



## **INTUITIVE ECO™**

### **PHASE 7**

## **Electronic Washing Machines**



**IWL16-US**

**Supplementary Manual to 517792A**

**517793A**

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REPRINT:

The specifications and servicing procedures outlined in this manual are subject to change without notice.

The latest version is indicated by the reprint date and replaces any earlier editions.

# FISHER & PAYKEL



## PHASE 7 INTUITIVE ECO™ ELECTRONIC WASHING MACHINE

Covering the following product codes  
IWL16-US - 96203

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# CONTENTS

<b>1</b>	<b>SPECIFICATIONS</b> .....	<b>5</b>
1.1	Dimensions .....	5
1.2	Maximum Capacity (Full Load) .....	5
1.3	Water Consumption .....	5
1.4	Water Fill Temperature (Approximate Factory Settings) .....	5
1.5	Wash Motor .....	5
1.6	Pump Motor .....	5
1.7	Water Valves .....	6
1.8	Thermistor .....	6
1.9	Cabinet .....	6
1.10	Lid .....	6
1.11	Top Deck .....	6
1.12	Inner Basket .....	6
1.13	Outer Basket .....	7
1.14	Console .....	7
1.15	Agitator .....	7
1.16	Fabric Softener Dispenser .....	7
1.17	Electric Supply .....	7
1.18	User Information .....	7
1.19	Lid Lock .....	7
1.20	Control Panel – Intuitive Eco .....	7
<b>2</b>	<b>LID LOCK</b> .....	<b>8</b>
<b>3</b>	<b>SIZE SETTING</b> .....	<b>8</b>
<b>4</b>	<b>DIAGNOSTIC MODE</b> .....	<b>8</b>
4.1	Data Display .....	9
4.2	Water Valve Test .....	10
4.3	Drain Pump Test .....	10
4.4	Restart Feature .....	10
4.5	Recycle Feature .....	11
4.6	Hot Bowl Flag .....	11
<b>5</b>	<b>FAULT CODES</b> .....	<b>11</b>
<b>6</b>	<b>WIRING DIAGRAM</b> .....	<b>12</b>
<b>7</b>	<b>REMOVAL OF DISPLAY MODULE</b> .....	<b>13</b>
7.1	Components In Console Area .....	13
7.2	Removal Of Display Module .....	13

# 1 SPECIFICATIONS

## 1.1 Dimensions

Height to lid	
Open	55.5in – 56.6in / 1410mm – 1440mm
Closed	37.4in – 38.5 / 950mm – 980mm
Height to console	39.7in – 41.3in / 1010mm – 1050mm
Width	25.5in / 650mm
Depth	25.5in / 650mm
Inlet hose length	47.24in / 1200mm
Packed weight	143.3lb / 60.5kg
Unpacked weight	114.64lb / 52.0kg

**Note:** *Exact height of the machine is dependent on how far the feet are inserted into the base of the machine.*

## 1.2 Maximum Capacity (Full Load)

Dry Weight	17.6lb / 7.5kg
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## 1.3 Water Consumption

Fill (High)	23.7 gal / 90 liters
Spray & Deep Rinse	34.3 gal / 175 liters
Save Water	39.6 gal / 150 liters
Eco Rinse	27.7 gal / 105 liters
1 Deep Rinse	43.5 gal / 165 liters
2 Deep Rinse	56.79 gal / 215 liters

**\*Note:** *Approximate water consumption for a high water level load for each rinse option offered.*

## 1.4 Water Fill Temperature (Approximate Factory Settings)

Supply	Water Fill Temp
Hot	140°F / 60 °C
Hot / Warm	122 °F / 50 °C
Warm	104 °F / 40 °C
Warm / Cold	95 °F / 35 °C
Cold Plus	68 °F / 20 °C
Cold	Supply temperature
Recommended hot water inlet temperature 149 °F / 65 °C. (Max)	

## 1.5 Wash Motor

Electronically commutated direct drive 3 Phase brushless DC Motor' 36 Poles.  
Motor Resistance per Phase 16Ω +/- 10% @ 68 °F / 20 °C.

