

SERVICE DATA SHEET

318047431 (0712) Rev. A

Appliance with an Electronic Oven Control

NOTICE

This service data sheet is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. **The manufacturer cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this data sheet.**

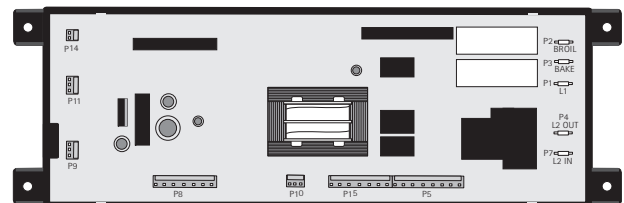
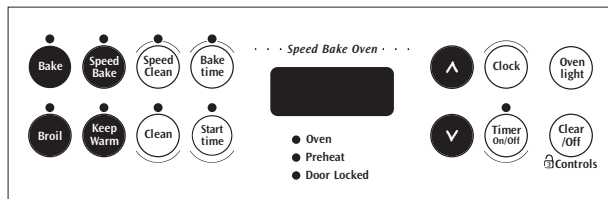
SAFE SERVICING PRACTICES

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are examples of some, but not all, of these practices.

1. Do not attempt a product repair if you have any doubts as to your ability to complete it in a safe and satisfactory manner.
2. Before servicing or moving an appliance, remove power cord from electric outlet, trip circuit breaker to OFF, or remove fuse and turn off gas supply.
3. Never interfere with the proper installation of any safety device.
4. USE ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. SUBSTITUTIONS MAY DEFEAT COMPLIANCE WITH SAFETY STANDARDS SET FOR HOME APPLIANCES.
5. GROUNDING: The standard color coding for safety ground wires is GREEN OR GREEN WITH YELLOW STRIPES. Ground leads are not to be used as current carrying conductors. IT IS EXTREMELY IMPORTANT THAT THE SERVICE TECHNICIAN REESTABLISH ALL SAFETY GROUNDS PRIOR TO COMPLETION OF SERVICE. FAILURE TO DO SO WILL CREATE A POTENTIAL HAZARD.
6. Prior to returning the product to service, ensure that:
 - All electric connections are correct and secure.
 - All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts.
 - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
 - All safety grounds (both internal and external) are correctly and securely reassembled.
 - All panels are properly and securely reassembled.

ELECTRONIC OVEN CONTROL

1. This self-cleaning controller offers Bake, Broil, Speed Bake (some models) modes, Timed and Delayed Baking, and Cleaning functions.
2. This Controller has a touch sensitive membrane.



NOTE: The Controller's are not field repairable. Only temperature settings can be changed. See oven calibration.

SPEED BAKE MODE (some models)

The speed bake oven uses the addition of a fan to move the air already in the oven. Moving the heated air helps to destratify the heat and cause uniform heat distribution. Cooking times can be reduced by as much as 30%. The air is drawn in through a fan shroud located on the rear wall of the oven. It is then discharged around the outer edges of this shroud. The air circulates around the food and then enters the shroud again. There is still an oven vent which discharges through the bottom of the control panel.

To set the control in speed bake mode, follow these steps:

1. Press the **SPEED BAKE** pad.
2. Enter the desired temperature on the keypad (set point).
3. Press the **START** pad.

NOTE: The fan runs continuously while in the speed bake mode. The fan will stop if the door is opened. The bake element will continue to operate if the door is opened.

The oven will automatically start and the fan will begin to run. To cancel the speed bake function, press the **CANCEL** pad.

PREHEAT

During a preheat mode, the oven uses a bake element to reach the controller set point. The element uses full power when it's on. When the set point is reached, the preheat mode is converted to a normal bake mode.

NORMAL BAKE

During a normal bake mode, the controller preheats the oven with the bake element. When the desired temperature is reached, the controller adds top heat by cycling the broil element on for 12 to 18 seconds per minute. The bake element is on for the remaining time of the minute. Both elements use full power when they are on but they are never on at the same time.

CLEAN

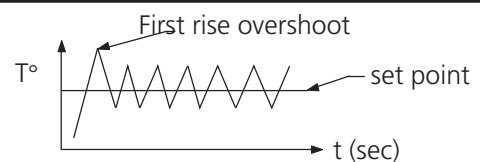
During a cleaning process, the oven uses bake element.

CLEAN AND TIMED CLEAN

When these modes are selected, the door locks right after start button is pushed.

FIRST RISE

It is normal to see a temperature overshoot in the first rise of all modes when you monitor the temperature.



