Washer Tech Data Sheet

This information is intended for Qualified Technicians Only.

CAUTION: DISCONNECT ELECTRICAL CURRENT BEFORE SERVICING

Please Return This Sheet to its Envelope in the Product for Future Reference

Contents **Page**

READING ERROR CODES:

1. Wake the washer by pressing any button.
2. Wait 5 seconds.
3. Press and **HOLD** the **Start/Pause** and **Cancel** buttons simultaneously.
   As long as the buttons are held, the failure code will appear in the display as an ***E*** followed by two numbers, a number and a letter or two letters. The control will beep and the **Door Lock, Wash, Rinse,** and **Final Spin** indicator lights will flash.

Troubleshoot the problem by using charts on the pages 3-5.

Quick Check

If there is no error displayed and the washer momentarily starts then turns back off:

1. Listen for a relay closure inside the motor control shortly after the **Start/Pause** key is pressed. If this happens, the motor control has power.
2. Check the 5 pin connector wiring between the console control and the motor control.

NOTE: During normal operation, the display may show:

"***cd***" - cool down (Sanitary cycle)
"***do***" or "***dr***" - door problem.
"***Err***" - an error has been detected.
"***LOC***" - control lock is activated.
"***PAU***" - cycle has been interrupted.

To clear latest stored error code:

- Turn the **Program Knob** to the start position, **Spin Only.**
- Press **Start/Pause** to start the cycle and save it.
- Press **Cancel** to stop the cycle and turn off the LEDs.
- Press **Cancel** again to turn on the LEDs.
- Within 5 seconds, press and hold the **Option** and **Start/Pause** buttons until LEDs start sequentially chasing, then release buttons.
- Turn the program knob clockwise 7 clicks from the Start Position. The control will signal the last error code.
- Press and hold the **Options** and **Start/Pause** buttons for 3 seconds. The code will be cleared.
- Exit Diagnostic Mode to return the washer to normal operation.
  a) Unplug the power cord, wait 5-8 seconds, then reconnect the power cord **OR**
  b) Turn the program knob clockwise 2 or 3 clicks after the Start Position. Press **Options** and **Start/Pause** buttons together for a few seconds until wash cycle LEDs appear.

Diagnostic Test

The diagnostic test is used to check individual component function only.

TO START THE TEST:

- Turn the **Program Knob** to the start position, **Spin Only.**
- Press **Start/Pause** to start the cycle and save it.
- Press **Cancel** to stop the cycle and turn off the LEDs.
- Press **Cancel** again to turn on the LEDs.
- Within 5 seconds, press and hold the **Options** and **Start/Pause** buttons until LEDs start sequentially chasing, then release buttons.
  1. All the LEDs will sequentially light. Pressing a button below a light cluster will light all the LEDs in that cluster at one time to confirm functionality.
  2. Turn the program knob (1) click clockwise from the start position. The hot water solenoid will activate and hot water should enter through the detergent compartment.
  3. Turn the program knob (2) clicks from the start position. The bleach water solenoid will activate and cold water should enter through the bleach compartment.
  4. Turn the program knob (3) clicks from the start position. The bleach and the wash water solenoids will activate and cold water should enter through the softener compartment.
  5. Turn the program knob (4) clicks from the start position. The door lock solenoid will deactivate and the loading door can be opened. When the door is opened, the drum light should turn on.
  6. Turn the program knob (5) clicks from the start position. The washer will fill and tumble. Once tumbling has started, the Boost Heater (if so equipped) will turn on.
  7. Turn the program knob (6) clicks from the start position. The drain pump & door lock solenoid will activate and the washer will operate in high spin. **SAFETY WARNING:** If power is removed during this test, the door can be opened. To prevent injury, **DO NOT** put your hands inside when the tub is rotating.
  8. Turn the program knob (7) clicks from the start position. The control will signal the last error code.

Exiting Diagnostic Mode

There are two options for exiting the Diagnostic Test mode and returning the washer to normal operation:

a) Unplug the power cord, wait 5-8 seconds, then reconnect the power cord **OR**
b) Turn the program knob clockwise 2 or 3 clicks after the start position. Press **Options** and **Start/Pause** buttons together for a few seconds until wash cycle LEDs appear.

If a situation arises where you cannot exit the Diagnostic mode as described above and the bank of 5 LED's on the right end remain ON regardless of Program Knob position, a combination of pushed buttons may have caused the control to enter a special factory test mode. Disconnect power to reset the control to return washer to normal operation is this occurs.

