


BASIC OPERATION OF EXPORT COMMERCIAL FL WASHER, STARTING WITH MODEL 30

- For additional information, see www.MaytagCommercialLaundry.com

⚠ WARNING



Electric Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electric shock.

IMPORTANT

Electrostatic 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 green earth connection point or unpainted metal in the appliance.

-OR-

Touch your finger repeatedly to a green earth connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the anti-static bag to a green earth connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in anti-static bag, observe above instructions.

GENERAL USER INFORMATION

Scrolling 'out of order' showing in display, followed by a failure or diagnostic code

This condition indicates the washer is inoperative.

'0 Minutes' showing in display

This condition indicates the washer cannot be operated. Coins dropped or debit inputs during this condition will be stored in escrow but cannot be used until normal operation is restored by opening and closing the door. If a door switch fails, it must be replaced before normal operation can be restored.

Cold Start (initial first use)

Washer is programmed at the factory as follows:

- 11 minute wash period
- 3 rinses (extra rinse not enabled)
- \$1.75 wash price (PD models)
- \$0.00 wash price (PN models)

Warm Start (after power failure)

A few seconds after power is restored, if a cycle was in progress at the time of the power failure, 'RESELECT CYCLE' will flash in the display, indicating the need for a button press to restart the washer.

Door Lock

The door will be locked when the cycle starts. The door will remain locked until the end of a cycle or approximately 2 minutes after a power interruption.

Pricing

After the door is opened following the completion of a cycle, the display indicates the cycle price (unless set for free operation). As coins are dropped or debit inputs arrive, the display will change to lead the user through the initiation of a cycle.

Free Cycles

This is established by setting the cycle price to zero. When this happens, 'SELECT CYCLE' will appear rather than a cycle price.

Display

After the washer has been installed and plugged in, the display will show '0 MINUTES'. Once the washer has been plugged in and the washer door opened and closed, the display will show the price. In washers set for free cycles, the display will flash 'SELECT CYCLE'.



NOTE: Not displayed on washer as shown. Message scrolls followed by the failure or diagnostic code.



CONTROL SET-UP PROCEDURES

IMPORTANT: Read all instructions before operating.

- PD Models: Insert service access door key, turn, and lift to remove access door.
- PN Models: Remove connector AA1 on the circuit board.

Set-up procedures can be entered by using the Service Access Code (see Service Access Code section, page 10) for PN washers without a key switch installed.

IMPORTANT: Unplug washer or disconnect power before opening the console. To access connector AA1:

- Unplug washer or disconnect power.
- Open console, disconnect plug on AA1, close console.
- Plug in washer or reconnect power.

The washer is now in the set-up mode. The lower fabric setting buttons and the digital display are used to set up the controls. The display can contain 4 numbers and/or letters and a decimal point. These are used to indicate the set-up codes and related code values available for use in programming the washer.

Once the washer has been programmed with a hand held device using Accu Trac, or a Gen. 2 card reader has been installed, the washer will be put into dAS mode permanently, and dAS will be displayed every time set-up mode is accessed.

How to use the key pads to program the controls

1. The PERMANENT PRESS button is used to adjust the values associated with set-up codes. Pressing this button will change the value by increments. Rapid adjustment is possible by holding this button down.
2. The DELICATES AND KNITS button advances through the set-up codes. Pressing this button will advance to the next available set-up code. Holding this button down will automatically advance through the set-up codes at a rate of one (1) per second.
3. The QUICK CYCLE button is used to select or deselect options.

Start Operating Set-Up

NOTE: Prior to operation, a payment system or an OPL kit must be installed. Before proceeding, it is worth knowing that, despite all of the options available, an owner can simply choose to uncrate a new commercial washer, hook it up, plug it in, and have a washer that operates.

SET-UP CODES

- The DELICATES AND KNITS button will advance from code to code.
- The PERMANENT PRESS button will change the code value.
- The QUICK CYCLE button will select or deselect options.

FOR PN MODELS: The set-up codes are the same as for the 'PD' models except where noted.

The set-up code is indicated by the one or two left-hand characters. The set-up code value is indicated by the two or three right-hand characters.

NOTE: First code shown in each section is default code for coin equipment.

CODE	EXPLANATION
<u>607</u>	REGULAR CYCLE PRICE
<u>607</u>	Represents the number of coins (coin 1) needed to start the washer; may adjust from 0-39. (See VALUE OF COIN 1.) Advance from 0-39 by pressing the PERMANENT PRESS button. Factory default of 7 x coin 1.
<u>600</u>	PN MODELS ONLY: Factory default of 0 coins. With coin slide activation, this represents the number of push-in actuations of a coin slide to start the washer. 6 01 setting would represent one coin slide actuation. NOTE: For coin slide activation, replacement of the meter case is necessary. → Press the DELICATES AND KNITS button once to advance to next code.

CODE	EXPLANATION
<u>711</u>	WASH LENGTH
<u>711</u>	This is the number of minutes for WASH. Washer comes from the factory preset with 11 minutes. Choose from 9-17 minutes by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.
<u>800</u>	ADDITIONAL RINSE OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
<u>800</u>	Not Selected 'OFF'.
<u>88r</u>	Selected 'ON'. Cannot be combined with the Super Cycle rinse option. Press the QUICK CYCLE button once to change this selection. → Press the DELICATES AND KNITS button once to advance to next code.
<u>900</u>	CYCLE COUNTER OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
<u>900</u>	Not Selected 'OFF'.
<u>90c</u>	Selected 'ON' and not able to be deselected. Press the QUICK CYCLE button 3 consecutive times to select 'ON'. Once selected 'ON' it cannot be deselected. → Press the DELICATES AND KNITS button once to advance to next code.
<u>100</u>	MONEY COUNTER OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
<u>100</u>	Not Selected 'OFF'.
<u>10c</u>	Selected 'ON'. Press the QUICK CYCLE button 3 consecutive times to select 'ON' and 3 consecutive times to remove (Not Selected 'OFF'.) Counter resets by going from 'OFF' to 'ON'.
<u>1c0</u>	Selected 'ON' and not able to be deselected. To select 'ON' and not able to be deselected, first select 'ON', then within two seconds press the QUICK CYCLE button twice, the PERMANENT PRESS button once, and exit the set-up mode. → Press the DELICATES AND KNITS button once to advance to next code.
<u>200</u>	SPECIAL PRICING OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
<u>200</u>	Not Selected 'OFF', and next available code will be A.00.
<u>25P</u>	Selected 'ON'. Press the QUICK CYCLE button once to change this selection. If SPECIAL PRICING OPTION is selected, there is access to codes '3.XX' through '9.XX'. → Press the DELICATES AND KNITS button once to advance to next code.
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED:	
<u>307</u>	SPECIAL CYCLE PRICE
<u>307</u>	Represents the number of coins (coin 1) needed to start the washer; may adjust from 0-39. (See VALUE OF COIN 1.) Advance from 0-39 by pressing the PERMANENT PRESS button. Factory default of 7 x coin 1.
<u>300</u>	PN MODELS ONLY: Factory default of 0 coins. → Press the DELICATES AND KNITS button once to advance to next code.

