

Whirlpool®

MAYTAG®

TECHNICAL MANUAL

Freestanding Gas & Electric Ranges



W11746350

FOREWORD

This Technical Manual (Part No. W11746350B), provides the In-Home Service Professional with service information for Whirlpool® and Maytag® Ranges. Always use the Wiring Diagram supplied with the product tech sheet when servicing the range. For specific operating and installation information on the model being serviced, refer to the “Use and Care Guide” or “Installation Instructions” provided with the range.

GOALS AND OBJECTIVES

The goal of this Technical Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the “Whirlpool® and Maytag® Ranges.”

The objectives of this Technical Manual are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

Written and developed by the Technical Content Service team in Benton Harbor, Michigan, USA.

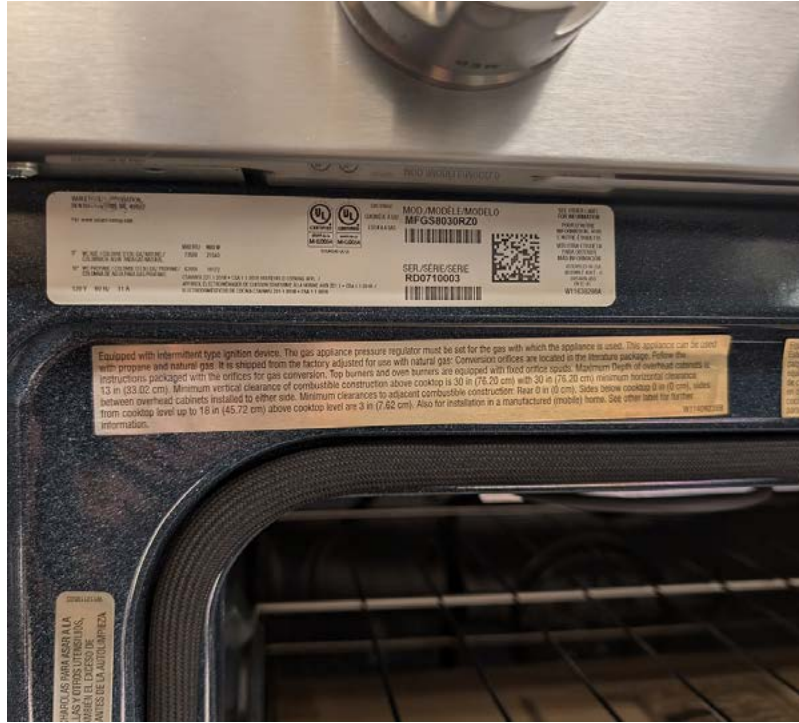
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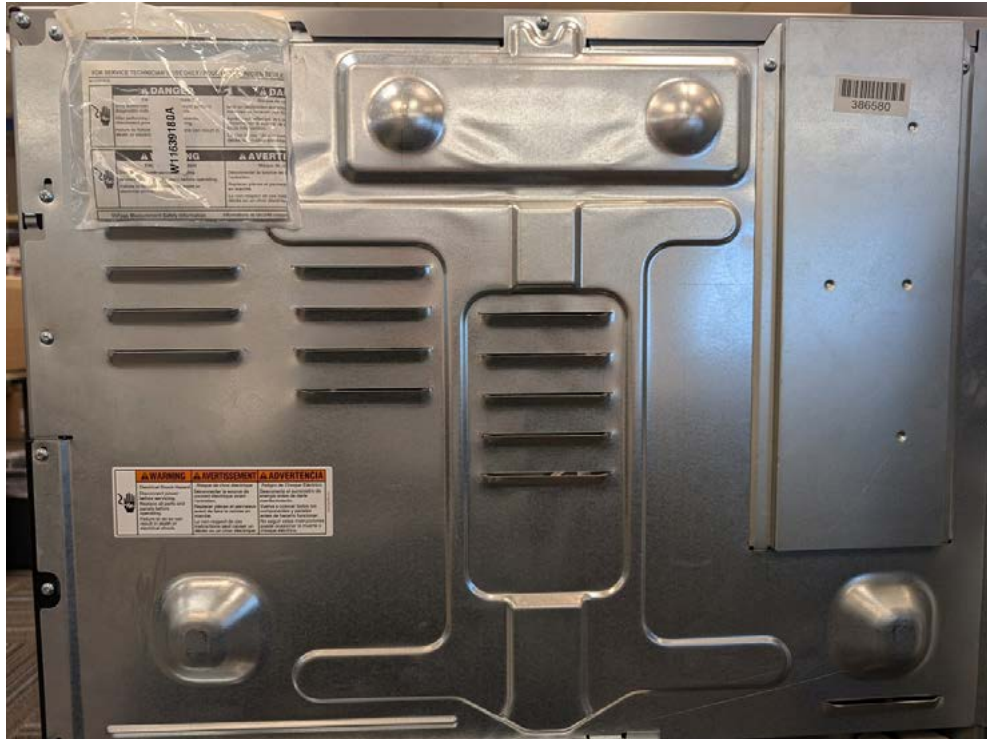
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GENERAL INFORMATION

MODEL & SERIAL LABEL



TECH SHEET LOCATION



COMPONENT ACCESS

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COOKTOP & CONSOLE REMOVAL (GAS)

⚠ WARNING



Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

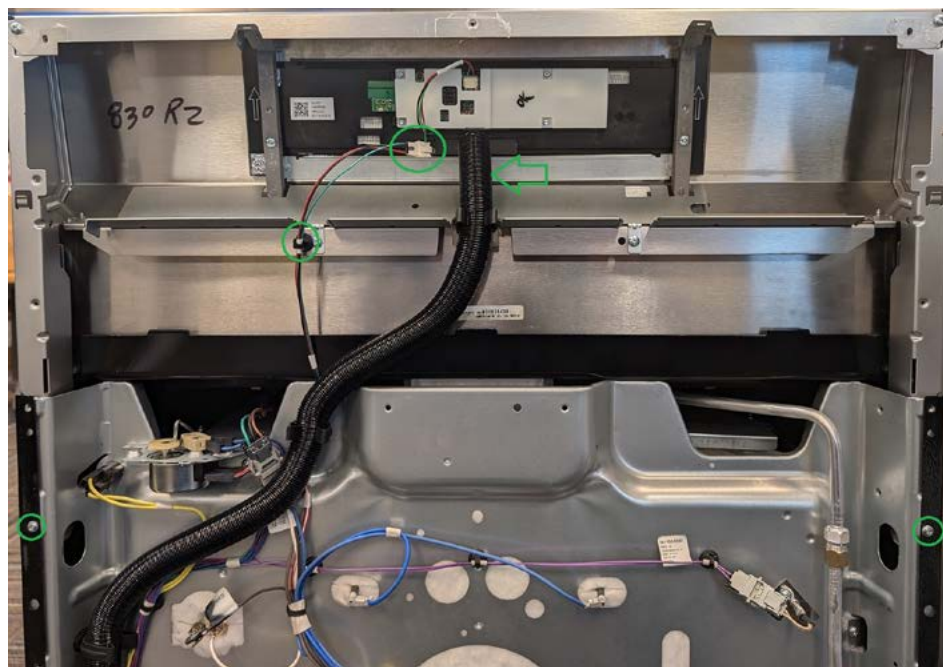
1. Remove the screws holding on the rear lower cover.



2. Remove the screws holding the rear upper cover.



3. Unclip the wire harness going to the console, also remove the harness clip.
4. Remove hose going to console from clip.
5. Remove 2 screws holding the console on.



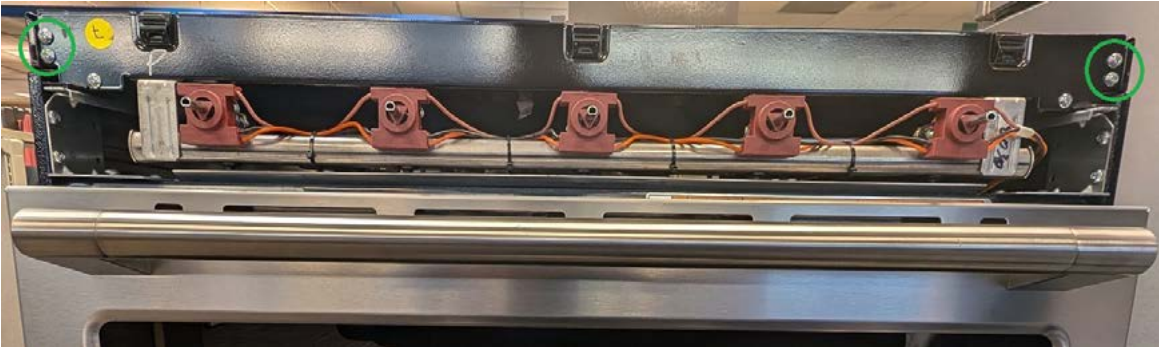
6. Lift up on the console to remove.
7. Remove grates, burner caps, flame spreaders and knobs.

COMPONENT ACCESS

8. Remove 2 screws on the bottom side of the manifold.
9. Tilt the manifold toward you from the bottom and lift up to remove.



10. Remove the left and right side rails. Each is held on by 4 screws, 2 in front and 2 in the rear.



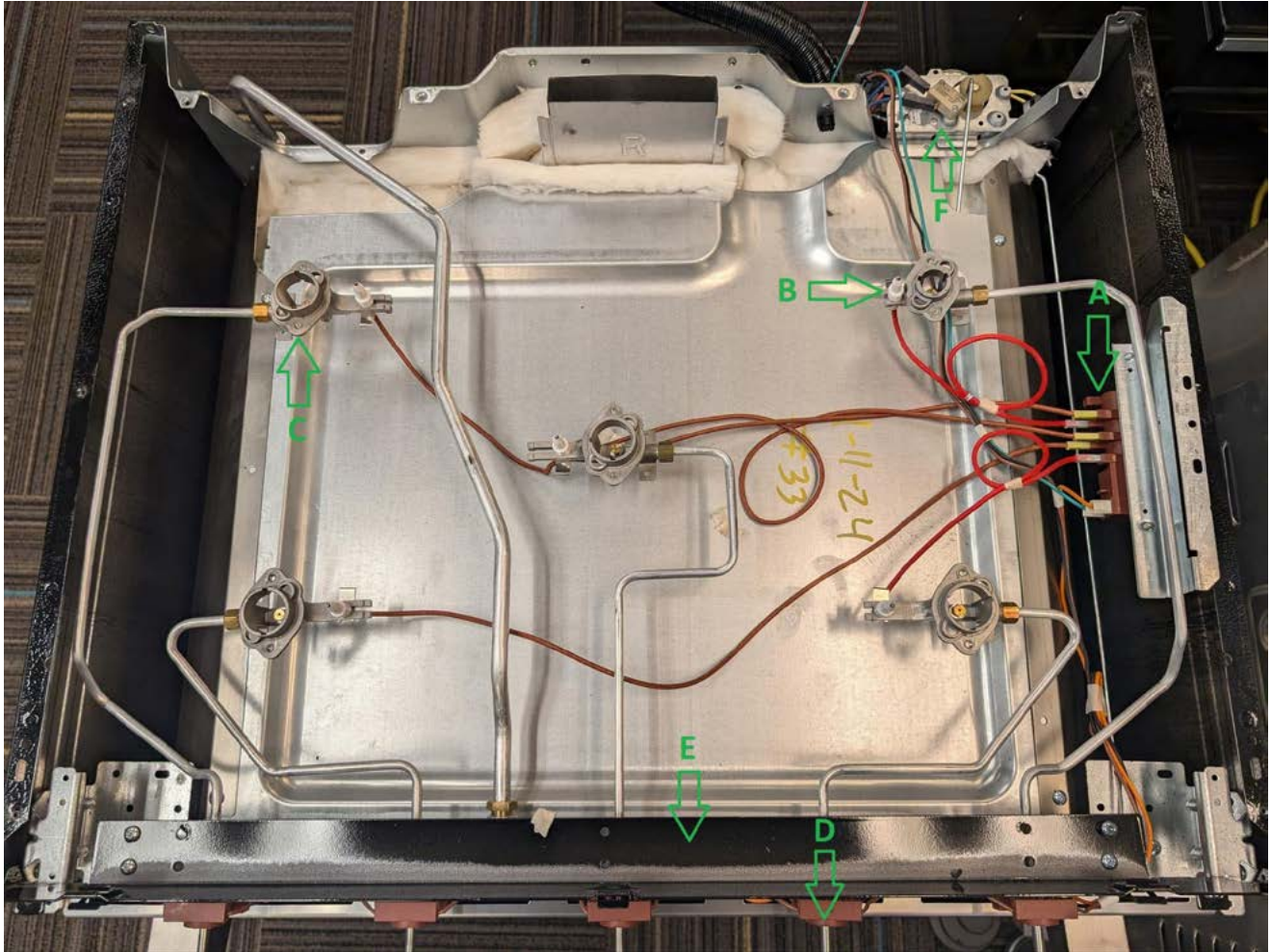
11. Remove the remaining screws on the side of the cooktop as well as 2 screws per burner.




