

FOR SERVICE TECHNICIAN'S USE ONLY

Tech Sheet

Do not discard

⚠ DANGER



Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ 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.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- Verify the controls are in the off position so that the appliance does not start when energized.
- Allow enough space to perform the voltage measurements without obstructions.
- Keep other people a safe distance away from the appliance to prevent potential injury.
- Always use the proper testing equipment.
- After voltage measurements, always disconnect power before servicing.

Temperature Adjustment

Step	Function	Keypad Pressed	Notes
1	Temperature adjustment	Press the "down" arrow keypad for 5 seconds.	The current offset, if any, is shown in the display 0. Adjust temperature in 10°F (5°C) increments.
2	Temperature adjustment options	Press the "up" or "down" arrow keypads.	Bake temperature adjustment cannot result in operating temperatures higher than 500°F (260°C) or lower than 170°F (77°C), as measured at the oven center. The broil temperature is automatically offset the same as the bake temperature.
3	Activate temperature adjustment	Press START.	Desired temperature adjustment is activated. If START is not pressed within 1 minute, adjustment is ignored.

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Diagnostics Mode (All LCX Controls)

Enter Diagnostics mode by pressing CANCEL>CANCEL>START within a 5-second period.

Step No.	Keypad Pressed	Setting	Control Display	Diagnostics Mode Operation Descriptions
1	CANCEL>CANCEL>START	1st	"tSt"	Perform Diagnostics Test mode relay checks. See "Diagnostics Test Mode (All LCX Controls)" section.
		2nd	### °F or °C	Oven sensor temperature
		3rd	U 00 through U 30 or U 00 through U-30 °F or °C	User cooking offset. "-" (minus) indicates a negative number.
		4th	S## ## ##	Software version
		5th	Ch ###	Memory checksum
		6th	CLr	Displayed if there is no error code.
		6a	F#E#	Displayed if an error code is present. Press START to clear error code.
		6b	##	Accumulated days of operation before error code. Displayed only if an error code is present.
2	Press the "up" arrow keypad to scroll through the diagnostics settings.	7th	##### (0 - 1999)	Total accumulated days of operation
		8th	00 or 01	Latch and door switch state: 00 = open (unlocked), 01 = closed (unlocked)
3	If an error code is present, follow the suggested action procedure listed for the displayed code as listed in the "Failure/Error Display Codes (All LCX Control Displays)" section. If CLr is displayed, do not continue the relay checks in Diagnostics Test mode.			
4	While still in the Diagnostics mode, press the keypads below as indicated to test individual control relays.			

- Entering Diagnostics mode will cancel any active oven operation.
- Enter the Diagnostics mode only after the oven is cool.

Diagnostics Test Mode (All LCX Controls)

Function	Keypad Pressed	Description
Bake relay	BAKE	Turns Bake element on. Press again to turn Bake element off.
Broil relay	BROIL	Turns Broil element on. Press again to turn Broil element off.
Latch motor relay	CLEAN	Cycles the latch motor; control is looking for the switch change. Press CLEAN a second time to cycle the latch motor again and return to Diagnostics mode.
Oven light relay	OVEN LIGHT	Turns oven light on; "OL" is displayed. Press again to turn oven light off.
LED display check	TIMER SET/OFF	Turns on all LED display segments. Press again to return to previous display.
Enunciator operation	START	Emits tone for validation.
Exit Diagnostics mode	CANCEL	Emits tone and exits Diagnostics mode.

- All elements (depending on which cycle is being used) will operate with the oven door open.
- Latch motor will not cycle with oven door open.
- On electric models, the DLB (double line break) will engage on entering the Diagnostics mode and disengage on exit.

