

Maytag Neptune 27" Front Load Washer Troubleshooting Guide





Slide 1 – Troubleshooting

Slide 2

Always refer to the Technical Data Sheet shipped with the product for detailed information

for the model you are servicing. Follow all Caution and Safety Warnings

The following is an example of the information available on the Technical Data Sheet

Will Not Start

- Plug cord into live electrical outlet. Check for proper voltage.
- Check fuse or reset circuit breaker.
- Push any key to turn on the clothes washer. Push the rotary selector knob to start the washer.
- Close door and push the rotary selector knob to start the clothes washer.
- Check to see if the washer is in a pause or soak period in the cycle. Wait briefly for machine to start. (If washer is in suds period, "SUDs" will display instead of remaining time.
- Check for restricted drain system. During an electrical drain problem, "nd" error will occur after 15 minutes.
- Check water supply is working.
- Check water valve connections are good.
- Check the line filter and water valve filter.
- Check the machine control board terminal connections CN5, CN6 for good connections.
- Replace console control board.

Leaking

- Make sure inlet hose connections are not leaking. Check for rubber gasket damage due to over-tightening.
- Check standpipe for leak. Wrap a dry rag around the standpipe opening. If rag becomes wet, leak is fault of home plumbing. Be sure the standpipe is capable of accepting the flow of water from the washer.
- Make sure end of drain hose is correctly inserted and secured to drain standpipe.
- Check internal hose connections (fill, drain systems, dispenser hoses & clamps).
- Check rubber boot. Remove, reposition and reinstall, if necessary.
- Check for possible kinked dispenser to outer tub hose. Hot water pressurization may force door open.

No Tumble

- Start normal cycle with an empty machine and allow a fill to check tumble.
- Perform *Board Output Test*, or Quick Spin Test (Before test, make sure that the tumbler is empty.)
- Check for loose connections at Machine Control Board, Pressure Switch, Motor, Tach Harness and Motor Control. (Refer to the component testing procedure)
- Check motor windings resistance. (CN9 pins 1 &3 = 11.6ohms(±7% 20°C/68°F basis), pins 1 & 2 = 11.6ohms(±7%20°C/68°F basis), Pin2 & 3 = 11.6 ohms (±7% 20°C/68°F basis)
- Check belt.
- Faulty Main Control Board.
- Faulty motor.

Will Not Spin

- Check to make sure the door is fully closed.
- Check for water left inside the washer. If present, see Will Not Drain.
- Perform *Board Output Test* or *Quick Spin Test*. (Before test, make sure that the tumbler is empty.) If it doesn't tumble after the test above, check unbalanced load scenario, Main Control Board, and motor.
- Check for loose connections at Machine Control Board, Pressure Switch, Motor, Tach Harness and Motor Control. (CN8, CN9, CN3) Refer to the component testing procedure.
- Check motor winding resistance (CN9 pins 1&3=11.6ohms ±7%@68F, pins 1&2=11.6ohms ±7%@68F, pins 2&3=11.6ohms. ±7%@68F.

Tub Full of Suds

- Check for restricted drain system. See Will Not Drain and Will Not Spin.
- Check for loose wire connections at Control Board and pump.
- Perform *Board Output Test*.
- Use high efficiency or low sudsing detergent specially formulated for front load washers.
- Reduce detergent amount for that specific load size and soil level. Towel loads have a minimal amount of soil present and typically create more suds.
- Run the clothes washer through another complete cycle using the coldest water, tablespoon of salt and no detergent.

Wet Clothes

- Very small clothes loads can cause unbalanced loads. Add additional towels.
- Excessive suds may have been present, due to not using High-Efficiency detergent. Reduce amount of detergent usage.
- See Will Not Spin.
- Low Spin Speed or Drain Only was selected.

Will Not Drain

- Check for restricted drain system.
- In cold climates check for frozen drain hose.
- Check for 120 VAC at the pump when a spin cycle is selected.
- Check pump motor winding resistance. (14.2 ±7% ohms)
- Check that the machine control correctly senses the water level in the washer. See **Board** *Input Test*.
- Go to Board Output Test and perform Pump Out Test.
- Check the Machine Control Board connections at CN10 (Pin 6) for the pump. Should see 110-120VAC (Refer to the component testing procedure).
- Check tub to pump hose for twist in hose.

