

BASIC OPERATION OF COMMERCIAL WASHER

- For additional information, see www.MaytagCommercialLaundry.com

⚠ WARNING



Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical 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 ground connection point or unpainted metal in the appliance.

-OR-

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

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

GENERAL USER INFORMATION

'----' Inoperative State

These lines on the display indicate the appliance is inoperative. Enter set-up mode to view diagnostic code.

'0 Minutes' showing in display

This condition indicates the appliance 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)

Appliance is programmed at the factory as follows:

- 14 minute wash period
- 3 rinses (extra rinse not enabled)
- \$1.75 wash price (PD models)
- \$0.00 wash price (PR 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 key 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.

Debit Card Ready

This appliance is debit card 'cable' ready. It will accept a variety of debit card systems, but does NOT come with a debit card reader. Refer to the debit card reader manufacturer for proper washer set-up. In models converted to a Generation 1 debit card system, debit pulses represent the equivalent of one coin (coin 1).

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'.



CONTROL SET-UP PROCEDURES

IMPORTANT: Read all instructions before operating.

- PD/PS Models: Insert access door key, turn, and lift to remove access door.
- PR Models: Once the debit card reader is installed (according to the reader manufacturer's instructions), the set-up mode can be entered by inserting a manual set-up card (supplied by the reader manufacturer) into the card slot. If a manual set-up card is not available, manual set-up mode can be entered by removing connector AA1 on the circuit board.

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 key pads 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 appliance.

How to use the key pads to program the controls

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

Start Operating Set-Up

Before proceeding, it is worth noting 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 unit that operates. Units are preset at the factory for a 14-minute wash period and 3 rinses (no extra rinse).

SET-UP CODES

- The WOOLENS key pad will advance you from code to code.
- The PERMANENT PRESS key pad will change the code value.
- The DELICATES & KNITS key pad will select or deselect options.

FOR PR 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.

CODE	EXPLANATION
6.07	REGULAR CYCLE PRICE
6.07	Represents the number of quarters (coin 1); may adjust from 0-39. (See VALUE OF COIN 1.) Advance from 0-39 by pressing the PERMANENT PRESS key pad. Factory preset for 7 quarters = \$1.75. PR MODELS ONLY: Factory preset for 0 quarters. PS MODELS ONLY: Represents the number of push-in actuations of the coin slide to start the washer. 601 setting would represent one coin slide actuation. → Press the WOOLENS key pad once to advance to next code.

CODE	EXPLANATION
7.14	WASH LENGTH
7.14	This is the number of minutes for WASH. Unit comes from the factory preset with 14 minutes. Choose from 9-17 minutes by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad once to advance to next code.
8.00	ADDITIONAL RINSE OPTION
8.00	This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
8.00	Not Selected 'OFF'.
8.8r	Selected 'ON'. Press the DELICATES & KNITS key pad once for this selection. → Press the WOOLENS key pad once to advance to next code.
9.00	CYCLE COUNTER OPTION
9.00	This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
9.00	Not Selected 'OFF'.
9.00	Selected 'ON' and not able to be deselected. Press the DELICATES & KNITS key pad 3 consecutive times to select 'ON'. Once selected 'ON' it cannot be deselected. → Press the WOOLENS key pad once to advance to next code.
1.00	MONEY COUNTER OPTION
1.00	This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
1.00	Not Selected 'OFF'.
1.00	Selected 'ON'. Press the DELICATES & KNITS key pad 3 consecutive times to select 'ON' and 3 consecutive times to remove (Not Selected 'OFF'.) Counter resets by going from 'OFF' to 'ON'. → Press the WOOLENS key pad once to advance to next code.
1.00	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 DELICATES & KNITS key pad twice, the PERMANENT PRESS key pad once, and exit the set-up mode.
2.00	SPECIAL PRICING OPTION
2.00	This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.
2.00	Not Selected 'OFF'.
2.5P	Selected 'ON'. Press the DELICATES & KNITS key pad once for this selection.
If SPECIAL PRICING OPTION is selected, you have access to codes '3.XX' through '9.XX'.	
→ Press the WOOLENS key pad once to advance to next code.	
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED:	
3.07	SPECIAL CYCLE PRICE
3.07	Represents the number of quarters (coin 1); may adjust from 0-39. (See VALUE OF COIN 1.) Advance from 0-39 by pressing the PERMANENT PRESS key pad. Factory preset for 7 quarters = \$1.75. PR MODELS ONLY: Factory preset for 0 quarters. → Press the WOOLENS key pad once to advance to next code.

CODE	EXPLANATION																								
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED (cont.):																									
5.00	TIME-OF-DAY CLOCK, MINUTES																								
5.00	This is the TIME-OF-DAY CLOCK, minute setting; select 0-59 minutes by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad once to advance to next code.																								
6.00	TIME-OF-DAY CLOCK, HOURS NOTE: Uses military time or 24 hr. clock.																								
6.00	This is the TIME-OF-DAY CLOCK, hour setting; select 0-23 hours by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad once to advance to next code.																								
7.00	SPECIAL PRICE START HOUR NOTE: Uses military time or 24 hr. clock.																								
7.00	This is the start hour; 0-23 hours. Select START HOUR by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad once to advance to next code.																								
8.00	SPECIAL PRICE STOP HOUR NOTE: Uses military time or 24 hr. clock.																								
8.00	This is the stop hour; 0-23 hours. Select STOP HOUR by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad once to advance to next code.																								
9.10	SPECIAL PRICE DAY																								
9.10	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 DELICATES & KNITS key pad. Days of the week (1-7) are selected by pressing the PERMANENT PRESS key pad. When exiting setup code '9', the display must show current day of week: <table><tr><th>DISPLAY</th><th>DAY OF WEEK</th><th>CODE (selected)</th></tr><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></table> → Press the WOOLENS key pad 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																							
R.00	VAULT VIEWING OPTION This option is either SELECTED 'ON' or NOT SELECTED 'OFF'.																								
R.00	Not Selected 'OFF'.																								
R.5C	Selected 'ON'. Press the DELICATES & KNITS key pad once for this selection. When selected, the money and/or cycle counts will be viewable (if counting is selected) when the coin box is removed. → Press the WOOLENS key pad once to advance to next code.																								
b.05	VALUE OF COIN 1																								
b.05	This represents the value of coin 1 in number of nickels: 05 = \$0.25. By pressing the PERMANENT PRESS key pad you have the option of 1-199 nickels. PS MODELS ONLY: Represents the total vend price in nickels. Example: b.30 is equal to \$1.50. → Press the WOOLENS key pad 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 number of nickels: 20 = \$1.00. PR MODELS ONLY: Factory preset for \$0.25. By pressing the PERMANENT PRESS key pad you have the option of 1-199 nickels. → Press the WOOLENS key pad 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'.
<u>d.5S</u>	Selected 'ON'. Press the DELICATES & KNITS key pad 3 consecutive times for this selection. When coin slide mode is selected, set 'b.' equal to value of slide in nickels. Set step 6 (regular cycle price) and step 3 (special cycle price) to number of slide operations. If the installer sets up 'CS' on a coin drop model, it will not register coins. → Press the WOOLENS key pad 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 dollars-and-cents amount.
<u>E.00</u>	Not Selected 'OFF'.
<u>E.RC</u>	Selected 'ON'. Press the DELICATES & KNITS key pad 3 consecutive times for this selection. → Press the WOOLENS key pad 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.5u</u>	Super Cycle pricing enabled. This option allows customers to upgrade cycles by depositing extra money. Setup codes 'H.' and 'h.' will be displayed only when this option is enabled. Press the DELICATES & KNITS key pad for this selection. → Press the WOOLENS key pad 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 key pad. → Press the WOOLENS key pad 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 key pad 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 WOOLENS key pad once to advance to next code.

