
SERVICE DATA SHEET 318047301 (9704) Rev. C

Electric Double Wall Ovens with Electronic Oven Control (Robertshaw 5800 - 318010501)

NOTICE

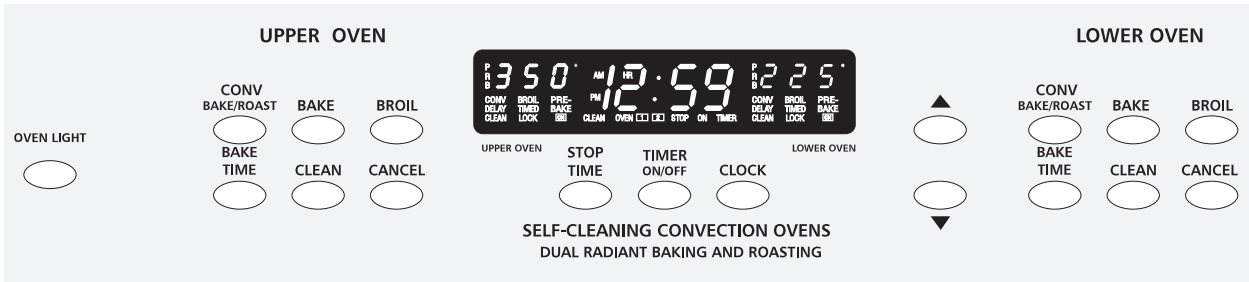
This service data sheet is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. **The manufacturer cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this data sheet.**

SAFE SERVICING PRACTICES

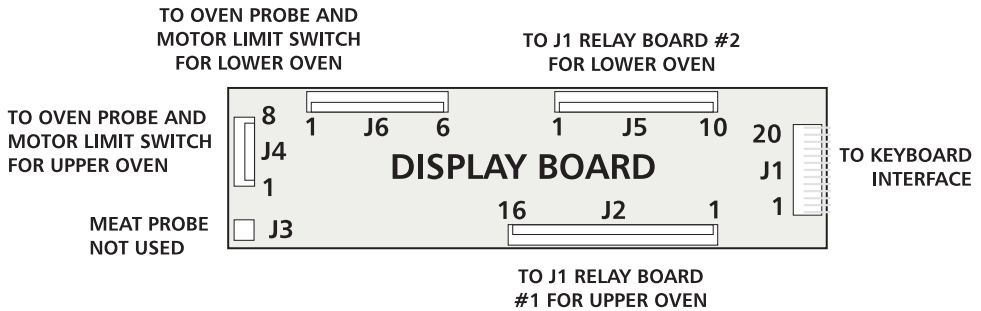
To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are some limited examples of safe practices.

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.

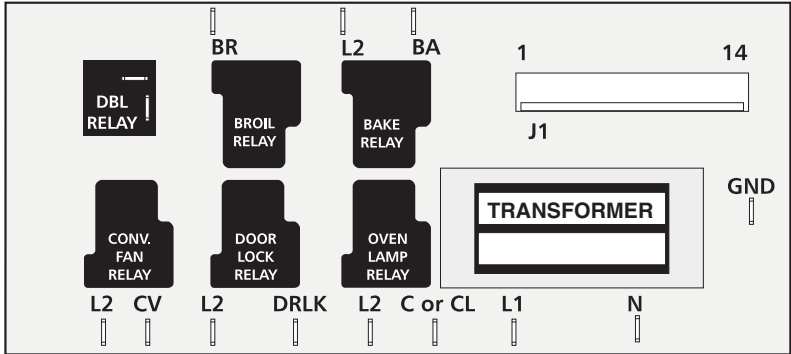
ELECTRONIC OVEN CONTROL



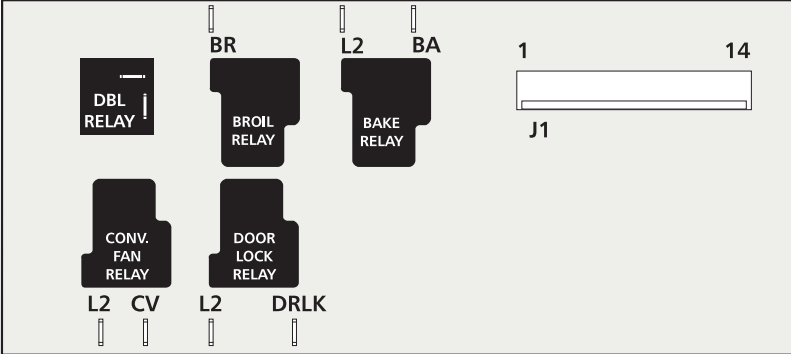
* Depending on model, shape of buttons or pads may vary.