COMPONENT ACCESS

You now have access to:

- A. Spark module
- B. Electrodes
- C. Orifice holder assemblies
- D. Gas valves
- E. Manifold assembly
- F. Door Lock

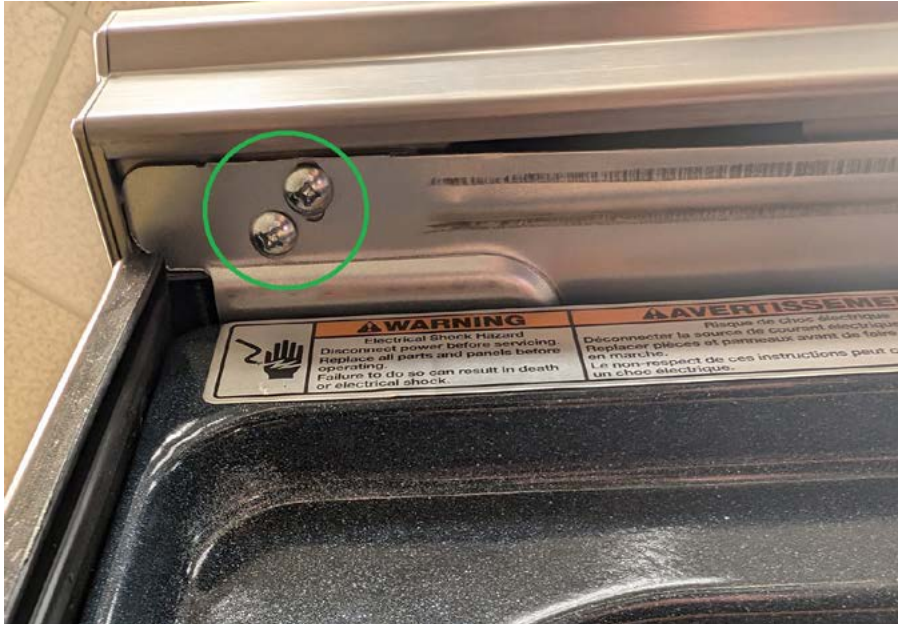


COOKTOP & ELEMENT REMOVAL (ELECTRIC MODELS)

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

COMPONENT ACCESS

1. Open the oven door and remove the 4 screws on the bottom of the bullnose. There are 2 screws on each side.

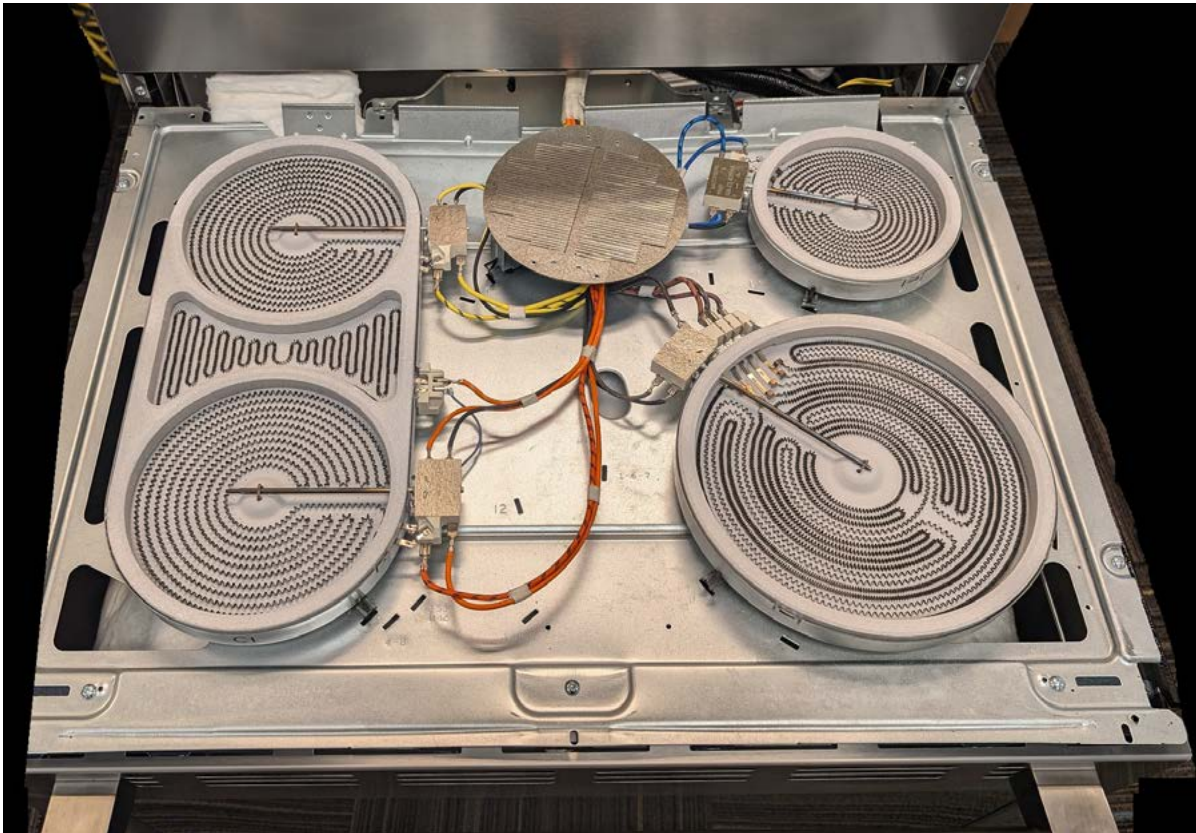


2. Lift straight up on the bullnose to remove it.



3. Pull the cooktop towards you, it should slide forward roughly an inch. Lift straight up on the cooktop to remove. You now have access to the heating elements.






4. The heating elements are held in by small metal clips. Use a small flathead screwdriver to pop them out and replace the elements.



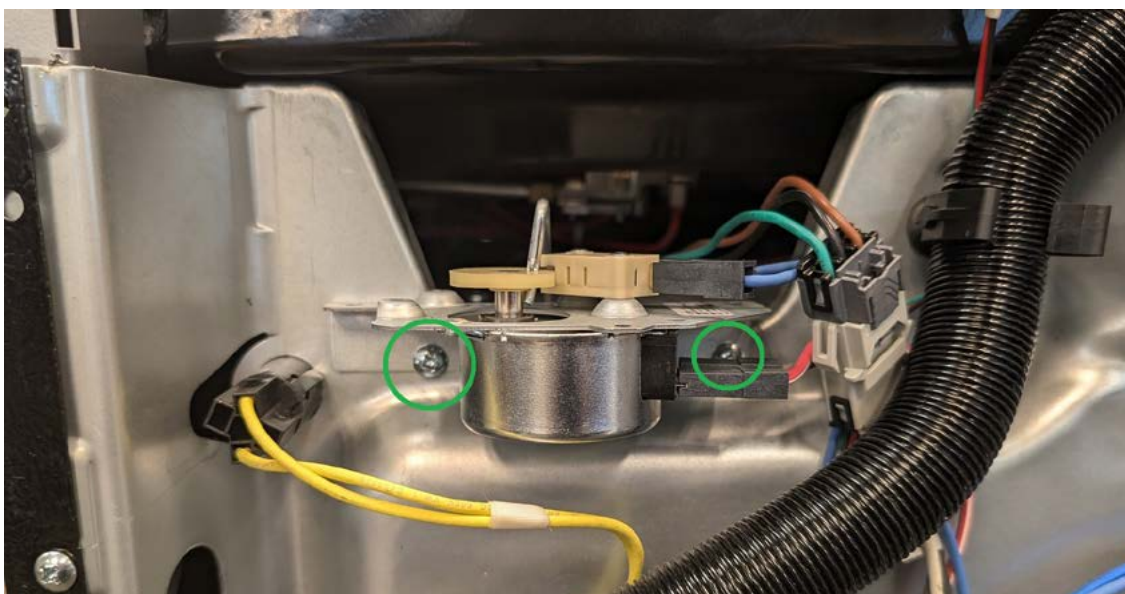
Note - When replacing the cooktop make sure the gasket on the rear of the console is in place.




REAR DOOR LATCH MOTOR

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

1. Complete steps [1-2 from “Cooktop & Console Removal \(Gas\)”](#) before performing the following steps.
2. Remove the 2 screws holding the door latch motor on. Tilt it up slightly and remove the rod from the latch motor.
3. Disconnect the plugs and remove the door latch motor.



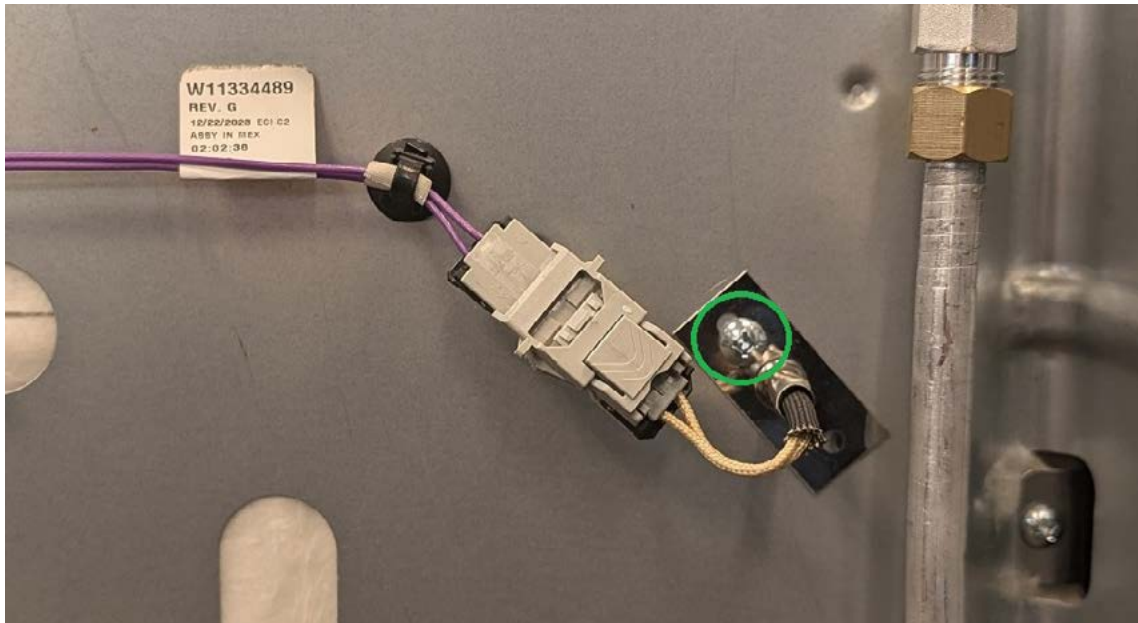
OVEN SENSOR

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

1. Complete steps [1-2 from “Cooktop & Console Removal \(Gas\)”](#) before performing the following steps.


COMPONENT ACCESS

2. Remove screw and unclip harness. The sensor will pull straight out.



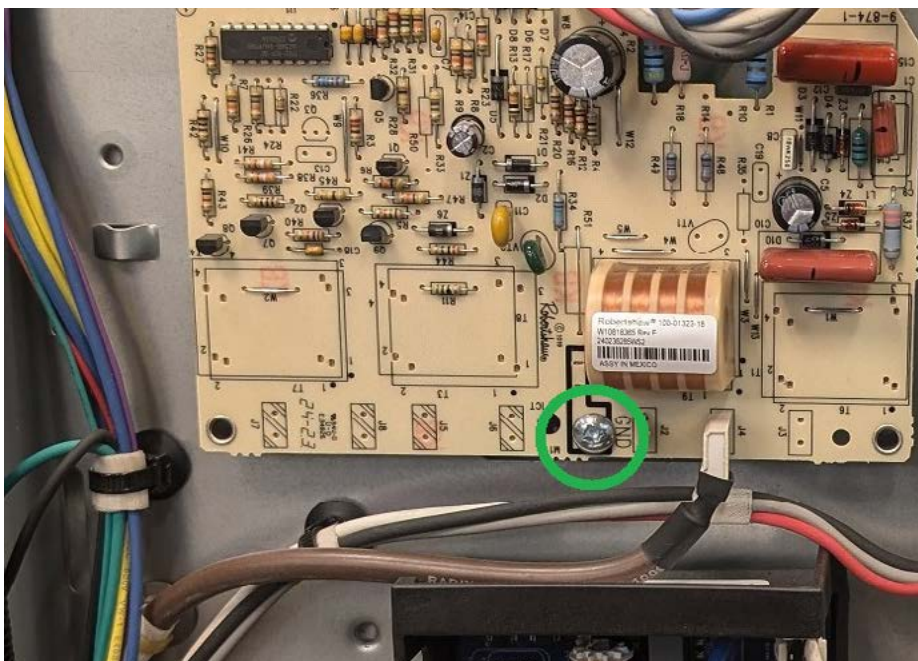
DSI SPARK MODULE (GAS MODELS)

⚠ WARNING




Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

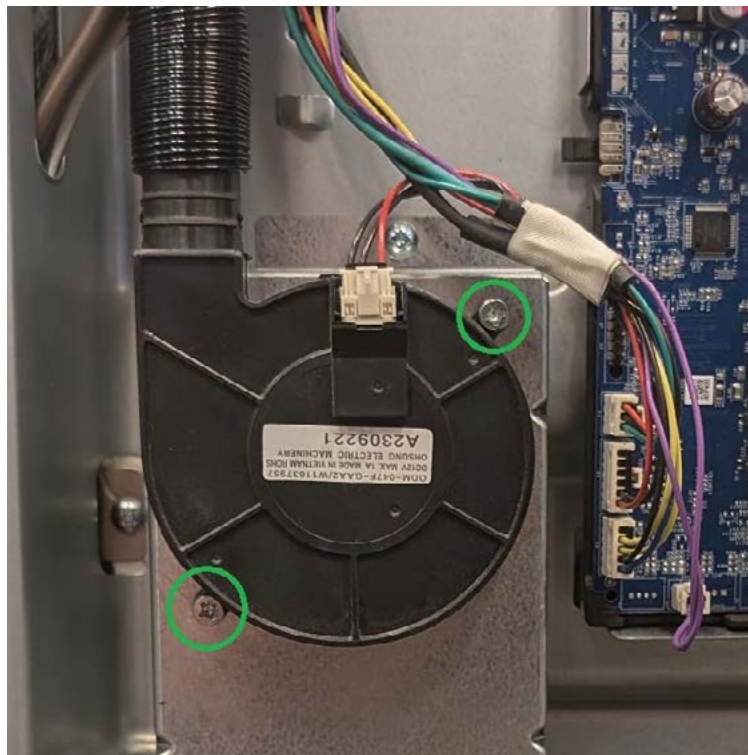
1. Complete steps [1-2](#) from [“Cooktop & Console Removal \(Gas\)”](#) before performing the following steps.
2. Remove the screw and unclip 2 wire harnesses. You can now lift the board up to remove.