CODE	EXPLANATION																								
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED (cont.):																									
<u>5.00</u>	TIME-OF-DAY CLOCK, MINUTES																								
<u>5.00</u>	This is the TIME-OF-DAY CLOCK, minute setting; select 0-59 minutes by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.																								
<u>6.00</u>	TIME-OF-DAY CLOCK, HOURS NOTE: Uses the 24 hr. clock.																								
<u>6.00</u>	This is the TIME-OF-DAY CLOCK, hour setting; select 0-23 hours by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.																								
<u>7.00</u>	SPECIAL PRICE START HOUR NOTE: Uses the 24 hr. clock.																								
<u>7.00</u>	This is the start hour; 0-23 hours. Select START HOUR by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.																								
<u>8.00</u>	SPECIAL PRICE STOP HOUR NOTE: Uses the 24 hr. clock.																								
<u>8.00</u>	This is the stop hour; 0-23 hours. Select STOP HOUR by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.																								
<u>9.10</u>	SPECIAL PRICE DAY																								
<u>9.10</u>	This represents the day of the week and whether special pricing is selected for that day. A number followed by '0' indicates no selection that particular day (9.10). A number followed by an 'S' indicates selected for that day (9.1S). To change the value of '0' and 'S', use the QUICK CYCLE button. Days of the week (1-7) are selected by pressing the PERMANENT PRESS button. When exiting set-up code '9', the display must show current day of week: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>DISPLAY</th> <th>DAY OF WEEK</th> <th>CODE (selected)</th> </tr> </thead> <tbody> <tr><td>10</td><td>Day 1 = Sunday</td><td>1S</td></tr> <tr><td>20</td><td>Day 2 = Monday</td><td>2S</td></tr> <tr><td>30</td><td>Day 3 = Tuesday</td><td>3S</td></tr> <tr><td>40</td><td>Day 4 = Wednesday</td><td>4S</td></tr> <tr><td>50</td><td>Day 5 = Thursday</td><td>5S</td></tr> <tr><td>60</td><td>Day 6 = Friday</td><td>6S</td></tr> <tr><td>70</td><td>Day 7 = Saturday</td><td>7S</td></tr> </tbody> </table> → Press the DELICATES AND KNITS button once to advance to next code.	DISPLAY	DAY OF WEEK	CODE (selected)	10	Day 1 = Sunday	1S	20	Day 2 = Monday	2S	30	Day 3 = Tuesday	3S	40	Day 4 = Wednesday	4S	50	Day 5 = Thursday	5S	60	Day 6 = Friday	6S	70	Day 7 = Saturday	7S
DISPLAY	DAY OF WEEK	CODE (selected)																							
10	Day 1 = Sunday	1S																							
20	Day 2 = Monday	2S																							
30	Day 3 = Tuesday	3S																							
40	Day 4 = Wednesday	4S																							
50	Day 5 = Thursday	5S																							
60	Day 6 = Friday	6S																							
70	Day 7 = Saturday	7S																							
<u>9.00</u>	VAULT VIEWING OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.																								
<u>9.00</u>	Not Selected 'OFF'.																								
<u>9.5C</u>	Selected 'ON'. Press the QUICK CYCLE button once for this selection. When selected, the money and/or cycle counts will be viewable (if counter option(s) is selected) when the coin box is removed. → Press the DELICATES AND KNITS button once to advance to next code.																								
<u>6.05</u>	VALUE OF COIN 1																								
<u>6.05</u>	This represents the value of coin 1 in the quantity of 5% increments of the larger coin value. $5 \times 5\% = 25\%$. By pressing the PERMANENT PRESS button, there is the option of 1-199 for the quantity of 5% increments. With coin slide activation, this represents the total vend price. → Press the DELICATES AND KNITS button once to advance to next code.																								

CODE	EXPLANATION
<u>C.20</u>	VALUE OF COIN 2
<u>C.20</u>	This represents the value of coin 2 in the quantity of 5% increments of the larger coin value. $20 \times 5\% = 100\%$. By pressing the PERMANENT PRESS button, there is the option of 1-199 for the quantity of 5% increments.
<u>C.05</u>	PN MODELS: This represents the value of coin 2 in the quantity of 5% increments of the larger coin value. Factory default = $5 \times 5\%$ of the larger coin value. → Press the DELICATES AND KNITS button once to advance to next code.
<u>d.00</u>	COIN SLIDE OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
<u>d.00</u>	Not Selected 'OFF'. Used with coin drop or card readers.
<u>d.5S</u>	Selected 'ON'. Press the QUICK CYCLE button 3 consecutive times to change this selection. NOTE: This option needs to be set to "00" unless the meter case has been changed to accept a coin slide device. When coin slide mode is selected 'ON', set 'b.' equal to value of vend price. Set set-up code 6 (regular cycle price) and set-up code 3 (special cycle price) to number of slide pushes. If washer is set up as 'CS' and a coin drop is installed, it will not register coins. → Press the DELICATES AND KNITS button once to advance to next code.
<u>E.00</u>	ADD COINS OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'. This option causes the customer display to show the number of coins (coin 1) to enter, rather than the amount.
<u>E.00</u>	Not Selected 'OFF'.
<u>E.AC</u>	Selected 'ON'. Press the QUICK CYCLE button 3 consecutive times to change this selection. → Press the DELICATES AND KNITS button once to advance to next code.
<u>F.00</u>	ENHANCED PRICING OPTION
<u>F.00</u>	Not Selected 'OFF'.
<u>F.CP</u>	Cycle-Based pricing enabled. This option allows configuration of different prices for cold, warm, and hot water cycles.
<u>F.SU</u>	Super Cycle pricing enabled. This option allows customers to upgrade cycles by depositing extra money. Set-up codes 'H.' and 'h.' will be displayed only when this option is enabled. Press the QUICK CYCLE button to change this selection. → Press the DELICATES AND KNITS button once to advance to next code.
<u>H.01</u>	SUPER CYCLE UPGRADE PRICE (Skipped unless Super Cycle pricing is enabled.)
<u>H.01</u>	This represents the number of coin 1 required to upgrade a base cycle to a super cycle. Advance from 0-39 by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.
<u>h.01</u>	SUPER CYCLE TYPE (Skipped unless Super Cycle pricing is enabled.)
<u>h.01</u>	This represents the Super Cycle upgrade option. Press the PERMANENT PRESS button to step through upgrade options 1 through 3 as follows: 01 - enhanced wash, extra 3 minutes of wash tumble in addition to the programmed wash time. 02 - extra rinse for all cycles. 03 - both 01 and 02. → Press the DELICATES AND KNITS button once to advance to next code.

