

**Silhouette**  
by Dometic

# INSTALLATION AND OPERATING INSTRUCTIONS

REFRIGERATOR FOR LP-GAS AND ELECTRIC OPERATION.

## S1521 S1531 Automatic-Manual Energy Selector

### 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.

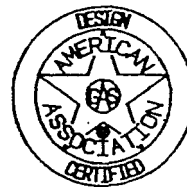
### FOR YOUR SAFETY

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

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

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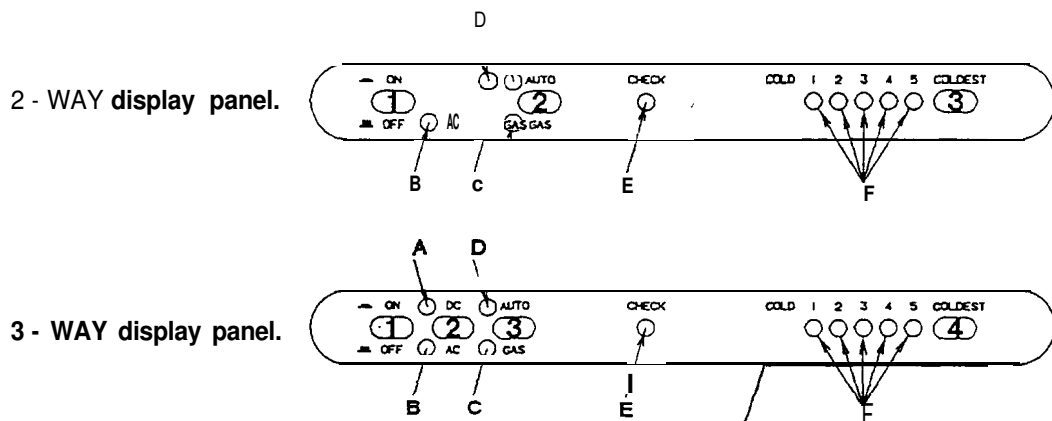
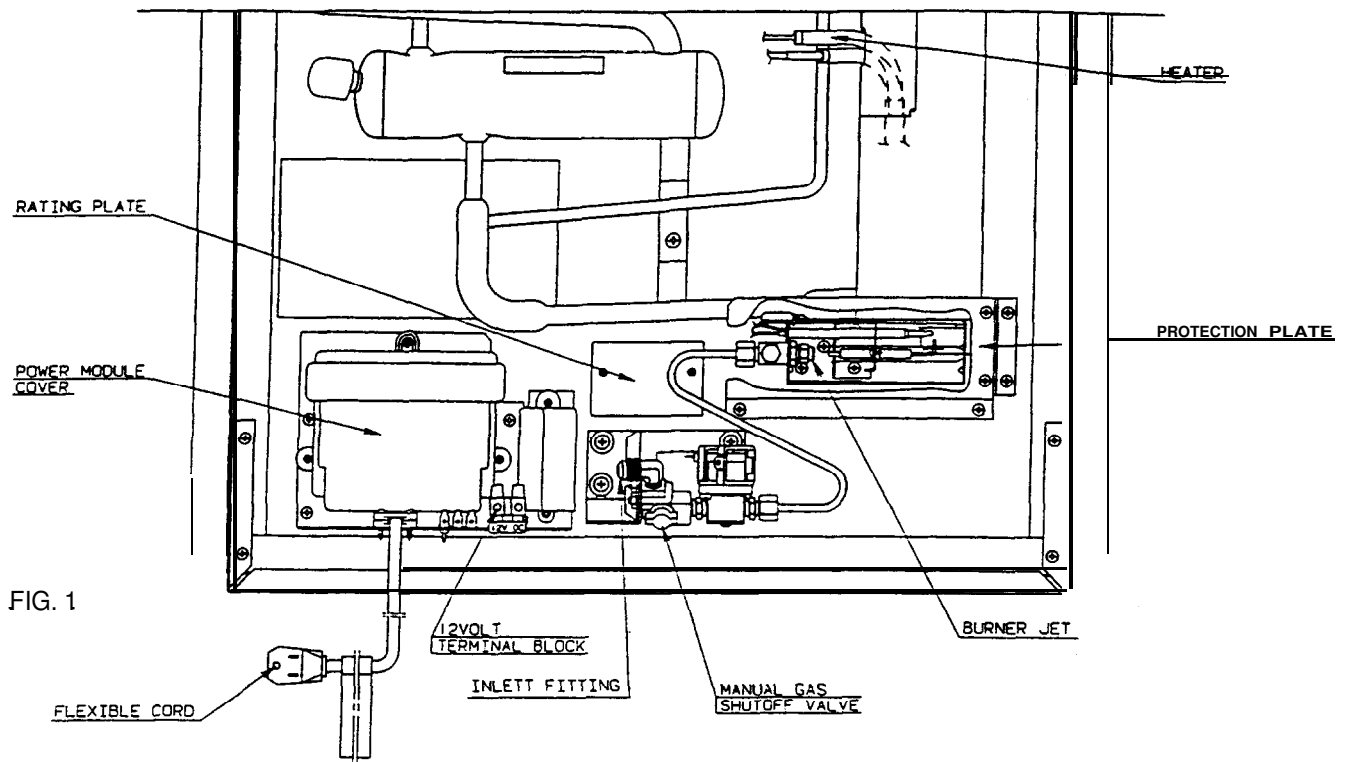


FIG. 2

LEGEND 2-WAY AMES Model

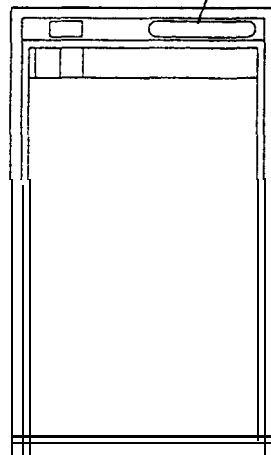
1. Main Power Button ON/OFF
2. AUTO/GAS Mode Selector Button
3. Temperature Selector Button

- B. AC Mode Indicator Lamp
- C. GAS Mode Indicator Lamp
- D. AUTO Mode Indicator Lamp
- E. CHECK Indicator Lamp (GAS Mode Only)
- F. Temperature indicator Lamps

LEGEND 3-WAY AMES Model

1. Main Power Button ON/OFF
2. DC Mode Selector Button
3. AUTO/GAS Mode Selector Button
4. Temperature Selector Button

- A. DC Mode Indicator Lamp
- B. AC Mode Indicator Lamp
- C. GAS Mode Indicator Lamp
- D. AUTO Mode Indicator Lamp
- E. CHECK Indicator Lamp (GAS Mode Only)
- F. Temperature Indicator Lamps



# INSTALLATION

## GENERAL INSTRUCTION

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

The refrigerators outlined herein have been design certified by A.G.A. under the ANSI 221.19 Refrigerator Standard for installation in a mobil 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.

