Service Manual

MODEL 1082 FREE-STANDING REFRIGERATOR

Specifications

AC	120 VAC, 60 Hertz
	132 VAC Max. - 108 VAC Min.
Heater	Power - 300 Watt
	Current - 2.7-2.9 Amps
	Resistance - 40.3 Ohms
LP Gas	Propane Supply Pressure 11" W.C.
	10.5" W.C. min. burner pressure
	LP16 Orifice
	1550 BTU/Hr.
Burner Ignition	Manual (Piezo)

Contents

Part No.: 618432A (95-07)

Important Safety Information

⚠ WARNING

Read this information before attempting to perform service on this refrigerator.

Page 7 shows a wiring pictorial and diagram. Review both the wiring pictorial and diagram to understand the electrical circuits and the relationship to the individual components.

Understand the service procedures before performing service.

Always apply the safety precautions listed below when servicing this refrigerator. Failure to follow these safety precautions can result in substantial property damage, severe personal injury, or death.

- The refrigerator model 1082 is not approved for use in R.V. or Marine applications. This refrigerator is equipped for LP Gas and cannot be converted to any other fuels (Natural Gas, Butane, etc.).
- This refrigerator must be used in the manner for which it was designed. Refer to pages 3-6 of this manual for installation and operating instructions.
- Hazardous voltage can cause property damage, severe personal injury, or death. Use care when performing diagnostic procedures. Disconnect the AC electric source to the refrigerator before replacing any single component.
- The 120 Volt AC circuit must be properly grounded. Never cut or remove the round grounding prong from the refrigerator's AC power cord. Do not use a two-prong adapter. Do not use an extension cord.
- The use of improper rated fuses can lead to an electrical fire. In the event of a circuit overload, replace blown fuses with a fuse specified by Norcold. Fuse specifications are found in the "Specification" section of this manual. The correct fuse size is printed adjacent to the fuse on the refrigerator.
- Keep liquids away from electrical connections. Many liquids are electrically conductive and could cause serious arcing damage and, in some cases, fire.
- Never bend, drop, drill, weld, or hammer the cooling unit. Doing so can cause the cooling unit to rupture, releasing chemicals under high pressure. Contact with these chemicals may cause severe burns to the eyes or skin.
- Never attempt to repair or recharge the cooling unit. A defective cooling unit must be replaced.
- Hazardous vapors. Propane gas can cause an explosion, resulting in property damage, severe personal injury, or death. Use caution when working with or near a propane gas system. Do not smoke. Do not create sparks or use an open flame to check gas supply lines or gas connections.
- To prevent gas leaks and damage to the gas supply lines and fittings, use two wrenches when connecting or disconnecting gas fittings (See Figure 1 below).
- This refrigerator has sharp edges and corners at rear. Use care when working on this refrigerator. To prevent cuts or abrasions, wear cut resistant gloves.
- Surfaces at the rear of the refrigerator are extremely hot. Contact with these surfaces can result in minor burns. Turn the refrigerator "OFF" for several hours before attempting to service the refrigerator.

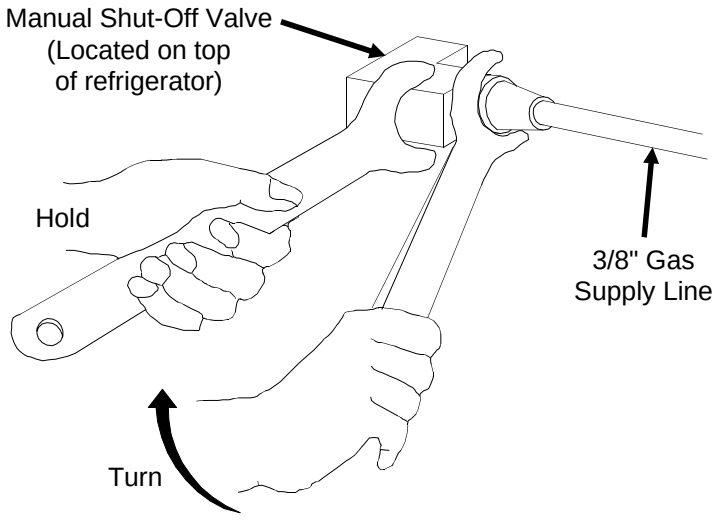


Figure 1 - Double-Wrenching Gas Fittings

Locating and Installing the Refrigerator

Installation

This refrigerator must be installed in accordance with these Installation Instructions for the certifications and the Norcold factory warranty to be in effect.

This appliance is certified under the latest edition of ANSI Z21.19 Standards by the American Gas Association and is approved by the Canadian Gas Association.

Install the refrigerator in accordance with local codes. In the absence of local codes, the installation must conform with the following, as applicable:

In the United States:

- The National Fuel Gas Code, ANSI Z223.1.
- The manufactured Home Construction and Safety Standard, Title 24 CFR Part 3280.

When an external electrical source is utilized, the refrigerator, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, the National Electrical Code, ANSI/NFPA 70.

In Canada:

- Any applicable code.
- Current Can 1-B 149.2 Installation Code for Propane Appliance and Equipment.

The refrigerator must be electrically grounded with the current Canadian Electrical Code C22.2 Parts 1 and 2.

Locating the Refrigerator

WARNING: Improper location, installation, adjustments, or unauthorized modifications can cause injury or property damage. Refer to this manual for proper instructions. For assistance or additional information consult a qualified installer, service agency, or your gas supplier.

The Norcold refrigerator is to be located on a solid and level floor that is strong enough to support the combined weight of the refrigerator and its contents. Keep the refrigerator away from direct sunlight and other heat generating sources.

The refrigerator must be installed with the following clearances:

Top:	6 inches minimum
Right Side:	2 inches minimum
Left Side:	0 inch minimum
Bottom:	0 inch minimum
Rear:	0 inch minimum

Do not locate the refrigerator in an area where the flow of combustion and ventilation air is obstructed.

Notice*: Never install the refrigerator directly on carpeting or vinyl floor covering. Carpeting or vinyl flooring must be protected by a metal or wood panel beneath the refrigerator. The panel should extend at least the full width and depth of the refrigerator.*

Keep the refrigerator and the surrounding area clear and free of combustible materials, gasoline, and other flammable vapors and liquids.

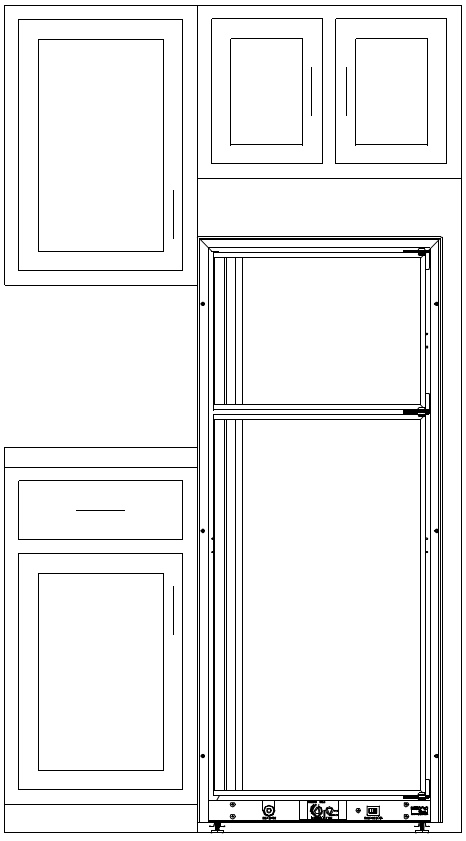


Figure 2

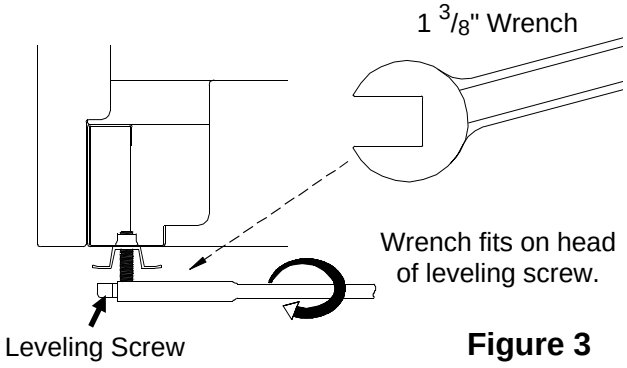


Figure 3

Leveling the Refrigerator

The refrigerator has a moisture reduction device located in the divider panel. This device will inhibit moisture accumulation on the divider panel between the refrigerator and freezer doors. To insure proper operation of the refrigerator and the moisture reduction device, the refrigerator must be level.

The refrigerator is equipped with leveling feet. Using a bubble level placed on the glass shelf in the fresh food compartment, adjust the leveling feet to obtain proper leveling. To raise the refrigerator, turn screw of leveling feet clockwise. To lower the refrigerator, turn screw of leveling feet counterclockwise. See Figure 3.

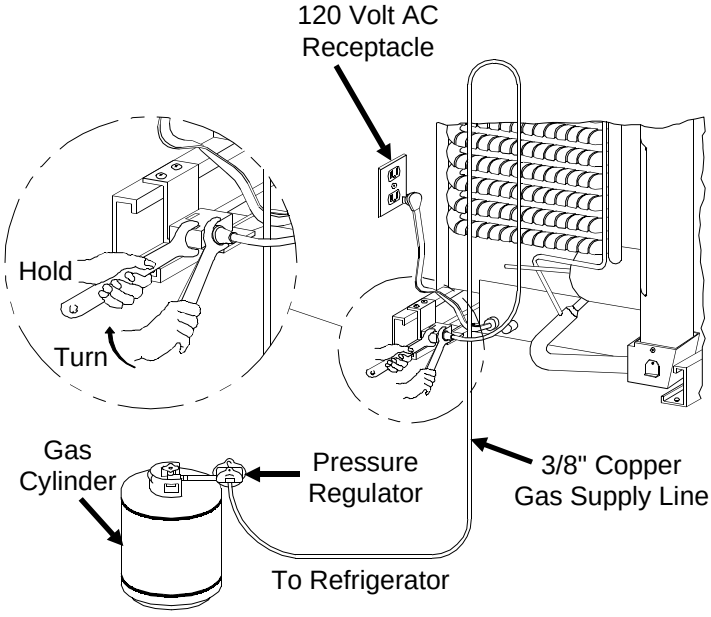
Gas Connection

Install a pressure regulator between the main gas supply tank and the refrigerator to maintain the supply pressure of 11 inches water column. *Do not connect the refrigerator directly to the main gas supply without a pressure regulator in line.*

Use gas supply tubing and fittings that comply with local, state, and national codes. We recommend that the gas be supplied by 3/8 inch diameter copper piping to prevent gas pressure loss to the refrigerator. The gas connection at the rear of the refrigerator is a 3/8 inch SAE (UNF 5/8 inch-18) male flare connection.