## 1.6 Pump Motor

Part Number	Voltage	Frequency	Resistance
420325P	110V AC	60Hz	7Ω +/- 8% @ 68 °F / 20°C

**Note:** *Thermal cut-out fitted*

## 1.7 Water Valves

Supply	Mode of Operation	Voltage	Resistance	Flow Rate
Cold	Digitally Operated	24V DC	64Ω @ 68 °F / 20°C	16 liters per minute
Hot	Digitally Operated	24VDC	64Ω @ 68 °F / 20°C	10 liters per minute

**Note:** Flow rate will vary slightly depending on pressure.

Operating pressures: Maximum 150psi / 1034 kPa - Minimum 5psi / 34 kPa

**Note:** Pressures below 5psi / 34kPa can create seating problems with the internal diaphragm of the valve, and may cause water to drip into the inner basket when the machine is not in use.

## 1.8 Thermistor

NTC-type temperature sensor (Thermistor) Resistance 10,000Ω @ 77 °F / 25°C

## 1.9 Cabinet

Pre-painted steel

## 1.10 Lid

ABS plastic (co-injected)

## 1.11 Top Deck

Polypropylene

## 1.12 Inner Basket

Stainless steel: Grade 430T

Basket base and balance ring: Polypropylene

The inner bowl on the large machine has a series of small bumps around the base of the inner bowl. These bumps are designed to improve wash performance by increasing load turnover and movement.

**Note:** The inner bowl is backwardly compatible with all earlier large machines.



### Inner Basket Weight

Large 23.10lb +/- 9.7oz / 10.480kg +/- 275g

### Inner basket speed

Fast Spin	1,000 RPM
Medium Spin	670 RPM
Slow Spin	300 RPM
Stir Speed	25 RPM

### 1.13 Outer Basket

Aluminum insert over-moulded with polypropylene

### 1.14 Console

ABS plastic with ABS plastic insert for display module.

### 1.15 Agitator

Polypropylene

### 1.16 Fabric Softener Dispenser

Dosage 75cc

### 1.17 Electric Supply

Operating Voltage 110/120V AC 60Hz  
Maximum Current 7.0 amps

### 1.18 User Information

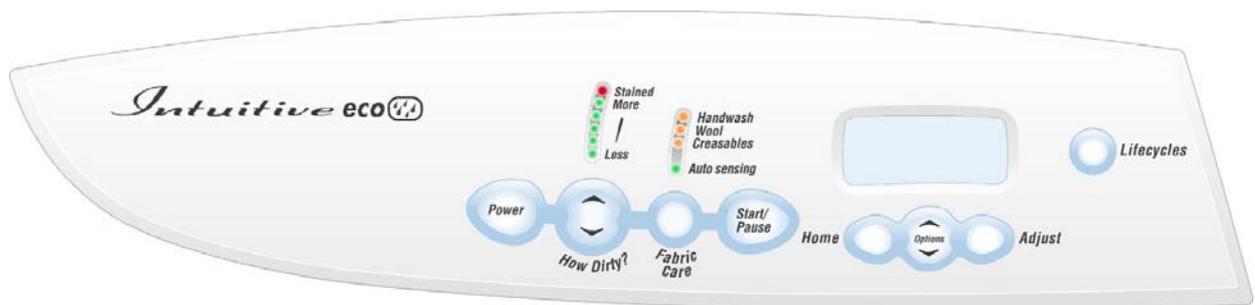
User Guide 420900  
Compact Disk 420353

### 1.19 Lid Lock

Resistance 63Ω +/- 10% @ 68°F / 20°C

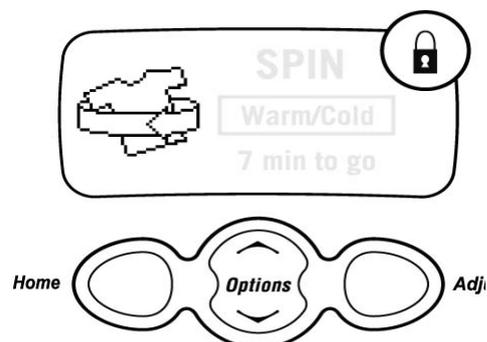
**Note: Normally low voltage, potentially 110V if harness is grounded on the cabinet!**

### 1.20 Control Panel – Intuitive Eco



## 2 LID LOCK

The Phase 7 Intuitive Eco™ Washer uses the same lid lock that is used on the Phase 6 series 11 & 12 machines. The difference being is that the lid is now locked for the entire cycle. A symbol of a padlock will be displayed on the when the lid lock is activated. Once the spin has completed, the lock will release and the lid can be opened. To open the lid during the cycle the **START/PAUSE** button must be pressed, the machine will come to a halt, and the padlock symbol will disappear.



