Installation Guide and Owner's Manual

SUP-1.5B, SUP-1.5B, SUP-6.5WF
SUP-6WE, SUP-8WE, SUP-10WE


SUP-1.5B


SUP-2B


SUP-6.5WF


SUP-6WE


SUP-8WE


SUP-10WE

FOR YOUR SAFETY

If you smell gas:

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

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

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage.

Refer to this manual.

For assistance or additional information consult a qualified installer, service agency or the gas supplier.

⚠WARNING Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

⚠CAUTION Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

Information

Step-by-step Instructions

Table of Contents

Installation Guide

Free-Standing Model for Floor Installation (ONLY)

The room must be well ventilated and not used in a bedroom. Further the room should have a window (which can be opened) or a door to the outside.

For best performance at high ambient temperatures there must be a free air circulation over the cooling unit at the rear of the refrigerator. Ensure that there is a free space of at least 4” inches (100 mm) above the refrigerator and that the exhaust opening on the top of the refrigerator is not covered in any way.

Do not place the refrigerator in a space where air circulation is restricted. A clearance of at least 1-inch (25 mm) should be left between the rear and sides of the refrigerator and the surrounding walls.

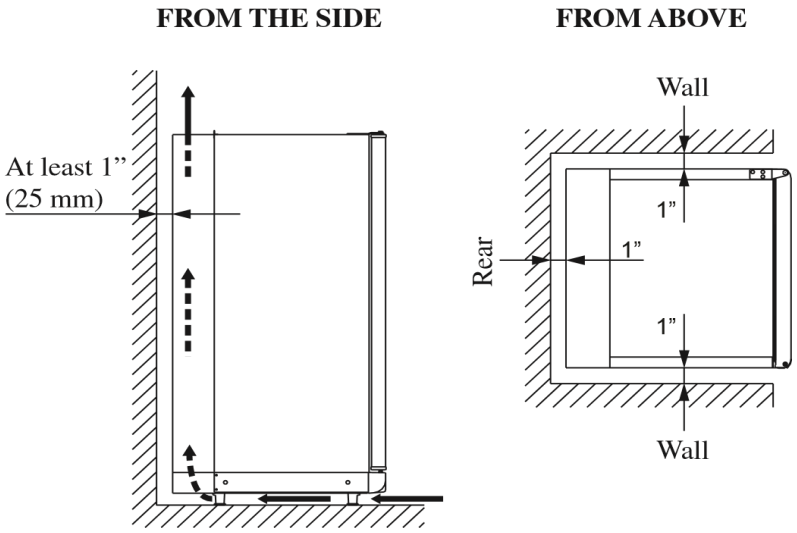
This freestanding refrigerator requires accessibility to the rear for servicing the appliance. Accessibility can be obtained by using a certified Flexible Metal Gas Connector. which would allow the refrigerator to be moved without disrupting the gas supply. Use the feet on the refrigerator to adjust its position.

NOTE: For optimal performance the refrigerator must be level.

Clearances

Minimum clearances in inches to combustible materials are:

Top:	3.96” (Min 100mm)
Side:	1”
Rear/Back:	1”
Bottom:	The feet must be in place to ensure free air circulation.



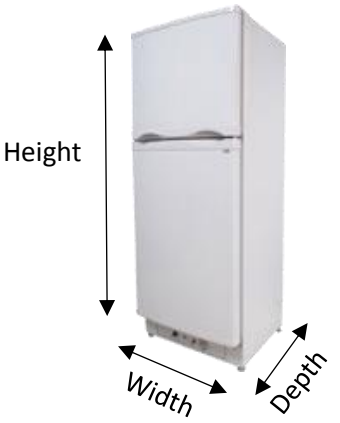
NOTE: DO NOT install the appliance directly on carpeting. Carpeting must be removed or protected by a metal or wood panel beneath the appliance, which extends at least the full width and depth of the appliance.

