



RECORD THIS UNIT INFORMATION FOR FUTURE

REFERENCE:

Model Number _____

Serial Number _____

Date Purchased _____

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

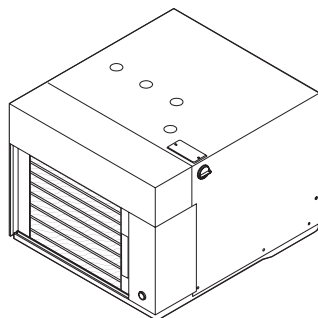
For Service Center

Assistance Call:

800-544-4881



SELF-CONTAINED HEAT PUMP



ROTARY COMPRESSOR SYSTEM MODEL 441001 SERIES

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

⚠ 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
441001.701**

REVISION

Form No. 3312462.025 11/09
(Replaces 3312462.017)
(French 3312697.026)
©2009 Dometic, LLC
LaGrange, IN 46761

3312462.025

**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.

GENERAL INSTRUCTIONS

1. Specifications

Model Number	441001.701
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
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. Precautions



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

- Read installation and operating instructions carefully before attempting to start your unit.
- Dometic, LLC will not be liable for any damages or injury incurred due to failure in following these instructions.
- Installation **must** comply with the National Electrical Code and any State or Local Codes or regulations.
- DO NOT** add any devices or accessories to this unit except those specifically authorized by Dometic.
- 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.

- This equipment must be serviced by qualified personnel and some states require these people to be licensed.

3. General Information

Model 441001 "Air Conditioner"/"Heat Pump" (herein after referred to as the "unit") is designed for:

- A. Installation and use in small recreational vehicles.
- B. Installation in a recreational vehicle during the time the vehicle is manufactured.
- C. The 441001 unit allows the O.E.M. to build and ship a complete unit ready for camping. Most campers being fair-weather used, the 441001 will operate to an outside ambient of 40 degrees. **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 degrees, the outdoor thermostat switches the compressor back to on and heating will resume.

Note: Operation of 441001 unit should be changed to the furnace when the outside temperature is below 45° F.

- D. 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.
- E. 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..

Note: The drain tube should be left unplugged during heating operation, storage and any time when traveling after the unit has been operating.

4. Choosing The Proper Location For The Unit

The unit system is intended for installation in recreational vehicles where the interior space is essentially one undivided space.

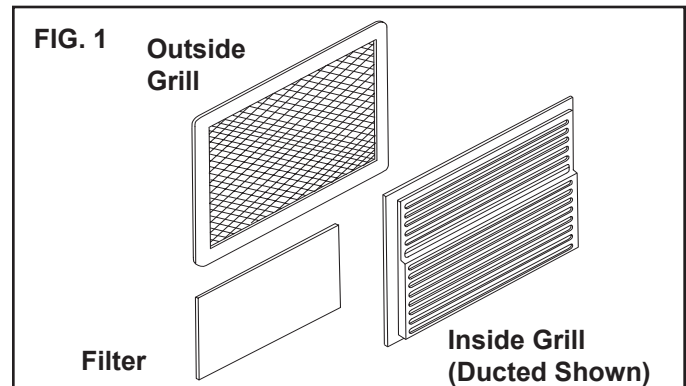
The recreational vehicle manufacturer engineering staff should carefully review each floor plan before starting an installation.

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.

5. Grills And Registers

The following accessories are available in various kits to simplify installations. See FIG. 1.

- A. Indoor direct discharge grill alone, with indoor vents.
- B. Indoor direct or ducted discharge grill with outdoor grill.
- C. Indoor direct discharge grill with outdoor grill, indoor vents and adaptor, and outdoor rain shield.