CODE	EXPLANATION
<u>J.F.d</u>	COIN/DEBIT OPTION
<u>J.F.d</u>	Both coin & debit selected. Press the QUICK CYCLE button 3 consecutive times to change this selection.
<u>J.F._</u>	Coins selected, debit disabled. Press the QUICK CYCLE button 3 consecutive times to change this selection.
<u>J._d</u>	Debit Card selected, coins disabled. This is the factory default for PN models. Press the QUICK CYCLE button 3 consecutive times to change this selection.
<u>J.Ed</u>	Enhanced Debit is self-selected when a Generation 2 card reader is installed in the washer. The Ed option cannot be manually selected or deselected. → Press the DELICATES AND KNITS button once to advance to next code.
<u>L.00</u>	PRICE SUPPRESSION OPTION This option causes the customer display to show 'ADD' or 'AVAILABLE' rather than the amount of money to add. (Used mainly in debit installations.)
<u>L.00</u>	Not Selected 'OFF'.
<u>L.P5</u>	Selected 'ON'. Press the QUICK CYCLE button once to change this selection. → Press the DELICATES AND KNITS button once to advance to next code.
<u>n.EE</u>	CLEAR ESCROW OPTION When selected, money held in escrow for 30 minutes without further escrow or cycle activity will be cleared.
<u>n.00</u>	Not selected 'OFF'.
<u>n.EE</u>	Selected 'ON'. Press the QUICK CYCLE button once to change this selection. → Press the DELICATES AND KNITS button once to advance to next code.
<u>r.800</u>	TOP SPIN SPEED RPM
<u>r.800</u>	This can be selected from the following spin speeds: 600 rpm, 750 rpm, 800 rpm, 1000 (displays as 999) rpm. Step between speeds by pressing the PERMANENT PRESS button. Factory preset for 800 rpm. → Press the DELICATES AND KNITS button once to advance to next code.
<u>u.00</u>	PENNY INCREMENT OFFSET
<u>u.00</u>	This option is not supported for non-North American models and the value must be set to 00. → Press the DELICATES AND KNITS button once to advance to next code.
<u>R1.00</u>	PREWASH LENGTH
<u>R1.00</u>	This is the number of minutes of PREWASH. Choose 0 to disable the prewash or select between 2 and 7 minutes by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.
<u>R2.03</u>	FINAL SPIN LENGTH
<u>R2.03</u>	This is the number of minutes of final high speed spin. Choose from 3-8 minutes by pressing the PERMANENT PRESS button. → Press the DELICATES AND KNITS button once to advance to next code.

If cycle counter (9 0C) is selected, the following is true:

1 00	Number of cycles in HUNDREDS.	1 <u>02</u> = 200
2 00	Number of cycles in ONES.	2 <u>25</u> = 25
		TOTAL CYCLES = 225

This is "VIEW ONLY" and cannot be cleared.

Press the DELICATES AND KNITS button once to advance to next code.

If money counter (1.0C or 1.C0) is selected, the following is true:

3 00	Number of coins in HUNDREDS.	3 <u>01</u> = 100
4 00	Number of coins in ONES.	4 <u>68</u> = 68
5 00	Number of coins in HUNDREDTHS	5 <u>75</u> = .75
		TOTAL = 168.75

END OF SET-UP PROCEDURES

EXIT FROM SET-UP MODE

- PD Models: Reinstall access door.
- PN Models:
 - If Service Access Code was used to enter set-up mode,
 - Follow exit instructions in Service Access Code, page 10.
 - If AA1 plug was removed to enter set-up mode,
 - Unplug washer or disconnect power.
 - Open console, reinsert plug into AA1, close console.
 - Plug in washer or reconnect power.
- PN MODELS WITH PROGRAMMING SWITCH:
 - Turn key clockwise and remove.

DIAGNOSTIC GUIDE

Before servicing, check the following:

- Make sure there is power at the wall outlet.
- Are both hot and cold water faucets open and water supply hoses unobstructed?
- Check all connections before replacing components. Look for broken or loose wires, failed terminals, or wires not pressed into or onto connections far enough.
- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- 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 checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

WASHER DIAGNOSTIC MODE

To enter the 'Washer Diagnostic Mode,' first enter 'Start Operating Set-Up.' Then press and hold the QUICK CYCLE button for 1 second while in set-up code 6xx, anytime a diagnostic code is present, or while dAS displays if operating with Maytag Data Acquisition set-up.

On entry to diagnostic mode, the entire display will flash, a cycle in process is canceled, money in escrow is cleared, and diagnostic codes are cleared. If a diagnostic code persists, it must be corrected before the following cycle options are permitted.

There are five possible ways to initiate cycle activity from diagnostic mode as follows:

1. Washer Cleanout Cycle – With the entire display flashing, this cycle is started by pressing the BRIGHTS button.
Use the Washer Cleanout Cycle once a month to keep the inside of the washer fresh and clean. This cycle uses a higher water level. Use with liquid chlorine bleach to thoroughly clean the inside of the washer. This cycle should not be interrupted.
IMPORTANT: Do not place garments or other items in the washer during the Washer Cleanout Cycle. Use this cycle with an empty wash drum.
2. Cycle Credit – With the entire display flashing, a cycle may be credited by pressing the PERMANENT PRESS button (CC will display). When the service mode is exited, 'SELECT CYCLE' will be displayed unless the end-of-cycle door opening is required.
3. Manual Overview Test – With the entire display flashing, this cycle is started by pressing the WHITES button. This cycle provides more typical full length fills, tumbles, and drains, allowing for a more thorough analysis of the washer operation, including pressure switch behavior.
4. Quick Spin Cycle – With the entire display flashing, this cycle is started by pressing the COLORS button. This cycle provides a method to quickly drain and spin (remove water from the washer), if desired.
5. Quick Overview Test – With the entire display flashing, this cycle is started by pressing the DELICATES AND KNITS button. This cycle provides a quick verification that the cold and hot water valves and pump motor are working. It also includes door lock, drain, and spin operations.

Pressing the QUICK CYCLE button will exit diagnostic mode and cancel a diagnostic cycle in process.

FAILURE/ERROR DISPLAY CODES

ACCU TRAC [®] INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d5</i>	<i>F01</i>	CCU ERROR The pump drive or one of the main relays in the CCU fails to activate. Possible Cause – A power surge/drop. Surge/drop procedure 1. Clear error code. 2. Unplug washer or disconnect power. 3. Wait 2 minutes before reconnecting power. 4. Verify CCU by running a short diagnostic test. If this procedure does not correct the failure, replace the CCU control.
		MCU ERROR Motor Control Unit (MCU) has a failure. Possible Cause – A repeating under or overvoltage condition. If the failure occurs during a high-speed spin, the door remains locked for 3 minutes. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Using Ohm meter, check wire harness connections for continuity between drive motor and the MCU. 4. Check the motor and do a continuity test (page 14). 5. The MCU is good if the motor operates in diagnostic mode. If the motor fails to turn on, replace the MCU.
<i>d11</i>	<i>F11</i>	MCU ERROR Motor Control Unit (MCU) has a failure. Possible Cause – A repeating under or overvoltage condition. If the failure occurs during a high-speed spin, the door remains locked for 3 minutes. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Using Ohm meter, check wire harness connections for continuity between drive motor and the MCU. 4. Check the motor and do a continuity test (page 14). 5. The MCU is good if the motor operates in diagnostic mode. If the motor fails to turn on, replace the MCU.

