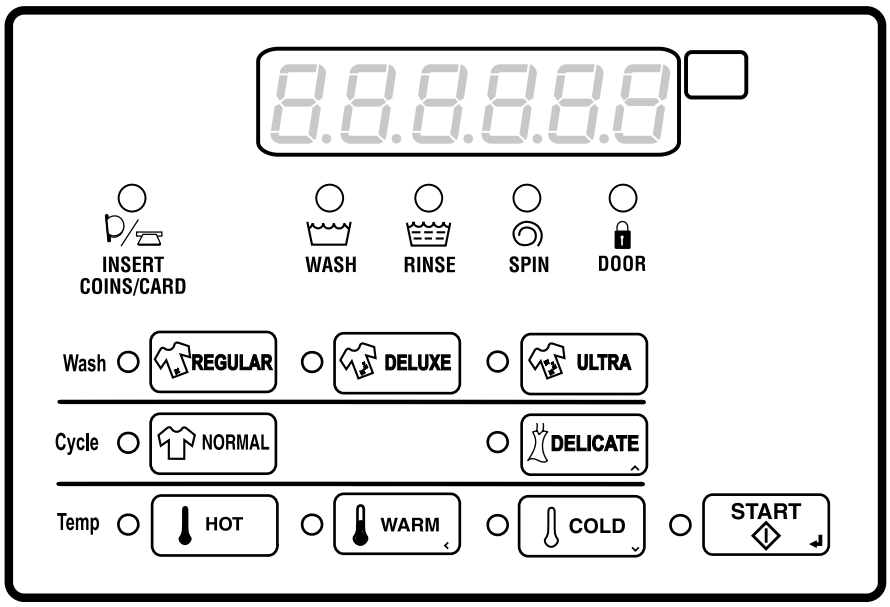
Washer-Extractor

Models Starting May 2019

Refer to Page 11 for Model Numbers

Programming



CHM1798C_SVG

Original Instructions
Keep These Instructions for Future Reference.
CAUTION: Read the instructions before using the machine.
(If this machine changes ownership, this manual must accompany machine.)

Alliance™ Laundry Systems

www.alliancelaundry.com

Part No. F8681301ENR3
September 2022

WARNING

Machine installations must comply with minimum specifications and requirements stated in the applicable Installation Manual, any applicable municipal building codes, water supply requirements, electrical wiring regulations and any other relevant statutory regulations. Due to varied requirements and applicable local codes, this machine must be installed, adjusted, and serviced by qualified maintenance personnel familiar with applicable local codes and the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury, property damage, and/or equipment damage, and will void the warranty.

W820

NOTE: The WARNINGS and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution, and care must be exercised when installing, maintaining, or operating the machine.

Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

Singapore Recommended Program For Nominal Load

The ECO Cycle at 27 minutes with 1 wash and 1 rinse is the program recommended for a nominal load at rated load capacity.

For the below model certification:

SCT020, SCT030, SCT040, SCT060

Refer to programming manual for details of this wash program.

Table of Contents

Introduction

Machine Identification

Information in this manual is applicable to these machines:

Machines					
20 Pound [9 Kg]	SCT020NC SCT020ND SCT020NE SCT020NF SCT020NH	SCT020NL SCT020NT SCT020NQ SCT020NV SCT020NX	SCT020NY SCT020WC SCT020WD SCT020WE	SCT020WF SCT020WH SCT020WL SCT020WT	SCT020WQ SCT020WV SCT020WX SCT020WY
	CH020E-A CH020F-A	CH020M-A	CH020N-A	CH020S-A	CH020T-A
30 Pound [13.6 Kg]	HCT030NE HCT030NY SCT030NC SCT030ND SCT030NE	SCT030NF SCT030NH SCT030NL SCT030NT SCT030NQ	SCT030NV SCT030NX SCT030NY SCT030WC SCT030WD	SCT030WE SCT030WF SCT030WH SCT030WL SCT030WT	SCT030WQ SCT030WV SCT030WX SCT030WY
	CH030E-A CH030F-A	CH030M-A	CH030N-A	CH030S-A	CH030T-A
40 Pound [18.1 Kg]	HCT040NX SCT040NC SCT040ND SCT040NE SCT040NF	SCT040NH SCT040NL SCT040NT SCT040NQ SCT040NV	SCT040NX SCT040NY SCT040WC SCT040WD SCT040WE	SCT040WF SCT040WH SCT040WL SCT040WT SCT040WQ	SCT040WV SCT040WX SCT040WY
	CH040E-A CH040F-A	CH040M-A	CH040N-A	CH040S-A	CH040T-A
60 Pound [27.2 Kg]	HCT060NX SCT060NC SCT060ND SCT060NE SCT060NF	SCT060NH SCT060NL SCT060NT SCT060NQ SCT060NV	SCT060NX SCT060NY SCT060WC SCT060WD SCT060WE	SCT060WF SCT060WH SCT060WL SCT060WT SCT060WQ	SCT060WV SCT060WX SCT060WY
	CH060E-A CH060F-A	CH060M-A	CH060N-A	CH060S-A	CH060T-A
80 Pound [36.3 Kg]	SCT080NC SCT080ND SCT080NE SCT080NF SCT080NH	SCT080NL SCT080NT SCT080NQ SCT080NV SCT080NX	SCT080NY SCT080WC SCT080WD SCT080WE SCT080WF	SCT080WH SCT080WL SCT080WT SCT080WQ SCT080WV	SCT080WX SCT080WY
	CH080E-A CH080F-A	CH080M-A	CH080N-A	CH080S-A	CH080T-A

Table continues...

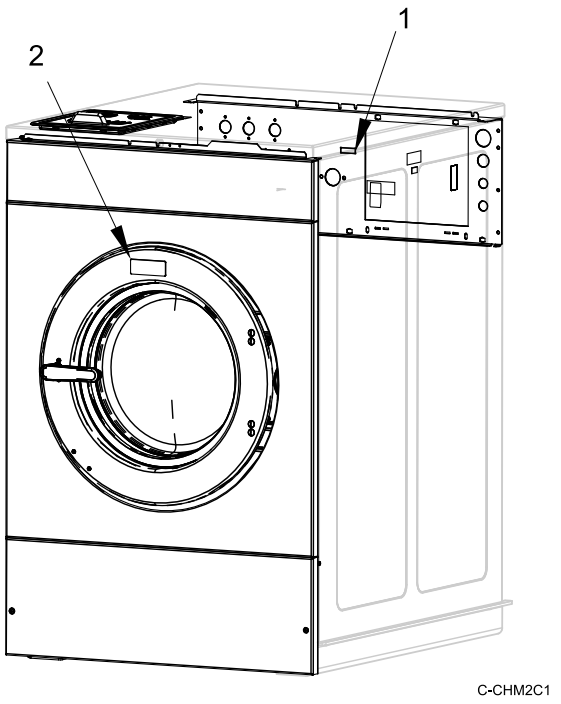
Machines					
100 Pound [45.4 Kg]	SCT100NC SCT100ND SCT100NE SCT100NF SCT100NH	SCT100NL SCT100NT SCT100NQ SCT100NV SCT100NX	SCT100NY SCT100WC SCT100WD SCT100WE SCT100WF	SCT100WH SCT100WL SCT100WT SCT100WQ SCT100WV	SCT100WX SCT100WY
	CH100E-A CH100F-A	CH100M-A	CH100N-A	CH100S-A	CH100T-A

Serial Plate Location

The serial plate is located on the rear panel and inside the door of the machine.

Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance. Refer to *Figure 1* .

Model Example of Serial Plate Location



1. Serial Plate on Panel
2. Serial Plate on Door Frame

Figure 1

Replacement Parts

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at +1 (920) 748-3950 for the name and address of the nearest authorized parts distributor.

Customer Service

For technical assistance, contact your local distributor or contact:

Alliance Laundry Systems
Shepard Street
P.O. Box 990
Ripon, WI 54971-0990
U.S.A.
www.alliancelaundry.com
Phone: +1 (920) 748-3121 Ripon, Wisconsin

Preliminary Information

About the Control

This control is an advanced, programmable computer that allows the owner to control most machine features by pressing a sequence of keypads. Refer to *Figure 2* .

The control allows the owner to program custom cycles, set vend prices, retrieve audit information, run diagnostic tests, program special vend features and other programmable features. Refer to *Programming the Control* for a list of features. Machines shipped from the factory have a default cycle and wash temperature setting built in, however, the owner can change the default cycle, or any cycle, as needs permit.

The default cycle is Normal Cold.

IMPORTANT: In the event of a power failure, the control will not have to be reprogrammed. It is designed with a memory system that will remember how it was programmed until the electrical power is restored.

IMPORTANT: It is extremely important that the machine has a good ground connection and that all mechanical and electrical connections to the control are made before applying power to or operating the machine.

Glossary of Terms

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

Display – This term refers to the window area of the control that displays words and values.

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

IrDA – Infra-red External Device

FEC – Front End Control

I/O Board – Input/Output Board

OPL – On Premises Laundry

Communications

The control may be programmed manually, by infra-red communication with an external device or by the network. A limited number of features can be programmed by a card reader.

Serial Card Reader Communications (Card Models Only)

The control will accept communication with a serial card reader in order to perform vending transactions when a card is inserted to pay for cycles. The card reader can also allow the owner to program a limited number of features and collect audit information.

For detailed information on serial card reader communications, refer to instructions included with card reader.

Infra-red Communications

If enabled (refer to *IR Access Enable irA En*) an external device, such as a PDA, allows the owner to program and retrieve information from the control as well as start and stop various diagnostic tests without using the keypad. An external device greatly expands the programming options available to the owner.

An external device is not required to program and operate the machine. The operation of an external device and the advanced features available are covered separately in the instructions included with the external device software. Contact Alliance Laundry Systems for a list of approved PDAs and other external devices.

How to Begin Communications with an External Device

The control will switch the display to show `-C-` until the communication is complete. If an error occurs that terminates communication, the display will show `EI HH` (`HH` represents the error code).

NOTE: The Infra-red Communications option must be turned on.

Network Communications

Network communications allow an owner to program, collect data and run diagnostics on any machine.

Control Identification

Select Cycle Keypads

(Refer to *Figure 2*)

Select Cycle keypads are used to select the specific machine cycle. These keypads include Normal and Delicate and allow the user to select a cycle other than the default cycle (Normal Cold). The Select Cycle keypads are not active after the first Fill Step of the cycle. The selected cycle is indicated by the light (LED) on the keypad. Pressing the flashing START (enter) keypad will confirm the selection and the cycle will begin. When the card reader is used, pressing the START (enter) keypad will start the cycle and deduct the vend price from the card.

Select Wash Temp Keypads

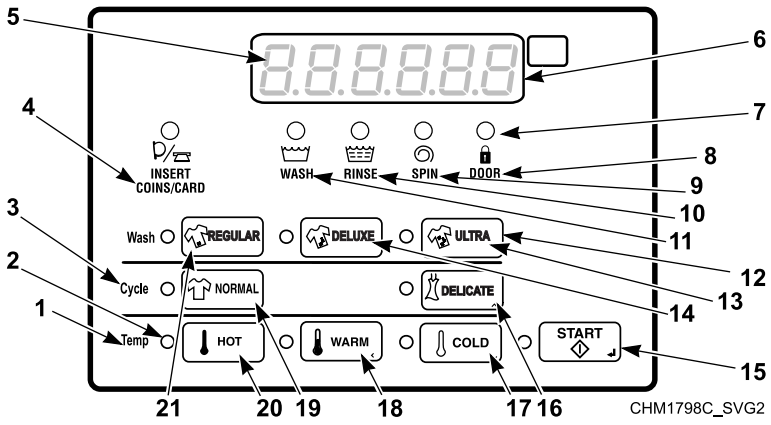
(Refer to *Figure 2*)

Select Wash Temp keypads are used to select the temperature of the water used for the wash fill. These keypads include Hot, Warm, and Cold. These pads allow the user to select a water temperature other than the default setting (Cold).

Select Cycle Modifier Keypads

(Refer to *Figure 2*)

The Cycle Modifier keypads are used to select cycle modifier options. The Regular option is the default and indicates no cycle modifiers are active. The Deluxe and Ultra options can be programmed to offer extra features for an added vend price. Features available include an added prewash, extra wash time, an added extra rinse, extra rinse time and a warm rinse temperature.



1. Select Temp keypads
2. LED Status Lights
3. Select Cycle keypads
4. Insert Coins/Card
5. Four 7-Segment Digits
6. Display
7. LED Light
8. Door
9. Spin
10. Rinse
11. Wash
12. Select Modifyer keypads
13. Ultra
14. Deluxe
15. START (enter)
16. Delicate
17. Cold
18. Warm
19. Normal
20. Hot
21. Regular

Figure 2

Display Identification

Light Emitting Diodes (LEDs)

Light Emitting Diodes (LEDs) are used to indicate the chosen cycle, cycle status, if vend is needed and door lock information. See below for information on each LED.

CYCLE LED

Cycle LED will remain lit the entire cycle.

WASH TEMP LED

Wash Temp LED will remain on until the end of the cycle or will change to show the rinse temperature if programmed to do so.

WASH LED

Wash LED is lit at the beginning of the pre-wash and wash portions of the cycle and will remain lit until the wash is complete.

RINSE LED

Rinse LED is lit at the beginning of a rinse portion of the cycle and will remain lit until the rinse is complete.

SPIN LED

Spin LED is lit during the final spin portion of the cycle.

COINS/CARD LED

Coins/Card LED prompts the user for coins or a card to satisfy the vend price. digits show the vend price remaining to be satisfied. The vend price displayed will decrease with each coin inserted. If new options are selected during the first Fill step of the wash cycle and it requires additional vend, the Coins/Card light will flash one (1) second on and one (1) second off, and the display will show the vend price remaining to be satisfied.

DOOR LED

Door LED will flash when the control is attempting to lock or unlock the door.

Regular LED

Regular LED is lit when the Option Regular modifier is selected.

Deluxe LED

Deluxe LED is lit when the Option Deluxe modifier is selected.

Ultra LED

Ultra LED is lit when the Option Ultra modifier is selected.

Six 7-Segment Digits

The 7-Segment Digits are used to display the time remaining in a cycle, vend price, error messages and descriptive codes. During diagnostic testing or manual programming of the control, these digits will display descriptive codes and values (as described in *Entering the Manual Mode*).

Heating/Cool Down Display Sequence (Heat Models)

For models with heat, a series of dashes appear on the display to indicate either heating or cool down during a wash cycle step.

When the machine is heating during an agitate step (refer to *Programming the Agitate Step Type*) or a soak step (refer to *Programming the Soak Step Type*), the cycle time pauses and the display shows dashes appearing from left to right. The ascending dash sequence repeats until the water has reached the programmed temperature. This display only shows durring the initial heating process.

When the machine is in a cool down step (refer to *Programming the Cool Down Step Type*), the cycle time pauses and the display shows dashes disappearing from left to right. The descending dash sequence repeats until the water has reached the programmed temperature.

Special Features

Programming the Control

The control allows the owner to program the control with the use of the keypad. Cycle and vend options may be programmed, audit information may be viewed and diagnostic tests may be run by pressing combinations of keypads.

For details on programming select cycle and vend options, refer to *Programming Control*.

Collecting Audit Information

The control will store audit information in its memory that can be retrieved by pressing various combinations of *Select Cycle Keypads*. The control will record coins entered, total machine cycles, total start pulses and total rapid advance cycles.

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

NOTE: Additional audit information is retrievable with an external device using *Infra-red Communications*, the *Card Reader Communications (Card Models)* or the network. Refer to the appropriate instruction manual.

Testing the Machine Using Diagnostic Functions

Special diagnostic features built into the control allow the owner to run specific diagnostic tests. By opening and closing the service door and then pressing various sequences of *Select Cycle Keypads*, by external device (refer to *Communications*), or network, the owner may perform diagnostic tests.

For detailed information on running diagnostic tests, refer to *Machine Diagnostic Functions*.

Rapid Advance Feature

If enabled (refer to *Manual Rapid Advance Enable rAPdEn*), this feature allows the owner to manually advance through active cycles or advance into a cycle from the *Ready Mode* without entering vend. This feature is useful when tests must be performed immediately on a machine currently in an active cycle. In this case, the owner can manually advance through the cycles to *Ready Mode*. At this point, the owner can perform the required tests and then return the machine to the point it was interrupted.

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

Clearing the Vend Feature

This feature allows the owner to return the control back to the *Ready Mode* if the full vend price has not yet been satisfied, while in *Partial Vend Mode*.

How to Clear Vend

1. Open the top cover. Refer to *Opening the Top Cover*.
2. While pressing and holding the Normal keypad with one hand, press the Deluxe keypad with the other hand. The control will reset to the *Ready Mode* and clear out the current vend that has been entered.

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 satisfy the vend.

Start Pulse Operation

The control will accept pulses from optional payment systems. The machine can be programmed to receive a single start pulse or multiple start pulses, or the Start Pulse Option can be turned off. The Start Pulse Mode allows the machine to go from the *Ready Mode* to the *Start Mode* after a single or multiple pulses are received.

Top Cover and Coin Vault Openings

The control will capture the times and dates of the openings of the Coin Vault and the Top Cover. The information is saved in memory. An open top cover combined with various keypad presses allows the control to enter manual modes of operation if the Break-In Alarm is not on. These modes include Manual Programming, Audit Collection and Diagnostics.

Break-In Alarm

This feature allows the owner to program the machine to signal a network alarm, cause a machine alarm or shut down the machine if the top cover or coin vault is opened without disabling the alarm first. The date and time of the break-in is recorded. To avoid the alarm during coin collections, the alarm must be turned off or temporarily disabled by pressing the Delicate keypad.

The alarm is turned off by default. The alarm can be turned on by programming the control with an external device or network.

Special Vend

This feature allows the owner to program the control to allow programmable vend prices for specific hours and dates.

For details on programming Special Vend, refer to *Programming Control*.

Low Power/Auto-Shutdown Option

This feature allows the owner to program the control to shut down or enter a low power consumption mode based on programmable times and dates if either of these options are enabled.

For details on programming the Low Power/Auto-Shutdown option, refer to *Low Power/Auto Shutdown 1 Days Enable LPAS 1* .

Temperature Display

This feature allows the owner to view the water temperature on the display of a machine by pressing any cycle keypad during an agitate or soak step of the cycle.

The temperature display is turned off by default. The feature can be turned on by programming the control with an external device (refer to *Communications*), network or manually.

For details on programming the Temperature Display, refer to *Temperature Display Enable (Heat Models) tP diS* .

Suds Removal Routine

If enabled (refer to *Error Programming Error-*), while in an extract step, the control may go into a special routine designed to help eliminate suds if excessive suds are detected.

During this routine, suds removal rotation sequence is repeated twice. If the Suds Removal Routine Extra Time parameter is enabled, the cycle time is paused while in a Suds Removal Routine. If the Suds Removal Routine Extra Time parameter is disabled, the cycle time will continue to count down while in a Suds Removal Routine.

Power Fail Recovery

If a cycle is in process and the power fails, the cycle status is saved in memory. When the power recovers, the machine will resume into the previously active cycle (if so programmed by the owner), by pressing the START (enter) keypad. If the power failure occurs while the control is in a fatal error mode, it will return to *Ready Mode* upon recovery.

If the power failure lasted less than 5 seconds and the door is locked, the cycle will resume without requiring the user to press the START (enter) keypad to restart.

If the power failure lasted longer than 5 seconds and the *Power Fail Reset PF rSt* option is turned oFF, the door is unlocked and the START (enter) keypad will flash one second on and one second off until it is pressed. The cycle will restart from the point it left off when START (enter) is pressed.

If the power failure lasted longer than 5 seconds, lasted longer than the time programmed in the *Power Fail Reset PF rSt* option, and the Power Fail Reset option is turned on, the control will reset the cycle and lose all vending entered for the cycle.

If the power failure occurs while the control is in a fatal error mode, it will return to *Ready Mode* upon recovery.

Machine Operation

Power Up

When power is applied to the machine, the control becomes active and will display its software version as SHHH (HHH is the version number) for one (1) second.

System Check Mode

This mode is entered after *Power Up* unless the next mode to be entered after System Check Mode is *Run Mode* . The next mode is determined in *Power Up* . The purpose of this mode is for the FEC to verify that the correct I/O Board is connected. Once all required conditions are confirmed, the control will automatically exit System Check Mode and proceed to the next mode. In addition to checking the I/O Board System Check Mode, the control will initialize a drive power up check if the door is closed. After System Check Mode is exited, the control may lock the door and power up the drive to verify that the correct drive is installed. If the door is opened at any time, the drive power up check is canceled until the next time the door is locked. The display will show the software version number similar to *Power Up* .

Ready Mode

In this mode of operation the control indicates the current selected cycle and current selected modifiers by lighting the LEDs. The full current vend price for the cycle appears in the display. The Insert Coins/Card LED is lit.

The user will be able to select a different cycle by pressing a cycle keypad or cycle modifier by pressing a cycle modifier keypad when the machine is in Ready Mode.

Partial Vend Mode

The control enters this mode when part of the vend price has been entered, but not enough vend is entered to satisfy the vend price. The remaining vend price needed to start the cycle appears in the display. The Insert Coins/Card LED is lit.

The user will be able to select a different cycle and/or modifier by pressing a cycle keypad when the machine is in Partial Vend Mode.

Additional Vend Mode

The control enters this mode if a higher priced cycle or a cycle modifier is selected while the machine is in *Start Mode* or *Run Mode*, but before the first Fill Step has completed. If the vend price is not satisfied within one (1) minute, the control will go back to the first selection and the cycle will continue if it was paused. After the first Fill Step, all key presses will be ignored allowing the machine to go through the complete cycle.

Start Mode

The control enters this mode when the full vend price is satisfied, the vend price is zero (0) or the control is in *OPL Mode*. START (enter) keypad LED will flash one (1) second on and one (1) second off. If Start Mode is entered because the vend price is satisfied or the control is in *OPL Mode*, the display will show PUSH for one (1) second, Strt for one (1) second and the current cycle time for one (1) second. If Start Mode is entered because the vend price is zero (0), the display will show FrEE. When first entering Start Mode, a signal will sound for one (1) second on and one (1) second off for 10 seconds if Signal for Start is enabled.

After pressing the START (enter) keypad if the door is closed, *Door Locking Mode* will be entered and the cycle will begin.

If the door is not closed when the vend price is satisfied, CLoSE and door will be displayed until the door is closed. Once door is closed, the START (enter) keypad must be pressed to lock door and start the cycle.

Door Locking Mode

The control enters this mode after the START (enter) keypad is pressed in *Start Mode* or *Pause Mode* to start or resume a machine cycle. The control will stay in Door Locking Mode until the loading door is closed and locked. The display shows a single moving LED and the Door Lock LED flashes one (1) second on/off.

Once the door is locked, the control will exit Door Locking Mode and will enter *Run Mode*. If the door is opened prior to being locked, the control will return to *Start Mode*.

An error will be displayed if the door fails to lock after the third attempt. The machine will attempt to lock for one (1) additional minute. If the door fails to lock, the control will return to *Start Mode*.

If the door locks, the door lock error will clear and the cycle will continue normally. The door can be opened to clear the door lock error as well.

Door Unlocking Mode

This mode is entered when there is no time left in the cycle or when pausing the cycle while in *Run Mode*. The door will unlock after the basket stops spinning. The display will continue to flash the remaining cycle time every second or if the next mode is *End of Cycle Mode*, it will flash `0 1` every second. If the next mode is *Pause Mode*, the display will flash `PAUSE` every second. If the drive board determines that the water temperature is too hot to drain or unlock the door, the display will flash `HoE` in addition to the other displays.

Door Unlocking Mode will proceed once the water temperature drops below 120° F [49° C] (temperature sensor models).

The machine will always drain water down to an empty level before attempting to unlock the door. If after draining, the water level is still not low enough, the control will enter *Machine Error Mode* with a drain error, if enabled. Otherwise the control will continue to drain until it sees the machine empty.

The START (enter) keypad can be pressed while in this mode as long as *Machine Error Mode* or *End of Cycle Mode* is not the next mode. If the START (enter) keypad is pressed and the next mode is *Pause Mode* or *Start Mode*, the next mode entered will be *Door Locking Mode*. Otherwise the press is invalid. All other keys are invalid while in this mode. Once Door Unlocking Mode is exited, the control will enter the next mode.

End of Cycle Mode

When a cycle is complete, the control will display `OPEN` for one (1) second and `DOOR` for one (1) second until the washer is opened, a keypad is pressed, or a coin/card is entered. When one (1) of these options occur, the display will revert back to the *Ready Mode*.

Run Mode

The control enters this mode when a cycle is running. The time remaining appears in the display, the status LEDs are lit and the loading door is locked.

Upon the start of a cycle, the display shows a single moving LED until the machine is ready to rotate the basket. Once the machine is ready to rotate the basket, the display showes the total cycle time. The appropriate LEDs will light while the machine passes through different cycle steps. Any coin entered after the first Fill step will be added to the total coin counter, but the user will not be able to change cycles or cycle modifiers.

Signals

The options for when a signal can be used during the machine operation are listed below:

1. **End of Cycle Signal** - By default, this signal is turned off. If turned on, the signal sounds for three (3) seconds at the end of a cycle.
2. **Signal On Keypad Depression** - By default, this signal is turned on and sounds for a quarter of a second each time a keypad is pressed.
3. **Signal On Coin Input/Card Insertion** - By default, this signal is turned on and will sound for a quarter of a second each time a coin or card is entered.
4. **Signal for Card Removal (Card Models Only)** - By default, this signal is turned on and will sound one (1) second on and one (1) second off when the control is prompting for card removal.
5. **Signal for Start** - By default, this signal is turned on and will sound one (1) second on and one (1) second off for 10 seconds after vend price has been satisfied.

NOTE: Refer to *Programming Control* to program signal options.

Changing Cycles

Selecting a higher priced cycle, wash temperature or soil level will pause the first Fill Step, and Coins/Card will flash one (1) second on and one (1) second off until the vend price has been satisfied. After the vend price has been satisfied, the cycle will continue with the new selections. If the vend price is not satisfied within one (1) minute, the machine control will go back to the previously set cycle, wash temperature and soil level.

Pause Mode

Pause Mode is entered when the START (enter) keypad is pressed three (3) times within five (5) seconds during the first three (3) minutes of a running machine cycle. This mode is only manually accessible if the Pause/Resume Mode (Enable/Disable) parameter is programmed to Enabled and if the control is in *Run Mode* or *Door Locking Mode*. Pause Mode is unavailable during Rapid Advance and while the machine is in *OPL Mode*.

If this mode is entered the control will pause the cycle, enter *Door Unlocking Mode*, and drain/pump the water out. After the machine is confirmed to be empty and not rotating, the control will unlock the door. The control will then enter Pause Mode. The user may then restart the machine by pressing the START (enter) keypad, where the machine will enter *Door Locking Mode* and once the door locks, the cycle will resume from where it left off.

NOTE: The display will show PUSH and StArt, the Cycle Selection LEDs will be lit, and if the door is locked, the door lock LED will be lit.

Closing Washer Door

If the door is not closed when the vend price is satisfied, CLoSE and door will be displayed until the door is closed. Once the door is closed, the START (enter) keypad must be pressed to lock the door and start the cycle. E dL 1 will be displayed, indicating a door lock error, on the third attempt. The machine will attempt to lock for one additional minute. If the door fails to lock, the control will return to *Start Mode*.

If the door locks, the door lock error will clear and the cycle will continue normally. The door can be opened to clear the door lock error as well.

Auto-Flush Mode

The Auto-Flush Mode is only available if enabled in the Control Configuration (refer to *Cycle Programming CyCLE-*). The programmable Auto-Flush option allows the control to be set to automatically flush the dispenser compartments at predetermined intervals and times. The option may be enabled or disabled. Auto-Flush is entered if the following conditions are met.

1. It must be enabled in the Programming Parameters.

2. The machine is in *Ready Mode*, *Start Mode* with *OPL Mode* active and not in Power Recovery, or *Shutdown Mode* with the door closed.

3. The pre-programmed number of cycles have occurred since the last Auto-Flush.

4. The current day-of-week matches the programmed day-of-week.

5. The current hour matches the programmed hour.

If these conditions are met, then the control displays FLUSH and flushes the dispenser compartments with hot water for a pre-programmed number of seconds (factory default is 80 seconds) or until the pressure sensor senses water up to the door level. Each of the four (4) compartments flushes for one quarter of the programmed time.

Overflow Mode

If the control is not running a cycle, in *Door Locking Mode* or in *Door Unlocking Mode*, then the overflow level is set at the basket of the machine. In Overflow Mode, if the door is closed, the door will lock, the pump will turn on, and the gravity drain will open until the water level is below the overflow reset level if running a cycle, otherwise the machine will drain until the drum is seen empty.

If Overflow Mode Display is disabled and the control is in *Run Mode* when it exits, the display will show the default *Run Mode* display, otherwise in all other cases, the display will show oFLo. If the door locks and the overflow level is no longer being met within five (5) minutes of first detecting the overflow, the cycle will continue as normal and the control will go back to the mode it was previously in. If the control continues to see an overflow level after five (5) minutes has been reached with the door locked, the control will enter *Machine Error Mode* with an Overflow Error.

Lockout Mode

If enabled in the Control Configuration via the network or IR device, the control enters Lockout Mode to prevent the machine from being used except by a particular user who has reserved the machine in advance.