Wrong Water Temperature

- Check that both faucets are turned on fully.
- Make sure water heater is set to deliver a minimum of 120°F (49°C) hot water at the tap. Also check water heater capacity and recovery rate.
- If the water heater is located a long distance from washer, the water line may need to be purged prior to starting wash cycle.
- Too Hot/Too Cold: This washer uses a reduced amount of water, while the control board meters the incoming flow to regulate the actual temperature of the water in the tub. This may appear to be significantly warmer/cooler than expected.
- Make sure the temperature selection is correct.
- Disconnect inlet hoses from the Water Valve and clean the valve screens of any debris.

Noisy and/or Vibration/Walking

- Check if the washer was properly leveled and the locking nuts are securely tightened up against the base frame of the washer.
- Check and determine all four of the shipping bolts and spacers have been fully removed from the rear panel of the washer.
- Check for proper load size and distribution. If clothes load is too small, add a few towels to balance the clothes load better.
- Check the tightness of the rear pulley bolt. Tighten if necessary.
- Clean floor and bottom side of washer feet. Check clearance. Refer to the back of machine and Installation Instruction.

Rubber Feet Leaving Marks on Floor

- Use a pencil eraser to remove mark.
- Walk washer into location, do not drag.

Additive Cups Full of Water

- Small amount of water in bottom of additive cups is normal.
- Remove and wash Dispenser Tray, removable Cup, and Rinse Cap.
- Level washer.
- •

Buttons do not Respond

- Option and Function buttons respond differently according to each cycle.
- Child Lock feature has been selected. To disable feature press and hold *Wash/Rinse Temp* and *Spin Speed* simultaneously until a beep is heard.
- When display shows "*End*", only the *Power Off* button will function. Press *Power Off* and make new cycle selections.

Consumer Information Codes

If the consumer observes codes on display, see table below.

LED Display	Description	Diagnostic code
nd	The water level fails to drop below the Low Water level reset within 15 minutes, before a spin begins.	1
LO	Door failed to unlock after 3 attempts.	2
nF	Continuous fill of 12minutes. Total fill of 14minutes.	3
FL	Door failed to lock after3 attempts.	4
LE	Water sensor level fault.	8
OE	A fault is detected in the water level sensor. Data (frequency) shows the water level is at or above the overflow level.	E

LED Display	Description	Diagnostic code
E2	Detected a key pressed more than 30seconds, the key will be assumed to be stuck.	15
dc	Never exceeded 400rpm due to an unbalanced load.	10
od	The door has not been opened after two complete wash cycles. Door switch was not seen open since the last two final spins.	17
dL	Open door lock switch with motor running.	18
dS	Door switch is read as open and the door locked switch is read as locked.	22
bE	Motor tach signal exists without motor running.	25
tE	Abnormal high/low temp or ohm resistance seen.	29
E3	Machine control is attempting to drive the motor but is not seeing any tach response. Visual check shows motor is not moving. (Locked, Hall Sensor fault)	2E
Sr	System Relay failure.	34
Hr	Heater Relay failure.	36
3E	Over Current is detected. Motor won't turn.	3E
2E	Voltage for motor control bus is over specified limit.	91
2E	Voltage for motor control bus is under specified limit.	92

Service Mode

Service Mode enables service personnel to verify the operation of the washing machine and diagnose problems. Service Mode can be entered in the middleof any wash cycle without interrupting the cycle. While in Service Mode, the technician can cancel the current cycle, set a continuous running mode, start a variety of special service tests and view diagnostic displays



Enter / Exit Service Mode

To enter Service Mode press the **Chime** and **Extra Rinse** keys for three seconds or until the control beeps. **NOTE:** The washer must be on before the Service Mode can be entered.

Refer to Technical Data Sheet for Detailed Instructions

The motor speed will be displayed when started (motor not running display will be 0). The present state of the machine will not be changed (i.e., the current cycle in progress will not be interrupted and only the display will change). All LED's will be turned off except the "Door Lock" LED. It will continue to display the condition of the door lock.

To exit:

- 1) Press Chime and Extra Rinse keys for 3 seconds again, or
- 2) press Off, or
- 3) unplug the machine. Pressing the *Rotary Selector* knob while running a test will pause the individual test, while remaining in Service Mode.

