

## DIAGNOSTICS MODE

To enter Diagnostics Mode, the unit must be in Lock Mode (see Section 3, Electronic Control, page 3-6, for a description of how to put the unit into Lock Mode). Press and hold the universal OFF key for 5 seconds, the controls will enter Diagnostics Mode 1. A beep will sound after 5 seconds to let the user know that they can lift their finger from the key (See Figure 5-1).

### NOTES:

- If any other keypad sensor detects another input signal, Diagnostics Mode will not engage.
- If the universal OFF key is not released after seven seconds, Diagnostics Mode will be cancelled and not engage. The unit will return to Lock Mode.
- All Induction Coils are disabled and there will be no audible signals during Diagnostics.
- If after 60 seconds no other inputs are detected, the controls exit Diagnostics Mode and return to Lock Mode.
- While in Diagnostics Mode, 1200W will refer to front 1200W coil for all sized cooktops, and 3000W will refer to the control that operates the rear 3000W boost coil for all sized cooktops.

Upon entry to Diagnostics Mode, the LED Test will automatically start. To step through tests, the user will use the "+" and "-" keys of the 3000W coil (the rear element, HI-POWER). The 3000W control will step up one LED for each test to identify which test is being performed. See the individual descriptions for each model, in Figure 5-2 below).

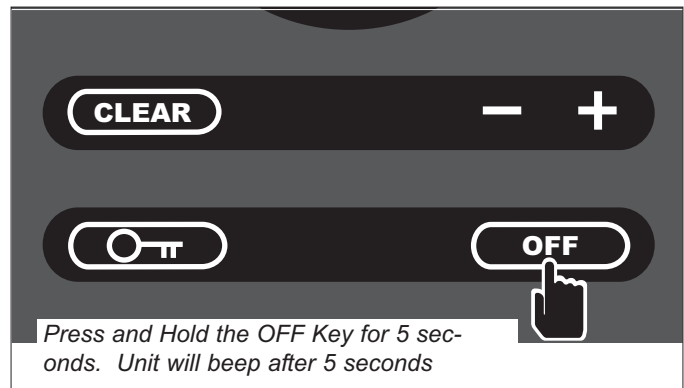


Figure 5-1. Diagnostic Mode.

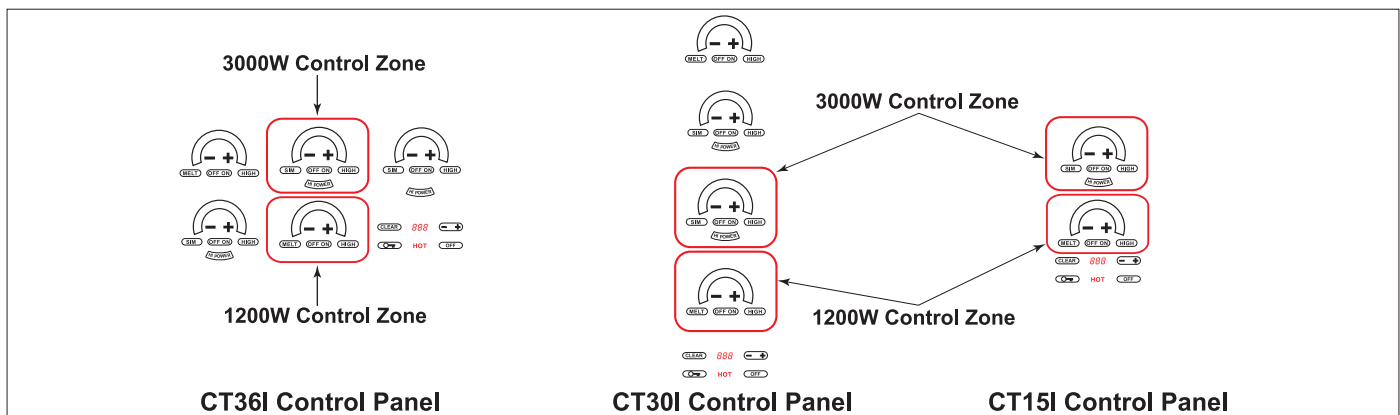


Figure 5-2.