VENTILATION FAN

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

1. Complete steps [1-2](#) from “[Cooktop & Console Removal \(Gas\)](#)” before performing the following steps.
2. Remove 2 screws holding the fan in place. Remove the hose and the wire harness and you can remove the fan assembly.



ELECTRONIC CONTROL

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.


COMPONENT ACCESS

1. Complete steps [1-2 from “Cooktop & Console Removal \(Gas\)”](#) before performing the following steps.
2. The control is held in by 1 screw on the right hand side. Remove this screw and slide straight up on the board to remove.

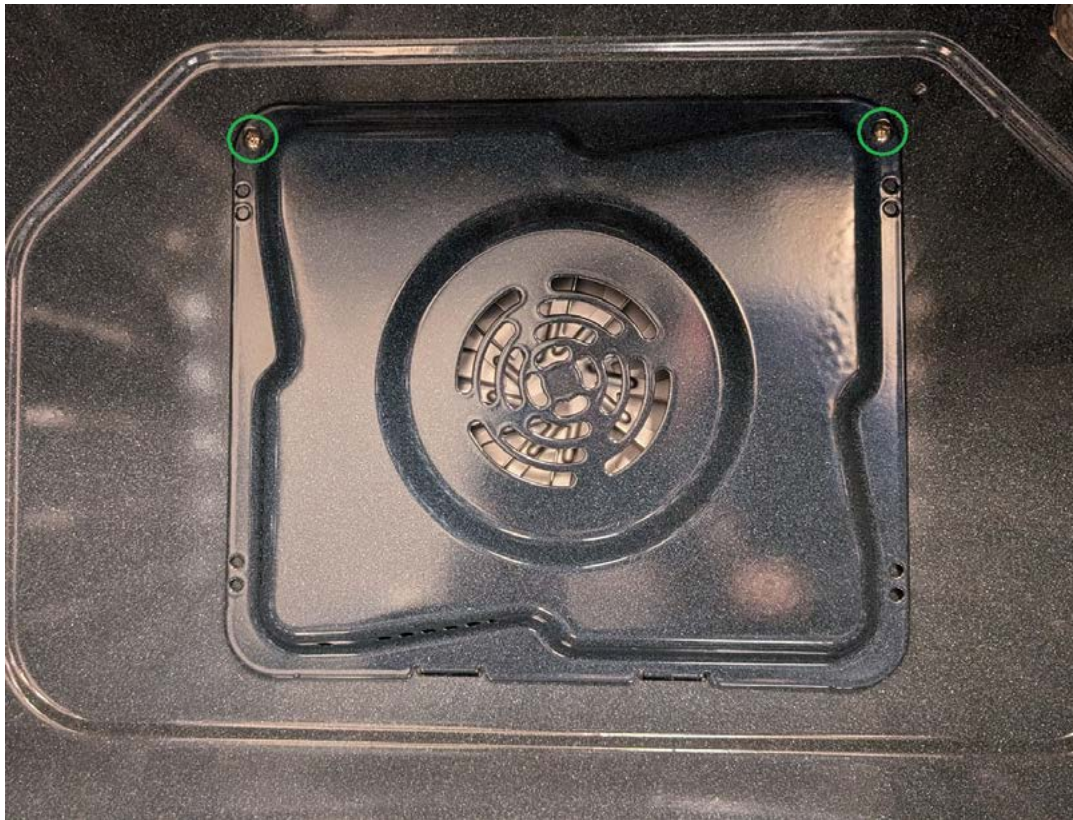


3. Remove each wire harness from the board. The number of wire harnesses attached to the board will vary by model number.

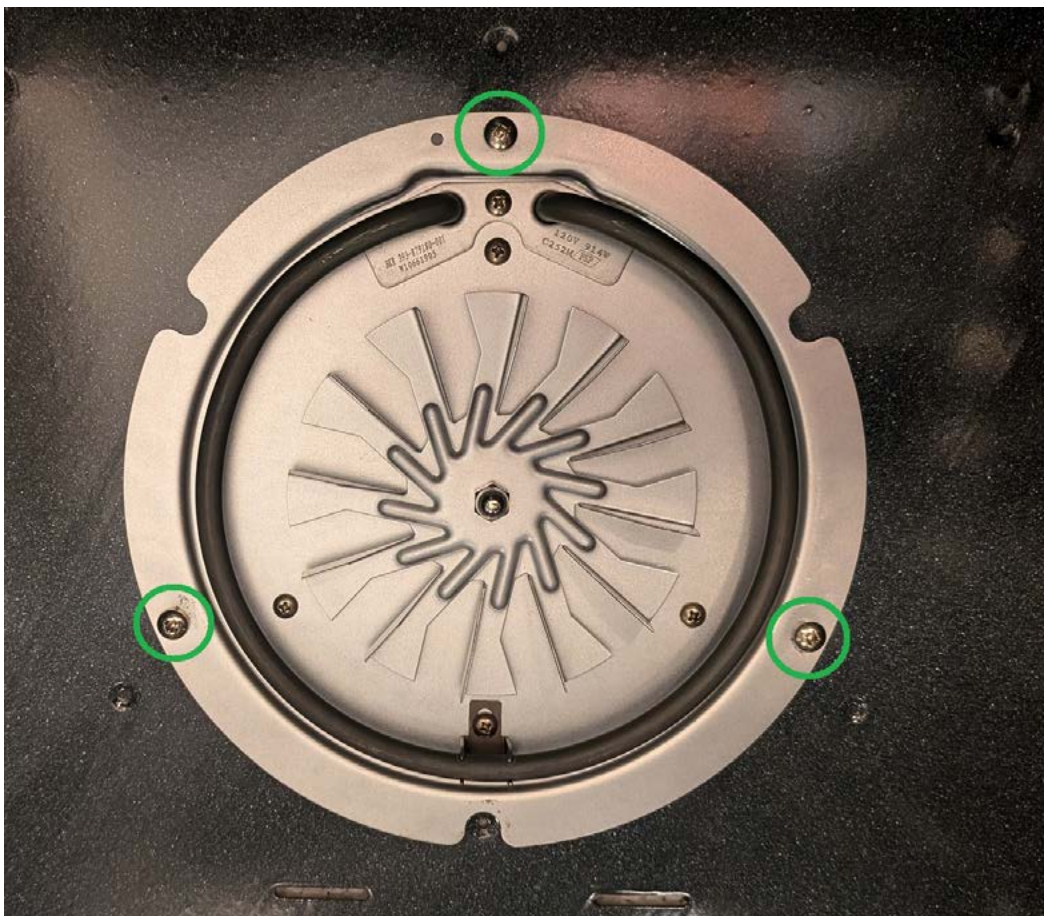
CONVECTION FAN & ELEMENT ASSEMBLY

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

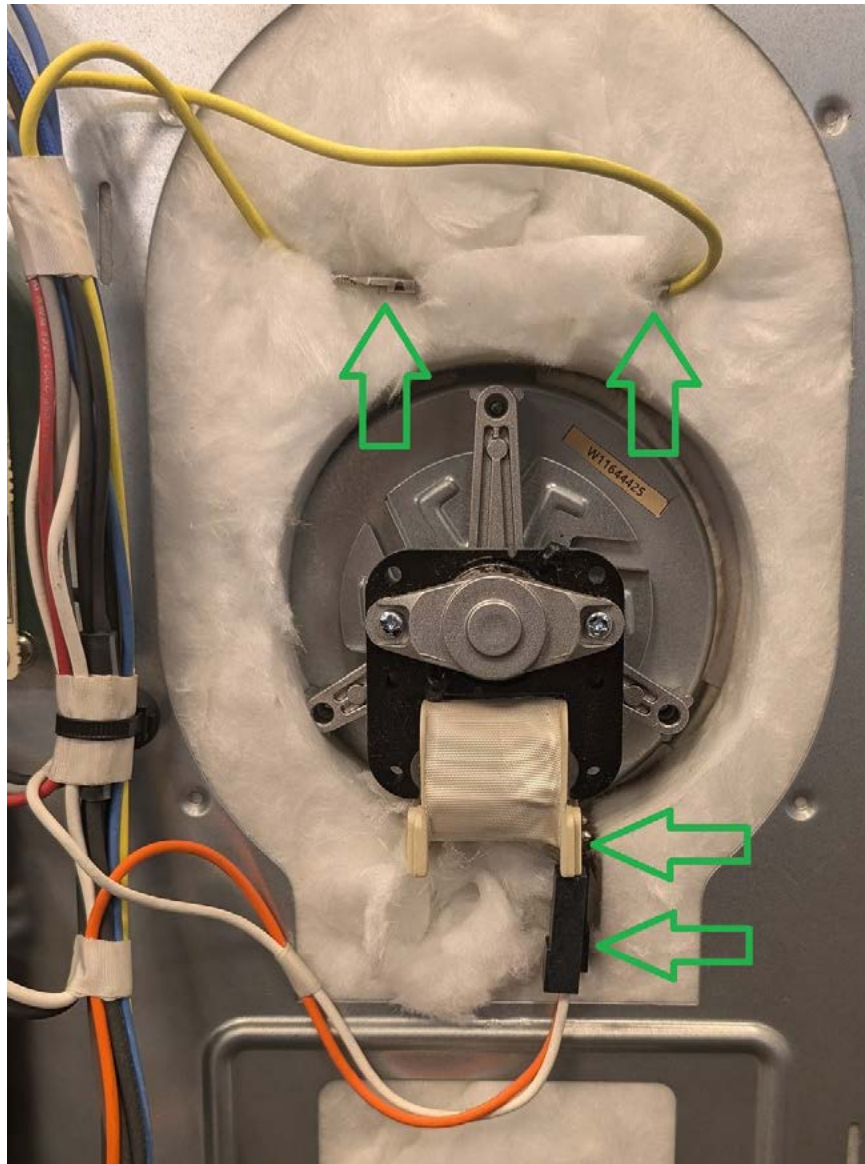
1. Remove all of the racks from the inside of the oven.
2. Remove the 2 screws on the top of the convection fan cover.




3. Remove the 3 screws holding on the convection fan and motor assembly.



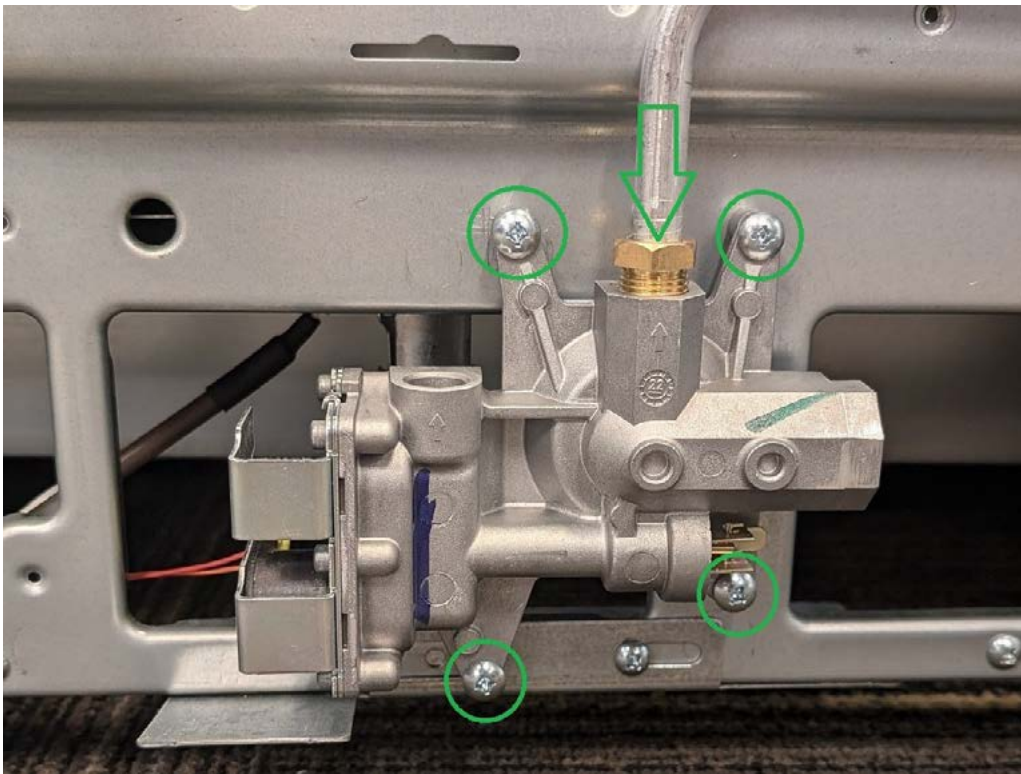
4. The convection assembly is designed to be removed through the unit's interior. Disconnect 2 wire clips from the fan and 2 from the element. You can now remove the assembly. Below is a picture from the rear of the unit with the back cover panels off so you can see the location of the wire clips.




