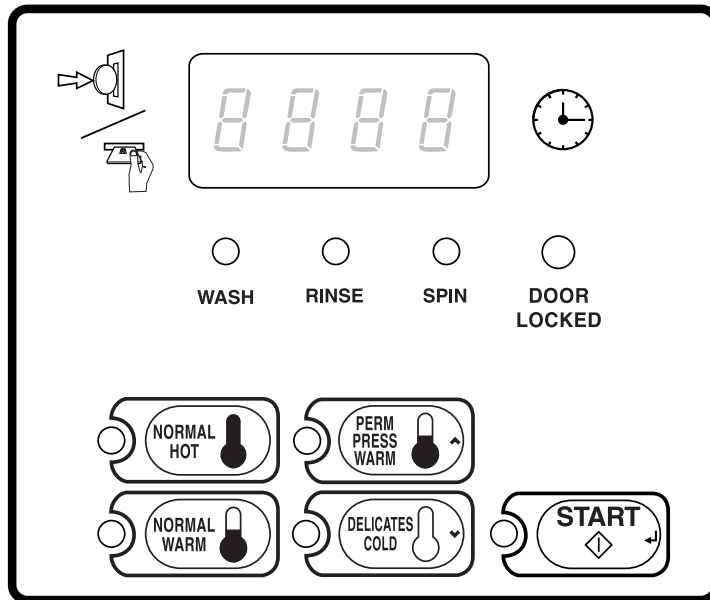


# MDC

## Frontload Washer

Refer to Page 4 for Model Numbers

# Programming



FLW1R

**Keep These Instructions for Future Reference.**

(If this machine changes ownership, this manual must accompany machine.)



[www.comlaundry.com](http://www.comlaundry.com)

Part No. 801184R6  
April 2010





## WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

**NOTE: The WARNING and IMPORTANT instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution, and carefulness are factors which cannot be built into these washers. These factors MUST BE supplied by the person(s) installing, maintaining, or operating the washer.**

Always contact the distributor, service agent, or the manufacturer about any problems or conditions you do not understand.

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# Model Identification

Information in this manual is applicable to these washer models:

HFNBCF	HWFX71	SFNCCF	SWFT71
HFNCXF	HWFY61	SFNCCR	SWFT73
HTET17	HWFY63	SFNCXR	SWFX61
HTET77	HWFY71	SFNCFYF	SWFX63
HTEX17	HWFY73	SFNCFYR	SWFX71
HTEX77	HWFZ61	STET17	SWFX73
HTEY17	HWFZ63	STET77	SWFY61
HTEY77	HWRR61	STEX17	SWFY63
HTEZ17	HWRR71	STEX77	SWFY71
HTGT19	HWRRE1	STEY17	SWFY73
HTGT79	HWRT61	STEY77	SWFZ61
HTGX19	HWRT71	STEZ17	SWFZ63
HTGX79	HWRTE1	STGT19	SWRT61
HTGY19	HWRX61	STGT79	SWRT71
HTGY79	HWRX71	STGX13	SWRT73
HTGZ19	HWRXE1	STGX19	SWRTE1
HWFR61	HWRY61	STGX73	SWRX61
HWFR71	HWRY71	STGX79	SWRX71
HWFT61	HWRYE1	STGY19	SWRY61
HWFT63	HWRZ61	STGY79	SWRY71
HWFT71	NTEX77	STGZ19	SWRZ61
HWFT73	NTGX79	SWFT61	
HWFX61	SFNBCR	SWFT63	

# Preliminary Information

## About the Control

MDC on the commercial washer is a programmable control that lets the owner control machine features by pressing sequences of SELECT CYCLE keypads.

MDC allows the owner to program cycle steps, set vend prices, retrieve audit information and run diagnostic tests. Washers shipped from the factory have a default cycle (PERM PRESS/WARM) built in.

**IMPORTANT: In the event of a power failure, MDC will not have to be reprogrammed. It is designed with a memory system that will remember how it was programmed (for up to six years) until the electrical power is restored.**

**IMPORTANT: It is extremely important that the washer has a positive ground and that all mechanical and electrical connections to MDC are made before applying power to or operating the washer.**

## Glossary of Terms

The following are a few terms and abbreviations to learn. These are referred to throughout the manual:

Four-Digit Display – This term refers to the window area of the control that displays values.

LED (Light Emitting Diode) – This term refers to the lights on the keypads and status words of the control.

## Power Failure Recovery

If power fails during an active cycle, the cycle status is saved in memory. If door is locked when power is restored, the washer will automatically resume the cycle. If door is unlocked when power is restored, the user must press the START keypad to resume the cycle.

## Card Reader Communications

### Card Models Only

The control will communicate with a third party card reader, available at extra cost from various card reader manufacturers. Contact the card reader manufacturer of your choice for availability and additional information.

# MDC Identification

## SELECT CYCLE Keypads

SELECT CYCLE keypads are used to select the specific washer cycle. These keypads include NORMAL/HOT, NORMAL/WARM, PERM PRESS/WARM, and DELICATES/COLD. The selection of one of these keypads will light up the corresponding LED. The default cycle is PERM PRESS/WARM. The SELECT CYCLE keypads are not active after the first fill cycle of the washer. Pressing the flashing START keypad will confirm selection and cycle will begin when vend is satisfied.

## START Keypad

The START keypad is used to start the washer after the full vend price has been satisfied.

Both the START keypad and the SELECT CYCLE keypads are used in various combinations for programming cycles, retrieving audit information, running diagnostic tests, and other operations described in *Entering the Manual Mode*.