The following table summarizes special tests and features available in Service Mode, along with methods of activation and cancellation.

|--|

Test or Display		
	Press LED to Start	Press LED to Cancel
Quick Spin Test	Press Delay Start and Rinse&Spin	Press Delay start and Rinse&Spin Press Off (exits Service Mode)

Test or Display	Press I FD to Start	Press I FD to Cancel
Hold Quick Spin Step (holds predefined RPM)	Press <i>Rotary Selector</i> (during test)	Press <i>Rotary Selector</i> (cancels hold & resumes next step)
Fast Time- Down / Advance to Next Step	Press <i>Temperature</i> to start test. Press <i>Temperature</i> during cycle to advance.	Press <i>Power Off</i>
Quick Service Cycle	Press Temperature and Soil Level	Press Off (also exits Service Mode)
Hold Quick Service Cycle Step	Press <i>Rinse&Spin</i> and <i>Spin Only</i> together	Press <i>Rinse&Spin</i> and <i>Spin Only</i> to resume
LED/Switch Test	Press Delay for 3 seconds (then individual buttons to test) Rotate Cycle Selector clockwise, the LED's around it will be toggled. Rotate counterclockwise, the7-segment LED's toggle. Press Rotary Cycle Selector, all of the LED's around the Rotary Cycle Selector will be toggled.	Press Off twice after starting test
Board Input Test	Press Spin Only	Press Spin Only
Board Output Test / System Check	Press Spin Speed	Press Off
Diagnostic Code Display (Initial)	Press Rinse& Spin – displays "d"	Press Rinse&Spin again
All Diagnostic Codes	Rotate Cycle Selector either direction	N/A
Cycle Count No. for Diagnostic Code	Press and hold <i>Rotary Selector</i> , while diagnostic code is displayed	Release <i>Rotary Selector</i> (returns to diagnostic code display)

Test or Display		
	Press LED to Start	Press LED to Cancel
Clear All Diagnostic Codes	Press Delay and Chime together while displaying diagnostic codes	
Display Software Version	Press Soil Level. Press 2 times for displays with only 2 character positions.	Press Soil Level a 3 rd time
Cycle Count	Press Chime	





Quick Spin Test

While in Service Mode, press *Delay* and *Rinse&Spin* keys to start a Quick Spin Test. Quick Spin test steps are as follows:

- Start spinning and after reaching a maximum spin speed.
- stay at maximum spin speed for 2 minutes and stop Quick Spin Test.





Hold Quick Spin Step

If the Rotary Selector key is pressed during the Quick Spin test, the machine will hold at the next highest index speed for up to 10 minutes. At the end of 10 minutes, the machine will resume and finish the Quick Spin test. To cancel the Hold and allow the Spin Test to continue, press the **Delay** and **Rinse&Spin** keys.







Fast Time Down Test

While any test or cycle is running in Service Mode, pressing the *Temperature* key will advance the program to the next cycle stage.

Cycle stages are located at key locations in the machine operation. As the program is advanced it will index as follows: The end of each fill (the same as the beginning of a tumble session for Wash, or Rinse); at the beginning of a drain session; at the beginning of a spin session (at this position, check the water level, if over reset level, drain first before entering the spin function); at the beginning of a fill session; at the beginning of Bleach fill; at the beginning of Fabric Softener fill; and every 3 minutes during the tumble sessions (Wash, and Rinses).





Quick Service Cycle

While in Service Mode, pressing the **Temperature** and **Soil Level** key for 3seconds will start a Quick Service Cycle. This will be a quick check of all systems. If display shows od then open and close door. Pressing **Spin Speed** will advance to the next cycle. The following steps are performed: Display shows "**SC**".

Refer to Technical Data Sheet for Detailed Instructions



Quick Service Cycle

While in Service Mode, pressing the *Temperature* and *Soil Level* key for 3seconds will start a Quick Service Cycle. This will be a quick check of all systems. If display shows **od** then open and close door. Pressing *Spin Speed* will

advance to the next cycle. The following steps are performed: Display shows "SC".