GAS REGULATOR (GAS MODELS)

⚠ WARNING

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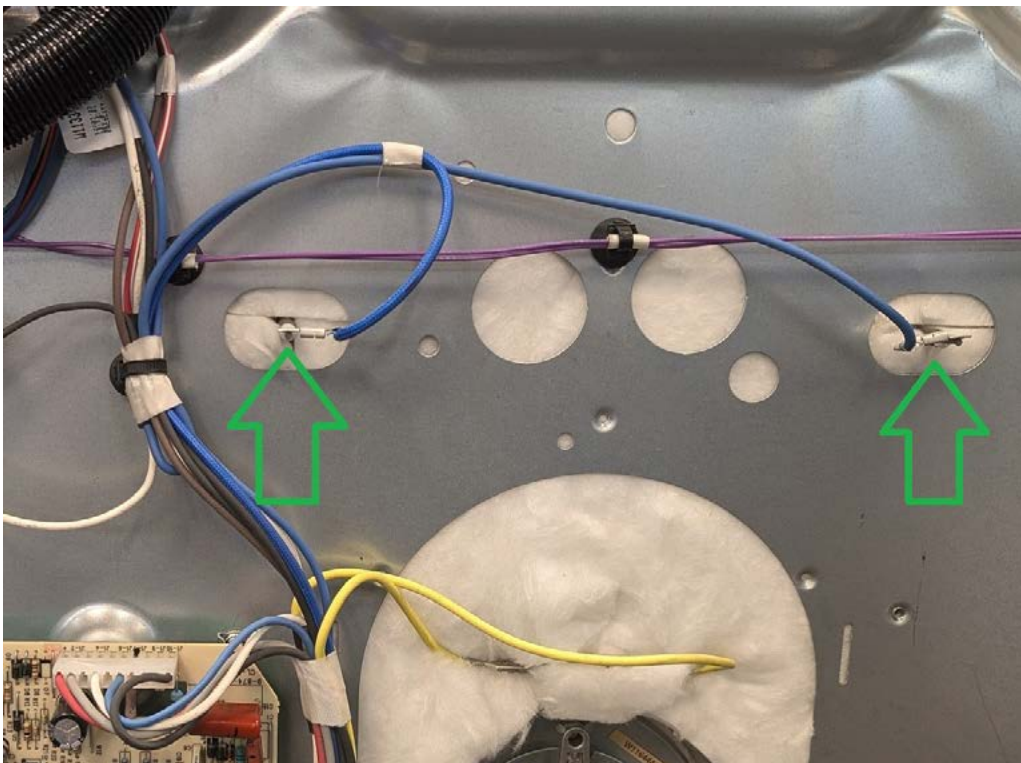
1. Complete step [1](#) from [“Cooktop & Console Removal \(Gas\)”](#) before performing the following steps.
2. Loosen the fitting holding the gas line to the valve using an 11/16” wrench.
3. Remove the 4 screws holding the valve to the frame. You can now remove the regulator.



BROIL ELEMENT

⚠ WARNING

<p>Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.</p>

1. Complete steps [1-2](#) from “[Cooktop & Console Removal \(Gas\)](#)” before performing the following steps.
2. Disconnect the 2 wire clips on the rear of the unit.




COMPONENT ACCESS

3. Remove the 4 screws on the interior of the oven holding the broil element in place. You can now pull the broil element straight out.



BAKE BURNER & ELECTRODE (GAS MODELS)

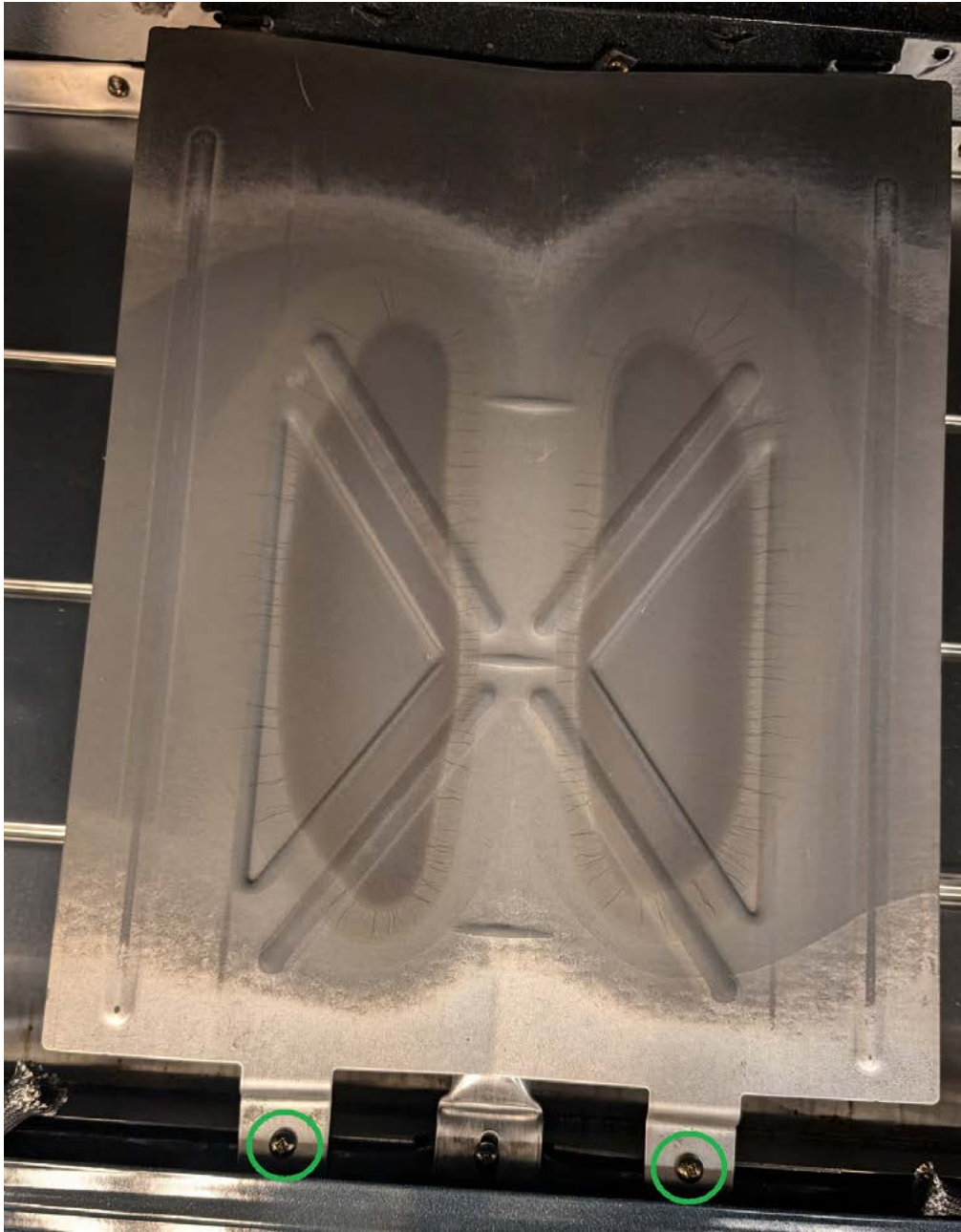
⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

1. Remove the 2 screws holding the oven bottom panel in. Lift the panel to remove it.

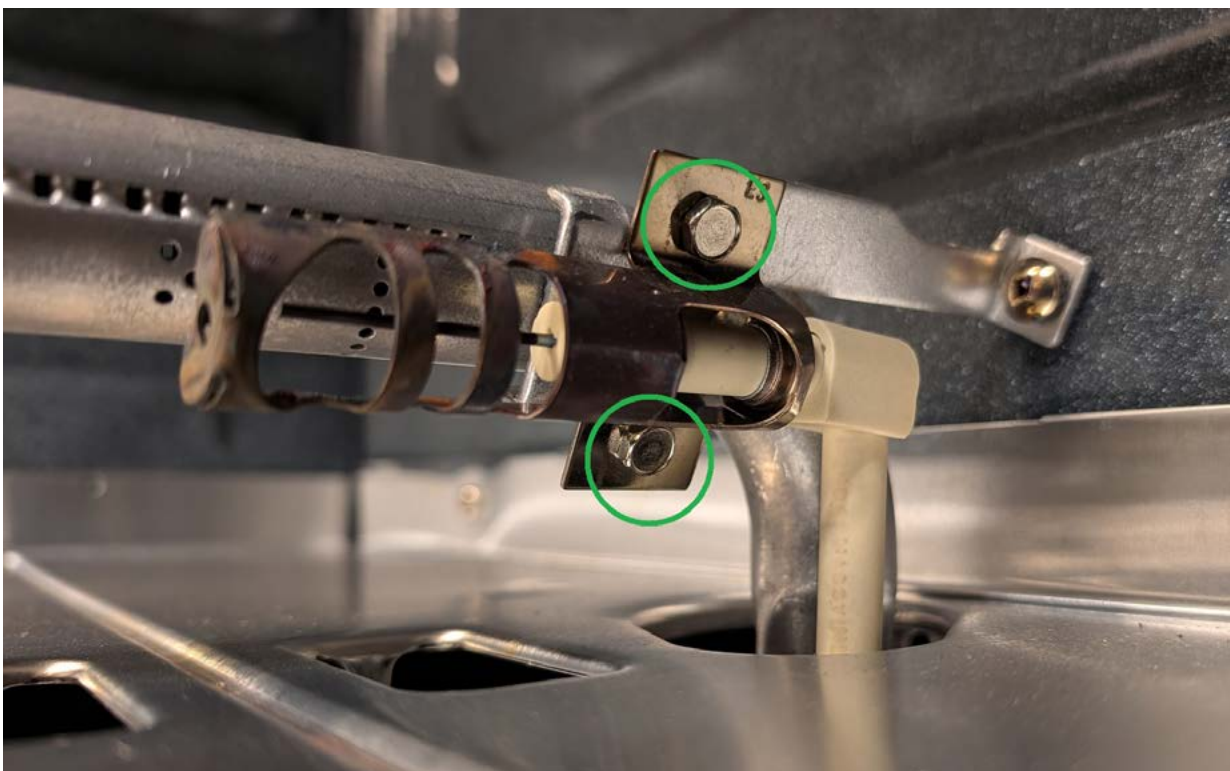


COMPONENT ACCESS

2. Remove the 2 screws holding in the flame spreader. Lift to remove.




3. 2 bolts hold on the electrode. Remove them to replace the electrode.



4. 2 screws hold on the baker burner. Remove them and disconnect the burner from the gas regulator to remove.



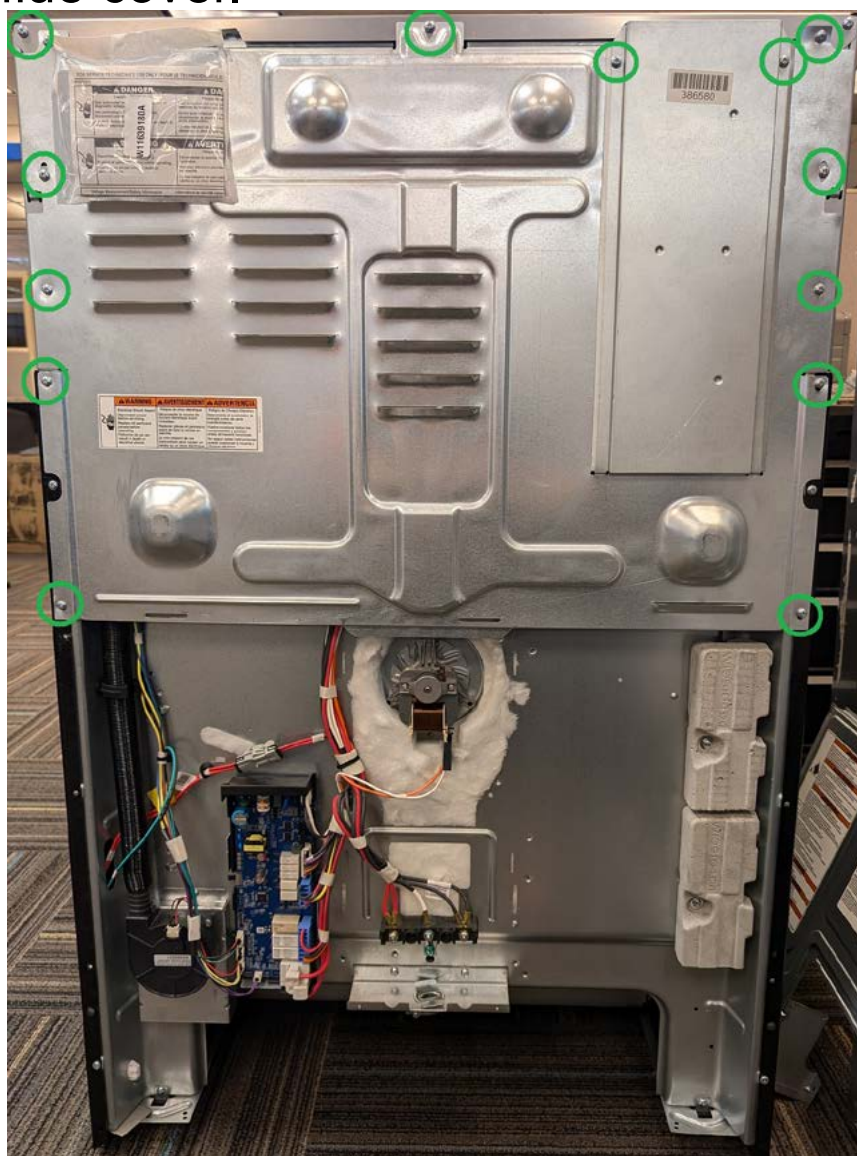
HIDDEN BAKE ELEMENT (ELECTRIC MODELS)

