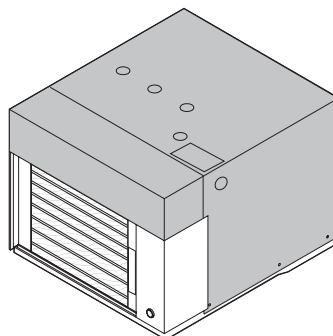




RECORD THIS UNIT INFORMATION FOR
FUTURE REFERENCE:

Model Number _____
Serial Number _____
Date Purchased _____

**SELF-CONTAINED
HEAT PUMP/AIR CONDITIONER
ROTARY COMPRESSOR
SYSTEM MODEL
441002 SERIES**



**THIS UNIT IS DESIGNED FOR OEM INSTALLATION
ALL INSTALLATION DESIGNS MUST BE APPROVED
BY Dometic, LLC**

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

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

**For Service Center
Assistance Call:**
800-544-4881



⚠ WARNING

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

⚠ AVERTISSEMENT

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

**INSTALLATION & OPERATING
INSTRUCTIONS**

**MODEL
441002.701**

REVISION
Form No. 3312469.020 11/09
(Replaces 3312469.012)
(French 3312696.028)
©2009 Dometic, LLC
LaGrange, IN 46761

3312469.020

**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. **Caution** used without the safety alert symbol indicates a risk for potential property damage.

⚠ WARNING: Indicates a potential 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.

Learn how to operate the unit properly.

1. GENERAL INSTRUCTIONS

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

B. This "Heat Pump"/"Air Conditioner" (hereinafter referred to as the "unit") Is Designed For:

1. Model 441002 unit was designed to be installed and used in small recreational vehicles.
2. Installation in a recreational vehicle during the time the vehicle is manufactured.
3. Most campers being fair-weather used, the 441002 will operate to an outside ambient of 40° F. **At 40° (± 2°) F. The outdoor thermostat will turn off the compressor at 40° (± 2°) F. The fan will continue to operate as long as the thermostat has not reached its set point and is calling for heat pump operation.** As the outside temperature returns to 45° (± 2°) F, the outdoor thermostat switches the compressor back to on and heating will resume.

Note: Operation of 441002 unit should be changed to the furnace when the outside temperature is below 45° F.

C. Helpful Hints To Make Your Camping More Enjoyable:

1. Do not block air flow with curtains or furniture.
2. Keep curtains closed during the sunniest part of the day.
3. Keep the return air filter clean.
4. Choose a shaded camp site.
5. Install a Dometic awning with screen room.

D. Your unit Provides The Following Functions To Make Your Camping More Comfortable.

1. Cools and circulates inside air (**Spring/Summer/Fall**)
2. Lowers humidity by removing excess moisture (**Spring/Summer/Fall**)
3. Filters out dust, dirt and other airborne impurities (**Spring/Summer/Fall/Winter**)
4. Heats and circulates inside air (**Spring/ Fall/ Winter**)

The unit performs these functions by drawing room air through a filter which traps dust and dirt particles. The air then passes over the indoor conditioning coil which cools and removes excess moisture (**Spring/Summer/Fall**) and heats the air (**Spring/Fall/Winter**). The same air is then returned to the living space to keep you comfortable.

E. Condensation

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

F. SPECIFICATIONS

Model Number	441002.701
Nominal BTU Cool/Heat	10,150
Volts/Phase/Hertz*	120/1/60
FLA Comp/Motor	8.9/2.2
LRA Comp/Motor	50/6.6
Wire Size**	12 AWG Copper Conductors
Circuit Protection	20 AMP Time Delay or HACR Breaker
Refrigerant R-410A (Oz.)	28.0
Size Width Height Depth	22.0 14.5 20.5
Installed Weight (Pounds)	70
Generator*** 1 Unit/2 Units	2.8 KW/4.0 KW

* Maximum unit performance achieved at full rated voltage.
 ** For lengths over 24 ft., consult the National Electrical Code.
 *** Dometic, LLC gives **general** guidelines for generator requirements. These guidelines come from experiences people have had in actual applications. When sizing the generator, the **total** power usage of your recreational vehicle must be considered. Also keep in mind generators lose power at high altitudes and from lack of maintenance.