- 1. Hot water for 5 seconds and then turn off.
- 2. Cold water for 5 seconds and then turn off.
- 3. Bleach valve for 5 seconds and then turn off.
- 4. Dispenser softener using cold water and bleach water for 5 seconds and then turn off.
- 5. Turn on Cold valves until the control detects proper water level. During this time, tumble at 45 rpm for 5seconds in a clockwise direction, pause for 2seconds, tumble at 45 rpm for 5 seconds in a counterclockwise direction, pause for 2 seconds. Continue pattern until the water level is detected. Minimum time for this segment to be 5 seconds. After water height is achieved, continue tumble pattern for another 14 seconds. If the washer is equipped, turn on heater for first 5 seconds of this tumble pattern. Advance the washer to next step if water is not connected to machine.
- 6. Drain and spin to maximum speed. Machine will achieve maximum speed using the safest, fastest method.
- 7. Display a "**PA**" (Passed) continuously for 5 seconds I no diagnostic codes were logged during the test. Washer will return to the normal Service Mode at the end of the 10 second period.

The "**SC**" in the display will blink as an indication of failure, and continue blinking until the quick service cycle test has reached the end. Any diagnostic code logged during this test will result in failure of the test, but will not necessarily stop the test. During the Quick Service Cycle, pressing the *Spin Speed* key will advance to the next step. Pressing the *Rinse&Spin* and *Spin Only* keys will suspend the machine at the current step for up to 10 minutes or until *Delay Start* and *Chime* are pressed again. All LED's should flash on and off while the system is suspended or on hold.





LED/Switch Test

While in Service Mode, press the *Delay* key to start a LED/Switch check. All the LED's can be toggled or slewed by pressing the key associated with the LED or set of LED's. All keys (including the OFF button) must be pressed within 5 minutes for this test to pass. "PA" will be displayed for five (5) seconds once all keys have been pressed and the test is completed. Following 20seconds of inactivity at any point, this test will exit without any display. The *Power Off* switch pad must be pressed twice within 30 seconds to cancel this test.

Switch	Action
Delay Start	Press once
Chime	Press 3 times
Extra Rinse	Press once
Soil Level	Press 4 times
Spin Speed	Press 5 times
Temperature	Press 5 times
Rinse&Spin	Press once
Spin Only	Press once
Prewash	Press once
Extended Spin	Press once
Selector Knob	Rotate 1 full revolution clockwise
Selector Knob	1 position counterclockwise
Start Pause	Press once
Selector Knob	Press once
Power Off	Press once

Chime Wath Hinge Term Spin Speed Soil Level Board input Test Board Input Test While in Service Mode, pressing the Spin Only key will begin the Board Input Test. This test turns on a specified output after a key press. Pressing the Spin Only key again cancels the test. (Display shows in). While in Service Mode follow chart to check respective function.

Max Extract Plus

Heavy
Medium
Light

High

Medium

Drain Only

lot / Cold

Cold / Cold

Options

Prewash Stain Treat

Press

(Rinse Spin & Spin Only

Refer to Technical Data Sheet for Detailed Instructions



Board Input Test

While in Service Mode, pressing the *Spin Only* key will begin the **Board Input Test**. This test turns on a specified output after a key press. Pressing the *Spin Only* key again cancels the test.(Display shows in).While in Service Mode follow chart to check

respective function.

- When the "Rotary Cycle Selector" is set to "Super Wash" and the "Rotary Cycle Selector" is pressed, the door position will be displayed: "OP" if open, "CL" if closed.
- When the "Rotary Cycle Selector" is set to "*Normal*" and the "*Rotary Cycle Selector*" is pressed, the Lock position will be displayed: "UL" if unlocked, "LO" if locked.
- When the "Rotary Cycle Selector" is set to "Whites "and the "Rotary Cycle Selector" is pressed, the High water level will be displayed: "-0" if below level, "-1" if above level. The High water level is defined as the over flow water level.
- When the "Rotary Cycle Selector" is set to "Wrinkle Control" and the "Rotary Cycle Selector" is pressed, the Medium water level will be displayed: "-0" if below level, "-1" if above level. The Medium water level is defined as the minimum water level needed to turn the heater on.
- When the "Rotary Cycle Selector" is set to "*Colors*" and the "*Rotary Cycle Selector*" is pressed, the Low water level will be displayed: "_0" if below level, "_1" if above level. The Low water level is defined as the reset water level.