The gas piping should be routed to limit the possibility of damage. It is recommended that the supply piping enter directly at the rear of the refrigerator through the floor which supports the refrigerator. The hole through which the gas piping enters should be of sufficient size (approximately 1/2" in diameter) to provide adequate clearance. Once the gas piping is installed, apply a sealant around the piping at its point of entry to minimize abrasion and to serve as a barrier from external moisture.

Provide an adequate length of gas supply tubing for connecting the refrigerator to the main gas supply tank. Additional tubing is required at the rear of the refrigerator (Figure 3) to allow the refrigerator to be pulled several feet from the wall for cleaning, maintenance, and burner flame inspection.



To prevent gas leaks and damage to the gas supply tubing, use two wrenches when connecting gas fittings, as illustrated in Figure 3.

The propane gas supply tubing must be inspected and tested for leaks from the refrigerator to the main gas supply tank. *Do not test for leaks with an open flame.* Testing of the gas supply piping and measurement of input gas pressure must be performed by a qualified installer, service agency, or gas supplier.

Check gas pressure to the refrigerator without other gas appliances operating. The pressure should not exceed 11 inches water column. With other gas appliances operating the pressure should not be less than 10.5 inches water column.

The refrigerator and its individual shutoff valve must be disconnected from the main gas supply during testing at pressures in excess of 1/2 psig (14 inches water column).

The refrigerator must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (14 inches water column).

Figure 4

Gas Device Safety Test

After placing the refrigerator into operation, the gas safety device must be tested. The purpose of the gas safety device is to prevent the escape of unburned gas from the burner if the burner flame is extinguished. While there is a flame present at the burner, turn the refrigerator's manual shutoff valve to "OFF". Wait 3 minutes and turn the manual shutoff valve to "ON". Follow the Lighting Instructions (do not push the control knob in) and try to ignite the burner. The flame should not ignite. This test confirms that the safety valve is functioning properly.

Burner Flame

The efficiency of your refrigerator while operating in the gas mode is dependent upon the correct burner flame. The burner flame provides energy to the refrigerator's cooling system.

The burner flame efficiency is a function of a) correct input gas supply pressure, and, b) the burner and burner orifice cleanliness.

After installation, the propane supply line from the main tank to the refrigerator must be tested for leaks and for the correct supply pressure. *All tests must be performed by the propane gas supplier or a qualified installer.*

A visual inspection check of the burner flame should be made regularly. The flame should be sharp blue with a stable burning appearance (Figure 4). If there is a constant yellow component observed or if the flame appears erratic or unstable, switch the refrigerator to electric or turn the refrigerator "OFF", and contact a qualified installer, service agency, or gas supplier.

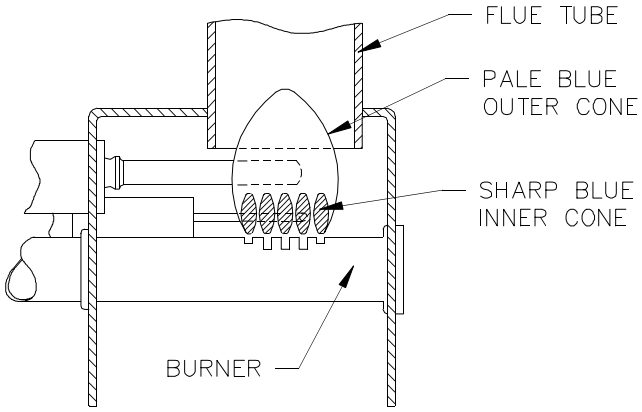


Figure 5

120 Volts AC Connection

WARNING: This refrigerator is designed to operate on a 120 volts AC, 60 Hertz grounded circuit. The refrigerator AC power cord is equipped with a three-prong grounding plug which must mate with a three-prong grounding receptacle to protect against possible shock hazards. Operating the refrigerator without proper ground can cause property damage, severe personal injury, or loss of life. It is the owner/installer's personal responsibility and obligation to provide a properly grounded circuit to the refrigerator in accordance with local codes, or in the absence of local codes, the National Electrical Code, ANSI/NFPA 70. Do not cut or remove the grounding prong from the refrigerator's AC power cord.

The refrigerator's AC electrical circuit is protected by a 5 amp fuse. The fuse is located at the rear of the refrigerator to the right of the AC power cord.

The free length of AC power cord is 72 inches. It is recommended that the three-prong grounded receptacle be located within reach of the cord. The cord must be routed so as not to come in contact with the burner, flue pipe, or any other component that could cause damage to the cord.

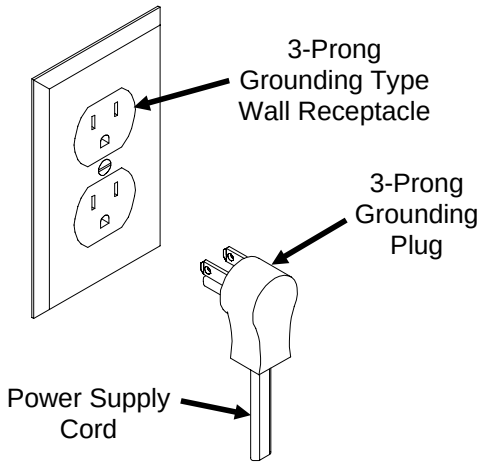


Figure 6

Lighting and Start Up Instructions

Lighting Instructions - Gas Operation

WARNING: Hazardous Vapors. Holding the gas valve (C) in without flame ignition will cause gas to build-up in the burner area and can result in severe personal injury, property damage, or death. Do not hold the gas valve in for more than 30 seconds. If the flame is not indicated within this time, turn the mode selector knob to OFF, wait 2 minutes, and retry. If the flame still will not ignite, shut the refrigerator off and contact a service repair technician.

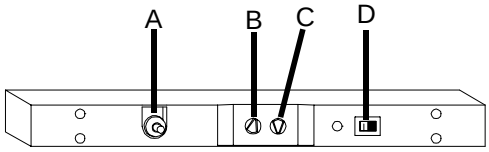
To light the refrigerator:

1. Turn on the gas supply to the refrigerator.
2. Set the thermostat (B) to it's maximum setting.
3. Push and turn the "Elec-Off-Gas" (C) knob counter-clockwise to the "Gas" position.
4. Hold the control knob (C) in and push the igniter (A) repeatedly until the gas is lit at the burner.
5. When the flame indicator (D) starts to move, stop pushing the igniter. Continue to hold the control knob in for approximately 5 seconds, then release. The flame indicator needle should remain in the green area indicating the flame is present at the burner. If not, repeat steps 4 and 5.
   The flame should ignite within 10 seconds. On initial refrigerator Start-Up, it may take longer than 10 seconds to allow air to be purged from the propane gas supply line.
6. Set thermostat control (B) to desired setting after initial cool down.

Shutdown - All Modes

1. Push and turn the "Elec-Off-Gas" (C) control knob to the "Off" position.

Figure 7



Start-Up Instructions - AC Operation

1. Make certain 110 volts AC are available to the refrigerator.
2. Set thermostat to maximum setting.
3. Push and turn "Elec-Off-Gas" control knob clockwise to "Elec". Upon release, the knob will move outward, indicating the control is locked into electric operation.

