

SERVICE DATA SHEET

Gas Range with ES 300 Series 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, but without limitation, of such practices.

1. Before servicing or moving an appliance remove power cord from electrical outlet, trip circuit breaker to OFF, or remove fuse.
2. Never interfere with the proper installation of any safety device.
3. 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 safety hazard.**
4. 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.

Convection/Speed Bake Mode (some models)

The Convection or Speed Bake mode uses the addition of a fan to move the heated 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 in 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. As with conventional gas ranges, there is

still an oven vent which discharges behind the top cooking surface.

To set the oven for Convection or Speed Bake mode, follow these steps:

1. Program the oven as you normally would for baking.
2. Push and release the **Convection/Speed Bake** momentary rocker switch. The indicator light will glow, signifying that the Convection/Speed Bake mode has been activated. **The fan will not come on for the first six minutes, unless the center of the oven temperature is above 350°F when the Convection/Speed Bake mode is activated.** This is to allow for clean combustion in the gas oven. Six minutes after the Convection/Speed Bake mode is activated, the fan will come on. The fan stays on when the oven door is closed and shuts off while the oven door is opened. The fan will continue to operate until baking is complete.
3. To cancel the Convection/Speed Bake function, press **CANCEL** or **CLEAR** on the oven control as you would to cancel any baking function.

NOTE: The **Convection/Speed Bake** mode will not work during a clean or broil cycle.

