Refrigerator Bulletin R55/2F Nov. 2003 Rev.

# PROCEDURE FOR CHANGING COOLING UNIT

### **A 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.

### FC140 Cooling unit cannot be replaced.

### A. CATEGORY #1

RM46	RM461	RM663	RM2500
RM360	RM660	RM2300	RM2501
RM460	RM661	RM2301	RM2510
		RM2310	RM3500
		RM2400	RM3501
		RM2401	TOTAL TOTAL
		RM2410	

### STEP 1. GENERAL INSTRUCTIONS

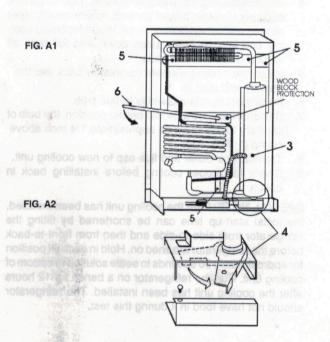
- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

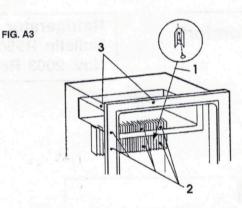
#### REVISION OF STREET

Form No. 3104847.037 11/03 (Replaces 3104847.029)
©2003 Dometic Corporation
LaGrange, IN 46761

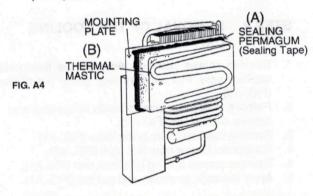
### STEP 2. REMOVAL OF THE COOLING

- Remove screws holding clamp for the thermostat capillary tube. Pull capillary tube gently out of plug (FIG. A3).
- Remove evaporator screws inside refrigerator and remove cooling fins (FIG A3).
- 3. Remove heater(s) from boiler case (FIG. A1).
- 4. Disconnect burner from flue pipe (FIG. A2).
- 5. Remove screws holding unit from rear (FIG A1).
- 6. Apply leverage as shown and pull out (FIG. A1).





- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator.
- Apply thermal mastic on the evaporator coil (B; FIG. A4).
- Apply sealing permagum or sealing tape on mounting plate (A; FIG. A4).



- Replace cooling fins to evaporator coil. Tighten screws securely to obtain proper contact, otherwise improper cooling performance may occur. When replacing cooling unit into cabinet, fasten down and foil tape all around metal backing plate.
- Install the heating element completely back into the bracket and plug in.
- Reconnect burner assembly to flue pipe.
- Reinstall capillary tube into proper position, the bulb of capillary tube should be approximate 1/4 inch above clamp (1; FIG. A3).
- 8. Transfer flue baffle and flue cap to new cooling unit.
- Check for proper cooling before installing back in coach.

SPECIAL NOTE: After the cooling unit has been installed, the initial start-up time can be shortened by tilting the refrigerator from side-to-side and then from front-to-back before the refrigerator is turned on. Hold in each tilt position for approximately 30 seconds to settle solution to bottom of cooling unit. Run the refrigerator on a bench for 12 hours after the cooling unit has been installed. The refrigerator should not have food in it during this test.

### B. CATEGORY #2

THERMOSTAT			THERMISTOR CONTROLLED	
	RM100 RM760 RM761 RM763 RM1300 RM1301 RM1302 RM1303 RM2600	RM2601 RM2602 RM2603 RM2604 RM2610 RM2800 RM2801 RM2802 RM2803	RM2804 RM2810 RM3600 RM3601 RM3604 RM3800 RM3801 RM3804	RM2607 RM2611 RM2807 RM2811 RM3807

### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

# STEP 2. REMOVAL OF COOLING UNIT (Refer to Figure B1, and B2-B4 on Page 3)

- Remove clamp or retainer that holds capillary tube or thermistor to cooling fins (1; FIG. B4). Models with capillary tube on back of refrigerator, gently pull capillary tube out of cooling unit and lay it aside. Models with thermostat or thermistor on inside of refrigerator, it is only necessary to remove clamp or retainer.
- 2. Remove electric heating elements from boiler case.
- Disconnect burner from flue pipe and remove gas lines, circuit boards and any other part that interferes with removing the cooling unit.