This mode is entered when the current time (in hours and minutes) falls within the time period set by the Lockout Mode Start Time Hour, Lockout Mode Start Time Minute, Lockout Duration, and when the control is in *Ready Mode*. The display shows rES. User access is ignored until the control exits Lockout Mode. The control will be able to communicate with the network, IR device, or the serial payment system. If the Lockout Duration is programmed to zero (0), the control will immediately exit Lockout Mode.

Exiting Lockout Mode requires a four (4) keypad sequence (defaulted as Regular, Deluxe, Ultra and Normal) followed by the START (enter) keypad. The corresponding LED lights as each keypad is pressed. If an incorrect sequence is entered, the sequence resets, all LED's turn off, and keypresses are ignored for five (5) seconds.

When the correct sequence is entered, the control enters *Ready Mode*.

Shutdown Mode

If the *Low Power/Auto-Shutdown Option* is enabled (refer to *Programming Control*) the control enters Shutdown Mode at a programmed time, day-of-week, date, month, and year.

The control must be in *Ready Mode*, *Drop-Off Mode*, *Lockout Mode*, or *Start Mode* when no vend has been entered to enter Shutdown Mode. While in Shutdown Mode, the display shows oFF and all LEDs will be turned off.

The control automatically exits Shutdown Mode at a programmed time, day-of-week, date, month, and year. Shutdown Mode can be exited by disabling the *Low Power/Auto-Shutdown Option* manually or through network or IrDA commands.

OPL Mode

This feature allows the user to start a cycle without satisfying the vend price.

When in OPL Mode, press and hold the Normal and Delicate keypads to terminate the cycle and enter *Door Unlocking Mode* and then *End of Cycle Mode*.

For details on enabling OPL Mode, refer to *OPL Parameters oPL-* .

Drop-Off Mode

This feature allows the owner to limit machine use to an attendant without requiring vend.

Starting the machine requires a four (4) keypad sequence (defaulted as Regular, Deluxe, Ultra and Normal) followed by the START (enter) keypad. To cancel Drop-Off Mode, press Normal and Delicate.

These keypad sequences can be reprogrammed by an external device.

For details on enabling Drop-Off Mode, refer to *Drop Off Mode droP* .

Out of Order Mode

This feature allows the owner to program Out of Order Mode which can be used to show the owner that the machine is not available to use. The control will accept coins and increment the appropriate audit counters but the vend entered will not count towards a cycle purchase, the coin audio will not work, and no cycle will run while Out of Order Mode is active.

Refer to *Out of Order oUt* .

Network Node Number Display Mode

This feature allows the owner to program a command via IrDA or network that requests the control to display the network node number. The control will displays nHHH where HHH is the network node number.

While in this mode, press the Delicate and Delicate keypads to enter *Network Node Number nodE* .

Error Display Mode

In Error Display Mode, the display shows machine errors when they occur. The display only shows one error at the time if there are multiple errors. Once the highest priority error is cleared, the next highest priority error will be displayed.

Refer to *Error Codes* for more on error details, displays, and priorities.

Communications Mode

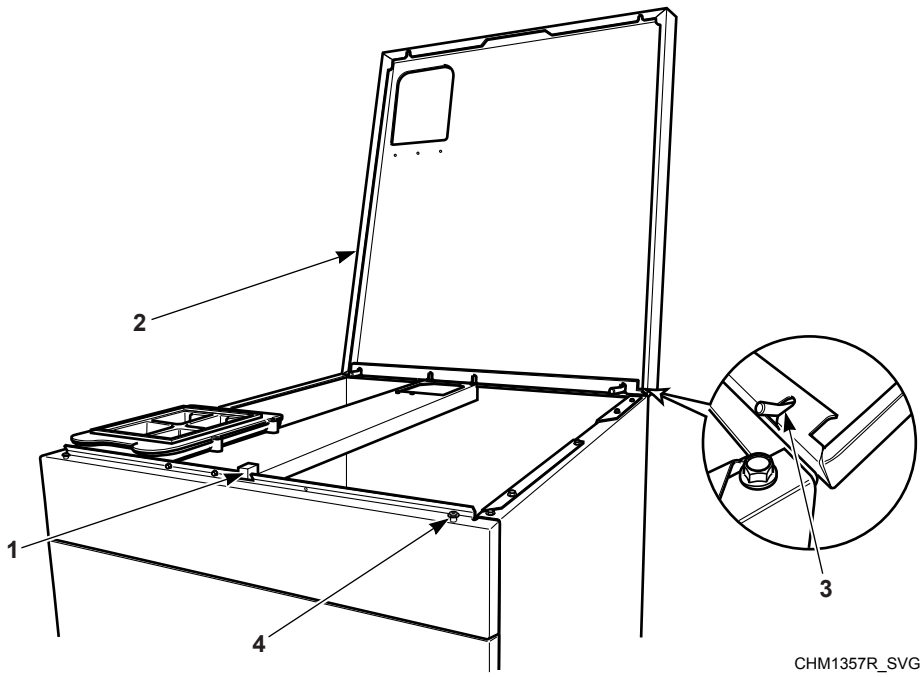
This feature allows the control to communicate with an IrDA, card reader or network. This allows the owner to program the control and read control data without using the keypad.

For more detailed information on using the Communications Mode feature, refer to *Communications*.

Opening the Top Cover

To manually program the control, the top cover (located on the top of the machine) must be unlocked and opened. Opening and closing the top cover trips a switch which allows access to various programming options. Once opened, it may be closed immediately.

After opening and closing the top cover, the owner has 4 minutes and 15 seconds to begin programming. If the appropriate keypads have not been pressed in that time, the control will not accept owner programming. Should this happen, opening and closing the top cover will once again trip the switch which allows access to the programming options.



1. Top Cover Lock
2. Top Cover
3. Top Cover Hinge
4. Peg

Figure 3

Entering the Manual Mode

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

For an overview the Manual Mode, refer to *Manual Programming Navigation*.

How to Enter Manual Programming Mode

1. If accessing Diagnostic Tests, be sure the machine is in the *Ready Mode*. If the machine is in an active cycle, rapid advance through the cycle. Refer to the *Rapid Advance Feature*. If coins or a card has been entered, refer to *Clear Vend Feature*.
2. Open the top cover. Refer to *Opening the Top Cover*.

   NOTE: The coin vault switch must be closed to enter Manual Mode.
3. Press the Regular and Normal keypads at the same time.
4. The display will show rAP id.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options until the desired option appears in the display.
6. Press the START (enter) keypad.

   NOTE: After entering Manual Mode, if no keypads are pressed for 4.25 minutes, the control will return to the previous mode of operation.

How to Exit Manual Mode

Press the Warm (<) keypad until the control returns to the mode that was active before Manual Mode was entered.

Manual Mode Navigation

Manual Mode is broken into three (3) groups: Manual Programming, Manual Rapid Advance and Manual Diagnostics. Manual Programming has three (3) subsets: Manual Programming, Manual Read Audit and Manual Reset. Manual Programming can only be turned on or off with an external device (refer to *Communications*). Manual Rapid Advance and Manual Diagnostics can be turned on and off using an external device or by manual programming (refer to *Manual Rapid Advance (Enable/Disable) rAEn* and *Manual Diagnostics (Enable/Disable) dAEn* of *Programming Control*).

By default, all groups are turned on.

The manual features available in each group are as follows (the menu displayed on the display in this mode is in parentheses).

- **Manual Programming**
  - Manual Programming (Prog)
  - Manual Read Audit (AUd it)
  - Manual Reset (rESEt)
- **Manual Rapid Advance**
  - Rapid Advance (rAP id)
- **Manual Diagnostics**
  - Manual Diagnostic Tests (d iAG)

If a group is turned off, the display will change from the selected feature to oFF when the START (enter) keypad is pressed and an audio signal will sound for one (1) second. The display will then return to the selected feature. The features in the group cannot be entered.

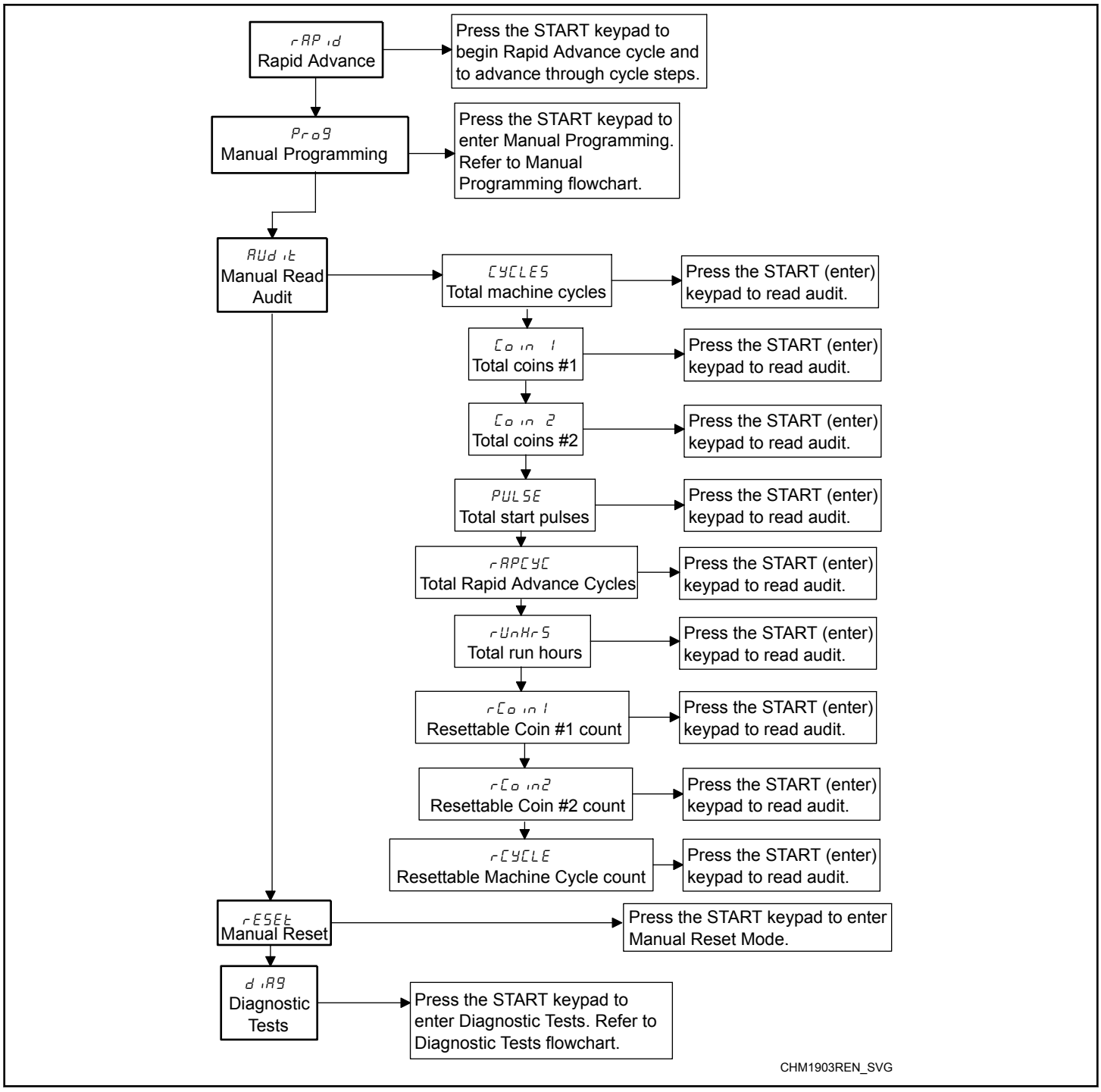


Figure 4

Programming Control

What Can Be Programmed?

This feature allows the owner to program cycle parameters, standard vend pricing, special vends and other features by using the keypads. The control must have the Manual Programming Mode enabled, which is the factory default. This mode can only be turned oFF and on by using an external device (refer to *Communications*).

This section offers a detailed description of all available programmable options. Each description includes instructions on when and why the option might be used and how to program the option.

For more advanced operators, see the quick reference list (refer to *Programmable Options Available Programmable Options Available*) and programming flowcharts (refer to *Manual Mode Navigation*) for the options available through the programming mode.

NOTE: The codes in the Option Display column of *Programmable Options Available* are displayed when that option is selected.

Programmable Options Available

Option Number	Option Display	Description	Factory Default*	Value Range
1	AtS 1	Vend Price #1	200	0-65,535
2	AtS 2	Vend Price #2	200	0-65,535
3	AtS 3	Vend Price #3	200	0-65,535
4	AtS 4	Vend Price #4	200	0-65,535
5	AtS 5	Vend Price #5	200	0-65,535
6	AtS 6	Vend Price #6	200	0-65,535
7	ACnP 1	Deluxe Vend Price Adder	25	0-65,535
8	ACnP 2	Ultra Vend Price Adder	25	0-65,535
9	AtS dP	Vend Price Decimal Point	2	0, 2, 3
10	dEn 1	Coin #1 Value	25	1-65,535
11	dEn 2	Coin #2 Value	100	1-65,535
12	PLSE	Start Pulse Value	25	1-65,535
13	PLSMod	Start Pulse Mode	128	oFF, 128, 192
14	AtYPE	Programmable Output Type	0	0-13
15	dFtCYC	Default Cycle	3	1-6
16	CArd	Card Reader Display Control (If Equipped)	oFF	on / oFF
17	AUdio	Audio Signal	29	0-31
18	node	Network Node Number	250	1-250
19	Error-	Errors Menu	—	—

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
a	CErr-	Coin Error Parameters Menu	—	—
(1)	CErr 1	Coin Error	on	on / oFF
(2)	CErr 2	Coin Error Penalty	oFF	on / oFF
(3)	CErr 3	Vend Header Present Error	on	on / oFF
b	E FL-	Fill Error Menu	—	—
(1)	E FL 1	Fill Error	on	on / oFF
(2)	E FL 2	Fill Error Time	30	2-59
c	E nF-	No Water Flow Error Menu	—	—
(1)	E nF 1	No Water Flow Error	on	on / oFF
(2)	E nF 2	No Water Flow Error Time	5	1-59
d	E Hd	Too Hot to Drain Error (Heat Models)	oFF	on / oFF
e	E dr-	Drain Error Menu	—	—
(1)	E dr 1	Drain Error	on	on / oFF
(2)	E dr 2	Drain Error Time	15	1-59
f	E Ld-	Water Leak Detection Error Menu	—	—
(1)	E Ld 1	Water Leak Detection Day of Week	oFF	oFF, 3-255
(2)	E Ld 2	Water Leak Detection Number of Cycles	10	oFF, 0-127
(3)	E Ld 3	Water Leak Detection Display Sequence	on	on / oFF
g	E Sd-	Slow Drain Detection Error Menu	—	—
(1)	E Sd 1	Slow Drain Detection	oFF	on / oFF
(2)	E Sd 2	Slow Drain Detection Adjust	0	0-255
h	E oP	Open Thermistor Sensor Error Display (Heat Models)	on	on / oFF
i	E SH	Shortened Thermistor Sensor Error Display (Heat Models)	on	on / oFF

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
j	ESLH	Slow to Heat Error (Heat Models)	0 (off)	0-255
k	E HL-	Heat Error Display (Heat Models)	—	—
(1)	E HL 1	Heat Error	oFF	on / oFF
(2)	E HL2	Heat Error Time	120	0-255
l	E Ub	Non-Fatal Unbalance Error	oFF	on / oFF
m	E SL	Suds Lock Error Display	oFF	on / oFF
n	SUd-	Suds Removal Routine Menu	—	—
(1)	SUd 1	Suds Removal Routine Display	oFF	on / oFF
(2)	SUd 2	Suds Removal Routines Allowed Per Cycle	1	0-10
(3)	SUd 3	Suds Removal Routine Extra Time	on	on / oFF
o	ourFLd	Overflow Mode Display	on	on / oFF
p	CLrErr	Allow Error Clearing	on	on / oFF
20	tP F C	Temperature Fahrenheit/ Celsius (Heat Models)	FAHrEn	FAHrEn / CELC iU
21	FL Hot	Hot Water Temperature (Heat Models)	140°F [60°C]	35-194°F [2-90°C]
22	FL HC	Warm Water Temperature (Heat Models)	104°F [40°C]	35-194°F [2-90°C]
23	FL CLd	Cold Water Temperature (Heat Models)	35°F [2°C]	35-194°F [2-90°C]
24	CooLdn	Cool Down Water Temperature (Heat Models)	140°F [60°C]	50-194°F [10-90°C]
25	FL Lo	Low Water Level	15	1-30
26	FL MEd	Medium Water Level	20	1-30
27	FL Hi	High Water Level	25	1-30
28	FLSH u	Flush Out Drain Valves for Fill Steps (Models with Pump Drain)	1	1 = Drain 1 2 = Drain 2 3 = Both

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
29	FLSH t	Flush Out Time for Fill Steps (Models with Pump Drain)	25	0-255
30	tUbFLd	Tub Fill Delay (If Equipped)	0	0-60
31	norF t	No Refill After Time	255	0-255
32	rtC-	Real-Time Clock Menu	—	—
a	rtC 1	Set Minutes	—	0-59
b	rtC 2	Set Hours	—	0-23
c	rtC 3	Set Day of Week	—	1-7
d	rtC 4	Set Date of Month	—	1-31
e	rtC 5	Set Month	—	1-12
f	rtC 6	Set Year	—	0-99
33	dLS-	Daylight Savings Option Menu	—	—
a	dLS 1	Daylight Saving	on	on / oFF
b	dLS 2	Start Month	—	1-12
c	dLS 3	Start Day of Week	—	1-7
d	dLS 4	Start Week of Month	—	1-4
e	dLS 5	Start Hour	—	0-23
f	dLS 6	End Month	—	1-12
g	dLS 7	End Day of Week	—	1-7
h	dLS 8	End Week of Month	—	1-4
i	dLS 9	End Hour	—	0-23
34	SP1-	Special Vend 1 Parameters Menu	—	—
a	SP1 1	Special Vend 1 Days of Week Enable	oFF	Refer to *Table 9*
b	SP1 2	Special Vend 1 Start Minute	0	0-59
c	SP1 3	Special Vend 1 Start Hour	0	0-23
d	SP1 4	Special Vend 1 Start Date	0	0-31
e	SP1 5	Special Vend 1 Start Month	0	0-12

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
f	SP1 6	Special Vend 1 Start Year	0	0-99
g	SP1 7	Special Vend 1 Length in Hours	0	0-24
h	SP1 8	Special Vend 1 End Date	0	0-31
i	SP1 9	Special Vend 1 End Month	0	0-12
j	SP1 10	Special Vend 1 End Year	0	0-99
k	SP1 11	Special Vend 1 Price #1	0	0-65,535
l	SP1 12	Special Vend 1 Price #2	0	0-65,535
m	SP1 13	Special Vend 1 Price #3	0	0-65,535
n	SP1 14	Special Vend 1 Price #4	0	0-65,535
o	SP1 15	Special Vend 1 Price #5	0	0-65,535
p	SP1 16	Special Vend 1 Price #6	0	0-65,535
q	SP1 22	Special Vend 1 Cycle Modifier Default Value	0	0-2
r	SP1 23	Special Vend 1 Deluxe Vend Price	0	0-65,535
s	SP1 24	Special Vend 1 Ultra Vend Price	0	0-65,535
t	SP1 27	Special Vend 1 Extract Speed Limit	Ultra High	Very Low, Low, Medium, High, Very High, Ultra High, (37.40-439.70 G Force; 350-1200 RPM)
35	SP2	Special Vend 2 Days of Week Enable	oFF	on / oFF
36	CMP-	Cycle Modifier Programming Menu	—	—
a	CMP 1	Default Cycle Modifier	0	0-2
b	CMP 2	Cycle Modifier Deluxe Options	1	0-2
37	CYCLE-	Cycle Programming Menu	—	—
a	CYCLE 1	Cycle 1	—	—
b	CYCLE2	Cycle 2	—	—
c	CYCLE3	Cycle 3	—	—
d	CYCLE4	Cycle 4	—	—

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
e	CYCLE5	Cycle 5	—	—
f	CYCLE6	Cycle 6	—	—
38	CMESS-	Hold Step Custom Messages Menu	—	—
a	CMESS 1	Custom Message #1	CUSTM 1	—
b	CMESS2	Custom Message #2	CUSTM2	—
39	PCYCtd	Programmable Cycle Time Display Enable	oFF	on / oFF
40	nCYCtd	No Cycle Time Display	oFF	on / oFF
41	bAL At	Number of Balance Attempts	1	1-7
42	CYCPAU	Cycle Pause Resume	oFF	on / oFF
43	LPAS 1	Low Power/Auto Shutdown 1 Days Enable	oFF	on / oFF
44	PF rSt	Power Fail Reset	oFF	oFF, 0-120
45	irA En	IR Access Enable	on	on / oFF, Disable
46	rAPdEn	Manual Rapid Advance Enable	on	on / oFF, Disable
47	diAGEn	Manual Diagnostics Enable	on	on / oFF, Disable
48	Ft En	Factory Test Enable	on	on / oFF, Disable
49	MCP-	Machine Configuration Parameters Menu	—	—
a	MCP 1	Unused	—	0,1
b	MCP 2	Fill Tub Valve Set Present	—	0, 1
c	MCP 3	Spray Valve Set Present	—	0, 1
d	MCP 4	Cold Hard Fill Valve Present	—	0, 1
e	MCP 5	Auxiliary Valve Present	—	0, 1
f	MCP 6	Unused	—	0,1
g	MCP 7	Unused	—	0,1
h	MCP 8	Thermistor Present	—	0, 1
50	LUC-	Lucky Cycle Menu	—	—
a	LUC 1	Lucky Cycle Day(s) of Week / Enable	oFF	oFF, 3-255

Table 1 *continues...*

Option Number	Option Display	Description	Factory Default*	Value Range
b	LUC 2	Lucky Cycle Number	50	1-255
c	LUC 3	Lucky Cycle Display Option	oFF	on / oFF
51	Ht dP	Heating Indicator Decimal Point Enable (Heat Models) - Leftmost decimal point	oFF	on / oFF
52	tP d.S	Temperature Display Enable (Heat Models) - HHHF (Fahrenheit) or HHHC (Celsius)	oFF	on / oFF
53	tP ind	Water Temperature Indicator	oFF	on / oFF
54	SUn.tS	Speed Units	RPM	RPM/G Force
55	PCdL	Programmable Close Door Display	on	on / oFF
56	PPSt	Programmable Push Start Display	on	on / oFF
57	PodL	Programmable Open Door Display	on	on / oFF
58	AtS do	Vend Price Display Override	oFF	on / oFF
59	oPL-	OPL Parameters	—	—
a	oPL 1	OPL Mode Enable	oFF	on / oFF
b	oPL 2	OPL Delayed Start	oFF	on / oFF
c	oPL 3	OPL Display Power Save	on	on / oFF
60	droP	Drop Off Mode	oFF	on / oFF
61	oUt	Out of Order	oFF	on / oFF
* Defaults may very according to market.				

Table 1

Manual Programming Navigation

Press the START (enter) keypad.

Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options.

To enter a programmable option, press the START (enter) keypad. To exit, press the Warm (<) keypad.

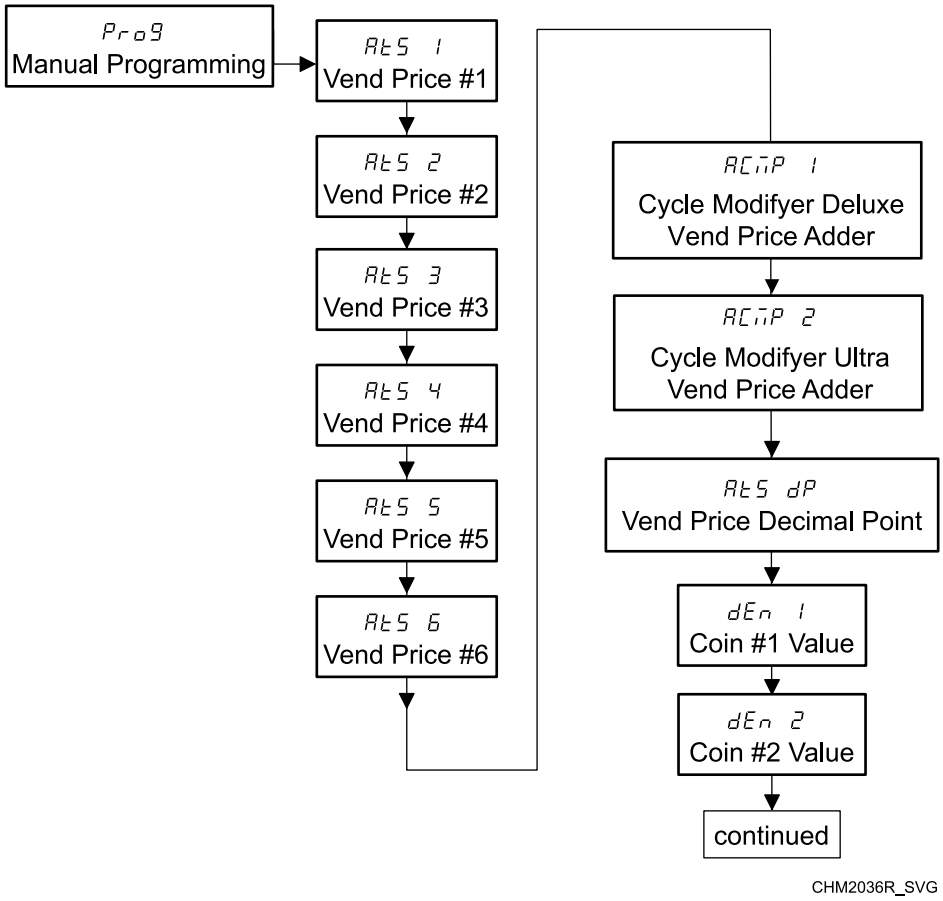
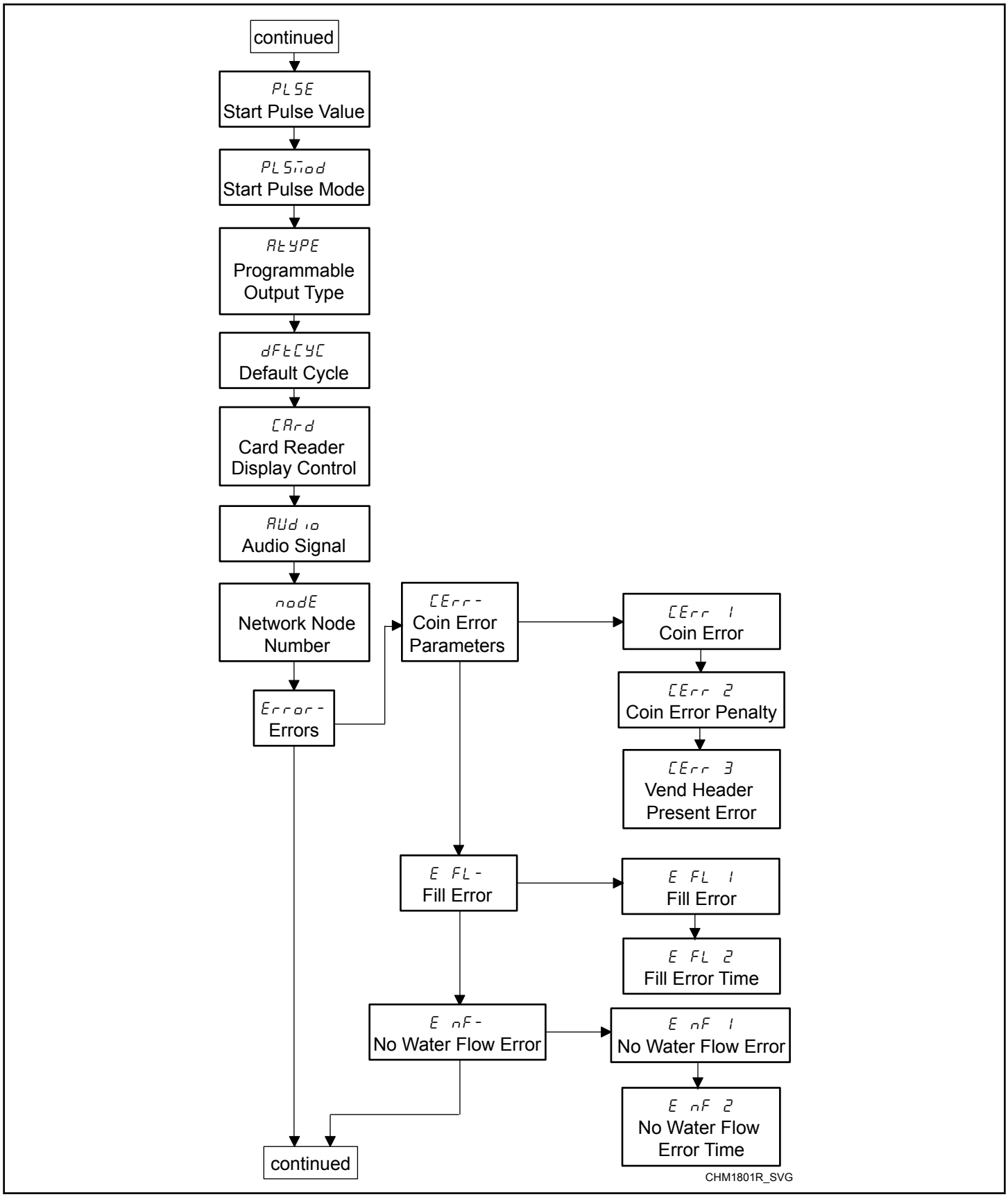