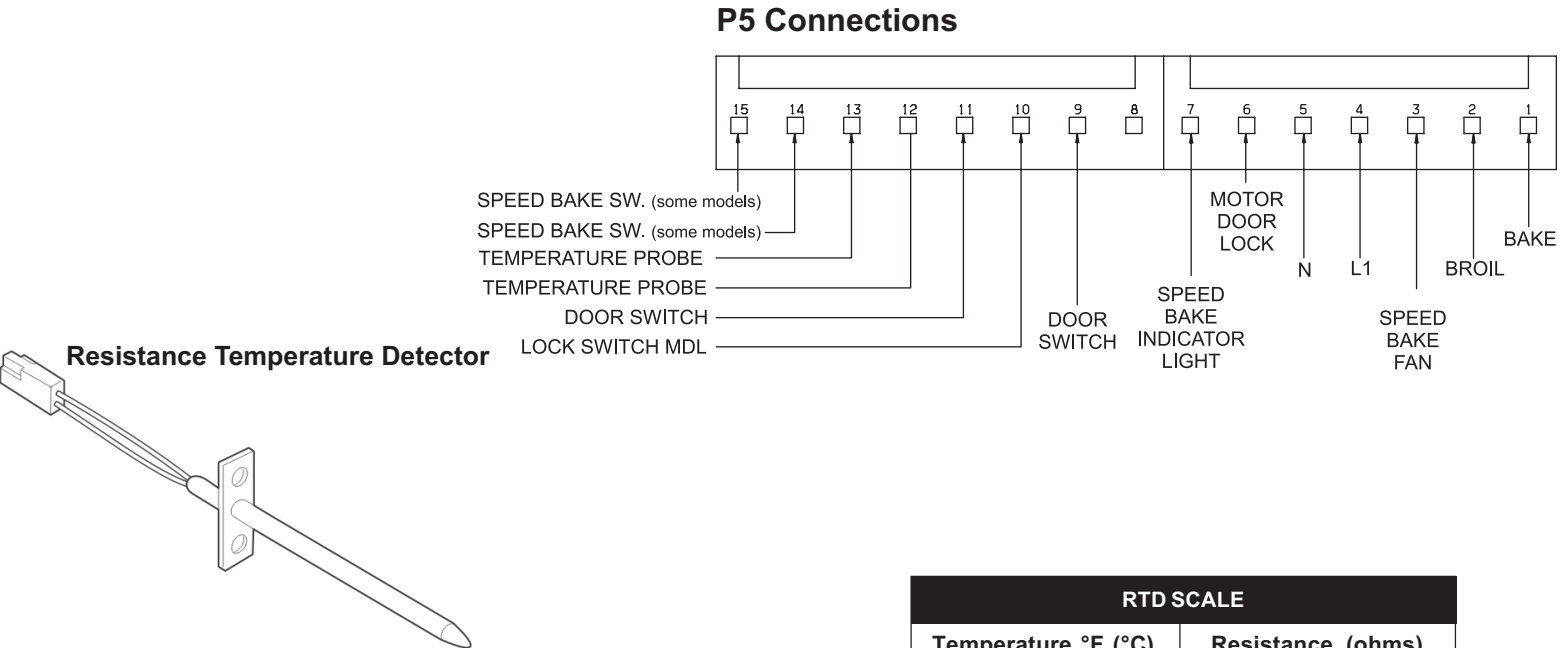
Oven Calibration

Set the electronic oven control for normal baking at 350°F. Obtain an average oven temperature after a minimum of 5 cycles. Press **CANCEL** or **CLEAR** to end bake mode.

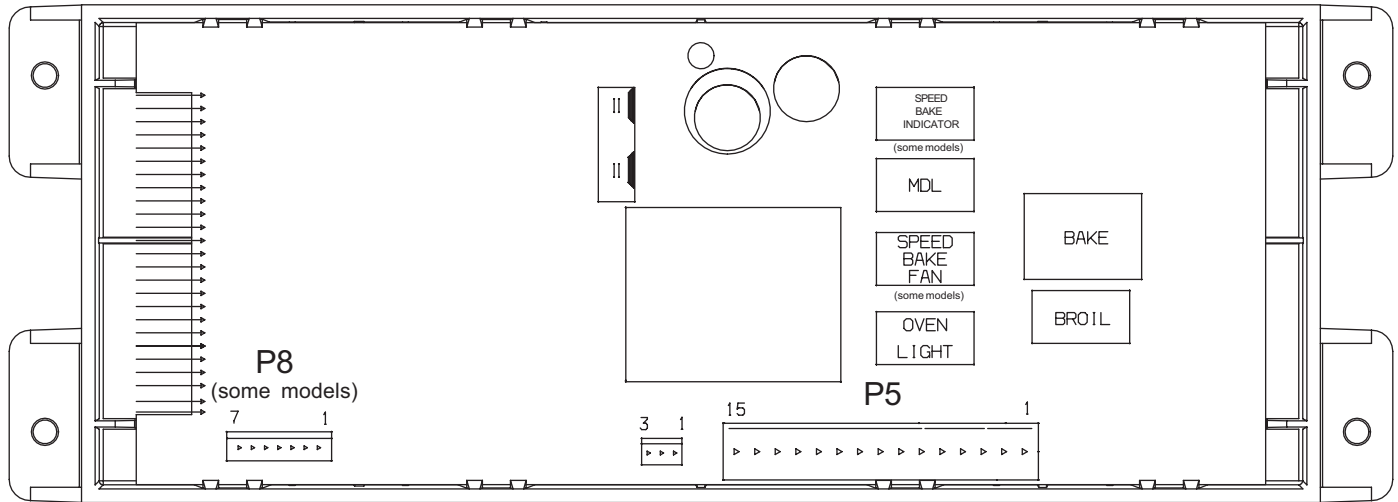
Temperature Adjustment

1. Set EOC to bake at 550°F.
2. Within 5 seconds of setting 550°F, press and hold the bake pad for approximately 15 seconds until a single beep is heard (longer may cause **F11** shorted keypad alarm).
3. Calibration offset should appear in the display.
4. Use the slew keys to adjust the oven temperature up or down 35°F in 5°F increments.
5. Once the desired (-35° to 35°) offset has been applied, press **CANCEL** or **CLEAR**.