OVEN CALIBRATION

Set the electronic oven control for normal baking at 350°F/176°C. Obtain an average oven temperature after a minimum of 5 cycles. Press Cancel to end bake mode. The oven temperature can be adjusted up or down. Refer to the Timer Guide.

Note: Changing calibration affects all the cooking modes but not the clean mode.

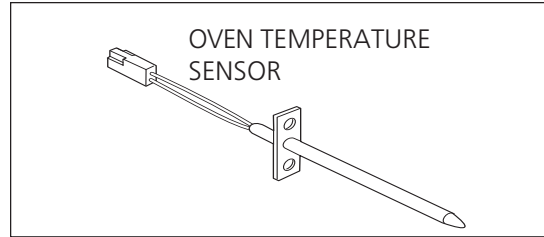
ELECTRONIC OVEN CONTROL

ELECTRONIC OVEN CONTROL (EOC) FAULT CODE DESCRIPTIONS AND RTD SCALE

Note: Only three fault codes series are displayed by this control "F1", "F3" and "F9". Generally speaking "F1" implies a control failure, "F3" an oven probe problem, and "F9" a latch motor problem. In all occurrences the alarm is accompanied by a display of "F1".

Fault Code Series	Likely Failure Condition/Cause	Suggested Corrective Action
F1	<p>(F10) Control has sensed a potential runaway oven condition. Control may have shorted relay, RTD sensor probe may have gone bad.</p> <p>(F11) Shorted keypad.</p> <p>(F13) Control's internal checksum may have become corrupted.</p> <p>(F14) Misconnected flat cables.</p>	<ol style="list-style-type: none"> 1. Check RTD sensor probe and replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when the power is reapplied, replace EOC. Severe overheating may require the entire oven to be replaced, should damage be extensive. 2. Press CLEAR key. 3. Disconnect power, wait 30 seconds and reapply power. If fault returns upon power-up, replace EOC. 4. Disconnect power; verify flat cable connections (P6 or P12).
F3	<p>(F30) Open RTD sensor probe/ wiring problem. Note: EOC may initially display an "F1", thinking a runaway condition exists.</p> <p>(F31) Shorted RTD sensor probe / wiring problem. Note: "F3" is displayed when oven is in active mode or an attempt to enter an active mode is made.</p>	<ol style="list-style-type: none"> 1. Press CLEAR key. 2. Check wiring in probe circuit for possible open condition. Check RTD resistance at room temperature (compare to probe resistance chart). If resistance does not match the chart, replace the RTD sensor probe. 3. Let the oven cool down and restart the function
F9	<p>(F90 to F94) Door motor mechanism failure.</p>	<ol style="list-style-type: none"> 1. Press CLEAR key. 2. If CLEAR key does not eliminate problem, turn off power for 30 seconds, then turn on power. 3. Check wiring of Lock Motor, and Lock Switch and Door Switch circuits. 4. Unplug P5, apply power (L1) directly to the Lock Motor, if the motor does not rotate, replace Lock Motor Assembly. Plug P5. 5. Check Lock Switch A for proper operation (do they open and close, check with ohmmeter). The Lock Motor may be powered as in above step to open and close Lock Switch. If the Lock Switch is defective, replace Motor Lock Assembly. 6. If all above steps fail to correct situation, replace control.

RTD SCALE		
Temp. °F	Temp. °C	Resistance (ohms)
32 ± 1.9	0.0 ± 1.1	1000 ± 4.0
75 ± 2.5	23.9 ± 1.4	1091 ± 5.3
250 ± 4.4	121.1 ± 2.4	1453 ± 8.9
350 ± 5.4	176.7 ± 3.0	1654 ± 10.8
450 ± 6.9	232.2 ± 3.8	1852 ± 13.5
550 ± 8.2	287.8 ± 4.6	2047 ± 15.8
650 ± 9.6	343.3 ± 5.3	2237 ± 18.5
900 ± 13.6	482.2 ± 7.6	2697 ± 24.4



CIRCUIT ANALYSIS MATRIX											
	ELEMENTS		Speed Bake P5-3	Light P5-8	Door Motor P5-6	Lock Motor Switches P15-1 & P15-2		A	P15-1 & P15-7	Cooling fan	Door Switch P15-3 COM-NO
	Bake P2	Broil P3									
Bake	X	X*									
Broil		X									
Speed Bake	X	X*		X							
Clean	X								X		
Locking					X	NC	NO				
Locked						NO	NC				
Unlocking					X	NO	NC				
Unlocked						NC	NO				
Light				X							
Door Open				X							X
Door Closed											

