SERVICE MANUAL

Models

774

776

778

8010

838

8310

NORCOLD

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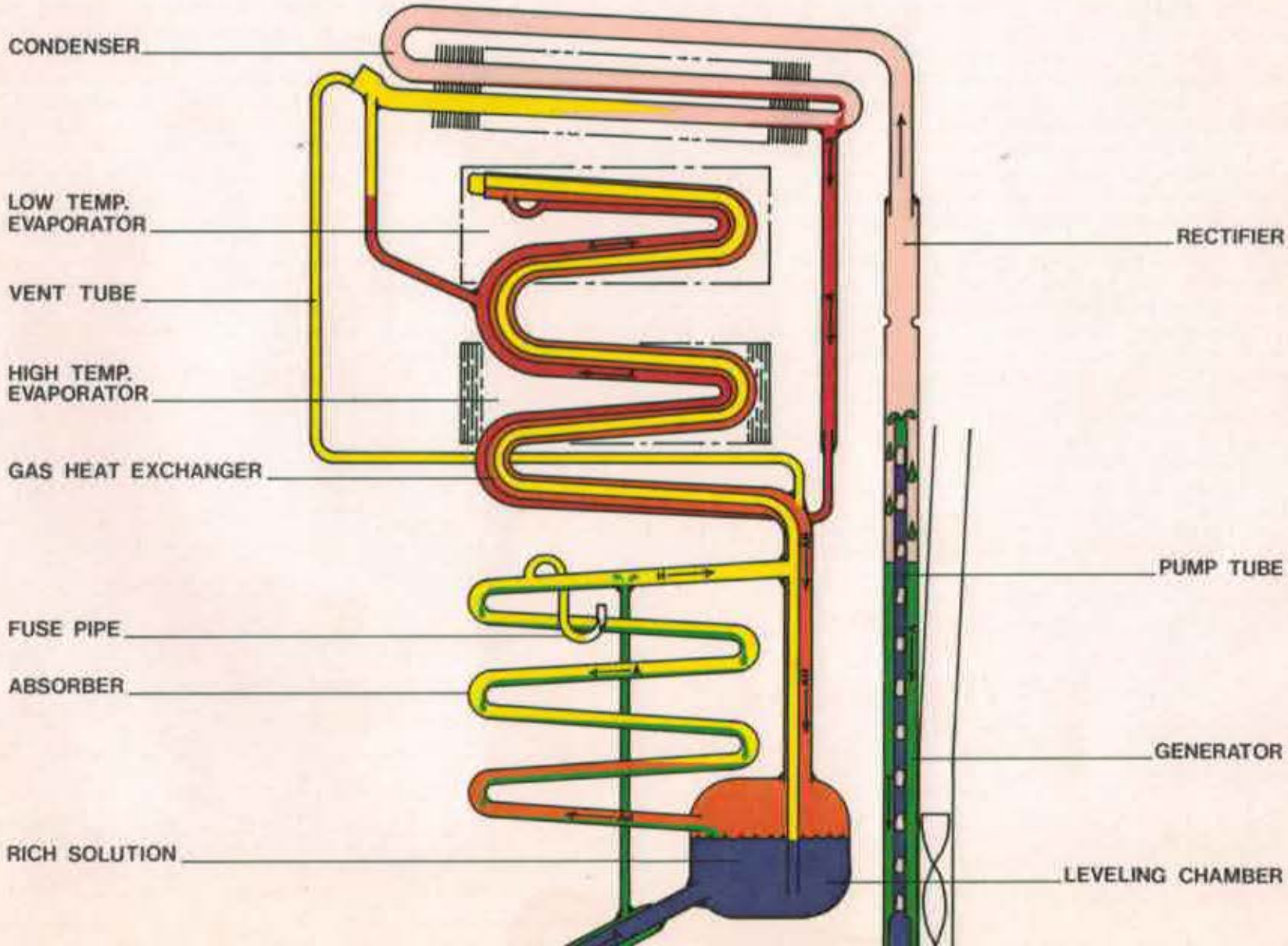
The Absorber System



RICH SOLUTION-
32% AMMONIA

WEAK SOLUTION-
14% AMMONIA

AMMONIA VAPOR

LIQUID AMMONIA

HYDROGEN

AMMONIA-
HYDROGEN

The rich solution leaves the leveling chamber and passes through the liquid heat exchanger to the pump tube. The heat source (gas or electric) causes the temperature of the solution to rise. This temperature increase causes ammonia and some water vapor to be driven out of the solution, forming vapor bubbles which push columns of liquid up the pump tube. This liquid falls downward through the generator where the temperature is increased to approximately 360° F, causing additional ammonia vapor to be released. The remaining liquid is now a weak ammonia solution and flows through the external shell of the liquid heat exchanger where it transfers its residual heat to the rich solution and enters the top of the absorber coil at a reduced temperature.

The ammonia/water vapor passes through the rectifier whose reduced temperature causes any water vapor to liquify and join the weak solution in the generator. The rich ammonia vapor enters the condenser and is changed to hot liquid ammonia. The liquid ammonia enters the tubular coil of the low and high temperature evaporators and wets the internal surface of the tubes. As the hydrogen passes over the wetted tube surface, the liquid ammonia evaporates into the hydrogen, creating an initial refrigeration temperature of − 20° F — − 25° F. The hydrogen pressure at this initial stage is approximately 352 pounds and the liquid ammonia is 14 pounds. As the ammonia continues to evaporate into the hydrogen, the pressure of the ammonia continues to rise slowly. As the ammonia pressure rises the evaporation temperature also rises. When eventually the hydrogen and liquid ammonia pass through the upper gas heat exchanger and into the high temperature evaporator tube, the ammonia pressure has risen to 44 pounds and the hydrogen pressure has fallen to 323 pounds. This increase in ammonia pressure raises the evaporation temperature to + 15° F. The weight of the hydrogen and ammonia mixture is heavier than that of pure hydrogen. Consequently, it falls through the gas heat exchanger into the top of the leveling chamber. From this point it enters the bottom of the absorber coil. As this mixture travels up through the absorber it contacts the weak solution entering the top of the absorber from the generator. As the weak solution drops through the absorber it absorbs the ammonia from the ammonia/hydrogen mixture. The relatively pure hydrogen passes through the hydrogen circuit to the evaporator and now the rich solution falls to the bottom of the leveling chamber where the cycle starts again.

Service Instructions For 774 EG, 776 EG, 778 EG, 8010 EG

We suggest the information listed below be passed on to the user for efficient operation.

The Frozen Food Compartment

This compartment is not designed for the quick freezing of food but to retain frozen food in that state. As with the food compartment, foods purchased for storage in the frozen food compartment should be frozen when purchased to reduce the load of the refrigerator system. Ice will be made more rapidly if the thermostat is set at its highest position.

Defrosting the Refrigerator

After a period of operation, frost may gradually accumulate on the freezer plate and the cooling fins, thereby impairing cooling efficiency.

To defrost the refrigerator on gas or electric operation turn the thermostat to its "off" position and operational knob to "electric". Fill trays with hot water, placing them on the cooling plate.

When all the frost has melted, empty the drip tray from beneath the finned evaporator and wipe up the excess moisture with a clean cloth. Replace the drip tray, all the food stuffs, and place the refrigerator into operation. Set the thermostat to its coldest setting for a few hours for maximum cooling before returning it to its normal position.

Cleaning the Refrigerator

It is important to keep the cabinet clean to minimize the possibility of food odor. Cleaning the interior of the refrigerator should only be done using a mild soda solution. Do not use hard or abrasive type cleaners as they will attack the surface of the plastic and aluminum surfaces.

NOTE: For an undetermined length of shut down, set the thermostat to "off", and disconnect the AC power supply.

Ventilation

The certifying codes require an approved ventilation system at the rear of the refrigerator to accommodate combustion air, flue gas removal and heat removal from the absorber/condenser coils. The ventilation area should not be modified in any way which would reduce air movement or cause flue gas leakage into the living area. A regular check should be made to insure that combustible materials, etc. have not been placed in this area.

Leveling

Norcold refrigerators do not require critical leveling such as required by other absorption type refrigerators.

Normal vehicle leveling to provide comfort for the occupants is satisfactory for refrigerator operation. This will be well within the operational limits of 3° off-level side to side and 6° off-level front to back.

However, in servicing or replacing the refrigerator, the level should be closely checked, and if necessary, shimmed to bring it into level with the coach (after the coach is leveled). This helps to remove doubts of customer's leveling practiced at some later date.

General Information and Specifications

774 EG 3

Input 1050 BTU/Hr
Ammonia .36 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt 60 HZ 1.7 Amp 200 Watt
14 VDC 10.7 Amp 150 Watt
Gas Pressure Setting 10.5
Orifice Size .011 P/N

776 EG 3

Input 1200 BTU/Hr
Ammonia .42 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt 60 HZ 1.4 Amp 200 Watt
14 VDC 10.7 Amp 150 Watt
Gas Pressure Setting 8.5
Orifice Size .014 P/N 614521

778 EG 3

Input 1600 BTU/Hr
Ammonia .66 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt 60 HZ 2.9 Amp 350 Watt
14 VDC 16.1 Amp 225 Watt
Gas Pressure Setting 9.6
Orifice Size .016 P/N 614522

8010 EG 3

Input 1550 BTU/Hr
Ammonia .66 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt AC 60 HZ 2.9 Amp 350 Watt
14 VDC 16.1 Amp 225 Watt
Gas Pressure Setting 9.6
Orifice Size .016 P/N 614522

Notes:

A. Incoming gas pressure 10.5" minimum, 13.5" maximum (inches)
B. Heater Wires
   1. Red - 110 Volt Wire
   2. Yellow - 12 Volt Wire
   3. Black - Common Ground
C. Serial Number Identify:

774	EG	3 - 1000-A	8010	EG	2 - 1000-D
776	EG	3 - 1000-B	8010	EG	2 - 1000-E
778	EG	3 - 1000-C	8010	EG	2 - 1000-F
8010	EG	3 - 1000-G	8010	EG	2 - 1000-H

D. Manufacturing Date on the Serial Plate

YEAR	AND	MONTH
81		A January
81		B February
81		C March
81		D April
81		E May
81		F June
81		G July
81		H August
81		J September
81		K October
81		L November
81		M December

When system shipped for replacement, heating element is included.

Installation

General Instructions For All Models

The refrigerators described herein have a design certified under ANS Z21.19a-1978 Standards by the American Gas Association for installation in mobile home or recreational vehicle and approval by the Canadian Gas Association.

Installation must be made in accordance with the following instructions in order for the certifications to be valid.

Installations in the United States must comply with the following National Standards as applicable:

1) National Fuel Gas Code ANSI Z223.1-1974
2) American National Standard for Mobile Homes, A119.1-1975
3) American National Standard for Recreational Vehicles, A119.2-1975
4) Any applicable local codes

For installations requiring an electric outlet which is energized by an external power source, the refrigerator must be electrically grounded in accordance with the National Electric Code, NFPA No. 70-1978 (ANSI C1-1978).

Canadian Installations Must Conform To The Following Canadian Standards:

1) Installation code for propane burning appliances and equipment, CGA B149.2
2) Gas equipped Recreational Vehicles and Mobile Housing, CSAZ 240.4
3) Electrical requirements for Mobile Housing and Recreational Vehicles, CSAZ 240.6.1 & 2

Securing Refrigerator

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

Gas Connection

When connecting the gas supply line to the refrigerator, use tubing and fittings that comply with local, state, or national codes governing size and type. The gas connection fitting located at the rear bottom of the refrigerator is a 3/8 SAE (UNF 5/8"-18) male flare connection. This fitting is a bulk head type and care must be taken when final tightening of the tubing nut is done that the bulk head fitting is held securely. Access to this fitting is through the lower vent door.

The gas line should be routed in a manner to limit the possibility of vibration or abrasion. It is recommended that the gas supply line enter the combustion chamber through the floor which supports the refrigerator. The hole size through which the gas line enters should be of sufficient size that adequate clearance is maintained. Once the gas line is installed a rubber type sealant should be applied around the line at the point it enters the combustion chamber. This will minimize abrasion, vibration, and serve as a barrier from external moisture.

Once the gas line has been connected, ALL CONNECTIONS must be thoroughly checked for possible leaks with a soap suds solution. DO NOT TEST FOR LEAKS WITH AN OPEN FLAME.

If compressed air is used for leak testing, turn the operational knob of the control panel so that the knob indicator points to the work "ELECTRIC". This will shut off the pressure to the manifold components and prevent possible damage. Air pressure must not exceed ½ P.S.I.G. (3.4 kPa).

Table 1
Refrigerator Cut-Out Openings (Inches)

Model	Height	Width	Depth
774EG	33.12	22.0	21.69
776EG	40.12	22.0	21.69
778EG	52.19	23.94	24.0
8010EG	58.75	23.94	24.0

Electrical Connection

120 V.A.C. EG3 and EG2 Models

This refrigerator is equipped with a three prong plug for protection against shock hazard and must be connected into a recognized three prong attachment receptacle. The cord must be routed so as not to come in contact with the burner cover, flue pipe, or any other component that could damage the cord insulation. DO NOT REMOVE OR CUT OFF THE GROUNDING PRONG. REMOVAL OF THIS PRONG WILL VOID CERTIFICATION AS WELL AS THE WARRANTY.

12 V.D.C. Heater Connection – All EG3 Models

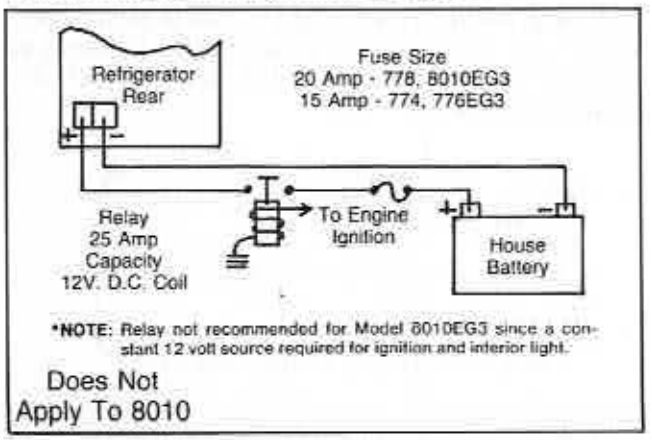
The D.C. lead connections are at terminals located at the lower left rear of the refrigerator. One lead is marked positive (+) and the other negative (−). Correct polarity must be observed when connecting to the D.C. supply. Do not use the chassis or vehicle frame as one of the conductors. Connect two wires at the refrigerator and route to the battery. This will eliminate voltage losses which affect refrigerator performance.

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 be the result. This voltage drop affects the wattage output of the cartridge heater and resultant refrigerator performance. Recommended wire sizes are listed below.

12 V.D.C. Ignition and Interior Light – 8010 EG2 Models

Voltage for ignition and lights is automatically picked up on EG3 Models (through the heater supply volts). However, a separate connection must be supplied on EG2 Models. The terminal block for connecting the D.C. supply to the ignition and interior light is located on the rear of the refrigerator. Supply wires should be connected to the normal vehicle fused lighting circuit, observing polarity at the terminal block. This circuit draws approximately 1 ampere max. Supply wire should be 18 AWG.

Recommended Wiring to EG3 Models



Does Not Apply To 8010

	MIN. WIRE SIZE HEATER SUPPLY	
	778EG3 8010EG3	774EG3 776EG3
0-20 Ft.	10 AWG	12 AWG
Over 20 Ft.	8 AWG	10 AWG

Refrigerator Removal and Replacement

To Remove the Refrigerator

1. Turn off the propane gas at the main tank supply source.
2. Disconnect the gas line at the rear of the refrigerator. Access to this connection is made through the lower exterior vent door opening. Use two wrenches when loosening this connection to prevent twisting or kinking of the tubing.
3. Disconnect the A.C. power cord from the wall receptacle and any D.C. wires from the rear of the refrigerator. Tape the end of the wire connected to the positive or blue wire to prevent accidental shorting.
4. Check for, and remove, if present, any fasteners securing the refrigerator to its floor support.
5. Door or doors must be removed before proceeding to next step.
6. Remove the four (4) plastic plug seals located on the face of the front mounting flange and remove four (4) screws securing the mounting flange to the vehicle wall. The refrigerator is now ready for removal.
7. If the refrigerator is installed above floor level, position a box or some rigid structure that is approximately the height between the bottom of the refrigerator and the vehicle floor, directly under the refrigerator.
8. Reach through the lower vent door and gently push the refrigerator toward the vehicle interior, three to four inches. Continue the entire removal from the vehicle interior.

NOTE: Care must be exercised upon removal, that the seal strips behind the refrigerator mounting flange and at the extreme bottom are not damaged or misplaced.

Reinstallation

1. Check that all sealing strips are properly located.
2. Slide the refrigerator into the wall opening so that the mounting flange contacts the wall face.

Approved Venting Instructions for Models 774EG, 776EG, 778EG, 8010EG.

3. Replace the four (4) screws in the mounting flange tightening them securely. Reinstall the plastic hole plug inserts.
4. Door or doors must be replaced before proceeding to next step.
5. Replace and secure any other fasteners previously removed.
6. Reconnect the gas line to the bulkhead fitting at the rear of the refrigerator. Use two wrenches when tightening to prevent twisting or kinking of the tube.
7. Turn on the gas at the main gas supply tank and check for leaks by doing a static pressure test. **Do not use an open flame when checking for leaks!**
8. Reconnect the A.C. power cord into its respective wall receptacle.
9. Reconnect any D.C. wires. Observe correct polarity.

Ventilation Requirements

Installation must assure complete isolation of the living space of the mobile home or recreational vehicle and the combustion system of the refrigerator.

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.

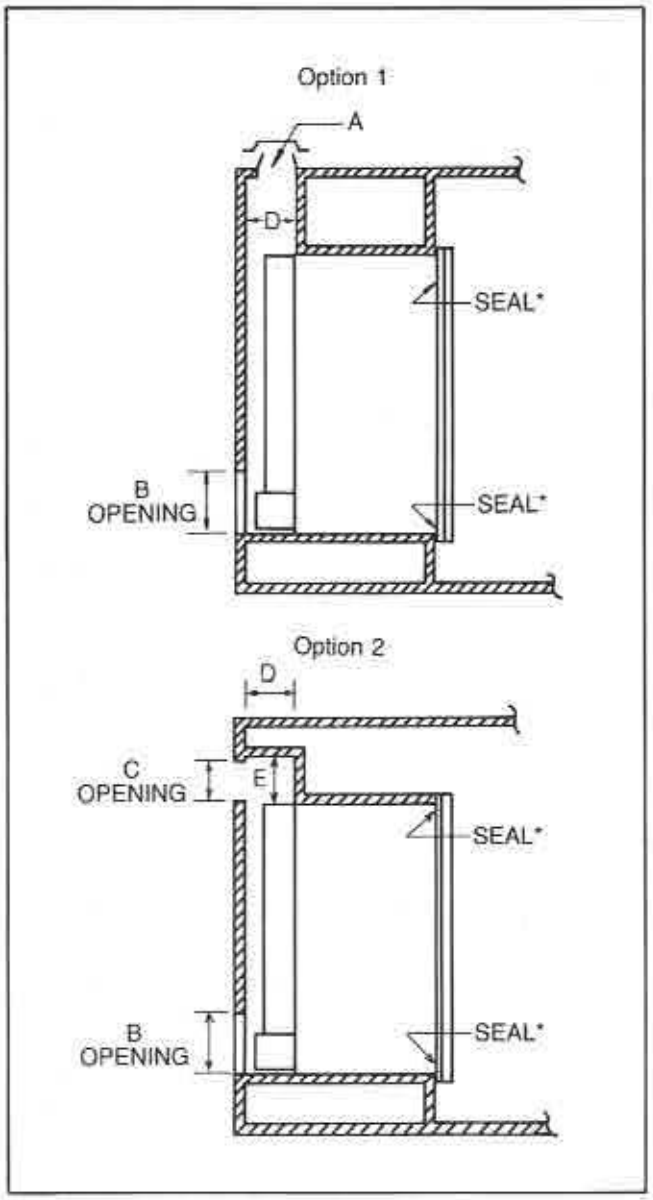
Venting must be in accordance with dimensions as shown in Option 1 or Option 2. Any deviation will result in non-certification.

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

Minimum Clearances – All Models
0" Sides, Top, Back, Bottom

Metric Conversion Table

Inch	MM	Inch	MM
3.25	83	21.69	551
4.00	102	21.75	552
4.50	114	22.0	559
5.00	127	22.25	572
5.75	146	23.94	608
7.00	178	24.00	610
13.75	349	33.12	841
15.25	387	40.12	1019
15.50	394	52.19	1326
19.00	483	58.75	1492
20.62	524		



*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 wall to assure combustion seal. Care should be taken when installing or removing the refrigerator that the strips are not disturbed or damaged.

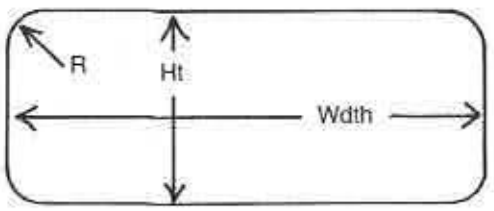


Table 2
Vent Kits and Dimensions (Inches)

Kit No.	Type	Cut-Out Dimensions							D Min	E Min	Approved Models
		A		B			C				
		Lgth	Wdth	Ht	Wdth	R	Ht	Wdth			
615163	Lower	—	—	15¼	22¼	—	—	—			All Models
615165	Lower	—	—	15¼	22¼	2⅝	—	—			All Models
614691	Lower	—	—	15½	22	—	—	—			All Models
614467	Roof Jack	24	5	—	—	—	—	—	5		All Models
614690	Roof Jack	20⅝	5¾	—	—	—	—	—	5		774EG, 776EG
615112	Side Exhaust	—	—	—	—	—	7	19	4	7	774EG, 776EG

Gas Pressure

Water "U" Gauge

A manometer or "U" gauge is recommended for checking or measuring gas pressure as it is reliable and simple to use. Figure 1 shows the manometer and how it is read.

The manometer is normally made of an unbreakable plastic tube and formed in a "U" shape as shown in Figure 1. On one end of the tube is connected a rubber hose which is used for connecting to the gas supply fitting. The other end of the tube is open. Before using the manometer it must be filled with either plain or tinted water so that the water level in each tube riser is at "0" when the manometer is held in the vertical position. This is important if correct readings are to be obtained. Figure 1 shows the manometer at the proper water level.

The calibrated scale of the manometer is graduated into inches and tenths thereof above and below the zero line. As pressure is applied to the input hose, this pressure causes the water to go below zero in one column and above zero in the other. The total distance between the two water levels is the gas pressure measured in water column inches.

Figure 1 shows that a gas pressure has forced the water level down one inch below zero in one column and one inch above zero in the other resulting in a total pressure of 2 (.49 KPA) inch water column.

For accuracy of measurement a water "U" gauge is far superior to a low pressure gauge. If a low pressure gauge is used it should be checked for accuracy against a water "U" gauge occasionally.

Low Pressure Gauge

This gauge is calibrated to read in inches of water column pressure. It is a standard manometer and the scale you will be reading is marked in red.

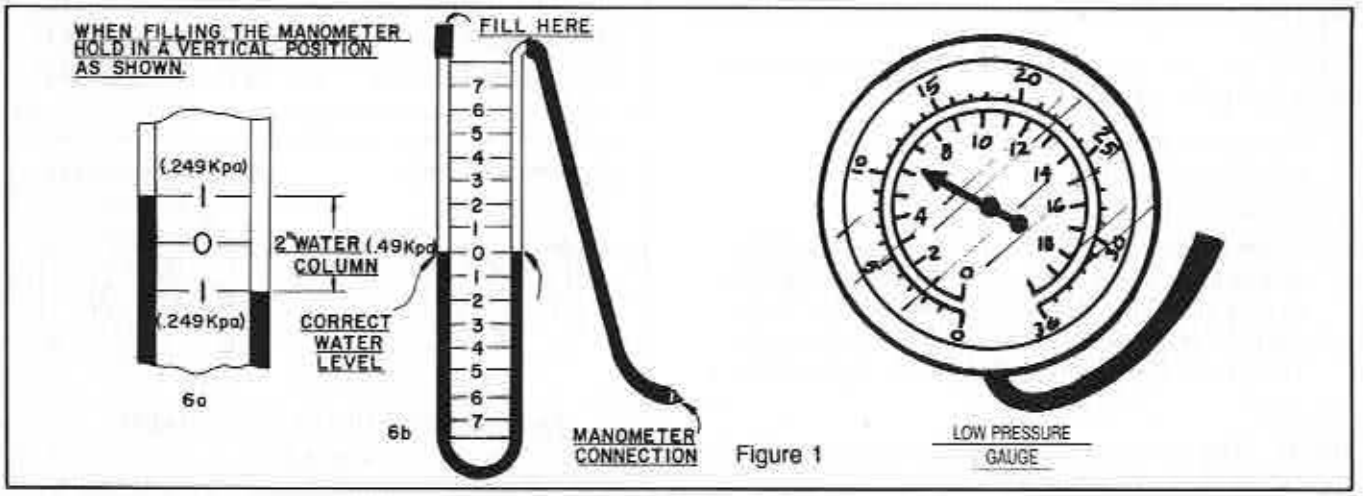


Figure 1

Static Pressure Test

One of the positive ways of determining if there is a gas leak is with a static pressure test. This can be done at the same time you are checking main line gas pressure.

1. Remove grate from stove top.
2. Remove stove top.
3. Unscrew and remove the screw securing the burner in place.
4. Remove the burner.
5. Place the end of the water manometer hose over the burner valve.
6. Turn the gas valve, where water manometer is attached, to the "on" position.
7. Make sure the gas control valve at the refrigerator is in the "gas" position.
8. Turn the main supply tank valve off.
9. If water manometer gauge remains steady this indicates no gas leaks are present from the supply tank to the safety valve on the refrigerator.
10. Should pressure not remain steady, there is a gas leak and the fittings should be tested with a commercial soap solution for leaks.
11. To determine if there is a gas leak from the safety valve back to the burner, test fittings with a commercial soap solution.

NOTE

Soap Solution for Testing Gas Leaks

When testing for gas leaks we suggest that you purchase a commercial soap solution.

Checking Main Line Gas Pressure

Before checking gas burner pressure on the refrigerator it is necessary to determine main line gas pressure.

Main line gas pressure should be checked at the stove using the following steps:

1. Remove grate from stove top.
2. Remove stove top.
3. Remove one of the burners.
4. Place water manometer hose over burner valve.
5. At this time a static pressure test can be taken by turning the burner gas valve to the "on" position and the main tank supply valve off. Turn the gas control valve knob at the refrigerator to the "gas" position.

NOTE: The manometer reading should remain steady indicating no gas leak.

6. If pressure remains constant, turn the supply tank valve back on.
7. Light two burners on the stove in order to obtain an accurate reading.
8. Determine the amount of gas pressure by reading the water manometer. Main line gas pressure should be 13.5" (inches) maximum and 10.5" (inches) minimum.

Checking Gas Pressure at the Refrigerator (at the pressure tap tee)

1. Remove the thermostat and the gas control valve knobs.
2. Unscrew and remove the four (4) screws holding the control panel in place. Pull the control panel forward.

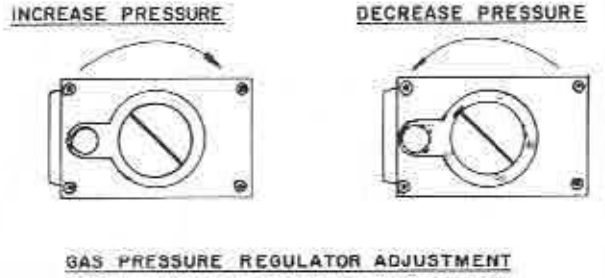
NOTE: Before proceeding, turn the gas control valve knob to the electric position and turn the thermostat knob clockwise to the 5 position. Then remove the knobs.

3. Remove the plug from the pressure tap tee using a 7/16" socket with breaker bar.
4. Connect water manometer hose.
5. Replace selector knob and turn to gas setting.
6. Use soap solution to test manometer fitting for gas leaks.
7. Light burner in normal manner, see section on **lighting burner.**
8. Check for reading on the water manometer, see section on **gas pressure settings.**

If a reading is higher or lower than suggested pressure, adjustment must be made. See Figure 2.

Gas Pressure Settings for Refrigerator

	High Fire	Low Fire
774 EG 2 & 3	10.5" W.C.	4.9" W.C.
776 EG 2 & 3	8.5" W.C.	2.0" W.C.
778 EG 2 & 3	9.6" W.C.	2.0" W.C.
F8010, 8010 EG 2 & 3	9.6" W.C.	2.0" W.C.



GAS PRESSURE REGULATOR ADJUSTMENT

Figure 2

Checking Gas Burner Pressure and Thermostat

To check the gas regulator which sets the burner pressures, you must first obtain access to the control assembly.

1. Place the gas control valve knob in the electric position and turn thermostat knob to the coldest setting.
2. Remove both knobs.
3. Unscrew and remove four (4) screws securing control panel.
4. At this time, to insure there are no gas leaks which will affect the gas pressure readings, a static pressure test should be taken. See section on static pressure test.
5. Connect water manometer hose to pressure tap tee.
6. Read burner pressure. Pressure should be as indicated under gas pressure settings for refrigerators.
7. If pressure is different adjust the pressure regulator as follows:
   A. Remove cap from regulator.
   B. Gas pressure is increased by turning the adjustment screw clockwise.
   C. Gas pressure is decreased by turning adjustment screw counterclockwise.
   D. Readjust regulator to proper burner pressure, see gas pressure setting for refrigerator.

NOTE: If regulator cannot be adjusted to obtain correct burner pressure, regulator is defective and needs to be replaced. See regulator replacement section.

At this point the thermostat may be checked by:

Turning the thermostat to the warmest setting. If at this setting the water monometer reads correctly with (gas pressure setting table) this indicates the thermostat is functioning correctly. If the reading is other than what is shown, the thermostat needs to be replaced. See thermostat replacement section.

8. If regulator maintains a constant gas pressure after adjustment, reassemble, by reversing the above procedures.

Burner

Burner Adjustment

The burner is made of steel and is so designed that it is self-cleaning and requires no adjusting. The flame is controlled by the gas thermostat and a fixed orifice. Check to see that the flame is centered in the center generator flue tube.

The Correct Burner Flame

The operation of the refrigerator when it is on "gas" is controlled by the correct burner flame which supplies the heat input to the refrigerator system. The burner flame has a very important bearing on the refrigerator performance. Too high an input will cause overheating and possible system damage. Too low an input will cause poor performance.

The correct burner flame is dependent upon the following:

1. Correct gas supply pressure.
2. Correct burner orifice.
3. The orifice clean and properly assembled.

Although every precaution has been taken to prevent foreign particles from entering the gas burner tube by means of an integral filter in the thermostat valve, the orifice may become partially plugged. When this occurs, the gas flow to the burner is restricted and consequent poor performance is the result.

Cleaning the Burner Orifice

1. Turn off the gas at the supply bottle.
2. Study the exploded view of the orifice assembly, Figure 3 and of the burner, Figure 4.
3. Remove the burner cover shield.
4. Loosen the burner tube connection fitting.
5. Carefully remove the burner gas tube from the burner.
6. Remove the orifice and clean, using air pressure.
7. Orifice is identified with a number stamped on the end of the orifice. Refer to Figure 3 which gives correct orifice size for each model to insure proper orifice is installed.

CAUTION

Do not clean the orifice by means of a straight pin or other sharp object. The orifice has a small hole in the end of it. Hold the orifice up to the light and if the hole is visible the orifice is open. This small hole controls the correct heat input to the burner. If this hole is enlarged by cleaning with a pin or a wire the refrigerator will be over fired.

8. To replace cleaned orifice, reverse the above procedures.

CAUTION

Check for gas leaks with a static pressure test.

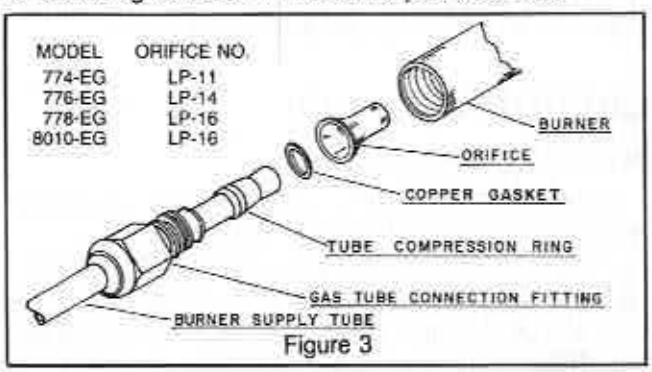


Figure 3

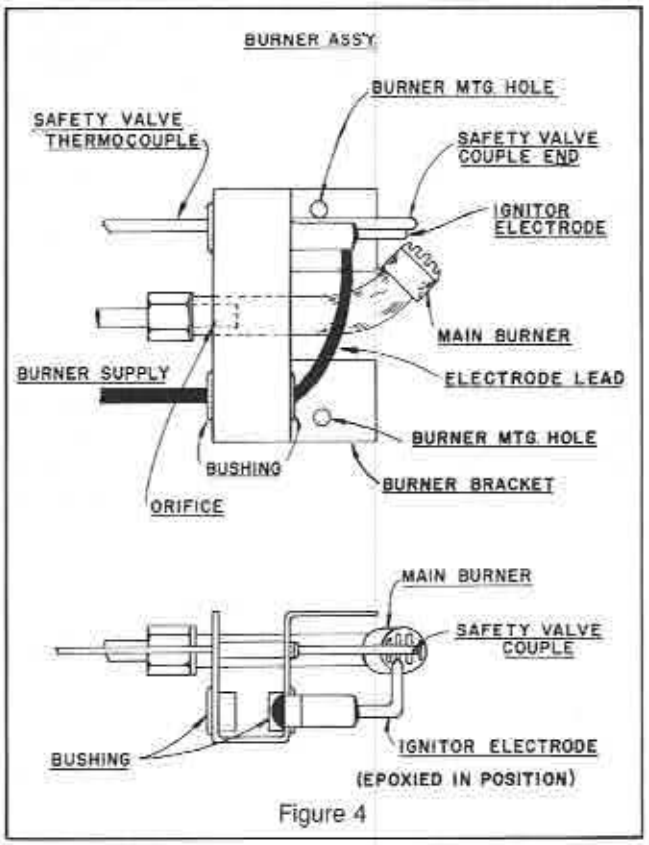


Figure 4

Replacing the Burner Assembly

1. Turn off the gas at the supply bottle.
2. Remove the burner cover shield.
3. Loosen the burner tube connection fitting.
4. Carefully remove the burner gas tube and copper gasket from the burner making sure the orifice and copper gasket are retained.
5. Disconnect the wire fastener to the electrode.
6. Remove the thermocouple by depressing the spring retention clip.
7. Remove the two (2) screws holding the burner assembly to the cooling unit.
8. To reinstall reverse the above procedures making sure the orifice and copper gasket are assembled per Figure 3.

CAUTION

Check for gas leaks by using a soap solution.

Control Assembly

Replacing Pressure Tap Tee

When replacement of the pressure tap tee is necessary you should use the following procedures.

1. Turn off the main gas supply at the supply tanks.
2. Set the gas control valve knob of the refrigerator so that the knob indicator points to the word **electric.**

NOTE: This shuts off gas to the controls providing a double safety precaution.

3. Disconnect the A.C. supply.
4. Disconnect the D.C. supply (not on all models).
5. Remove the thermostat and the gas control valve knobs.
6. Remove the four (4) screws securing the control panel in place.
7. Remove the screws securing the control bracket in place.
8. Pull the control forward carefully.
9. Disconnect the burner supply tube from the rear of the pressure tap tee.
10. Remove the two (2) screws from the back of the control bracket holding the thermostat in place.
11. Unscrew and remove the pressure tap tee.
12. Before installing the new pressure tap tee see note below.

NOTE: When replacing the components removed, an approved pipe joint compound must be used to assure a leak proof connection. After all components have been reassembled, turn on both gas control valves and do a static pressure test to insure there are no gas leaks. **Do not attempt to check for leaks with an open flame.** If no leaks are present, light the burner before reinstalling the controls assembly to assure that proper operation is evident.

13. Reverse the above procedures to install the new pressure tap tee.

Replacing the Safety Valve

When it has been determined that the safety valve needs to be replaced, it can be done so by the following steps.

1. Turn off the main gas supply at the supply tanks.
2. Set the gas control valve knobs of the refrigerator so that the knob indicator points to the word **electric.**

NOTE: This shuts off gas to the controls, providing a double safety precaution.

3. Disconnect the A.C. supply.
4. Disconnect the D.C. supply (not on all models).
5. Remove the four (4) screws securing the control panel in place.
6. Remove the thermostat and the gas control valve knobs.
7. Unscrew and remove the screws holding the control assembly in place.
8. Pull the control assembly forward carefully.
9. Disconnect the gas burner supply tube from the rear of the pressure tap tee.

10. Remove the two (2) screws from the back of the control bracket holding the thermostat in place.
11. Disconnect the thermocouple lead at the safety valve.
12. Unscrew and remove the pressure tap tee and the safety valve.
13. Separate the pressure tap tee and the defective safety valve.
14. Before proceeding review the note below:

NOTE: When replacing the components removed, an approved pipe joint compound must be used to assure a leak proof connection. After all components have been reassembled turn on both gas supply valves and do a static pressure test to insure there are no gas leaks. **Do not attempt to check for leaks with an open flame.** If no leaks are present, light the burner before reinstalling the control assembly to assure that proper operation is evident.