Note: Changing calibration affects both Speed Bake and normal bake modes. The adjustments made will not change the self-cleaning temperature.



RTD SCALE	
Temperature °F (°C)	Resistance (ohms)
32 ± 1.9 (0 ± 1.0)	1000 ± 4.0
75 ± 2.5 (24 ± 1.3)	1091 ± 5.3
250 ± 4.4 (121 ± 2.4)	1453 ± 8.9
350 ± 5.4 (177 ± 3.0)	1654 ± 10.8
450 ± 6.9 (232 ± 3.8)	1852 ± 13.5
550 ± 8.2 (288 ± 4.5)	2047 ± 15.8
650 ± 9.6 (343 ± 5.3)	2237 ± 18.5
900 ± 13.6 (482 ± 7.5)	2697 ± 24.4
Probe circuit to case ground	Open circuit/infinite resistance



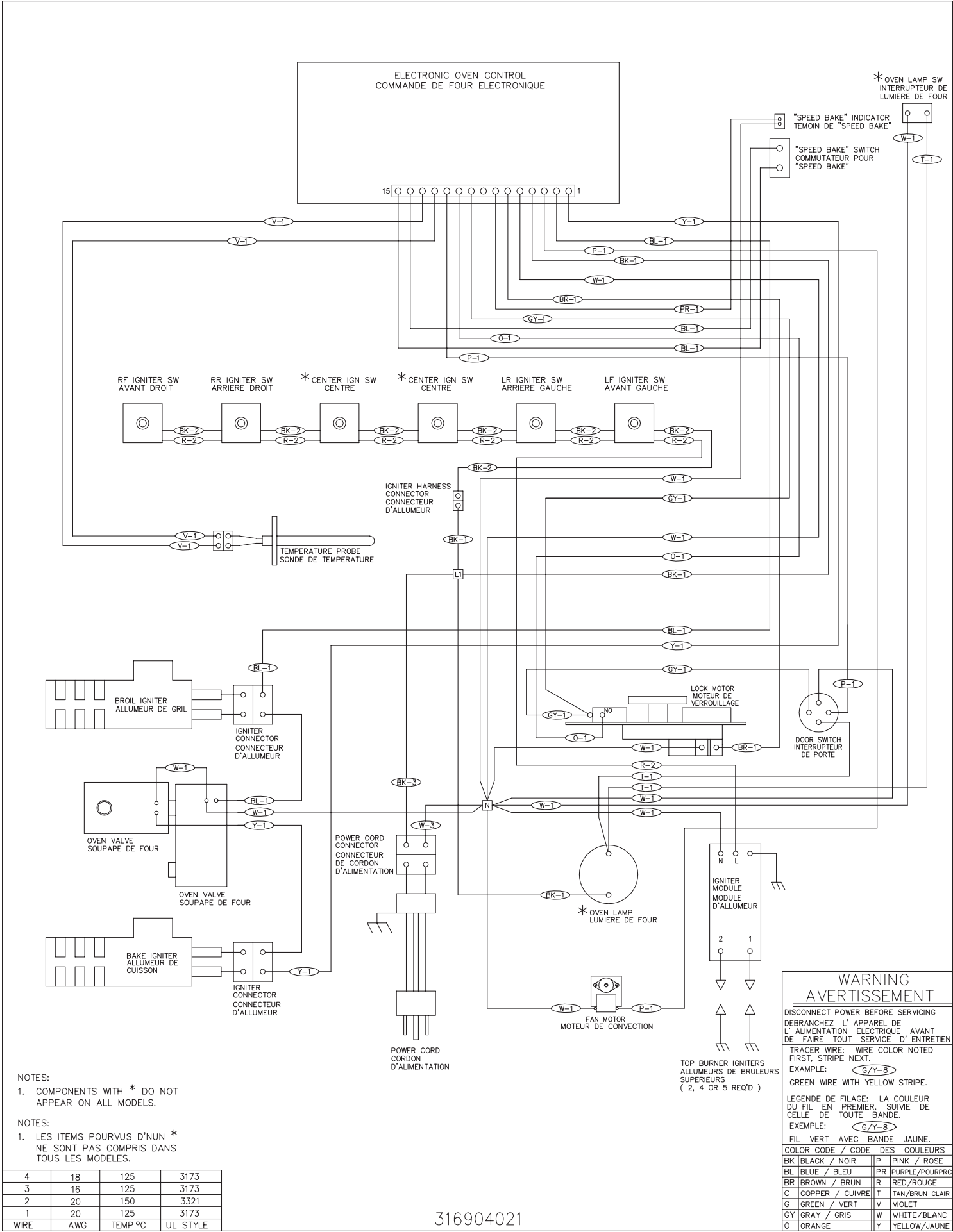
Fault Code	Likely Failure Condition/Cause	Suggested Corrective Action
F10	Runaway Temperature.	Check RTD Sensor Probe & replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when the power is reapplied, replace EOC. Severe overheating may require the entire oven to be replaced should damage be extensive.
F11	Shorted Keypad or Selector Switch.	1. Disconnect power, wait 30 seconds and reapply power. 2. Clean the gas burner assembly. A dirty gas burner can create a poor path to ground for the spark ignitor resulting in electrical signals passing through the control which may generate this error code. 3. Test the speed bake switch found on some models. This is a momentary contact switch. If contacts remain closed when switch is released, the switch is defective and will generate this error code. 4. If the above actions do not correct the condition, replace the EOC and overlay.
F12	Bad Micro Identification.	1. Disconnect power, wait 30 seconds and reapply power.
F13	Bad EEPROM Identification/Checksum error.	2. If fault returns upon power-up, replace EOC.
