SERVICE DATA SHEET Electric Ranges with ESEC20 and Induction Smoothtop

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. Before servicing or moving an appliance, remove power cord from electric 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.
 - All panels are properly and securely reassembled.

Electronic Surface Element Control (ESEC)

This range is equipped with an Electronic Surface Element Control (ESEC), which precisely controls the smoothtop elements at multiple settings. The warmer zone is not controlled by the ESEC. For the user, the elements are operated by pushing in and turning the knobs to the desired settings. The control settings are shown in 2-digit displays above each knob.

Hot Element display message (HE) - If any of the induction elements are hot, the hot surface message "HE" will display and remain ON until the cooktop cools.

ESEC lockout feature (--) - The electronic oven control's self-clean and Cooktop Lockout features will not operate when a surface element is ON. Conversely, the surface elements controlled by the ESEC will not operate when an oven control self-clean or Cooktop Lockout mode is active. When the oven control is in a self-clean or Cooktop Lockout mode, "--" will appear in the ESEC displays to signify that the surface heating elements are locked out.

ESEC system components

The ESEC system consists of the following components:

UIB or User Interface Board - this circuit board is mounted with screws and stand-offs in the backguard.

Potentiometer display boards - push-to-turn controls and cooktop displays for each element and connections to the UIB.

ESEC harness connects the ESEC system components and communicates with the EOC (Electronic Oven Control).

Induction control assembly - circuit boards in plastic housings mounted inside the cooktop assembly.

Notes on replacing parts

Replacing an induction control assembly*

When replacing an induction control assembly on the back of the range, do not over-tighten the screws that secure each Control Assembly to the range or the screws that secure the rear wire shield to the Control Assembly. Over-tightening the screws can damage the plastic housings holding the circuit boards.

Replacing an induction element

Whenever replacing any induction element, use only the screws supplied with the range to secure the element to the mounting panel. Never use any other type of screw to attach the induction element .

Replacing the UIB*

When replacing the UIB, use no more than 20 in/lb to tighten the screws that secure the UIB. Over tightening these screws can possibly damage the UIB board.

* **Please note:** Electronic boards are very sensitive to static electricity. Static electricity can permanently damage electronic boards. Before handling these parts, be sure to drain static electricity from your body by properly grounding yourself.

Lo	3.0
1.2	3.5
1.4	4.0
1.6	4.5
1.8	5.0
2.0	5.5
2.2	6.0
2.4	7.0
2.6	8.0
2.8	9.0
3.0	10.5
3.5	13.0
4.0	15.5
4.5	18
5.0	21
5.5	25
6.0	31
6.5	38
7.0	45
7.5	50
8.0	54
8.5	59
9.0	64
9.5	81
HI	100
Pb	139-152

Power

Level %

Displayed

Power





IMPORTANT DO NOT REMOVE THIS BAG OR DESTROY THE CONTENTS WIRING DIAGRAMS AND SERVICE INFORMATION ENCLOSED REPLACE CONTENTS IN BAG

p/n 807880602 Rev A (13/10)

Electronic Surface Element Control System (ESEC) Error Code Descriptions

When a specific error condition occurs in the ESEC system a code will be displayed in the electronic control panel. The error codes are displayed as "EO" in the left display followed by the code number in the right display. For each Error Code there is a listing of the likely cause or failure condition, as well as suggested corrective actions to be taken. Always reset the power by disconnecting or turning off the power supply for 30 seconds to see if the failure condition will clear. If the error code returns perform the steps one at a time in the order listed below to correct the specific failure condition. **NOTE: If multiple changing error** codes are displayed check for disconnected wires or cables.

Tech Sheet Abbreviations and Terminology					
EOC = Electronic Oven Control	ESEC = Electronic Surface Element Control	TST = Touch Sensor Technology (touch control glass panel)			
UIB = User Interface Board	TSEC = Touch Sensor Electronic Control	RTD = Resistance Temperature Device. (Temp Probe or Temp Sensor)			
VSC = Variable Speed Control	PS = Power Supply board (PS1, PS2, etc.)	TCO = Thermal Cut Out also "Thermo Disc" or "Thermal Limiter"			