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
d 7	F 20	<p>NO WATER DETECTED ENTERING WASHER</p> <p>The appropriate water level is not reached in the desired time. The fill sequence is as follows:</p> <ol style="list-style-type: none"> 1. Washer attempts to fill for 2 minutes; if appropriate water level is not achieved, "lo H2O" is displayed for 2 minutes or until cycle is reselected. 2. Washer then attempts to fill again for 2 minutes; if appropriate water level is not achieved, "lo H2O" is displayed for 2 minutes or until cycle is reselected. 3. Washer then attempts to fill again for 2 minutes; if appropriate water level is not achieved, washer will pump out and display F20. <p>Possible Causes</p> <ul style="list-style-type: none"> - No water to washer; faucet(s) turned off. - Defective hot and/or cold valve(s). - Plugged or kinked inlet hoses or valves. - Pressure switch or pressure switch hose damaged, kinked, or disconnected. - Electrical connection from CCU (PS8) to pressure switch damaged. - Blocked inlet from the dispenser to the tub. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug washer or disconnect power. 3. Check incoming water pressure at faucet. 4. Check inlet hoses for possible leaks. 5. Make sure pressure switch hose is in good condition and properly connected to tub and pressure switch. 6. Check that there is not a drain siphon problem. 7. Perform continuity test on wire harness connections from CCU to inlet valves (VCH7 & DI6) and pressure switch (PS8). 8. Check inlet valves by running a diagnostic test. 9. Check that the pump is not running while the washer is filling. 10. Verify pressure switch operation by accessing Help Mode while running a paid cycle.
		<p>LONG DRAIN</p> <p>The drain time exceeds 8 minutes without reaching reset level in pressure switch.</p> <p>NOTE:</p> <ul style="list-style-type: none"> ■ Suds can cause delays in draining, indicated by an alternating display of "SudS" and a countdown timer. Washer drains for 4 minutes, pauses 5 minutes, then tries again for 4 additional minutes of draining. F21 will display if washer does not drain. (Normal drain takes less than 2 minutes). <p>Possible Causes</p> <ul style="list-style-type: none"> - Damaged or blocked pump. - Drain hose blocked or exceeds recommended height. - Poor connection between CCU (DP2) and drain pump. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug washer or disconnect power. 3. Make sure the drain hose is not sealed in the standpipe. 4. Make sure the drain height is not more than 8 ft above the base of the washer. 5. Check the drain hose and make sure it is not plugged or kinked. 6. Check the drain pump for foreign objects. 7. Check the electrical connection between the pump and the CCU (DP2). 8. Check the pump using a diagnostic mode. <p>If all the above are OK and pump is powered but does not pump water or water flow is poor, replace the pump.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
d 17	F 22	<p>DOOR LOCK ERROR</p> <p>Washer will make several attempts to lock the door, then customer will be asked to open door, clear obstructions, shut door, and reselect cycle. Washer will attempt to lock the door again. This procedure can repeat 2 times before customer loses vend and washer resets. If entire procedure happens twice without a successful door lock, F22 will appear.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> - Misaligned or broken door latch. - Electrical connections from CCU (DLS2, DL3) to door lock are damaged. - Misaligned, broken, or overtightened door hook. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Make sure that the latch is secured to the front panel. 4. Check for misaligned, broken, cracked, or loose door hook. 5. Check the electrical connections between CCU (DLS2, DL3) and latch. <p>If the latch fails to lock after checking all of the above, replace the latch.</p>
		<p>TEMPERATURE SENSOR ERROR</p> <p>Water temperature sensor value is out of range (23°F to 217°F [-5°C to 103°C]).</p> <p>NOTE: To find correct Ohm reading, refer to the Water Temperature Sensor section, page 14.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> - Water temperature sensor damaged. - Electrical connections from CCU at SET2 to temperature sensor damaged. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Perform Ohm test on Water Temperature Sensor and harness connection. This reading can be taken from the cable attached to CCU at SET2. <p>If the water temperature sensor is out of range, replace it.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d12</i>	<i>F25</i>	<p>TACHOMETER ERROR</p> <p>If the MCU is unable to properly detect motor speed, the washer shuts down. If a failure occurs during high-speed spin, the door remains locked for 2 minutes.</p> <p>Possible Cause</p> <ul style="list-style-type: none"> – Damaged or poor contact in electrical connection from MCU to drive motor. <p>Procedure for damaged MCU connection</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check for broken belt. 4. Verify that the shipping system, including shipping bolts and spacers, is removed, and that the power cord is not tangled in any components inside rear of washer. 5. Verify electrical connection between MCU and drive motor connector. 6. Reassemble any disassembled parts. 7. Reconnect to power. 8. Check operation of drive motor in diagnostic mode; if drum tumbles, the MCU and motor are OK. <p>If, after this procedure, the drum fails to tumble, replace the MCU. If motor operation is not restored, replace the motor.</p>
<i>d4</i>	<i>F26</i>	<p>DOOR SWITCH ERROR</p> <p>The door switch circuit is open for 5 seconds while the door is locked.</p> <p>Possible Cause</p> <ul style="list-style-type: none"> – Electrical connections from CCU (DCS3) to door switch in latch are damaged. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Verify the electrical connection between CCU and door switch by using the Help Mode (see appropriate symbols, page 13) or continuity test at CCU (DCS3) connection. <p>If the door switch circuit fails to open or close, replace the door latch.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d21</i>	<i>F27</i>	<p>OVERFLOW CONDITIONS</p> <p>The overflow contact on the pressure switch is closed for more than 60 seconds. If the washer displays F27, the washer is probably full of water, and the water supply has been shut off. If not, water will be pouring out of the washer from the dispenser and door.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> – Inlet valve(s) unable to close. – Pressure switch hose is kinked. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Remove electrical connections for cold and hot inlet valves. If water continues to flow into washer, inlet valve needs to be replaced. 4. Check if pressure switch hose is kinked. 5. Verify functionality of inlet valves by running a diagnostic cycle.
<i>d20</i>	<i>F28</i>	<p>COMMUNICATION FAILURE BETWEEN CCU AND MCU</p> <p>The communication between the Central Control Unit (CCU) and the Motor Control Unit (MCU) has failed.</p> <p>Possible Cause</p> <ul style="list-style-type: none"> – Communication cable from CCU (MI3) to MCU is damaged. <p>Procedure for communication cable</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Perform continuity test on wire harness connections from CCU (MI3) to MCU (be careful not to spread the Rast connector ends). 4. Verify the drive motor operation in diagnostic mode. If drum fails to tumble, replace the MCU.