Figure 5



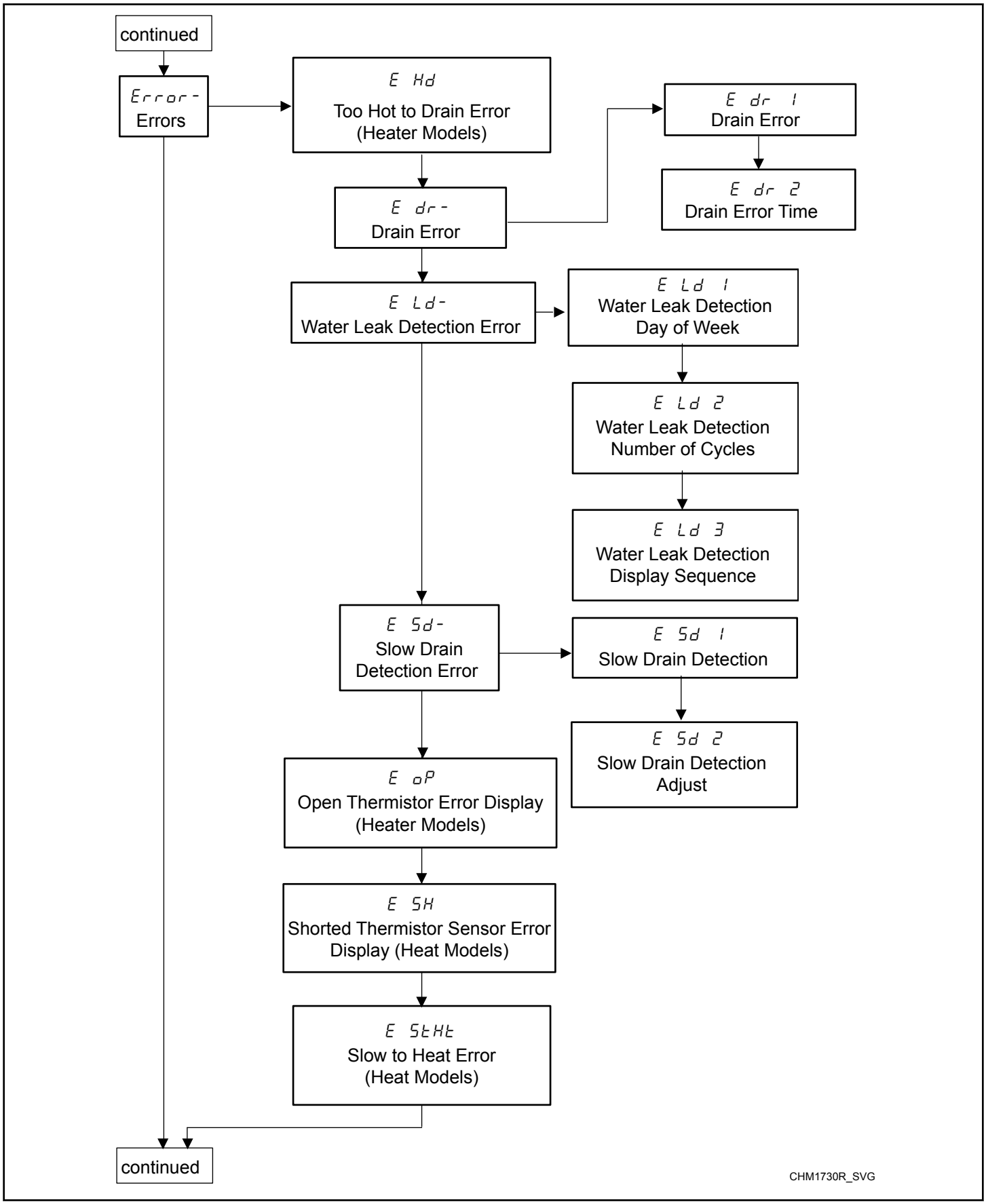


Figure 6

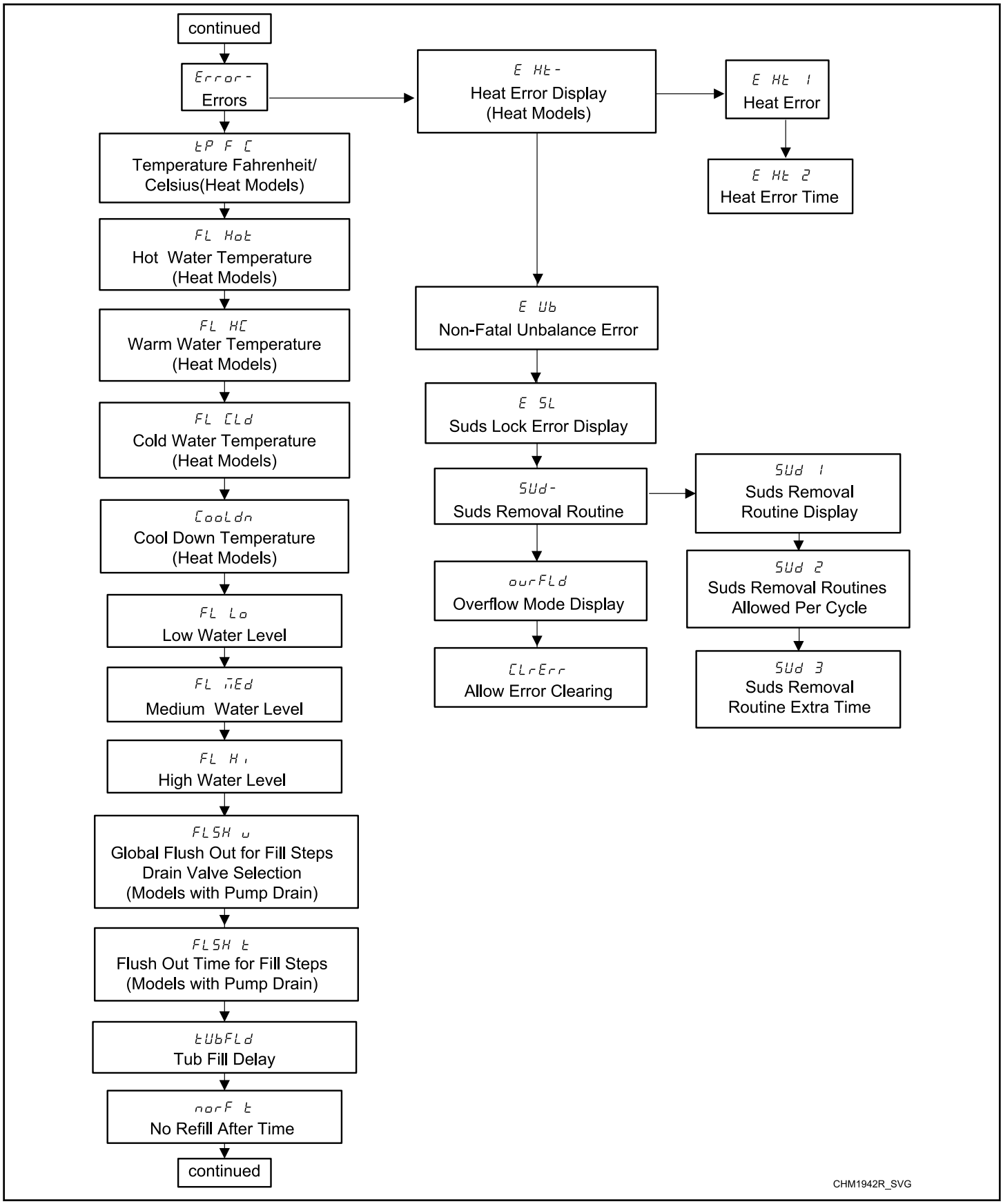


Figure 7

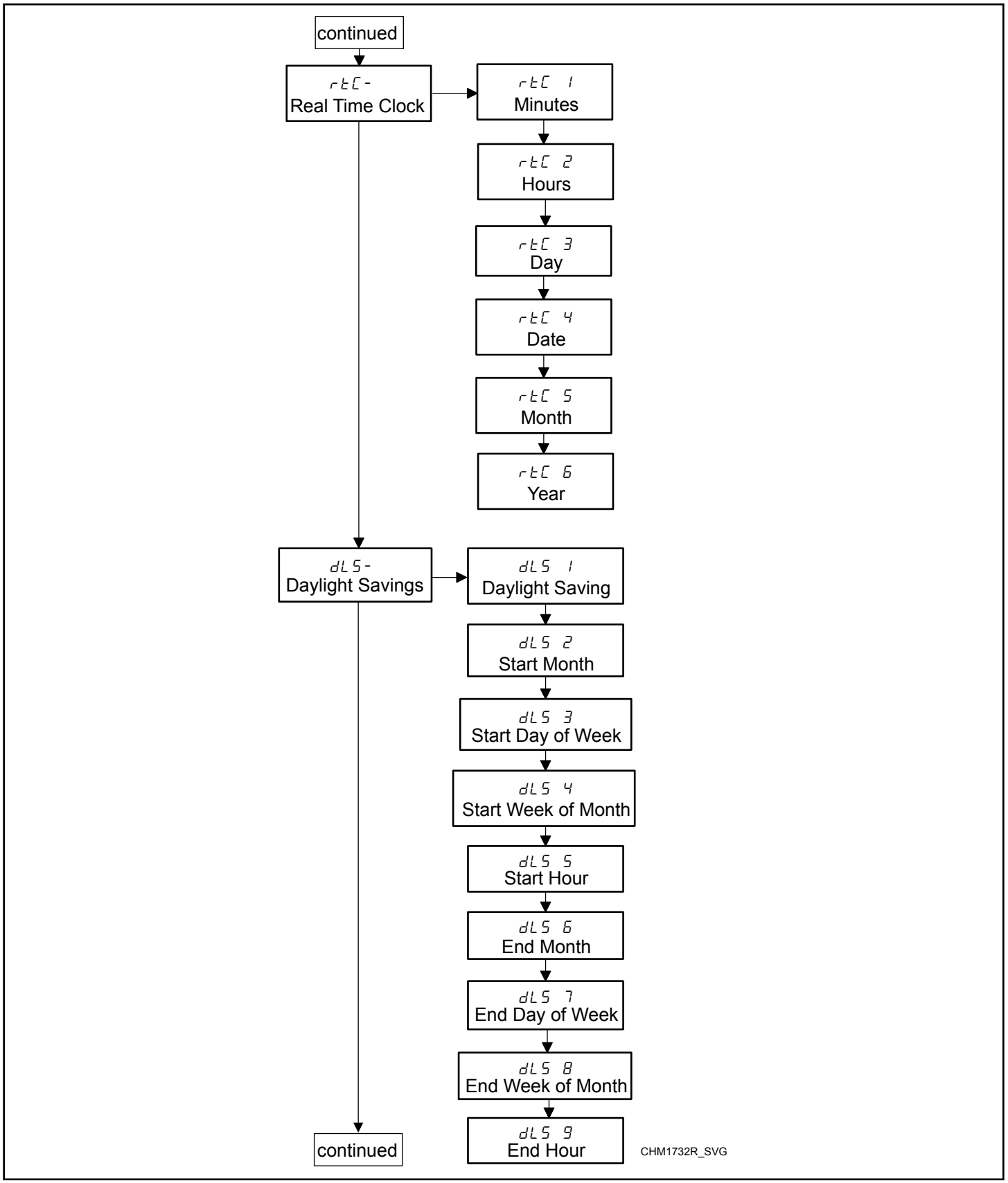


Figure 8

Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options.

To enter a programmable option, press the START (enter) keypad. To exit, press the Warm (<) keypad.

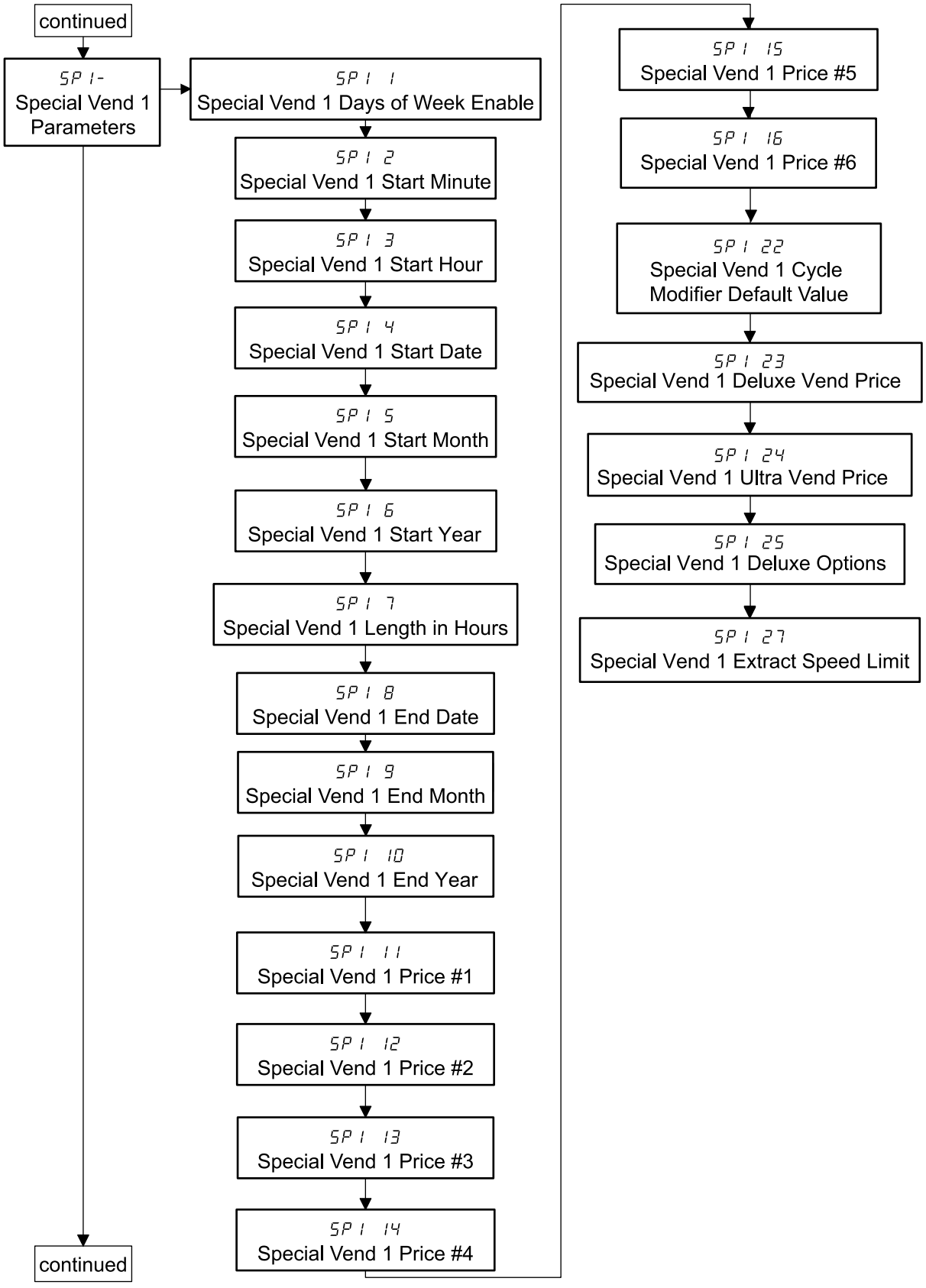


Figure 9

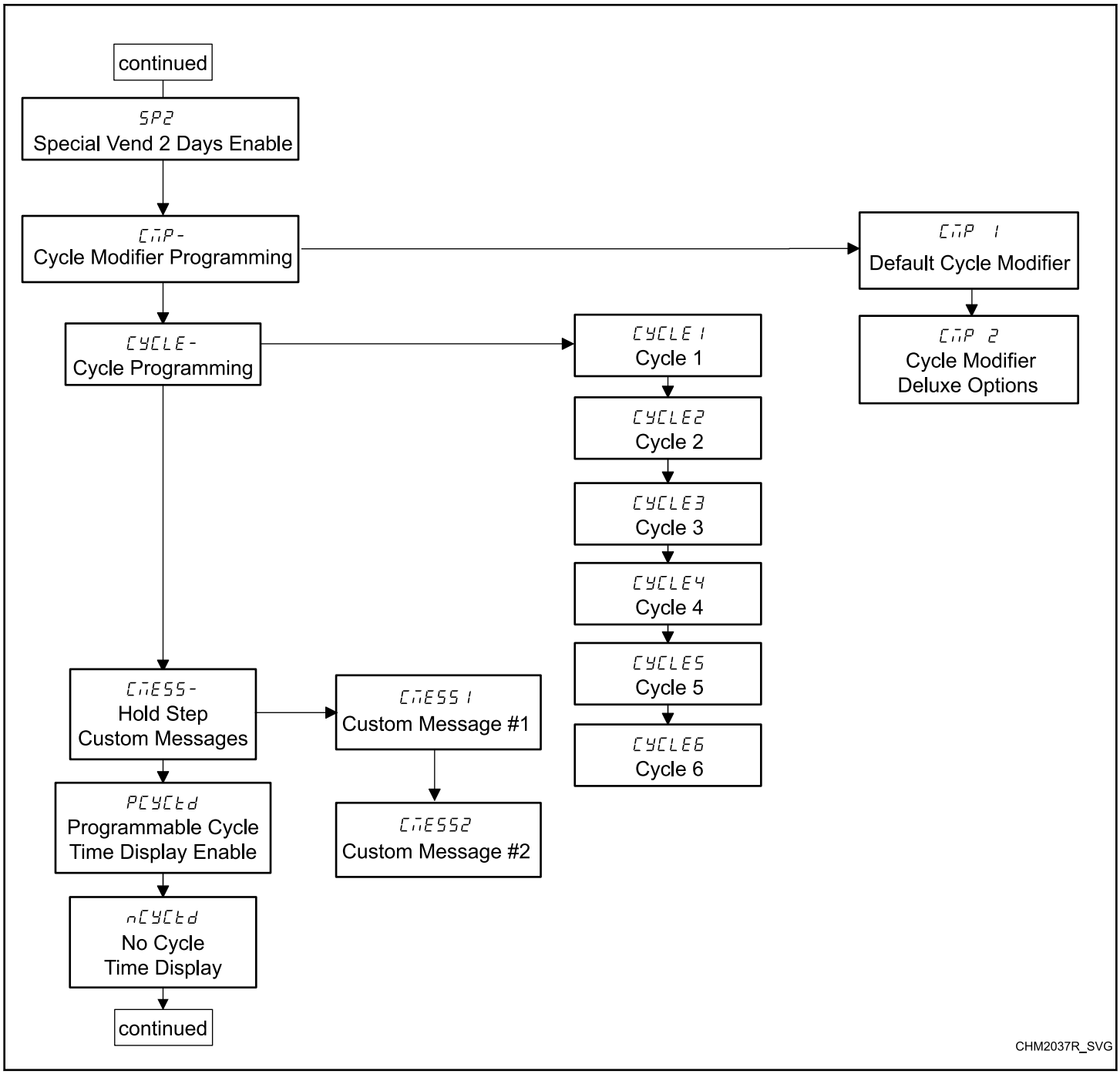


Figure 10

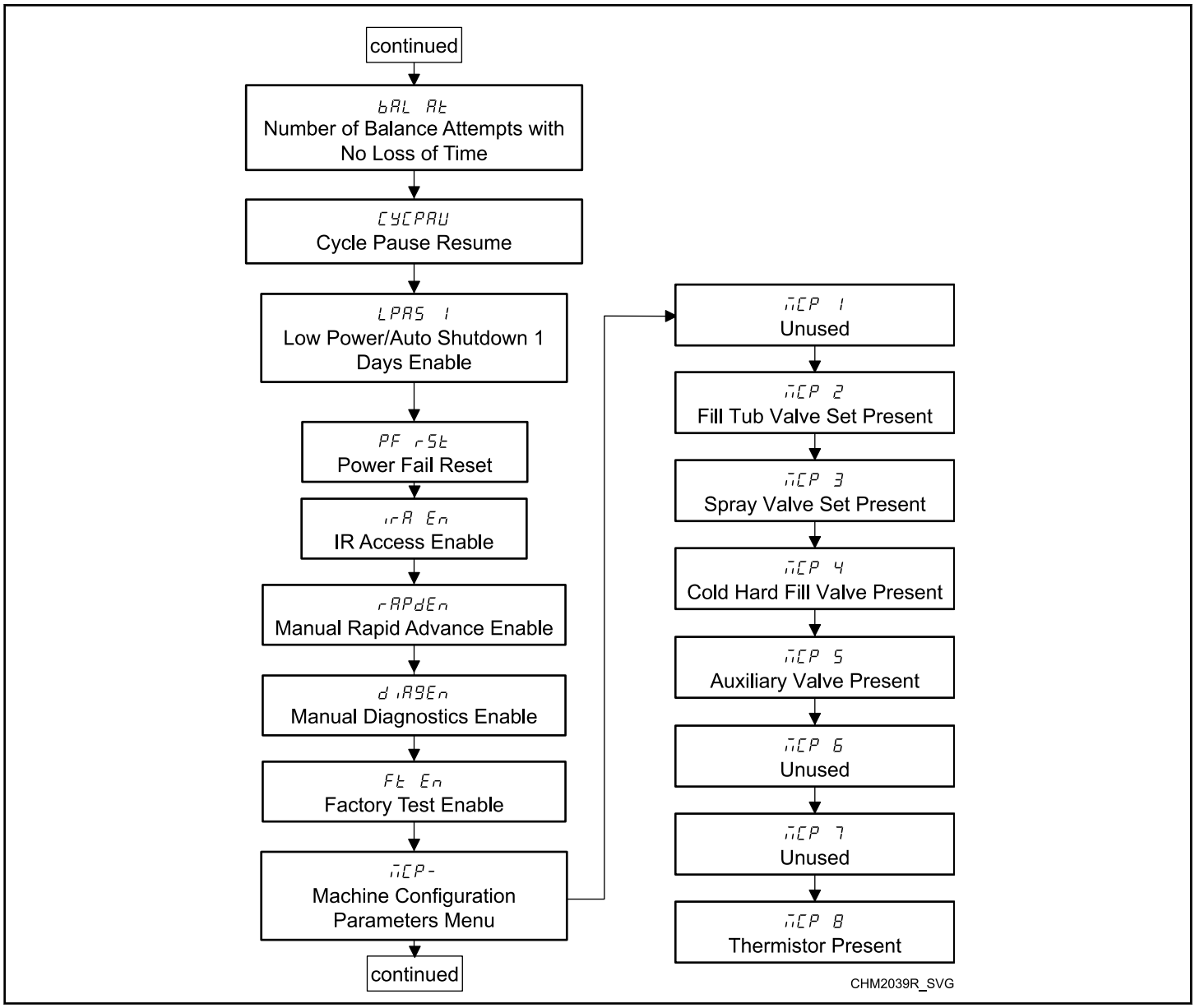


Figure 11

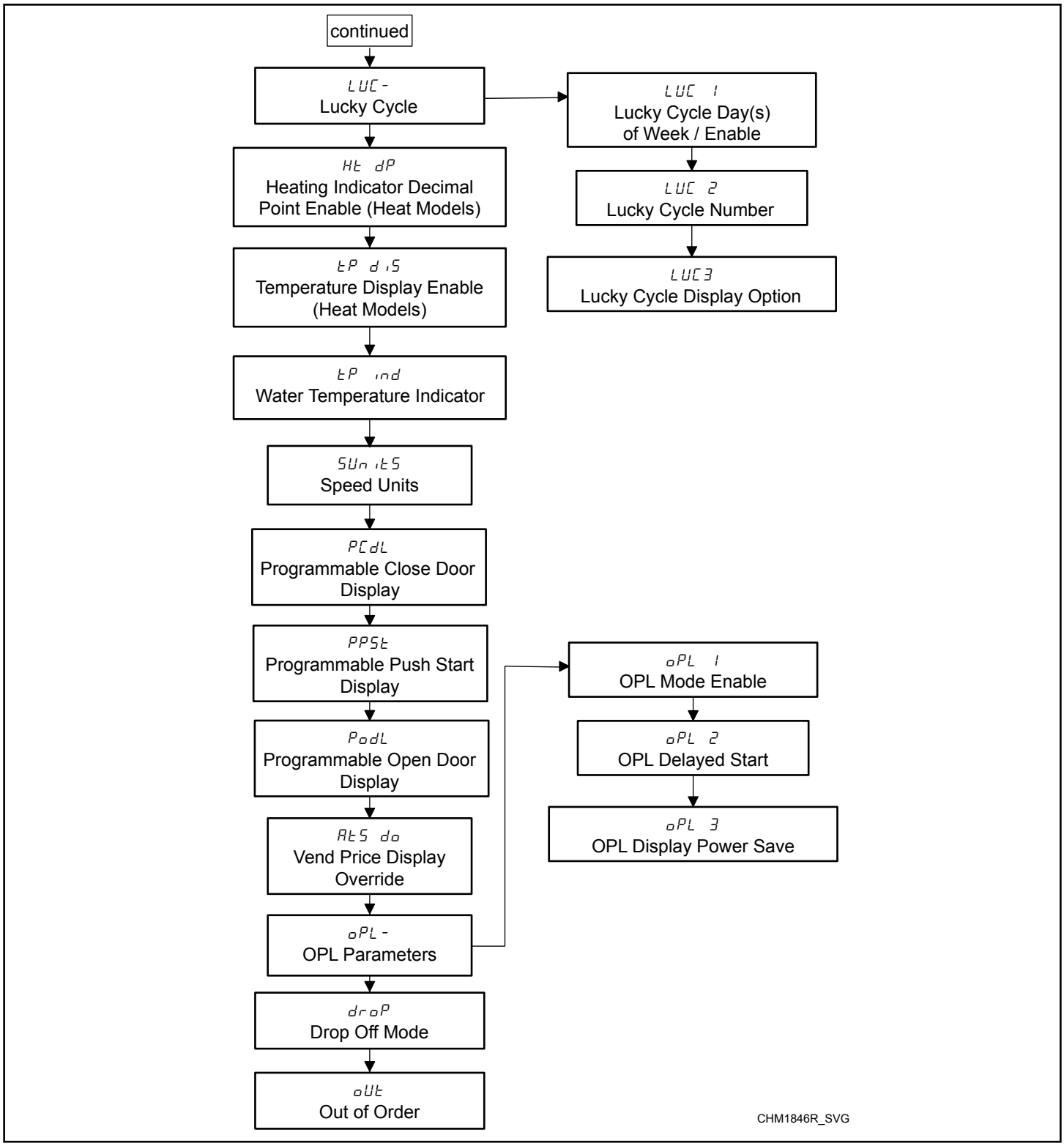


Figure 12

Vend Price #1 AtS 1

This option allows the owner to set the vend price for all cycles, but otherwise specifically for Normal Hot . This price should be set before all other prices. This vend price will be shown in the display when Normal Hot is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. Press the START (enter) keypad. All cycle LEDs will be lit to show all cycle prices are being programmed.
4. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price #2 AtS 2

This option allows the owner to set the vend price for Normal Warm . This vend price will be shown in the display when Normal Warm is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. The keypad LED will be lit to show which cycle price is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. When AtS 2 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price #3 AtS 3

This option allows the owner to set the vend price for Normal Cold . This vend price will be shown in the display when Normal Cold is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. The keypad LED will be lit to show which cycle price is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. When AtS 3 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price #4 AtS 4

This option allows the owner to set the vend price for a Delicate Hot . This vend price will be shown in the display when Delicate Hot is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. The keypad LED will be lit to show which cycle price is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. When AtS 4 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price #5 AtS 5

This option allows the owner to set the vend price for Delicate Warm. This vend price will be shown in the display when Delicate Warm is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. The keypad LED will be lit to show which cycle price is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. When AtS 5 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price #6 AtS 6

This option allows the owner to set the vend price for Delicate Cold. This vend price will be shown in the display when Delicate Cold is selected.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad.
3. AtS 1 will appear in the display. The keypad LED will be lit to show which cycle price is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. When AtS 6 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cycle Modifyer Deluxe Vend Price Adder AdnP 1

This option allows the owner to set the vend price for the Deluxe modifier key. This price is added onto the cycle price.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until AdnP 1 appears in the display. The Deluxe modifier LED will be lit to show which price is being programmed.
4. When AdnP 1 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cycle Modifyer Ultra Vend Price Adder ACNP 2

This option allows the owner to set the vend price for the Ultra modifier key. This price is added onto the cycle price.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until ACNP 2 appears in the display. The Ultra modifier LED will be lit to show which price is being programmed.
4. When ACNP 2 appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price Decimal Point AtS dP

This option allows the owner to enable a decimal point to show up in the vend price at one of two locations. For example, a vend price of 200 can be display with a decimal point as 2.00 or 0.200.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until AtS dP appears in the display. Press the START (enter) keypad.
4. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the value of the parameter.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Coin #1 Value dEn 1

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 value entered for one quarter would be 00025.

