



REFRIGERATOR MODEL RM2150

For Mobile Home or Recreational Vehicle Installation

Dual Operation by L.P. Gas or 12 Volts

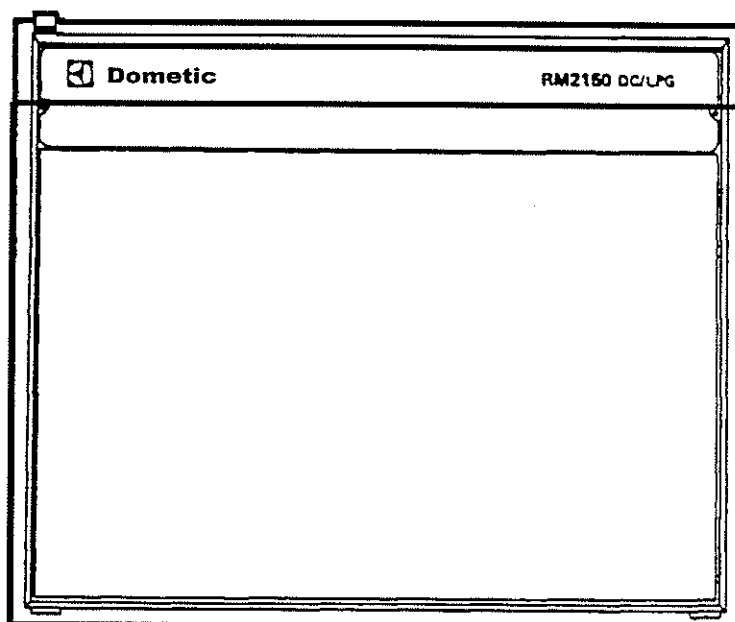
Service Office

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INSTALLATION AND OPERATING INSTRUCTIONS

REFRIGERATOR MODEL RM2150

FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

INSTRUCTIONS FOR INSTALLATION

This refrigerator has been Design Certified by the American Gas Association and the Canadian Gas Association for mobile home or recreational vehicle installation. This certificate is contingent, however, upon proper installation and the use of the venting components as shown in these instructions.

1. DECORATION PANEL

A decoration panel in a color or pattern of your choice is intended to be fitted to the front of the door. The panel can be of plastic or rust-proof material and should be of the following size:

Thickness	-	Up to 1/8" (3mm)
Width	-	18 5/16" (465mm)
Height	-	14 3/8" (365mm)

To install the panel, remove the plastic nameplate strip from the top of the door by removing the screw from each end, then pull the strip outward and downward until it disengages.

Fit the decoration panel by locating one of its sides behind the door frame then bowing its center until the opposite side can be engaged. Slide the panel down as far as it will go so its bottom edge is fully down behind the frame.

Re-fit the plastic nameplate strip by engaging the retaining section of its rear top edge under the door frame, then slide it upward until its lower retainers are located over the top of the panel. Reinsert the two screws.

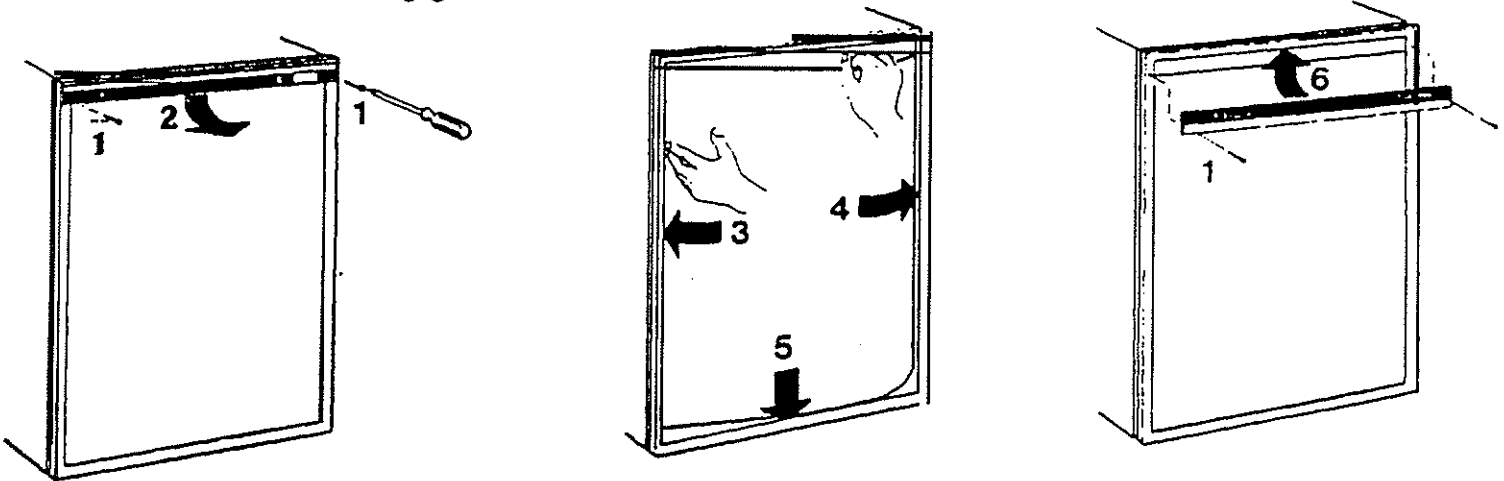


FIG. 1

2. TO CHANGE THE DOOR HINGES FROM ONE SIDE TO THE OTHER

- Unscrew and remove the upper hinge pin, open the door and lift it from the lower hinge pin.
- Carefully place the refrigerator on its side then unscrew the lower hinge pin and transfer it, together with its nut, to the front of the elongated hole in the hinge bracket on the opposite side. Stand the refrigerator upright.
- Remove the travel catch from the top left-hand side of the cabinet.
- On the top edge of the door:
Pull out the plastic stop for the travel catch from the top left-hand corner and the hinge pin bushing from the top right-hand and fit in the reverse order (FIG. 2).
- Engage the door on the lower hinge pin then re-fit the upper hinge pin. Check door for proper closure. If necessary, adjust seal by

loosening the lower hinge pin and re-position it in the elongated hole in the bracket. When correctly positioned, tighten the hinge pin while holding the nut with a wrench.