F30	Open probe connection.	1. Check resistance at room temperature & compare to RTD Sensor resistance chart. If resistance does not match the RTD chart replace RTD Sensor Probe. Check Sensor wiring harness between EOC and Sensor Probe connector. 2. Check resistance at room temperature, if less than 500 ohms, replace RTD Sensor Probe. Check for shorted Sensor Probe harness between EOC & Probe connector.
F31	Shorted Probe connection.	
F40	Cooktop Lockout error (some models).	1. Check the wiring. 2. Replace the Cooktop Lockout Control Board. 3. Replace EOC.
F90	Maximum oven door unlock time exceeded.	1. Check the wiring between EOC & Lock Motor Micro Switch. 2. Replace the Motor Door Latch assembly if necessary. 3. Check for binding of the Latch Cam, Lock Motor Rod & Lock Motor Cam. 4. Check to see if Lock Motor Coil is open. If open, replace Lock Motor Assembly. 5. Lock Motor continuously runs - if Micro Switch is open, replace Lock Motor Assembly. 6. (F92, 93 & 94) Check oven door Light Switch - if open, replace Switch. 7. If all situations above do not solve problem, replace EOC.
F91	Maximum oven door unlock attempts exceeded.	
F92	Maximum oven door open time exceeded.	
F93	Maximum oven door lock time exceeded.	
F94	Maximum oven door lock attempts exceeded.	

Circuit Analysis Matrix	EOC Relays					Door Switch COM-NO	Warmer Drawer Lock Switch (Motor Door Latch)**
	L1 to Bake	L1 to Broil	L1 to Motor Door Latch	L1 to Conv/Speed Bake Fan**	L1 to Conv/Speed Bake Indicator Light**		
Bake/Time Bake	X	X†					X
Conv/Speed Bake	X	X†		X	X		X
Broil		X					X
Clean	X						
Unlocked							X
Locking			X				X
Locked							
Unlocking			X				X
Door Open							
Door Closed						X	

Note: X=check listed circuits. †=Alternates with bake element. **=some models

p/n 316904021 Rev B (1410)

General Troubleshooting Diagram



General Troubleshooting Schematic