(FIG. B3) **Models**: RM100 RM763 RM1302 RM760 RM1300 RM1303 RM761 RM1301

(FIG. B3) Models: All others.

- 4. If ice maker is not present, go to Step 5. If ice maker is installed, remove (2) screws from under the freezer shelf that secures the ice maker to the mounting plate. (FIG. B1)
  - Remove (2) screws and nuts from side plate and cycle. Lift cycle out of freezer and unplug cable. NOTE: In some models, the cycle is hard-wired to cable. Remove cable from refrigerator with ice maker. This prevents damage to the cycle and liner.
- Remove the screw holding freezer plate (FIG. B5).
- 6. Remove the screws securing the cooling unit to back of refrigerator (FIG. B2).
- 7. Cut tape sealing cooling unit to mid back of refrigerator.
- 8. As shown in FIG. B2, apply leverage and pull cooling unit out of the refrigerator.

### C. CATEGORY #3

RC150 RC160 RC1600

#### STEP 1. GENERAL INSTRUCTIONS

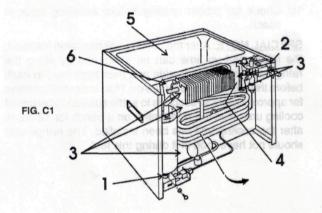
- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

### STEP 2. REMOVAL OF COOLING UNIT

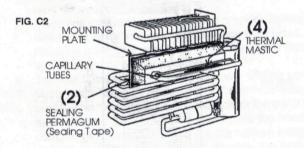
- Remove screw and disconnect burner from flue pipe (FIG. C1).
- Disconnect heater wires from terminal block (FIG C1).
   a. Remove heater from boiler case (FIG. C1; A).
- 3. Remove screw holding unit from rear (FIG. C1).
- 4. Disconnect green grounding wire (FIG. C1).
- 5. Pull off cooling flange to remove from the evaporator tube inside box (FIG. C1).
- 6. Pull thermostat capillary tube out gently and position so that cooling unit will clear (FIG. C1).
- Remove cooling unit by hinging out on right side (FIG. C1).

# STEP 3. INSTALLATION OF REPLACE MENT COOLING UNIT

- 1. Trim the styrofoam portion of the cooling unit if it does not go freely into refrigerator.
- 2. Apply sealing permagum (sealing tape) on mounting plate (FIG. C2).
- Insert cooling unit into cabinet. Tighten screws securely to obtain proper seal; otherwise improper cabinet performance may result.



- Install the heat elements completely back into the brackets and attach to terminal block (FIG. C1).
- 5. Reconnect burner assembly to flue pipe (FIG. C1)
- Apply thermal mastic on the evaporator tube after cooling unit is installed in box (FIG. C2)
- Reinstall capillary tubes along evaporator tube approximately 8-10 inches (FIG. C2). Replace cooling flange.
- 8. Transfer flue baffle and flue cap to new cooling unit.
- Check for proper installation; then test for proper cooling.



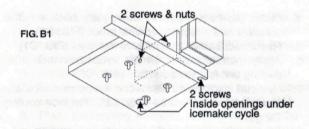
# D. CATEGORY #4 RM2150 RM2192 RM2192S RM2190 RM2201

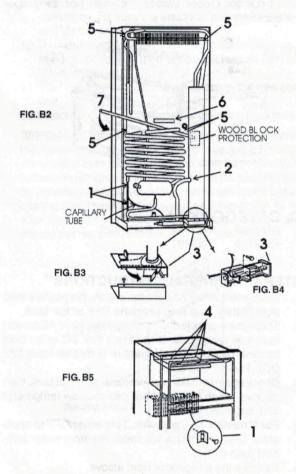
#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

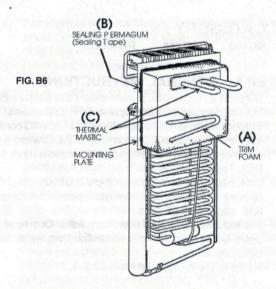
### STEP 2. REMOVAL OF COOLING UNIT

- Remove cover and flue tube, then disconnect burner from flue pipe.
- 2. Remove heater(s) from boiler case (FIG. D1).
- 3. Release holding clamp for thermostat capillary and pull tube out gently (FIG. D2).
- 4. Remove screws and take out evaporator fins and shelves (FIG. D2). [NOTE: some units have different configurations of evaporator tube.]
- 5. Remove one (1) screw and two (2) tabs and then pull cooling unit out (FIG. D1).