If the Vend Price 1 is set for ".75", and the Coin Value is set for 00025, the vend price displayed will decrease by 0.25 for each coin entered and 3 coins will need to be entered to satisfy the vend price.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until dEn 1 appears in the display. Press the START (enter) keypad.
4. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Coin #2 Value dEn 2

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 (1.00). Therefore, the coin value entered for one dollar coin would be 00 100.

If the *Vend Price #1 AtS 1* (option 1) is set for "2.00", and the Coin Value is set for 00 100, the vend price displayed will decrease by 1.00 for each dollar coin entered and 2 coins will need to be entered to satisfy the vend price.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until dEn 2 appears in the display. Press the START (enter) keypad.
4. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Start Pulse Value PLSE

This option allows the owner to program the value of the Start Pulse if used for multiple pulses with an after-market central card reader or pay system.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PLSE appears in the display. Press the START (enter) keypad.
4. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Start Pulse Mode PLSMod

This option allows the owner to program the Start Pulse Input. The Start Pulse Mode can be used for after-market central pay or card systems. The central system sends the start pulse to the Start Pulse Input of the control to start the cycle. If set for single pulse, one start pulse from the central system will start the cycle. If set for multiple pulses, each pulse will deduct from the vend price value set up in Start Pulse Value until the vend is satisfied.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PLSMod appears in the display.
4. When PLSMod appears in the display, press the START (enter) keypad. oFF or a number will appear in the display. This number corresponds to the current Start Pulse Mode Programming Value.
5. Locate the desired number in the first column of *Table 2* below.

PLSMod		
Start Pulse Mode Value	Start Pulse ON/OFF	Single Pulse/ Multiple Pulses
0	OFF	OFF
128	ON	Single Pulse
192	ON	Multiple Pulses

Table 2

6. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
7. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Programmable Output Type AtYPE

This option allows the owner to program when the control provides an output that can be used for variety of reasons.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and At5 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until AtYPE appears in the display.
4. When AtYPE appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Output Type Value.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current number to the desired number selected from *Table 3* .

Programmable Output Type Value	Mode(s) in Which Available Signal is Active
0 - Available	*Ready Mode* only
1 - Available with Start	*Ready Mode*, *Start Mode*
2 - Available with End of Cycle	*Ready Mode*, *End of Cycle Mode*
3 - Available with Start and End of Cycle	*Ready Mode*, *End of Cycle Mode*, *Start Mode*
4 - Vend is Not Satisfied	*Ready Mode*, *Partial Vend Mode*
5 - Vend is Not Satisfied with End of Cycle	*Ready Mode*, *Partial Vend Mode*, *End of Cycle Mode*
6 - Available with Vend	*Ready Mode*, *Partial Vend Mode*, *Start Mode*
7 - Available with Vend and End of Cycle	*Ready Mode*, *End of Cycle Mode*, *Partial Vend Mode*, *Start Mode*
8 - Machine is In Use	*Door Locking Mode*, *Door Unlocking Mode*, *Overflow Mode*, *Pause Mode*, *Run Mode*
9 - Cycle is Complete	*End of Cycle Mode*
10 - Lucky Cycle	For 10 seconds when *Start Mode* is entered
11 - Break in Alarm	For 15 seconds when Break in Alarm is triggered at same time as audio output tone
12 - End of Cycle is Entered	For 3 seconds when *End of Cycle Mode* is entered
13 - Motor Running	Whenever motor is running

Table 3

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Default Cycle dFtCyC

This option allows the owner to set the default cycle that the machine will enter when in the *Ready Mode*.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOG appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until dFtCYC appears in the display.
4. When dFtCYC appears in the display, press the START (enter) keypad. A number will appear in the display. Refer to *Table 4* . This number corresponds to the current default cycle value. The corresponding LEDs will also be lit.

Cycle	Number on Display
Normal Hot	1
Normal Warm	2
Normal Cold	3
Delicate Hot	4
Delicate Warm	5
Delicate Cold	6

Table 4

5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current number to the desired number.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Card Reader Display Control (If Equipped) CArd

This option allows the owner to allow the card reader to drive the machine's display.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOG appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CArd appears in the display.
4. When CArd appears in the display, press the START (enter) keypad. The current status will appear in the display.

0 = FEC Controls Display

1 = Card Reader Controls Display

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Audio Signal AUd io

This option allows the owner to program when the signal will sound.

The occasions when a signal may sound during operation are listed below:

- **End of Cycle Signal** - By default, the signal is turned off. If turned on, the signal will sound for three (3) seconds at the end of a cycle.
- **Keypad Depression Signal** - By default, this signal is turned on and will sound for a quarter of a second. This signal will sound each time a keypad is pressed.
- **Coin Input/Card Insertion Signal** - By default, this signal is turned on and will sound for a quarter of a second each time a coin or card is entered.
- **Remove Card Signal (Card Models Only)** - By default, this signal is turned on and will sound one (1) second on and one (1) second off when the control is prompting for card removal.
- **Signal for Start** - By default, this signal is turned on and will sound one (1) second on and one (1) second off for 10 seconds after vend price has been satisfied.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until AUd io appears in the display.
4. When AUd io appears in the display press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Audio Signal Programming Value.
5. Locate the desired number in the first column of *Table 1*.
6. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current number until correct.

For Example : A owner might wish to have the signal sound only when a keypad is pressed. Entering the number 1 in step *5* would turn off all the options except KEYPAD. In this instance, the signal would sound only when a keypad is pressed.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

7. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

How to Read Audio Signal Chart

To determine the correct number required to program the Audio Signal, use the following chart. The Signal Value column contains the number required in step 6. The other columns correspond to individual options.

Each column of options contains a unique combination of the words ON and OFF that indicates if that column's option is turned on or off when the Signal Value is entered. Select the desired combination of options and enter the number found in the Signal Value column.

Audio Signal (AUd io) Chart

Signal Value	Start Mode / Remove Card	Serial or Network Vend	Coin/Card Vend or Start Pulse	End of Cycle	Key Pressed
0	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	**ON**
2	OFF	OFF	OFF	**ON**	OFF
3	OFF	OFF	OFF	**ON**	**ON**
4	OFF	OFF	**ON**	OFF	OFF
5	OFF	OFF	**ON**	OFF	**ON**
6	OFF	OFF	**ON**	**ON**	OFF
7	OFF	OFF	**ON**	**ON**	**ON**
8	OFF	**ON**	OFF	OFF	OFF
9	OFF	**ON**	OFF	OFF	**ON**

Table 5 *continues...*

Audio Signal (AUd io) Chart					
Signal Value	**Start Mode / Remove Card**	**Serial or Network Vend**	**Coin/Card Vend or Start Pulse**	**End of Cycle**	**Key Pressed**
10	OFF	**ON**	OFF	**ON**	OFF
11	OFF	**ON**	OFF	**ON**	**ON**
12	OFF	**ON**	**ON**	OFF	OFF
13	OFF	**ON**	**ON**	OFF	**ON**
14	OFF	**ON**	**ON**	**ON**	OFF
15	OFF	**ON**	**ON**	**ON**	**ON**
16	**ON**	OFF	OFF	OFF	OFF
17	**ON**	OFF	OFF	OFF	**ON**
18	**ON**	OFF	OFF	**ON**	OFF
19	**ON**	OFF	OFF	**ON**	**ON**
20	**ON**	OFF	**ON**	OFF	OFF
21	**ON**	OFF	**ON**	OFF	**ON**
22	**ON**	OFF	**ON**	**ON**	OFF
23	**ON**	OFF	**ON**	**ON**	**ON**
24	**ON**	**ON**	OFF	OFF	OFF
25	**ON**	**ON**	OFF	OFF	**ON**
26	**ON**	**ON**	OFF	**ON**	OFF
27	**ON**	**ON**	OFF	**ON**	**ON**
28	**ON**	**ON**	**ON**	OFF	OFF
29 *	**ON**	**ON**	**ON**	OFF	**ON**
30	**ON**	**ON**	**ON**	**ON**	OFF
31	**ON**	**ON**	**ON**	**ON**	**ON**
*Factory default setting					

Table 5

Network Node Number nodE

This option allows the owner to program a unique number used for wired or wireless communication. Every machine on the same network must have a different node number to work correctly.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until nodE appears in the display.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. When nodE appears in the display, press the START (enter) keypad. The current Network Node Number status will appear in the display.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Error Programming Error-

This option allows the owner to turn on or turn off certain errors in the control.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until Error- appears in the display.
4. When Error- appears in the display, press the START (enter) keypad. Refer to *Table 6* for a list of programmable error code parameters.
5. Press the Delicate (∧) or the Cold (∨) keypad to select the desired option.
6. Press the Delicate (∧) or the Cold (∨) keypad to select error code.
7. Press the START (enter) keypad when the correct code appears in the display. The current status will appear in the display.

   NOTE: Press the Delicate (∧) or the Cold (∨) keypad and then the START (enter) keypad again to choose a specific error perimeter. Refer to *Table 6* .
8. Press the Delicate (∧) or the Cold (∨) keypad to change the status.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
9. Press the START (enter) keypad when the correct status appears in the display. The next Error Code Programming option will appear in the display.

Errors Menu Error-		
CErr-	**Coin Error Parameters Menu**	
	CErr 1	Coin Error - Determines if the display will show the error.
	CErr 2	Coin Error Penalty - If enabled, the coin error will erase previous coins entered and reset the vend price.
	CErr 3	Vend Header Present Error - If enabled and coin drop header is unplugged, the control ignores coin inputs.
E FL-	**Fill Error Menu**	
	E FL 1	Fill Error (On/Off) - If enabled, the control will set an error after the programmed Fill Error Time if the desired fill level is not reached. If disabled, will allow filling forever if fill level is never reached.
	E FL 2	Fill Error Time - Time allowed in minutes to reach target fill level before setting a fill error.
E nF-	**No Water Flow Error Menu**	
	E nF 1	No Water Flow Error (On/Off) - If enabled, the control will set an error after the programmed No Water Flow Error Time if the water level has not reached 4 inches [102 mm]. If disabled will allow filling forever until the level is reached.
	E nF 2	No Water Flow Error Time - Time allowed in minutes to reach the basket fill level (4 inches [102 mm]).
E Hd	Too Hot to Drain Error (On/Off) (heat models) - Error shown at end of cycle if the control has saved a Too Hot to Drain Error. Shown after the door is opened or a keypad is pressed. This error will remain displayed until another keypad has been pressed or one (1) minute passes.	

Table 6 *continues...*

Errors Menu Error-		
E dr-	**Drain Error Menu**	
	E dr 1	Drain Error (On/Off) - If enabled, the control will set an error after drain error alarm time if empty water level is not reached, if disabled will allow draining forever if empty level never reached.
	E dr 2	Drain Error Time - Time allowed in minutes to reach an empty water level before setting the drain error.
E Ld-	**Water Leak Detection Error Menu** - This error checks for whether the machine is leaking water by adding 1 minute to the cycle to check for water leaks.	
	E Ld 1	Water Leak Detection Day of Week - If enabled, allows the owner to pick which days to check for water leaks. Refer to *Table 9* for the value definitions.
	E Ld 2	Water Leak Detection Number of Cycles - Sets how many cycles must run before water leaks are checked again.
	E Ld 3	Water Leak Detection Display Sequence (On/Off) - The display will show a moving dash "-" across the 7-segment display at an increasing rate/speed while the water leak detection is being performed.
E Sd-	**Slow Drain Detection Error Menu**	
	E Sd 1	Slow Drain Detection (On/Off) - Enables/disables the error.
	E Sd 2	Slow Drain Detection Adjust - Allows the owner to add time in seconds to the machine's default draining time used to detect for slow draining conditions. Helps allow for locations with poor draining conditions.

Table 6 *continues...*

Errors Menu Error-		
E oP	Open Thermistor Sensor Error Display (Heat Models) (On/Off) - If the control senses an open thermistor at anytime during a cycle, the control will not attempt to heat nor regulated the fill temperature using valves. If the error display is enabled the Error Display is shown at end of cycle until the door is opened or a keypad is pressed.	
E SH	Shortened Thermistor Sensor Error Display (Heat Models) (On/Off) - If the control senses a shorted thermistor at anytime during a cycle, the control will not attempt to heat nor regulated the fill temperature using valves. If the error display is enabled the Error Display is shown at end of cycle until the door is opened or a keypad is pressed.	
ESLH	Slow to Heat Error (Heat Models) - The error will display if the water temperature has not changed 5°F [3.75°C] from the start of heating within the programmed time (if greater than 0 minutes). This error will not stop the heater from heating, and any keypad can be pressed to clear the error display.	
E HL-	**Heat Error Display (Heat Models)**	
	E HL 1	Heat Error (On/Off) - If enabled, the control will set error after heater error alarm time if target water temperature isn't reached, if disabled will allow heating forever until target temperature is reached. Shown at end of cycle until the door is opened or a keypad is pressed.
	E HL2	Heat Error Time - Time allowed in minutes to reach target water temperature before setting the heater error.
E Ub	Non-Fatal Unbalance Error - Error shown at end of cycle if a programmed spin speed was not reached due to an unbalanced load. Shown after the door is opened or a key is pressed. This error will remain displayed until another keypad has been pressed or one minute passes.	

Table 6 *continues...*

Errors Menu Error-		
E SL	Suds Lock Error Display - Shown at end of cycle after the door is opened or a keypad is pressed if suds were still detected in the machine after all Suds Removal Routines allowed have been run in the cycle. Will be cleared after one minute or if a keypad is pressed.	
SUd-	**Suds Removal Routine Menu**	
	SUd 1	Suds Removal Routine Display (On/Off) - Will show SUdS on the display while a Suds Removal Routine is being performed during the cycle.
	SUd 2	Suds Removal Routines Allowed Per Cycle - Allows the owner to pick how many Suds Removal Routines are allowed per cycle.
	SUd 3	Suds Removal Routine Extra Time (On/Off) - If programmed to On, the Suds Removal Routines will pause cycle time to perform suds removal routines, if Off, the Suds Removal Routines will use cycle time which may result in poorer machine performance.
ourFLd	Overflow Mode Display - Can be used to disable oFLd on the display while in an Overflow Condition during a running cycle if set to Off. In all other modes, it will always show oFLo if an overflow condition exists.	
CLrErr	Allow Error Clearing (On/Off) - Allows the ability for the owner to clear most errors by pressing Normal and Delicate keypads. Some errors will still require power to be cycled to clear the error and some errors will continually set themselves until the condition for the error being set is fixed. Call for service if an error will not clear.	

Table 6

Temperature Fahrenheit/Celsius (Heat Models) tP F C

This option allows the owner to set whether the display units for temperature will be shown in Fahrenheit or Celsius.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad until tP F C appears in the display.
4. When tP F C appears in the display, press the keypad. A setting will appear in the display. This setting (found below) corresponds to the current Temperature (Fahrenheit/Celsius) setting.

CELSIU = Celsius

FAHrEn = Fahrenheit

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Hot Water Temperature (Heat Models) FL Hot

This option allows the owner to program the hot water temperatures.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad until FL Hot appears in the display.
4. When the desired option appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Hot Water Temperature value.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current water temperature value to the desired water temperature value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Warm Water Temperature (Heat Models) FL HC

This option allows the owner to program the warm water temperatures.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad until FL HC appears in the display.
4. When the desired option appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Warm Water Temperature value.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current water temperature value to the desired water temperature value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cold Water Temperature (Heat Models) FL CLd

This option allows the owner to program the cold water temperatures.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad until FL CLd appears in the display.
4. When the desired option appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Cold Water Temperature value.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current water temperature value to the desired water temperature value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cool Down Water Temperature (Heat Models) CoolDn

This option allows the owner to set the cool down global water temperature for cool down steps.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad until CoolDn appears in the display.
4. Press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Water Temperature setting and is displayed in Fahrenheit or Celsius based on the temperature setting.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current water temperature value to the desired water temperature value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Low Water Level FL Lo

This option allows the owner to set the low water level which can be used in fill steps to set water levels in cycle programming.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FL Lo appears in the display.
4. When FL Lo appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Water Level setting.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Medium Water Level FL Med

This option allows the owner to set the medium water level which can be used in fill steps to set water levels in cycle programming.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FL Med appears in the display.
4. When FL Med appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Water Level setting.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

High Water Level FL Hi

This option allows the owner to set the high water level which can be used in fill steps to set water levels in cycle programming.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FL Hi appears in the display.
4. When FL Hi appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current Water Level setting.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Flush Out Drain Valves for Fill Steps (Models with Pump Drain) FLSH u

This option allows the owner to program the global flush out for fill steps drain valve selection which will evacuate water at the beginning of the step which helps clean out the tub and prevent the excess dirty water from mixing with the fresh water.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FLSH u appears in the display.
4. When FLSH u appears in the display, press the START (enter) keypad. The current status will appear in the display.

1 = Drain 1

2 = Drain 2

3 = Both

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Flush Out Time for Fill Steps (Models with Pump Drain) FLSH t

This option allows the owner to set the flush out time in seconds for Fill Steps that have flush out enabled. The flush out is used to help rinse out the machine at the beginning of the Fill Steps. The water will be evacuated for the programmed time at the beginning of the Fill Steps that have this option enabled.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FLSH t appears in the display.
4. When FLSH t appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current setting.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Tub Fill Delay (If Equipped) tUbFLd

This option allows the owner to set the tub fill delay time if the machine is equipped with tub fill valves. The tub fill delay parameter delays turning on the tub fill valves for a programmed length of time after the compartment valves. If there is low water pressure, this ensures adequate flushing of the compartments.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until tUbFLd appears in the display.
4. When tUbFLd appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current tub fill delay time setting in seconds (0-60).

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

No Refill After Time norF t

This option allows the owner to set the no refill after time in minutes for fill, agitate, and soak steps. Refills can only occur if the programmed time has not been exceeded in the current step.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until norF t appears in the display.
4. When norF t appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current setting.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Real-Time Clock Menu rtC-

This option allows the owner to set the controls internal clock to the correct time and date.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until rtC- appears in the display.
4. Press the START (enter) keypad and rtC 1 will appear in the display.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. Refer to *Table 7* .

rtC 1	Set Minutes
rtC 2	Set Hours
rtC 3	Set Day of Week
rtC 4	Set Date of Month
rtC 5	Set Month
rtC 6	Set Year

Table 7

6. When the desired option appears in the display, press the START (enter) keypad. The current value will appear in the display.
7. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the minutes, hours, day of week, date of month, month or year to the correct time or date.

   NOTE: The hours will be displayed in military time. For day of week, Sunday is considered day one (1), Monday is day two (2) and so on. For year, the year 2000 is " 0 ", the year 2001 is " 1 " and so on.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Daylight Savings Option Menu dLS-

This option allows the owner to set the controls internal clock to the daylight savings time and date.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until dLS- appears in the display. Press the START (enter) keypad and dLS 1 will appear in the display.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. Refer to *Table 8* .

dLS 1	Daylight Saving (On/Off)
dLS 2	Start Month
dLS 3	Start Day of Week
dLS 4	Start Week of Month
dLS 5	Start Hour
dLS 6	End Month
dLS 7	End Day of Week
dLS 8	End Week of Month
dLS 9	End Hour

Table 8

5. When the desired option appears in the display, press the START (enter) keypad. The current value will appear in the display.
6. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the minutes, hours, day of week, date of month, month or year to the correct time or date.

   NOTE: The hours will be displayed in 24 hour format. For day of week, Sunday is considered day one (1), Monday is day two (2) and so on. For year, the year 2000 is " 0 ", the year 2001 is " 1 " and so on. For week of month, first week is "1", second week is "2", third week is "3", and last week is "4".

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
7. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Days of Week Enable

SP 1 1

This option allows the owner to set the day or days of a special vend.

Special Vend 1 is used to change the standard vend prices for special occasions. The special vend can be programmed to start and end on a specific day or days of the week.

The owner may also turn the Special Vend 1 option on or off if desired.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until SP 1- appears in the display. Press the START (enter) keypad and SP 1 1 will appear in the display.
4. When SP 1 1 appears in the display, press the START (enter) keypad. A number will appear in the display that corresponds to the current Special Vend 1 Days Enable Programming Value.
5. Locate the desired number in the first column of *Table 9* .

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
7. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

How to Read the Days Enable Value Table

To determine the correct number required to program the Special Vend Days Enable, Water Leak Detection Days of Week Enable or the Lucky Cycle Day(s) of Week / Enable, use the following table. The Value column contains the number required in step 6. The other columns correspond to individual days.

Each column of days contains a unique combination of the words ON and OFF that indicates if that column's day is turned on or off when the value is entered. Select the desired combination of days and enter the number found in the value column.

SP 1 1, E Ld 1 and LUC 1

VALUE	SAT	FRI	THUR	WED	TUE	MON	SUN	ON/OFF
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**
5	OFF	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**
7	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**
9	OFF	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**
11	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**
13	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**
15	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**
17	OFF	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**
19	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**
21	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**
23	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**
25	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**
27	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**

Table 9 *continues...*

SPI 1, E Ld 1 and LUC 1								
VALUE	**SAT**	**FRI**	**THUR**	**WED**	**TUE**	**MON**	**SUN**	**ON/OFF**
29	OFF	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**
31	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
33	OFF	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**
35	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**
37	OFF	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**
39	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**
41	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**
43	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**
45	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**
47	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
49	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**
51	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**
53	OFF	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**
55	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
57	OFF	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**
59	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
61	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
63	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
65	OFF	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**
67	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**
69	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**
71	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**
73	OFF	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**
75	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**
77	OFF	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**
79	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**
81	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**

Table 9 *continues...*

SPI 1, E Ld 1 and LUC 1								
VALUE	**SAT**	**FRI**	**THUR**	**WED**	**TUE**	**MON**	**SUN**	**ON/OFF**
83	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**
85	OFF	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**
87	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**
89	OFF	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**
91	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**
93	OFF	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**
95	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
97	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**
99	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**
101	OFF	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**
103	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**
105	OFF	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**
107	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**
109	OFF	**ON**	**ON**	OFF	**ON**	ON	OFF	**ON**
111	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
113	OFF	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**
115	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**
117	OFF	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**
119	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
121	OFF	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**
123	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
125	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
127	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
129	**ON**	OFF	OFF	OFF	OFF	OFF	OFF	**ON**
131	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**
133	**ON**	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**
135	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**

Table 9 *continues...*

SPI 1, E Ld 1 and LUC 1								
VALUE	**SAT**	**FRI**	**THUR**	**WED**	**TUE**	**MON**	**SUN**	**ON/OFF**
137	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**
139	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**
141	**ON**	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**
143	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**
145	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**
147	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**
149	**ON**	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**
151	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**
153	**ON**	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**
155	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**
157	**ON**	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**
159	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
161	**ON**	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**
163	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**
165	**ON**	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**
167	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**
169	**ON**	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**
171	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**
173	**ON**	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**
175	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
177	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**
179	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**
181	**ON**	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**
183	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
185	**ON**	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**
187	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
189	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**

Table 9 *continues...*

SPI I, E Ld I and LUC I								
VALUE	**SAT**	**FRI**	**THUR**	**WED**	**TUE**	**MON**	**SUN**	**ON/OFF**
191	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
193	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**
195	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**
197	**ON**	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**
199	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**
201	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**
203	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**
205	**ON**	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**
207	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**
209	**ON**	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**
211	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**
213	**ON**	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**
215	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**
217	**ON**	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**
219	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**
221	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**
223	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
225	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**
227	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**
229	**ON**	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**
231	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**
233	**ON**	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**
235	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**
237	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**
239	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
241	**ON**	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**
243	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**

Table 9 *continues...*

SP 1 1, E Ld 1 and LUC 1								
VALUE	**SAT**	**FRI**	**THUR**	**WED**	**TUE**	**MON**	**SUN**	**ON/OFF**
245	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**
247	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
249	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**
251	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
253	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
255	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**

Table 9

Special Vend 1 Start Minute SP 1 2

This option allows the owner to set the minute that Special Vend 1 will begin.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 2 appears in the display.
2. When SP 1 2 appears in the display, press the START (enter) keypad. The current start minute will appear in the display.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
3. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Start Hour SP 1 3

This option allows the owner to set the hour that Special Vend 1 will begin.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 3 appears in the display.
2. When SP 1 3 appears in the display, press the START (enter) keypad. The current start time will appear in the display.

   NOTE: The hours will be displayed in 24 hour format.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
3. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Start Date SP 1 4

This option allows the owner to set the date that Special Vend 1 will begin.

NOTE: If Special Vend 1 Start Month, Start Date, End Month, or End Date are programmed to zero (0), the Special Vend 1 will be active every week on the days programmed in *Table 9* .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 4 appears in the display.
2. When SP 1 4 appears in the display, press the START (enter) keypad. The current start date will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the start month to the desired month.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Start Month SP 1 5

This option allows the owner to set the month that Special Vend 1 will begin.

NOTE: If Special Vend 1 Start Month, Start Date, End Month, or End Date are programmed to zero (0), the Special Vend 1 will be active every week on the days programmed in *Table 9* .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 5 appears in the display.
2. When SP 1 5 appears in the display, press the START (enter) keypad. The current start month will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the start month to the desired month.

   NOTE: If "off" is selected and Special Vend 1 is on, Special Vend 1 will occur at the time and days of week selected, regardless of the month.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Start Year SP 1 6

This option allows the owner to set the month that Special Vend 1 will begin.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 6 appears in the display.
2. When SP 1 6 appears in the display, press the START (enter) keypad. The current start year will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the start year to the desired year.

   NOTE: If "off" is selected and Special Vend 1 is on, Special Vend 1 will occur at the time or days of week selected, regardless of the year. "1" is year 2001, "2" is year 2002, and so on.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Length in Hours SP 1 7

This option allows the owner to set the length in hours for Special Vend 1.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 7 appears in the display.
2. When SP 1 7 appears in the display, press the START (enter) keypad. The current length in hours will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current value to the desired number of hours.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 End Date SP 1 8

This option allows the owner to set the date of the month that Special Vend 1 will end.

NOTE: If Special Vend 1 Start Month, Start Date, End Month, or End Date are programmed to zero (0), the Special Vend 1 will be active every week on the days programmed in *Table 9* .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 8 appears in the display.
2. When SP 1 8 appears in the display, press the START (enter) keypad. The current end date will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the value to the desired date.

   NOTE: If OFF is selected and Special Vend 1 is ON, Special Vend 1 will occur at the time or days of week selected, regardless of the date.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 End Month SP 1 9

This option allows the owner to set the month that Special Vend 1 will end.

NOTE: If Special Vend 1 Start Month, Start Date, End Month, or End Date are programmed to zero (0), the Special Vend 1 will be active every week on the days programmed in *Table 9* .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 9 appears in the display.
2. When SP 1 9 appears in the display, press the START (enter). The current end month will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the value to the desired month.

   NOTE: If OFF is selected and Special Vend 1 is ON, Special Vend 1 will occur at the time and day of week selected, regardless of the month.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 End Year SP 1 10

This option allows the owner to set the year that Special Vend 1 will end.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 10 appears in the display.
2. When SP 1 10 appears in the display, press the START (enter) keypad. The current end year will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the value to the desired year.

   NOTE: If "off" is selected and Special Vend 1 is on, Special Vend 1 will occur at the time or days of week selected, regardless of the year. "1" is year 2001, "2" is year 2002 and so on.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #1 SP 1 11

This option allows the owner to set the vend price for all cycles, but otherwise specifically for Normal Hot. This price should be set before all other prices. The corresponding LED will be lit while programming.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 11 appears in the display.
2. When SP 1 11 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #2 SP 1 12

This option allows the owner to set the vend price for a Normal Warm wash in Special Vend 1. The corresponding LED will be lit while programming.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 12 appears in the display.
2. When SP 1 12 appears in the display, press the START (enter) keypad. The current value will appear in the display.

3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #3 SP 1 13

This option allows the owner to set the vend price for a Normal Cold wash in Special Vend 1. The corresponding LED will be lit while programming.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 13 appears in the display.
2. When SP 1 13 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #4 SP 1 14

This option allows the owner to set the vend price for a Delicate Hot wash in Special Vend 1. The corresponding LED will be lit while programming .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 14 appears in the display.
2. When SP 1 14 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #5 SP 1 15

This option allows the owner to set the vend price for a Delicate Warm wash in Special Vend 1. The corresponding LED will be lit while programming .

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 15 appears in the display.
2. When SP 1 15 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Price #6 SP 1 16

This option allows the owner to set the vend price for a Delicate Cold wash in Special Vend 1. The corresponding LED will be lit while programming.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 16 appears in the display.
2. When SP 1 16 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Cycle Modifier Default Value SP 1 22

This option allows the owner to set the default cycle modifier that should be selected any time that *Ready Mode* is entered.

0 = No Modifiers

1 = Deluxe

2 = Ultra

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP 1 22 appears in the display.
2. When SP 1 22 appears in the display, press the START (enter) keypad. The current value will appear in the display.

3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Deluxe Vend Price SP1 23

This option allows the owner to set the price for modifier Deluxe when selected if Special Vend 1 is enabled.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP1 23 appears in the display.
2. When SP1 23 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Ultra Vend Price SP1 24

This option allows the owner to set the price for modifier Ultra when selected if Special Vend 1 is enabled.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP1 24 appears in the display.
2. When SP1 24 appears in the display, press the START (enter) keypad. The current value will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) 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.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Deluxe Options SP1 25

This option allows the owner to select the options that are enabled when the modifier Deluxe key is active.

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP1 25 appears in the display.
2. When SP1 25 appears in the display, press the START (enter) keypad. The current value will appear in the display.