15. Reverse the above procedures to reassemble.

Replacing Thermocouple

When it has been determined that the thermocouple for the safety valve is defective, replacement is necessary.

1. Remove the burner cover.
2. Remove the thermocouple tube from the burner bracket by depressing the spring retention clip.
3. Now it is necessary to gain access to the control section.
4. Remove the thermostat and gas control valve knobs.
5. Remove the four (4) screws holding the control panel in place.
6. Remove the screws holding the control assembly in place.
7. Carefully pull the control assembly forward.
8. Pull outward till you can get a wrench on the thermocouple fitting.
9. Loosen and remove the nut securing thermocouple to safety valve.
10. Remove the thermocouple tube carefully noting its installation routing.
11. Install the new tube and connect it first at the burner.
12. Insert the thermocouple tube into the safety valve and tighten the fitting.

Thermostat Replacement

When replacement of the thermostat is necessary due to capillary tube damage or other failure, the following steps must be initiated:

1. Turn off the main gas supply at the supply tanks.
2. Set the gas control valve knob of the refrigerator so that the knob indicator points to the word **electric.**

NOTE: This shuts off gas to the controls, providing a double safety precaution.

3. Disconnect the A.C. and D.C. power supplies.
4. Remove the thermostat and the gas control valve knob.
5. Remove four (4) screws securing the control panel in place.
6. Disconnect the thermostat capillary tube from its mounting on the fins.
7. Straighten out the capillary tube and push it back through the rear of the cabinet.
8. Go to the back of the refrigerator and remove any cable clamps securing capillary tube.
9. Pull the capillary tube through the back of the refrigerator.
10. Straighten the capillary tube once more.
11. Remove the screws holding the control panel in place.
12. Pull the controls forward carefully.
13. Complete the removal of the capillary tube and form it in a tight coil.
14. Disconnect the gas burner supply tube from the rear of the pressure tap tee.
15. Disconnect the thermocouple from the rear of the safety valve.
16. Remove the two (2) screws from the back of the control bracket holding the thermostat in place.
17. Unscrew and remove the pressure tap tee and the safety valve.
18. Disconnect the two (2) thermostat wires before removing the thermostat.
19. Replacing the thermostat is done by reversing the removal procedures. Check to be sure the thermostat has A-17 stamped on the head of the bypass screw.

NOTE: When replacing the components removed, an approved pipe joint compound must be used to assure a leak proof connection. After all components have been reassembled, turn on both gas control valves and do a static pressure test to insure there are no gas leaks. **Do not attempt to check for leaks with an open flame.** If no leaks are present, light the burner before reinstalling the control assembly to assure that proper operation is evident.

Regulator Replacement

When replacement of the regulator is necessary because of damage or failure, the following steps should be followed to replace it.

1. Turn off the main gas supply at the supply tanks.

2. Disconnect the A.C. and D.C. power supplies.
3. Remove the thermostat and gas control knobs.
4. Unscrew and remove four (4) screws securing control panel.
5. Remove the control panel.
6. Remove the screws holding the control bracket in place.
7. Pull the controls forward carefully.
8. Disconnect the gas supply line attached to the gas valve.
9. Remove the two (2) screws from the back of the control bracket holding the thermostat in place.
10. Disconnect the two (2) wires on the snap switch attached to the gas valve.
11. Unscrew and remove the gas valve and pressure regulator.
12. Replace the regulator and reverse the above procedures to reassemble.

NOTE: When replacing the components removed, an approved pipe joint compound must be used to assure a leak proof connection. After all components have been reassembled, turn on both gas supply valves and do a static pressure test to insure there are no gas leaks. **Do not attempt to check for leaks with an open flame.** If no leaks are present light the burner and check the gas pressure before reinstalling the control assembly to assure that proper operation is evident.

Gas Valve Replacement

When replacing the gas valve becomes necessary because of damage or is defective use the following steps to replace it.

1. Turn off the main gas supply at the supply tanks.
2. Disconnect the A.C. and D.C. power supplies.
3. Remove the thermostat and gas control knobs.
4. Unscrew and remove four (4) screws securing control panel.
5. Remove control panel.
6. Unscrew and remove screws securing control bracket in place.
7. Pull control assembly forward carefully.
8. Disconnect the gas supply line attached to the gas valve.
9. Disconnect the two (2) wires on the snap switch attached to the gas valve.
10. Unscrew and remove defective gas valve.
11. Remove snap switch from defective gas valve and install it on the new gas valve.
12. Replace the gas valve and reverse the above procedures to reassemble.

NOTE: When replacing the components removed, an approved pipe joint compound must be used to assure a leak proof connection. After all components have been reassembled, turn on both gas supply valves and do a static pressure test to insure there are no gas leaks. **Do not attempt to check for leaks with an open flame.** If no leaks are present light the burner before reinstalling the control assembly to assure that proper operation is evident.

Replacing Piezo Lighter on Models F 8010, 778, 776 and 774

The refrigerator is fitted with a piezo lighter which does not normally need any maintenance. If the light does become defective follow the instructions listed below for replacement. Before proceeding, review the burner assembly drawing Figure 4.

1. Disconnect the A.C. and D.C. power supplies.
2. Shut off the propane gas at the supply tank.
3. Remove the thermostat and the gas control valve knobs.
4. Remove the four (4) screws holding the control panel in place and let it hang down.
5. Loosen the ground wire.
6. Remove the plunger from the control panel.
7. Remove the door from the burner shield on the back of the refrigerator.
8. Disconnect the wire from the electrode.
9. To install the new piezo lighter, reverse the above procedures.

Heater

Heater Replacement

On electrically operated refrigerators, heat is supplied by an electric heater. The heater is mounted to the boiler on the cooling unit inside the cover. If the heater is determined to be defective, then the following steps should be followed to replace the heater.

1. The refrigerator in most cases will have to be removed from the wall opening to replace heating element.
2. See refrigerator removal section for instructions on how to remove refrigerator.
3. Disconnect the heater supply lead wires from the wiring harness. See Figure 5.
4. Remove the burner shield.
5. Remove the protective sheet metal covering from the generator (boiler).
6. Take out enough insulation from around the heater to make it possible for extraction.

7. Using a short ½" rod, place in bottom of heater holder and tap the heater out of the holder.
8. Insert the new heating element making sure it is pushed completely into the holder.
9. Reverse the above procedures to reinstall making sure insulation is repositioned around heater.

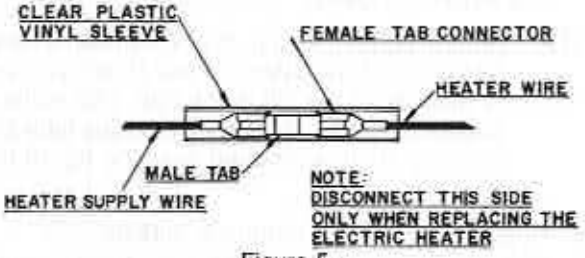


Figure 5

Cooling Unit

Removing the Cooling Unit

Before proceeding with the system replacement, inspect the replacement unit for possible damage that may have occurred during shipment.

All models 774, 776, 778 and 8010 are so constructed that the freezer evaporator plate is foamed-in-place and cannot be removed. Carefully study the cross sectional view shown in Figure 6 so that the following instructions are thoroughly understood.

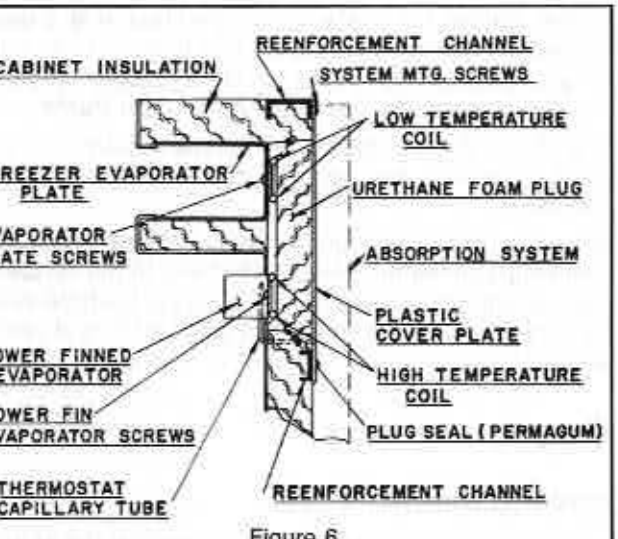


Figure 6

1. Turn off the propane gas at the supply tank.
2. Disconnect A.C. supply cord.
3. Disconnect D.C. supply (not on all models).
4. Remove supply line at bulkhead fitting at back of refrigerator.
5. Check to be sure refrigerator hasn't been secured with screws from the rear.
6. Remove doors (see door removal section).
7. Remove black hole plugs.
8. Unscrew the four (4) screws securing the refrigerator.
9. Refrigerator can now be removed from the wall opening.

CAUTION

Place a piece of cardboard or plastic on the floor to prevent damage to the carpet when removing the refrigerator.

10. Remove the evaporator plate screws from the rear vertical wall of the freezer evaporator plate. There are four (4) screws in the models 774 and 776, eight (8) screws in the models 778 and 8010.
11. Remove the four (4) screws from between the lower evaporator fins.
12. Remove capillary tube from fins.
13. Carefully straighten the capillary tube.
14. In order to complete the process of removing the cooling unit, it is necessary to go to the rear of the refrigerator.
15. Disconnect the electric heater leads, see Figure 5.

CAUTION

It is a good practice before disconnecting these leads, to mark them so that the proper reconnection is assured.

16. Remove the screws securing the burner cover in place and flue extension clamp.
17. Disconnect the burner tube ignition wire and thermocouple.
18. Pull capillary tube back through cabinet wall.
19. Remove the screws holding plastic cover plate.
20. Remove the two (2) screws holding the system to the box.
21. Carefully pull the system away from the cabinet with a steady pressure until it is free.
22. Once the system has been removed, remove the two (2) screws holding the burner assembly for installation on the replacement unit.

Replacing the Cooling Unit

The replacement cooling unit has been shipped with the electric cartridge heater and the diffuser baffle preinstalled. Therefore it is not necessary to remove these items from the defective unit.

Efficient operation of this system requires that a heat transfer paste be applied to the low and high side evaporator tubes before installation. Refer to Figure 7 showing the proper method of applying the heat transfer compound.

As noted in Figure 7, this mastic is applied from a caulking tube which is shipped with the replacement system. The nozzle of the tube must be snipped off using a pair of scissors and at an angle to facilitate

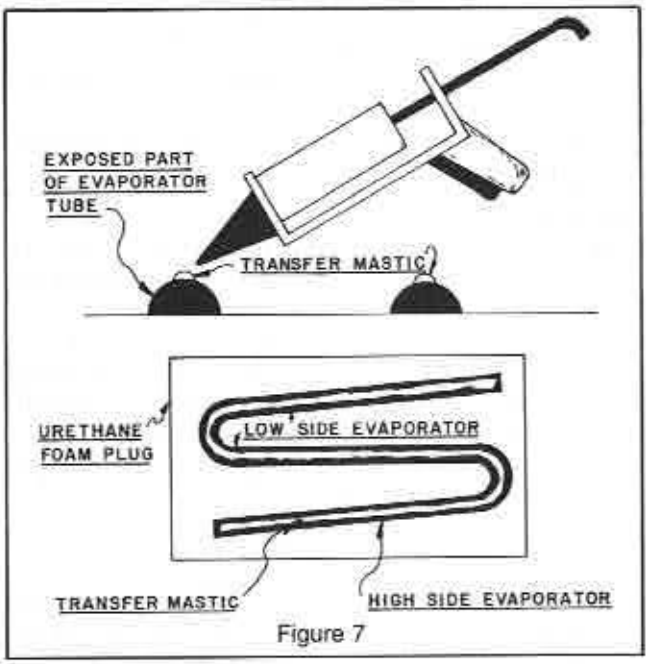


Figure 7

mastic application. Care should be taken to assure that the mastic is applied on the exposed portion of the high and low evaporator tubes as shown in Figure 7. The mastic bead should not exceed 3/16 (4.74mm) of an inch. Excessive application will reduce the transfer efficiency.

Once the mastic has been applied, the permagum bead which also accompanies the system must be applied to sides of the foam plug as shown in Figure 8. This permagum bead seals the unit in the cabinet when the unit is inserted and prevents moisture and heat penetration into the freezer area.

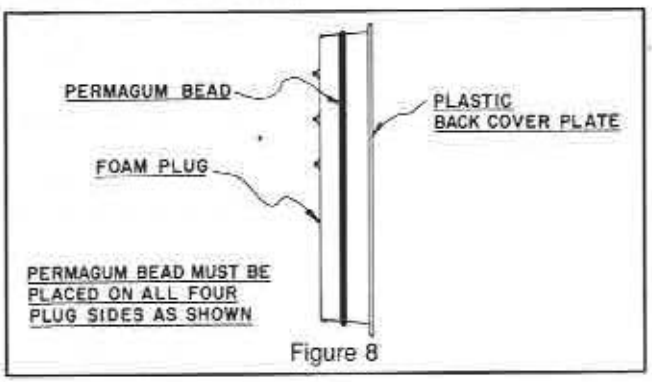


Figure 8

Once the mastic has been applied to the evaporator tubes and the permagum to the foam plug, the lower evaporator fin assembly must be installed before the system is inserted into the cabinet. Attach the fins using the screws that were removed from the defective system. **These screws must be drawn tightly to assure proper distribution of the heat transfer mastic.**

The system is now ready for cabinet installation using the following procedures:

1. Align the lower fin assembly with the opening in the interior cabinet.
2. Gently push the system into the cabinet until the plastic cover plate meets the cabinet back.
3. Install freezer evaporator screws so that proper alignment may be assured.
4. Draw these screws down tightly.
5. Replace the screws in the back cover plate and flue extension clamp.

NOTE: Before tightening the flue extension clamp, remove the flue extension and check for proper position of the diffuser baffle. The baffle is suspended by a wire in the round flue tube and the wire must be hooked over the top of this tube.

6. Replace the system mounting screws.
7. Run the thermostat capillary tube back through the cabinet wall.
8. Remount the burner assembly, assuring the orifice and compression fitting are properly connected and tightened in place. See Figure 3, pg. 7.
9. Put the thermocouple back in place.
10. Reconnect the wire to the burner electrode.
11. Replace the burner cover plate.
12. Connect the heater wires.
13. Reinstall the refrigerator back in the wall opening.
14. Mount the doors.
15. Reconnect the gasline (be sure to double wrench the fitting).

CAUTION

Before placing the system into operation, it is a good practice to do a static pressure test to insure there are no gas leaks present. See section on static pressure test. **Do not test for leaks with an open flame.**

In addition, the gas pressures should be checked and reset if required, see section on checking gas setting pressures.

When test firing the burner, the gas flame should be checked. The flame should be burning to the center of the flue tube without touching the sides of the tube. Also, the flame should be a sharp blue with no signs of yellow streaks.

Doors

Door Adjustment

The doors can be adjusted by loosening the screws holding the hinges in place.

The hinges are slotted so they can be moved from side to side freely.

Door Removal for 774 and 776 Refrigerators

If for any reason the door needs to be removed, you can do so with the following instructions:

1. Remove the top hinge pins with a straight edge screwdriver.
2. Incline the refrigerator door outwards and lift off the door.
3. To replace the door, reverse the above procedures.

Door Removal for 778 and 8010 Refrigerators

To remove the doors on our double door models, just follow the following steps:

1. Remove the top hinge pin with a straight edge screwdriver.
2. Incline the freezer door outwards and lift off the door.
3. Remove the center hinge pin.
4. Incline the refrigerator cabinet door outwards and lift off the door.
5. To replace doors, reverse the above procedures.

Changing Door Swing – Single Door

1. Unscrew and remove the upper top hinge pin.
2. Incline the door outwards and lift off door.
3. Remove the hinge pin from the bottom hinge and move it to the opposite hinge.
4. Remove travel latch and move to opposite side. See section on switching travel latch.
5. Refit the door and upper hinge pin.

NOTE: Check that the door closes easily and the door gaskets seal on all sides. If necessary to adjust the door, see door adjustment section.

Changing Door Swing – Double Doors

1. Unscrew and remove the upper top hinge pin.
2. Incline the freezer door outwards and lift off door.
3. Unscrew and remove center hinge pin.
4. Incline the refrigerator cabinet door outwards and lift off door.
5. Remove the hinge pin from the bottom hinge and move it to the opposite hinge.
6. Remove travel latch and move to opposite side. See section on switching travel latch.

NOTE: Check that the door closes easily and the door gaskets seal on all sides. If necessary to adjust the door, see door adjustment section.

Removing Travel Latch

1. Remove door from refrigerator.
2. Unscrew and remove two (2) screws securing the decor trim and remove trim.
3. Unscrew and remove the three (3) screws from top of door frame.
4. Lift off top of door frame.

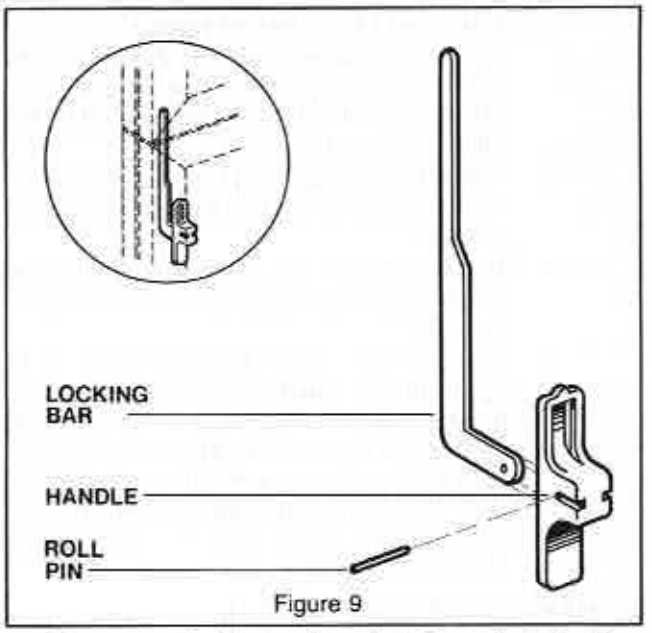


Figure 9

5. Remove roll pin securing plastic handle to locking bar. See Figure 9.
6. Remove plastic handle from locking bar.
7. From the top of door, pull locking bar out of frame.
8. If changing door swing, move travel latch to opposite side and reassemble.
9. If installing new travel latch, reverse above procedures to reassemble.

Replacing Door Gaskets

Norcold has designed our door gaskets in such a way that replacement can be made in a short period of time.

The door gasket can be removed from the groove in the door by pulling the gasket forward.

To insert a new gasket, push each corner of the gasket into the groove, pressing firmly around entire door, slide thumbs towards middle of door gasket.

When the refrigerator is being stored for a long period of time, it is advisable to keep the door ajar. However, the door gaskets can be removed, the door closed and locked with the slide lock. The removal of the gaskets allows air to circulate between the doors and the refrigerator.

Installation of Decorator Panel

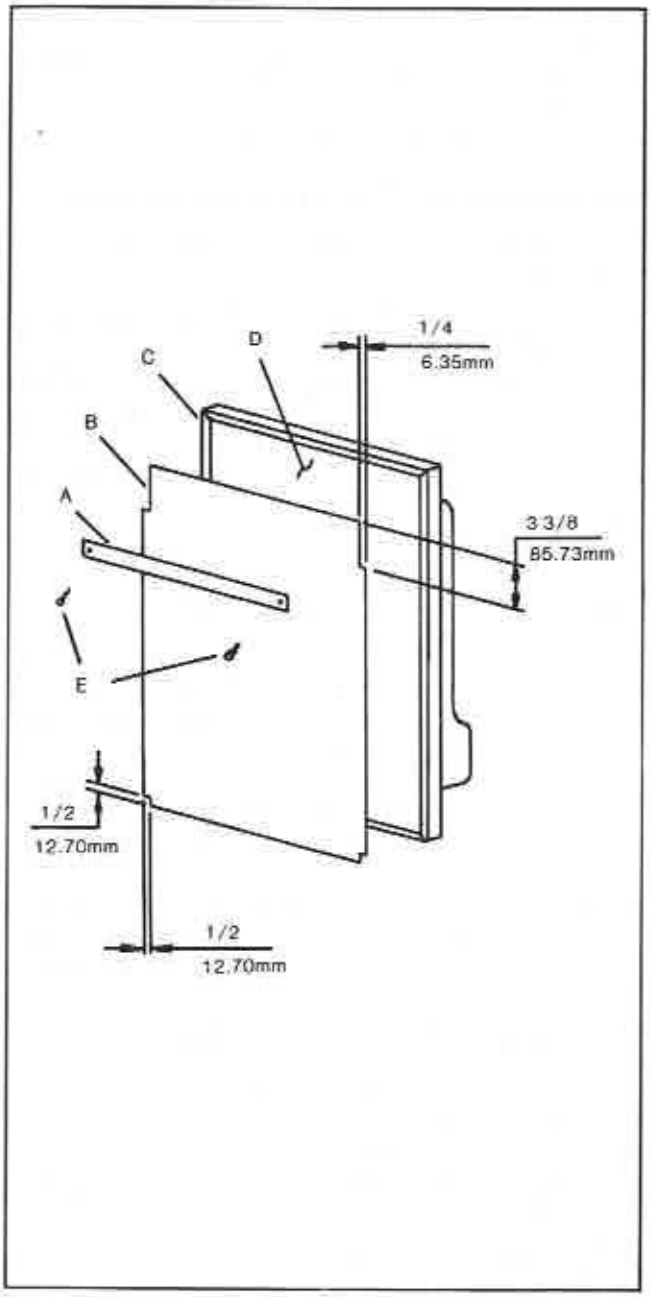
Prepare the Panel by cutting to size as per illustration. Use dimensions given for your particular model. The maximum panel thickness must not exceed ¼" (6.350 mm).

A. Single Door or Lower Door of 2-Door
   1. Remove the door front decorative strip (a) by removing (2) screws (e) and pulling down and away from the upper horizontal door frame (c).

2. Insert one of the vertical sides of the panel (b) into the groove formed by the door frame outer flange (c) and the aluminum door front (d). Be sure that the corner notches of the panel (b) are downward.
3. Gently flex the panel (b) so that the opposite side may be slipped into the corresponding groove.
4. Slide the panel (b) downward so that the lower horizontal edge fits into the bottom groove.
5. Install the door front decorative strip (a) to cover the gap between the top edge of the panel (b) and the door frame (c). Start the groove of the door front decorative strip (a) on the outer flange of the upper horizontal door frame (c) and slide upward until the panel (b) locks the door front decorative strip (a) in place.

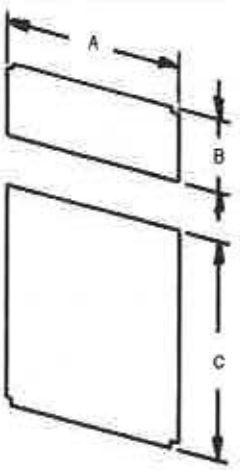
B. Upper Door of 2-Door

1. Remove the door front decorative strip (a) by removing (2) screws (e) and lifting up and away from the lower horizontal door frame (c).
2. Insert one of the vertical sides of the panel (b) into the groove formed by the door frame outer flange (c) and the aluminum door front (d). Be sure that the corner notches of the panel (b) are upward.
3. Gently flex the panel (b) so that the opposite side may be slipped into the corresponding groove.
4. Slide the panel (b) upward so that the upper horizontal edge fits into the upper groove.
5. Install the door front decorative strip (a) to cover the gap between the lower edge of the panel (b) and the door frame (c). Start the groove of the door front decorative strip (a) on the outer flange of the lower horizontal door frame (c) and slide downward until panel (b) locks the door front decorative strip (a) in place.



Model	A
703	19 7/8 (505mm)
704	22 5/16 (567mm)
726	22 5/16 (567mm)
707	24 1/4 (616mm)
806	24 1/4 (616mm)

Model	B
703	22 11/16 (576mm)
704	29 3/4 (756mm)
726	36 5/8 (930mm)
707	40 21/32 (1033mm)
806	42 41/64 (1082mm)



Model	A
727	24 1/4 (616mm)
728	24 1/4 (616mm)
8010	24 1/4 (616mm)

Model	B
727	9 7/8 (251mm)
728	14 5/8 (372mm)
8010	13 1/16 (332mm)

Model	C
727	29 9/32 (744mm)
728	32 7/16 (824mm)
8010	42 41/64 (1082mm)

Trouble Shooting Hints

Trouble	Probable Cause	Remedy
During electric operation refrigerator does not cool satisfactorily	1. Thermostat at wrong setting	1. Turn thermostat dial setting to high
	2. Refrigerator not level	2. Level both ways in freezer compartment
	3. Air leakage into cabinet	3. Check fit of door gasket
	4. Freezer heavily coated with frost	4. Defrost refrigerator
	5. Low voltage	5. Supply voltage at refrigerator should be to these specifications: A.C. supply voltage should be 132 volts maximum and 108 volts minimum. D.C. supply voltage should be 15.4 volts maximum 10 volts minimum.
	6. Defective heating element	6. Check heater wattage. See section on heater within specification. If incoming supply voltage is within specifications and the wattage of the heating is incorrect, heater needs to be replaced.
Refrigerator too cold	1. Thermostat set too cold	1. Turn to a warmer setting
	2. Room temperature abnormally cold	2. Turn thermostat dial to a warmer position during cooler hours and return it to a colder setting during the day.
	3. Capillary sensing tube inproperly connected to lower evaporator fin	3. Check that the end of the sensing tube is making good contact with the fins.
	4. Defective gas control	4. Check that the flame changes from high to low flame as the thermostat is turned from off to maximum. If not, thermostat needs to be replaced.
Burner flame soft or yellow	1. Burner air passage clogged	1. Clean air passage
	2. Burner flue clogged	2. Clean flue
	3. Defective or improper orifice	3. Clean or replace orifice

Trouble Shooting Hints

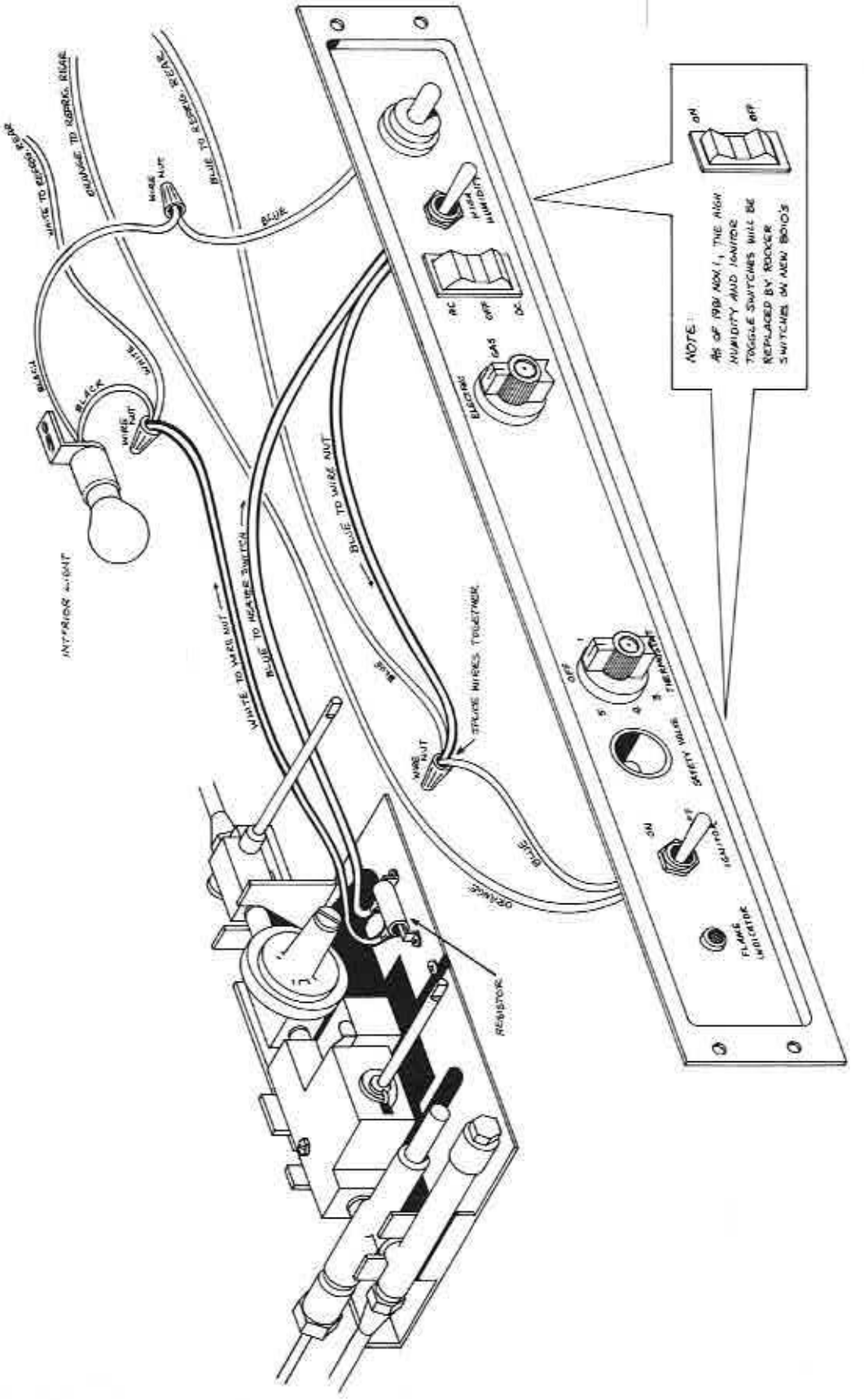
Trouble	Probable Cause	Remedy
No burner flame or flame does not stay on	1. Safety valve thermocouple out of position or defective	1. Reposition thermocouple. Replace thermostat, safety valve thermocouple
	2. Improper gas pressure	2. Check main line gas pressure, regulator pressure at the control assembly.
	3. Orifice dirty or clogged	3. Remove, clean and/or replace orifice
	4. Defective safety valve	4. Replace safety valve
Burner flame hard, noisy or lifting	1. Baffle missing in flue	1. Install baffle
	2. Defective or improper orifice	2. Clean or replace orifice
	3. Gas pressure too high	3. Check and set pressure
Burner is hard to light	1. Electrode bent	1. If there is no spark directly above burner, electrode should be adjusted and lead wire checked for electrical leaks
	2. Low gas pressure	2. Check gas pressure at pressure tap tee as well as main line gas pressure. See section on gas pressure settings. If there is no reading, be sure the refrigerator gas control valve is turned on. Also be sure the gas bottles are turned on and not empty.

Trouble Shooting Refrigerator with Electronic Ignition

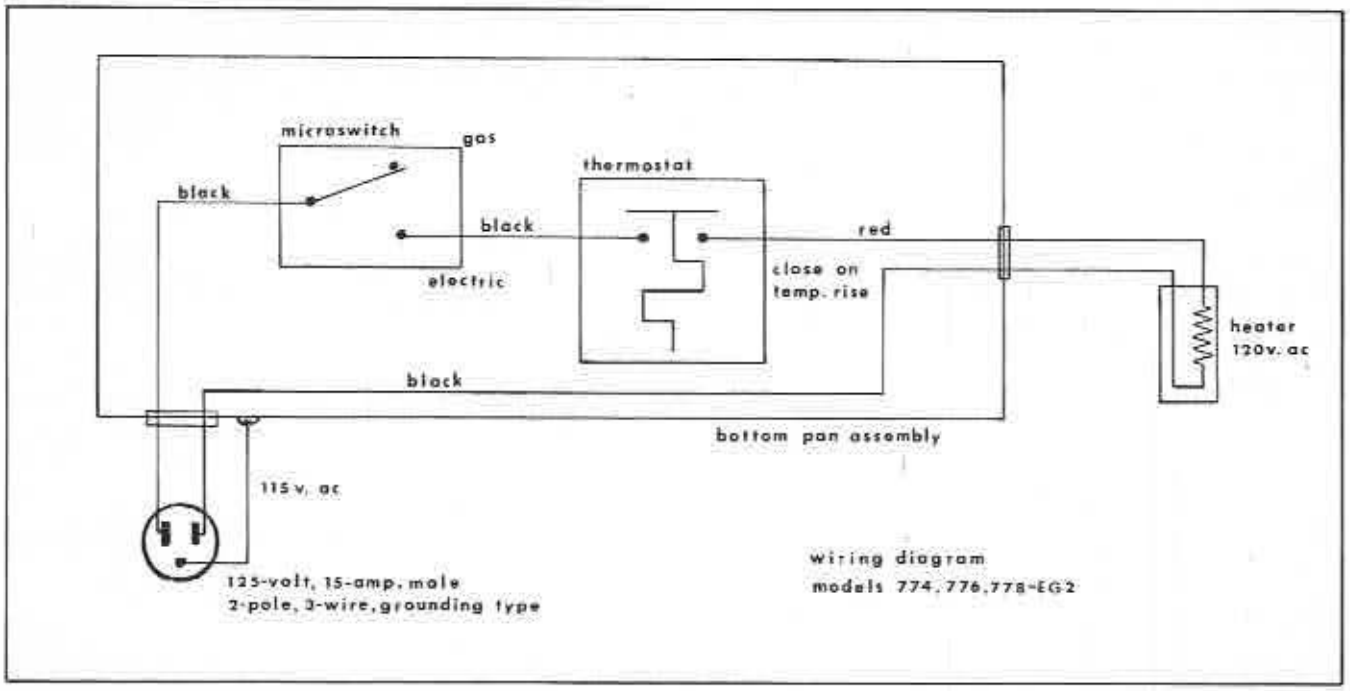
Trouble	Probable Cause	Remedy
Electrode shows no visible spark	1. Switch in "off" position	1. Turn switch to "on" position
	2. 2 amp fuse blown	2. Replace fuse
	3. Wire disconnected on electrode or at gas module	3. Secure wire in place
	4. Ceramic electrode cracked	4. Replace burner assembly
	5. No voltage to terminal on back of refrigerator	5. Check battery voltage to refrigerator terminal. Specifications are 15.4 volts maximum – 10. volts minimum
	6. Electrode out of position	6. Reposition electrode to ⅛" (inch) above burner cap and centered in the first slot on the burner cap.
	7. Gas module defective	7. Replace gas module
Electrode is sparking but burner will not ignite	1. Electrode not positioned correctly	1. Electrode should be approximately ⅛" (inch) above burner cap, and centered over first slot in burner cap.
	2. No gas present at burner	2. Safety valve must be pushed in when trying to light burner. Gas control valve at refrigerator has to be in the gas position. Main supply tank valve has to be turned on with gas in it.

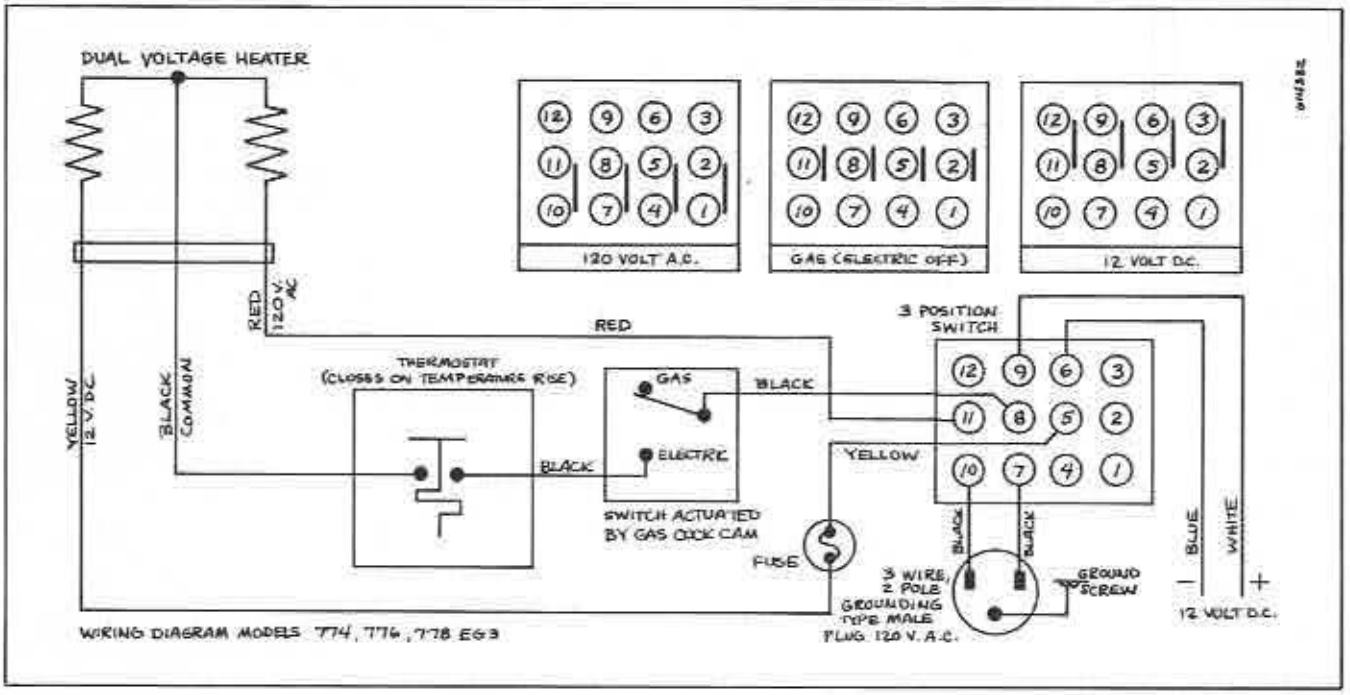
NOTE: The electronic ignition system is described in detail in the 8010 Owner's Manual on page 3.

