SERVICE MANUAL
for
BOSCH

800 Series
Gas Slide-in Ranges

HGI8054UC

This manual contains information that is necessary for servicing the following Bosch gas slide-in ranges:

HGI8054UC

This manual is designed to be used by qualified service personnel only. Due to the complexity and the risk of high-voltage electrical shock, Bosch does not recommend that customers service their own units.

TABLE OF CONTENTS

1 SYMBOLS USED IN THIS MANUAL

	**WARNING** – this symbol alerts you to dangers that may result in bodily injury or death
	**CAUTION** – this symbol alerts you to actions that may result in damage to the product or property
	**NOTICE** – this symbol alerts you to important information and/or service tips.
	**VIDEO** – related service video available for viewing on *QuickFinder*

2 IMPORTANT SAFETY INFORMATION

Before starting to service an appliance, familiarize yourself with all safety information and precautions included in this manual.

2.1 Safety before Servicing the Appliance

WARNING

Before disassembly, removal, or installation of any component…

- ✓ Turn off electrical power by removing the power cord from the electrical outlet or putting the circuit breaker in the OFF position.
- ✓ Turn off all burners and gas supply to the appliance.
- ✓ Be sure the entire appliance has cooled to a safe temperature.
- ✓ Wear protective gear: gloves, long sleeves, safety glasses.

WARNING

Use of replacement parts…

Use only authorized replacement parts for this appliance. Use of unauthorized substitutions may cause non-compliance with safety standards set for home appliances, will void the warranty, and may create safety hazards resulting in damage, bodily injury or death.

WARNING

Electrical hazards…

- ✓ Before servicing the appliance, remove electrical power by either disconnecting the power cord from the wall receptacle or by putting the circuit breaker in the OFF position.
- ✓ If tests must be conducted while the appliance is live, always use a residual-current-operated circuit breaker. The protective conductor connection must not exceed the recommended values.
- ✓ When repairs are complete, perform a function test in accordance with the appropriate regulations.
- ✓ Do not, under any circumstances, cut or remove the separate ground wire or the third (ground) prong from the power cord plug.
- ✓ Improper grounding or reverse polarization will cause malfunction, which can damage the appliance and create an electrical shock hazard. Make sure the circuit is properly grounded and polarized in accordance with applicable local codes and ordinances. Receptacle replacement shall be in accordance with the National Electric Code.

WARNING

Hot surfaces…

To avoid burns and injury, do not handle components and surfaces that are hot, such as the cooktop burner assemblies, maintop, gas burners, electric elements, hot surface igniters, heat deflector, interior oven surfaces or the exterior area immediately surrounding the door.

⚠ WARNING

Fire / Explosion hazards…

- ✓ Confirm that the gas valve at the wall is closed before servicing any gas components.
- ✓ Do not store or use flammable vapors, liquids or combustible materials in the vicinity of the appliance.
- ✓ Do not use water on grease fires. Turn appliance off and smother the fire with baking soda or use a dry chemical or foam-type extinguisher.

⚠ WARNING

What to do if you smell gas…

- ✓ Do not try to light any appliance.
- ✓ Do not touch any electrical switch.
- ✓ Do not use any phone or cell phone in the building.
- ✓ Immediately call the gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- ✓ If you cannot reach your gas supplier, call the fire department.

⚠ WARNING

Testing for gas leaks…

- ✓ Do not use a flame to test for gas leaks, as doing so may result in an explosion, injury, death and/or damage to the appliance and property.
- ✓ With electrical power off, carefully check for gas leaks at each gas component that was removed, replaced, or otherwise serviced, using a gas leak detector (electronic leak detectors are highly recommended) or bubble test.

⚠ WARNING

Sharp components…

This appliance has sheet metal parts and components which may have sharp edges. Avoid injury by handling parts with care and using adequate protective measures, such as wearing gloves.

⚠ WARNING

Clean-up hazards…

Do not allow any cleaning or polishing solutions/compounds, disinfectants, or bleaches to remain in contact with the stainless steel surfaces for long periods, or after clean-up. These may contain chemicals or materials which could release harmful inhalants and may cause damage to the appliance. After cleaning or polishing, always rinse the cleaning/polishing materials with clear water and wipe dry with a clean, soft, non-abrasive cloth.

⚠ WARNING

Prior to returning appliance to service, confirm that…

- ✓ All electrical connections are correct and secure
- ✓ All safety grounds (internal and external) are correctly and securely connected
- ✓ All gas connections are secure and have been leak-tested using a gas leak detector or bubble test.
- ✓ All panels and components are properly and securely reassembled

3 GENERAL

The HGI8054UC is a stainless gas range, which is a full-depth model, designed to replace either a free-standing or slide-in range in a flush installation. It has a sealed 5-burner cooktop, which includes a center 18K BTU burner. The ovens feature a convection fan to circulate air throughout the cavity during convection cooking, and there is a 400W warming drawer with push-to-open (PTO) slides as well.

The range features a VFD red and white display with touch controls to operate the oven and metal knobs to control the gas cooktop burners.

The range ships natural gas ready, and an LP Gas Conversion kit is included.

The door skin and warming drawer front are made of grade 430 brushed stainless steel, which is magnetic.

3.1 Models

The model number structure for the 2014 slide-in ranges appears below.

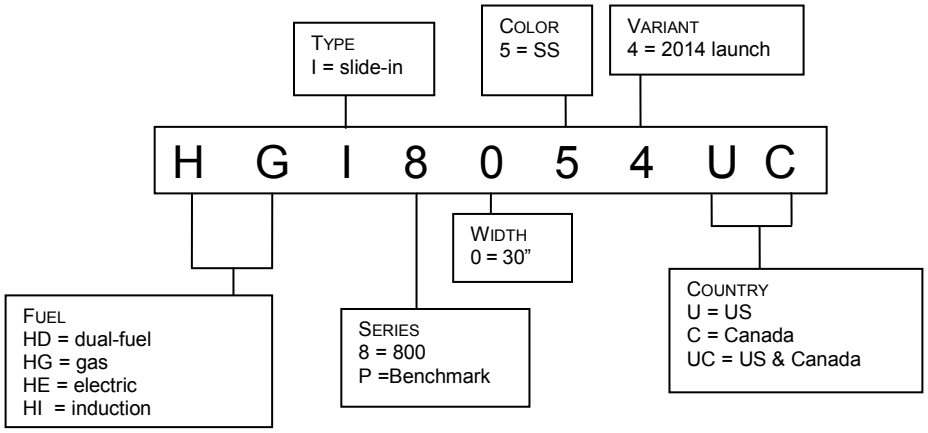


Figure 1 Model number nomenclature

3.2 Data Plate

The data plate reflecting model number and FD number is located on the inside of the warming drawer front, as shown in Figure 2; open the drawer to view.

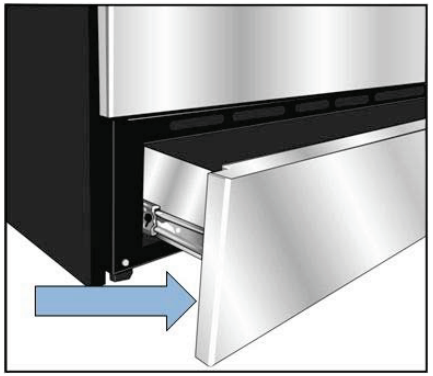


Figure 2 Location of data plate

The first 4 positions of the FD number reflect the year/month the product was built. FD numbers that begin with 94 were built in 2014; 95 = 2015; 96 = 2016, etc. An FD of 9404 indicates the range was built in April 2014.

NOTICE

Be prepared to provide the **complete Model Number** (including the number after the “/”) **and FD number** printed on the data tag of the unit when contacting Bosch Customer Support or Technical Support for assistance.

3.3 Technical Details

120V	X
Required Circuit 240V	15A
Required Circuit 208V	15A
Power Cord (Canada only)	78”/198cm long
Total Gas	71000, 20.8kw

Table 1 Technical specifications

3.4 Warranty

The product is warranted to be free from defects in materials and workmanship for a period of 365 days from date of purchase. Bosch will have no responsibility or liability for repairs or work performed by a non-authorized servicer.

Find the complete Statement of Limited Product Warranty in the product’s *Use and Care Manual*.

4 OVEN OPERATION

The range ships from the factory ready for use with natural gas. Conversion to LP must be performed by a qualified installer or servicer. An LP conversion kit ships with each range, and the kit is also available as a service part.

The broil and bake burners are controlled by the power board, via relays which supply 120V to the dual valve and hot surface igniters (HSIs). The dual valve (to feed the bake and broil burners) and the igniters are in series connection that requires both to be in operating condition in order for gas to flow and ignite. If either is not working, gas will not flow. Most of the 120V are dropped across the igniter. In general, 115V will be on the igniter with 3-4V on the valve. The total series current through the igniter/valve is approximately 3.5 amps.

