
SERVICE DATA SHEET

318047475 (1004) Rev. A

Appliance with 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 some, but not all, examples of safe 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.
3. Never interfere with the proper installation of any safety device.
4. USE ONLY REPLACEMENT PARTS SPECIFIED 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 uninsulated 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.

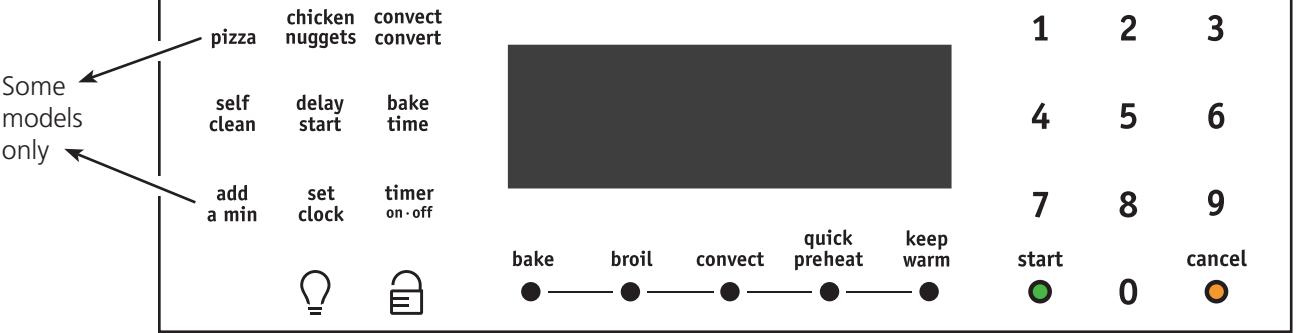
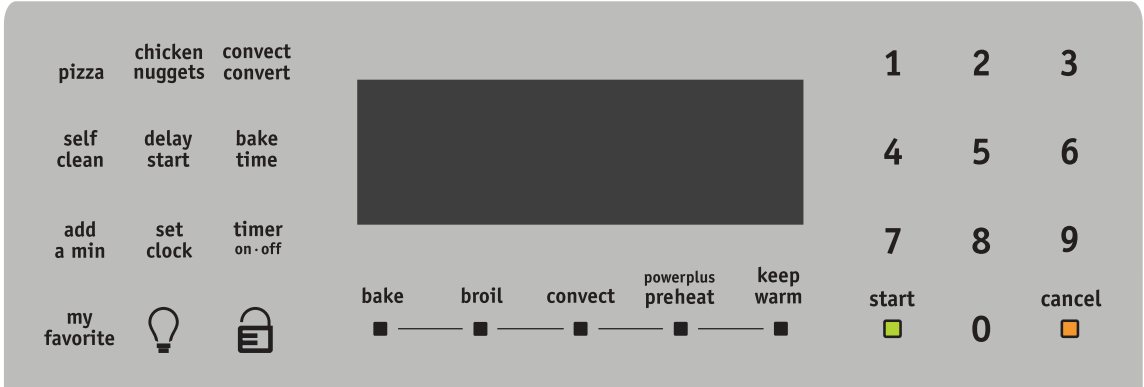
IMPORTANT NOTES

1. This unit includes an *EOC*.
2. The included board is not field repairable.
3. The oven temperature can be calibrated, see Use and Care Manual.
4. The ■ pin on board connectors indicates pin number 1.