If the lid is left open, the machine will be unable to lock the lid and the cycle will be halted. The machine will play a tune the words “**Please Close The Lid**” will be displayed on the LCD screen.

- If the lid-lock fails in the closed position, the locked lid can be forced upwards and out of the lock. **Note: This is the only time in which we would recommend doing this.**
- If the harness is damaged, the complete lid lock assembly will need to be replaced.

If the power supply is cut during the spin cycle, the machine will keep the lid locked until the rotor has ceased to turn (3 to 10 secs). Only then will it release the lock. The motor is acting like a generator and allows the lock to stay energized under the bowls inertia.

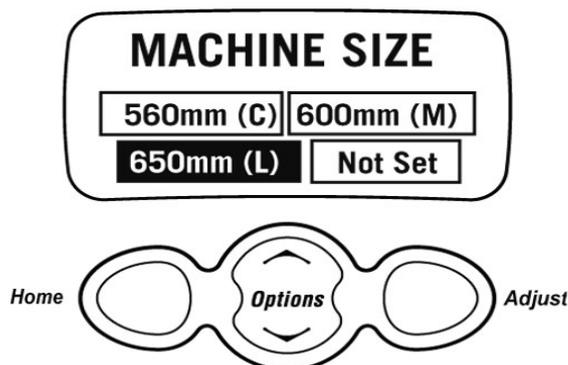
The chart below shows the stages when the lid is locked.

In a brown out situation, the machine will restart at the start of whatever section of the cycle it was on and continue the wash. The lid lock would then be reactivated if it happened to be on a spin cycle.

## 3 SIZE SETTING

To set the size, turn the power on at the power point and off at the console. 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 650mm (L). Pushing the **POWER** button will lock the “size” into the module’s memory.



## 4 DIAGNOSTIC MODE

The diagnostic mode incorporates both tests for the drain pump and the water valves, and also the data display mode.

To enter the diagnostic mode, turn the power on at the power point and off at the console. 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 **OPTIONS** for data retrieval.

**Note: Make sure that the buttons are released after the beeps, or the machine will turn itself out of the diagnostic mode.**

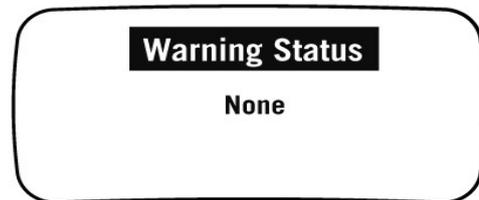
## 4.1 Data Display

To enter the **DATA DISPLAY** screens, push the **LIFECYCLES** button again. This will enable the out of balance switch to be tested, as well as giving access to the Detailed Fault Codes and User Warning Faults. One of three displays will appear in the screen. Use the buttons on the bottom of the display screen to toggle between these displays. Options, up or down.

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

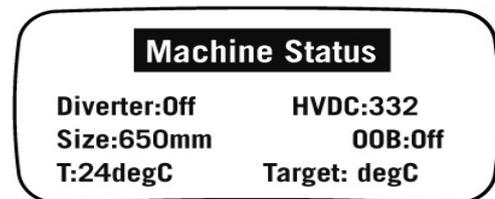


The **MACHINE STATUS** screen displays the status of the diverter and the out of balance switch. It also displays the size setting of the machine, and the thermistor temperature.

**HVDC** is for on line testing in the factory.

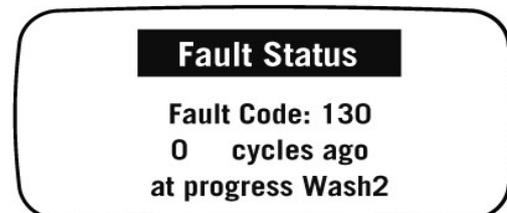
**Target** temp is the temperature selected.

