



# SERVICE SUMMARY

## GWL11 / IWL12

This information is intended for use by individuals possessing adequate experience in servicing electrical, electronic and mechanical appliances. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

Cette information est destinée aux personnes possédant l'expérience requise pour réparer des appareils électriques, électroniques et mécaniques. Toute tentative de réparation d'un gros appareil comporte un risque de blessures à personnes et de dommages matériels. Le fabricant et le revendeur ne peuvent en aucun cas être chargés de l'interprétation de cette information, ni assumer aucune responsabilité en rapport avec son utilisation.



## IMPORTANT SAFETY INSTRUCTIONS



**CAUTION:** This machine must be electrically grounded. It can be grounded through the grounding lead in the 3-prong power cord, if plugged into a properly grounded appliance outlet or through a separate No. 13 or large wire from the cabinet to an established ground. In all cases the grounding method must comply with any local electrical code requirements. Certain internal parts are internationally NOT GROUNDED and may present a risk of electrical shock only during servicing. Service personnel do not contact the following parts while the appliance is energised: Water Valve Brackets, Pump Mounting Bracket. To reduce the risk of shock, disconnect the power supply cord before servicing.

**CAUTION: ALL TERMINALS AND INTERNAL PARTS SHOULD BE TREATED AS LIVE.**

**IMPORTANT – RE-CONNECT ALL GROUNDING DEVICES.**

If grounding wires, screws, straps, clips, nuts or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.



## IMPORTANTES CONSIGNES DE SÉCURITÉ



**ATTENTION :** Cette machine doit être mise à la terre. Elle peut l'être par le biais du conducteur de terre du cordon d'alimentation à prise de terre mâle, s'il est branché sur un point de réseau électrique correctement mis à la terre, ou par le biais d'un fil électrique épais séparé de l'appareil à la terre. Certaines pièces internes ne sont pas MISES A LA TERRE selon les normes internationales et peuvent présenter un risque d'électrocution durant l'entretien. Le personnel d'entretien ne doit pas toucher les pièces suivantes lorsque l'appareil est branché : les supports d'électrovanne et le support de montage de la pompe. Pour réduire le risque d'électrocution, le cordon d'alimentation doit être débranché avant tout entretien de l'appareil.

**ATTENTION : TOUTES COSSES DE CÂBLES ET PIÈCES INTERNES SONT À TRAITER COMME ÉTANT SOUS TENSION**

**IMPORTANT – REBRANCHER TOUS LES DISPOSITIFS AVEC MISE À LA TERRE**

Si les conducteurs de terre, vis, barrettes, clips, écrous ou rondelles utilisés pour acheminer le circuit à la terre sont ôtés lors de l'entretien, ils doivent être solidement remis à leur place d'origine.

### SMART DRIVE™ TECHNOLOGY

The Smart Drive™ washer technology is different to anything you may have seen before. A brief description follows.

### MOTOR CONTROLLER MODULE

This module contains the circuits needed to control the water valves, pump, water level and rotation of the motor.

The Pressure Sensor, used to detect the water level, is part of the Motor Controller Module and cannot be removed.

### DISPLAY MODULE

This receives the inputs from the front panel (i.e. User settings) and sends the appropriate command to the Motor Controller Module.

**NOTE:** Electrostatic Discharge Sensitive procedures should be observed for all electronic component handling. There are no field serviceable parts within the Motor Controller or Display Module.

### MOTOR

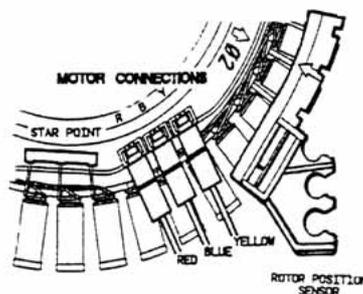
The motor is a 3-phase DC brushless motor. The Motor Controller Module controls rotation of the motor. Fitted to the Stator (stationary part) is the Rotor Position Sensor. This detects the position of

the Rotor (moving part) and feeds a signal back to the Motor Controller Module.

Between the Yellow and Blue connector the resistance will be 32 ohms. The same resistance should be measured between the Blue and Red connector, and also the Yellow and Red connector.

