

BASIC OPERATION OF COMMERCIAL STACKED WASHER/DRYER

■ For additional information, see www.WhirlpoolCommercialLaundry.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

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

This condition indicates the washer/dryer is inoperative. Diagnostic codes being displayed on the upper portion of the display pertain to the dryer section, and diagnostic codes displayed on the lower portion of the display apply to the washer section. Diagnostic codes displayed on both the upper and lower portions of the display pertain to the control system of both the washer and dryer.

Cold Start (initial use):

'0 Minutes' showing in display

This condition indicates the cycle is complete and the washer/dryer 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 has failed, causing '0 MINUTES' to remain in the display after the door is opened and closed, it must be replaced before normal operation can be restored.

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 or dryer.

Washer is programmed at the factory as follows:

- 11 minute wash period
- 3 rinses (extra rinse not enabled)
- \$2.00 wash price

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Dryer is programmed at the factory as follows:

- 5 minutes per quarter
- \$1.50 dry price

Washer Door Lock

Prior to beginning a cycle, there is a door lock routine of lock/unlock/relock, then cycle begins. 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 and then closed following the completion of a cycle, the display indicates the cycle price (unless set for free operation, where the display will flash 'SELECT CYCLE'). As coins are dropped or debit inputs arrive, the display will change to lead the user through the initiation of a cycle.

There are four (4) types of dryer pricing:

Fixed 'Vend' Pricing

A dryer set up for 'Fixed Cycle' operation can only accept additional time accumulated by increments equal to the length of a complete dry cycle. A maximum of 75 minutes may be purchased; no additional credit is given for coins dropped with 75 minutes in the display.

Accumulator Pricing

If the price is set to one coin (coin 1), then accumulator pricing is in effect. Cycle time can be purchased one coin at a time up to the maximum time of 75 minutes.

Fixed Cycle With Top Off Pricing

A dryer set to offer 'Top Off' capability will allow time to be added to an existing dry cycle in increments equal to the number of minutes of dry time per quarter (coin 1), up to 75 minutes, regardless of the cost required to start the dryer. No credit is given for coins or debit inputs entered when the control is displaying 75 minutes.

With Card Payment System: In Enhanced Debit Mode, the top off price can be set independently (see VALUE OF COIN 2), and the top off time is calculated according to the following equation:

$$\text{top off time} = \frac{\text{top off price}}{\text{full cycle price}} \times \text{full cycle length}$$

Penny increment offset is not applied to top off purchases.

Free Cycles

This is established by setting the cycle price to zero. When this happens, 'SELECT CYCLE' will appear rather than a cycle price. Any cycle started as a free cycle will automatically terminate when the door is opened.

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Debit Card Ready

This washer/dryer is debit card 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/dryer set-up. In models converted to a Generation 1 debit card system, debit pulses represent the equivalent of one coin (coin 1).

CONTROL SET-UP PROCEDURES

IMPORTANT: Read all instructions before operating.

- **Coin Payment Models:** Insert service switch key and turn counter-clockwise.
- **With Card Payment System:** Once a Generation 2 debit card reader is installed (according to the reader manufacturer's instructions), the set-up modes can be changed by inserting a set-up card (supplied by the reader manufacturer) into the card slot. Inserting the service switch key and turning will only access the service mode.

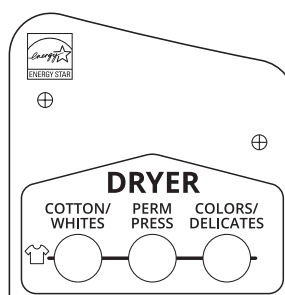
The washer/dryer is now in the set-up mode. The bottom temperature setting buttons and the lower portion of the display are used to set up the digital control for the washer. The upper three fabric setting buttons and the upper portion of the display are used to set up the controls for the dryer.

The display can contain four numbers and/or letters and a decimal point on both the top and bottom display portions. These are used to indicate the set-up codes and related code values available for use in programming the washer/dryer.

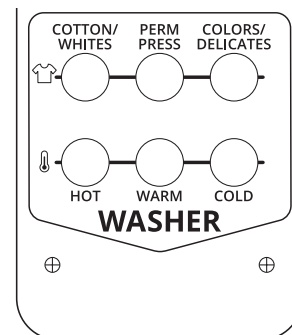
Start Operating Set-Up

Washer/dryers are preset at the factory and do not require any programming. However, if you want to change the settings, follow the 'Set-Up Codes' guide.

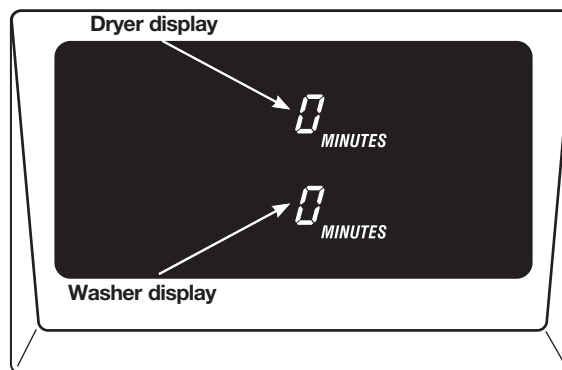
The first code shown in each segment is the factory default setting. The set-up code is indicated by the one or two left-hand characters. The set-up code value is indicated by the two or three right-hand characters.



Dryer control setting buttons



Washer control setting buttons



Display

SET-UP CODES

CODE	EXPLANATION
6 06	REGULAR CYCLE PRICE (DRYER)
6 06	Represents the number of quarters (coin 1) needed to start the dryer; may adjust from 0–39 (See VALUE OF COIN 1). Advance from 0–39 by pressing the upper left (COTTON/WHITES) button. Factory default of 6 quarters = \$1.50.
6 00	9100 MODEL ONLY (Free Vend): Factory default of 6 00, or 0 quarters.
6 08	REGULAR CYCLE PRICE (WASHER)
6 08	Represents the number of quarters (coin 1) needed to start the washer; may adjust from 0–39 (See VALUE OF COIN 1). Increase by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. Factory default of 8 quarters = \$2.00.
6 00	9100 MODEL ONLY (Free Vend): Factory default of 6 00, or 0 quarters. → Press the lower middle (WARM) button once to advance to next code.
7 05	REGULAR DRY TIME (DRYER)
7 05	Represents the number of minutes per quarter (coin 1). Factory default of 5 minutes per coin. Example: 6 quarters x 5 minutes = 30 minutes. By pressing the upper left (COTTON/WHITES) button, value adjusts from 1–75 minutes.
7 45	For OPL (Free vend) operation, the value is the amount of minutes of dry time. Factory default of 45 minutes. By pressing the upper left (COTTON/WHITES) button, value adjust from 1–75 minutes.