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Failure/Error Display Codes

Display Codes	Likely Failure Condition	Suggested Corrective Action Procedure
No display	Control not operational	<p>Check for proper voltage input at P1-1 to P1-3 by completing the following steps:</p> <ol style="list-style-type: none"> 1. Unplug range or disconnect power. 2. Connect voltage measurement equipment. 3. Plug in range or reconnect power and confirm voltage reading is 120 volts. If it is, unplug range or disconnect power and go to Step 4. If it is not, unplug range or disconnect power and go to Step 5. 4. Replace the control. Go to Step 6. 5. Check wires and connectors between the control and terminal block and make sure connectors are fully seated. 6. Replace all parts and panels before operating. 7. Plug in range or reconnect power. 8. Verify operation is normal. Enter Diagnostics mode and verify that there are no error codes.
F1E0 F1E1 F1E2	Internal board failure A/D Error(s)	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. If failure displayed does not match, go to Step 2. 2. Unplug range or disconnect power. 3. Replace the control. 4. Replace all parts and panels before operating. 5. Plug in range or reconnect power.
F2E1	Shorted keypad	<ol style="list-style-type: none"> 1. Unplug range or disconnect power. 2. Inspect keypad connection to main control (P11). If connection is loose/unplugged, reconnect. 3. Replace all parts and panels before operating. 4. Plug in range or reconnect power. Allow 60 seconds for main control to identify keypad. If error code reappears, go to Step 5. If the error code does not reappear, go to Step 9. 5. Unplug range or disconnect power. Inspect keypad connector (P11) to main control for sign of damage (cracked, ripped, etc.). If damage is found, go to Step 8. 6. Replace all parts and panels before operating. 7. Plug in range or reconnect power. Allow 60 seconds for main control to identify keypad. If error code reappears, go to Step 8. If the error code does not reappear, go to Step 9. 8. Replace components in the following order of likelihood of failure: <ol style="list-style-type: none"> a. Keypad b. Main control 9. Replace all parts and panels before operating. 10. Plug in range or reconnect power. 11. Verify operation is normal. Enter Diagnostics mode and verify that there are no error codes.
F3E0	Oven sensor opened Oven sensor shorted Bake/Broil range over temperature Clean range over temperature	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. Verify oven sensor temperature is at room temperature (typically 50°F to 90°F [10°C to 32.2°C]) and verify failure code. If failure code does not match, go to Step 2. 2. Unplug range or disconnect power. 3. Check all sensor connections on harness and board. 4. Disconnect sensor from harness. 5. Measure sensor resistance between connector pins and confirm reading is between 1000Ω and 1200Ω at room temperature. Also measure from sensor connector to sensor casing for possible short. If measurement is not correct or if short is found, replace sensor. 6. Trace wires and connectors to sensor from control, then back to control. If wire or connection is damaged, replace the harness. If wire or connector is not damaged, replace oven temperature sensor. 7. Reconnect the sensor to the harness. 8. Replace all parts and panels before operating. 9. Plug in range or reconnect power. 10. Enter Diagnostics mode and clear the error code. Press BAKE and then START. Observe for longer than 1 minute. 11. If failure does not reappear, stop. If failure remains, unplug range or disconnect power and check wire connections.

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Display Codes	Likely Failure Condition	Suggested Corrective Action Procedure
F5E0	Door and switches do not agree (Clean mode)	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. If failure displayed does match, go to Step 2. 2. Unplug range or disconnect power. 3. Inspect door for warping or misalignment. Verify door switch continuity with switch fully depressed. 4. Check wires and connectors from the control to the door switch, then back to the control. If any wires or connectors are damaged, replace the wire harness. If no wires or connectors are damaged, replace the door switch. 5. Replace all parts and panels before operating. 6. Plug in range or reconnect power. 7. Enter Diagnostics mode and clear the error code. 8. Program and start the Clean mode. Observe for longer than 1 minute. 9. Verify operation is normal. Enter Diagnostics mode and verify that there are no error codes.
F5E1	Door latch not operating (Clean mode)	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. If failure displayed does match, go to Step 2. 2. While in Diagnostics mode, press the Clean keypad to run the lock motor. If the door is not latched (locked) and the Door Locked icon is lit, go to Step a. If the door is latched (locked) and the Door Locked icon is not lit, go to Step b. If the door is not latched (locked) and the Door Locked icon is not lit, go to Step c. <ol style="list-style-type: none"> a. The control, latch motor, and latch switch are operating properly. Check the locking mechanism. <ol style="list-style-type: none"> a1. Unplug range or disconnect power. a2. Check the integrity of the latch mechanism from cam, through the actuating rod, to the latch pawl and door slot. a3. Ensure that the pawl aligns with the door slot. Correct any mechanical malfunction and go to Step c. b. The latch switch is not indicating that the door is locked. <ol style="list-style-type: none"> b1. Unplug range or disconnect power. b2. Replace the motor assembly and go to Step 3. c. The latch motor relay or latch motor is not working. <ol style="list-style-type: none"> c1. Check for proper voltage at P2-3 to N when the latch motor should be running (within 20 seconds of pressing CLEAN) by completing the following steps. c2. Unplug range or disconnect power. c3. Connect voltage measurement equipment. c4. Plug in range or reconnect power and confirm voltage reading is 120 volts. Unplug range or disconnect power. If voltage reading is 120 volts, go to Step c6. If the voltage reading is not 120 volts, go to Step c5. c5. Replace the control, then go to Step 3. c6. Check continuity of the latch motor. <ul style="list-style-type: none"> - If continuity is present, check the electrical connections and inspect for damage to the harness. Make any repairs, then go to Step 3. - If continuity is not present, replace motor assembly. Go to Step 3. 3. Replace all parts and panels before operating. 4. Plug in range or reconnect power. 5. Put range into Clean mode to verify proper operation. 6. Verify operation is normal. Enter Diagnostics mode and verify that there are no error codes.