2. INSTALLATION INSTRUCTIONS

⚠ WARNING

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

A. Precautions

1. Read installation and operating instructions carefully before attempting to start your unit.
2. Dometic, LLC will not be liable for any damages or injury incurred due to failure in following these instructions.
3. Installation **must** comply with the National Electrical Code or CSA Standard C22.1, Canadian Electrical Code, Part 1; and any State or Local Codes or regulations.
4. **DO NOT** add any devices or accessories to this unit 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 The Proper Location For The unit

Note: A dedicated compartment **MUST BE** provided for the unit installation. This compartment **MUST BE OPEN TO THE OUTSIDE AIR AND SEALED TO THE INSIDE.**

1. Before starting the installation, items that must be checked are:
 - a. Electrical wires in the wall.
 - b. Water lines.
 - c. LP gas lines.
2. Required tools for installation:
 - a. Jigsaw,
 - b. Drill and drill bits,
 - d. Silicone sealant,
 - e. Socket set,
 - f. Utility knife,
 - g. Measuring tape.
3. Review the floor plan and determine the compartment location for unit installation. A space 15" high, by 22-3/4" wide, by 20" deep, with access to the outside wall is required for installation of the unit. See FIG. 1 and FIG. 2.

FIG. 1 Inside Cabinet Front Cutout

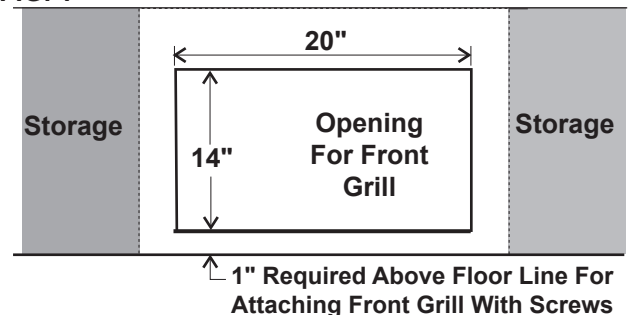
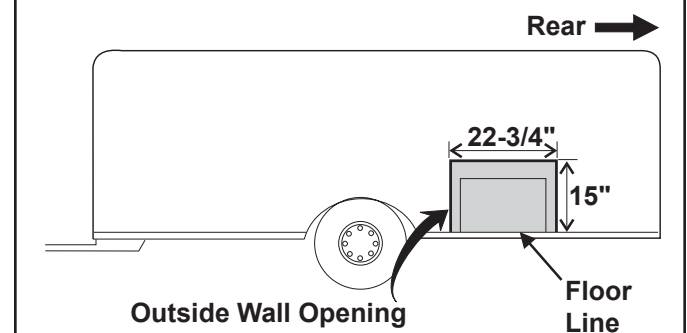
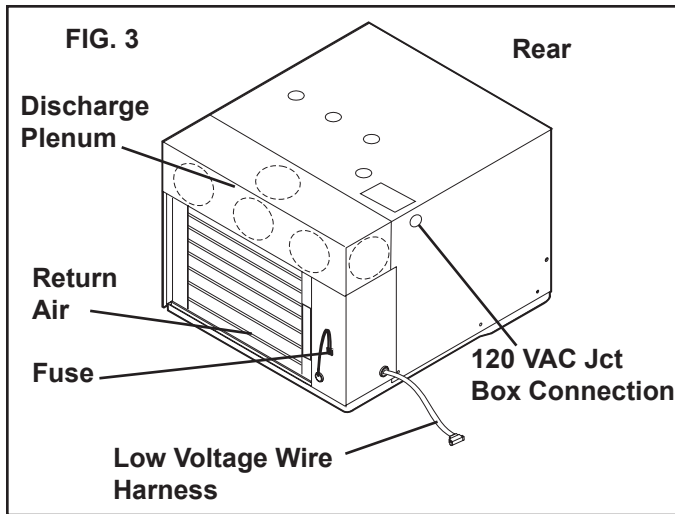


FIG. 2



Important: Alternate configurations and methods may be used which still allow the unit to operate properly. However, these alternate configurations and methods must be approved by Dometic, LLC in writing.



C. Opening Preparation

1. Interior access openings should be prepared as shown. Cabinet front opening must be 20" wide by 14" high to provide an opening for the discharge and return air grill. The opening must be 1" above the mounting surface for the unit. See FIG. 1.
2. The outside side wall opening must be 22-3/4" wide and 15" high. See FIG. 2.