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CODE	EXPLANATION
7 11	WASH LENGTH (WASHER)
7 11	This is the number of minutes for WASH. Washer comes from the factory preset with 11 minutes. may adjust from 9–17 minutes. Increase by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.
8 00	TYPE OF DRYER PRICING (DRYER)
8 00	Fixed Cycle with Top Off. For detailed description, see General Dryer User Information.
8 FC	With Card Payment System: Fixed Cycle. For detailed description, see General Dryer User Information. Use the upper right (COLORS/DELICATES) button to change this selection. → Press the lower middle (WARM) button once to advance to next code.
8 00	ADDITIONAL RINSE OPTION (WASHER) This option is either NOT SELECTED '00' or SELECTED 'Ar.'
8 00	Not Selected '00.'
8 Ar	Selected 'Ar.' Press the lower right (COLD) button to change this selection. → Press the lower middle (WARM) button once to advance to next code.
9 00	CYCLE COUNTER OPTION This option is either NOT SELECTED '00' or SELECTED '0C.'
9 00	Not Selected '00.'
9 0C	Selected '0C' and not able to be deselected. Press the lower right (COLD) button three consecutive times to select '0C.' Once selected '0C' it cannot be deselected. → Press the lower middle (WARM) button once to advance to next code.
1.00	MONEY COUNTER OPTION This option is either NOT SELECTED '00' or SELECTED '0C.'
1.00	Not Selected '00'.
1.0C	Selected '0C.' Press the lower right (COLD) button three consecutive times to select '0C' and three consecutive times to deselect (Not Selected '00'). Counter resets by going from 'OFF' to 'ON.'
1.C0	Selected 'C0' and not able to be deselected. To select 'C0' and not able to be deselected, first select '0C,' then within two seconds press the lower right (COLD) button twice, the lower left (HOT) button once, and exit the set-up mode. → Press the lower middle (WARM) button once to advance to next code.
2.00	SPECIAL PRICING OPTION This option is either NOT SELECTED '00' or SELECTED 'SP.'
2.00	Not Selected '00,' and next available code will be A.00.
2.SP	Selected 'SP.' Press the lower right (COLD) button once to change this selection. If SPECIAL PRICING OPTION is selected, there is access to codes '3.XX' through '9.XX'. → Press the lower middle (WARM) button once to advance to next code.

CODE	EXPLANATION
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED:	
3.06	SPECIAL CYCLE PRICE (DRYER)
3.06	Represents the number of quarters (coin 1) to start the dryer; may adjust from 0–39 (See VALUE OF COIN 1). Advance from 0–39 by pressing the upper left (COTTON/WHITES) button. Factory default of 6 quarters = \$1.50.
3.00	9100 MODEL ONLY (Free Vend): Factory default of 3 00, or 0 quarters.
3.08	SPECIAL CYCLE PRICE (WASHER)
3.08	Represents the number of quarters (coin 1) to start the washer; may adjust from 0–200 (See VALUE OF COIN 1). Increase by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. Factory default of 8 quarters = \$2.00.
3.00	9100 MODEL ONLY (Free Vend): Factory default of 3 00, or 0 quarters. → Press the lower middle (WARM) button once to advance to next code.
4.05	SPECIAL DRY TIME (DRYER)
4.05	Represents the number of minutes per quarter (coin 1). Factory default of 5 minutes per coin. Example: 6 quarters x 5 minutes = 30 minutes. By pressing the upper left (COTTON/WHITES) button, the value can be adjusted from 1–75 minutes.
4.45	For OPL (Free vend) operation, the value is the amount of minutes of dry time. Factory default of 45 minutes. By pressing the upper left (COTTON/WHITES) button, value adjust from 1–75 minutes. → Press the lower middle (WARM) button once to advance to next code.
5.00	TIME-OF-DAY CLOCK, MINUTES
5.00	This is the TIME-OF-DAY CLOCK, minute setting; select 0–59 minutes. Increase value by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button 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. Increase value by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button 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; select 0–23 hours. Increase value by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button 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; select 0–23 hours. Increase value by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.

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CODE	EXPLANATION																								
OPTIONS TO USE IF SPECIAL PRICING IS SELECTED (cont.):																									
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 lower right (COLD) button. Days of the week (1–7) are selected by pressing the middle left (COTTON/WHITES) button or the lower left (HOT) button. When exiting set-up 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 lower middle (WARM) 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																							
A.00	VAULT VIEWING OPTION																								
	This option is either NOT SELECTED '00' or SELECTED 'SC.'																								
A.00	Not Selected '00.'																								
A.SC	Selected 'SC.' Press the lower right (COLD) 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 lower middle (WARM) button 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. Increase between 1 and 200 nickels by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.																								
C.20	VALUE OF COIN 2/VALUE OF DRYER TOP OFF																								
C.20	This represents the value of coin 2 in number of nickels: 20 = \$1.00. Increase between 1 and 200 nickels by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button.																								
C.05	9100 MODEL ONLY: For models using Enhanced Debit, this field represents the value of top off in nickels, or \$.25. Factory default of C.05; represents 5 x \$.05, or \$.25. Increase between 1 and 200 nickels by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.																								
E.00	ADD COINS OPTION																								
	This option is either NOT SELECTED '00' or SELECTED 'AC'. This option causes the customer display to show the number of coins (coin 1) to enter, rather than the dollars-and-cents amount.																								
E.00	Not Selected '00'.																								
E.AC	Selected 'AC.' Press the lower right (COLD) button three consecutive times to change this selection. → Press the lower middle (WARM) button once to advance to next code.																								

CODE	EXPLANATION
F.00	ENHANCED PRICING OPTION
F.00	Not Selected '00.'
F.CP	Cycle-Based pricing enabled. This option allows configuration of different prices for cold, warm, and hot water wash cycles.
F.SU	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 lower right (COLD) button for this selection. → Press the lower middle (WARM) button once to advance to next code.
H.01	SUPER CYCLE UPGRADE PRICE
	(Skipped unless Super Cycle pricing is enabled.)
H.01	This represents the number of coin 1 required to upgrade a base cycle to a super cycle. Advance from 0–39 by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.
h.01	SUPER CYCLE TYPE
	(Skipped unless Super Cycle pricing is enabled.)
h.01	This represents the Super Cycle upgrade option. Press the lower left (HOT) 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 lower middle (WARM) button once to advance to next code.
J.Cd	PAYMENT MODE (COIN/DEBIT OPTION)
J.Cd	Both coin and debit selected. Press the lower right (COLD) button three consecutive times to change this selection.
J.C_	Coins selected, debit disabled. Press the lower right (COLD) button three consecutive times to change this selection.
J._d	With Card Payment System: Debit Card selected, coins disabled. Press the lower right (COLD) button three consecutive times to change this selection.
J.Ed	Enhanced Debit is self-selected when a Generation 2 card reader is installed in the washer/dryer. The Ed option cannot be manually selected or deselected.
	→ Press the lower middle (WARM) button once to advance to next code.
L.00	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).
L.00	Not Selected '00'.
L.PS	Selected 'PS.' Press the lower right (COLD) button once to change this selection.
	→ Press the lower middle (WARM) button once to advance to next code.
n.CE	CLEAR ESCROW OPTION
	When selected, money held in escrow for 30 minutes without further escrow or cycle activity will be cleared.
n.00	Not Selected '00.'
n.CE	Selected 'CE.' Press the lower right (COLD) button once to change this selection. → Press the lower middle (WARM) button once to advance to next code.