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Display Codes	Likely Failure Condition	Suggested Corrective Action Procedure															
F6E1	Oven over temperature when heating	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. Oven temperature is displayed on the screen. Manually check the oven for heat. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">If oven is ...</th> <th style="text-align: left;">and temperature reading is ...</th> <th style="text-align: left;">go to ...</th> </tr> </thead> <tbody> <tr> <td>Warm</td> <td>Near 600°F (316°C)</td> <td>Step 2</td> </tr> <tr> <td>Warm</td> <td>Room temperature</td> <td>Step 4</td> </tr> <tr> <td>Room temperature</td> <td>Near 600°F (316°C)</td> <td>Step 4</td> </tr> <tr> <td>Room temperature</td> <td>Room temperature</td> <td>Step 5</td> </tr> </tbody> </table> 2. Unplug range or disconnect power. Inspect control board connector P3 for a backed-out terminal or loose connection. If found, reconnect or replace harness and go to Step 5. If not, go to Step 3. 3. Disconnect control board connector P3. Measure resistance across P3-4 and P3-5. At room temperature, the thermal sensor should read between 1000Ω and 1200Ω. Reconnect P3. If the test results are correct, replace the control board and go to Step 5. If the results are not correct, go to Step 4. 4. Disconnect the oven sensor from the wiring harness and measure resistance across the sensor terminals. Resistance reading should be between 1000Ω and 1200Ω. If the test results are correct, replace the wiring harness between the sensor and the control board, and then go to Step 5. If the test results are not correct, replace the sensor and go to Step 5. 5. Replace all parts and panels before operating. 6. Plug in range or reconnect power. 7. Verify operation is normal. Enter Diagnostics mode and verify that there are no error codes. 	If oven is ...	and temperature reading is ...	go to ...	Warm	Near 600°F (316°C)	Step 2	Warm	Room temperature	Step 4	Room temperature	Near 600°F (316°C)	Step 4	Room temperature	Room temperature	Step 5
If oven is ...	and temperature reading is ...	go to ...															
Warm	Near 600°F (316°C)	Step 2															
Warm	Room temperature	Step 4															
Room temperature	Near 600°F (316°C)	Step 4															
Room temperature	Room temperature	Step 5															
F9E0	Miswired house Miswired range	<ol style="list-style-type: none"> 1. Enter Diagnostics mode by pressing CANCEL>CANCEL>START within 5 seconds. If failure displayed does match, go to Step 2. 2. Unplug range or disconnect power. 3. Verify that the house power supply provides 240 VAC between L1 and L2, and 120 VAC between L1 and N and L2 and N. If house power supply is not correct, call a qualified electrician. If voltage measurements are correct, go to Step 4. 4. Verify that the electric supply is wired correctly at the range terminal block. 5. Replace all parts and panels before operating. 6. Plug in range or reconnect power. 7. Verify normal operation. 8. Enter Diagnostics mode and clear the error code. 															

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Component Testing Chart

NOTE: This Component Testing Chart covers different models. The range may have some or all of the components listed in the following chart. 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 240 +10%/-15% volt power supply at the wall outlet.

When checking for proper voltage, complete the following steps:

1. Unplug range or disconnect power.
2. Connect voltage measurement equipment.
3. Plug in range or reconnect power and confirm voltage reading.
4. Unplug range or disconnect power after performing voltage measurements.

Component	From	To	Resistance: Measure Without Power Applied	Notes	Nominal Voltage
Door switch	P3-1	P3-2	Door open = open circuit Door closed = closed circuit		2 VDC with door open 0 VDC with door closed
Oven temp sensor	P3-4	P3-5	1000-1200Ω at room temperature. Measure only resistance, not voltage. The operating temperature range is from -40°F (-40°C) to 1100°F (593°C).	Disconnect connector P3 from control before measuring RTD.	N/A
Oven light	P2-1	WH (neutral) P1-3	0-40Ω nominal		120 VAC
Bake element	P4-3	P5-4	10-40Ω nominal	For voltage, measure in Bake mode; will cycle between Bake and Broil elements ON when heating.	240 VAC
Broil element	P5-1	P5-4	10-40Ω nominal	For voltage, measure in Broil mode. Only Broil element is ON when heating.	240 VAC
Thermo fuse	P5-1	P5-4	Closed circuit	Thermo fuse will open if it exceeds temperature. Nominal voltage is measured when Broil element is energized.	240 VAC
Door latch motor	P3-3	WH (neutral) P1-3	500-3000Ω	Latch motor locks door at start of Clean cycle.	120 VAC
Radiant element (single)	H1	H2	Thermal limiter opens at 1040°F (560°C).	"Cooktop On" will show in the control main display when any element is ON.	240 VAC
Radiant element (dual)	H1A	H2			
Coil element	H1	H2		"Cooktop On" will show in the control main display when any element is ON.	240 VAC

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Notes

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For patent information, please see Pat. www.patent-listing.com

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