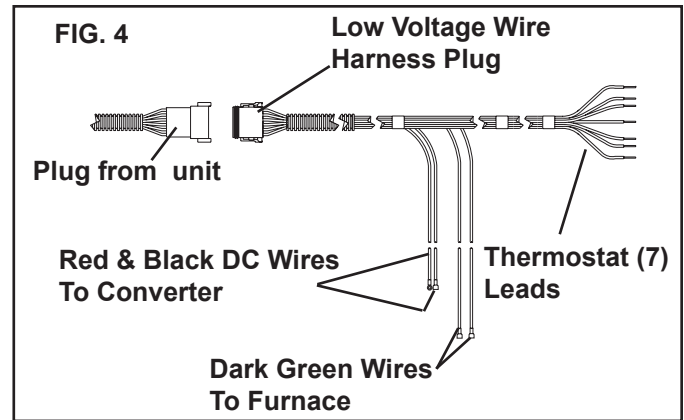
D. Wiring Requirements

Note: All wiring must comply with the National Electrical Code or CSA Standard C22.1, Canadian Electrical Code, Part 1; and local codes.

1. AC Power Wiring
 - a. All 120 VAC wiring must be at least **12 AWG**.
 - b. Two conductors plus a ground must be provided from a supply circuit protected by a **20 amp** time delay fuse or a 20 amp HACR type circuit breaker to the unit junction box.
 - c. Remove the junction box cover. See Fig. 3.
 - d. Route supply wires through the connector and tighten lock nut and clamp screws to ensure against twisting of the wires.
 - e. Connect the wires in the junction box to the wires from the supply line using an "listed" properly sized wire connector.
 - Active to black.
 - Neutral to white.
 - Earth to green/yellow.
 - f. Install junction box cover.
2. Low Voltage Wiring

The 441002 Series unit is wired with a pigtail harness that accepts a plug from a (supplied) pre-made low voltage wire harness. See FIG. 4.

 - a. The low voltage harness must be placed in the left front part (Viewed from rear) of the unit compartment, where it can be attached to the unit's low voltage plug.



- b. Make sure that at least 15" of supply wire extends into the unit compartment.
3. If a furnace is to be controlled by the system, the two dark green wires in the (supplied) pre-made low voltage wire harness, must be routed to the furnace location. See FIG. 4.
4. Route the seven conductor portion of the low voltage wire harness to the analog thermostat location. Make sure 6" of the wire extends from the wall at the thermostat mounting location. See Section E-2.
5. Route the Red and Black DC leads of the low voltage wire harness to the converter location.

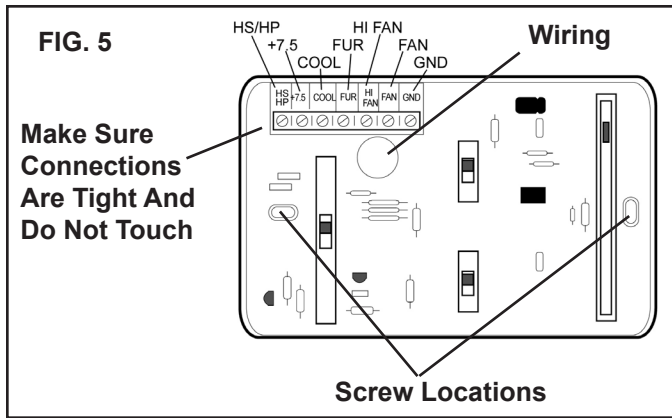
E. Analog Thermostat & Cable Installation

1. Analog Thermostat Location

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

 - a. Locate the Analog Thermostat 54" above the floor.
 - b. Install the Analog Thermostat on a partition, not on an outside wall.
 - c. Never expose it to direct heat from lamps, sun or other heat producing items.
 - d. Avoid locations close to doors that lead outside, windows or adjoining outside walls.
 - e. Avoid locations close to supply registers and the air from them.
 - f. A 1/2" diameter hole will be needed to route the seven wire portion of the low voltage wire harness through the wall. See Section D-4.
2. Analog Thermostat Installation.