CODE	EXPLANATION
<u>J.Fd</u>	COIN/DEBIT OPTION
<u>J.Fd</u>	Both coin & debit selected.
<u>J.F-</u>	Coins selected, debit disabled.
<u>J.-d</u>	Debit Card selected, coins disabled. Press the DELICATES & KNITS key pad 3 consecutive times for 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 WOOLENS key pad 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 DELICATES & KNITS key pad once for this selection. → Press the WOOLENS key pad once to advance to next code.
<u>n.FE</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.FE</u>	Selected 'ON'. Press the DELICATES & KNITS key pad once for this selection. → Press the WOOLENS key pad 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 key pad. Factory preset for 800 rpm. → Press the WOOLENS key pad once to advance to next code.
<u>U.00</u>	PENNY INCREMENT OFFSET
<u>U.00</u>	This represents the penny increment price offset used in Generation 2 (Enhanced Debit) PR models. Choose from 0-4 pennies by pressing the PERMANENT PRESS key pad. → Press the WOOLENS key pad 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 key pad. → Press the WOOLENS key pad 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 key pad. → Press the WOOLENS key pad once to advance to next code.

If cycle counter (90C) is selected, the following is true:

100 Represents the number of cycles in HUNDREDS. $1 \underline{02} = 200$
 200 Represents the number of cycles in ONES. $2 \underline{25} = 25$
 TOTAL = 225 cycles

This is "VIEW ONLY" and cannot be cleared.

Press the WOOLENS key pad once to advance to next code.

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

300 Number of dollars in HUNDREDS. $3 \underline{01} = \$100.00$
 400 Number of dollars in ONES. $4 \underline{68} = \$ 68.00$
 500 Number of CENTS. $5 \underline{75} = \$.75$
 TOTAL = \$168.75

END OF SET-UP PROCEDURES**EXIT FROM SET-UP MODE**

■ PD Models: Reinstall access door.

■ PR Models:

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

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 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 DELICATES & KNITS key pad for 1 second while in any of the set-up codes one through six, 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. Clean Washer cycle – With the entire display flashing, this cycle is started by pressing the BRIGHTS keypad.
Use the Clean Washer cycle once a month to keep the inside of your washer fresh and clean. This cycle uses a higher water level. Use with AFFRESH™ washer cleaner tablet or liquid chlorine bleach to thoroughly clean the inside of your washer. This cycle should not be interrupted. See 'WASHER CARE' section.
IMPORTANT: Do not place garments or other items in the washer during the Clean Washer 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 key pad (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 Load Test Cycle – With the entire display flashing, this cycle is started by pressing the WHITES key pad. This cycle provides more typical full length fills, tumbles, drains, and actuator dispenser movement, 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 key pad. This cycle provides a method to quickly drain and spin (remove water from the washer), if desired.
5. History Overview Test Cycle – With the entire display flashing, this cycle is started by pressing the WOOLENS key pad. This cycle provides a quick verification that the cold and hot water valves, dispensers, and pump motor are working, as well as actuator dispenser movement. It also includes drain and spin operations.

Pressing the DELICATES & KNITS key pad will exit diagnostic mode and cancel a diagnostic cycle in process.

FAILURE/ERROR DISPLAY CODES

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> <i>5</i>	<i>F</i> <i>01</i>	EEPROM ERROR
		A communication error between the Central Control Unit (CCU) and the EEPROM onboard the CCU occurred.
		Possible Causes/Procedure ■ A power glitch may cause this error. – Unplug washer or disconnect power for two minutes. – Verify CCU operation by running a Diagnostics Test or any cycle.
		PUMP DRIVE ERROR
<i>d</i> <i>11</i>	<i>F</i> <i>11</i>	The pump driver fails to activate.
		Possible Causes/Procedure ■ Replace CCU board.
		MAIN RELAYS ERROR
		One of the main relays is not working properly.
<i>d</i> <i>11</i>	<i>F</i> <i>11</i>	Possible Causes/Procedure ■ The relay might be soldered or always open. – Replace CCU board.
		MOTOR CONTROL UNIT ERROR
		The Motor Control Unit has internal failure, repeating under or over voltage, or over current conditions. If failure occurs during high-speed spin, the door unlocks after 3 minutes.
		Possible Causes/Procedure 1. Unplug washer or disconnect power. 2. Check wire harness connections between the drive motor and the Motor Control Unit (MCU), and between the MCU and the Central Control Unit (CCU). Check the motor and do a continuity test. 3. Plug in washer or reconnect power. 4. Check the MCU by looking for operations of the drive motor. 5. Check the drive motor for powered rotations. 6. Replace MCU board.

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> 7	<i>F</i> 20	NO WATER DETECTED ENTERING MACHINE OR PRESSURE SWITCH TRIP NOT DETECTED
		<p>The pressure switch is not tripped after 6 minutes.</p> <p>Possible Causes/Procedure</p> <ul style="list-style-type: none"> ■ If there is no water in the unit: <ul style="list-style-type: none"> – Make sure that both valves at the water source(s) are turned on all the way. – Check for plugged or kinked inlet hoses or plugged screens in the inlet valves. – Verify inlet valve operation. ■ If there is water in the unit: <ul style="list-style-type: none"> – Verify drain pump operation. – Verify that the pressure switch hose is in good condition and properly connected to tub and pressure switch. <ol style="list-style-type: none"> 1. Verify there is not a siphon problem. 2. Press STOP twice to clear the display. The machine will drain for 3 minutes before unlocking the door. 3. Unplug washer or disconnect power. 4. Verify wire harness connections to inlet valves, pressure switch, drain pump, and Central Control Unit (CCU). 5. Check all hoses for possible leaks. 6. Plug in washer or reconnect power. 7. Verify pressure switch operation. 8. Verify CCU operation by running a Diagnostic Test or any cycle.
<i>d</i> 8	<i>F</i> 21	LONG DRAIN
		<p>If the drain time exceeds 8 minutes, the water valves turn off.</p> <p>NOTES:</p> <ul style="list-style-type: none"> ■ After 4 minutes, the 'Sd' error will be displayed, then 4 minutes later the 'F/21' error code will be displayed. ■ Press STOP two times to clear the display. <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Check the drain hose and make sure it is not plugged or kinked. 2. Unplug washer or disconnect power. 3. Check the electrical connections at the pump and make sure the pump is running. 4. Check the drain pump for foreign objects. 5. Plug in washer or reconnect power. 6. If the above does not correct the problem, go to step 7. 7. Unplug washer or disconnect power. 8. Replace the pump.