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d19</i>	<i>F29</i>	<p>DOOR UNLOCK ERROR</p> <p>The door is unable to unlock after 6 tries.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> – Misaligned or broken door latch. – Electrical connections from CCU (DLS2, DL3) to door lock are damaged. – Misaligned, broken, or overtightened door hook. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Manually unlock the door (page 14). 4. Make sure that the latch is secured to the front panel. 5. Check for misaligned, broken, cracked, or loose door hook. 6. Check the electrical connections between CCU (DLS2, DL3) and latch (see page 14). <p>If the latch fails to unlock after checking all of the above, replace the latch.</p>
<i>d10</i>	<i>F31</i>	<p>OVERHEATING OF MOTOR</p> <p>The heat sink exceeds 212°F (100°C). If this condition is met, the CCU resets the MCU, then waits for the motor to cool down before restarting the motor. This procedure can repeat up to 4 times before F31 is displayed.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> – Improper installation of washer. – Poor electrical connection from CCU (MS2) to MCU. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Verify the washer is not located near a source of heat and has proper ventilation. 4. Check the electrical connections between CCU (MS2) and MCU. 5. Verify the drive motor operation in diagnostic mode. <p>If, after the above tests, the motor overheats, replace the MCU.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d14</i>	<i>F33</i>	<p>PUMP DISCONNECTED</p> <p>The electrical connection between the pump and the CCU is lost.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> – Poor connection between CCU (DP2) and drain pump. – Pump thermal overload caused by the pump running for an extended period of time. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check electrical connection between pump and CCU (DP2) (see page 14). 4. Check the pump using a diagnostic mode. <p>If all of the above are OK and the pump still does not run, replace the CCU.</p>
<i>d15</i>	<i>F34</i>	<p>LOAD DETECTED IN WASHER DURING WASHER CLEANOUT CYCLE</p> <p>The washer detects a load inside the washer tub at the beginning of the Washer Cleanout Cycle.</p> <p>Possible Causes</p> <ul style="list-style-type: none"> – Load inside the washer during the Washer Cleanout Cycle. – Friction between the drum and bellows material. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Remove clothes from washer drum. 4. Verify that misalignment of the spin basket and the T bearing on the boot is not causing friction (which is interpreted by the motor as a load in the washer). <p>If bellows adjustment does not correct the friction issue, the spin basket will need to be replaced.</p>
<i>d23</i>	<i>F70</i>	<p>COMMUNICATION FAILURE BETWEEN CCU AND UIC</p> <p>Communication between Central Control Unit (CCU) and User Interface Control (UIC) has failed.</p> <p>Possible Cause</p> <ul style="list-style-type: none"> – Electrical connection between CCU and UIC is damaged. <p>Procedure</p> <ol style="list-style-type: none"> 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Verify that the communication cable is connected in the upper connector of the UIC. 4. Verify continuity in the cable between the CCU and the UIC. <p>If, after these procedures, the continuity test fails, replace the communication cable. If F70 is still present, replace the UIC.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d 3</i>	<i>F 73</i>	UIC FAILURE
	<i>F 74</i>	<p>Communication error within the User Interface Control.</p> <p>Possible Cause – A power surge/drop.</p> <p>Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Wait 2 minutes before reconnecting power. 4. Verify UIC by attempting to start a cycle or run diagnostic mode.</p> <p>If these procedures do not correct the failure, replace the UIC.</p>
<i>d 5</i>	<i>d 5</i>	COIN 1 ERROR
		<p>The Coin 1 sensor is detected as blocked for 8 seconds. Before starting this procedure, make sure that the coin sensor is installed. The washer is shipped with the coin sensor not installed on a coin acceptor.</p> <p>Possible Causes – Coin vault full of money. – Blocked or dirty sensor.</p> <p>Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Clean the coin sensor. 4. Check for broken coin sensor switch on coin drop. 5. Check the wire harness connections between User Interface (AA4) and the coin sensor switch to make sure wires do not block the coin switch beam. 6. Shorting the connections 2 and 3 at AA4 on UIC will simulate a good coin sensor.</p> <p>If the above procedures do not solve the problem, replace the UIC.</p>
<i>d 9</i>	<i>d 9</i>	LOW VOLTAGE DETECTION ERROR
		<p>Incoming voltage detected below 90vac for 8 seconds.</p> <p>Possible Causes – Voltage drop due to multiple washers on same circuit. – Worn outlet.</p> <p>Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check the wire harness connection between the RFI filter and the transformer.</p> <p>If the above procedures do not solve the problem, replace the UIC.</p>

ACCU TRAC® INDICATION	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d 13</i>	<i>d 13</i>	COIN 2 ERROR
		<p>The Coin 2 sensor is detected as blocked for 8 seconds.</p> <p>Possible Causes – Coin vault full of money. – Blocked or dirty sensor.</p> <p>Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Clean the coin sensor. 4. Check for blocked coin sensor switch on coin drop.</p> <p><i>d 13</i> only occurs with coin 2 installed. If the above procedures do not solve the problem, replace the UIC.</p>
<i>d 15</i>	<i>d 15</i>	GENERATION 2 DEBIT CARD READER ERROR
		<p>No communication from installed debit card reader in Generation 2 debit mode for 5 minutes.</p> <p>Possible Causes – Card reader Gen 2 not installed, when washer is in Ed mode. – Poor contact or communication cable not connected between UIC (AA3) and the card reader. – Card reader failure.</p> <p>Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check the wire harness connections between User Interface (AA3) and the debit card reader Gen 2. Do continuity test on cable. 4. Make sure that card reader is Gen 2. 5. Reconnect power and wait for 5 minutes.</p> <p>If the above procedures do not solve the problem, replace the UIC.</p>

Critical errors are indicated as part of the scrolling 'out of order' message. **NOTE:** Errors d5, d13, and d16 will not stop the ongoing cycle, although they will not allow another cycle to begin until the error is addressed or is self-corrected.

SERVICE ACCESS CODE

This code can be entered to access service mode without removing the console. It only functions on washers set up for 0 vend price without any Special Pricing set-up, and the Coin/Debit Option must be set to "J_d". If the washer is not in failure mode, the door must be opened to proceed. Service Access Code contains 6 steps and some are timed. Using only the three bottom buttons (numbered 1, 2, and 3 from left to right):

1. Press 2 for longer than 2 seconds but less than 10 seconds.
2. Press 1 & 3 together for 2 seconds, then release. Displays S 3.
3. Press 1 & 2 together, then release. Displays S 4.
4. Press 2 & 3 together, then release. Displays S 5.
5. Press 2, then release. Display shows "codE".
6. Wait at least 2 seconds, but not more than 15 seconds, then press in succession: 3, 2, 1, 3.

NOTE: If the Service Access Code procedure is not completed properly, as noted above, there is a 15 second delay before it can be attempted again.

There are 3 options to exit from the Service Mode:

1. From Set-up Code 8, press button #1 for 4 seconds.
2. Wait 2 minutes without touching any buttons (without diagnostic modes running).
3. Power down the washer, then reapply power.

DIAGNOSTIC TEST

The washer has two different modes of diagnostics:

The Manual Keypad Function in Diagnostic Sub-Modes allows running of diagnostic cycles. This allows a more thorough analysis of washer operation, running of a Quick Drain and Spin, and crediting of free cycles to the user. A Washer Cleanout Cycle may also be run from this mode.

The Help Mode allows verification of the help codes that are currently present on the washer, and to check the software revision of the CCU and UIC. It also gives feedback of the current state of the valves, actuators, sensors, and general state of the washer.

KEYPAD FUNCTION IN DIAGNOSTIC SUB-MODES

The washer is capable of assuming three sub-modes:

1. Code Display
2. Flashing Mode
3. Special Cycle Mode

Code Display

a) Accessing the Code Display Mode:

This mode can be accessed only when the washer is in error state.

For PD Models:

- Open the service door.
- The current F code or d code will be displayed.
- If the washer is showing an error code, consult "FAILURE/ERROR DISPLAY CODES", page 5.

For PN Models:

- Remove the AA1 connector from the UIC board or insert a manual diagnostic card.
- Enter the Service Access Code (see Service Access Code section, this page) for PN washer models without a key switch installed.
- Insert key and turn, if diagnostic key switch is installed.
- The current F code or d code will be displayed.
- If the washer is showing an error code, consult "FAILURE/ERROR DISPLAY CODES", page 5. Displayed error codes that are not listed in this manual are most likely caused by a card reader device. Please contact the card reader manufacturer for explanation of these codes.

b) Functions of the Code Display Mode:

- Display of the current failure code.
- To erase the current error code and access Flashing Mode, press and hold QUICK CYCLE button until display is flashing.
- To access Set-up Mode, without erasing the current error, press DELICATES AND KNITS button for 1 second.