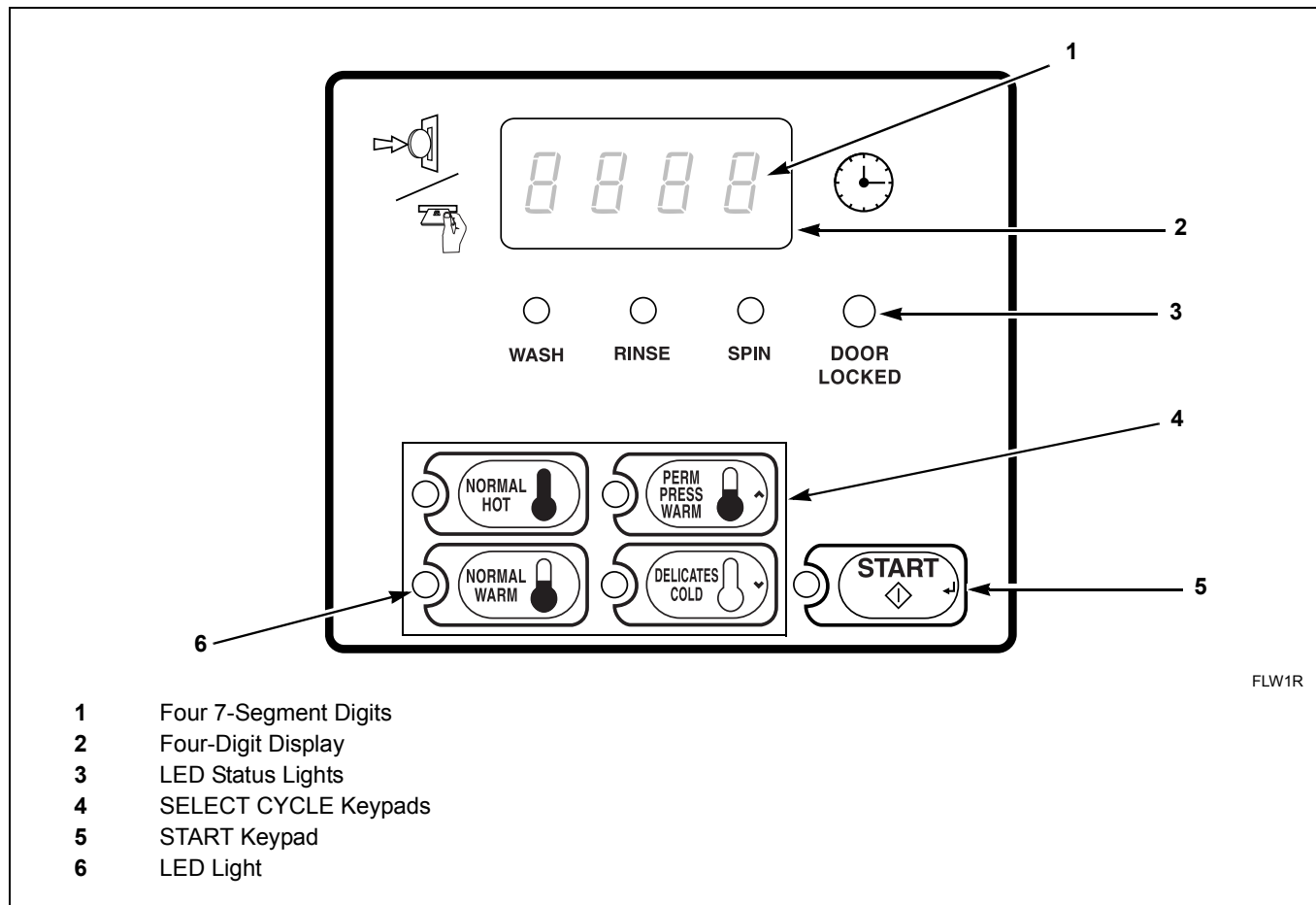


Figure 1



# Display Identification

## Light Emitting Diodes (LEDs)

LIGHT EMITTING DIODES (LEDs) are used to indicate the chosen cycle status. Refer to LED descriptions below.

### START LED

The START keypad LED flashes whenever the washer is not in a cycle and the full vend price has been satisfied. When the START keypad is pressed, the cycle will begin or resume. The START LED will shut off when the START keypad is pressed.

### WASH LED

The WASH LED is lit at the beginning of a wash cycle and will remain lit until the wash cycle is complete.

### RINSE LED

The RINSE LED is lit at the beginning of the rinse or extra rinse cycle and will remain lit until the cycle is complete.

### SPIN LED

The SPIN LED is lit for all spin cycles.

### DOOR LOCKED LED

The DOOR LOCKED LED is lit whenever the door is locked. The door cannot be opened when the DOOR LOCKED LED is lit.

### Four 7-Segment Digits

The 7-SEGMENT DIGITS are used to display the time remaining in a cycle, vend price, error messages and descriptive codes. When displaying the time remaining, the time value is displayed on the right side of the display. When displaying the vend price, the value is displayed on the left side of the display. During diagnostic testing or manual programming of the control, these digits will display descriptive codes and values (as described in *Entering the Manual Mode*).

# Washer Operation

## Start Up

When power is applied to the washer, the control will display its software version as “SXXX” (“XXX” is the version number) for two seconds. If the control was not powered down during a running cycle, it will enter the Ready Mode.

## Ready Mode

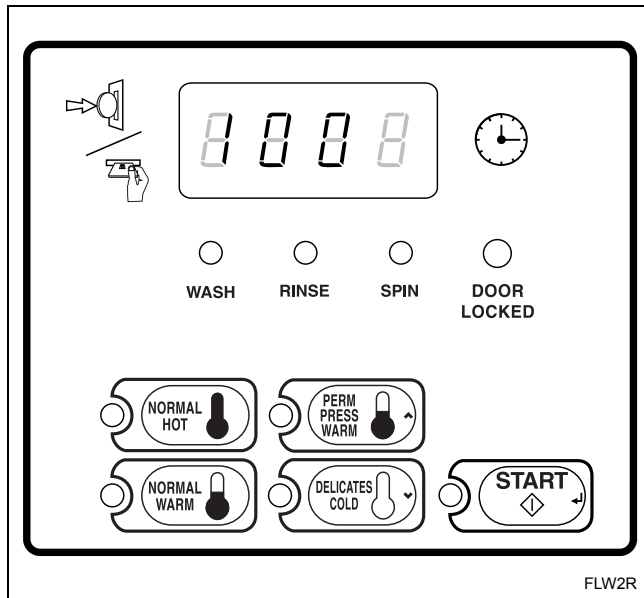


Figure 2

In Ready Mode, the PERM PRESS/WARM (default cycle) LED is lit, and the full vend price is displayed as left justified. The user may select a different cycle, if desired. (In card reader machines, if the current cycle has a vend price which differs from the default cycle, the display will be updated to show the new price.) If another cycle is selected, the control will flash the amount needed to satisfy the vend price shown on the display. If the vend price is not satisfied within one minute, the washer control will stop flashing the vend price and return to the default cycle. The display will continue to show the remaining vend price needed to start a cycle and will credit any vend entered by the user.

Vends may be satisfied by a coin drop, start pulses, or by a third party card reader. If a coin drop is used, the remaining vend price will decrease with each coin entry. If start pulses are used, the remaining vend price will decrease with each received pulse. Once the vend price is satisfied, the START LED will begin to flash. If a third party card reader is used, the START LED will begin to flash when a valid cash card is entered into the reader.

When the START keypad is pressed, the door will lock and the washer will start. The START LED will stop flashing and the WASH LED will be lit. The display will change to show the remaining cycle time on the right side of the display. The appropriate LEDs will light while the machine passes through different cycle steps. Any coin entered after the first fill cycle will be added to the total coin counter, but the user will not be able to change cycles.

When a cycle is complete, the Four-Digit Display will show “00” until the washer door is opened, a keypad is pressed, a coin or card is entered, or a start pulse is received. When one of these instances occurs, the Four-Digit Display will revert back to the Ready Mode.

## Closing the Washer Door

If the door is not closed when the vend price is satisfied, the Four-Digit Display will show “door” until the door is closed. Once the door is closed, the START keypad must be pressed again to lock door and start cycle. If the door does not lock within 15 seconds of being closed, “E dl” will be displayed indicating a door lock error and the machine will shut off.

## Signals

There are four instances when a signal may sound during washer operation. The owner may program the signal to be turned on or off (refer to **Programming MDC, option 6**). These four instances are listed below:

### 1. Keypad Depression Signal

The signal will sound for .25 seconds each time a keypad is pressed.

### 2. Coin Input/Start Pulse Input/Card Insertion Signal

The signal will sound for .25 seconds each time a coin or start pulse is received or a card is entered.

### 3. Machine Error Signal

The signal will sound for 15 seconds if an error occurs.

### 4. Vend Satisfaction Signal

The signal will sound one second on and one second off for 10 seconds when the vend price is satisfied.

# MDC Special Features

## Programming MDC

MDC allows the washer owner to program special features with the use of the keypads. Audit, diagnostic, cycle and vend information may be programmed and retrieved by pressing keypad combinations.

For details on programming cycle and vend information, refer to *Programming MDC*.