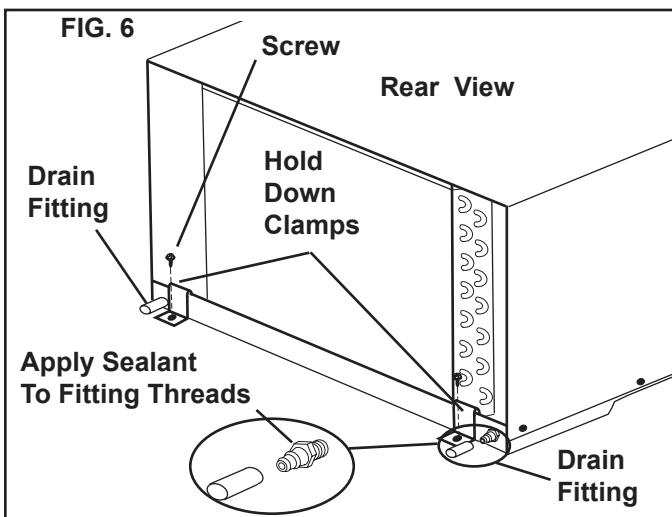
Locate the analog thermostat and remove the cover by starting at one corner and gently lifting it from the base. Insert the seven conductor cable through the hole in the base assembly. See FIG. 5.



- Connect red/white wire to the thermostat +7.5 terminal.
- Connect the light green wire to the thermostat "GND" terminal.
- Connect the yellow wire to the thermostat "COOL" Terminal.
- Connect the tan wire to the thermostat "FAN" terminal.
- Connect the blue wire to the thermostat "HI FAN" terminal.
- Connect the orange wire to the thermostat "HS/HP" terminal.
- Connect the white wire to the thermostat "FUR" terminal (if applicable).
- Inspect connections to make sure they are tight and not touching any other terminals or wires.
- Push the wires back through the base into the wall. Attach and level the thermostat on the wall with screws provided. Place cover on the thermostat and push until an audible click is heard.

F. Placing The unit In Compartment.

- Now that your compartment is unit ready with all holes cut, carefully slide the unit into position from the outside. Using the hold-down clamps supplied, clip the clamps over the base pan flange as shown and secure in place with screws supplied. See FIG. 6.



- Next, install the drain fittings to the base pan. Sealant must be added around the threaded end of drain fitting before it is screwed into the base pan. See FIG. 6.

- Install the rain shield. See FIG. 7.

Note The rain shield must have sealant applied to the short flange surfaces and bottom of the unit sealing the compartment from rainwater and condensation.

- Seal along the unit bottom to rain shield.
- Using 1/2" plastic tube, extend the drain fittings through the vent grill or through holes in the bottom of the compartment. Make sure to seal around the tubing where it exits the bottom of the compartment, and that the condensate will drain to the out side of RV.
- Make sure the condenser deflector is against the back of the outside grill. This will decrease recirculation of hot air back into the grill. See FIG. 6.
- The outside work is complete.

Note: If your cabinet space is 20" - 23.5" deep, the metal duct extension is not needed. Attach the registers directly to the unit knockout openings. Do not insert the registers more than 1/2" into the unit knockouts. In some installations registers will need to be cut to fit the cabinet space. See FIG. 7 drawing for the order of installation and installation kit component parts list.

- After the registers have been installed, install the inside grill to the cabinet front.

Important: When unit is installed with air distribution ducts to carry the conditioned air to remote areas of the interior space, the ducts must be sized to maintain a static pressure at the blower outlet between 0.0 and 0.6 inches of water column on high speed.

G. Wiring Of The System

Note: All wiring must comply with the National Electrical Code or CSA Standard C22.1, Canadian Electrical Code, Part 1; and local codes.