   NOTE: To go back to the current programmable Special Vend 1 option without changing the value, press the Warm (<) keypad.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the value to enable the desired options to be active when the Hot keypad is active. Refer to *Table 9* .

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 1 Extract Speed Limit SP1 27

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Special Vend 1 options until SP1 27 appears in the display.
2. When SP1 27 appears in the display, press the START (enter) keypad. The current value will appear in the display.

   NOTE: To go back to the current programmable Special Vend 1 option without changing the value, press the Warm (<) keypad.
3. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease value of the speed to be limited. Keep the speed at the highest programmable value for no limit to the spin speed.
4. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Special Vend 2 Days of Week Enable SP2

This option allows the owner to enable or disable a second special vend. Special Vend 2 can be programmed using an external device. The owner may also turn the Special Vend 2 option on or off.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until SP2 appears in the display.
4. When SP2 appears in the display, press the START (enter) keypad. The current Special Vend 2 Days Enable status will appear in the display.

on = Option Enabled

oFF = Option Disabled

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cycle Modifier Programming Menu
CNP-

This option allows the owner to program the machine to offer an added prewash, extra wash time, an added extra rinse, a warm rinse, or any combination of the above to the customers for an added vend price. This option is selected when Deluxe or Ultra is selected using the modifier keypads.

Default Cycle Modifier CNP 1

This option allows the owner to set the Default Cycle Modifier.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CNP- appears in the display.
4. When CNP- appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable Cycle Modifier options until CNP 1 appears in the display.
6. When CNP 1 appears in the display, press the START (enter) keypad. A number will appear in the display. This number corresponds to the current default cycle modifier. Refer to *Table 10* .

CNP 1	
Default Value	**Cycle Modifier**
0	Regular
1	Deluxe
2	Ultra

Table 10

7. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current number to the desired number selected from the table.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cycle Modifier Deluxe Options CNP 2

This option allows the owner to select the options that are enabled when the modifier keypad is active.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CNP- appears in the display.
4. When CNP- appears in the display, press the START (enter) keypad.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CNP 2 appears in the display.
6. When CNP 2 appears in the display, press the START (enter) keypad.
7. Press the Delicate (∧) or the Cold (∨) keypad to change the configuration value. Refer to *Table 11* for the value definitions.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Each row contains a unique combination of the words ON and OFF that indicates if that column's feature is turned on or off when the value is entered. Select the desired combination of features and enter the number found in the value column.

Configuration Value	Extra Rinse (4)	Prewash (5)
0	OFF	OFF
1	OFF	**ON**
2	**ON**	OFF

Table 11 *continues...*

Configuration Value	Extra Rinse (4)	Prewash (5)
(3) Time Added to Wash Status Fill and Agitate Steps; adds additional time for all Agitate Steps with their Status set to Wash		
(4) Modifier #2 Active Steps Enabled; turns on all Cycle Steps with Active State set to Mod 2		
(5) Modifier #1 Active Steps Enabled; turns on all Cycle Steps with Active State set to Mod 1		

Table 11

How to Enter Cycle Programming CYCLE-

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rt5 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CYCLE- appears in the display. Press the START (enter) keypad and CYCLE 1 will appear in the display.

   NOTE: The LED light next to the select cycle keypad will be lit to indicate which cycle is being programmed.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the cycles to program.
5. Press the START (enter) keypad when the desired cycle appears in the display. PCYCtd will appear in the display if enabled. Otherwise the first cycle step will appear. Refer to *Table 12* for keypad navigation.
6. For each cycle, the Programmable Cycle Time Display can be programmed, if enabled in Global Programming Parameters (refer to *Programmable Cycle Time Display PCyCtd*). Press the START (enter) keypad to program the displayed time.
7. Press the Delicate (∧) or the Cold (∨) keypad until the desired value is on the display. Values range from 0-65535. A value of 0 will disable Programmable Cycle Time for the selected cycle. This allows for some cycles to use a Programmable Cycle Time while others use the time calculated from the enabled steps.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
8. Press the START (enter) keypad. The new value is saved and 0 1HHHH appears in the display. The first two digits represent the Cycle Step number and will flash. HHHH will show the step type. The machine is able to have up to 50 custom steps programmed for each cycle. Within each step there are several programmable options. Refer to the following sections for details about each step type and its options.
9. After the last cycle step is stored, CYCEnd is displayed. If 50 steps are programmed CYCEnd will not be displayed. To in-

sert a step at the end of the cycle, first go to this display and then press the Regular key pad.

Functionality of Keypads in Cycle Programming				
Keypad	**Level 3**	**Level 4**	**Level 5**	**Level 6**
START (enter)	Enters Level 4.	If on Programmable Cycle Time Display Parameter, key press saves current value and goes back to Level 3. Otherwise it loads default parameter values for the step if the step type has changed, saves the set step type into the Programmable Cycle, and enters Level 5.	Enters Level 6.	Saves current parameter value being programmed into the Programmable Cycle.
Delicate (∧)	Moves to the next parameter.	If on Programmable Cycle Time Display Parameter, key press increases parameter value, otherwise moves to next Step Type.	Increases the Step Parameter.	Increases parameter value.
Cold (∨)	Moves to the previous parameter.	If on Programmable Cycle Time Display Parameter, key press decreases parameter value, otherwise moves to previous Step Type.	Decreases the Step Parameter.	Decreases parameter value.
Warm (<)	Saves Current Cycle Table being modified into control's memory and goes back to Level 2.	Goes to Level 3. Does not save the current step type that is selected.	Goes to Level 3, not Level 4.	Goes to Level 5, Does not save current parameter value.
Normal (Insert)	Inserts a Cycle Step with step type defaults at current location and shifts steps at current step number to Step 49 down. Step 50 is deleted if it exists.	Invalid	Invalid	Invalid
Hot (Delete)	Deletes Cycle Step at current location and shifts step at current step number down to Step 50 up a location. Step 50 is reset as an invalid step.	Invalid	Invalid	Invalid

Table 12

Cycle Programming CYCLE-

This option allows the owner to program different aspects for various steps in each type of cycle. There are six (6) cycles available for programming.

Programming the Reuse Fill Step Type

The Reuse Fill Step Type allows the owner to program the Reuse Fill Steps of a cycle. After selecting the desired Cycle Step number and pressing START (enter), HHrEUS will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHrEUS				Fill Step Type (HH is step number, step type is flashing)
	En diS	HHF i01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHF i02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHF i03	0-255	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHF i04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	LEuEL	HHF i05	Lo' / MEd / HiGH /1-30	Water Level: Low, Medium and High levels are globally programmed or a custom fill level from 1-30. Each increment is the same amount where 1 corresponds to the lowest programmable level and 30 is the highest programmable level.
	u tEMP	HHF i06	CoLd / 'ArM / Hot	Water Valve Temperature: Cold (cold valve), Warm (cold and warm valves), Hot (hot valves)
	' tEMP	HHF i07	9 CoLd / 9 'ArM / 9 Hot	Water Temperature (heat models) : Cold, Warm or Hot are globally programmed or a custom temperature.
	FLUSH	HHF i08	no / YES	Flush Out: Evacuates water at the beginning of the step for the globally programmed time which helps clean out the tub and prevent the excess dirty water from mixing with the fresh water.
	rotAtE	HHF i09	3-255	Motor On Time (seconds)
	PAUSE	HHF i10	3-255	Motor Off Time (seconds)

Table 13 *continues...*

Step Type	Display A	Display B	Values	Description
	SPEEd	HHF , 11	no rot / Lo'' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEuErS	HHF , 12	rEu on / no rEu	Reversing
	F ,LL	HHF , 13	on / oFF	Fill Valves
	F , tUb	HHF , 14	on / oFF	Tub Fill Valves (if so equipped)
	SPrAY	HHF , 15	on / oFF	Spray Valves (if so equipped)
	C HArd	HHF , 16	on / oFF	Cold Hard Fill Valve (if so equipped)
	AUH FL	HHF , 17	on / oFF	Auxiliary Fill Valve (if so equipped)

Table 13

Programming the Fill Step Type

The Fill Step Type allows the owner to program the Fill Steps of a cycle. After selecting the desired Cycle Step number and pressing START (enter), HHF iLL will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHF iLL				Fill Step Type (HH is step number, step type is flashing)
	En diS	HHF i01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHF i02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHF i03	0-255	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHF i04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	LEuEL	HHF i05	Lo' / MEd / HiGH /1-30	Water Level: Low, Medium and High levels are globally programmed or a custom fill level from 1-30. Each increment is the same amount where 1 corresponds to the lowest programmable level and 30 is the highest programmable level.
	u tEMP	HHF i06	CoLd / 'ArM / Hot	Water Valve Temperature: Cold (cold valve), Warm (cold and warm valves), Hot (hot valves)
	' tEMP	HHF i07	9 CoLd / 9 'Ari / 9 Hot	Water Temperature (heat models) : Cold, Warm or Hot are globally programmed or a custom temperature.
	FLUSH	HHF i08	no / YES	Flush Out: Evacuates water at the beginning of the step for the globally programmed time which helps clean out the tub and prevent the excess dirty water from mixing with the fresh water.
	rotAtE	HHF i09	3-255	Motor On Time (seconds)
	PAUSE	HHF i10	3-255	Motor Off Time (seconds)

Table 14 *continues...*

Step Type	Display A	Display B	Values	Description
	SPEEd	HHF , 11	no rot / Lo'' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEuErS	HHF , 12	rEu on / no rEu	Reversing
	F ,LL	HHF , 13	on / oFF	Fill Valves
	F , tUb	HHF , 14	on / oFF	Tub Fill Valves (if so equipped)
	SPrAY	HHF , 15	on / oFF	Spray Valves (if so equipped)
	C HArd	HHF , 16	on / oFF	Cold Hard Fill Valve (if so equipped)
	AUH FL	HHF , 17	on / oFF	Auxiliary Fill Valve (if so equipped)

Table 14

Programming the Supply Step Type

The Supply Step Type allows the owner to program the addition of chemicals to the load. After selecting the desired Cycle Step number and pressing START (enter), HHSUPP will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHSUPP				Supply Step Type (HH is step number, step type is flashing)
	En diS	HHSU01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHSU02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHSU03	0-255	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHSU04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	u tEMP	HHSU05	CoLd / 'ArM / Hot	Water Valve Temperature: This parameter is only used when an Independent Supply Step. Cold (cold valve), Warm (cold and warm valves), Hot (hot valves)
	dELAY	HHSU06	0-255	Delay time allows water to start flowing before chemicals (internal or external) are introduced to the machine.
	SHUtoF	HHSU07	t iME / LEuEL	Shutoff for external supplies. It can be set for the programmed Supply Time or when the last target water level has been reached.
	F iLL	HHSU 10	on / oFF	Fill Valves (if so equipped)
	F i tUb	HHSU 11	on / oFF	Tub Fill Valves (if so equipped)
	SPrAY	HHSU 12	on / oFF	Spray Valves (if so equipped)
	C HArd	HHSU 13	on / oFF	Cold Hard Fill Valve (if so equipped)
	AUH FL	HHSU 14	on / oFF	Auxiliary Fill Valve (if so equipped)
	CoMP 1	HHSU 15	on / oFF	Compartment 1
	CoMP 2	HHSU 16	on / oFF	Compartment 2
	CoMP 3	HHSU 17	on / oFF	Compartment 3
	CoMP 4	HHSU 18	on / oFF	Compartment 4

Table 15 *continues...*

Step Type	Display A	Display B	Values	Description
	oUtP 1	HH5U 19	on / oFF	External Output #1
	oUtP 2	HH5U20	on / oFF	External Output #2
	oUtP 3	HH5U2 1	on / oFF	External Output #3
	oUtP 4	HH5U22	on / oFF	External Output #4

Table 15

Supply Steps are unique in that they can either be run independently or be tied to a Fill Step or a Reuse Fill Step. The following tables are examples of when the Supply step will be active. All steps below are shown as enabled, other disabled steps may exist in between shown steps.

When Supply Step is active with a Fill Step, Supply Step time is not counted towards total cycle time. Supply steps act as their own step any time an enabled Fill Step does not directly precede the enabled Supply Steps.

Steps	When active
Step 1 Fill Step	
Step 2 Supply Step	Active with Step 1
Step 3 Supply Step	Active with Step 1
Step 4 Agitate Step	
Step 1 Fill Step	
Step 2 Agitate Step	
Step 3 Supply Step	Acts as own step
Step 4 Supply Step	Acts as own step
Step 5 Extract Step	

Table 16

Steps	When active
Step 1 Supply Step	Acts as own step
Step 2 Fill Step	
Step 3 Supply Step	Active with Step 2
Step 4 Agitate Step	
Step 1 Fill Step	
Step 2 Agitate Step	
Step 3 Supply Step	Acts as own step
Step 4 Fill Step	
Step 5 Supply Step	Active with Step 4

Table 17

Programming the Agitate Step Type

The Agitate Step Type allows the owner to program the agitate steps of a cycle. After selecting the desired Cycle Step number and pressing START (enter), HHAG it will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHAG it				Agitate Step Type (HH is step number, step type is flashing)
	En diS	HHAG01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHAG02	PrE'SH / 'ASH / r inSE1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHAG03	0-255	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHAG04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	HEAt	HHAG05	no / tArgEt / AiR intA	Heater Temperature (refer to *Heating/Cool Down Display Sequence (Heat Models)*)
	rAtE	HHAG06	no / 0.5-6.0 °F/Minute [0.3-3.3 °C/Minute]	Heat Rate (heat models)
	rotAtE	HHAG07	3-255	Motor On Time (seconds)
	PAUSE	HHAG08	3-255	Motor Off Time (seconds)
	SPEEd	HHAG09	no rot / Lo'' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEvErS	HHAG10	rEv on / no rEv	Reversing
	drA in1	HHAG11	on / oFF	Drain #1
	drA in2	HHAG12	on / oFF	Drain #2

Table 18 *continues...*

Step Type	Display A	Display B	Values	Description
	rEF iLL	HHA9 13	on / oFF	Refill: If the water level drops while in the step, water will be added until the last set water level set by the last run Fill Step is reached.
	oUtP 1	HHA9 15	on / oFF	External Output #1
	oUtP 2	HHA9 16	on / oFF	External Output #2
	oUtP 3	HHA9 17	on / oFF	External Output #3
	oUtP 4	HHA9 18	on / oFF	External Output #4

Table 18

Programming the Soak Step Type

The Soak Step Type allows the owner to program a soak step in a cycle. The Soak Step Type is identical to the Agitate Step Type except that it allows hours and minutes to be programmed rather than minutes and seconds. After selecting the desired Cycle Step number and pressing START (enter), HHSoAG will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHSoAG				Soak Step Type (HH is step number, step type is flashing)
	En diS	HHSo01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHSo02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	HoUrS	HHSo03	0-255	Step Hours: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	MinUtE	HHSo04	0-59	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	HEAt	HHSo05	no / tArgEt / iA intA	Heater Temperature (refer to *Heating/Cool Down Display Sequence (Heat Models)*)
	rAtE	HHSo06	no /	Heat Rate
	rotAtE	HHSo07	3-255	Motor On Time (seconds)
	PAUSE	HHSo08	3-255	Motor Off Time (seconds)
	SPEEd	HHSo09	no rot / Lo' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEvErS	HHSo 10	rEv on / no rEv	Reversing
	drA in 1	HHSo 11	on / oFF	Drain #1
	drA in2	HHSo 12	on / oFF	Drain #2

Table 19 *continues...*

Step Type	Display A	Display B	Values	Description
	rEF iLL	HHSo 13	on / oFF	Refill: If the water level drops while in the step, water will be added until the last set water level set by the last run Fill Step is reached.
	oUtP 1	HHSo 15	on / oFF	External Output #1
	oUtP 2	HHSo 16	on / oFF	External Output #2
	oUtP 3	HHSo 17	on / oFF	External Output #3
	oUtP 4	HHSo 18	on / oFF	External Output #4

Table 19

Programming the Cool Down Step Type

The Cool Down Step Type allows the owner to program a soak step in a cycle. The Cool Down Step Type is identical to the Agitate Step Type except that it allows hours and minutes to be programmed rather than minutes and seconds. After selecting the desired Cycle Step number and pressing START (enter), HHCLdn will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHCLdn				Cool Down Step Type (HH is step number, step type is flashing)
	En diS	HHCL01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHCL02	PrE'SH / 'ASH / r inSE1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	' tEMP	HHCL03	9 CooL /	Cool Down Temperature (refer to *Heating/Cool Down Display Sequence (Heat Models)*)
	tYPE	HHCL04	PLU Co / No 'r i	Plumbing Code/Wrinkle
	rAtE	HHCL05	no/ 0.5 - 12.5°F/Minute [0.3 - 6.9°C/Minute]	Cooldown Rate
	rotAtE	HHCL06	3-255	Motor On Time (seconds)
	PAUSE	HHCL07	3-255	Motor Off Time (seconds)
	SPEEd	HHCL08	no rot / Lo' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEvErS	HHCL09	rEv on / no rEv	Reversing
	v tEMP	HHCL 10	CoLd / 'ArM / Hot	Water Valve Temperature: Cold (cold valve), Warm (cold and warm valves), Hot (hot valves)
	FiLL	HHCL 11	on / oFF	Fill Valves
	Fi tUb	HHCL 12	on / oFF	Tub Fill Valves (if so equipped)
	SPrAY	HHCL 13	on / oFF	Spray Valves (if so equipped)
	C HArd	HHCL 14	on / oFF	Cold Hard Fill Valve (if so equipped)
	AUH FL	HHCL 15	on / oFF	Auxiliary Fill Valve (if so equipped)

Table 20 *continues...*

Step Type	Display A	Display B	Values	Description
	oUtP 1	HHCL 16	on / oFF	External Output #1
	oUtP 2	HHCL 17	on / oFF	External Output #2
	oUtP 3	HHCL 18	on / oFF	External Output #3
	oUtP 4	HHCL 19	on / oFF	External Output #4

Table 20

Programming the Drain Step Type

The Drain Step Type allows the owner to program the drain steps of a cycle. After selecting the desired Cycle Step number and pressing START (enter), HHdrA1 will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHdrA1				Drain Step Type (HH is step number, step type is flashing)
	En dIS	HHdr01	EnAbLE / dISAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHdr02	PrE'SH / 'ASH / r inSE1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	drA in1		on / oFF	Drain #1
	drA in2		on / oFF	Drain #2
	rotAtE	HHdr06	3-255	Motor On Time (seconds)
	PAUSE	HHdr07	3-255	Motor Off Time (seconds)
	SPEEd	HHdr08	no rot / Lo'' AG / rEG AG /10-50 RPM (X.XX-X.XX G Force)	Rotation Speed: no rotation, low agitate speed, regular agitate speed or custom speed in RPM/G Force • 0.03-0.75 for 20 pound • 0.04-0.86 for 30 pound • 0.04-0.94 for 40 pound • 0.05-1.07 for 60 pound • 0.06-1.27 for 80 pound • 0.06-1.27 for 100 pound
	rEvErS	HHdr09	rEv on / no rEv	Reversing
	dELAY	HHdr 10	on / oFF	Delay rotation until empty.
	oUtP 1	HHdr 11	on / oFF	External Output #1
	oUtP 2	HHdr 12	on / oFF	External Output #2
	oUtP 3	HHdr 13	on / oFF	External Output #3
	oUtP 4	HHdr 14	on / oFF	External Output #4

Table 21

Programming the Extract Drain (Spin) Step Type

The Extract Drain (Spin) Step Type allows the owner to program the extract drain (spin) steps of a cycle. After selecting the desired Cycle Step number and pressing START (enter), HHSP in will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHSP in				Spin Step Type (HH is step number, step type is flashing)
	En dis	HHSP01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHSP02	PrE-SH / -ASH / r inSE1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHSP03	0-9	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHSP04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	drA in1		on / oFF	Drain #1
	drA in2		on / oFF	Drain #2
	SPEEd	HHSP08	uE Lo- / Lo- / MEd / HIGH / uE Hi / UL Hi /XX-XXX RPM (2.50-200.00 G Force)	Spin Speed: Very Low speed, Low speed, Medium speed, High speed, Very High speed, Ultra High speed or custom speed in RPM/G Force (If programmed greater then the machine model allows, the control will automatically limit the speed to the allowed limit) • 92-818 for 20 pound • 86-766 for 30 pound • 82-731 for 40 pound • 77-685 for 60 pound • 70-625 for 80 pound • 70-625 for 100 pound
	oUtP 1	HHSP09	on / oFF	External Output #1
	oUtP 2	HHSP10	on / oFF	External Output #2
	oUtP 3	HHSP11	on / oFF	External Output #3
	oUtP 4	HHSP12	on / oFF	External Output #4

Table 22

High spins will extract soap and water out of the load but can also produce suds that are harder to eliminate. For this reason all spin steps consist of a step ramped spin to reduce suds generation.

The overall Extract Speed reached is dependent on the Step Time. The Step Time accounts for Drain Time, one (1)Balance Measurement Time and Spin Time. Additional balance measurements will not subtract time from the step. If enough time isn't given to reach a programmed speed, the step will advance without reaching the set speed.

It is recommended not to reduce spin times within the default cycles. Better machine performance is achieved with the default spin times.

Programming the Hold Step Type

The Hold Step Type allows the user to pause a cycle at a specific type to allow user interaction with the cycle, generally to add a chemical. After selecting the desired Cycle Step number and pressing START (enter), HHHoLd will appear in the display.

Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHHoLd				Hold Step Type (HH is step number, step type is flashing)
	En diS	HHHo01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHHo02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHHo03	0-2	Step Minutes: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	SECond	HHHo04	0-59	Step Seconds: If Programmed Cycle Time Display is enabled and set to a value greater than zero, it will override this time.
	AUd ioP	HHHo05	0-20	Audio Pattern: The audio will stop once a key is pressed or the door is opened.
	MESSAG	HHHo06	LoAd / CHEM, SoAP, bLEACH / SoFtnr / SoUr / StArCH / CUStM 1 / CUStM2	Display Message
	StArtP	HHHo07	StrtCY / UnLoCH	Door Lock State
	AUrESM	HHHo08	0-255	Automatic Resume Minutes: Cycle will resume automatically after the programmed time only if the step was programmed to have the door remain locked.
	drA in 1		on / oFF	Drain #1
	drA in2		on / oFF	Drain #2
	oUtP 1	HHHo 12	on / oFF	External Output #1
	oUtP 2	HHHo 13	on / oFF	External Output #2
	oUtP 3	HHHo 14	on / oFF	External Output #3
	oUtP 4	HHHo 15	on / oFF	External Output #4

Table 23

While in the Hold Step, a message is used to indicate what interaction the machine is waiting for. The Hold step can be programmed to either hold water and keep the door locked or to evacuate water and unlock the door. In both cases a Start key press will allow the cycle to resume.

This step may be used to allow the machine to be rinsed out before adding the next load. An additional vend could be charged by having a Modifier Key programmed to enable steps to perform this functionality by setting the steps as Mod 1 or Mod 2. Refer to *Cycle Modifier Programming Menu CNP-* .

Programming the Audio Step Type

The Audio Step Type is used to alert the user with an audio pattern for a programmed duration when the step is entered. After selecting the desired Cycle Step number and pressing START (enter), HHAUd 1 will appear in the display. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the options and START (enter) to select a value.

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

Step Type	Display A	Display B	Values	Description
HHAUd 1				Audio Step Type (HH is step number, step type is flashing)
	En diS	HHAU01	EnAbLE / diSAbL / dMod 1 / dMod 2	Step Enable/Disable Choosing dMod 1 and dMod 2 will enable the step if the cycle modifier is chosen and set to be enabled in *Cycle Modifier Programming Menu CNP-* .
	StAtUS	HHAU02	PrE'SH / 'ASH / r inSE 1 / r inSE2 / r inSE3 / r inSE4 / SP in	Status LED: The corresponding LED on the control will be lit during this step.
	MinUtE	HHAU03	0-2	Step Minutes
	SECond	HHAU04	0-59	Step Seconds
	AUd ioP	HHAU05	1-20	Audio Pattern
	oUtP 1	HHAU06	on / oFF	External Output #1
	oUtP 2	HHAU07	on / oFF	External Output #2
	oUtP 3	HHAU08	on / oFF	External Output #3
	oUtP 4	HHAU09	on / oFF	External Output #4

Table 24

Hold Step Custom Messages Menu CMESS-

This option allows the owner to program the machine to display a custom hold step message when a hold step is programmed.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CMESS- appears in the display.
4. When CMESS- appears in the display, press the START (enter) keypad. There are two (2) programmable Hold Step Custom Message options.

Display	Hold Step Custom Message Options
CMESS 1	Custom Message #1
CMESS2	Custom Message #2

Table 25

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current option.
6. Press the START (enter) keypad to change the first of six (6) programmable characters.

   NOTE: To go back to the current programmable option without changing the value, press the Warm (<) keypad.
7. Press the Delicate (∧) or the Cold (∨) keypad to change the active character and the START (enter) keypad to enter the value of the character and advance to the next character.
8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Programmable Cycle Time Display Enable PCYCtd

This option allows the owner to program the machine to display a chosen cycle time in minutes instead of the calculated cycle time.

The cycle time display will not pause for fills or heating. The display will switch to 01 if the end of the cycle is reached before the time display reaches 01. If the time displayed reaches 01 before the end of the cycle, the display will pause at 01 until the cycle ends.

In order to use this option, the owner must set the programmable cycle time in a cycle to a value greater than 0. Refer to *How to Enter Cycle Programming CyCLE-*.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PCYCtd appears in the display.
4. When PCYCtd appears in the display, press the START (enter) keypad. The current Cycle Time Display value will appear in the display.

on = Cycle time displayed as programmed

oFF = Calculated remaining cycle time is displayed

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

No Cycle Time Display nCYCtd

This option allows the owner to program the machine to display no cycle time instead of the cycle time being displayed, a single dashed line will move horizontally across the display for the entire cycle.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until nCYCtd appears in the display.
4. When nCYCtd appears in the display, press the START (enter) keypad. The current No Cycle Time Display status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Number of Balance Attempts bAL At

This option allows the owner to program the machine's number of balance attempts with no loss of time. The machine will spin at an adjusted speed as a result of the last balance attempt, if more than one (1) attempt is preformed.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until bAL At appears in the display.
4. When bAL At appears in the display, press the START (enter) keypad. The current Number of Balance Attempts with no Loss of Time will appear in the display.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current value.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Cycle Pause Resume CYCPAU

This option allows the owner to be able to pause a running cycle when the START (enter) keypad is pressed 3 times within 5 seconds during the first 3 minutes from the start of the cycle. Once the control evacuates all water in the machine, it will unlock the door. To resume the cycle, the door must be closed and then the START (enter) keypad pressed. The cycle will continue from where it left off.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and RtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until CYCPAU appears in the display.
4. When CYCPAU appears in the display, press the START (enter) keypad. The current Cycle Pause Resume status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Low Power/Auto Shutdown 1 Days Enable LPAS 1

This option allows the owner to set Low Power/Auto Shutdown on certain day(s) of the week. Low Power and/or Auto Shutdown days/duration are programmed using an external device or network.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and RtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until LPAS 1 appears in the display.
4. When LPAS 1 appears in the display, press the START (enter) keypad. The current Low Power/Auto Shutdown 1 Days Enable status will appear in the display.

on = Option Enabled

oFF = Option Disabled (factory default setting)

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Power Fail Reset PF rSt

This option allows the owner to set the amount of time the control will store active cycle information in the event of a power failure. The default setting for Power Fail Reset is off. If Power Fail Reset is turned off, the cycle will be saved.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PF rSt appears in the display.
4. When PF rSt appears in the display, press the START (enter) keypad. oFF or a number will appear in the display. This number corresponds to the current Power Fail Reset setting.
5. Press the Delicate (∧) or the Cold (∨) keypad to increase or decrease the current number to the desired number selected from *Table 1*.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

IR Access Enable irA En

This option allows the owner to enable or disable allowing the control to be communicated with by an external IR device.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until irA En appears in the display.
4. When irA En appears in the display, press the START (enter) keypad. The current IR Access status will appear in the display.

on = Option Enabled

oFF = Option Off (passcode is required to access)

diSAbl = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Manual Rapid Advance Enable rAPdEn

This option allows the owner to enable or disable the rapid advance feature. If disabled, a keycode is required to access Manual Rapid Advance. Refer to *Rapid Advance Feature* for more information.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOg appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until rAPdEn appears in the display.
4. When rAPdEn appears in the display, press the START (enter) keypad. The current Manual Rapid Advance status will appear in the display.

on = Option Enabled

oFF = Option Off (passcode is required to access)

diSAbl = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Manual Diagnostics Enable diAGEn

This option allows the owner to enable or disable the manual diagnostics option. Refer to *Machine Diagnostic Functions* section for more information.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOg appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until diAGEn appears in the display.
4. When diAGEn appears in the display, press the START (enter) keypad. The current Manual Diagnostics status will appear in the display.

on = Option Enabled

oFF = Option Off (passcode is required to access)

diSAbl = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Factory Test Enable FE En

This option allows the owner to enable or disable access to Factory Test.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until FE En appears in the display.
4. When FE En appears in the display, press the START (enter) keypad. The current Factory Test status will appear in the display.

oFF = Option Off (passcode is required to access)

on = Option Enabled

diSAbl = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Machine Configuration Parameters Menu MCP-

The Machine Configuration Parameters Menu shows which valves are on the machine or if there is a thermistor installed.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until MCP- appears in the display.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options (refer to *Table 26*). Press the START (enter) keypad to enter the desired option. The current status will appear in the display.