**T** is the actual temp of the inlet chamber water.



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.

See Detailed Fault Codes for servicing tips.



**Note: The fault code number can now be checked in the detail fault codes, to ascertain what repairs may be necessary.**

## 4.2 Water Valve Test

When in diagnostic mode on IW machines, pressing the **HOW DIRTY** down button will turn the Cold water valve on. Pressing the **HOW DIRTY** up button will turn the hot water valve on. You need to hold the buttons down to keep the water entering the machine. This is also good to use when installing machines as it takes the shock out of the fittings and seals and allows checking for leaks on the inlet hoses, both machine end and tap or super-tub end.

Pressing each button once will activate the valve. To de-activate valve press the same button again.

**Caution:** *Do not leave the machine unattended when either or both valves are operating.*

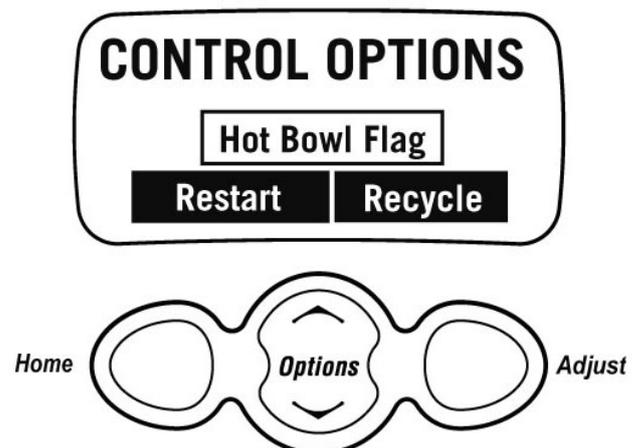
## 4.3 Drain Pump Test

When in diagnostic mode the **FABRIC CARE** button turns the drain pump on or off. This feature can be helpful if the bowl is still full of water.

## 4.4 Restart Feature

The Restart feature on the Intuitive can be accessed when in diagnostic mode, pressing the **OPTIONS** button will bring up the **CONTROL OPTION** screen. The LCD screen will display the following:

The machine leaves the factory with the RESTART set to the ON position (as shown here), which is indicated in the screen by the word RESTART highlighted. To turn the RESTART feature OFF, push the **HOME** button. This will remove the highlight from the word RESTART. When the machine is being serviced, it is more convenient to turn the RESTART feature OFF. This will allow any fault in the system to show up immediately.



With the RESTART feature on:

1. If a fault occurs in the machine, the diagnostic system will detect it. However, instead of displaying a fault code immediately, the machine will try to RESTART.
2. If the fault was only of temporary nature, the machine will restart and finish the cycle.
3. If there is a continuous fault the machine will try to RESTART a number of times. This process could take up to 8 minutes depending on the type of fault. After this, if the machine still cannot restart, the fault code is displayed and the machine will beep continuously.

Whether or not the RESTART feature is on is indicated during normal use of the machine as follows:

1. If none of the 5 green **“HOW DIRTY”** LED’s are on, the RESTART feature is on.
2. If the 5 green **“HOW DIRTY”** LED’s are flashing, the RESTART feature is off.

**NOTE** - This feature is designed as a service aid only and should be left ON in the customer’s home. To return to normal operation, and to reset the RESTART feature to the factory setting, switch the machine off at the wall or disconnect from the mains supply.

## 4.5 Recycle Feature

In the Control Option mode (as for setting the RESTART feature), pushing the **ADJUST** button to highlight the word RECYCLE will toggle this feature on and off. At the end of servicing, the machine may require an extended test where the machine can be left to complete a number of wash cycles. By turning on the RECYCLE feature the machine will continuously repeat the wash cycle until the RECYCLE feature is turned off.