### LED Test (First Test)

1. Upon entry to Diagnostics Mode, the LED Test will automatically start. To step through tests, the user will use the "+" and "-" keys of the 3000W (the rear element, HI-POWER) inductor (See Figure 5-2).
2. During this test, all LEDs will stay on. Press the "+" or "-" keys of the 1200w inductor to turn all LED's on or off.
3. To step back to the last known state test, press the "-" key under the HI-POWER Control Zone that pertains to the appropriate Model being Diagnosed.

### COOLING FAN TEST (Second Test)

1. To enter Cooling Fan Test, press the "+" key of the 3000W inductor. The bar graph will show 2 LEDs.  
**NOTE:** This Test is only used for units that include a 120mm cooling fan (prior to serial #17600000).
2. The 1200W inductor will have all of the bar graph lights illuminated.
3. The cooling fan relay will turn ON causing the cooling fan to turn ON.
4. Press the "-" key of the 1200W inductor, all bar graph LEDs (1200W Control only) and fan will turn OFF.
5. Press the "+" key of the 1200W inductor, all bar graph LEDs (1200W Control only) and fan will turn ON.
6. Press the "-" key on the 3000W inductor to step back to the LED Test.



### CONTROL TEMPERATURE TEST (Third Test)

1. To enter Control Temperature Test, press the "+" key of the 3000W inductor controls. The 3000W bar graph will show 4 LEDs.
2. The 3-digit display illuminates Ambient Control Temperature in °F.
3. Press the "-" key on the 3000W inductor to step back to the Cooling Fan Test.

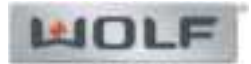
### HEAT SINK THERMISTOR TEMPERATURE TEST (Fourth Test)

1. To enter Heat Sink Thermistor Temperature Test, press the "+" key of the 3000W element controls. The 3000W bar graph will show 5 LEDs.
2. The 3-digit display illuminates Heat Sink THERMISTOR temperature in °F.
3. The 1200W control will show LEDs 1, 2 and 3 to indicate each heatsink temp. (36" has 3, 30" has 2 & 15" has 1)
4. To access each heatsink temperature, press the "+" and "-" keys of the 1200W controls.
  - 1 LED = Generator Board #1: Center board for 15"; Right side of 30" or middle two coils of 36" units
  - 2 LEDs = Generator Board #2: Left board 30" & 36" units
  - 3 LEDs = Generator Board #3: Right board 36" units
5. Press the "-" key on the 3000W element to step back to the Control Temperature Test.

### ERROR CODE INDICATOR (Fifth Test)

#### NOTES:

- See Error Code Chart, for a description of the error and action that should be taken.
  - If one possible cause of an error code has been corrected, reset error history and verify operation. Only proceed to other possible sources if problem still exists or if the error reoccurs.
  - To clear Error code history press and hold the HI POWER key of the 3000W controls for 5 seconds.
  - Error codes should be cleared after service is complete.
1. To enter Error Code Indicator Test, press the "+" key of the 3000W element controls. The 3000W bar graph will show 6 LEDs.
  2. The 1200W bar graph will show 0-16 bars based on which error code is being displayed in the Timer display. If no errors were recorded, zero bars will illuminate and the Timer display will be blank.
  3. The Timer display will show the corresponding error code stored in memory, and will be displayed as Exx.
  4. Pressing the "+" & "-" keys of the 3000W will step through any of the recorded error codes. If there are no additional error codes.
  5. When there are no errors stored or if you are displaying the first error code, press the "-" key of the 3000W inductor to step back to the Heat Sink Thermistor Temperature Test.
  6. To clear Error code history press and hold the HI POWER key of the 3000W controls for 5 seconds.

**SOFTWARE VERSION (Seventh Test)**

1. To enter Software Version, press the "+" key of the 3000W element controls. The 3000W bar graph will show 15 LEDs.
2. The Timer display will illuminate the software version (scrolling if necessary).
3. Press the "-" key of the 3000W inductor to step back to the Power Cycling Information.