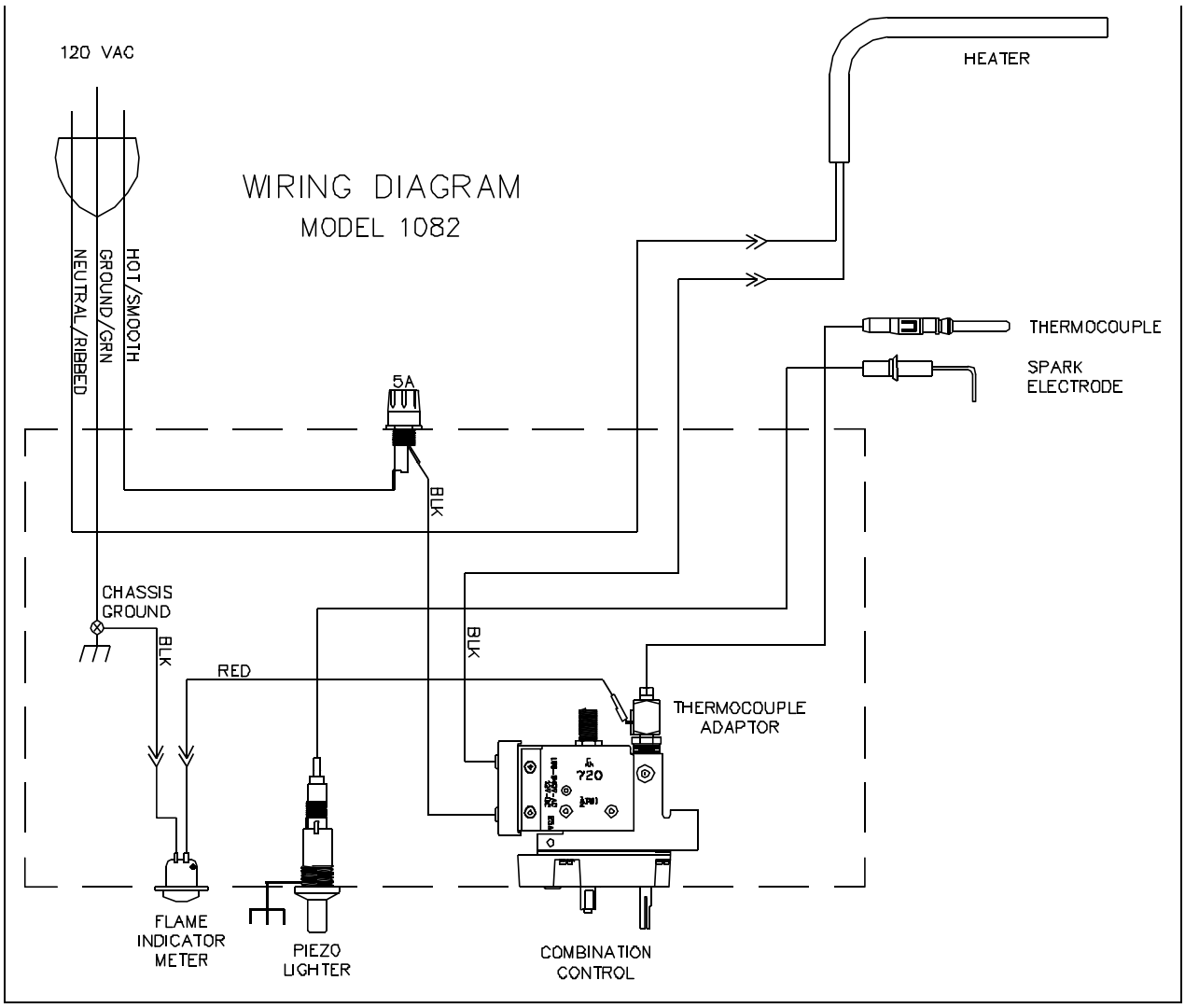
Warranty Time Allowance

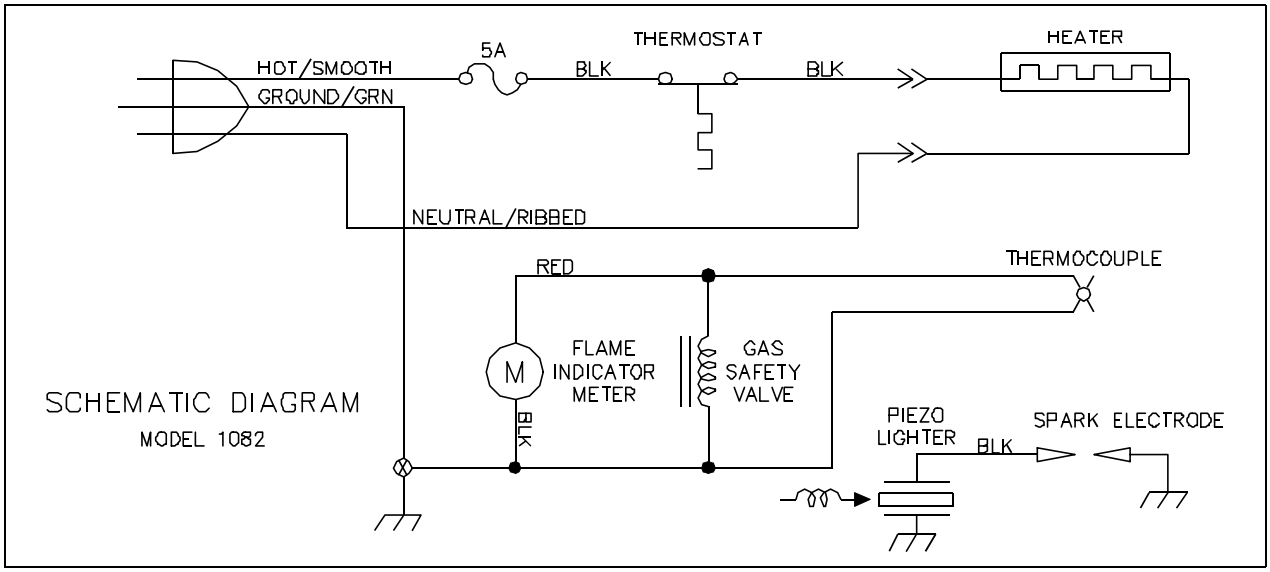
- Norcold will pay the time allowance multiplied by the service facility prevailing shop labor rate.
- The time allowances which follow include diagnostic times include defective part replacement and gas leak test times (when applicable).
- A gas leak test is required when gas connections, either the main gas supply line to the refrigerator or the refrigerator gas components have been disconnected.

Warranty Time Allowance Chart

Replacement Part	Time allowance	Replacement Part	Time Allowance
Burner	.5 HR.	Flame Meter	.6 HR.
Combination Control	1.0 HR.	Heater (AC)	.6 HR.
Cooling Unit	1.5 HR.	Thermocouple Adapter	.6 HR.
Door Handle (parts of)	.3 HR.	Orifice/Orifice Gasket	.5 HR.
Electrode (Ignition)	.5 HR.	Spark Ignitor (Piezo)	.6 HR
Flame Indicator Light	.3 HR.	Thermocouple	.6 HR.

Wiring Diagram and Schematic



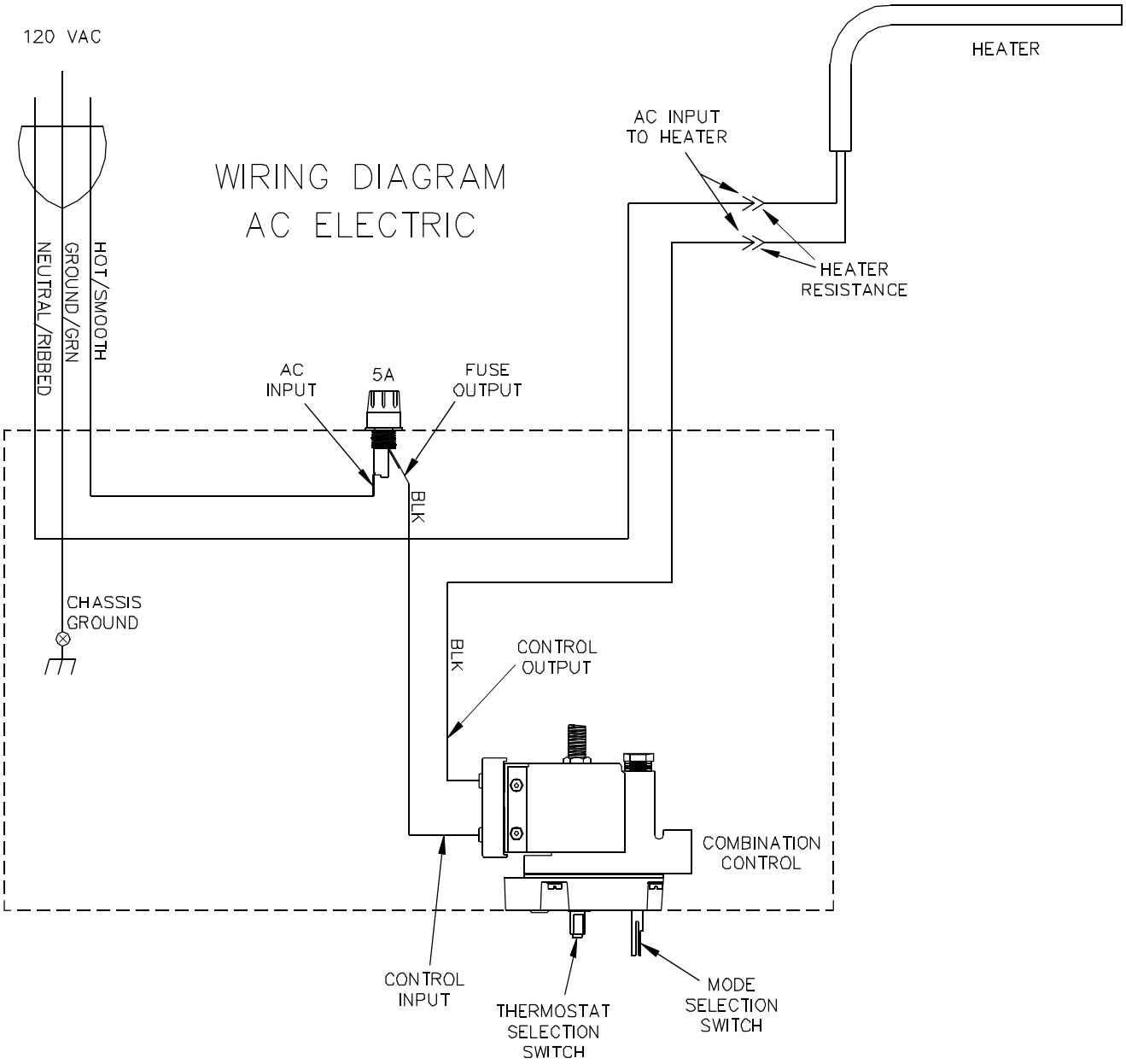


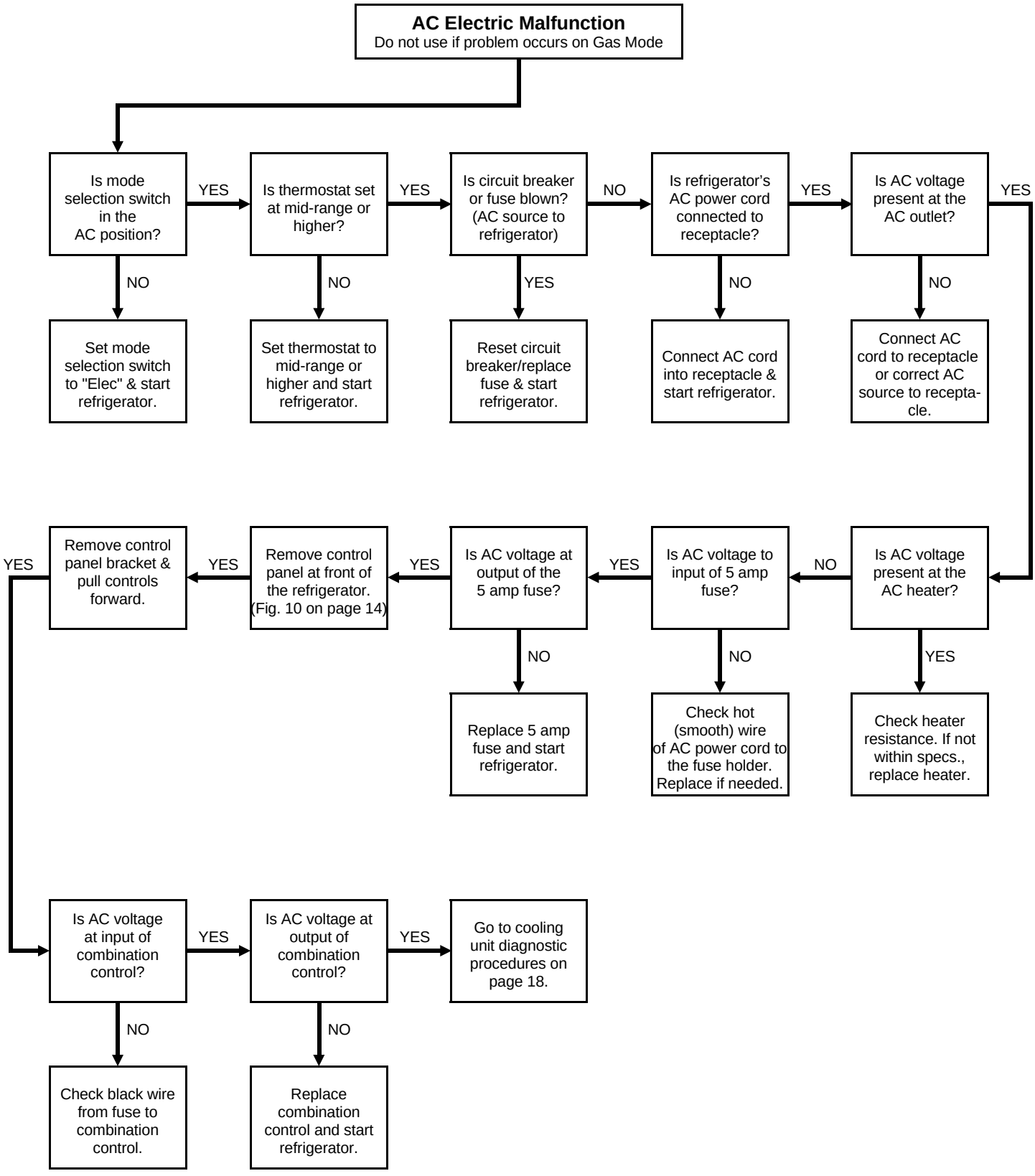
Important Safety Information - AC Circuit

Read this information before attempting to perform service on this refrigerator. Understand the service procedures before performing the service.