RELAY BOARD #1 FOR UPPER OVEN.



RELAY BOARD #2 FOR LOWER OVEN



ELECTRONIC OVEN CONTROL FOR DOUBLE WALL OVENS

The electronic oven control includes:

- a display board
- a relay board #1 and transformer for upper oven
- a relay board #2 for lower oven

DISPLAY BOARD UNIT

The display board unit includes 6 connectors (J1 to J6)

J1 connector: This 20 pin connector is connected to the keyboard (touch pads).

J2 connector: This 16 pin connector is connected to J1 in relay board #1 for upper oven. J2 serves to energize the upper oven relays (6 of) and to power the control display.

J3 connector: Unused

J4 connector: This 8 pin connector is connected to the upper oven probe and upper oven motor limit switch.

J5 connector: This 10 pin connector is connected to J1 in relay board #2 for lower oven. J5 serves to energize the lower oven relays (5 of).

J6 connector: This 6 pin connector is connected to lower oven probe and lower oven motor limit switch.

RELAY BOARD #1 FOR UPPER OVEN

This relay board includes 6 relays and a transformer. These relays serve to energize the upper oven heating elements, convection and door lock motors, and oven lamp. It also powers the display board. Its 14 pin connector J1 is connected to J2 in the display board.

RELAY BOARD #2 FOR LOWER OVEN

This relay board includes 5 relays. These relays serve to energize the lower oven heating elements, convection and door lock motors. Its 14 pin connector is connected to J5 in the display board.

OVEN ELEMENT - OPERATION

Baking mode	-First rise:	Broil element is on 30 seconds per minute. Bake element is on 60 seconds per minute.
	-Normal baking:	Broil element is on 7 seconds per minute. Bake element is on 50 seconds per minute.
Broiling mode		Broil element is on for 60 seconds per minute.
Convection mode		Bake element is on for 33 seconds per minute. Broil element is on for 12 seconds per minute.
Clean mode:	-First 10 minutes:	Broil element is on for 42 seconds per minute and bake element is off.
	-After 10 minutes:	Bake element is on for 60 seconds per minute and broil element is off.

NOTE: SELF CLEANING CYCLE CANNOT BE STARTED IF THE OTHER OVEN IS IN OPERATION, AND YOU CANNOT OPERATE THE SECOND OVEN IF THE OTHER OVEN IS ON A SELF CLEANING CYCLE.

ELECTRONIC OVEN CONTROL (FAULT CODES)

FAILURE MODES

F0 - ALARM (EEPROM OPTION)

This **EEPROM** selectable option enables the control to recognize a shorted key within approximately 32 seconds. This option has priority over shorted watchdog failure alarm **F1**.

F1 - ALARM

A failure is detected in the element relay watchdog protection circuits and will activate a "**CANCEL**" feature. "**F1**" will be displayed in the time digits and the alarm will sound until the cancel key for the oven is pressed or another function is selected.

F2 - ALARM

Occurs when cavity temperature exceeds the clean runaway temp in the clean mode or the cooking runaway temp in a non-clean condition and will activate a "**CANCEL**" feature. "**F2**" will be displayed in the digits for the affected cavity, and the alarm will sound until the **CANCEL** key for the oven is pressed or another function is selected. This failure may be overridden by the F3 or F4 alarm.

F3- ALARM

Occurs when there is a short circuit in the oven temperature sensor for 16 temperature conversions in a row and will activate a "**CANCEL**" feature. "**F3**" will be displayed in the digits for the affected oven cavity, and the alarm will sound until the **CANCEL** key for the oven is pressed. The alarm will return in 16 seconds if the failure is still present.

F4 - ALARM

An open circuit in the oven temperature sensor for 16 temperature conversions in a row will activate a "**CANCEL**" feature. "**F4**" will be displayed in the temp digits for the affected cavity, and the alarm will sound until the **CANCEL** key for the affected oven is pressed. If the failure is present after cancel is pressed, the alarm will not be reactivated unless a baking or cleaning function is attempted. The opposite oven is unaffected with this alarm.