Whether or not the RECYCLE feature is on is indicated during normal use of the machine as follows:

When the machine is first turned on:

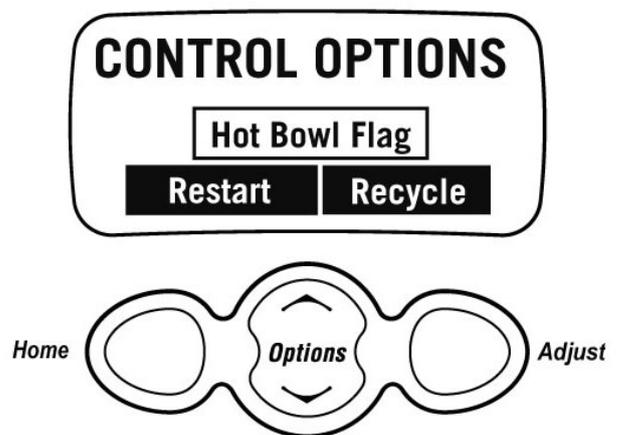
1. If none of the **FABRIC CARE** LED's are on, the recycle feature is off.
2. If all of the **FABRIC CARE** LED's flash, the recycle feature is on.

**NOTE: This feature is designed as a service aid only and should be OFF in the customer's home. To return to normal operation, and to return the recycle feature to the factory setting, switch the machine off at the wall or disconnect from the mains supply.**

## 4.6 Hot Bowl Flag

If the machine has been filled with the hot water valve utilized (ie. warm or hot fill) and has not had a cold rinse, the electronics will not allow the machine to spin up to its full speed of 1000 RPM. It will only allow the spin speed to reach 700 RPM.

To remove this flag, enter the Control Option mode and push the **OPTIONS UP** button to take the black shading out of the box **Hot Bowl Flag**, or put the machine through a complete final rinse.