WARNING: Use caution when performing the AC diagnostic procedures. Disconnect the AC electrical power source to the refrigerator before replacing any AC electrical component.

* Do not remove or cut the round grounding prong from the refrigerator's AC power cord. Do not use a two-prong adapter.
* Replace blown fuses with a fuse specified by Norcold. Refer to "Specifications" section of this manual, or the fuse size printed adjacent to the fuse on the refrigerator.
* Keep liquids away from AC electrical connections. Liquids are electrically conductive and could cause fires.





Specifications

AC Voltage: 108-132 VAC Current Draw: 2.7-2.9 AMPS Heater Resistance: 38-43 OHMS

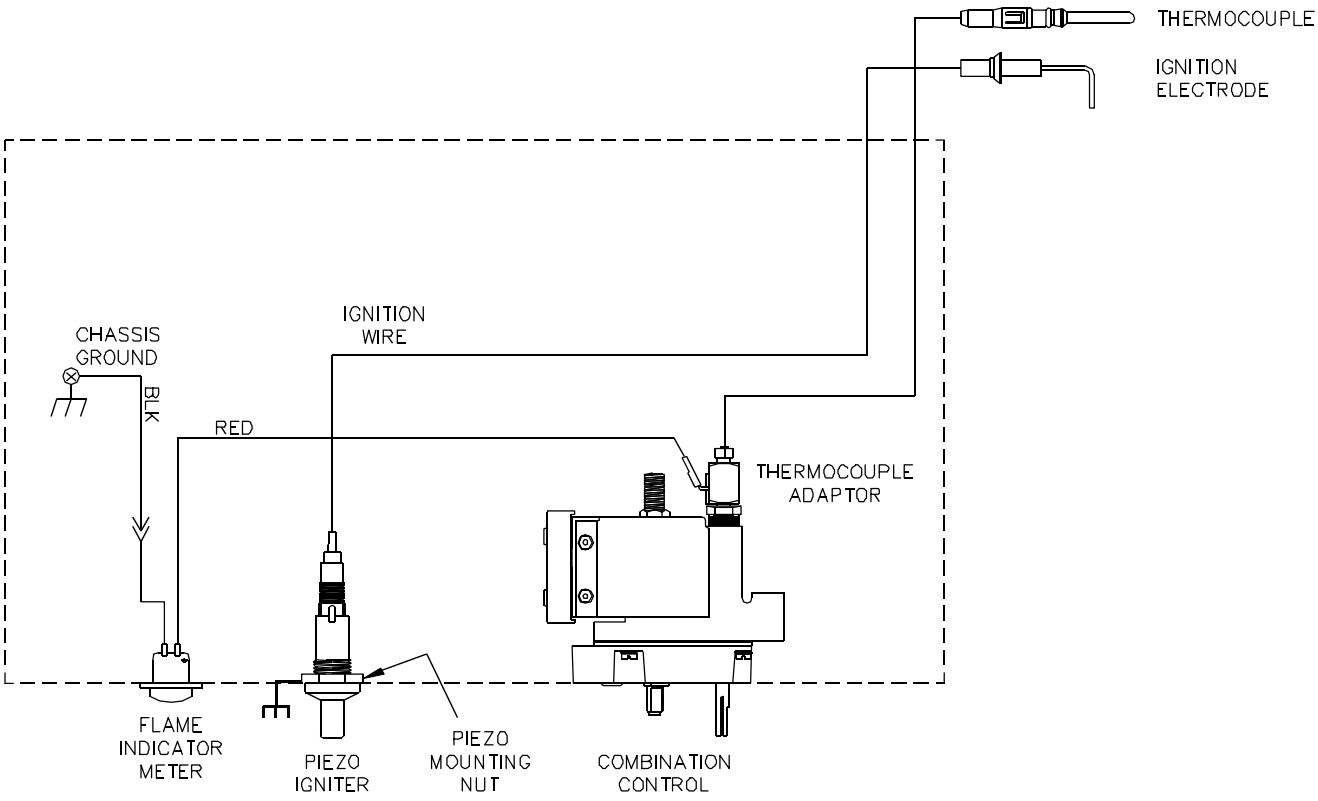
Important Safety Information-Gas Circuit

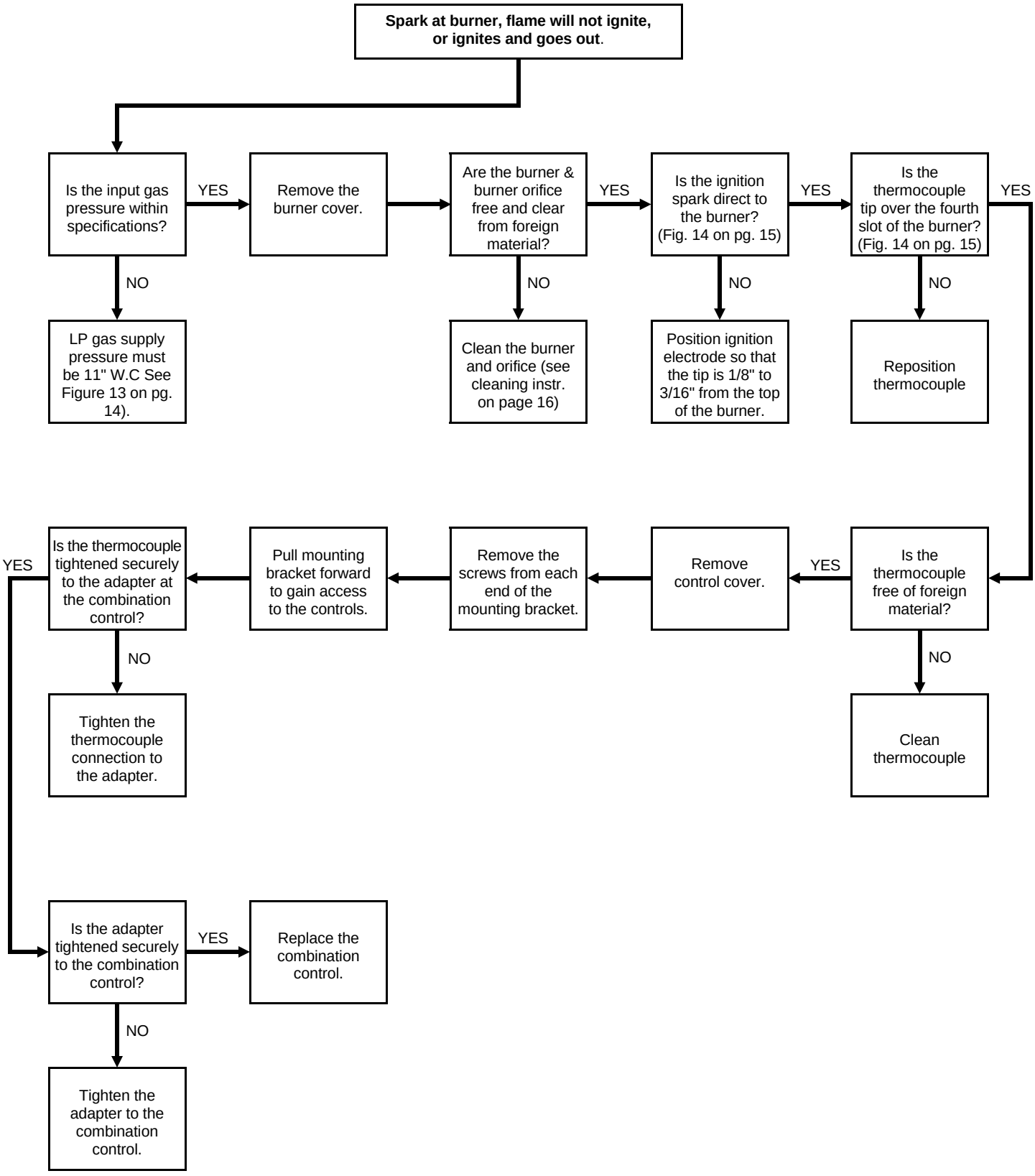
Read this information before attempting to perform service on this refrigerator. Understand the service procedures before performing the service.

Warning: Always apply the safety precautions on page 1 and the precautions listed below. Failure to follow these safety precautions can result in substantial property damage, severe personal injury, or death.

* Propane gas can cause an explosion. Use caution when working with or near a propane gas system. Do not smoke, create sparks, or use an open flame to check gas supply lines or gas connections.
* To prevent gas leaks and damage to the gas supply lines and fittings, use two wrenches when connecting or diconnecting gas fittings (see Figure 1 on page 1).
* Use caution when performing the gas diagnostic procedures. Disconnect the AC electrical source to the refrigerator before replacing any gas component.

WIRING DIAGRAM
LP GAS




Spark at burner, flame will not ignite, or ignites and goes out.
Is the input gas pressure within specifications?
YES
Remove the burner cover.
Are the burner & burner orifice free and clear from foreign material?
YES
Is the ignition spark direct to the burner? (Fig. 14 on pg. 15)
YES
Is the thermocouple tip over the fourth slot of the burner? (Fig. 14 on pg. 15)
YES
NO
LP gas supply pressure must be 11" W.C See Figure 13 on pg. 14).
NO
Clean the burner and orifice (see cleaning instr. on page 16)
NO
Position ignition electrode so that the tip is 1/8" to 3/16" from the top of the burner.
NO
Reposition thermocouple
Is the thermocouple free of foreign material?
YES
Remove control cover.
Remove the screws from each end of the mounting bracket.
Pull mounting bracket forward to gain access to the controls.
Is the thermocouple tightened securely to the adapter at the combination control?
YES
NO
Clean thermocouple
NO
Tighten the thermocouple connection to the adapter.
Is the adapter tightened securely to the combination control?
YES
Replace the combination control.
NO
Tighten the adapter to the combination control.