## Collecting Audit Information

With MDC, the washer owner is able to access valuable audit information by manual access or by a third party card reader. Audit information recorded and available to be displayed to the owner includes total coins entered, total start pulses received, and total cycles.

For detailed information on audit features, refer to *Collecting Audit Information*.

## Testing Machine and MDC Functions

Special programmable diagnostic features built into MDC allow the owner to test specific information with the washer in the Ready Mode. By opening and closing the service door and then pressing various sequences of keypads, the owner may perform the following tests:

- Show Fill Time Test
- Show Drain Time Test
- Production Test

For detailed information on running diagnostic tests, refer to *Testing Machine and MDC Functions*.

## Rapid Advance Feature

This feature allows the user to quickly advance through an active cycle or advance into a cycle from the Ready Mode. This feature is useful when tests must be performed immediately on a washer in an active cycle. In this case, the user can quickly advance the cycle to the end, perform the required tests, and return the washer to the active cycle.

For detailed information on using the Rapid Advance feature, refer to *Rapid Advance Feature* section.

## Coin Drop

The control will accept pulses from a single or dual coin drop to satisfy vend price. Each coin drop will have the ability to start or run a cycle.

## Start Pulse Operation

The control will accept pulses from a central card reader system (available at extra cost). The machine can be programmed for the value of each start pulse received. Refer to *Programming MDC, option 4*.

## Service Door and Coin Vault Openings

An open service door or coin vault combined with various keypad presses allows the control to enter manual modes of operation. These modes include Manual Programming, Audit Collection, and Diagnostics.

# Opening the Service Door

## Stacked Washers and Dryers, Front Control Washers and Coin Rear Control Washers

Manually programming MDC requires the user to open and close the service door. Opening and closing the service door trips a switch allowing access to various programming options, diagnostics, and audit capabilities. The coin drawer switch must be closed to enter the Manual Mode.

The service door is located in the control panel on the Stacked Washers and Dryers and Front Control Washers. On Rear Control Washers, the service door is located on the top of the meter case. Refer to *Figure 3*.

After opening and closing the service door, the programmer has 4.25 minutes to begin programming. If a SELECT CYCLE keypad has not been pressed in that time, the control will exit the Programming Mode. Refer to *Figure 3*.

## Rear Control Washers Prepped for Card Reader

Manually programming MDC requires the user to remove the control panel and unplug the bullet connector located between the “white/black” and “red/blue” wires. This will allow the user to access various programming options, diagnostics, and audit capabilities. Refer to *Figure 3*.

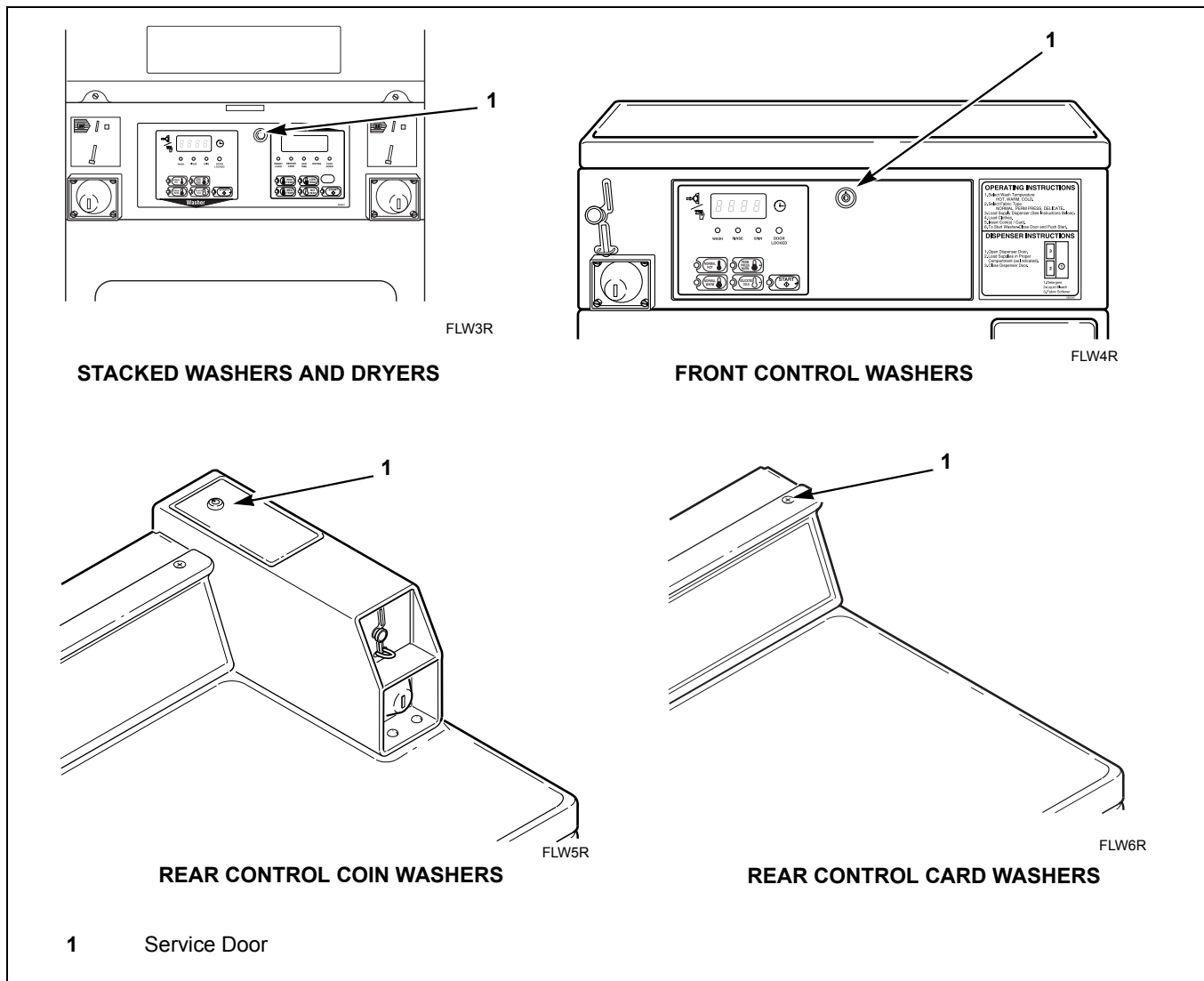


Figure 3

# Entering the Manual Mode

For programming, testing, and retrieving information from MDC, it is often necessary to enter the Manual Mode by following the five simple steps below.

## How to Enter the Manual Mode

1. Open the service door. Refer to *Opening the Service Door*. The coin vault switch must be closed.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand.
3. The Four-Digit Display will show “rAPd”.

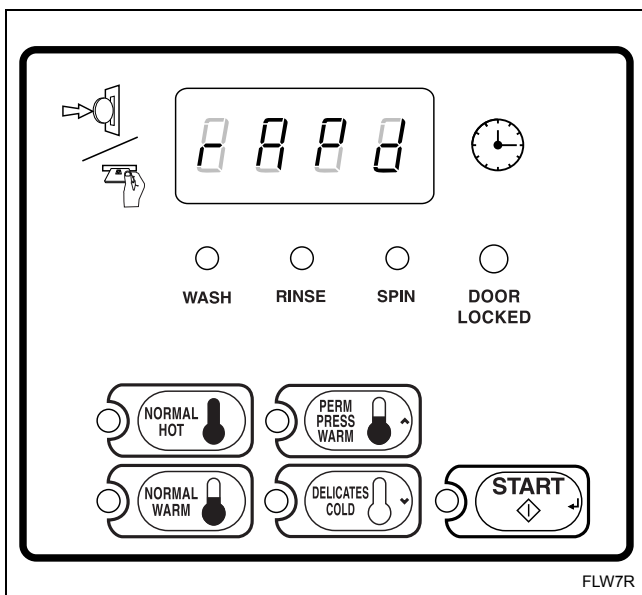


Figure 4

4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the options until the desired option appears in the display.
5. Press the START (enter) keypad.

