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# SERVICE DATA SHEET

318202603 (0202) Rev. A

Ranges with Electronic Oven Control (ES300)

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## 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.**

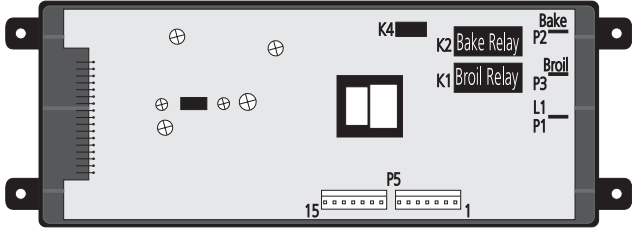
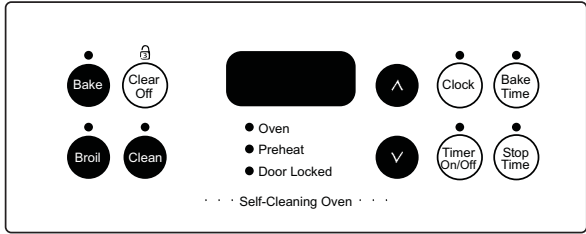
## SAFE SERVICING PRACTICES

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are some limited 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 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 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.

# ES300 ELECTRONIC OVEN CONTROL

The ES300 electronic oven control is almost identical to the current control with a few exceptions.



**Note:** The ES300's are not field repairable. Only temperature settings can be changed. See oven calibration.

**Note:** Depending on model, the size and shape of touch pads may vary (for example round instead of elliptical).

## NORMAL BAKE

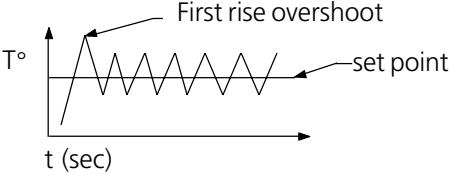
During a normal bake mode, the control preheats the oven with the bake element. When the desired temperature is reached, the control will cycle approximately between 12% of time in Broil and 85% of time in Bake. Both elements use full power when they are on but they are never on at the same time.

## CLEAN

During a cleaning process, the oven uses the bake element. When this mode is called, 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.

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

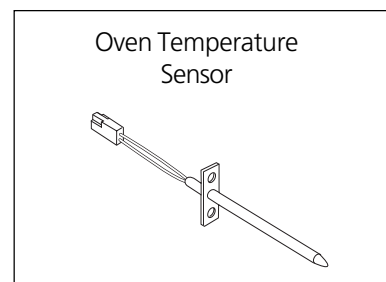
## ELECTRONIC OVEN CONTROL

<b>ELECTRONIC OVEN CONTROL FAULT CODE DESCRIPTIONS AND RTD SCALE</b>		
<p><b>Note:</b> Only three fault codes 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"</p>		
Fault Code	Likely Failure Condition/Cause	Suggested Corrective Action
<b>F1</b>	<ol style="list-style-type: none"> <li>1. Shorted keypad.</li> <li>2. Control's internal checksum may have become corrupted.</li> <li>3. Control has sensed a potential runaway oven condition. Control may have shorted relay, RTD sensor probe may have gone bad.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disconnect power, wait 30 seconds and reapply power. If fault returns upon power-up, replace EOC.</li> <li>2. 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.</li> </ol>
<b>F3</b>	<ol style="list-style-type: none"> <li>1. Open RTD sensor probe/ wiring problem. Note: EOC may initially display an "F1", thinking a runaway condition exists.</li> <li>2. 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.</li> </ol>	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. Check wiring in probe circuit for possible short condition. Check RTD resistance at room temperature (compare to probe resistance chart). If resistance does not match the chart, replace the RTD sensor probe.</li> </ol>
<b>F9</b>	<ol style="list-style-type: none"> <li>1. Door motor failure / jammed. Latch motor switch failure.</li> <li>2. Control software failure, or component failure (relay stuck).</li> <li>3. Safety thermostat opened, or cooling fan stalled.</li> <li>4. Wiring Problem.</li> </ol>	<ol style="list-style-type: none"> <li>1. Press CLEAR key.</li> <li>2. If CLEAR key does not eliminate problem, turn off power for 30 seconds, then turn on power.</li> <li>3. Check wiring of Lock Motor, and Lock Switch A and B, and Door Switch circuits. Look for stalled cooling fan, broken safety thermostat, shorts or opens.</li> <li>4. Unplug Latch Motor terminal from the timer side, apply power (L1) directly to the Lock Motor, if the motor does not rotate, replace Lock Motor Assembly. Plug Latch Motor terminal.</li> <li>5. Check Lock Switch A, and B 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 Switches. If the Lock Switches are defective, replace Motor Lock Assembly.</li> <li>6. If all above steps fail to correct situation, replace control.</li> </ol>

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

ELECTRICAL RATING		
	Main Oven	Auxiliary Oven
Broil Element Wattage	2750W/2065W	1500W/1130W
Bake Element Wattage	3000W/2253W	1500W/1130W
Total Rating 240/208 Volts	See nameplate	

CIRCUIT ANALYSIS MATRIX				
	Bake P1 & P2	Broil P1 & P3	MDL P5-P6	Lock Motor Switch A
Bake	X	X*		
Broil		X		
Clean	X			X
UnLocked				
Locking			X	
Locked				X
Unlocking			X	



\* Denotes broil element alternate with bake element.