### WATER VALVES

The electronics control the water valves so that a constant wash water temperature is achieved irrespective of the temperatures and pressures of the incoming hot and cold water. Two different valves are used. It is important that the correct water valve is fitted should they need replacement. The cold water valve can be identified by the white (or blue) filter and the hot valve by the yellow (or red) filter.



## FLOATING BASKET

During spin, the agitator and the basket have to be coupled together and turn as a single unit. In agitate, the agitator and basket have to be free to rotate independently.

At the base of the basket is a flotation chamber. As the water level rises the basket will float. This action disconnects a clutch between the agitator and basket. The agitator and basket can now move independently.

When the water is pumped out, the basket sinks down and re-engages, allowing the agitator and basket to turn as one unit.

## DRAIN PUMP

The drain pump motor is attached to the base of the tub. The pump housing is an integral part of the tub. The pump can be accessed from the top, if the agitator and basket are removed, or from underneath the machine.

## DIVERTER VALVE

A diverter valve is located underneath the tub. This directs the tub water to the drain hose or to the re-circulation hose. The valve is on whilst the machine is filling and re-circulating the wash water. It is also turned on briefly at the beginning of the rinse cycle to allow the re-circulation hose to empty.

## LIDLOCK

This machine has a lidlock that will lock the lid closed when the machine is spinning. If the lid is open at the beginning of rinse or spin, the machine will stop and sound a warning tune. See user warnings

## OUT OF BALANCE SWITCH

A lever and switch is located in the right rear corner of the topdeck. If the switch is activated the machine will stop and sound a warning. (See User Faults).

## LINT REMOVAL SYSTEM

As a result of the agitator action, lint and wash water is drawn into the agitator stem and down to the base, where they are directed into the cavity between the basket and tub. The holes in the basket allow the wash water to flow back into the basket but prevent the lint from following. Lint is carried out with the waste water.

## OPTION ADJUSTMENT MODE

The washer can be adjusted to operate under a number of different conditions. The feature is called OPTION ADJUSTMENT MODE. Features that can be controlled include:

- Rinse Options
- Number of End of Cycle warning beeps
- Automatic Out of Balance recovery
- Automatic water level adjustment
- Softener rinse volume adjustment.
- (See Use & Care Manual for details)

## USER FAULTS

Incorrect installation or operation can cause user faults. The washer can detect these and alert the operator by a musical series of beeps and either displaying a warning on the screen or flashing an

LED. These are also listed in the Use & Care Manual.

### Out Of Balance

#### IWL12 - "My Load is OUT OF BALANCE"

#### GWL11 - First rinse LED or Final Spin LED is flashing

1. Ensure the machine is stationary and manually redistribute the load.
2. Check the machine is level.

### No Hot Water

#### IWL12 - "I am not getting any HOT WATER"

#### GWL11 - Hot LED flashing

Hot water supply is not hot enough to maintain the temperature you have selected.

1. Select a lower wash temperature.
2. Inlet hose screens may be blocked.
3. There may be a kink in the hose.
4. Hot tap has not been turned on.
5. Inlet hoses connected to the wrong faucets.

### No Cold Water

#### IWL12 - "I am not getting any COLD WATER"

#### GWL11 - Cold LED flashing

1. Cold tap hasn't been turned on.
2. Inlet hose screens may be blocked.
3. There may be a kink in the hose.
4. Inlet hoses connected to the wrong faucets.
5. Cold water exceeds recommended limits.
6. The flow rate of water may be too slow.

### No Faucets

#### IWL12 - "I am not getting any WATER"

#### GWL11 - Cold and Hot LEDs flashing

1. The faucets haven't been turned on.
2. Inlet hose screens may be blocked.
3. The hoses may be kinked.
4. The drain hose is too low or the drain hose is pushed into the standpipe too far and the water is siphoning out of the machine.
5. The flow rate of the water is too slow.

### Overloaded

#### IWL12 - "I am OVERLOADED"

#### GWL11 - High water LED flashing

The machine is overloaded and cannot agitate.

1. Begin removing items until the remaining ones can move freely, or select a higher water level.
2. Check the machine is not syphoning

### Too Much Detergent

#### IWL12 - "I have TOO MANY SUDS"

#### GWL11 - High water LED flashing

The machine has a suds build up. (Too much detergent may have been used for the amount of soil in the load).