Parameters	
MCP 1	Compartment Valve Set Present
MCP 2	Fill Tub Valve Set Present
MCP 3	Spray Valve Set Present
MCP 4	Cold Hard Fill Valve Present
MCP 5	Auxiliary Valve Present
MCP 6	Unused
MCP 7	Unused
MCP 8	Thermistor Present

Table 26

0 = Item is not present

1 = Item is present

5. Press the Warm (<) keypad to exit the parameter.

Lucky Cycle Menu LUC-

This option allows the owner to program the machine to provide a free or reduced vend cycle to users after a certain number of machine cycles have occurred.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and RtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until LUC- appears in the display.
4. When LUC- appears in the display, press the START (enter) keypad. There are three (3) programmable Lucky Cycle options. Refer to *Table 27* .

Display	Lucky Cycle Options
LUC 1	Lucky Cycle Day(s) of Week / Enable (refer to *Table 9*)
LUC 2	Lucky Cycle Number (1-255)
LUC 3	Lucky Cycle Display Option On = Free vend. Lucky cycle active after 4.25 minutes in *Ready Mode*. Off = Vend must be entered. Remaining vend is free. For example, after entering a coin the price will count down by Coin 1 value until vend is satisfied.

Table 27

NOTE: When the Lucky Cycle conditions have been met, the display will show FrEE when the display option is set to on.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Heating Indicator Decimal Point Enable (Heat Models) Ht dP

This option allows the owner to enable or disable the heating indicator decimal point on the machine. If enabled, the left most decimal point on the display will be lit anytime the heater is on during a cycle.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and RtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until Ht dP appears in the display.
4. When Ht dP appears in the display, press the START (enter) keypad. The current status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Temperature Display Enable (Heat Models) tP dIS

This option allows the owner to program the temperature display. If enabled, the user can display the water temperature reading during an agitate or soak step by pressing the active cycle keypad. Further presses will toggle the display and the display will also be exited upon exit of the step.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOG appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until tP dIS appears in the display.
4. When tP dIS appears in the display, press the START (enter) keypad. The current Temperature Display status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Water Temperature Indicator tP Ind

This option allows the owner to enable or disable the diplay to show the actual fill temperature during the fill, supply, agitate, or soak step by lighting the LED corresponding to the actual temperature.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOG appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until tP Ind appears in the display.
4. When tP Ind appears in the display, press the START (enter) keypad. The current status will appear in the display.

on = Option Enabled

oFF = Option Disabled (factory default setting)

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Speed Units SUn itS

This option allows the owner to program the speed units to be shown in RPMs or G Force for all speed related programming parameters.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until SUn itS appears in the display.
4. When SUn itS appears in the display, press the START (enter) keypad. The current Speed Units status will appear in the display.

rPM = Option

gForCE = Option

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Programmable Close Door Display PCdL

This option allows the owner to enable or disable allowing the control to display the corresponding command to close the door along with the cycle time.

1. Control must be in Manual Mode. Refer to *How to Enter the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Rts 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PCdL appears in the display.
4. When PCdL appears in the display, press the START (enter) keypad. The current status will appear in the display.

on = Option Enabled (factory default setting)

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Programmable Push Start Display PPSt

This option allows the owner to enable or disable allowing the control to display the corresponding command to press the START (enter) keypad once the vend has been satisfied.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PPSt appears in the display.
4. When PPSt appears in the display, press the START (enter) keypad. The current Push Start status will appear in the display.

on = Option Enabled (factory default setting)

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Programmable Open Door Display PodL

This option allows the owner to enable or disable allowing the control to display the corresponding command to open the door along with the cycle time when the cycle had completed.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until PodL appears in the display.
4. When PodL appears in the display, press the Delicate keypad. The current status will appear in the display.

on = Option Enabled (factory default setting)

oFF = Option Disabled

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Vend Price Display Override AtS do

This option allows the owner to override the previously set vend price with a custom display that is set by the payment system. The default display is CArd if the payment system does not modify it.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until AtS do appears in the display.
4. When AtS do appears in the display, press the START (enter) keypad. The current Vend Price Display Override status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

OPL Parameters oPL -

This option allows the owner to enable or disable the OPL Parameters in which no vend price needs to be satisfied to operate the machine.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL - appears in the display.
4. When oPL - appears in the display, press the START (enter) keypad to enter the OPL submenu.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the OPL submenu options.

   NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

6. Press the START (enter) keypad when the desired option appears in the display.

OPL Mode Enable oPL 1

This option allows the owner to place the control in OPL Mode, in which no vend price needs to be satisfied in order to start the machine. If the control is in Start Mode, the cycle time will be displayed. Pressing the START (enter) keypad will start the machine cycle. Once a machine cycle has been started, each additional press of the START (enter) keypad will advance the cycle to the next cycle step only if Rapid Advance Programming Parameter is Enabled.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL - appears in the display.
4. When oPL - appears in the display, press the START (enter) keypad to enter the OPL submenu.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL 1 appears in the display.
6. When oPL 1 appears in the display, press the START (enter) keypad. The current OPL status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

7. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

OPL Delayed Start oPL 2

This option allows the owner to enable delayed start mode which can delay the cycle up to a maximum of 72 hours.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL - appears in the display.
4. When oPL - appears in the display, press the START (enter) keypad to enter the OPL submenu.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL 2 appears in the display.
6. When oPL 2 appears in the display, press the START (enter) keypad. The current OPL status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

7. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

OPL Display Power Save oPL 3

This option allows the owner to enable the OPL Display Power Save Feature. If enabled, after 255 seconds of no user input, the control will turn off all LEDs and the display until user input occurs. The OPL Display Power Save Feature will only turn off the display if the control is in Start Mode.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL - appears in the display.
4. When oPL - appears in the display, press the START (enter) keypad to enter the OPL submenu.
5. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oPL 3 appears in the display.
6. When oPL 3 appears in the display, press the START (enter) keypad. The current OPL status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

7. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
8. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Drop Off Mode drop

This option allows the owner to limit machine use to an attendant without requiring vend. Refer to *Drop-Off Mode* for more details.

1. Control must be in Manual Mode. Refer to *How to Enter the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until drop appears in the display.
4. When drop appears in the display, press the START (enter) keypad. The current Drop Off Mode status will appear in the display.

on = Option Enabled

oFF = Option Disabled (factory default setting)

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Out of Order oUt

This option allows the owner to disable machine use by displaying an out of order message.

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until Prog appears in the display. Press the START (enter) keypad and Ats 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until oUt appears in the display.
4. When oUt appears in the display, press the START (enter) keypad. The current Out of Order status will appear in the display.

on = Option Enabled

oFF = Option Disabled

NOTE: To go back to the current programmable option without changing the value of the active digit, press the Warm (<) keypad.

5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct value appears in the display. The new value is saved and the next option will appear in the display.

Collecting Audit Information

This feature allows the owner to retrieve audit information stored in the machine by pressing a sequence of pads on the control. For an explanation of the audit options available, refer to *Table 28* .

Entering the Audit Feature by Manual Mode

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until AUd it appears in the display.
3. Press the START (enter) keypad and CYCLES will appear in the display.

Entering the Audit Feature with the Coin Vault Open

1. Open coin vault. Make sure top cover is closed.
2. Press the START (enter) keypad.

How to Read Audit Data

1. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options. Refer to *Table 28* .
2. When the desired option appears in the display press the START (enter) keypad. The current value will appear in the display.
3. Press the Warm keypad. The display will return to the audit option list.

Programmable Options	
CYCLES	Total Number of Machine Cycles
Coin 1	Total Number of Coins #1
Coin 2	Total Number of Coins #2
PULSE	Total Number of Start Pulses
rAPCYC	Total Number of Rapid Advance Cycles
rUnHrS	Total Number of Run Hours
rCoin1	Resettable Coin #1 Count
rCoin2	Resettable Coin #2 Count
rCYCLE	Resettable machine Cycle Count

Table 28

How to Exit Audit Feature

Press the Warm (<) keypad.

Manual Reset

This feature allows the owner to reset the machine control's programming data to the factory default settings by pressing a sequence of keypads on the control. For an explanation of the Factory Default Settings, refer to *Programming Control*.

How to Enter Manual Reset

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until PrOG appears in the display. Press the START (enter) keypad and AtS 1 will appear in the display.
3. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the programmable options until rESEt appears in the display.
4. When rESEt appears in the display, press the START (enter) keypad. If reset is disabled, oFF will appear in the display. If enabled GLobAL will appear in the display.
5. Press the Delicate (∧) or the Cold (∨) keypad to change the current status.
6. Press the START (enter) keypad when the correct status appears in the display.

Global Programming Parameters	
GLobAL	Global Programming Parameters
rCYC-	Individual Cycles Sub Menu
rCYC 1	Cycle 1
rCYC 2	Cycle 2
rCYC 3	Cycle 3
rCYC 4	Cycle 4
rCYC 5	Cycle 5
rCYC 6	Cycle 6
ALLCYC	All Cycles
ALL	All Cycles and Global Programming Parameters

Table 29

Machine Diagnostic Functions

This feature allows the owner to run diagnostic tests on various machine operations without servicing the machine.

How to Enter Diagnostic Testing Feature

1. Control must be in Manual Mode. Refer to *Entering the Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until dI AG appears.
3. Press the START (enter) keypad. Display will change to d 1 indicating the Control Software Version Number Test.
4. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the diagnostic test options.

How to Start Tests

To start a diagnostic test, refer to the quick reference chart (*Table 30*). Press the START (enter) keypad when the desired test number is displayed. For detailed information on each test, read the appropriate description.

How to Exit Diagnostic Testing Feature

Press the Warm (<) keypad. The display will return to the previous mode of operation.

Diagnostic (Testing) Mode – Quick Reference Chart

Test Number	Diagnostic Mode	Display
d 1	Control Software Version # Test	S HHH
d 2	Input/Output Board Software Version Test	ob HH
d 3	Drive Board Software Version Test	CLoSE / door / db uEr / db HH
d 4	Drive Parameter Version Test	PArHHH
d 8	Service Door Opening Test	S oP or S CL
d 9	Coin Vault Opening Test	u oP or u CL
d 10	Coin Drop #1 Input Test	C 1 HH
d 11	Coin Drop #2 Input Test	C2 HH
d 12	Vend Header Present Status Test	CH oP or CH CL
d 13	Start Pulse Test	St HH
d 15	Door Switch Input Test	dr oP or dr CL
d 16	Door Lock Input Test	CLoSE / door / dr UL / dr Lo
d 17	Show Fill Time Test	FL HHH
d 18	Show Drain Time Test	dr HHH
d 19	Temperature Sensor Display Test (Heat Models)	HHHF / HHHC / SHort / oPEn
d 20	12.5 VDC Voltage Test	HH.HH
d 21	24 VDC Voltage Test	HH.HH
d 22	Frame Balance Switch Input Test	CLoSE / door / Fbs oP / Fbs CL
d 23	External Output Test	ES H / ES Hon
d 24	Water Purge Test	CLoSE / door / PUr9E / FLUSH

Table 30 *continues...*

Test Number	Diagnostic Mode	Display
d 25	Water Leak Detection Test	CLoSE / door / PASS / E Ld / E LF / Ld
d 26	Water Level Test	L HHH / L HHH.
d 27	DC Bus Voltage Test	CLoSE / door / dC bUS / HHH.H
d 28	AC Mains Voltage Test	HHH
d 29	Machine Configuration #1 Display Test	A HHH
d 30	Machine Configuration #2 Display Test	b HHH
d 31	Machine Configuration #3 Display Test	C HHH
d 32	Machine Configuration #4 Display Test	d HHH
d 33	Machine Configuration #5 Display Test	E HHH
d 43	Low Level Pressure Switch Test (Heat Models)	CLoSE / door / LP oP / LP CL

Table 30

Diagnostics

Press the START (enter) keypad.

Press the Delicate (∧) or the Cold (∨) keypad to scroll through the diagnostic functions.

To enter a function, press the START (enter) keypad. To exit, power down the machine.

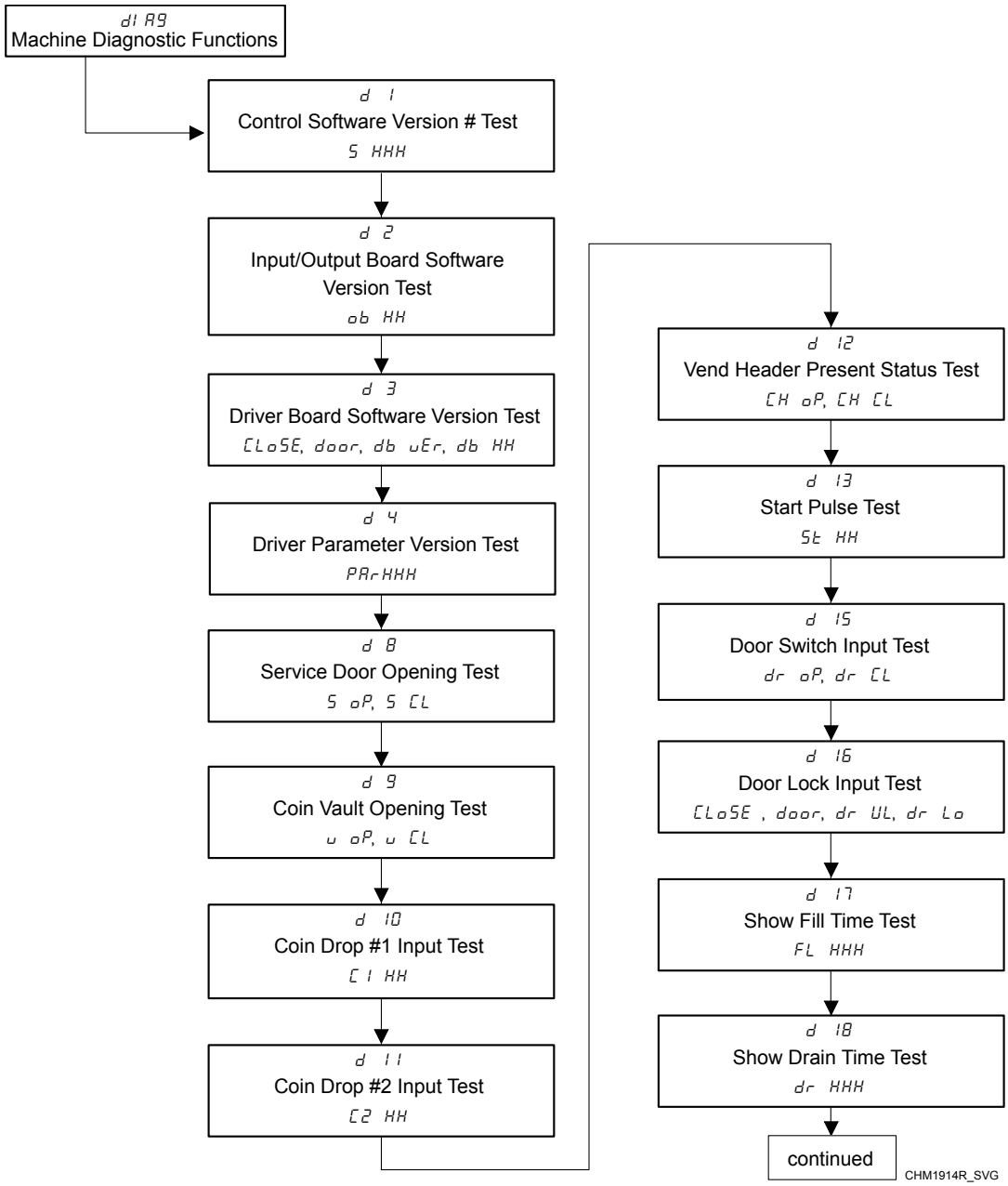


Figure 13

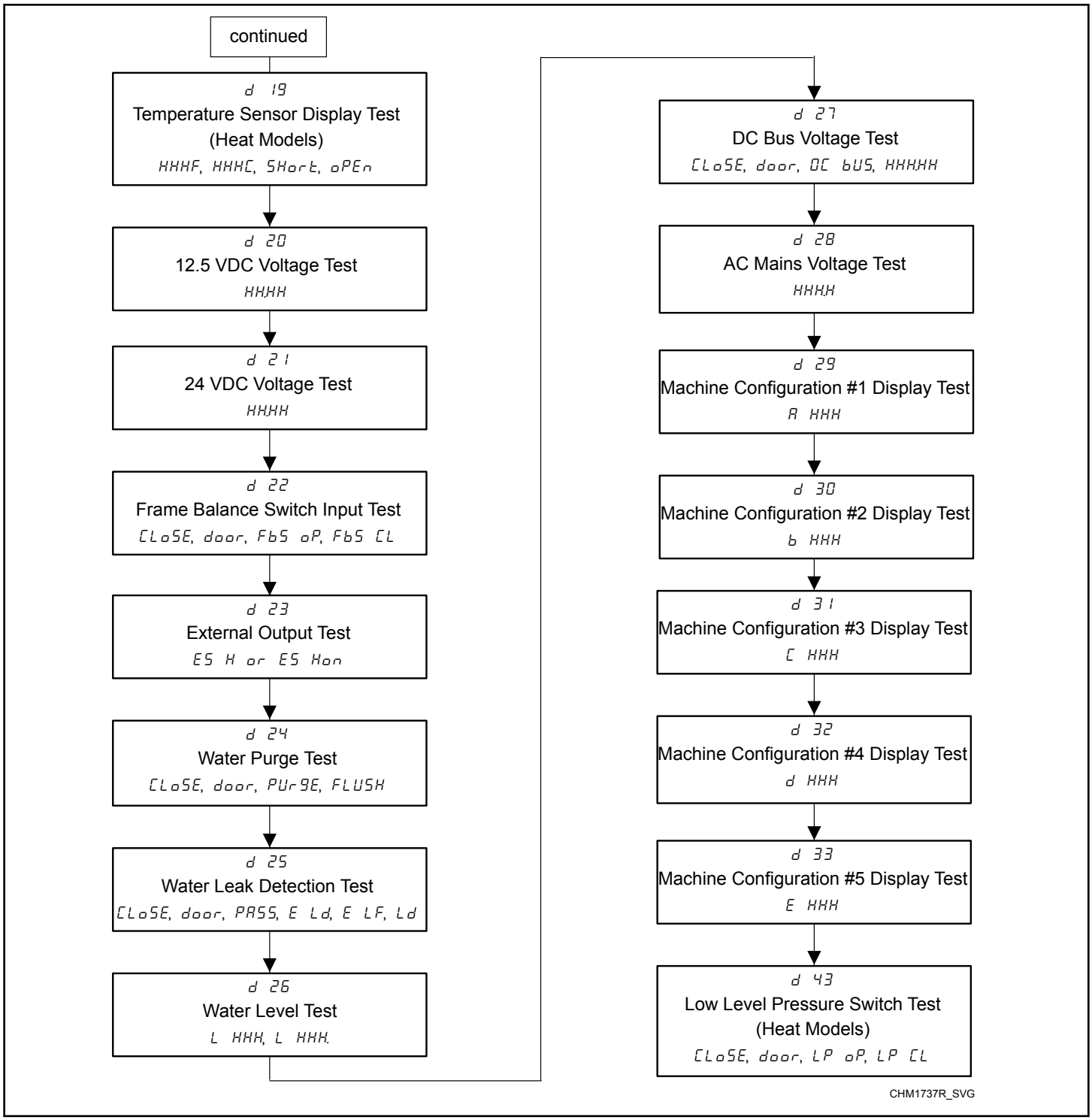


Figure 14

Diagnostic Test Descriptions

Control Software Version # Test d 1

This option displays the control software version number. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show S HHH where HHH is the software version number.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Input/Output Board Software Version Test d 2

This option displays the input/output board software version number. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show ob HH where HH is the software version number.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Drive Board Software Version Test d 3

This option displays the drive board software version number. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is open the display will show CLoSE, door until the door is closed. Once the door is closed he Display will show db uEr and flash the START (enter) keypad LED. To start the test, press the START (enter) keypad. If the door is unlocked when the test is started, the control will attempt to lock the door. The display will show a sequence of horizontal LED segments to indicate it is waiting for the door to lock or drive version. Once the door is locked the display will show db HH where HH is the software version of the drive.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

If the door was unlocked when the test began, the control will attempt to unlock the door.

Drive Parameter Version Test d 4

This option displays the drive parameter version number. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is open the display will show PArHHH where HHH is the drive parameter version number.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Service Door Opening Test d 8

This option tests the service door switch. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show S oP when the service door switch is open and S CL when the service door switch is closed.

The service door switch has to be closed for at least one second and opened for at least one second for the display to change. This test will add a count to the service door opening counter for the audit and save the date/time for each opening.

Coin Vault Opening Test d 9

This option tests the coin vault switch. To start test, the control must be in the Testing Mode. Refer to *How to Enter Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show u oP when the coin vault switch is open and u CL when the coin vault switch is closed.

The coin vault switch has to be closed for at least one second and opened for at least one second for the display to change. This test will add a count to the coin vault opening counter for the audit and save the time/date for each opening.

To exit the Coin Vault Opening Test, press the Warm (<) keypad. The control will return to the Testing Mode.

Coin Drop #1 Input Test d 10

This option tests coin drop #1. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show C1 HH. The HH will show the number of coins entered and will increment one for each coin entered in coin drop #1.

NOTE: Coins entered in test mode will not increment the total # of coins counter that is accessed in the audit feature.

Coin Drop #2 Input Test d 11

This option tests coin drop #2. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show C2 HH. The HH will show the number of coins entered and will increment one for each coin entered in coin drop #2.

NOTE: Coins entered in test mode will not increment the total # of coins counter that is accessed in the audit feature.

Vend Header Present Status Test d 12

This option tests the vend header connection. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show CH oP when the wiring connection is open and CH CL when the connection is closed.

Start Pulse Test d 13

This option tests the Start Pulse. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show St HH. The HH will show the number of pulses entered. This test will add counts to the total number of Start Pulses counter. Refer to *Collecting Audit Information*.

Door Switch Input Test d 15

This test will display whether the washer door is open or closed. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is closed, the display will show dr CL. If the door is open, the display will show dr oP.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Door Lock Input Test d 16

This test will display whether the door is locked or unlocked. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, close the door and press the START (enter) keypad. The control will lock the door. If the door is open, the display will show CLoSE and door. The door must be closed to enter test.

If the door is unlocked, the display will show dr UL. After the door is locked, the display shows dr Lo and 5 seconds later the door will unlock. This sequence is repeated every time the START (enter) keypad is pressed.

Show Fill Time Test d 17

This test will display the average fill time. This average will be calculated by taking the average of the last 10 fill times. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show FL HHH. The HHH will be the average fill time in seconds.

Show Drain Time Test d 18

This test will display the average drain time. This average will be calculated by taking the average of the last 10 drain times. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show dr HHH. The HHH will be the average fill time in seconds.

Temperature Sensor Display Test (Heat Models) d 19

This option displays the temperature sensed at the thermistor in 5°F increments. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is closed, the display will show HHHF or HHHC. The F will show Fahrenheit, the C will show Celsius and the HHH will show degrees. If control senses a shorted thermistor, the display will show SHort. If the control senses an open thermistor, the display will show oPEn.

12.5 VDC Voltage Test d 20

This test displays the value of the 12.5VDC supply. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show HH.HH where HH.HH in the voltage.

24 VDC Voltage Test d 21

This test will display whether the washer door is open or closed. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show HH.HH where HH.HH in the voltage. The 24V supply is charged when the door is closed. If the door is open the supply will discharge to a near zero (0) value.

Frame Balance Switch Input Test d 22

This test displays whether the frame balance switch is open or closed. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is open the display will show show CLoSE, door until the the door is closed. Once the door is closed the display will show Fb5 oP if the switch is open or Fb5 CL if the switch is closed.

External Output Test d 23

This test will allow any one of the external outputs to be selected. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show ES H where H is the output number. Press the Delicate (∧) or the Cold (∨) keypad to scroll through the outputs.

Press the START (enter) keypad to energize the selected external output. ES Hon will be displayed. Press the START (enter) again or the Warm (<) keypad to turn off the selected external output.

Water Purge Test d 24

This test allows the owner to test water removal from the machine. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show PUrGE and the START (enter) keypad LED will flash. Begin the test by pressing START (enter). If the door is open, CLoSE, door will be displayed to prompt the owner to close the loading door. When the START (enter) pad is pressed with the door closed, the door will lock and FLUSH will be displayed.

The control will energize all water valves and supply outputs while keeping the drain valves open or the pump energized. Press any keypad to end the test. The test will end automatically after 2 minutes. The door will unlock and the control will display PUrGE.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Water Leak Detection Test d 25

This test allows the owner to check for water leaking from the machine. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show Ld and the START (enter) keypad LED will flash. Begin the test by pressing START (enter). If the door is open, CLoSE, door will be displayed to prompt the owner to close the loading door. When the START (enter) keypad is pressed with the door closed, the door will lock and the test will begin. With the drain valve closed or the pump off, the machine will fill with cold water through compartments 1 and 2 until the Low water level is reached.

After a 30 second pause to allow the water pressure to stabilize, the control will record the current water level from the electronic water level sensing input and continue to monitor the water level for two minutes. The display will show a sequence of horizontal LED segments to indicate it is monitoring the water level.

After two (2) minutes, the control will compare the ending water level with the level at the start. If the water level has dropped or raised, the display will show E Ld to signify a drain leak or E LF to signify a fill leak. If the water level has not dropped or raised, the display will show PASS.

Then the drain will open or the pump will turn on. When the water has been drained or pumped out of the machine, the control will unlock the door and display the result message. The error message is an indication to the machine owner that there should be service attention devoted to the fill valve or drain valve/pump on the machine to diagnose where the water leak is originating.

To stop the test while it is running, press the START (enter) keypad. The test will stop, the machine will drain the water, unlock the door, and the control will go back to the beginning of the test sequence.

To exit the test, press the Warm (<) keypad. The control will return to the Testing Mode.

Water Level Test d 26

This test displays the water level as determined by the water level sensor. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show L HHH where HHH is the water level in 0.1 inch precision where a value of 05 equals 0.5 inches. If the rightmost decimal point is lit, the value is negative.

DC Bus Voltage Test d 27

This will display the DC Bus Voltage. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. To enter, press the START (enter) keypad. If the door is open the display will show show CLoSE, door until the the door is closed. Once the door is closed the display will show dC bUS and flash the START (enter) keypad LED. To start the test press the START (enter) keypad. If the door is unlocked when the test is started the control will attempt to lock the door. The display will show a sequence of horizontal LED segments to indicate it is waiting for the door to lock or the DC Bus value. Once the door is locked the display will show HHH.H which is the voltage in 0.1 Volt Precision.

If the door was unlocked when the test began, the control will attempt to unlock the door.

AC Mains Voltage Test d 28

This will display the AC Mains Voltage. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. The display will show HHH which is the voltage in 1 Volt precision.

Machine Configuration #1 Display Test d 29

This option shows the machine configuration values. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. For configuration value #1, the display will show A HHH.HH is a number corresponding to whether or not coin drops are connected, a card reader or network board are connected, or whether the life-test jumper is present. Refer to *Table 31* .

Each column of the table below contains a unique combination of the words YES and NO that indicates if that column's connection is present.