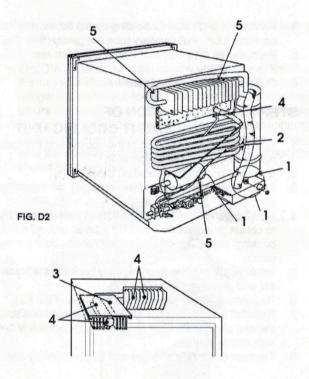


- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator. Be sure the styrofoam does not cover the evaporator tubes where the cooling fins attach. If it does, trim the foam so metal to metal contact can be made (FIG. B6).
- Apply thermal mastic on the evaporator tubes as shown (FIG. B6)
- Place fins on evaporator tubes and properly tighten the screws, otherwise improper performance can result.
- Apply sealing permagumor (sealing tape) on mounting plate (B; FIG. B6) and install cooling unit in refrigerator cabinet. Fasten down and foil tape all around metal backing plate.

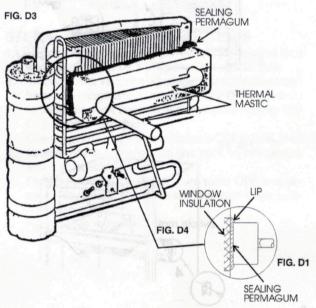


- Install the heating elements in the mounting brackets and replace the cover plate.
- Reinstall thermostat capillary tube into proper position.
  - Models RM100; RM2600; RM2601; RM2604; RM2800; RM2801; RM2804, will clamp to cooling fins inside cabinet (FIG. B5).
  - b. Models RM760; RM761; RM763, will extend into retainer tube approximately 31" (FIG. B2).
  - Models RM1300; RM1301; RM1302; RM1303, will extend into retainer tube approximately 36" (FIG. B2)
  - d. Models RM2602; RM2603; RM2802; RM2803; RM3600; RM3601; RM3604; RM3800; RM3801; RM3804, have the thermostat inside the cabinet with capillary tube clamped to cooling fins (FIG. B4).
  - e. Models RM2607, RM2611, RM2807, RM2811, RM3807, have the thermistor inside cabinet, fasten to cooling fins with retainer.
- 7. Reconnect burner assembly to the flue pipe.
- 8. Transfer flue baffle and flue cap to new cooling unit.
- Make sure the thermomastic applied in Step 2 is spread evenly on the tubes. Reinstall freezer shelf and ice maker (if present) in reverse order of Steps 4 and
- Check for proper cooling before installing back in coach.

**SPECIAL NOTE**: After the cooling unit has been installed, the initial start-up time can be shortened by tilting the refrigerator from side-to-side and then from front-to-back before the refrigerator is turned on. Hold in each tilt position for approximately 30 seconds to settle solution to bottom of cooling unit. Run the refrigerator on a bench for 12 hours after the cooling unit has been installed. The refrigerator should not have food in it during this test.



- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator.
- Apply sealing permagum to inside of styrofoam window insulation lip (FIG. D3 & D4).
- Place cooling unit in cabinet, tighten screws or tabs (whichever it has) securely to obtain proper seal.
- Apply thermal mastic on evaporator tube (FIG. D3), replace fins and shelves. Secure capillary tube in holding clamp with end of tube to be about 1/4 inch above clamp.



- Install the heating elements completely back into the brackets.
- Reconnect burner assembly to flue pipe and replace cover.
- 7. Transfer flue baffle and flue cap to new cooling unit.
- Check for proper installation; then test for proper cooling.