1. Wait for suds to dissolve (about 20 minutes).
2. Rinse clothes using a deep rinse.

### Lid Open

#### IWL12 - "I can't LOCK THE LID"

#### GWL11 - Lidlock LED flashing

Make sure the lid is closed.

Press START PAUSE.

## MACHINE SIZE SETTING

The machine size must be set into the machine memory if a Motor Controller or Display Module has been changed.

To set the size:

1. Turn the power on at the power point and off at the console.
2. **IWL12** - Press and hold the **FABRIC CARE** button, then press the **POWER** button. This will present a set of options in the LCD screen. The LCD screen has within it a number of options. Push the **Adjust** button to highlight the **650mm (L)** machine size. Pushing the **POWER** button will lock the size into the module's memory.  
**GWL11** - Press and hold the **WASH TEMP UP** button then press the **POWER** button. Press the **SPIN SPEED UP** button (the **HOLD LED** should be on.)
3. Press the **POWER** button to return to normal operation.

## IF A FAILURE OCCURS

Most failures are diagnosed by the Diagnostic System. If a fault is detected, the operation of the machine will stop. A fault code will either appear on the LCD display screen, or by displaying a series of wash progress LED's. A continuous beeping sound will also occur. If this happens:

1. Remove the plug from the wall outlet for at least one-minute.
2. Plug in and start the machine. If the condition recurs, use the Diagnostic Mode to determine the cause.

## DIAGNOSTIC MODE

The washers are fitted with a diagnostic system designed to help test the machine and obtain information that will assist in locating a fault. The Diagnostic mode also incorporates tests for both the drain pump and the water valves.

### To Select DIAGNOSTIC MODE

1. Turn the power on at the power point and off at the console.
2. **IWL12** - Press and hold the **LIFECYCLES** button and then the **POWER** button. The machine will give 2 short beeps and the LCD screen will go blank. Then press the **LIFECYCLES** button again.  
**GWL11** - Press and Hold the **WASH TEMP DOWN** button and then press the **POWER** button.

**IWL12** One of three screens will now appear:

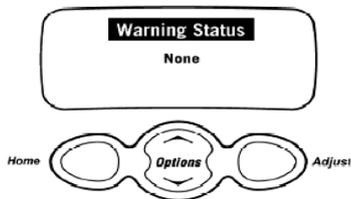
- Warning Status
- Machine Status
- Fault Status

You can scroll between these screens using the options up and down buttons.

The **Warning Status** screen will display the last **USER WARNING FAULT** that occurred and will show at what part of the cycle it occurred.

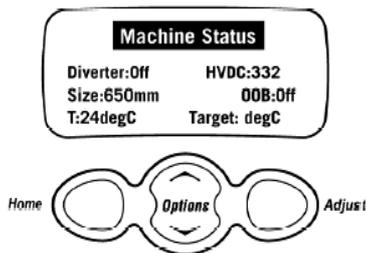
The User Warning Faults are as follows:

- No Faucets
- Overloaded
- Out Of Balance
- Over Suds or water still in the machine during spin
- No Hot Water
- No Cold Water
- Agitate Overloaded



The **Machine Status** screen displays the status of the diverter and the out of balance switch. It also displays the size setting of the machine, and the thermistor temperature.

**HVDC** is for on line testing in the factory.  
**Target** temp is the temperature selected.  
**T** is the actual temp of the inlet chamber water.



#### Drain Pump Test

**IWL12** – Press the FABRIC CARE button to turn the pump on and off.  
**GWL11** – Press the REGULAR button to turn the pump on and off.

#### Water Valve Test

**IWL12** – Press the HOW DIRTY DOWN button to turn the Cold valve on and off.  
 Press the HOW DIRTY UP button to turn the hot valve on and off.  
**GWL11** – Press the WASH TEMP DOWN button to turn the cold valve on and off.  
 Press the WASH TEMP UP button to turn the hot valve on and off.

#### Out Of Balance switch Test

**IWL12** – The machine status screen shows whether the OOB switch is currently on or off. Moving the bowl towards the back right hand corner should turn this on.  
**GWL11** – Press the SPIN SPEED UP button until the MEDIUM SPIN SPEED LED is on. Moving the bowl towards the back right hand corner should turn this on the 4<sup>th</sup> wash LED.