When heat is called for from the bake or broil burners, the control board activates the appropriate relay to supply power to the ignition circuit. The igniter should be visibly glowing approximately 10 seconds after the relay turns on. Gas ignition should occur within a maximum of 90 seconds from the time power is supplied to the ignition system.

Gas will continue to flow as long as power is supplied to the ignition system. If power is removed, or the dual valve or igniter develops an open circuit, gas will flow for approximately 30 seconds before the dual valve switches to the normally closed position.

4.1 Allowable Operating Range by Cooking Mode

Table 1 reflects the minimum and maximum temperatures by cooking mode.

Cooking Mode	Min	Max	Default
Bake	100°F	550°F	350°F
Broil	Low 450°F	High 550°F	High

Cooking Mode	Min	Max	Default
Roast	100°F	550°F	325°F
Warm	150°F	225°F	170°F
Sabbath	100°F	425°F	N/A
Self-Cleaning	2 hours	4 hours	3 hours
Proof	85°F	125°F	100°F
Convection Bake	100°F	550°F	325°F
Convection Roast	100°F	550°F	325°F
Pizza	100°F	550°F	400°F

Table 2 Allowable temperature range by cooking mode

4.2 Burners/WD Element

All ovens include a 12.5K BTU broil burner, an 18K BTU bake burner, a convection fan and a warming drawer with a 400W element.

During normal operation, when the oven door is opened, burners and convection fan are disabled; heating and fan operation will resume when the door is closed. (When Sabbath mode is enabled, the bake burner is not disabled when the door is opened.)

4.2.1 Burners Used by Cooking Mode

The table below reflects which burners are used for each cooking mode, and which modes also use the convection fan to circulate air.

Cooking Mode	Burners Used	Description
Bake	Bake 	Bake burner generates heat and cycles to maintain oven temperature
Broil	Broil 	Intense heat is radiated from the upper burner

Cooking Mode	Burners Used	Description
Roast	Bake 	Bake burner generates heat and cycles to maintain oven temperature
Pizza	Bake, Conv Fan 	Bake burner generates heat and cycles to maintain oven temperature, while the heat is circulated by the convection fan.
Warm	Bake 	Bake burner generates heat and cycles to maintain oven temperature
Proof	Bake 	Bake burner is used to maintain a low temperature
Convection Bake	Bake, Conv Fan 	Lower burner cycles to generate heat and maintain oven temperature while the heat is circulated by the convection fan.
Convection Roast	Bake, Conv Fan 	Lower burner cycles to generate heat and maintain oven temperature while the heat is circulated by the convection fan.

Table 3 Active burners by cooking mode

4.2.2 Setting Temperature Offsets

In some cases, it may be necessary to adjust the oven temperature if the customer reports that food is consistently under- or over-cooked, even though the oven is operating normally. Temperature Offsets can be entered by the customer from the Customer Settings menu to raise or lower the cavity temperature during operation in Bake, Convection Bake, Roast and Convection Roast.

The allowable Offset range is from 0°F to 35°F, positive or negative, in 1° increments.

1. Press Settings to access the Customer Settings menu (from stand-by mode only)
2. Press 9 for Temperature Offset (single/upper) or 10 (lower).
3. Press Enter to edit the current setting.
4. Press (-) or (+) then enter the offset value using the numeric keys - always enter the value as 2 digits (i.e, 05).
   The new value is saved when the display changes from edit mode back to display mode.
5. Press Clear On/Off to exit the Settings menu.

Example: A +25° offset will result in a cavity temperature of 350° when the cooking temperature is set to 325° for any of the cooking modes affected by the Offset. Similarly, a -25° offset will result in a cavity temperature of 300° when the cooking temperature is set to 325°.

The adjusted temperature cannot be less than the minimum allowable temperature for the cooking mode, nor higher than the maximum for the cooking mode. See *Allowable Operating Range by Cooking Mode* section.

4.3 Cooling Fan

The cooling fan is used to maintain allowable temperatures on internal components and customer-accessible surfaces.

The cooling fan turns on low speed when the cavity temperature is at or above 300°F/150°C. The fan will continue to run for 15 minutes after the mode has been cancelled.

During Self-clean, the cooling fan turns on high speed when the cavity temperature reaches 300°F/150°C and will continue running for 15 minutes after the door unlocks (@255°C/491°F).

5 COOKTOP OPERATION

The range ships from the factory ready for use with natural gas. Conversion to LP must be performed by a qualified installer or servicer. An LP conversion kit ships with each range, and the kit is also available as a service part.

Each of the sealed surface burners is controlled by a gas valve attached to a common manifold pipe. The spark igniter switches are assembled in a continuous harness, and each switch fits onto a control valve. The valve shafts extend through the front panel where the knobs are attached.

Each burner has an electronic igniter; there are no pilot lights.

When the knob is pushed inward and rotated clockwise to the LIGHT position…

- Control valve opens and gas flows from the manifold to the burner tube into the jet holder assembly and through the orifice, where it combines with air to create the mixture necessary for combustion.
- Spark switch closes and sends 120VAC to activate the electronic spark module.
- Spark module output sends 14,000VDC to the igniter (electrode) through the spark wire.
- Gas and air mixture at the burner head is ignited by the spark created beneath the grounded burner cap, causing the burner to ignite.
- If the flame is lost while the knob is on, a flame-sensing circuit re-applies spark energy at the burner to re-ignite the gas.

The oven Self-clean mode will not operate if the cooktop is being used; turn off all cooktop burners prior to beginning the self-clean cycle.

5.1 Burner Ratings

The cooktop burner ratings are illustrated in Figure 3.

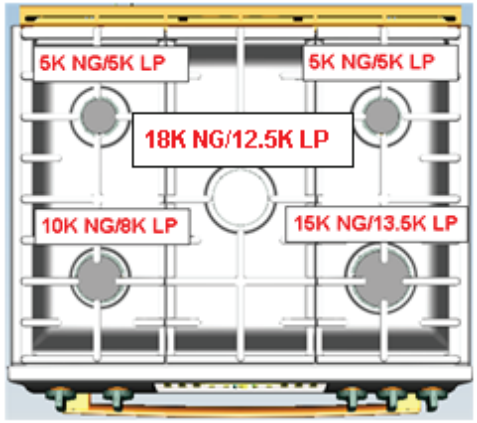
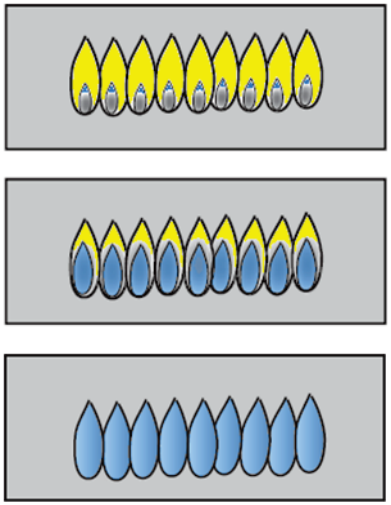


Figure 3 BTU ratings for each cooktop burner

NOTICE

An audible *pop* may be heard when the burner is turned off manually. Note that the popping sound may be louder with LP gas than with natural gas. This is normal operation.

5.2 Flame Characteristics



Yellow Flames: Further adjustment is needed

Yellow Tips on Outer Cones: Normal for LP gas

Soft Blue Flames: Normal for natural gas

Figure 4 NG/LP flame characteristics

5.3 Spark Module

The 5-point, 120V 60Hz 2VA flame-sensing spark module has terminal connections on the top for power and the spark switch wires and on the bottom for the spark igniter (electrode) wires.

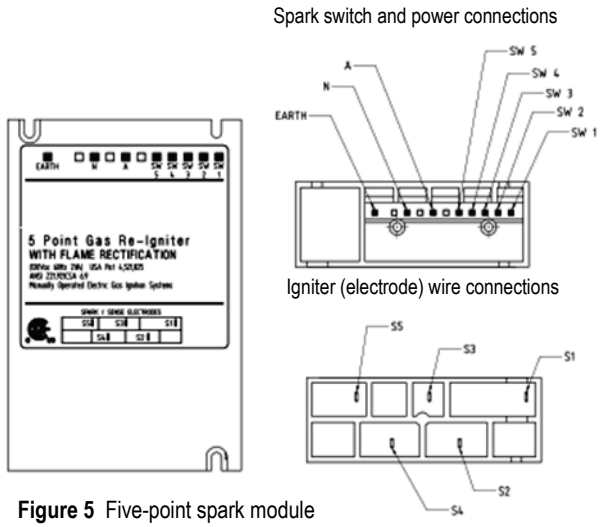


Figure 5 Five-point spark module

5.3.1 Flame Rectification

Gas cooktop spark modules use *flame rectification* to reliably re-ignite a burner if the flame goes out.

