GE *GE Consumer & Industrial*

GE Appliances
General Electric Company
Louisville, Kentucky 40225

Service Bulletin

DISHWASHERS   **DD 04-04**
SHORT DOOR ELECTRONIC DISHWASHERS
SENSOR MODELS: EDW3000G02, GSD5400G02,
GSD5500G02, GD5800G02, GSD5900G02
AND LATER
NON-SENSOR MODELS: GSD4800J01 AND LATER

SEPTEMBER 2004

NEW ELECTRONIC CONTROL

The short door electronic dishwashers feature a new electronic control that replaces the sequence switch and control on previous models with a synchronous detergent trip motor and a control with relays on the main circuit board.

There are two different controls—one for sensor models and the other for non-sensor models.

The control for use on sensor models is a WD21X10197. This looks similar to the control used on the Triton XL and stainless steel line of dishwashers. However, the controls are not interchangeable. The keypad is now a separate part, but functions and looks the same as the keypad on the previous integrated control. There are two keypads used: WD21X10198 and WD21X10199.
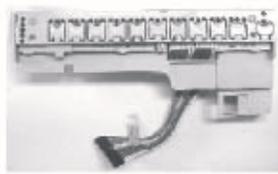
WD21X10197   WD21X10198 and
                          WD21X10199

The control used on the non-sensor models is a WD21X10195. This control looks similar to the WD21X10100 used on the previous non-sensor models.
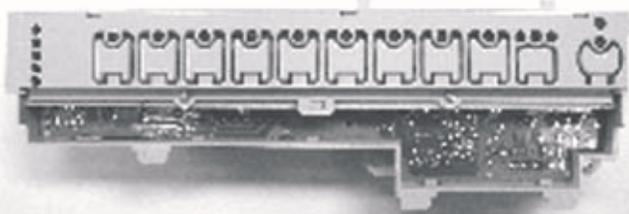
WD21X10195

The look of the escutcheon and insert is unchanged.
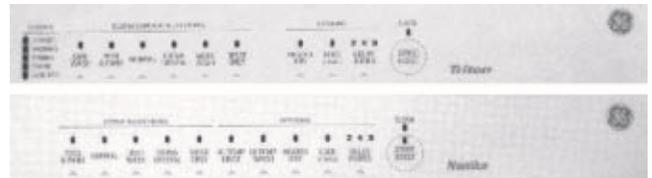
Shown below is a table of features in the new controls.

Characteristic	Sensor Control	Non-Sensor Control
Detergent Trip	Synchronous motor	Synchronous motor
120 volt switching	Relays	Relays
Model Selector	Keypad	Resistor jumper plug
F1 Test cycle	Normal & Pots	Normal & Pots
Service mode	Pads 9 & 3	Pads 9 & 1
Trip detergent cup if inadvertently closed	Feature not available (manually open cup)	Feature not available (manually open cup)

Please note a service mode feature is now included in the control. This functions much like the Service Mode on Triton XL dishwashers. Pertinent sections of the respective mini-manuals are attached to this Bulletin for reference.

Also note that previous short door electronic models had a feature that allowed customers to open the detergent cup by pressing the start pad three times with the door unlatched. This feature is not available on the new controls. The Owner's Manual mentions the availability of this feature on page 14 or 13 respectively. Be aware this is incorrect. The Owner's Manuals have been corrected.

Early production sensor models do not flash the washing light or any other light on reset. The Owner's Manual says the washing light should flash on reset. The programming in the control will be modified to include this feature beginning with September 2004 production. A reset on non-sensor models will cause the Start/Reset light to flash for 90 seconds.

Listed below are the control error codes the customer could see or hear and possible fixes:

Sensor Models

Flashing Light	Explanation	Possible Cause
No light with continuous beeping sound	Key pad not plugged in or model typing resistor on keypad circuit board not detected	Check and repair or replace the following as required: 1. Keypad plugged in 2. Keypad 3. Control
Normal light with beeping sound	Normal light flashes and control beeps when the detergent trip motor cannot find its home position	Check and repair or replace the following as required: 1. Connections to detergent trip motor 2. Operation of trip motor sensing switch 3. Operation of trip motor 4. Cam and detergent trip mechanism for free operation 5. Control

Note: No lights flash when cycle is cancelled and the dishwasher is resetting.