Humidity Control Wiring Connections
(Service Kit)

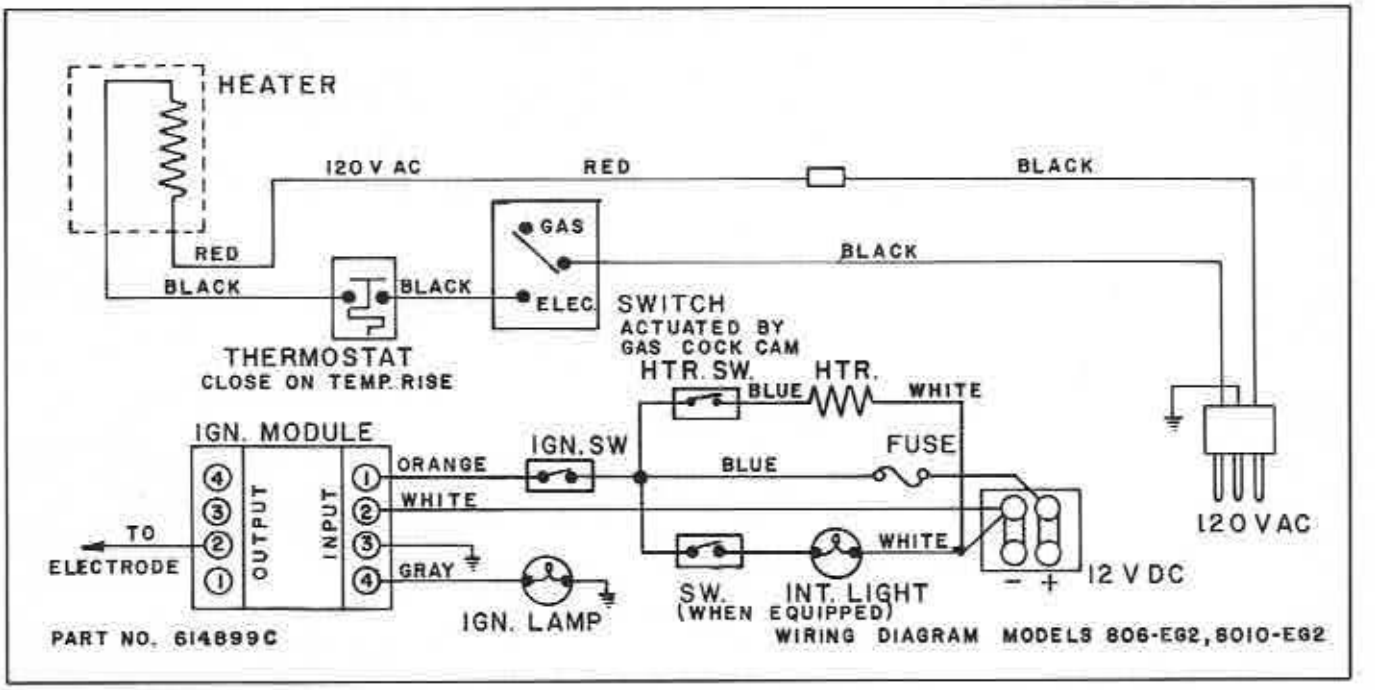


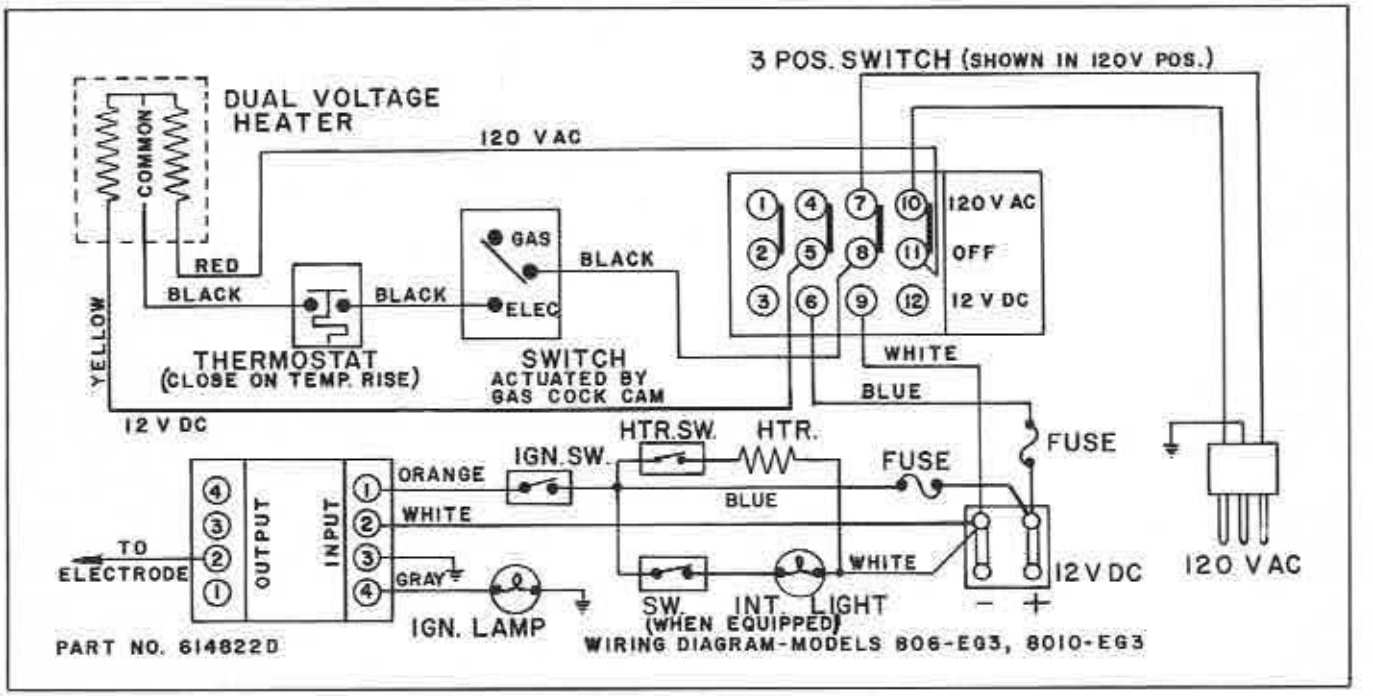
Wiring Diagrams – Models 774, 776, 778 EG2 & EG3



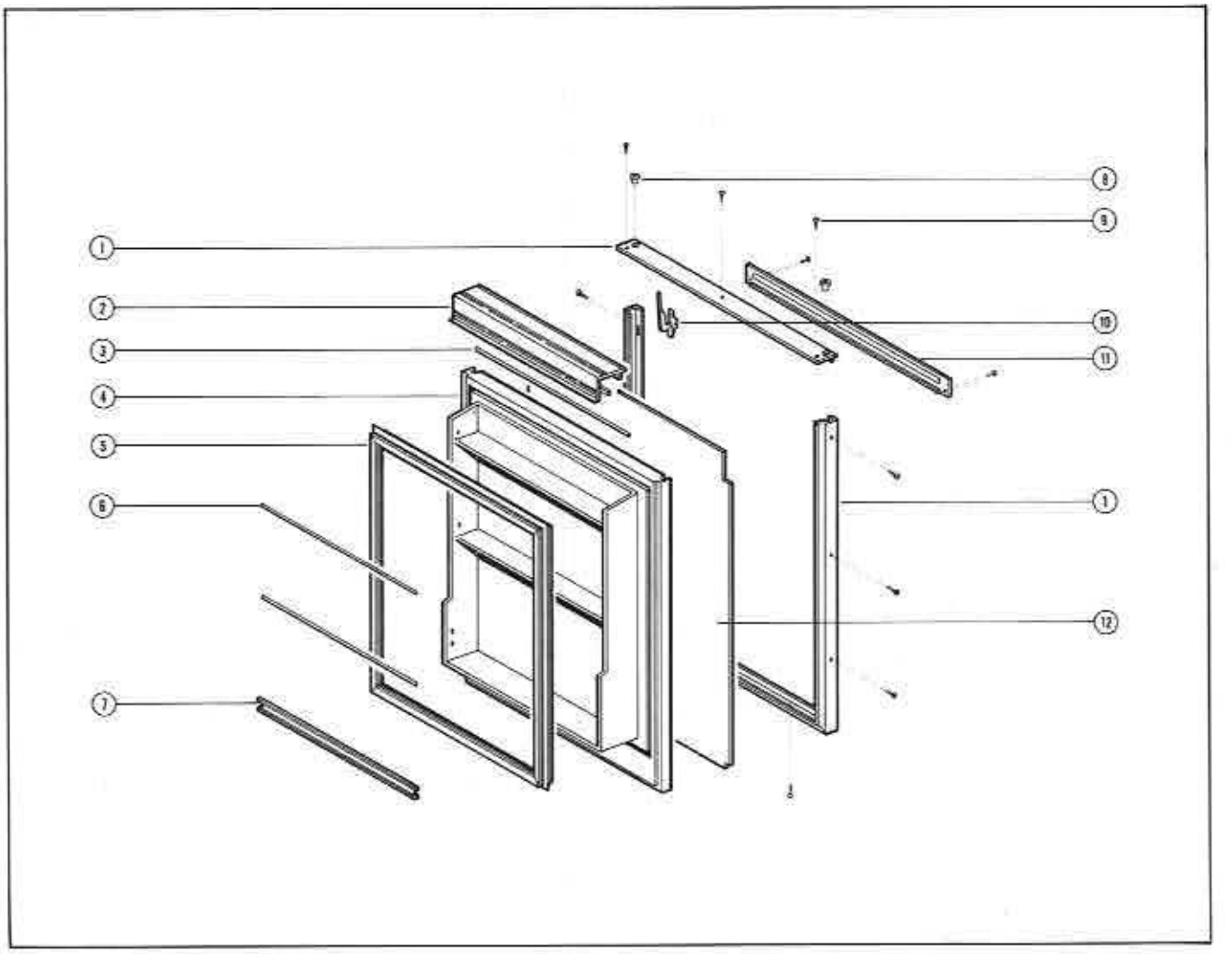


Wiring Diagrams – Models 8010 EG2 & EG3



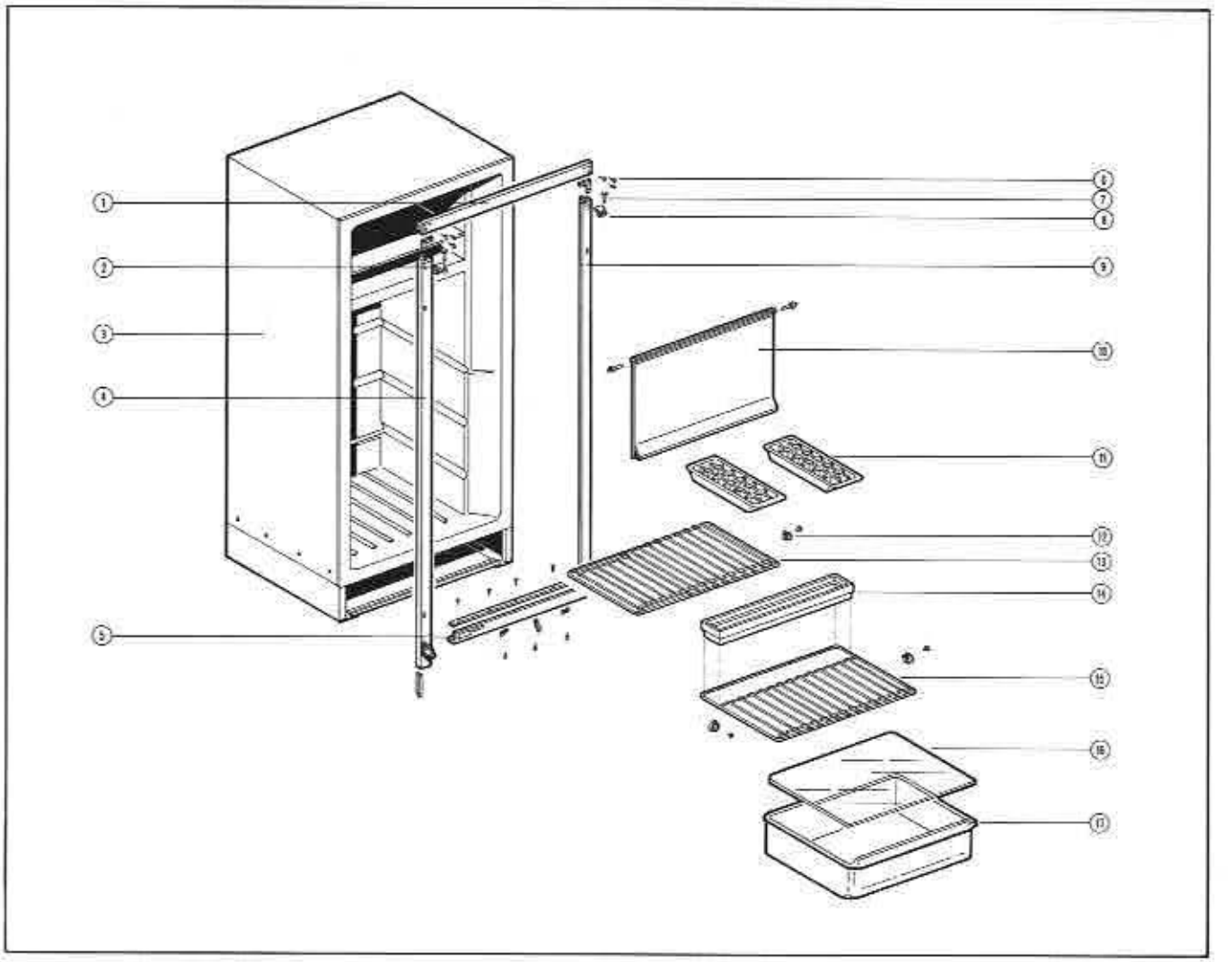


Door Assembly – 774-776



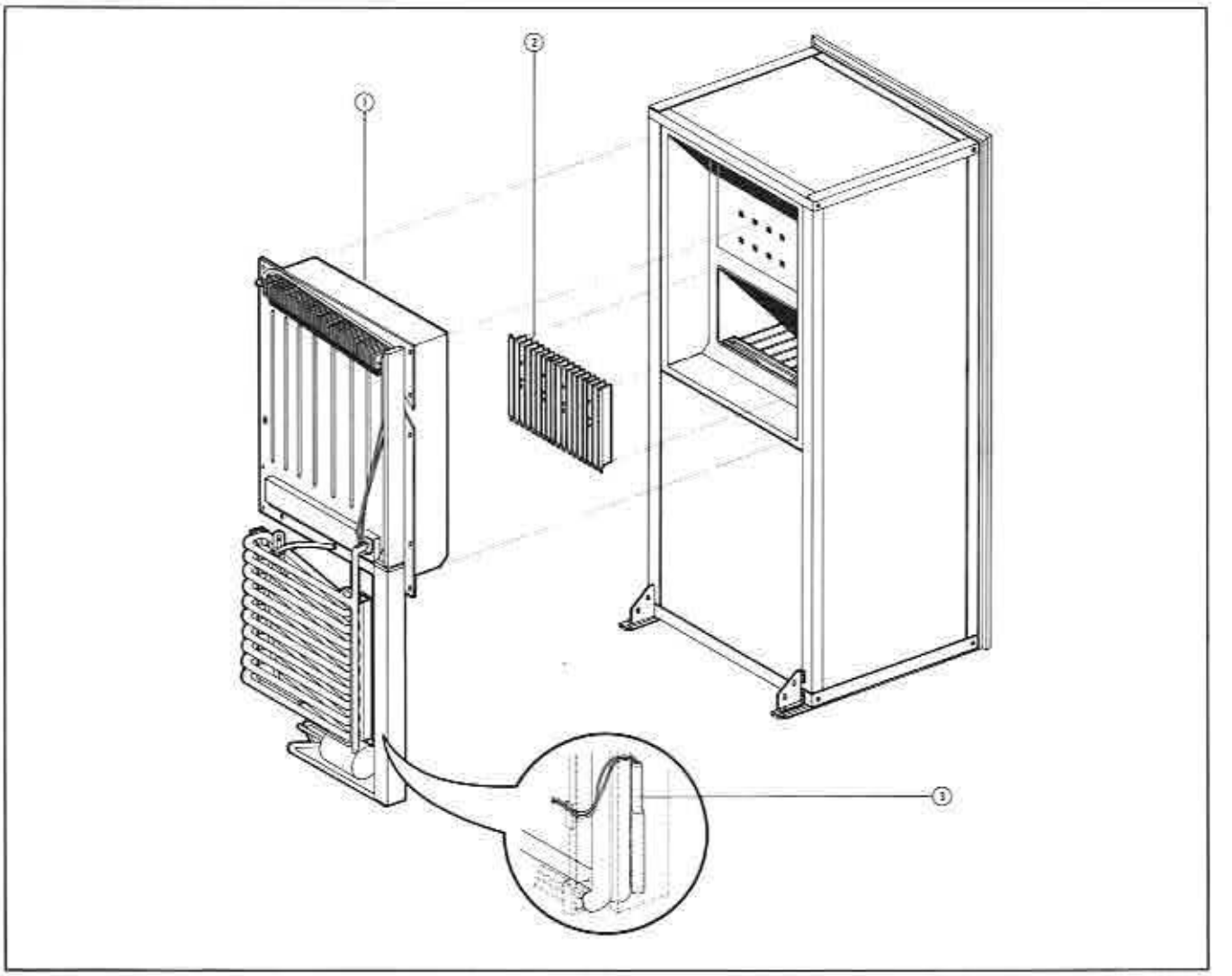
No.	Part No.	Description	774	776
	614654	Door Assembly	X	
	614523	Door Assembly		X
1	615038	Frame Assembly	X	
	615039	Frame Assembly		X
2	614668	Dairy Keeper Door	X	X
3	614679	Connector Rod	X	X
4	613731	Door Liner	X	
	613505	Door Liner		X
5	613736	Gasket	X	
	613507	Gasket		X
6	614679	Shelf Rod	X	X
7	614711	Shelf Trim Assembly	X	X
8	613127	Bushing	X	X
9		Screw	X	X
10	615119	Travel Latch	X	X
11	614225	Decorative Trim Assembly	X	X
12		Decorator Panel	X	
		Decorator Panel		X

Cabinet Assembly – 774-776



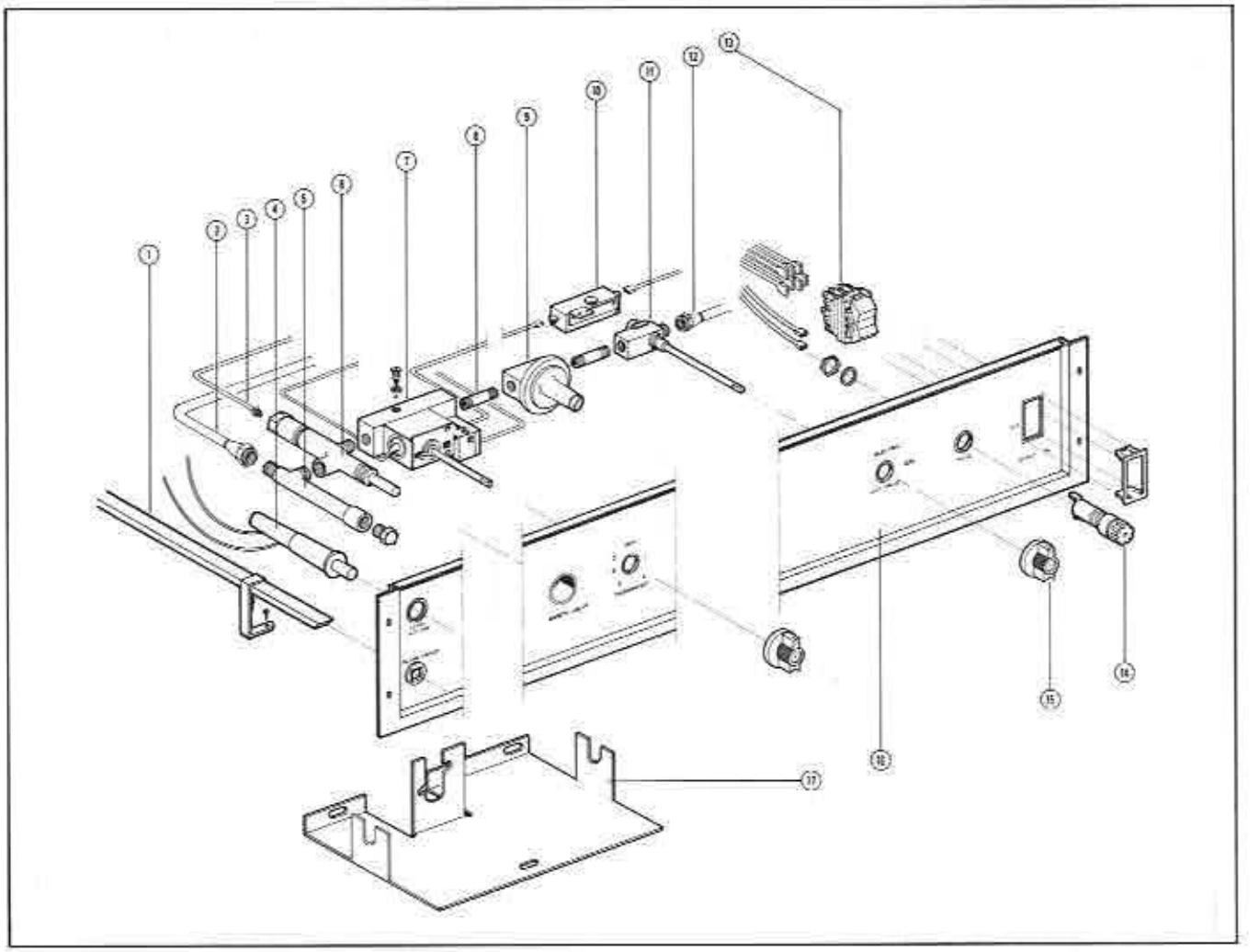
No.	Part No.	Description	774	776
1	613536	Top Breaker	X	X
2	613529	Hinge, Left	X	X
3	614420	Cabinet	X	
	614401	Cabinet		X
4	613844	Breaker Strip, Left	X	
	613833	Breaker Strip, Left		X
5	613525	Bottom Trim	X	X
6		Screws	X	X
7	611146	Hinge Pin	X	X
8	613528	Hinge, Right	X	X
9	613843	Breaker Strip, Right	X	
	613832	Breaker Strip, Right		X
10	614224	Evaporator Door	X	X
11	614529	Ice Cube Trays	X	
	612192	Ice Cube Trays		X
12	614096	Shelf Clips	X	X
13	615060	Shelf	X	X
14	614841	Drip Tray	X	X
15	615061	Shelf	X	X
16	613518	Crisper Cover		X
17	613497	Crisper		X

Unit Assembly – 774-776



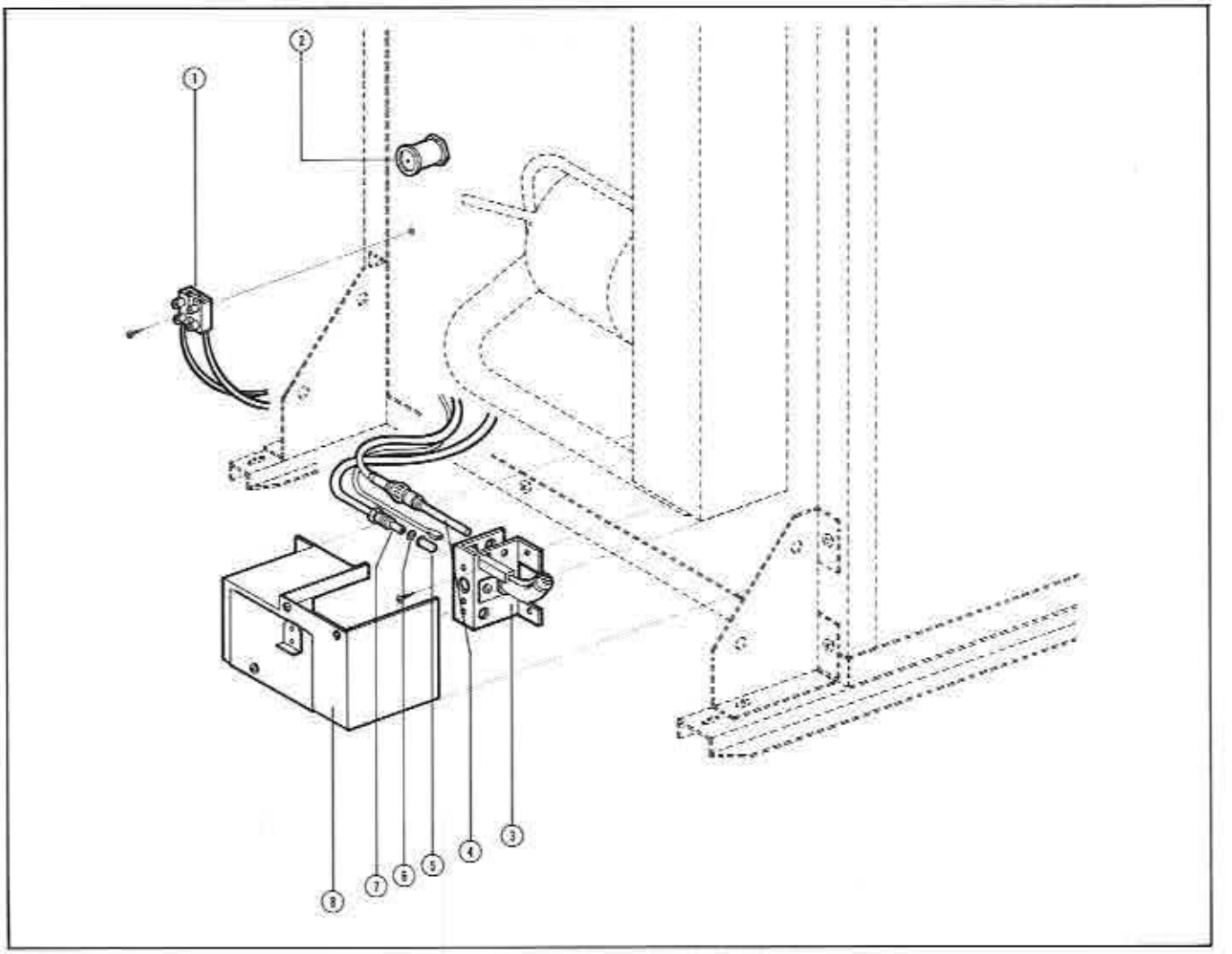
No.	Part No.	Description	774	776
1	614428	Cooling Unit	X	
	614414	Cooling Unit		X
2	614493	Fins	X	X
3	614700	Heater 120V	X	X
	614400	Heater 120V/12V	X	X

Control Assembly – 774-776



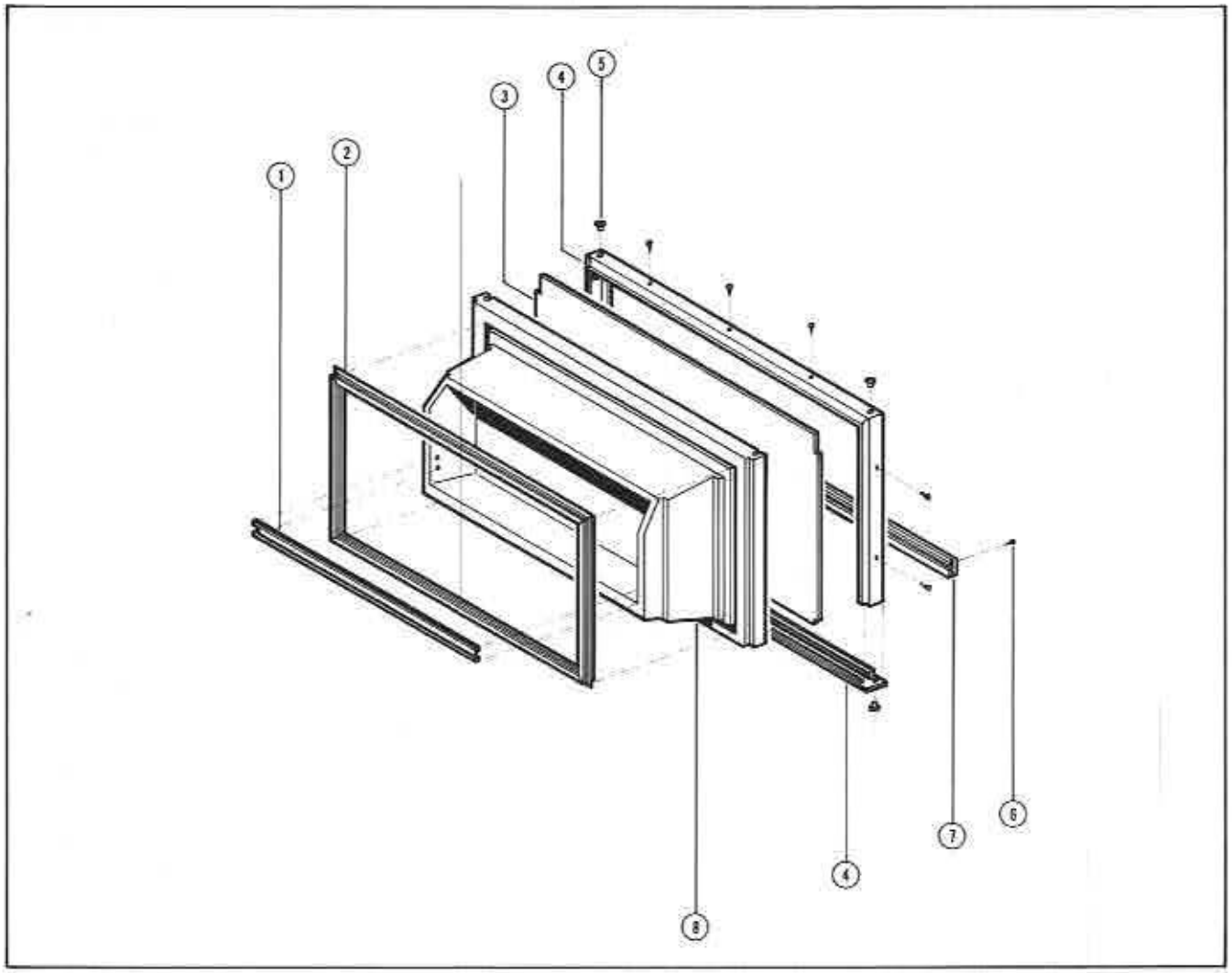
No.	Part No.	Description	774	776
	614374	Control Assembly	X	X
1	614392	Flame Viewer	X	X
2	614360	Burner Tube	X	X
3	614363	Thermocouple	X	X
4	614368	Spark Ignitor	X	X
5	614379	Pressure Tap Tee	X	X
6	614377	Safety Valve	X	X
7	614376	Thermostat	X	X
8	614380	Nipple	X	X
9	614378	Regulator	X	X
10	614382	Snap Switch	X	X
11	614381	Gas Cock	X	X
12	614361	Inlet Tube	X	X
13	614391	3-Way Switch	X	X
14	614390	Fuse Holder	X	X
15	614393	Knob	X	X
16	614337	Control Panel Assembly	X	X
17	614375	Control Bracket	X	X

Back View – 774-776



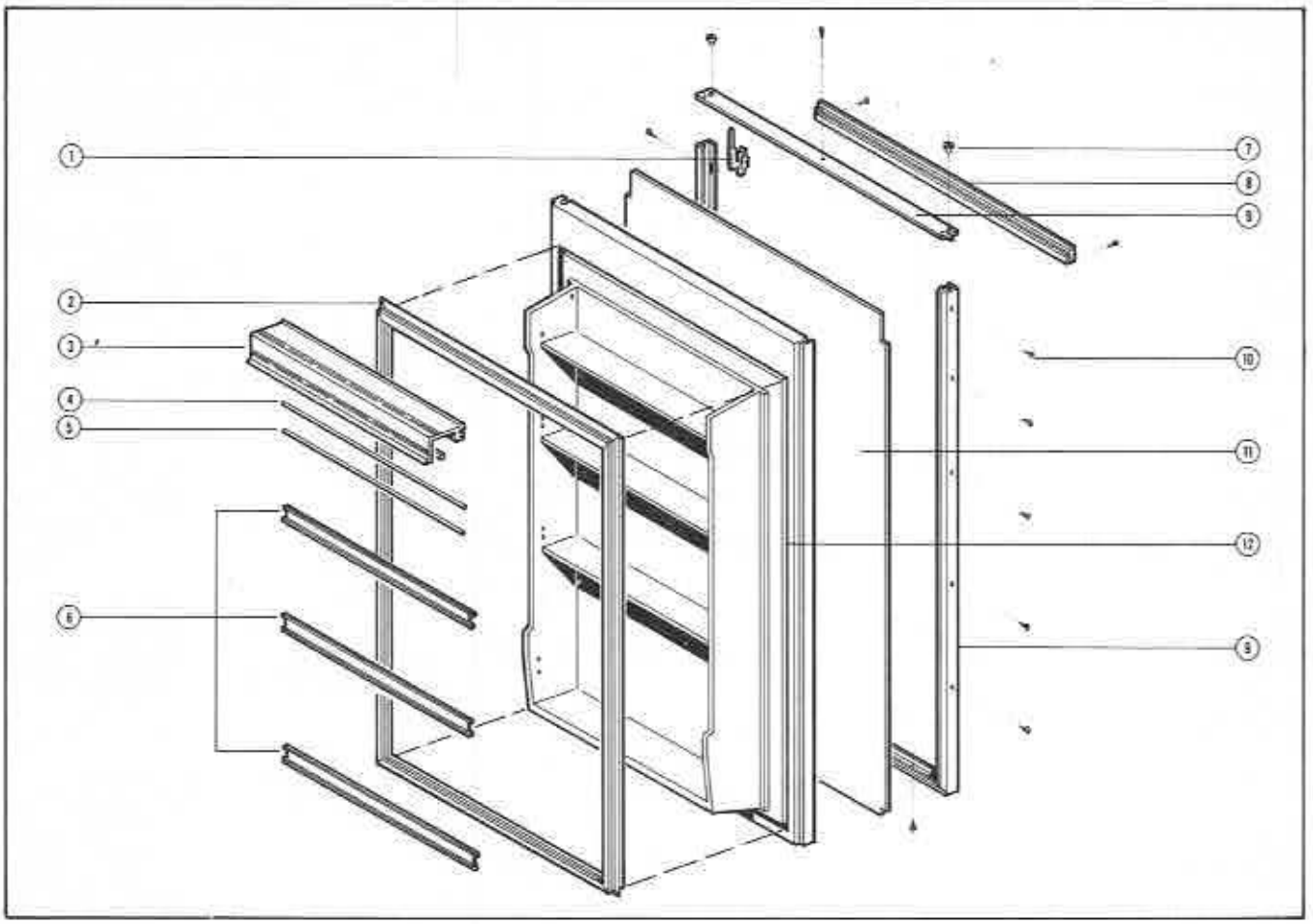
No.	Part No.	Description	774	776
1	614973	Terminal Block	X	X
2	614362	Bulkhead Fitting	X	X
3	614640	Burner Assembly	X	
	614520	Burner Assembly		X
4	614363	Thermocouple	X	X
5	614543	Orifice	X	
	614521	Orifice		X
6		Orifice Gasket	X	X
7	614360	Burner Tube	X	X
8	614578	Burner Shield	X	X