**In the U.S.A., the installation must conform with:**

1. National Fuel Gas Code ANSI Z223.1 -(latest edition)
2. Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280.
3. Recreational Vehicles ANSI A1 19.2-(latest edition).

The unit must be electrically grounded in accordance with the National Electric Code ANSI/NFPA 70-(latest edition) when installed, if an external alternating current electrical source is utilized.

4. Any applicable local code.

**In CANADA, the installation must conform with:**

1. Current CGA B 149 Gas Installation Codes
2. Current CSA Standard Z 248.4 GAS-EQUIPPED RECREATIONAL VEHICLES AND MOBIL HOUSING.
3. Any applicable local code

The unit must be electrically grounded in accordance with the current CANADIAN ELECTRICAL CODE C 22 Parts 1 and 2.

## VENTILATION

The installation shall be made in such a manner as to separate the combustion system from the living space of the mobil home or recreational vehicle. Openings for air supply or for venting of combustion products shall have a minimum dimension of not less than 1/4 inch.

Proper installation requires one lower fresh air intake and one upper exhaust vent. The ventilation kits shown in this instruction manual have been certified for use with the refrigerator models listed in the Table 2, "Certified Vent System Kits". The ventilation kits must be installed and used without modification. An opening toward the outside at floor level in the refrigerator compartment must be provided for ventilation of heavier-than-air fuel gases. The lower vent of the recommended kits is provided with proper size openings. The flow of combustion and ventilating air must not be obstructed.

The lower side vent is fitted with a panel which provides an adequate access opening for ready service ability of the burner and control manifold of the refrigerator.

## GAS CONNECTION

Hook-up to the gas supply line is accomplished at the manual gas valve, which is furnished with a 3/8" SAE (UNF 5/8" -18) male flare connection. All completed connections should be checked for leaks with soapy water.

## WARNING

**DO NOT use a flame to check for gas leaks.**

The gas supply system must incorporate a pressure regulator to maintain a supply pressure of not more than 11 inches water column.

When testing the gas supply system at test pressures in excess of 1/2 psig, the refrigerator and its individual shutoff valve must be disconnected from the gas supply piping system.

When testing the gas supply system at pressures less than or equal to 1/2 psig, the appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve.

In case detailed instructions on the installation and connection to the gas supply are required, contact your dealer or distributor.

## ELECTRICAL CONNECTION

### 120 Volts AC Connection

The refrigerator is equipped with a three prong (grounded) plug for protection against shock hazards, and should be plugged directly into a properly grounded three prong receptacle. DO NOT cut or remove the grounding prong from this plug. The free length of the cord is 2 feet and therefore recommended that the receptacle be located to the left side of the refrigerator (viewed from the rear) and approximately 6 inches from the floor (see FIG. 3). This allows easy access through the vent door. The cord should be routed to avoid contacting the burner cover, flue cover or any other components that could damage the cord insulation.

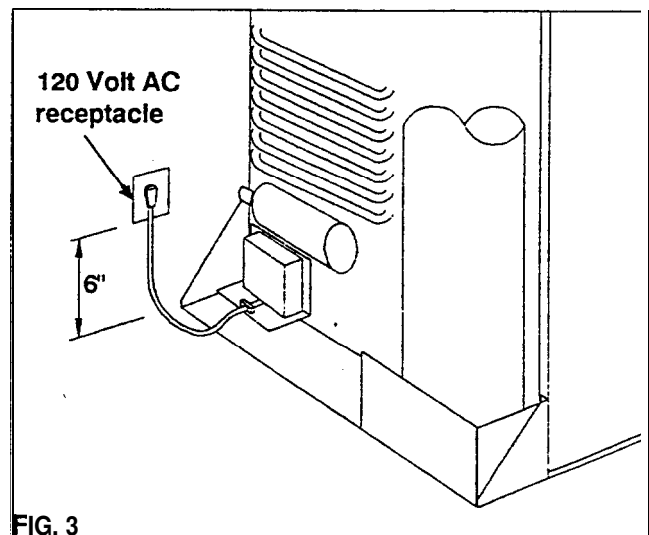


FIG. 3

## 12 Volts DC Connection

All refrigerator models require a 12 volt DC supply (even though 2-way models are designed to operate on 120 volts AC and gas, a 12 volt DC control is required to maintain the automatic energy system). The DC lead connections are at terminals located at the rear of the refrigerator. (see FIG. 1). One lead is marked positive (+) and the other negative (-). Correct polarity must be observed when connecting to the DC supply.

Do not use the chassis or vehicle frame as one of the conductors. Connect two wires at the refrigerator and route to the DC supply.

## 12 Volts DC Connection 3-way models

The distance the current must travel from the battery to the refrigerator dictates the AWG wire size to be used. Should the wire be too small for the distance, a voltage drop will result.

The voltage drop affects the wattage output of the 12 volt cartridge heater and resultant refrigerator performance. Recommended wire sizes are shown below.

Maximum total conductor wire length in feet and meters.

	AWG	AWG
S 1531	12	10
175W	12.0 ft. 5.0 m	19.0 ft. 5.8 m

The wires from the battery to the refrigerator must be of large enough size to handle the load. The connections must be clean, tight and free from corrosion. If not, a resulting voltage drop will cause a decreased cooling capacity.

## INSTALLING REFRIGERATOR IN ENCLOSURE

**NOTE: DO NOT install the appliance directly on carpeting. Carpeting must be removed or protected by a metal or wood panel beneath the appliance which extends at least full width and depth of the appliance.**

## CLEARANCES

Minimum clearances in inches to combustible materials are: **Top 0; Side 0; Bottom 0; Rear 0.**

The refrigerator must be installed in a substantial enclosure and must be level. When installing the refrigerator in the enclosure, all areas within the recess in which the refrigerator is installed must be sealed.

Make sure that there is a complete seal between the front frame of the refrigerator and the top, sides and bottom of the enclosure. A length of sealing strip is applied to the rear surface of the front frame for this purpose. The sealing should provide a complete isolation of the appliance's combustion system from the vehicle interior.