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CODE	EXPLANATION
U.00 PENNY INCREMENT OFFSET (DRYER)	
U.00	This represents the penny increment price offset used in Generation 2 (Enhanced Debit) models. Choose from 0–4 pennies by pressing the upper left (COTTON/WHITES) button. → Press the lower middle (WARM) button once to advance to next code.
U.00 PENNY INCREMENT OFFSET (WASHER)	
U.00	This represents the penny increment price offset used in Generation 2 (Enhanced Debit) models. Choose from 0–4 pennies, increase value by pressing the middle left (COTTON/WHITES) button, decrease by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.
A1.00 PREWASH LENGTH (WASHER)	
A1.00	This is the number of minutes of PREWASH. Choose 00 to disable the prewash or select between 2 and 7 minutes by pressing the lower left (HOT) button. → Press the lower middle (WARM) button once to advance to next code.

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

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

This is “VIEW ONLY” and cannot be cleared.

Press the lower middle (WARM) button once to advance to next code.

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

3 00 Dollars in HUNDREDS.	3 <u>01</u> = \$100.00
4 00 Dollars in ONES.	4 <u>68</u> = \$ 68.00
5 00 Number of CENTS.	5 <u>75</u> = \$.75
	TOTAL = \$168.75

END OF SET-UP PROCEDURES

EXIT FROM SET-UP MODE

- Turn service switch key clockwise and remove or remove manual set-up card.

DIAGNOSTIC GUIDE

Before servicing, check the following:

- Make sure there is power at the wall outlet.
- Verify that both hot and cold water faucets are open and water supply hoses are 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 component connectors disconnected.

DIAGNOSTIC MODE

To enter the ‘Diagnostic Mode,’ first enter ‘Start Operating Set-Up.’ Then press and hold the lower right (COLD) button for 1 second while in set-up code six, anytime a diagnostic code is present, or while dAS displays if operating with a Generation 2 card reader.

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 on the portion of the washer/dryer not being tested, it can be acknowledged with the lower middle (WARM) button prior to starting a diagnostic cycle.

This would be used when, for example, the dryer is out of service and a diagnostic cycle is to be run on the washer.

There are six 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 center right (COLORS/ DELICATES) button.
Use the Washer Cleanout Cycle once a month to keep the inside of your washer fresh and clean. This cycle uses a higher water level. Use with liquid chlorine bleach to thoroughly clean the inside of your 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. Washer Cycle Credit** – With the entire display flashing, a cycle may be credited by pressing the lower left (HOT) 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. Washer Manual Overview Test Cycle** – With the entire display flashing, this cycle is started by pressing the center left (COTTON/WHITES) button. This cycle provides more typical full length fills, tumbles, and drains, and allows for a more thorough analysis of the washer operation, including pressure sensor behavior.
- 4. Washer Quick Spin Cycle** – With the entire display flashing, this cycle is started by pressing the center middle (PERM PRESS) button. This cycle provides a method to quickly drain and spin (remove water from the washer), if desired.
- 5. Washer Quick Overview Test Cycle** – With the entire display flashing, this cycle is started by pressing the lower middle (WARM) button. This cycle provides a quick verification that the cold and hot water valves, dispenser, and pump motor are working. It also includes door lock, drain, and spin operations.
- 6. Dryer Field Diagnostic Cycle** – With the entire display flashing, this cycle is started by pressing the upper middle (PERM PRESS) button. Additional time can be added by pressing the upper left (COTTON/WHITES) button. This cycle can be used to credit lost customer dryer time.

Pressing the lower right (COLD) button will exit diagnostic mode and cancel a diagnostic cycle in process.

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FAILURE DISPLAYS

Active dryer diagnostic codes are shown on the upper portion of the display and active washer diagnostic codes are shown on the bottom portion of the display.

DRYER DIAGNOSTIC CODES

If the set-up mode is entered and one of the following errors has previously occurred, the appropriate diagnostic code will be in the display on the upper portion of the screen.

DRYER DISPLAY	EXPLANATION
d 5	COIN 1 ERROR Blocked coin 1 or coin drop UI control circuit failure (coin recognition and customer display disabled while blockage persists).
d 9	LOW VOLTAGE DETECTION ERROR Voltage detected below 90 VAC for 8 seconds.
d 13	COIN 2 ERROR Blocked coin 2 or coin drop UI control circuit failure (coin recognition and customer display disabled while blockage persists).
d 16	GENERATION 2 DEBIT CARD READER ERROR Not receiving communications from installed debit card reader in Enhanced (Generation 2) Debit mode.
F 01	DRYER MOTOR CONTROL CIRCUIT ERROR Dryer motor control circuit error (cycles and price display disabled until diagnostic code is manually cleared). The control doesn't know if the motor relay is bad (stuck on), the motor relay drive circuit is bad (shorted), causing the motor relay to stay on, or the motor relay feedback circuit is bad.
F 22	EXHAUST THERMISTOR OPEN ERROR Exhaust thermistor open, temperature drops below 18°F (>50 kΩ) for 1 minute in Run mode, or immediately in Factory Diagnostic Mode.
F 23	EXHAUST THERMISTOR SHORTED ERROR Exhaust thermistor shorted, temperature above 250°F (<500 Ω) for 1 minute in Run mode, or immediately in Factory Diagnostic Mode.
F 70	COMMUNICATION FAILURE FROM DRYER CCU TO UIC UIC is not receiving communications from CCU (cycles and price display disabled while error persists or is manually cleared).
F 71	COMMUNICATION FAILURE FROM UIC TO DRYER CCU CCU is not receiving communications from UIC (cycles and price display disabled while error persists or is manually cleared).

DRYER DISPLAY	EXPLANATION
F 73	UIC MICROPROCESSOR ERROR UIC Microprocessor is not able to read or verify EEPROM (cycles and price display disabled until diagnostic code is manually cleared).
F 74	UIC EEPROM ERROR UIC EEPROM memory is a CRC failure (cycles and price display disabled until diagnostic code is manually cleared).