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> 17	<i>F</i> 22	DOOR LOCK ERROR
		<p>After 6 failed attempts to lock the door.</p> <p>Possible Causes/Procedure</p> <ul style="list-style-type: none"> ■ Door lock mechanism is broken or removed from door. ■ Door switch/lock unit failure. <ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check door switch/lock unit. 3. Check the wire harness connections to the door switch/lock unit and Central Control Unit (CCU).
<i>d</i> 24	<i>F</i> 24	WATER TEMPERATURE SENSOR ERROR
		<p>If the water temperature sensor (NTC) value is out of range (23°F to 217°F [-5°C to 103°C]) during the water-heating step of the WASH cycle.</p> <p>NOTE: To find correct Ohm reading, refer to the Water Temperature Sensor section, page 12.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check the water temperature sensor and connection to it. 3. Check resistance of heating element, if present on this model. (abnormal = infinity) 4. Refer to the Water Temperature Sensor section, page 12.
<i>d</i> 12	<i>F</i> 25	DRIVE MOTOR TACHOMETER ERROR
		<p>If the control is unable to properly detect motor speed, the machine shuts down. If a failure occurs during high-speed spin, the door unlocks after 3 minutes.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Verify that the shipping system, including shipping bolts, spacers, and cables, are removed. 2. Unplug washer or disconnect power. 3. Check wire harness connections between the drive motor and the Motor Control Unit (MCU), and between the MCU and the Central Control Unit (CCU). 4. Plug in washer or reconnect power. 5. Check the MCU by looking for operations of the drive motor. 6. Check the drive motor for powered rotations.
<i>d</i> 4	<i>F</i> 26	DOOR SWITCH ERROR
		<p>If the door has not been opened for 3 consecutive cycles or the door switch is open while the door is locked for more than 5 seconds.</p> <p>Possible Causes/Procedure</p> <ul style="list-style-type: none"> ■ Door not opened during 3 consecutive cycles. <ol style="list-style-type: none"> 1. Open and close the door. 2. Verify CCU operation by running a Diagnostic Test or any cycle. <ul style="list-style-type: none"> ■ Door switch open while door is locked. <ol style="list-style-type: none"> 1. Push the door and check if it is completely closed. 2. Verify CCU operation by running a Diagnostic Test or any cycle.

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> <i>21</i>	<i>F</i> <i>27</i>	OVERFLOW CONDITION <p>If the overflow contact on the pressure switch is closed for more than 60 seconds, an Overflow Condition occurs. In an overflow condition, the door remains locked and the drain pump runs constantly, even if STOP is pressed twice and the display is cleared. Turn off hot and cold water faucets and unplug the unit before servicing.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Check the drain hose and make sure it is not plugged or kinked. 2. Unplug washer or disconnect power. 3. Check wire harness connections to the drain pump, pressure switch, water inlet valve, and Central Control Unit (CCU). 4. Check/clean drain pump filter of foreign objects. 5. Check for drain pump failure. 6. Check the inlet valve for proper shut off. 7. Check the pressure switch for proper operation.
<i>d</i> <i>20</i>	<i>F</i> <i>28</i>	SERIAL COMMUNICATION ERROR <p>The communication between the Central Control Unit (CCU) and the Motor Control Unit (MCU) cannot be sent correctly.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check wire harness connections to the MCU, the motor, and Central Control Unit (CCU). <ul style="list-style-type: none"> – Check connections of the CCU board within the housing. – Make sure all grounding switches are engaged. 3. Check the drive system for any worn or failed components. 4. Plug in washer or reconnect power. 5. Verify CCU operation by running a Diagnostic Test or any cycle. 6. Check the MCU by looking for operations of the drive motor. 7. Check the drive motor for powered rotations. 8. Check that the serial harness at the MCU is not mounted upside down. The wires should be to the left when facing the MCU connectors.
<i>d</i> <i>19</i>	<i>F</i> <i>29</i>	DOOR UNLOCK ERROR <p>If the door unlock has failed 6 times.</p> <p>Possible Causes/Procedure</p> <ul style="list-style-type: none"> ■ Door lock mechanism is broken. ■ Door switch/lock unit failure. <ol style="list-style-type: none"> 1. Check door switch/lock unit for foreign objects. 2. Unplug washer or disconnect power. 3. Check the wire harness connections to the door switch/lock unit and Central Control Unit (CCU). <p>NOTE: The door switch/lock unit can be manually unlocked. See Manually Unlocking the Door Lock System, page 12.</p>

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> <i>18</i>	<i>F</i> <i>30</i>	DISPENSER SYSTEM ERROR <p>When the dispenser motor cannot be driven to its proper position.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check mechanical linkage from dispenser motor to the top of the dispenser. 3. Check the wire harness connections to the dispenser motor and Central Control Unit (CCU). 4. Check dispenser motor for powered rotations.
<i>d</i> <i>10</i>	<i>F</i> <i>31</i>	MCU FAILURE <p>If the heat sink gets too hot, the Motor Control Unit (MCU) will stop the motor, the MCU will communicate this failure to the Central Control Unit (CCU), then the CCU will reset the MCU. If the condition continues four times, the F31 code will show.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Check for proper installation, verify the unit is not located near a source of heat and has proper ventilation. 2. Unplug washer or disconnect power. 3. Check the wire harness connections to the MCU, the motor, and Central Control Unit (CCU). 4. Check the drive system for any worn or failed components. 5. Plug in washer or reconnect power. 6. Check the MCU by looking for operations of the drive motor. 7. Check the drive motor for powered rotations.
<i>d</i> <i>14</i>	<i>F</i> <i>33</i>	PUMP DRIVE SYSTEM ERROR <p>When the connection between pump and the Central Control Unit (CCU) is lost.</p> <p>Possible Causes/Procedure</p> <ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check the wire harness connections to the pump and Central Control Unit (CCU). 3. Plug in washer or reconnect power. 4. Verify CCU operation by running a Diagnostic Test or any cycle. Refer to the Continuity Tests on page 12.
<i>d</i> <i>15</i>	<i>rL</i> or <i>F</i> <i>34</i>	LOAD INSIDE DRUM DURING CLEANING WASHER CYCLE <p>If, at the start of the CLEANING WASHER cycle, a load is detected inside the drum.</p> <p>NOTE: Detects by weight.</p> <p>Possible Causes/Procedure</p> <p>Remove clothes from drum and start the cycle again.</p>