### DETAILED FAULT DESCRIPTIONS

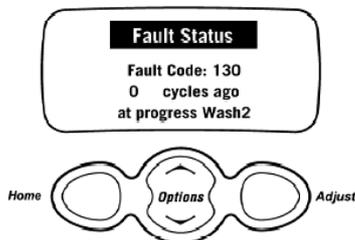
#### GWL11

To obtain the detailed fault description, firstly enter diagnostic mode (as described above). Then press SPIN SPEED UP or DOWN buttons until the HOLD and SLOW spin LED's are on. The detailed fault code can now be read from the wash progress LEDs. See diagram below. For each LED that is on add the values together. The LEDs with the value '32', '16' and '1' are on, therefore  $32 + 16 + 1 = 49$   
 Fault Code #49 is displayed



#### IWL12

The **Fault Status** screen will display a code for the last fault that has occurred in the machine. It will also display how many cycles ago that the fault occurred, and at what part of the cycle. Some common fault descriptions are shown in the following columns, for full detailed fault code information refer to the Service Manual. See Detailed Fault Codes for servicing tips.



#### Machine Size Error

Fault code #9  
 ○○○○○● ○○○●

The machine size setting does not match that stored in the memory. See MACHINE SIZE SETTING above for corrective action.

#### Pump Blocked Error

Fault code #37  
 Machine has not drained out. Check that the pump is not blocked or that the drain hose outlet is not crushed or blocked or drain hose outlet is too high. (Maximum is 7 ft.)

#### Pressure Tube Fault

Fault code #39  
 ○○○●○○ ○●○○○  
 ○○○●○○ ○●○○○

The probable cause of this fault is that the pressure tube has become blocked, crushed or has fallen off.

#### Basket Disengage Fault

Fault codes  
 #40 ○○○●○○○ ○○○○  
 #47 ○○○●○○○ ○●○○○

The floating basket has not engaged even though the pressure sensor indicates that the tub is empty. Check that the clutch or the pressure tube is not blocked or crushed.

#### Out of Balance Switch Fault

Fault code #43  
 ○○○●○○○ ○●○○○

The out of balance switch is permanently activated or the harness to it is disconnected.

#### Hot and/or Cold Water Valve Faulty

Fault codes  
 #48 ○○○●○○ ○○○○  
 #49 ○○○●○○ ○○○●  
 #50 ○○○●○○ ○●○○○

Check that the valve harnesses have been connected correctly or valve is not open circuit.

#### Diverter Valve Fault

Fault codes  
 #51 ○○○●○○ ○●○○○  
 #52 ○○○●○○ ○●○○○

Wash water is not circulating correctly in the re-circulation hose. Check that diverter valve is directing the water flow to the correct hose i.e. during filling the water should be directed to the re-circulation hose. There should be no flow in the drain hose. Failure in the diverter valve could be due to blockage in the valve, a wiring fault or fault in the motor controller module. Check that there are no leaks in any of the hoses. Also check resistance of diverter valve.

#### Rotor Position Sensor Error

Fault codes  
 #130 ●○○○○○ ○●○○○  
 #131 ●○○○○○ ○●○○○

A faulty signal has been received from the Rotor Position Sensor. Check for bad connection on the harness between the Rotor Position Sensor and the Motor Controller, or a faulty Rotor Position Sensor.

#### High Motor Current

Fault codes  
 #132 ●○○○○○ ○●○○○  
 #133 ●○○○○○ ○●○○○

The Motor Controller Module has detected excess current in the motor. Check the motor harness, connectors and motor for shorts. Check the Rotor Position Sensor and harness for water, mechanical damage or corrosion. If all the above show no signs of fault then replace the Motor Controller Module.

#### Motor Stall

Fault codes #136  
 ●○○○○○ ○○○○

The Motor Controller Module has been unable to start the motor. Possible causes of this fault are faulty motor harness, faulty or jammed motor, seized bearings or seals, faulty Motor Controller Module, faulty Rotor Position Sensor or harness.

#### Lid Lock Fault

### DISASSEMBLY

1. Make sure power and water are disconnected.

**NOTE.** There is still power to the components when the POWER button in the "off" state. Always unplug the power cord before commencing service work or disassembly.