Flame rectification occurs when flame molecules ionize, allowing them to conduct electricity. Because the cooktop frame is much larger than the spark igniters (electrodes), the flame acts as an AC to DC rectifier.

The spark module applies an AC voltage to the spark igniter, which is rectified from AC to DC. The spark module measures this small micro amp (µA) DC current and senses a flame is present. If the current is interrupted, the spark module senses the flame has gone out and re-ignites the burner.

If burner bases aren't solidly grounded, they won't be connected to the cooktop frame, the circuit through the cooktop frame to the spark module won't be connected, and there will be no flame rectification (no DC voltage sensed), so burners won't stay lit.

⚠ CAUTION

Since it produces a DC voltage, flame rectification is dependent upon having correct polarity and a good ground. **Incoming power must have the correct polarity and each burner base, as well as the spark module, must be solidly grounded.**

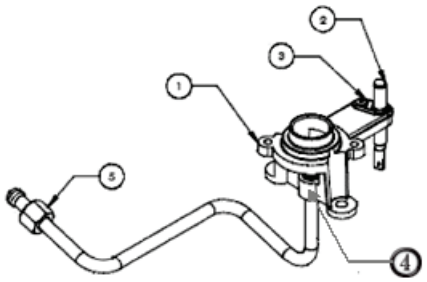
NOTICE

If the customer's electrical supply has the line (L) and neutral (N) wires reversed, there will be no DC voltages and burners won't stay lit (since the "voltages" are from neutral to ground).

5.4 Jet Holders

Jet holder service assemblies include the jet holder, igniter (electrode), orifice (jet), air shutter screw, compression nut and tubing.

Jets and electrodes may be ordered separately. To replace all other parts, the complete jet holder assembly must be ordered.



1 Jet holder
2 Igniter (electrode)
3 Air shutter screw
4 Orifice (jet)
5 Compression nut

Figure 6 Jet holder assembly example

6 SERVICE AND REPAIR: OVEN

⚠ CAUTION

- ✓ Turn off the electrical power circuit to the range at the main junction box before servicing this unit.
- ✓ Turn off the gas supply using the shut-off valve.
- ✓ For those checks requiring the use of electrical power, exercise extreme care.
- ✓ Sheet metal parts often have sharp edges. Avoid injury by handling these parts with care.

6.1 Doors

The serviceable parts of the door include the handle, endcaps, outer door glass/skin (service assembly), hinges (service kit with two dual-spring hinges), middle glass, 2-pane glass pack, porcelain-coated door liner, and the various fasteners.

NOTICE

IMPORTANT INFORMATION: REASSEMBLING DOOR AFTER SERVICING

- ✓ Be sure insulation is tucked in close to the glass pack. Insulation should not block the hinge foot openings, or be visible through the openings in the door liner after reassembly.
- ✓ To avoid stripping the door liner screws or chipping the porcelain, *set a low torque setting when using a drill/driver*.
- ✓ When reinserting the screws which secure the door liner to the rest of the door assembly, apply pressure to the liner to compress the insulation inside the door while inserting the center screw in the bottom edge of the liner first. Continue pressing on the liner while reinserting the remaining bottom screws. Lastly, reinsert the (4) screws/o-rings into the face of the door liner.

6.1.1 Addition of Flat Springs to Door Assembly

Ranges with an FD 9502 and later include a flat spring on each side of the inner door, between the middle glass bracket and the inner door frame. The pressure of the flat springs against the brackets prevents the glass from moving and rattling.

To resolve a report of rattling sounds in the door of a range with an FD prior to 9502, order Flat Spring Service Kit 00635045. Instructions are included in the kit.

6.1.2 Removing and Reinstalling the Door

⚠ CAUTION

Avoid injury when removing and replacing oven doors.

- ✓ Be sure range is cool enough for handling.
- ✓ Position hinges properly (see Figure 5).
- ✓ Grasp door only by sides, not by the handle.
- ✓ Do not force door open or closed.
- ✓ Handle with care–the door weighs approximately 40 lb.

To remove the door…

1. Open door completely.
2. Flip right and left hinge levers back to open, as shown below; be sure the levers are in the fully open position. (The RH and LH hinges differ slightly, but operate in the same manner.)

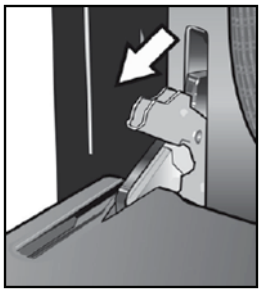


Figure 7 Opening the hinge lever

NOTICE

It may be necessary to use a tool, such as a screwdriver, to gently pry the upper part of the hinge lever away from the housing. Take care to avoid scratching the porcelain.

3. Partially close the oven door until it is open about 7” and catches on the hinge-stop levers.
4. Using both hands, lift door upward and outward to disengage the hinges from the hinge receiver slots.
5. Set the door aside on a protected flat surface.

To reinstall the door…

1. Hold the door firmly in both hands and position the hinges in the hinge receivers, so that the slot in the base of the hinge (A) engages with the hinge receiver (B).

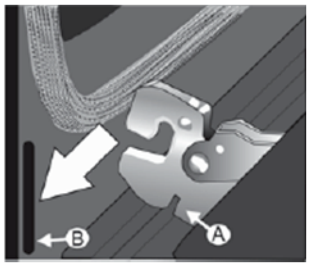


Figure 8 Position the hinge in the hinge slot

2. Tilt the door inward and slide the hinges into place; the hinges should catch and the door should remain in place.
3. Open door fully to expose the hinge levers and hinge receiver slots.
4. Flip the right and left hinge levers forward until they are fully closed.

Figure 9 Closing hinge lever

5. Open and close the door carefully to confirm that the door is installed correctly and securely, and does not appear to be askew when closed.
6. Carefully close and open door to check operation.

6.1.3 Replacing Hinges

The hinges are offered in service kits which include both the RH and LH dual-spring hinges; **always replace hinges in pairs.**

To access the hinges…

1. Remove the door as described in the *Removing and Reinstalling the Door* section.
2. With the porcelain-coated door liner up, remove the two screws on each side of the door liner.
3. Remove the screws along the bottom of the door assembly.

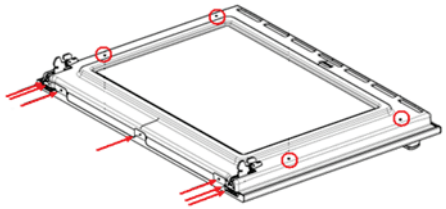


Figure 10 Removing door liner screws

4. Lift the liner away from the rest of the door assembly and set aside.
5. Remove the screws at the top left and top right which secure the handle to the door assembly.
6. Carefully lift the inner support frame with glass pack and hinges away from the outer door glass/skin assembly and lay flat on the work surface.

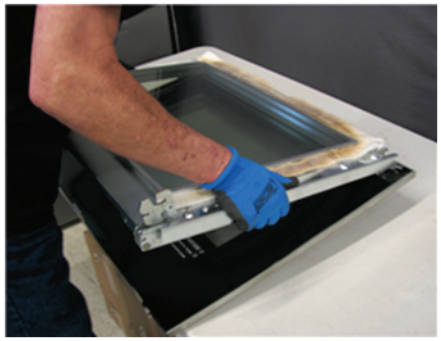


Figure 11 Removing inner support frame assembly

7. Lift the two pieces of insulation off the inner support frame assembly and set aside.
8. Remove the screws on the upper right and lower left which secure the hinges to the inner support frame.

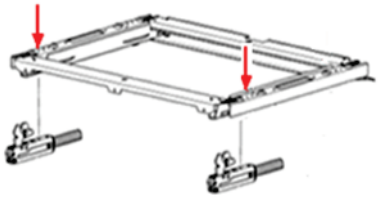


Figure 12 Location of screws securing hinges to inner support frame assembly

9. Lift the inner support frame upwards to access the hinges.
10. Install new right and left hinges and reassemble the door.
11. Test operation of the door by fully opening and closing it several times.

6.1.4 Replacing the 2-Pane Glass Pack

⚠ CAUTION

Wear protective gloves when disassembling the door. When replacing the glass pack due to broken glass, exercise extra care to avoid injury from broken glass.

To access the glass pack…

1. Remove the door as described in the *Removing and Reinstalling the Door* section.
2. With the porcelain-coated door liner up, remove the two screws on each side of the door liner.
3. Remove the screws along the bottom of the door assembly.