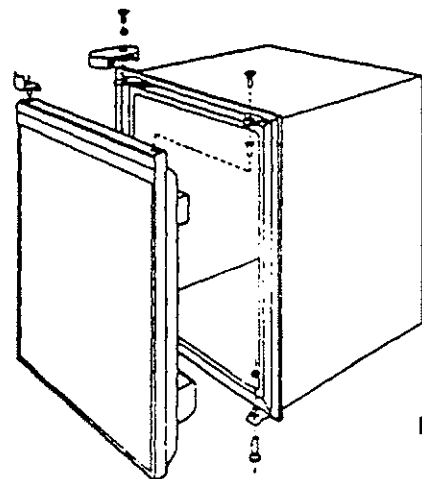


FIG. 2

3. INSTALLATION- General Requirements

This appliance is designed for storage of foods, storage of frozen foods and making ice.

The refrigerators outlined here have been design certified under ANSI Z1.19a 1984, Refrigerators by the American Gas Association for installation in a mobile home or recreational vehicle and are approved by the Canadian Gas Association.

The certifications are, however, contingent on the installation being made in accordance with the following instructions as applicable.

The installation must in the USA conform with:

1. National Fuel Gas Code ANSI Z223.1-1984
2. Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 32-80
3. ANSI/A 119.2 - 1982
4. Any applicable local code.

The refrigerator should be installed on a firm base and must be level in relation to the R.V. so that when the R.V. is level, the refrigerator is level.

The appliance must not be installed directly on carpeting. Carpeting must be protected by a metal or wood panel beneath the appliance which extends at least the full width and depth of the appliance.

The installation must in Canada conform with:

1. The current CGA B 149 Gas Installation Codes
2. Current CSA Standard 2240.4 Gas-Equipped Recreational Vehicles and Mobile Housing
3. Any applicable local code

4. REFRIGERATOR EXTERIOR DIMENSIONS

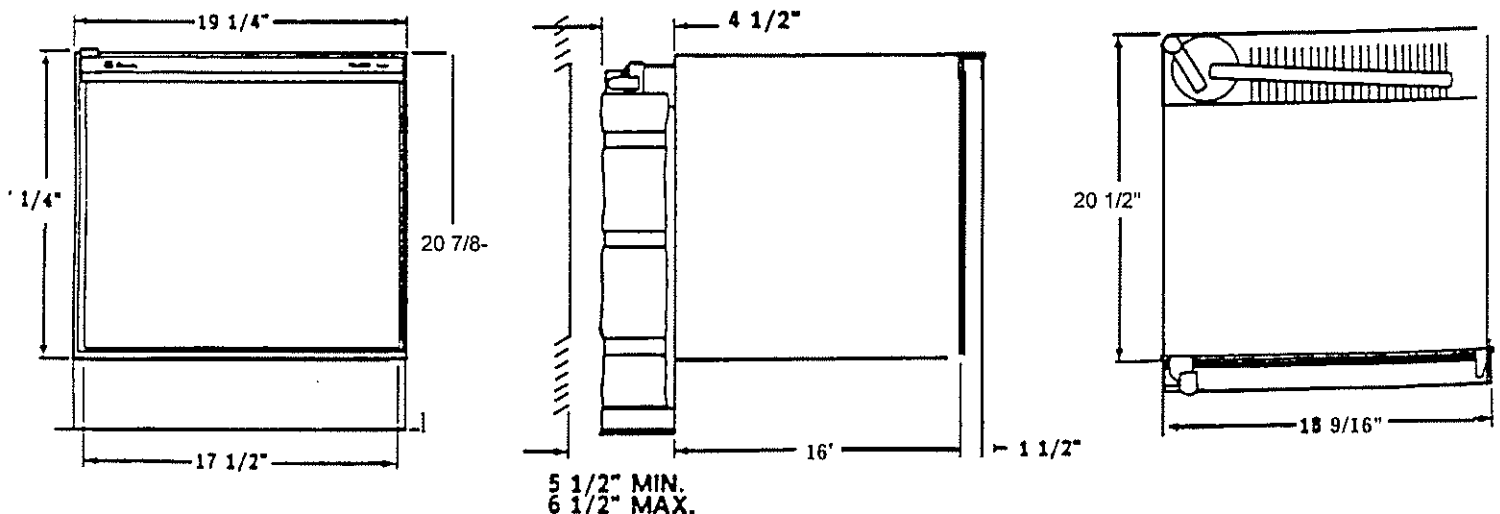
The overall dimensions of the refrigerator are given in FIG. 3. Dimensions of the recess to house the refrigerator are given in FIG. 4, Page 4, which allows sufficient clearances for the refrigerator to be inserted and withdrawn.

The following minimum clearances must be allowed at the back and over the top for air circulation over the cooling unit:

1. At each side = 0"
2. From rear edge of outer casing of refrigerator to the wall of the vehicle = 5 1/2"
3. Above cooling unit condenser fins = 1 1/4"

Clearance from rear edge of outer casing of refrigerator to the wall of the vehicle must be a minimum of 5 1/2"

FIG. 3



5. VENTILATION & RECESS DIMENSIONS

The absorption cooling unit is of the air-cooled type and it is of the utmost importance that air circulates freely over the unit at the back of the refrigerator. To ensure this, two vents must be provided in the wall of the R.V. so that air passes in through the lower vent, over the cooling Unit, and out through the upper vent. Details of the vents are given in FIG. 4. These vents have been certified for use with

this refrigerator and contain proper size openings; they must be installed and must not be modified in any way.

The lower vent has to be opened to gain access to the gas and electric controls which are accessible only from the rear of the refrigerator.