Flashing Mode

This mode allows starting of special diagnostic cycles, running of a Quick Drain and Spin, crediting of free cycles, and access to the Washer Cleanout Cycle.

a) Accessing the Flashing Mode:

For PD Models:

- Open the service door.
- Press and hold QUICK CYCLE button until display is flashing.

For PN Models:

- Remove the AA1 connector or insert a manual diagnostic card.
- The Service Access Code may be used.
- Insert key and turn, if diagnostic key switch is installed.
- When dAS is displayed, press and hold QUICK CYCLE button until display is flashing.

When accessing in flashing mode, the display will be blinking, turning all the segments on and off. Any cycle in process is cancelled, any money in customer escrow is cleared, and existing diagnostic codes are cleared.

b) Functions of the Flashing Mode:

- To access the Quick Overview Test, press the DELICATES AND KNITS button (description on page 11).
- To access the Manual Overview Test, press the WHITES button (description on page 11).
- To run a Quick Drain and Spin, press the COLORS button.
- To access the Washer Cleanout Cycle, press the BRIGHTS button.
- To Credit a Free Cycle, press the PERMANENT PRESS button.
- To Exit the Flashing Mode and return to Set-up Mode, press the QUICK CYCLE button.

Special Cycle Mode

This describes the diagnostic cycles accessed through the Flashing Mode.

QUICK OVERVIEW TEST

- This cycle consists of 8 steps. In each step, the washer will perform a Control Action as described in the table below. Once the action is completed, the washer will advance to the next step.
- Each step can be differentiated from the others by looking at the display indication.
- To advance to the next step before a control action is complete, press any button **except** QUICK CYCLE.
- To exit the Quick Overview Test at any time, press the QUICK CYCLE button.

Step	Display Indication	Control Action	Actuators to be Checked
1	Delicates	Door locks, drum turns 1/2 revolution, then door unlocks and relocks.	<ul style="list-style-type: none"> ■ Door lock system ■ Child safety routine ■ Motor control (MCU)
2	CCU EEPROM Version & Knits	Fill by both cold water inlet valves (4 liters) into BLEACH compartment.	<ul style="list-style-type: none"> ■ Cold water inlet valves #1 and #2 ■ Pressure switch: Suds Level
3	CCU Software Version Delicates & Knits	Fill by hot water inlet valve to Wash Level into MAIN WASH compartment.	<ul style="list-style-type: none"> ■ Hot water inlet valve ■ Pressure switch: Wash Level
4	MCU Software Version	Drum executes tumbling at wash speed (30 sec).	<ul style="list-style-type: none"> ■ Motor ■ Motor control (MCU)
5	Whites MCU Hardware Version Bright		
6	UIC EEPROM Version Colors	Drain pump is ON.	<ul style="list-style-type: none"> ■ Drain pump ■ Pressure switch*
7	UIC Software Version Permanent Press	Drum rotates counter-clockwise and ramps up. Performs unbalance procedure before and after spinning. If not interrupted, the drum will slow and stop; after reaching 0 rpm, the door unlocks and Step 8 will be skipped.	<ul style="list-style-type: none"> ■ Motor ■ Motor control (MCU) ■ Drain pump on
8	Delicates	This Step is only apparent if Step 7 is MANUALLY ADVANCED prior to the drum reaching 0 rpm (washer pumps out if needed). Door unlocks (washer returns to flashing mode).	<ul style="list-style-type: none"> ■ Door unlock

The drain pump may be running in any of the last 3 steps, depending on the water level in the washer and position of the pressure switch.
 *The washer will drain until pressure switch reaches lowest level for 10 seconds, then moves to next step.

MANUAL OVERVIEW TEST

Before replacing any system components, perform this Manual Overview Test.

- This cycle consists of 7 steps. In each step, the washer will perform a Control Action as described in the table below. Once the action is completed, the washer will move to the next step. Check Exit Condition column.
- Each step can be differentiated from the others by looking at the display indication.
- To move to the next step before a control action is complete, press any button **except** QUICK CYCLE.
- To exit the Manual Overview Test at any time, press the QUICK CYCLE button.

Step	Display	Exit Condition	Control Action	To be Checked
1	Delicates	On completion only	Door locks, drum turns 1/2 revolution, then door unlocks and relocks.	<ul style="list-style-type: none"> ■ Door lock system ■ Child safety routine
2	& Knits	On button press or if overflow level is detected	Filling with both valves.	<ul style="list-style-type: none"> ■ Cold and Hot Water Inlet Valve ■ Overflow level
3	Colors	On button press or completion	Drum executes reversing movement at wash speed (10 min.).	<ul style="list-style-type: none"> ■ Motor ■ Motor Control (MCU)
4	Permanent Press	On button press or completion	Drain pump is on (4 min.).	<ul style="list-style-type: none"> ■ Drain Pump
5	Delicates	On completion only	Drain pump is on (reach Level_sud plus 10 sec.).	<ul style="list-style-type: none"> ■ Drain Pump
6	& Knits	On button press or completion	Drum rotates counter-clockwise and ramps up to maximum speed.	<ul style="list-style-type: none"> ■ Motor ■ Motor Control (MCU)
7	Delicates & Knits	On button press only after rpm = 0 and door is unlocked	Stop motor to 0 rpm. Door unlocks.	<ul style="list-style-type: none"> ■ Motor ■ Motor Control (MCU) ■ Door lock system

The drain pump may be running in any of the last 3 steps, depending on the water level in the washer and position of the pressure switch.

DIAGNOSTIC TEST QUICK GUIDE

The following table summarizes keypad function among the diagnostic sub-modes.

Keypad Function in Diagnostic Mode Table

Button Name on Interface	Generic Button Function	User Input	Function in Failure Code Display Mode	Function in Flashing Mode	Function in Diagnostic Cycle Mode
QUICK CYCLE	Mode Select	Press and hold until display flashes.	Erase diagnostic codes and begin flashing mode.	Enter set-up mode.	Cancel cycle, enter set-up mode.
DELICATES AND KNITS	Enter/Advance	Press for 1 second	Exit failure code display mode and enter set-up mode without erasing code.	Access Quick Overview Test.	Move to next step.
PERM. PRESS	Slew	Press for 1 second	Inactive	Credit a customer cycle.	Move to next step.
WHITES	None	N/A	Inactive	Access Manual Overview Test.	Move to next step.
COLORS	None	N/A	Inactive	Access a Quick Drain & Spin.	Move to next step.
BRIGHTS	None	N/A	Inactive	Access Washer Cleanout Cycle.	Move to next step.

HELP MODE

This mode is used to verify the behavior of the washer, along with the operation of a customer cycle. It allows verification of the current status of many switches, actuators, valves, and relays. It also reports the current values of the drum speed, unbalance value, and power used by the MCU.

a) Accessing the Help Mode for PD Models:

- Open the service door.
- Press the DELICATES AND KNITS button until the display reads 2.XX.
- Press the PERMANENT PRESS button.
- Press the DELICATES AND KNITS button to move to the next option (see Help Mode Submenu).
- If the washer displays an error code, consult the “Code Display” section (page 10).

b) Accessing the Help Mode in dAS Mode:

- Open the service door or insert a manual diagnostic card.
- The message dAS will appear in the display.
- Press the PERMANENT PRESS button.
- Press the DELICATES AND KNITS button to move to the next option (see Help Mode Submenu).
- If the washer displays an error code, consult the “Code Display” section (page 10).