- When the "Rotary Cycle Selector" is set to "*Hand Wash*" and the "*Rotary Cycle Selector*" is pressed, the level of Tub unbalance will be displayed: "UC" if balanced, "UO" if unbalanced.
 "U0" will be displayed during the time when the machine is correcting for the unbalance; e.g. slowing down to redistribute the load or to get to a lower spin speed. Once the situation has been corrected (i.e. the load has begun tumbling or the lower speed has resulted in an acceptable amount of balance); "UC" will once again be displayed.
- When the "*Delay*" switch pad is pressed, the water temperature will be displayed in Degrees F.
- When the "Rotary Cycle Selector" is set to "*Delicates*" and the "*Rotary Cycle Selector*" is pressed, the water temperature will be displayed in degrees C (Celsius).

Selection	Function	Display
Rotary cycle selector set to Super Wash. Press	Door position	" OP " or " CL "
Rotary Selector Knob.		
Rotary cycle selector set to Normal. Press Rotary	Lock state	" UL " or " LO "
Selector Knob.		
Rotary cycle selector set to Whites. Press Rotary	High water level	" 0 " if below level. " 1 " if
Selector Knob.	-	above level.
Rotary cycle selector set to Wrinkle Control. Press	Medium water	"—0" if below level. "—1"
Rotary Selector Knob.	level	if above level.
Rotary cycle selector set to Colors. Press Rotary	Low water level	"_0" if below level. "_1" if
Selector Knob.		above level.
Rotary cycle selector set to Hand Wash. Press	Tub balance	"UC" Balanced "UO"
Rotary Selector Knob.		Unbalanced
Press Delay switch pad.	Water	Degrees F
	temperature	-
Rotary cycle selector set to Delicates. Press Rotary	Water	Degrees C
Selector Knob.	temperature	-

While in Service Mode follow chart to check respective function.





Board Output Test

While in Service Mode, pressing the **Spin Speed** key will begin the Board Output Test. This test turns on a specified output after a key press. Pressing the **Spin Speed** key again cancels the test. Only one output can be "on" at any time. All outputs will be turned off after five (5) minutes of inactivity.

Refer to Technical Data Sheet for Detailed Instructions



Board Output Test

While in Service Mode, pressing the *Spin Speed* key will begin the Board Output Test. This test turns on a specified output after a key press. Pressing the *Spin Speed* key again cancels the test. Only one output can be "on" at any time. All outputs will be turned off after five (5) minutes of inactivity.

While in Service Mode follow to check respective function.

- When the "Rotary Cycle Selector" is set to "Super Wash" and the "Rotary Cycle Selector" button is pressed, the Main relay will be toggled (either from "on" to "off" or from" off" to "on").
- When the "Rotary Cycle Selector" is set to "*Normal*" and the "*Rotary Cycle Selector*" button is pressed, the hot water valve will be turned on. This output will remain on until the "*Rotary Cycle Selector*" button is pressed again to turn off the output. The control will not allow the machine to fill past the High water level.
- When the "Rotary Cycle Selector" is set to "Wrinkle Control" and the "Rotary Cycle Selector" button is pressed, the cold water valve will be turned on. This output will remain on until the "Rotary Cycle Selector" button is pressed again to turn off the output. The control will not allow the machine to fill past the High water level.
- When the "Rotary Cycle Selector" is set to "*Delicates*" and the "*Rotary Cycle Selector*" button is pressed, the bleach valve will be turned on. This output will remain on until the "*Rotary Cycle Selector*" button is pressed again to turn off the output. The control will not allow the machine to fill past the High water level.
- When the "Rotary Cycle Selector" is set to "*Hand Wash*" and the "*Rotary Cycle Selector*" button is pressed, the pre wash valve will be turned on. This output will remain on until the "*Rotary Cycle Selector*" button is pressed again to turn off the output. The control will not allow the machine to fill past the High water level.
- When the "Rotary Cycle Selector" is set to "Quick Wash" and the "Rotary Cycle Selector"

button is pressed, the drain pump will be turned on. This output will remain on until the "*Rotary Cycle Selector*" button is pressed again to turn off the output.