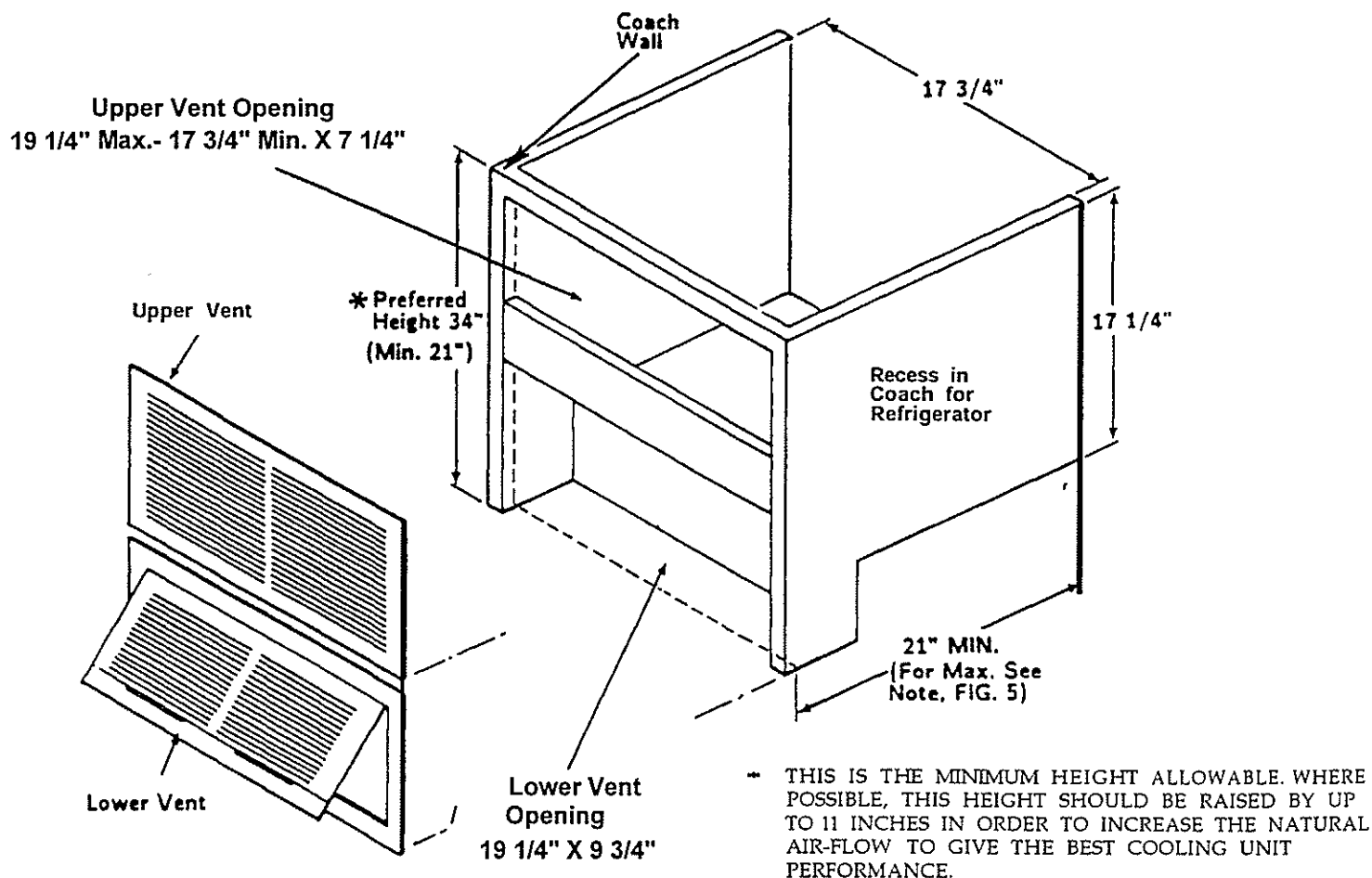
The lower ventilator is removed by turning the handle of its catch 90° counter-clockwise, then pulling it out.

FIG. 4

The air vents, illustrated below, are contained in the following kits. These vents must be used and must not be modified in any way.

USA: Dometic Kit No. 1
(Containing 1 upper vent
123. and 1 lower vent 183)

CANADA: Dometic Kit VT24
(Containing 1 upper vent VT24-II,
and 1 lower vent VT24-I)



6. SEALING THE REFRIGERATOR RECESS

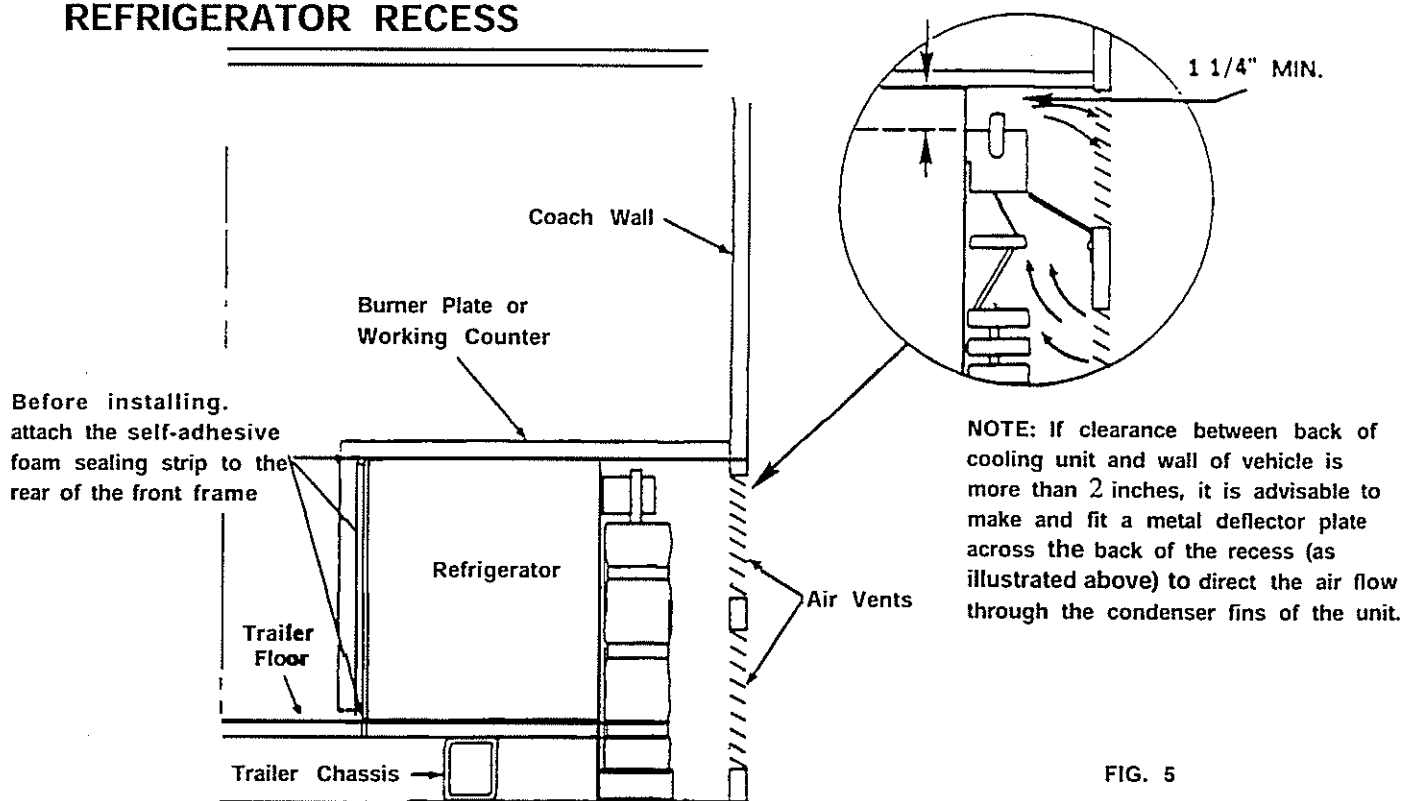


FIG. 5

The refrigerator should be installed in accordance with the illustration on Pages 3 and 4. Both the flue gases and the ventilation air must pass to the outside, and the joints between the body of the refrigerator and the vehicle, and in any ventilation ducts, must be effectively sealed to prevent exhaust gases from the combustion system entering the living space. The rear of the metal frame at the front of the refrigerator has foam sealing strips provided to seal the joints between the refrigerator and the front of the recess at the sides. Before installing the

refrigerator, make sure that these sealing strips are in place and are not damaged.