Error code chart

Error code	Fault condition	Check
E11	Fill time too long.	Refer to test (1).
E13	Water leak in tub or air leak in air bell.	Refer to test (2).
E21	Water not pumping out fast enough.	Refer to test (3).
E23	Drain pump relay on control board failed, wire off pump or pump defective.	Replace console control board, wire or pump.
E24	Drain pump relay on control board failed.	Replace console control board.
E31	Pressure sensor not communicating with control board.	Refer to test (4).
E35	Pressure sensor indicates water overfill.	Refer to test (5).
E36	Console control board problem.	Replace console control board.
E38	Air chamber clogged or pressure sensor defective.	Check air chamber, rpl press. sensor.
E41	Control board thinks the door switch is open.	Refer to test (6).
E43	Console control board thinks the door locking device has failed.	Refer to test (7).
E44	Console control board problem.	Replace console control board.
E45	Console control board problem.	Replace console control board.
E46	Console control board problem.	Replace console control board.
E47	Console control board thinks the door PTC circuit is open in spin.	Refer to test (7).
E48	Console control board thinks the door PTC circuit is closed.	Refer to test (7).
E52	Bad signal from tacho generator.	Refer to test (8).
E56	High motor current.	Refer to test (9).
E57	High current on inverter.	Refer to test (9).
E58	High current on motor phase.	Refer to test (9).
E59	No tacho signal for 3 seconds.	Refer to test (10).
E5A	High temperature on heat sink caused by overloading.	Test first-if bad-rpl speed control brd.
E5B	High temperature on heat sink.	Replace speed control board.
E5C	High temperature on heat sink.	Replace speed control board.
E5D	Communication problem.	Refer to test (11).
E5E	Communication problem.	Refer to test (11).
E5F	Communication problem.	Refer to test (11).
E66	Heating element relay failure.	Refer to test (14).
E67	Input voltage on microprocessor incorrect.	Refer to test (15).
E68	Current leakage to ground on heater or fuse opened.	Refer to test (14 & 15).
E71	Wash NTC failure.	Refer to test (15).
E74	Wash temperature does not increase.	Wire off NTC - rpl water valve.
E75	Water temperature sensor circuit.	Refer to test (12).
E82	Console control board problem.	Replace console control board.
E83	Console control board problem.	Replace console control board.
E91	Comunnication error between UI board and console control board.	Refer to test (16).
E93	Console control board problem.	Replace console control board.
E94	Console control board problem.	Replace console control board.
E95	Communication error.	Replace console control board.
E97	Console control board problem.	Replace console control board.
E98	Console control board problem.	Replace console control board.
EB1	Incoming power frequency out of limits.	Refer to test (13).
EB2	Incoming line voltage above 130 VAC.	Check voltage at outlet. If < 130VAC, replace the console control board.
EB3	Incoming line voltage below 90 VAC.	Check voltage at outlet. If > 90VAC, replace the console control board.
EBE	Console control board problem.	Replace console control board.
EBF	Console control board problem.	Replace console control board.
EF1	Clogged drain pump.	Unclog the drain pump.
EF2	Too much soap.	Advise customer to reduce the amount of soap they are using.

Test		
Test	**Check**	**Correction**
Test 1:	1. Is the incoming water flow normal?	Yes. Go to step (4). No. Go to step (2)
	2. Are the incoming water faucets turned	No. Turn water faucets on. Yes. Go to step (3).
	3. Is the incoming water pressure above (30) psi.	No. Have customer correct pressure problem. Yes. Check for kinked or blocked incoming water hoses, clean the incoming water screens. If problem still remains, replace the water inlet valve assembly.
	4. Does the fill water continue to enter the washer?	Yes. Go to step (5). No. Go to step (6)
	5. Remove power from the washer. Did the water fill stop?	Yes. Go to step (6) No. Replace the inlet valve assembly.
	6. Check the pressure sensor.	Pressure sensor checks good. Go to step (7). Pressure sensor checks bad. Replace pressure sensor.
	7. Replace the control board.	
Test 2:	1. Is the washer leaking water?	Yes. Correct water leak. No. Go to step (2)
	2. Is there an air leak in the air bell system?	Yes. Correct the air leak problem. No. Go to step (3)
	3. Check the pressure ssensor.	Defective. Replace the pressure sensor. Good. Go to step (4)
	4. Replace the control board.	
Test 3:	1. Check the drain hose for restrictions.	Restriction. Correct problem. No restriction. Go to step (2).
	2. Start the washer and check for 120 VAC at the drain pump.	Zero. Replace the control board. 120 VAC. Remove the pump and check for blockage. If blocked, remove the restriction, if not, replace the pump.
Test 4:	Inspect the wiring between the pressure sensor and the control board.	Defective wiring. Correct wiring. Good wiring. Replace the pressure sensor. If this does not correct the problem, replace the control board.
Test 5:	1. Is the water level above 4.5 inches?	Yes. Go to step (2). No. Go to step (4).
	2. Does water enter the washer continuously.	Yes. Go to step (3). No. Replace the control board.
	3. Remove power from washer. Does the water stop coming in?	No. Replace water valve assembly. Yes. Check wiring to valve assembly for shorts. If wiring is good, replace the control board.
	4. Replace the pressure sensor switch. Did this correct the problem?	Yes. Problem solved. No. Replace the control board.
Test 6:	1. Is the loading door closed?	No. Close the door. Yes. Go the step (2).
	2. In the J2 plug on the console control, measure voltage from the black/red wire to ground with power on.	0 volts. Check the door strike. If good, replace the door switch assembly. 120 volts. Replace the console control board.
Test 7:	1. Start the diagnostic test. Turn the program knob 8 clicks clockwise from the start position.	Washer spins. Defective door lock assembly. Washer does not spin. Defective control board.