Important Safety Information-Gas Circuit

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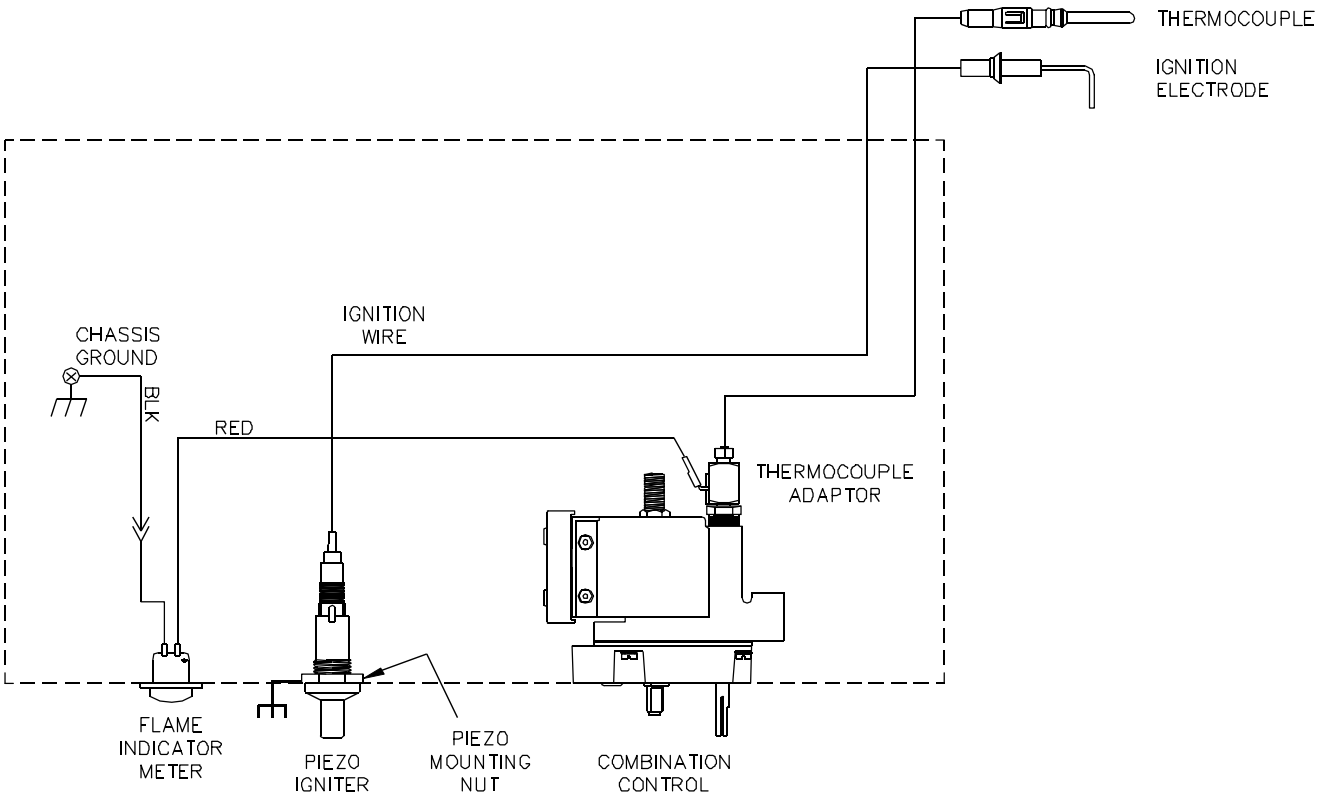
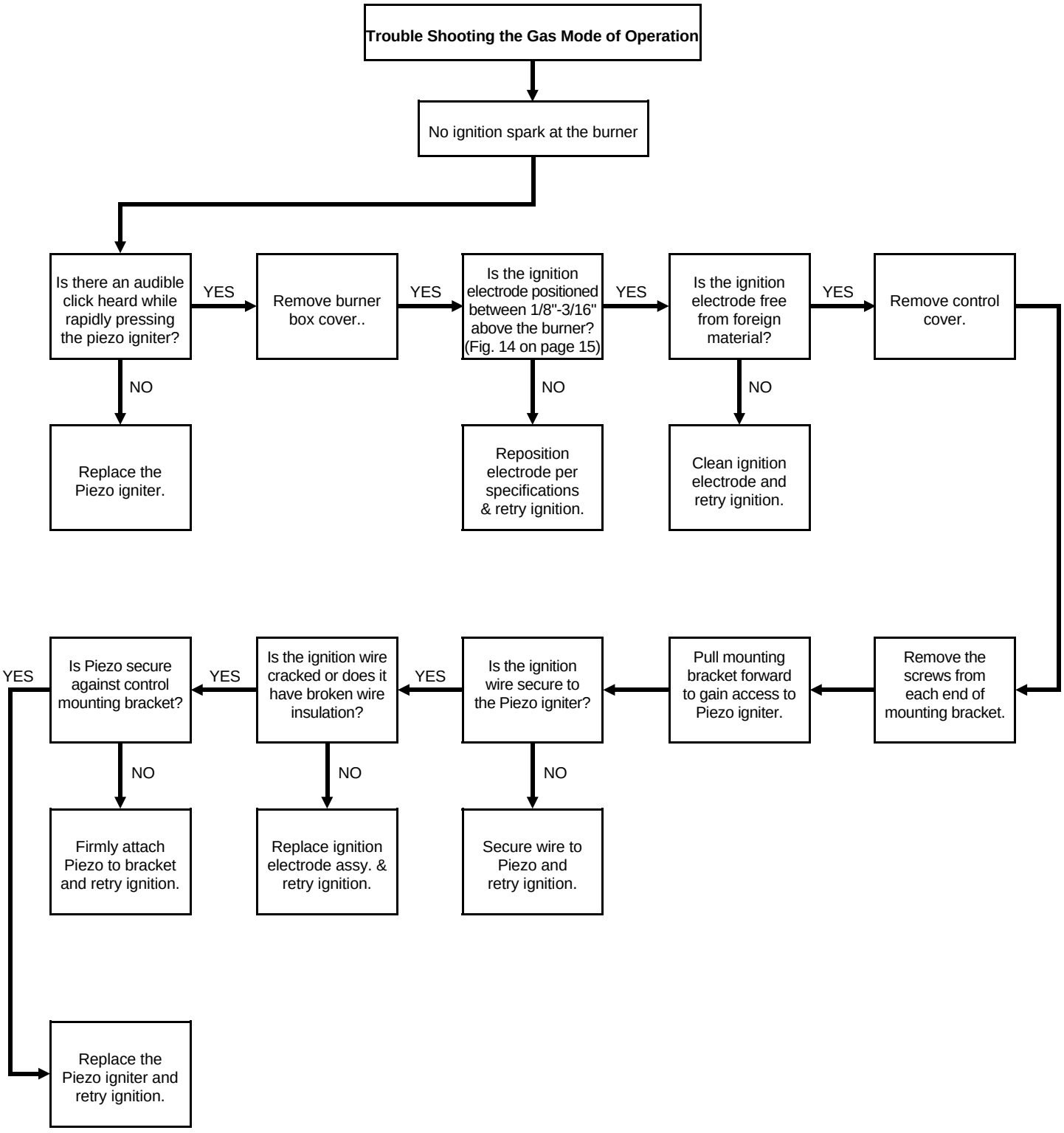
* Use caution when performing the gas diagnostic procedures. Disconnect the AC electrical source to the refrigerator before replacing any gas component.

WIRING DIAGRAM
LP GAS




Trouble Shooting the Gas Mode of Operation
No ignition spark at the burner
Is there an audible click heard while rapidly pressing the piezo igniter?
YES
Remove burner box cover..
YES
Is the ignition electrode positioned between 1/8"-3/16" above the burner? (Fig. 14 on page 15)
YES
Is the ignition electrode free from foreign material?
YES
Remove control cover.
NO
Replace the Piezo igniter.
NO
Reposition electrode per specifications & retry ignition.
NO
Clean ignition electrode and retry ignition.
Remove the screws from each end of mounting bracket.
Pull mounting bracket forward to gain access to Piezo igniter.
Is the ignition wire secure to the Piezo igniter?
YES
Is the ignition wire cracked or does it have broken wire insulation?
YES
Is Piezo secure against control mounting bracket?
YES
NO
Secure wire to Piezo and retry ignition.
NO
Replace ignition electrode assy. & retry ignition.
NO
Firmly attach Piezo to bracket and retry ignition.
Replace the Piezo igniter and retry ignition.

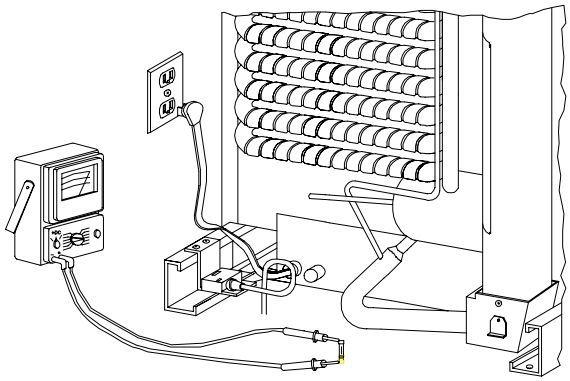


Figure 8

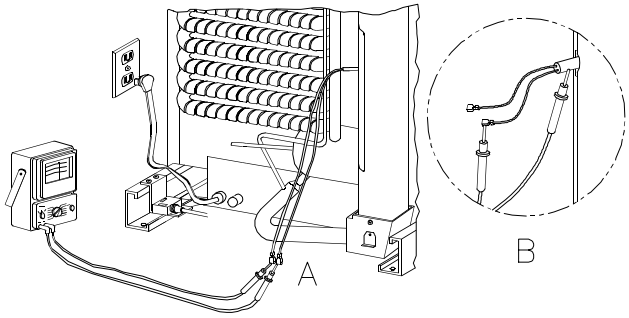


Figure 9

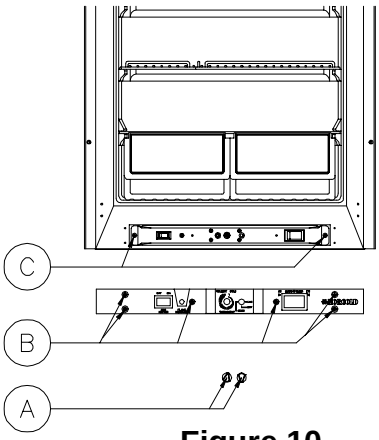


Figure 10

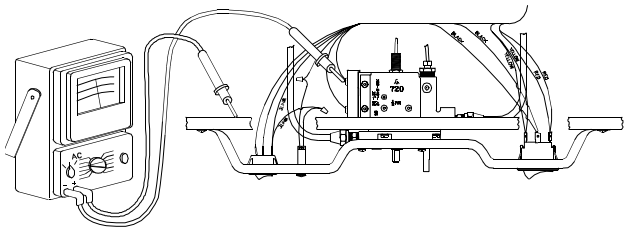


Figure 11

Component Check Out Procedures-AC Electric

Note: Before attempting to trouble shoot the refrigerator, make sure the AC outlet (Figure 8) is supplying between 108 and 132 volts.