⚠ WARNING

Electrical Shock Hazard Disconnect power before servicing. Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

1. Remove the screws holding on the rear lower cover and the terminal block cover.



2. Remove the screws holding on the upper rear cover and the rear flue cover.



COMPONENT ACCESS

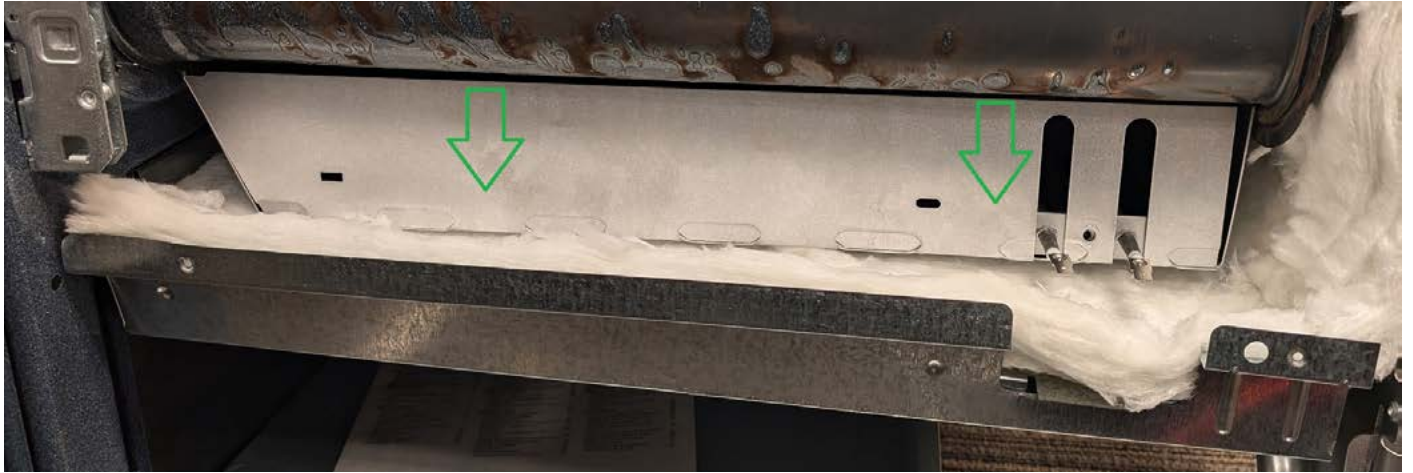
3. Remove the 3 screws holding on the right side panel. 2 are on the top and 1 is on the rear.



4. Swing the side panel open while leaving it still attached in the front.



5. Remove the diagonal cross brace. Carefully remove the insulation from the bottom of the unit and fold it up toward the top out of the way. Disconnect the 2 wire clips going to the bake element.



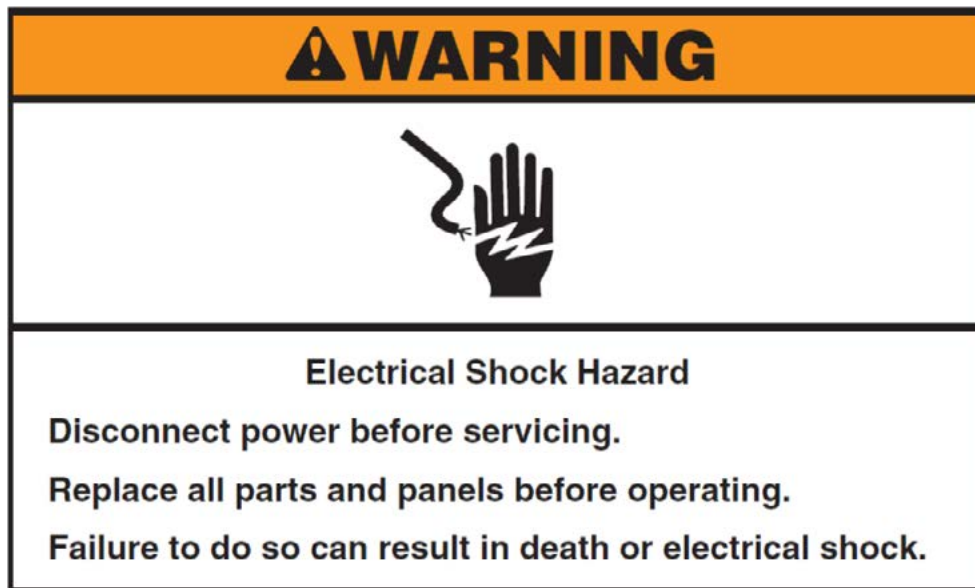
6. Using pliers, carefully bend the metal side cover down. Be careful not to damage it as it has to be bent back into place after replacing the heating element.



7. You can now slide the heating element straight out towards you.



INFINITE SWITCHES & CONSOLE (ELECTRIC MODELS)

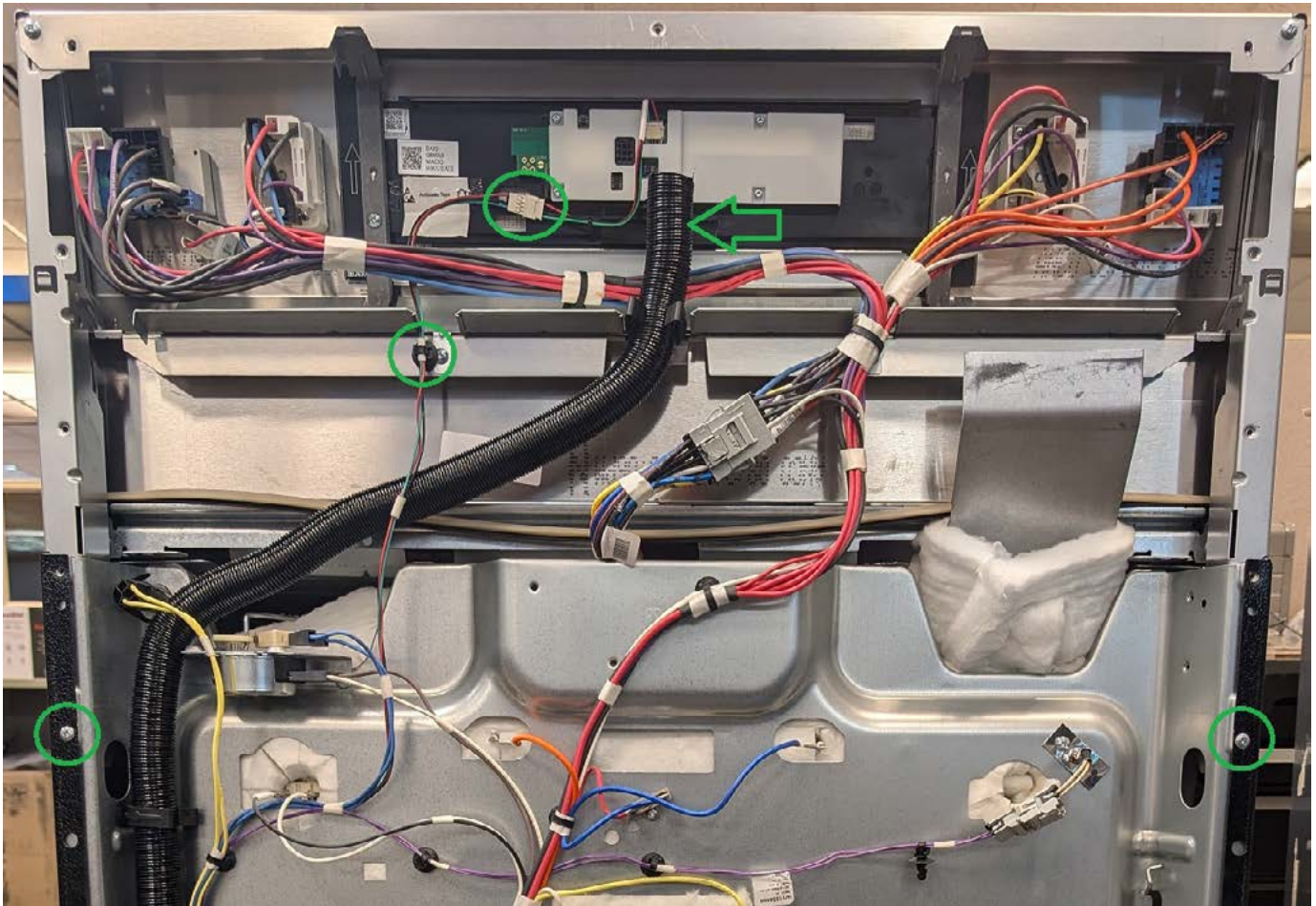


1. Complete steps [1-2 from “Hidden Bake Element \(Electric\)”](#) before performing the following steps.
2. You now have access to the infinite switches on the rear side of the console. To remove in infinite switch, first remove the knob by pulling directly towards you. Remove the 2 screws holding each switch on, and remove through the rear. Note - If you are removing the console, you must also remove all infinite switches and the wire clips for indicator lights. To remove the clip for an indicator light, carefully slide the clip up.



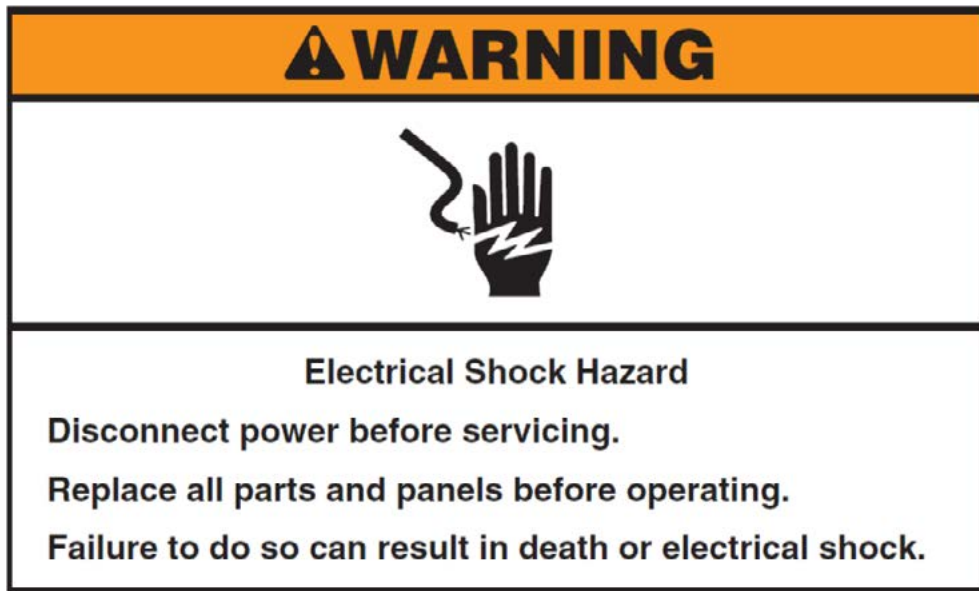
3. To remove the console, remove the 2 screws on the rear holding the console in place.
4. Unclip the wire harness going to the console, also remove the harness clip.

5. Remove hose going to console from clip.



6. You can now lift straight up on the console to remove.

ACTIVATING THE SERVICE DIAGNOSTIC MODES



Before proceeding with any corrective action, perform the following steps to enter the Diagnostics mode:

Option A:

1. Enter Diagnostics mode by pressing Settings > Diagnostics home > Service Diagnostics Code.
2. Enter code 111 111 111 (Digit 1 nine times) press OK.
3. The warning will be displayed. Press CONFIRM.
4. Navigate through “Service Diagnostics home”.
5. To Activate Load/Component Press Component Activation > Bake (For example) > Confirm to Activate > Cancel to Exit out.