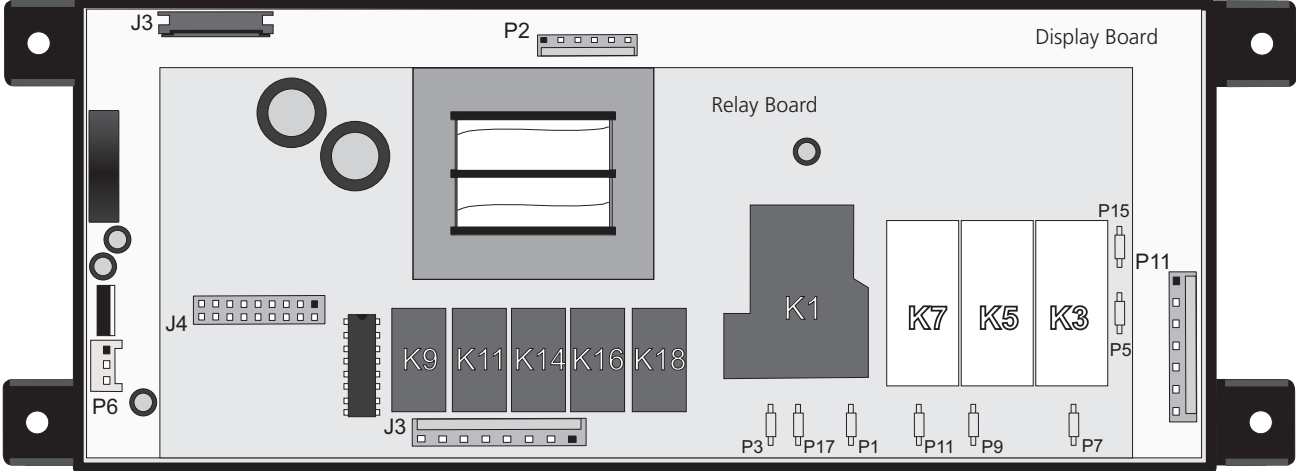
DATA SHEET ABBREVIATIONS AND TERMINOLOGY

EOC : Electronic Oven Control
LED : Light-Emitting Diode
MDL : Motor Door Latch
DLB : Double Line Break
RTD : Resistance Temperature Detector / Oven Probe

ILLUSTRATION OF OVEN CONTROLS



ELECTRONIC OVEN CONTROL (EOC)



Relay Board Legend:

- K1. Double Line Break Relay
- K3. Broil Relay
- K5. Bake Relay
- K7. Convection Element Relay
- K9. Convection Fan Relay
- K11. Motor Door Latch Relay
- K14. Oven Light Relay
- K16. Cooling Fan - Relay 1
- K18. Cooling Fan - Relay 2

Relay Board Legend:

- P1. L2 Out
- P3. L2 In
- P5. L1 Input
- P7. Broil Connector
- P9. Bake Connector
- P11. Convection Element Connector
- P15. L1 Input
- P17. L2 In (not used)

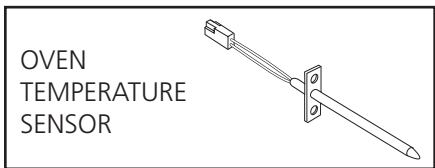
Display Board Legend:

- J3. Relay Outputs : Convection Fan, Motor Door Latch, Oven Light, Cooling Fan. Power Input (L1 and Neutral).
- J4. Display Board to Relay Board Connections
- J3. Keyboard Connector
- P2. Micro Programming Header (not used)
- P6. Not used
- P11. Door switch, Motor Door Latch Switch and Oven Probe Inputs.

ELECTRICAL RATING				
	27" Model with Hidden Bake Cover	27" Model with True Hidden Bake	30" Model with Hidden Bake Cover	30" Model with True Hidden Bake
Bake Element Wattage	2700W 2028W	1450W 1089W	3400W 2553W	2200W 1652W
Broil Element Wattage	3400W 2553W	3400W 2553W	3400W 2553W	4000W 3004W
Conv. Element Wattage	350W	350W	350W	350W or 500W♦
KW Rating 240/208	See serial plate			

♦ Models with dual convection fans.