### E. CATEGORY #5

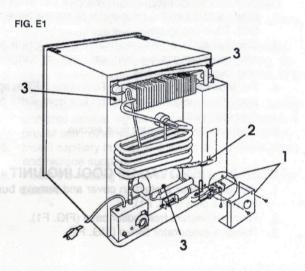
RM2211 RM2200

#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

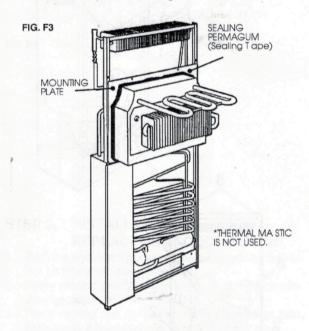
# STEP 2. REMOVAL OF COOLING UNIT (FIG. E1)

- Remove cover and disconnect burner from flue pipe (FIG. E1).
- 2. Remove heater from boiler case (FIG. E1).
- Remove three (3) screws holding unit from rear (FIG. E1).
- Pull cooling unit partway out and the disconnect thermostat capillary tube and pull out (FIG. E2).
- 5. Complete removal of cooling unit.
- 6. Remove evaporator fins and shelf (FIG. E2).



Check for proper cooling before installing back in coach.

SPECIAL NOTE: After the cooling unit has been installed, the initial start-up time can be shortened by tilting the refrigerator from side-to-side and then from front-to-back before the refrigerator is turned on. Hold in each tilt position for approximately 30 seconds to settle solution to bottom of cooling unit. Run the refrigerator on a bench for 12 hours after the cooling unit has been installed. The refrigerator should not have food in it during this test.



#### **G.CATEGORY #7**

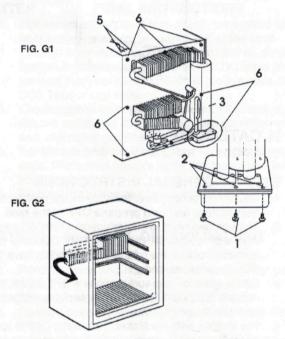
RM182 RM182A RM182B EGI

#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

#### STEP 2. REMOVAL OF COOLING UNIT

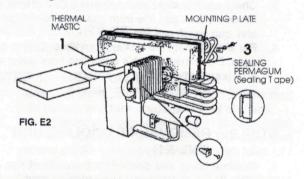
- 1. Remove six (6) screws from burner cover (FIG. G1).
- 2. Disconnect burner from flue pipe (4 screws) (FIG. G1).
- 3. Remove heaters from boiler case (FIG. G1).
- 4. Remove ice-tray support from evaporator by pulling in a forward motion from left side (FIG. G2). Carefully remove capillary tube from groove in ice-tray support. Measure length of tube inside of cabinet for installation references. Bend capillary tube straight and remove from back side.
- 5. Remove two (2) screws holding gas line (FIG. G1).
- 6. Remove nine (9) screws holding cooling unit to rear of cabinet; then remove cooling unit (FIG. G1).



- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator.
- Apply sealing permagum around styrofoam window insulation on metal mounting plate (FIG. G3, Pg. 8).
- 3. Apply thermal mastic on the evaporator coil (FIG. G3, Pg. 8).
- Start capillary tube through cooling unit, install cooling unit onto cabinet, tighten screws securely to obtain a proper seal, otherwise improper cooling may occur.
- Install capillary in original position on ice-tray support and replace support.
- Install the heating elements completely back into the pocket.

- 1. Apply thermal mastic on the evaporator coil (FIG. E1).
- 2. Install evaporator fins and shelf (FIG. E2).
- Apply sealing permagum or (sealing tape) to mounting plate (FIG. E2).
- Reinstall thermostat capillary tube into proper position, the end of capillary tube should be approximately 1/4 inch above clamp (FIG. E2).
- Install cooling unit into cabinet, tighten screws securely to obtain proper sealing and foil tape all around metal backing plate 

   otherwise improper cooling may occur.
- Reconnect burner assembly to flue pipe and replace cover (FIG. E1).
- Install the heating element completely back in the brackets (FIG. E1).
- 8. Transfer flue baffle and flue cap to new cooling unit.
- Check for proper installation; then test for proper cooling.



#### F. CATEGORY #6

RM75

**RM76** 

RM77

#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

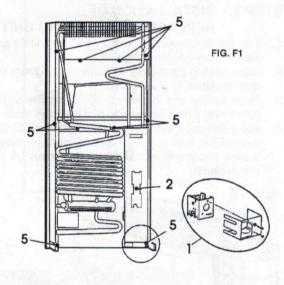
### STEP 2. REMOVAL OF COOLING UNIT

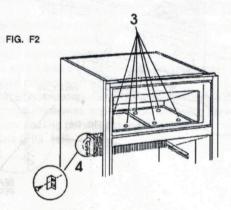
- Remove burner protection cover and remove burner from flue pipe (FIG. F1).
- 2. Remove heaters from boiler case (FIG. F1).
- 3. Remove evaporator screw (FIG. F2).