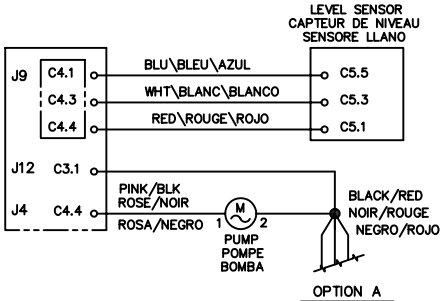
Test		
Test	**Check**	**Correction**
Test 8:	1. Disconnect the plug from the drive motor and measure the resistance pins 4 & 5 in the motor.	If the reading is between 105 & 130 Ohms, replace the speed control board.
		If the meter reads other than between 105 & 130 Ohms, replace the motor.
Test 9:	1. Remove the belt from the motor and spin the motor pulley. Does the motor spin free?	No. Replace the motor. Yes. Go to step (3)
	2. Spin the tub pulley. Does the tub spin free?	No. Check the tub bearings. Yes. Go to step (3)
	3. Disconnect the plug from the motor and measure the resistance of the windings (pin 1 to pin 2, pin 1 to pin 3, pin 2 to pin 3). All readings should be between 4 and 6 Ohms.	If the readings are correct, replace the speed control board. If the readings are incorrect, replace the motor.
Test 10:	1. Remove the belt from the motor and spin the motor pulley. Does the motor spin free?	No. Replace the motor. Yes. Go to step (3)
	2. Spin the tub pulley. Does the tub spin free?	No. Check the tub bearings. Yes. Go to step (3)
	3. Disconnect the plug from the drive motor and measure the resistance between pins 4 & 5 in the motor.	If the meter reads other than between 105 & 130 Ohms, replace the motor. If the reading is between 105 & 130 Ohms, Go to step (4)
	4. Disconnect the plug from the motor and measure the resistance of the windings (pin 1 to pin 2, pin 1 to pin 3, pin 2 to pin 3). All readings should be between 4 and 6 Ohms.	If the readings are correct, replace the speed control board. If the readings are incorrect, replace the motor.
Test 11:	1. Communication problem. Check the wiring between the control board and the speed control board.	Wiring bad. Correct wiring problem. Wiring good. Replace the control board. If the problem is not corrected, replace the speed control board.
Test 12:	1. Check the resistance of the water valve NTC. Is it around 50K ohms?	No. Replace the water inlet valve assembly Yes. Replace the control board.
Test 13:	1. Have the power company check the frequency of the incoming power. If correct, replace the control board.	
Test 14:	1. Check the resistance of the heating element. It should be approximately 14 ohms.	If the readings are incorrect, replace the heating element.
	2. Check the resistance between ground and both heater terminals. It should be open when the heater terminals are disconnected.	
Test 15:	1. Check the resistance of the tub NTC. Is it around 4.8K ohms?	No, replace the heater assembly. Yes, check the wiring - if good, rpl console control board.
Test 16:	1. Check the wiring harness between the console control board & the interface board.	If defective, correct wiring problem. If the harness is good and none of the LEDs light, replace the interface board. If this does not correct the problem, replace the console control board. **Note:** If only one of the LEDs will not light, replace the interface board.