* Denotes Topheat

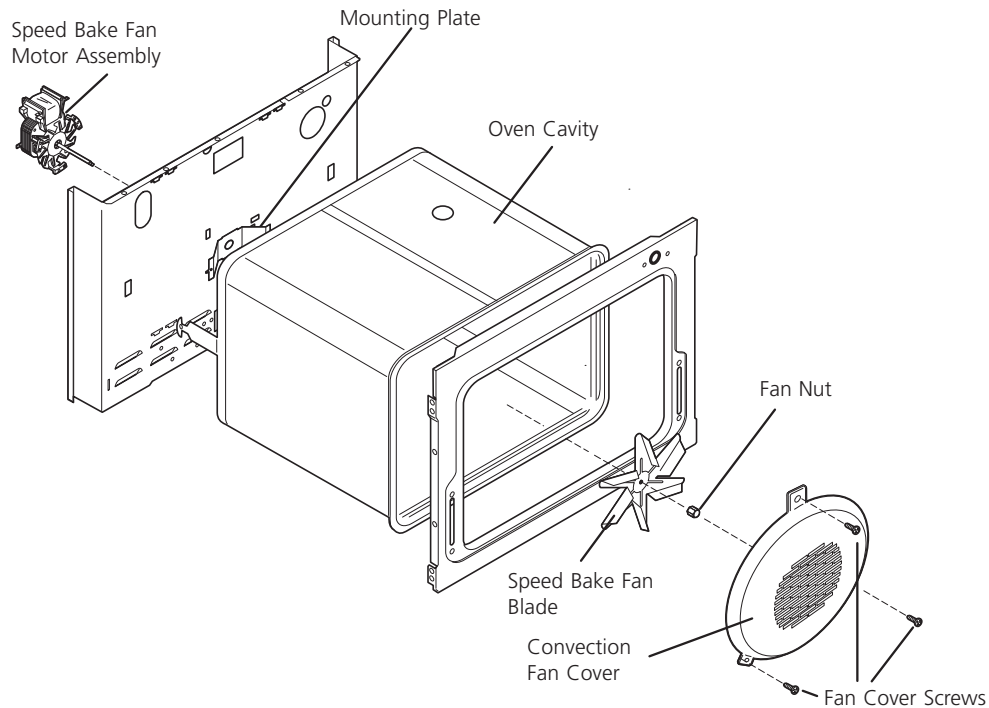
■ Relay will operate in this condition only

ELECTRICAL RATING	
	27" Wall Oven
KW Rating 240/208 V	See nameplate
Broil Element Wattage	3400W / 2554W
Bake Element Wattage	2300W / 1728W

COOLING FAN

A thermostat (170°/140°) controls the cooling fan. The fan should turn on during clean cycles.

EXPLODED VIEW OF SPEED BAKE SYSTEM (some models)



FAN BLADE

The fan blade is mounted in the rear of the unit and has a "D" shaped mounting hole. Only minimum clearance exists between the oven back, fan blade, and fan shroud. Be careful not to bend blade when removing or installing.

Access to the fan blade is gained by removing the fan shroud, held in place by three screws, from the inside of the oven.

The fan blade is held in place with a hex nut that has left handed threads. When removing this nut, gently hold the fan blade, and turn the nut clockwise. If one of the blades becomes deformed, it may be bent back into shape using a flat surface as a reference.

A flat washer is located on the motor shaft between the snap ring on the shaft and the fan blade.

NOTE: If the fan blade is bent and motor vibrations increase, the noise made by the fan will be greater.

MOUNTING PLATE OVEN

The fan motor on the rear of the unit is mounted to the main back (with three screws). There is a mounting plate held in place between the main back (with 2 screws) and the rear oven wall (with 2 screws). Should it be necessary to replace the oven cavity, you must remove the 2 screws located inside the unit at the rear of the oven cavity.

FAN MOTOR

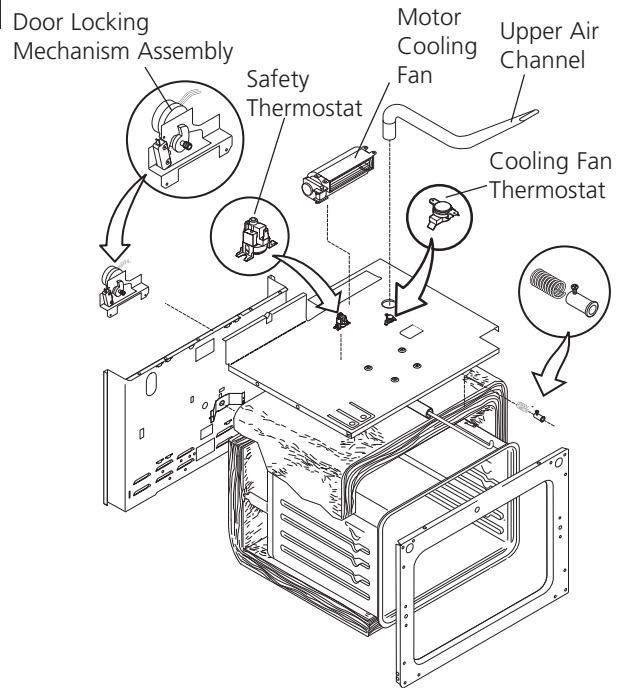
The 120 volt fan motor is located on the outside of the rear of the oven.