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> <i>22</i>	<i>F</i> <i>70</i>	CENTRAL CONTROL UNIT HEARTBEAT FAILURE If a Central Control Unit Heartbeat Failure is displayed, no communication is detected from the Central Control Unit to the User Interface. Possible Causes/Procedure 1. Check for continuity of the User Interface harness. 2. Check wire harness connection to the User Interface and Central Control Unit. 3. Replace User Interface if drum is rotating. 4. Replace Central Control Unit if drum is not moving.
<i>d</i> <i>23</i>	<i>F</i> <i>71</i>	USER INTERFACE HEARTBEAT FAILURE If a Central Control Unit Heartbeat Failure is displayed, no communication is detected from the User Interface to the Central Control Unit. Possible Causes/Procedure 1. Check for continuity of the User Interface harness. 2. Check wire harness connection to the User Interface and the Central Control Unit. 3. Replace User Interface if drum is rotating. 4. Replace Central Control Unit if drum is not moving.
<i>d</i> <i>3</i>	<i>F</i> <i>73</i>	UI EEPROM ERROR A communication error between the User Interface (UI) and the EEPROM onboard the UIC occurred. Possible Causes/Procedure ■ A power glitch may cause this error. – Unplug washer or disconnect power for two minutes. – Verify UI operation by running and cancelling some cycles.
<i>d</i> <i>3</i>	<i>F</i> <i>74</i>	UIC EEPROM ERROR CRC on EEPROM reading. Possible Causes/Procedure ■ A power glitch may cause this error. – Unplug washer or disconnect power for two minutes. – Verify UI operation by running and cancelling some cycles.

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
<i>d</i> <i>5</i>	<i>d</i> <i>5</i>	COIN 1 ERROR The Coin Drop Sensor 1 is blocked for 8 seconds. (Coin recognition and price display disabled while blockage persists). Possible Causes/Procedure ■ A coin vault full of money may cause this error. – Take the money out of the coin vault. ■ A dirty sensor may cause this error. – Clean the coin sensor. ■ If the problem persists: 1. Unplug the washer or disconnect power. 2. Check the wire harness connections between User Interface (UI) and the coin sensor. Do continuity test. 3. Replace the Coins Sensor. 4. Plug in the washer or reconnect power. 5. Verify the coin drop operation. 6. If the above doesn't solve the problem, go to step 7. 7. Unplug washer or disconnect power. 8. Replace the User Interface.
<i>d</i> <i>9</i>	<i>d</i> <i>9</i>	LOW VOLTAGE DETECTION ERROR Voltage detected below 90vac for 8 seconds. Possible Causes/Procedure 1. Unplug the washer or disconnect power. 2. Check the wire harness connection between the User Interface and the transformer. 3. Check the wire harness connection between the transformer and the line filter. 4. Replace the transformer. 5. Plug in the washer or reconnect power. 6. If the above doesn't solve the problem, go to step 7. 7. Unplug washer or disconnect power. 8. Replace the User Interface.
<i>d</i> <i>13</i>	<i>d</i> <i>13</i>	COIN 2 ERROR The Coin Drop Sensor 2 is blocked for 8 seconds. (Coin recognition and price display disabled while blockage persists). Possible Causes/Procedure ■ A coin vault full of money may cause this error. – Take the money out of the coin vault. ■ A dirty sensor may cause this error. – Clean the coin sensor. ■ If the problem persists: 1. Unplug the washer or disconnect power. 2. Check the wire harness connections between User Interface (UI) and the coin sensor. Do continuity test. 3. Replace the Coins Sensor. 4. Plug in the washer or reconnect power. 5. Verify the coin drop operation. 6. If the above doesn't solve the problem, go to step 7. 7. Unplug washer or disconnect power. 8. Replace the User Interface.

ACCU TRAC® DISPLAY	WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
d 16	d 16	GENERATION 2 DEBIT CARD READER ERROR No communication from installed debit card reader in Generation 2 debit mode. Possible Causes/Procedure ■ A wrong payment mode selection may cause this problem. – Verify that you are using a Gen2 card reader and not a Gen1. ■ If you are using a Gen2 card reader: 1. Unplug the washer or disconnect power. 2. Check the wire harness connections between User Interface (UI) and the debit card reader Gen2. Do continuity test. 3. Plug in the washer or reconnect power. 4. Verify the Gen2 card reader; if possible, use a different card reader. 5. If the above fails, go to step 6. 6. Unplug the washer or disconnect power. 7. Replace the UIC board.

If the washer is in operation mode, critical errors are indicated as four dashes (----) in the display. When the owner or service personnel accesses the service mode, the error will be displayed. **NOTE:** Errors d5, d9, d13, and d16 will not stop the ongoing cycle, although they will not allow another cycle to begin until the error is addressed.

DIAGNOSTIC TEST

The washer has two different modes of diagnostics:

The Manual Key Functions in Diagnostic Sub-Modes that allow you to run diagnostic cycles, providing a more thorough analysis of machine operation, run a Quick Drain and Spin, run or credit free cycles to the user, or run a Clean Washer cycle.

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

MANUAL KEY FUNCTIONS 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.

- Open the service door.
- The current F code or d code will be on display.

b) Functions of the Code Display Mode:

- If you want to erase the current error code and access Set-up Mode, press DELICATES & KNITS key for 1 second.
- If you want to erase the current error code and access Flashing Mode, press DELICATES & KNITS key for 2 seconds.
- If you want to access Set-up Mode, without erasing the current error, press WOOLENS key for 1 second.

The error displayed in this mode is the current error present in the washer.

Flashing Mode

This mode allows you to start special diagnostic cycles, run a Quick Drain and Spin, run or credit free cycles, and run a Clean Washer cycle.

a) Accessing the Flashing Mode:

- Open the service door.
- If the washer is operating with manual communications, press DELICATES & KNITS key for 1 second, while the display shows hundreds of cycles, ones of cycles, hundreds of dollars, ones of dollars, hundredths of dollars (cents), or regular cycle price.
- If the DA communications-controlled set-up has been established, press DELICATES & KNITS key for 1 second, while the display shows dAS.