- Pressing the "*Delay*" switch pad will turn on the motor and the "Delay" LED. This output and the LED will remain on until the "*Delay*" switch pad is pressed again to turn off the output. When activated, the machine will tumble for 5 seconds in the CW direction, pause for 2seconds, tumble in the CCW direction for 5 seconds, pause for 2 seconds; repeating this pattern until "*Delay*" button is pressed again to turn off the tumbling. Note that all tumble speeds are assumed to be 45 rpm.
- Pressing the "*Chime*" switch pad will unlock the door and turn on the all the LED's above the "Chime" button. This output will attempt to unlock one time, if safe to do so.
- Pressing the "*Temperature*" switch pad will lock the door and all the Temperature LED's will turn ON. Pressing the "*Chime*" button will unlock the door and the all the Chime LED's will turn ON.
- When the "Rotary Cycle Selector" is set to "*Colors*" and the "*Rotary Cycle Selector*" is
 pressed, the bleach valve and the cold water valve will be turned on to check the fabric
 softener fill. This output will remain on until the "*Rotary Cycle Selector*" button is pressed
 again to turn off the output. The control will not allow the machine to fill past the High water
 level.
- When the "*Rinse & Spin*" keypad is pressed, the Heater will be turned on if the water level is above the Heater Safety Level. If the water level is below the Heater Safety Level, a warning beep will be given and the heater will not be turned on. The Heater output will remain on until the "*Rinse & Spin*" keypad is pressed again to turn off the output.

Selection	Component	Function
Rotary cycle selector set to Super Wash.	Main Relav	On to Off or
Press Rotary Selector Knob.		Off to On
Rotary cycle selector set to Normal. Press	Hot Water Valve	1 st press valve on. 2 nd press valve
Rotary Selector Knob.		off.
Rotary cycle selector set to Wrinkle	Cold Mater Value	1 st press valve on. 2 nd press valve
Control. Press Rotary Selector Knob.	Cold Water valve	off.
Rotary cycle selector set to Delicates.	Blooch Value	1 st press valve on. 2 nd press valve
Press Rotary Selector Knob.	Bleach valve	off.
Rotary cycle selector set to Hand Wash.	Bro Wash Valvo	1 st press valve on. 2 nd press valve
Press Rotary Selector Knob.	Fie wash valve	off.
Rotary cycle selector set to Quick Wash.	Drain Rump	1 st press Drain Pump on. 2 nd press
Press Rotary Selector Knob.	Drain Fump	Drain Pump off.
Press Delay switch pad	Motor	1 st press Motor on. 2 nd press Motor
	WIDIOI	off.
Press Chime switch pad	Door Lock	1 Attempt to unlock
Press Temperature switch pad	Door Lock	Lock Door
Rotary cycle selector set to Colors. Press	Bleach Valve and	1 st press Fabric Softener fill. 2 nd
Rotary Selector Knob.	Cold Water Valve	press valves off
Press Rinse & Spin switch pad	Heater	1 st press heater on. 2 nd press heater off.





Display Diagnostic Codes

The diagnostic code display can be toggled on and off from Service Mode by pressing the *Rinse&Spin* key and rotating the cycle select knob. The display will show a "**d**". Rotating the Cycle Selector knob in either direction will cycle through the

list of codes one code at a time with no wrap. Once an initial direction is selected by the user (either Clockwise or Counterclockwise), subsequent movements of the knob in the same direction will show older codes. If the user changes direction and turns the knob in the opposite direction, the more recent code will be displayed. If rotation is continued to the limits of the list, the display will remain at the top or the end of the list. A pair of dashes "- -" will be displayed at the end of the list of codes, when the control reaches the top, it will again show "**d**". A code generated during the current cycle will be displayed with the Spin Indicator LED turned "ON". If no cycle is currently running, a code generated during the previous cycle will be displayed with the Spin Indicator LED turned "ON". Access Other Features While a diagnostic code is displayed, if the Rotary Selector is pressed and held, the machine will display the number of cycles since the diagnostic code occurred. To clear the diagnostic list press the Delay and Chime keys for 3 seconds while viewing the list.

A code generated during the current cycle will be displayed with the Spin Indicator LED turned "ON". If no cycle is currently running, a code generated during the previous cycle will be displayed with the Spin Indicator LED turned "ON".

Cycle Count Since A Diagnostic Code Occured/Clearing Diagnostic Codes

While a diagnostic code is displayed, if the *Rotary Selector* is pressed and held, the machine will display the number of cycles since the diagnostic code occurred. To clear the diagnostic list press the *Delay* and *Chime* keys for 3 seconds while viewing the list.