The fan motor runs continuously while in the speed bake mode unless the door is opened. If the fan does not operate, check the following:

- Display illuminated on the electronic control.
- Voltage output between terminals P5-3 and Neutral.
- 120 Volts available at fan motor.
- Fan motor coil resistance 56.5 ohms \pm 10%.
- Door/light switch.

DOOR LOCK MECHANISM

The appliance is equipped with an electronic oven control and has an auto locking door latch feature. When the self clean cycle is programmed, the door is locked by a motor operated latch system. The interior of oven doesn't need to heat up to 500°F/260°C before the door locks. However, until the temperature inside oven reaches 500°F/260°C, the self-clean program can be canceled and door will unlock immediately. After oven reaches temperatures over 500°F/260°C, the door will not unlock until temperature drops below 500°F/260°C.



OVEN DOOR REMOVAL - OVEN DOOR REVERSAL

The electrical power to the oven must be shut off when reversing the door opening. Failure to do so could result in serious injury or death.

The door on this wall oven is equipped with reversible hinges, therefore allowing the door to be reversed from a left hand door (right side opening) as shipped from the factory to a right hand door (left side opening).

To reverse the door opening, hire an experienced technician to prevent any damage to parts or door alignment problems.

Tools required: No.2 Phillips® and No.2 Robertson® screw drivers, ½" open key, small flat-blade screw driver, long nose pliers.

Procedure for Door Reversal

1. Remove moulding from under the door if installed (held in place with 2 screws).
2. Keep the door closed and use a 1/2" open key or a No. 2 Robertson® screw driver to unscrew and remove the threaded pin from the lower hinge. Save the pin for later use.
3. Support the weight of the door with one hand and open the door about 5" (12.7 cm), then slide the lower end of the door outside the hinge. Save the washer of the lower hinge. Grasp the door with both hands and lower the door off the oven.

CAUTION The door is heavy; hold it firmly.

4. Gently lay the door on a work table. The door internal panel should lay face down.

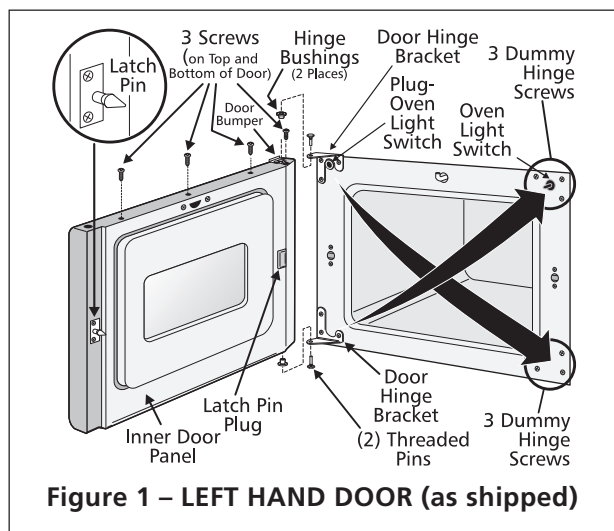


Figure 1 – LEFT HAND DOOR (as shipped)

