

FREESTANDING **GAS RANGES**

MODELS AND MODEL CODES: **FX710BGS FX510BGS**

SERVICE Manual

GAS RANGES

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Refer to the service manual in the Global Service Partner Network (GSPN). See rear cover for more information.

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1. Precautions

1-1 Forward

This SAMSUNG Service Manual, "Freestanding Gas Ranges," provides the technician with information on the operation and service of freestanding self-cleaning gas ranges. It is to be used as a training service manual. For specific information on the model being serviced, refer to the user manual or tech sheet provided with the gas range.

1-2 Safety Precautions

- Repairs of the appliance should be carried out by a licensed technician only. Incorrect repairs may result in dangerous situations. If you need repairs, contact an SAMSUNG Service Center or your dealer.
- If the power cord is defective, it must be replaced by a licensed technician with a UL-listed range cord.
- If the gas supply is damaged or defective, it must be replaced by a licensed technician or gas supplier.
- · Electrical leads and cables should not be allowed to touch the oven.
- Rating plate is located on the left side of the opening for the warming drawer or storage drawer.
- The gas and electrical supplies to the appliance should be turned off and/or disconnected when the range is being serviced or repaired.

Δ 1

WARNING

- To avoid risk of death or severe personal injury from electrical shock, disconnect power before working on/servicing the appliance.
- To avoid risk of death, severe personal injury, or property damage from fire or explosion, turn off the gas supply before working on/servicing the appliance. **IF YOU SMELL GAS:**
- 1. **DO NOT** light a match, candle, or cigarette.
- 2. DO NOT turn on any gas or electric appliances.
- 3. DO NOT touch any electrical switches.
- 4. **DO NOT** use any type of phone in the building.
- 5. Clear the room, building, or area of all occupants.
- 6. Immediately call the gas supplier from a phone outside of the building. Follow the gas supplier's instructions.
- 7. If you cannot reach the gas supplier, call the fire department.
- To avoid risk of death, severe personal injury, or property damage from fire or explosion, do not wear loose-fitting, or hanging garments near an open flame during operation and/or servicing the appliance.
- When the oven operates, the interior parts will be very hot.

SAMSUNG Electronics assumes no responsibility for any repairs made on our products by anyone other than licensed technicians.

1-3 Important Safety Instructions

Read and follow all instructions before using or servicing the range to prevent death, personal injury, fire, explosion, and/or property damage. This guide does not cover every possible condition that may occur. For further assistance, contact a licensed technician or the manufacturer.

All electrical and gas equipment and their moving parts can be dangerous. Please read the important safety information on the appliance and in this manual. The information must be followed to minimize the risk of death, personal injury, and/or property damage.

This is the safety alert symbol. It alerts you of potential hazards that can kill or injure you or others. The following safety messages explain the potential hazards:

DANGER

Hazardous situation that will result in death and/ or serious personal injury.

A WARNING

Hazardous situation that could result in death, serious personal injury, and/or property damage.

Hazardous situation that may result in moderate personal injury, and/or property damage.

- Be sure your appliance is properly installed and grounded by a licensed technician.
- Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other servicing should be referred to a licensed technician.
- Always disconnect power to the appliance before servicing by turning off the circuit breaker or removing the fuse.
- Always turn off the main gas supply to this appliance before servicing by closing the gas supply valve to this appliance.
- Always check gas fittings and components for leaks before servicing the appliance. If a leak is detected, shut off the gas supply and notify a licensed technician and/or gas supplier.

- INJURIES CAN OCCUR IF THE RANGE TIPS - INSTALL ANTI-TIP DEVICE PACKED WITH RANGE

- FOLLOW ALL INSTALLATION INSTRUCTIONS

To reduce the risk of tipping the range, the range must be secured by a properly installed anti-tip device. To check if the bracket is installed properly:

- Warming drawer: Grasp the top rear edge of the range and carefully attempt to tilt it forward. Verify that the anti-tip device is engaged.
- Storage drawer: Remove drawer and verify leveling leg is inserted into and fully secured by the anti-tip device.

Refer to the installation manual for proper anti-tip bracket installation.

• Do not step, lean, or sit on the doors of the range. This can cause the range to tip, resulting in burns or serious injuries.

WARNING

• DO NOT TOUCH SURFACE BURNERS, SURFACE BURNER GRATES, OVEN BURNERS, INTERIOR SURFACES OF OVEN, OR WARMING DRAWER HEATING ELEMENT – Burners, heating element, and surfaces may be hot even though they are dark in color. Interior surfaces of an oven become hot enough to cause burns. During and after use, do not touch or let clothing or other flammable materials contact burners, heating element, grates, or interior surfaces of oven until they have had sufficient time to cool. Other surfaces of the appliance

may become hot enough to cause burns. Among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.

CAUTION

Do not store items of interest to children in cabinets above a range or on the backguard of a range – Children climbing on the range to reach items could be seriously injured.

- Do Not Leave Children Alone Children should not be left alone or unattended in area where appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
- Never Use Your Appliance for Warming or Heating the Room.
- Storage in or on Appliance Flammable materials should not be stored in an oven or near surface units. Be sure all packing materials are removed from the appliance before operating it. Keep plastics, clothes, and paper away from parts of the appliance that may become hot.
- Wear Proper Apparel Loose-fitting or hanging garments should never be worn while using the appliance.
- Do Not Use Water on Grease Fires Turn off oven to avoid spreading the flame. Smother the fire or flame by closing the door or using baking soda or a dry-chemical or foam-type extinguisher.
- Use Only Dry Pot Holders Moist or damp pot holders on hot surfaces may result in burns from steam. Do not let pot holder touch hot heating elements. Do not use a towel or other bulky cloth.

SURFACES

• DO NOT TOUCH SURFACE BURNERS OR AREAS NEAR BURNERS – Surface burners may still be hot after they have been turned off. Areas near surface burners may become hot enough to cause burns. During and after use, do not touch or let clothing or other flammable materials contact surface burners or areas near burners until they have had sufficient time to cool. Among these areas are the cooktop, surface burner grates, and surfaces close to the cooktop.



WARNING

To avoid risk of death or personal injury from electrical shock, make sure your range has been properly grounded and always disconnect it from the main power supply before any servicing.