Upper Door – 778-8010



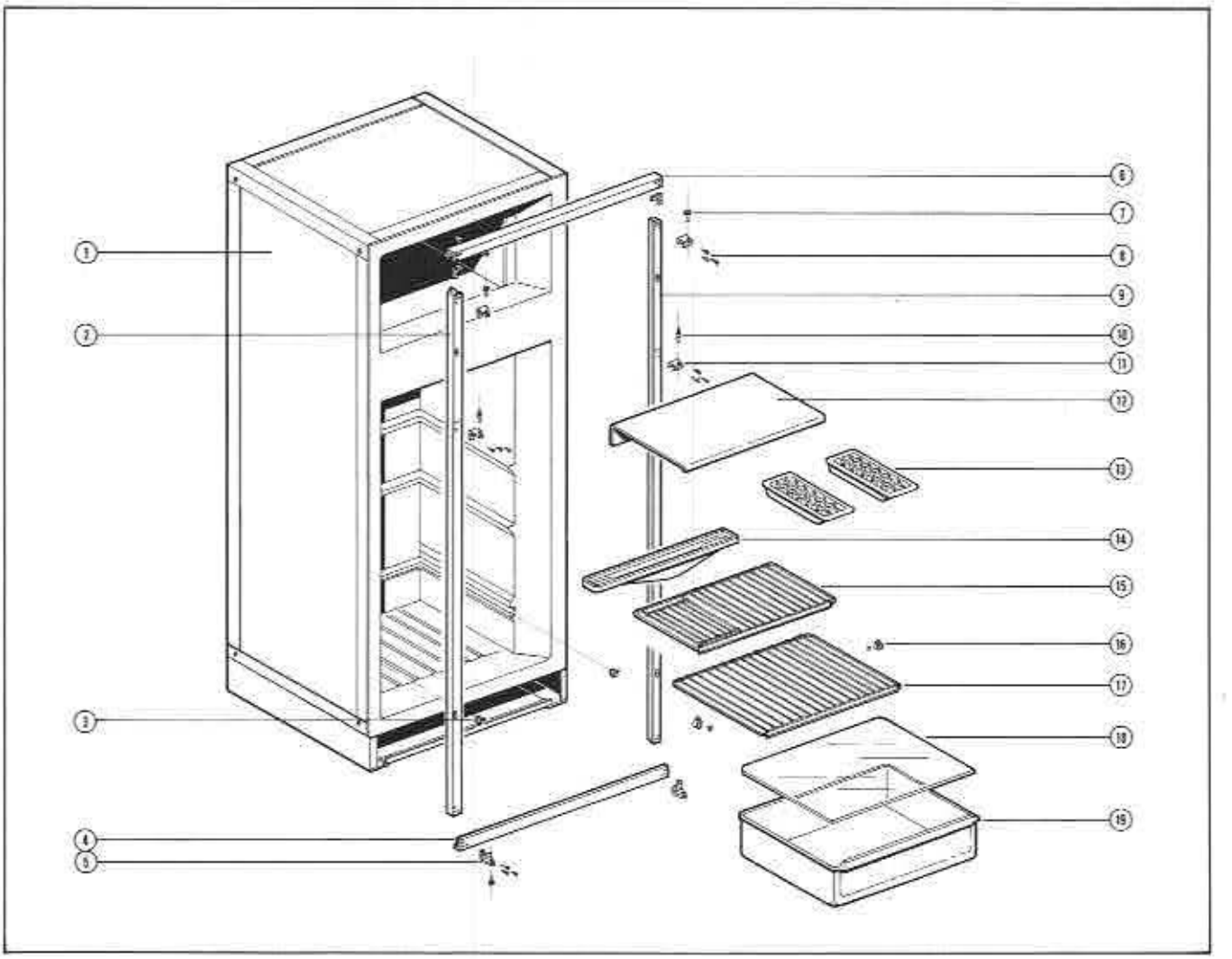
No.	Part No.	Description	778	8010
	614655	Upper Door Assembly	X	
	614857	Upper Door Assembly		X
1	614739	Door Shelf Trim Assembly	X	X
2	613520	Door Gasket Upper	X	
	614799	Door Gasket Upper		X
3		Decorative Door Panel		
4	615041	Door Frame Upper Assembly	X	
	614857	Door Frame Upper Assembly		X
5	613127	Bushing	X	X
6	614926	Screws	X	
7	614137	Decorative Door Strip Assembly	X	X
8	614905	Door Liner Foamed Assembly	X	
	614858	Door Liner Foamed Assembly		X

Lower Door – 778-8010



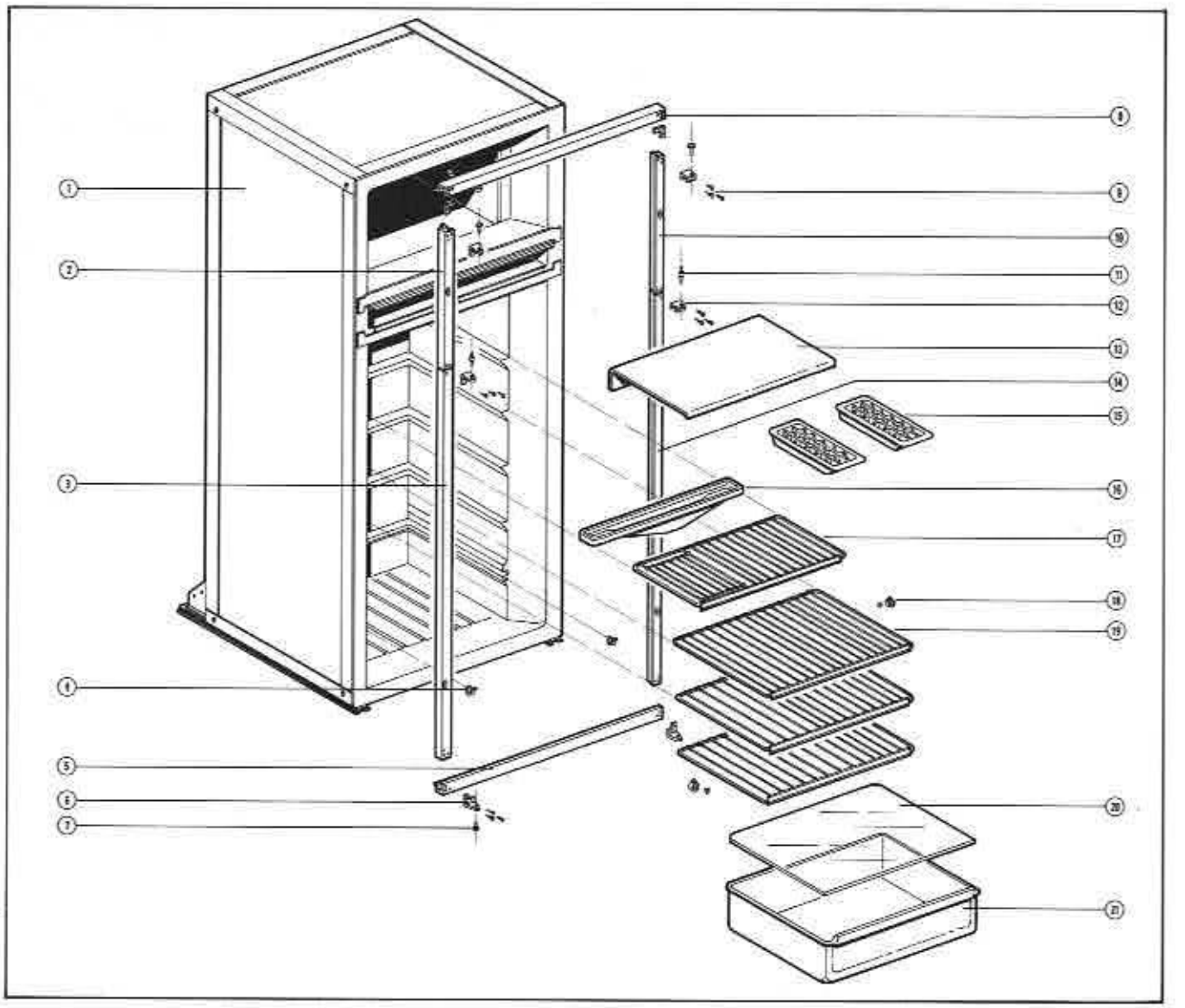
No.	Part No.	Description	778	8010
	614489	Lower Door Assembly	X	
	614795	Lower Door Assembly		X
1	615119	Travel Latch	X	X
2	613514	Door Gasket Lower	X	
	614797	Door Gasket Lower		X
3	614720	Dairy Keeper Door	X	X
4	614721	Connector Rod	X	
	614989	Connector Rod		X
5	613132	Door Rail	X	X
6	614739	Door Shelf Trim Assembly	X	X
7	613127	Hinge Bushing	X	X
8	614138	Plain Door Strip Assembly	X	X
9	615040	Door Frame Assembly	X	
	614981	Door Frame Assembly		X
10	614926	Screw	X	X
11		Decorative Door Panel		
12	614906	Door Liner Foamed Assembly	X	
	614796	Door Liner Foamed Assembly		X

Cabinet Assembly – 778



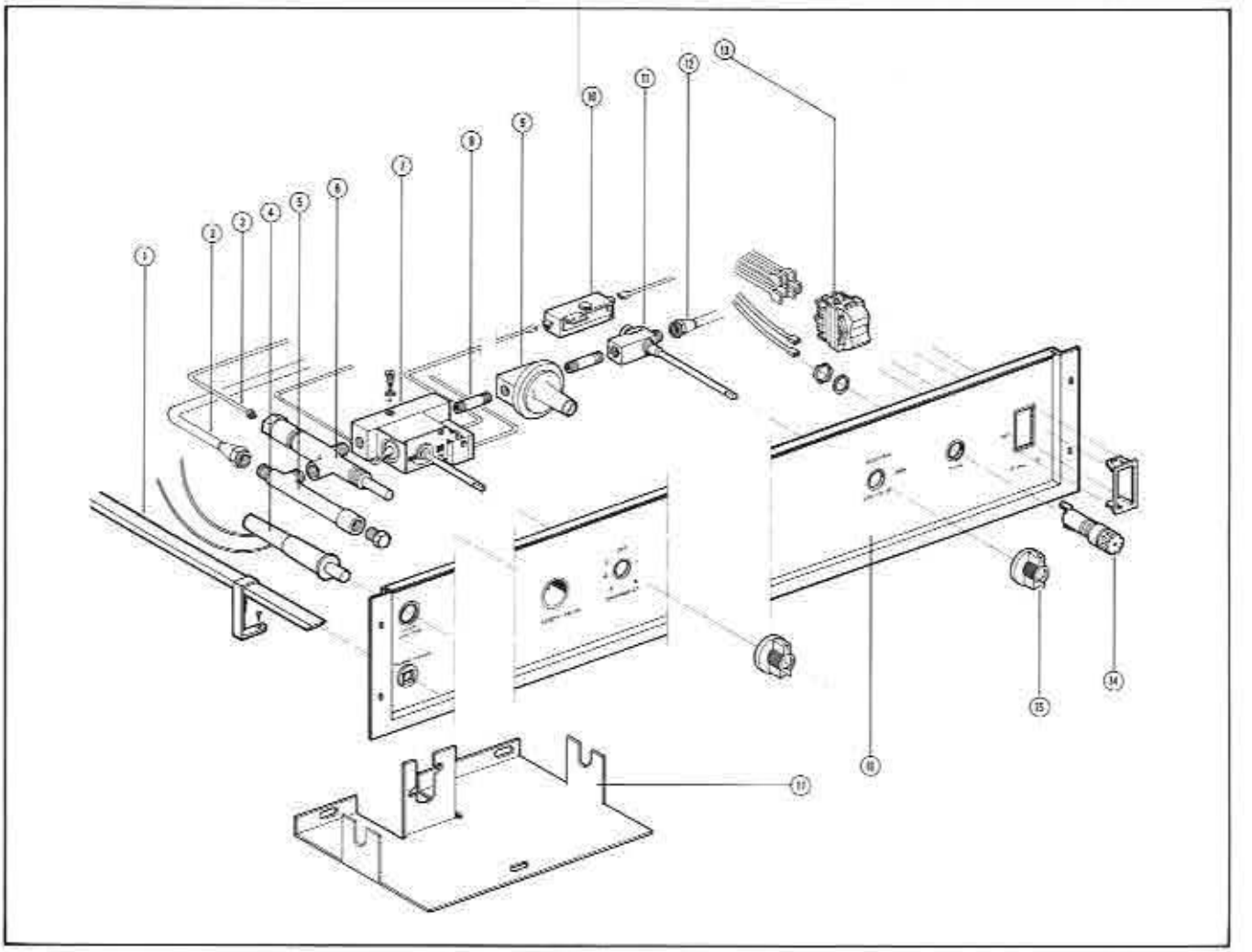
No.	Part No.	Description	778
1	614350	Cabinet Urethane Assembly	X
2	613820	Breaker Strip L.H.	X
3	613660	Crisper Cover Clip	X
4	613603	Bottom Trim	X
5	613529	Hinge Left Side	X
6	613614	Top Breaker Strip	X
7	611146	Single Hinge Pin	X
8	613805	Hinge Screw	X
9	613819	Breaker Strip Right	X
10	613384	Double Hinge Pin	X
11	613528	Hinge R.H.	X
12		Evaporator Shelf	X
13	614529	Ice Cube Tray	X
14	615085	Drip Tray	X
15	615058	Shelf	X
16	614096	Shelf Clip	X
17	615062	Shelf Assembly	X
18	613376	Crisper Cover	X
19	614588	Crisper Drawer	X

Cabinet Assembly – 8010



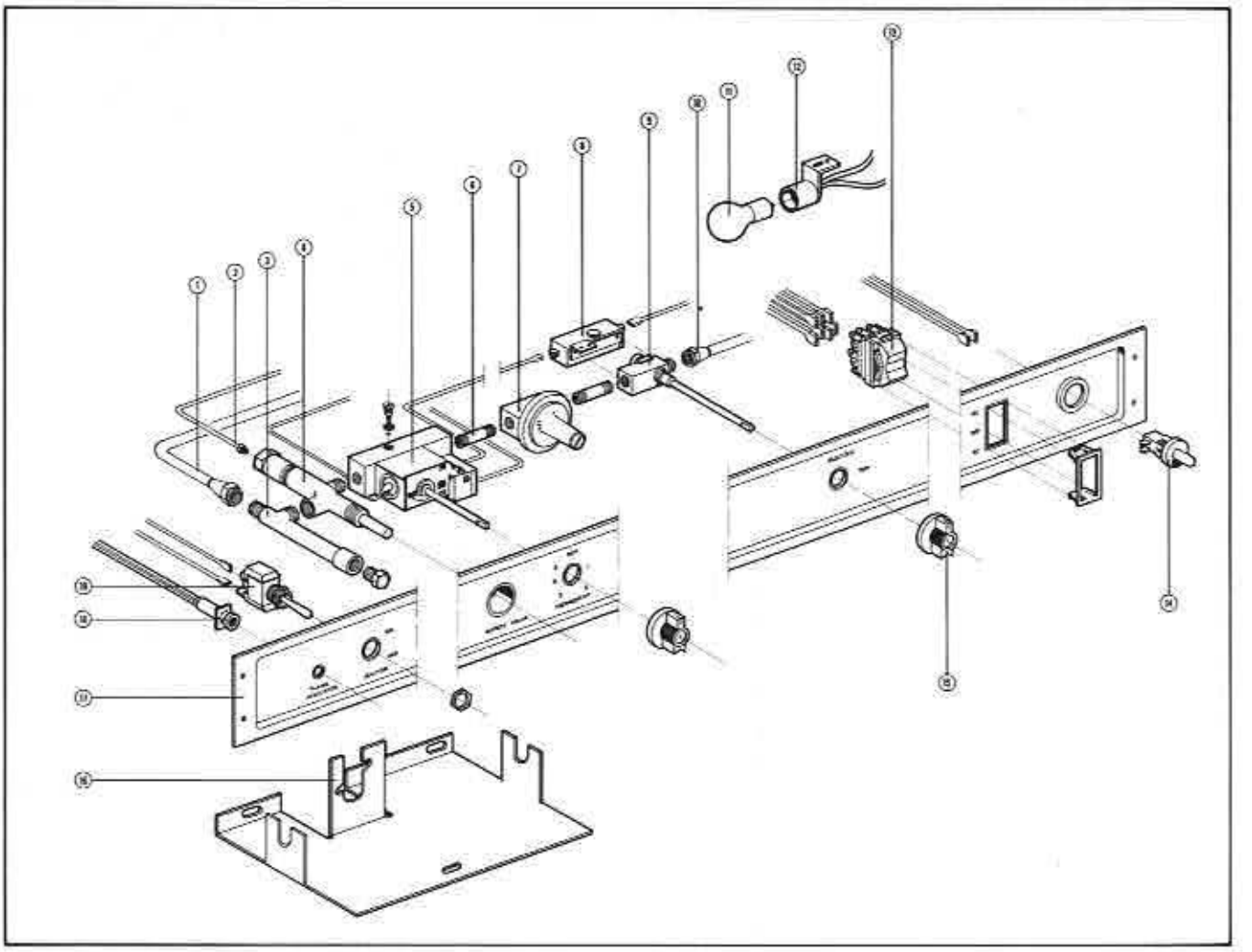
No.	Part No.	Description	8010
1	614804	Cabinet Urethane Assembly	X
2	614932	Top Breaker Strip L.H.	X
3	614930	Bottom Breaker Strip Left	X
4	613660	Crisper Cover Clips	X
5	614908	Bottom Breaker Strip	X
6	613529	Hinge Left Side	X
7	611146	Hinge Pin Single	X
8	613614	Top Breaker Strip	X
9	613805	Hinge Screws	X
10	614931	Top Breaker Right Side	X
11	613384	Hinge Pin	X
12	613528	Hinge Right	X
13		Evaporator Shelf	X
14	614929	Bottom Breaker Strip Right	X
15	614529	Ice Cube Tray	X
16	615085	Drip Tray	X
17	614898	Shelf	X
18	614096	Shelf Clip	X
19	614311	Shelf Assembly	X
20	613376	Crisper Cover	X
21	614853	Crisper Drawer	X

Control Assembly – 778



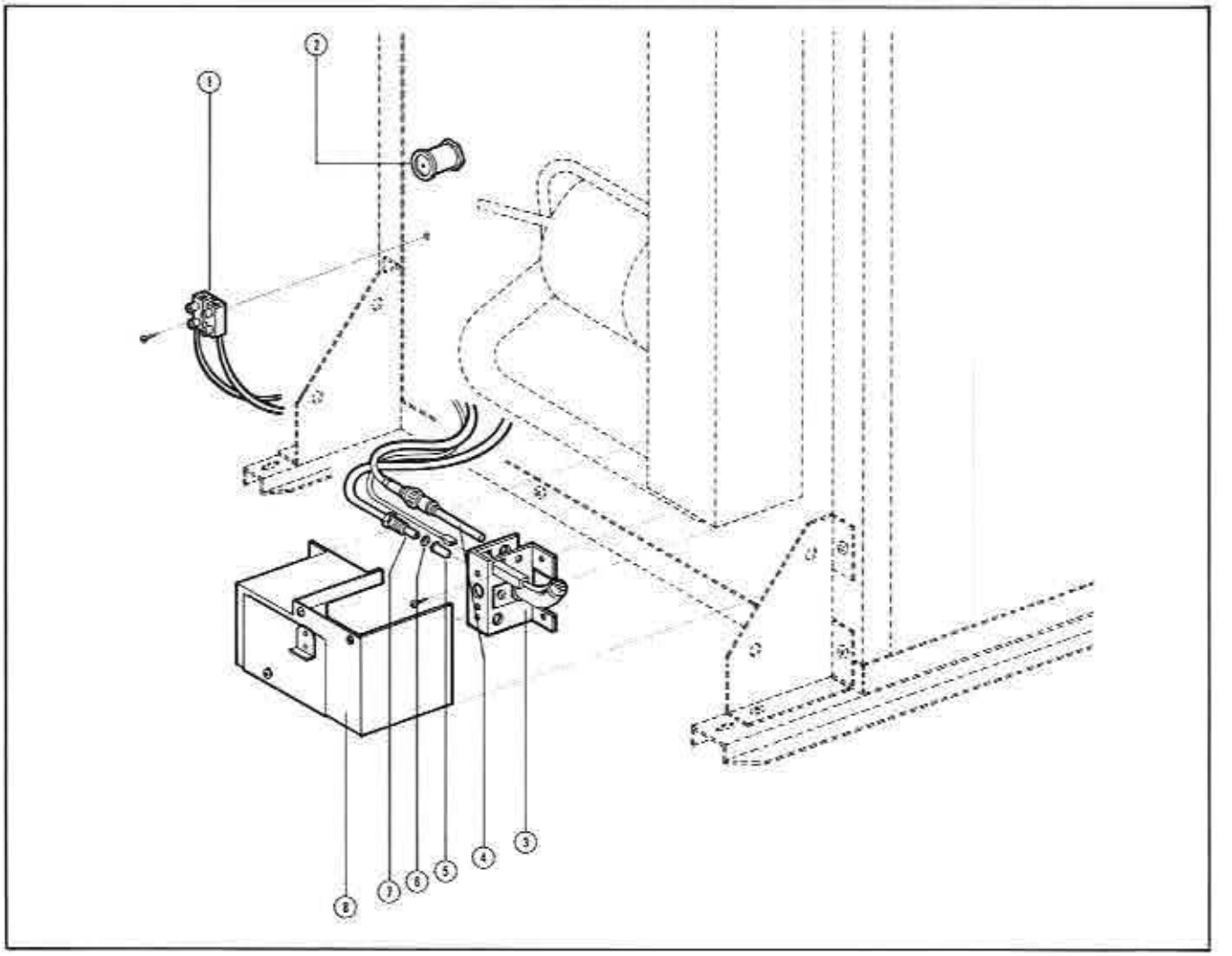
No.	Part No.	Description	778
	614374	Control Assembly	X
1	614387	Flame Viewer	X
2	614360	Burner Tube	X
3	614363	Thermocouple	X
4	614368	Spark Ignitor	X
5	614379	Pressure Tap Tee	X
6	614377	Safety Valve	X
7	614376	Thermostat	X
8	614380	Nipple	X
9	614378	Regulator	X
10	614382	Snap Switch	X
11	614381	Gas Cock	X
12	614361	Inlet Tube	X
13	614391	3-Way Switch	X
14	614390	Fuse Holder	X
15	614393	Knob	X
16	614336	Control Panel Assembly	X
17	614375	Control Bracket	X

Control Assembly – 8010



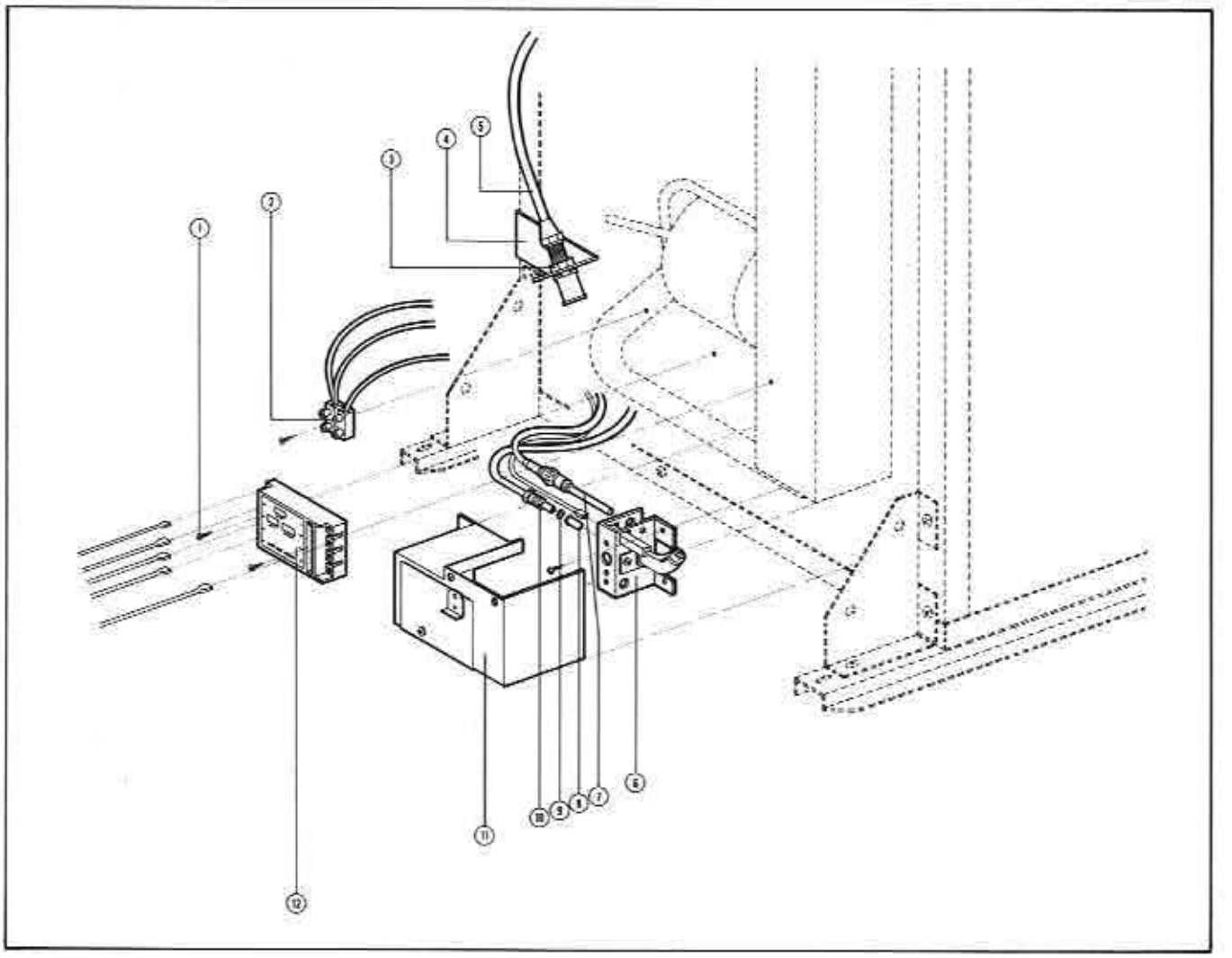
No.	Part No.	Description	8010
1	614831	Burner Tube	X
2	614833	Thermocouple	X
3	614379	Pressure Tap Tee	X
4	614377	Safety Valve	X
5	614376	Thermostat	X
6	614380	Nipple	X
7	614378	Regulator	X
8	614816	Snap Switch	X
9	614902	Gas Cock	X
10	614832	Inlet Tube	X
11	614602	12V Light Bulb	X
12	614603	Baynett Holder	X
13	614391	3-Way Switch	X
14	614601	Light Switch	X
15	614393	Control Knobs	X
16	614815	Control Bracket	X
17	614984	Control Panel EG-2	X
	614819	Control Panel EG-3	X
18	614941	Flame Indicator Light	X
19	614942	Ignitor Switch	X

Back View – 778



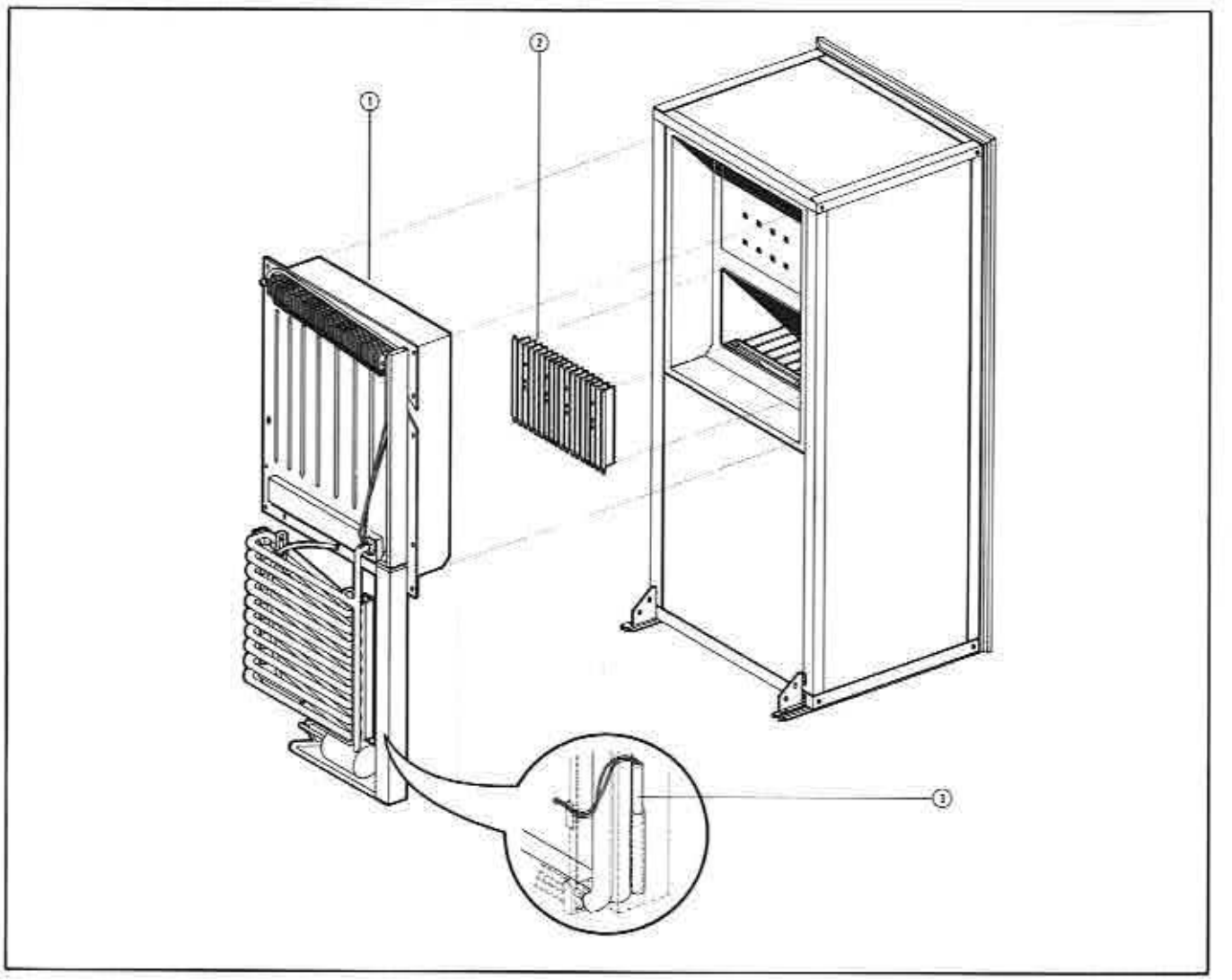
No.	Part No.	Description	778
1	614973	Terminal Block	X
2	614362	Bulkhead Fitting	X
3	614520	Burner Assembly	X
4	614363	Thermocouple	X
5	614522	Orifice	X
6		Orifice Gasket	X
7	614360	Burner Tube	X
8	614578	Burner Shield	X

Back View – 8010



No.	Part No.	Description	8010
1	614963	Screw	X
2	614973	Terminal Block	X
3	614362	Bulkhead Fitting	X
4	614843	Mounting Bracket	X
5	614361	Inlet Tube	
	614832	Inlet Tube	X
6	614520	Burner Assembly	X
7	614363	Thermocouple	
	614833	Thermocouple	X
8	614522	Orifice	X
9	614751	Orifice Gasket	X
10	614360	Burner Tube	
	614831	Burner Tube	X
11	614975	Burner Shield	X
12	614936	Gas Ignition Module	X

Unit Assembly – 778-8010



No.	Part No.	Description	778	8010
1	614383	Cooling Unit	X	
	614999	Cooling Unit		X
2	614494	Fins	X	X
3	614713	Heater 120V	X	X
	614399	Heater 120V/12V	X	X

Table of Contents

Service Instructions For 838 EG and 8310 EG

We suggest the information listed below be passed on to the user for efficient operation.

The Frozen Food Compartment

This compartment is not designed for the quick freezing of food but to retain frozen food in that state. As with the food compartment, foods purchased for storage in the frozen food compartment should be frozen when purchased to reduce the load of the refrigerator system. Ice will be made more rapidly if the thermostat is set at its highest position.

Defrosting the Refrigerator

After a period of operation, frost may gradually accumulate on the freezer plate and the cooling fins, thereby impairing cooling efficiency.

To defrost the refrigerator on gas or electric operation turn the thermostat to its "OFF" position. When all the frost has melted, set the thermostat to its coldest setting for a few hours for maximum cooling before returning it to its normal position.

Cleaning the Refrigerator

It is important to keep the cabinet clean to minimize the possibility of food odor. Cleaning the interior of the refrigerator should only be done using a mild soda solution. Do not use hard or abrasive type cleaners as they will attach the surface of the plastic and aluminum surfaces.

NOTE: For an undetermined length of shut down, set the thermostat to "OFF" and disconnect the AC power supply.

Ventilation

The certifying codes require an approved ventilation system at the rear of the refrigerator to accommodate combustion air, flue gas removal and heat removal from the absorber/condenser coils.

The ventilation area should not be modified in any way which would reduce air movement or cause flue gas leakage into the living area. A regular check should be made to insure that combustible materials, etc. have not been placed in this area.

Leveling

Norcold refrigerators do not require critical leveling such as required by other absorption type refrigerators. Normal vehicle leveling to provide comfort for the occupants is satisfactory for refrigerator operation. This will be well within the operational limits of 3° off-level side to side and 6° off-level front to back.

However, in servicing or replacing the refrigerator, the level should be closely checked, and if necessary, shimmed to bring it into level with the coach (after the coach is leveled). This helps to remove doubts of customer's leveling practiced at some later date.

General Information and Specifications

838 EG

Input 1550 BTU/Hr
Ammonia .66 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt 60 HZ 2.9 Amp 350 Watt
14 VDC 16.1 Amp 225 Watt
Gas Supply Pressure 11" W.C.

This refrigerator has been designed to operate at the following specifications:

LP GAS OPERATION – 11 inches w.c. and 12 volt DC control voltage

AC OPERATION 132 volts maximum – 108 volts minimum

DC OPERATION 15.4 volts maximum – 10 volts minimum

Operation where these specifications are exceeded may cause damage and will void the warranty.

8310 EG

Input 1550 BTU/Hr
Ammonia .66 Lbs.
Test Pr. 1000 Lbs. Sq. In.
120 Volt AC 60 HZ 2.9 Amp 350 Watt
14 VDC 16.1 Amp 225 Watt
Gas Supply Pressure 11" W.C.

This refrigerator has been designed to operate at the following specifications:

LP GAS OPERATION – 11 inches w.c. and 12 volt DC control voltage

AC OPERATION 132 volts maximum – 108 volts minimum

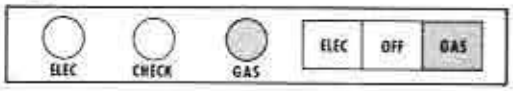
DC OPERATION 15.4 volts maximum – 10 volts minimum

Operation where these specifications are exceeded may cause damage and will void the warranty.

Operating & Lighting Instructions

EG 2 MODELS

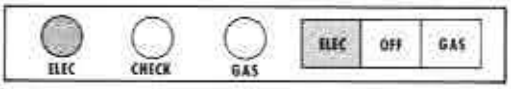
Lighting Instructions – Gas Mode



1. 12 Volt D.C. supply must be on in order to energize the direct spark ignition system.
2. Turn thermostat to mid range position.
3. Depress switch to GAS position. Sparking will start at burner and gas valve will open. Blue light indicates the refrigerator is in the gas mode. (If blue light does not come on, check for loss of 12 volt D.C. supply.)
4. After 10 seconds, the burner should be ignited and operating normally.
5. On the initial refrigerator start-up, it may take longer than 10 seconds to allow air to be purged from the gas line. If the gas does not ignite within 10 seconds, valve will automatically shut off and the red (CHECK) light will come on.
6. To restart when the (CHECK) light is on, depress switch to the OFF position (center position) and wait 10 seconds, then depress switch again to the GAS position.

DO NOT CONTINUE TO RESET GAS SWITCH IF THE CHECK LIGHT CONTINUES TO COME ON AFTER SEVERAL TRIES.

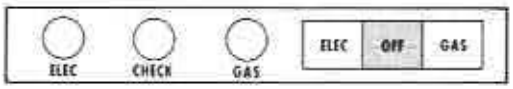
Start Up Instructions – Electric Mode



1. 120 Volts supply must be on at refrigerator to operate on electric.
2. Turn thermostat to mid range position.
3. Depress switch to ELECTRIC position. Green light will indicate the refrigerator is operating properly in the electric mode. (Green light confirms presence of 120 Volts and remains on when the thermostat is satisfied.

NOTE: If green light glows regardless of switch setting, see Page 14 - "Information About Electric Wiring".

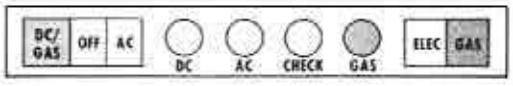
Shut Down Instructions – Gas or Electric



Refrigerator is shut down by depressing switch to OFF position. Indicator lights will be off.

EG 3 MODELS

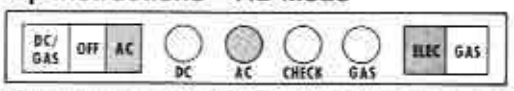
Lighting Instructions – Gas Mode



1. 12 Volt D.C. supply must be on in order to energize the direct spark ignition system.
2. Turn thermostat to mid range position.
3. Depress GAS-ELEC switch to GAS position, depress DC/GAS-OFF-AC switch to DC position. Sparking will start at burner and gas valve will open. Blue light indicates the refrigerator is in the gas mode. (If blue light does not come on, check for loss of 12 Volt supply.)
4. After 10 seconds, the burner should be ignited and operating normally.
5. On the initial refrigerator start-up, it may take longer than 10 seconds to allow air to be purged from the gas line. If the gas does not ignite within 10 seconds, valve will automatically shut off indicated by the red check light.
6. To restart when the check light is on, depress DC/GAS-OFF-AC switch to OFF and wait 10 seconds – then depress switch again to DC position.

DO NOT CONTINUE TO RESET SWITCH IF THE CHECK LIGHT CONTINUES TO COME ON AFTER SEVERAL TRIES.

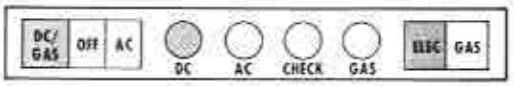
Start Up Instructions – AC Mode



1. 120 Volt supply must be on at refrigerator to operate on AC electric.
2. Turn thermostat to mid range position.
3. Depress GAS-ELEC switch to ELEC position; depress DC/GAS-OFF-AC switch to AC position. Green light will indicate the refrigerator is operating properly in the AC mode. (Green light confirms presence of 120 Volts and remains on when the thermostat is satisfied.)

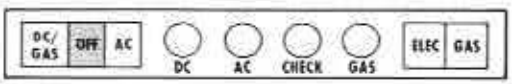
NOTE: If green light glows regardless of switch settings, see Page 14 - "Information About Electric Wiring".