There are four manual features available. They are as follows:

1. Manual Rapid Advance (rAPd)
2. Manual Programming (PrOg)
3. Manual Audit (AUdT)
4. Diagnostic Tests (dIAG)

**NOTE: The Audit feature can also be accessed by removing the coin vault and pressing the START (enter) keypad.**

Once in the Manual Mode, continue on into one of the features described in detail on the following pages.

Instructions on how to exit each feature are found at the end of each feature description.

# Programming MDC

## What Can Be Programmed?

This feature allows the owner to program cycle parameters, standard vend pricing, and other features by using the keypads.

This section offers a detailed description of all seven options available for programming.

Each description includes instructions on when and why the option might be used and, more importantly, how to program the option.

For more advanced users, a quick reference list of the options available through the Programming Mode is located on this page.

**NOTE: The letters in the Option column of the Programmable Options List are what will show in the Four-Digit Display when that option is selected.**

## Programmable Options Available

Option	Description
AtS	Vend Price
dEn1	Coin # 1 Amount
dEn2	Coin #2 Amount
PLSE	Start Pulse Value
CyCL	Cycle Stages
CnFg	Configuration Display
dCyC	Default Cycle (software version "S003" or higher only)

## 1. Vend Price “AtS”

This option allows the owner to set the vend price. The vend price will be displayed in the Four-Digit Display.

Program this option whenever the vend price needs to be changed.

### How to Program Vend Price

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

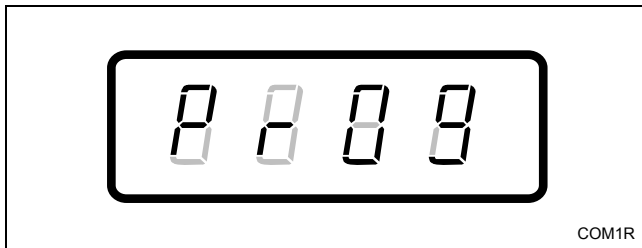


Figure 5

3. Press the START (enter) keypad.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “AtS” appears in the Four-Digit Display.

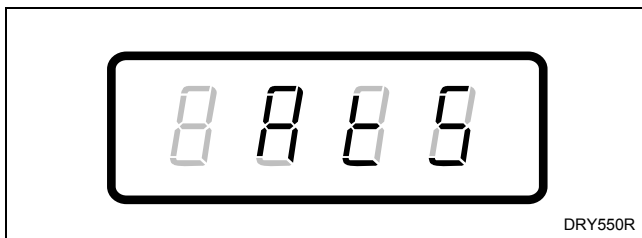


Figure 6

5. When “AtS” appears in the Four-Digit Display, press the START (enter) keypad. There are four digits in Vend Price and the fourth digit will become the active digit. The active digit will flash one second on and one second off.

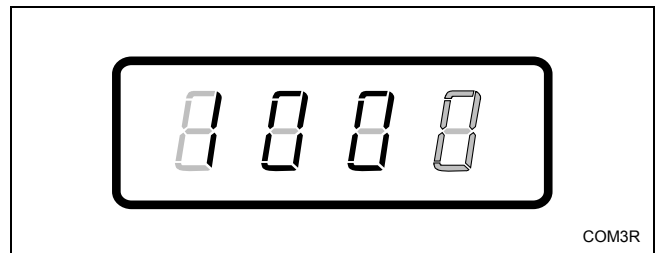


Figure 7

**NOTE: The vend price can be set from 0 to 9999.**

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the value of the active digit and the START (enter) keypad to enter the value of the digit and advance to the next digit.
7. Repeat step 6 for each of the four digits. When the START (enter) keypad is pressed and the last digit is the active digit, the changes to the vend price will be saved into the memory. The next option, “dEn1”, will appear in the Four-Digit Display.

**NOTE: To program “dEn1” (Coin #1 Amount), refer to option 2. To program other options, refer to the appropriate section.**

### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

## Programming MDC

### 2. Coin #1 Amount “dEn1”

This option allows the owner to set a specific numerical value for a coin entered. For example, in the United States, the coin value for one quarter would be measured in cents (25). Therefore, the coin amount entered for one quarter would be 0025.

If the Vend Price (option 1) is set for “75”, and the coin #1 amount is set for “0025”, the vend price displayed will decrease by 25 for each coin entered.

#### How to Program Coin #1 Amount

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

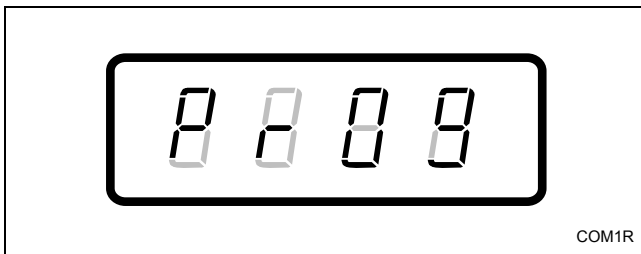


Figure 8

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “dEn1” appears in the Four-Digit Display.

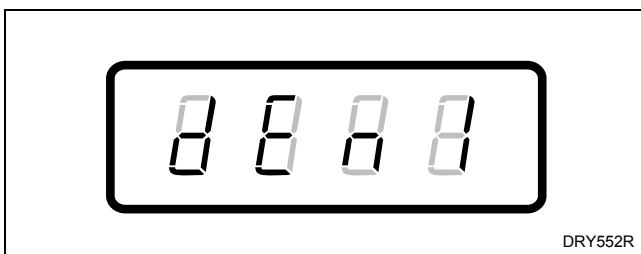


Figure 9

5. When “dEn1” appears in the Four-Digit Display, press the START (enter) keypad. There are four digits in Coin #1 Amount, and the fourth digit will become the active digit. The active digit will flash one second on and one second off.

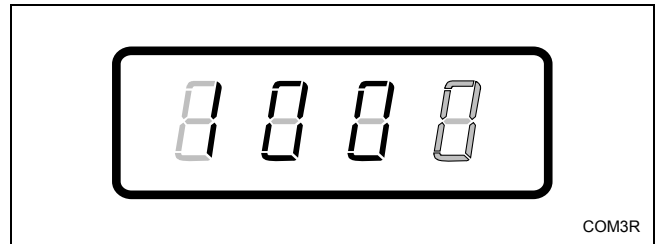


Figure 10

**NOTE: The coin amount can be set from 1 to 9999.**

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the value of the active digit and the START (enter) keypad to enter the value of the digit and advance to the next digit.
7. Repeat step 6 for each of the four digits. When the START (enter) keypad is pressed and the last digit is the active digit, the changes to the coin #1 amount will be saved into the memory. The next option, “dEn2”, will appear in the Four-Digit Display.