SURFACE BURNERS

- Use Proper Pan Size This appliance is equipped with one or more surface burners of different sizes. Select utensils having flat bottoms large enough to cover the surface burner flames. The use of undersized utensils will expose a portion of the surface burner flames to direct contact and may result in ignition of clothing. Proper relationship of utensil to burner will also improve efficiency.
- Never Leave Surface Burners Unattended at High Heat Settings – Boilovers could ignite or extinguish the burner flames. Both conditions create an explosion and/or fire hazard.
- **Protective Liners** Do not use aluminum foil to line cooktop surface or oven bottoms, except as suggested in the manual. Improper installation of these liners may result in a risk of electric shock, fire, or burner damage.
- Glazed Cooking Utensils Only certain types of glass, glass/ceramic, ceramic, earthenware, or other glazed utensils are suitable for range-top service without breaking due to the sudden change in temperature.
- Utensil Handles Should Be Turned Inward and Not Extend Over Adjacent Surface Burners – To reduce the risk of burns, ignition of flammable materials, and spillage due to unintentional contact with the utensil, the handle of a utensil should be positioned so that it is turned inward and does not extend over adjacent surface burners.
- Surface Burner Components The burners, burner caps, and burner cups should always be cleaned by hand. They are not dishwasher-safe. The orifices should always be checked for dirt and debris whenever the burner cups are cleaned.
- Be sure you know which control knob operates each surface burner. Make sure you turned on the correct surface burner.

COOKTOP COOKING SURFACES

- Clean Cooktop With Caution If a wet sponge or cloth is used to wipe spills on a hot cooking area, be careful to avoid steam burn. Some cleaners can produce noxious fumes if applied to a hot surface.
- Clean cooktop surface with nonabrasive cleaner on painted metal surfaces.

VENTILATING HOODS:

- Clean Ventilating Hoods Frequently Grease should not be allowed to accumulate on hood or filter.
- When flaming foods under the hood, turn the fan on.

DEEP-FAT FRYERS:

• Use extreme caution when moving the grease kettle or disposing of hot grease.

SELF-CLEAN OVENS

- BEFORE CLEANING, REMOVE BROILER PAN, OVEN RACKS, AND UTENSILS.
- WIPE EXCESS SPILLS FROM OVEN INTERIOR.
- SEE USER INSTRUCTIONS.
- **Do Not Clean Door Gasket** The door gasket is essential for a good seal. Care should be taken not to rub, damage, or move the gasket.
- Do Not Use Oven Cleaners No commercial oven cleaner or oven liner protective coating of any kind should be used in or around any part of the oven.
- Never keep pet birds in the kitchen The health of birds is extremely sensitive to the fumes released during an oven self-clean cycle. Fumes may be harmful or fatal to birds. Move birds to a well-ventilated room.

- Important Instruction In the event the self-clean mode "F" code goes on or three long beeps sound, the oven is malfunctioning in the self-clean mode. Turn off or disconnect appliance from electrical and gas supplies and have the appliance serviced by a licensed technician.
- Use Care When Opening Door Let hot air or steam escape before you remove or replace food in the oven.
- Do Not Heat Unopened Food Containers Buildup of pressure may cause container to burst and result in injury.
- Keep Oven Vent Ducts Unobstructed The oven vent is located above the left-rear surface unit. This area could become hot during oven use. Never block this vent and never place plastic or heat-sensitive items on vent.
- Placement of Oven Racks Always place oven racks in desired location while oven is cool. If rack must be moved while oven is hot, do not let pot holder contact a hot oven burner or oven bottom.

1-4 Model and Serial Number Label and Tech Sheet Locations

These models have Model/Serial Number labels and Tech Sheets located as shown below.



2. Specifications

2-1 Features

		Features
Five Open-Port Surfac - Simplest design prom- serviceability and clea	otes inability.	Membrane Control Panel and Digital Display
BTU RatinFX710BGSNGRight-Front18,00Right-Rear5,00Center Oval9,50Left-Rear9,50Left-Front15,00FX510BGSNGRight-Front17,00Right-Rear5,00Center Oval9,50Left-Rear9,50Left-Rear9,50Left-Rear9,50Left-Rear9,50Left-Front15,00	LP 00 14,500 00 4,000 00 7,500 00 7,500 00 11,500 b LP 00 12,500 00 7,500 00 7,500 00 7,500 00 7,500 00 7,500 00 7,500	All oven features and functions are controlled and monitored by this easy-to-use control panel. Full-Width, Heavy-Duty Grates - 3-piece grates fit into cooktop Opening and completely cover the cooktop from edge to edge to enhance usability. Surface Burner Control Knobs - Front-top location provides easy access to enhance usability and safety.
Warming Drawer		Large Capacity Oven - Provides cooking ease and necessary space for all recipes and meal items. FX710 / FX510 Also offers Surround Air-vection. - Convection fan the rear of the oven cavity provide the most even heat distribution and the fastest cooking cy in the industry
- Convenient, front with bottom heating for reheating leftov	g element. Grea ers.	BTU Ratings

Surround Air-vection



- Convection Fan Makes Complex Small Swirl
- Optimal Heat Distribution and Even Cook Performance
- Updated Control Algorithm (for the Swirl Improvement of Door Front/Left/Lower)