Start Up Instructions – DC Mode



1. 12 Volt DC Supply must be on at refrigerator to operate on DC.
2. Turn thermostat to mid range position.
3. Depress GAS-ELEC switch to ELEC position; depress DC/GAS-OFF-AC switch to DC position. Amber light will indicate the refrigerator is operating properly in the DC mode. (Amber light confirms 12 Volts and remains on when the thermostat is satisfied.)

Shut Down Instructions – Gas or Electric



Refrigerator is shut down by depressing DC/GAS-OFF-AC switch to OFF. Indicator lights will be off.

System Operation

Gas Mode

When placing the mode selector into the gas mode, the blue "GAS" indicator light will be energized and, if the thermostat is calling for cooling, the direct spark ignition system will be activated.

The direct spark ignition system generates a high voltage sparking action from the ignition electrode to the burner while simultaneously energizing the solenoid gas valve. The sparking will continue for approximately 10 seconds. If the burner flame has been established within this time period the sparking will discontinue and the gas valve will remain energized. The presence of the flame is continuously monitored thru the sensing electrode.

If a flame is not established at the burner within the 10 second time period or if the flame should subsequently fail and not re-ignite the solenoid gas valve will shut off stopping the gas flow to the burner. The red "CHECK" light on the mode selector panel will come on when the gas valve shuts off. This condition is called "LOCKOUT".

If the unit should go into lockout, restart by placing mode selector in "OFF" position, waiting 10 seconds, then placing switch back to "GAS" position. This procedure may need to be done several times, especially on initial start-up or after refilling propane tanks where air may be in the gas line.

If the unit repeatedly goes into lockout refer to the trouble shooting section for further action.

During normal system operation the burner flame is controlled by the thermostat and the direct spark ignition system. When the thermostat is satisfied the burner flame is turned off by the direct spark ignition system. There is no longer a high fire-low fire burner flame modulation as is used on conventional gas ignition systems.

The blue indicator light on the mode selector panel remains on as an indicator of mode only. It is also an indication that power is available to the refrigerator. The blue light does not cycle on and off in conjunction with the thermostat.

Mode Selector – Indicator Light Function

When the refrigerator is operating properly the indicator lights should function as follows:

1) Gas Mode: Blue Light only
2) Gas Mode-Lockout Condition: Blue, Red lights only
3) AC Mode: Green light only
4) DC Mode: Amber light only
5) Off Mode: No lights

AC Mode

When placing the mode selector into the electric mode the green "AC" indicator light will be energized and, if the thermostat is calling for cooling, the 120V AC cartridge heater will turn on.

DC Mode (EG 3 Models Only)

When placing the mode selector into the DC mode the amber "DC" indicator light will be energized and, if the thermostat is calling for cooling the 12V DC element of the cartridge heater will be turned on via the 12V DC relay located on the interface board.

General Instructions For All Models

The refrigerators described herein are designed for built-in installations. They must be installed on a solid floor and secured by screws through holes provided. In making provisions for the installation, the following must be considered:

a) Adequate ventilation (see section on ventilation.)
b) Minimum clearances to combustible materials.
c) Adequate seal between refrigerator mounting flange and cutout opening. See Figure 5.

The refrigerators described herein have a design certified under ANS Z21.19b-1982 Standards by the American Gas Association for installation in mobile home or recreational vehicle and approval by the Canadian Gas Association.

Installation must be made in accordance with the following instructions in order for the certifications to be valid.

Installations in the United States must comply with the following National Standards as applicable:

1) National Fuel Gas Code ANSI Z223.1-1974
2) American National Standard for Mobile Homes, A119.1-1975
3) American National Standard for Recreational Vehicles, A119.2-1975
4) Any applicable local codes

For installations requiring an electric outlet which is energized by an external power source, the refrigerator must be electrically grounded in accordance with the National Electric Code. NFPA No. 70-1981 (ANSI C1 1981).

Canadian Installations Must Conform To The Following Canadian Standards:

1) Installation code for propane burning appliances and equipment, CGA B149.2
2) Gas equipped Recreational Vehicles and Mobile Housing, CSAZ 240.4
3) Electrical requirements for Mobile Housing and Recreational Vehicles, CSAZ 240.6.1 & 2

Securing Refrigerator

The refrigerator, designed for built-in installation, requires opening dimensions as specified in Table 1. An additional 1" is to be provided at rear for approved clearance to combustible surfaces.

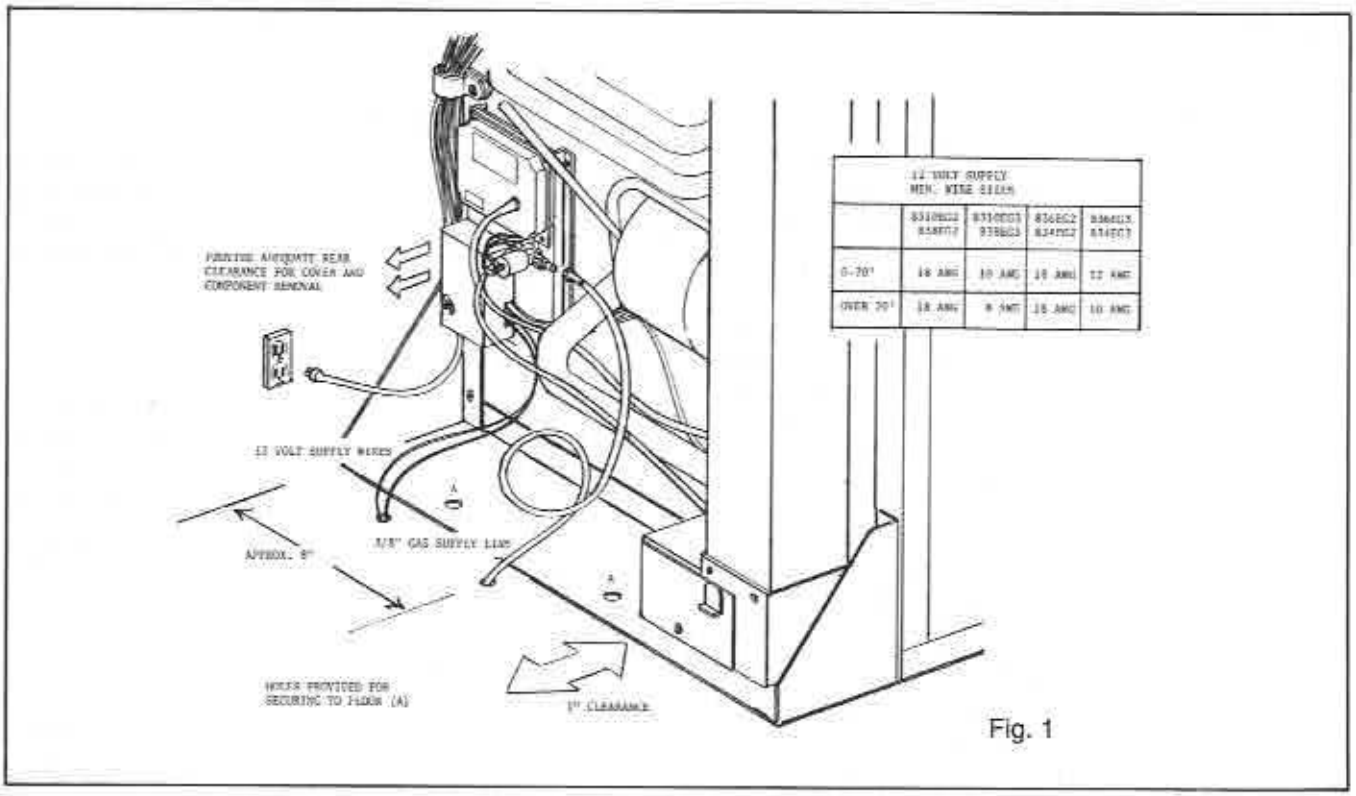


Fig. 1

Table 1
Refrigerator Cut-Out Openings (Inches)

Model	Height	Width	Depth
838EG	52.19	23.94	24.0
8310EG	58.75	23.94	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. See Figure 1.

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 wall to assure combustion seal. Care should be taken when installing or removing the refrigerator that the strips are not disturbed or damaged. See Figure 5.

The Mode Selector panel is shipped as a loose part and must be installed after the refrigerator is secured in place and the door panels are installed. See Figure 2 for location. Insert electrical connector board and attach panel with screws provided.

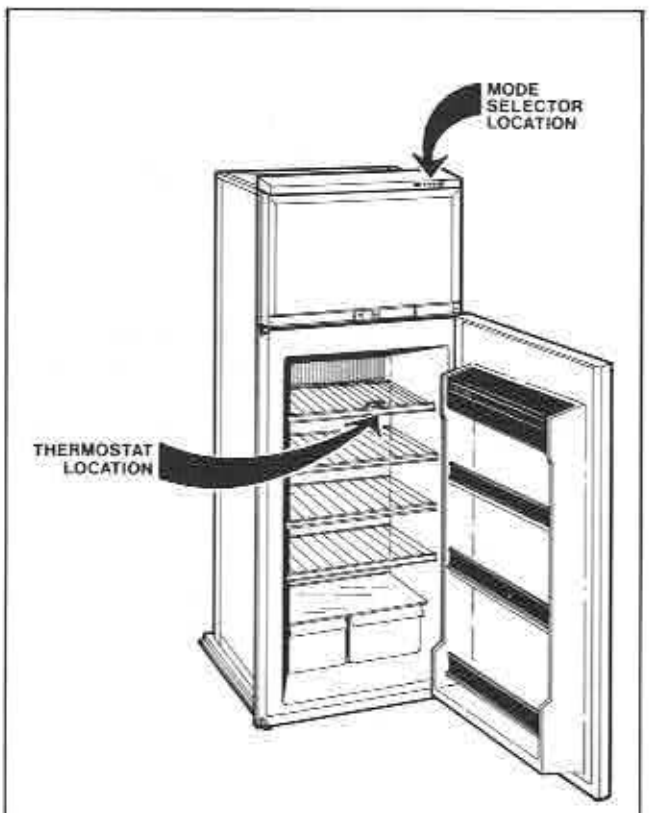


Fig. 2

Gas Connection

When connecting the gas supply line to the refrigerator, use tubing and fittings that comply with local, state, or national codes governing size and type. The gas connection fitting is located at the inlet to the gas valve (see Figure 1) and is a ⅜ SAE (UNF ⅝"-18) male flare connection. Care must be taken when final tightening of

the tubing nut is done that the fitting is held securely. Access to this fitting is through the lower vent door.

The gas line should be routed in a manner to limit the possibility of vibration or abrasion. It is recommended that the gas supply line enter the combustion chamber through the floor which supports the refrigerator. The hole size through which the gas line enters should be of sufficient size that adequate clearance is maintained. Once the gas line is installed a rubber type sealant should be applied around the line at the point it enters the combustion chamber. This will minimize abrasion, vibration, and serve as a barrier from external moisture.

Once the gas line has been connected, ALL CONNECTIONS must be thoroughly checked for possible leaks with a soap suds solution. DO NOT TEST FOR LEAKS WITH AN OPEN FLAME.

If compressed air is used for leak testing, the pressure must not exceed ½ psig (3.4kPa).

12 VOLT D.C. Connection

All refrigerator models require a 12 volt D.C. supply (even though EG2 models are designed to operate on 120V. AC and gas, a 12 volt D.C. control is required to maintain the automatic ignition gas mode.) The D.C. lead connections (¼" male quick connects) are at terminals located on the interface board at the rear of the refrigerator. See Figure 1. One terminal is marked positive (+) and the other negative (−). Correct polarity must be observed when connecting to the D.C. supply. Do not use the chassis or vehicle frame as one of the conductors. Connect two wires at the refrigerator and route to the D.C. supply. This will eliminate voltage losses which affect refrigerator performance.

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. In case of EG 3 models, the voltage drop affects the wattage output of the cartridge heater and resultant refrigerator performance. Recommended wire sizes are shown in Figure 1.

120 VOLTS A.C.

This refrigerator is equipped with a three prong plug for protection against shock hazard and must be connected into a recognized three prong attachment receptacle. The cord must be routed so as not to come in contact with the burner cover, flue pipe, or any other component that could damage the cord insulation. DO NOT REMOVE OR CUT OFF THE GROUNDING PRONG. REMOVAL OF THIS PRONG WILL VOID CERTIFICATION AS WELL AS THE WARRANTY.

Ventilation Requirements

Installation must assure complete isolation of the living space of the mobile home or recreational vehicle and the combustion system of the refrigerator.

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 Figure 3 and Table 2. Any deviation will result in non-certification.

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

The condenser and absorber tubes (See Figure 3) must receive a continual supply of cooler air in order to maintain proper refrigerator cooling. If the air becomes trapped around these components, the refrigerator will start to lose its ability to cool. The proper ventilation zone as shown in Figure 3 will create a chimney effect to insure adequate circulation.

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 at the floor level, preventing large pockets of gas from collecting.

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

There must be a 1.0" clearance at the back of the refrigerator. Zero clearance is recommended at sides, top and bottom to prevent pockets of hot air from forming.

Roof jack opening must be centered directly above the flue and condenser. (See Figures 3 & 4).

The refrigerant components attached to the rear of the refrigerator box must be located in a ventilation zone which is free of obstructions. (See Figure 3).

(1) The ventilation zone encompasses an area from the floor to the roof, including the 1.0" clearance at the rear of the refrigerator.
(2) Wires above the condenser are acceptable, provided they are spaced several inches apart.
(3) The space above the flue opening must be clear up to and including the roof opening (See Figure 4).

Areas outside the ventilation zone where expelled heat can pocket, must be baffled (See Figure 5). The area between the top of the refrigerator cabinet and the roof must be sealed off from the ventilation zone.

Service Procedures

CAUTION Before servicing refrigerator disconnect both AC and DC power sources and turn gas supply off at main tank valve as well as at manual shut-off cock located at rear of refrigerator.

Table 2
Vent Kits and Dimensions (Inches)

Kit No.	Type	Cut-Out Dimensions					Approved Models
		A		B			
		Length	Width	Height	Width	Radius	
615163	Lower	—	—	15¼	22¼	—	All Models
615165	Lower	—	—	15¼	22¼	2⅝	All Models
615302	Lower	—	—	13¼	22¼	—	All Models
615303	Lower	—	—	13¼	22¼	2⅝	All Models
614467	Roof Jack	24	5	—	—	—	All Models

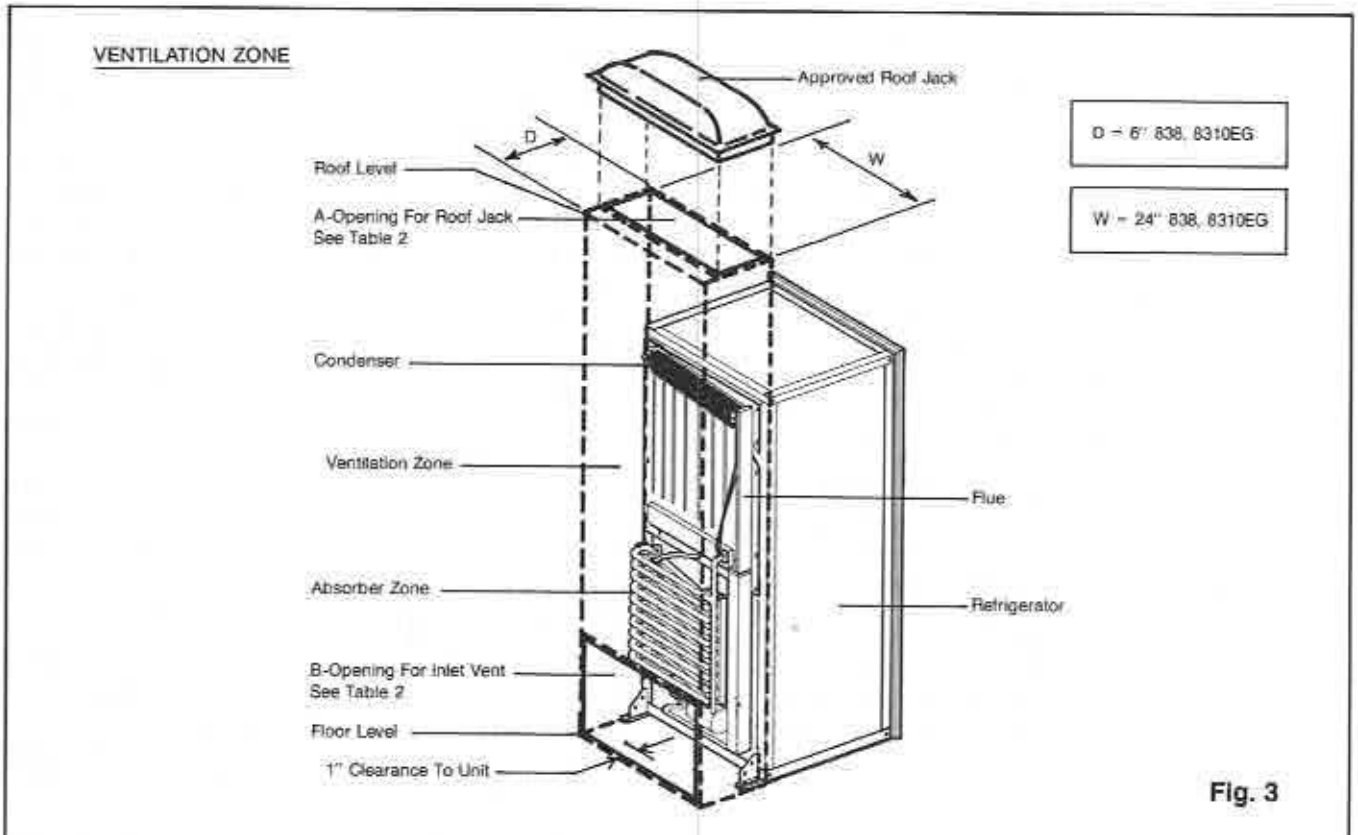


Fig. 3

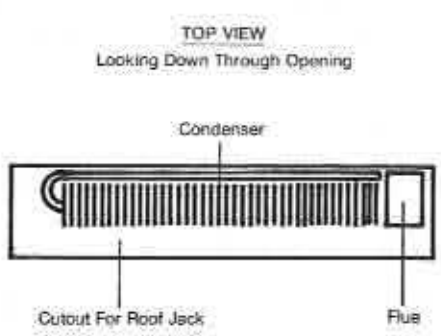


Fig. 4

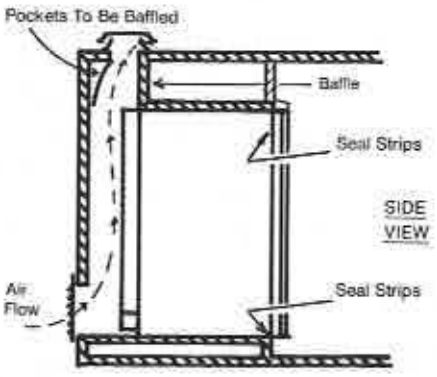


Fig. 5

Gas Pressure

Water "U" Gauge

A manometer or "U" gauge is recommended for checking or measuring gas pressure as it is reliable and simple to use. Figure 6 shows the manometer and how it is read.

The manometer is normally made of an unbreakable plastic tube and formed in a "U" shape as shown in Figure 6. On one end of the tube is connected a rubber hose which is used for connecting to the gas supply fitting. The other end of the tube is open. Before using the manometer it must be filled with either plain or tinted water so that the water level in each tube riser is at "0" when the manometer is held in the vertical position. This is important if correct readings are to be obtained. Figure 1 shows the manometer at the proper water level.

The calibrated scale of the manometer is graduated into inches and tenths thereof above and below the zero line. As pressure is applied to the input hose, this pressure causes the water to go below zero in one column and above zero in the other. The total distance between the two water levels is the gas pressure measured in water column inches.

Figure 6A shows that a gas pressure has forced the water level down one inch below zero in one column and one inch above zero in the other resulting in a total pressure of 2 (.49 KPA) inch water column.

For accuracy of measurement a water "U" gauge is far superior to a low pressure gauge. If a low pressure gauge is used it should be checked for accuracy against a water "U" gauge occasionally.

Low Pressure Gauge

This gauge is calibrated to read in inches of water column pressure. It is a standard manometer and the scale you will be reading is marked in red.

Checking Main Line Gas Pressure

Main line gas pressure should be checked at the stove using the following steps:

1. Remove grate from stove top.
2. Remove stove top.
3. Remove one of the burners.
4. Place water manometer hose over burner valve.
5. At this time a static pressure test can be taken by turning the burner gas valve to the "on" position and the main tank supply valve off. Place mode selector switch at refrigerator in "off" position.

NOTE: The manometer reading should remain steady indicating no gas leak.

6. If pressure remains constant, turn the supply tank valve back on.
7. Light two burners on the stove in order to obtain an accurate reading.
8. Determine the amount of gas pressure by reading the water manometer. Main line gas pressure should be 11" W.C.
9. If static test indicates leakage, check connections with a soap solution.

Soap Solution for Testing Gas Leaks

When testing for gas leaks we suggest that you purchase a commercial soap solution.

Refrigerator Removal and Replacement

To Remove the Refrigerator

1. Turn off the propane gas at the main tank supply source.
2. Disconnect the gas line at the rear of the refrigerator. Access to this connection is made through the lower exterior vent door opening. Use two wrenches when loosening this connection to prevent twisting or kinking of the tubing.
3. Disconnect the A.C. power cord from the wall receptacle and the D.C. wires from the rear of the refrigerator. Tape the end of the wire connected to the positive or blue wire to prevent accidental shorting.

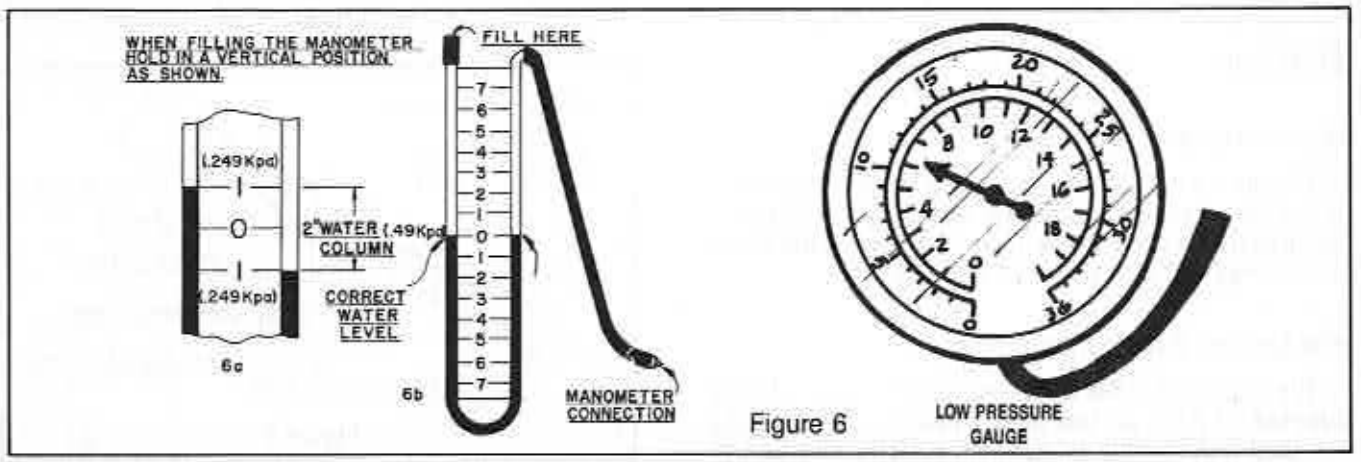


Figure 6

4. Check for, and remove, if present, any fasteners securing the refrigerator to its floor support.
5. Door or doors must be removed before proceeding to next step.
6. Remove the four (4) plastic plug seals located on the face of the front mounting flange and remove four (4) screws securing the mounting flange to the vehicle wall. The refrigerator is now ready for removal.
7. If the refrigerator is installed above floor level, position a box or some rigid structure that is approximately the height between the bottom of the refrigerator and the vehicle floor, directly under the refrigerator.
8. Reach through the lower vent door and gently push the refrigerator toward the vehicle interior, three to four inches. Continue the entire removal from the vehicle interior.

NOTE: Care must be exercised upon removal, that the seal strips behind the refrigerator mounting flange and at the extreme bottom are not damaged or misplaced.

Reinstallation

1. Check that all sealing strips are properly located.
2. Slide the refrigerator into the wall opening so that the mounting flange contacts the wall face.
3. Replace the four (4) screws in the mounting flange tightening them securely. Reinstall the plastic hole plug inserts.
4. Door or doors must be replaced before proceeding to next step.
5. Replace and secure any other fasteners previously removed.
6. Reconnect the gas line to the bulkhead fitting at the rear of the refrigerator. Use two wrenches when tightening to prevent twisting or kinking of the tube.
7. Turn on the gas at the main gas supply tank and check for leaks by doing a static pressure test. **Do not use an open flame when checking for leaks!**
8. Reconnect the A.C. power cord into its respective wall receptacle.
9. Reconnect the D.C. wires. Observe correct polarity.

Burner

Burner Adjustment

The burner is made of steel and is so designed that it is self-cleaning and requires no adjusting. The flame is controlled by a fixed orifice. Check to see that the flame is centered in the center generator flue tube.

The Correct Burner Flame

The operation of the refrigerator when it is on "gas" is controlled by the correct burner flame which supplies the heat input to the refrigerator system. The burner flame has a very important bearing on the refrigerator performance. Too high an input will cause overheating and possible system damage. Too low an input will cause poor performance.

The correct burner flame is dependent upon the following:

1. Correct gas supply pressure.
2. Correct burner orifice.
3. The orifice clean and properly assembled.

Although every precaution has been taken to prevent foreign particles from entering the gas burner tube by means of an integral filter in the gas valve, the orifice may become partially plugged. When this occurs, the gas flow to the burner is restricted and consequent poor performance is the result.

Cleaning the Burner Orifice

1. Turn off the gas at the supply bottle.
2. Study the exploded view of the orifice assembly, Figure 7 and of the burner, Figure 8.
3. Remove the burner cover shield.
4. Loosen the burner tube connection fitting.
5. Carefully remove the burner gas tube from the burner.
6. Remove the orifice and clean, using air pressure.
7. Orifice is identified with a number stamped on the end of the orifice. Refer to Figure 7 which gives correct orifice size for each model to insure proper orifice is installed.

CAUTION Do not clean the orifice by means of a straight pin or other sharp object. The orifice has a small hole in the end of it. Hold the orifice up to the light and if the hole is visible the orifice is open. This small hole controls the correct heat input to the burner. If this hole is enlarged by cleaning with a pin or a wire the refrigerator will be over fired.

8. Replace orifice by reversing above procedures.
9. Turn gas supply on at supply bottle.
10. Place mode selector switch in "gas" position.
11. Place thermostat to max cold setting.
12. Once flame is established at burner, check leak connections with soap solution.

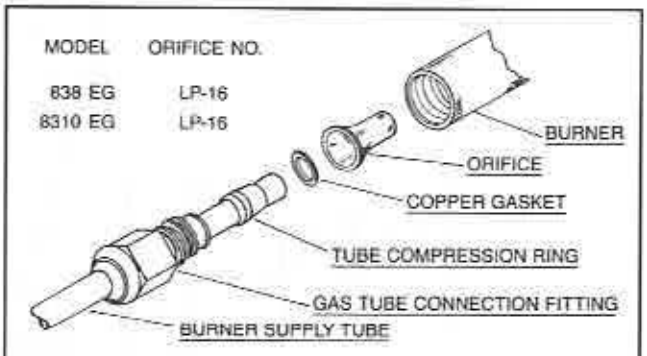


Figure 7

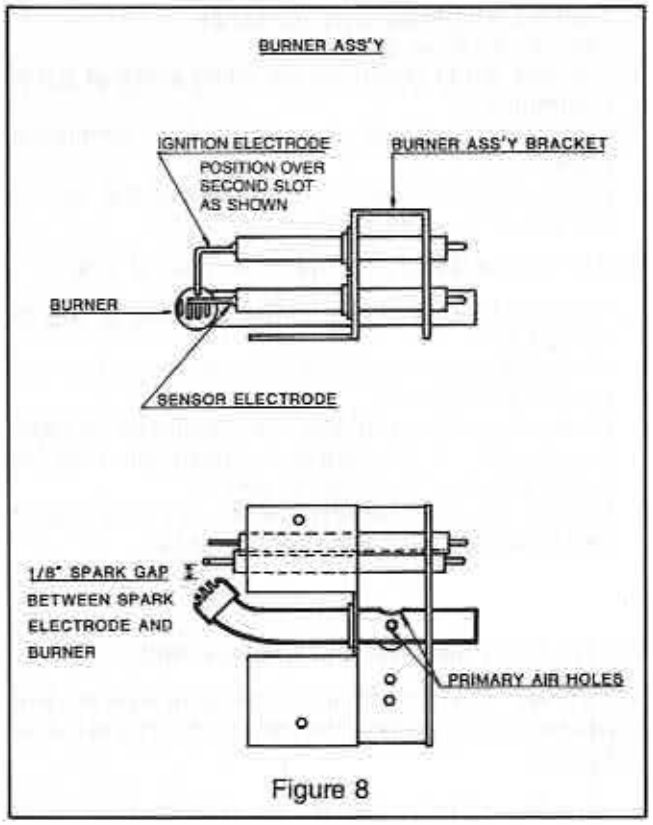


Figure 8

Burner Assembly Removal and Replacement

CAUTION Disconnect both AC and DC power sources.

Refer to Fig. 19 for exploded view.

1. Remove the two (2) screws at the left of the burner shield securing the shield to the back of the refrigerator.
2. Remove the screw directly above the viewer hole.
3. Pull the burner shield forward exposing the burner and electrodes.
4. Remove the wires from the electrodes.
5. Remove the nut securing the gas line to the burner.
6. Remove the two (2) screws holding the burner to the mounting bracket.
7. Remove the burner.

Burner Tube Removal

CAUTION Disconnect both AC and DC power sources.

Refer to Fig. 19 for exploded view.

1. Remove interface board cover.
2. EG-3 models only – pull relay from socket on interface board.
3. Remove the nut securing the burner to the outlet fitting of the gas valve and pull free.
4. Remove one (1) screw holding the burner shield door in place and remove the door.
5. Loosen the nut securing the burner tube in place.
6. Slip the burner tube out through the black grommet.

CAUTION Check all gas connections with an approved gas leak solution.

Electrode Removal

CAUTION Disconnect both AC and DC power sources.

Refer to Fig. 19 for exploded view.

1. Remove burner assembly (see above).
2. Remove ignition electrode mounting screw.
3. Remove ignition electrode.
4. Remove sensing electrode mounting screw.
5. Remove sensing electrode.

NOTE: Always check spark gap after removing or replacing ignition electrode. See Figure 8.

Gas Valve Removal and Replacement

CAUTION Disconnect both AC and DC power sources and shut off main gas supply at the supply tank.

Refer to Fig. 19 for exploded view.

1. Remove incoming gas supply line from the gas valve.
2. Disconnect the two (2) coil wires from the gas valve.
3. Remove the two (2) screws securing the gas valve to the control mounting bracket.
4. Pull gently forward.
5. Remove the burner tube from the gas valve.
6. Install new gas valve hooking up the burner tube from outlet of the gas valve before mounting the gas valve to the refrigerator.

Interface Board Removal and Replacement

CAUTION Disconnect refrigerator from both AC and DC power sources.

Refer to Fig. 19 for exploded view.

1. Remove interface board cover.
2. Disconnect heater wires, sensor wire and interior light wires from interface board. Disconnect two (2) wires from gas valve.
3. Disconnect wiring harness connector from interface board.(A thin blade screwdriver may be needed to pry this connector apart.)
4. Remove two (2) screws and one (1) hex nut holding interface board to control mounting bracket.
5. Pull interface board forward until it clears cover mounting bolt.
6. Disconnect edge connector from control module.

NOTE: When re-installing the interface board be certain that the green ground wire on the AC cord is fastened under the lower mounting screw.

CAUTION Be sure to observe correct polarity when re-connecting 12 Volt DC power source.

Control Module Removal

CAUTION Disconnect both AC and DC power sources.

Refer to Fig. 19 for exploded view.

1. Remove ignition wire from control module.
2. Remove four (4) screws securing control module to control mounting bracket.
3. Move the control module to the left and down to clear charging tube of absorber unit.
4. Remove edge connector from bottom of control module.

Thermostat Removal

CAUTION Disconnect refrigerator from both AC and DC power sources.

Refer to Fig. 16 for exploded view.

1. Remove thermostat knob.
2. Remove six (6) screws from thermostat mounting plate and remove plate.
3. Pull thermostat forward and disconnect three (3) wire leads on terminals of thermostat. – See Wiring Diagram.
4. Remove the cap tube located in the center of the refrigerator fins by pulling the bracket forward loosening the cap tube from the fin.

Eyebrow Assembly Removal

CAUTION Disconnect both AC and DC power sources.

Refer to Fig. 18 for exploded view.

1. Open the freezer door.
2. Remove the two (2) screws in the eyebrow attaching the eyebrow to the top breaker of the refrigerator.
3. Slide the eyebrow forward exposing the eyebrow board connector.
4. Lift up to unplug the eyebrow board from the wiring harness connector and remove from the refrigerator.

Eyebrow Board Removal

CAUTION Disconnect refrigerator from both AC and DC power sources.

1. Remove eyebrow.
2. Remove yellow wire stuffer caps from terminals.
3. Disconnect indicator lamp leads.
4. Disconnect rocker switch leads.
5. See wiring diagram for proper connections.

Wiring Hafness Removal

CAUTION Disconnect refrigerator from both AC and DC power sources.

1. Remove refrigerator from enclosure.
2. Remove eyebrow assembly.
3. Remove wiring connector mounting screw at top of refrigerator.
4. Remove four (4) mounting screws from thermostat plate.
5. Pull thermostat forward and disconnect the two (2) wires from the thermostat.

NOTE: Do not disconnect the green ground wire.

6. Remove tape covering wiring harness at top of refrigerator.
7. Remove plastic cable clamps holding wiring harness to rear of refrigerator.
8. Disconnect wiring harness from connector on interface board. (A thin bladed screwdriver may be needed to pry this connector apart.)
9. Pull the two (2) thermostat leads out from rear of refrigerator and remove wiring harness.

Divider Front Removal and Replacement

CAUTION Disconnect refrigerator from both AC and DC power sources. Disconnect gas supply line at rear of refrigerator.

Refer to Fig. 17 for exploded view of divider.

Refer to Fig. 14 or Fig. 15 for exploded view of cabinet.

1. Slide refrigerator forward 6" to 8" away from cabinet.
2. Remove top and bottom doors.
3. Loosen innermost screw on right hand middle hinge.
4. Remove innermost screw on bottom and center left hand hinges and three (3) screws from the top left hand hinge.
5. Remove eight (8) screws from side of left breaker strip and remove breaker strip.
6. Remove metal divider with blade of putty knife by working it between the metal divider and plastic cabinet, working it loose from the sealant. Pull out.
7. Clean hardened sealant from cabinet front with putty knife.
8. Put ¼" bead of silicone sealant along top and bottom and down both sides of center divider to reseal new divider front.
9. Insert light wires through light switch cut out of metal divider.
10. Insert blue and white wires through humidity switch cut out and position metal divider. Insert and press tightly to form a good seal.
11. Fasten divider by installing the two (2) middle screws and put right hand inner most screw back into hinge.
12. Reinstall the left hand flange.
13. Rewire switches.
14. Insert switches into cut outs and snap into place.

Decorative Trim/Travel Latch Removal and Replacement

Refer to Fig. 13 for exploded view.

1. Open door.
2. Remove the two (2) side screws.
3. Put latch into locked position and remove the red screw.
4. Remove complete decorative trim/travel latch assembly.
5. Reinstall decorative trim/travel latch assembly before closing door by inserting all three (3) screws.
6. Slide travel latch into open position and close door.

NOTE: When door is in locked position the red screw is visable. New style decorative trim will have "LOCKED" stamped on them to indicate position. Both top and bottom decorative strips are interchangeable.

Changing Door Swing

1. Move travel latches to open position.
2. Open doors of refrigerator.
3. Remove eyebrow assembly.
4. Remove the hinge pin from upper top hinge.
5. Incline the freezer door outwards and lift off of center hinge pin.
6. Remove the double hinge pin from middle hinge.
7. Incline refrigerator cabinet door outwards and lift off of bottom hinge pin.
8. Remove bottom hinge pin from bottom hinge and screw pin into bottom hinge on opposite side of refrigerator.

Reverse the above procedures to reinstall.

CAUTION Insert hinge pin hole of door over bottom hinge pin, making sure washer is in place between the door and hinge bracket.

Check for door alignment and gasket seal. Minor adjustment may be necessary.

Replacing Door Gaskets

Norcold has designed our door gaskets in such a way that replacement can be made in a short period of time.

The door gasket can be removed from the groove in the door by pulling the gasket forward.

To insert a new gasket, push each corner of the gasket into the groove, pressing firmly around entire door, slide thumbs towards middle of door gasket.

The travel latch has two notches located at the end of the arm of latch.

The travel latch can be locked in one of two positions. First notch from end allows the airing out of the unit. The number 2 position locks the doors for traveling.

CAUTION Be sure to unlock travel latch before attempting to open either freezer or refrigerator doors.

Do not close doors with the travel latch located in the lock position in either case damage can occur.

Cooling Unit Removal and Replacement

Removing the Cooling Unit

Before proceeding with the system replacement, inspect the replacement unit for possible damage that may have occurred during shipment.

