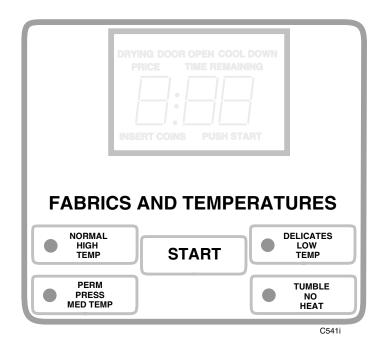
## Electronic Control

Tumbler

Refer to Page 2 for Model Numbers



**Keep This Manual for Future Reference.** 

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



### **WARNING**

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

W03

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

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

### **Model Identification**

Information in this manual is applicable to these tumbler models:

		Gas		Sto	eam	Electric	
25 Pound	DC0220SFG DC0220SRG DT0220SFG DT0220SRG HT025L HT025N JA0220SRG JC0220SFG JC0220SFG JCB30XG	JT0220SFG JT0220SRG JTB30XG JTD32DG JTD32EG LT0220SRG PA0220SRG PC0220SRG PT0220SRG SA0220SRG	SC0220SFG SC0220SRG ST0220SFG ST0220SRG ST025L ST025N STB30XG STD32DG SU025N	DC0220SSL DT0220SSH DT0220SSL JC0220SSH JC0220SSL JT0220SSL JT0220SSL PC0220SSL PC0220SSL PT0220SSL	PT0220SSL SC0220SSH SC0220SSL ST0220SSH ST0220SSL	DC0220SEL DT0220SEL JC0220SEL JT0220SEL PC0220SEL PT0220SEL PU025E	SC0220SEL ST0220SEL ST025E
30 Pound	DC0270SFG DC0270SRG DT0270SFG DT0270SRG HT030L HT030N JA0270SRG JC0270SFG JC0270SRG	JT0270SFG JT0270SRG JT30XG LT0270SRG PA0270SRG PC0270SRG PT0270SRG PT0270SRG PT030L PU030N	SA0270SRG SC0270SFG SC0270SRG ST0270SFG ST0270SRG ST030L ST030N ST30XG SU030N	DC0270SSL DT0270SSH DT0270SSL JC0270SSH JC0270SSL JT0270SSH JT0270SSL PC0270SSH PC0270SSL	PT0270SSH PT0270SSL SC0270SSH SC0270SSL ST0270SSH ST0270SSL ST030S	DC0270SEL DT0270SEL JC0270SEL JT0270SEL PC0270SEL PT0270SEL SC0270SEL ST0270SEL ST030E	SU030E
30 Pound Stacked	DC0300DFG DC0300DRG DT0300DFG DT0300DRG HTT30L HTT30N HUT30N JA0300DRG JC0300DFG JC0300DFG	JT0300DFG JT0300DRG LT0300DRG LTT30L NT0300DRG NTT30N PA0300DRG PC0300DRG PT0300DRG PTT30N	PUT30N SA0300DRG SAT30N SC0300DFG SC0300DRG ST0300DFG ST0300DRG STT30L STT30N SUT30N	DC0300DSL DT0300DSH DT0300DSL JC0300DSH JC0300DSL JT0300DSL JT0300DSL PC0300DSL PC0300DSL PT0300DSL PT0300DSL	SC0300DSH SC0300DSL ST0300DSH ST0300DSL	DC0300DEL DT0300DEL JC0300DEL JT0300DEL PC0300DEL PT0300DEL SC0300DEL ST0300DEL STT30E SUT30E	
35 Pound	AT0350SRG DC0350SFG DC0350SRG DT0350SFG DT0350SRG HT035L HT035N JA0350SRG JC0350SFG	JC0350SRG JT0350SRG JT0350SRG LT0350SRG LT035L PA0350SRG PC0350SRG PT0350SRG PT035N	PU035N SA0350SRG SA035N SC0350SFG SC0350SRG ST0350SFG ST0350SRG ST035N SU035N	AT0350SSL DC0350SSL DT0350SSH DT0350SSL JC0350SSH JC0350SSL JT0350SSH JT0350SSL PC0350SSH	PC0350SSL PT035SSH PT0350SSL SC0350SSL ST0350SSH ST0350SSL	DC0350SEL DT0350SEL JC0350SEL JT0350SEL PC0350SEL PT0350SEL PT035E SC0350SEL ST0350SEL	ST035E SU035E
50 Pound	JC50EG JCB50EG JT50EG	JTB50EG SC50EG SCB50EG	STB50EG				
75 Pound	JC75EG JT75EG	JTB75EG STB75EG					