**LAST KNOWN STATE (Eighth Test)**

All priority 1 errors will take precedence over priority 2 errors. If there are no known priority 1 errors recorded, the software will record the LKS of the last recorded priority 2 error. If there are no priority 1 or 2 errors, the Timer display will continue to display LS. If a priority 1 error should occur, the LKS would be recorded and not any subsequent priority 2 error's LKS.

1. To enter Last Known State, press the "+" key of the 3000W element controls. The controls will light up the LEDs of the last known state.
2. The 3-digit display will display a "LS" right justified in the window.
3. Press the "-" key of the 3000W Inductor to step back to the Software Version.
4. Press the "+" key of the 3000W inductor will step forward to the LED TEST.



### Error Mode

Error codes are organized in a priority-based scheme which allows for different behavior based on the priority of the error. There are three priority levels, defined as follows:

**Priority 1:** Priority 1 errors are considered safety related or of such catastrophic scope that the control is considered inoperable. These errors will be continuously displayed to the end user, indicating that a service call is required. No user functions will be allowed, and any active functions will be cancelled upon generation of the priority 1 error. The error can be canceled, but will re-generate if the condition which caused the error still exists. These errors will be displayed as a stationary LOCK (KEY) LED and an error code in the 3-digit display indicating a permanent error and will not allow the control to return to Stand-By Mode.

**Priority 2:** Priority 2 errors will be displayed to the user only during an active operational mode or upon an attempt by the user to enter an operational mode. The criteria for these errors, is that they are likely to limit the proper functionality of the system and would normally cause some customer dissatisfaction. These errors can be cancelled and will not be displayed again until the user again attempts to start an operational mode. Any active function on the CZ for which the error has scope will be cancelled upon generation of the priority 2 error. Errors with system scope will apply to all CZ's; errors with CZ scope will apply only to the appropriate CZ unless otherwise noted. This level of error will be expressed by a flashing LOCK (KEY) LED indicating a temporary error and allows the control to return to Stand-By once the situation is permissible

**Priority 3:** Priority 3 errors are defined as errors which could cause some possible or conditionally impaired functionality, most likely to be never noticed by the end user. These errors, although logged internally, will never be displayed to the end user.

### Error Logging

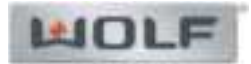
Multiple instances of the same error will not be repeatedly logged – the error log will only show one instance of a particular error.

#### NOTES:

- *If one cause of an error code has been corrected reset error and verify operation. Only proceed to other possible sources of that error if the problem still exists or if the error reoccurs.*
- *To clear Error code history press and hold the OFF/ON key of the 1200W controls for 5 seconds.*

### Error Code Chart Abbreviations (used on Pages 5-6 thru 5-9):

F = Front (15")  
FC = Front Center (36")  
FL = Front Left (30", 36")  
FR = Front Right (30")  
R = Rear (15") ;  
RC = Right Center (36")  
RL = Rear Left (30", 36")  
RR = Right Rear (30", 36")



ERROR PRIORITY	DISPLAYED ERROR #	ERROR CONDITION	NOTES	POSSIBLE SOURCE(S) OF FAILURE / ACTION REQUIRED
1	No Indicator	Power loss	The control panel will turn off display and shut off all burners.	N/A
1	E1	Ambient temperature too high	If ambient temperature exceeds error temperature limit, unit will enter Lock Mode until ambient temperature falls within acceptable temp. limits.	1. Insufficient venting. Action: Verify air flow is not restricted and verify ambient/control temp. using test #3 2. Fan failure Action: Run cooling fan test #2 3. Faulty fan connection Action: Check (J6) connection 4. Comm Board failure. Action: Change Comm Board
2	E2	Generator 1: Heatsink temperature too high.	The burners will be unavailable until heatsink temperature falls below 194°F (90°C) limit.	1. Ambient temp. too high causing generator heatsink sensor to alert control. Action: Remove/Reduce external heat source.
2	E3	Generator 2: Heatsink temperature too high.		2. Induction generator failure. Action: Verify heatsink temp. test #4.
2	E4	Generator 3: Heatsink temperature too high.		3. Bad generator board. Action: Change generator board.
1	E5	Open ambient thermistor.	Cooktop will enter Lock Mode and display error code. An open sensor error will not be recorded until 5 minutes of consecutive open sensor readings and during burner activation only.	Comm Board failure. Action: Change Comm Board
1	E6	Shorted ambient thermistor.	If the A/D value exceeds error A/D limit, the unit will enter Lock Mode and display error code in timer display.	Comm Board failure. Action: Change Comm Board
1	E7	Diode Configuration Error.	Cooktop keyboard shows incorrect diode configuration.	1. Faulty cable connection. Action: Check (J4) connection 2. Keyboard failure. Action: Change Glass Assy. 3. Comm board failure. Action: Change Comm Board