Models 838 EG and 8310 EG are so constructed that the freezer evaporator plate is foamed-in-place and cannot be removed. Carefully study the cross sectional view shown in Fig. 9 so that the following instructions are thoroughly understood.

1. Turn off the propane gas at the supply tank.
2. Disconnect A.C. supply cord.
3. Disconnect D.C. supply.
4. Remove gas supply line at fitting at back of refrigerator.
5. Check to be sure refrigerator hasn't been secured with screws from the rear.
6. Remove eyebrow.
7. Remove door (see door removal section.)
8. Remove black hole plugs.
9. Unscrew the four (4) screws securing the refrigerator.
10. Refrigerator can now be removed from the wall opening.

CAUTION Place a piece of cardboard or plastic on the floor to prevent damage to the carpet when removing the refrigerator.

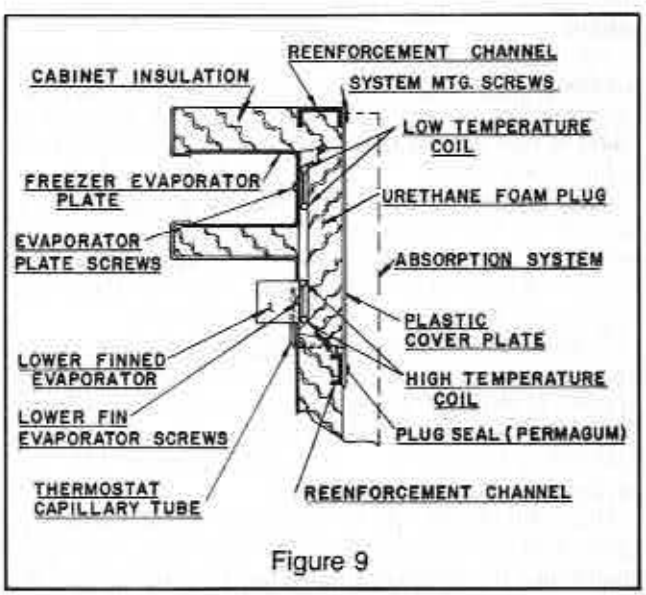


Figure 9

11. Remove the evaporator plate screws from the rear vertical wall of the freezer evaporator plate. There are eight (8) screws in the models 838 EG and 8310 EG.
12. Remove the four (4) screws from between the lower evaporator fins.
13. Remove capillary tube from fins.

In order to complete the process of removing the cooling unit, it is necessary to go to the rear of the refrigerator.

Disconnect the electric heater leads, see Fig. 19.

CAUTION It is a good practice before disconnecting these leads, to mark them so that the proper reconnection is assured.

14. Remove the screws securing the burner cover in place and flue extension clamp.
15. Disconnect the burner tube, ignition wire and sensor wire.
16. Remove the screws holding plastic cover plate.
17. Remove the two (2) screws holding the system to the box.
18. Carefully pull the system away from the cabinet with a steady pressure until it is free.
19. Once the system has been removed, remove the two (2) screws holding the burner assembly for installation on the replacement unit.

Replacing the Cooling Unit

The replacement cooling unit has been shipped with the electric cartridge heater and the diffuser baffle pre-installed. Therefore it is not necessary to remove these items from the defective unit.

Efficient operation of this system requires that a heat transfer paste be applied to the low and high side evaporator tubes before installation. Refer to Fig. 10 showing the proper method of applying the heat transfer compound.

As noted in Fig. 10 this mastic is applied from a caulking tube which is shipped with the replacement system. The nozzle of the tube must be snipped off using a pair of scissors and at an angle to facilicate mastic application.

Care should be taken to assure that the mastic is applied on the exposed portion of the high and low evaporator tubes as shown in Fig. 10. The mastic bead should not exceed 3/16 (4.74mm) of an inch. Excessive application will reduce the transfer efficiency.

Once the mastic has been applied, the permagum bead which also accompanies the system must be applied to sides of the foam plug as shown in Fig. 11. This permagum bead seals the unit in the cabinet when the unit is inserted and prevents moisture and heat penetration into the freezer area.

Once the mastic has been applied to the evaporator tubes and the permagum to the foam plug, the lower evaporator fin assembly must be installed before the

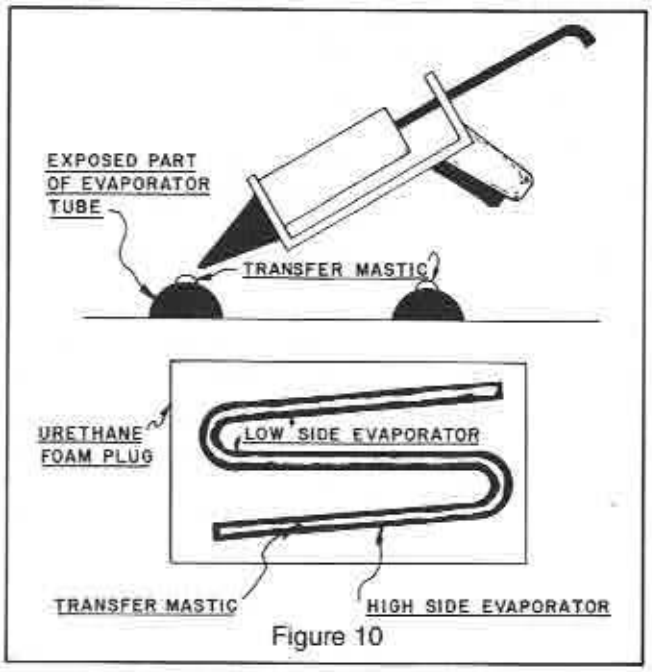


Figure 10

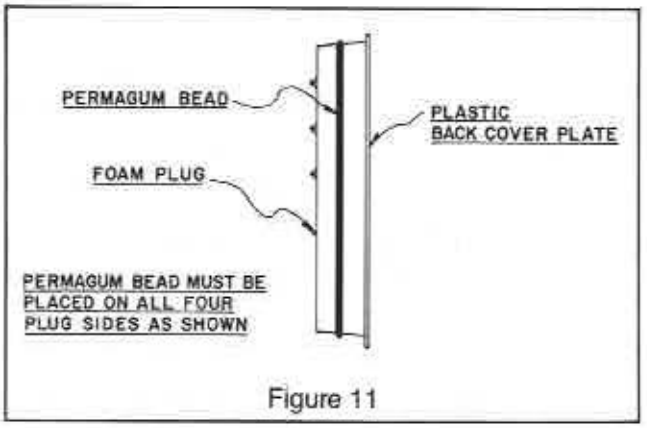


Figure 11

system is inserted into the cabinet. Attach the fins using the screws that were removed from the defective system. THESE SCREWS MUST BE DRAWN TIGHTLY TO ASSURE PROPER DISTRIBUTION OF THE HEAT TRANSFER MASTIC.

The system is now ready for cabinet installation using the following procedures:

A. Align the lower fin assembly with the opening in the interior cabinet.
B. Gently push the system into the cabinet until the plastic cover plate meets the cabinet back.
C. Install freezer evaporator screws so that proper alignment may be assured.
D. Draw these screws down tightly.
E. Replace the screws in the back cover plate and flue extension clamp.

NOTE: Before tightening the flue extension clamp, remove the flue extension and check for proper position of the diffuser baffle. The baffle is suspended by a wire in the round flue tube and the wire must be hooked over the top of this tube.

F. Replace the system mounting screws.
G. Remount the burner assembly, assuring the orifice and compression fitting are properly connected and tightened in place.
H. Reconnect capillary tube to refrigerator fins.
I. Reconnect the wire to the burner electrode and sensor.
J. Replace the burner cover plate.
K. Connect the heater wires.
L. Reinstall the refrigerator back in the wall opening.
M. Mount the doors.
N. Mount eyebrow and plug in electric connection.
O. Reconnect the gas line (be sure to double wrench the fitting).

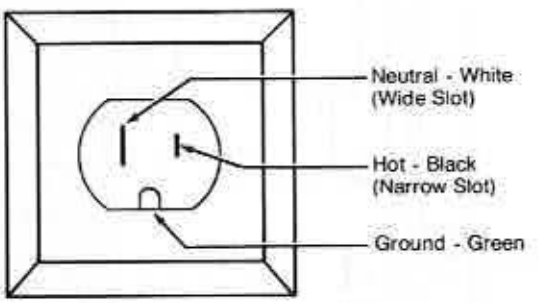
CAUTION Before placing the system into operation, it is a good practice to do a pressure test to insure there are no gas leaks present.

DO NOT TEST FOR LEAKS WITH AN OPEN FLAME.

In addition, the gas pressures should be checked and reset if required, see section on checking gas pressure settings.

When test firing the burner, the gas flame should be checked. The flame should be burning to the center of the flue tube without touching the sides of the tube. Also, the flame should be a sharp blue with no signs of yellow streaks.

INFORMATION ABOUT ELECTRICAL WIRING

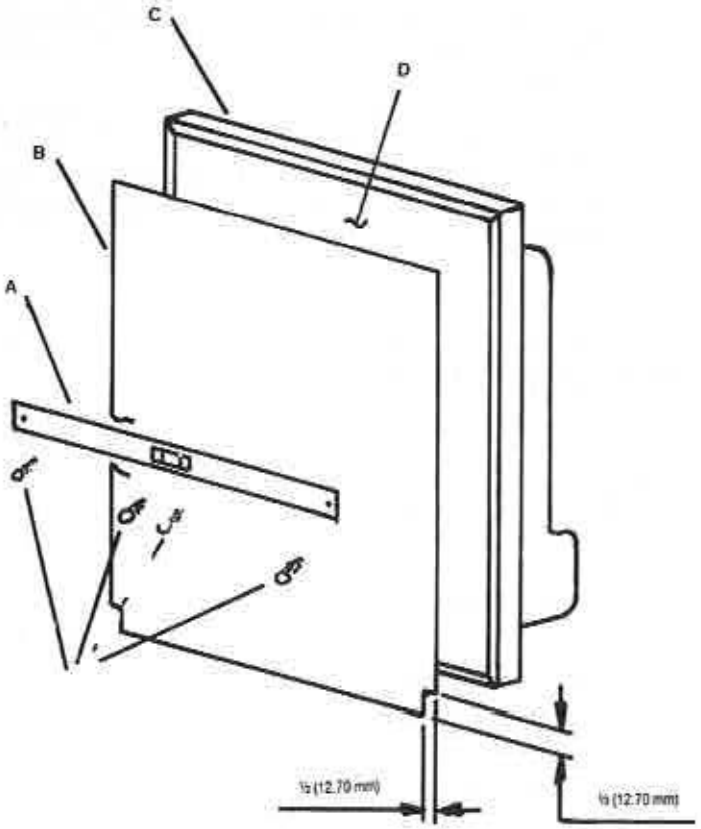


Typical 120 Volt AC Receptacle

National Electric Code Requirements specify AC receptacles to be wired as shown. If the "hot" and "neutral" happen to be reversed, the refrigerator mode selector panel will detect this. If so, the green AC light will glow regardless of the switch settings. A qualified electrician must correct the wiring circuit before the lights will indicate properly. This will also correct a shock hazard condition.

INSTRUCTIONS FOR INSTALLATION OF DECORATOR PANEL IN NORCOLD ALUMINUM FRAME DOOR

Prepare the panel by cutting to size as per illustration. Use dimensions given for your particular model. The maximum panel thickness must not exceed 3/16" (4.76mm).

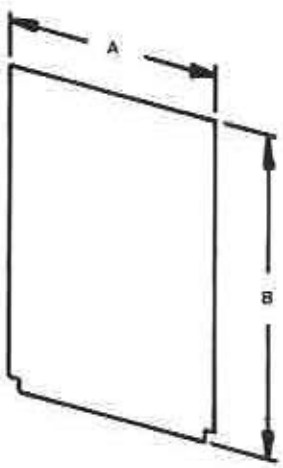


A. Single Door Or Lower Door Of 2-Door
1. Remove the door front decorative strip and travel latch assembly by removing (3) screws and pull decorative strip and travel latch assembly straight out. (Travel Latch in Unlocked Position).
2. Insert one of the vertical sides of the panel (b) into the groove formed by the door frame outer flange (c) and the door front (d). Be sure that the corner notches of the panel (b) are downward.
3. Gently flex the panel (b) so that the opposite side may be slipped into the corresponding groove.
4. Slide the panel (b) downward so that the lower horizontal edge fits into the bottom groove.
5. Install the door decorative strip and travel latch assembly (a) to cover the gap between the top edge of panel (b) and door frame (c). Secure with (3) screws.

B. Upper Door Of 2-Door
1. Remove the door front decorative strip and travel latch assembly by removing (3) screws and pull decorative strips and travel latch assembly straight out. (Travel Latch in Unlocked Position).
2. Insert one of the vertical sides of the panel (b) into the groove formed by the door frame outer flange (c) and the door front (d). Be sure that the corner notches of the panel (b) are upward.
3. Gently flex the panel (b) so that the opposite side may be slipped into the corresponding groove.
4. Slide the panel (b) upward so that the upper horizontal edge fits into the upper groove.
5. Install the door decorative strip and travel latch assembly (a) to cover the gap between the top edge of panel (b) and door frame (c). Secure with (3) screws.

CAUTION Do Not Over Tighten (3) Screws

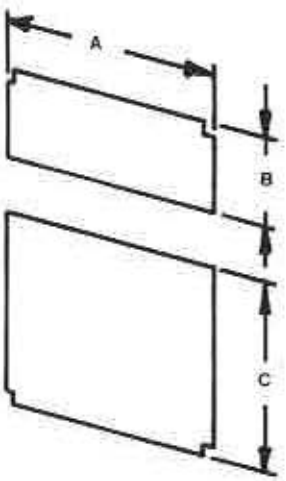
1982-09-08



Model	A
704/774	22⅝ (567 mm)
776	22⅝ (567 mm)

Model	B
704/774	29¾ (756 mm)
776	36⅝ (930 mm)

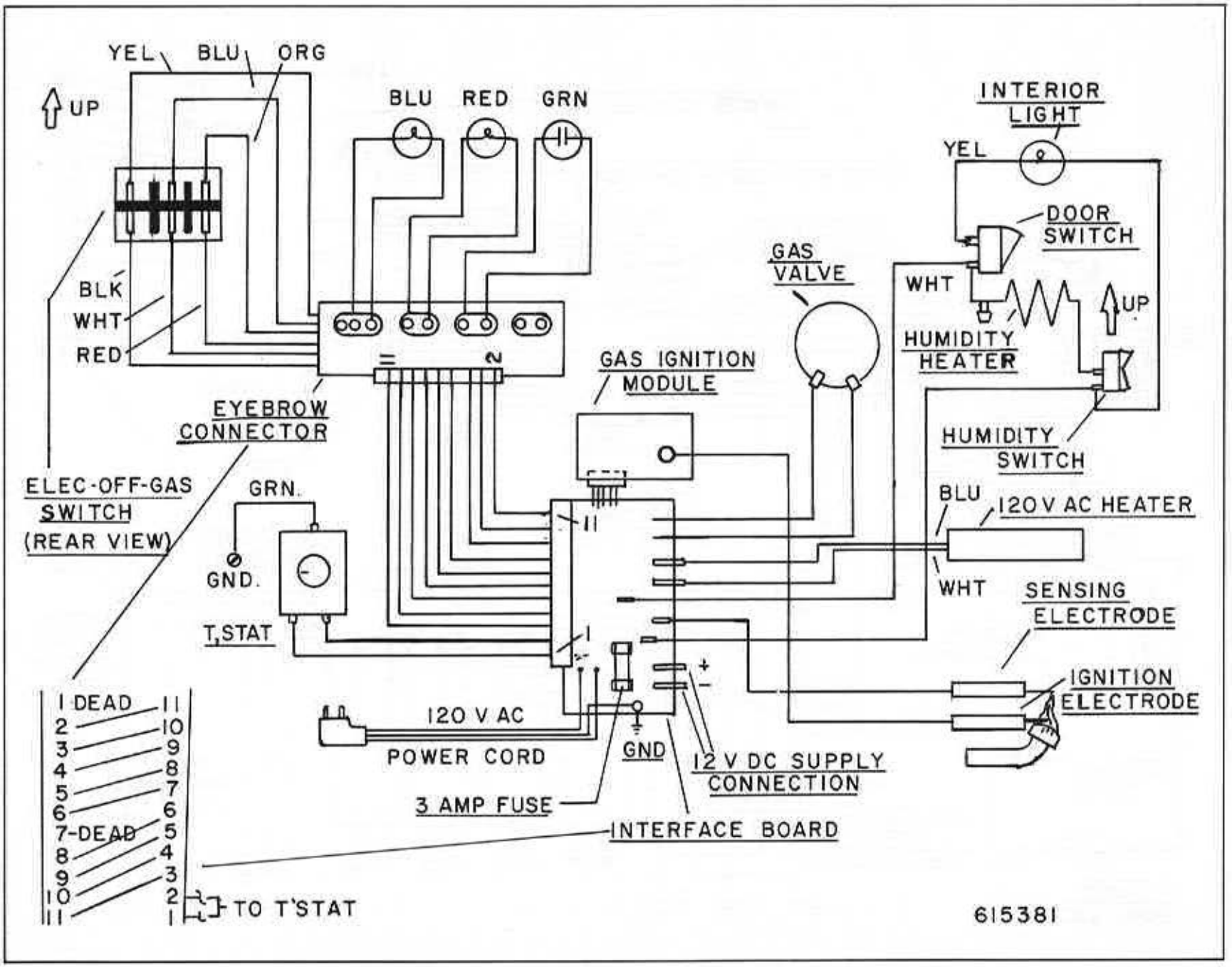
1 83

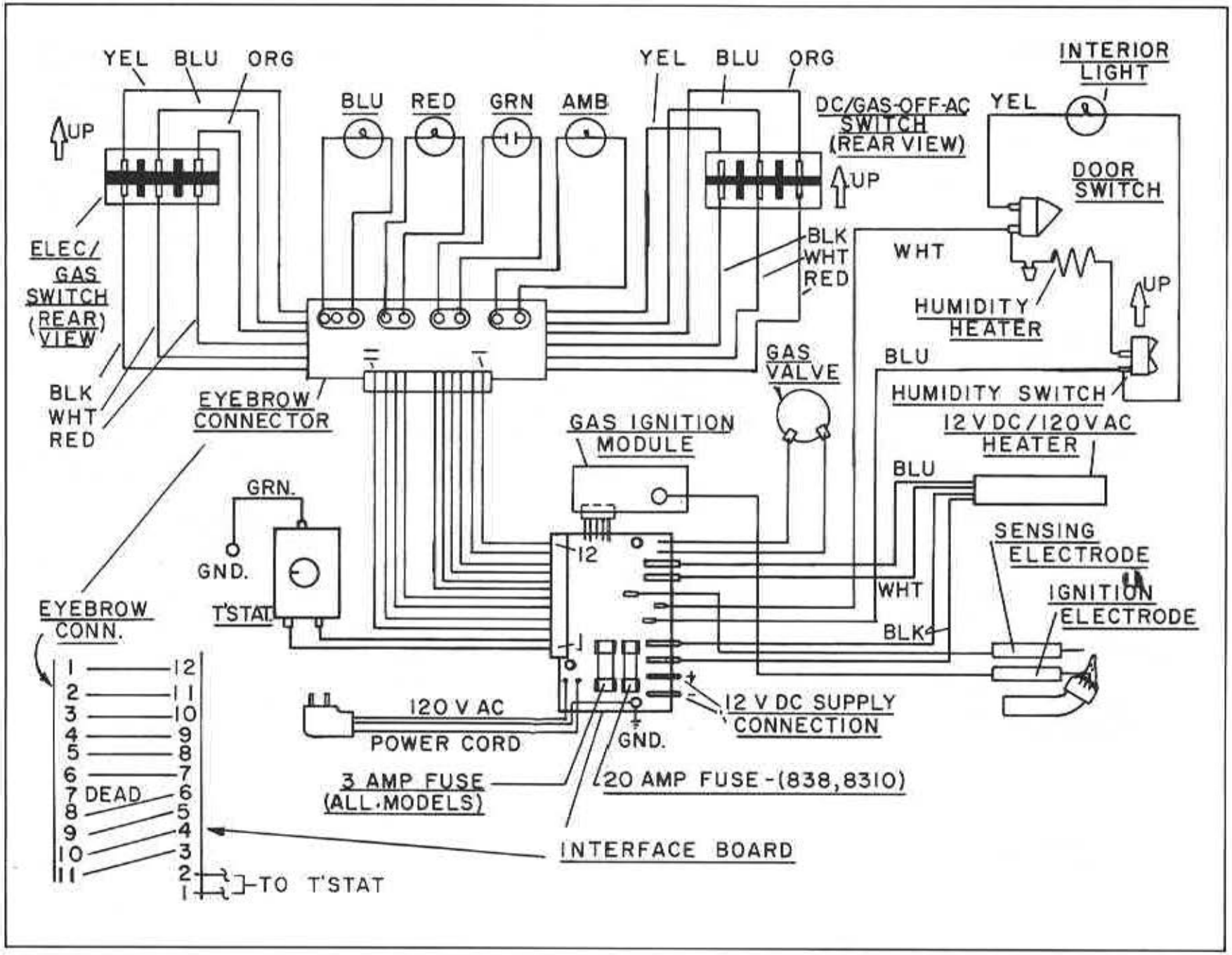


Model	A
838	24¼ (616 mm)
8310	24¼ (616 mm)

Model	B
838	14⅝ (372 mm)
8310	13⅛ (332 mm)

Model	C
838	32⅝ (824 mm)
8310	42 41/64 (1082 mm)

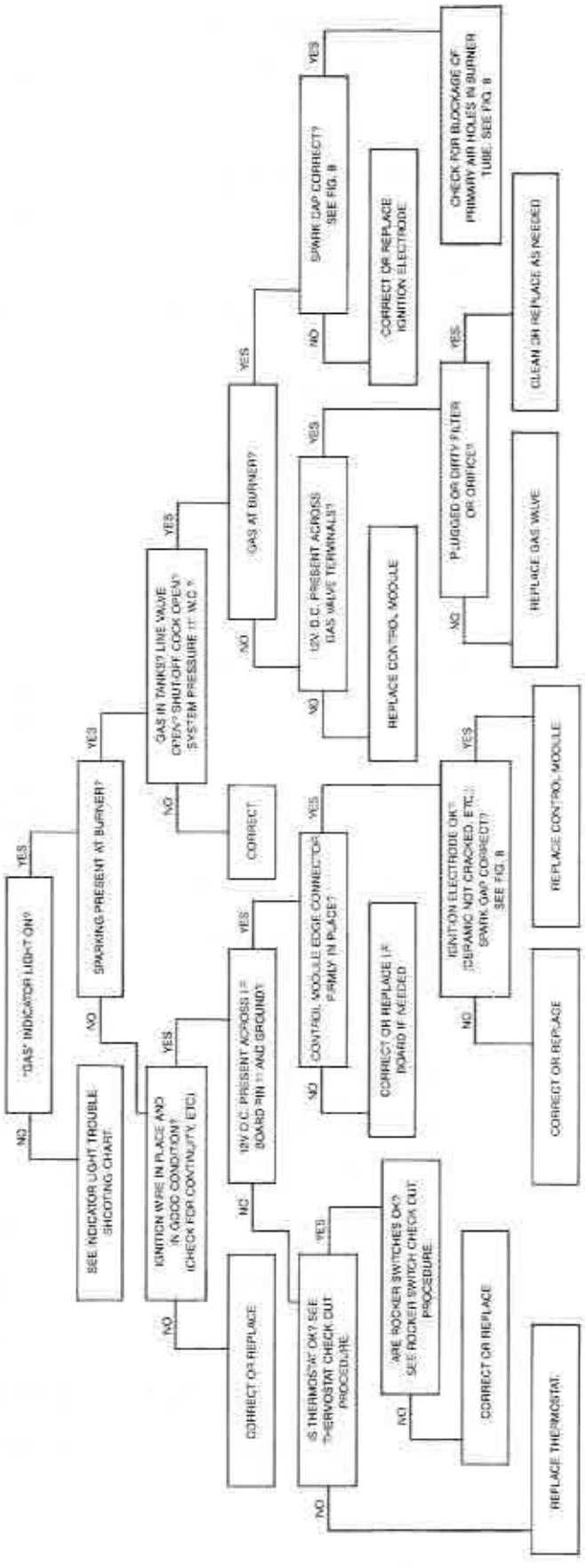

YEL
BLU
ORG
UP
BLU
RED
GRN
INTERIOR LIGHT
YEL
DOOR SWITCH
GAS VALVE
WHT
UP
HUMIDITY HEATER
BLK
WHT
RED
GAS IGNITION MODULE
EYEBROW CONNECTOR
HUMIDITY SWITCH
ELEC-OFF-GAS SWITCH (REAR VIEW)
GRN.
BLU
120 V AC HEATER
GND.
WHT
SENSING ELECTRODE
T,STAT
IGNITION ELECTRODE
1 DEAD
2
3
4
5
6
7-DEAD
8
9
10
11
120 V AC
POWER CORD
GND
12 V DC SUPPLY CONNECTION
3 AMP FUSE
INTERFACE BOARD
TO T'STAT
615381


YEL
BLU
ORG
UP
ELEC/
GAS
SWITCH
(REAR)
VIEW
BLK
WHT
RED
BLU
RED
GRN
AMB
YEL
BLU
ORG
DC/GAS-OFF-AC
SWITCH
(REAR VIEW)
UP
INTERIOR
LIGHT
YEL
DOOR
SWITCH
BLK
WHT
RED
WHT
HUMIDITY
HEATER
UP
GAS
VALVE
BLU
HUMIDITY SWITCH
EYEBROW
CONNECTOR
GAS IGNITION
MODULE
12 V DC / 120 V AC
HEATER
BLU
GRN.
GND.
T'STAT
12
SENSING
ELECTRODE
WHT
IGNITION
ELECTRODE
BLK
EYEBROW
CONN.
1
2
3
4
5
6
7 DEAD
8
9
10
11
12
11
10
9
8
7
6
5
4
3
2
1
TO T'STAT
120 V AC
POWER CORD
GND.
12 V DC SUPPLY
CONNECTION
3 AMP FUSE
(ALL MODELS)
20 AMP FUSE - (838, 8310)
INTERFACE BOARD

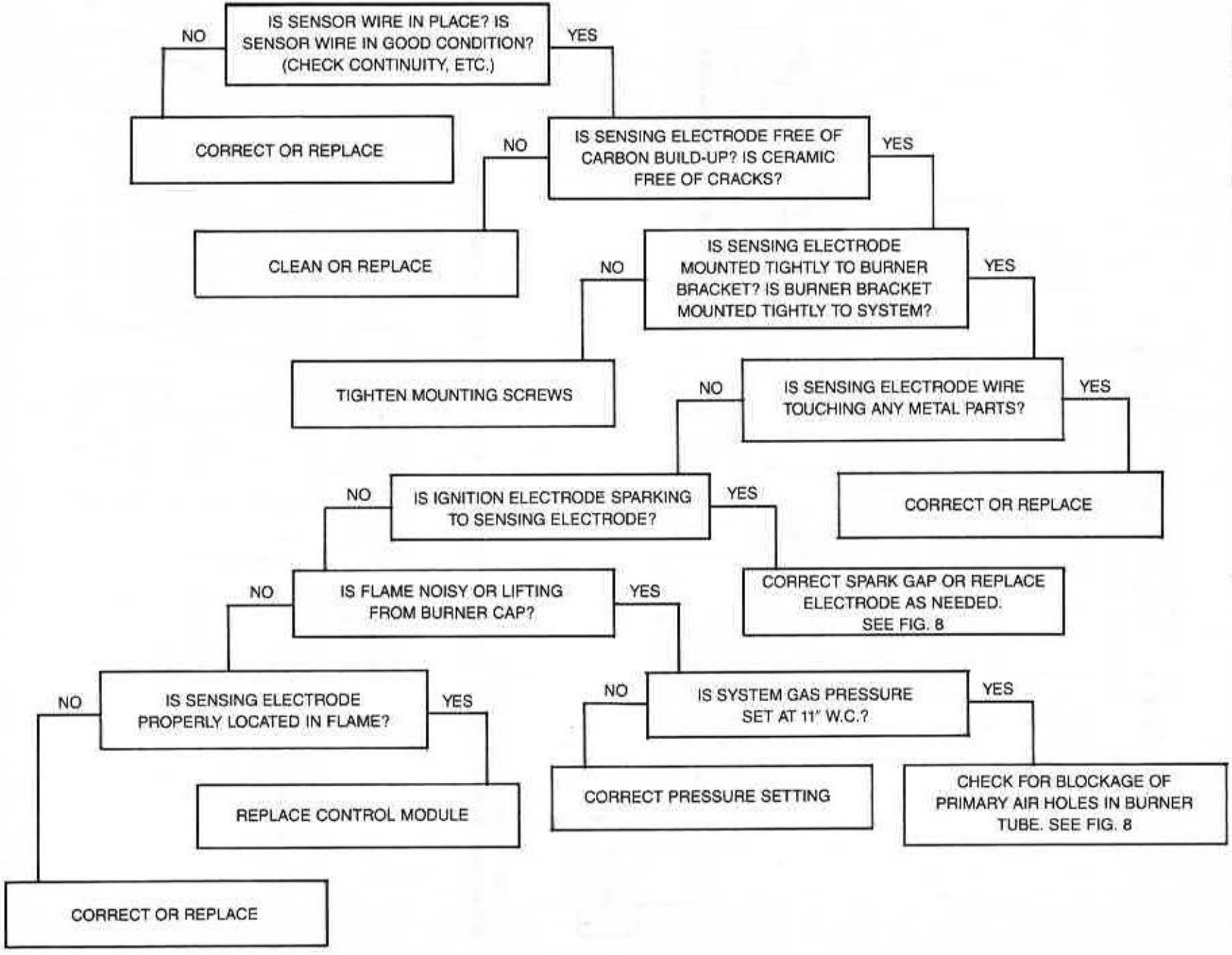
Trouble Shooting Procedures - Models 838 EG - 8310 EG

Trouble	Probable Cause	Remedy
During electric operation refrigerator does not cool satisfactorily	1. Thermostat at wrong setting	1. Turn thermostat dial setting to high
	2. Refrigerator not level	2. Level both ways in freezer compartment
	3. Air leakage into cabinet	3. Check fit of door gasket
	4. Freezer heavily coated with frost	4. Defrost refrigerator
	5. Low voltage	5. Supply voltage at refrigerator should be to these specifications: A.C. supply voltage should be 132 volts maximum and 108 volts minimum. D.C. supply voltage should be 15.4 volts maximum 10 volts minimum.
	6. Defective heating element	6. Check heater wattage. See section on heater within specification. If incoming supply voltage is within specifications and the wattage of the heating is incorrect, heater needs to be replaced.
Refrigerator too cold	1. Thermostat set too cold	1. Turn to a warmer setting
	2. Room temperature abnormally cold	2. Turn thermostat dial to a warmer position during cooler hours and return it to a colder setting during the day.
	3. Capillary sensing tube inproperly connected to lower evaporator fin	3. Check that the end of the sensing tube is making good contact with the fins.
Burner flame soft or yellow	1. Burner air passage clogged	1. Clean air passage
	2. Burner flue clogged	2. Clean flue
	3. Defective or improper orifice	3. Clean or replace orifice
Burner flame hard, noisy or lifting	1. Baffle missing in flue	1. Install baffle
	2. Defective or improper orifice	2. Clean or replace orifice
	3. Gas pressure too high	3. Check and set pressure

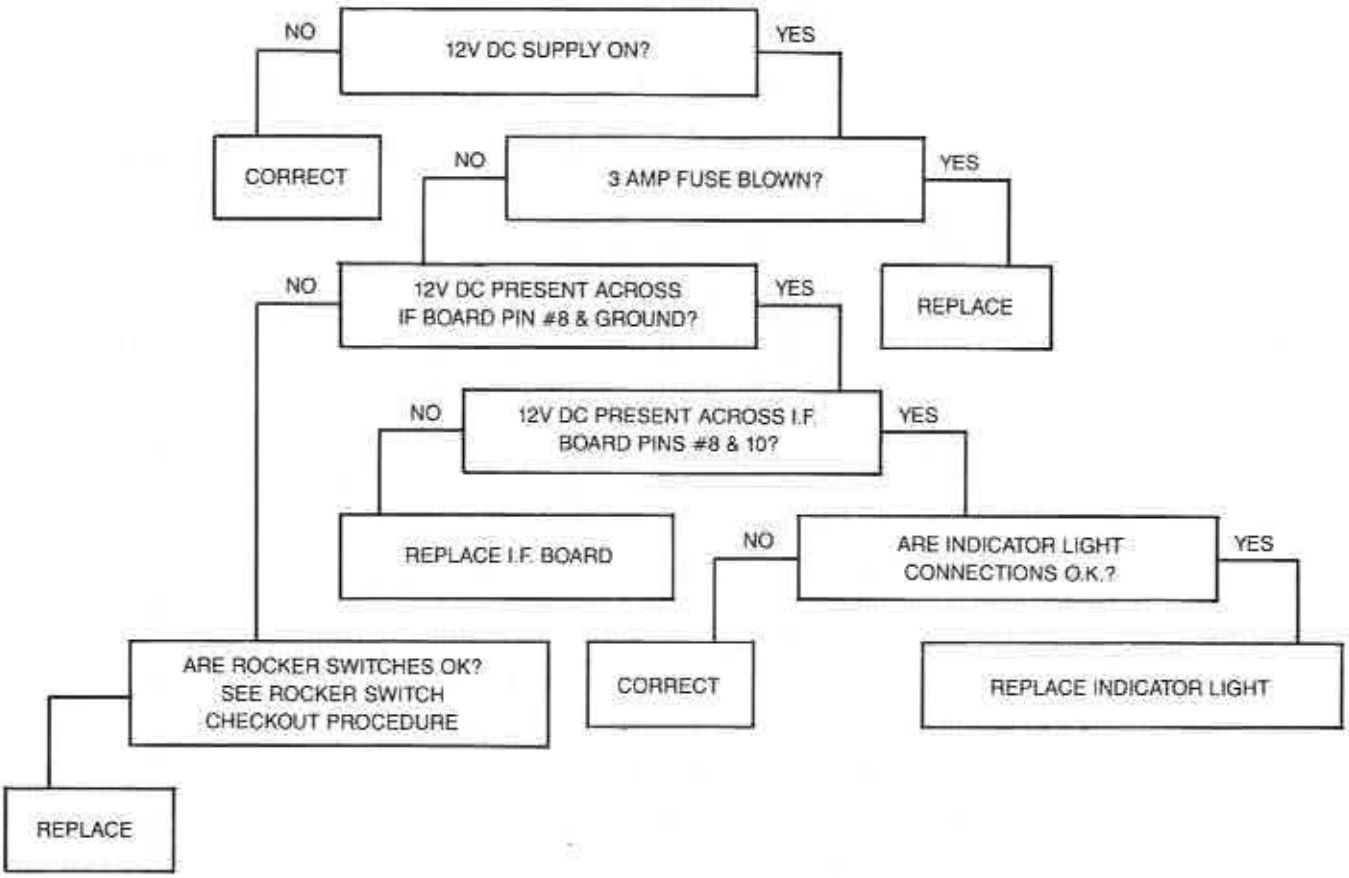
Flame Fails To Ignite – Gas Mode
(Check With Mode Selector In "Gas" Position)



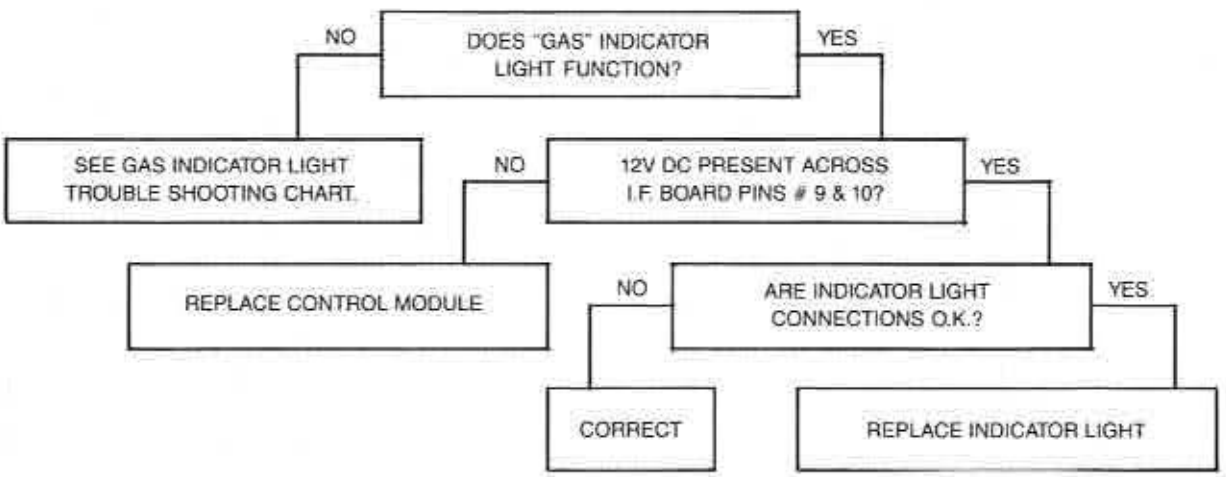
Flame Ignites But Goes Into Lockout Repeatedly Nuisance Lockouts (Check With Mode Selector In "Gas" Position)