Includes models with the following control suffixes:

EC – EDC electronic coin

EX – EDC coin ready

EY – EDC card ready

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# **Section I**Preliminary Information

### **About the Control**

The Electronic Control on the tumbler is an advanced programmable computer that lets the owner control machine features by pressing sequences of SELECT CYCLE pads, *Figure 1*.

The Electronic Control lets the owner program custom cycles, set vend prices, retrieve audit information, program and run diagnostic cycles, and program special vend features. Tumblers shipped from the factory have a default cycle (MED TEMP) built in. However, the default cycle or any cycle may be changed as needs permit.

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

IMPORTANT: It is extremely important that your tumbler has a good positive ground and that all mechanical and electrical connections to the Electronic Control are made before applying power to or operating your tumbler.

### **Glossary of Terms**

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

- VFD Vacuum Fluorescent Display. This term refers to the window area of the Electronic Control control, *Figure 1*.
- LED Light Emitting Diode. This term refers to the lights on the SELECT CYCLE pads, *Figure 1*.

### **Power Failure Recovery**

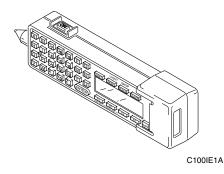
If power fails during an active cycle, the cycle status is saved in the Electronic Control memory capable of retaining information without direct power for a minimum of six years. When power is restored, the tumbler may resume the previously active cycle (if programmed by the owner) by pressing the START pad.

The owner may program a special feature called Power Fail Reset which sets a maximum power failure duration (refer to *Section VIII*, *Option 22*, when programming Power Fail Reset). If the power failure is greater than the time period programmed by the owner, the tumbler will revert back to the "Ready" mode rather than resume the previously active cycle. If the Power Fail Reset has not been turned on, the previously active cycle will always resume where it was interrupted when power is restored.

The Power Fail Reset may be set between five and 127 minutes. The factory default setting is turned off. Refer to "*Programming the Electronic Control*," *Section VIII*, to set Power Fail Reset.

## Infra-red Communications (Applicable Models Only)

The Electronic Control may be programmed manually or by an optional hand-held infra-red computer called the MICRO-WAND IIIE<sup>TM</sup>.



The MICRO-WAND IIIE<sup>TM</sup> allows the owner to program and retrieve information from the Electronic Control without touching the key pad. The Micro-Wand greatly expands the programming options available to the owner. However, the Micro-Wand is not required to program and operate the Electronic Control tumbler. The operation of the Micro-Wand and the advanced features available through its use are covered separately in the Micro-Wand instruction manual.

## Section II Electronic Control Identification

### **Select Cycle Pads**

### (Figure 1)

SELECT CYCLE pads are used to select the specific tumbler cycle and temperature. These pads include HIGH TEMP, MED TEMP, LOW TEMP, and NO HEAT, *Figure 1*. SELECT CYCLE pads are also used in programming and customizing cycle information and retrieving audit information in *Section VII*, "*Entering the Special Mode.*"

### **Start Pad**

### (Figure 1)

The START pad is used to start the tumbler after the full vend price has been satisfied and the loading door is closed.

Both the START pad and the SELECT CYCLE pads are used in various combinations for programming cycles, retrieving audit information, running diagnostic tests, and other hidden operations described in *Section VII*, "*Entering the Special Mode*."