Clearance over top of the unit condenser fins is 1 1/4 inches. This is the minimum height which can be allowed over the condenser fins. Whenever possible, increase this height by up to 11 inches; the more ventilation you provide, the better the performance you can expect from the refrigerator.

Surfaces directly above the flue outlet must be of, or covered with, fireproof material.

7. SECURING THE REFRIGERATOR

The refrigerator must be secured in the recess. Do this by screws through the front frame of the cabinet into the front of the recess as shown in FIG. 6.

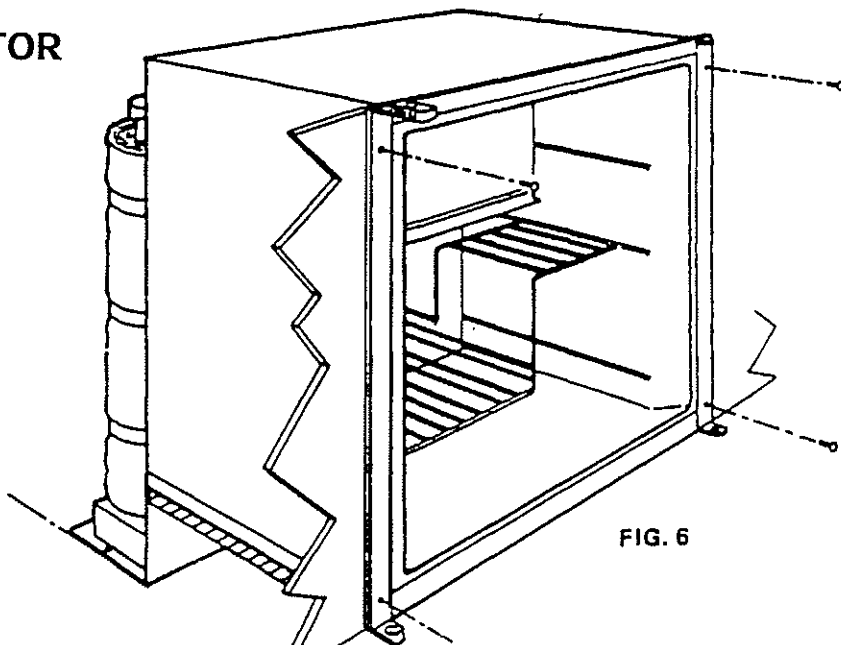


FIG. 6

8. LP GAS PRESSURE

The L.P. gas cylinder must be fitted with a pressure regulator to reduce the pressure to 11 inches water column. The burner is fitted with a size "F jet which is suitable for use on Propane and Butane gas at a supply pressure of 11 inches water column.

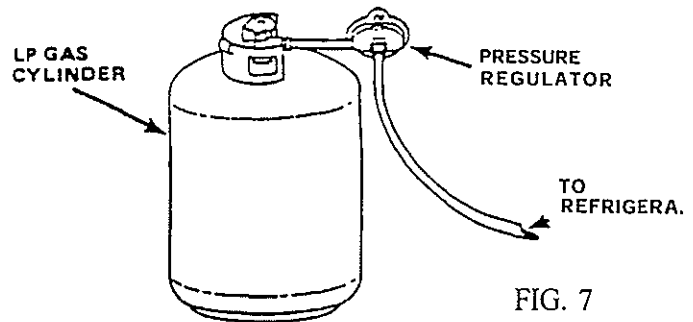


FIG. 7

9. REFRIGERATOR SUPPLY CONNECTION INSTRUCTIONS

1. Heating Element Wiring
2. 12V. Terminal Block
3. 12V. Thermostat Knob
4. Gas Thermostat Knob
5. Gas Shut-off Valve
6. Piezo Lighter
7. 12V. Toggle Switch
8. Gas Shut-Off Handle
9. Gas Safety Valve
10. Gas Safety Plunger
11. By-Pass Screw
12. Pressure Tap
13. Flame View Port
14. Piezo Spark Plunger
15. 12V. DC Supply Wires