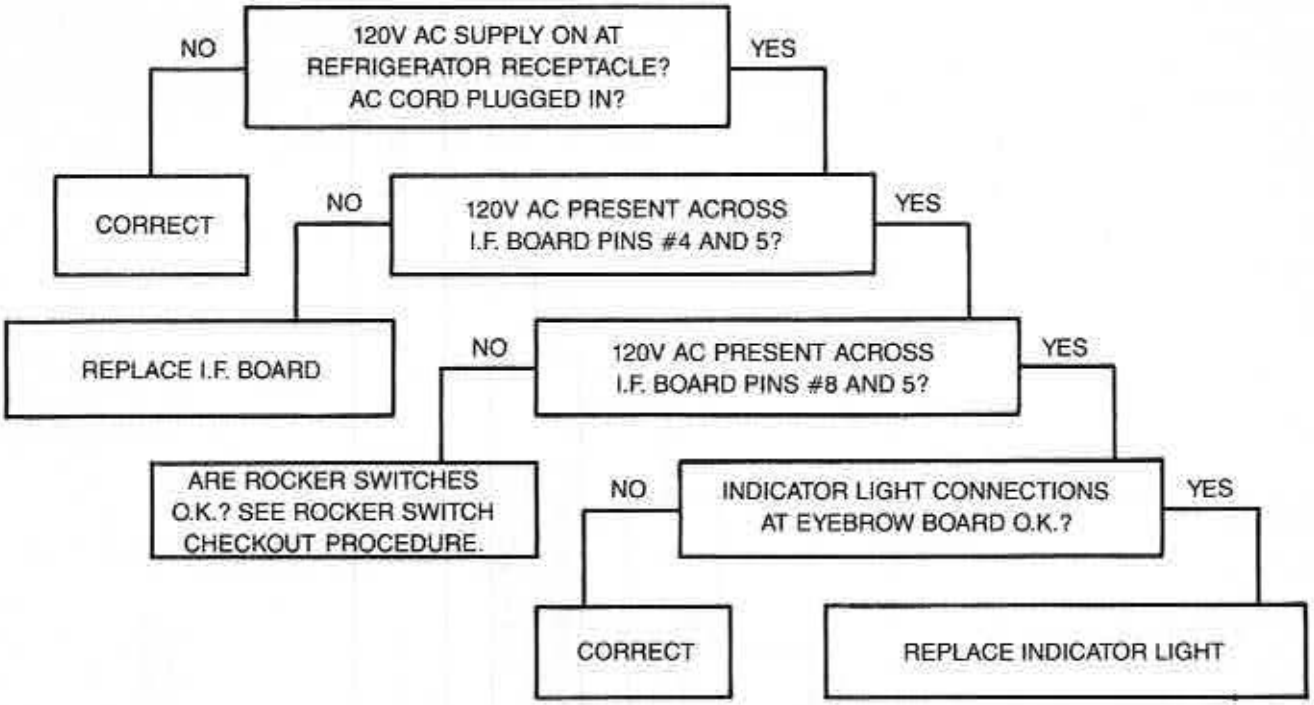
"Gas" Indicator Light Failure
(Check With Mode Selector In Gas Mode)



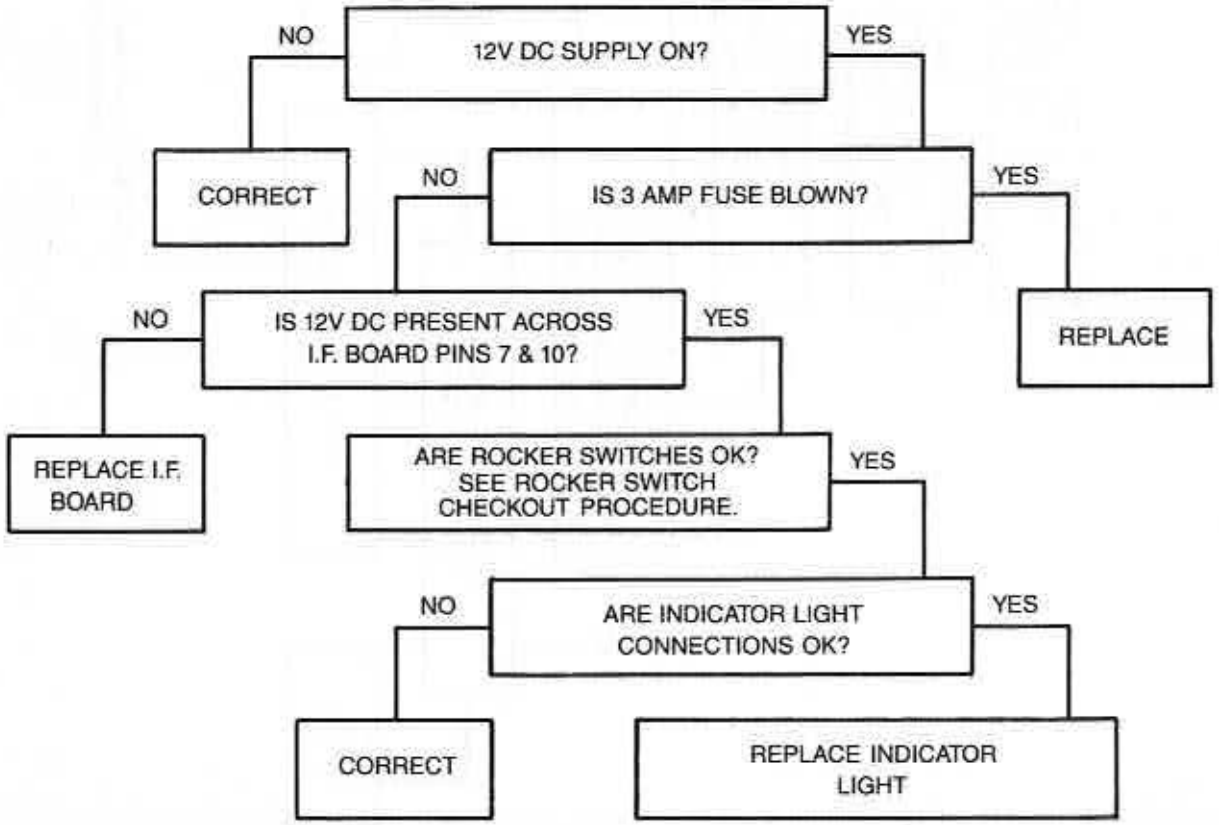
"Check" Indicator Light Failure
(Check with Mode Selector In Gas Mode and Shut-Off Cock Closed To Simulate Lockout.)

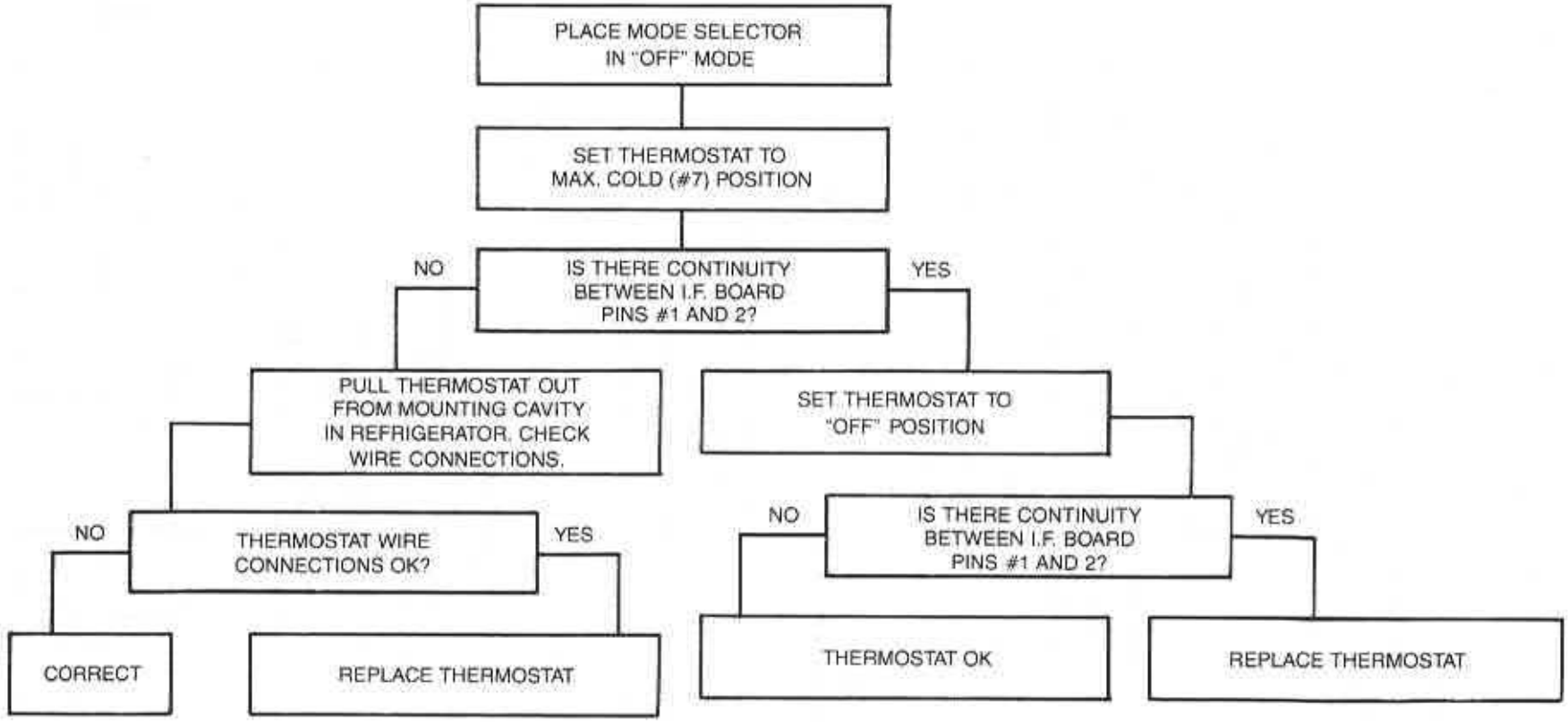


"AC" Indicator Light Failure
(Check With Mode Selector In AC or Elec Mode)



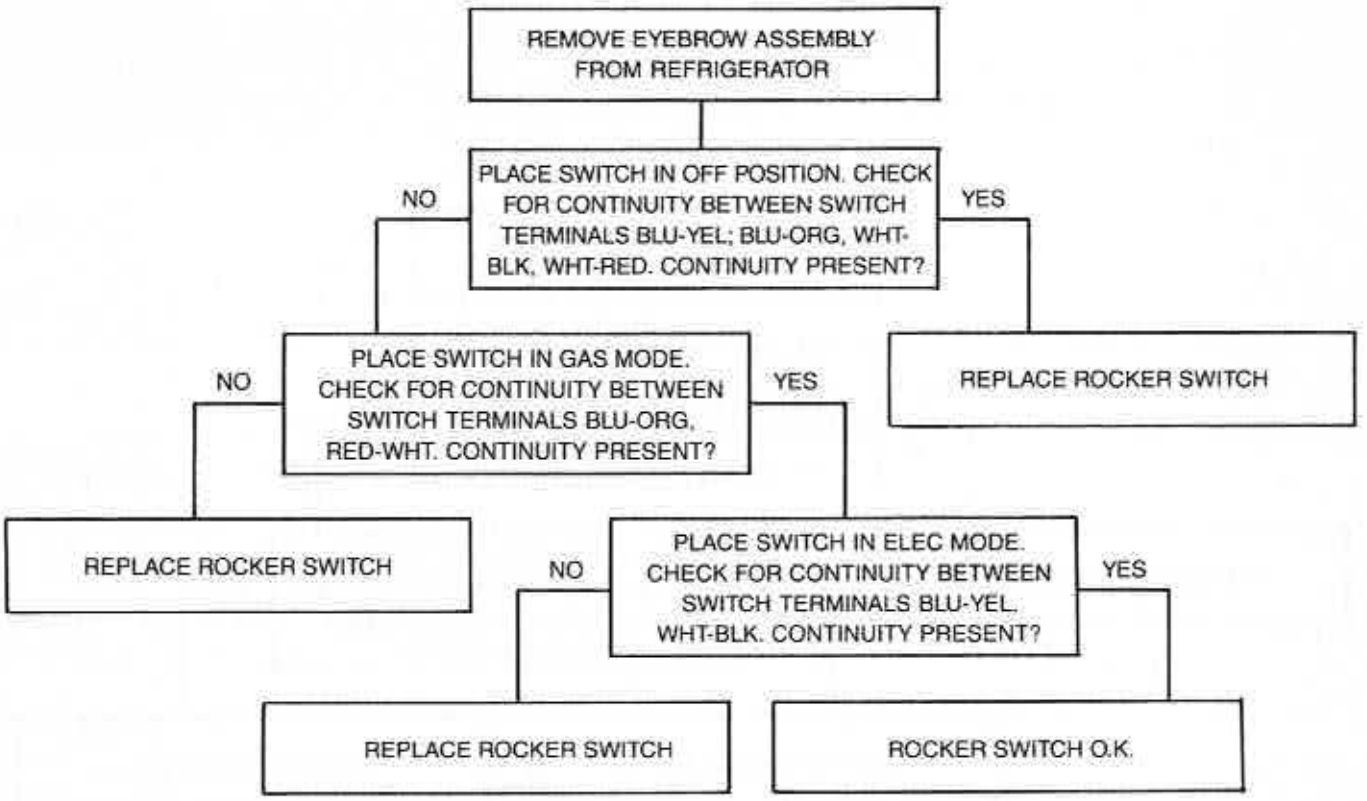
"DC" Indicator Light Failure (EG 3 Only)
(Check With Mode Selector In DC Mode)



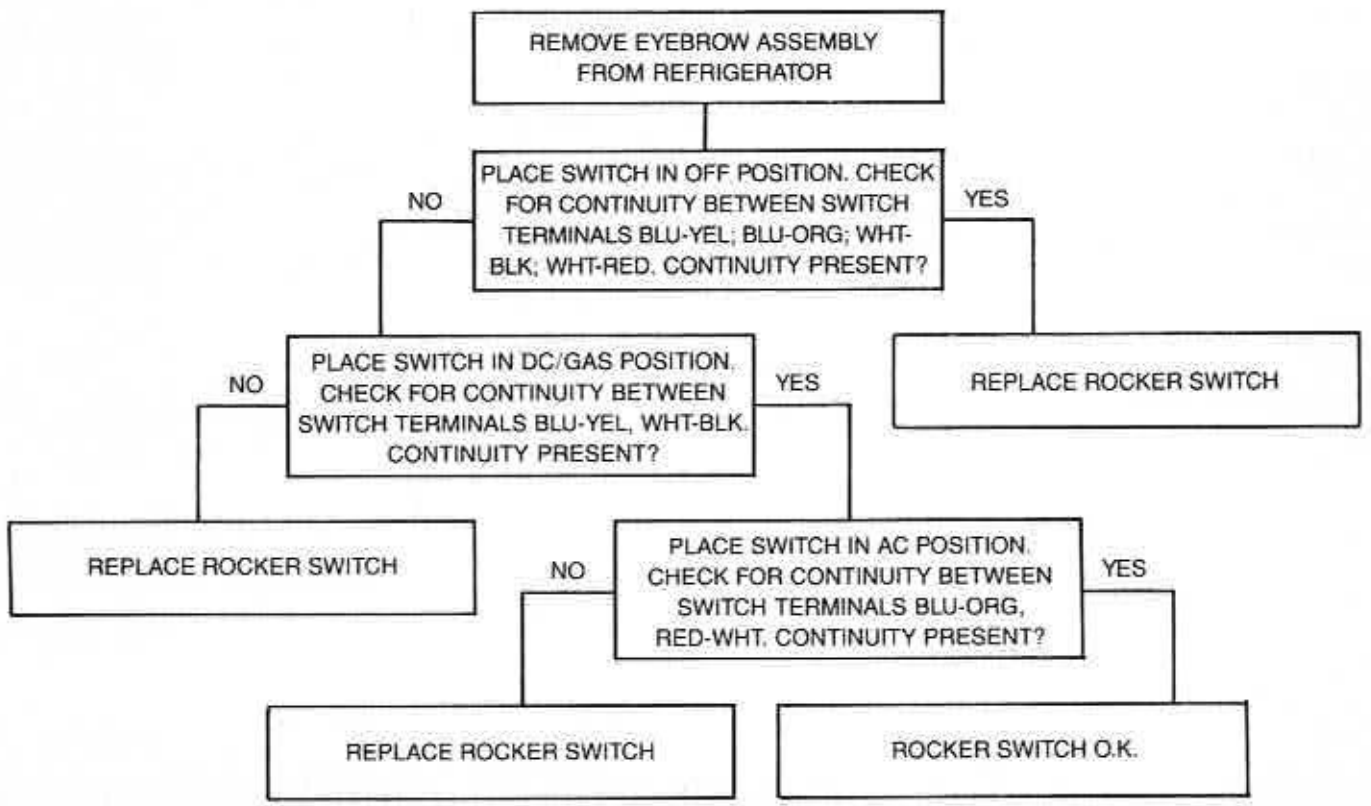


NOTE: This is an electrical checkout only and gives no indication of proper temperature calibration.

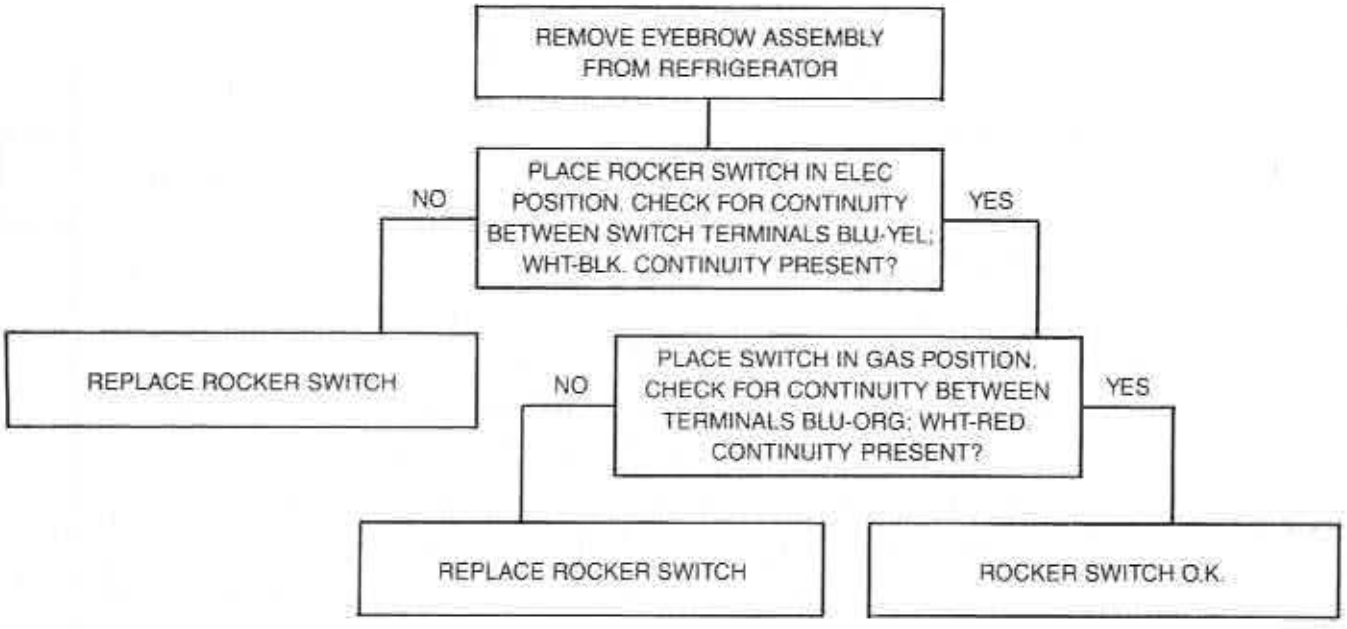
Rocker Switch Checkout Procedure
Elec - Off - Gas Switch (EG 2 Models)



Rocker Switch Checkout Procedure
DC/Gas - Off - AC Switch (EG 3 Models)



Rocker Switch Checkout Procedure
Elec - Gas Switch (EG 3 Models)



Upper Door – 838, 8310

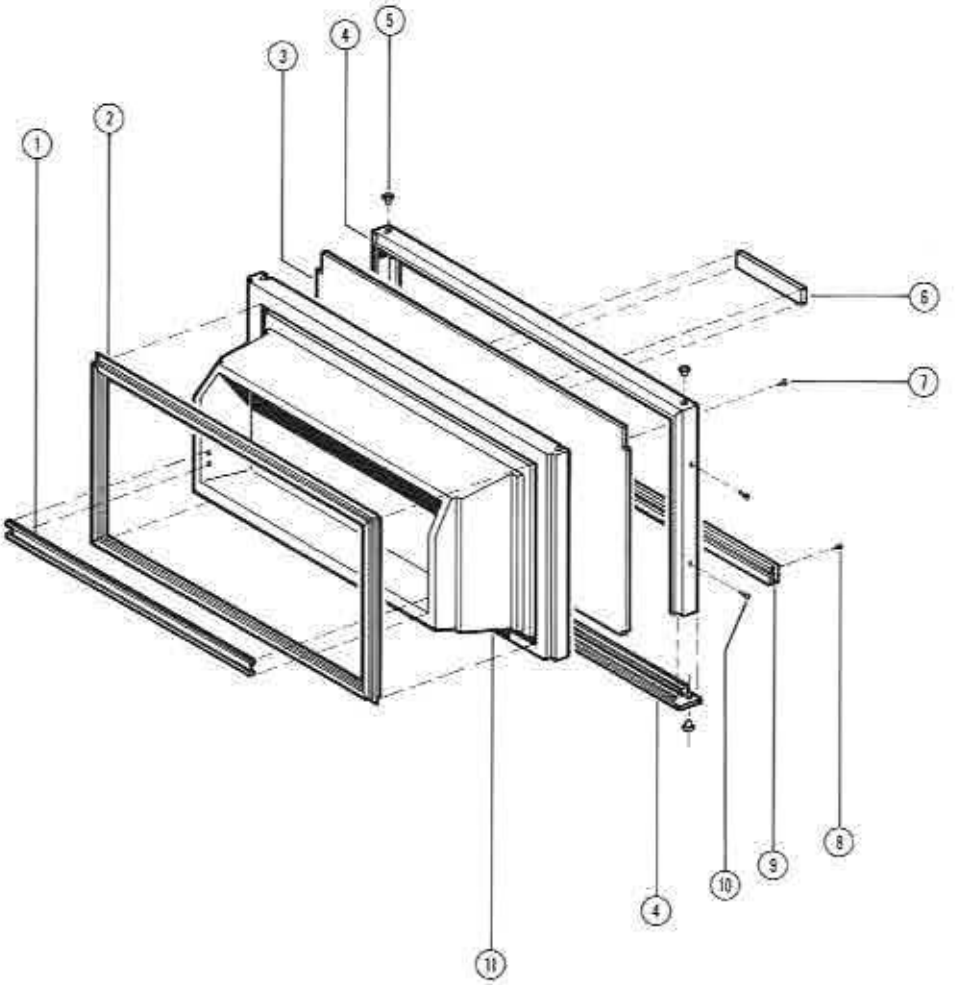


Fig. 12

No.	Part No.	Description	838	8310
1	615223	Door Shelf Trim Assembly	X	X
2	615321	Door Gasket	X	
	615323	Door Gasket		X
3		Decorative Door Panel		
4	615041	Door Frame Assembly	X	
	614982	Door Frame Assembly		X
5	613127	Bushing	X	X
6	615220	Nameplate	X	X
7	614997	Dec. Trim Mounting Screw (Center)	X	X
8	614136	Dec. Trim Mounting Screw (Ends)	X	X
9	615188	Dec. Door Strip/Travel Latch Assy.	X	X
10	614926	Door Frame Screw	X	X
11	614905	Door Liner Foamed Assembly	X	
	614858	Door Liner Foamed Assembly		X

Lower Door – 838, 8310

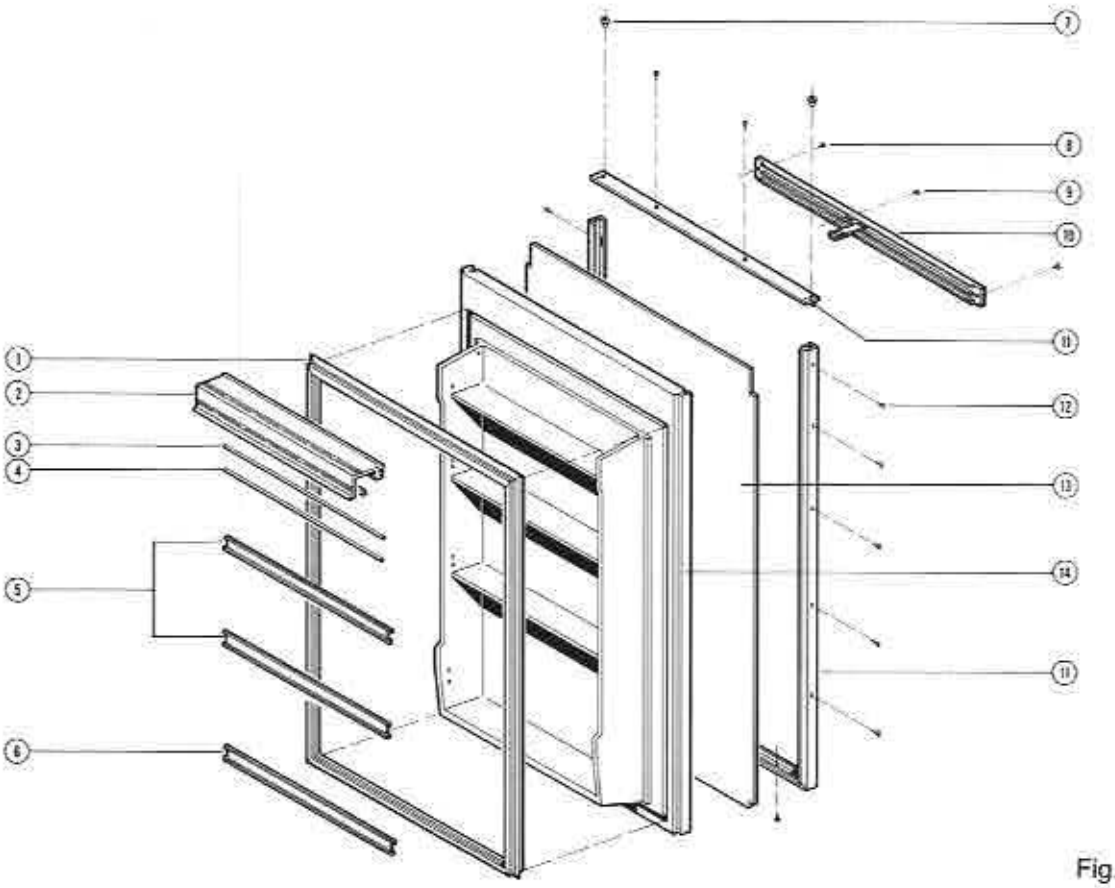


Fig. 13

No.	Part No.	Description	838	8310
1	615322	Door Gasket		X
	615320	Door Gasket	X	
2	614720	Dairy Keeper Door	X	X
3	614721	Connector Rod	X	
	614989	Connector Rod		X
4	613132	Door Rail	X	X
5	615223	Door Shelf Trim Assembly	X	X
6	614739	Door Shelf Trim Assembly	X	X
7	613127	Bushing	X	X
8	614136	Dec. Door Strip Mounting Screw (End)	X	X
9	614997	Dec. Door Strip Mounting Screw (Center)	X	X
10	615188	Dec. Door Strip/Travel Latch Assy.	X	X
11	615040	Door Frame Assembly	X	
	614981	Door Frame Assembly		X
12	614926	Door Frame Screw	X	X
13		Decorative Door Panel		
14	614906	Door Liner Foamed Assembly	X	
	614796	Door Liner Foamed Assembly		X

Cabinet Assembly – 838 EG

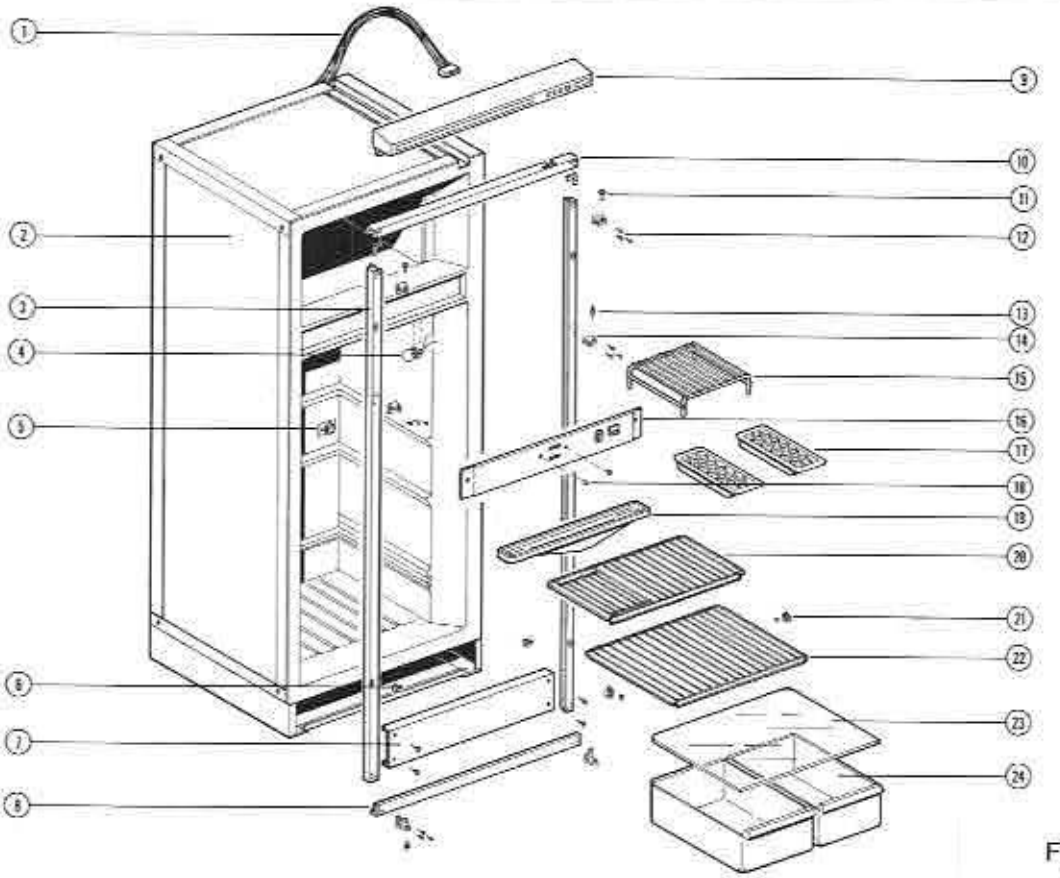


Fig. 14

No.	Part No.	Description	838-EG2	838-EG3
1	615273	Wiring Cable	X	
	615274	Wiring Cable		X
N.S.	615371	Wiring Cable Mounting Screw	X	X
2	615353	Cabinet Urethane Assembly	X	X
3	613820	Breaker Strip L.H.	X	X
N.S.	613819	Breaker Strip R.H.	X	X
4	614602	D.C. Light Bulb	X	X
N.S.	615231	Lamp Socket	X	X
5	615368	Thermostat Assembly	X	X
6	615175	Crisper Cover Clip	X	X
7	615296	Kick Plate	X	X
N.S.	613805	Kick Plate Mounting Screws	X	X
8	613603	Bottom Trim	X	X
9	615383	Eyebrow Assembly	X	
	615374	Eyebrow Assembly		X
10	615304	Top Breaker Strip	X	X
11	611146	Single Hinge Pin	X	X
12	613805	Hinge Screw	X	X
N.S.	613879	Hinge Screw	X	X
13	613384	Double Hinge Pin	X	X
14	613528	Hinge R.H.	X	X
N.S.	613529	Hinge L.H.	X	X
15	615236	Wire Shelf	X	X
16	615363	Divider Front Assembly	X	X
17	614529	Ice Cube Tray	X	X
18	614136	Screw	X	X
19	615085	Drip Tray	X	X
20	615058	Shelf	X	X
21	614096	Shelf Clip	X	X
22	615062	Shelf	X	X
23	613376	Crisper Cover	X	X
24	615180	Crisper Drawer	X	X

(N.S. - not shown)

Cabinet Assembly – 8310 EG

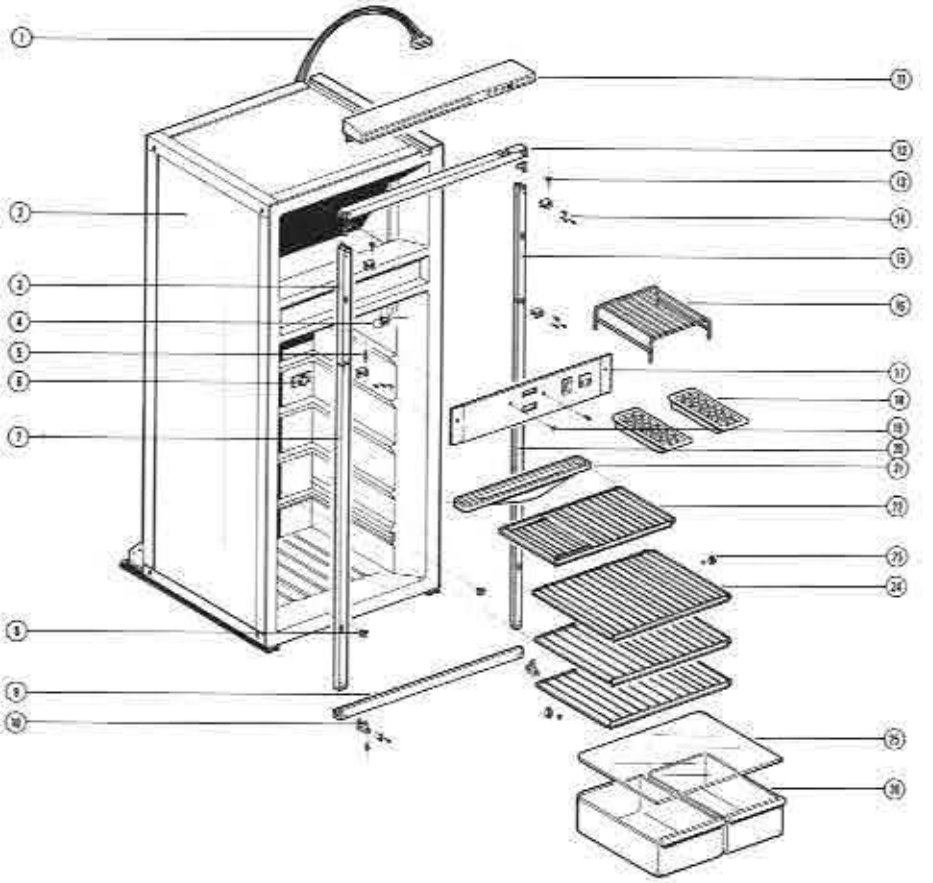


Fig. 15

No.	Part No.	Description	8310-EG2	8310-EG3
1	615275	Wiring Cable	X	
	615276	Wiring Cable		X
N.S.	615371	Wiring Cable Mounting Screw	X	X
2	615340	Cabinet Urethane Assembly	X	X
3	614932	Top Breaker Strip L.H.	X	X
4	614602	D.C. Light Bulb	X	X
N.S.	615231	Lamp Socket	X	X
5	613384	Double Hinge Pin	X	X
6	615368	Thermostat Assembly	X	X
7	614930	Bottom Breaker Strip L.H.	X	X
8	615175	Crisper Cover Clip	X	X
9	614908	Bottom Breaker Strip	X	X
10	613529	Hinge L.H.	X	X
N.S.	613528	Hinge R.H.	X	X
11	615383	Eyebrow Assembly	X	
	615374	Eyebrow Assembly		X
12	615304	Top Breaker Strip	X	X
13	611146	Single Hinge Pin	X	X
14	613805	Hinge Screw (Outer)	X	X
N.S.	613879	Hinge Screw (Inner)	X	X
15	614931	Top Breaker Strip R.H.	X	X
16	615236	Wire Shelf	X	X
17	615352	Divider Front Assembly	X	X
18	614529	Ice Cube Tray	X	X
19	614136	Divider Mounting Screw	X	X
20	614929	Bottom Breaker Strip R.H.	X	X
21	615085	Drip Tray	X	X
22	615058	Shelf	X	X
23	614096	Shelf Clip	X	X
24	615062	Shelf	X	X
25	613376	Crisper Cover	X	X
26	615180	Crisper Drawer	X	X

(N.S. - not shown)