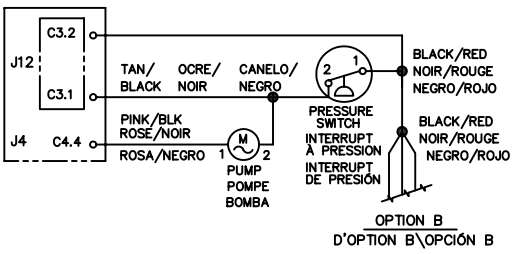
⚠ WARNING TO REDUCE THE RISK OF ELECTRICAL SHOCK DISCONNECT THIS APPLIANCE FROM THE POWER SUPPLY BEFORE ATTEMPTING ANY USER MAINTENANCE. TURNING THE CONTROLS TO THE OFF POSITION DOES NOT DISCONNECT THIS APPLIANCE FROM THE POWER SUPPLY.

⚠ AVERTISSEMENT POUR RÉDUIRE LE RISQUE DE CHOC ÉLECTRIQUE, DÉBRANCHER CET APPAREIL DE L'ALIMENTATION AVANT DE PROCÉDER À L'ENTRETIEN. EN TOURNANT LES COMMANDES A LA POSITION ARRÊT, L'ON NE COUPE PAS L'ALIMENTATION ÉLECTRIQUE DE L'APPAREIL.

⚠ ADVERTENCIA PARA REDUCIR EL RIESGO DE CHOQUE ELÉCTRICO, DESENCHUFE ESTE APARATO DE LA ALIMENTACIÓN ELÉCTRICA ANTES DE EFECTUAR EL MANTENIMIENTO. AL GIRAR LOS CONTROLES A LA POSICIÓN OFF (APAGADO) NO SE CORTA LA ALIMENTACIÓN ELÉCTRICA AL ARTEFACTO.

ON SELECT MODELS\MODÈLS DE SELECTEUR\MODELOS DE SELECTOR



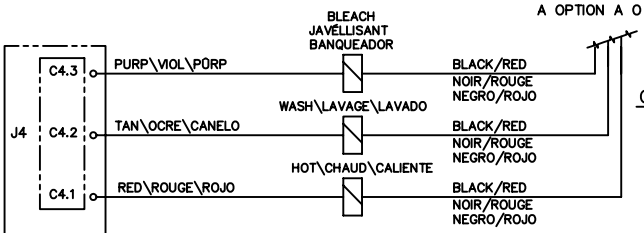


NO LOAD, START POSITION OF PERMANENT PRESS

SANS CHARGE, POSITION DE DÉMARRAGE DU CYCLE POUR

SIN CARGA, POSICIÓN DE ARRANQUE DEL CICLO PARA TALAS DE PLANCHADO PERMANENTE.

TO OPTION A OR B
VERS D'OPTION A OU B
A OPTION A O B



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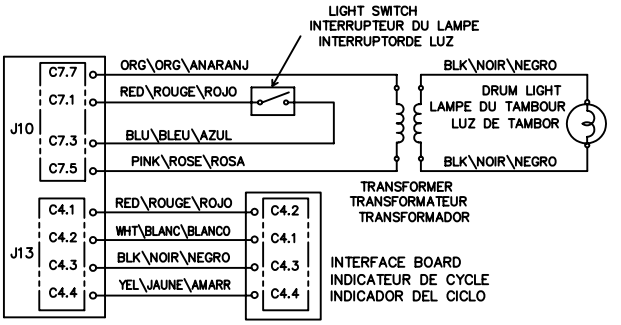
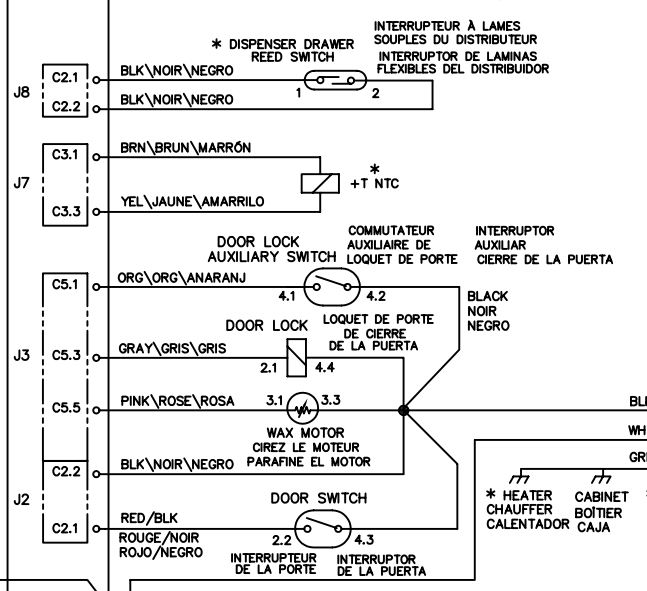
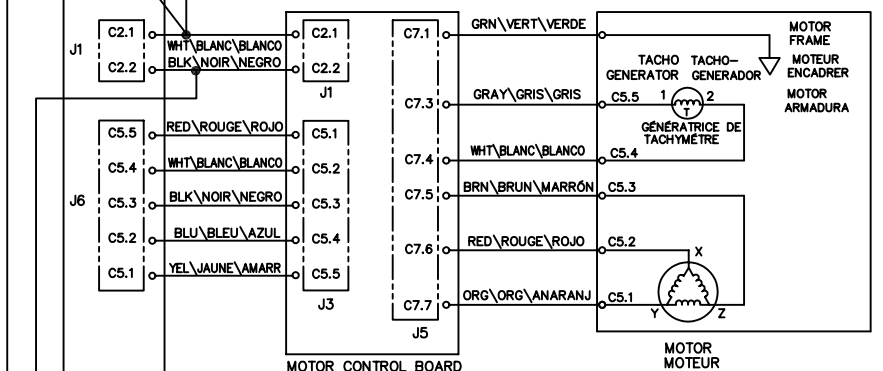