### **Electronic Control Control**

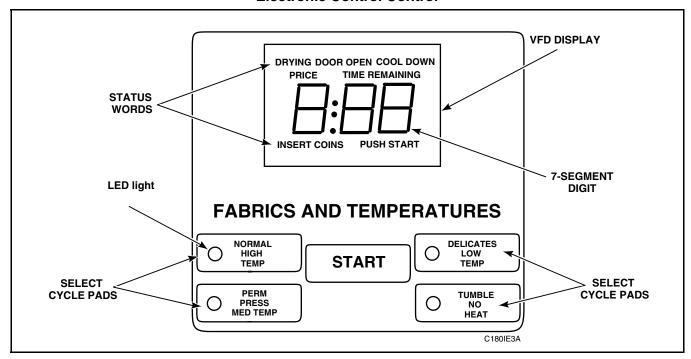


Figure 1

# Section III Vacuum Florescent Display (VFD) Identification

### **Status Words**

#### **INSERT COINS**

The status word INSERT COINS is lit to prompt the user to insert coins to satisfy the vend price for the chosen cycle. When INSERT COINS is lit, the three digits and the decimal point will display the vend price remaining to be satisfied.

If a new cycle is selected while a cycle is running, and if the new cycle requires more coins, the status word INSERT COINS will flash at one-second intervals while the display will show the vend price remaining to be satisfied.

### **PUSH START**

The status word PUSH START is lit whenever the tumbler is not in a cycle, the full vend price has been satisfied, and the loading door is closed. When the start pad is pressed, the cycle will begin or resume. The PUSH START status word flashes at one-second intervals when activated.

#### **DRYING**

The status word DRYING is lit to indicate that one of the heated cycles (HIGH TEMP, MED TEMP, LOW TEMP) is currently in operation. The status word DRYING goes off at the end of a heated cycle or when the COOL DOWN cycle begins.

#### DOOR OPEN

The status word DOOR OPEN is lit and flashes at one-second intervals whenever the loading door is open.

### **COOL DOWN**

The status word COOL DOWN is lit whenever the COOL DOWN portion of a heated cycle is active. It is also lit when the NO HEAT cycle is in operation.

#### **PRICE**

The status word PRICE is lit to indicate that the value displayed by the VFD remains to be satisfied. Once the vend price is satisfied, the word "PRICE" will go off.

#### TIME REMAINING

The status word TIME REMAINING is lit to indicate that the time displayed by two digits and the colon is the time remaining (in minutes) in the active cycle. The colon flashes at one-second intervals and time continually counts down in an active cycle.

### **VFD DISPLAY**



Figure 2

# **Section IV Tumbler Operation**

### Start Up

Whenever power is applied to the tumbler, the Electronic Control becomes active and lights the default cycle LED (MED TEMP). In addition, the status words PRICE and INSERT COINS are lit with the MED TEMP vend price displayed. This is referred to as the "Ready" mode, *Figure 3*.

The customer may select a different cycle if desired. The VFD display will show the current vend price for each cycle chosen. A customer may select the cycle before entering coins.

### "Ready" Mode

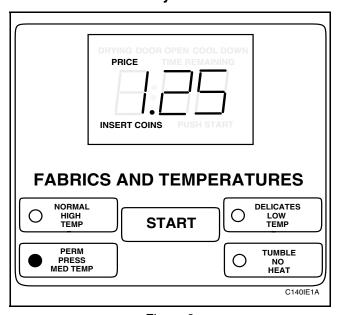


Figure 3

As coins are entered into the machine, the vend price remaining to be satisfied gets smaller. Once the full vend price is satisfied, the INSERT COINS and PRICE status words are turned off, the TIME REMAINING and PUSH START status words turn on, and the display shows the time remaining in the MED TEMP cycle, *Figure 4*.