5 Amp Fuse Check-Figure 8

- If 120 VAC is not present at the heater terminals, check the 5 amp fuse for continuity.

Heater Element Measurement-Figure 9

- Disconnect heater leads from refrigerator.
- Set ohmmeter to lowest range and measure resistance across heater leads. Heater resistance should fall between 38 to 43 ohms.

Checking for Heater Electrical Leakage-Figure 9

- Disconnect heater leads from refrigerator.
- Set Ohmmeter to highest range.
- Connect one of the meter probes to one of the heater leads. Touch the remaining meter probe to the case of the heater (ground). If the meter reading fluctuates, replace the heater.

Combination Control Check-Out Procedures-Figures 10-12

Control Panel Removal Procedure-Figure 10

- Remove the mode selection and thermostat knobs (A).
- Remove the five phillips head screws (B).
- Pull control panel away from the refrigerator.
- Remove the two phillips head screws holding the control mounting bracket in place (C).
- Pull control mounting bracket forward to gain access to the refrigerator controls.

Check for 120 volt AC at both terminals of the combination control.

- If there is a 0 volt reading at both terminals, check wiring connections. If wire connections are found to be O.K., replace combination control.
- If 120 volts reading is at one (1) terminal only, replace the combination control.

Component Check-Out Procedures LP Gas

Flame Meter Check-Out-Figure 12

- Use the control panel and control bracket removal procedure to gain access to the flame meter leads.
- Insure the red flame meter lead is connected to the thermocouple adapter and the blue flame meter lead is connected to the black ground wire.
- Disconnect the flame meter leads.
- Measure the resistance of the flame meter. If the resistance does not measure from 8 to 12 ohms, replace the meter.

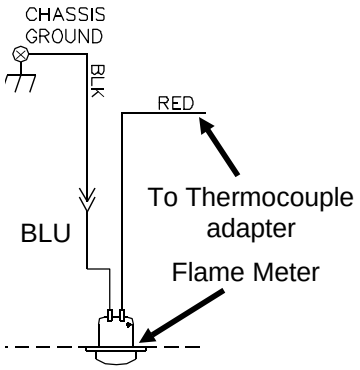


Figure 12

Checking Gas Pressure at the Combination Control-Figure 13

- The combination control modulates the gas pressure between .8 inches W.C. and 10.9 inches W.C..
- Access to the combination control is gained by removing the control panel and the control bracket mounting screws. See "Control Panel Removal Procedure" (Figure 10) on page 13.
- Use a 3/16" allen wrench to remove the pressure tap plug. Using a 1/8" NPT nipple, connect a U-tube manometer to the exposed port.

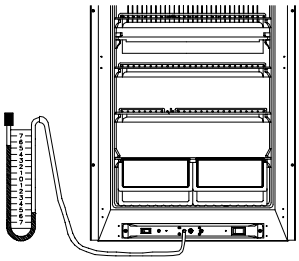


Figure 13

Burner Assembly-Figure 14

- Remove the burner box to gain access to the burner.
- Pull the cover slightly forward and slide it towards the gas valve.
- Check the electrode position (align over 2nd slot of the burner) and the gap of the ignition electrode (1/8" - 3/16" above the burner).
- Check for and remove any foreign material on either the ignition electrode and the thermocouple.
- Insure the thermocouple is positioned properly into the flame.
- Insure the retainer clip is properly installed and is securing the thermocouple to the burner bracket.

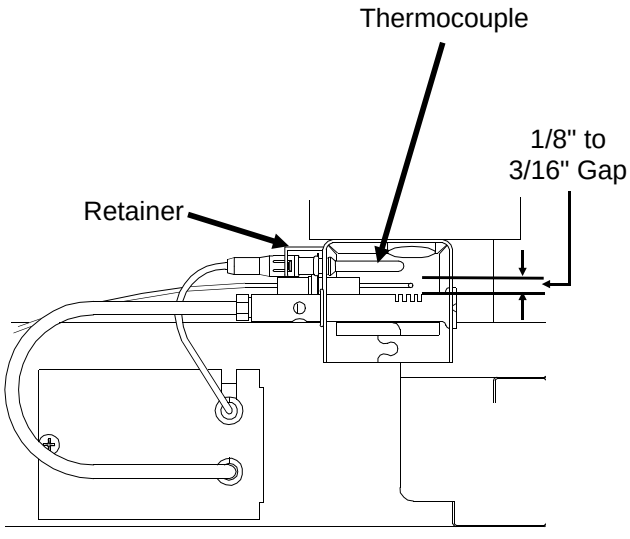


Figure 14

Procedure for Cleaning Burner, Burner Orifice, and Flue-Figure 16

WARNING: Carbon Monoxide can be hazardous to your health and life. Gas appliances may emit excessive Carbon Monoxide if the burner, burner orifice, and the flue tube are not regularly cleaned. To prevent Carbon Monoxide build-up, the burner, burner orifice, and flue tube must be cleaned *at least* twice a year *and* after prolonged (seasonal) shut-down periods. Refer to the following cleaning procedures, or contact a qualified installer, service agency, or your gas supplier.

1. Turn off gas at the main tank supply.
2. Turn the mode selection knob to the OFF position.
3. Allow the refrigerator to sit for 2-3 hours to insure the components at the rear of the refrigerator are cool before cleaning.
4. Pull the refrigerator forward from its permanent location.
5. Unplug the refrigerator's AC power cord.

CAUTION: Exercise care when servicing this refrigerator. The rear of this refrigerator is extremely hot and has sharp edges. To prevent minor burns, turn the refrigerator off for several hours before accessing the rear of the refrigerator. Wear cut resistant gloves to prevent cuts or abrasions while attempting to move the refrigerator.

Cleaning the Flue

6. Remove the heat reflector cap from the flue.
7. Remove the spiral baffle assembly from the flue tube.
8. Using a stiff brush or fine emery cloth, clean spiral baffle of debris.
9. Clean the inside of the flue tube with a flue brush.
10. Re-install the spiral baffle. ***Insure the baffle is securely in place. The spiral baffle is required for efficient cooling while operating in the gas mode.***

Cleaning the Burner and Burner Orifice

11. Remove the screws securing the burner cover and burner box to the refrigerator.
12. Review the illustration of the burner and orifice assembly (Figure 16 on page 17).
13. Loosen the gas tube connection fitting.
14. Carefully remove the gas tube from the burner.
15. Remove the orifice and orifice gasket and clean them with alcohol and air pressure. ***Do not clean the orifice with a pin, drill, or similar object.***
16. Remove the screw securing the burner to the burner bracket. Remove the burner.
17. Use air pressure to remove dust, spider webs, etc., from inside the burner. Clean the ports of the burner with a brush.
18. Clean and inspect the ignition electrode and the thermocouple.
19. Using air pressure, clean any debris from burner bracket of cooling system.
20. To reinstall, reverse the above procedures. ***Make sure the orifice and orifice's copper gasket are assembled as illustrated in Figure 16 on page 17.***

CAUTION: If the copper gasket shows signs of wear or damage, replace with new.

21. Insure the burner slots are centered under the flue tube and the ignition electrode and thermocouple are properly located (See Figure 14).
22. Leak test all fittings using a soapy water solution. ***Do not leak test fittings with an open flame.***

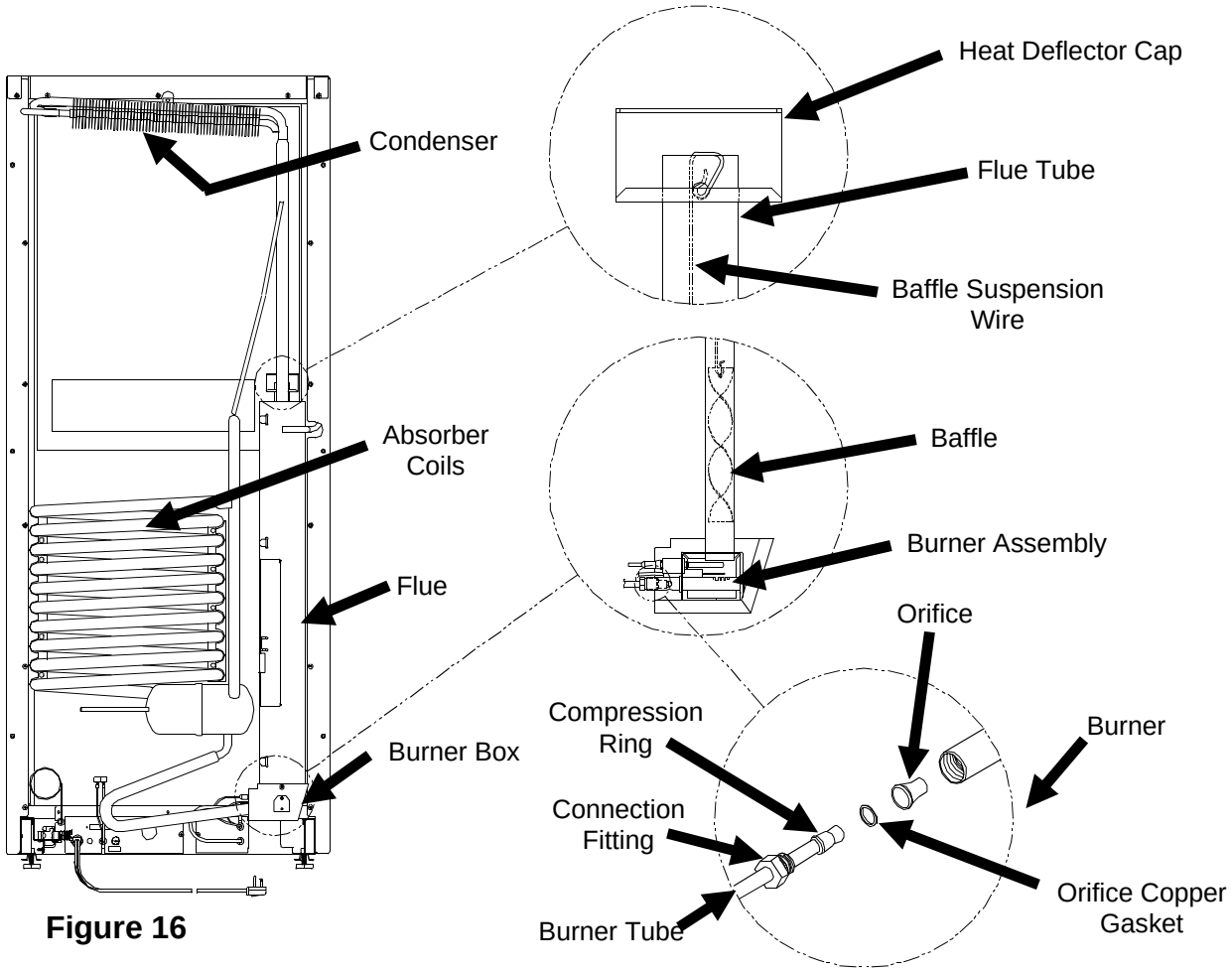


Figure 16

Over-Freezing-Figure 17

- Insure the capillary tube is properly attached to the cooling fins (Capillary tube mislocation is a common cause of over-freezing.). The capillary tube should be against the fin, with the clips spaced approximately 5 inches apart.
- Turn off gas supply to refrigerator.
- Turn refrigerator off.
- Remove control panel (see removal procedure).
- Use a 3/16" allen wrench to remove the pressure tap plug. Using a 1/8" NPT nipple, connect a U-tube manometer to the exposed port.
- Remove capillary tube from cooling fins.
- Place a cup of ice water on the shelf nearest the cooling fins and immerse the capillary tube into the ice water.
- Adjust the thermostat setting from high to low. The gas pressure should modulate between .8" to 10.9" water column and stop modulating when not adjusting the thermostat.
- If the gas pressure does not modulate between .8 inches to 10.9 inches, replace the combination control.