Diagnostic Codes

Diag. Code	Description	Trigger	Action to be taken
1	No Drain	The water level fails to drop below the Low Water level reset within 15 minutes, before a spin begins.	Displays "nd" Go to " Will Not Drain " Troubleshooting Section
2	The door fails to unlock	Door failed to unlock after 3attempts	Displays " LO " Go to "Will Not Unlock" Troubleshooting Section
3	No Fill	Continuous fill of 12 minutes. Total fill of 14minutes.	Displays " nF " Go to " No Water Fill " Troubleshooting Section
4	The door fails to lock	Door failed to lock after 3 attempts	Displays " FL " Go to "Will not lock" Troubleshooting Section.
5-7		Not Used	
8	Water level sensor fault.	Input signal from water level Sensor is out of range, Washer will beep and pause the wash cycle.	Displays "LE" Go to "No water fill Troubleshooting".
9	Not Used		
10	Unbalance detected during final spin, which prevented the spinner from exceeding 400 rpm	Never exceeded 400rpm due to an unbalance load.	LED – Will display " dc " Go to "Wet Clothes "Troubleshooting Section"
E	Water sensor level fault.	Water level in the machine is believed to be above the overflow level. When this condition is detected, the machine will automatically begin pumping water out of the machine until it falls below the overflow level.	First check to see that water valve is not stuck. If water valve is OK, check water level sensor
11	Will not remember machine settings	Difficulty in reading memory	Go to "Clear diagnostic codes" Disconnect and reconnect the washer power cord at power supply outlet. If condition still exists, replace machine control board.
12-14		Not Used	

Diag. Code	Description	Trigger	Action to be taken
15	Stuck Key	A key is sensed to be pressed more than 30 seconds, the key will be assumed to be stuck	Display "E2". Go to "Membrane Pad Check" Check connection of keypad to control board. Replace LED Board if necessary.
17	Door switch was not seen open since the last three final spins	The door has not been opened after two complete wash cycles. Door switch was not seen open since the last two final spins	Will display " od " If door open sensing, will cleared.
18	Detected door lock switch open during cycle when not expected.	Open door lock switch with motor running.	Check for loose wire connections Clear the diagnostic code and recheck; if reoccurs, perform Diagnostic Motor/Machine Control Board test Check for faulty motor relay on the machine control board.
19-21	Not Used		
22	Door switch detected open during cycle (when not paused).	Door switch is detected open and the door locked switch is read as locked.	Go to " Door Lock Test " Troubleshooting Section
23-24	Not Used		
25	Motor tach signal exists without motor running.	Tach signal exists without torque command or when not expected (Abnormal condition only).	Displays " bE ". Replace Machine Control Board.
26-28	Not Used		
29	Sump thermistor failure (Optional)	Abnormal high/low temp or ohm resistance seen	Displays " tE" . - Loose or pinched wires - Bad sump thermistor
30-33	Not Used		

Diag. Code	Description	Trigger	Action to be taken
2E	Motor Drive failure (Locked, Hall sensor fault)	Machine control is attempting to drive the motor but is not seeing any tach response. Visual check shows motor is not moving.	Display " E3 " Evaluate wire harness for loose or unhooked connections. If machine has separate motor control, perform self diagnostic motor test. See " Board Output Test "
34	System Relay failure	Machine control does not see relay open when it should.	Display " Sr ". Replace machine control board.
35		Not Used	
36	Heater relay failure.	Heater Relay Check signal not sensed.	Display " Hr ". Replace Machine Control Board.
3E	Motor failure (Over current)	Over Current is detected. Motor won't turn.	Displays " 3E ".Check the motor windings, the speed sensor, wiring connections, or Control Board.
40-49		Not Used	
91	Voltage for motor control bus is over specified limit	Voltage for motor control bus is over limit	Display " 2E ".Replace Machine Control Board.
92	Voltage for motor control specified limit	Voltage for motor control bus is under specified limit	Display " 2E ".Replace Machine Control Board.