Exit Help Mode Submenu by pressing the PERMANENT PRESS button.

Help Codes

Help Code	Description
0F	Oversuds detected during cycle, and washer was not able to resolve an unbalance condition detected during the final spin related to the oversuds detection (via pressure sensor) earlier in the cycle
32	More than 6 unbalance retries during the final spin – spin (and cycle) has been aborted
33	Oversuds detected during wash cycle, and washer was not able to resolve the condition – cycle has been aborted. Washer unable to sense that water has been fully drained within required time, sensing as an oversuds condition
71	Generation 2 debit card cycle polling message out of sequence
74	Generation 2 debit card remaining balance message out of sequence
75	Generation 2 debit card new card balance message out of sequence
88	Invalid messaging state found in da communications comm_suprv () routine

Help Mode Submenu

- This sub-menu consists of 14 steps.
- To change to the next step, press the DELICATES AND KNITS button.
- To exit Help Mode and return to set-up mode or dAS mode, press PERMANENT PRESS button.

Step	Display Indication	Explanation
1	1h.XX	Help Code 1, where XX is the help code number.*
2	2h.XX	Help Code 2, where XX is the help code number.*
3	3h.XX	Help Code 3, where XX is the help code number.*
4	1.X##	Error history code 1, where X is the F or d code, and ## is the code number.**
5	2.X##	Error history code 2, where X is the F or d code, and ## is the code number.**
6	3.X##	Error history code 3, where X is the F or d code, and ## is the code number.**
7	4.X##	Error history code 4, where X is the F or d code, and ## is the code number.**
8	SC.XX	CCU software revision, where XX is the software revision number.
9	EC.XX	CCU EEPROM revision, where XX is the EEPROM revision number.
10	SU.XX	UIC software revision, where XX is the software number.
11	EU.XX	UIC EEPROM revision, where XX is the EEPROM number.
12	SPIN XXX	XXX is the current speed of the drum, displayed in rpm.
13	P.XXX	The relative amount of power requested by the motor, where XXX is the value in watts.
14	U.XXX	The unbalance in the system, where XXX is the unbalance value.***

* To erase the 3 help codes, press QUICK CYCLE button.

**The Errors displayed in this section are the history errors that have occurred in the washer (not necessarily an error that is in progress). The current error is displayed in the MANUAL BUTTON FUNCTION IN DIAGNOSTIC SUB-MODE.

*** The values 255 and 254 are reserved numbers for specific cases. (255 = unbalance has not been calculated yet, 254 = unbalance could not be calculated).

HELP MODE SYMBOLS AND ELEMENTS

Along with the 14 steps of the help mode, symbols and elements are mapped, at all times, to reflect the state of various inputs and outputs.

Display Symbol	Description
WASH	Water sensed at wash level.
*	Low voltage present (below about 90 VAC).
° (Circle above digit)	Door closed.
DOOR LOCKED	Door sensed locked.
COLD	Cold water relay on.
HOT	Hot water relay on.
OR	Door unlock.
AVAILABLE	Drain pump ON.

Keypad Function in Help Mode Table

Button Name on Interface	Generic Button Function	Result While In: Software Version; Spin; Motor Power	Result While Help Code Displays
PERM. PRESS	Slew	Exits help code and returns to set-up mode—either dAS displayed or Set-up Code 2.XX.	Exits help code and returns to set-up mode—either dAS displayed or Set-up Code 2.XX.
QUICK CYCLE	Mode Select	Inactive—no result.	Clears all three help codes.
DELICATES AND KNITS	Mode Advance	Advances through help sub-mode.	Advances through each help code.

Be sure to perform the Diagnostic Tests before replacing the system components.

Pump Motor Continuity Test

Pins	Results
1 to 2	Normal = approx. 106 Ω Abnormal = Infinity

Motor Continuity Test

1. Unplug washer or disconnect power.
2. Disconnect the wire harness from the motor and measure the resistance of the motor. Use the following table:

Pins	Results
1 to 2	Normal = approx. 6.45 Ω Abnormal = Infinity
2 to 3	
1 to 3	

Transformer Connector

Primary (Black to black) 220 ohms
White to white 3 ohms
Green to green 1.2 ohms

Water Temperature Sensor

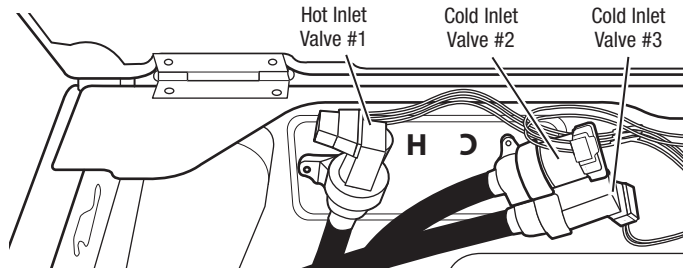
1. Unplug washer or disconnect power.
2. Disconnect the wire harness from the water temperature sensor and measure the resistance of the sensor. Use the following table. An abnormal condition is an open circuit. This reading can be taken from the cable attached to the CCU terminal TH2.

Temperature	Results
32°F (0°C)	35.9 kΩ
86°F (30°C)	9.7 kΩ
104°F (40°C)	6.6 kΩ
122°F (50°C)	4.6 kΩ
140°F (60°C)	3.2 kΩ
158°F (71°C)	2.3 kΩ
203°F (96°C)	1 kΩ

Cycle Temperature Selections

Cycle	Wash Temp. (all rinses are COLD)
WHITES	Hot = 116.6°F (47°C)
COLORS	Warm = 95°F (35°C)
BRIGHTS	Cold = Tap Temp.
PERM. PRESS	Warm = 95°F (35°C)
DELICATES AND KNITS	Warm = 95°F (35°C)
QUICK CYCLE	Warm = 95°F (35°C)

Water Valve Locations



CCU Wire Harness Connector Table

Unplug washer or disconnect power before taking ohm measurements.

Terminal	Component	(Ω) Ohm Value	Abnormal Value	Pin Connectors*	Wire Coding
RP2	Wax Motor	1.2kΩ at 25°C	Infinity**	1, 2	
DLS2	Door Locked Switch Locked/Unlocked	Continuity: door locked. No Continuity: door unlocked.		1, 2	
DL3	Door Lock Coil Locked or Unlocked	750Ω	Infinity**	1, 3 door lock 3, 5 door unlock	
SET2	Temperature Sensor	Varies with temperature changes. See above.	Infinity**	1, 3	
DP2	Drain Pump	106Ω	Infinity**	1, 3	
DCS3	Door Switch	Continuity at door close. No continuity at door open.		1, 2	
DI6	Hot Inlet Valve #1	3.55kΩ	Infinity**	1, 3 (hot valve #1)	
VCH7	Cold Inlet Valve #2 Cold Inlet Valve #3	3.55kΩ, either coil	Infinity** (or more than 10% lower or higher)	1, 3 (cold valve #2) 5, 7 (cold valve #3)	
IF2	RFI/UIC Transformer	0Ω	Infinity** (or more than 10% lower or higher)	1, 2	
PS8	Pressure Switch	Infinity** for all except 4, 6 with no water in tub	Continuity at any switch except 4, 6 with no water in tub	1, 2 3, 4 4, 5 4, 6	

*The number 1 pin has been marked on the bottom part of the connector.
**An infinity measurement occurs when the multimeter does not detect an ohm reading.