Installation Guide

Refrigerator Dimensions

Superior Gas Refrigerator Dimensions by Model						
c.f. = Cubic Feet	Total Capacity	Height	Width	Depth	Fridge Capacity	Freezer Capacity
SUP-1.5B	1.5 c.f.	25"	16"	19"	1.5 c.f.	
SUP-2B	2 c.f.	27"	18.25"	19"	2 c.f.	
SUP-6.5WF	6.5 c.f.	32"	40.5"	30"		6.5 c.f.
SUP-6WE	6.4 c.f.	57.5"	24"	25"	4.9 c.f.	1.5 c.f.
SUP-8WE	8 c.f.	64"	24"	25"	6.3 c.f.	1.7 c.f.
SUP-10WE	9.7 c.f.	64"	24"	29"	7.6 c.f.	2.1 c.f.

Dimension Reference



Gas Connection

Hook up to the gas supply line is accomplished at the manual gas shutoff valve, which is furnished with a 3/8" SAE (UNF 5/8" -18) male flare connection. **A backup wrench must be used when tightening gas supply fitting.**

All completed connections should be checked for leaks with a noncorrosive leak detector.

⚠WARNING

EXPLOSION HAZARD

Never use an open flame to check for gas leaks. Failure to heed this warning could cause an explosion resulting in death or severe personal injury.

The gas supply system must incorporate a pressure regulator to maintain a supply pressure of 11 inches water column.

When testing the gas supply system at test pressures in excess of 1/2 psi, the refrigerator and its individual shutoff valve must be disconnected from the gas supply piping system. When testing the gas supply system at pressures less than or equal to 1/2 psi, the appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve.

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

Testing LP Gas Safety Shutoff

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

To test the gas safety shutoff, proceed as follows:

1. Start the refrigerator according to the instructions for Gas Operation; section “Operation Instructions”. **See Figure #1**
2. Check that the gas flame is lit. This can be observed through the flame indicator (**B**).
3. Close the gas valve by turning the knob (**E**) back to “**OFF**” position.
4. Wait for one minute.
5. Remove burner cover plate, one screw at the burner. Open the gas valve by turning the knob (**E**) to position “**GAS**” without pushing the buttons (**A**) and (**C**). Apply a non-corrosive commercial bubble solution to the burner jet.
6. No bubbles should appear at the opening of the burner jet. The presence of bubbles indicates a defective gas safety shutoff, and service is required.
7. If no bubbles were present at the burner jet, the gas safety valve is working properly. Rinse jet thoroughly with fresh water before proceeding. Be careful not to damage the burner jet.
8. Replace the burner cover plate and turn the knob (**E**) back to “**OFF**”.
9. Start the refrigerator by following the instructions for Gas Operation, section “Operation Instructions”.
10. Normal operation of the burner should return. Allow the burner to operate for a minimum of 5 minutes.

Electrical Connection

120 V AC Connection

The refrigerator is equipped with a three-prong (grounding) plug for your protection against shock hazards and should be plugged directly into a properly grounded three prong receptacles. DO NOT cut or remove the grounding prong from this plug. The cord should be routed to avoid direct contact with the burner cover, flue cover or any other components that could damage the cord insulation.

Refrigerator Removal

Before working on the refrigerator, make sure the AC voltage leads are disconnected. Shut off the gas supply. Disconnect the gas supply line at the rear of the refrigerator. Always use a backup wrench when loosening and tightening this connection. Cap the gas supply line and remove the refrigerator. Replacement is the reverse of removal. Check all connections for gas leaks.

Operating Instructions

Importance of Leveling a Refrigerator

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

When starting this refrigerator for the very first time, the cooling cycle may require up to four hours of running time before the cooling unit is fully operational.