Non-sensor models

Flashing Light	Explanation	Possible Cause
Start/Reset	Cycle cancelled, dishwasher resetting	Normal operation
Normal light with beeping sound	Normal light flashes when the detergent trip motor cannot find its home position	Check and repair or replace the following as required: 1. Connections to detergent trip motor 2. Operation of motor sensing switch 3. Operation of trip motor 4. Cam and detergent trip mechanism for free operation 5. Control
Clean light with beeping sound	Model typing plug not detected	Check and repair or replace the following as required: 1. Jumper resistor – correct and properly plugged in 2. Control

Listed below are control error codes visible only during the F1 test and only on sensor models.

Flashing Light	Explanation	Possible Cause
Sensing light and continuous beep	Control is receiving an unexpected signal from the turbidity sensor	Check and repair or replace the following as required: 1. Turbidity sensor connections 2. Turbidity sensor 3. Control
Heated dry light	Control is reading the tub temperature sensor as open or short circuit (thermistor is in the turbidity sensor)	Check and repair or replace the following as required: 1. Turbidity sensor connections 2. Turbidity sensor 3. Control
Lock light	EEPROM error	Check and repair or replace the following as required: 1. Control

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MODELS WITH A TURBIDITY SENSOR
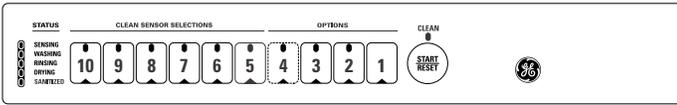
NOTE: INDICATES KEYPAD USED ONLY ON SOME MODELS.

THIS DISHWASHER IS PROGRAMMED WITH A SERVICE MODE TO AID THE TECHNICIAN IN TROUBLESHOOTING THE DISHWASHER. EACH COMPONENT MAY BE CYCLED TO DETECT IF IT IS FUNCTIONING CORRECTLY. COMPONENTS ARE CYCLED BY PRESSING KEYPADS TO THE LEFT OF THE START/RESET KEYPAD. USE THE MATRIX BELOW TO DETERMINE HOW TO CYCLE EACH COMPONENT.

TO ENTER SERVICE MODE :
PRESS KEYPAD #9 AND KEYPAD #3 SIMULTANEOUSLY FOR 3 SECONDS.

TO EXIT SERVICE MODE :
PRESS THE START/RESET KEYPAD AT ANYTIME TO EXIT.

Service Mode Test Matrix*

Keypad	Description	Time in Seconds**
9	Activates Water Valve	50
8	Activates Heating Element	600
7	Activates Main Pump	75
6	Activates Detergent Module	60
5	Activates Drain Pump	75
3	Activates the following in order: Status LEDs; Wash LEDs; Start/Reset and Option LEDs	3 seconds each cycle
2	Opens Active Vent	
1	Closes Active Vent	
START/RESET	Used to EXIT Service Mode	

*NOTE: After 15 minutes of inactivity, the service mode will automatically turn off.

**NOTE: Component will be activated for indicated time. Component may be deactivated by pressing the same keypad that was pressed to activate the component.

TO ENTER F-1 TEST CYCLE:
1. Power up unit.
2. Close detergent cup and latch door.
3. Press KEYPAD #9 and KEYPAD #8 simultaneously for one second. The control will then step through the test automatically.

TO EXIT F-1 TEST CYCLE:
1. Press START/RESET to skip each step until the end.
2. The control will then exit the test cycle, pump out any remaining water and return to normal operation.