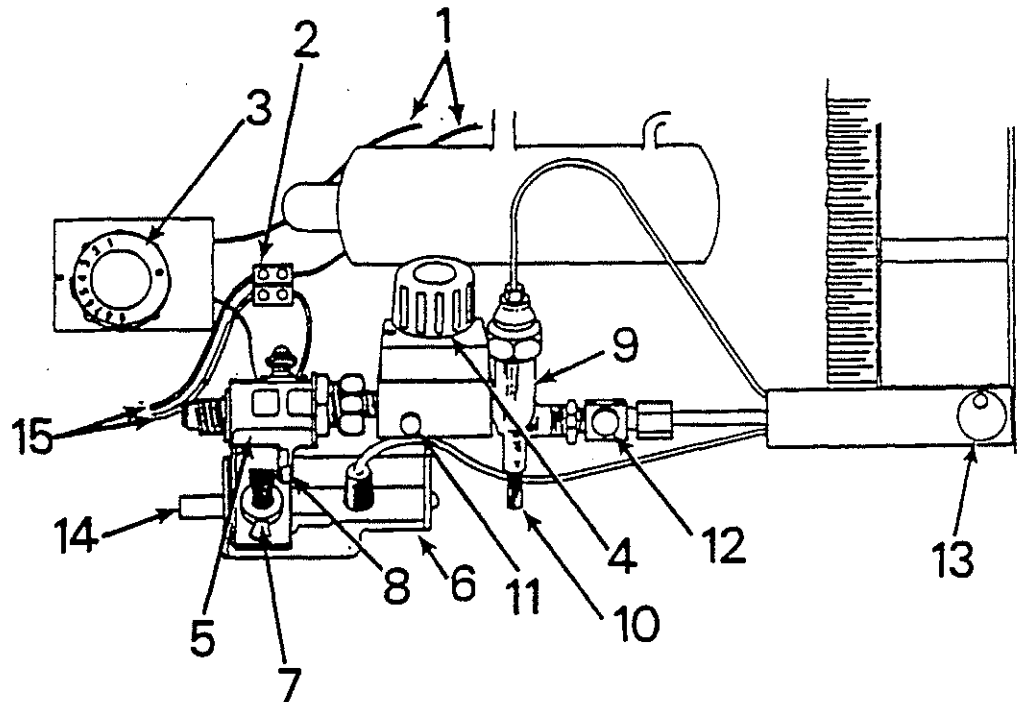


FIG. 8

10. GAS CONNECTIONS

The supply pipe from the pressure regulator on the L.P. gas cylinder to the refrigerator should preferably be of copper, or of another type approved for use with continuously operating L.P. gas appliances. Connect the supply pipe to the inlet of the gas valve (FIG. 9) at the back of the refrigerator. Hold the manual gas shut-off valve with a wrench while tightening the gas line to the refrigerator.

After connecting, check all gas connections for leaks by applying a non-corrosive solution over them and while watching for bubbles.

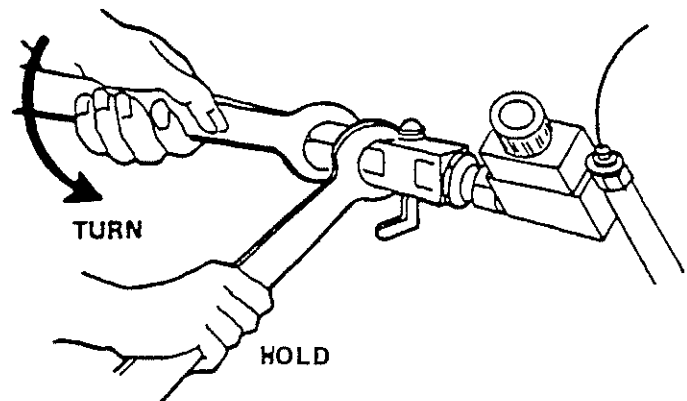
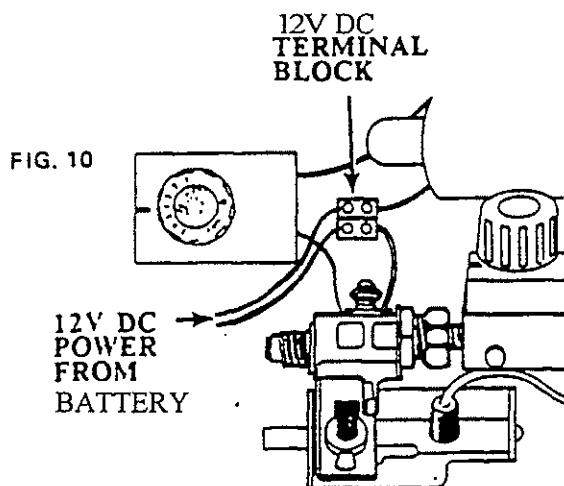


FIG. 9

11. 12V. ELECTRICAL CONNECTIONS

The heating elements which operate the cooling unit when the refrigerator is connected to the CV battery of the vehicle is rated at 95 watts.

At the lower left-hand corner of the refrigerator, rear side, is the 12V. DC terminal block.



a. 12 Volts D.C.

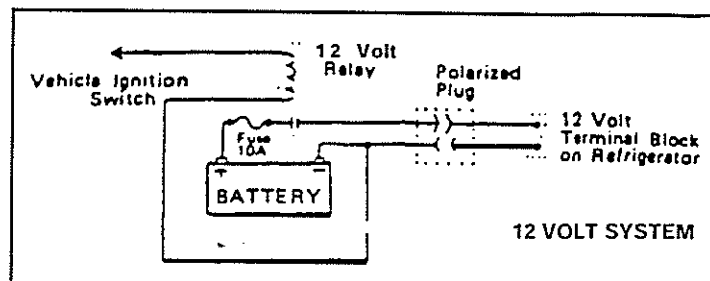
From the terminal block (FIG. 10) connect the refrigerator to the main battery in the vehicle by means of two wires. Polarity is not important, but the body or chassis of the vehicle or R.V. should not be used as a substitute for one of the wires.

A 10 amp. (continuous rating) fuse should be incorporated in the wiring of the 12V. supply, as near to the battery as possible. The fuse must be in the side of the wiring which is not connected to the chassis of the vehicle. For example, if the vehicle has a negative ground, the fuse must be in the positive side of the wiring. If the fuse burns out, trace the cause and correct it before fitting a similar type 10 amp. fuse and reconnect.

12. TESTING

When the installation is complete, check all gas connections and fittings on the refrigerator for tightness. After lighting the burner (see Paragraph 15, Page 8), check gas connections for leaks by applying a non-corrosive solution over them while watching for bubbles. Do not use a flame. Thereafter, check all connections for leaks at least once a month. The refrigerator gas equipment must not be subjected to an internal pressure exceeding 22 inches water column.

FIG. 11



Do not connect lights or any other electrical component to the wiring from the battery to the refrigerator.

b. 12V. D.C. Battery Connections

The current is 8 amps. when the refrigerator is operating on 12 volts, therefore the wiring from the battery to the refrigerator must be heavy enough to carry this load satisfactorily without voltage drop. The minimum size of wiring to be used is 14 A.W.G.

The connections to the battery should be made using ring type clamps with tightening bolts to ensure good contact with the battery poles. Clean periodically and coat terminals with an anti-corrosive.

NOTE: To prevent the refrigerator operating and draining the battery when the engine is switched off, install an automatic cut-out relay (not supplied) between the battery and the refrigerator so the refrigerator will not draw current from the battery when the ignition is switched off (see Wiring Diagram). (FIG. 11)

- NOTE:**
1. The appliance and its individual manual gas shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 1/2 psig.
 2. The appliance must be isolated from the gas supply system by closing its individual manual gas shut-off valve during any pressure testing of the gas supply piping system at test pressure equal to or less than 1/2 psig.

13. CHECKING OPERATION OF FLAME FAILURE DEVICE

Finally, check the operation of the flame failure device. To do this, light the burner (Paragraph 15A Page 8) and wait for a minute or two to ensure that a full, stable flame is established.

Turn off the manual shut-off valve (FIG. 12-2) and, within two minutes, the flame failure device safety valve should automatically close.

(An audible click from the valve may be heard when this happens).

