FOR SERVICE TECHNICIAN ONLY—DO NOT REMOVE OR DESTROY

"H & U" WASHER

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in injury or death.

IMPORTANT
Electric Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an anti-static wrist strap. Connect wrist strap to ground connection point or unpainted metal in the appliance.

  –OR–

  Touch your finger repeatedly to ground connection point or unpainted metal in the appliance.
- Before removing the part from its package, touch the anti-static bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contact; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in anti-static bag, observe above-mentioned precautions.

DIAGNOSTIC GUIDE

Before testing washer operation, check the following:

- Is the power cord firmly plugged into a live circuit?
- Has a household fuse blown or circuit breaker tripped? Time delay fuse?
- Are both hot and cold water faucets open and water supply hoses unobstructed?

  Before opening the unit make sure the washer is unplugged from power outlet.
- Check all connections before replacing components. Look for broken or loose wires, failed terminals or wires not pressed into connections far enough.
- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- Connectors: Look at top of connector. Check for broken or loose wires. Check for wires not pressed into connector far enough to engage metal barbs.
- Resistance check must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

Programming the Control Board

- The replacement control board will always enter into test mode t01 on initial power-up.
- If replacing the control board, the washer will not function until the replacement control board has been programmed.

To program the replacement control board:

1. Reconnect power to the washer. (The display will now show "---", which means no model has been selected.)

2. Rotate the cycle knob until the correct model number is displayed:

Select 1 for models WHDVH626, WHDVH660, WHDVH680, GHDVH626, GHDVH670 and GHDVH680

Select 2 for models WCVH6260 and GCVH6260

Select 3 for models WBVH6240, WCVH6400 and GCVH6400

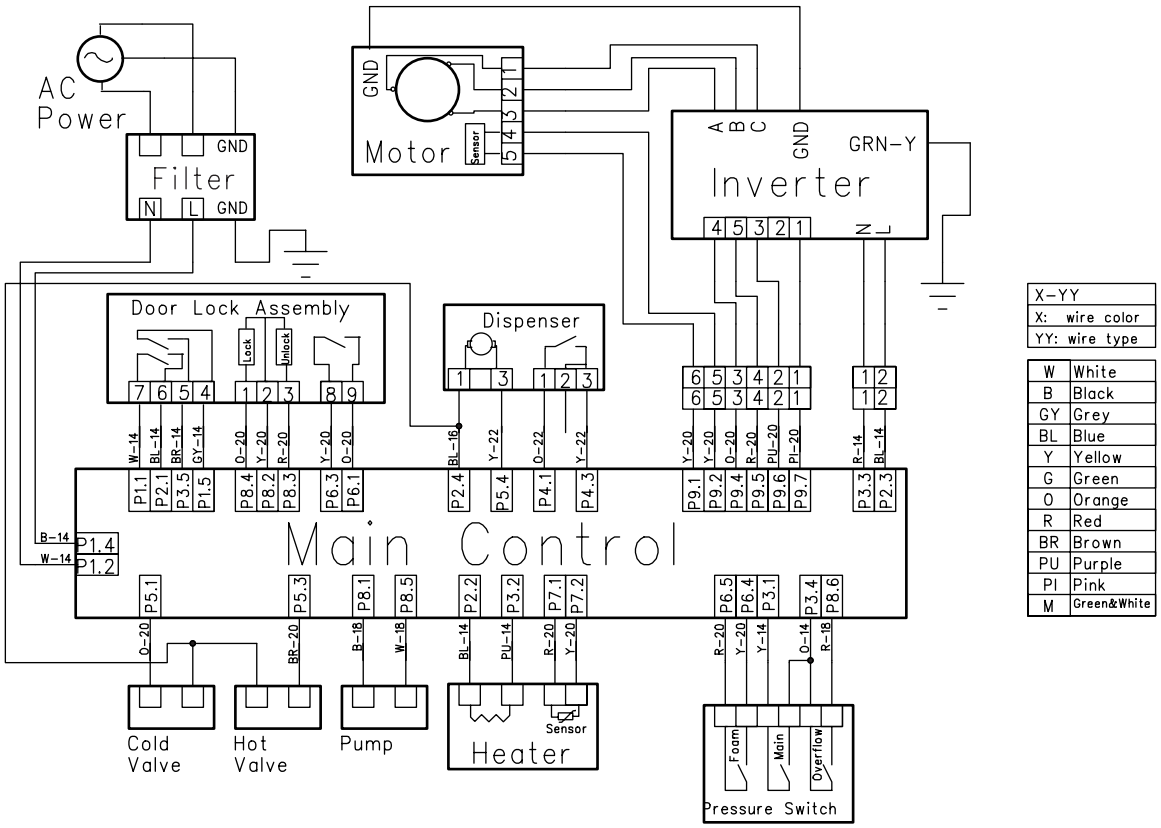
Select 4 for models WCVH6600, WCVH6800, GCVH6600 and GCVH6800