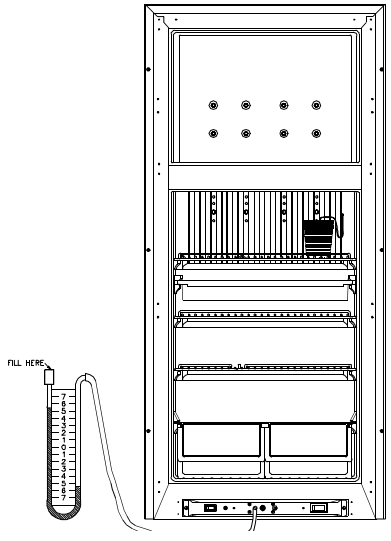


Figure 17

DIAGNOSING COOLING PROBLEMS

Note: If the refrigerator operates in one mode but not in another, the problem is not in the cooling system: refer to diagnostics section of this manual. This section should be used when the refrigerator does not cool or cools only marginally in both operating modes (AC and LP Gas).

Air Circulation:

- Make sure air is free to circulate across the cooling system.
- Check to insure the refrigerator has been installed with the correct clearances of:

Top:	6 inches minimum
Right Side:	2 inches minimum
Left, Rear, Bottom:	0 inches minimum

- Remove and dust, spider webs, etc. from the cooling system

Heat Sources:

Installing the refrigerator next to a heat source may lead to performance degradation. If an adjacent heat source is leading to cooling problems, the refrigerator or the heat source must be removed.

Off Level Condition:

Insure that the refrigerator is operating within 3 degrees off level side-to-side and 6 degrees off level front-to-back. Refer to the leveling procedure in this manual. If the refrigerator has been operated outside these limits for a prolonged time (24 hours or more), the cooling system may need replaced. Refer to the cooling unit replacement procedure beginning on page 19.

Inputs:

Make certain that:

- The input voltage is 120 VAC nominal (108 VAC minimum to 132 VAC maximum).
- The input gas pressure is 11 inches water column.

Refrigeratant Leaks:

The cooling system must be replaced if:

- A yellow powder or liquid is visible at the rear of the refrigerator.
- An ammonia odor is detected in the refrigerator cabinet or at the rear of the refrigerator.
- Bubbling or gurgling sound is heard from the cooling unit.

If either of these conditions exist, refer to the "Cooling Unit Removal and Replacement Procedure" section of this manual.

Blocked System:

Check the absorber coils on the cooling system. If the coils are cool to the touch and the flue canister is too hot to touch, the cooling system is blocked and must be replaced.

Checking Door Seals

The door gaskets must seal completely around the entire length of the door. This will insure cooling efficiency and prevent frost formation. Frequent frost formation or reduced cooling can be indications of air leaks.

Insure the shelves are pushed in all the way. Protruding shelves will not allow the door to close and seal properly.

To check for proper door seal, lay a long narrow strip of paper between the gasket and the refrigerator. Close the door and withdraw the paper. A frictional drag should be observed. Repeat all around the doors. If the paper does not have a noticeable drag, the gasket is not sealing.

Cooling Unit Removal and Replacement Procedures-Figures 18-22

Removal

1. Turn the LP gas supply off at the main tank.
2. Pull the refrigerator forward from its permanent location.
3. Disconnect the refrigerator's AC power cord from the wall receptacle.
4. Disconnect the LP supply line from the refrigerator.

CAUTION: Use two wrenches when manipulating the gas inlet fitting. Failure to use two wrenches can over stress the piping and create gas leaks.

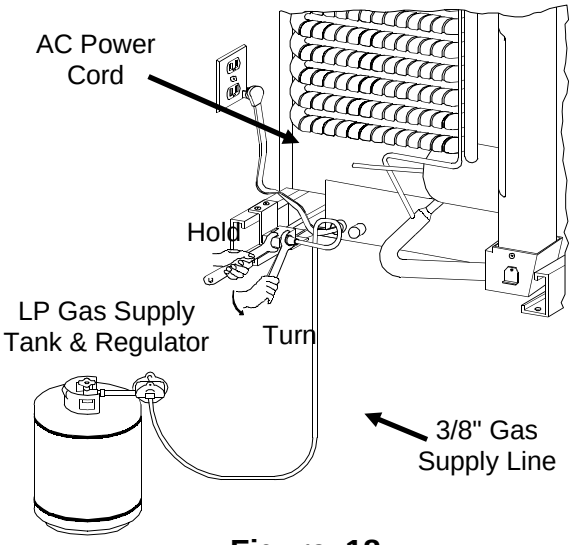


Figure 18

5. Open both the freezer and refrigerator doors.
6. Remove and retain the eight screws from the rear wall of the freezer.
7. Remove and retain the four screws from the cooling fins.
8. Remove the two clips and detach the capillary tube from the cooling fins.
9. Close both the freezer and refrigerator doors and proceed to the rear of the refrigerator.

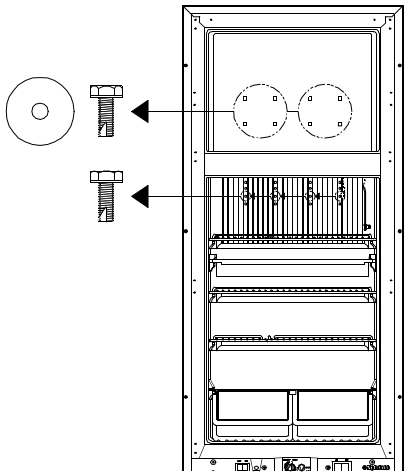


Figure 19

10. Remove the mounting screws securing the cooling unit to the cabinet of the refrigerator.
    Area 1 - 2 mounting screws.
    Area 2 - 1 mounting screw.

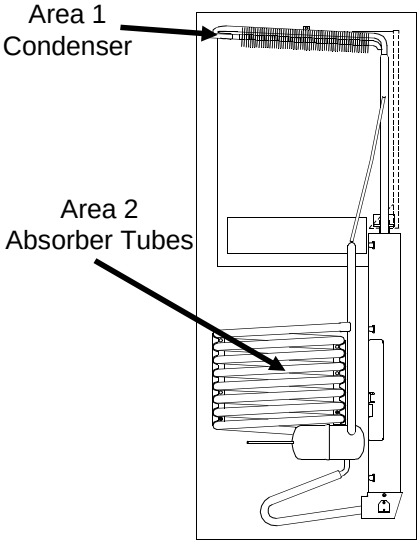


Figure 20

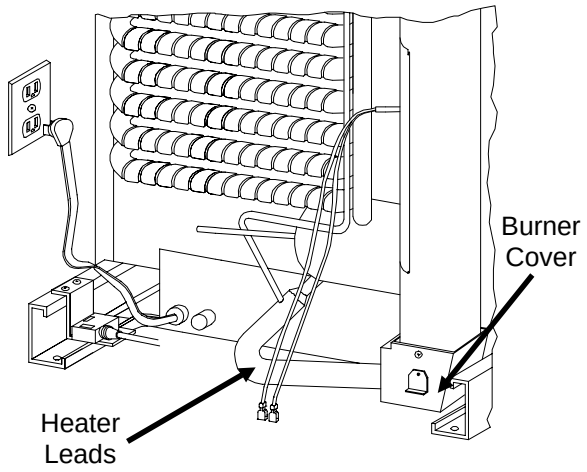


Figure 21

11. Disconnect the heater leads.
12. Remove the drain cup.
13. Remove the 1/4" screw that secures the burner cover to the cooling unit and remove the burner cover.

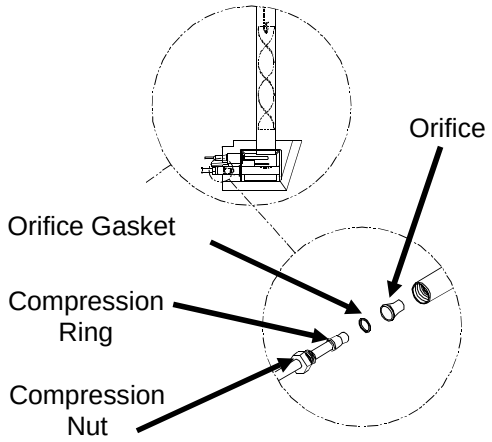


Figure 22

14. Loosen the burner tube compression nut and remove the burner tube from the burner. Carefully pull the burner tube forward and away to allow clearance when removing the cooling unit.
15. Remove the orifice and orifice gasket from the burner. Do not misplace the orifice and orifice gasket. These components are to be used for reassembly.
16. Remove the burner from the cooling unit.
17. Remove the thermocouple and ignition electrode from the bracket of the cooling unit. The thermocouple should be pulled forward and away to allow clearance when removing the cooling unit.
18. Remove the cooling unit from the cabinet. Pull the cooling unit away from the cabinet with a steady pressure until it is free.

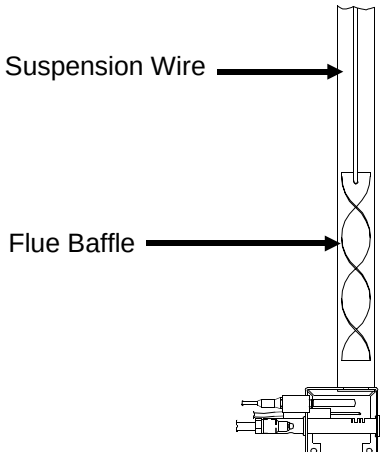


Figure 23

Installation of New Cooling Unit Figures 23-30

1. Inspect the replacement cooling unit for physical damage when removing from carton. Remove any foam from the evaporator tubes.
2 Inspect the evaporator tubes to insure that they are clean and free from debris.
2. Check for the presence of the flue baffle. Do not install without baffle.
3. Check heating element for correct resistance. Refer to figure 9 on page 14 for procedure.