The refrigerator, designed for built-in installation, requires opening dimensions as specified in Table 1.

**Table 1**

### Refrigerator Cut-Out Openings (inches)

Model	Height	Width	Depth
S 1521, S1531	43 1/4	23.5	24.0

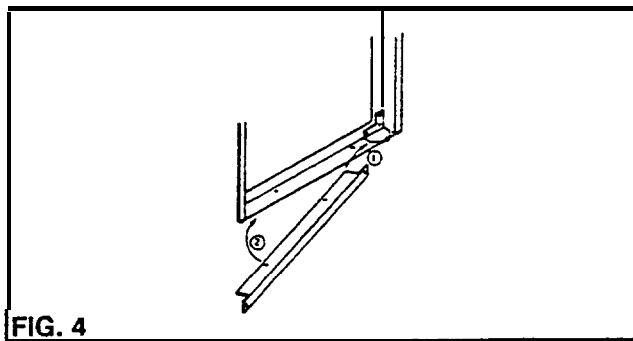
After refrigerator is mounted in place (insuring a combustion seal at the front mounting flange), the unit can be secured by screws through the mounting flange and hole(s) provided at floor level in the rear. Caps are provided to cover the mounting flange screws.

Seal strips, provided with the refrigerator, must be in position behind the mounting flange after the refrigerator is installed in the wall enclosure. The seal must be continuous between the flange and the wall to assure combustion seal. Care should be taken when installing or removing the refrigerator that the strips are not disturbed or damaged. (See FIG. 8).

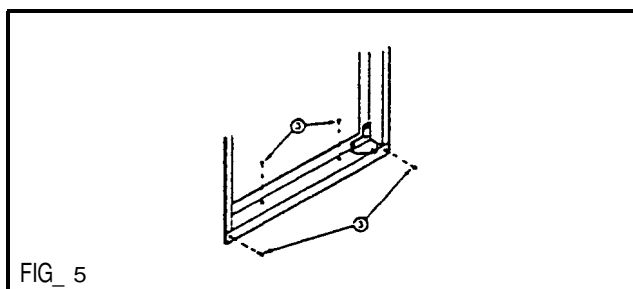
## Lower Flange Installation

The lower flange is shipped as a loose part to prevent damage during shipment. The part is to be attached after the refrigerator is set into the cut-out opening.

1. Install the lower flange by maneuvering it under and behind the bottom hinge plate, as shown in FIG. 4 (the hinge will be located on either the right or left side, depending on door swing preference).



2. Once the lower flange is slipped around the hinge, the part will swing into place as shown in FIG. 5.
3. Secure the flange with screws provided.



## TESTING LP GAS SAFETY SHUTOFF

**The gas safety shutoff must be tested after the refrigerator is connected to LP gas supply.**

To test the gas safety shutoff, proceed as follows:

1. Start the refrigerator and switch to gas mode. (see start up instructions).

2. Check that the gas flame is lit and the gas mode indicator lamp (C) is on.
3. Close the gas valve at the back of the refrigerator.
4. Wait for one minute. The check indicator lamp (E) should now be lit and the gas mode indicator lamp should be off.
5. Remove protection cover (see FIG. 1) and open the gas valve. Test that no gas comes through the burner jet. Use soupy water, rinse afterwards with fresh water. Be careful not to damage the burner jet, replace cover.
6. Make an ON-OFF operation with the main switch. Normal gas operation should now return, operate for at least five minutes.

## VENTILATION REQUIREMENTS

When installing the refrigerator in the enclosure, all areas at the front (sides, bottom and top) and within the recess in which the refrigerator is installed must be sealed so the resultant installation will isolate the appliance combustion system from the vehicle interior.

Certified installation requires that one lower combustion air intake and one upper exhaust vent be used. The specified vent kit for this refrigerator must be installed as directed by this manual without modification. Any deviation or substitution other than the specified vent kit will void this certification and the factory warranty of the refrigerator.

Venting must be in accordance with dimensions as shown in FIG. 6. Any deviation will result in non-certification.

Lower vent is to be utilized as a service entrance door. Opening of lower vent must be flushed or below bottom of refrigerator.

The condenser and absorber tubes (see FIG. 6) must receive a continual supply of cooler air in order to maintain proper refrigerator cooling. A recommended 0" clearance between the back of the refrigerator and the coach wall helps the ventilation efficiency. The air passage (ventilation zone) from the lower vent door to the refrigerator coils and from the coils up through the roof vent must be unobstructed. If the air becomes trapped by obstructions, the refrigerator will start to lose its ability to cool. The proper ventilation zone, as shown in FIG. 8, will create a chimney effect to insure adequate circulation. It is important to block off the area above the refrigerator cabinet from this ventilation zone (see FIG. 8). Also, air space at the sides of the refrigerator should be minimized to prevent pockets of hot air from forming without adequate ventilation and/or with partial blockage of flue exhaust, incomplete combustion (on GAS operation) can cause carbon monoxide to form. Not only does the refrigerator lose efficiency, but a poisonous gas can result.

In the event of a propane leak, the properly installed lower vent door will allow the propane to "Weep" to the outside of the floor level, preventing large pockets of gas from collecting.

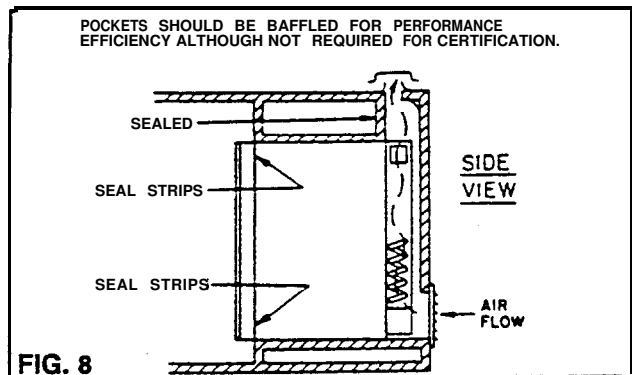
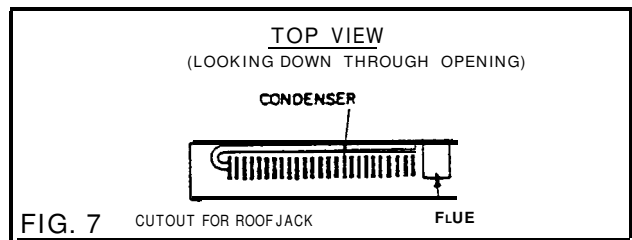
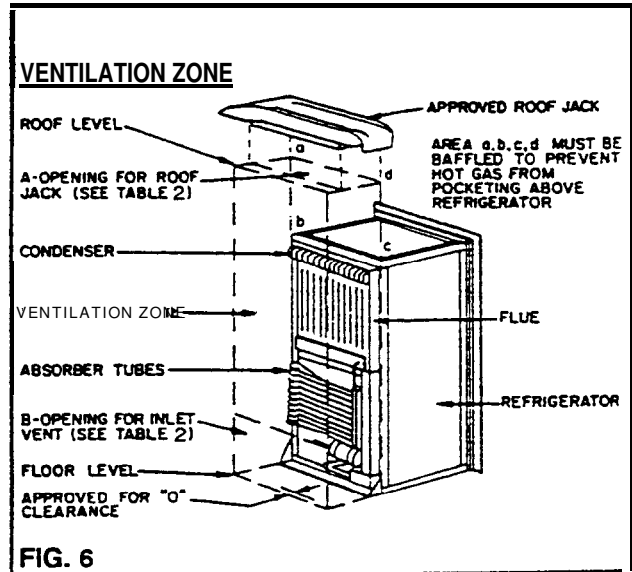
Lower vent and roof jack must be A.G.A./CGA certified for use with the refrigerator.