WASHER DIAGNOSTIC CODES

If the set-up mode is entered and one of the following errors has previously occurred, the appropriate diagnostic code will be in the display on the lower portion of the screen.

WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 01	WASHER CCU ERROR Communication error within the Central Control Unit (CCU); the pump drive in CCU fails to activate; one of the main relays in the CCU fails to activate. Possible Causes – A power surge/drop. – Reversed polarity or mis-wire, along with open ground switches. 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. Mis-wire or reversed polarity procedure 1. Clear error code. 2. Check outlet for correct polarity. To check within washer for polarity at the RFI, white to cabinet ground must be 0 volts. 3. Check the white wire on the RFI filter to ensure correct polarity. White wire needs to be toward front of washer. If the RFI filter is not easily accessible, the polarity test can be made on the washer CCU. Disconnect power. Check for resistance or continuity at IF2 from terminal #1 to ground or any bare metal on the washer cabinet. Reading should be infinite or show as an open circuit. 4. Check that the ground switches of the toe panel and rear panel are correctly closed. 5. Verify CCU by running a short diagnostic test. If these procedures do not correct the failure, replace the CCU control.
F 04	ACCELEROMETER FAILURE The accelerometer component failed. The X, Y, and Z limits are outside of the normal range. Possible Causes – CCU dislodged from mounting. – Accelerometer failure on CCU.
F 11	MCU ERROR Motor Control Unit (MCU) has a failure. Possible Causes – A repeating under or overvoltage condition. If the failure occurs during a high-speed spin, the door remains locked for 2 minutes. – A broken drive belt. 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 15). 5. The MCU is good if the motor operates in diagnostic mode. If the motor fails to turn on, replace the MCU.

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WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 20	NO WATER DETECTED ENTERING WASHER The water fill level is not detected by the pressure sensor. NOTE: The message “no H2O” will appear before the F20 error is displayed, and the washer may try three times before the failure code is activated. Possible Causes – No water to washer; faucet(s) turned off. – Defective hot and/or cold valve(s). – Plugged or kinked inlet hoses or valves. – Pressure sensor or pressure sensor hose damaged, kinked, or disconnected. – Electrical connection from CCU (PS8) to pressure sensor damaged. – Drain hose forced down into standpipe > 6" (152 mm). – Blocked inlet from dispenser to tub. Procedure 1. Clear error code by opening and closing the main door or by power cycling the control by removing power and then reestablishing power to the control. 2. Unplug washer or disconnect power. 3. Check incoming water pressure at faucet. 4. Check inlet hoses for possible leaks. 5. Make sure pressure sensor hose is in good condition and properly connected to tub and pressure sensor. 6. Verify that water is not running out of the drain hose (siphoning) as it is filling. 7. Perform continuity test on wire harness connections from CCU to inlet valves (VCH7 and VSF2), and to pressure sensor (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 sensor operation by accessing Help Mode while running a paid cycle (see Help Mode Symbols and Elements, page 14).
F 21	LONG DRAIN The drain time exceeds 8 minutes without reaching empty level in pressure sensor. NOTE: ■ 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). Possible Causes – Damaged or blocked pump/pump filter. – Washer fills during drain. – Excess suds causing cavitating pump. – Drain hose blocked, kinked, or exceeds recommended height. – Poor connection between CCU (DP2) and drain pump. Procedure 1. Clear error code. 2. Unplug washer or disconnect power. 3. Make sure the drain hose is not sealed into the standpipe. 4. Ensure the drain height is not more than 8 ft (2.4 m) 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/pump filter for foreign objects or worn impeller. 7. Check the electrical connection between the pump and the CCU (DP2). 8. Check the pump using a diagnostic mode. 9. Check pressure sensor operation in Help Mode and the condition of the pressure sensor hose. If all the above are OK and pump is powered but does not pump water or water flow is poor, replace the pump.

WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 22	DOOR LOCK ERROR 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 two times before customer loses vend and washer resets. If entire procedure happens twice without a successful door lock, F22 will appear. Possible Causes – Misaligned or broken door latch. – Electrical connections from CCU (DLS2, DL3) to door lock are damaged. – Misaligned, broken, or overtightened door hook. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Ensure 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. If the latch fails to lock after checking all of the above, replace the latch.
F 24	TEMPERATURE SENSOR ERROR Water temperature sensor value is out of range (23°F to 217°F [–5°C to 103°C]) NOTE: To find correct Ohm reading, refer to the Water Temperature Sensor section, page 15. Possible Causes – Water temperature sensor damaged. – Electrical connections from CCU (SET2) to temperature sensor damaged. Procedure 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 terminal SET2. If the water temperature sensor is out of range, replace it.

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WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 25	TACHOMETER ERROR 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.
	Possible Causes – Damaged or poor contact in electrical connection from MCU to drive motor. – Inverted wires on RFI or ground switch(es) open. Procedure for damaged MCU connection 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. Procedure for inverted wires on RFI 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Look for reversed polarity at RFI filter. 4. Make sure that the ground switches of the toe panel or rear panel are closed and working correctly. 5. Check operation of drive motor in diagnostic mode; if drum tumbles, the motor is OK. If, after these procedures, the drum fails to tumble, replace the MCU. If motor operation is not restored, replace the motor.
F 26	DOOR SWITCH ERROR The door switch circuit is open for 5 seconds while the door is locked.
	Possible Causes – Electrical connections from CCU (DLS2) to door switch in latch are damaged. Procedure 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 14) or continuity test at CCU (DLS2) connection. If the door switch circuit fails to open or close, replace the door latch.

WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 27	OVERFLOW CONDITIONS The overflow contact on the pressure sensor 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.
	Possible Causes – Inlet valve(s) unable to close. – Pressure sensor hose is kinked. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. If water continues to flow into washer, inlet valve needs to be replaced. 4. Check if pressure sensor hose is kinked or damaged. 5. Verify functionality of inlet valves and pressure sensor by running a diagnostic cycle.
F 28	COMMUNICATION FAILURE BETWEEN CCU AND MCU The communication between the Central Control Unit (CCU) and the Motor Control Unit (MCU) has failed.
	Possible Causes – Reversed polarity or mis-wire along with open ground switch(es). – Communication cable from CCU (MI3) to MCU is damaged. Procedure for reversed polarity or mis-wire 1. Clear error code. 2. Unplug washer or disconnect power. 3. Check outlet for correct polarity. 4. Check the white wire on the RFI filter to ensure correct polarity. White wire needs to be toward front of washer. If the RFI filter is not easily accessible, the polarity test can be made on the washer CCU. Disconnect power. Check for resistance or continuity at IF2 from terminal #1 to ground or any bare metal on the washer cabinet. Reading should be infinite or show as an open circuit. 5. Check that the ground switches of the toe panel and rear panel are correctly closed. Refer to Grounding System Wiring Diagram. Procedure for communication cable 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.

