Training Bulletin

April 2012

GE Top Load Washer Testing Procedures

Models: GTWN5950D GTWN5750D GLWN5550D GTWN5550D GTWN5350D GTWN5650D GTWN5450D GHWN5250D GLWN5250D GTWN5250D GCWN4950D GTWN4950D GHWN4250D GTWN4250D GCWN2800D GLWN2800D GTWN2800D GTWP2250D GCWP1805D GCWP1800D GTWP1800D HTWP1200D

INTRODUCTION

The new GE top load washers have a new look for the backsplash. A one-knob control with button modifiers allows the consumer to make adjustments to water temperatures, spin speeds, and cycle times, depending on how soiled the items are.

The capacity has also increased:

- Stainless basket infusor models: 4.0 cu. ft.
- Stainless basket agitator models: 3.9 cu. ft.
- Plastic basket GE models: 3.7 cu. ft.
- Plastic basket Hotpoint models: 3.5 cu. ft.

Some of the other improvements include:

- Taller balance ring
- Taller tub cover
- Longer rod and spring suspension system
- Shorter platform
- Shorter shaft and tube assembly
- Infusor holes
- Larger counterweight
- Motor drip shield
- New backsplash

There will be a matching dryer with a new control and an updated appearance.

GE Appliances
General Electric Company
Louisville, Kentucky 40225

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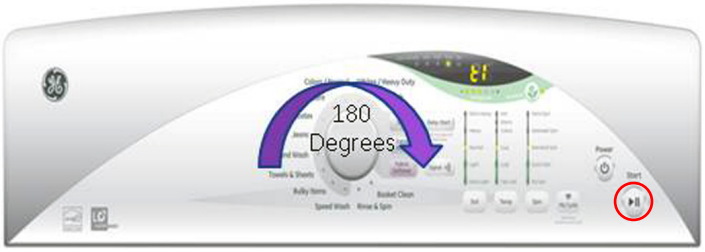
ENTER AND EXIT FIELD SERVICE MODE

Entering the field service mode is similar to that of previous units. Press and hold the **Start/Pause** button and rotate the knob 180 degrees or count 8 detents.



The Seven-Segment Display (SSD) will show t1. For units that do not have the SSD, status LED lights will be illuminated for the various test functions.

Once in the field service mode, rotate the knob clockwise to advance through the different test functions. (See field service mode table below.) After the test function is selected, press the **Start/Pause** button to start the test.

Termination of the service mode can be done 3 ways:

- Press the **Power** button.
- Remove power from the unit.
- Wait 30 minutes.

Field Service Mode Test Functions

Test No.	SSD	Soak LED	Wash LED	Rinse LED	Spin LED	Test Function
1	t1				On	LED and Lid Check
2	t2			On		Model ID Number
3	t3			On	On	EEPROM Version
4	t4		On			Error Codes
5	t5		On		On	Hot Water Valve Check
6	t6		On	On		Software Version
7	t7		On	On	On	Cold Water Valve Check
8	8t	On				Low Agitation Check
9	9t	On			On	High Speed Agitation Check
10	tA	On		On		Drain Pump Check
11	tb	On		On	On	Spin Check
12	tC	On	On			Model Configuration
13	td	On	On		On	Clearing EEPROM

TEST 4 - ERROR CODES

In test 4, press the **Start/Pause** button to see the error code (see error code table). Press the **Start/Pause** button again to delete the error code and to see if there are any other errors.

TEST 2 - MODEL ID NUMBER

The model ID number will be displayed on the SSD and on the soil LEDs as a binary number. Use the error code table to translate the model number.