When you access the 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:

- If you want to access the History Overview Test Program, press the WOOLENS key (for a definition of this cycle, consult the 'Special Cycle Mode' section).
- If you want to access the Manual Overview Test Program, press the WHITES key (for a definition of this cycle, consult the 'Special Cycle Mode' section).
- If you want to run a Quick Drain and Spin, press the COLORS key.
- If you want to access the Clean Washer cycle, press the BRIGHTS key (for a description of the Clean Washer procedure, consult the 'Washer Care' section).
- If you want to Credit a Free Cycle for customer, press the PERMANENT PRESS key.
- If you want to Exit the Flashing Mode and return to Set-up Mode, press the DELICATES & KNITS key.

Special Cycle Mode

This mode describes the following diagnostic cycles that can be accessed through the Flashing Mode:

a) The History Overview Test Program:

This cycle provides a quick verification that the cold and hot water valves, dispensers, pump, and motor are working, and that there is movement of the dispenser actuator.

b) The Manual Overview Test Program:

This cycle provides more typical full length fills, tumbles, drains, and dispenser actuator movement, allowing for a more thorough analysis of washer operation, including pressure switch behavior.

HISTORY OVERVIEW TEST PROGRAM

- 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 machine will jump to the next step.
- Each step can be differentiated from the others by looking at the display indication. Each step has a different message displayed.
- If you wish to jump to the next step before the control action is completed, press any key **except** DELICATES & KNITS.
- If you wish to finish the complete History Overview Test Program, press the DELICATES & KNITS key.

Models MAH22PDA/MAH22PRA

Step	Flashing Display Indication	Control Action	Actuators to be Checked
1	(no indication)	Door locks.	■ Door lock system
2	CCU EEPROM Version Delicates Flashing	Distribution system is set to CLEAN position. Fill by cold water inlet valve (4 liters).	■ Dispenser motor ■ Dispenser contact ■ Cold water inlet valve
3	Display CCU Software Version & Knits Flashing	Distribution system is set to MW position. Fill by hot water inlet valve to Level_wash.	■ Dispenser motor ■ Dispenser contact ■ Hot water inlet valve ■ Pressure switch: Level_wash
4	Display MCU Software Version Woolens Flashing	Drum executes reversing movement at wash speed (30 sec).	■ Motor ■ Motor control (MCU)
5	Display MCU Hardware Version Whites Flashing	Drum executes reversing movement at wash speed (30 sec).	■ Motor ■ Motor control (MCU)
6	Display UIC EEPROM Version Brights Flashing	Drain pump is ON.	■ Drain pump
7	Display UIC Software Version Colors Flashing	Drum rotates counter-clockwise and will ramp to the maximum speed.	■ Motor ■ Motor control (MCU)
8	Permanent Press Flashing	Stop motor to 0 rpm.	■ Motor ■ Motor control (MCU)

MANUAL OVERVIEW TEST PROGRAM

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

- This cycle consists of 10 steps. In each step, the washer will perform a Control Action as described in the table below. Once the action is completed, the machine will jump to the next step.
- Each step can be differentiated from the others by looking at the display indication. Each step has a different message displayed.
- If you wish to jump to the next step before the control action is completed, press any key **except** DELICATES & KNITS (only when the option is available).
- If you wish to finish the complete Manual Overview Test Program, press the DELICATES & KNITS key.

Step	Display	Exit Condition	Control Action	To be Checked
1	Delicates segment flashing	On completion only	Door locks.	■ Door lock system
2	& Knits segment flashing	On key press or if overfill level is detected	Distribution system is set to Main Wash compartment. Filling with both valves.	■ Dispenser Motor ■ Dispenser contact ■ Cold and Hot Water Inlet Valve ■ Overfill level
3	Woolens segment flashing	On key press or if overfill level is detected	Distribution system is set to Bleach compartment. Filling only by the Hot valve.	■ Dispenser Motor ■ Dispenser contact ■ Cold and Hot Water Inlet Valve ■ Overfill level
4	Whites segment flashing	On key press or if overfill level is detected	Distribution system is set to Fabric Softener compartment. Filling with both valves.	■ Dispenser Motor ■ Dispenser contact ■ Cold and Hot Water Inlet Valve ■ Overfill level
5	Brights segment flashing	On key press or if overfill level is detected	Distribution system is set to Bypass channel. Filling only by the Cold valve. For model Duet Sport HT, the Heater is on during fill until Level_wash is activated (80 minutes max.).	■ Dispenser Motor ■ Dispenser contact ■ Cold Water Inlet Valve ■ Overfill level ■ Heater element (if equipped)
6	Colors segment flashing	On key press or completion	Drum executes reversing movement at wash speed (10 min.).	■ Motor ■ Motor Control (MCU)
7	Permanent Press segment flashing	On key press or completion	Drain pump is on (4 min.).	■ Drain Pump
8	Delicates segment flashing	On completion only	Drain pump is on (reach Level_sud plus 10 sec.).	■ Drain Pump
9	& Knits segment flashing	On key press or completion	Drum rotates counter-clockwise and ramps up to maximum speed.	■ Motor ■ Motor Control (MCU)
10	Woolens segment flashing	On key press only after rpm = 0 and door is unlocked	Stop motor to 0 rpm. Door unlocks.	■ Motor ■ Motor Control (MCU) ■ Door lock system

DIAGNOSTIC TEST QUICK GUIDE

The following table summarizes key functions among the diagnostic sub-modes.

Key Functions in Diagnostic Mode Table

Key Name on Interface	Generic Key Function	User Input	Function in Code Display Sub-Mode	Function in Flashing Sub-Mode	Function in Cycle Running Sub-Mode
DELICATES & KNITS	Mode Select	Press for 1 second	Erase codes and enter set-up mode.		
		Press for 2 seconds	Erase diagnostic codes and begin diagnostic flashing mode.	Enter set-up mode.	Cancel cycle, enter set-up mode.
WOOLENS	Enter/Advance	Press for 1 second	Exit diagnostic mode and enter set-up mode without erasing code(s).	Access History Overview Test Program	Go to next step.
PERM. PRESS	Slew	Press for 1 second	Inactive	Credit a customer cycle.	Go to next step.
WHITES	None	N/A	Inactive	Access Manual Load Test Cycle.	Go to next step.
COLORS	None	N/A	Inactive	Access a Quick Spin.	Go to next step.
BRIGHTS	None	N/A	Inactive	Access Clean Cycle.	Go to next step.