F6 - ALARM

A failure is detected in the **EEPROM** checksum comparison. This indicates the **EEPROM** checksum and the calculated checksum are not the same. Only time of day and timer operation will be allowed in the control.

F-7 ALARM

A failure detected in the clean lock/phase circuitry for 16 seconds in a row will activate a "**CANCEL**" feature. "**F7**" will be displayed in the temp digits of the affected oven and the alarm will sound until **CANCEL** for the affected oven is pressed or another function is selected. This test will be performed constantly.

F-8 ALARM

Occurs when the door lock runs for 2 minutes without seeing either the lock or phase switch change positions.

TERMINAL BOARD CONNECTORS

(French translation included)

SWITCH BOARD PANNEAU COMMANDE

GROUND / MISE A LA TERRE	1	1
R1 (POWER OVEN 1 / COURANT FOUR 1)	2	2
R2 (CLOCK / HORLOGE)	3	3
R3 (FEATURES / CARACTERISTIQUES)	4	4
R4 (POWER OVEN 2 / COURANT FOUR 2)	5	5
R6 (CANCEL OVEN 2 / ANNULATION FOUR 2)	6	6
R5 (CANCEL OVEN 1 / ANNULATION FOUR 1)	7	7
G1	8	8
G2	9	9
G3	10	10
G4	11	11
BLANK / VIDE	12	12
BLANK / VIDE	13	13
BLANK / VIDE	14	14
BLANK / VIDE	15	15
-27V (-VR)	16	16
KEY (NO PIN) / CLEF (SANS TIGE)	17	17
SLEW DOWN / DESCENDRE	18	18
SLEW UP / MONTER	19	19
GROUND / MISE A LA TERRE	20	20

CONTROL MODULE MODULE-COMMANDE

GROUND / MISE A LA TERRE	1	1
-VR	2	2
DLB (MAIN RETURN 1) / DLB (RETOUR PRINC.1)	3	3
NOT USED / NON UTILISE	4	4
BAKE 1 / CUISSON 1	5	5
BROIL 1 / GRIL 1	6	6
NOT USED / NON UTILISE	7	7
NOT USED / NON UTILISE	8	8
CONV. FAN 1 / VENTILATEUR-CONV.1	9	9
KEY (NO PIN) / CLEF (SANS TIGE)	10	10
OVEN LAMP / LAMPE DE FOUR	11	11
FILAMENT / FILAMENT	12	12
DOOR MOTOR 1 / MOTEUR-PORTE 1	13	13
AC IN	14	14
AC IN	15	15
FILAMENT / FILAMENT	16	16

XFMR / RELAY MODUL MODULE RELAIS / XF

GROUND / MISE A LA TERRE	1	1
-VR	2	2
DLB (MAIN RETURN 1) / DLB (RETOUR PRINC.1)	3	3
NOT USED / NON UTILISE	4	4
BAKE 1 / CUISSON 1	5	5
BROIL 1 / GRIL 1	6	6
NOT USED / NON UTILISE	11	11
NOT USED / NON UTILISE	1	1
CONV. FAN 1 / VENTILATEUR-CONV.1	7	7
KEY (NO PIN) / CLEF (SANS TIGE)	8	8
OVEN LAMP / LAMPE DE FOUR	11	11
FILAMENT / FILAMENT	10	10
DOOR MOTOR 1 / MOTEUR-PORTE 1	9	9
AC IN	12	12
AC IN	13	13
FILAMENT / FILAMENT	14	14

OVEN 1 SENSOR SONDE FOUR 1

OVEN SENSOR 1 / SONDE FOUR 1	5	5
OVEN SENSOR 1 / SONDE FOUR 1	8	8
KEY (NO PIN) / CLEF (SANS TIGE)	3	3
NOT USED / NON UTILISE	4	4
NOT USED / NON UTILISE	1	1
DOOR LOCK 1 / VERROU PORTE 1	6	6
DOOR PHASE 1 / PORTE ETAPE 1	7	7
STROBE / LECTEUR (G6)	2	2

DOOR LOCK (UPPER) VERROUILLAGE-PORTE (HAUT)