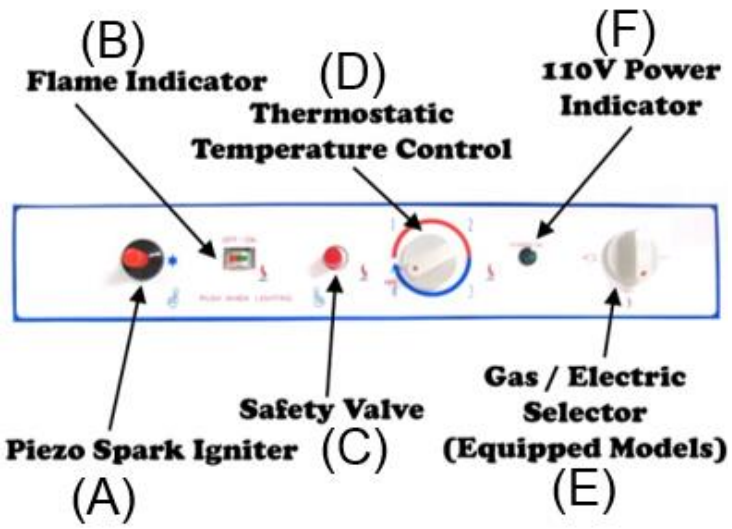
The tubing in the evaporator section is specifically sloped to provide a continuous movement of liquid ammonia, flowing downward by gravity through this section. If the refrigerator is operated when it is not level, liquid ammonia will accumulate in sections of the evaporator tubing. This will slow the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

The refrigerator must be adjusted to a vertical position in both directions. Use the feet on the refrigerator to adjust its position.

Controls

The refrigerator can be run on either 120volt AC or LP gas. Changing between these modes of operation is carried out by means of control buttons positioned as shown in Figure #1.

Figure #1



The energy selector (**E**) can be set at "**ELEC**" (**120volt AC**), "**GAS**" (**LP gas**) or "**OFF**". The refrigerator temperature is controlled by a thermostat (**D**). Please note that the thermostat has no "**OFF**" position.

The refrigerator is fitted with a safety device, which automatically shuts off the supply of gas if the flame goes out. The safety device can be opened manually by depressing knob (**C**). The piezoelectric igniter discharges sparks over the burner when the button (**A)** is pushed. In the flame viewer (**B**) you can see a blue light when the flame is alight.

Operating Instructions

Gas Operation

1. To start the refrigerator, turn the knob (**E**) to the "**GAS**" position.
2. Turn the thermostat knob (**D**) to setting.
3. Push button (**C**) in until it bottoms out - and hold. While holding button (**C**), push button (**A**) for the piezo igniter several times to light the burner. This can be observed through the flame view port (**F**).
4. After the flame lights, continue to hold the button (**C**) for an additional ten (10) seconds. Release the button (**C**) and check the flame view port (**B**) to make sure the burner does not go out. If the burner goes out, repeat the lighting procedure Steps 1 through.
5. To shut off the refrigerator, turn the knob (**E**) to the "**OFF**" position.

NOTE: After changing an LP tank, or after a long shut off period, the gas line is likely to be filled with air. You may have to repeat the lighting procedure several times to purge the air out of the gas lines.

Electric Operation (110V)

1. Check to be sure that the power cord is properly connected to the power supply.
2. Turn knob (**E**) to the position marked "**ELEC**" for 120volt AC operation.
3. Turn the thermostat knob (**D**) to setting.
4. To shut off the refrigerator, turn the knob (**E**) to the "**OFF**" position.

Thermostat

The refrigerator is equipped with a thermostat that can be adjusted by turning knob (**D**) to different setting to maintain the desired refrigerator temperature.

- "**OFF**" Setting of the Thermostat: In gas operation, the thermostat closes its main valve and the burner runs continuously at the bypass rate or pilot. In electric operation, the contacts in the thermostat are open and the heating element is off.
- "**MAX**" Setting of the Thermostat: In gas operation, the thermostat allows the burner to remain on high flame continuously. In electric operation, the heating element is "**ON**" continuously.
- The thermostat can be adjusted between "**MAX**" and "**OFF**" to obtain the desired refrigerator temperature. The closer the knob is to "**MAX**", the colder the refrigerator temperature. The closer the knob is to "**OFF**", the warmer the refrigerator temperature.

When the thermostat reaches the set temperature, it will cut the burner back to bypass or, in electric operation, shut off the heating element. The setting of the thermostat is not critical, but we recommend it be adjusted to maintain a dry frost on the cooling fins. Adjust the thermostat knob closer to ""**MAX**" when the outside temperature becomes warm.