**NOTE: To program “dEn2” (Coin #2 Amount), refer to option 3. To program other options, refer to the appropriate section.**

#### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.



### 3. Coin #2 Amount “dEn2”

This option allows the owner to set a specific numerical value for a coin entered when using the dual coin drop. For example, the coin value for a dollar coin would be measured in cents (100). Therefore, the coin amount entered for one dollar coin would be 0100.

If the Vend Price (option 1) is set for “200”, and the coin #2 amount is set for “0100”, the vend price displayed will decrease by 100 for each coin entered.

#### How to Program Coin #2 Amount

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

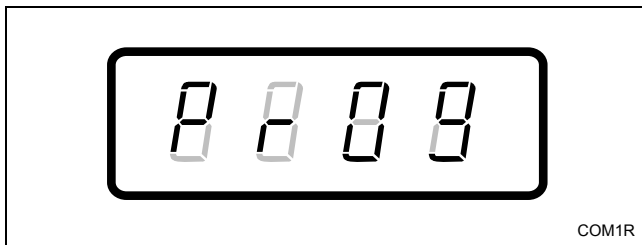


Figure 11

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “dEn2” appears in the Four-Digit Display.

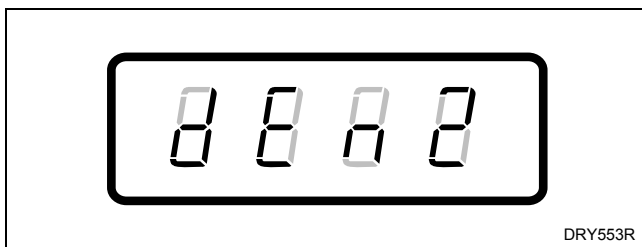


Figure 12

5. When “dEn2” appears in the Four-Digit Display, press the START (enter) keypad. There are four digits in Coin #2 Amount, and the fourth digit will become the active digit. The active digit will flash one second on and one second off.

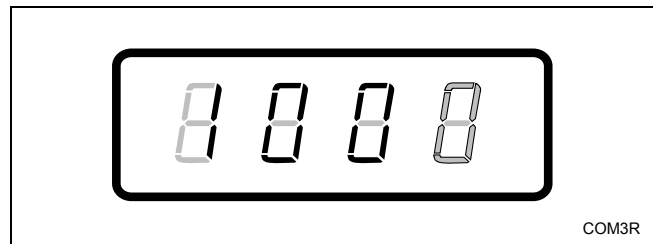


Figure 13

**NOTE: The coin amount can be set from 1 to 9999.**

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the value of the active digit and the START (enter) keypad to enter the value of the digit and advance to the next digit.
7. Repeat step 6 for each of the four digits. When the START (enter) keypad is pressed and the last digit is the active digit, the changes to the coin #2 amount will be saved into the memory. The next option, “PLSE”, will appear in the Four-Digit Display.

**NOTE: To program “PLSE” (Start Pulse Value), refer to option 4. To program other options, refer to the appropriate section.**

#### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

## Programming MDC

### 4. Start Pulse Value “PLSE”

This option allows the owner to program the value of the start pulse with an aftermarket central card reader or pay system.

#### How to Program Start Pulse Value

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

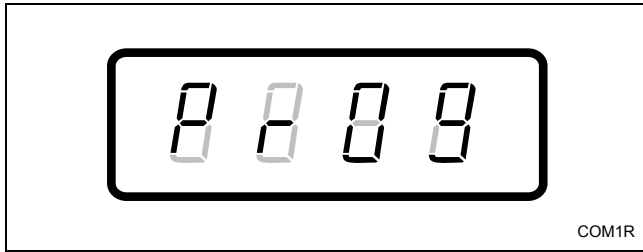


Figure 14

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “PLSE” appears in the Four-Digit Display.

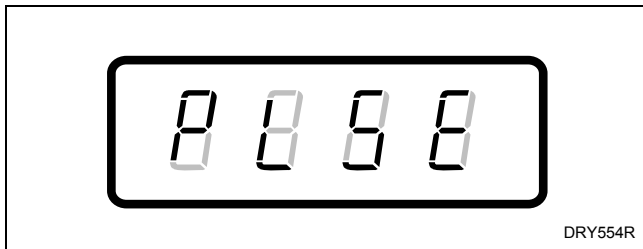


Figure 15

5. When “PLSE” appears in the Four-Digit Display, press the START (enter) keypad. There are four digits in Start Pulse Value, and the fourth digit will become the active digit. The active digit will flash one second on and one second off.

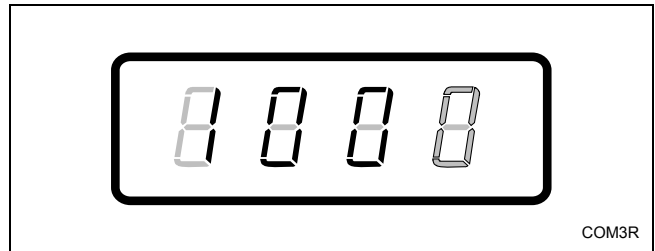


Figure 16

**NOTE: The start pulse can be set from 1 to 9999.**

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the value of the active digit and the START (enter) keypad to enter the value of the digit and advance to the next digit.
7. Repeat step 6 for each of the four digits. When the START (enter) keypad is pressed and the last digit is the active digit, the changes to the start pulse value will be saved into the memory. The next option, “CyCL”, will appear in the Four-Digit Display.

**NOTE: To program “CyCL” (Cycle Stages), refer to option 5. To program other options, refer to the appropriate section.**

#### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

## 5. Cycle Stages “CyCL”

This option allows the owner to set the number of stages for a cycle.

### How to Program Cycle Stages

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

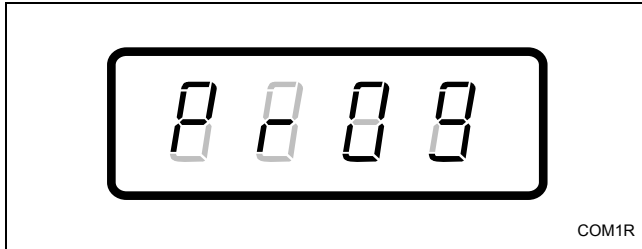


Figure 17

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “CyCL” appears in the Four-Digit Display.

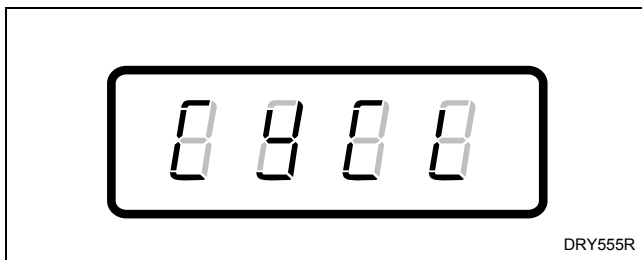


Figure 18

5. When “CyCL” appears in the Four-Digit Display, press the START (enter) keypad. The current number of cycle stages will appear in the Four-Digit Display. This number (found below) corresponds to the cycle stages.

3 = One wash and two rinses

4 = One wash and three rinses

5 = One pre-wash, one wash, and three rinses

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the current code displayed in the Four-Digit Display to the desired code.
7. Press the START (enter) keypad when the correct code appears in the Four-Digit Display. The next option, “CnFg” will appear in the Four-Digit Display.