4. Remove from the shipping carton two tubes containing transfer mastic and permagum sealant (tube are labeled for identification).
5. Apply the transfer mastic (1/2" bead) to the exposed part of the tubes on the upper and lower portions of the replacement cooling unit.

Note: Omitting the Transfer Mastic will result in poor cooling performance.

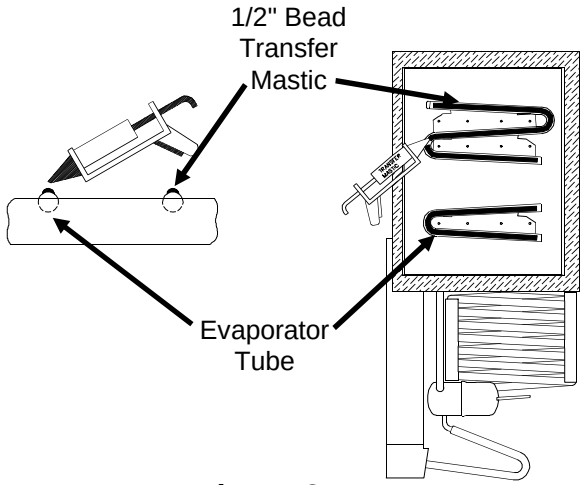


Figure 24

6. Apply the permagum sealant around the perimeter of the foam block on the cooling unit.

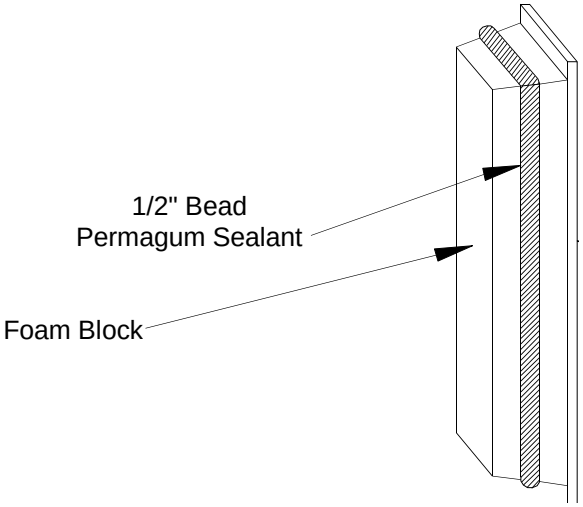


Figure 25

Note: Omitting the permagum sealant will result in excessive frost accumulation or excessive moisture in the refrigerator's interior and poor cooling performance.

7. Apply remaining permagum sealant around the cooling unit opening of the refrigerator cabinet.

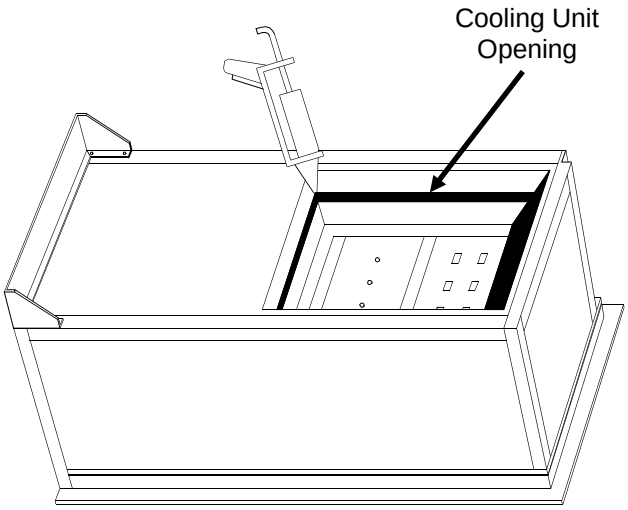


Figure 26

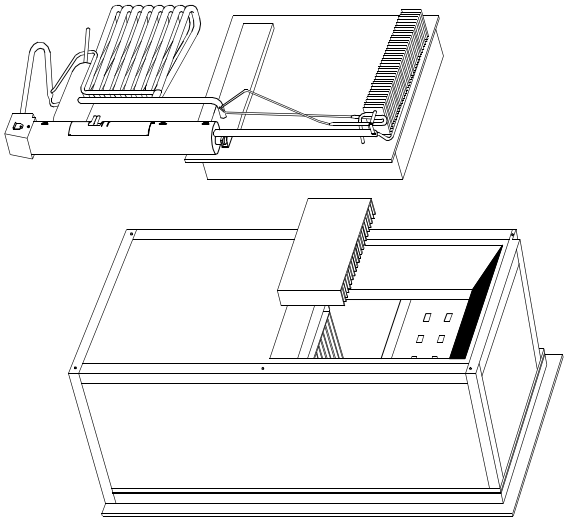


Figure 27

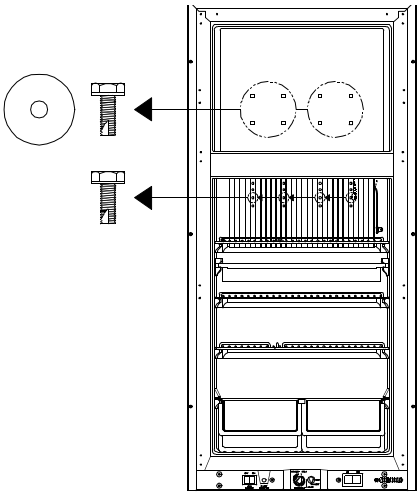


Figure 28

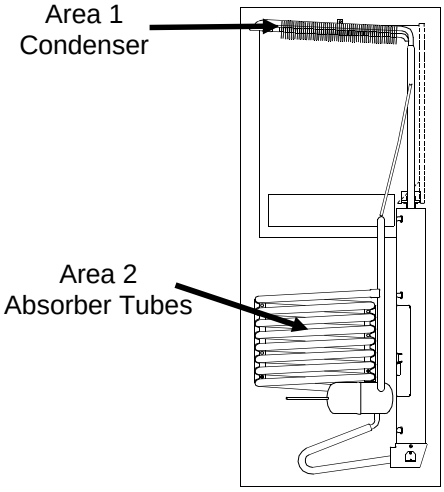


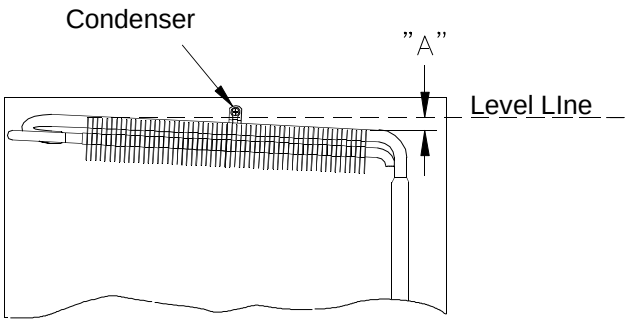
Figure 29

8. Align the cooling fins with the opening in the refrigerator cabinet.
9. Slide the cooling unit into the refrigerator cabinet until the cover plate of the cooling unit meets the cabinet. Insure the mastic-covered tubes contact the freezer plate and the cooling fins.

Warning: Cooling unit contains hazardous liquid under pressure. Drilling holes into the mounting surface of the cooling unit can cause a leak, explosion or fire which can result in severe personal injury. Do not drill holes into the mounting surface.

10. Insert the eight freezer screws and the four cooling fin screws. These screws must be installed to pull the cooling unit to the freezer plate and to the cooling fins. Torque these screws from 60 to 80 inch-pounds.
11. Reattach the capillary tube to the 5th fin from the right.
12. Replace the cooling unit mounting screws in the area of absorber tubes (Figure 30).
13. Replace the cooling unit condenser mounting screw (Figure 30). Insure the condenser slant is correct. Refer to "Condenser Leveling Tool" (Figure 31 on page 23) for method to insure the correct slant.
14. Insert the orifice into the burner and install the burner to the cooling unit.
15. Insert the orifice gasket to the end of the burner tube and connect the burner tube to the burner. Tighten the compression fitting.
16. Install the ignition electrode and the thermocouple to bracket of the cooling unit.
17. Install the burner cover base and burner cover.
18. Install the drain cup.
19. Connect heater leads.
20. Connect gas supply line to refrigerator.
21. Connect AC power cord to receptacle.
22. Start refrigerator on Gas and **check all fittings for leaks.**
23. Set refrigerator in permanent location.

Condenser Slant-Figure 30



Model	"A" Dimension
1082	3/4" Min. 1 1/4" Max.

Figure 30

Important:

When installing the cooling unit, do not install the screw holding the condenser until the condenser slant is checked. With the refrigerator in a level position, draw a level line starting at the top left corner of the condenser, as shown in Figure 30. The left side of the condenser can be raised or lowered slightly to obtain the "A" dimension. Install screw to tab to maintain "A" dimension.

Refrigerator Leveling Tool-Figure 31

This is a handy tool to insure that the refrigerator does not exceed 3" off-level. Make a wooden block which very accurately conforms to the dimensions shown. The thickness is not important (1" for example) but the top and bottom surfaces must be smooth and straight. Set (or attach) an accurate torpedo type level on the block as shown.

Check for level as follows:

Set the level assembly on a flat surface (glass shelf) so that the ends point to the sides of the refrigerator. Most of the bubble must be to the "A" side of the center line. Turn the level assembly end for end. Most of the bubble must again be to the "A" side of center line; If not, the refrigerator is more than 3° off-level. If either reading shows most of the bubble to the "B" side, then the refrigerator is more than 3° off-level.

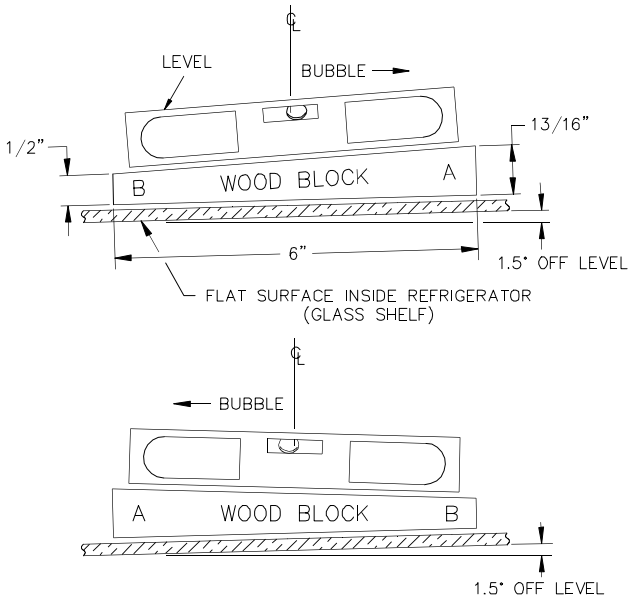


Figure 31