Thermostat Assembly – 838, 8310

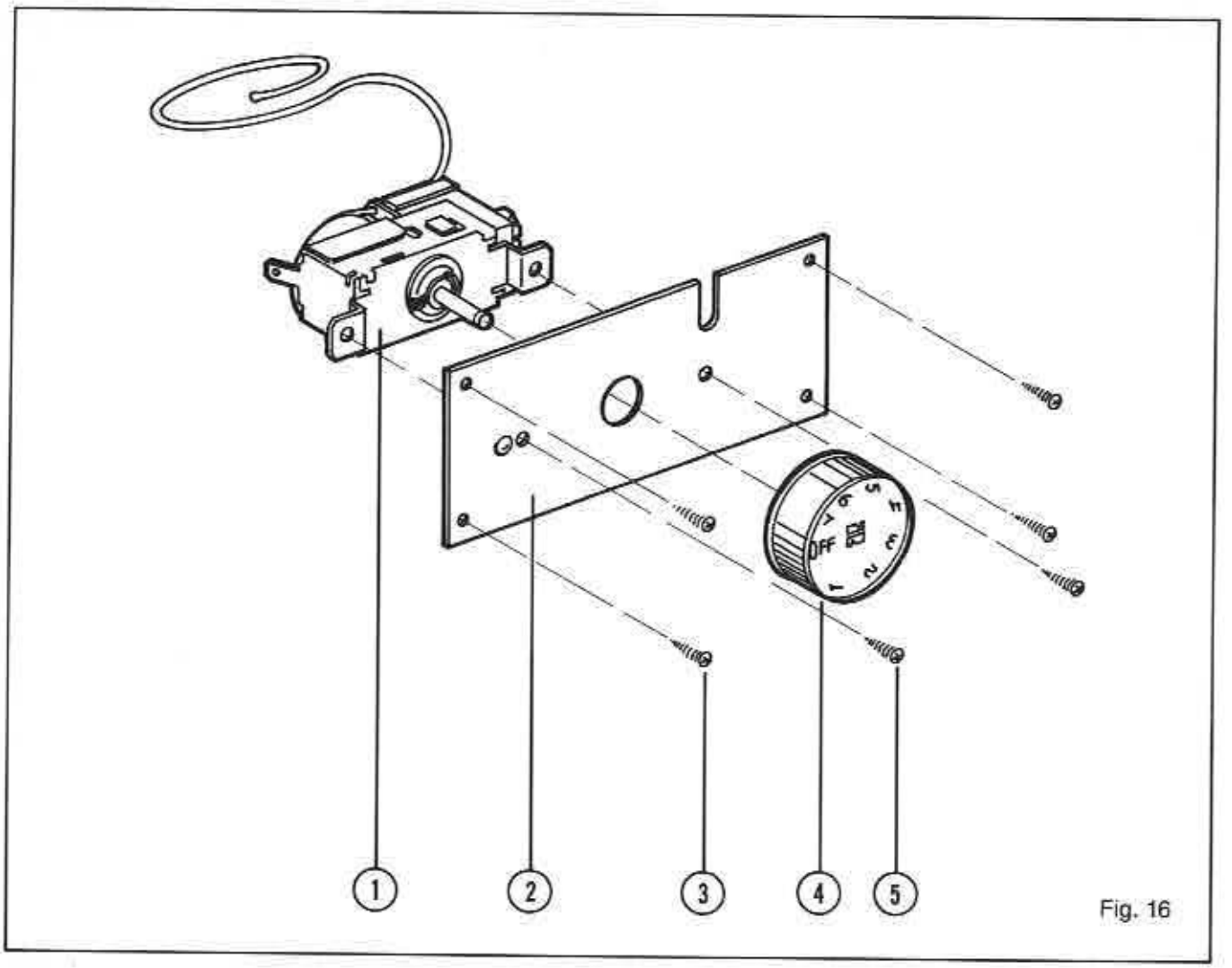


Fig. 16

No.	Part No.	Description	838 EG2	838 EG3	8310 EG2	8310 EG3
1	615262	Thermostat	X	X	X	X
2	613637	Thermostat Plate	X	X	X	X
3	614136	Screws (4)	X	X	X	X
4	614097	Thermostat Knob	X	X	X	X
5	611617	Screws (2)	X	X	X	X

Divider Assembly – 838, 8310

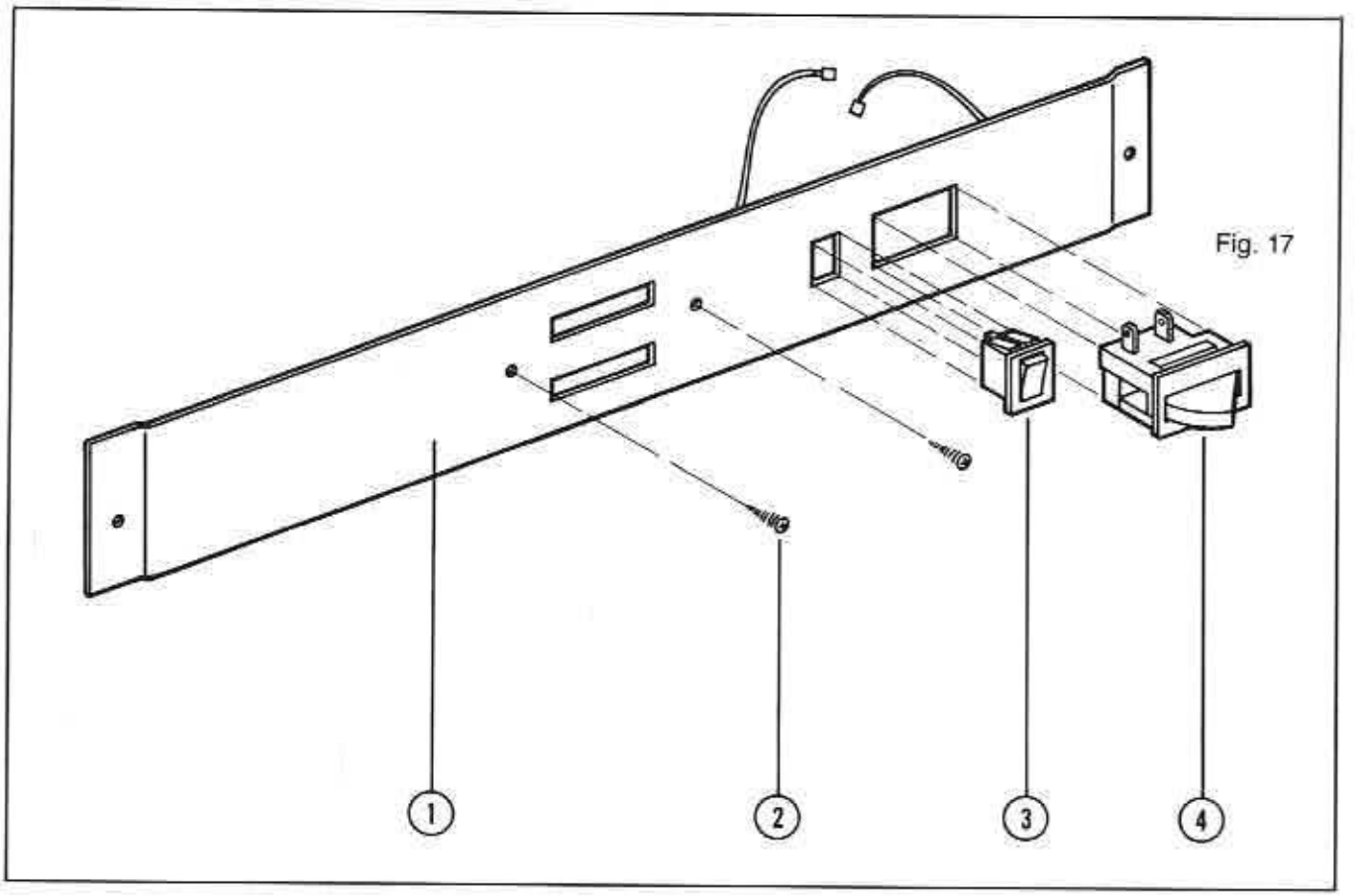


Fig. 17

No.	Part No.	Description	838 EG2	838 EG3	8310 EG2	8310 EG3
1	614492	Divider Front	X	X		
	615347	Divider Front			X	X
2	614136	Screws (2)	X	X	X	X
3	615351	Humidity Switch	X	X	X	X
4	615227	Light Switch	X	X	X	X

Eyebrow Assembly – 838, 8310

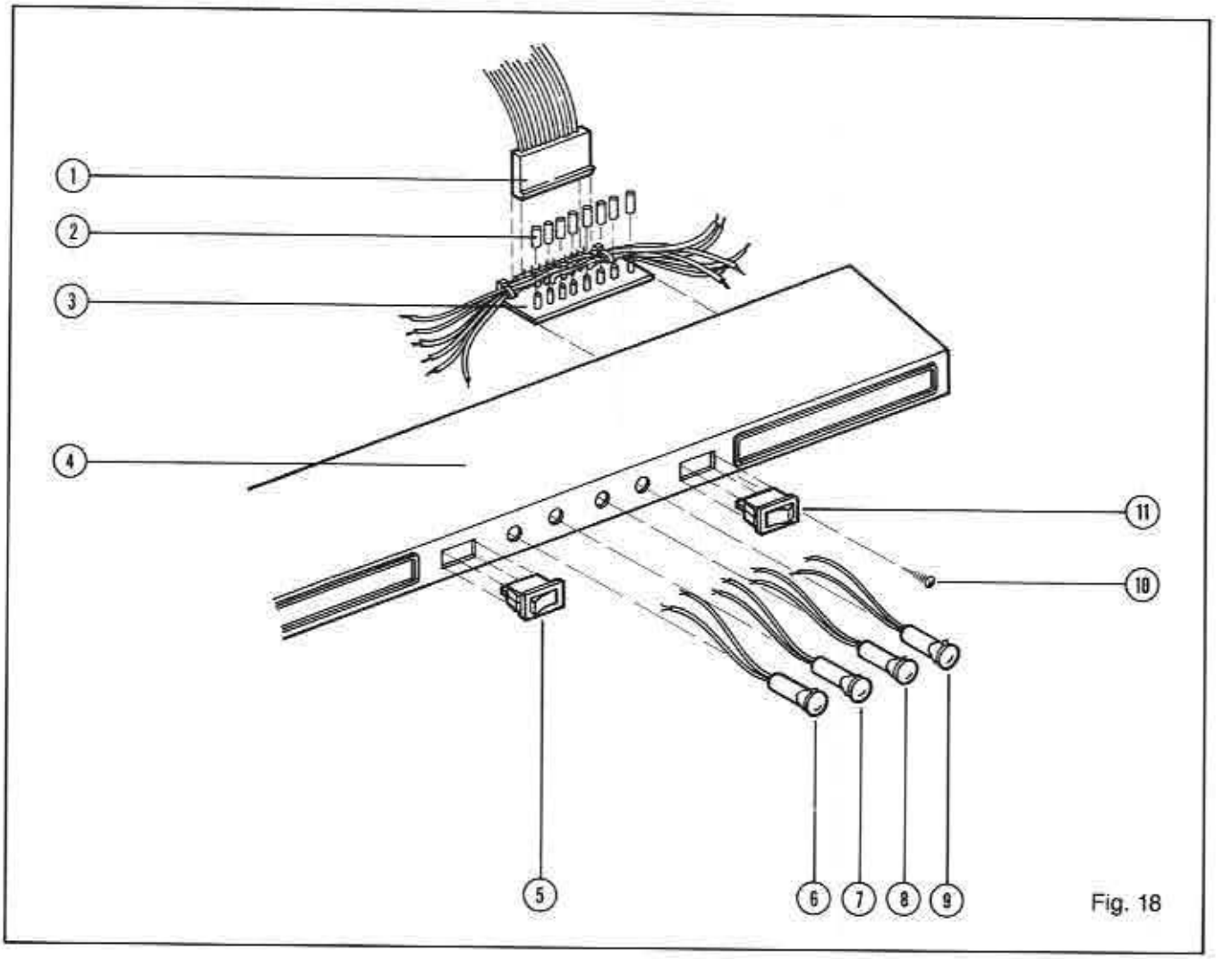
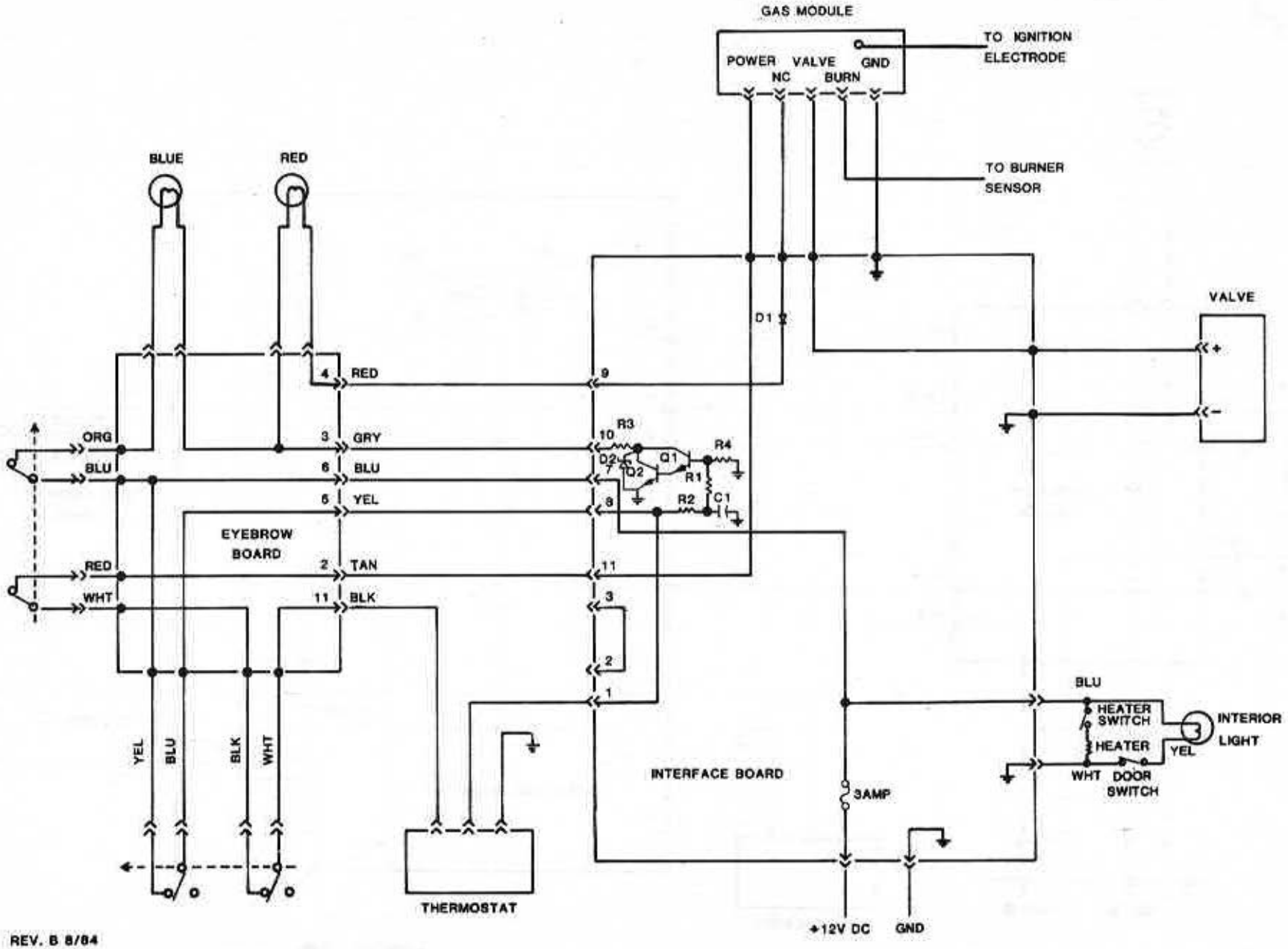


Fig. 18

No.	Part No.	Description	838 EG2	838 EG3	8310 EG2	8310 EG3
1	615273	Wiring Cable	X			
	615274	Wiring Cable		X		
	615275	Wiring Cable			X	
	615276	Wiring Cable				X
2		Stuffer Cap	X	X	X	X
3	615283	Eyebrow Board	X		X	
	615284	Eyebrow Board		X		X
4	615226	Eyebrow	X		X	
	615272	Eyebrow		X		X
5	615259	Rocker Switch		X		X
6	615268	Indicator Lamp - Amber		X		X
7	615265	Indicator Lamp - Green	X	X	X	X
8	615266	Indicator Lamp - Red	X	X	X	X
9	615267	Indicator Lamp - Blue	X	X	X	X
10	614136	Screw (2)	X	X	X	X
11	615258	Rocker Switch	X	X	X	X

838, 8310 EG3 SCHEMATIC GAS MODE FUNCTIONS

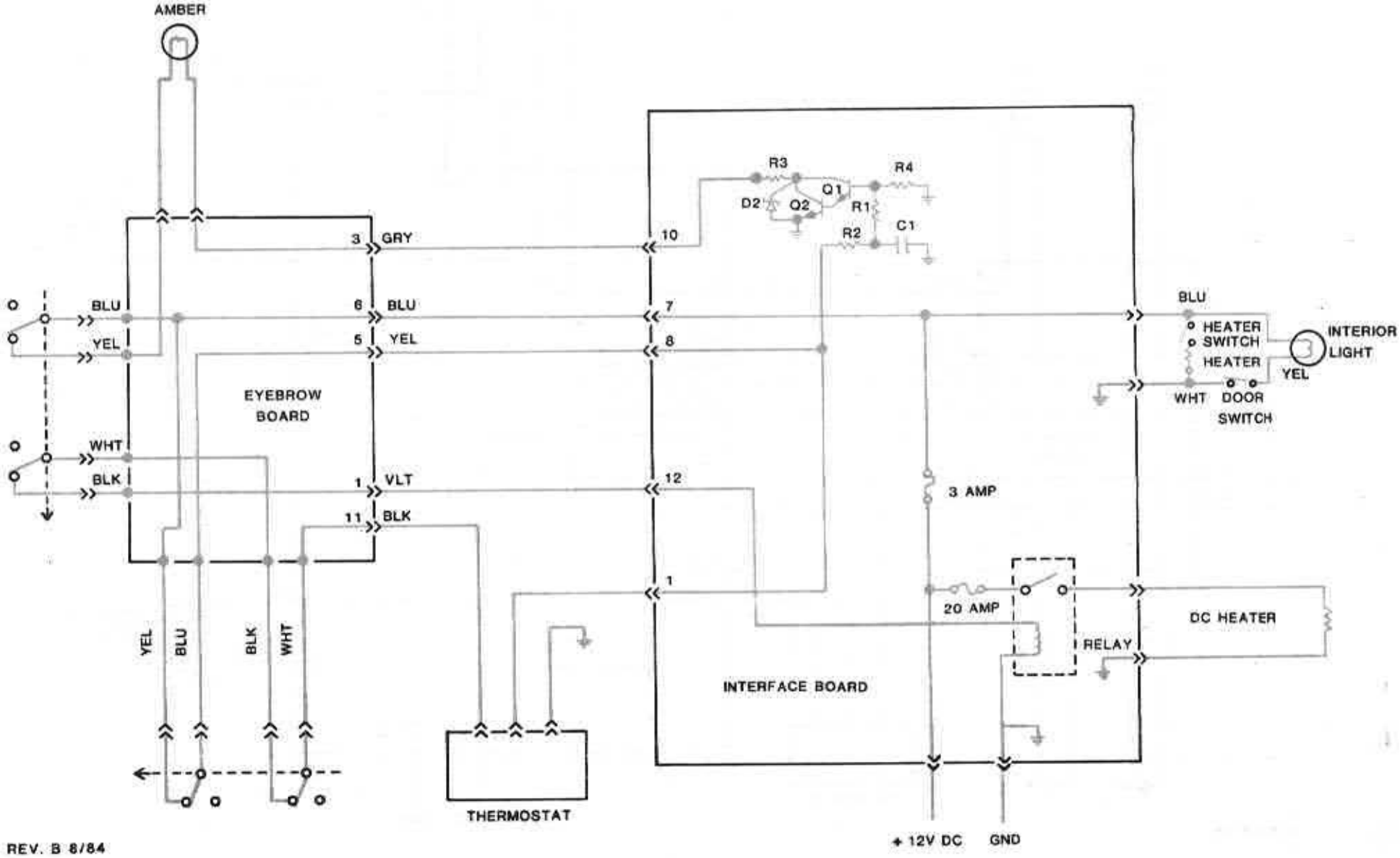
(REF: 615410)



REV. B 8/84

838, 8310 EG3 SCHEMATIC DC ELEC MODE FUNCTIONS

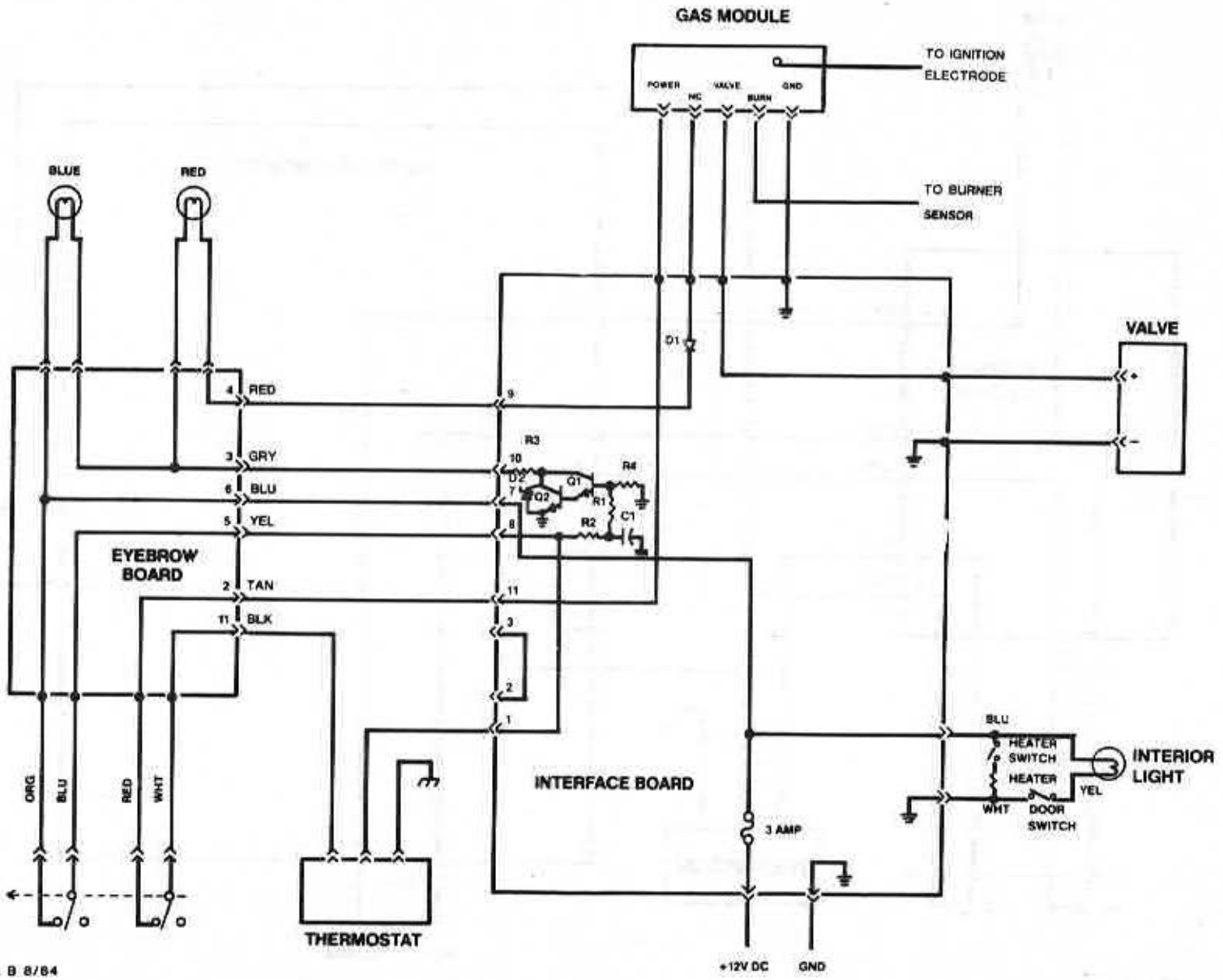
(REF: 615410)



REV. B 8/84

838, 8310 EG2 SCHEMATIC GAS MODE FUNCTIONS

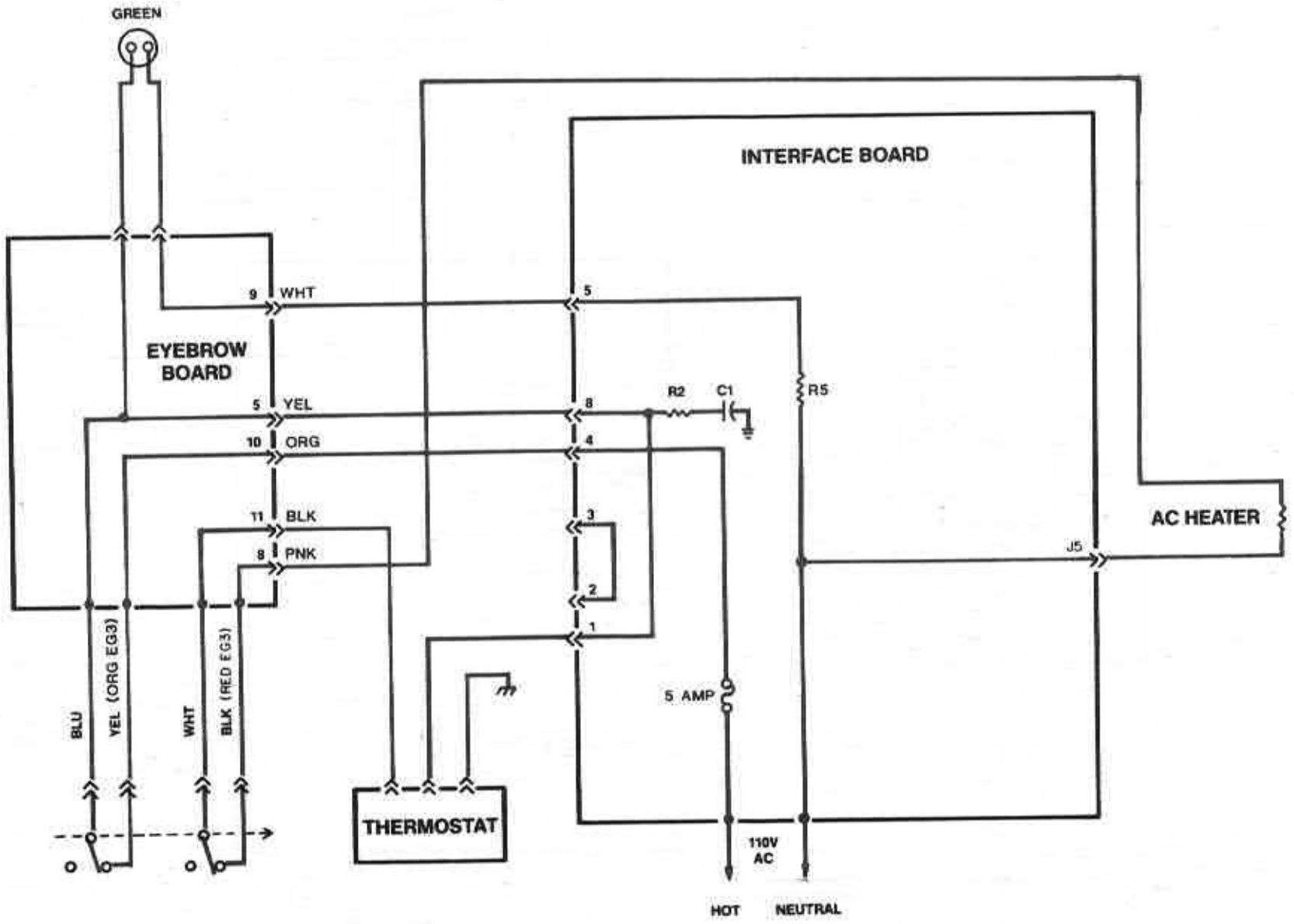
(REF: 615411)



REV. B 8/84

838, 8310 EG2 SCHEMATIC AC ELEC MODE FUNCTIONS
838, 8310 EG3

(REF: 615411, 615410)

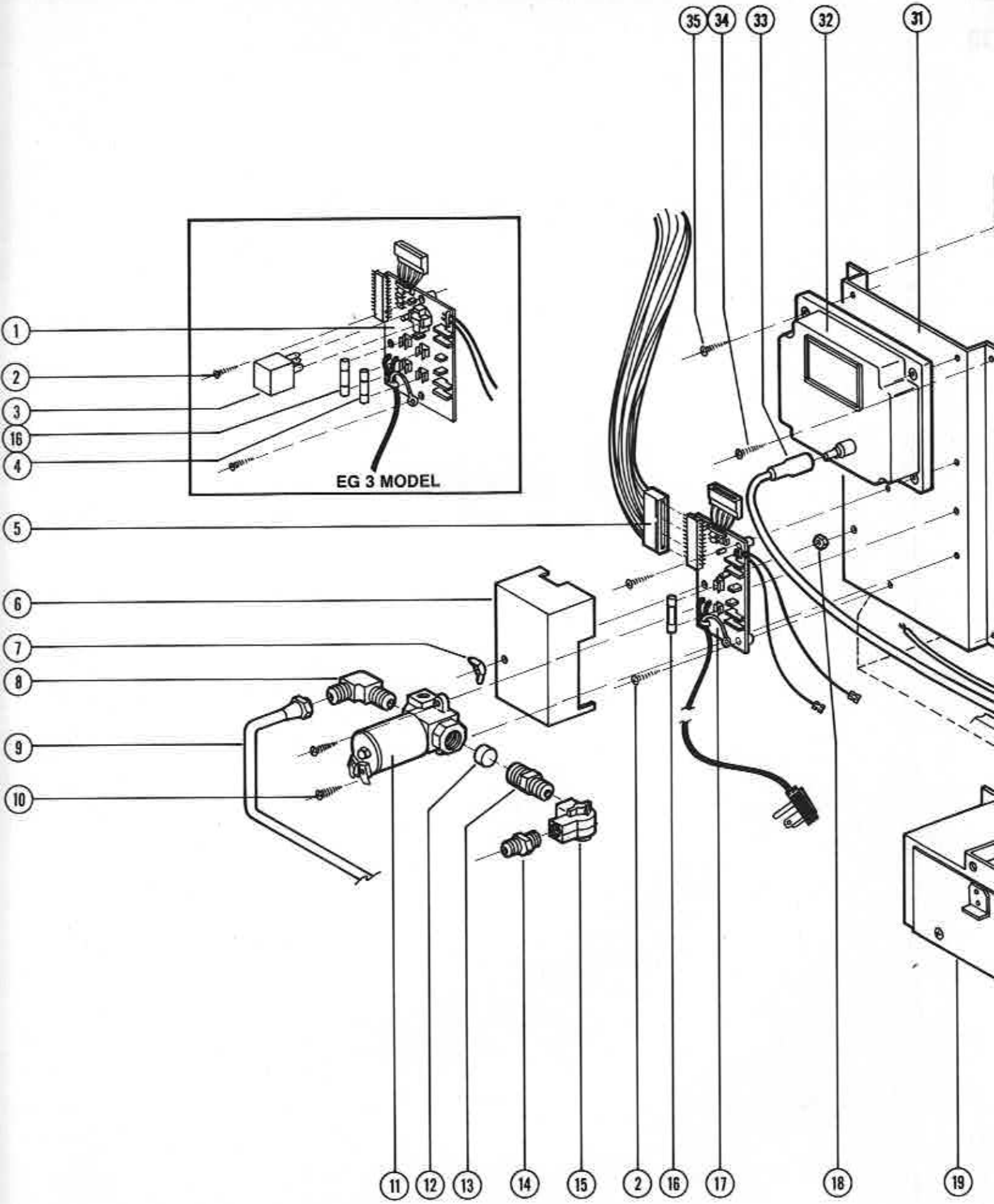


REV. B 8/84

Control Bracket Assembly – 838 EG2 & EG3 and 8310 EG2 & EG3

No.	Part No.	Description	838 EG2	838 EG3	8310 EG2	8310 EG3
1	615282	Interface Board		X		X
2	615357	Screw #4 × 3/4	X	X	X	X
3	615387	Relay		X		X
4	614405	Fuse, 20 AMP		X		X
5	615273	Wiring Cable	X			
	615274	Wiring Cable		X		
	615275	Wiring cable			X	
	615276	Wiring Cable				X
6	615349	Interface Board Cover	X	X	X	X
7	615358	Wiring Nut, #6-32	X	X	X	X
8	615257	Outlet Fitting	X	X	X	X
9	615255	Burner Tube	X	X	X	X
10	614963	Screw #6 × 3/4	X	X	X	X
11	615251	Gas Valve	X	X	X	X
12	615279	Filter	X	X	X	X
13	615393	Nipple	X	X	X	X
14	615256	Inlet Fitting	X	X	X	X
15	615392	Shut-Off Cock	X	X	X	X
16	615388	Fuse, 3 AMP	X	X	X	X
17	615281	Interface Board	X		X	
18	615359	Hex Nut #6-32	X	X	X	X
19	614975	Baffle Assembly	X	X	X	X
20	614486	Fitting	X	X	X	X
21	611109	Screw	X	X	X	X
22	614251	Orifice gasket	X	X	X	X
23	615326	Orifice	X	X	X	X
24	615247	Ignition Electrode	X	X	X	X
25	615248	Sensing Electrode	X	X	X	X
26	614136	Screw	X	X	X	X
27	615370	Burner	X	X	X	X
28	615270	Sensor Wire	X	X	X	X
29	614713	Heater	X		X	
	615263	Heater		X		X
30	615360	Screw #6-32 × 2-3/8	X	X	X	X
31	615299	Control Bracket	X	X	X	X
32	615250	Control Module	X	X	X	X
33	615269	Ignition Wire	X	X	X	X
34	615109	Screw	X	X	X	X
35	614963	Screw	X	X	X	X

Control Bracket Assembly – 838 EG2 & E



– 838 EG2 & EG3 and 8310 EG2 & EG3

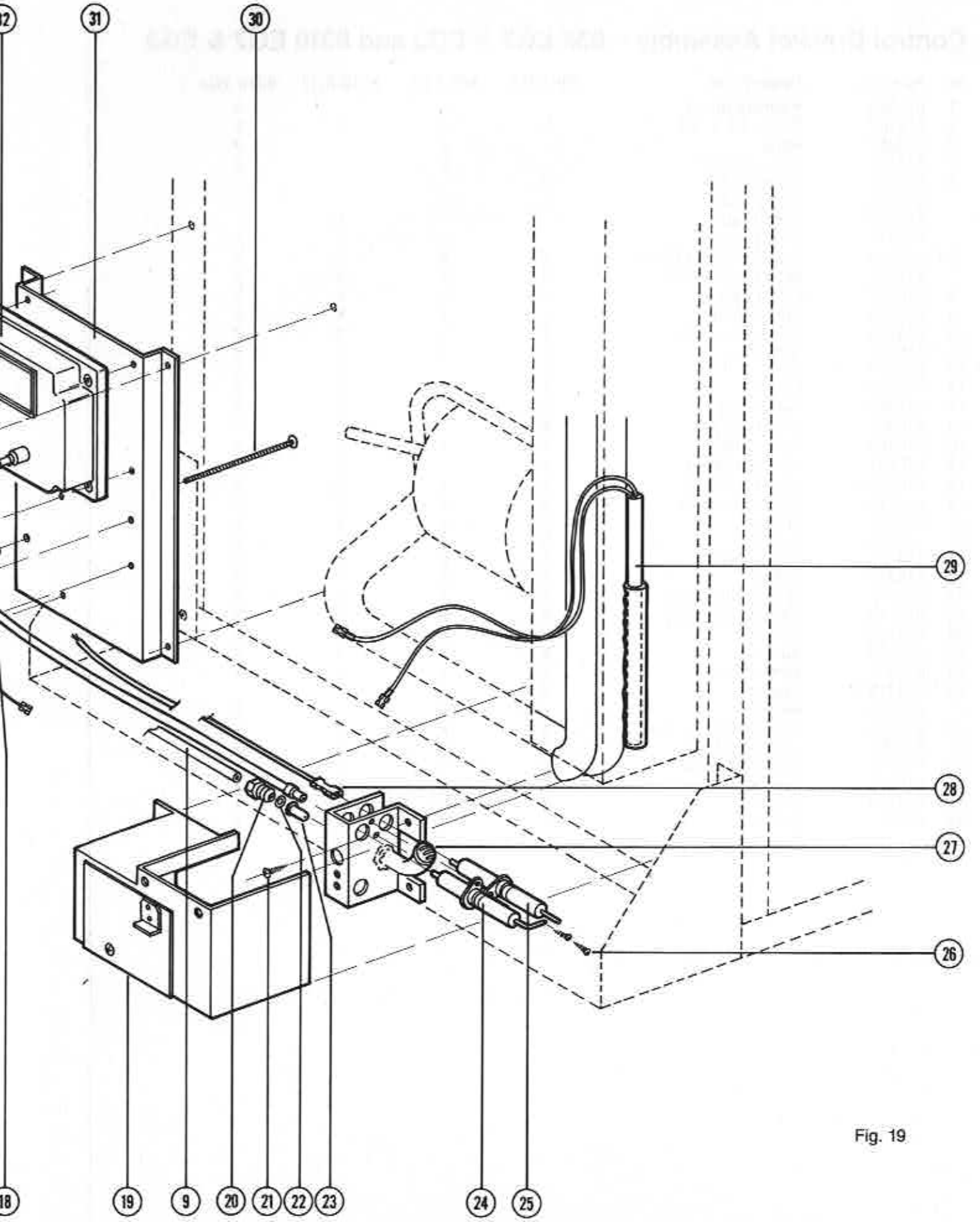


Fig. 19