**NOTE: To program “CnFg” (Configuration Display), refer to option 6. To program other options, refer to the appropriate section.**

### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

## Programming MDC

### 6. Configuration “CnFg”

This option allows the owner to turn ON or turn OFF preprogrammed capabilities within MDC.

#### How to Program Configuration

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

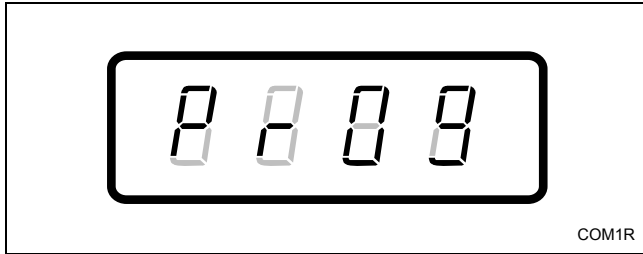


Figure 19

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “CnFg” appears in the Four-Digit Display.

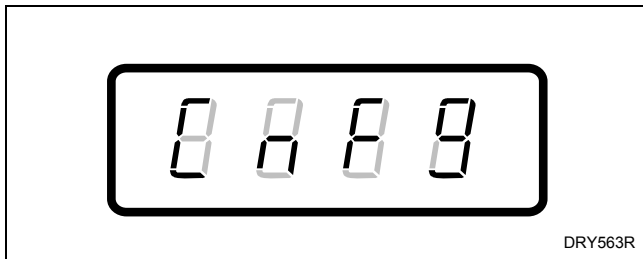


Figure 20

5. When “CnFg” appears in the Four-Digit Display, press the START (enter) keypad. A number will appear in the Four-Digit Display. This number corresponds to the current configuration value.
6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the current number to the desired number selected from *Table 1*.
7. Press the START (enter) keypad when the correct number appears in the Four-Digit Display. The next option will appear in the Four-Digit Display. (On software versions less than “S003”, the first option, “AtS”, will appear in the Four-Digit Display. On software version “S003” and higher, “dCyC” will appear in the Four-Digit Display.)

**NOTE: To program “dCyC” (Default Cycle), refer to option 7. To program other options, refer to the appropriate section.**

#### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

## Configuration Programming

Use *Table 1* to turn on or turn off the preprogrammed Card Reader Controlled Display, Pressure Switch Type, Audio Signal, Global Errors, Coin Drop #1, and Pump/Gravity Drain options in MDC.

To change any or all of these configuration options, review the following descriptions carefully and choose the appropriate configuration value from *Table 1*. Enter the appropriate value in step 6 on the previous page.

<b>Card Reader Controlled Display</b>	This option, when enabled, prevents the control from displaying certain card operation-related messages on the Four-Digit Display to allow a third party card reader to display messages on the Four-Digit Display.
	ON = Turns off control generated display messages
	OFF = Turns on control generated display messages
<b>Pressure Switch Type</b>	This option selects whether a two-level or three-level pressure switch type is used. (Proper pressure switch must be installed to match configuration or machine will not function correctly.)
	0 = Two-level pressure switch
	1 = Three-level pressure switch
<b>Audio Signal</b>	This option turns on or off the audio signal which, when turned on, sounds for keypad depression, coin/start pulse input and card insertion, and open/shorted thermistor error.
	ON = Turns on audio signal
	OFF = Turns off audio signal
<b>Global Errors</b>	This option determines whether all errors are displayed.
	ON = Turns on errors in Four-Digit Display
	OFF = Turns off errors in Four-Digit Display
<b>Coin Drop #1</b>	This option determines whether the control will accept pulses from the coin drop #1.
	Coin Drop #1 = Turns on coin drop #1
<b>Pump/Gravity Drain</b>	This option determines whether the machine will use the pump or the gravity drain. (Gravity drain must be installed to match configuration or machine will not function correctly.)
	Pump = Turns pump on and turns gravity drain off
	Gravity Drain = Turns gravity drain on and turns pump off

## Programming MDC

Configuration Value	Card Reader Display	Pressure Switch	Audio Signal	Errors	Coin Drop #1	Pump/ Gravity Drain
0	OFF	0	OFF	OFF	Coin Drop #1	Pump
1	OFF	0	OFF	OFF	Coin Drop #1	Gravity Drain
4	OFF	0	OFF	<b>ON</b>	Coin Drop #1	Pump
5	OFF	0	OFF	<b>ON</b>	Coin Drop #1	Gravity Drain
8	OFF	0	<b>ON</b>	OFF	Coin Drop #1	Pump
9	OFF	0	<b>ON</b>	OFF	Coin Drop #1	Gravity Drain
12 (default)	OFF	0	<b>ON</b>	<b>ON</b>	Coin Drop #1	Pump
13	OFF	0	<b>ON</b>	<b>ON</b>	Coin Drop #1	Gravity Drain
16	OFF	1	OFF	OFF	Coin Drop #1	Pump
17	OFF	1	OFF	OFF	Coin Drop #1	Gravity Drain
20	OFF	1	OFF	<b>ON</b>	Coin Drop #1	Pump
21	OFF	1	OFF	<b>ON</b>	Coin Drop #1	Gravity Drain
24	OFF	1	<b>ON</b>	OFF	Coin Drop #1	Pump
25	OFF	1	<b>ON</b>	OFF	Coin Drop #1	Gravity Drain
28	OFF	1	<b>ON</b>	<b>ON</b>	Coin Drop #1	Pump
29	OFF	1	<b>ON</b>	<b>ON</b>	Coin Drop #1	Gravity Drain
32	<b>ON</b>	0	OFF	OFF	Coin Drop #1	Pump
33	<b>ON</b>	0	OFF	OFF	Coin Drop #1	Gravity Drain
36	<b>ON</b>	0	OFF	<b>ON</b>	Coin Drop #1	Pump
37	<b>ON</b>	0	OFF	<b>ON</b>	Coin Drop #1	Gravity Drain
40	<b>ON</b>	0	<b>ON</b>	OFF	Coin Drop #1	Pump
41	<b>ON</b>	0	<b>ON</b>	OFF	Coin Drop #1	Gravity Drain
44	<b>ON</b>	0	<b>ON</b>	<b>ON</b>	Coin Drop #1	Pump
45	<b>ON</b>	0	<b>ON</b>	<b>ON</b>	Coin Drop #1	Gravity Drain
48	<b>ON</b>	1	OFF	OFF	Coin Drop #1	Pump
49	<b>ON</b>	1	OFF	OFF	Coin Drop #1	Gravity Drain
52	<b>ON</b>	1	OFF	<b>ON</b>	Coin Drop #1	Pump
53	<b>ON</b>	1	OFF	<b>ON</b>	Coin Drop #1	Gravity Drain
56	<b>ON</b>	1	<b>ON</b>	OFF	Coin Drop #1	Pump
57	<b>ON</b>	1	<b>ON</b>	OFF	Coin Drop #1	Gravity Drain
60	<b>ON</b>	1	<b>ON</b>	<b>ON</b>	Coin Drop #1	Pump
61	<b>ON</b>	1	<b>ON</b>	<b>ON</b>	Coin Drop #1	Gravity Drain

Table 1

## 7. Default Cycle “dCyC”

This option allows the owner to set the default cycle type.

**NOTE: This option is available on software version “S003” or higher only.**

### How to Program Default Cycle

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “PrOg” appears in the Four-Digit Display.