Roof jack opening must be centered directly above the flue and condenser. (See FIG. 6 and 7.)

Table 2

### Certified Vent System Kits

Number	Type	Cut-Out
3100528	Plastic Roof Vent Base	5" x 24"
3100529	Plastic Roof Vent Cap	
2214	Lower Side Vent	14" x 22"
Kit 1	Includes Above Parts	



- g. Re-install mounting screws to refrigerator frame in reverse sequence of steps B and C to attach door-hinge assembly to refrigerator. DO NOT COMPLETELY TIGHTEN SCREWS.
- h. CHECK THAT DOOR OPENS AND CLOSES PROPERLY AND THAT LATCH ASSEMBLY ENGAGES BEFORE TIGHTENING SCREWS.

NOTE: Re-tighten all screws securely after changing the hinge position.

## INSTRUCTIONS FOR MOUNTING THE DOOR PANEL

The refrigerator is normally delivered without door panel. Before starting the mounting work, check that the panel dimensions are in compliance with those given in the table and the instructions are read thoroughly.

When mounting the panel, proceed as follows):

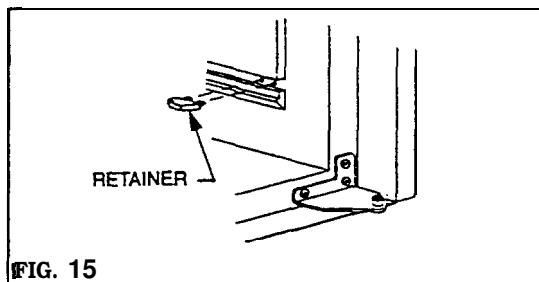
- A. Remove the door decoration strip (2) with its two screws (1). The lower corners of the panel have to be cut according to the sketch.
- B. Insert one of the vertical edges of the panel into the groove of the door frame (3).
- C. Bend the panel gently so that the free side of the panel can be slipped into the corresponding groove of the door frame (4). Slide the panel down into the groove of the bottom frame (5).
- D. Between the upper edge of the panel and the door frame there is now a gap which should be covered by the decoration strip.
- E. Put the decoration strip across the door so that the gap is covered and push it upwards (6). The tabs on the inside of the strip should fit in behind the flange of the door frame. Secure the decoration strip by means of the two screws removed in Step A (1).

**Table 3**  
**Panel Dimensions**

Models	S 1521, S 1531
	21-19/32" x 36-1/16"

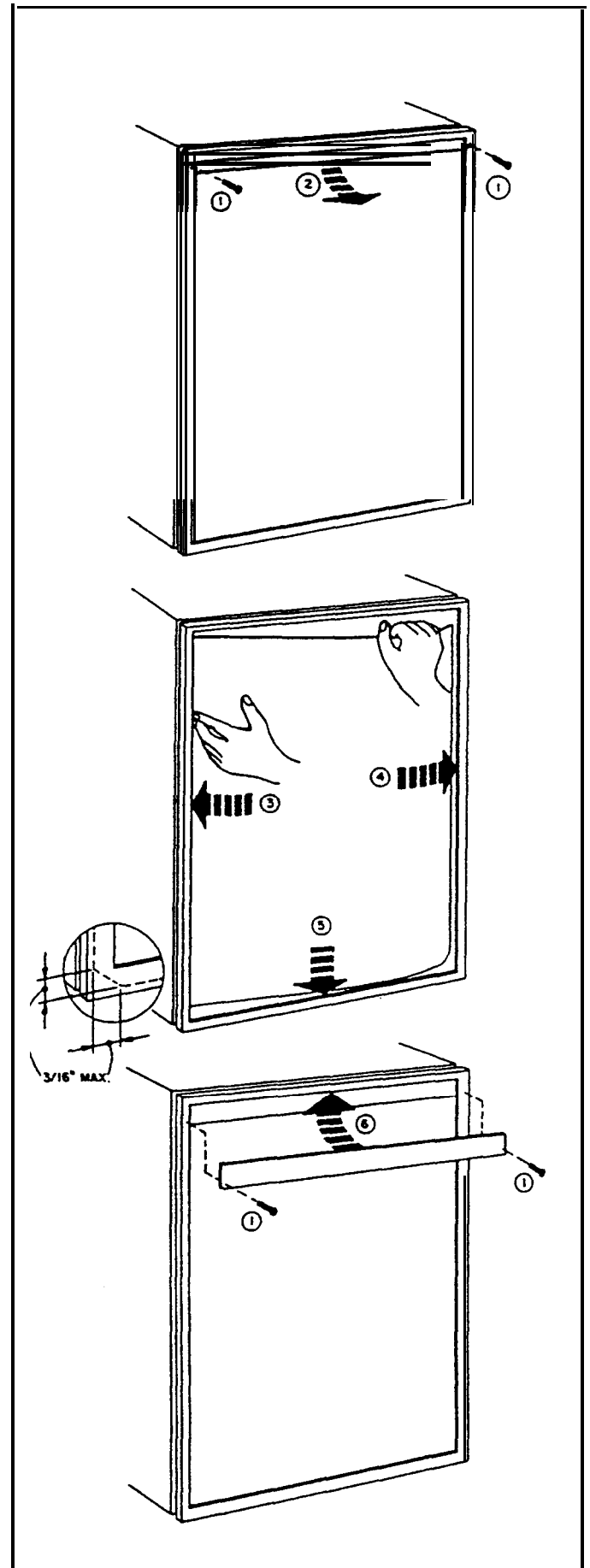
NOTE: Door panel thickness should not exceed 5/32".