Installation Instructions

NOTE: A dedicated compartment **MUST BE** provided for the unit installation. This compartment **MUST BE OPEN TO THE OUTSIDE AND AIR 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
 - C. Screw drivers; phillips and slotted
 - D. Silicone sealant
 - E. Socket set
 - F. Utility knife
 - G. Measuring tape
- 3. Once the floor plan has been reviewed and the compartment has been selected for unit installation, a 22.75 inch wide by 15.00 inch high opening through the sidewall or outside panel is required. The interior compartment must be at least 20 inches deep. See FIG. 2 and FIG. 3.

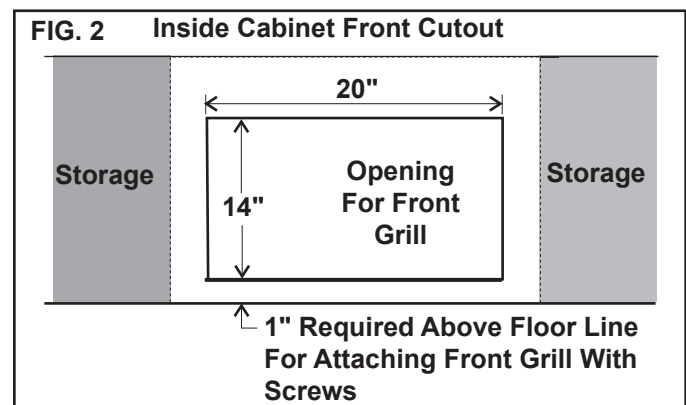
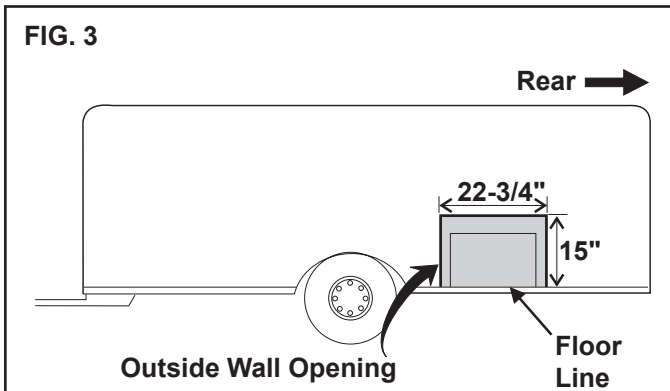
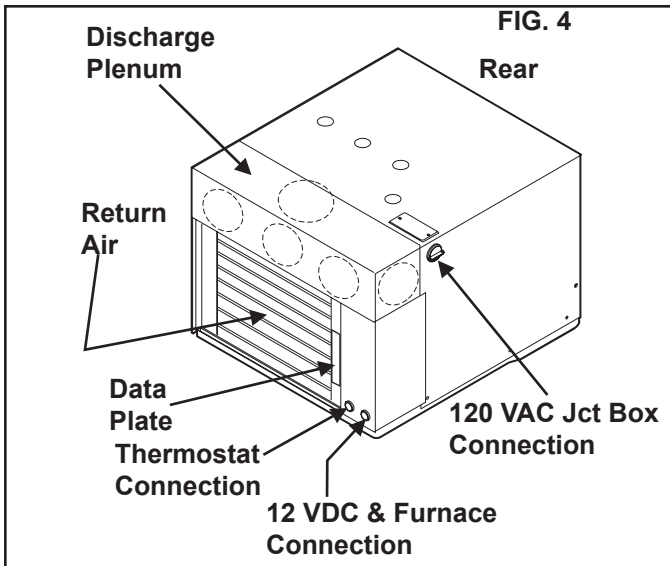