- Line Voltage Wiring

⚠ WARNING

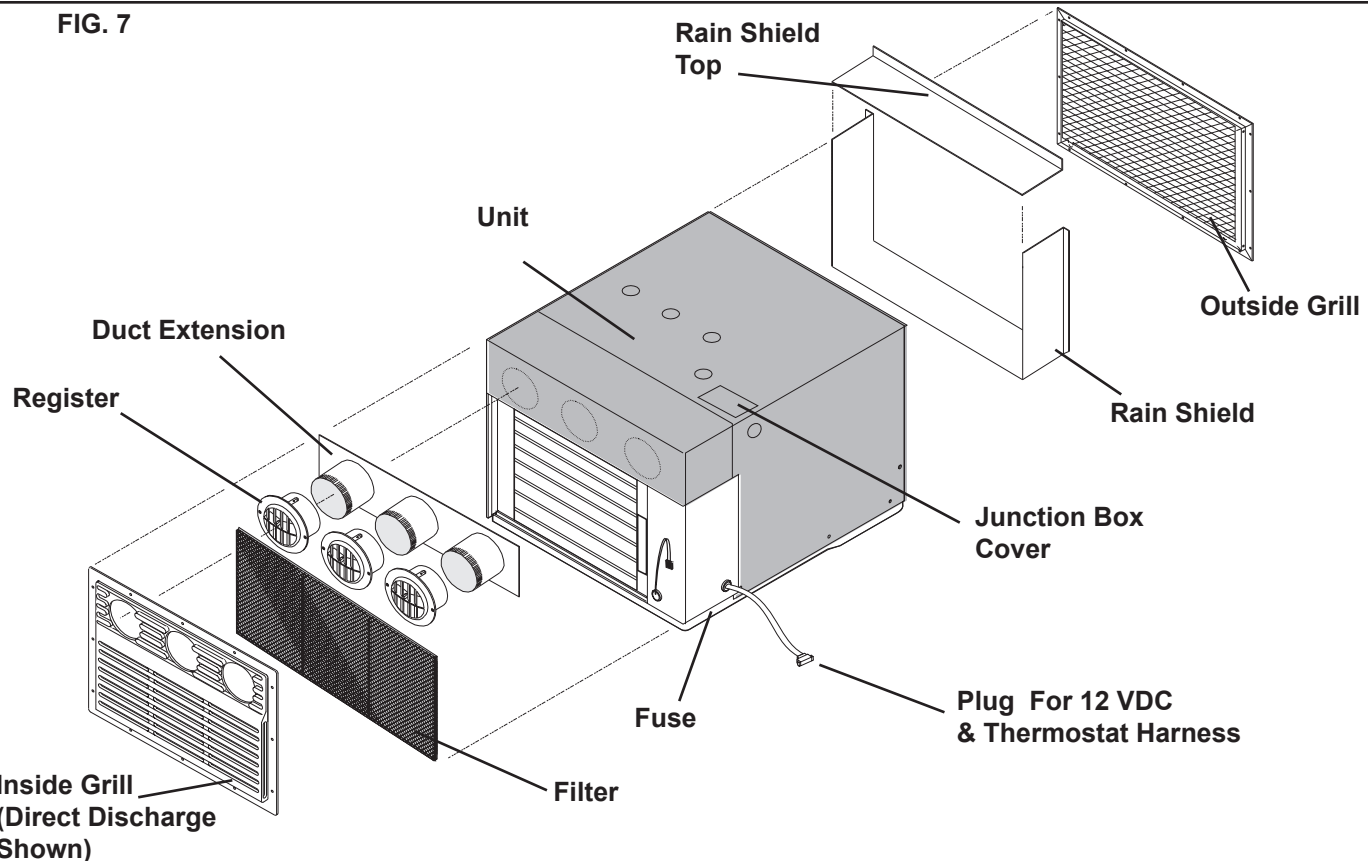
Disconnect 120 volt AC. Failure to follow these instructions could create a shock hazard causing death or severe personal injury.

⚠ 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.

- All 120 volt AC wiring must be at least 12 AWG.

FIG. 7



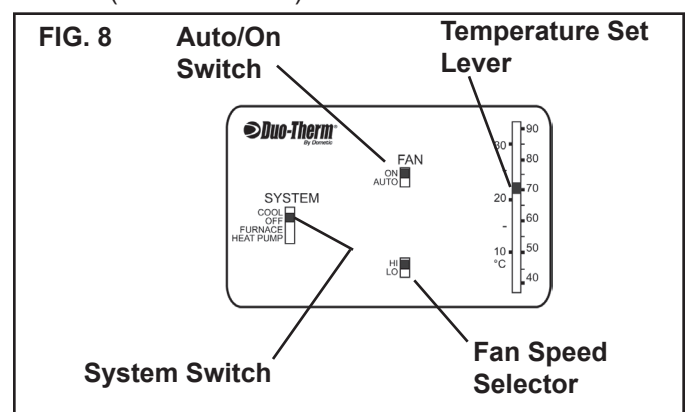
- b. Two conductors plus a ground must be provided from a supply circuit protected by a **20 amp** slow-blow fuse or a 20 amp HACR type circuit breaker to the unit junction box.
 - a. Remove the junction box cover. See Fig. 3.
 - b. Route supply wires through the connector and tighten lock nut and clamp screws to ensure against twisting of the wires.
 - c. Connect the wires in the junction box to the wires from the supply line using a "Listed" properly sized wire connector.
 - Active to Black
 - Neutral to White
 - Earth to Green/yellow
 - d. Install junction box cover.
2. Low Voltage Wiring