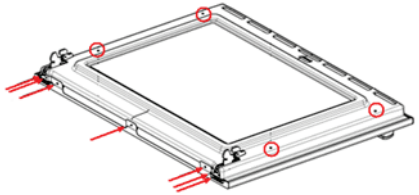


Figure 13 Removing door liner screws

4. Lift the liner away from the rest of the door assembly and set aside.
5. Remove the screws at the top left and top right which secure the handle to the door assembly.
6. Carefully lift the inner support frame with glass pack and hinges away from the outer door glass/skin assembly and lay flat on the work surface.

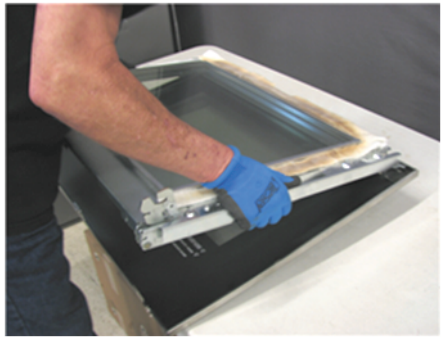
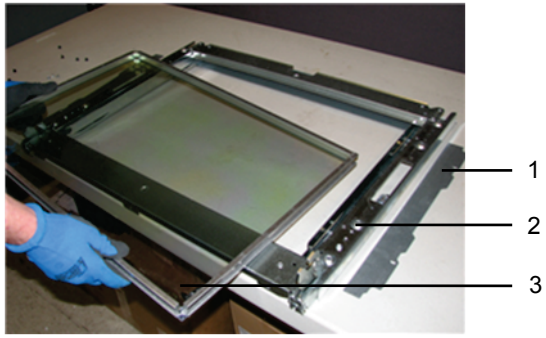


Figure 14 Removing inner support frame assembly

7. Lift the two pieces of insulation off the inner support frame assembly and set aside.
8. Remove the screws securing the right and left side door shields and set shields aside.
9. Carefully lift the glass pack out of the inner support frame.



1 Door side shield
2 Inner support frame
3 Two-pane glass pack

Figure 15 Removing 2-pane glass pack

10. After removing and discarding all remnants of broken glass, install the new glass pack assembly and reassemble the door.
11. Test operation of the door by fully opening and closing it several times.

6.2 Door Latch/Motor Assembly

The motorized door latch (MDL) mechanism (120VAC 60Hz 4.3W) has 2 switches - the door switch and the lock/unlock switch. The latch will automatically lock when mode and temperature selectors are set to Self Clean, and unlock when the oven cools to ~490°F (255°C). The latch and motor are serviced as an assembly.

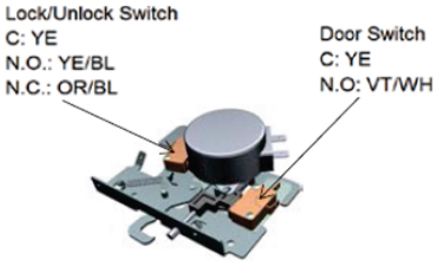


Figure 16 Oven door latch

If the latch becomes stuck in the locked position, turning the unit off and back on will open the latch if the cavity temperature <491°F. If latch is stuck in a partially locked position, turn the mode and temperature selectors to Self Clean, then turn them to Off.

If these measures fail, run a thin wire or wire coat hanger in between the door and the front face of the range. Figure 17 shows where to position the wire between the latch hook (1) and the plunger (2). Slide the wire to the left, pushing the latch hook left and releasing the latch.

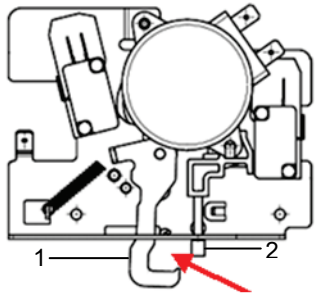


Figure 17 Latch in locked position

There is a Door Lock Relay Test available in Service mode. See the *Service Mode* section for details.

6.2.1 Replacing the Latch/Motor Assembly

1. Remove power to the range.
2. Remove the inner screws securing the latch to the latch plate, then remove the outer screws securing the latch plate to the range.

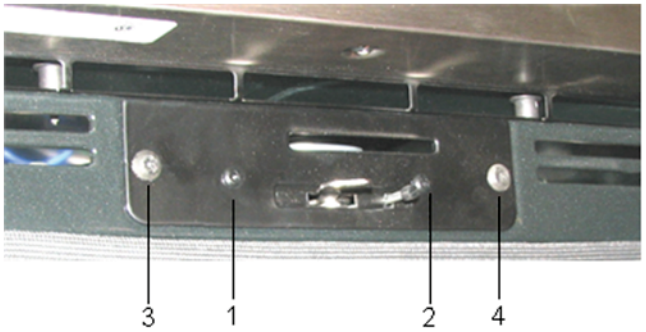


Figure 18 Front latch plate; remove/replace screws in order shown

3. Hold the latch hook and slide the latch assembly a little to the left to disengage it from the small support bracket that sits directly behind it, then pull the latch forward.

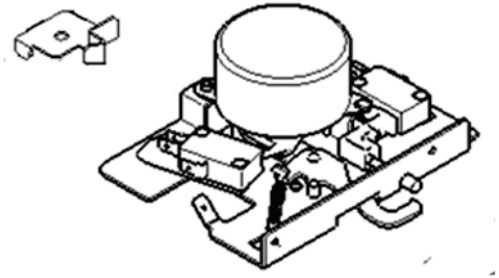


Figure 19 Door latch/motor assembly and rear support bracket

4. Disconnect the wires.
5. Install the new latch/motor assembly, reconnecting the wires and engaging the latch correctly with the latch support bracket.
6. Position the latch plate with the curved corners at the bottom, and reinsert screws.
7. Restore power and test operation.

6.3 Control Panel

The control panel service assembly includes…

- Stainless front panel with gasket along inside bottom edge
- Touch panel assembly which includes keypad and taped touch control module (TCM).

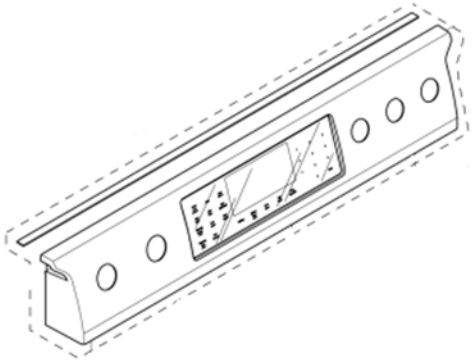


Figure 20 Control panel service assembly

The TCM is an electronic module which monitors, qualifies, and transmits the inputs from the touch panel to the control module. After start-up, the control module polls the TCM every 100ms to determine which, if any, keys are activated. The response to a each key press is controlled by the control module.

The complete control panel assembly is offered as the service replacement for the stainless skin, touch panel, and/or TCM. These components are not available separately.

Also attached to the front panel assembly are the display board and its sheet metal carrier. These parts are not actually included with the front panel service assembly; the display must be ordered separately.

Front Panel Test is available in Service mode. See the *Service Mode* section for details.

6.3.1 Replacing the Control Panel Assembly

1. Remove power to the range.
2. Protect the top of the oven door to prevent damage to the front panel or door.
3. Remove two screws on the underside of the panel assembly – one on the right and one on the left – which secure the panel to the vent trim.
4. Remove one screw on each side of the control panel assembly.

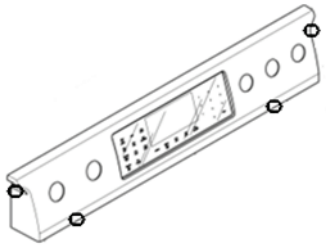


Figure 21 Location of screws on control panel service assembly

5. Grasping the panel by both sides, carefully pull it forward; the user interface harness connected to the TCM and to the display will limit how far away the control panel assembly can be moved initially.
6. Disconnect the user interface harness from the TCM and the display board.
7. Remove the four screws securing the sheet metal carrier to the control panel assembly and set the carrier and display board aside.

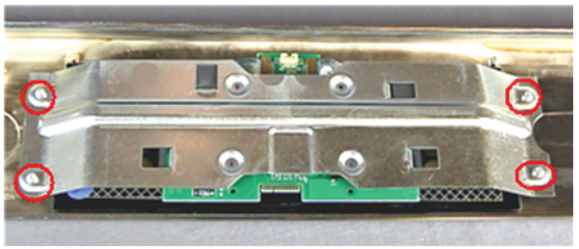


Figure 22 Location of screws on sheet metal carrier

8. Install the carrier and display board to the new control panel service assembly using the four screws removed in step 7.
9. Re-connect the user interface harness, then install the new control panel assembly.
10. Restore power and test operation.