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WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 29	DOOR UNLOCK ERROR
	The door is unable to unlock after six tries. Possible Causes – Misaligned or broken door latch. – Electrical connections from CCU (DLS2, DL3) to door lock are damaged. – Misaligned, broken, or overtightened door hook. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Manually unlock the door (page 15). 4. Ensure 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 15). If the latch fails to unlock after checking all of the above, replace the latch.
F 31	OVERHEATING OF MOTOR
	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 four times before F31 is displayed. Possible Causes – Improper installation of washer. – Poor electrical connection from CCU (MS2) to MCU. Procedure 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. If, after the above tests, the motor overheats, replace the motor.

WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 33	PUMP DISCONNECTED
	The electrical connection between the pump and the CCU is lost. Possible Causes – Poor connection between CCU (DP2) and drain pump. – Pump thermal overload caused by the pump running for an extended period of time. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check electrical connection between pump and CCU (DP2) (see page 15). 4. Check the pump using a diagnostic mode. If the pump still does not run, replace the pump.
F 34	LOAD DETECTED IN WASHER DURING WASHER CLEANOUT CYCLE
	The washer detects a load inside the washer tub at the beginning of the Washer Cleanout Cycle. Possible Causes – Load inside the washer during the Washer Cleanout Cycle. – Friction between the drum and bellows material. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Remove clothes from washer drum. 4. Check for misaligned or damaged bellows rubbing the drum. If bellows adjustment does not correct the friction issue, the spin basket will need to be replaced.
F 70	COMMUNICATION FAILURE BETWEEN CCU AND UIC
	Communication between Central Control Unit (CCU) and User Interface Control (UIC) has failed. Possible Causes – Electrical connection between CCU and UIC is damaged. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Verify that the communication cable is connected in the lower connector of the UIC. 4. Verify continuity in the cable between the CCU and the UIC. If, after these procedures, the continuity test fails, replace the communication cable. If F70 is still present, replace the CCU.

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WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
F 73 F 74	UIC FAILURE Communication error within the User Interface Control. Possible Causes – A power surge/drop. 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. If these procedures do not correct the failure, replace the UI control.
d 5	COIN 1 ERROR The Coin 1 sensor is detected as blocked for 8 seconds. Possible Causes – Coin vault full of money. – Blocked or dirty sensor. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check for broken coin sensor switch on coin drop. 4. Check the wire harness connections between User Interface (AA4) and the coin sensor switch to ensure wires do not block the coin switch beam. 5. Shorting the connections 2 and 3 at AA4 on UIC or installing jumper (Whirlpool part number W10785124) on UIC AA4 connection will simulate a good coin sensor. If the above procedures do not solve the problem, replace the UIC.
d 9	LOW VOLTAGE DETECTION ERROR Incoming voltage detected below 90vac for 8 seconds. Possible Causes – Voltage drop due to multiple washers on same circuit. – Worn outlet. 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. If the above procedures do not solve the problem, replace the UIC.

WASHER DISPLAY	EXPLANATION AND RECOMMENDED PROCEDURE
d 13	COIN 2 ERROR The Coin 2 sensor is detected as blocked for 8 seconds. Possible Causes – Coin vault full of money. – Blocked or dirty sensor. Procedure 1. Clear error code. 2. Unplug the washer or disconnect power. 3. Check for blocked coin sensor switch on coin drop. 4. Check the wire harness connections between User Interface (AA4) and the coin sensor switch to ensure wires do not block the coin switch beam. 5. Shorting the connections 2 and 3 at AA4 on UIC or installing jumper (Whirlpool part number W10785124) on UIC AA4 connection will simulate a good coin sensor. d13 only occurs with coin 2 installed. If the above procedures do not solve the problem, replace the UIC.
d 16	GENERATION 2 DEBIT CARD READER ERROR No communication from installed debit card reader in Generation 2 debit mode for 5 minutes. 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. 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 you are using a Gen 2 card reader. 5. Reconnect power and wait for 5 minutes. If the above procedures do not solve the problem, replace the card reader.

Critical errors are indicated as part of the '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.

WASHER QUICK OVERVIEW TEST

- This cycle consists of 9 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.
- Each step can be differentiated from the others by looking at the display indication. Steps can be advanced if the test requires it.
- To move to the next step before a control action is complete, press any key pad **except** the lower right (COLD) button.
- To exit the Quick Overview Test at any time, press the lower right (COLD) button.

Step	DISPLAY INDICATION	Control Action	Actuators to be Checked
1	COLORS	Door locks, drum turns 1/2 revolution, then door unlocks and relocks.	■ Door lock system ■ Child safety routine ■ Motor control (MCU)*
2	PREWASH Note: "Prewash" flashes on the display and is very easy to miss.	Accelerometer tests are performed.	■ Accelerometer
3	CCU EEPROM Version (EC xx) PERM PRESS	Fill by both cold water inlet valves (1 gal. [4 L]) into BLEACH compartment.	■ Cold water inlet valves #2 and #3 ■ Pressure sensor: Suds Level
4	CCU Software Version (SC xx) COTTONS	Fill by hot water inlet valve to Wash Level into MAIN WASH compartment.	■ Hot water inlet valve #1 ■ Pressure sensor: Wash Level
5	MCU Software Version (S ⁿ xx) COLORS	Drum executes tumbling at wash speed (30 sec).	■ Motor ■ Motor control (MCU)*
6	MCU Hardware Version (H ⁿ xx) PERM PRESS		
7	UIC EEPROM Version (EU xx) COTTONS	Drain pump is ON.	■ Drain pump ■ Pressure sensor**
8	UIC Software Version (SU xx) COLORS	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 9 will be skipped.	■ Motor ■ Motor control (MCU)* ■ Drain pump on
9	PERM PRESS	This Step is only apparent if Step 8 is MANUALLY ADVANCED prior to the drum reaching 0 rpm (washer pumps out if needed). Door unlocks (washer returns to flashing mode).	■ Door unlock

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

*In the event of an MCU-CCU communications error, the UI display will go blank for up to 5 minutes and then display an F28 error message.

**The washer will drain until pressure sensor reaches lowest level for 10 seconds, then moves to next step.

WASHER MANUAL OVERVIEW TEST

Before replacing any system components, perform this Manual 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 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 key pad **except** the lower right (COLD) button.
- When Step 8 is complete, the test runs again starting at Step 1.
- To exit the Manual Overview Test at any time, press the lower right (COLD) button.