Error Code Display Chart

	Error Codes	None	Thermistor	Drain Pump	Stuck Button	Overflow	No Fill	Pressor Sensor						
	SSD	E0	E1	E2	E3	E4	E5	E6						
LED PATTERN	Soil LED Heavy									On	On	On	On	On
	Soil LED Normal					On	On	On	On					On
	Soil LED Light			On	On			On	On			On	On	
	Soil LED Ex Light		On		On		On		On		On		On	
	Model ID #		1	2	3	4	5	6	7	8	9	10	11	12

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TEST 7 - COLD WATER VALVE CHECK

The pressure sensor is also tested. The cold water will be turned on when the test is started. The SSD will show a **C**.

When the water level reaches the lower pressure sensor level, the cold temp LED will light.

When the water level reaches the upper pressure sensor level, the cold and cool temp LED will light.

When the water level reaches overflow pressure sensor level, the cold, cool and colors temp LEDs will light, the water will be shut off, and the drain pump will turn on.

Note: Due to a redundant circuit in the control, the LED lights may or may not come on at the specific water levels. **This is normal operation**.

TEST 12 - MODEL CONFIGURATION

The test begins by pressing the **Start/Pause** button and all LEDs will blink.

To change the model ID number, press and hold **SPIN** and **TEMP** buttons for 3 seconds.

Use the **SOIL** button to increment the model ID number or the **TEMP** button to decrement the model ID number.

The SSD will show the updated model ID number. The soil LEDs will indicate the updated model ID number in binary form, as shown in the error code table.

Depending on if you are in test 4 for error codes or if you are in test C for model ID number— the same LED lights will be illuminated.

Example: Test C model ID number 4 will light the soil LED light. Test 4 for error code overflow will also light the soil LED light.

Press and hold the **Start/Pause** button to save this data. Two validation beeps will sound and then this mode will be exited.

TEST 13 - CLEARING EEPROM

Note: Starting this test will delete the consumer's My Cycle.

Pressing the **Start/Pause** button will restore the default EEPROM values. **EP** will be displayed on the SSD. After a validation beep, the control will reset to normal wash mode.

PROCEDURE FOR PROGRAMMING WH12X10542 CONTROL

TEST 12 MODEL CONFIGURATION

When replacing the control, the washer will not function until the replacement control has been programmed.

To program the replacement control:

1. After installing the new control, reconnect power to the washer.

Note:

- On models utilizing a 2-digit display, **- -** will appear.
- On models utilizing LEDs for test functions, the following soil LEDS will be illuminated:

Soil LEDs			
Extra Light	Light	Normal	Heavy
ON	ON	ON	ON

2. Set the appropriate model ID number per the model number ID table. Press **Soil** button to increment model ID number. Press **Temp** button to decrement.

Note:

- On SSD models, the model ID number will show on the display.
- On models having only LEDs, the soil LEDs will indicate the model ID number per the model number ID table.

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Model Number ID Table

Washer Model Number	Model ID #	Display Type	Display
GTAN5250 GLWN5250	1	LED MODEL	SOIL→EXTRA LIGHT LED: ON
GHWN5250	2	Two Digit Display	2
GMAN5650 GTWN5450 GTWN5650	3	Two Digit Display	3
GTWN5350	4	LED Model	Soil→Normal LED:ON
GTWN5250	5	LED Model	Soil→Extra Light: ON Soil→Normal:ON
GLWN5550 GRWN5550 GTWN5950	6	Two Digit Display	6
GTAN5550 GTWN5550 GTWN5750 GTWN5850	7	Two Digit Display	7

3. Press and hold the **Start/Pause** button until two validation beeps are heard (approximately 3 seconds).
4. Press the **Power** button to reset the control.
5. The washer is now ready for use.

Note: If an error is made in programming the control, enter field service mode per instructions on page 2 or in the mini manual. Use test 2 to view the model ID number and test 12 to change the model ID number.

PRESSURE SENSOR

If the pressure sensor's frequency is outside of the valid values, an error condition will be logged in service mode.

If a pressure sensor error occurs during cycle, the cycle will be canceled and the control will go to Idle.

If a cycle is started during a pressure sensor error, the unit will not fill and the cycle will be cancelled.

There are 2 methods to test the pressure sensor.