6.3.2 Replacing the Display Module

The display module is secured to the sheet metal carrier with four metal tabs.

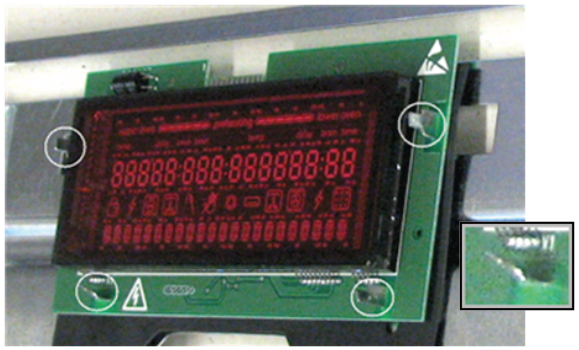


Figure 23 Display board secured to carrier with the carrier's 4 metal tabs

1. Remove the control panel as described in *Replacing the Control Panel Assembly* section.
2. Using pliers, gently straighten each metal tab so that they align with the slots in the display board, then lift the board off the tabs.

3. Position the new display board so that the slots in the board align with the four metal tabs, and firmly push the board downward until it is securely in place.
4. Slightly re-twist each of the four metal tabs.
5. Reassemble the control panel.
6. Reattach the control panel to the range.
7. Restore power and test operation.

6.4 Cavity Light

Each oven cavity uses one incandescent 40W appliance bulb with a standard Edison base (E26). Replacement bulbs may be purchased locally.

The cavity light can be turned on in two ways: by pressing Oven Light or opening the oven door. If Oven Light had not been pressed to turn light on prior to opening the oven door, the light will turn off when the door is closed. If Oven Light had been pressed to turn light on prior to opening the oven door, the light will remain on after the door is closed.

In other words, the Oven Light switch overrides the door.

6.4.1 Replacing the Lamp

CAUTION

- ✓ Turn off power to the range at the fuse or breaker box: light socket is live with door open.
- ✓ Be sure oven and lights are cool to the touch.
- ✓ Handle glass lenses and glass bulbs carefully.

NOTICE

Sometimes, after running a self-clean cycle at high heat, it may become difficult to remove the glass lens. If it cannot be done by hand, an adjustable strap-wrench may be used.

1. Unscrew glass lens cover by turning it counter-clockwise.

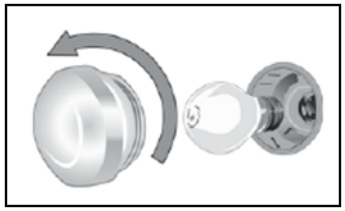


Figure 24 Removing the glass lens

2. Unscrew the appliance bulb by turning it counter-clockwise.
3. Insert the new bulb.
4. Replace the glass cover.
5. Restore power to the unit and test the operation of the light.

6.5 Convection Fan and Motor

All 800 series gas slide-in ranges have a convection fan on the rear cavity wall.

Depending on the cooking mode selected, the fan may be used to circulate heat evenly throughout the cavity.

The fan blade is easily accessed on the rear wall of the oven cavity behind the convection baffle. Replacing the convection fan motor will require access to the rear of the unit.

6.5.1 Replacing the Convection Fan Blade

1. Remove power to the range.
2. Remove the screws securing the convection baffle to the rear wall of the oven cavity.
3. While holding the fan blade, loosen the nut by turning it **clockwise**; set the nut and washer aside.
4. Remove the fan blade from the shaft of the motor, noting that there is a second washer behind the fan blade.

5. Install the new blade.
6. Reassemble the convection fan and replace the baffle.
7. Restore power and test operation.

6.5.2 Replacing the Convection Fan Motor

1. Follow steps 1-3 in the *Replacing the Convection Fan Blade* section.
2. Remove the washer located behind the blade and set aside.
3. Remove the screws securing the right and left side trim pieces to the cabinetry.
4. Carefully slide the range out of the cutout to gain access to the motor from the rear of the unit.
5. Remove the rear housing panel.
6. Disconnect the wires from the motor terminals.
7. Remove the screws securing the fan motor.
8. Three sheet metal tabs hold the motor in position after the screws are removed; bend the tabs outward, using a flat blade screwdriver or pliers, then remove the motor.

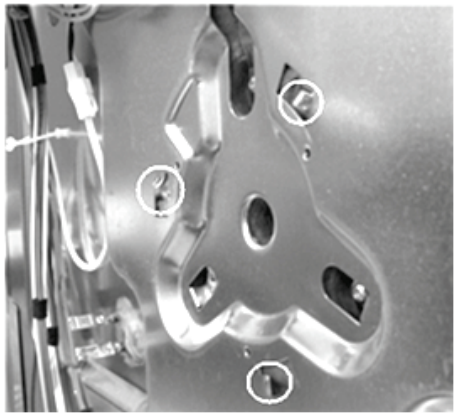


Figure 25 Sheet metal tabs for securing convection fan motor to rear of oven

9. Install the new motor, being sure to bend the three sheet metal tabs back in.
10. Reinstall the fan blade and baffle.
11. Restore power and test operation.

6.6 Oven Burners and Hot Surface Igniters (HSIs)

When electricity flows to the HSI, the igniter expands slightly, and amps flow to the dual safety valve. When the bi-metal arm inside the valve is heated, the arm flexes, opening the valve and allowing gas to flow to the burner. When operating as expected, the burner should ignite within a maximum of 90 seconds from the time power is first supplied to the igniter.

If the igniter glows, but burner does not light, or if the oven is not heating sufficiently (too cool), the igniter may be too weak and may not be getting hot enough to open the safety valve as expected.

If gas is flowing as expected to one burner (bake or broil) but not the other, the igniter is most likely the culprit.

If the igniter or the safety valve are suspected to be faulty, remove and check for continuity. If no continuity, replace the part. Otherwise, check the control module for a faulty relay.

6.6.1 Replacing the Broil Igniter

1. Remove power to the range and turn off the gas supply.
2. Remove oven door and racks.
3. Carefully slide the range out of the cutout to gain access to the igniter wires.
4. Remove the rear housing panel.
5. Disconnect the broil HSI wires.

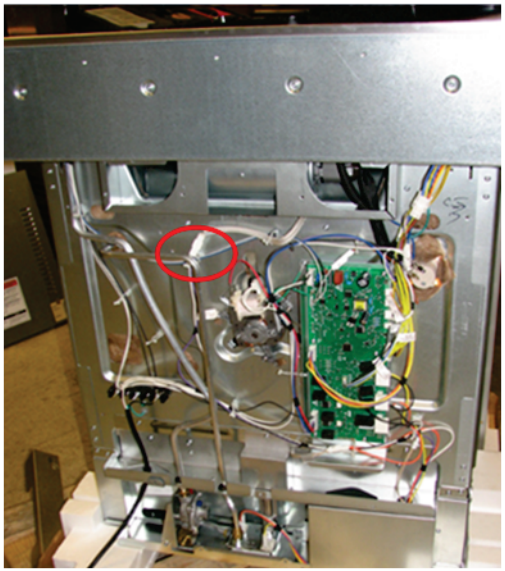


Figure 26 Broil HSI wires are visible after removing rear housing cover

6. Remove screws securing the broil flame spreader/burner assembly, and place assembly on protected work surface.

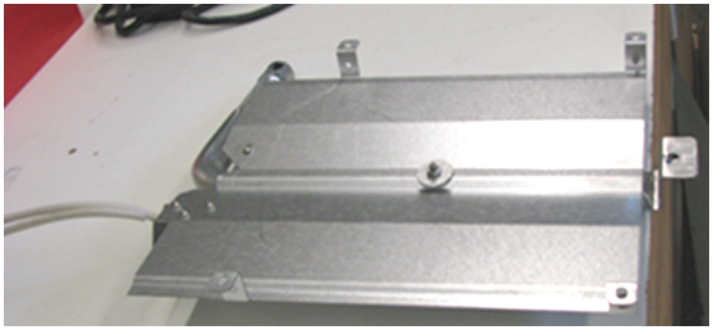


Figure 27 Broil flame spreader/burner assembly with HSI

7. Remove the screws (and nuts) securing the igniter to the mounting bracket.

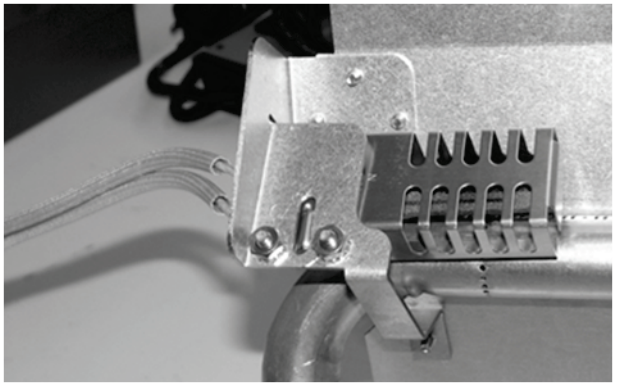


Figure 28 Broil igniter

8. Test and/or replace the igniter.
9. Reassemble, restore power and gas supply, and test operation.

6.6.2 Replacing the Broil Burner

1. Follow steps 1-7 in *Replacing the Broil Igniter* section.
2. Remove the nut, washers and screw securing the broil burner tube to the flame spreader.