3. Press and hold the Start key for 3 seconds (or until a second beep is sounded).

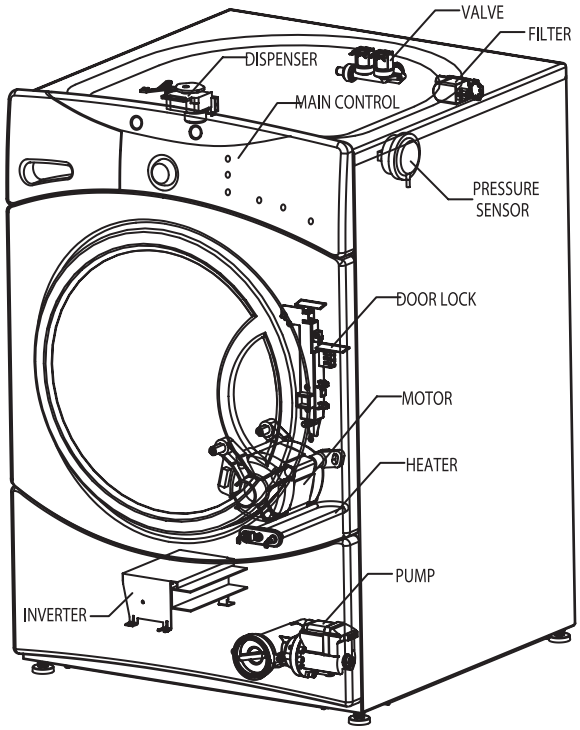
4. Press the Power key to reset the control.

Note: If an error is made in programming the control, enter test mode and select t01. Then repeat steps 2 through 4.

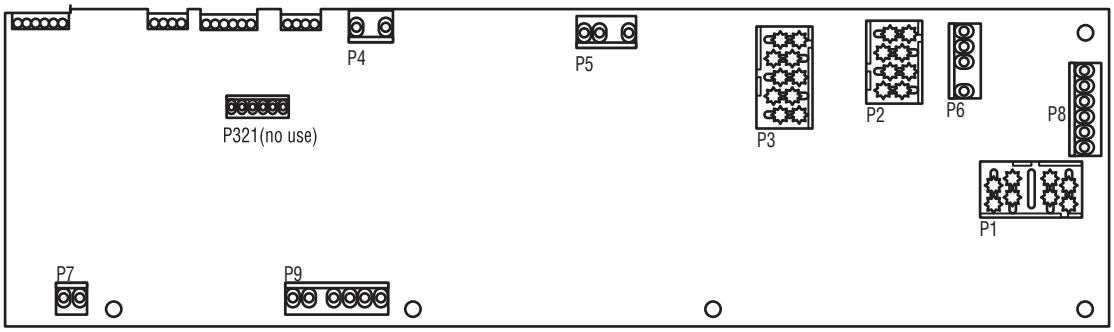
WIRE DRAWING



SYSTEM DRAWING



CONTROL BOARD CONNECTOR LOCATIONS



SERVICE MODE

To Enter: Press **Signal–Delay–Signal–Delay** (within 30 seconds of plugging in washer).

To Exit: Repeat **Signal–Delay–Signal–Delay**.

TEST LIST

"t01" **Model ID**
Verifies (or sets on new board) the proper Model id

"t02" **Error Codes**
Lists up to 10 control-detected problems

"t03" **Software ID**
Verifies using latest Control-eePROM-Inverter software

"t04" **Exercise LCD/LEDs**
Verifies that all the displays and buttons work

"t05" **Pump Test**
Tests drain-out pump

"t06" **Pressure Switch Test**
Fills to all 3 levels, then pumps out water

"t07" **Thermistor/Heater Test**
Verifies that both the Thermistor and Heater work

"t10" **Tumble Test**
Verifies Washer Tumbles (i.e. Wash cycle)

"t11" **Spin Test**
Verifies Washer spins

"t12" **Dispenser Test**
Verifies Dispenser fill works—for all four fill modes

"t13" **EOL Test**
Performs End-of-Line test sequence

DETAILS FUNCTION

	Requirement	Sequence	
t01	none	**Start**	Displays defined Model id (01-04); displays "---" if new board (to set Model id, rotate knob until desired id [01-04] displayed, press and hold "START" key to program desired model)
		Power	Returns to "t01"
t02	none	**Start**	Displays most recent error code (E00=none)
		Start	Displays previous error code (up to previous 10)
		Hold start	Clear all error codes (and then displays E00)
		Power	Returns to "t02"
t03	none	**Start**	Alternate "cod" and Control Software version
		Start	Alternate "EE" and eePROM version
		Start	Alternate "Inv" and Inverter Software version
		Power	Returns to "t03"
t04	none	**Start**	Loops on lighting LED's, LCD and cycle ids
		Any button	Beeps when depressed
		Power	Returns to "t04"
t05	none	**Start**	Displays "P" and pump for 60 seconds
		Power	Returns to "t05"
t06	none	**Start**	Displays "E" (for Empty) and starts filling when reaches Foam level—displays "F"
		Start	Fill, when reaches Main level—displays "nl"
		Start	Fill, when reaches overflow level—briefly displays "OF," pumps out, displays "E" when tub empty
		Power	Returns to "t06"
t07	Main level pressure switch must work	**Start**	Displays temperature in °F, fills to main level, turns on heater up to 5 minutes, displaying rising temperature
		Power	Pumps out water and returns to "t07"
t10	none	**Start**	Displays "tt" and tumbles tub alternating the direction every 5 seconds
		Power	Stops tumbling and returns to "t10"
t11	none	**Start**	Spins to 400 RPM displaying increasing RPM
		Start	Spins to 1100 RPM [Greater than or equal to 1000, displays "Axx"; Greater than or equal to 1100, displays "bxx" (xx, 0 to 99)] [currently error—automatically goes to 0 RPM]
		Power	Stops spinning and returns to "t11" when stops
t12	none	**Start**	Displays "pdt" and fills via pre-wash chamber
		Start	Displays "ddt" and fills via main wash chamber
		Start	Displays "bdt" and fills via bleach chamber
		Start	Displays "Fdt" and fills via fabric softener chamber (stops if reaches Main level during any fill)
		Power	Pumps out water and returns to "t12"
t13	none	**Start**	Starts EOL test sequence (NOT used in Repair)
		Power	Returns to "t13"