Configuration Value	Life Test Jumper Present	Comm Board "B" Header Present	Comm Board "A" Header Present	Vend Connection Present	Coin Drop #2 Present	Coin Drop #1 Present
0	NO	NO	NO	NO	NO	NO
1	NO	NO	NO	NO	NO	**YES**
2	NO	NO	NO	NO	**YES**	NO
3	NO	NO	NO	NO	**YES**	**YES**
4	NO	NO	NO	**YES**	NO	NO
5	NO	NO	NO	**YES**	NO	**YES**
6	NO	NO	NO	**YES**	**YES**	NO
7	NO	NO	NO	**YES**	**YES**	**YES**
8	NO	NO	**YES**	NO	NO	NO
9	NO	NO	**YES**	NO	NO	**YES**
10	NO	NO	**YES**	NO	**YES**	NO

Table 31 *continues...*

Configuration Value	Life Test Jumper Present	Comm Board "B" Header Present	Comm Board "A" Header Present	Vend Connection Present	Coin Drop #2 Present	Coin Drop #1 Present
11	NO	NO	**YES**	NO	**YES**	**YES**
12	NO	NO	**YES**	**YES**	NO	NO
13	NO	NO	**YES**	**YES**	NO	**YES**
14	NO	NO	**YES**	**YES**	**YES**	NO
15	NO	NO	**YES**	**YES**	**YES**	**YES**
16	NO	**YES**	NO	NO	NO	NO
17	NO	**YES**	NO	NO	NO	**YES**
18	NO	**YES**	NO	NO	**YES**	NO
19	NO	**YES**	NO	NO	**YES**	**YES**
20	NO	**YES**	NO	**YES**	NO	NO
21	NO	**YES**	NO	**YES**	NO	**YES**
22	NO	**YES**	NO	**YES**	**YES**	NO
23	NO	**YES**	NO	**YES**	**YES**	**YES**
24	NO	**YES**	**YES**	NO	NO	NO
25	NO	**YES**	**YES**	NO	NO	**YES**
26	NO	**YES**	**YES**	NO	**YES**	NO
27	NO	**YES**	**YES**	NO	**YES**	**YES**
28	NO	**YES**	**YES**	**YES**	NO	NO
29	NO	**YES**	**YES**	**YES**	NO	**YES**
30	NO	**YES**	**YES**	**YES**	**YES**	NO
31	NO	**YES**	**YES**	**YES**	**YES**	**YES**
32	**YES**	NO	NO	NO	NO	NO
33	**YES**	NO	NO	NO	NO	**YES**
34	**YES**	NO	NO	NO	**YES**	NO
35	**YES**	NO	NO	NO	**YES**	**YES**

Table 31 *continues...*

Configuration Value	Life Test Jumper Present	Comm Board "B" Header Present	Comm Board "A" Header Present	Vend Connection Present	Coin Drop #2 Present	Coin Drop #1 Present
36	**YES**	NO	NO	**YES**	NO	NO
37	**YES**	NO	NO	**YES**	NO	**YES**
38	**YES**	NO	NO	**YES**	**YES**	NO
39	**YES**	NO	NO	**YES**	**YES**	**YES**
40	**YES**	NO	**YES**	NO	NO	NO
41	**YES**	NO	**YES**	NO	NO	**YES**
42	**YES**	NO	**YES**	NO	**YES**	NO
43	**YES**	NO	**YES**	NO	**YES**	**YES**
44	**YES**	NO	**YES**	**YES**	NO	NO
45	**YES**	NO	**YES**	**YES**	NO	**YES**
46	**YES**	NO	**YES**	**YES**	**YES**	NO
47	**YES**	NO	**YES**	**YES**	**YES**	**YES**
48	**YES**	**YES**	NO	NO	NO	NO
49	**YES**	**YES**	NO	NO	NO	**YES**
50	**YES**	**YES**	NO	NO	**YES**	NO
51	**YES**	**YES**	NO	NO	**YES**	**YES**
52	**YES**	**YES**	NO	**YES**	NO	NO
53	**YES**	**YES**	NO	**YES**	NO	**YES**
54	**YES**	**YES**	NO	**YES**	**YES**	NO
55	**YES**	**YES**	NO	**YES**	**YES**	**YES**
56	**YES**	**YES**	**YES**	NO	NO	NO
57	**YES**	**YES**	**YES**	NO	NO	**YES**
58	**YES**	**YES**	**YES**	NO	**YES**	NO
59	**YES**	**YES**	**YES**	NO	**YES**	**YES**
60	**YES**	**YES**	**YES**	**YES**	NO	NO

Table 31 *continues...*

Configuration Value	Life Test Jumper Present	Comm Board "B" Header Present	Comm Board "A" Header Present	Vend Connection Present	Coin Drop #2 Present	Coin Drop #1 Present
61	**YES**	**YES**	**YES**	**YES**	NO	**YES**
62	**YES**	**YES**	**YES**	**YES**	**YES**	NO
63	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

Table 31

Machine Configuration #2 Display Test d 30

This option shows the machine configuration values. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. For configuration value #2, the display will show b HHH. HHH is a number corresponding to the capacity size of the machine. Refer to *Table 32* .

Option	Description
1	20 Pound Cabinet Hardmount
2	30 Pound Cabinet Hardmount
3	40 Pound Cabinet Hardmount
4	60 Pound Cabinet Hardmount
5	80 Pound Cabinet Hardmount
6	100 Pound Cabinet Hardmount

Table 32

Machine Configuration #3 Display Test d 3 1

This option shows the machine configuration values. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. For configuration value #3, the display will show C HHH. HHH is a number indicating which valves are on the machine or if there is a thermistor. Refer to *Table 33* .

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
1	0	0	0	0	0	0	0	**1**
2	0	0	0	0	0	0	**1**	0
3	0	0	0	0	0	0	**1**	**1**
4	0	0	0	0	0	**1**	0	0
5	0	0	0	0	0	**1**	0	**1**
6	0	0	0	0	0	**1**	**1**	0
7	0	0	0	0	0	**1**	**1**	**1**
8	0	0	0	0	**1**	0	0	0
9	0	0	0	0	**1**	0	0	**1**
10	0	0	0	0	**1**	0	**1**	0
11	0	0	0	0	**1**	0	**1**	**1**
12	0	0	0	0	**1**	**1**	0	0
13	0	0	0	0	**1**	**1**	0	**1**
14	0	0	0	0	**1**	**1**	**1**	0
15	0	0	0	0	**1**	**1**	**1**	**1**
16	0	0	0	**1**	0	0	0	0
17	0	0	0	**1**	0	0	0	**1**
18	0	0	0	**1**	0	0	**1**	0
19	0	0	0	**1**	0	0	**1**	**1**
20	0	0	0	**1**	0	**1**	0	0
21	0	0	0	**1**	0	**1**	0	**1**
22	0	0	0	**1**	0	**1**	**1**	0
23	0	0	0	**1**	0	**1**	**1**	**1**
24	0	0	0	**1**	**1**	0	0	0

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
25	0	0	0	**1**	**1**	0	0	**1**
26	0	0	0	**1**	**1**	0	**1**	0
27	0	0	0	**1**	**1**	0	**1**	**1**
28	0	0	0	**1**	**1**	**1**	0	0
29	0	0	0	**1**	**1**	**1**	0	**1**
30	0	0	0	**1**	**1**	**1**	**1**	0
31	0	0	0	**1**	**1**	**1**	**1**	**1**
32	0	0	**1**	0	0	0	0	0
33	0	0	**1**	0	0	0	0	**1**
34	0	0	**1**	0	0	0	**1**	0
35	0	0	**1**	0	0	0	**1**	**1**
36	0	0	**1**	0	0	**1**	0	0
37	0	0	**1**	0	0	**1**	0	**1**
38	0	0	**1**	0	0	**1**	**1**	0
39	0	0	**1**	0	0	**1**	**1**	**1**
40	0	0	**1**	0	**1**	0	0	0
41	0	0	**1**	0	**1**	0	0	**1**
42	0	0	**1**	0	**1**	0	**1**	0
43	0	0	**1**	0	**1**	0	**1**	**1**
44	0	0	**1**	0	**1**	**1**	0	0
45	0	0	**1**	0	**1**	**1**	0	**1**
46	0	0	**1**	0	**1**	**1**	**1**	0
47	0	0	**1**	0	**1**	**1**	**1**	**1**
48	0	0	**1**	**1**	0	0	0	0
49	0	0	**1**	**1**	0	0	0	**1**
50	0	0	**1**	**1**	0	0	**1**	0
51	0	0	**1**	**1**	0	0	**1**	**1**

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
52	0	0	**1**	**1**	0	**1**	0	0
53	0	0	**1**	**1**	0	**1**	0	**1**
54	0	0	**1**	**1**	0	**1**	**1**	0
55	0	0	**1**	**1**	0	**1**	**1**	**1**
56	0	0	**1**	**1**	**1**	0	0	0
57	0	0	**1**	**1**	**1**	0	0	**1**
58	0	0	**1**	**1**	**1**	0	**1**	0
59	0	0	**1**	**1**	**1**	0	**1**	**1**
60	0	0	**1**	**1**	**1**	**1**	0	0
61	0	0	**1**	**1**	**1**	**1**	0	**1**
62	0	0	**1**	**1**	**1**	**1**	**1**	0
63	0	0	**1**	**1**	**1**	**1**	**1**	**1**
64	0	**1**	0	0	0	0	0	0
65	0	**1**	0	0	0	0	0	**1**
66	0	**1**	0	0	0	0	**1**	0
67	0	**1**	0	0	0	0	**1**	**1**
68	0	**1**	0	0	0	**1**	0	0
69	0	**1**	0	0	0	**1**	0	**1**
70	0	**1**	0	0	0	**1**	**1**	0
71	0	**1**	0	0	0	**1**	**1**	**1**
72	0	**1**	0	0	**1**	0	0	0
73	0	**1**	0	0	**1**	0	0	**1**
74	0	**1**	0	0	**1**	0	**1**	0
75	0	**1**	0	0	**1**	0	**1**	**1**
76	0	**1**	0	0	**1**	**1**	0	0
77	0	**1**	0	0	**1**	**1**	0	**1**
78	0	**1**	0	0	**1**	**1**	**1**	0

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
79	0	**1**	0	0	**1**	**1**	**1**	**1**
80	0	**1**	0	**1**	0	0	0	0
81	0	**1**	0	**1**	0	0	0	**1**
82	0	**1**	0	**1**	0	0	**1**	0
83	0	**1**	0	**1**	0	0	**1**	**1**
84	0	**1**	0	**1**	0	**1**	0	0
85	0	**1**	0	**1**	0	**1**	0	**1**
86	0	**1**	0	**1**	0	**1**	**1**	0
87	0	**1**	0	**1**	0	**1**	**1**	**1**
88	0	**1**	0	**1**	**1**	0	0	0
89	0	**1**	0	**1**	**1**	0	0	**1**
90	0	**1**	0	**1**	**1**	0	**1**	0
91	0	**1**	0	**1**	**1**	0	**1**	**1**
92	0	**1**	0	**1**	**1**	**1**	0	0
93	0	**1**	0	**1**	**1**	**1**	0	**1**
94	0	**1**	0	**1**	**1**	**1**	**1**	0
95	0	**1**	0	0	**1**	**1**	**1**	**1**
96	0	**1**	**1**	0	0	0	0	0
97	0	**1**	**1**	0	0	0	0	**1**
98	0	**1**	**1**	0	0	0	**1**	0
99	0	**1**	**1**	0	0	0	**1**	**1**
100	0	**1**	**1**	0	0	**1**	0	0
101	0	**1**	**1**	0	0	**1**	0	**1**
102	0	**1**	**1**	0	0	**1**	**1**	0
103	0	**1**	**1**	0	0	**1**	**1**	**1**
104	0	**1**	**1**	0	**1**	0	0	0
105	0	**1**	**1**	0	**1**	0	0	**1**

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
106	0	**1**	**1**	0	**1**	0	**1**	0
107	0	**1**	**1**	0	**1**	0	**1**	**1**
108	0	**1**	**1**	0	**1**	**1**	0	0
109	0	**1**	**1**	0	**1**	**1**	0	**1**
110	0	**1**	**1**	0	**1**	**1**	**1**	0
111	0	**1**	**1**	0	**1**	**1**	**1**	**1**
112	0	**1**	**1**	**1**	0	0	0	0
113	0	**1**	**1**	**1**	0	0	0	**1**
114	0	**1**	**1**	**1**	0	0	**1**	0
115	0	**1**	**1**	**1**	0	0	**1**	**1**
116	0	**1**	**1**	**1**	0	**1**	0	0
117	0	**1**	**1**	**1**	0	**1**	0	**1**
118	0	**1**	**1**	**1**	0	**1**	**1**	0
119	0	**1**	**1**	**1**	0	**1**	**1**	**1**
120	0	**1**	**1**	**1**	**1**	0	0	0
121	0	**1**	**1**	**1**	**1**	0	0	**1**
122	0	**1**	**1**	**1**	**1**	0	**1**	0
123	0	**1**	**1**	**1**	**1**	0	**1**	**1**
124	0	**1**	**1**	**1**	**1**	**1**	0	0
125	0	**1**	**1**	**1**	**1**	**1**	0	**1**
126	0	**1**	**1**	**1**	**1**	**1**	**1**	0
127	0	**1**	**1**	**1**	**1**	**1**	**1**	**1**
128	**1**	0	0	0	0	0	0	0
129	**1**	0	0	0	0	0	0	**1**
130	**1**	0	0	0	0	0	**1**	0
131	**1**	0	0	0	0	0	**1**	**1**
132	**1**	0	0	0	0	**1**	0	0

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
133	**1**	0	0	0	0	**1**	0	**1**
134	**1**	0	0	0	0	**1**	**1**	0
135	**1**	0	0	0	0	**1**	**1**	**1**
136	**1**	0	0	0	**1**	0	0	0
137	**1**	0	0	0	**1**	0	0	**1**
138	**1**	0	0	0	**1**	0	**1**	0
139	**1**	0	0	0	**1**	0	**1**	**1**
140	**1**	0	0	0	**1**	**1**	0	0
141	**1**	0	0	0	**1**	**1**	0	**1**
142	**1**	0	0	0	**1**	**1**	**1**	0
143	**1**	0	0	0	**1**	**1**	**1**	**1**
144	**1**	0	0	**1**	0	0	0	0
145	**1**	0	0	**1**	0	0	0	**1**
146	**1**	0	0	**1**	0	0	**1**	0
147	**1**	0	0	**1**	0	0	**1**	**1**
148	**1**	0	0	**1**	0	**1**	0	0
149	**1**	0	0	**1**	0	**1**	0	**1**
150	**1**	0	0	**1**	0	**1**	**1**	0
151	**1**	0	0	**1**	0	**1**	**1**	**1**
152	**1**	0	0	**1**	**1**	0	0	0
153	**1**	0	0	**1**	**1**	0	0	**1**
154	**1**	0	0	**1**	**1**	0	**1**	0
155	**1**	0	0	**1**	**1**	0	**1**	**1**
156	**1**	0	0	**1**	**1**	**1**	0	0
157	**1**	0	0	**1**	**1**	**1**	0	**1**
158	**1**	0	0	**1**	**1**	**1**	**1**	0
159	**1**	0	0	**1**	**1**	**1**	**1**	**1**

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
160	1	0	1	0	0	0	0	0
161	1	0	1	0	0	0	0	1
162	1	0	1	0	0	0	1	0
163	1	0	1	0	0	0	1	1
164	1	0	1	0	0	1	0	0
165	1	0	1	0	0	1	0	1
166	1	0	1	0	0	1	1	0
167	1	0	1	0	0	1	1	1
168	1	0	1	0	1	0	0	0
169	1	0	1	0	1	0	0	1
170	1	0	1	0	1	0	1	0
171	1	0	1	0	1	0	1	1
172	1	0	1	0	1	1	0	0
173	1	0	1	0	1	1	0	1
174	1	0	1	0	1	1	1	0
175	1	0	1	0	1	1	1	1
176	1	0	1	1	0	0	0	0
177	1	0	1	1	0	0	0	1
178	1	0	1	1	0	0	1	0
179	1	0	1	1	0	0	1	1
180	1	0	1	1	0	1	0	0
181	1	0	1	1	0	1	0	1
182	1	0	1	1	0	1	1	0
183	1	0	1	1	0	1	1	1
184	1	0	1	1	1	0	0	0
185	1	0	1	1	1	0	0	1
186	1	0	1	1	1	0	1	0

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
187	1	0	1	1	1	0	1	1
188	1	0	1	1	1	1	0	0
189	1	0	1	1	1	1	0	1
190	1	0	1	1	1	1	1	0
191	1	0	1	1	1	1	1	1
192	1	1	0	0	0	0	0	0
193	1	1	0	0	0	0	0	1
194	1	1	0	0	0	0	1	0
195	1	1	0	0	0	0	1	1
196	1	1	0	0	0	1	0	0
197	1	1	0	0	0	1	0	1
198	1	1	0	0	0	1	1	0
199	1	1	0	0	0	1	1	1
200	1	1	0	0	1	0	0	0
201	1	1	0	0	1	0	0	1
202	1	1	0	0	1	0	1	0
203	1	1	0	0	1	0	1	1
204	1	1	0	0	1	1	0	0
205	1	1	0	0	1	1	0	1
206	1	1	0	0	1	1	1	0
207	1	1	0	0	1	1	1	1
208	1	1	0	1	0	0	0	0
209	1	1	0	1	0	0	0	1
210	1	1	0	1	0	0	1	0
211	1	1	0	1	0	0	1	1
212	1	1	0	1	0	1	0	0
213	1	1	0	1	0	1	0	1

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
214	1	1	0	1	0	1	1	0
215	1	1	0	1	0	1	1	1
216	1	1	0	1	1	0	0	0
217	1	1	0	1	1	0	0	1
218	1	1	0	1	1	0	1	0
219	1	1	0	1	1	0	1	1
220	1	1	0	1	1	1	0	0
221	1	1	0	1	1	1	0	1
222	1	1	0	1	1	1	1	0
223	1	1	0	1	1	1	1	1
224	1	1	1	0	0	0	0	0
225	1	1	1	0	0	0	0	1
226	1	1	1	0	0	0	1	0
227	1	1	1	0	0	0	1	1
228	1	1	1	0	0	1	0	0
229	1	1	1	0	0	1	0	1
230	1	1	1	0	0	1	1	0
231	1	1	1	0	0	1	1	1
232	1	1	1	0	1	0	0	0
233	1	1	1	0	1	0	0	1
234	1	1	1	0	1	0	1	0
235	1	1	1	0	1	0	1	1
236	1	1	1	0	1	1	0	0
237	1	1	1	0	1	1	0	1
238	1	1	1	0	1	1	1	0
239	1	1	1	0	1	1	1	1
240	1	1	1	1	0	0	0	0

Table 33 *continues...*

Configuration Value	Thermistor*	Unused *	Unused *	Auxiliary Fill Valve*	Cold Hard Fill Valves*	Spray Fill Valves*	Direct Tub Fill Valves*	Compartment Valves *
241	**1**	**1**	**1**	**1**	0	0	0	**1**
242	**1**	**1**	**1**	**1**	0	0	**1**	0
243	**1**	**1**	**1**	**1**	0	0	**1**	**1**
244	**1**	**1**	**1**	**1**	0	**1**	0	0
245	**1**	**1**	**1**	**1**	0	**1**	0	**1**
246	**1**	**1**	**1**	**1**	0	**1**	**1**	0
247	**1**	**1**	**1**	**1**	0	**1**	**1**	**1**
248	**1**	**1**	**1**	**1**	**1**	0	0	0
249	**1**	**1**	**1**	**1**	**1**	0	0	**1**
250	**1**	**1**	**1**	**1**	**1**	0	**1**	0
251	**1**	**1**	**1**	**1**	**1**	0	**1**	**1**
252	**1**	**1**	**1**	**1**	**1**	**1**	0	0
253	**1**	**1**	**1**	**1**	**1**	**1**	0	**1**
254	**1**	**1**	**1**	**1**	**1**	**1**	**1**	0
255	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
*0 = Not Present, 1 = Present								

Table 33

Machine Configuration #4 Display Test d 32

This option shows the owner which dipswitches are set on the control. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To Enter, press the START (enter) keypad. The display will show d HHH with HHH representing a configuration value as shown in *Table 34* .

If supply voltage is 100-127 Volt per phase, the voltage configuration should be 120 Volt.

If supply voltage is 200-240 Volt per phase, the voltage configuration should be 240 Volt.

Each column in the table below contains a unique combination of the words ON and OFF that indicates if that column's dipswitch is set on or off when the value is displayed.

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	**ON**
2	OFF	OFF	OFF	OFF	OFF	OFF	**ON**	OFF
3	OFF	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**
4	OFF	OFF	OFF	OFF	OFF	**ON**	OFF	OFF
5	OFF	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**
6	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF
7	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**
8	OFF	OFF	OFF	OFF	**ON**	OFF	OFF	OFF
9	OFF	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**
10	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF
11	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**
12	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF
13	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**
14	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**	OFF
15	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**
16	OFF	OFF	OFF	**ON**	OFF	OFF	OFF	OFF
17	OFF	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**
18	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**	OFF

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
19	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**
20	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF
21	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**
22	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF
23	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**
24	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF
25	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**
26	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**	OFF
27	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**
28	OFF	OFF	OFF	**ON**	**ON**	**ON**	OFF	OFF
29	OFF	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**
30	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF
31	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
32	OFF	OFF	**ON**	OFF	OFF	OFF	OFF	OFF
33	OFF	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**
34	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF
35	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**
36	OFF	OFF	**ON**	OFF	OFF	**ON**	OFF	OFF
37	OFF	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**
38	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**	OFF
39	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**
40	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF
41	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**
42	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**	OFF
43	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
44	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF	OFF
45	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**
46	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**	OFF
47	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
48	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF
49	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**
50	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**	OFF
51	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**
52	OFF	OFF	**ON**	**ON**	OFF	**ON**	OFF	OFF
53	OFF	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**
54	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**	OFF
55	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
56	OFF	OFF	**ON**	**ON**	**ON**	OFF	OFF	OFF
57	OFF	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**
58	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**	OFF
59	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
60	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF	OFF
61	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
62	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	OFF
63	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
64	OFF	**ON**	OFF	OFF	OFF	OFF	OFF	OFF
65	OFF	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**
66	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**	OFF
67	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**
68	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
69	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**
70	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**	OFF
71	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**
72	OFF	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF
73	OFF	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**
74	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**	OFF
75	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**
76	OFF	**ON**	OFF	OFF	**ON**	**ON**	OFF	OFF
77	OFF	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**
78	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**	OFF
79	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**
80	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF	OFF
81	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**
82	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**	OFF
83	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**
84	OFF	**ON**	OFF	**ON**	OFF	**ON**	OFF	OFF
85	OFF	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**
86	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**	OFF
87	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**
88	OFF	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF
89	OFF	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**
90	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**	OFF
91	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**
92	OFF	**ON**	OFF	**ON**	**ON**	**ON**	OFF	OFF
93	OFF	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
94	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	OFF
95	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**
96	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF
97	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**
98	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**	OFF
99	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**
100	OFF	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF
101	OFF	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**
102	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**	OFF
103	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**
104	OFF	**ON**	**ON**	OFF	**ON**	OFF	OFF	OFF
105	OFF	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**
106	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**	OFF
107	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**
108	OFF	**ON**	**ON**	OFF	**ON**	**ON**	OFF	OFF
109	OFF	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**
110	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	OFF
111	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
112	OFF	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF
113	OFF	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**
114	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**	OFF
115	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**
116	OFF	**ON**	**ON**	**ON**	OFF	**ON**	OFF	OFF
117	OFF	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**
118	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	OFF

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
119	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
120	OFF	**ON**	**ON**	**ON**	**ON**	OFF	OFF	OFF
121	OFF	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**
122	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	OFF
123	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
124	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	OFF
125	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
126	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF
127	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
128	**ON**	OFF	OFF	OFF	OFF	OFF	OFF	OFF
129	**ON**	OFF	OFF	OFF	OFF	OFF	OFF	**ON**
130	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**	OFF
131	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**	**ON**
132	**ON**	OFF	OFF	OFF	OFF	**ON**	OFF	OFF
133	**ON**	OFF	OFF	OFF	OFF	**ON**	OFF	**ON**
134	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF
135	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**
136	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF	OFF
137	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF	**ON**
138	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF
139	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**	**ON**
140	**ON**	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF
141	**ON**	OFF	OFF	OFF	**ON**	**ON**	OFF	**ON**
142	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**	OFF
143	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
144	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF	OFF
145	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF	**ON**
146	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**	OFF
147	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**	**ON**
148	**ON**	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF
149	**ON**	OFF	OFF	**ON**	OFF	**ON**	OFF	**ON**
150	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF
151	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**	**ON**
152	**ON**	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF
153	**ON**	OFF	OFF	**ON**	**ON**	OFF	OFF	**ON**
154	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**	OFF
155	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**	**ON**
156	**ON**	OFF	OFF	**ON**	**ON**	**ON**	OFF	OFF
157	**ON**	OFF	OFF	**ON**	**ON**	**ON**	OFF	**ON**
158	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF
159	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
160	**ON**	OFF	**ON**	OFF	OFF	OFF	OFF	OFF
161	**ON**	OFF	**ON**	OFF	OFF	OFF	OFF	**ON**
162	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**	OFF
163	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**	**ON**
164	**ON**	OFF	**ON**	OFF	OFF	**ON**	OFF	OFF
165	**ON**	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**
166	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**	OFF
167	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**	**ON**
168	**ON**	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
169	**ON**	OFF	**ON**	OFF	**ON**	OFF	OFF	**ON**
170	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**	OFF
171	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**	**ON**
172	**ON**	OFF	**ON**	OFF	**ON**	**ON**	OFF	OFF
173	**ON**	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**
174	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**	OFF
175	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
176	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF
177	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF	**ON**
178	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**	OFF
179	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**	**ON**
180	**ON**	OFF	**ON**	**ON**	OFF	**ON**	OFF	OFF
181	**ON**	OFF	**ON**	**ON**	OFF	**ON**	OFF	**ON**
182	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**	OFF
183	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
184	**ON**	OFF	**ON**	**ON**	**ON**	OFF	OFF	OFF
185	**ON**	OFF	**ON**	**ON**	**ON**	OFF	OFF	**ON**
186	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**	OFF
187	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
188	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	OFF	OFF
189	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
190	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	OFF
191	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**
192	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF	OFF
193	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF	**ON**

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
194	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**	OFF
195	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**
196	**ON**	**ON**	OFF	OFF	OFF	**ON**	OFF	OFF
197	**ON**	**ON**	OFF	OFF	OFF	**ON**	OFF	**ON**
198	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**	OFF
199	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**	**ON**
200	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF
201	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF	**ON**
202	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**	OFF
203	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**
204	**ON**	**ON**	OFF	OFF	**ON**	**ON**	OFF	OFF
205	**ON**	**ON**	OFF	OFF	**ON**	**ON**	OFF	**ON**
206	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**	OFF
207	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**	**ON**
208	**ON**	**ON**	OFF	**ON**	OFF	OFF	OFF	OFF
209	**ON**	**ON**	OFF	**ON**	OFF	OFF	OFF	**ON**
210	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**	OFF
211	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**	**ON**
212	**ON**	**ON**	OFF	**ON**	OFF	**ON**	OFF	OFF
213	**ON**	**ON**	OFF	**ON**	OFF	**ON**	OFF	**ON**
214	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**	OFF
215	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**	**ON**
216	**ON**	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF
217	**ON**	**ON**	OFF	**ON**	**ON**	OFF	OFF	**ON**
218	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**	OFF

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
219	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**	**ON**
220	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	OFF	OFF
221	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	OFF	**ON**
222	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	OFF
223	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**	**ON**
224	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF
225	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF	**ON**
226	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**	OFF
227	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**	**ON**
228	**ON**	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF
229	**ON**	**ON**	**ON**	OFF	OFF	**ON**	OFF	**ON**
230	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**	OFF
231	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**	**ON**
232	**ON**	**ON**	**ON**	OFF	**ON**	OFF	OFF	OFF
233	**ON**	**ON**	**ON**	OFF	**ON**	OFF	OFF	**ON**
234	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**	OFF
235	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**	**ON**
236	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	OFF	OFF
237	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	OFF	**ON**
238	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	OFF
239	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**	**ON**
240	**ON**	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF
241	**ON**	**ON**	**ON**	**ON**	OFF	OFF	OFF	**ON**
242	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**	OFF
243	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**	**ON**

Table 34 *continues...*

Configuration Value	Dipswitch 8 (Drain) *	Dipswitch 7 (Electric Heat) **	Dipswitch 6 (Steam Heat) **	Dipswitch 5 (Unused)	Dipswitch 4 (Unused)	Dipswitch 3 (Payment System)**	Dipswitch 2 (Unused)	Dipswitch 1 (Volt Supply) ***
244	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	OFF	OFF
245	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	OFF	**ON**
246	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	OFF
247	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**	**ON**
248	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	OFF	OFF
249	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	OFF	**ON**
250	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	OFF
251	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**	**ON**
252	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	OFF
253	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF	**ON**
254	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF
255	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**

*OFF = Electric Pump, ON = Gravity Drain

**OFF = Not Present, ON = Present

***OFF = 120 VAC, ON = 240 VAC

Table 34

Machine Configuration #5 Display Test d 33

This option is not used on this model. 0 will always be displayed.

Low Level Pressure Switch Test (Heat Models) d 43

This test displays whether the Low Level Pressure Switch is open or closed. To start test, control must be in the Testing Mode. Refer to *How to Enter Diagnostic Testing Feature* at the beginning of this section.

To enter, press the START (enter) keypad. If the door is open the display will show show CLoSE, door until the the door is closed. Once the door is closed the display will show LP oP if the switch is open or LP CL if the switch is closed.

Factory Test Cycle

To Enter Factory Test Cycle

1. Be certain control is in *Ready Mode* or *Start Mode* and access panel or coin vault is open.
2. While pressing and holding the Ultra keypad with one hand, press the Hot keypad with the other hand.
3. When the control enters Factory Test, it displays the first test step, Machine Type.
4. The control advances through the sequence of test steps when START (enter) is pressed, with the exception of the Keypad Test and Pressure Sensor Test. Refer to *Factory Test Quick Reference Chart* for all steps in the Factory Test.

To Exit Factory Test

To exit a test step, disconnect the machine from electrical power.

Factory Test Quick Reference Chart

Factory Test Cycles		
Display	**Test Mode**	**Comments**
''H	Control Type	''H is the control type (Washer Extractor).
S HHH.HH	User Control Software Version Number	HHH is the software version number. .HH is the software sub-version number.
ob HHH.HH	Input/Output Board Software Version Number	HHH is the version number. .HH is the software sub-version number.
RH	Control Level	H is the control level number.
HH	Dipswitch	HH is the value of the dipswitches in hexadecimal.
CH HHH	Machine Size	HHH is the machine capacity in pounds
drA in or PUMP	Drain Type	Gravity drain or pump
dr oP or dr CL	Door Switch Test	Door status open or closed.
dr UL or dr Lo	Door Lock Status	The control locks the door and displays the door status locked or unlocked. The user cannot navigate to a previous step.
PAd HH	Keypad Test	This step is used to verify keypad operation. HH is the keypad being pressed. Auto-advance to next step after all keypads are pressed. The user cannot navigate to a previous step.
8.8.8.8.8.8. + all LEDs	Display and Audio Test	All display elements are lit and audio will sound. The user cannot navigate to a previous step.
S oP or S CL	Service Door Switch Test	Service door status open or closed. The user cannot navigate to a previous step.
u oP or u CL	Coin Vault Switch Test	Coin vault status open or closed.
CHCH	Coin Drop Test	1st H is number of Coin Drop #1 coins. 2nd H is number of Coin Drop #2 coins.