ERROR PRIORITY	DISPLAYED ERROR #	ERROR CONDITION	NOTES	POSSIBLE SOURCE(S) OF FAILURE / ACTION REQUIRED
2	E8	Generator 1: Comm. Error	Burners associated with generator 1 disabled, if communication between com board and generator 1 fails.	1. Faulty cable connection Action: Check (J1, J2, or J3) connections.  2. Induction generator failure Action: Change generator board.  3. Com board failure. Action: Change Com Board
2	E9	Generator 2: Comm. Error	Burners associated with generator 2 disabled, if communication between com board and generator 2 fails.	
2	E10	Generator 3: Comm. Error	Burners associated with generator 3 disabled, if communication between com board and generator 3 fails.	
1	E11	A/D Failure	Cooktop enters Lock Mode and display error code in timer display.	Com Board failure Action: Change Com Board
3	E12	Universal OFF key Failure	A watchdog timer will be reset every key release. If key release is not seen for determined debounce time, control will record error.	1. Keyboard failure. Action: Verify key operation 2. Faulty cable connection. Action: Check (J4) connection. 3. Keyboard failure Action: Change Glass Assy.
3	E13	Shorted Key Failure	A watchdog timer will be reset every key release. If key release is not seen for determined debounce time, control will record error and effected burner unavailable, until shorted key error is corrected.	1. Keyboard failure. Action: Verify key operation 2. Faulty cable connection Action: Check (J4) connection. 3. Keyboard failure Action: Change Glass Assy.
1	E19	Read Line Failure	Control will enter Lock Mode and display appropriate error message until error is corrected.	1. Faulty cable connection. Action: Check (J4) connection. 2. Keyboard failure. Action: Change Glass Assy. 3. Com board failure. Action: Change Com Board
2	E20	Generator 1: Burner (F,FR,FC) sensor shorted.	If A/D value exceeds error A/D limit, the effected burner will shutdown.	Induction generator failure. Action: Change affected generator board
2	E21	Generator 2: Burner (FL) sensor shorted.		
2	E22	Generator 1: Burner (F,FR,FC) sensor open.	If A/D value exceeds error A/D limit, the effected burner will shutdown.	Induction generator failure. Action: Change affected generator board
2	E23	Generator 2: Burner (FL) sensor open.		



ERROR PRIORITY	DISPLAYED ERROR #	ERROR CONDITION	NOTES	POSSIBLE SOURCE(S) OF FAILURE / ACTION REQUIRED
2	E30	Generator 1: Burner (F,FR,FC) 'ON LED' Failure	Effectuated burner is not available.	LED board failure. Action: Perform LED test #1 and if all LEDs work, reset error. Action: If one of the LEDs fails to illuminate change the Glass Assy.
2	E31	Generator 1: Burner (R,RR,RC) 'ON LED' Failure		
2	E32	Generator 2: Burner (RL) 'ON LED' Failure		
2	E33	Generator 2: Burner (FL) 'ON LED' Failure		
2	E34	Generator 3: Burner (RR) 'ON LED' Failure		
2	E40	Generator 1: Burner (R,RR,RC) sensor shorted.	The effected burner will shutdown.	Induction generator failure. Action: Change affected generator board.
2	E41	Generator 2: Burner (RL) sensor shorted.		
2	E42	Generator 3: Burner (RR) sensor shorted.		
2	E43	Generator 1: Burner (R,RR,RC) sensor open.	The effected burner will shutdown.	Induction generator failure. Action: Change affected generator board.
2	E44	Generator 2: Burner (RL) sensor open.		
2	E45	Generator 3: Burner (RR) sensor open.		
2	E50	Generator 1: Open heat sink thermistor.	The effected burner will shutdown.	1. Induction generator failure. Action: Perform Heatsink test #4 and if appears ok, reset error and test operation  2. If error returns. Action: Change affected generator board.
2	E51	Generator : Open heat sink thermistor.		
2	E52	Generator 3: Open heat sink thermistor.		