FIG. 3



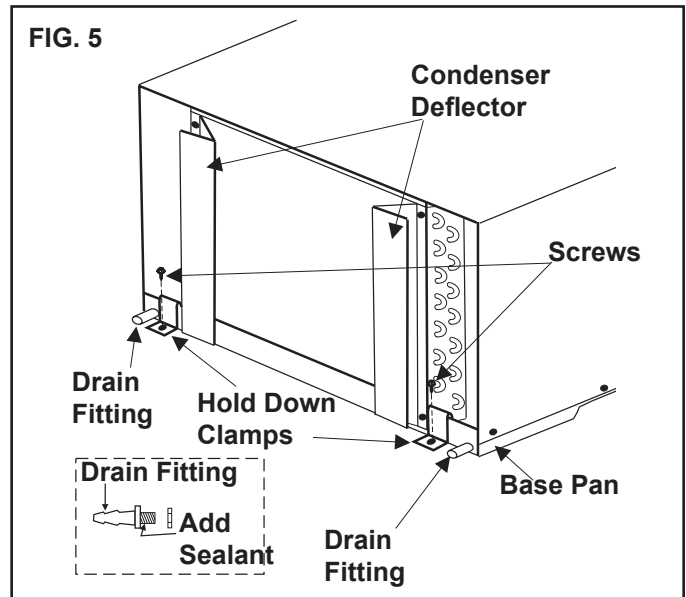
4. Remove the unit from its carton. Inspect for shipping damage.
5. Locate the discharge air plenum on the unit. Cut the required hole or holes for your installation. The 3 front holes for direct discharge, or the side and/or top holes for ducted applications. See FIG. 4.



Note: In a travel trailer installation, if within a cabinet or in the ceiling, ducting may be required.

6. Access openings should be prepared as shown. Cabinet front opening must be 20 inches wide by 15 inches high to provide an opening for the discharge and return air grill. A discharge and return air grill with register option is available to speed up the installation. An electrical service opening is provided by removing the return air grill. See FIG. 2.
7. 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. 5.
8. 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. 5.

FIG. 5



9. Install the rain shield. See FIG. 6.
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.
10. Seal along the unit bottom to rain shield.
11. 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.
12. Make sure the condenser deflector is against the back of the outside grill. This will decrease recirculation of hot air back into the grill. Install the outside grill. See FIGS. 5 & 6.
13. The outside work is complete.
If your cabinet space is 20"-23.5" deep, the metal duct extension is not needed. Attach the registers 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. 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.

See figure 6 drawing for the order of installation and installation kit component parts list.