Turn on the manual gas shut-off valve an attempt to re-light the burner without pushing the plunger (FIG. 12-4) of the safety valve. If the burner cannot be re-lit, the flame failure device safety valve has operated correctly.

INSTRUCTIONS FOR USE

The area in the vicinity of the refrigerator must be kept clean and free from combustible materials, gasoline and other flammable vapors and liquids.

14. LEVELING

In the boiler of the cooling unit, ammonia vapor is distilled from an ammonia-water mixture and carried to the finned condenser where it liquifies. The liquid ammonia flows to the evaporator inside the cabinet where it creates cold by evaporating into a circulating flow of hydrogen gas. If the evaporator is not level, the liquid may accumulate forming pockets which can impair the gas circulation, in which case cooling will stop.

When the coach is stationary for a period, it must be level so that the refrigerator can operate properly. When the coach is being parked, it should be level to the point of human comfort.

When the coach is on tow, the continuous rolling and pitching movement will normally prevent the liquid from accumulating forming pockets and therefore the refrigerator will operate properly.

15. OPERATING THE REFRIGERATOR

A. TO LIGHT THE GAS BURNER

- step 1 Set 12 Volt switch to "Off"
- step 2 Turn gas handle to the left (so that handle is in line with gas valve body)
- Step 3 Turn gas thermostat knob to #4 setting.
- Step 4 Press gas safety valve plunger up and hold.
- Step 5 Push piezo ignitor plunger in repeatedly until flame is observed at "6".
- Step 6 When flame is lit:
 - a. Discontinue pushing the piezo plunger.
 - b. BUT continue to hold up on the safety valve plunger for about 15 seconds.
 - c. If flame goes out when plunger is released, repeat Steps 4 through 6.

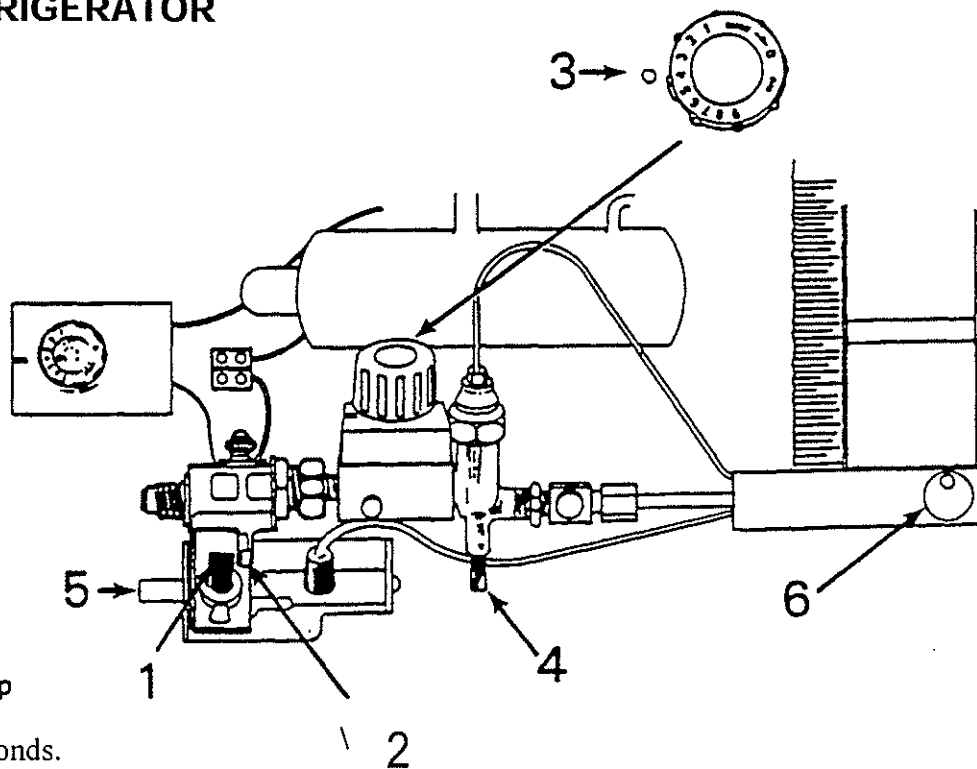


FIG. 12

B. TO SHUT DOWN THE REFRIGERATOR FROM GAS OPERATION

Turn handle (8) of the gas valve (5) away from the back of the cabinet. (FIG. 8, Page 6)

NOTE: The ice tray shelf should now show signs of cooling after an hour. If the gas has to be re-lit when the ice-making compartment is still cold, turn the thermostat dial (3) to MAX and repeat steps 4 through 6, and return the thermostat to its normal setting only after the burner is alight.

The refrigerator has a flame failure device which will automatically shut off the gas to the burner if the flame is blown out. While plunger (10) is being held in, this device is temporarily inoperative.

DANGER - DO NOT hold this plunger in unless attempting to light the gas burner.