2-2 Table of Specifications

		Gas Range Models				
	ltems	FX	710	FX	510	
Range Type		Freestanding Gas				
Range Color			Black and St	tainless Steel		
Range Category		Conv	ection	Conve	entional	
Overall Dimensions	Width	30 in. (76.2 cm)				
	Height	45.8 in. (116.2cm)				
	Depth		23.7 in.	(60.2cm)		
Controls	Cooktop		Front-Top C	ontrol Knobs		
	Oven		Soft	Touch		
	Display		2-Colo	or LED		
	Digital Electronic Clock		Y	es		
	Electronic Door Lock		Y	es		
	Audible Preheat Signal		Y	es		
Cooktop	Surface Burner Type		Oper	n-Port		
	# of Surface Burners			5		
		Bes	t	Bett	er	
	Burner Ratings – BTUs Right Front	NG 18,000	LP 14,500	NG 17,000	LP 12,500	
	Right Rear	5,000	4,000	5,000	4,000	
	Left Front	15,000	11,500	15,000	10,000	
	Left Rear	9,500	7,500	9,500	7,500	
	Conter Oval	9,500	7,500	9,500	7,500	
Oven	Capacity	5.8	cu.ft	5.8 cu.ft		
	# of Oven Burners			2		
		Bes	t	Better		
	Upper Burner Rating – BTUs	NG 13,500	LP 11,500	NG 13,500	LP 11,500	
	Lower Burner Rating – BTUs	18,000	15,000	18,000	15,000	
	Convection Fan System	Yes		Yes		
	# of Racks	:	3	2		
	Oven Light		Y	íes		
	Self-Cleaning		Y	es		
	Interior Oven Dimensions (Width x Height x Depth)	25 x 21.125 x 19 in (635 x 536 x 481)		25 x 21.125 x 19 in (635 x 536 x 481)		
Drawer Type Warming		, , , , , , , , , , , , , , , , ,		,		
		Yes (600 Watt)		No		
Range Weight, Net		206 Lbs. (93 Kg) 190 Lbs. (86 Kg)			s. (86 Kg)	
Required Electrical S	Supply	120-V, 60-Hz, 15- or 20-amp AC				
Required Gas	Natural Gas (NG)	5–13 in. WC				
Supply	Liquid Propane (LP)		10–13	in. WC		

2. Specifications

2-3 Accessories

ltem	Description	Code No.	Quantity
	Assy-Grate Side	DG94-00468A	2
	Assy-Grate Center	DG94-00469A	1
	Plate Griddle	DG61-00563A	1
	Rack-Flat	DG75-01001B	2
	Rack-Split Main Rack-Split Insert	DG75-01038A DG75-01039A	1

3-1 Removing the Rear Cover Panels

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		1. Turn off the electrical supply going to the range.
Cover-Wire LT/	Cover-Wire LT Cover-Wire RT	 Shut off the gas shut-off valve in the gas supply line to the range.
RT		 Pull the range away from the wall so that you can access the rear panel.
		 Remove 2 screws at the Cover Wire LT/RT and pull out the cover
Cover-Back Guard Wire	Cover-Back Guard Wire	 Remove 2screws at the cover and pull out the cover from the upper back of the range
Cover- Convection	Cover-Convection	 Remove 3screws at the cover and pull out the cover from the range.

3. Disassembly and Reassembly

3-1 Removing the Rear Cover Panels

Parts	Explanation Photo	Explanation
Cover-Back Main Wire		 Remove 9 screws and pull out the cover from the middle back of the range
		8. Remove screws of PCB assembly and separate PCB assembly. (When you check PCB, check the proper PCB in default mode and check main PCB.)
		 Disconnect the wires to the spark module to remove it.
	Spark Module	10.Remove 2 screws and the spark module from the back of the range.
		11. Disconnect the wire connectors from the terminal on the spark module.
PCB Assembly & Spark Module		12. When service is complete, replace the five cover panels on the back of the range and secure each with the appropriate screws.
		13.Replace the PCB ASSEMBLY and the spark module.
		14.Reconnect the gas supply line to the range, if removed. Open the main gas shut-off valve and check for gas leaks.
		15. Plug in the range and/or turn on the electrical supply to the range.
		16. Push the range back in place, making sure to engage the anti-tip bracket on the left-rear leveling leg.

3-2 Removing the Assy-Frame Cooktop

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Assy-Frame Cooktop	ASSY GRATE (2 SIDE / 1 CENTER) BURNER CAP BURNER HEAD BURNER CUP	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Lift off the three grates. Lift off the 5 burner caps and the 5 burner heads from the burner cups. Remove screws of the 5 burner cups.
Assy-Frame Cooktop	CHASSIS SPRING FRAME MANIFOLD PANEL COOKTOP ELECTRODE	 Push the 2 spring located between the frame cooktop and the chassis manifold panel with a thin iron plate. Knobs should be removed prior to disassembling the cooktop frame and take notice that Chassis-Manifold Panel is not damaged during the operation. Push the cups down below the surface of the frame cooktop. NOTE: Make sure the electrodes are below openings in the cooktop to prevent interference and damage during removal.

3-3 Removing the Chassis Manifold Panel, Knob, Switch Ignition

Δ WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.



Parts	Explanation Photo	Explanation
Knob	Pull the control knob straight off	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Open the door or Remove it. Pull burner control knobs straight off to remove them from the valve shafts.
Chassis Manifold Panel	Screws from the bottom	 Remove 2 screws from the top, 2 screws from the front and 4 screws from the bottom of the chassis manifold panel. Remove the chassis manifold panel from the front of the range.
Switch Ignition	Switch ignition Connector	 Place a finger behind each side of the switch ignition and pull it straight out to release it from the control shaft. Repeat for each switch. Disconnect the wires at the connectors.

3-4 Removing the Valve Cooktop

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Switch Ignition	SWITCH IGNITION	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the ASSY FRAME COOKTOP, knob and the chassis manifold panel. Place a finger behind each side of the switch ignition and pull it straight out to release it from the control shaft. Repeat for each switch.
Fitting (Gas line)	FITTING (GAS LINE)	5. Using a tubing wrench and a channel-lock wrench, disconnect the gas lines from the valve cooktop. Do not bend or crimp gas lines during removal.
Valve Cooktop	ASSY VALVE-MANIFOLD COATING	 Remove 2 screws from ASSY VALVE-MANIFOLD COATING Note : When assembling and disassembling the valve, the torque should be 1.5N.m. Remove the valve cooktop.

3-5 Replacing the Burner Cup

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range.
Locking Clip & Electrode	Injector TUBE BURNER CUP	 Remove the frame cooktop. Using a tubing wrench on the gas line fitting and a channel lock wrench on the burner cup base, firmly hold the cup base in place while disconnecting the gas line.
	LOCKING CLIP ELECTRODE	5. To remove the electrode from the cup, squeeze the two outside edges of the clip under the electrode together while pulling to remove the locking clip. Slide the electrode and the wire from the cup. The burner cup can now be removed.