Step	DISPLAY	Exit Condition	Control Action	To be Checked
1	COLORS	On completion only	Door locks, drum turns 1/2 revolution, then door unlocks and relocks.	■ Door lock system ■ Child safety routine
2	PREWASH	On completion only	Accelerometer tests are performed.	■ Accelerometer
3	PERM PRESS	On key press or if overfill level is detected	Filling with both cold inlet valves.	■ Both Cold Inlet Valves #2 and #3 ■ Overfill level
4	COTTONS	On key press or completion	Drum executes reversing movement at wash speed (10 min.).	■ Motor ■ Motor Control (MCU)*
5	COLORS	On key press or completion	Drain pump is on (4 min.).	■ Drain Pump
6	PERM PRESS	On completion only	Drain pump is on (reach Suds Level plus 10 sec.).	■ Drain Pump
7	COTTONS	On key press or completion	Drum rotates counter-clockwise and ramps up to maximum speed.	■ Motor ■ Motor Control (MCU)*
8	COLORS	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

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

*In the event of an MCU-CCU communications error, the UI display will go blank for up to 5 minutes and then display an F28 error message.

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DIAGNOSTIC TEST QUICK GUIDE

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

Diagnostic Mode Button Function Table

Button	Function in Diag. Code Display Sub-Mode	Function in Display Flashing Sub-Mode	Function in Diag. Cycle Running Sub-Mode (Washer Running)	Function in Diag. Cycle Running Sub-Mode (Dryer Running)	Function in Diag. Cycle Running Sub-Mode (Dryer & Washer Running)
LOWER LEFT (HOT) BUTTON	Ignore	Toggle Customer Wash Cycle Credit	Go to help mode	Toggle Customer Wash Cycle Credit	Go to help mode
LOWER MIDDLE (WARM) BUTTON	Acknowledge Diag. Code (Keep Code) Go to Set-up Mode	Start Washer Quick Overview Test Cycle	Ignore	Start Washer Quick Overview Test Cycle	Ignore
LOWER RIGHT (COLD) BUTTON	Clear Diag. Code Exit Diag. Code Display Sub-Mode Go to Display Flashing Sub-Mode	Exit Diag. Display Flashing Sub-Mode Go to Set-up Mode	Cancel Diag. Cycle Go to Set-up Mode	Cancel Diag. Cycle Go to Set-up Mode	Cancel Diag. Cycles Go to Set-up Mode
CENTER LEFT (COTTON/WHITES) BUTTON	Ignore	Start Washer Manual Overview Test Cycle	Ignore	Start Washer Manual Overview Test Cycle	Ignore
CENTER MIDDLE (PERM PRESS) BUTTON	Ignore	Start Washer Quick Spin Cycle	Ignore	Start Washer Quick Spin Cycle	Ignore
CENTER RIGHT (COLORS/DELICATES) BUTTON	Ignore	Start Washer Cleanout Cycle	Ignore	Start Washer Cleanout Cycle	Ignore
UPPER LEFT (COTTON/WHITES) BUTTON	Ignore	Ignore	Ignore	Increment dryer test time by one minute Rolls from 75 back to 2 minutes	Increment dryer test time by one minute Rolls from 75 back to 2 minutes
UPPER MIDDLE (PERM PRESS) BUTTON	Acknowledge Diag. Code (Keep Code) Go to Set-up Mode	Start Dryer Field Diag. Cycle	Start Dryer Field Diag. Cycle	Ignore	Ignore
UPPER RIGHT (COLORS/DELICATES) BUTTON	Ignore	Ignore	Ignore	Ignore	Ignore

HELP MODE

Help mode is entered by pressing the lower left (HOT) button while in special pricing option 2.XX (or while dAS displays if operating with Generation 2 card reader). In help mode, the software revision is displayed. The help mode is advanced by pressing the lower middle (WARM) button. See Help Mode Submenu on page 13 for the order in which items are displayed. Press the lower left (HOT) button at any time to exit help mode.

Help Codes

Help Code	Description
00	No Help Code
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 six 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 data acquisition communications comm_suprv () routine
99	Mismatch of cycle settings between CCU and UI. Wash cycle may not run as defined by card reader setup

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Help Mode Submenu

- This sub-menu consists of many steps.
- To change to the next step, press the lower middle (WARM) button.
- To exit Help Mode and return to set-up mode or dAS mode, press the lower left (HOT) button.

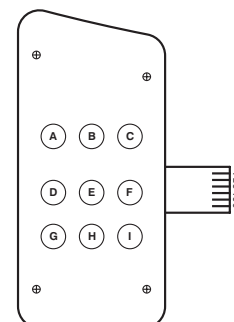
Submode	Display Portion	Description	Note
1h.XX	lower	The XX value has a meaning according to the Help Code Table. This value is stored in EEPROM, and is added to as a new error is reported. The oldest drops out of history.*	Help code 1
2h.XX	lower		Help code 2
3h.XX	lower		Help code 3
1.X##	upper	The X is f or d and ## is the code num as defined in the Ranked Stacked Washer/Dryer Diagnostic Codes Table.**	Dryer CCU Error History code 1
1.X##	lower		Washer CCU Error History code 1
2.X##	upper		Dryer CCU Error History code 2
2.X##	lower		Washer CCU Error History code 2
3.X##	upper		Dryer CCU Error History code 3
3.X##	lower		Washer CCU Error History code 3
4.X##	upper		Dryer CCU Error History code 4
4.X##	lower		Washer CCU Error History code 4
5.X##	lower		Washer UIC Error History code 1
6.X##	lower		Washer UIC Error History code 2
7.X##	lower		Washer UIC Error History code 3
8.X##	lower		Washer UIC Error History code 4
hE.ES	lower	Energy Saving Mode. Allows owner to select between a low water level and temperature setting (hE.LE), medium water level and temperature setting (hE.ES), or high water level and temperature setting (hE.--).	- Pressing the DELICATES washer key pad will change the setting from hE.ES to hE.--. - Pressing the DELICATES washer key again will change the setting from hE.-- to hE.LE. - Pressing the DELICATES washer key again will change the setting from hE.LE to hE.ES.
Sr.ON	lower	Suds routine selection. Default setting for the washer is to have the suds routine on; standard time is added to the cycle and communicates to the end user via the UI display if suds is detected during the first two drain/spins and the final spin. If turned off, "Sr.--" gain the ability to reduce suds routine time with the next programming option.	Pressing the center right (COLORS/DELICATES) button will toggle the "Sr" setting from "ON" to "--".
SL.05	lower	Suds routine time selection; can only change the setting if "Sr.--" is selected. Default setting for the washer is "05" minutes of suds/kill foam routine during the first two drain/spins. Allowable programming range is 0–5 minutes.	Pressing the center left (COTTON/WHITES) button will toggle the "SL" setting. For proper suds handling, it is recommended to keep the setting at "05" minutes.
rE.10	lower	Maximum final spin rebalance attempts. Default setting for the washer is "10" rebalance attempts before the cycle is cancelled. For out-of-balance load, allowable programming range is 4–10 attempts.	Pressing the center left (COTTON/WHITES) button will toggle the "rE" setting.
SC.XX	upper	Where XX is the number of the dryer CCU software version	
SC.XX	lower	Where XX is the number of the washer CCU software version	
EC.XX	lower	Where XX is the number of the washer EEPROM CCU version	
SU.XX	lower	Where XX is the software version of the UIC	
EU.XX	lower	Where XX is the EEPROM version of the UIC	
SPIN XXX	lower	Where XXX is the speed in rpm (SPIN element of display is used for this)	
P XXX	lower	Where XXX is the relative amount of power being requested of the motor	
U XXX	lower	Where XXX is the relative amount of unbalance in the system. NOTE: 255 indicates that the unbalance has not been calculated; 254 indicates that the unbalance could not be calculated. Any other value is the current unbalance of the MCU.	