DOOR LOCK 1 / VERROU PORTE 1	6	6
DOOR PHASE 1 / PORTE ETAPE 1	7	7
STROBE / LECTEUR (G6)	2	2

DOOR LOCK (LOWER) VERROUILLAGE-PORTE (BAS)

STROBE / LECTEUR (G6)	1	1
DOOR LOCK 2 / VERROU PORTE 2	4	4
DOOR PHASE 2 / PORTE ETAPE 2	6	6
KEY (NO PIN) / CLEF (SANS TIGE)	5	5

OVEN 2 SENSOR SONDE FOUR 2

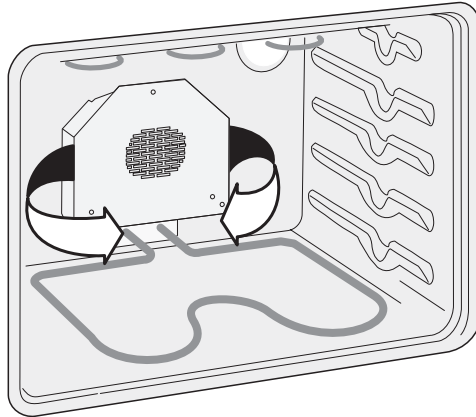
OVEN SENSOR 2 / SONDE FOUR 2	2	2
OVEN SENSOR 2 / SONDE FOUR 2	3	3

5 RELAY MODULE MODULE RELAIS 5

DOOR MOTOR 2 / MOTEUR-PORTE 2	9	9
BROIL 2 / GRIL 2	6	6
BAKE 2 / CUISSON 2	5	5
NOT USED / NON UTILISE	11	11
KEY (NO PIN) / CLEF (SANS TIGE)	8	8
NOT USED / NON UTILISE	4	4
DLB (MAIN RETURN 2) / DLB (RETOUR PRINC.2)	3	3
-VR	2	2
CONV. FAN 2 / VENTILATEUR-CONV.2	7	7
GROUND / MISE A LA TERRE	1	1
NOT USED / NON UTILISE	10	10
NOT USED / NON UTILISE	12	12
NOT USED / NON UTILISE	13	13
NOT USED / NON UTILISE	14	14

CONVECTION BAKE MODE

The convection oven uses the addition of a fan to move the heated air already in the oven. Moving the heated air helps to destratify the heat or cause uniform heat distribution. Longer cooking times can be reduced by as much as 30%. The air is drawn in through a fan shroud located on the rear wall of the oven. It is then discharged around the outer edges of this shroud. The air is circulated around the food and then enters the shroud again. As with conventional electric ranges, there is still an oven vent which discharges through the control panel vent opening.



To set the control in convection mode, follow these two steps:

1. Press the CONV. BAKE/ROAST pad.
2. Press the UP or DOWN arrow pads to select the desired temperature.

After 3 seconds, the oven will automatically start and the fan will begin to run. To cancel the convection baking function, press the CANCEL pad.

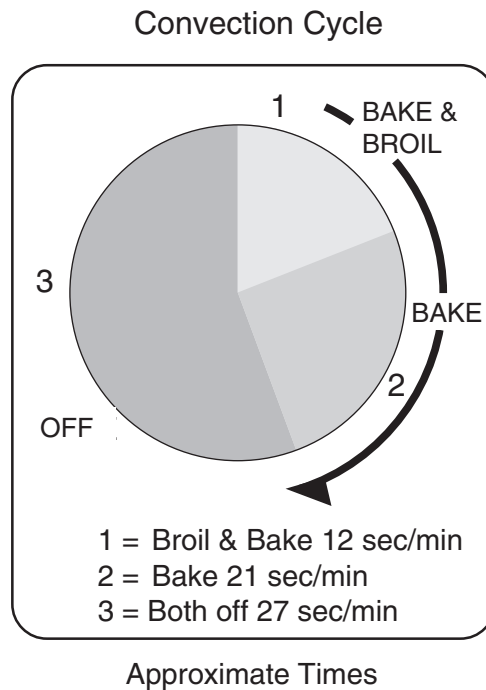
NOTE: THE FAN RUNS CONTINUOUSLY WHILE IN THE CONVECTION MODE. THE FAN WILL STOP IF THE DOOR IS OPENED WHILE CONVECTION BAKING/ROASTING. THE HEATING ELEMENTS WILL CONTINUE TO OPERATE WITH THE DOOR OPEN.