3. Disassembly and Reassembly

Parts	Explanation Photo		Explanation
			To replace the electrode, disconnect the wire connectors from the terminal on the spark module.
			To remove the gas orifice, place the burner cup in a vise and remove the orifice with a 9/32-inch socket wrench.
Burner cup		When service is complete, Install the gas orifice in the new burner cup.	
	WIRE HOUSING	NOT	TE: The new burner cup must be the same size as the one removed.
			Reconnect the electrode to the new burner cup and replace the burner cup in the reverse order

3-6 Replacing the Assy Door Latch



WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Assy Tube- Manifold & Burner box	ASSY BRACKET-BURNER BOX	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the oven door and the cooktop. Remove the control knob and the chassis manifold panel. Remove the ASSY tube-manifold using a tubing wrench Remove the ASSY bracket-burner box.
Assy Door Latch	ASSY Door Latch	 Remove 2 screws holding the ASSY door-latch to the front of cavity. Remove 2 screws holding the ASSY door-latch to the rear of the range. Disconnect wires of the door latch to the rear of the range and remove it. Reverse the order to install the ASSY DOOR LATCH. Test the ASSY DOOR LATCH to make sure it is latching and unlatching properly.

3-7 Replacing the Switch-Door Plunger

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Switch-Door Plunger	SWITHCH-DOOR PLUNGER	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Open the oven door. Carefully pull out the switch door plunger switch from the upper left corner of the cavity front. Gently grasp the plunger with pliers and work from side to side while pulling. Pull out far enough to expose the wires. Note the location and mark the wires; then disconnect the wire to the switch door plunger. Replace with the switch-door plunger, reconnect the wires in their original positions, and reinstall switch in the oven frame.

3-8 Replacing the Assy Lamp Bulb

A WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		 Turn off the electrical supply going to the range.
		2. Shut off the gas shut-off valve in the gas supply line to the range.
	Oven Light Cover	3. Remove the rear cover panel.
Assy Lamp		 Open the oven door and remove the racks from inside the oven.
Bulb	40-Watt Appliance Bulb	 The oven lamp bulb is in the upper right-hand corner of the oven cavity. Turn oven lamp cover counterclockwise to loosen and remove the cover.
		6. Remove the oven light bulb.
		 When service is complete, Install the bulb and light cover by turning clockwise.

3-9 Replacing the Sensor-Thermistor

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		1. Turn off the electrical supply going to the range.
		2. Shut off the gas shut-off valve in the gas supply line to the range.
		3. Open the oven door and remove the racks from inside the oven.
		 Disconnect connector of the sensor thermister to the rear of the range.
Upper Oven Burner Shield and Upper Oven Burner		5. The oven sensor thermister is in the upper left-hand corner of the oven cavity. Remove 2 screws and carefully pull the sensor wire leads until the wire connectors appear.
		6. Reverse the order to install the oven temperature sensor.
		NOTE: If you can't access the wire connectors from inside the oven, remove the rear cover panel. Mark and disconnect the two wires going to the oven sensor thermister.

3-10 Replacing the Gasket Door

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		1. Open the oven door to its fully down position.
		2. Pull the ends of the gasket out of the liner holes.
		3. Pull the oven door gasket clips out of the holes until all of the clips are removed.
Gasket Door		4. When the service is complete, Insert gasket clips in each mounting hole. Push the ends of gasket in end holes in the bottom of the front oven frame.
		5. Close the oven door.
		REASSEMBLY NOTE : When you install the new gasket, make sure that all of the clips are seated in their liner holes, and that the ends of the gasket are pushed fully into their holes. Use the pointed end of a pencil to push the gasket ends into the holes.

3-11 Removing and Replacing the Door

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Door (Replace)		 Fully open the door Pull the hinge locks downward Firmly grasp both side of the door at the top. Close door to the door removal position, which is approximately 5 degrees. Lift door up and out until the hinge arm are clear of the slot.
Door (Removal)		 Firmly grasp both sides of the door at the top position. Fully open the door. (If the door will not fully open, it means that the indentation is not seated correctly in the bottom edge of the slot. Push the hinge locks up to the locked position.) Close the oven door.

3-12 Replacing the Handle-Door

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		 Remove the oven door from the range. Place the oven door on a padded work surface with the front glass facing down. Remove 3 bottom screws from the door. Remove 2 Handle-screws from the door.
Handle-Door		 Lift the door rear assembly off the front assembly and set it aside Remove 2 spacers and 2 screws.
		 Remove 2 screws to replace the Handle-Door

3-13 Replacing the Glass-Inner

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
		 Remove 6screws from rear side of door to remove 2 Hinge-Door. Remove 4screws ro remove Glass- Inner Sub Assembly Remove 7screws ro remove Baffle- Door
Glass-Inner		 Remove Baffle-Door and take out the Glass-Inner assembly.
		 Unfold 2 flanges of Cover-Frame Inner Glass to taking out Glass- Inner

3-14 Replacing the Warming drawer (FX710BGS)

Parts	Explanation Photo	Explanation
		 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range.
Warming drawer		 Open the warming drawer to the fully opened position. Locate glide lever on each side of drawer. Push down on the left glide lever and pull up on the right glide lever while pulling the drawer the rest of the way out.
	Drawer Side Rail	5. Place the ends of the drawer side rails into the ends of the drawer glide rails. Push in the drawer to close the drawer and snap the glide lever into place.

3-15 Replacing the Warming drawer (FX510BGS)

The door is very heavy. Be careful when removing door. Do not lift door by the door handle.

Parts	Explanation Photo	Explanation
Warming drawer	Image: Constraint of the second se	 Pull out the drawer and remove the contents. While supporting the drawer, pull it out until the 2 bottom guide blocks are exposed. Lift out the drawer from the 2 top glide blocks. To replace, position top edge of drawer on the 2 top glide blocks. To replace a glide or guide block, remove mounting screw(s) and block. Slide the drawer in until the lower drawer blocks engage with the drawer slide rails on each side of the drawer opening. Replace the contents and close the drawer.

3. Disassembly and Reassembly

3-16 Replacing the Burner Broil



WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.