* To erase the three help codes, press the lower right (COLD) button.

** The Errors displayed in this section are the history errors that have occurred in the washer/dryer (not necessarily an error that is in progress).

Button Continuity Test

Button	Check Between Contacts
A	3 and 6
B	3 and 5
C	3 and 4
D	2 and 6
E	2 and 5
F	2 and 4
G	1 and 6
H	1 and 5
I	1 and 4



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HELP MODE SYMBOLS AND ELEMENTS

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

Dryer (Upper) Display Symbol	Description
▲	Dryer motor sensed on
○	Dryer door sensed closed
OR	Dryer heater relay on
&	Dryer motor relay on
★	Low voltage sensed

Washer (Lower) Display Symbol	Description
WASH	Water sensed above wash level
RE	Washer redistributing due to out-of-balance condition
○	Washer door sensed closed
DOOR LOCKED	Washer door sensed locked
COLD	Cold water output on
HOT	Hot water output on
OR	Door unlock output on
AVAILABLE	Washer drain pump output on

Help Mode Button Function Table

Button Name on Interface	Generic Button Function	Result While Help Code Not Displayed	Result While Help Code Displayed
LOWER LEFT (HOT) BUTTON	Slew	Exits help mode and returns to set-up mode – either dAS display or Manual Set-up Mode (2.)	Exits help mode and returns to set-up mode – either dAS display or Manual Set-up Mode (2.)
LOWER RIGHT (COLD) BUTTON	Mode Select	Inactive – no result	Clears all three help codes
LOWER MIDDLE (WARM) BUTTON	Mode Advance	Advances to next help mode screen	Advances through each help code or from last to the extended fill option

Dryer Drive Motor Resistance

Winding	Resistance (Ω)	Contact Points of Measurement
MAIN	2.4–3.6 Ω	Lt. blue wire in back at pin 4 and bare copper wire on pin 5 of black drive motor switch.
START	2.4–3.8 Ω	Lt. blue wire in back at pin 4 and bare copper wire on pin 3 of black drive motor switch.

Dryer Exhaust Temperatures

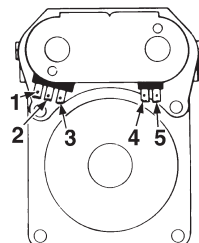
Fabric Setting	Heat Turns Off*	Heat Turns On
Cotton/Whites	155° ± 5°F (68° ± 3°C)	10–15°F (6–8°C) Below the heat turn off temperature
Perm Press	155° ± 5°F (68° ± 3°C)	
Colors/Delicates	140° ± 5°F (60° ± 3°C)	

*The measured overshoot using the glass bulb thermometer in the exhaust outlet can be 30°F (17°C) higher.

Dryer Gas Valve Resistance

Terminals	Resistance
1 to 2	1365 Ω ± 25
1 to 3	560 Ω ± 25
4 to 5	1220 Ω ± 50

IMPORTANT: Make sure all harness wires are looped back through the strain relief after checking or replacing coils.



Dryer Temperature and Thermistor Values

Fabric Setting	Temperature	Thermistor resistance value at heater shutoff (digital or analog meter) kΩ	
Cotton/Whites	155° ± 5°F (68° ± 3°C)	2.1	1.7
Perm Press	155° ± 5°F (68° ± 3°C)	2.1	1.7
Colors/Delicates	140° ± 5°F (60° ± 3°C)	2.8	2.3

Dryer Thermistor Resistance

Temp. °F (°C)	Thermistor Resistance Res. kΩ	Temp. °F (°C)	Res. kΩ
50°F (10°C)	19.9	80°F (27°C)	9.2
60°F (16°C)	15.3	90°F (32°C)	7.4
70°F (21°C)	11.9	100°F (38°C)	5.7

FOR SERVICE TECHNICIAN ONLY - DO NOT REMOVE OR DESTROY

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

Washer Pump Motor Continuity Test

Pins	Results
1 to 2	Normal = approx. 12.3 Ω Abnormal = Infinity

Washer 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

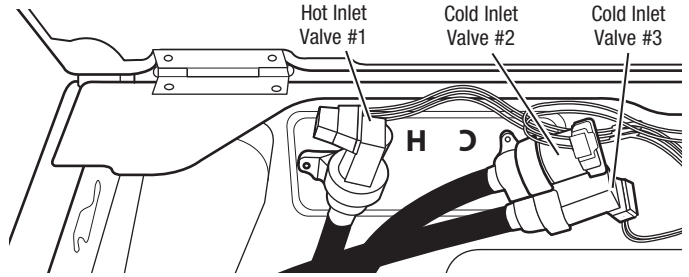
Primary 30–35 ohms
Blue to blue 1 ohm
White to white 2 ohms
Yellow to blue 0.5 ohms
Red to red 11 ohms

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 SET2.

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

Water Valve Locations



Washer CCU Wire Harness Connector Table

Unplug washer/dryer or disconnect power before taking ohm measurements.