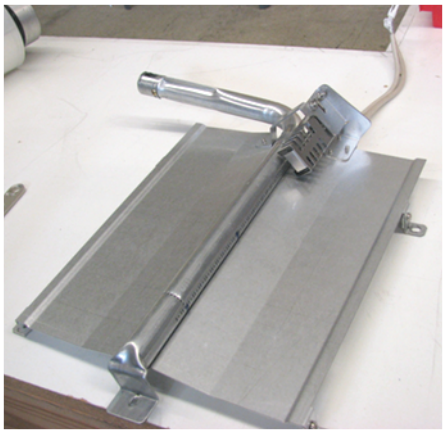


Figure 29 Broil flame spreader/burner assembly with HSI

3. Attach the igniter to the new burner and install.
4. Reassemble, restore power and gas supply, and test operation.

6.6.3 Replacing the Bake Igniter

1. Remove power to the range and turn off the gas supply.
2. Remove oven door and racks.
3. Remove two thumb screws securing the bake chamber cover.
4. Remove two screws securing the front bake chamber trim piece, and the third (center) screw securing the front of the bake burner to the chamber.
5. Remove bake chamber cover from cavity and set aside.
6. Carefully slide the range out of the cutout to gain access to the igniter wires in the rear of the unit.
7. Remove the rear housing panel.
8. Disconnect the bake HSI wires.
9. From inside the bake chamber, remove the screws/nuts securing the HSI to the mounting bracket.
10. Test and/or replace the igniter.
11. Reassemble, restore power and gas supply, and test operation.

6.6.4 Replacing the Bake Burner

1. Follow steps 1-8 in *Replacing the Bake Igniter* section.
2. In the rear of the unit, remove the four screws from the lower bracket beneath the regulator and dual valve so that the bake burner assembly will float.

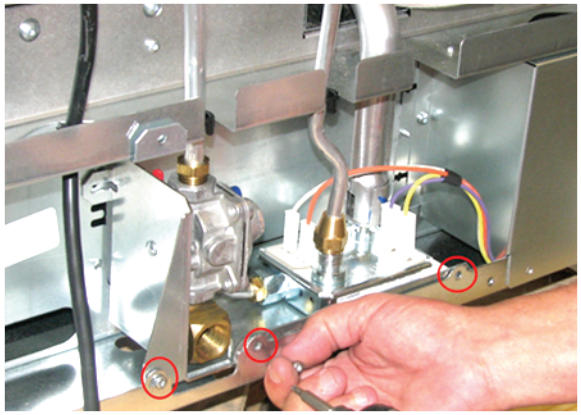


Figure 30 Remove screws from bracket beneath regulator

3. Remove one screw from the bracket with cutouts that surround the tubing, and remove the bracket.

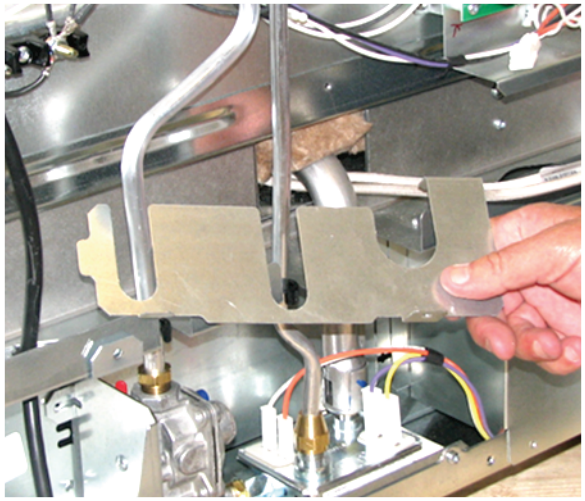


Figure 31 Remove bracket surrounding burner and tubing

4. Remove one screw securing burner cover box and set box aside.

Figure 32 Remove screw from burner cover box

5. Remove burner assembly through the cutout in the rear.
6. Attach the igniter to the new burner and install.
7. Reassemble, restore power and gas supply, and test operation.

6.7 Temperature Sensor

The PT1000 temperature sensor is in the upper left corner of the cavity, with two screws securing it. An ohmmeter can be used to check the resistance of the sensor. Normal ranges (based on cavity temperature) are shown in Table 4.

TEMP. (°F)	RESISTANCE
32 ± 1.9	1000 ± 4.0
75 ± 2.5	1091 ± 5.3
200 ± 3.8	1350 ± 7.8
250 ± 4.4	1453 ± 8.9
350 ± 5.4	1654 ± 10.8
450 ± 6.9	1852 ± 13.5
550 ± 8.2	2047 ± 15.8
650 ± 9.6	2237 ± 18.5

Table 4 Normal resistance readings for temperature sensor

6.8 Control Module (Relay Board)

NOTICE

More than 75% of the control modules returned to the factory are fully functional. Before diagnosing a bad control module, be sure to disconnect and reconnect each wire/wire harness.

The control module controls the fans, door locks, lights, etc., regulates temperatures, and monitor safety functions. The module is also responsible for communication with other modules, analyzing sensor data, regulating line voltage, and managing user interface activities.

6.8.1 Replacing the Control Module

1. Remove power to the range.
2. Slide the range out of the cutout to get access to the rear of the unit.
3. Remove the screws surrounding the perimeter of the vented rear housing cover, then grasping both sides, pull the cover downward and away from the range.

> **NOTICE**
>
> The wire diagram can be found in a plastic packet taped to the vented rear housing cover.

4. Disconnect all harnesses from the control module, labeling them as necessary.

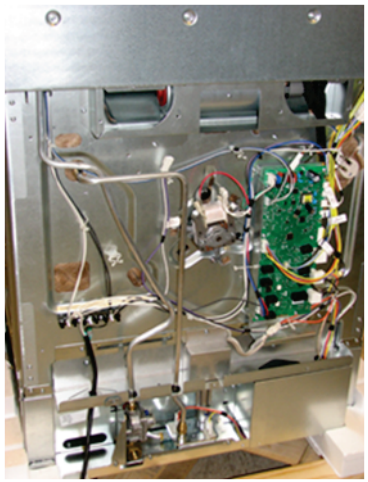


Figure 33 Control module is visible after removing vented rear housing cover

5. Remove the screws securing the control module to the mounting plate.
6. Install the new control module to the mounting plate and reattach all harnesses securely.
7. Restore power to the unit and test operation.
8. Replace the vented rear housing cover and the wire diagram, if it had been removed.
9. Slide the range back into the cutout.

Whenever possible, conduct troubleshooting tests at the control module, using the *Service Guide* as a reference.

6.9 Cooling Fan

The range uses a 2-speed 120VAC 28/41W cooling fan and a Hall Effect sensor. If the sensor does not detect fan rotation, an error will display.

To test the fan at the control module, check voltage across X105 / Pin 3 and neutral. There is also a Cooling Fan Relay Test available in Service mode. See the *Service Mode* section for details.

6.9.1 Replacing the Cooling Fan

1. Remove power to the range.
2. Slide the range out of the cutout to allow access to the rear.
3. Remove the rear vent trim.
4. Remove the rear cooktop panel.
5. Remove the rear vented housing cover.
6. Remove the air box bracket.
7. Remove the fan motor cover.

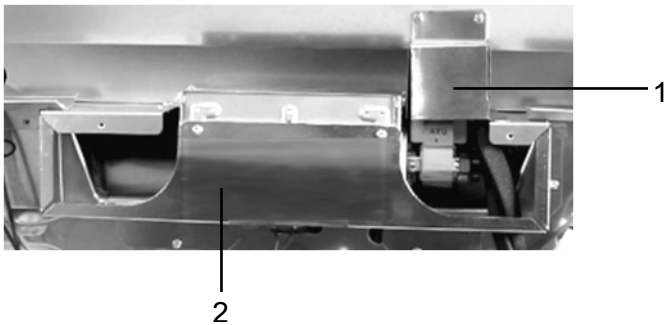


Figure 34 View of fan motor cover (1) and air box bracket (2) surrounding cooling fan

8. Disconnect wires.
7. Remove screws securing the fan mounting bracket to the fan and remove fan.

8. Secure the new fan to the fan mounting bracket, attach the wires and reassemble.
9. Restore power to the unit and test operation.
10. Reinstall housing cover(s).
11. Slide the range back into the cutout.