	Electronic Surface Element Control (ESEC) Fault Code Descriptions					
Code	Condition / Cause	Suggested Corrective Action				
11	Jammed key	 Verify if there is no mechanical interference in the Touch Panel area (utensil, wire, etc.). Disconnect power, wait 30 seconds, and reapply power. If fault returns: Verify harnesses bertween ESEC-UIB and the Touch Panel. Replace the ESEC-UIB. Replace the Touch Panel 				
14	Touch Panel Tail missing	 Disconnect power, wait 30 seconds, and reapply power. If fault returns: Verify harnesses between ESEC-UIB and the Touch Panel are connected properly. Replace the ESEC-UIB. Replace the Touch Panel. 				
15	ESEC Self Test fail	 Verify cables and connections on the ESEC-UIB are not damaged and are well installed. Replace the ESEC-UIB Replace the ESEC Power Supply board. 				
20/27	Loss of communication with Left Zones Generator Circuit board.	 Verify communication harness between left and right side generator circuit board is not damaged and is well installed. Verify AC power harness is not damaged and is well installed at BPL and BPN connectors of left side generator circuit board. Verify ID1 jumper is well installed at BC1 connector of the left side generator circuit board (BC5 not connected). Verify there is no jumper installed at BC1 and BC5 connectors of the right side generator circuit board. Replace the left side generator circuit board. 				
21/28	Loss of communication with Right Zones Generator Circuit Board.	 Verify AC Power harness is not damaged and is well installed at BPL and BPN connectors of right side generator circuit board. Verify ID1 jumper is well installed at BC1 connector of the left side generator circuit board (BC5 not connected). Verify there is no jumper installed at BC1 and BC5 connectors of the right side generator circuit board. Replace the right side generator circuit board. 				
23	Loss of communication with both Generator Circuit Boards.	 Verify AC Power Supply at the input of the appliance is 240VAC. Verify communication harness going from the ESEC20 UIB and the right side generator circuit board is not damaged and is well installed. Replace ESEC20 UIB. Replace the right side generator circuit board and both communication harnesses. 				
30/35	AC input voltage too high(30) AC input voltage too low(35)	 Verify the house voltage at the main incoming connection, the voltage should be 240VAC. Verify cables and connections on the left side generator circuit board are not damaged and are well installed. Replace the left side generator circuit board. 				
31/ 32/ 34/ 36/ 37/ 40	Internal generator errors	 Verify cables and connections on the Left Side Generator Circuit Board are not damaged and are well installed. Replace the left side generator circuit board. 				
33	Cooling fan blocked	 Verify cables and connections on the left side generator circuit board are not damaged and are well installed. Verify there is no mechanical interference with the fan on the left side generator circuit board. Replace the left side generator circuit board. 				
38	Cooling fan not connected	 Verify fan is correctly connected at BS1. Replace the left side generator circuit board. 				
39	Configuration error	 Replace the ESEC20 UIB. Replace both generator circuit boards. 				
41	Induction sensor (coils) defect	 Verify if the left side inductor (coils) are connected properly (measure approx. 0 Ohm). Replace left side generator circuit board if 0 ohm otherwise replace the inductor (coil). 				
42/43	General pot detection alarm (42) Pot detection sensor fail (43)	 Verify pans are the proper type (magnet sticks to the bottom of pan). Verify pan is not warped or rusty, pan is proper size, pan is placed correctly. Replace left side generator circuit board. 				
44	Generator Circuit Board temperature warning	 Ensure customer is not using the cooktop with a dry pan at a high temperature level. Ensure cooktop installation is as per installation instruction (check ventilation). Allow zone to cool down and then continue cooking. 				

