wiring

1. 3312020.000 CCC 2 Electronic Control Kit Wiring Diagram

3312387.057



PART No: 3312226.000

SERIAL No.

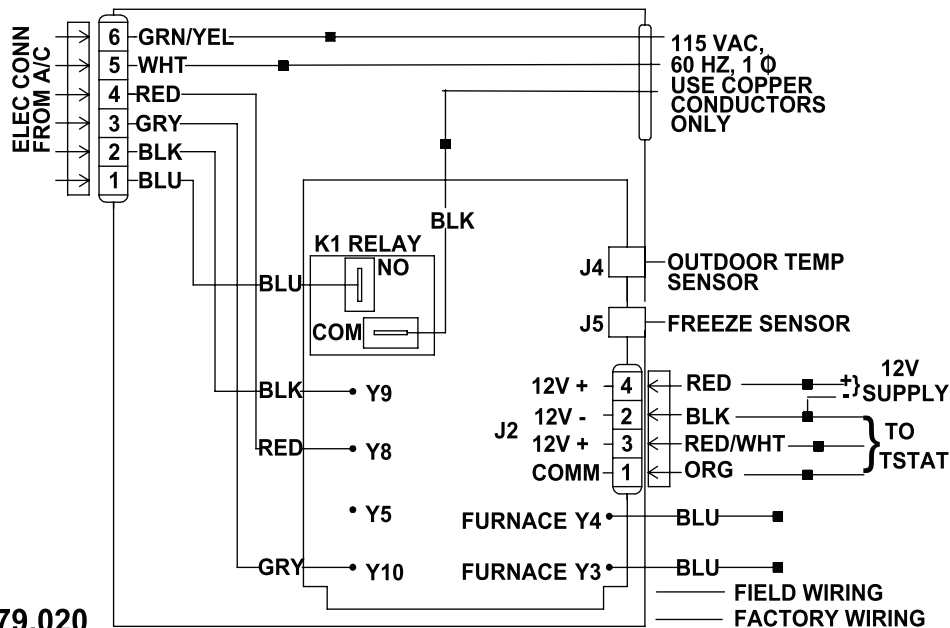
FOR USE WITH AIR CONDITIONER:

579, 595, 4579, 4595, 59156,
 459156, 600, 640, 6308, 6508,
 520, 520300, 5307, 540,
 540300, 5507, 59530 &
 459530 W/O ELECTRIC HEAT

**PASSED
 DIELECTRIC**

2. 3313189.000 & 3313189.015 LCD SZ Electronic Control Kit Wiring Diagram Cool/Furnace

IF THIS PRODUCT IS SUPPLIED BY A WIRING SYSTEM THAT, IN ACCORDANCE WITH CANADIAN ELECTRIC CODE PART 1 C22.1-2009 AND THE NATIONAL ELECTRIC CODE, ANSI/NFPA NO. 70-2008, REQUIRES THE INSTALLATION OF AN EQUIPMENT GROUNDING CONDUCTOR OR CONDUCTORS, TERMINAL(S) OR GROUND SCREW(S) FOR THIS PURPOSE MUST BE INSTALLED.



3313379.020