14. ELECTRICAL WIRING

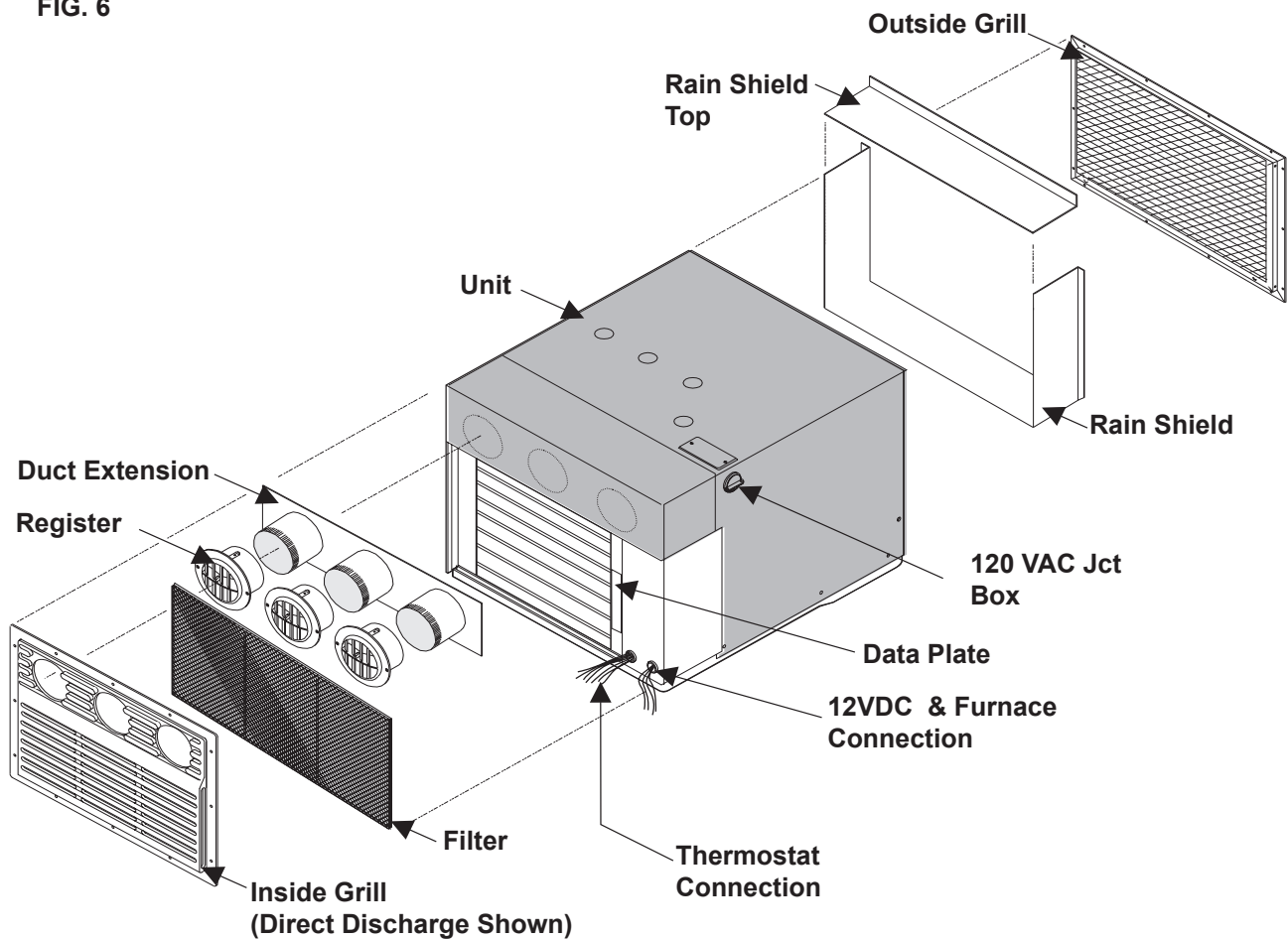
Note: All wiring must comply with the National Electrical Code or CSA Standard C22.1, Canadian Electrical Code, Part 1; and local codes.

15. Line Voltage Wiring

⚠ WARNING

Shock Hazard. Disconnect 120 VAC power supply. Failure to heed this warning may cause death or severe personal injury.

FIG. 6



⚠ 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 VAC circuit and the polarity is correct. Failure to do so could result in death, personal injury or damage to the equipment.

- A. All 120 volt AC 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.
- 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 a "Listed" properly sized wire connectors.
 1. Active to Black
 2. Neutral to White
 3. Earth to Green/yellow

F. Install junction box cover.

16. Low Voltage Wiring

CAUTION

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

- A. Route a two (2) conductor 16 gauge cable from the DC power supply to the unit electrical box.
 - B. Connect the DC positive(+) supply lead to the red wire on the unit.
 - C. Connect the DC negative (-) supply lead to the black wire on the unit.
- The **low voltage connection** can be made without removing the electrical box cover. The low voltage leads must be tucked back inside of the electrical box.

17. Thermostat Location

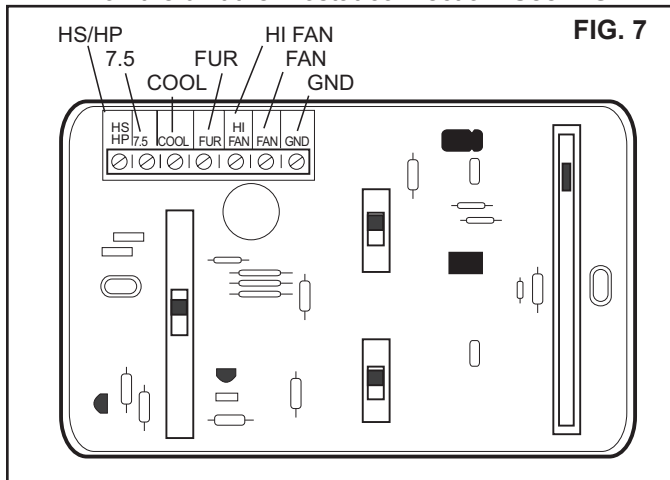
Location of the thermostat is very important to ensure that it will provide a comfortable RV temperature. Observe the following rules when selecting a location.