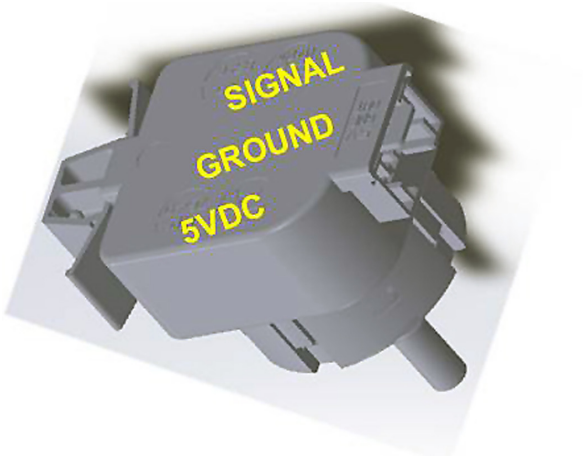
Method Number 1

1. Use a Hertz meter to read the Hertz at specified water levels. See table below.
2. For testing at the pressure sensor, the pin configuration is as follows:

   1 = Ground

   2 = Signal

   3 = 5 VDC
3. To measure the signal, test between pin 1 (white wire), and pin 2 (red wire).



Frequency vs. Water Level in Inches	
Frequency in Hz	**Water level in inches**
1380	2
1374	3
1366	4
1358	5
1350	6
1342	7
1334	8
1325	9
1316	10
1307	11
1299	12
1292	13
1282	14
1278	14.5
1274	15
1270	15.5

Method Number 2

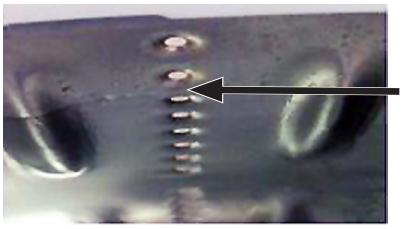
Put the control into the service mode and turn the knob to the COLD water valve test.

Water Levels

LOW

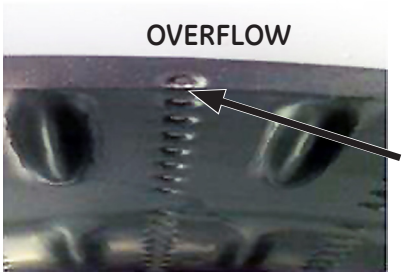
Approximately between 3rd and 4th sidewall hole from the bottom.

HIGH



Approximately between 2nd and 3rd sidewall hole from the top.

OVERFLOW



Approximately between 1st and 2nd sidewall hole from the top.

Note: When overflow level is reached, water fill will stop and the drain pump will come on.

DIAGNOSING HYDROWAVE WASHER SERIAL COMMUNICATION FAULTS

If communication is lost during first fill, the wash basket will remain motionless. Approximately every 20 seconds, the control board will flash the fill light and beep twice. However, an OPEN lid switch can cause these same symptoms. LID flashing in the display is also an indication of communication loss. Determine which condition has occurred, either lost serial communication or a lid switch OPEN, by checking the motor light. A 10-flash error on the motor indicates lost communication. If you see a steady 1/2 second-ON, 1/2 second-OFF motor light flash, this indicates a lid switch OPEN. A 7-flash error on the motor light indicates lid switch NOT OPEN.

If communication is lost during either the main wash or spin cycles, the mode shifter will disengage and the wash basket will remain motionless. The motor will display a 10-flash error code, indicating lost communication. If communication is restored, the cycle will continue.

If the pressure switch and/or the pressure sensor does not close or get to the proper reading within approximately 5 minutes during drain, the control board will time out and shut down with NO lights illuminated. There will be NO error flash code on the motor. However, the control board will display the slow pump error code in service mode.