Manually Unlocking the Door Lock System

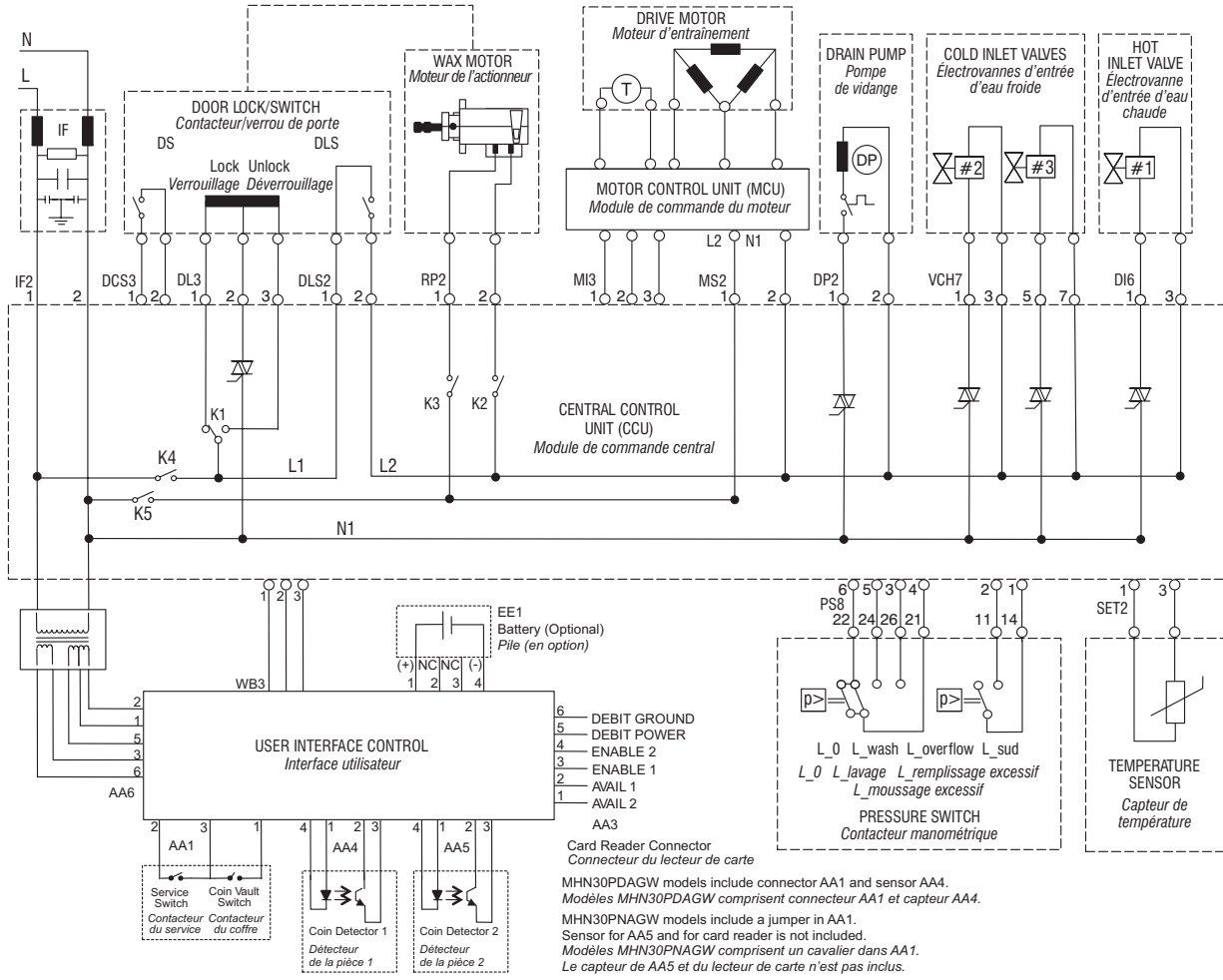
1. Unplug washer or disconnect power.
2. Remove the toe kick panel.
3. Reach up along the inside of the front and locate the bottom of the latch assembly.
4. At the bottom of the latch assembly is a tear-drop shaped tab.
5. Gently pull the tab down about 6 mm (1/4") or until a click is heard.

ELECTRONIC ASSEMBLIES - REMOVAL OR REPLACEMENT

IMPORTANT: Electrostatic (static electricity) discharge may cause damage to electronic control assemblies. See page 1 for details.

NOTE: Be sure to perform the Diagnostic Tests before replacing the control board.

WIRING DIAGRAM



TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE/TEST
BLANK DISPLAY	<p>NOTE: Possible Cause/Tests must be performed in the sequence shown for each problem.</p> <p>Possible Causes – UIC not powered or no power to the washer. – Wrong communication between CCU and UIC.</p> <p>Procedure for UIC not powered 1. Check that the washer is plugged into a working outlet. 2. Unplug washer or disconnect power. 3. Check continuity from the power cord to the line filter. 4. Check continuity from the line filter to the transformer. 5. Perform Ohm meter test to the transformer (page 14).</p> <p>Procedure for wrong communication 1. Unplug the washer or disconnect power. 2. Wait for 2 minutes. 3. Reconnect power. If the display fails to turn on, replace the UIC.</p>
TOUCH-PADS DO NOT RESPOND WHEN PRESSED	<p>Possible Causes – Keypad ribbon disconnected, damaged, or contaminated. – Door switch disconnected, loose, or damaged.</p> <p>Procedure if matrix key board is disconnected In this error, the keypad does not respond in any mode (normal operation, set-up, etc.) 1. Unplug washer or disconnect power. 2. Check that the keypad ribbon is connected to the UIC. 3. Clean the matrix keypad of soap or other residues. 4. Verify the function of the keypad. If it fails to operate, replace it.</p> <p>Procedure if door switch is disconnected In this error, the keypad works normally in set-up mode, but will not start a user paid cycle. 1. Verify door switch operation by performing test for F26 error code (page 7), even if the F26 code is not displayed. If the above procedures fail to solve the problem, replace the UIC.</p>
WASHER VIBRATES	<ol style="list-style-type: none"> 1. Verify that the washer is level. 2. Verify that the shipping system, including shipping bolts and spacers, is removed, and that the power cord is not tangled in any components inside the rear of the washer. 3. Verify that the leveling legs are locked into place and firmly in contact with the floor. 4. Check for unbalanced loads, especially when washing very small loads. 5. Verify that dampeners are all connected in place and not damaged. 6. Correct any twists in the door bellows. 7. Verify proper drive belt placement on motor pulley. 8. Make sure that the washer is not installed on a wooden riser with a platform less than 3/4 inches thick.
DRUM WON'T ROTATE	<ol style="list-style-type: none"> 1. Check for broken drive belt. 2. Check for drive motor failure error codes (F11, F25, F28). 3. Make sure that the door locks properly.
INCORRECT WATER TEMPERATURE	<ol style="list-style-type: none"> 1. Make sure that the inlet hoses are connected properly. 2. Check the water temperature sensor for an abnormal condition (page 14). 3. Verify hot and cold water operation in Quick Overview Test in diagnostic mode. 4. Check for blocked filter screen in inlet valves.