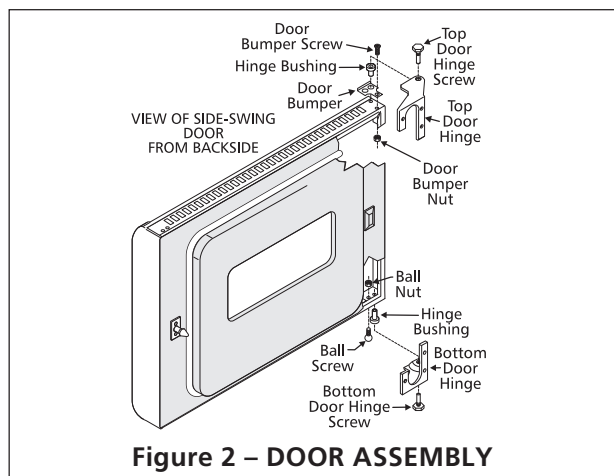


Figure 2 – DOOR ASSEMBLY

OVEN DOOR REMOVAL - OVEN DOOR REVERSAL

5. Remove the nylon slide (and retainer screw) and save for use later. Remove the other 2 screws in the underside of the door plus the 3 screws in the upper side of the door.
6. Grasp the handle. Lift and remove the outer door assembly (glass/frame/handle).
7. Unscrew and switch the bumper (with screw and nut) and the ball screw (and nut).
8. Turn the outer door assembly a half turn (180°) and replace the outer door assembly over the lower door assembly. Replace the nylon slide under the handle (thin side facing inward) on the same side of the ball screw. Replace the 2 screws under the door and the 3 screws on top of the door.
9. Turn the door so the external panel faces the work table. Interchange the position of the latch pin with the latch pin cap on the opposite end of the door.

NOTE: The latch pin is to one side of its mounting holes and its position on the door is very important. Improper mounting may damage the porcelain finish on the oven frame when closing the door. The latch pin must be on the right side of the mounting screws on a left-hand door, and on the left side of the mounting screws on a right-hand door.

10. Remove the lower hinge on the left side of the oven frame. Save for reassembly later.

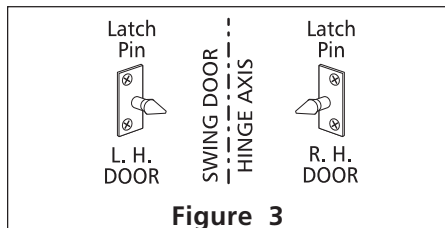


Figure 3

11. Relocate the 3 right side upper dummy hinge screws toward the lower left side of the oven frame.
12. Replace the threaded pin (removed in step 2) onto the hinge that was removed in step 10, and replace the hinge assembly at the upper right end of the oven frame.
13. Remove the adjustable door support at the lower right side of the oven frame and move to the left side of the frame (with 1 retainer screw).
14. Remove the upper left side hinge from the oven frame, then remove the threaded pin from the hinge. Save the threaded pin for reassembly later.
15. Relocate the 3 dummy hinge screws from the lower right side of the oven frame toward the

upper left side of the oven frame.

16. Replace the hinge removed in step 14 toward the lower right side of the oven frame.
17. Put the washer (removed in step 3) on the hinge's counterbore made for this purpose.
18. Move the oven light switch to the left side of the oven frame:
 - a) Grab the switch plunger and gently pull out from its location. Use the small, flat-head screw driver.
 - b) Unplug the switch from the terminal connector and push the door switch terminal and wire assembly inside the oven frame.
 - c) Remove the switch plug on the left side of the oven frame. Use the flat-blade screw driver if necessary. Replace the switch plug on the right side of the oven frame.
 - d) Use long nose pliers to grab and pull out the door switch terminal connector and wire assembly from the hole on the left side of the frame.
 - e) Connect the door switch to the terminal connector.
 - f) Push the oven light switch into the new hole in the oven frame.
19. Replace the door. First engage the sleeve in the upper end of the door over the upper hinge pin. Lift the door and slide over the lower hinge. (Ensure the washer stays in place.)
20. Gently close the door while ensuring it will stay in place on the lower hinge. Replace the lower hinge threaded pin saved in step 14 into the lower hinge.
21. Replace the lower moulding.

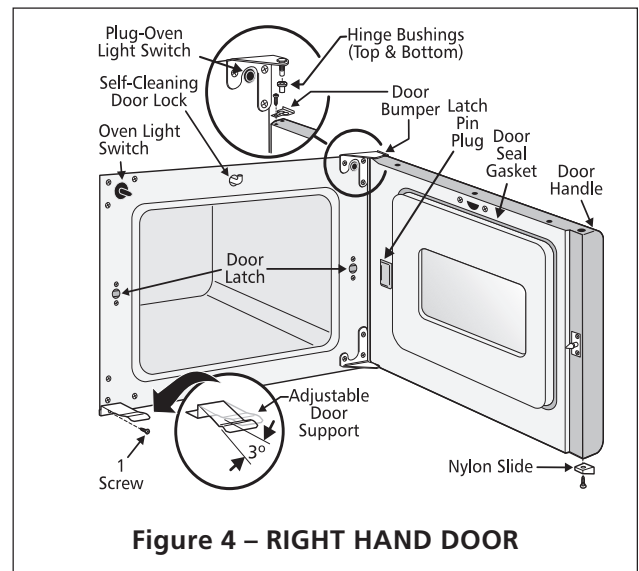


Figure 4 - RIGHT HAND DOOR