C. ELECTRIC OPERATION (See FIG. 13)

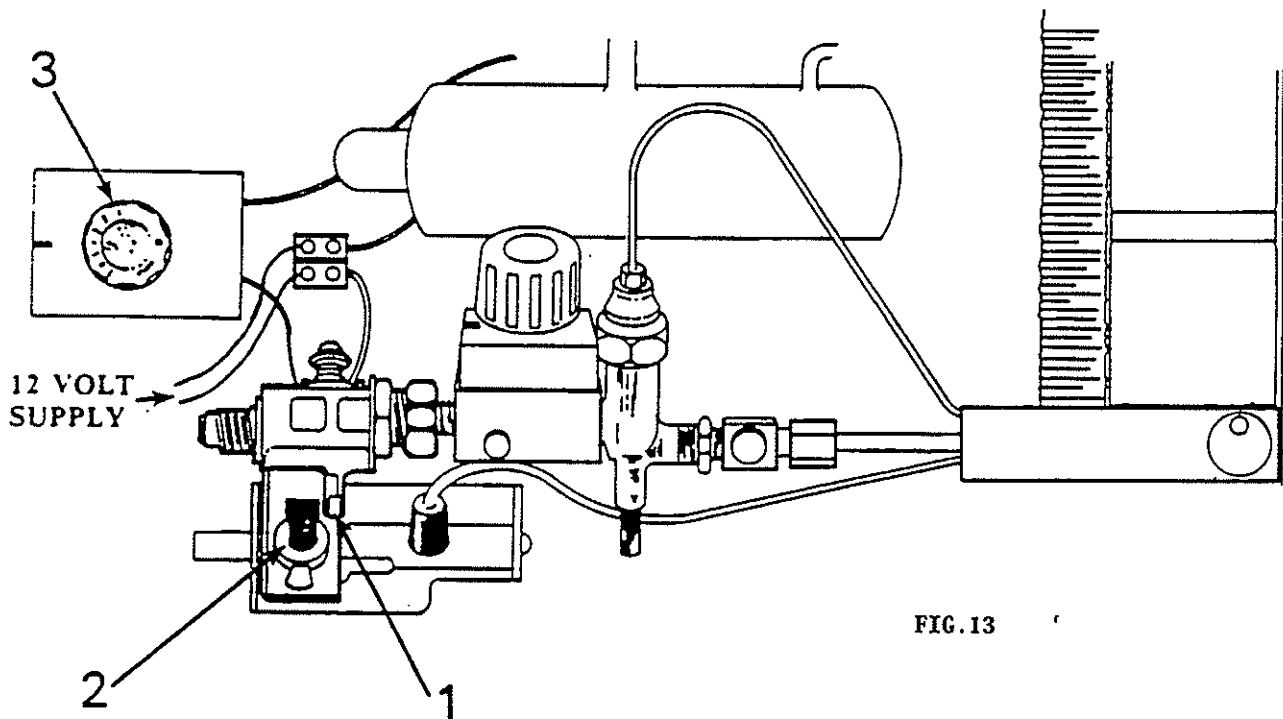


FIG. 13

The refrigerator may be operated on 12 volt D.C. only.

To start electric operation:

- Step 1 Turn gas valve to "OFF" position- handle pointed away from cabinet.

- Step 2** Switch the 12 volt D.C. toggle switch up to "ON" position.

- Step 3** Turn the electric thermostat knob to #4 position.

The ice tray shelf should show signs of cooling after about an hour.

16. TO SHUT DOWN THE REFRIGERATOR FROM ELECTRIC OPERATION

Switch the 12 volt D.C. toggle switch down to "OFF" position.

17. REGULATION OF TEMPERATURE

With thermostat knob set at either number 3 or 4, The cabinet will automatically maintain a suitable temperature for ordinary food. Usually, no other adjustment will be needed, but in hot weather or when more cooling is required,

the knob may be turned to a higher number. If less cooling is required, turn the knob to a lower number.

18. STORING FOOD IN THE REFRIGERATOR

This refrigerator is designed for the storage of fresh foods and the making of ice.

To prevent drying out and the transfer of flavor from one food to another, always store food in covered dishes, plastic bags or wrapped in foil or waxed paper. NEVER PUT HOT FOOD INTO THE REFRIGERATOR.

Avoid using large dishes and do not stack food or food containers too closely as this interferes with the circulation of cold air within the cabinet.

Packets of frozen food should be placed in the lower part of the frozen food storage compartment, soon after purchase. If frozen foods are allowed to thaw, do not re-freeze, but consume or dispose of them within 24 hours.

19. ICE MAKING

Fill the ice tray with water to within 1/8" from the top, and place it on the shelf. When ice has formed, the ice tray can be released from the shelf by lifting one corner. Do not use a lever. Leave any unwanted ice in the divider and replace in the tray, empty spaces being refilled with water. DO NOT attempt to make ice while traveling as the water may spill out of the ice tray.

Ice will be made more quickly when the appropriate thermostat knob is set to one of the higher numbers or "MAX". When ice has formed, be sure to turn back the knob to its

normal setting, otherwise the food in the cabinet may become too cold.

NOTE: It is not good practice to attempt to make ice until the cabinet has cooled down as this may delay the usual time taken for the cabinet to achieve its working temperature.

NOTE: The prime function of this refrigerator is the storage of fresh food, milk, etc., therefore the rate at which ice is made may not be in accordance with Standards ANSI Z21.19b-1984 or CAN 1-1.4 - SECT. 2.17.

20. DEFROSTING

Frost will form gradually on the cooling fins and in and on the frozen food compartment. It is a mistake to assume that an accumulation of frost gives a colder cabinet. For the most efficient and economical operation, the refrigerator should be defrosted regularly - about ten to fourteen days depending on the particular conditions of use.

To defrost, remove the content from refrigerator, then turn the gas valve or switch

the 12V. electric supply off, depending upon which source is being used. Leave the refrigerator door ajar and place a suitable dish or other receptacle under the evaporator fins to catch the defrost water.

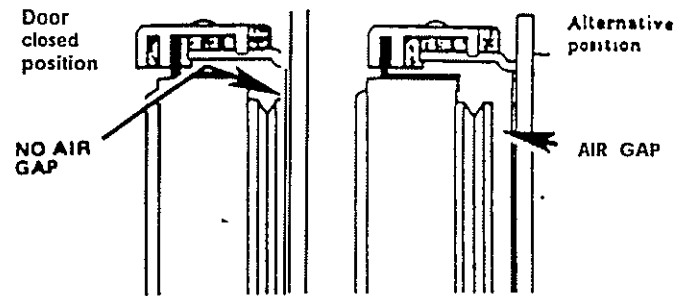
When all the frost has melted, any remaining drops of water in the refrigerator should be wiped up with a clean cloth.

21. TRAVEL CATCH

The travel catch has two alternative positions; The first holds the door tightly closed for use when traveling, and the second keeps the door slightly open - useful when the cabinet is out of use so that fresh air can circulate inside (FIG. 14).

When not in use, the refrigerator should be emptied, cleaned and dried and the door left slightly open by using the alternative position of the travel latch so that fresh air can circulate inside. The ice-tray should also be emptied, dried, and left handy on a shelf in the cabinet.

FIG. 14



POINTS TO REMEMBER

- If the coach has been out of use for a period, make sure all air vents are free from obstructions (e.g. bird's nests, etc.) before starting the refrigerator and check connections for gas leaks by applying a non-corrosive solution over them while watching for bubbles (Paragraph 10, Page 6).
- Never cover or partially cover the air vents with cardboard or anything else. Do not obstruct the flow of combustion and ventilation air.
- NEVER put HOT items in the refrigerator.
- If possible, start the refrigerator several hours before putting in the food to allow time for the interior to be cooled. It is then preferable to load the refrigerator with food which has been pre-cooled in your household refrigerator, or in the market.
- Before moving the coach, make sure all containers are tightly covered to avoid spills.
- Engage the travel catch at the top front corner of the door before moving off.
- Keep foodstuffs arranged so as to provide free air circulation for proper cooling. DO NOT cover shelves with paper or large containers.
- Odors or highly flavored foods should always be stored in covered dishes, plastic bags or wrapped in foil or waxed paper to prevent food odors.
- To reduce frost formation on the ice making shelf, cover stored liquids and moist foods. Do not have the door open any longer than necessary.
- Once a year, the gas system should be cleaned and adjusted, and the flue tube cleaned.