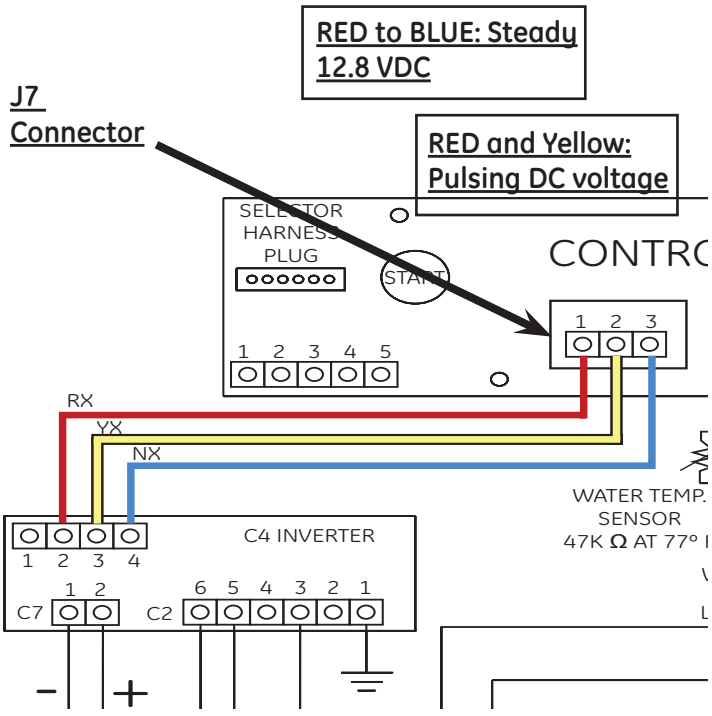
Communication voltages are sent from the control board to the motor. Test for the following steady and pulsing serial voltages at the control board J7 connector:

- Check for approximately 12.8 VDC steady from RED to BLUE. The BLUE wire is DC ground.
- Check for the pulsing DC communication voltage from the RED and YELLOW. This is a pulsing, not a steady, voltage.

If either voltage is absent at the control board J7 connector, replace the control board.

If the steady and pulsing voltages are OK at the control board J7 connector, disconnect the communication harness at the motor and check the motor harness connector for the same voltages found at the control board.

If voltages are OK at the motor harness connector, replace the motor.

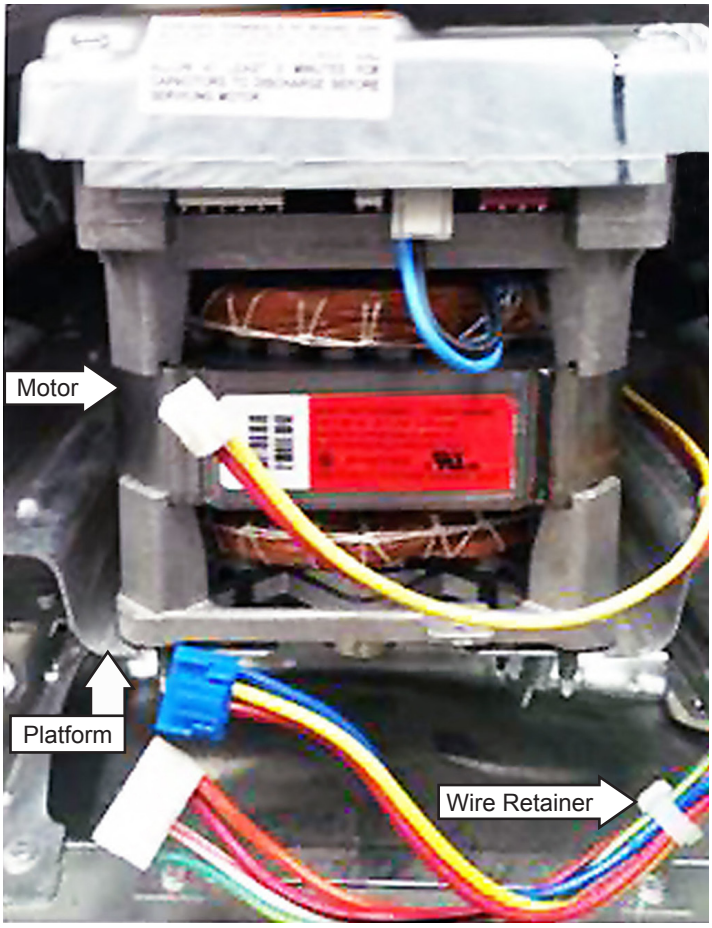


To remove the inverter/motor:

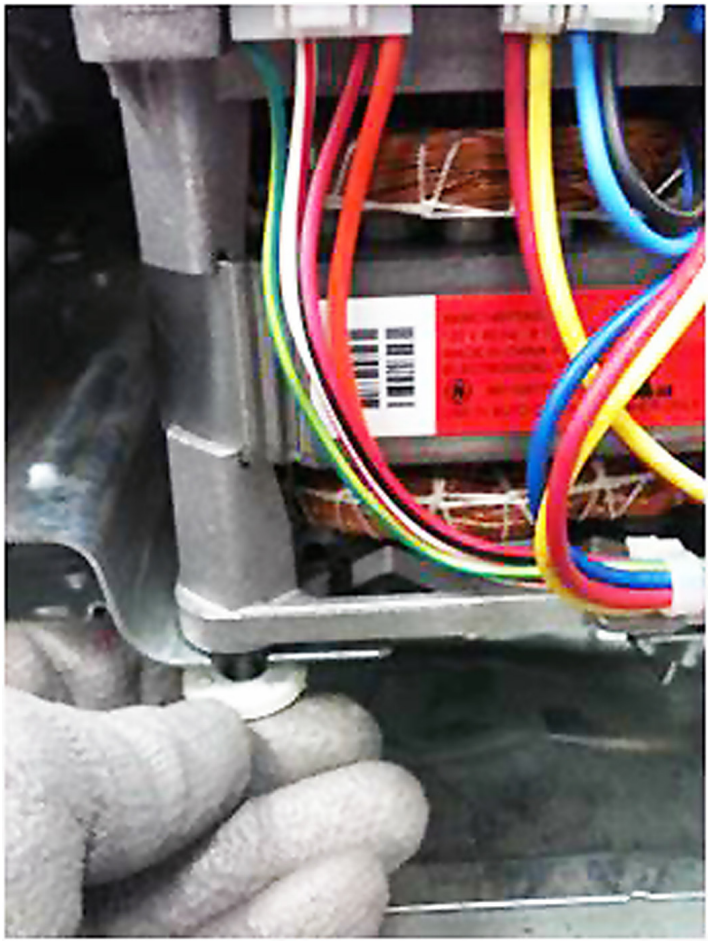
1. Disconnect power.

WARNING: Exposed terminals, inverter board, and rotating parts may cause injury and/or electrical shock. To reduce the risk of electrical shock, disconnect power and allow at least 5 minutes for capacitors to discharge before servicing motor. An audible clicking sound will be heard when the inverter capacitor discharges (inrush relay closing).