- Remove two (2) screws holding clamp for thermostat capillary tube. Pull capillary tube out gently (FIG. F2).
- Remove ten (10) screws holding unit from rear (FIG. F1).
- 6. Pull out cooling unit and remove.

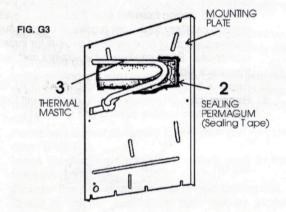
- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator.
- 2. Thermal mastic is not used on these units.
- 3. Apply sealing permagum (sealing tape) on mounting plate (FIG. F3).
- Install cooling unit into cabinet, tighten screws securely to obtain proper sealing and foil tape all around metal backing plate 

   otherwise improper cooling may occur.
- Install heating elements completely back into the brackets and connect wires (FIG. F1).
- 6. Reconnect burner assembly to flue pipe (FIG. F2).
- Reinstall thermostat capillary tube into proper position, the end of capillary tube should be approximately 1/4 inch above clamp.
- 8. Transfer flue baffle and flue cap to new cooling unit.





- Reconnect burner assembly to flue pipe and replace cover.
- Check for proper installation; then test for proper cooling.



# H. CATEGORY #8

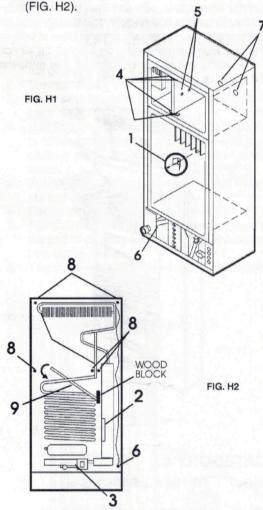
#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- 3. Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.
- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

### STEP 2. REMOVAL OF COOLING UNIT

- Remove the screws holding the clamp that attaches the thermostat capillary tube to the fins (FIG. H1).
- Remove cover from boiler case and the heating elements (FIG. H2).
- Remove electrical box, module board, and burner assembly (FIG. H2).
- 4. Remove inside freezer compartment door (4 screws) (FIG. H1).
- Remove four (4) screws that secure the center divider well panels to the evaporator tubes and remove panels (FIG. H1).
- Disconnect ice maker water line from drain valve. Remove all clamps from water line and pull the water line through the back of (FIGS. H1, H2).
- Remove two (2) screws holding cooling unit to rear wall of freezer compartment (FIG. H1).

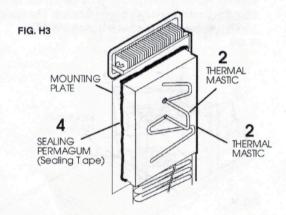
- 8. Remove five (5) screws (3 screws on newer models) securing cooling unit to back of refrigerator (FIG. H2).
- Cut tape sealing cooling unit to middle back of refrigerator.
- 10. Apply leverage at point shown and remove cooling unit



- Trim styrofoam portion of cooling unit if it does not go freely into refrigerator.
- Apply thermal mastic to tubes on cooling unit (FIG. H3).
   Be sure tubes are not covered with styrofoam and will make contact with cooling fins.
- Place fins on evaporator tubes and properly tighten the screws, otherwise improper performance can result.
- Apply sealing permagum (sealing tape) on mounting plate (FIG. H3).

- Install cooling unit in refrigerator and tighten the 5 screws holding cooling unit to back of cabinet and foil tape all around metal backing plate (FIG. H2). Install the 2 screws in rear of the freezer compartment (FIG. H1).
- 6. Install the freezer compartment panels and door.
- 7. Route water line through the opening on the back of cabinet and connect to the drain valve (FIG. H1).
- 8. Place the heating elements in the brackets on the cooling unit and close the opening with the cover.
- Replace the electrical box, module board and burner assembly. Be sure the electrical connections are tight and on the proper terminals.
- Reinstall capillary tube into fins at original position, with the end of capillary tube approximately 1/4 inch above clamp (FIG. H1).
- Transfer the flue baffle and flue cap to the new cooling unit.
- 12. Check for proper cooling before installing back in coach.