Option B:

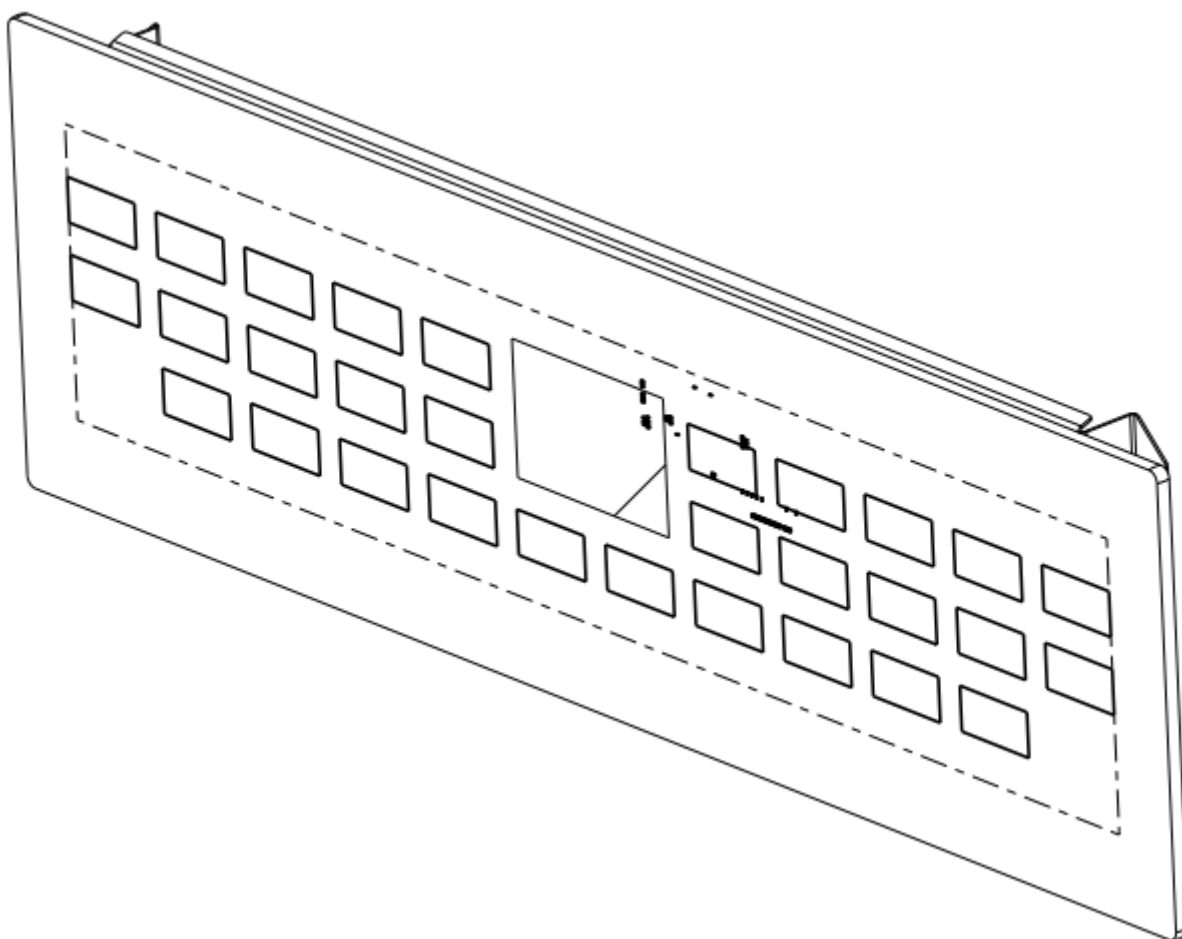
1. Enter Diagnostics mode by pressing Settings > Diagnostics home > Service Diagnostics Code.
2. Enter any 3 digits and repeat sequence (Ex: 123123123, 567567567, 666666666, etc. Press CONFIRM).
3. The warning will be displayed. Press OK.
4. Navigate through “Service Diagnostics home”.
5. To Activate Load/Component Press Component Activation > Bake (For example) > CONFIRM to Activate > Cancel to Exit out

COMPONENT TESTING

NOTE: Do not continue with the diagnosis of the appliance if a fuse is blown, a circuit breaker is tripped, or if there is less than a 120/240 +10%/-15% V power supply at the wall outlet.

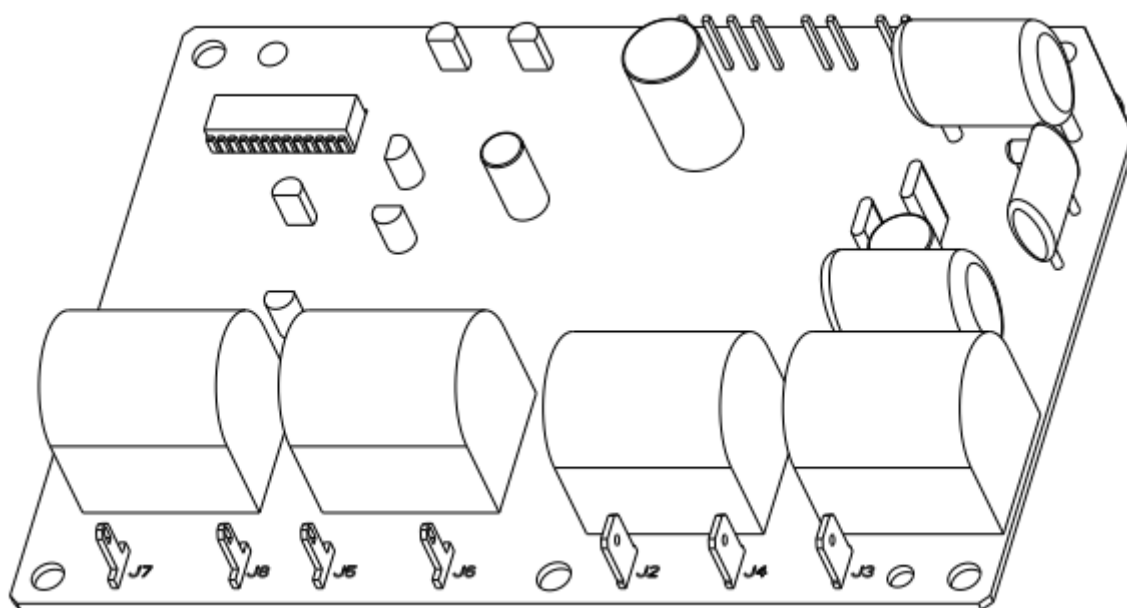
- The most common cause for mis-diagnosed control failure is poor connections. Therefore, disconnecting, inspecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms-per-volt DC, or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Voltage checks must be made with all connectors attached to the boards.
- Resistance checks must be made with power cord unplugged or power disconnected, and with wiring harness or connectors disconnected from the control. The testing procedures in this section may require the use of needle probes to measure voltage. Failure to use needle probes will damage the connectors.

USER INTERFACE ASSEMBLY



- ACU pin outs P3-1 to P3-2
- 12VDC

DIRECT SPARK IGNITION BOARD



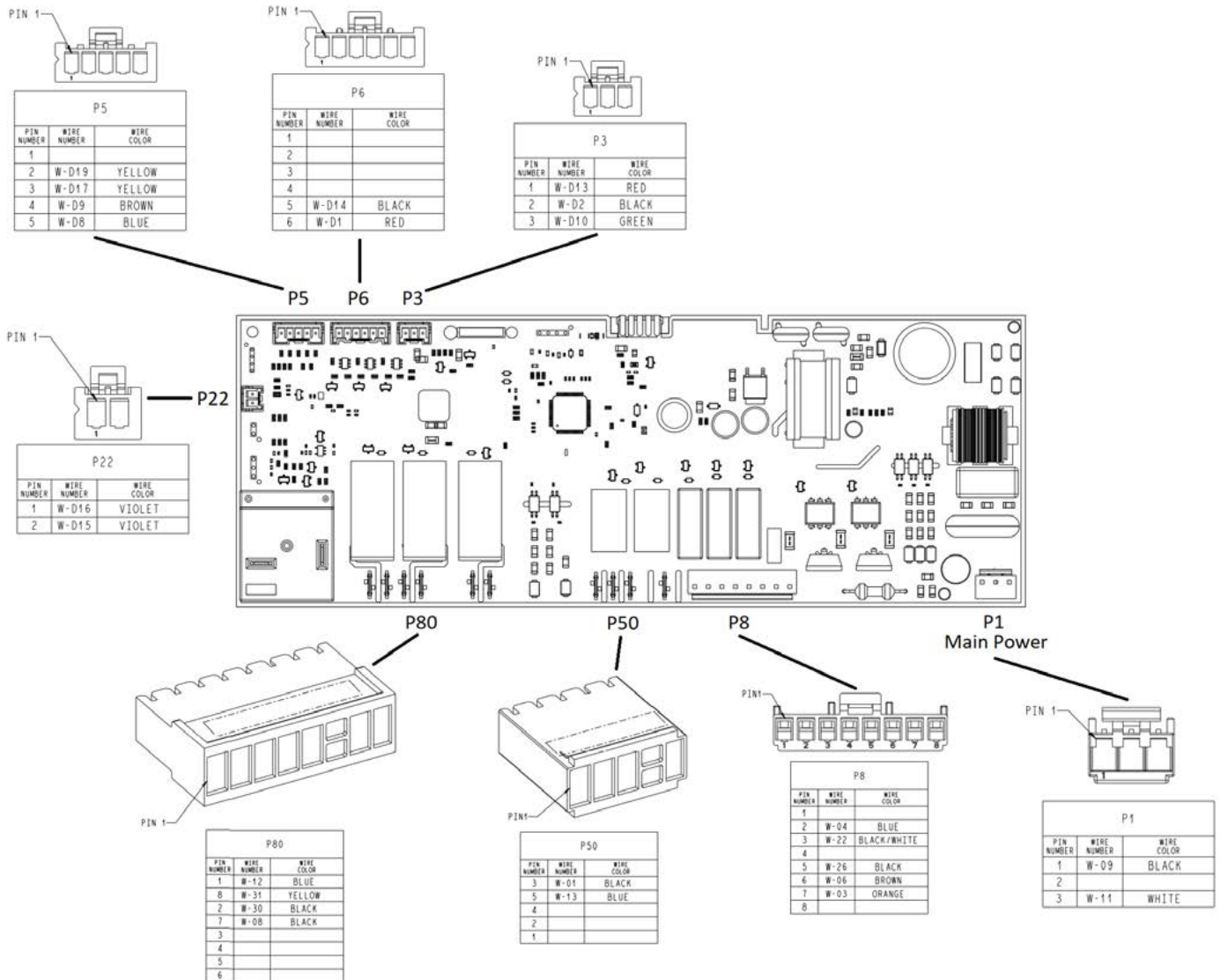
For an in depth look at the DSI board and how it works, watch [this video](#).

- Input Voltage - 102-132 VAC - L1-N
- Recommended Spark Gap - .125" or 3.18mm
- Flame Sense Type - Flame Rectification
- Ignition Attempts/Recycles - 3

COMPONENT ACCESS

- Lock Out Time - 152 seconds maximum
- Interpurge Time - 40 seconds minimum
- Flame Failure Response Time - 20 seconds maximum
- Flame Establishing Period - .5 seconds
- Recycle Time - 40 seconds