HELP MODE

This mode is used to verify the behavior of the washer along the operation of a normal cycle. It allows you to know 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 from Manual Communication:

- Open the service door.
- Press the WOOLENS key until the special pricing option mode (2.XX) is on display.
- Press the PERMANENT PRESS key.
- Press the WOOLENS key to move to the next option.

b) Accessing the Help Mode if the DA Communication Has Been Established:

- Open the service door.
- The message dAS will appear in the display.
- Press the PERMANENT PRESS key.
- Press the WOOLENS key to move to the next option.

After this procedure, the washer will access the Help Mode sub-menu.

Help Mode Submenu

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 XX is the code number.**
5	2.X##	Error history code 2, where X is the F or d code, and XX is the code number.**
6	3.X##	Error history code 3, where X is the F or d code, and XX is the code number.**
7	4.X##	Error history code 4, where X is the F or d code, and XX is the code number.**
8	SC.XX	CCU software revision, where X is the software revision number.
9	EC.XX	CCU EEPROM revision, where XX is the EEPROM revision number.
10	SU.XX	UI software revision, where XX is the software number.
11	EU.XX	UI EEPROM revision, where XX is the EEPROM number.
12	SPIN.XXX	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.
14	U.XXX	The unbalance in the system, where XXX is the unbalance value.***
15	Po.XX	The dispenser position – the displayed positions are: 00 = Detergent; 01 = Bleach; 02 = Softener; 03 = Clean; FF = dispenser in movement.

* To erase the help 3 help code, press DELICATES & KNITS key.

**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 KEY 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 15 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.

Key Functions in Help Mode Table

Key Name on Interface	Generic Key Function	Result While Software Version Spins, Motor Power, Dispenser State	Result While Help Code Displays
PERM. PRESS	Slew	Exits help code and returns to set-up mode—either dAS display or Mode 2.XX.	Exits help code and returns to set-up mode—either dAS display or Mode 2.XX.
DELICATES & KNITS	Mode Select	Inactive—no result.	Clears all three help codes.
WOOLENS	Mode Advance	Advances through next 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. 12.3 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	

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.

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

Manually Unlocking the Door Lock System

1. Unplug washer or disconnect power.
2. Remove the lower kick panel.
3. Reach up along the inside of the front and locate the bottom of the door switch/lock unit.
4. Located on the bottom of the door switch/lock unit is a tear-drop shaped tab.
5. Gently pull the tab down about 1/4" or until a click is heard.
6. The door may be opened.

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.

To Remove Central Control Unit (CCU):

1. Unplug washer or disconnect power.
2. Remove all connectors from the CCU.
3. Lift tab at upper left corner of CCU with a flat blade screwdriver. Slide the CCU to the rear of the washer cabinet until the two tabs on the back of the CCU align with the keyhole notches in the cabinet. Pull the CCU away from the side panel.

To Reassemble CCU:

1. Align the two tabs on the back of the CCU with the keyhole notches in the cabinet.
2. Slide the CCU forward until the tab at the rear of the CCU locks into place.
3. Reconnect the wire harness.

To Remove the User Interface:

1. Unplug washer or disconnect power.
2. Disconnect the user interface assembly wire harness from the CCU.
3. Remove the dispenser drawer.
4. Remove the four front screws in the sides of the user interface.

5. Check carefully for any hot circuits on the board, and wait until they cool down.
6. Disconnect the user interface power harness, and the coin vault and service switch harness.
7. For coin drop models, disconnect the coin 1 (and coin 2, if provided) wire harness.
8. For card reader models, disconnect the card reader harness.

To Remove Motor Control Unit (MCU):

1. Unplug washer or disconnect power.
2. Remove wire harness cover and disconnect the wire harness from the MCU.
3. With a flat blade screwdriver, lift the front tab up and slide the MCU to the rear.

To Remove Line/Interference Filter:

1. Unplug washer or disconnect power.
2. Disconnect the three connectors from the line filter and power cord.
3. Remove the screw that secures the line filter to the top brace.
4. Slide the filter toward the center of the unit to release tabs.

WASHER CARE

Cleaning the door seal:

1. Open the washer door and remove any clothing or items from the washer.
2. Inspect the gray colored seal between the door opening and the basket for stained areas. Pull back the seal to inspect all areas under the seal and to check for foreign objects.
3. If stained areas are found, wipe down these areas of the seal, using the procedure that follows:
 - a) Mix a dilute solution, using 3/4 cup (177 mL) of liquid chlorine bleach, and 1 gal. (3.8 L) of warm tap water.
 - b) Wipe the seal area with the dilute solution, using a damp cloth.
 - c) Let stand 5 minutes.
 - d) Wipe down area thoroughly with a dry cloth and let the washer interior air dry with door open.

IMPORTANT:

- Wear rubber gloves when cleaning for prolonged periods.
- Refer to the bleach manufacturer's instructions for proper use.

Washer Maintenance Procedure

This washer has a special cycle that uses higher water volumes in combination with liquid chlorine bleach to thoroughly clean the inside of the washer.

NOTES:

- Read these instructions completely before beginning the cleaning process.
- If necessary, the cleaning cycle may be interrupted. With the machine empty, run a rinse cycle or a partial wash cycle to thoroughly rinse the remaining bleach from the washer. Failure to do so will cause damage to the washer and to clothing added for the next cycle.
- To stop the cleaning cycle, refer to the Special Cycle Mode.