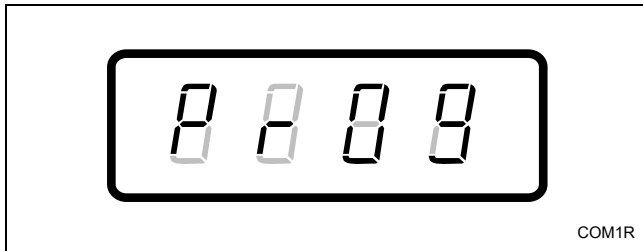


Figure 21

3. Press the START (enter) keypad and “AtS” will appear in the Four-Digit Display.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the programmable options until “dCyC” appears in the Four-Digit Display.

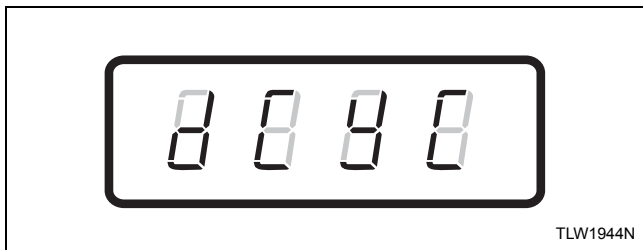


Figure 22

5. When “dCyC” appears in the Four-Digit Display, press the START (enter) keypad. A letter code will appear in the Four-Digit Display. This code (found below) corresponds to the cycle type.

hEAy = NORMAL/HOT  
nOrL = NORMAL/WARM  
PP = PERM PRESS/WARM  
dEL = DELICATES/COLD

6. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to increase or decrease the current code displayed in the Four-Digit Display to the desired code.
7. Press the START (enter) keypad when the correct code appears in the Four-Digit Display.

**NOTE: To program other options, refer to the appropriate section.**

### How to Exit Programming Feature

1. Be sure the control shows a programmable option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will revert back to the previous mode of operation.

# Collecting Audit Information

This feature allows the owner to retrieve audit information stored in the washer by pressing a sequence of keypads on the control. For an explanation of the audit options available, refer to *Table 2*.

## How to Enter Audit Feature

There are two methods the owner can use to enter the Audit Feature.

### Entering the Audit Feature by Manual Mode

1. Control must be in the Manual Mode to start. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (∧) or the DELICATES/COLD (∨) keypad until “AUDT” appears in the Four-Digit Display.

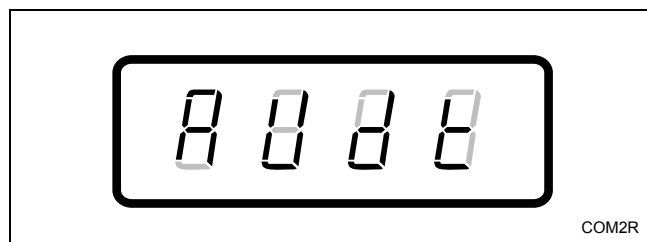


Figure 23

3. Press the START (enter) keypad. “C1” will appear in the Four-Digit Display.

### Entering the Audit Feature with the Coin Vault Open

1. Open coin vault.

**NOTE: The service door must be closed on machines with controls that have software version “S003” or higher.**

2. Press the START (enter) keypad.

## How to Read Audit Data

1. Use the PERM PRESS/WARM (∧) or the DELICATES/COLD (∨) keypad to scroll through various options until the desired option is displayed in the Four-Digit Display. Refer to *Table 2* for an explanation of the audit options available.

Audit Options List	
Four-Digit Display	Description
C1	Total Number of Coins #1
C2	Total Number of Coins #2
CyC	Total Number of Machine Cycles
SP	Total Number of Start Pulses

Table 2

2. Once the desired option appears in the Four-Digit Display, press the START (enter) keypad to start the audit count. At this point, the display will show the four-digit number of the audit value.
3. Press the START (enter) keypad again. The control will go to the next audit option in *Table 2*.
4. To select other audit options, repeat steps 1-3.

## How to Exit Audit Feature When Using Manual Mode

1. Be sure the control shows an audit option, not a value.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The control will return to the previous mode of operation.

**NOTE: To exit Audit Feature when using Coin Vault Open method, owner must close coin vault.**



# Testing Machine and MDC Functions

This feature allows the owner to run diagnostic tests on various washer operations without servicing the washer. The following tests are available:

- Show Fill Time Test
- Show Drain Time Test

## How to Enter Testing Feature

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “dIAG” appears in the Four-Digit Display.
3. Press the START (enter) keypad. Display will change to “d001”.
4. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad to scroll through the diagnostic test options.

## How to Start Tests

To start a diagnostic test, refer to *Table 3*. Press the START (enter) keypad when the desired test number is displayed. For detailed information on each test, read the appropriate description on this page.

## How to Exit Testing Feature

While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The display will return to the previous mode of operation.

Diagnostic (Testing) Mode – Quick Reference Table		
Test Number	Diagnostic Mode	Four-Digit Display
d001	Show Fill Time Test	FXXX
d002	Show Drain Time Test	dXXX

Table 3

## Diagnostic Test Descriptions

### Show Fill Time Test

This test will display the average fill time. The average will be calculated by taking the average of the last four fill times.

To start test, control must be in the Testing Mode. Refer to “*How to Start Tests*” at the beginning of this section.

To enter, press the START (enter) keypad. The Four-Digit Display will show “FXXX”. The “XXX” will be the average fill time in minutes and seconds for that machine.

To exit the Show Fill Time Test, press and hold the NORMAL/HOT keypad with one hand, then press the PERM PRESS/WARM keypad with the other hand. The control will return to the previous mode of operation. Refer to *Figure 2*.

### Show Drain Time Test

This test will display the average drain time. The average will be calculated by taking the average of the last four drain times.

To start test, control must be in the Testing Mode. Refer to “*How to Start Tests*” at the beginning of this section.

To enter, press the START (enter) keypad. The Four-Digit Display will show “dXXX”. The “XXX” will be the average drain time in minutes and seconds for that machine.

To exit the Show Drain Time Test, press and hold the NORMAL/HOT keypad with one hand, then press the PERM PRESS/WARM keypad with the other hand. The control will return to the previous mode of operation. Refer to *Figure 2*.

## Testing Machine and MDC Functions

### Production Test Cycle

#### To Enter Production Test Cycle

1. Be certain control is in Ready Mode and access panel or coin vault is open.
2. While pressing and holding the NORMAL/WARM keypad with one hand, press the PERM PRESS/WARM keypad with the other hand.
3. When the control enters the Production Test Cycle, it will first display “SXXX” with the “XXX” showing the software version of the control.
4. The control will advance through the sequence of test steps whenever NORMAL/WARM is pressed, with the exception of the Keypad Test. Refer to *Table 4* for all tests in the Production Test Cycle.

#### To Exit Production Test Cycle

The control must be powered down to end the test.