6.10 Hinge Receivers

To replace the hinge receivers, the range must be pulled out of the cutout to provide access to the side panel(s).

6.10.1 Replacing the Hinge Receivers

1. Remove power to the range.
2. Remove the oven door (see *Removing and Reinstalling the Door*).
3. Carefully slide the range out of the cutout to gain access to the side panels.
4. Remove the finished side wall panel.
5. Remove the inner side wall bracket.
6. Remove the side housing cover.
7. From the front of the range, remove the two screws securing the hinge receiver to the range.
8. Pull back the side insulation to reveal the hinge receiver and remove the part.

Figure 35 Removing the RH hinge receiver

9. Install the new hinge receiver.
10. Reinstall the oven door and test door operation.
11. Reinstall the side housing cover, the side wall bracket and the finished side wall panel.
12. Slide the range back into the cutout, restore power, and test operation.

7 SERVICE AND REPAIR: COOKTOP

WARNING

To avoid possible electric shock or gas explosion, be sure electrical and gas supplies to the cooktop are shut off before servicing.

If testing the appliance requires the use of electrical power and/or an open gas supply, exercise extreme caution.

7.1 Replacing Burners and Burner Bases

1. Disconnect power to the range and turn off main gas supply.
2. Remove all grates by lifting them up from the cooktop.
3. Remove burner caps.
4. Remove and retain two (2) # 8 - ¾ T20 Torx screws from each burner base, and carefully lift burner base up from the maintop.

Figure 36 Removing burner base

5. Install the new burners.
6. Reassemble, restore power and gas, and test operation.

7.2 Replacing Spark Igniters

Spark igniters are available separately or included with jet holders.

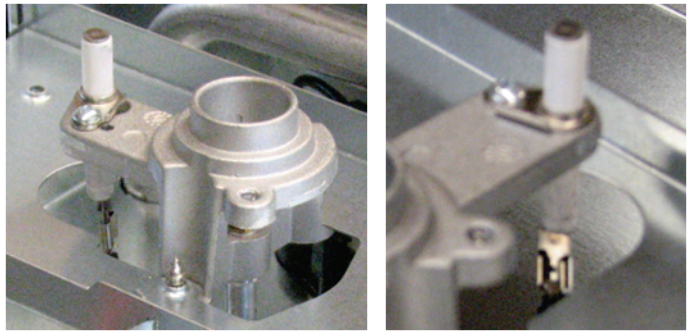


Figure 37 View of jet holder assembly and igniter (electrode)

1. Disconnect power to the range and turn off main gas supply.
2. Remove maintop.

NOTICE

The igniter is ceramic and can be brittle; handle with care.

3. Remove the screw securing the igniter to the jet holder and lift out the igniter.
4. Carefully pull the igniter wire from the spark igniter.
5. Install the new igniter.
6. Reassemble, restore power and gas, and test operation.

7.3 Replacing Spark Switch Harness

1. Disconnect power to the range and turn off main gas supply.
2. Remove burner caps and burners.
3. Remove maintop.

4. Lift off spark switch insulation.

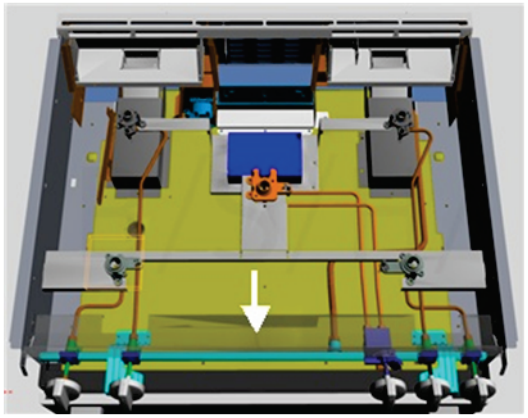


Figure 38 View of the spark switch insulation

WARNING

This insulation protects from electrical shock in case spilled liquids seep below the maintop and short spark switches to the rough-in box. If this insulation is lost, thrown out or damaged, it **must** be replaced.

4. Remove the pal nut (“push nut”) holding the switch onto the gas valve shaft and the valve stem gasket; if not replacing, save both for reuse.

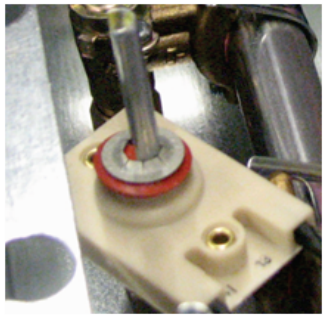


Figure 39 View of push nut and valve stem gasket

5. Slide each spark switch off the gas valve stems.
6. Repeat with remaining switches.
7. Disconnect the harness from the spark module.
8. Install the new spark switch harness.
9. Reassemble, restore power and gas, and test operation.

8 TROUBLESHOOTING

The information in this section will be helpful when troubleshooting, diagnosing, and resolving faults and other issues affecting the normal operation of the range.

8.1 Error Codes

A *Service Guide/Wire Diagram* that includes error code information is available in *QuickFinder* and is also packed with every range. Find it in a pouch taped to the rear vented panel, as shown in Figure 40.

Figure 40 Location of Service Guide on the rear vented panel

Additional error code information and suggested repair actions can be found in the following table. Note that error codes which begin with *E1* apply specifically to the oven cavity, and those which begin with *E2* apply specifically to the warming drawer.

Error Code	Description	Cause/Notes	Suggested Action(s)
E000	Wrong module code (E100/E400 internal errors reported as E000)	Control module and user interface are mismatched. No operation is possible.	Enter correct option code in Service mode.
E302	Control module too hot	Temperature sensor on the control module detects temperature higher than limit value. Control turns off heating elements and fan defaults to high speed. When cavity temperature lowers to 212°F/100°C, heating will resume and error will be cleared. (If self-clean was running, it will be disabled until a control reset is performed.)	If cooling fan is **not** operating… ■ Check connections to the fan and the control module (see Small Load Schematic). If cooling fan **is** operating… ■ Check element operation ■ Check for air obstruction or damaged upper/lower ventilation trims ■ Check for stuck relays.

Error Code	Description	Cause/Notes	Suggested Action(s)
E005 **E305**	Communication error	E005: Loss of communication between user interface and control module. E305: Loss of communication between TCM and control module or TCM and user interface.	■ Check for damaged (cut or pinched) wires or loose connectors. ■ Confirm that voltage is getting to the correct pins on the board.
E009 **E309**	ROM-check error in user interface	ROM-check performed at reset fails. All heating elements disabled. Error will be cancelled at start-up if next ROM-check succeeds.	■ E009: Replace user interface ■ E309: Replace control module
E010 **E310**	Data memory error in user interface	Cyclic check of memory content or a write to memory failed. All heating elements will be disabled. Error will be cancelled at start-up.	■ E010: Replace user interface ■ E310: Replace control module
E011	Continuous pushing of a single key (E411 internal error reported as E011)	Key pressed continually for 10 seconds, or touchpad assembly has a bad key. Heating will be stopped and will resume when key is no longer pressed.	■ Confirm touch panel is clean and free of moisture, oils or other contaminants. ■ Inspect user interface PCB. ■ Check door seal to verify vapor/moisture is not causing key activation; replace seal if necessary. Run Key Test in Service mode; if it fails, replace front panel assembly.
E303	Electronics Delta temperature too high	Temperature sensor on the control module detects temperature changes that, over time, are higher than limit value. Control turns off heating elements and fan defaults to high speed. When cavity temperature reaches 212°F/100°C, heating will resume and error will be cleared. (If self-clean was running, it will be disabled until a control reset is performed.)	■ Check connections to cooling fan and to control module (see Small Load Schematic). ■ Check element operation. ■ Check for air obstruction or damaged upper/lower ventilation trims. ■ Check for stuck relays.
E312	Defective control module temperature sensor	All oven operations suspended until control reset.	Replace control module
E314 **E414**	**Cancel** / **Off** key error	Oven operation will be stopped. Error cancelled only by a system reset.	■ Check touch pad assembly. ■ Inspect user interface PCB.