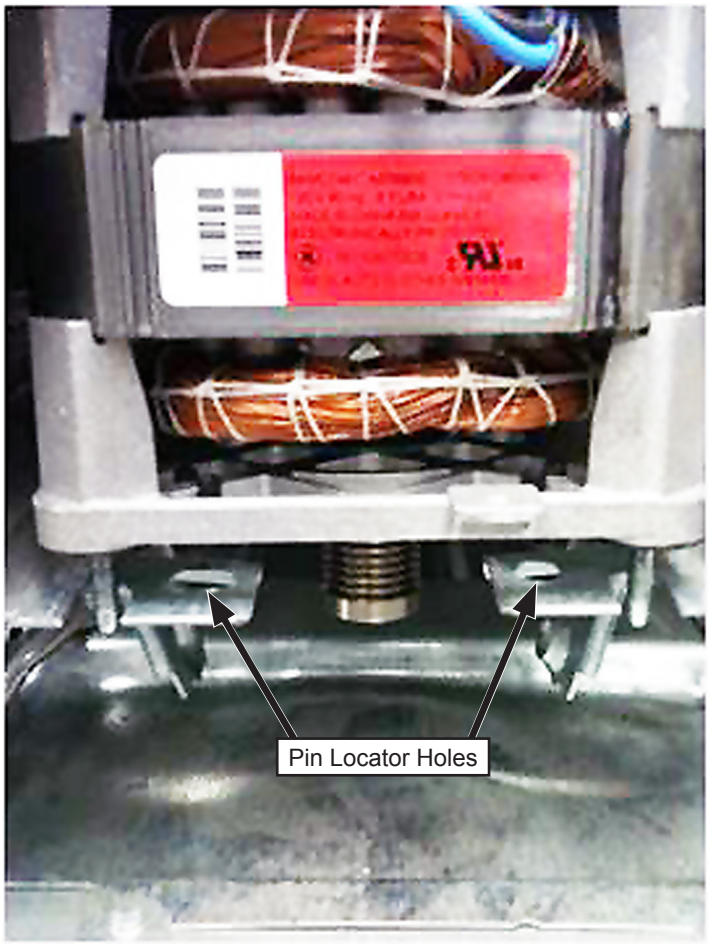
2. Remove the front panel.
3. Disconnect 3 wire harnesses from the motor.
4. Release the compression tabs that attach the wire retainer to the front of the platform.



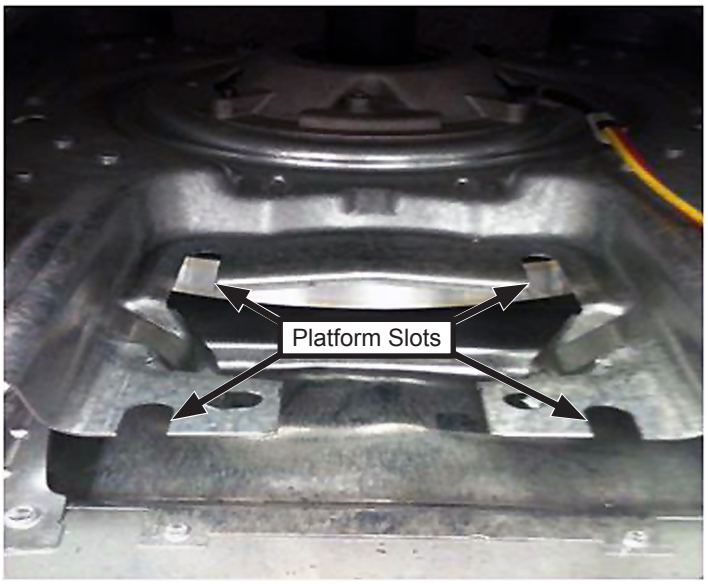
5. Remove the belt by rolling it off the bottom of the motor pulley.
6. Loosen the 2 front and 2 rear 3/8-in. motor nuts.



7. Raise the front of the motor high enough to disengage the motor alignment pin from the pin locator hole.



Note: As shown in the photo below, to improve motor removal, the platform now utilizes slots instead of holes for motor attachment.



8. Slide the motor forward and off the platform.

WARNING: The motor casing is NOT at chassis ground potential. Voltage may be present on the motor casing. To prevent electrical shock, do not touch the motor when connected to power.

Caution: To prevent motor or inverter board damage, make certain all isolators are in place when installing motor to platform.

Note: When replacing the motor, ensure the motor alignment pin is fully inserted in the pin locator hole in the platform before tightening motor nuts.

Note: When replacing a motor, check its brake operation. Place washer in a spin cycle and lift the lid after it has reached full speed. The basket should stop within 7 seconds. If time exceeds 7 seconds, check the lid switch operation, and check the belt for worn ribs or slippage due to residue on the belt or pulleys.