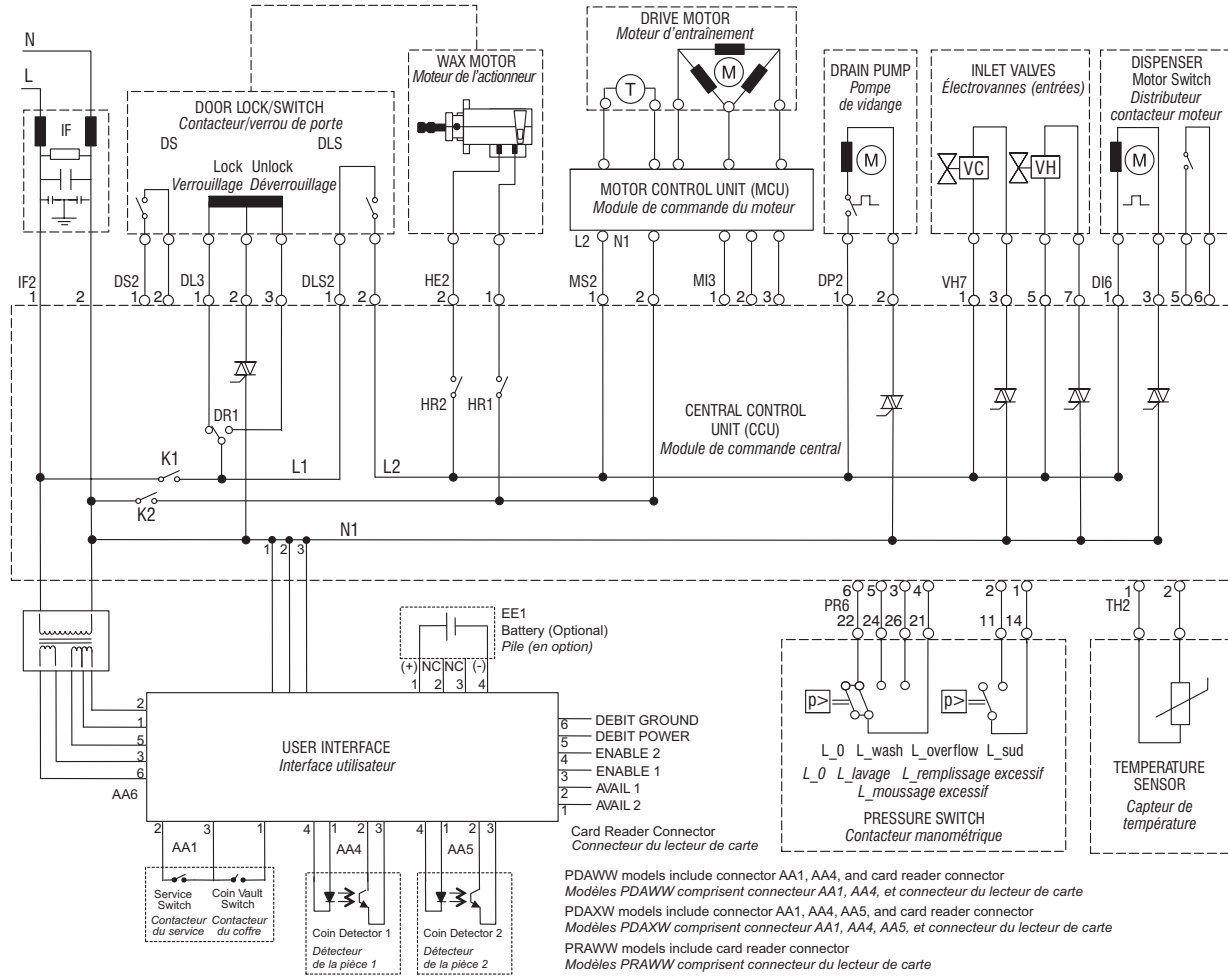
Begin procedure:

1. Open the washer door and remove any clothing or items from the washer.
2. Be sure the door is closed.
3. Open the dispenser drawer and immediately add 2/3 cup (160 mL) of liquid chlorine bleach to the bleach compartment.
NOTE: Do not add any detergent to this cycle. Use of more than 2/3 cup (160 mL) of bleach will cause product damage over time.
4. Be sure dispenser drawer is closed.
5. To start the cleaning cycle, refer to the Special Cycle Mode.
NOTE: The basket will rotate, then the door will unlock, lock again, and then the cycle will continue.
 - The machine will not fill, but the basket will rotate while the washer runs a short sensing cycle. This will take approximately 3 minutes.
6. The cycle will determine if clothing or other items are in the washer.
 - a) If no items are detected in the washer, it will proceed to step 7.
 - b) If any items are detected in the washer, four dashes '- - - -' will appear in the display. When you access the service set-up mode, 'rL' or 'F/34' will be displayed. Cancel the cycle, then repeat steps 1, 2, and 5 to start the cycle again.
7. Once the cycle has begun, allow the cycle to be completed.
8. After the cycle is complete, leave the door open slightly to allow for better ventilation and drying of washer interior.

Always do the following to maintain washer freshness:

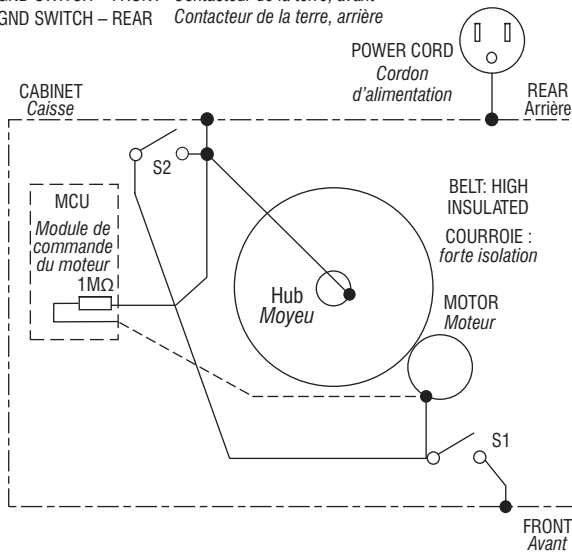
- Use only HE High Efficiency detergent.
- Leave the door slightly open after each cycle to allow for better ventilation and drying of washer interior.
- Repeat the cleaning procedure monthly, using 2/3 cup (160 mL) of liquid chlorine bleach.
- If the procedure does not sufficiently improve washer freshness, please evaluate your installation and usage conditions for other causes.

WIRING DIAGRAM



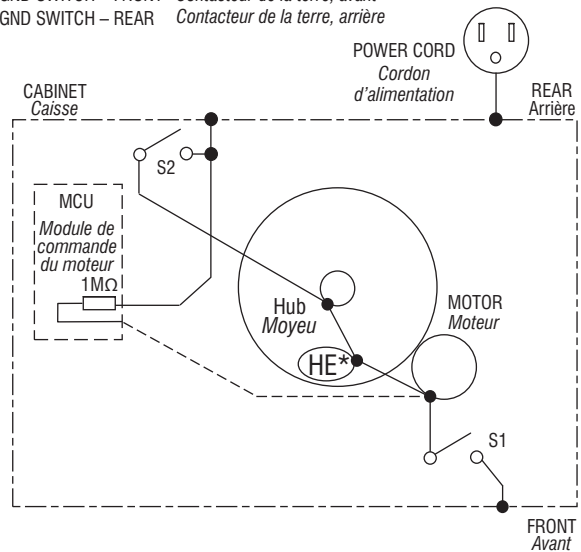
GROUNDING SYSTEM WITHOUT HEATER

S1 = GND SWITCH – FRONT Contacteur de la terre, avant
S2 = GND SWITCH – REAR Contacteur de la terre, arrière



GROUNDING SYSTEM WITH HEATER

S1 = GND SWITCH – FRONT Contacteur de la terre, avant
S2 = GND SWITCH – REAR Contacteur de la terre, arrière