**SPECIAL NOTE**: After the cooling unit has been installed, the initial start-up time can be shortened by tilting the refrigerator from side-to-side and then from front-to-back before the refrigerator is turned on. Hold in each tilt position for approximately 30 seconds to settle solution to bottom of cooling unit. Run the refrigerator on a bench for 12 hours after the cooling unit has been installed. The refrigerator should not have food in it during this test.



#### I. CATEGORY #9

RM7030 (Optional Ice Maker Cycle) RM7130 (Ice Maker Cycle/Compressor Operated)

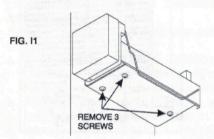
#### STEP 1. GENERAL INSTRUCTIONS

- Disconnect shore power from coach, the positive lead from battery, and turn propane OFF at the tank.
- Through lower vent, unplug refrigerator 120V AC cord(s) from wall receptacle. Disconnect 12V DC wires from terminal block on the refrigerator (if models have 12V DC). Tape or cap ends.
- Check again to make sure propane is OFF at tank, then remove coach gas line from gas cock on refrigerator and cap coach gas line.

- For Models with Ice Maker: Turn water OFF to appliance. Disconnect coach's water line from water solenoid (cap end).
- 5. Remove the refrigerator from alcove.

#### STEP 2. REMOVAL OF COOLING UNIT

- Remove the two top shelves and drip tray. Disconnect interior light from side of refrigerator. Remove thermistor with bracket from fins (FIG. I2). On some models, loosen screws holding clamp for capillary tube and gently pull tube out of clamp.
- 2. Remove cooling fins right side first (6 screws). Pull out drain cup and remove tube (FIG. I2).
- 3. Units without ice makers: Skip to Step 5.
- 4. Remove the three screws that fasten the cycle to the shelf plate. Life cycle off shelf. Unplug cable and remove it from the compartment. Some cycles are hard-wired to the cable. It is necessary to pull the cable and the cycle out of freezer to prevent damage. (FIG. I1)



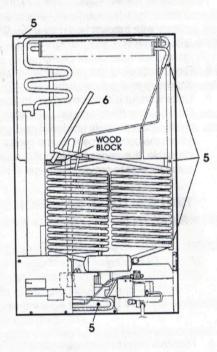
- 5. Remove freezer shelves complete (FIG. I2):
  - A. 4 screws
  - B. 2 screws with nuts
  - C. 4 screws that hold cooling unit to circulation tube.
  - D. 1 screw

FIG. 12



- Remove burner, gas line, circuit board, heating elements, and any other parts that interferes with removal of cooling unit (FIG. I3).
- Remove 5 screws holding unit to rear of cabinet, cut foil backing between cooling unit and cabinet (FIG. I3).
- 8. Apply leverage as shown and pull out (FIG. I3)

FIG. 13



- Trim the styrofoam portion of the cooling unit if it does not go freely into the refrigerator. Be sure the styrofoam does not cover the evaporator tubes where the cooling fins fit metal to metal with the tubes.
- Apply sealing permagum on mounting plate on all four sides (FIG. 14).
- Apply thermal mastic on the evaporator tubes in food compartment and freeze compartment (FIG. 14).
- 4. Replace cooling unit into cabinet, fasten down and foi tape all around metal backing plate.
- Place fins on evaporator tubes and properly tighten down, otherwise improper performance may result. Reinstall thermistor with bracket or thermostat capillary tube into its proper position.
- 6. Transfer flue baffle and flue cap to new cooling unit.
- 7. Models with ice maker require a 3/4" diameter hole to be drilled in the cooling unit foam block for the water fil tube. Use the 3/4" hole in the liner inside the freeze compartment as a guide, and drill the hole on a sligh upward angle. Be careful to not damage the sealed system.
- Reinstall components that where removed in Step 4 and 5 of removal of cooling unit.
- Check for proper installation; then test for prope cooling. Run the refrigerator on a bench for 12 hours after the cooling unit has been installed. The refrigera tor should not have food in it during this test.