⚠WARNING

EXPLOSION HAZARD

Never store explosive substances in the refrigerator, such as cigarette lighter fuel, gasoline, ether or the like. Failure to heed this warning could cause an explosion resulting in death or severe personal injury.

Operating Instructions

Food Storage Compartment

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

Frozen Food Storage Compartment

Quick frozen soft fruits and ice cream should be placed in the coldest part of the compartment, which is at the bottom of the aluminum liner. Frozen vegetables, may be stored in any part of the compartment. This compartment is not designed for deep or quick freezing of food. Meat or fish, whether raw or prepared, can be stored in the frozen food storage compartment provided they are precooled first in the refrigerator. They can be stored about three times longer in the frozen food compartment as compared to the fresh food compartment. To prevent food from drying out, keep it in covered dishes, containers, plastic bags or wrapped in aluminum foil.

Ice Making

Ice cubes can be made in the ice tray placed in the freezer compartment. The tray should be filled with water to within 1/4” (5 mm) from the top.

For faster ice making, the tray should be placed in direct contact with the bottom of the freezer compartment. To release the ice cubes, seize the tray with both hands and twist the tray. Cubes not required should be replaced in the tray. Refill the tray with water and replace the tray in the freezer compartment. Ice will be made more rapidly if the thermostat is set at its highest position. It is a good idea to do this a few hours before the anticipated need for ice, but be sure to turn the thermostat back to normal setting, usually about mid-setting when the ice is formed. Food in the lower compartment may be frozen if the refrigerator is left on “**MAX**” position.

Operating Instructions

Defrosting

Frost will gradually accumulate on the refrigerating surfaces. It must not be allowed to grow too thick as it acts as an insulator and adversely affects refrigerator performance.

Check the formation of frost regularly every week and when it gets about 1/8” (mm) thick, defrost the refrigerator.

⚠ CAUTION

Do not use:

- **A knife or an ice pick, or other sharp tools to remove frost from the freezer shelves. It can create a leak in the ammonia system.**
- **A hot air blower. Permanent damage could result from warping the metal or plastic parts.**

Shut off the refrigerator by turning knob (**E**) to “**OFF**” position. Empty the refrigerator, leaving the refrigerator and freezer doors open. Filling the ice tray with hot water and placing it in the freezer compartment can reduce defrosting time. The defrost water runs from a collector channel to a drip tray or cup at the rear of the refrigerator where it normally evaporates. If heavy frost built up on the freezer plate and the cooling fins, and a lot of defrost water, move the plastic drain tube in to a watertight bucket or container.

As the frost melts, the water will flow into the container. When all the frost has melted wipe up the excess moisture and empty the accumulated water from the bucket. Replace the drain tube to its original position. Defrost water in the freezer compartment should be wiped up with a clean cloth.

When all the frost is melted, dry the interior of the refrigerator with a clean cloth. Replace all food and set the thermostat to “**MAX**” for a few hours. Then reset the thermostat to its normal position.

Cleaning

Cleaning the refrigerator is usually done after it is defrosted or put into storage. To clean the interior liner of the refrigerator, use lukewarm weak soda solution. Use only warm water to clean the finned evaporator, gasket, ice trays and shelves.

Never use strong chemicals or abrasives to clean these parts, as the protective surfaces will be damaged.

It is important to always keep the refrigerator clean.