Error Code	Description	Cause/Notes	Suggested Action(s)
E032	Continuous pushing of multiple keys (E432 internal error reported as E032.)	Two or more keys continuously pressed for 10 seconds or touch pad assembly has more than one bad key. Key actions are suspended and heating is paused. Error will clear and normal operation will resume when no touch pads are depressed.	■ Confirm touch panel is clean and free of moisture, oils or other contaminants. ■ Inspect user interface PCB. ■ Check door seal to verify vapor/moisture is not causing key activation; replace seal if necessary. Run Key Test in Service mode; if it fails, replace front panel assembly.
E044	Touch control module (TCM) option code error	TCM board or connections to TCM are bad. During start-up, the control module is unable to set TCM option code. Reset is required to clear error.	■ Enter Service mode to set correct option code. ■ Check connection to control module. ■ Check connection to TCM. ■ If unable to set option code and connections are good, replace front panel assembly.
E050	Rotary encoder switch short to Vcc	A short to Vcc is detected in an encoder switch for more than 10 seconds.	
E101 **E201**	Cavity 1 / Cavity 2 temperature sensor open	Temperature sensor disconnected or has a faulty connection. Cooling fan will operate at high speed and heating will stop. After two consecutive temperature readings are made successfully, heating will resume and error will be cleared. See Communication Schematic.	■ Check all connections and wires to temperature sensor. ■ Check resistance of temperature sensor: if sensor tests OK, could be control module problem; if sensor fails, replace sensor.
E104 **E204**	Cavity 1 / Cavity 2 temperature sensor shorted	Temperature sensor shorted to ground. Cooling fan will operate at high speed and heating will stop. After two consecutive temperature readings are made successfully, heating will resume and error will be cleared. See Communication Schematic.	■ Check wires and connections for pinch or short circuit to ground. ■ Check resistance of temperature sensor: if sensor tests OK, could be control module problem; if sensor fails, replace sensor.

Error Code	Description	Cause/Notes	Suggested Action(s)
E106	Door latch does not lock	Latch operation not determined by control module. Door latch does not lock after 1 minute and further attempts will stop. Error will be cancelled and normal operation resumed if a locked door is no longer required. See Cavity 1 (upper) Small Load Schematic.	■ Check latch motor and switch connections/wires. ■ Check connections to control board. ■ Check wires between control board and latch. Check operation of door switch. ■ Check latch for binding/mechanical latch failure.
E107	Door latch does not unlock	Temperature in cavity is too high or latch operation not as expected. Door latch does not unlock after 1 minute and further attempts will stop. If the latch is detected in open state for more than 10 seconds, the error will clear and normal operation will resume. See Cavity 1 (upper) Small Load Schematic.	■ Check latch motor and switch operation. ■ Check door switch operation. ■ Check latch for binding/mechanical latch failure.
E115	Unlocked cavity temperature too high	Temperature in unlocked cavity exceeds the allowable temperature. Oven will stop heating and door will lock. When temperature reaches allowable range, door latch unlocks, error is cleared, and oven will resume heating.	■ Check for stuck relays. ■ Check element operation. ■ Check temperature sensor resistance; replace sensor if necessary.
E116	Meat probe error	“Hot” wire shorted to ground. Connection to the probe changes from connected-to-disconnected multiple times. Probe is disabled, but oven continues to operate. Error will be cleared and probe enabled after a control reset. Standard probe assembly is part of the control module; see Communication Schematic.	■ Check wires and connections; connector may be loose and shorted to cavity or other dead metal. ■ Check for dirty contact within probe receptacle.

Error Code	Description	Cause/Notes	Suggested Action(s)
E118	Cooling fan speed too low	Fan speed has been sensed as too low.	■ Check connections to the fan and control module ■ Check all wires for pinched or damaged ■ Check fan for operation and/or blockage and/or mechanical jamming of the fan. ■ Run Fan Test in Service mode

Table 5 Error codes

8.2 Service Mode

Service mode provides access to Option Code settings, error memory, relay tests, front panel tests, program version information and EEPROM version information.

8.2.1 Accessing Service Mode

1. Press and hold Enter, (1) and Bake for 5 seconds, or until Service Mode appears in the display.
2. Press Enter to navigate through the menu. Additional instructions will appear in the display.
3. Press Clear On/Off to exit Service Mode.

The table that follows reflects the Service mode menu options available.

Menu Item		Description
PROGRAM REV		Current version of CM software
EEPROM REV		Current version of EEPROM
OPTION CODE		Current option code of unit
ERROR MEMORY		Display error memory
RELAY TESTS		Enter component relay tests
	CVT1 DOOR LOCK	Toggles the cavity 1 door lock relay
	CVT2 DOOR LOCK	Toggles the cavity 2 door lock relay
	COOLING FAN	Toggles the cooling fan relay
	ILLUMINATION	Toggles the cavity illumination relay
	CVT1 CONV FAN	Toggles the cavity 1 convection fan relay
	CVT1 BAKE	Toggles the cavity 1 bake element switching relay and DLB relay
	CVT1 BROIL	Toggles the cavity 1 broil element switching relay and DLB relay
	CVT1 RING	Toggles the cavity 1 ring element switching relay and DLB relay
	CVT2 BAKE	Toggles the cavity 2 bake element switching relay and DLB relay
	CVT2 BROIL	Toggles the cavity 2 broil element switching
	WARMING ZONE	Toggles the warming zone element
	WARMING DRWR	Toggles the warming drawer element
KEY TEST		Performs test for key input

Table 6 Service mode menu options for 800 series slide-in ranges

8.2.2 Setting the Option Code

The gas range option code is 2078.

1. Follow the steps in the *Accessing Service Mode* section.
2. Advance through the menu until Option Code: #### is visible (#### = current option code).
3. Press (1) to edit; option code will blink when editable.
4. Use the numeric keypad to enter the new option code.
5. Press Enter when the correct option code is displayed.
6. Press Clear On/Off to exit Service Mode.

Always confirm that the range and all components are functioning normally after setting the option code.

8.2.3 Displaying Error Memory

1. Follow the steps in the *Accessing Service Mode* section.
2. Advance through the menu until Error Memory is visible
3. Press (1) to show the error list; if no errors are logged, nonE will be visible in the display.
   Errors are displayed in numeric order; the error code (Exxx) will appear on the left and the error count will appear on the right of the display. (Example: E206: 003 indicates that error code 0206 has been logged three times.)
4. Press (1) or (0) to cycle through the error memory list.
5. Press Enter to return to the initial Error Memory screen and Enter again to advance to the next menu option.

8.2.4 Testing Relays

Refer to the table in the *Accessing Service Mode* section for a list of relay test menu options.

1. Follow the steps in the *Accessing Service Mode* section.
2. Advance through the menu until Relay Tests appears in the display.
3. Press (1) to begin testing.
4. Press Enter to navigate through the relay options.
   The initial displayed state will reflect the current state of the relay.
5. Press (1) or (2) to change the state of the relay.
6. After navigating through all relay tests, press Enter, then Enter again to advance to the next menu option.

8.2.5 Testing Front Panel

The Front Panel Key Test will confirm that all control inputs are connected and operating. **The tests are based on the Option Code that was set before entering Service Mode**.

1. Follow the steps in the *Accessing Service Mode* section.
2. Advance through the menu until Key Test appears in the display.
3. Press (1) to begin testing..
4. When the test is successfully completed, Key Test appears in the display again. Press Enter, then Enter again to advance to the next menu option
   To exit the test, it must either be successfully completed or the power must be reset.

8.3 Wiring Diagrams and Schematics

The wire color key (Table 10) and element strip diagrams are shown below. For schematics, please refer to the *Slide-in Range Service Guide,* which can be found on *QuickFinder* or attached to the vented housing panel in the rear of the range.

Wire Color Key

BK	Black	**BN**	Brown	**BU**	Blue
GN	Green	**GR**	Gray	**OR**	Orange
RD	Red	**VT**	Violet	**WH**	White
YE	Yellow	**BN/WH**	Brown/White	**BU/WH**	Blue/White
OR/BK	Orange/Black	**VT/WH**	Violet/White	**YE/BK**	Yellow/Black

Table 7 Wire color key

9 ADDITIONAL REFERENCES

9.1 QuickFinder

For further information, please refer to the following documents on *QuickFinder*:

- Wire Diagram/Schematic (Slide-in Range Service Guide)
- Slide-in Range Installation Instructions
- Slide-in Range Use and Care Manual
- LP Gas Conversion Kit Installation Instructions

Exploded views, parts lists, and related service and parts notes are also available on *QuickFinder*. Visit http://portal.mch.bshg.com/portal.

NOTICE

Not all service parts are shown on the *QuickFinder* exploded views; review the parts lists for additional information.

9.2 Technical Support

For authorized servicers, additional assistance is available by contacting the Technical Support Team at (800) 444-9091. Technicians are available to assist you Monday – Friday, between the hours of 5am and 5pm, Pacific Time.