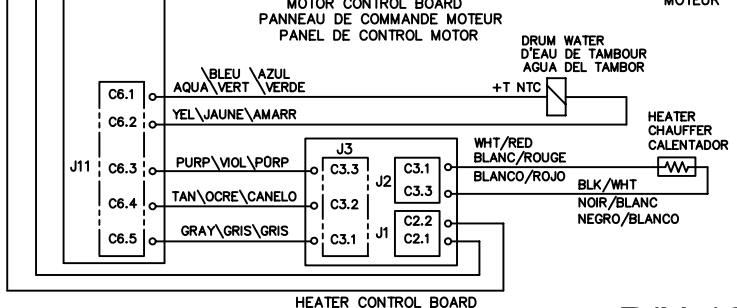
NOTE: * (ON SELECT MODELS\MODÈLS DE SELECTEUR\MODELOS DE SELECTOR)

DISPENSER VALVE / DISTRIBUTEUR ROBINET / DISTRIBUIDOR VÁLVULA		
EVENT EVENEMENT ACONTECIMIENTO	WASH LAVAGE LAVADO	BLEACH JAVÉLLISANT BANQUEADOR
DETERGENT DÉTERGENT DETERGENTE	X	O
BLEACH JAVÉLLISANT BANQUEADOR	O	X
SOFTENER ADOUCISSEUR DESCALCIFICADOR	X	X

X= CLOSED\FERMÉ\CERRADO
O=OPEN\OUVERT\ABIERTO



COMPONENT RESISTANCE TABLE TABLEAU DE RÉSISTANCE DES COMPOSANTS TABLA DE RESISTENCIA DE LOS COMPONENTES		
ELECTRICAL COMPONENT COMPOSANT ÉLECTRIQUE COMPONENTE ELÉCTRICO		RESISTANCE RÉSISTANCE Ω RESISTENCIA @ 77°F (25°C)
DOOR LOCK SOLENOID SOLÉNOÏDE DU LOQUET DE PORTE SOLENOIDE DE CIERRE DE LA PUERTA		1325 ±10%
PUMP MOTOR MOTEUR DE POMPE BOMBA DE MOTOR		12.0 ±7%
DISPENSER VALVE SOLENOIDS SOLÉNOÏDE DU ROBINET DISTRIBUTEUR SOLENOIDE VÁLVULA DEL DISTRIBUIDOR		800 ±7%
MOTOR MOTEUR	M1 -- M2	5.3 ±7%
	M2 -- M3	5.3 ±7%
	M1 -- M3	5.3 ±7%
	M5 -- M6	118 ±7%



WIRING CODES, CODES DE CÂBLAGE, CODIGOS DEL CABLEADO			
	CONNECTION	CONNEXION	CONEXIÓN
	NO CONNECTION	AUCUNE CONNEXION	SIN CONEXIÓN
	CABINET GROUND	MISE À LA TERRE DE CARROSSERIE	PUESTA A TIERRA DE CAJA
	LOCAL GROUND	MISE À LA TERRE DE LOCAL	PUESTA A TIERRA DE LOCAL

WIRING DIAGRAM PART NO.
SCHÉMA DE CÂBLAGE NO DE PIÈCE
DIAGRAMA DE CONEXIÓNES NO DE PIEZA

P/N 137063900

134602400