Exit Service Mode

1) Press **Chime** and **Extra Rinse** keys for 3seconds again, or 2) Press Off, or 3) Unplug the machine. After five (5) minutes of inactivity (user key presses) in Service Mode, the machine will exit the Service Mode and resume normal operations. Pressing the **Off** key will completely exit Service Mode. If a cycle is running, cancel the cycle. Pressing the **Rotary Selector** knob while running a test will pause the individual test, while remaining in Service Mode. A power loss during Service Mode will cancel this mode.

Refer to Technical Data Sheet for Detailed Instructions

Exit Service Mode

To exit:

- 1) Press *Chime* and *Extra Rinse* keys for 3seconds again, or
- 2) Press Off, or
- 3) Unplug the machine. After five (5) minutes of inactivity (user key presses) in Service Mode, the machine will exit the Service Mode and resume normal operations. Pressing the *Off* key will completely exit Service Mode. If a cycle is running, cancel the cycle. Pressing the *Rotary Selector* knob while running a test will pause the individual test, while remaining in Service Mode. A power loss during Service Mode will cancel this mode.



















Slide 18 information - Troubleshooting a no fill complaint

No Water Fill

- Test water fill. Perform Board Output Test.
- Check to make sure water supply is turned on fully.
- Check electrical circuit and connections at the Water Valve, and Pressure Switch.
- Check for kinks in inlet hoses.
- Check for clogged inlet screens.
- Visually check hot, cold, bleach and softener water valves separately for fill.
- Check for low water pressure. May be dependent on pressure entering home. Variations may occur due to usage in the home at the time machine is used.
- Check for frozen pipes and hoses.
- Check resistance of Water Valve coils. (Normal 1.18Kohms; Check resistance of water valve coils. Check Pin #1 of CN5 and Pin # 1,2,3,4 of CN10.
- Check for loose connections at the Pressure Switch or on the Machine Control Board, CN3. (Refer to the component Testing procedure).



Slide 19 Door Lock information Troubleshooting a door lock complaint Will Not Lock

- Door not all the way closed or not properly aligned. Possible laundry load is too large to close door.
- Place washer into Service Mode and check for diagnostic codes 4,18 & 22.
- Perform *Board Output Test*. Check door lock system. Check the output voltage of Door Lock Coil. If normal, change door Lock switch, If not normal, change Main Control Board. (Refer to the Component Testing procedure.)
- Check electrical connections at lock switch assembly and machine control board (CN10). (Refer to the Component Testing procedure.).

Will Not Unlock

- Push door closed to make sure nothing from inside is pressing against it, which may keep it from unlocking.
- Door locked from water level too high. Opening door will result in water draining from door opening.
- Check for water remaining in the tub. Check the temperature inside the drum is higher than 50°C/122°F. If water is present inside drum, refer to "Will not drain", If there is no problem with temperature, check wiring of Main Control Board and Door Lock Switch.
- Drain manually by removing drain hose clamp.
- Display shows LO. Press power Off Key to turn off the washer and unplug and reconnect washer. Press any key to turn on the washer. if LO is displayed, Main Control Board and Door Lock Switch should be checked.
- Place washer into Service Mode and check for diagnostic codes 4,18 & 22..
- Check electrical connections at lock switch assembly and Machine Control Board (CN10). (Refer to the component Testing procedure.)
- Perform *Board Output Test*. Check door lock system for loose connections.
- Perform *Board Output Test*. Check door lock system. Check the output voltage of Door Lock Coil If 120V present change door Lock switch, If not present, change Main Control Board. (Refer to the component Testing procedure.)

Voltage Checks

Door Switch Check

Check voltage at Pin #6 and #4 of CN3 With Door Open = DC5V With Door Closed = DC0V

Door Lock Check

Check Voltage at Pin #1 of CN5 and Pin #7of CN10 With Door Locked = AC120V Check Voltage at Pin #1 of CN5 and Pin #2of CN7 With Door Locked = AC120V

Door Unlock Check

Check Voltage at Pin #1 of CN5 and Pin #8of CN10 With Door Unlocked = AC120V Drain Motor Check







Motor Resistance Checks

Resistance checks can be made at Connector CN9 on the machine control board or at the motor

Check Resistance at Pin #1 and #2 of CN9 =11.6 Ω Resistance at Pin #1 and #3 of CN9 =11.6 Ω Resistance at Pin #2 and #3 of CN9 =11.6 Ω





Be Aware, Be Alert Always work safely. On the Job, On the Road, In the Home Every Time, All the Time