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

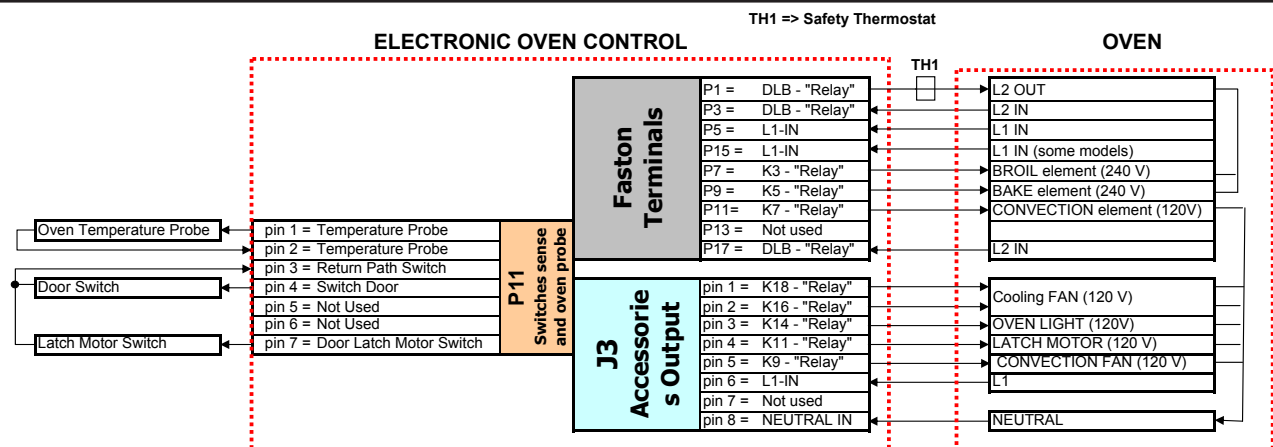


	OVEN CIRCUIT ANALYSIS MATRIX								
	On Relay Board							On Display Board	
	ELEMENTS			Oven Light J3-3	Conv. Fan P2-7	Door Motor J3-4	Cooling Fan Relay 1 J3-2	Cooling Fan Relay 2 J3-1	Door Switch P11-4 / P11-3
	Bake P9	Broil P7	Conv. P11						
Preheat	X	X	X		X		X		
Bake	X	X	X*		X*		X		
Broil		X					X	X	
Convection Bake	X	X	X		X		X		
Convection Roast	X	X	X		X		X		
Convection Broil		X			X		X		
Clean	X	X					X	X	
Locking / Unlocking						X			
Light				X					
Door Open				X					
Door Closed									X

Relay will operate in this condition only

* Convection element and fan are used for the first rise of temperature.

OVEN BLOCK DIAGRAM



ELECTRONIC OVEN CONTROL (EOC) FAULT CODE DESCRIPTIONS

Note: Generally speaking "F1x" implies a control failure, "F3x" an oven probe problem, and "F9x" a latch motor problem.

Code	Condition / Cause	Suggested Corrective Action
F10	Control has sensed a potential runaway oven condition. Control may have shorted relay, RTD sensor probe may have gone bad.	- Check RTD sensor probe and replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when power is reapplied, replace the <i>EOC</i> .
F11	Shorted Key: a key has been detected as pressed (for a long period) will be considered a shorted key alarm and will terminate all oven activity.	- Press Clear key. - If fault returns, replace the keyboard (membrane). - If the problem persists, replace the <i>EOC</i> .
F13	Control's internal checksum may have become corrupted.	- Press CLEAR key. - Disconnect power, wait 10 seconds and reapply power. If fault returns upon power-up, replace <i>EOC</i> .
F14	Misconnected keyboard cable.	- Disconnect power. Verify the flat cable connection between the keyboard membrane and the <i>EOC</i> on J2 and J3. - If the problem persists, replace the <i>EOC</i> . - If the connection is good but the problem persists, replace the keyboard (membrane switch).
F15	Controller self check failed.	- Replace the <i>EOC</i> .
F30	Open RTD sensor probe/ wiring problem. Note: <i>EOC</i> may initially display an "F10", thinking a runaway condition exists.	- 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.
F31	Shorted RTD sensor probe / wiring problem.	- Let the oven cool down and restart the function - If the problem persists, replace the <i>EOC</i> .
F62	Missing zero-cross signal.	- Replace the <i>EOC</i> .
F90	Door motor mechanism failure. The controller does not see the motor rotating.	- Press CLEAR key. - If CLEAR key does not eliminate problem, turn off power for 30 seconds, then turn on power. - Check wiring of Lock Motor, Lock Switch and Door Switch circuits. - Unplug the lock motor from the board and apply power (L1) directly to the Lock Motor. If the motor does not rotate, replace Lock Motor Assembly. - Check Lock Switch 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. - If all above steps fail to correct situation, replace the <i>EOC</i> in the event of a motor that does not rotate.
F95	Door motor mechanism failure. The motor does not stop rotating.	- Press STOP key. - Turn power off for 30 seconds then turn power on. If the door motor never stops rotating, or if the F95 error comes back again, verify wiring of the motor. If wiring is good, replace the <i>EOC</i> . - If the problem persists, replace the motor door latch assembly.

COOLING FAN

The oven control controls the cooling fan. The two relays are used but their output are tied together. Relay 2 will become active during clean cycle at high temperature. The cooling fan is activated during any cooking and cleaning functions.