CAUTION

Parts	Explanation Photo	Explanation
	CONNECTOR BRACKET	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Open the oven door and remove the racks from inside the oven. Remove Cover-back main wire to the rear of the oven. Disconnect the wires or the connector of the HSI. (Identify and mark the two wires going to HSI.)
Burner Broil	HSI-WIRE	 Remove 1 screw of bracket HSI- wire Remove 4 screws of bracket-broil spreader to top of oven.
		 Support the burner-broil with one hand, remove 2 screw supporting the burner-broil to the front and the rear of the oven.
	BRACKET BROIL-SPREADER BURNER BROIL	 Pull the upper ASSY-BURNER BROIL SPREADER to disconnect it from the holder nozzle-broil on the rear wall of the oven. Carefully remove ASSY-BURNER BROIL SPREADER. Separate the burner broil and
		 Separate the burner broil and bracket-broil spreader.

3-17 Replacing the HOT SURFACE IGNITOR (HSI) of the BURNER BROIL, NOZZLE Broil-Burner, and HOLDER Broil-BURNER

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Hot Surface Ignitor (HSI)		 To replace the HSI of the burner broil, Remove 2 screws assembled to HSI
Nozzle Broil-Burner	Remove the gas nozzle	 To replace the nozzle broil-burner, Remove the gas nozzle with a 9/32-inch socket wrench.
Holder Broil- Burner	Looking Screw	 To remove the holder-broil burner, Remove 2 screws supporting the holder-broil burner to the rear of the oven. When the service is complete, reverse the order to install burner broil, HSI, Nozzle and Holder broil burner. NOTE: The oven burner flames can be adjusted by loosening the locking screw and opening or closing the air shutter at the base of the oven burner.

3-18 Replacing the Burner Bake

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Burner Bake	CONNECTOR	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Open the oven door and remove the racks from inside the oven. Pull on the wires or the connector until the wire connector appears from the back wall of the warming drawer opening. Disconnect the connector of HSI of the burner bake.
	CAVITY FLOOR BRACKET BAKE SPREADER	 Remove the two screws from the back of the cavity floor. Lift back to clear the front edge and lift out the cavity floor. Remove 2 screws from the front of the bracket bake-spreader.
		 8. Lift front the bracket bake- spreader and lift out the bracket- bake spreader. 9. Lift up the burner bake from the holder-bake burner on the bottom of the drawer.

3-19 Replacing the HOT SURFACE IGNITOR (HSI) of the BURNER BAKE, NOZZLE BAKE-BURNER, and HOLDER BAKE-BURNER

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Hot Surface Ignitor (HSI)	H	 To replace the HSI of the burner bake, Remove 2 screws assembled to HSI
Nozzle Bake -Burner	NOZZLE HOLDER	 To replace the nozzle bake-burner, Remove the gas orifice with a 9/32-inch socket wrench.
Holder Bake-Burner	NOTE.	 To remove the holder-bake burner, Remove 2 screws supporting the holder-bake burner to the rear of the oven. When the service is complete, reverse the order to install Burner bake, HSI, Nozzle, Holder bake- burner. NOTE: The oven burner flames can be adjusted by loosening the locking screw and opening or closing the air shutter at the base of the oven burner.

3-20 Replacing the Motor Convection

Parts	Explanation Photo	Explanation
Motor Convection	CONNECTOR	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the cover-back main wire and the cover-convection. Note, mark, and disconnect wires or connector going to the motor convection
		 Open the oven door and remove the racks from inside the oven. Remove 2 screws and the interior cover casing from the back wall of the oven cavity.
	FAN FAN NUT	 Remove the fan nut, fan blade from the motor convection shaft. (The convection nut has clockwise threads to remove the nut.)
	Unbend the bracket	 Unbend the bracket of the back main to the rear of the range. Pull the motor convection straight out while rotating the motor convection counter-clockwise. When the service is complete, reverse the order to install the motor convection. Note. Do not fasten the fan nuts too strong.

3-21 Replacing the Heater Convection

WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Heater	CONNECTOR of THE HEATER CONVECTION	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the cover back main wire and cover convection. To remove heater convection, disconnect wires or connector going to the heater-convection
Convection	BRACKET CONVECTION-HEATER	 Remove 2 screws supporting the heater-convection to the rear of the oven. Remove 1 screw holding the bracket- convection heater to the rear of the oven. Pull out the heater convection. Reverse the order to install the heater convection.

3-22 Replacing the Heater Warming Drawer

🛦 warning

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
	Connector of the heater-warming drawer	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the warming drawer. Disconnect the connector from the back wall of the warming drawer opening.
Gas Control Valve		 Remove the bottom screw and the heater-warming drawer from the back wall of the warming drawer opening. Reverse the order to install and connect the new heater warming drawer.

3-23 Replacing the Assy Valve Safety

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

EXPLOSION, FIRE, AND ASPHYXIATION HAZARD

Shut off gas supply to the range before servicing. Check all gas lines and fittings for leaks before operating the range. Replace all panels before operating range. Failure to do so can result in death or personal injury from explosion, fire, or asphyxiation.

Parts	Explanation Photo	Explanation
Assy Valve Safety	SUPPORT REGULATOR	 Turn off the electrical supply going to the range. Shut off the gas shut-off valve in the gas supply line to the range. Remove the regulator support bracket from the rear of the range Carefully identify and mark the wires going to the ASSY VALVE SAFETY. Disconnect the 4 wires.
	ASSY VALVE SAFETY	 WARNING Cross-wiring the wires to the ASSY VALVE SAFETY creates an explosion hazard that can result in death, personal injury, and/or property and product damage. Using a tubing wrench and a channel-lock wrench, disconnect the 3 gas lines from the ASSY VALVE SAFETY. Do not bend or crimp gas lines during removal. Remove gas fittings from the ASSY VALVE SAFETY. Remove 4 screws and the ASSY VALVE SAFETY from the back wall of the warming drawer opening.

3-23 Replacing the Assy Valve Safety

Parts	Explanation Photo	Explanation
Assy Valve Safety	WIRES	 8. Install the new ASSY VALVE SAFETY from the back wall of the warming drawer with 4 screws. 9. Reconnect gas lines to the ASSY VALVE SAFETY . NOTE: Check all gas lines and fittings for leaks before operation. WARNING Cross-wiring the wires to the gas control valve creates an explosion hazard that can result in death, personal injury, and/or property and product damage. 10.Reconnect wire connectors in their original positions.
4-1 Failure Display Codes

There are two kinds of error codes. One denotes an oven temperature sensor error and the other denotes a safety error. Possible error codes during use can be checked before service.