## INSTRUCTIONS FOR REPLACING CRISPER GLASS



**FIG. 15**

1. Remove the retainers (see FIG. 15) by prying out from side of liner with a flat blade screwdriver being careful not to damage the liner.
  2. After removing the retainers slide new glass in place and install new retainers supplied with kit.
- NOTE: Retainers should only be removed for replacement of crisper glass as they are not reusable.



## INSTRUCTIONS FOR USE

### HOW TO START THE REFRIGERATOR

#### Leveling

In an absorption refrigerator system, ammonia is liquified in the finned condenser coil at the top rear of the refrigerator. The liquid ammonia then flows into the evaporator (inside the freezer section) and is exposed to a circulating flow of hydrogen gas, which causes the ammonia to evaporate, creating a cold condition in the freezer.

The tubing in the evaporator section is specifically sloped to provide a continuous movement of liquid ammonia, flowing downward by gravity through this section. If the refrigerator is operated when it is not level and the vehicle is not moving, liquid ammonia will accumulate in sections of the evaporator tubing. This will slow the circulation of hydrogen and ammonia gas, or in severe cases, completely block it, resulting in a loss of cooling.

Any time the vehicle is parked for several hours with the refrigerator operating, the vehicle should be leveled to prevent this loss of cooling. The vehicle needs to be leveled only so it is comfortable to live in (no noticeable sloping of floor or walls).

When the vehicle is moving, the leveling is not critical as the rolling and pitching movement of the vehicle will pass to either side of level - keeping the liquid ammonia from accumulating in the evaporator tubing.

## OPERATION

Before starting the refrigerator, check that all the manual gas valves are in the ON position. DO NOT forget the manual shutoff valve on the rear of the refrigerator, see FIG. 1.

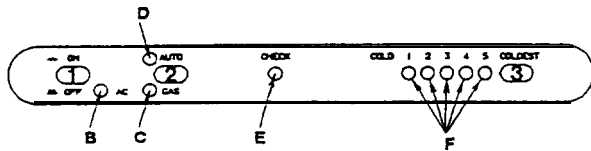
This refrigerator is equipped with a semi Automatic Energy Selector (AMES) control system, which can be set to automatically select either 120 volt AC or LP gas operation, or if desired LP gas only. On 3-way models the control system can manually be set to DC operation. The refrigerator controls will work down to 9.6 volt DC.

## WARNING

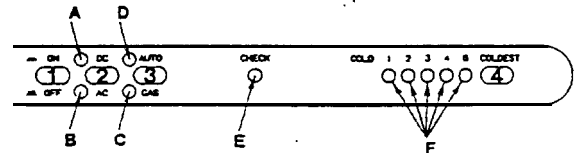
Most LP gas appliances used in recreational vehicles are vented to the outside of the vehicle. When parked close to a gasoline pump, it is possible that gasoline fumes could enter this type of appliance and ignite the burner flame, CAUSING A FIRE OR AN EXPLOSION.

FOR YOUR SAFETY, it is recommended that all LP gas appliances which are vented to the outside should be shut off when refueling.

2 - WAY display panel.



3 - WAY display panel.



## START UP INSTRUCTIONS

- A. A 12 volt DC supply must be available for the electronic control to function.
- B. Press the main power ON/OFF button (1) to the DOWN position.
- C. Press the TEMPERATURE SELECTOR BUTTON (3) P-WAY Model or (4) 3-WAY Model until the lamp at the desired setting is illuminated.

### 2-WAY MODEL

#### AUTO MODE

1. Move the AUTO/GAS mode selector button (2) to the DOWN position. (If 120 volts AC is available, the AC mode indicator lamp (B) will illuminate indicating AC operation. If 120 volts AC is not available, the GAS mode indicator lamp (C) will illuminate and the control system will automatic switch to GAS operation.
2. If the CHECK indicator lamp (E) illuminates and the GAS mode indicator lamp (C) is off, the controls have failed to ignite the burner in the GAS mode. GAS operation may be reset by pressing the main power ON/OFF button (1) to the OFF than ON position. (see step 2 under GAS MODE)
3. Press the TEMPERATURE SELECTOR button (3) until the lamp at the desired position is illuminated.

#### GAS MODE

1. Move the AUTO/GAS mode selector button (2) to the UP position. The GAS mode indicator lamp (C) will illuminate. After 45 seconds the burner should be ignited and operating normally.
2. On the initial refrigerator start-up, it may take longer than 45 seconds to allow air to be purged from the gas line. If the gas does not ignite within 45 seconds the CHECK indicator lamp (E) will illuminate and the GAS mode indicator lamp (C) will go off. To reset when the CHECK indicator lamp (E) is illuminated, press the main power ON/OFF button (1) to the OFF and then ON position.

NOTE: Do not continue to reset GAS operation if the CHECK indicator lamp continues to be illuminated after several tries.

3. Press the TEMPERATURE SELECTOR button (3) until the lamp at the desired position is illuminated.

#### TO SHUT OFF THE REFRIGERATOR

The refrigerator may be shut off while in any mode of operation by pressing the main power ON/OFF button to the UP (OFF) position. This shuts off all DC power to the refrigerator.

### 3-WAY MODEL

#### AUTO MODE

1. Press the DC mode selector button (2) to the UP (OFF) position.
2. Move the AUTO/GAS mode selector button (3) to the DOWN position. (If 120 volts AC is available, the AC mode indicator lamp (B) will illuminate indicating AC operation. If 120 volts AC is not available, the GAS mode indicator lamp (C) will illuminate and the control system will automatic switch to GAS operation.
3. If the CHECK indicator lamp (E) illuminates and the GAS mode indicator lamp (C) is off, the controls have failed to ignite the burner in the GAS mode. GAS operation may be reset by pressing the main power ON/OFF button (1) to the OFF than ON position. (see step 2 under GAS MODE)
4. Press the TEMPERATURE SELECTOR button (4) until the lamp at the desired position is illuminated.