*Heating element not present on all models

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE/TEST
	NOTE: Possible Cause/Tests must be performed in the sequence shown for each problem.
WON'T POWER UP	<ol style="list-style-type: none"> 1. Check that the washer is plugged into a working outlet and look for blown fuses. 2. Unplug washer or disconnect power. 3. Check continuity of line cord and line filter, and replace if necessary. 4. Check continuity of the wire harness that connects the CCU with the UI, and replace if necessary. 5. Plug in washer or reconnect power. If the washer turns on, go to step 9. 6. Check for power going from Line Filter to Central Control Unit (CCU) and to transformer, using a multimeter. 7. Check for power going from transformer to the User Interface (UI), using a power multimeter. 8. Check for CCU turning on by listening for a click in the CCU when unit is plugged in. If no click, replace CCU; if click, replace UI. 9. Verify washer operation by running a diagnostic test or any cycle.
TOUCH-PADS DO NOT RESPOND WHEN PRESSED	<ol style="list-style-type: none"> 1. Verify the use of buttons in set-up mode. If the buttons respond, go to 'WON'T START CYCLE'. If the buttons don't respond, go to next step. 2. Check the connection of the matrix key board with the user interface. 3. Replace the matrix key board. 4. Verify the washer operation by running a diagnostic test or any cycle.
WON'T START CYCLE	<ol style="list-style-type: none"> 1. Open and close the door. The door must be opened between consecutive wash cycles. 2. Check the door switch/lock unit using the diagnostics. See Diagnostic Test. 3. If door is locked, drain the washer. 4. Unplug washer or disconnect power. 5. Check the wire harness connection of the door lock. 6. Check the wire harness connection of the UI-CCU. 7. Plug in washer or reconnect power. 8. Verify washer operation by running a Diagnostic Test or any cycle.
WON'T DISPENSE	<ol style="list-style-type: none"> 1. Verify the washer is level. 2. Verify dispenser drawer is not clogged with detergent. 3. Check water connections to the unit and within the unit. Check for plugged screen in water source. 4. Check dispenser motor. 5. Unplug washer or disconnect power. 6. Check harness connections. 7. Plug in washer or reconnect power. 8. Verify washer operation by running a Diagnostic Test or any cycle.
WON'T FILL	<ol style="list-style-type: none"> 1. Check installation. Verify hot and cold water faucets are open. 2. Check inlet valves. 3. Unplug washer or disconnect power. 4. Check water connections to the unit and within the unit. Make sure water supply hoses are unobstructed. Check for plugged screen. 5. Plug in washer or reconnect power. 6. Check operating pressure switch. 7. Check drain pump motor. 8. Verify washer operation by running a Diagnostic Test or any cycle. 9. Check under 'WON'T DISPENSE' problem above.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE/TEST
	NOTE: Possible Cause/Tests must be performed in the sequence shown for each problem.
OVERFILLS	<ol style="list-style-type: none"> 1. Verify the washer is level. 2. Check pump drain system – this could indicate a failure to drain. 3. Unplug washer or disconnect power. 4. Check operating pressure switch. 5. Check pressure switch hose. 6. Plug in washer or reconnect power. 7. Verify flow meter operation by blowing air through the part and measuring the resistance. 8. Verify washer operation by running a Diagnostic Test or any cycle.
DRUM WON'T ROTATE	<ol style="list-style-type: none"> 1. Check drive belt. 2. Check drive motor. 3. Unplug washer or disconnect power. 4. Check wire harness connections. 5. Plug in washer or reconnect power. 6. Check the MCU by looking for operations of the drive motor.
MOTOR OVERHEATS	<ol style="list-style-type: none"> 1. Check drive motor. 2. Unplug washer or disconnect power. 3. Check wire harness connections. 4. Check drive belt. 5. Plug in washer or reconnect power. 6. Check the MCU by looking for operations of the drive motor.
WON'T DRAIN	<ol style="list-style-type: none"> 1. Unplug washer or disconnect power. 2. Check wire harness connections. 3. Check drain pump. 4. Check drain pump motor. 5. Check that the drain hose and drain pump filter are clear of foreign objects. 6. Plug in washer or reconnect power. 7. Verify washer operation by running a Diagnostic Test or any cycle.
MACHINE VIBRATES	<ol style="list-style-type: none"> 1. Remove shipping system. 2. Check installation. 3. Check leveling feet.
INCORRECT WATER TEMPERATURE	<ol style="list-style-type: none"> 1. Check that the inlet hoses are connected properly. 2. Unplug washer or disconnect power. 3. Check the water heater and wire harness connections to it. 4. Check water temperature sensor for an abnormal condition. See the Water Temperature Sensor section, page 12. 5. Plug in washer or reconnect power. 6. Verify washer operation by running a Diagnostic Test or any cycle.
DISPLAY FLASHING	See Failure/Error Display Codes.

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4,693,095	4,785,643	4,945,735	5,113,542	5,199,127	5,297,403	5,507,053	5,878,602	6,269,666	6,640,372	6,966,204
4,697,293	4,793,820	4,947,516	5,130,624	5,199,281	5,305,485	5,515,565	5,883,490	6,347,645	6,647,575	D375,390
4,700,554	4,807,452	4,969,341	5,150,588	5,200,684	5,312,138	5,582,039	5,946,946	6,363,563	6,658,902	D381,140
4,709,951	4,809,524	4,972,134	5,154,071	5,205,141	5,314,044	5,582,199	6,065,171	6,393,872	6,715,175	D423,740
4,715,401	4,835,991	4,977,394	5,166,568	5,219,370	5,345,637	5,651,278	6,070,282	6,430,971	6,766,670	D426,686
4,719,769	4,854,559	4,986,093	5,167,722	5,233,718	5,345,792	5,671,494	6,105,403	6,505,370	6,786,058	D456,572
4,754,622	4,856,303	4,987,627	5,172,573	5,249,441	5,345,793	5,765,404	6,115,863	6,550,292	6,820,447	D459,844
4,759,202	4,870,988	5,000,016	5,177,659	5,255,844	5,359,744	5,784,902	6,125,490	6,564,413	6,845,536	D463,631
4,774,822	4,888,965	5,031,427	5,191,667	5,257,901	5,373,715	5,791,167	6,185,774	6,584,811	6,860,032	D465,308
4,779,431	4,890,465	5,033,277	5,191,668	5,259,217	5,460,018	5,836,180	6,212,722	6,591,439	6,906,270	D474,566
4,782,544	4,891,959	5,074,003	5,191,669	5,269,160	5,493,745	5,852,942	6,227,013	6,591,638	6,927,351	D502,577
4,784,666	4,910,979	5,075,613	5,193,361	5,271,251	5,504,955	5,875,655	6,227,014	6,637,062	6,961,642	D511,955

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1,233,658	1,301,469	2,043,393	
1,282,557	1,306,367	2,056,969	
1,287,338	1,313,770	2,086,151	