- 1. Press the Clock pad.
- 2. Press the number pads 1, 2, 3 and 4. Make sure the Timer and Warming Drawer are both turned OFF.
- 3. Press the Start pad.
- 4. Press the Custom Cook and the 0 number pads at the same time for 2 seconds. Error codes are displayed.
- 5. Press the 0 number pad, to display the latest 5 error codes. But, if the power is interrupted and the oven turns off, the stored error codes are deleted.
- 6. Press the Clear/Off pad to return to normal display mode.

Oven sensor error

FAILURE CODE	CAUSE	SOLUTION
E-27	Oven temperature sensor open. (over 2950Ω)	 Disconnect electrical power to the range. Remove the upper rear cover panel. Measure the sensor resistance:1080Ω at the room temperature → If there are any problems, replace the oven temperature sensor. If there is not any problem with oven
E-28	Oven temperature sensor shorted. (Under 930Ω)	 temperature sensor, check the wires and/or therminal on thw wire harness for damage. 3. Disconnect the oven sensor connector from the PCB. Check the resistance of the oven sensor connector on the PCB (Normal:2850Ω)







4-1 Failure Display Codes

Safety error

Failure code	CAUSE	SOLUTION
E-08	Oven heating error. (Temperature does not reach 125°F [52°C] in 10 minutes.) (Self Clean, Convection Bake, Convection Roast, or Broil)	1. Disconnect electrical power to the range. Remove the upper rear cover panel. Disconnect the two harness connectors to the oven temperature sensor. Measure the oven temperature sensor resistance:1080 Ω at the room temperature \rightarrow If there are any problems, replace oven temperature sensor.
E-0A	Oven overheating error. (Temperature reaches 650°F [343°C] in any cooking function, except Self Clean.)	 Check the broil and bake burners to make sure they are lighting and burning properly. Check whether the DLB, Broil, Bake, and Warming Drawer relay is working normally. Make sure all harness connections are properly connected and securely fastened to the PCB. Check the resistance of oven temperature sensor connector on the PCB. (Normal : 2850Ω)
- SE -	Shorted key. (Key pad is pressed for 10 seconds.)	 Check the touch control wire harness to make sure it is properly connected between the PCB and the Touch Control board Disconnect the touch control wire harness. Check the harness, Touch Control board and PCB for short circuits. If there is not a problem with the connector on the PCB and the touch control harness, replace the PCB.

4-1 Failure Display Codes

Safety error

Failure code	CAUSE	SOLUTION
E-0E	Door locking error (Door lock in wrong position after 1 minute.)	 Disconnect electrical power to the range. Remove the upper rear cover panel. Make sure the wiring harness is properly connected to the motorized door lock assembly. Check motorized door lock assembly for proper operating resistances. With operating door lockout, measure a voltage of connector on harness which is
		linked with door lock motor. (Normal Voltage : AC 120V)
		4. Check the door locking switch to make sure it is working properly.

4-1 Failure Display Codes

Oven sensor error

Failure code	CAUSE	SOLUTION
E-27	Oven Sensor Opened (Over 2950Ω)	 Disconnect electrical Power to the range. Remove The upper rear cover panel. Measure the sensor resistance:1080Ω at the room Temperature → If there are any problems, replace the oven temperature sensor.
E-28	Oven Sensor Shorted (Under 930Ω)	 2) If there is not any problem with oven temperature sensor, Please check whether there is a damaged terminal or wire on harness. 3) Disconnect the oven sensor connector from the PCB. Check resistance of oven sensor connector on PCB(Normal:2850Ω)



4-1 Failure Display Codes

Safety error

Failure code	CAUSE	SOLUTION		
E-08	Oven heating error (Temperature dose not reach 125°F[52°C]in 10 minutes.) (Self Clean, Convection Bake, Convection Roast, or Broil)	 Disconnect power. Open the rear cover. Disconnect the two harness connectors to the oven temperature sensor resistance:1080Ω at the room temperature → If there are any problems, replace oven temperature sensor. 		
		 Check the broil and bake burners to make sure they are lighting and burning properly. 		
E-0A	Oven overheating error. (Temperature	 Check whether DLB , Broil, Bake and Warming Drawer relay is working normally. 		
	dose not reach 650°F[343°C] in any cooking function, except Self Clean)	4) Make sure all harness connections are properly connected and securely fastened to the PCB.		
		5) Check the resistance of oven temperature sensor connector on PCB(Normal : 2850Ω)		

4-1 Failure Display Codes

Safety error



4-1 Failure Display Codes

Failure code	CAUSE	SOLUTION	
-SE-		1) Check the membrane wire harness to make sure it is properly connected with PCB	
	Shorted Key (Key pad is pressed for 10 seconds.)	 Disconnect the membrane wire harness. Check the harness, Membrane and PCB for short circuits. 	
		 If there is not a problem with connector on main PCB and membrane harness, replace the PCB. 	



4-1 Failure Display Codes

Failure code	CAUSE	SOLUTION
		 Disconnect electrical power to the range. Remove the rear cover panel. Make sure the wiring harness is properly connected to the motorized door lock assembly.
	Door locking error (Door lock in wrong position after 1minutes.)	 Check motorized door lock assembly for proper operating resistance.
E-0E		 With operating door lockout, measure a voltage of connector on harness which is linked with door lock motor. (Normal :Voltage : AC 120V)
		 Check the door locking switch to make sure it is working properly.



4-1 Failure Display Codes

Control PCB Operation

PCB Circuit Boards



4-1 Failure Display Codes

* Explanation of primary parts on the Membrane Control Panel



- 1. Membrane control panel allows user to operate the oven, oven light, warming drawer(FX710BGS only) and Convection heater(FX710BGS only), and clock and timer operation by touching the membrane panel in the top backguard.
- **2.** The marking on the front of membrane acts as a guide for where the panel should be touched to select and program that function.

If membrane touch control stops working, replace the membrane and membrane bracket.