Table 35 *continues...*

Factory Test Cycles		
Display	**Test Mode**	**Comments**
CArd or LCSu or Su	Card Reader Test	CArd is default. LCSu indicates card reader needs a programming/setup card. Su displays when programming/setup card is successful. Test skipped if not equipped with a card reader.
db HHH	Drive Board Software Version Number	HHH is the drive board software version number.
PArHHH	Drive Parameter Version Number	HHH is the drive parameter version number.
HHPHHH	Drive Type Test	H is the horsepower rating. HHH is the rated drive voltage.
HotTUb	Hot Tub Fill	Hot tub fill valve is turned on and the machine fills to the high water level. Test skipped if not equipped with valve.
CLdTUb	Cold Tub Fill	Cold tub fill valve is turned on and the machine fills to the high water level. Test skipped if not equipped with valve.
HotSPH	Hot Spray Fill	Hot spray fill valve is turned on. Test skipped if not equipped with valve.
CLdSPH	Cold Spray Fill	Cold spray fill valve is turned on. Test skipped if not equipped with valve.
Hot C1	Hot Fill through Compartment 1	The hot fill and compartment 1 valves are turned on and the machine fills to the high water level. If equipped, External Supply 1 is also turned on.
CLd C2	Cold Fill through Compartment 2	The cold fill and compartment 2 valves are turned on and the machine fills to the high water level. If equipped, External Supply 2 is also turned on.
WrM C3	Warm Fill through Compartment 3	The hot and cold fill and compartment 3 valves are turned on and the machine fills to the high water level. If equipped, External Supply 3 is also turned on.
WrM C4	Warm Fill through Compartment 4	The hot and cold fill and compartment 4 valves are turned on and the machine fills to the high water level. If equipped, External Supply 4 is also turned on.
CLdHrd	Cold Hard Fill	Cold hard fill valve is turned on. Test skipped if not equipped with valve.
AU uAL	Auxiliary Fill	Auxiliary fill valve is turned on. Test skipped if not equipped with valve.

Table 35 *continues...*

Factory Test Cycles		
Display	**Test Mode**	**Comments**
ALL Hi	All Fill to High Level	All equipped valves are turned on. The test will advance when the high water level is reached.
t HHHF or t HHHC	Thermistor/Temperature Sensor Test	HHH is the temperature of the water in Fahrenheit or Celsius. This test skipped if not configured with a thermistor or a heater.
E HHHF or E HHHC	Electric Heater Test	HHH is the temperature of the water in Fahrenheit or Celsius. The electric heater turns on until the water temperature reaches 104°F [40°C] , at which point the electric heater turns off. The electric heater will turn back on if the water temperature drops below that level 104°F [40°C] . This test skipped if not configured with a heater.
S HHHF or S HHHC	Steam Heater Test	HHH is the temperature of the water in Fahrenheit or Celsius. The electric heater turns on until the water temperature reaches 104°F [40°C] , at which point the electric heater turns off. The electric heater will turn back on if the water temperature drops below that level 104°F [40°C] . This test skipped if not configured with a heater.
LoAGHH	Low Agitate Test	The basket rotates forward and reverse at low agitate speed. The right most decimal point is lit when rotation is in the negative direction. The user cannot navigate to a previous step.
rEAGHH	Regular Agitate Test	The basket rotates forward and reverse at regular agitate speed. The Right most decimal point is lit when rotation is in the negative direction. The user cannot navigate to a previous step.
drAin or PUMP	Drain Test	The machine will drain. Once the machine is empty the test can be advanced. The user cannot navigate to a previous step.
PUrGE	Purge Test	The basket rotates at distribution speed and all equipped valves are turned on so compressed air can be used to purge the valves of water. The user cannot navigate to a previous step.

Table 35 *continues...*

Factory Test Cycles		
Display	**Test Mode**	**Comments**
bAL HH	Balance Test	The basket rotates at distribute speed. While the balance procedure is being executed the display will show two dipping dashes (- -) where the HH is. Once the balance procedure is complete the allowed speed will be displayed: uL (very low)/ L (low)/ nE (medium) / H (high)/ uH (very high)/ UH (ultra high). Once the machine has finished balancing the test can be advanced. Press the Warm (<) keypad to restart the test. The user cannot navigate to a previous step.
uLoHHH	Very Low Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.
Lo HHH	Low Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.
nEdHHH	Medium Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.
H i HHH	High Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.
uH iHHH	Very High Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.

Table 35 *continues...*

Factory Test Cycles		
Display	**Test Mode**	**Comments**
UH ıHHH	Ultra High Speed Spin Test	HHH will show the RPM of the basket. The test can be advanced at any time or will automatically advance after 2 minutes. This test is skipped if the load did not balance for the speed or the machine is model does not allow this speed.
CoASt	Coast Down Test	The control enters this test after the final spin test. The test is automatically exited once the control verifies the basket is no longer rotating.
Pd	Power Down Test	Disconnect then reconnect power to the machine to exit the factory test. The user cannot navigate to a previous step.

Table 35

Error Codes

Following is a list of possible error codes for an electronic control.

Errors beginning with E 1 refer to external device Infra-red communication errors. Errors beginning with EC refer to card reader errors. All other errors refer to machine errors.

NOTE: Fatal Errors will show oUt oF ordEr along with the error on the display. If enabled, press the Normal and Delicate keypads to clear fatal errors.

Display	Description	Cause/Corrective Action
E 101	Transmission Failure	Communication failure. Re-aim external device and try again.
E 102	Time-out Error	Communication failure. Re-aim external device and try again.
E 103	Invalid Command Code	Communication successful, but the command was not valid for this machine type, or the control could not perform the command in its current mode of operation. Ensure data is for current machine type and control is in correct mode.
E 104	Expecting Upload Request	Communication failure. Re-aim external device and try again.
E 105	Invalid or Out-of-Range Data	The value in at least one of the programming options is invalid or out of range. Recheck the programming option's value and try again.
E 109	CRC-16 Error	Communication failure. Re-aim external device and try again.
E 10A	Framing Error	Communication error. Re-aim external device and try again.
E 10C	Time-out Exceeded	Communication error. Re-aim external device and try again.
E 10E	Encryption Error	Communication error. Re-aim external device and try again. If the problem persists, check that the security code is correct.
E 10F	Infra-red Disabled	Communication failure or infra-red is disabled. Manually enable infra-red on control or re-aim external device and try again.
EC02	Time-out Error	Communication failure. Try card again.
EC03	Invalid Command Code	Communication successful, but the command was not valid for this machine type, or the control could not perform the command in its current mode of operation. Ensure data is for current machine type and control is in correct mode.
EC05	Invalid or Out-of-Range Data	The value in at least one of the programming options is invalid or out of range. Recheck the programming option's value and try again.
EC 11	No Card Reader Initialization	Communication is valid, but there is no card reader initialization. Power down, power up and try again.
EC 18	No Communication	Card reader is initialized, communication lost. Power down, power up and try again. If error persists, replace control or card reader.
EC 19	No Card Reader Communication	Communication failure. Power down, power up and try again. If error persists, replace control or card reader.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
ECHH	Payment System Error	The control communicates with the Payment System in order to perform vending transactions. If an error should occur, which, terminates communication during a transaction, the LED Display will show ECHH for a control generated error, where the HH represents an error code.
E id oUtPUt	Input/Output Board ID Error	The control detects the wrong output board is connected for the machine configuration. The control sounds an alarm tone for 15 seconds. To clear the error, replace with the correct board.
E id dr iuE	Drive Board ID Error	The control detects the wrong drive board is connected for the machine configuration. The control sounds an alarm tone for 15 seconds. To clear the error, replace with the correct board.
ALArn	Break-in Alarm Error	Check the service door and coin vault switches.
oFF	Break-in Alarm Shutdown Error	Check the service door and coin vault switches.
E dS	Brownout/Voltage Configuration	Unexpected supply voltage. Check the harness connections between the user control and the output board. If the user control was replaced, set dip switch #1 to the same setting as the previous control. If reworking the machine to use a different voltage supply, the dip switch #1 setting may need to be changed. If the dip switch #1 setting is changed, power down, power up and try again.
Co in Error	Coin Error	Invalid coin pulse or inoperative coin sensor. Check coin drop area and remove obstructions. If error persists, tampering may have occurred. Evaluate security procedures.
E nr	Input/Output Board Not Ready	Indicates an input/output board communication error. The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.
EnHH	Machine ID Chip Errors	Communication failure. Power down, power up and try again. If error persists, check connection between user control and Machine ID Chip, or replace the user control or the Machine ID Chip.
Right most decimal point blinking	Machine ID Error	Machine ID is no longer communicating with the control. Check Machine ID connection.
E Co	Input/Output Board Communication Error	Communication failure. Power down, power up and try again. If error persists, check connection between user control and input/output board, or try replacing the user control or the input/output board.
E d Co	Drive Board Communication Error	After 3 unsuccessful communication attempts, the control will turn the drive power contactor off for 5 minutes to reset the drive. This procedure will be executed up to 3 times before the drive communication error appears. The control enters *Door Unlocking Mode* after basket rotation has stopped. The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E dr	Drain Error	If the control has the drain error enabled the control will enter *Machine Error Mode* when the water height is not below the empty level, after attempting to drain for the programmable time (default 15 minutes). In the event of a drain error, the control will turn off all outputs and sounds. The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.
E FL	Fill Error	This error may be programmed on or off. The machine does not reach the programmed fill level within 30 minutes. The machine enters *Door Unlocking Mode* and drains for 90 seconds. The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.
E nFLo	No Water Flow Error	If the control does not reach a water level of 4 inches within the programmed time it may mean the hose to the pressure sensor has a leak or no water is flowing into the machine. The control enters *Machine Error Mode*. The control drains for 90 seconds and then turns off all outputs. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E oF	Overflow Error	The control senses an unsafe high water level is detected in the machine and water is unable to drain. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E PS	Pressure Sensor Error	The control does not detect a valid water level sensor input for thirty (30) seconds, or the Max (Overflow) Fill Level in the control is set to 0 while in *Run Mode*, *Factory Test Cycle*, or *Overflow Mode*. The machine enters the *Door Unlocking Mode* and attempts to drain for 30 seconds. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E Sd	Slow Drain Error (right most decimal point)	If a slow drain is detected in the Drain step of a running cycle, the control will light the right-most decimal point. The decimal point will remain illuminated after the slow drain error display has expired. The decimal point can be cleared by pressing the START (enter) keypad 3 times in a period of 5 seconds, or by cycling the power to the machine.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E Ld	Water Leak Drain Error (right most decimal point)	Error will display if there is a leak after the door is opened at the End of Cycle for 1 minute. Clears after 1 minute or until a key is pressed. If the water level has dropped more than an acceptable amount in a during a water leak drain check, the control will save a water leak drain error status and will continue the machine cycle. Immediately upon detecting the error the right-most decimal point will be lit. This lit decimal point can be cleared by pressing the START (enter) keypad 3 times in a period of 5 seconds or by cycling the power to the machine.
E LF	Water Leak Fill Error (right most decimal point)	If the water level has raised more than an acceptable amount in a during a water leak check, the control will save a water leak error status and will continue the machine cycle. Immediately upon detecting the error the right-most decimal point will be lit. This lit decimal point can be cleared by pressing the START (enter) keypad 3 times in a period of 5 seconds or by cycling the power to the machine.
Right most decimal point Lit	Water Leak (Fill or Drain) Detection or Slow Drain Detection Error	Water leak test has detected a water leak during a cycle or slow drain is detected in the drain step of a running cycle. The decimal point will remain lit after the error display has expired. Clear the decimal point by pressing the START (enter) keypad three (3) times within five seconds (5) or by cycling the power to the machine.
E bELt	Broken Belt Error	After basket rotation has ended, the machine's door unlocks. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E dL	Door Lock Fatal Error	The output board reports that the door unlocks while running a cycle. The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.
E dL 1	Door Lock Non-Fatal Error	The door fails to lock after an attempt. The output board attempts to lock the door for 70 seconds. If the door fails to lock, the machine returns to start mode *Start Mode*.
E dL2	Door Unlock Non-Fatal Error	If the door fails to unlock. The output board attempts to lock the door 2 more times. If the door does not unlock, the control will flash the START (enter) LED. If the START (enter) keypad is pressed, unlocking attempts will restart.
E door	Door Opened During A Running Cycle	Control detects door open and door locked inputs high. Can be caused by pulling on door while locked or about to lock. Correct inoperative door locking system. Power down machine to clear error.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E FbAL	Frame Balance Switch Error	During a cycle, the frame balance switch becomes unsatisfied. The machine enters the *Door Unlocking Mode*. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E UbAL	Non-Fatal Unbalance Limit Error	If enabled, this error is shown at the end of a cycle. The machine exceeds the maximum number of balance attempts. If enabled, the error code is shown in the display after a cycle is complete. The control sounds an alarm tone for 15 seconds. To clear the error, wait 1 minute, open the door, or press any keypad.
E tE	Max Water Temperature Exceeded Error (Heat Models Only)	The Input/Output Board flags the Max Water Temperature Exceeded Error and the control sets the fatal error. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E oP	Open Temperature/Thermistor Sensor Error (Heat Models Only)	This error is shown at the end of a cycle. The input/output board reports an open thermistor. The heater output is turned off for the remainder of the current cycle. After the cycle is complete, the error code is shown in the display. The control sounds an alarm tone for 15 seconds. To clear the error, wait 1 minute, open the door, or press any keypad.
E LP	Low Level Pressure Switch Error (Heat Models Only)	This error is only enabled during the *Factory Test Cycle* . The control fills to low level and the low level pressure switch then becomes dissatisfied. The machine enters Door Unlocking Mode. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E SH	Shorted Temperature/Thermistor Sensor Error (Heat Models Only)	This error is shown at the end of a cycle. The input/output board reports a shorted thermistor. The heater output is turned off for the remainder of the current cycle. After the cycle is complete, the error code is shown in the display. The control sounds an alarm tone for 15 seconds. To clear the error, wait 1 minute, open the door, or press any keypad.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E StHt	Slow To Heat Error (Heat Models Only)	Non-Fatal Error that will appear during the running cycle without affecting the cycle. The control sounds an alarm tone for 15 seconds. To clear the error, press any keypad.
E SudS	Suds Lock Error	In the spin steps, if the control determines that there are suds in the machine after running all programmed Suds Routines, it will display a Suds Lock Error at the end of the cycle after the door is opened. To clear the error, wait 1 minute, open the door, or press any keypad.
E io 29	Mosfet Enable Pin Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E io 30	Door Lock Solenoid Disable Pin Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E io 31	Door Lock Solenoid Pulse Pin Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E io 32	Door Lock Solenoid Relay Pin Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E io 33	Mosfet Enable Hardware Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E io 34	Door Lock Solenoid Disable Hardware Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E 10 35	Door Lock Solenoid Hardware Output Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 36	Door Lock Solenoid Pulse Hardware Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 37	Door Lock Solenoid Full Hardware Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 38	Mosfet Enable Cannot Be Enabled	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 39	Mosfet Enable Cannot Be Disabled	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 42	Door Lock Input Pin Hardware Failure	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 43	Hot Fill Valve Shorted	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 44	Cold Fill Valve Shorted	The Input/Output Board senses a problem with the hardware. The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 45	Hot Fill Tub Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E 10 46	Cold Fill Tub Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 47	Hot Spray Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 48	Cold Spray Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 49	Cold Hard Fill Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 50	Auxiliary Fill Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 51	Compartment 1 Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 52	Compartment 2 Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 53	Compartment 3 Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 54	Compartment 4 Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 55	Drive Power Contractor Coil Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 56	Electric Heat Contractor Coil Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 57	Steam Heat Valve Shorted	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E 10 62	24 Volt Supply Over Voltage	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E 10 63	24 Volt Supply Under Voltage	The control sounds an alarm tone for 15 seconds. To clear this error either power down the machine or simultaneously press the Normal and Warm keypads.
E dr	Drain Error	If enabled, the control will enter *Machine Error Mode* when the water height is not below the empty level, after attempting to drain for the programmable time (default 15 minutes). The control sounds an alarm tone for 15 seconds. To clear the error, disconnect and then reconnect power to the machine.
E LF	Water Leak Fill Error	If the water level has raised more than an acceptable amount in a during a water leak check, the control will save a water leak error status and will continue the machine cycle. Immediately upon detecting the error the right-most decimal point will be lit. This lit decimal point can be cleared by pressing the START (enter) keypad 3 times in a period of 5 seconds or by cycling the power to the machine.
E d 01	Setup Command Error	Drive received incorrect parameters. Power down machine to clear. Call a service technician if error persists.
E d 21	Over Voltage DC Bus Error	Power down to clear error. Check voltage input to machine. If it happens only at start of spin, replace motor. Replace drive board if error persists.
E d 22	Over Motor Temperature Error	Motor temperature is detected to be too high. Check that drum spins freely when empty. Check for overloading of machine. Check motor harness for damage. Reduce agitation time and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Replace drive board if error persists.
E d 23	Fatal IPM Over Current Shunt Error	Check that drum and motor spins freely. Power down to clear error. Check the motor phase windings. Continuity should be uniform between phases L1 and L2, L2 and L3, L1 and L3. Replace motor if not uniform. Replace drive board if error persists.
E d 24	Fatal I2T Hardware Over Current Error	Check that drum and motor spins freely. Rotor may be locked up. Check the motor phase windings. Continuity should be uniform between phases L1 and L2, L2 and L3, L1 and L3. Replace motor if not uniform. Power down to clear error. Replace drive board if error persists.
E d 25	IPM Over Temperature Error	IPM temperature is detected to be too high. Check that drum spins freely when empty, check for overloading of machine, reduce agitation time, and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Check for lint build-up on heat sink on drive board. Replace drive board if error persists.

Table 36 *continues...*

Display	Description	Cause/Corrective Action
E d 29	Motor Not Connected Error	The motor or one of its electrical phases is not connected. Check that the harness from the motor to the drive board is fully plugged in on both ends and that there is no damage to the motor harness. Make sure to push in the motor harness on both ends just in case it is a little loose and not fully inserted. If the harness looks fine and the error still occurs, try replacing the drive board or harness. Power down to clear error.
E d 31	Overload Current Detection	The drive has expended too much energy which means the system is being overloaded. Check that drum spins freely when empty. Check for overloading of machine. Check motor harness for damage. Reduce agitation time and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Replace drive board if error persists.
E d 32	Back EMF Error	The drive has detected a problem with the motor. Check that drum spins freely when empty. Check for overloading of machine. Check motor harness for damage. Reduce agitation time and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Replace motor or drive board if error persists.
E d 33	Fatal Start-Up Failure	The drive has detected a problem with the motor. Check that drum spins freely when empty. Check for overloading of machine. Check motor harness for damage. Reduce agitation time and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Replace motor or drive board if error persists.
E d 34	Locked Rotor Error	The drive has detected a problem with the motor. Check that drum spins freely when empty. Check for overloading of machine. Check motor harness for damage. Reduce agitation time and duty cycle if rotate/pause times are very short and programmable. Power down to clear error. Replace motor or drive board if error persists.
E d 44	Overcurrent Shunt Detection Circuit Fail Error	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 51	Inrush Pin HW On/Off Fail	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 63	Fatal IPM Temperature Short Error	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 64	Fatal IPM Temperature Open Error	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 65	Inverter Hardware Acquisition Failure	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 66	Voltage Bus Acquisition Failure	Hardware failure. Power down to clear error. Replace drive board if error persists.
E d 67	Motor Initialization Error	Hardware failure. Power down to clear error. Replace drive board if error persists.

Table 36

Manual Rapid Advance

Manual Rapid Advance 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 machine currently in an active cycle. In this case, the user can quickly advance through the cycle to the *Ready Mode*. At this point, the user can perform the required tests and then return the machine to the active cycle.

How to Enter Rapid Advance

1. If control is in *Ready Mode*, control must be put into Manual Mode. Refer to *Entering Manual Mode*.
2. Press the Delicate (∧) or the Cold (∨) keypad until rAP id appears in the display.
3. Press the START (enter) keypad. The display will show PUSH then StArt followed by the cycle time and the START (enter) keypad LED will flash.

   NOTE: Door must be closed to start cycle.
4. Press the START (enter) keypad to start cycle, or if already in an active cycle, pressing START (enter) keypad will advance to the next cycle step.

   NOTE: The Rapid Advance option must be turned on for Rapid Advance to work.

How to Exit Rapid Advance Feature

Advance through the cycles until reaching the *Ready Mode*.

Default Cycles

Cycle Chart Legend					
*	En	Always Enabled	‡	LA	Low Agitate
	Ds	Always Disabled		RA	Regular Agitate
	M1	Active only with Mod1		D	Distribution
	M2	Active only with Mod2		VL	Very Low Extract
	PW	Prewash		L	Low Extract
	W	Wash		M	Medium Extract
	R1	Rinse 1		H	High Extract
	R2	Rinse 2		VH	Very High Extract
	R3	Rinse 3		UH	Ultra High Extract
	R4	Rinse 4	†	L/H/S	Level/Heat/Supply
	S	Final Spin			

NOTE: Cycle times may vary by capacity.

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 1 - Normal Hot (total time 22 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Warm	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time ex-pires
	3	M1	PW	Agitate	2	30	Main-tain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 1 - Normal Hot (total time 22 min., 30 sec.)														
Wash	7	En	W	Fill	1	0		Hot	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	6	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	En	R1	Drain	0	30	-		Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30	-		Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0	-		Evac	H	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	23	Ds	R3	Drain	0	30	-		Evac	RA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 1 - Normal Hot (total time 22 min., 30 sec.)														
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Hot
	26	En	R4	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	30	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	4	30	-	Refill	Hold	RA	Yes	18	4	
Final Extract	29	En	S	Extract	4	0	-		Evac	UH	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	RA	Yes	7	6	

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 2 - Normal Warm (total time 22 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Warm	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	2	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Warm	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	6	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	En	R1	Drain	0	30	-		Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 2 - Normal Warm (total time 22 min., 30 sec.)														
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30	-		Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0	-		Evac	H	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	23	Ds	R3	Drain	0	30	-		Evac	RA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Hot
	26	En	R4	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	30	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	4	30	-	Refill	Hold	RA	Yes	18	4	
Final Extract	29	En	S	Extract	4	0	-		Evac	UH	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	RA	Yes	7	6	

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 3 - Normal Cold (total time 22 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	2	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	6	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	En	R1	Drain	0	30	-		Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 3 - Normal Cold (total time 22 min., 30 sec.)														
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30	-		Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0	-		Evac	H	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	23	Ds	R3	Drain	0	30	-		Evac	RA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Hot
	26	En	R4	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	30	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	4	30	-	Refill	Hold	RA	Yes	18	4	
Final Extract	29	En	S	Extract	4	0	-		Evac	UH	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	RA	Yes	7	6	

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 4 - Delicate Hot (total time 18 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Warm	Hold	LA	Yes	4	12	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	5	30	Maintain Heat	Refill	Hold	LA	Yes	4	12	
	4	M1	PW	Cool-down	-	-	PC Global	Cold		LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	LA	Yes	4	12	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Hot	Hold	LA	Yes	4	12	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	4	30	Maintain Heat	Refill	Hold	LA	Yes	4	12	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	LA	Yes	4	12	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	LA	Yes	4	12	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	LA	Yes	4	12	
	15	En	R1	Drain	0	30	-		Evac	LA	Yes	4	12	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 4 - Delicate Hot (total time 18 min., 30 sec.)														
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	LA	Yes	4	12	Flush Out
	18	M2	R2	Agitate	4	30	-	Refill	Hold	LA	Yes	4	12	
	19	M2	R2	Drain	0	30	-		Evac	LA	Yes	4	12	
	20	M2	R2	Extract	1	0	-		Evac	L	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	LA	Yes	4	12	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	LA	Yes	4	12	
	23	Ds	R3	Drain	0	30	-		Evac	LA	Yes	4	12	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	15	C1	0s Delay	Hold	-	-	-	-	Cold
	26	En	R4	Supply	0	15	C4	0s Delay	Hold	-				Hot
	27	En	R4	Fill	1	30	Low Level	Cold	Hold	LA	Yes	4	12	No Flush Out
	28	En	R4	Supply	0	0	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	29	En	R4	Agitate	4	30	-	Refill	Hold	LA	Yes	18	4	
Final Extract	30	En	S	Extract	2	0	-		Evac	L	-	-	-	
Shake-out	31	En	S	Agitate	0	30	-	No Refill	Evac	LA	Yes	7	6	

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 5 - Delicate Warm (total time 20 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	3	0	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Warm	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	5	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	En	R1	Drain	0	30	-		Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 5 - Delicate Warm (total time 20 min., 30 sec.)														
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30	-		Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0	-		Evac	H	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	LA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	LA	Yes	18	4	
	23	Ds	R3	Drain	0	30	-		Evac	LA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Hot
	26	En	R4	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	30	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	4	30	-	Refill	Hold	LA	Yes	4	12	
Final Extract	29	En	S	Extract	3	0	-		Evac	M	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	LA	Yes	7	6	

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 6 - Delicate Cold (total time 20 min., 30 sec.)														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	3	0	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold		LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2, C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	5	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30	-		Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 1	13	En	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	En	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	En	R1	Drain	0	30	-		Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	

Table continues...

Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
Cycle 6 - Delicate Cold (total time 20 min., 30 sec.)														
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30	-		Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0	-		Evac	H	-	-	-	
Rinse 3 (Disabled)	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	23	Ds	R3	Drain	0	30	-		Evac	RA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Cold
	26	En	R4	Fill	1	30	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	0	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	4	30	-	Refill	Hold	RA	Yes	18	4	
Final Extract	29	En	S	Extract	3	0	-		Evac	UH	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	RA	Yes	7	6	

The Economy Cycle is not a default cycle and must be manually programmed.														
Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
ECO Cycle at 27 minutes with 1 Wash and 1 Rinse														
Pre-wash (Mod1)	1	M1	PW	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	2	M1	PW	Supply	0	30	C1	10s Delay	Hold	-	-	-	-	ES1, Time expires
	3	M1	PW	Agitate	2	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	4	M1	PW	Cool-down	-	-	PC Global	Cold	Evac	LA	Yes	4	27	
	5	M1	PW	Drain	0	30	-		Evac	RA	Yes	18	4	
	6	Ds	PW	Extract	0	30	-		Evac	VL	-	-	-	
Wash	7	En	W	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	8	En	W	Supply	0	30	C1,C2,C3	10s Delay	Hold	-	-	-	-	ES1, ES2, Time expires
	9	En	W	Agitate	12	30	Maintain Heat	Refill	Hold	RA	Yes	18	4	
	10	En	W	Cool-down	0	-	PC Global	Cold	Evac	LA	Yes	4	27	
	11	En	W	Drain	0	30			Evac	RA	Yes	18	4	
	12	Ds	W	Extract	0	30			Evac	VL		-	-	

Table continues...

The Economy Cycle is not a default cycle and must be manually programmed.														
Description	Step Information*				Step Time		Water Options†			Motor‡				Step Type
	Step #	Active	Status	Type	Min	Sec	L/H/S	Temp/Misc	Drain	Speed	Reversing	On Time	Off Time	Misc
ECO Cycle at 27 minutes with 1 Wash and 1 Rinse														
Rinse 1	13	Ds	R1	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	14	Ds	R1	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	15	Ds	R1	Drain	0	30			Evac	RA	Yes	18	4	
	16	Ds	R1	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 2 (Mod2)	17	M2	R2	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	18	M2	R2	Agitate	2	30	-	Refill	Hold	RA	Yes	18	4	
	19	M2	R2	Drain	0	30			Evac	RA	Yes	18	4	
	20	M2	R2	Extract	1	0			Evac	H	-	-	-	
Rinse 3	21	Ds	R3	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	Flush Out
	22	Ds	R3	Agitate	2	0	-	Refill	Hold	RA	Yes	18	4	
	23	Ds	R3	Drain	0	30			Evac	RA	Yes	18	4	
	24	Ds	R3	Extract	0	30	-		Evac	VL	-	-	-	
Rinse 4	25	En	R4	Supply	0	30	C4	0s Delay	Hold	-	-	-	-	Hot
	26	En	R4	Fill	1	0	Low Level	Cold	Hold	RA	Yes	18	4	No Flush Out
	27	En	R4	Supply	0	30	C4	10s Delay	Hold	-	-	-	-	ES3, ES4, Time expires
	28	En	R4	Agitate	6	30	-	Refill	Hold	RA	Yes	18	4	
Final Extract	29	En	S	Extract	4	0	-		Evac	UH	-	-	-	
Shake-out	30	En	S	Agitate	0	30	-	No Refill	Evac	RA	Yes	7	6	

Estimated Water Usage for Economy Cycle (Based on 85% Capacity Load)	
Unit Size	**L/kg**
20	8
30	6.5
40	6.5
60	7
80	7.5
100	7