- a. Connect the red wire of the low voltage wire harness to the converter's filtered DC positive(+) supply terminal.
- b. Connect the black wire from the unit to the converter DC negative(-) supply terminal.
- c. Connect the two Dark Green wires to the furnace's (if applicable) thermostat connections. Polarity is not important.
- d. The seven conductor portion of the low voltage wire harness is connected to the analog wall thermostat. See Section E.
- e. Connect the unit pigtail to the low voltage wire harness.

3. OPERATING INSTRUCTIONS

A. Thermostat Operation

(Refer to FIG. 8)



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.

The unit has been pre-wired with a 15" pigtail with plug for the low voltage wire harness providing easy connection to the thermostat, furnace and DC power.

1. Cooling Operation:
 - a. Place the **Temperature Set Lever** to the desired temperature level (located at right side of thermostat).
 - b. Select fan speed that best satisfies your needs (switch located at lower center of thermostat).
 - **High Speed:** Selected when the maximum cooling and dehumidification are required.
 - **Low Speed:** Selected when RV reaches desired comfort level and needs to be maintained. Normally this speed is used for nighttime operation
 - c. Select **Auto/On Switch** operation as follows:
 - **Auto Position:** unit fan runs whenever cooling is required and stops whenever cooling is not required.
 - **ON Position:** The fan will run continuously. The compressor will turn ON and OFF to maintain set temperature.
 - d. Set the System Switch to cool position (located at the left side of the thermostat). The unit compressor will now come on when cooling is required and cycle off when the temperature level selected it reached.

CAUTION

Wait at least two (2) minutes before restarting the unit after shutting off with either the Cool/Off/Furnace/Heat Pump Switch or the Temperature Set Lever. This allows the refrigerant pressure to equalize and will allow the compressor to restart easily. Failure to follow this instruction may cause compressor overload, circuit breaker or fuses to open.

2. Furnace Operation: (If Furnace is connected to Thermostat)
 - a. Set the **Temperature Set Lever** to desired temperature level (located on the right of thermostat).
 - b. Set the **System Switch** to furnace position (located on the left side of thermostat). The furnace will now come on when heat is required and cycle off when the temperature level selected is reached.
3. Continuous Fan or Fan Only Operation: When Thermostat:
 - a. **System Switch:** is in the COOL, OFF, FURNACE or HEAT PUMP position and
 - b. **Auto/On Switch:** is in the ON position, the unit fan will run continuously at selected fan speed to circulate the air inside the RV.

4. Heat Pump Operation:

Note: The outside thermostat will not allow the heat pump to operate, if outside temperatures have not raised above 45° (± 2°) F after dropping below 40° (± 2°) F.

- a. Set the **Temperature Set Lever** (located on the right of thermostat) to desired temperature level.
- b. Set the **System Switch** (located at the left side of thermostat) to heat pump position.
The compressor will now come on when heating is required and cycle off when the temperature level selected is reached. If the outside temperature is below 40° (± 2°) Fahrenheit, the heat pump will not operate. If the RV is equipped with a furnace the System Switch must be set to furnace.

B. Frost Prevention

Heat pumps have a tendency to frost during operation when the outside temperature is below 50° Fahrenheit with moderate humidity conditions. It may be necessary to reverse the refrigerant cycle (switch to cooling) to clear frost off the outside coil.

C. Maintenance

AIR FILTER: Periodically remove the return air filter, wash the filter with soap and warm water, let air dry and then reinstall

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

D. Service

1. Unit Will Not Operate:

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

 - a. If your RV is connected to a motor generator, check to be sure the motor generator is running and producing power.
 - b. If the RV is connected to power supplied by a land line, check to be sure the line is sized properly to run the unit load and it is plugged into the power supply.
 - c. Check your fuse or circuit breaker to see if it is open.
 - d. Check to be sure your thermostat is turned on.

Note: Furnaces are not Dometic products, contact your furnace manufacturers service center for any problems associated with it.

2. After the above check, call your local service center for further help. This unit must be serviced by a qualified service technician only. When calling for service, always give the unit model number and serial number. This information can be found on the unit rating plate located next to the electrical box. See FIG. 7.

WIRING DIAGRAM