2. To remove the lid, open it to the upright position and lift it clear.

3. Remove 2 screws from the rear of the console. The console can be removed to gain access to the Motor Controller Module, Display Module and wiring.

NOTE: Modules removed from the machine for return must be protected from electrostatic damage while in transit by using the special package in which the spare parts were received.

**Removing Top Deck**

4. Disconnect Display Module, Motor/Pump, Rotor Position Sensor harnesses, pressure tube and diverter valve wiring assembly. Unclamp Power Cord by removing the 2 screws holding the cord clamp and remove ground wire and power cord plug through the clamp opening.

5. Remove two rubber buffers and screws from the front of the top deck.

**Removing the Basket**

6. Unclip the bias spring from the front left suspension rod. Unclip the neck ring from the top of the tub.

7. Remove the fabric softener dispenser, unscrew the agitator retaining nut and remove the agitator.

8. The basket may now be lifted clear. If the basket is not easy to lift clear, then remove the three-spline retaining screws and remove the driven spline off the shaft and lift out.

**Diverter Valve**

9. If the valve is replaced, ensure that a hose clip is refitted to secure the hose to the tub.

Specifications are subject to change without notice.

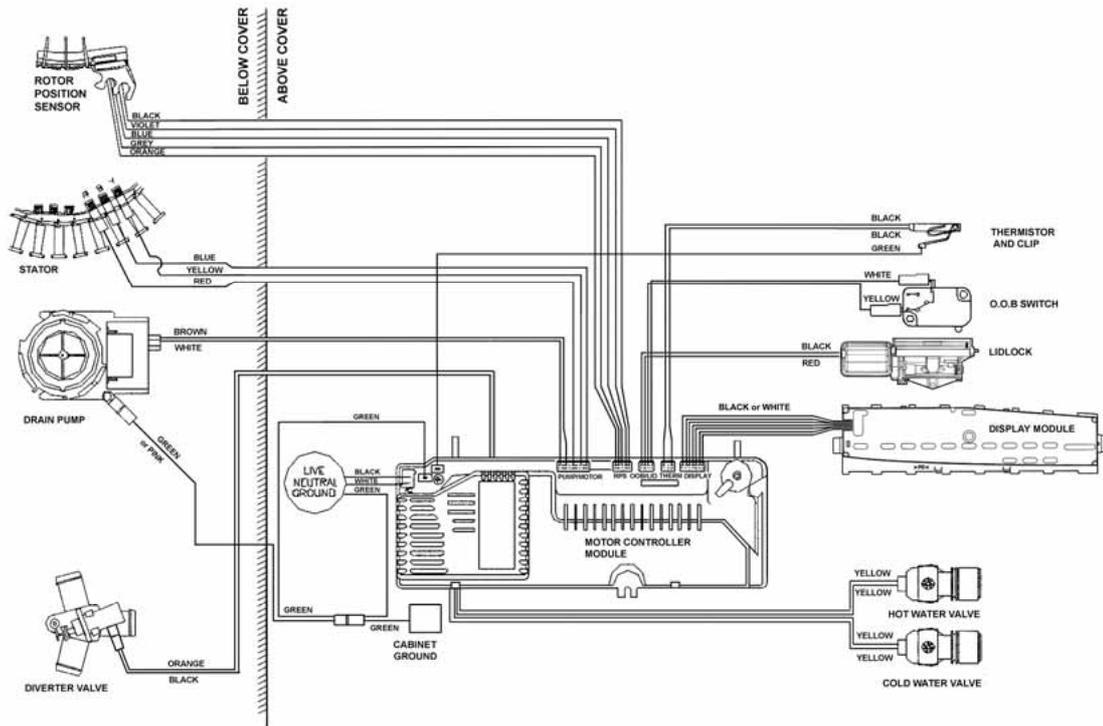
**After Reassembly and Testing...**

If the machine is advanced to either rinse or spin whilst filling or re-circulating, it may take up to 3 minutes before the drain pump turns on. This time allows the diverter valve to cool down and direct the water flow to the drain hose.

If further help is needed concerning this appliance in USA or Canada call:

**TOLL FREE 1 888 9 FNP USA  
(1 888 936 7872)**

Or write to:  
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