#### GAS MODE

1. Press the DC mode button (2) to the UP (OFF) position.
2. Move the AUTO/GAS mode selector button (3) to the UP position. The GAS mode indicator lamp (C) will illuminate. After 45 seconds the burner should be ignited and operating normally.
3. On the initial refrigerator start-up, it may take longer than 45 seconds to allow air to be purged from the gas line. If the gas does not ignite within 45 seconds the CHECK indicator lamp (E) will illuminate and the GAS mode indicator lamp (C) will go off. To reset when the CHECK indicator lamp (E) is illuminated, press the main power ON/OFF button (1) to the OFF and then ON position.

NOTE: Do not continue to reset GAS operation if the CHECK indicator lamp continues to be illuminated after several tries.

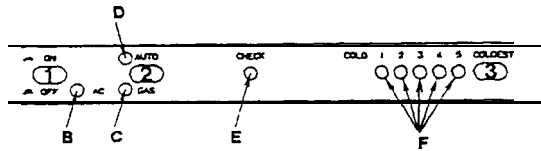
4. Press the TEMPERATURE SELECTOR button (4) until the lamp at the desired position is illuminated.

#### DC MODE

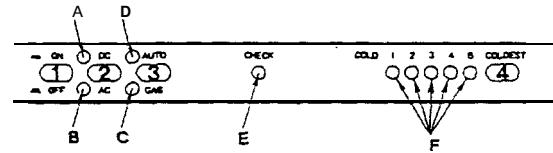
1. Press the DC mode indicator button (2) to the down position.
2. Press the TEMPERATURE SELECTOR button (4) until the lamp at the desired position is illuminated.



2 - WAY display panel.



3 - WAY display panel.



## DESCRIPTION OF OPERATING MODES

### THERMOSTAT

The thermostat on the refrigerator controls both the gas and electric operation, thereby eliminating the necessity of resetting each time a different energy source is employed.

After the initial start-up, the thermostat should be moved from "COLDEST" to the desired temperature setting, usually about mid setting.

### AUTO MODE

When operating in the AUTO mode, the AUTO mode indicator lamp (D) will illuminate. The control system will automatically select between AC and GAS operation with AC having priority over GAS. Either the AC indicator lamp (B) or the GAS indicator lamp (C) will illuminate depending on the energy source selected by the control system. If the control system is operating with AC energy and it then becomes unavailable, the system will automatically switch to GAS. As soon as AC becomes available again the control will switch back to AC regardless of the status of GAS operation.

### GAS MODE

When operating in the GAS mode the AUTO mode indicator lamp (D) will be off and the GAS mode indicator lamp (C) will be illuminated. This mode provides LP gas operation only. The control system will activate the ignition system and will attempt to light the burner for a period of approximately 45 seconds. If unsuccessful, the CHECK indicator lamp (E) will illuminate and the GAS mode indicator lamp (C) will turn off.

To restart GAS operation, press the main power ON/OFF button (1) to the OFF and then ON position. The control system will attempt a new 45 second ignition sequence.

If the refrigerator has not been used for a long time or the LP tanks have just been refilled, air may be trapped in the supply lines. To purge the air from the lines may require resetting the main power ON/OFF button (1) three or four times. If repeated attempts fail to start the LP gas operation, check to make sure that the LP gas supply tanks are not empty and all manual shutoff valves in the lines are open. If the problem is still not corrected, contact a service center for assistance.

If the control is switched to AC or DC operation while the CHECK indicator lamp is on, it will function properly, but the CHECK indicator lamp will not go off until the main power ON/OFF button is pressed to the OFF then ON position.

### DC.MODE (3-way models only)

When operating in the DC mode the DC mode indicator lamp (A) will be illuminated. All other mode lamps will be off. The DC mode overrides all other operating modes. If one of the other operating modes is desired, the DC selector button (2) must be in the UP (OFF) position.

### BATTERY PROTECTION SYSTEM

The control system is equipped with a battery protection system. A steady illuminated DC mode lamp (A) indicates that sufficient voltage is present at the terminal block connections to operate the refrigerator normally. If the input voltage is below approximately 12.8 volts DC or should it drop below 12.8 volts DC during operation, the DC mode lamp (A) will flash ON and OFF to signal a low battery condition. In this condition the control will continue to operate in DC mode for a maximum 10 minutes.

If the input voltage has not returned above 12.8 volts DC within this time, the control will terminate DC operation. A second battery protection system will terminate DC operation immediately if the input voltage drops below 10.6 volts.

The DC mode lamp will continue to flash as long as the input voltage remains below 12.8 volts. The input battery voltage must rise above 12.8 volts for 25 minutes before DC operation can resume.

As soon as the input voltage rises above the required 12.8 volts, the DC mode indicator lamp will stop flashing, however, the control system will remain in the 25 minute delay mode. This delay is to allow sufficient time for the vehicle charging system to recharge the battery.

### LIMP MODE OF OPERATION

This control system contains a feature where it will continue to operate the cooling system in the event of a failure of a major operating component. Two different modes of operation can occur in this category.

If for some reason the display module becomes non functional, the control system will revert to full automatic operation selecting the best energy source available with AC,DC (3-way only) and GAS priority. The temperature of the refrigerator will be maintained at the MID position within normal temperature tolerances. The power module will continually attempt to re-establish operation of the display module.

The second limp mode of operation will execute when a failure of the temperature sensing device or associated electronic circuitry occurs. If this should occur, the control system will operate on the energy source selected via the control panel. The cooling unit will run continuously on the selected energy source. The refrigerator will continue to operate in this mode indefinitely or until a new sensor is installed and the system is reset.

## HOW TO USE THE REFRIGERATOR

### FOOD STORAGE COMPARTMENT

The food storage compartment is completely closed and unventilated, which is necessary to maintain the required low temperature for food storage. Consequently, foods having a strong odor or those that absorb odors easily should be covered. Vegetables, salads etc. should be covered to retain their crispness. The coldest positions in the refrigerator are under the cooling fins and at the bottom of the refrigerator. The warmer areas are on the upper door shelves. This should be considered when placing different types of food in the refrigerator.

### FROZEN FOOD STORAGE COMPARTMENT

Quick frozen soft fruits and ice cream should be placed in the coldest part of the compartment which is at the bottom of the aluminum liner. Frozen vegetables, may be stored in any part of the compartment.

This compartment is not designed for deep or quick freezing of food. Meat or fish, whether raw or prepared, can be stored in the frozen food storage compartment provided they are pre-cooled first in the refrigerator. They can be stored about three times longer in the frozen food compartment as compared to the fresh food compartment. To prevent food from drying out, keep it in covered dishes, containers, plastic bags or wrapped in aluminium foil.