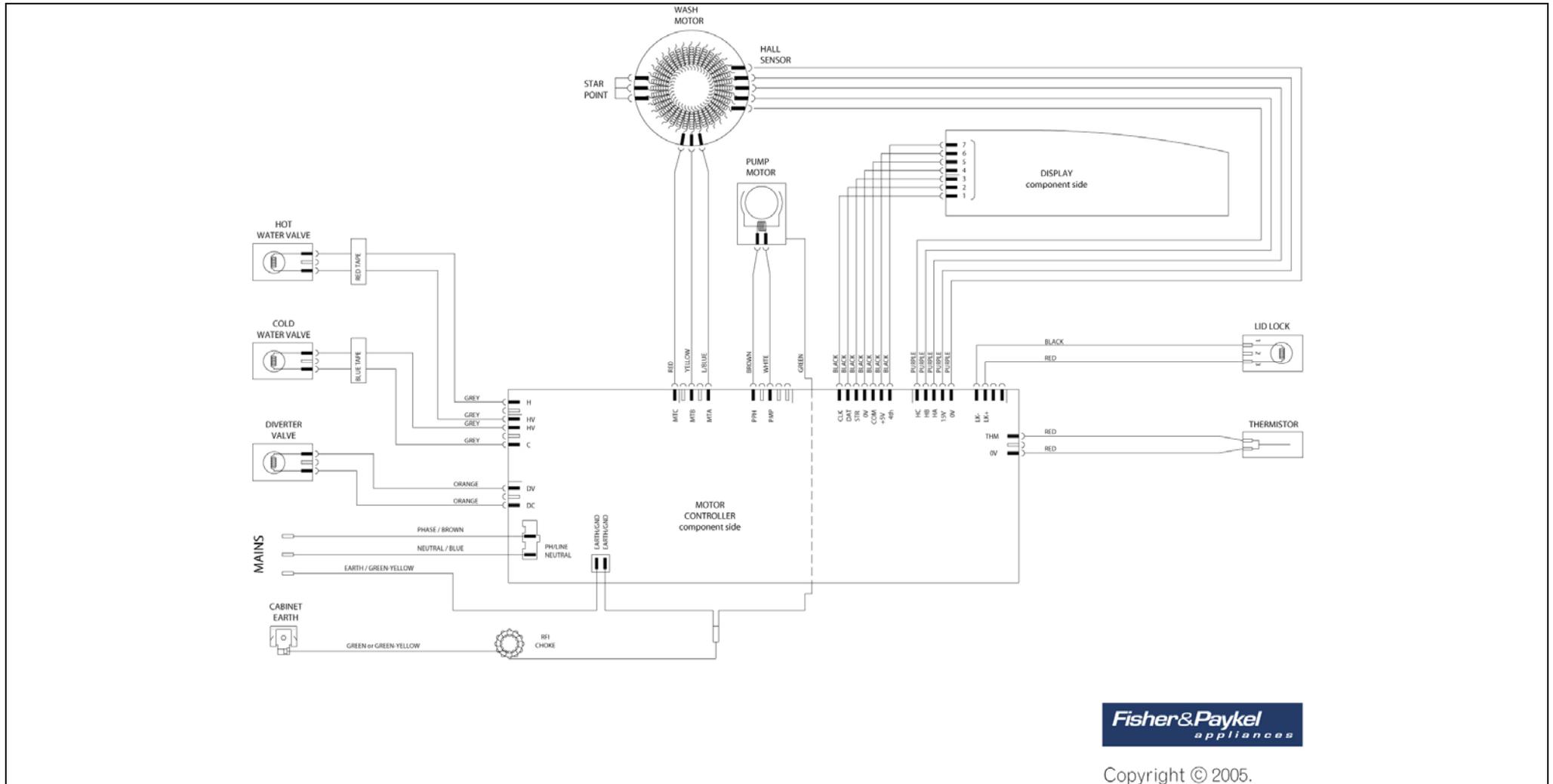


**NOTE: The drain pump test, water valve test, restart, recycle and hot bowl flag features can be accessed from any level in the diagnostic mode.**

## 5 FAULT CODES

Fault codes for the Intuitive Eco™ washing machine are detailed in the master service manual, part number 517792a.

## 6 WIRING DIAGRAM



## 7 REMOVAL OF DISPLAY MODULE

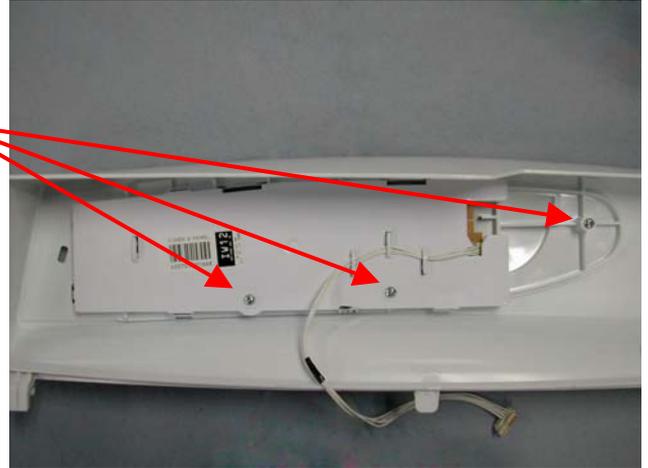
**Note:** Prior to carrying out any service procedures ensure that the power to the machine is switched off.

### 7.1 Components In Console Area

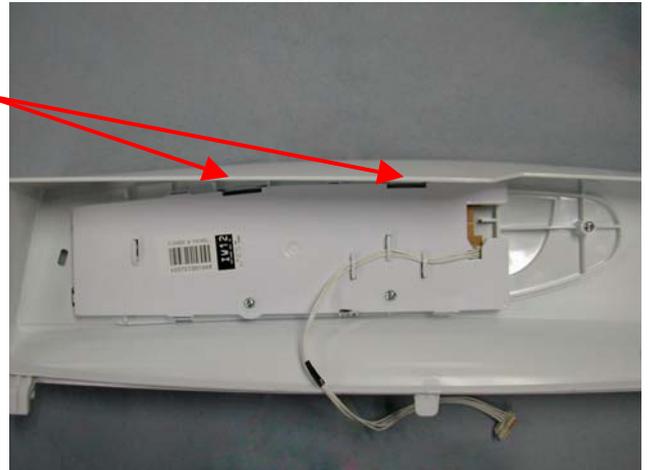
- Remove the lid.
- Remove the two screws at the rear of the console securing the console to the top deck.
- Tilt the console forward.

### 7.2 Removal Of Display Module

- Disconnect the wiring harness from the display module.
- Remove the 3 screws securing the display module to the console



- Using a flat bladed screwdriver, push the two top tabs that secure the display module to the fascia.



- When these tabs are clear, lift the right hand end of the module and slide in the direction shown.



# Notes