TROUBLESHOOTING CHART

Code(s)	Description	Action
22, 23	Fill problems	• Ensure manual water valves are fully open. • Check if water strainers on solenoid valve assembly are clogged. • Check for obstructions inside inlet water hoses. • Ensure solenoid valves do not leak when the valves are de-energized and the washer is powered down. • Measure coil resistance for both valves; if outside range (1000–1250 ohms at room temp.), replace solenoid valve assembly. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM, OR FOR ERROR CODE 23: • Replace solenoid valve assembly.
30, 31	Drain problems	• Ensure pump strainer is clean and free of debris. • Check for obstruction inside the drain hose. • Check pump impeller blades and bearing; if evidence of blade damage or seized bearings are present, replace the pump. • Check electrical connections at the pump motor and harness. • Measure pump motor resistance; if outside range (9–14 ohms at room temp.), replace the pump.
38, 39	Dispenser problems	• Check for obstruction in dispenser mechanism and linkages. • Check electrical connections at dispenser motor feedback switch and in the harness. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace dispenser motor assembly.
42, 45, 49	Motor Drive operation above design limits	• Ensure all 4 shipping bolts have been properly removed. • Remove all foreign objects that may be lodged between inner and outer basket. • Look for signs of seized bearing(s) on basket and drum motor, replace components as necessary. • Inspect condition and mounting of door gasket, replace and re-mount as necessary. • Ensure inner basket (drum) can rotate freely. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace motor drive or drum motor.
43, 4A, 4B, 4C, 4E, 4F, 50, 52, 53, 54	Motor Drive internal problems	• Measure AC outlet voltage, ensure correct range (102V to 132V AC). • Check electrical connections at the drum motor, motor drive. • Check harness integrity between main control and motor drive. • Unplug the unit, wait 30 seconds, restart the unit. • If the fault persists and re-appears – replace the motor drive.
57, 58, 71	Main Control internal problems	• Unplug the unit, wait 30 seconds, re-start the unit. • If the fault persists and re-appears – replace the main control.
60, 61 63, 64,	DOOR LOCK assembly problems	• Check integrity of wiring and connections between main control and DOOR LOCK mechanism. • Investigate DOOR LOCK mechanism, check door microswitch operation, lock and unlock solenoid continuity, contact integrity; replace DOOR LOCK mechanism if necessary. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace the main control.
65	Water Level Sensor problems	• Check integrity of wiring and connections between main control and Water Level Sensor. • Check integrity of Water Level Sensor, replace if necessary. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace the main control.
66, 67	Water Temperature Sensor problems	• Check integrity of wiring and connections between main control and Heater/Thermistor Assembly. • Using ohmmeter, measure Thermistor resistance; if outside expected range, replace Heater/Thermistor Assembly. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace the main control.
70	"Stuck" key	• Press each key. There should be mechanical "click" feedback with every press. • Enter Service mode, use t04 test to check key operation. Press every key. Every keypress should generate audible "beep." Press "Power" key last to avoid premature exit from t04 test. • Separate control and control housing from the front panel; clean and remove all foreign matter and debris from keys, front panel and control housing, re-assemble. Ensure all keys can be operated freely without "sticking." IF ABOVE STEP DOES NOT CLEAR THE PROBLEM: • Replace the main control.
62	System Contact Failure	• Check integrity of wiring and connections, look for insulation breakdown and short circuit conditions on the harness, replace harness if necessary. • Check integrity and electrical connections of all loads (heater, pump, pressure switch, door lock, solenoid valves, dispenser motor), replace respective components if necessary. IF ABOVE STEPS DO NOT CLEAR THE PROBLEM: • Replace the main control.

MODEL NUMBERS

GCVH6260
GCVH6400
GCVH6600
GCVH6800
GHDVH626
GHDVH670
GHDVH680
WBVH6240
WCVH6260
WCVH6400
WCVH6600
WCVH6800
WHDVH626
WHDVH660
WHDVH680

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