ACU - ELECTRONIC CONTROL

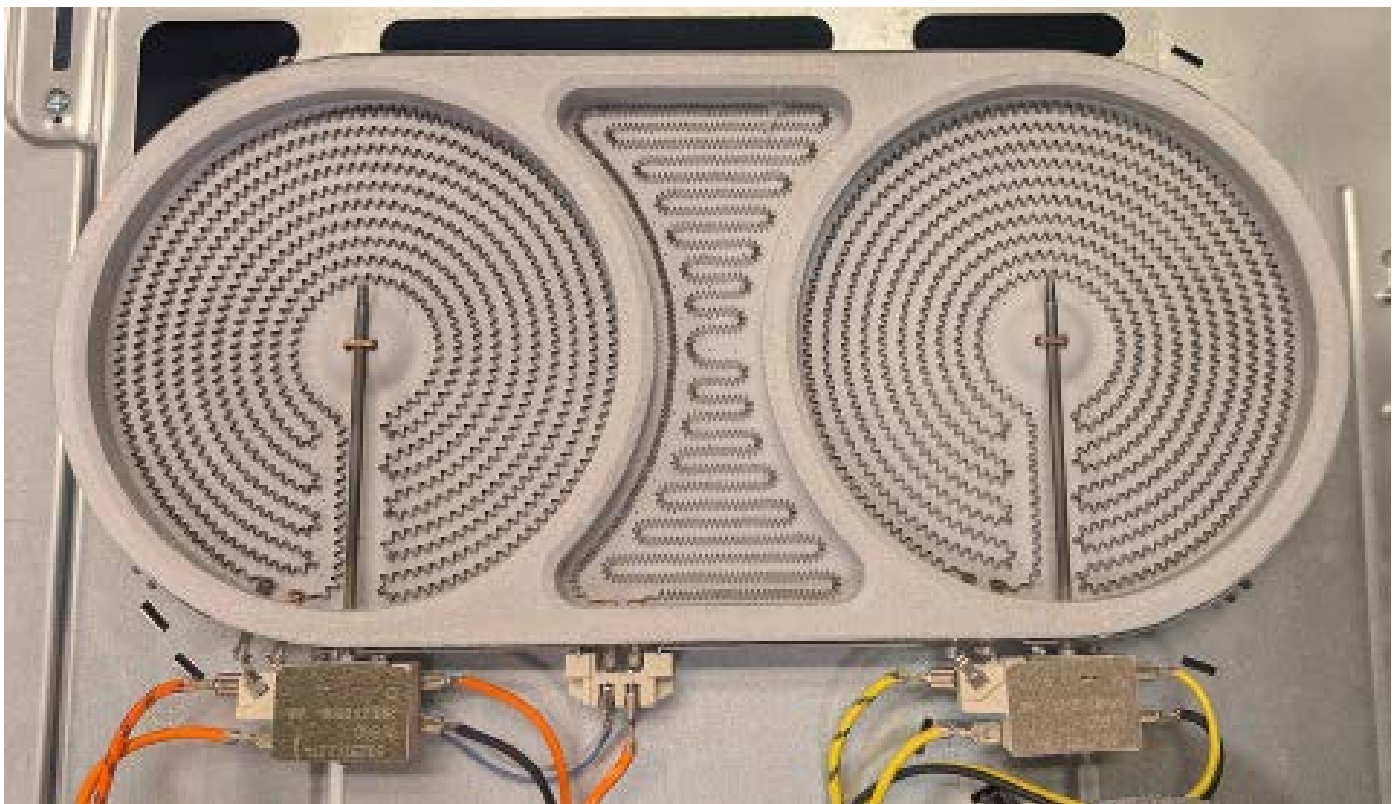


REAR DOOR LATCH



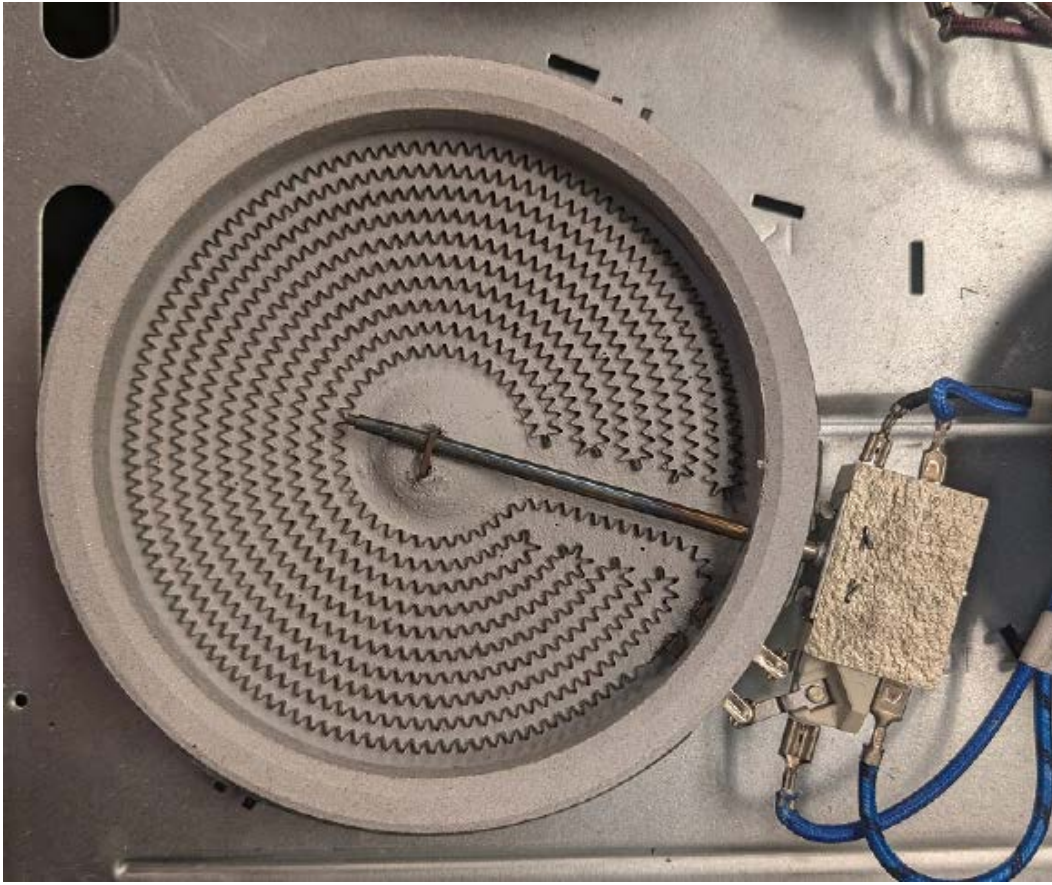
- Door latch motor locks door at start of self clean cycle
- Disconnect leads before measuring resistance
- Measure resistance on ACU pin outs P8-5 to P8-6
- Resistance cold 500-3000 ohms

BRIDGE ELEMENT



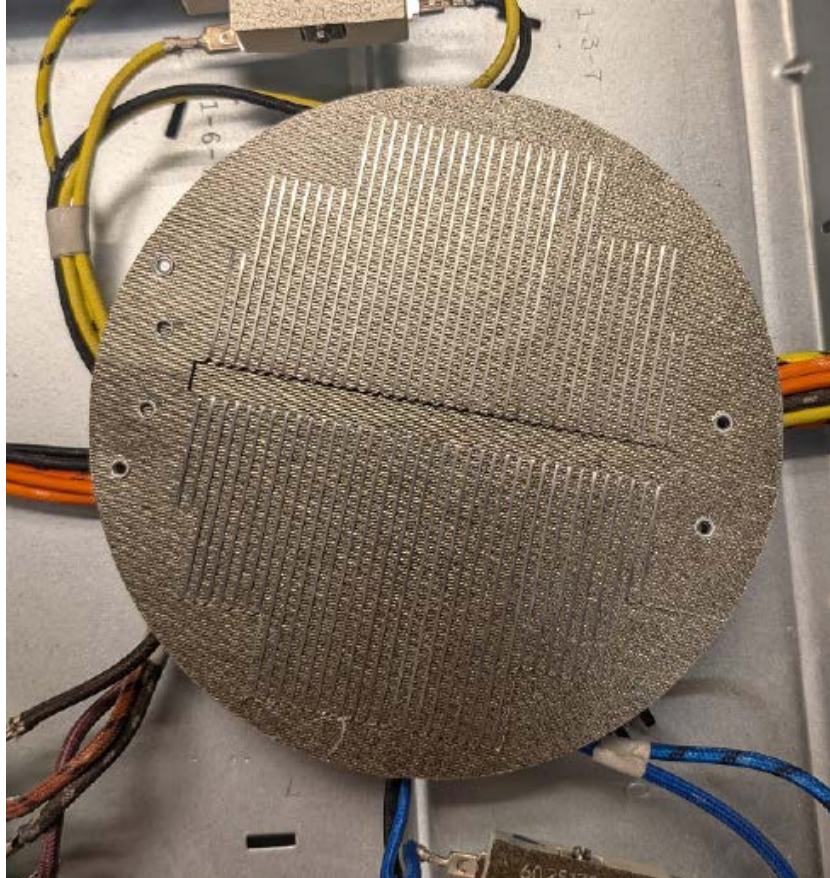
- Disconnect leads before measuring resistance
- Outside elements resistance cold 68.5 ohms +/- 5%
- Inside element resistance cold 30.5 ohms +/- 5%

SINGLE ELEMENT



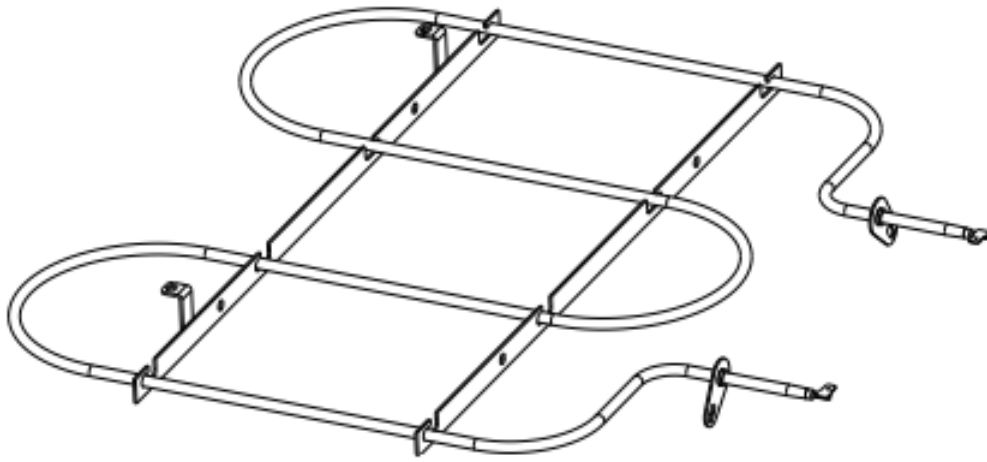
- Disconnect leads before measuring resistance
- Resistance cold 45.7 ohms +/- 5%

WARMING ZONE ELEMENT



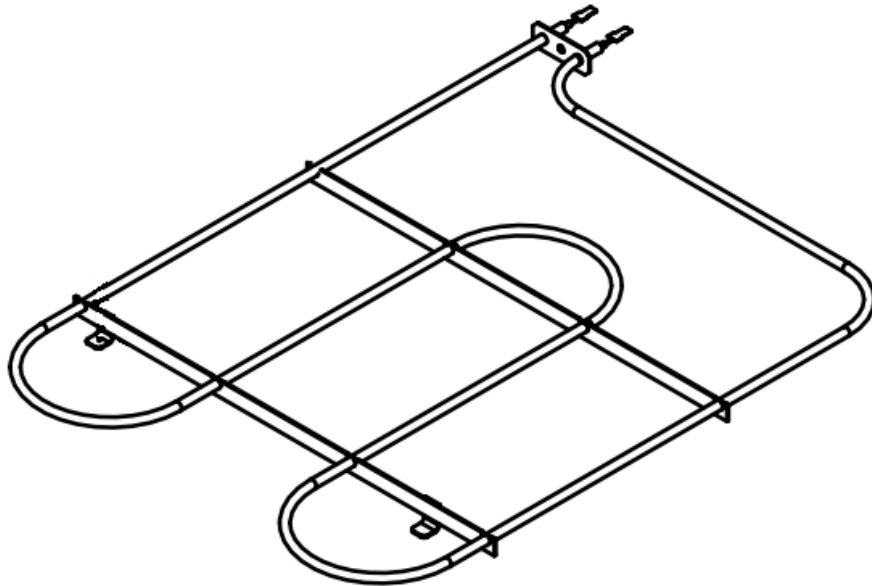
- Disconnect leads before measuring resistance
- Resistance cold 145 ohms +/- 5%

BROIL ELEMENT



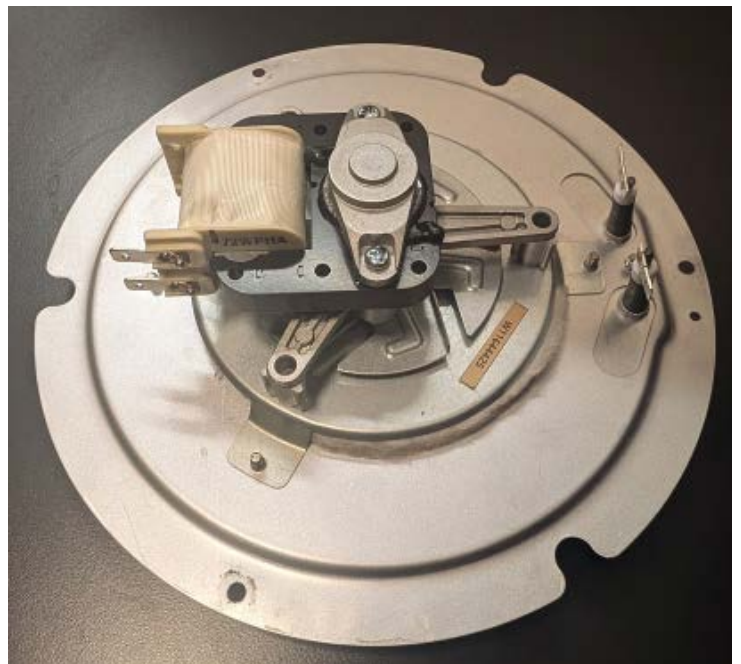
- Disconnect leads before measuring resistance
- Resistance cold 10-40 ohms
- ACU pin outs P80-7 to P80-8

BAKE ELEMENT



- Disconnect leads before measuring resistance
- Resistance cold 23.3 ohms +/- 5%
- ACU pin outs

CONVECTION FAN & ELEMENT ASSEMBLY



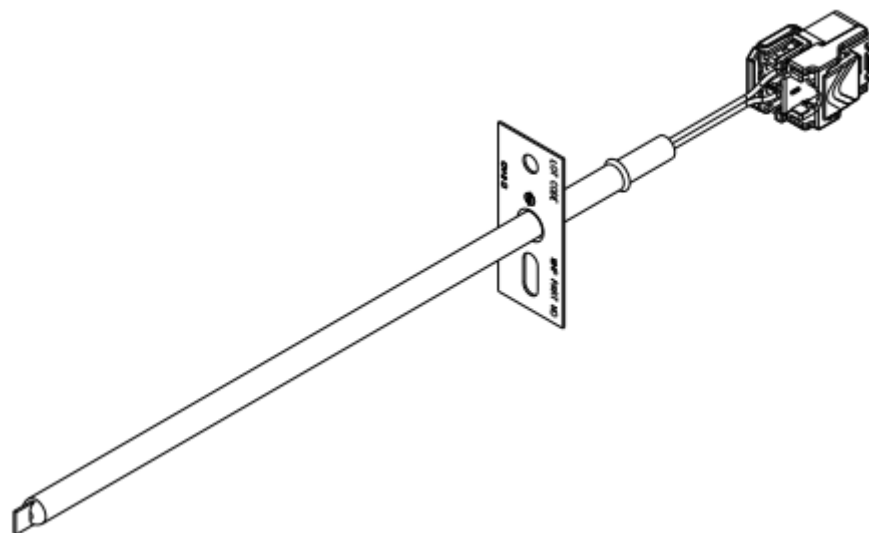
Element

- Disconnect leads before measuring resistance
- Resistance cold 14.5-16.1 ohms
- 914 watts fully heated