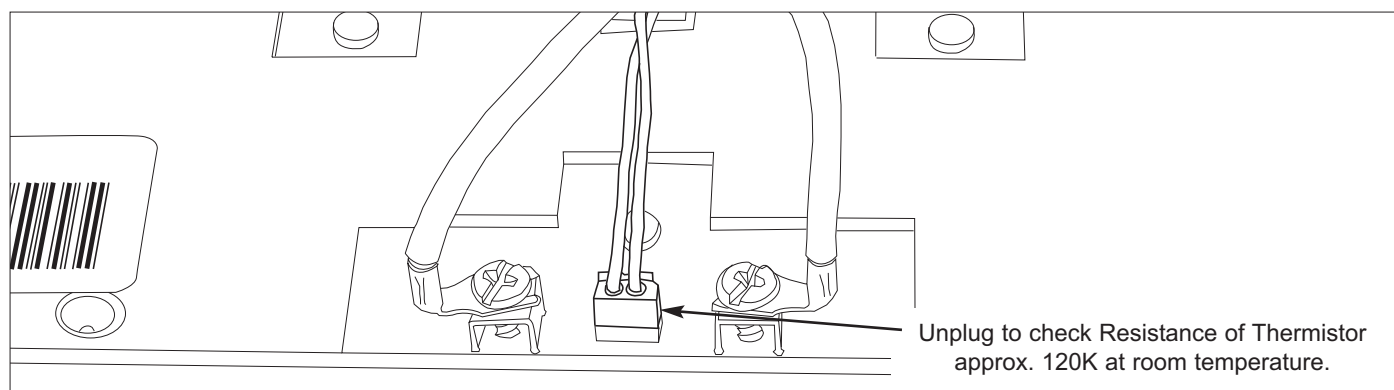
ERROR PRIORITY	DISPLAYED ERROR #	ERROR CONDITION	NOTES	POSSIBLE SOURCE(S) OF FAILURE / ACTION REQUIRED
2	E53	Generator 1: Shorted heat sink thermistor.	The effected burner will shutdown.	1. Induction generator failure. Action: Perform Heatsink test #4 and if appears ok, reset error and test operation  2. If error returns. Action: Change affected generator board.
2	E54	Generator 2: Shorted heat sink thermistor.		
2	E55	Generator 3: Shorted heat sink thermistor.		

### PROBLEMS ASSOCIATED WITH INDUCTION COOKTOP

PROBLEM	POSSIBLE CAUSE	TEST / ACTION
"HOT" indicator stays on	Glass Surface too warm	Verify Glass Temp Below 122°F (50 °C) Check for other heat sources (e.g. Sun, warm pans setting on surface ...) Check for Error Codes & follow suggested action
	Electrical Noise spike	Turn Breaker off for 5 min., reset and try
	Defective Thermistor	Check Resistance of Generator Thermistor (see Figure 5-4)
	Bad Control Board	Replace Control Board
No Pan Detection	Incorrect Pan Type	Use only pans designed and tested for use with Induction
	Unit not wired properly	Verify unit supplied with correct voltage. Low voltage will allow lights to work but pan detection will not function.

### ⚠ WARNING

**TO AVOID ELECTRICAL SHOCK, POWER TO UNIT MUST BE DISCONNECTED BEFORE DISASSEMBLING COOKTOP.**



**Figure 5-4. Defective Thermistor.**