MAINTENANCE

22. CLEANING

Clean the refrigerator thoroughly, as necessary, particularly when it is to be out of use for any period.

First, defrost the cabinet as described in the previous item, then clean the shelves, cabinet interior and door with a clean cloth wrung out in warm water to which a little mild, non-scented washing-up liquid detergent has been added. Wipe over with a clean cloth and dry thoroughly.

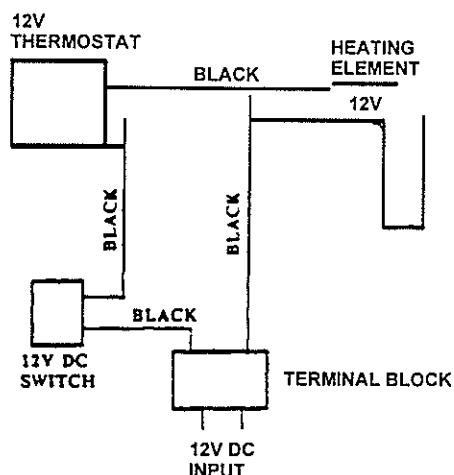
Do not wash any plastic parts in water that is more than hand-hot, and do not expose them to dry heat.

Wipe the outside of the cabinet with a clean, damp cloth, and polish with a clean, soft duster.

NEVER USE STRONG CHEMICALS OR ABRASIVE CLEANING MATERIALS ON ANY PART OF THE REFRIGERATOR.

23. ELECTRICAL WIRING SCHEMATIC

FIG. 15
Wiring Diagram



24. GAS EQUIPMENT

a. Examination and cleaning of Flue, Burner and Jet

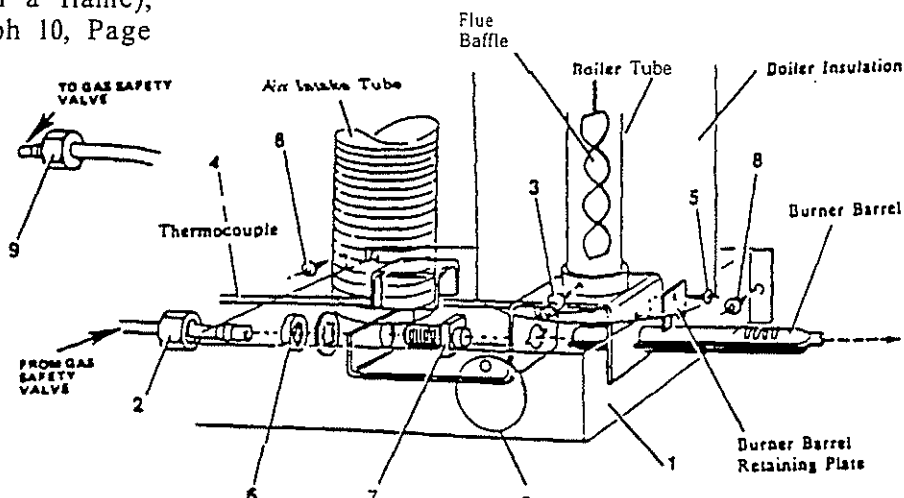
Once or twice a year, look through the flame viewing opening (FIG. 16, Page 12) in the burner box and examine the appearance of the burner flame which should be predominantly blue in

color when the gas thermostat knob is set at "MAX". If this is not the case, the flue, burner, and jet, etc. should be cleaned by a qualified RV Service Technician.

b. Checking for Gas Leaks

Periodically, check the entire gas installation for leaks. Test all pipe connections with a non-corrosive leak detector (not with a flame), watching for bubbles, - see Paragraph 10, Page 6.

FIG. 16



27. TROUBLE SHOOTING

A. When the coach is stationary for a period, it must be level so that the refrigerator can operate properly. When the coach is being parked, it should be level to the point of human comfort.

B. FLAME BLOWS OUT

If trouble is encountered with the flame blowing out under especially windy conditions, try to place the vehicle so that the wind does not blow directly into the vents in the wall of the vehicle. If the trouble persists, set the gas thermostat to "MAX". This can of course, only be a temporary measure as, after a time at this setting, the foodstuffs in the cabinet may become too cold.

C. IF REFRIGERATOR DOES NOT COOL SATISFACTORILY

- a. Check that the refrigerator has the proper clearances for air circulation over the cooling unit at the back, see Paragraph 4, FIG. 3.
- b. Thermostat incorrectly used, see Paragraph 17, Page 10.
- c. Evaporator heavily coated with frost, see Paragraph 20, Page 10.
- d. Flame has gone out:
 1. Gas in bottle used up, fit new bottle.
 2. Connection between thermocouple and flame failure device body loose; Need to have checked.
 3. Clogged thermostat by-pass screw; Need to have checked.
- e. Flue baffle not inserted into boiler tube of the cooling unit. Need to have checked by a qualified technician.
- f. Wrong gas pressure at burner; have pressure checked. Pressure at burner must not fall below 11 inches water gauge when thermostat is set on "MAX". Have tested by a qualified technician.
- g. Burner assembly loose; Need to have checked by qualified technician.
- h. Burner clogged. Need to have checked by a qualified technician.
- i. Faulty operation of the thermostat; thermostat will have to be exchanged for new one.
- j. Electric operation: burned out winding in heater; Need to have checked by a qualified technician.

- k. 12V operation: voltage drop due to defective battery, or wiring from battery to refrigerator not heavy enough, see Paragraph 11, Page 7, Item b.
- l. 12V operation: burnt out fuse, see Paragraph 11, Page 7, Item a.
- m. Flame touches side of the boiler due to displacement of burner through loose screw or bent bracket; correct position or fit new burner and bracket. Burner displacement may cause smoke and sooting of the flue.
- n. Burner damaged. Replace.
- o. Flame touches flue baffle:
 1. Baffle too low in flue. Need to have checked by a qualified technician.
 2. Gas pressure too high; Need to have checked by qualified technician.
 3. Jet orifice has been opened out; fit new jet of correct size (size F); Need to have checked by qualified technician.
- p. Dirty flue tube. Have flue & burner cleaned by a qualified technician.
- q. Jet orifice clogged: Need to have checked by qualified technician.

Follow all the above instructions closely. This refrigerator is quality guaranteed; however, we are not responsible for any failures caused by improper adjustments and unfavorable installation conditions. Contact service point or distributor service department for assistance if required.

Service Office

THE DOMETIC CORP.

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