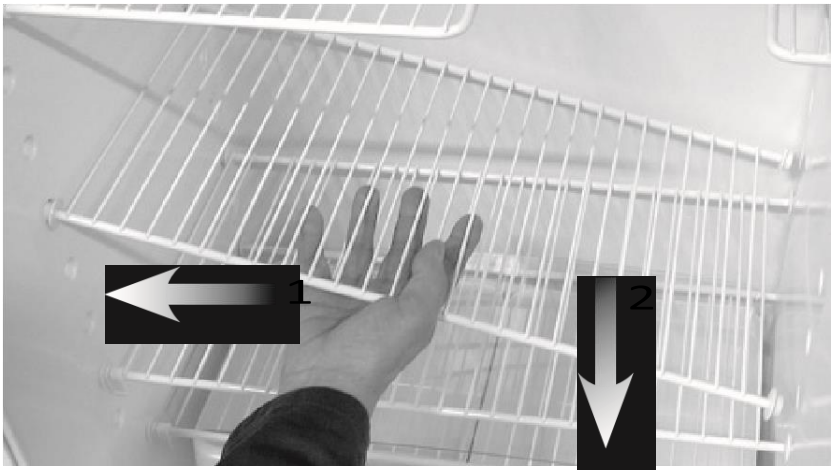
Operating Instructions

Position the Storage Racks

Dismantling / Mounting

1. Loosen the front and back securing brackets.

2. Move the storage rack to the left (1), tilt up/down (2) and remove.



3. To fit the storage rack, mount in reverse order.

Shut off – Storage Procedure

To shut off the refrigerator, turn knob (**E**) to "**OFF**" position. If the refrigerator will not be in operation for a period of weeks, it should be emptied, defrosted, cleaned and the doors left ajar. The ice tray should also be dried and kept outside the refrigerator.

Maintenance & Service

The user should be aware of service that must be done on a regular schedule to keep the refrigerator operating properly.

A qualified technician who is familiar with LP gas systems and refrigerators should only perform the service.

Periodic Maintenance

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

It is important to keep the area at the back of the refrigerator clean. Clean the coils on the back of the refrigerator. Use a soft bristled brush to dust off the coils. It is important to keep the refrigerator area free from combustible material, gasoline and other flammable vapors or liquids.

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

Check all connection in the LP gas system

Check all connections in the LP gas system (at the back of the refrigerator) for gas leaks. The LP gas supply must be turned on. Apply a non-corrosive bubble solution to all LP gas connections.

The appearance of bubbles indicates a leak and should be repaired immediately by a **qualified serviceman who is familiar with gas system and refrigerators.**

⚠ WARNING

EXPLOSION HAZARD

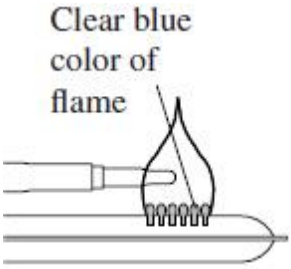
Never use an open flame to check for gas leaks. Failure to heed this warning could cause an explosion resulting in death or severe personal injury.

Maintenance & Service

Check burner flame

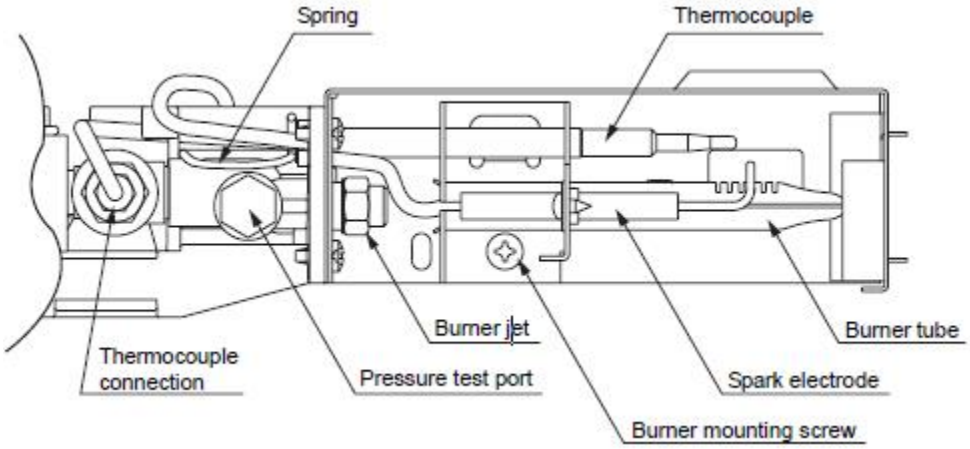
Check burner flame for proper appearance.

The flame should be light blue with no yellow at the tip.