Fan Motor

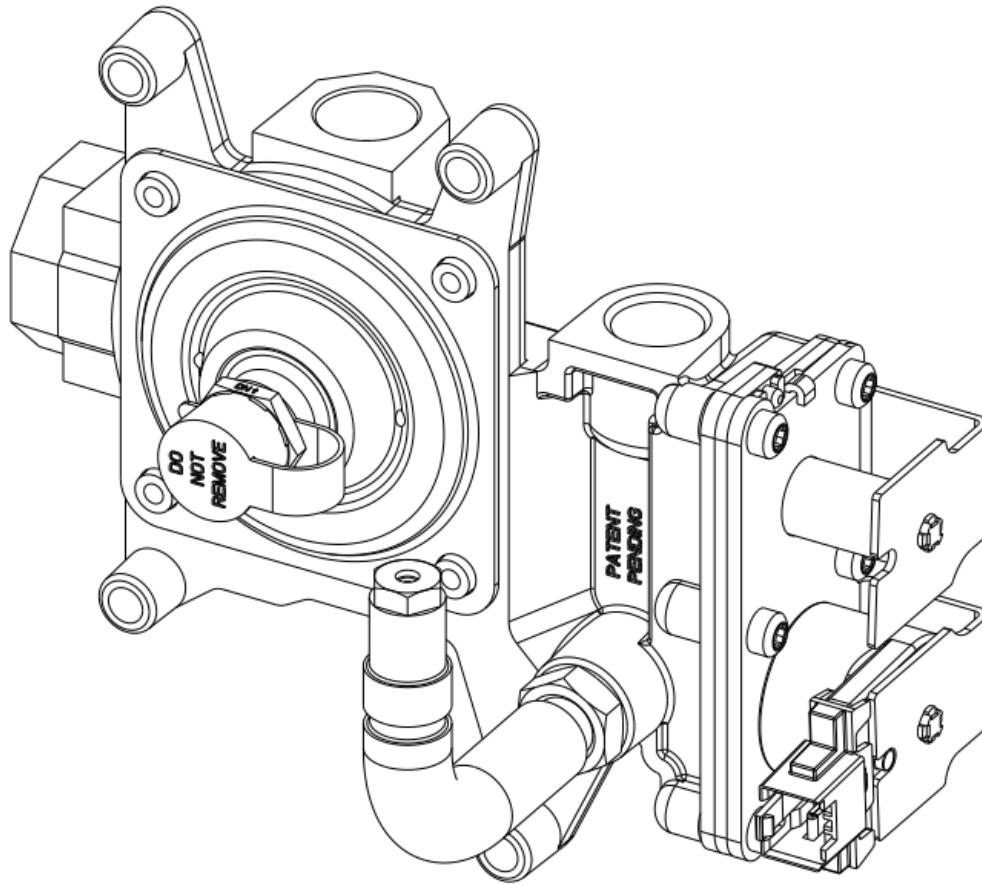
- Disconnect leads before measuring resistance
- Resistance cold 85 ohms +/- 10%

OVEN SENSOR



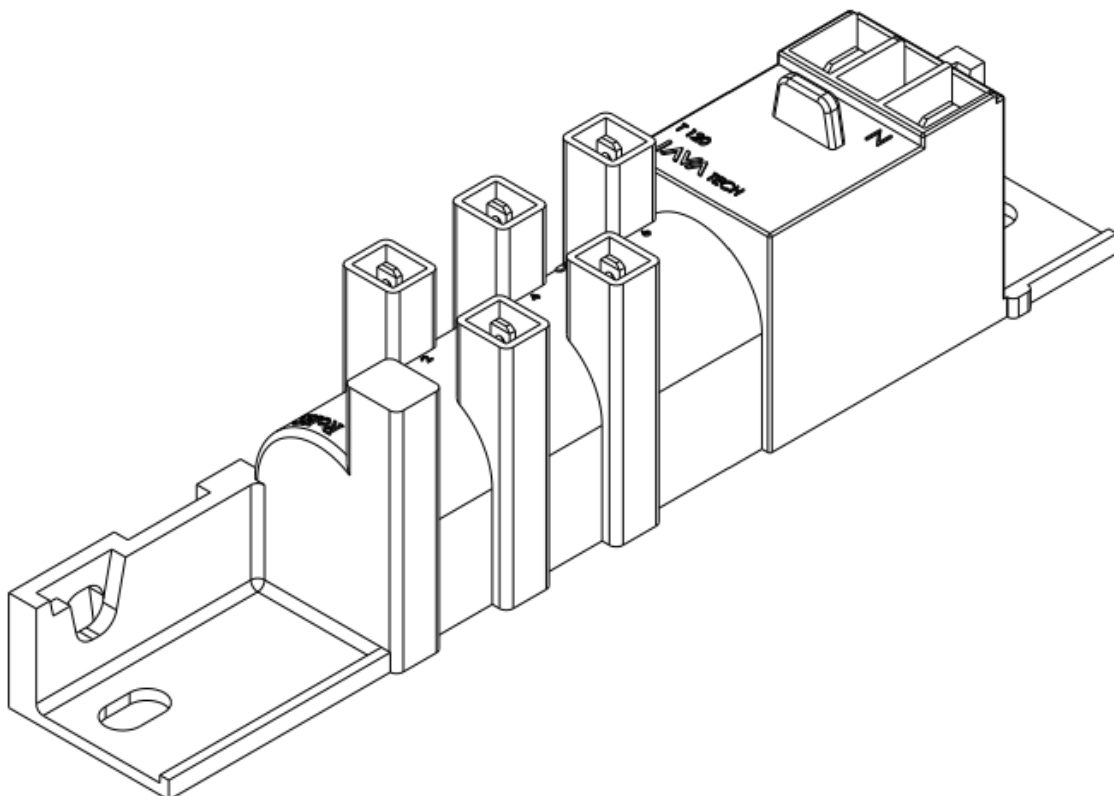
- Disconnect leads before measuring resistance
- Resistance cold 1000-1200 ohms
- ACU pin outs P22-1 to P22-2

GAS REGULATOR



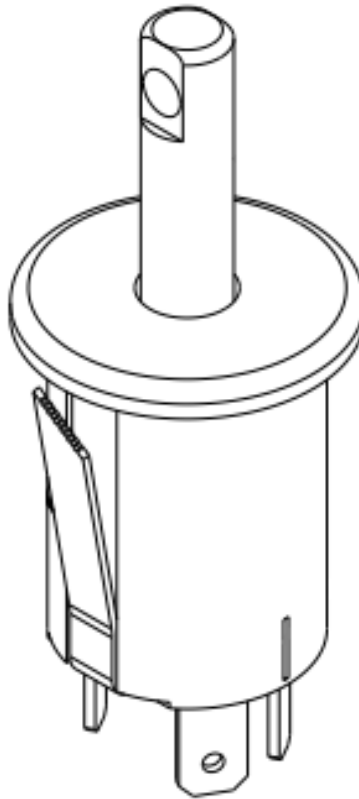
- Disconnect leads before measuring resistance
- Resistance cold across solenoid terminals 216 ohms +/- 10%

SPARK MODULE



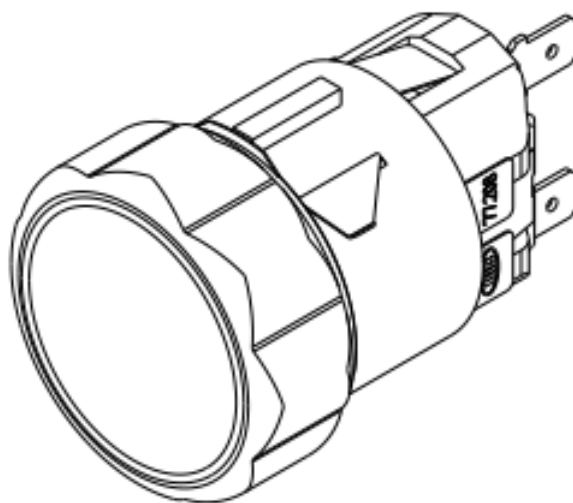
- Turn one cooktop knob to “LITE” position. Visually verify that all burners spark.
- Should have 120 volts across terminals on spark module

DOOR SWITCH



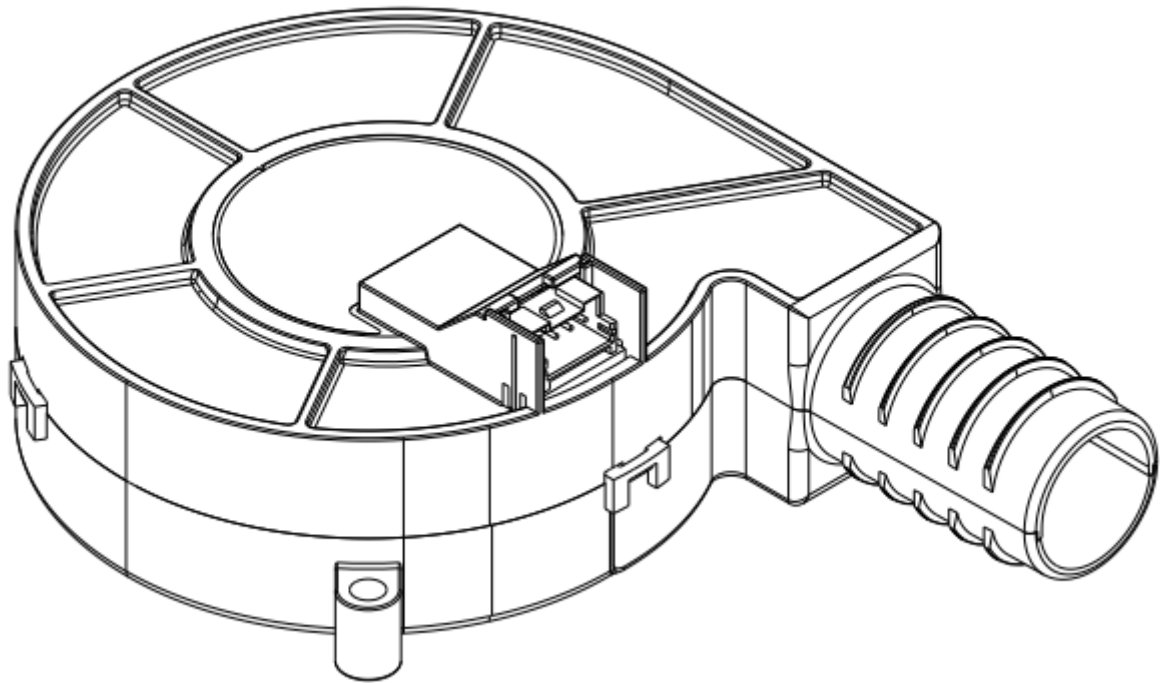
- Door open = open circuit
- Door closed = closed circuit
- 5 volts DC
- ACU pin outs P5-2 to P5-3

LIGHT ASSEMBLY



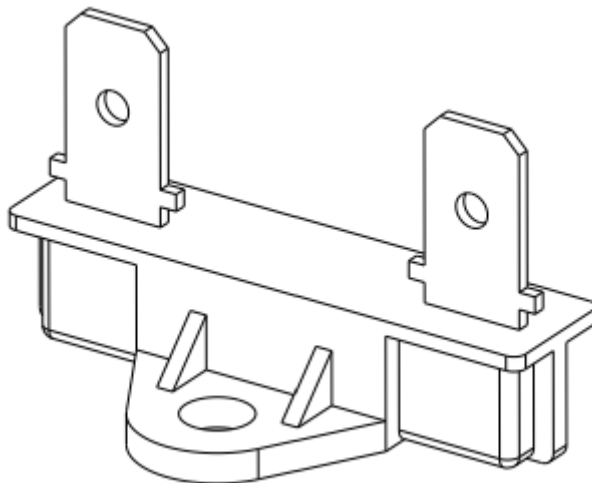
- Disconnect leads before measuring resistance
- Resistance cold 0-40 ohms

VENTILATION FAN ASSEMBLY



- ACU pin outs P6-5 to P6-6
- 12VDC

THERMAL FUSE



- Closed circuit (normal)
- Open circuit if temperatures at the back of the oven exceed 363°F (184°C)

PRODUCT SPECIFICATIONS & WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

**FOR PRODUCT SPECIFICATIONS AND WARRANTY
INFORMATION CALL:**

FOR WHIRLPOOL PRODUCTS: 1-800-253-1301

**FOR TECHNICAL ASSISTANCE WHILE AT THE
CUSTOMER'S HOME CALL:**

THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

**HAVE YOUR STORE NUMBER READY TO IDENTIFY
YOU AS AN AUTHORIZED IN-HOME SERVICE
PROFESSIONAL**

**FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE
CENTER):**

PHONE: 1-800-851-4605

**FOR TECHNICAL INFORMATION AND SERVICE
POINTERS:**

www.servicematters.com

IN CANADA:

**FOR PRODUCT SPECIFICATIONS AND WARRANTY
INFORMATION CALL:**

1-800-461-5681

**FOR TECHNICAL ASSISTANCE WHILE AT THE
CUSTOMER'S HOME CALL:**

THE TECHNICAL ASSISTANCE LINE: 1-800-488-4791

**HAVE YOUR STORE NUMBER READY TO IDENTIFY
YOU AS AN AUTHORIZED IN-HOME SERVICE
PROFESSIONAL**

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