### ICE MAKING

Ice cubes can be made in the ice tray placed in the freezer compartment. The tray should be filled with water to within 1/4" (5mm) from the top. For faster ice making, the tray should be placed in direct contact with the freezer bottom.

To release the ice cubes, seize the tray with both hands and twist the tray. Cubes not required should be replaced in the tray. Refill the tray with water and replace the tray on the freezer shelf.

Ice will be made more rapidly if the thermostat is set at its highest position.

It is a good idea to do this a few hours before the anticipated need for ice, but be sure to move back to normal setting, usually about mid setting when the ice is formed. Food in the lower compartment may be frozen if the setting is left on "COLDEST" position.

### DEFROSTING

Shut off the refrigerator by pressing the main power ON/OFF button to the UP (OFF) position. Empty the refrigerator, leaving the drip tray under the finned evaporator, and the cabinet and freezer doors open.

Defrosting time can be reduced by filling the ice tray with hot water and placing it on the freezer bottom.

## CAUTION

**DO NOT use a hot air blower. Permanent damage could result from warping the metal or plastic parts. DO NOT use a knife or an ice pick, or other sharp tools to remove frost from the freezer shelf. They can create a leak in the ammonia system.**

When all frost is melted, dry the interior of the refrigerator with a clean cloth. Replace all food and set thermostat to the COLDEST temperature setting for a few hours. Then reset the thermostat to the desired setting, usually at mid setting.

### CLEANING

Cleaning the refrigerator is usually done after it is defrosted or put into storage. To clean the interior liner of the refrigerator use lukewarm weak soda solution. Use only warm water to clean the finned evaporator, ice trays and shelves. NEVER use strong chemicals or abrasives to clean these parts as the protective surfaces will be damaged. It is important to always keep the refrigerator clean.

### SHUT OFF - STORAGE PROCEDURE

Shut off the refrigerator by pressing the main power ON/OFF button to the UP (OFF) position.

If the refrigerator will not be in operation for a period of weeks, it should be emptied, defrosted, cleaned and the doors left ajar. The ice tray should also be dried and kept outside the cabinet

## CAUTION

**DO NOT store explosive substances in the refrigerator, such as cigarette lighter gas, petrol, ether or the like.**

Table 4

Models	S 1521, S 1531
Storage Volume (FT <sup>3</sup> )	4,9

# GAS EQUIPMENT ASSEMBLY

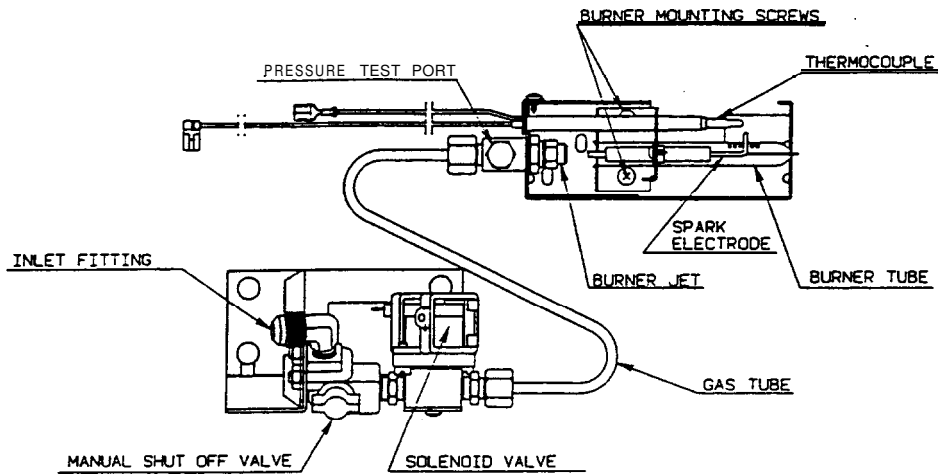


FIG. 16

## ELECTRIC EQUIPMENT

### CARTRIDGE HEATER

The heat necessary for the operation of an absorption cooling unit is supplied by an electric heater mounted in a pocket of the boiler system.

The 3-WAY Model is equipped with two electrical heaters, one for 120 volt AC and one for 12 volt DC.

The 2-WAY Model is equipped with one electric heater 120 volt AC.

To replace the heater proceed as follows:

1. Disconnect the wall plug, and the 12 volt wires.
2. Remove the protection cover see FIG. 1
3. Remove the pover module cover see FIG. 1
4. Disconnect the heater leads.
5. With a pair of pliers unfold the lug holding the lid of the boiler casing and open the lid.
6. Remove some insulation wool so that the heater is accessible.
7. Turn and lift the heater out of its pocket.
8. Fit the new heater into the pocket.
9. Connect the leads and put on the power module cover.
10. Reset the insulation and close the lid of the boiler.
11. Replace the protection cover.

### FUSES

The 2-way AMES models are equipped with 2 fuses, one for the refrigerator control system and one for the AC cartridge heater.

The 3-way AMES models are equipped with a third fuse for the DC cartridge heater. (see table below)

To replace fuse(s) proceed as follows.

1. Disconnect the wall plug, and the 12 volt wires.
2. Remove the power module cover. See FIG. 1.
3. Snap the fuse out of the fuse holder.
4. Fit a new fuse in to the fuse holder.
5. Replace the power module cover.

Control system	3 Amp
AC heater	5 Amp
DC heater	35 Amp

## MAINTENANCE & SERVICE

### 1. REFRIGERATOR REMOVAL

Before working on the refrigerator make sure that 120 volt AC and 12 volt DC leads are disconnected. Close the shutoff valve on the gas supply piping system. Disconnect the outgoing gas line from the gas valve at the rear of the refrigerator. (see FIG. 1.)

Loosen the screws anchoring the refrigerator to the enclosure and slide the refrigerator forward out of the compartment.

When replacing the refrigerator make sure that the sealing strips are properly positioned.

After ressemble the gas connection should be checked for leaks.

### 2. PERIODIC MAINTENANCE

To keep your Silhouette refrigerator operating efficiently and safely, periodic inspection and cleaning of several components once or twice a year is recommended.

- A. It is important to keep the area at the back of the refrigerator clean. Check the lower vent, upper vent and area between these openings for any obstructions such as bird/insect nests, spider webs, etc. Clean the coils on the back of the refrigerator. Use a soft bristled brush to dust off the coils. It is important to keep the refrigerator area free from combustible material, gasoline and other flammable vapors or liquids.