Check the LP gas pressure

The LP gas pressure should be checked and the main regulator readjusted if pressure is incorrect. The correct operating pressure is 11 inches of water column. The correct place to take the LP gas pressure is at the test port just ahead of the burner jet.



Inspect the flue baffle

It should be reasonably clean and free of soot. Heavy soot formation indicates improper functioning of the burner. The flue and burner both require cleaning in the following manner:

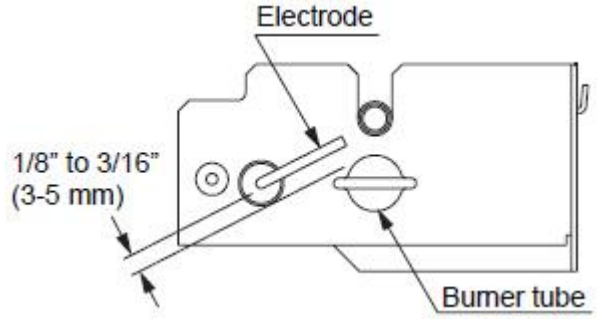
1. Unplug the refrigerator power cord from the 120volt AC outlet.
2. Turn the knob (**E**) to "**OFF**" position.
3. Remove cover from the burner housing.
4. Disconnect the wire from the high voltage electrode.
5. Remove the burner mounting screw and remove the burner assembly.
6. Remove the wire and flue baffle from the top of flue tube. Clean the flue from the top using a flue brush. Blowing compressed air into the flue *will not* properly clean soot and scale out of the flue tube. Replace the flue baffle.
7. Clean burner tube with a brush. Blow out burner with compressed air.

Maintenance & Service

8. Before removing burner jet, clean burner area of soot and scale that fell out of flue tube. Remove the burner jet. Soak the jet in wood alcohol and blow it out with compressed air. Re-install and tighten burner jet.

> **⚠ WARNING**
>
> **FIRE HAZARD: Do not use a wire or pin when cleaning the burner jet as damage can occur to the precision opening. Failure to heed this warning could cause fire resulting in personal injury.**

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



11. The gas fittings on the refrigerator need to be checked for leaks. Turn the knob (**E**) to position "**GAS**". Apply a non-corrosive bubble solution to the fitting and observe for leaks. The safety valve will not allow gas pressure to any connections between it and the burner jet. These fittings must be checked before burner is lighted.

The safety shut-off must be manually depressed to allow gas pressure to flow to the burner jet. Be sure to apply the leak check solution before depressing the safety shut-off. DO NOT depress safety shutoff for over 30 seconds.

> **⚠ WARNING**
>
> **EXPLOSION HAZARD**
>
> **Never use an open flame to check for gas leaks. Failure to heed this warning could cause an explosion resulting in death or severe personal injury.**

Maintenance & Service

Trouble Shooting

The refrigerator does not cool properly

- Burner jet clogged. Clean. See section “Maintenance & Service”, Check level of refrigerator.
- Restriction in air flow across cooling unit.
- Heavy frost buildup on evaporator fins. Defrost.
- Flue baffle not inserted properly in flue tube.
- Improperly set thermostat. See paragraph on thermostat.
- In hot weather the setting should be closer to “**MAX**” than usual.
- Burner dirty. Clean. See Section Maintenance & Service.
- LP gas pressure low at burner. Set main regulator so pressure does not drop below 11 inches water column at pressure test port.
- Dirty flue tube – Inspect and Clean flue tube.

Superior Spare Parts

The following list is a list of commonly used Superior parts, which are available at https://www.gas-refrigerators.com/superior-parts

SUP-Piezo-Igniter	SUP-Burner	SUP-Crisper-6-8
SUP-LED-Board	SUP-Orifice-25	SUP-Crisper-10
SUP-Thermostat	SUP-Orifice-28	SUP-Door-Shelf-1.5
SUP-Thermocouple	SUP-Orifice-30	SUP-Door-Shelf-2
SUP-Safety-Valve	SUP-Orifice-38	SUP-Door-Shelf-3.5