3. Membrane tail connects the Membrane Keypad to PCB.

SYMPTOM	DIAGNOSIS	REMEDY				
	plug. (120VAC) ra * Measure the input voltage at terminal *	heck the circuit breaker or fuse for the nge circuit. ake sure all wires are connected to the CB.				
		epair or replace the loose or disconnected arness.				
Oven not operating (No power,	* Make sure that the bake, broil, and source control relays on the PCB are * Ti	eplace the PCB if a relay has been amaged; relay is not working properly; or if e PCB have a crack in it. ghten or reconnect the PCB harness onnections.				
No display)	* Make sure the harness connections at the PCB terminals (T02, T03) have not come loose or disconnected. * Af	fter confirming the harness has been onnected properly to the PCB, take the llowing action: Repair of replace the harness.				
	* Measure the resistance between both ends of the oven temperature sensor. (normal : 0 ohms) * Residual Res	 Replace the PCB. Replace the oven temperature sensor. Repair or replace the harness. If problem still exists after confirming the oven temperature sensor and harness are working and connected properly, replace the PCB. 				
	* "E-08" will show on the display if the oven fails to reach 125°F(52°C) within 10 minute in a room * M	easure the oven temperature sensor sistance: (1080 Ω at the room mperature). Replace a faulty oven mperature sensor.				
	* Make sure the harness connections at the PCB terminals (T02, T03) have not come loose or disconnected.	epair or replace the harness.				
Oven temperature rises too slowly.	 * Make sure the broil and bake burners have been adjusted properly. * Make sure the oven burner orifices are sized properly for the type of gas being used. E 	pen or close the air shutter at the base of e burners to optimize the flame pattern.eplace with properly sized orifices:Burner NG LPDrifice mm mmmBroil1.641.02Bake1.901.15OTE: High-altitude orifice kits are available.				
	* Make sure that the bake, broil, and source control relays on the PCB are working normally.	epair or replace the faulty relay. ake sure all harness connections are operly connected. eplace the PCB.				

SYMPTOM	DIAGNOSIS	REMEDY				
	* The oven temperature exceeds 400°F(202°C) within 10 minutes of room temperature operation.	 Repair or replace the faulty broil or bake relay. 				
	 Make sure the harness is wired correctly and does not have a short circuit in it. 	* Repair or replace the harness.				
Oven temperature rises too fast.	 Make sure the oven burner orifices are sized properly for the type of gas 	 * Replace with properly sized orifices: Burner NG LP <u>Orifice mm mm</u> Broil 1.64 1.02 				
	being used.	Bioin 1.04 1.02 Bake 1.90 1.15 NOTE: High-altitude orifice kits are available. * Replace the PCB.				
Oven is overheating in all cooking modes.	 * "E-0A" will show on the display if the oven temperature reaches 650°F (343°C) in any cooking function, except self clean. 	 Check the source control relay (RY01) and replace if it is not working properly. Make sure all harness wires are securely fastened. Check the resistance of oven temperature sensor connector on the PCB. (Normal : 2850Ω) Replace the PCB. 				
The self-cleaning feature will not operate when the warming drawer is on.	* This is normal.	The self-cleaning feature will not operate when the warming drawer is on.				
	* Make sure the control lockout feature is not turned on.	 Unlock the controls by pressing and holding the lock key for 3 or more seconds. 				
Touch control	* Check to see if the sabbath function has been turned on.	* Press and hold the Sabbath pad for at least 3 seconds. The display will show the time of day when the function is turned off.				
keypads are not working properly.	* Check the touch control harness and connectors (CN08) on the PCB and touch control glass panel.	* Reconnect securely or replace damaged touch control harness.				
	 Check connector (CN08) and/or the PCB for damage. Check the touch control panel for damage. 	 Replace the PCB assembly. (PCB and touch control glass panel.) 				
	* Measure the resistance of the warming drawer heating element.	* Replace the warming drawer heating element.				
Warming drawer heating is not working.	 Check the warming drawer terminal (T04) on the PCB. Check the warming drawer relay (RY04) on the PCB. 	 * Securely fasten wire to PCB terminal (T04). * Replace the warming drawer relay (RY04). * Replace the PCB. 				

SYMPTOM	DIAGNOSIS	REMEDY		
	* Make sure the control lockout feature is not turned on.	 Unlock the controls by pressing and holding the lock key for 3 or more seconds. 		
	* Check for a burned out bulb.	* Replace with a 40 watt appliance bulb.		
Oven lamp is not working.	* Check the harness connections, the oven lamp relay (RY06), and the source control relay (RY01).	 * Repair or replace loose or disconnected harness. * Replace any malfunctioning relays. 		
	 Measure the resistance across the light ballast/socket terminals. (Normal : ∞) 	* Replace the light ballast/socket.* Replace the PCB.		
	* Check the harness and harness connector (CN02) on the PCB and at the terminals at each convection motor).	* Reconnect a loose or disconnected harness or replace a damaged harness.		
Convection fan is not rotated.	* Check the touch control harness and connectors (CN08) on the PCB and touch control panel.	* Reconnect securely or replace a damaged touch control harness.		
	* Check the convection fan relay (RY05) and the connector (CN02) on the PCB.	* Replace the malfunctioning relay.* Replace the PCB.		
	* Measure the resistance across the fan motor terminals.	* Replace the burned out fan motor.		
The oven smells		* The insulation around the oven will give off a slight odor until the adhesive has cured. This should go away after the first couple of oven uses.		
and/or smokes when it is initially	* This is normal.	* The oven is designed to burn off dirt and/or foreign substances.		
started.		 If the oven is dirty, run a self-cleaning cycle. (See page 53 in the "User Manual".) A ventilation system should be used while the oven is self cleaning. 		
The LED display is dim or not visible.	* Check the touch control harness and connectors (CN08) on the PCB and	* Reconnect securely or replace a damaged touch control harness.		
	touch control panel. * LED display is inferior.	* Replace the PCB assembly. (PCB and touch control glass panel.)		
The buzzer does not beep when	* Check to see if the sabbath function has been turned on.	* Press and hold the Sabbath pad for at least 3 seconds. The display will show the time of		
a keypad is touched.	* The buzzer does not work on the PCB.	day when the function is turned off.* Replace the PCB.		