Terminal	Component	(Ω) Ohm Value	Abnormal Value	Pin Connectors*	Wire Coding
RP2	Wax Motor	1.2 k Ω 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	165 Ω	Infinity**	1, 2 door lock 2, 3 door unlock	
SET2	Temperature Sensor	Varies with temperature changes. See above.	Infinity**	1, 2	
DP2	Drain Pump	13 Ω	Infinity**	1, 2	
DCS3	Door Switch	Continuity at door close. No continuity at door open.		1, 2	
VSF2	Hot Inlet Valve #1	812 Ω	Infinity**	1, 3 (hot valve #1)	
VCH7	Cold Inlet Valve #3 Cold Inlet Valve #2	812 Ω , either coil	Infinity** (or more than 10% lower or higher)	1, 3 (cold valve #3) 5, 7 (cold valve #2)	
IF2	RFI	30 Ω	Infinity** (or more than 10% lower or higher)	1, 2	
PS8	Pressure Sensor	Infinity**		4, 7, and 8	

*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

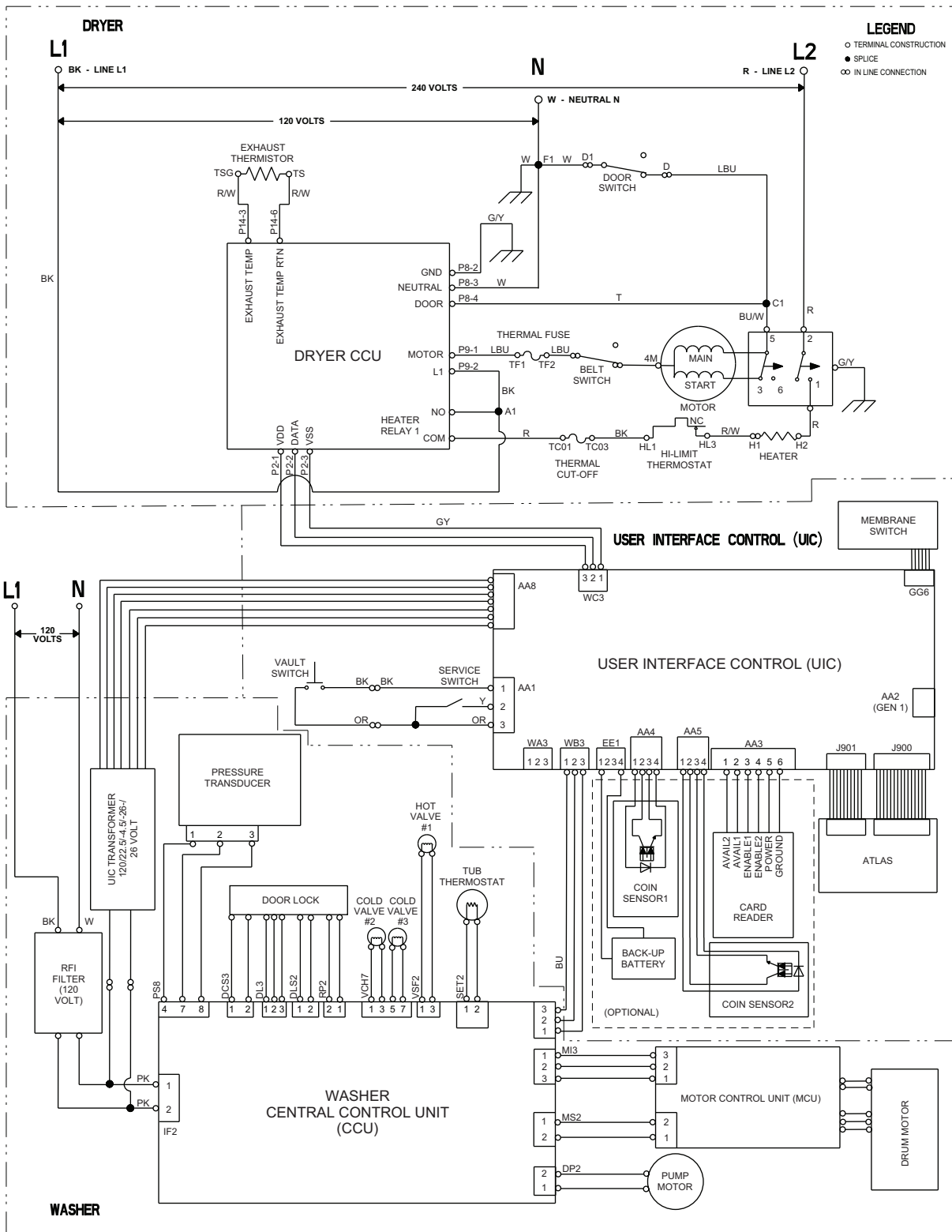
1. Unplug washer or disconnect power.
2. Remove the toe kick panel.
3. Reach up along the inside of the front and locate the bottom of the latch assembly.
4. At the bottom of the latch assembly is a tear-drop shaped tab.
5. Gently pull the tab down about 1/4" (6 mm) or until a click is heard.

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 - ELECTRIC MODELS



WIRING DIAGRAM – GAS MODELS



TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE/TEST
	NOTE: Possible Cause/Tests must be performed in the sequence shown for each problem.
BLANK DISPLAY	Possible Causes – UIC not powered or no power to the washer/dryer. – Wrong communication between CCU and UIC. Procedure for UIC not powered 1. Check that the washer/dryer is plugged into a working outlet. 2. Unplug washer/dryer 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 on the transformer (page 15). Procedure for wrong communication 1. Unplug the washer/dryer or disconnect power. 2. Wait for 2 minutes. 3. Reconnect power. If the display fails to turn on, replace the UIC.
TOUCH-PADS DO NOT RESPOND WHEN PRESSED	Possible Causes – Keypad ribbon disconnected, damaged, or contaminated, or installed with ribbon flap in wrong position. – Door switch disconnected, loose, or damaged. 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/dryer or disconnect power. 2. Check that the keypad ribbon is connected to the UIC. 3. Clean the matrix keypad ribbon of soap or other residues. 4. Check the ribbon connector on the control board to see if there is corrosion on the contacts. Verify the function of the keypad: perform keypad matrix test in service manual. If keypad fails to operate, replace it. 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 8), even if the F26 code is not displayed. If the above procedures fail to solve the problem, replace the UIC.
WON'T DISPENSE	1. Verify that water is coming into the dispenser. 2. Verify that the washer/dryer is level. 3. Remove the insert and verify that the dispenser drawer is not clogged with detergent.
WASHER/DRYER VIBRATES	1. Verify that the washer/dryer 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/dryer. 3. Verify that the leveling legs are locked into place and firmly in contact with the floor. 4. Check for unbalanced load, 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. Ensure proper drive belt placement on motor pulley. 8. Ensure that the washer/dryer is not installed on a wooden riser with a platform less than 3/4" (19 mm) thick.
DRUM WON'T ROTATE	1. Check for broken drive belt. 2. Check for drive motor failure error codes (F11, F25, F28). • Check the electrical connection and verify the function of the cable between the MCU and drive motor. 3. Make sure that the door locks properly.
INCORRECT WATER TEMPERATURE	1. Make sure that the inlet hoses are connected properly. 2. Check the water temperature sensor for an abnormal condition (page 15). Make sure the hoses from the inlet valves to the dispenser are connected properly. 3. Verify hot and cold water operation in Quick Overview Test in diagnostic mode. 4. Check for blocked filter screen in inlet valves.

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