NOTE: AVOID SPRAYING WATER THROUGH THE REFRIGERATOR VENTS WHILE WASHING YOUR RV.

Clear blue colour of flame

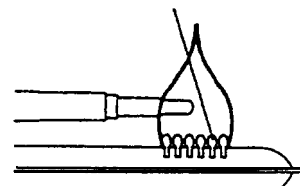


FIG. 17

- B. Check all connections in the LP gas system (at the back of the refrigerator) for gas leaks. The LP gas supply must be turned on. Apply a non-corrosive bubble solution to all LP gas connections. The appearance of bubbles indicates a leak and should be repaired immediately by a QUALIFIED SERVICEMAN WHO IS FAMILIAR WITH GAS SYSTEM AND REFRIGERATORS.

## WARNING

**DO NOT use a flame to check for gas leaks.**

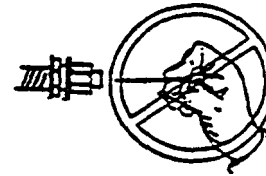
- C. Check the AMES control system by connecting/disconnecting 120 volt AC power, start/stop the engine, etc. Compare the operation with the operation described in description of operating modes. Side 14.

**NOTE:** The following maintenance is required once or twice a year, but should only be done by a qualified serviceman who is familiar with LP gas systems and refrigerators.

- D. The LP gas pressure should be checked and the main regulator re-adjusted if pressure is incorrect. The correct operating pressure is 11 inches of water column. The correct place to take the LP gas pressure is at the test port just ahead of the burner jet. (See FIG. 16).
- E. Inspect the flue baffle. It should be reasonably clean and free of soot. Heavy soot formation indicates improper functioning of the burner. The flue and burner both require cleaning in the following manner:
1. Unplug the refrigerator power cord from the 120 volt AC outlet. (See FIG. 3).
  2. Disconnect or shut off the 12 volt power to the refrigerator.
  3. Turn manual shutoff valve to OFF. (See FIG. 1).
  4. Remove cover from the burner housing. (See FIG. 1).
  5. Disconnect the wire from the high voltage electrode.
  6. Remove the burner mounting screws and remove the burner assembly. (See FIG. 16).
  7. Remove the flue cap from top of flue tube and lift out the wire and spiral baffle. Clean the flue from the top using a flue brush. Blowing compressed air into the flue will not properly clean soot and scale out of the flue tube. Replace spiral baffle and flue cap.
  8. Clean burnertube with a brush. Blow out burner with compressed air.
  9. Before removing burner jet, clean burner area of soot and scale that fell out of flue tube. Remove the burner jet. Soak the jet in wood alcohol and blow it out with compressed air. Re-install and tighten burner jet.
- NOTE: The color of the flame shall be clear blue over the slots of the burner. (See FIG. 17).

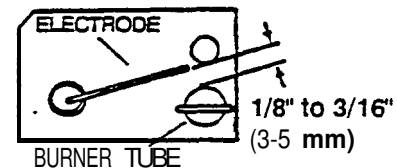
## CAUTION

**DO NOT use a wire or pin when cleaning the burner jet as damage can occur to the precision opening. This can cause damage to the refrigerator or create a fire hazard.**



10. Reinstall burner, being careful that the end of the burner fits into the slot on the burner bracket. Check to make sure slots are centered under the flue tube and the thermocouple is positioned properly (tip of thermocouple extends over two slots of burner)
11. Be sure to reconnect the wire to high voltage electrode. Check the electrode for proper location and gap. (See FIG. 18).

FIG. 18



12. Turn on manual gas shutoff valve and check all fittings for leaks.
13. Connect 120 volt power cord to the outlet and reconnect or turn on the 12 volt DC power.
14. Check LP gas safety shutoff. See side 5 and 6.

## TROUBLESHOOTING

### The Refrigerator Does Not Cool Properly Causes and remedies

Failure of refrigeration does not necessarily indicate that the cooling system is defective. Other factors governing its operation must be checked.

1. Common.
  - 1 a. Fuse(s) blown, replace (see side 13).
  - 1 b. Check level of refrigerator.
  - 1 c. Venting problem. Restriction in airflow across cooling unit
  - 1 d. Heavy frost buildup on evaporator fins, defrost.
  - 1 e. If the refrigerator has been operating on gas and a loss of cooling is noted, convert the refrigerator to AC power (see start up instructions side 10).  
If the refrigerator has been operating on AC, switch to gas operation. This will determine if a component failure in the electric or gas controls is causing the cooling fault. After the refrigerator has been converted from one power source to the other (gas to AC, or AC to gas) allow time to assure the unit is cycling properly. At the end of the period the freezer plate should start to cool.

- if. A minimum of 9.6 volt DC supply present for the refrigerator control system.
- lg. The thermostat can not be moved from MID position to the desired setting. The display module has become nonfunctional. See limp mode of operation (side 11).
- 1 h. The refrigerator is running continuously and cool to much.  
The temperature sensing device has become non functional. See limp mode of operation (side 11).
- 2. Gas operation only.
- 2.1 The refrigerator will not operate on gas when AC is present.  
The display module has become non functional. See limp mode of operation (side 11).
- 2.2 Burner jet clogged. Clean see Section Maintenance/service, item 2. Periodic maintenance, Paragraph E. item 9.
- 2.3 flue baffle not inserted properly in flue tube (see side 3 FIG. 1).
- 2.4 Burner dirty. Clean. See Section Maintenance/service, item 2. Periodic Maintenance, Paragraph E. item 8.
- 2.5 LP gas pressure low at burner.  
Set main regulator so pressure does not drop below 11 inches water column at pressure test port (see side 13 FIG. 16).
- 2.6 Burner not located properly under flue tube, relocate.
- 2.7 Burner damage, replace.

## **ODOR FROM FUMES**

### **CAUSES AND REMEDIES**

- A. The flame touches side of the boiler due to dislocation of the burner. Relocate. Burner dislocation may also cause smoke and discoloring of walls and ceiling.
- B. Burner damaged. Replace.

All the above instructions are to be followed closely. The 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 dept. for assistance.

**Replacement Parts Suppliers: See page 1.**

Manual provided courtesy  
Bryant RV Services  
[www.byantrv.com](http://www.byantrv.com)

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Service manuals provided with the understanding that persons using them are well versed in proper safety practices, and are familiar with basic safety procedures, including, but not limited to safety procedures dealing with 120 volt electricity, high amperage 12 volt circuits an LPG (propane) systems.

If in doubt, consult a professional (better safe than sorry).