SYMPTOM	DIAGNOSIS	REMEDY
	* There is no electrical power to the range.	* Plug in the power cord and/or reset the circuit breaker for the range.
	* The gas supply valve to the range is closed.	* Open the gas supply valve.
None of the cooktop burners	* Check the terminals on the spark module for voltage.	* Replace the faulty spark module.
will light.	* Check for crimped or broken gas line between the pressure gas regulator and the surface burner control manifold.	* Replace the damaged gas line.
	* Gas pressure regulator switch is closed.	* Replace the gas pressure regulator.
	* Check the harness connections at the spark module.	* Reconnect loose conection or replace damaged harness.
	* Check the spark module.	* Disconnect the spark module terminal for the nonworking burner. If no voltage is measured, replace the spark module.
One cooktop burner does not	* Check the electrode for that burner.	* Disconnect the electrode and check whether electrode wire or tip is broken. Replace the faulty electrode.
light.	* Check for a dirty surface burner orifice.	* Clean and/or replace the surface burner orifice. NOTE: Replacement orifice should always be the same size as removed.
	* Check for crimped or broken gas lines.	* Replace damaged gas lines.
	* Faulty surface burner control	* Each surface burner control is an integral part of the surface burner control manifold. Replace the manifold.
All surface burners will light,	* Check for crimped gas line between the pressure gas regulator and the surface burner control manifold.	* Replace the damaged gas line.
but don't stay lit.	* Faulty gas pressure regulator.	* Replace the gas pressure regulator.
One cooktop burner lights, but doesn't stay lit.	* Check for a dirty surface burner orifice.	* Clean and/or replace the surface burner orifice. NOTE: Replacement orifice should always be the same size as removed.
	* Check for a crimped gas line.	* Replace the crimped gas line.
	* Faulty surface burner control.	* Each surface burner control is an integral part of the surface burner control manifold. Replace the manifold.

SYMPTOM	DIAGNOSIS					REMEDY
Cooktop burner flames are soft blue or have yellow tips.	* This is normal.					Soft blue flames are normal flames for NG operation. Soft blue flames with yellow tips are normal flames for LP operation.
	* Check fo	or proper	sized orifices	:		
	FX710BGS					
	LT FR	RED	1.78	1.04		
	LT RR	GRN	1.40	0.83		
	CTR	BLU	1.38	0.83		
	RT RR	YEL	1.00	0.62		
	RT FR	NONE	1.80/0.73	1.05/0.52	*	Replace any wrong sized orifices.
	FX510BGS					Replace any wrong sized onlices.
Cooktop burner	LT FR	RED	1.78	0.98		
flames are mostly	LT RR	GRN	1.40	0.83		
yellow.	CTR	BLU	1.38	0.83		
	RT RR	YEL	1.00	0.62		
	RT FR	NONE	1.90	1.06		
	NOTE: High-altitude orifice kits are available.			ilable.		
	between	the pres	d or cracked (sure gas regu ntrol manifolo	lator and the	*	Replace the damaged gas line.
	* Faulty gas pressure regulator.				*	Replace the gas pressure regulator.



Safety Error – Oven not operating (no power, no display)

Oven temperature rises too slowly.



4-2 Electrical Malfunction

Oven temperature rises too fast.



Oven overheating in all cooking modes



Membrane Keypad not working properly.



Warming drawer not heating



Oven lamp not working



Convection fan not working



LED display dim or not visible



Buzzer does not beep when keypad is touched



No cooktop burners will light.



4-2 Electrical Malfunction

One cooktop burner will not light



4-3 Gas Malfunction

Oven temperature rises too slow or too fast



4-3 Gas Malfunction

No cooktop burners will light



4-3 Gas Malfunction

One cooktop burner will not light



4-3 Gas Malfunction

One cooktop burner will not stay lit



4-3 Gas Malfunction

No cooktop burners stay lit



5. PCB Diagrams

5-1 PCB Diagram, FX710BGS (Main)



5. PCB Diagrams

5-2 PCB Diagram, FX510BGS (Main)

ettor DLB RY (RY602) Bake RY (RY602)	r lock L1 N Bake Ignitor Broil Ignitor Connector nector (T601,T603) (T602) (T605) (T605) (T604) (CN101)	FUNCTION AND RULE	This is the connector that supplies 120VAC(L1~N)	This is the connector that connects the Membrane tail to the PCB.	This is the connector that connects the oven temperature sensor to the PCB	This is the connector that connects the door switch with the door lock switch.	This is the connector that connects the control relay with the oven lamp, and the door lock motor.	This is the relay that is the control source of DLB, Bake, Broil relays.	Circuit is designed to have bake, broil relay worked after DLB relay is being worked by Double line break.	This is the relay that controls the broil ignitor operation.	This is the relay that controls the bake ignitor operation.	This is the relay that controls the operation of the convection fan motors.	This is the relay that controls the oven lamp operation	This is the relay that controls the operation of door lock motor.	This is terminal that supplies L1 Voltage(120VAC) to PCB	This is terminal that supplies N Voltage to PCB	This is terminal that supplies L1 Voltage(120VAC) to PCB	This is terminal connects the broil ignitor to the broil relay.	This is terminal connects the bake ignitor to the bake relay.
e Keypad ector 301) an RY 07)	Lamp RY Relay Connector Door RY Boor & Door lock (RY608) Relay Connector Door RY switches connector (CN601) (RY609) (CN501)	PART NAME	Power Connector	Membrane Keypad Connector Thi	Oven Sensor	Door & Door lock switches connector Thi	Relay Connector Thi the	Source Control RY Thi	DLB RY Cir	Broil RY Thi	Bake RY Thi	Conv-Fan RY Thi	Lamp RY	Door RY Thi		N Terminal Thi	L1 Terminal Thi	Broil Ignitor Terminal	Bake Ignitor Terminal Thi
Membrane Keypad Connector (CN301) (CN301) Conv-Fan RY	La (F	NO. PART NO.	1 CN101	2 CN301	3 CN401	4 CN501	5 CN601	6 RY601	7 RY602	8 RY603	9 RY604	10 RY607	11 RY608	12 RY609	13 T601	14 T602	15 T603	16 T604	17 T605

6-1 Wiring Diagram



7-1 Schematic Diagram, FX710BGS



7-2 Schematic Diagram, FX510BGS





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