CONVECTION MODE OVEN TEMPERATURES

Because heat is more evenly distributed during convection temperatures, foods can be cooked at lower temperatures. In order to allow the consumer to bake per their existing methods using regular baking recipes, there is an offset temperature of -25°F in the programming of the control. This means that when the consumer sets the control for 375°F, the actual oven temperature is cycling at 350°F.

CONVECTION CYCLING

When the control is set to the CONV. BAKE/ROAST function, the fan immediately comes on. The broil and bake elements are energized for the first 12 seconds of every minute. For the next 21 seconds, only the bake element is energized. Both elements are off the remaining 27 seconds. This cycle is repeated for the duration of the cooking period.



NORMAL BAKE MODE

During a normal bake mode, the oven uses top heat by cycling the broil element on for 7 seconds each minute. Both elements use full power when they are on.

FAN RELAY

The fan motor runs continuously while in the convection mode unless the door is opened. If the fan does not operate, check the following:

- Display illuminated on the electronic control.
- Voltage output between terminals L2 and CV on appropriate board.
- 240 Volts available at fan motor.
- Fan motor coil resistance 56.5 ohms \pm 10%.
- Voltage input to fan relay coil during convection bake with door closed.
- Door/light switch.

ADJUSTING OVEN TEMPERATURE

1. Push the BAKE pad.
2. Set the temperature to 550°F/288°C by pushing the UP arrow pad.
3. Within 2 seconds, push and hold the BAKE pad for approximately 5 seconds until the special 2 digit display appears. Release the BAKE pad.

The display now indicates the difference in degrees between the original factory temperature setting and the current temperature setting. If the oven control has the original factory calibration, the display will read "00".

4. The temperature can now be adjusted up or down 35°F/17°C, in 5°F/2.5°C increments, by pushing the UP or Down arrow pads. Adjust the UP/DOWN arrow pads until the desired amount of offset appears in the display. A minus sign (-) will appear before the number to indicate the oven will be cooler by the displayed amount of degrees.
5. When you have made the desired adjustment, push the CANCEL pad to go back to the time of day display.

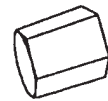
NOTE: CHANGING CALIBRATION EFFECTS BOTH CONVENTIONAL AND CONVECTION MODES.

FAN BLADE

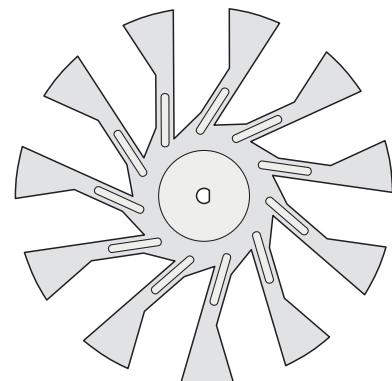
The fan blade is mounted in the rear of the unit and has a "D" shaped opening. Only minimum clearance exists between the oven back, fan blade, and fan shroud. Be careful not to bend blade when removing or installing.

Access to the fan blade is gained by removing the fan shroud, held in place by three screws, from the inside of the oven.

The fan blade is held in place with a **hex nut that has left handed threads**. When removing this nut, gently hold the fan blade, and turn the nut clockwise. If one of the blades becomes deformed, it may be bent back into shape using a flat surface as a reference.



NOTE: IF THE FAN BLADE IS BENT AND MOTOR VIBRATIONS INCREASE, THE NOISE MADE BY THE FAN WILL BE GREATER.



ELECTRICAL SPECIFICATIONS

ELECTRICAL RATING		
	27"	30"
KW rating 240/208	8.2/6.2	9.0/6.8
Bake Element Wattage	2300W/1728W	3000W/2254W
Broil Element Wattage	3400W/2550W	2750W/2065W

LOWER OVEN LIGHT SWITCH LOCATION /REMOVAL (Some Models)

On some double wall ovens, the light switch for the **lower oven** is located on the lower right-hand side of the oven. The servicer must pull the oven out of the cabinet to access it.

Removal/Replacement Procedure

1. Pull wall oven out from cabinet. (Light switch access is on lower right-hand side of wall oven.)
2. Remove screw securing cover plate to side panel.
3. Remove two screws securing light switch to oven insulation cover.
4. Gently pull switch out of opening to access and remove wire leads.
5. Reverse procedure to replace switch.