Production Test Cycle Quick Reference Chart		
Display	Test Mode	Comments
SXXX	Software Version	XXX is the software version number
All LEDs and display segments will light	Show Entire Display Mode	None
PadX	Keypad Test	When a key is pressed, the control will display the number assigned to the keypad (1 – NORMAL/HOT, 2 – PERM PRESS/WARM, 3 – NORMAL/WARM, 4 – DELICATES/COLD, 5 – START). As each keypad is pressed, its corresponding LED will be lit and remain on for the duration of the test. When all keypads have been pressed, the control will advance to Door Switch Test step.
drOP or drCL	Door Switch Test	drOP is displayed when loading door is open. drCL is displayed when loading door is closed.
drLO or drUL	Door Lock Test	When step is entered, control will lock door and will then check to make sure door is locked. drLO is displayed if door is locked. drUL is displayed if door is unlocked.
U XX	Coin Vault Test	XX is the number of coin vault openings.
S XX	Service Door Switch Test	XX is the number of service door switch openings.
CXCX	Coin Drop Test	X is the number of coins entered. Coin drop #1 is shown on the left of the display and coin drop #2 is shown on the right of the display.
CLdE	Cold/Detergent Fill	Cold Water Fill valve and Detergent/Bleach valve are turned on.
HoSF	Hot/Softener Fill	Hot Water Fill valve and Softener valve are turned on.
PSL	Pressure Switch Low	Both water valves are turned on. When the pressure Switch Low Level is satisfied, the water valves are turned off. The control will not advance to next step until Pressure Switch Low Level is satisfied and NORMAL/WARM keypad is pressed.
PSH	Pressure Switch High	Both water valves are turned on. When the Pressure Switch High Level is satisfied, the water valves are turned off. The control will not advance to next step until Pressure Switch High Level is satisfied and NORMAL/WARM keypad is pressed. This step is only available if a 3-level pressure switch is enabled.
OFLo	Overflow Test	All water and dispenser valves are turned on. When the overflow level is reached the water valves are turned off.
LoAg	Low Agitate	Machine enters low agitate.
rEAg	Regular Agitate	Machine enters regular agitate.
PunP or drAi	Pump/Gravity Drain Test	Pump is turned on or Gravity drain is opened. The control will not advance to next step until pressure switch is closed indicating drum is empty and NORMAL/WARM keypad is pressed.
Step Time in Minutes*	Clothes Spin	The control runs a spin step. The drum will ramp up to 650 RPM for 4 minutes then 1000 RPM for 1 minute. The control will advance to the next step when finished.
UnLo*	Unlock Door	Door Lock is unpowered. The door will take approximately 1 minute to unlock. The motor will run at Regular Agitate speed. The control will remain in this step until the door unlocks.

Table 4 (continued)

## Testing Machine and MDC Functions

Table 4 (continued)

<b>Production Test Cycle Quick Reference Chart</b>		
<b>Display</b>	<b>Test Mode</b>	<b>Comments</b>
LoAd*	Load Weight	The control will remain in this step until the loading door is closed and the NORMAL/WARM keypad is pressed.
LoAd*	Lock Door	Door Lock is powered. Machine will remain in this step until door is locked.
RPM speed displayed	Spin Test	Machine steps through all spin speeds for 30 seconds at each speed. Speeds are 90, 500, 650, and 1000. After 1000 RPM step, motor will stop.
brAY	Breakaway	Motor runs at Regular Agitate speed until door is unlocked. When door unlocks, control will exit test.

\* These test steps are only on controls with software versions "S005" or higher.

# Rapid Advance Feature

The Rapid Advance feature allows the owner to quickly advance through active cycles or advance into a cycle from the Ready Mode.

## How to Enter Rapid Advance from Ready Mode

1. If control is in Ready Mode, control must be put into Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the PERM PRESS/WARM (^) or the DELICATES/COLD (v) keypad until “rAPd” appears in the display.
3. Press the START (enter) keypad. The Four-Digit Display will display “PFIL” or “UFIL” and the START (enter) keypad LED will flash.
4. Press the START (enter) keypad to start cycle. The time remaining will show in the Four-Digit Display.

**NOTE: If the Rapid Advance feature is attempted while door open, the Four-Digit Display will show “door” until the door is closed.**

## How to Enter Rapid Advance During an Active Cycle

1. Be certain service door is open and coin vault is closed.
2. While pressing and holding the NORMAL/HOT keypad with one hand, press the NORMAL/WARM keypad with the other hand. The Four-Digit Display will show “rAPd”.
3. Press the START (enter) keypad.

## How to Use Rapid Advance

While in the Rapid Advance feature, pressing the START (enter) keypad will advance the washer to the next cycle step. The Four-Digit Display will show which cycle step the washer is in for three seconds and will then show the cycle time remaining. Refer to *Table 5* for cycle steps.

**NOTE: When the Rapid Advance feature is used to end a cycle, the loading door will stay locked for 1 minute after the cycle has ended.**

Four-Digit Display	Cycle Step
PFIL	Pre-Wash Fill/Agitate Cycle Step
PdIS	Pre-Wash Distribute Cycle Step
PSPI	Pre-Wash Pulse Spin Cycle Step
UFIL	Wash Fill/Agitate Cycle Step
UdIS	Wash Distribute Cycle Step
USPI	Wash Pulse Spin Cycle Step
rFIL	Rinse Fill/Agitate Cycle Step
rdIS	Rinse Distribute Cycle Step
rSPI	Rinse Pulse Spin Cycle Step
EFIL	Extra Rinse Fill/Agitate Cycle Step
EdIS	Extra Rinse Distribute Cycle Step
ESPI	Extra Rinse Pulse Spin Cycle Step
FFIL	Final Fill/Agitate Cycle Step
FdIS	Final Distribute Cycle Step
FSPI	Final Pulse Spin Cycle Step
SPIn	Final High Spin Cycle Step
brAy	Breakaway Cycle Step

Table 5

Continue pressing the START (enter) keypad until the cycle is completed.

## How to Exit Rapid Advance Feature

Advance through the cycles until reaching the Ready Mode.

# Default Washer Settings

## Default Settings

Default Settings	Default
Vend Price	100
Coin #1 Value	25
Coin #2 Value	100
Start Pulse Value	25
Cycle Steps	One wash, two rinses
Control Configuration	12
Card Reader Display Control	OFF
Pressure Switch Type	2 Level
Audio Signal	ON
Error Mode	ON
Coin Drop #1	Coin Drop #1
Pump/Gravity Drain	Pump
Default Cycle*	PERM PRESS/ WARM

\* This option available in software version "S003" or higher.

## Default Cycle

The PERM PRESS/WARM cycle is the default cycle and is programmed in at the factory. This cycle can be made longer or shorter by reprogramming the cycle stages. Refer to *Programming MDC, option 5*, to change these times. All other times are not programmable.

*Models with Old-Style Brush Motor (Letter "H" in Eighth Character of Model Number)*

Cycle	Default
Wash Fill	6 minutes
Wash Distribute	45 seconds
Wash Spin	2 minutes and 15 seconds
Rinse Fill/Agitate	2 minutes
Rinse Distribute	45 seconds
Rinse Spin	2 minutes and 15 seconds
Final Rinse Fill/Agitate	2 minutes
Final Rinse Distribute	45 seconds
Final Rinse Spin	2 minutes and 15 seconds
Final High Spin	7 minutes
Breakaway	1 minute
Total Cycle Time	27 minutes

## All Other Models

Cycle	Default
Wash Fill	6 minutes
Wash Distribute	45 seconds
Wash Spin	2 minutes and 15 seconds
Rinse Fill/Agitate	2 minutes
Rinse Distribute	45 seconds
Rinse Spin	2 minutes and 15 seconds
Final Rinse Fill/Agitate	2 minutes
Final Rinse Distribute	45 seconds
Final Rinse Spin	2 minutes and 15 seconds
Final High Spin	5 minutes
Breakaway	1 minute
Total Cycle Time	25 minutes