- A. Locate the thermostat 54" above the floor.

- B. Install the 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.

18. Thermostat Wiring

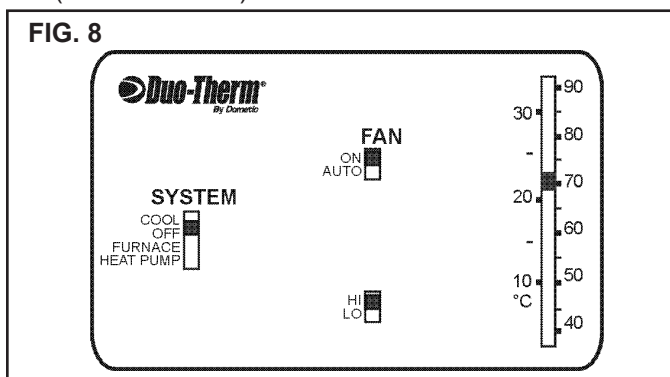
- A. Route a seven (7) conductor 18-22 gauge cable from the thermostat location to the electrical box on the unit thermostat connection. See FIG. 7.



- B. Connect the unit red/white wire to the thermostat +7.5 terminal.
- C. Connect the unit green wire to the thermostat GND terminal.
- D. Connect the unit yellow wire to the thermostat COOL terminal.
- E. Connect the unit tan wire to the thermostat FAN terminal.
- F. Connect the unit blue wire to the thermostat HI FAN terminal.
- G. Connect the unit orange wire to the thermostat HS/HP terminal.
- H. Connect the unit white wire to thermostat FUR terminal (if applicable).
- I. Connect the unit blue/white wires to the two furnace control wires (if applicable). The AC and DC power supply can now be turned on and operation checked.

19. Thermostat Operation

(Refer to FIG. 8)



A. Cooling Operation:

1. Place the **Temperature Set Lever** to the desired temperature level (located at right side of thermostat).
2. Select fan speed that best satisfies your needs (switch located at lower center of thermostat).
 - a. **High Speed:** Selected when the maximum cooling and dehumidification are required.
 - b. **Low Speed:** Selected when RV reaches desired comfort level and needs to be maintained. Normally this speed is used for night-time operation
3. Select **Auto/On Switch** operation as follows:
 - a. **Auto Position:** unit fan runs whenever cooling is required and stops whenever cooling is not required.
 - b. **ON Position:** The fan will run continuously. The compressor will turn ON and OFF to maintain set temperature.
4. 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 is 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.

- B. Furnace Operation: (If Furnace is connected to Thermostat)
 1. Set the **Temperature Set Lever** to desired temperature level (located on the right of thermostat).
 2. 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.
- C. Continuous Fan or Fan Only Operation: When Thermostat:
 1. **System Switch:** is in the COOL, OFF, FURNACE or HEAT PUMP position and
 2. **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.

D. Heat Pump Operation:

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

1. Set the **Temperature Set Lever** (located on the right of thermostat) to desired temperature level.
2. 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.

20. 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.

21. Service

A. Unit Will Not Operate:

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

1. If your RV is connected to a motor generator, check to be sure the motor generator is running and producing power.
2. 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.
3. Check your fuse or circuit breaker to see if it is open.
4. 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.

5. 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. 4.

WIRING DIAGRAM