F-1 TEST CYCLE MATRIX

STEP	ACTION	LED DISPLAY	DESCRIPTION
1	Start	SENSING and WASHING flash for 10 seconds	
2	Model Number Display	Combination of KEY 1 (LOCK) and DELAY START 1, 2 or 3	Use KEY 1 (MS3) and DELAY START LEDs to display model number in binary for 5 seconds
3	Illuminate Display	All LED's	Energize all LEDs for 5 seconds.
4	Trip Detergent & Fill	DRYING, SANITIZED	Trip the detergent cup. Energize the water valve for 50 seconds.
5	Fill & Circulate	RINSING	Energize the water valve and main pump for 10 seconds. Close the active vent.
6	Circulate & Heat	RINSING, SANITIZED	Energize the main pump and heater for 60 seconds.
7	Calibration	SENSING	All relays and LEDs will be off while the processor calibrates the turbidity sensor.
8	Circulate & Drain	RINSING, DRYING	Energize the main pump and auxiliary pump to evacuate water from the unit for 10 seconds.
9	Circulate	RINSING, DRYING, SANITIZED	Energize the main pump to circulate water in the unit for 50 seconds.
10	Trip Rinse Agent & Self diagnostics	WASHING	Trip the rinse agent. Read Turbidity Sensor. Read tub temperature sensor. Read EEPROM. If diagnostics or turbidity errors occur, energize the beeper and flash LEDs (see below).
11	Fill	WASHING, SANITIZED	Energize the water valve for 50 seconds.
12	Fill & Circulate	WASHING, DRYING	Energize the water valve and main pump for 3 seconds.
13	Circulate & Heat	WASHING, DRYING, SANITIZED	Energize the main pump and heater for 60 minutes.
14	Auxiliary Pump	All LED's	Energize all LEDs and the auxiliary pump to evacuate water for 5 seconds. Open the active vent.
15	Auxiliary Pump	WASHING, RINSING, SANITIZED	Energize the auxiliary pump to evacuate water from the unit for 70 seconds.
16	Exit		

NOTE: DELAY START 1, 2 & 3 represent the *leftmost, middle and rightmost* DELAY START LEDs, respectively.

In **STEP 10** of the F1 Test Cycle: If the control senses a turbidity sensor error, the control will flash the SENSING LED. If the control senses a tub temperature sensor error, then the control will flash the HEATED DRY LED. If the control senses an EEPROM error, then the control will flash the LOCK LED. *If any of these diagnostic errors are detected, the cycle will not advance to STEP 11 until a key is pressed.*

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MODELS WITHOUT A TURBIDITY SENSOR

THIS DISHWASHER IS PROGRAMMED WITH A SERVICE MODE TO AID THE TECHNICIAN IN TROUBLESHOOTING THE DISHWASHER. EACH COMPONENT MAY BE CYCLED TO DETECT IF IT IS FUNCTIONING CORRECTLY. COMPONENTS ARE CYCLED BY PRESSING KEYPADS TO THE LEFT OF THE START/RESET KEYPAD. USE THE MATRIX BELOW TO DETERMINE HOW TO CYCLE EACH COMPONENT.

CLEAN SENSOR SELECTIONS   OPTIONS   CLEAN

10 9 8 7 6 5 4 3 2 1   START/RESET   *GE*
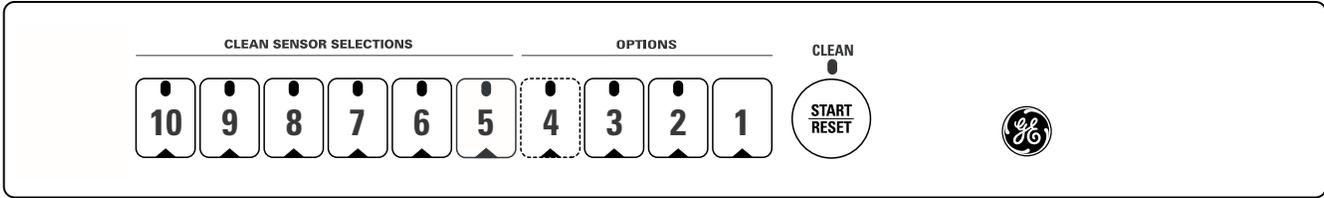
NOTE: INDICATES KEYPAD USED ONLY ON SOME MODELS. WHILE THIS KEYPAD MAY NOT BE VISIBLE, THE INDICATED SPACE SHOULD ALWAYS BE USED AS A KEYPAD.

TO ENTER SERVICE MODE :
PRESS KEYPAD #9 AND KEYPAD #1 SIMULTANEOUSLY FOR 5 SECONDS.

TO EXIT SERVICE MODE :
PRESS THE START/RESET KEYPAD AT ANYTIME TO EXIT.

Service Mode Test Matrix*		
Keypad	**Description**	**Time in Seconds****
10	Activates Main Pump	120
9	Activates Auxiliary Pump	60
	Activates Drain Solenoid	6
8	Activates Detergent Module	30
7	Activates Water Valve	60
6	Activates Heating Element	120
START/RESET	**Used to EXIT Service Mode**	

*NOTE: After 5 minutes of inactivity, the service mode will automatically turn off.

**NOTE: When a component is activated in the SERVICE MODE, the output will continue to remain active (ON) until the Maximum time has expired or another keypad is pressed.