45	Generator Circuit E alarm	Board temperature	 Ensure customer is not using the co Ensure cooktop installation is as pe Replace left side generator circuit b 	oktop with a dry pan at a high temperature level r installation instruction (check ventilation). pard.	
51 52/ 55 56	LF temperature sensor breaks LR temperature sensor breaks RF temperature sensor breaks		 Verify induction temperature sensor is connected properly at B71 or B81 as per wiring diagram. Verify the inductor temperature sensor is installed properly and not damaged (measure approx. 100K Ohms at room temperature). Pendace associate generator circuit board (left or right) as per wiring diagram. 		
63/64/ 67/68	3/64/ Element temperature sensor too hot 7/68 (LF, LR, RF, RR)		 Ensure customer does not use the cooktop with a dry pan at high temperature levels. Verify the inductor temperature sensor is installed properly and not damaged in the proper generator (measure approx. 100k Ohms at room temperature). Replace associate generator circuit bard (left or right) as per wiring diagram. 		
70 75	AC input voltage too high (70) AC input voltage too low (75)		 Verify the house voltage at the main incoming connection, the voltage should be 240VAC. Verify cables and connections on the right side generator circuit board are not damaged and are well installed. Replace the right side generator circuit board. 		
71/72/ 74/76/ 77/80	72/ Internal generator error. 76/ 80		 Verify cables and connections on the right side generator circuit board are not damaged and are well installed. Replace the right side generator circuit board 		
73	3 Cooling fan blocked		 1. 1) Verify cables and connections on the right side generator circuit board are not damaged and are well installed. 2. Verify there is no mechanical interference with the fan on the right side generator circuit board. 3. Replace the right side generator circuit board. 		
78	Cooling fan not connected		 Verify fan is correctly connected at BS1 of the right side generator circuit board. Replace the right side generator circuit board. 		
81	Induction sensor (coils) defect	 Verify if the right side inductor (coils) are connected properly (measure approx. 0 Ohm). Replace right side generator circuit board if 0 ohm otherwise replace the inductor (coil). 		
82/83	General pot detect Pot detection sens	tion alarm (82) or fail (83)	 Verify pans are the proper type (magnet sticks to the bottom of pan). Verify pan is not warped or rusty, pan is proper size, pan is placed correctly. Replace right side generator circuit board. 		
84	Generator Circuit I warning	Board temperature	 Ensure customer is not using the cooktop with a dry pan at a high temperature level. Ensure cooktop installation is as per installation instruction (check ventilation). Allow zone to cool down and then continue cooking 		
85	Generator Circuit I alarm	S. Anow zone to cool down and then continue cooking. cuit Board temperature 1. Ensure customer is not using the cooktop with a dry pan at a high te 2. Ensure cooktop installation is as per installation instruction (check v 3. Replace right side generator circuit board.		oktop with a dry pan at a high temperature level. installation instruction (check ventilation). poard.	
		ADD	ITIONAL ERROR (FAUL	T) CONDITIONS	
SYMPT	OM OR FAILURE	CONTROL DISPLAY	POSSIBLE CAUSE OR CONDITION	SUGGESTED CORRECTIVE ACTION	
Pan doe	es not heat up.	Normal operation	Pan too small fo proper pan detection and only works with low power.	Use larger pan or this pan on a smaller cooking zine. Refer to the owner's guide for proper pan selection.	
		Flashing Power level display and pan does	Pan not detected	Check whether the pots or pans are suitable for induction. Refer to owner's guide for proper pan selection.	
not heat		not heat	Inductor not correctly connected or Induction coil open.	Check the Inductor wire terminal connections. Ensure that they are properly connected and tightened. Test continuity of coil (should be less than 1 ohm).	
			Distance between Inductor and glass	Check whether the Inductor is properly positioned and touching the	
			ceramic too large.	glass cooktop surface.	
Individu controls cannot	al buttons or s cannot be used or always be used.	None	 ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. 	 Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. 	
Individu controls cannot Steady when co and swi	"HE" in display poking zone is cold itched off.	None "HE"	ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. Temperature sensor defect.	 Follow instructions for proper use of touch controls. Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. Test surface RTD approx. 1k ohms at room temperature. Re- place surface unit if resistance is not correct. Replace induction control assembly. 	
Individu controls cannot Steady when cr and swi Cooking shuts de	"HE" in display boking zone is cold tched off. g power too low or own prematurely.	None "HE" None	ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. Temperature sensor defect. Fluids spilled or object lying on control panel keypads.	 Follow instructions for proper use of touch controls. Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. Test surface RTD approx. 1k ohms at room temperature. Re- place surface unit if resistance is not correct. Replace induction control assembly. Clean up spills or remove objects. Restart cooktop in normal manner 	
Individu controls cannot Steady when ca and swi Cooking shuts de	"HE" in display boking zone is cold itched off. g power too low or own prematurely.	None "HE" None Normal Operation	ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. Temperature sensor defect. Fluids spilled or object lying on control panel keypads. Ventilation slots obstructed.	 Follow instructions for proper use of touch controls. Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. Test surface RTD approx. 1k ohms at room temperature. Re- place surface unit if resistance is not correct. Replace induction control assembly. Clean up spills or remove objects. Restart cooktop in normal manner 	
Individu controls cannot Steady when cc and swi Cookins shuts de	"HE" in display ooking zone is cold itched off. g power too low or own prematurely.	None "HE" None Normal Operation	ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. Temperature sensor defect. Fluids spilled or object lying on control panel keypads. Ventilation slots obstructed. Unsuitable pots (bottom bent).	 Glass cooktop surface. Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. Test surface RTD approx. 1k ohms at room temperature. Re- place surface unit if resistance is not correct. Replace induction control assembly. Clean up spills or remove objects. Restart cooktop in normal manner Clear vent openings Follow owners quide for proper pan selection. 	
Individu controls cannot Steady when ca and swi Cooking shuts de	"HE" in display boking zone is cold itched off. g power too low or own prematurely.	None "HE" None Normal Operation	ceramic too large. 1. Test cables and connections. 2. Touch Panel defective. 3. ESEC-UIB defective. Temperature sensor defect. Fluids spilled or object lying on control panel keypads. Ventilation slots obstructed. Unsuitable pots (bottom bent). Distance between Inductor and glass ceramic too large.	 Gleek whether the inductor is properly positioned and touching the glass cooktop surface. Follow instructions for proper use of touch controls. Verify harness going between ESEC-UIB, J2 connector and Touch Panel, J3 connector (14 pins). Replace if defective or damaged. Verify there is no mechanical interference close to the Touch Panel (wires, utensils, etc.) Replace the Touch Panel. Replace the ESEC-UIB. Test surface RTD approx. 1k ohms at room temperature. Replace surface unit if resistance is not correct. Replace induction control assembly. Clean up spills or remove objects. Restart cooktop in normal manned Clear vent openings Follow owners guide for proper pan selection. Check whether the glass ceramic was pushed down when being screwed in position and the Inductor has been correctly positioned. 	