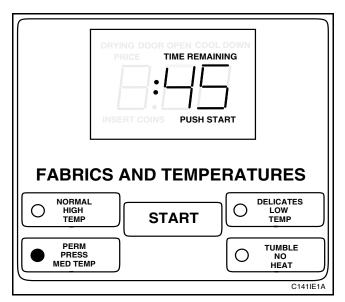


Figure 4

If the START pad is pushed, the tumbler cylinder will begin turning. After the cylinder begins turning, the heat will turn on. Also, the PUSH START status word will go off, the DRYING status word will turn on, and the display will begin counting down the time remaining in the cycle.

The status word DRYING will remain lit until the COOL DOWN cycle begins. When the COOL DOWN cycle begins, the status word COOL DOWN is lit, DRYING is turned off, and the heater is turned off. The time will continue to count down until ":00" minutes is displayed, *Figure 5*. At this point the cycle is complete.

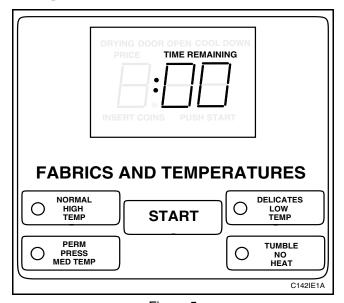


Figure 5

When a cycle is complete, a signal will sound for three seconds at one of three programmable volumes (if selected). Tumblers shipped from the factory have the signal turned off. The signal (if selected) will sound at the end of each cycle, when SELECT CYCLE pads are pushed, or when coins are entered. Each of these signals can be turned on or off separately (refer to *Section VIII, Option 1*, to program signal options).

When a cycle is complete, the VFD will display the status word TIME REMAINING and "00", until the door is opened. See *Figure 5*. When the door is opened, the VFD display will revert back to the "Ready" mode. See *Figure 3*.

### **Entering Coins**

Coins are entered to satisfy the programmed vend price for a selected cycle. Coins may be entered before selecting a cycle or during an active cycle. When coins are entered during an active cycle, the time remaining is increased by the amount programmed by the owner (refer to *Section VIII*, *Option 17*, when programming additional time-percoin options).

The owner may choose to add additional time for each coin entered or may require an additional full vend price to add time once a cycle has begun. If coins are entered to an active heated cycle currently in the COOL DOWN mode, more than one coin may be required to push the cycle back into the DRYING mode. The maximum time for any cycle is 99 minutes.

### **Changing Active Cycles**

An active cycle may be changed at any time during tumbler operation. However, changing from one cycle to another may require additional coins. If a newly selected cycle requires additional coins, the additional coins must be entered within 60 seconds.

If, for example, two additional coins are required to fulfill the vend price for a new cycle, the tumbler will allow sixty seconds between coins entered. If the vend price is not satisfied within that time, the tumbler will go back to the original cycle and the time remaining is increased by the amount of coins entered, depending on the additional time-per-coin parameter.

Changing between heated cycles is allowed at any time during the active DRYING portion of a heated cycle. However, if the vend price is greater for a heated cycle than a NO HEAT cycle, changing to a heated cycle from a NO HEAT cycle is only allowed during the first 3 and the final 5 minutes of the cycle. In this case, the cycle will require additional coins.

### **Opening the Loading Door**

Opening the loading door in a running cycle will automatically stop the cycle. When the loading door is opened, the status word DRYING is turned off, and the status words DOOR OPEN will flash at one-second intervals, *Figure 6*.

NOTE: When the door is opened during an active cycle, the time will continue to count down.

Once the loading door is closed, the status words DOOR OPEN goes off and the status word PUSH START flashes at one-second intervals until the START pad is pushed. Pressing the start pad will start or resume the active cycle.

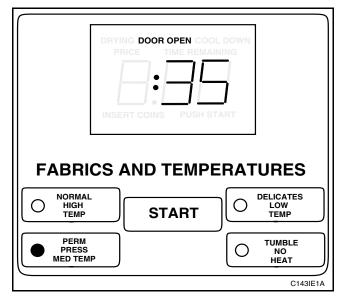


Figure 6

### **Signals**

There are three options where a signal may sound during the tumbler operation. The owner may program when the signals will sound and at what volume level. These three options are listed below:

### 1. End of Cycle Signal

By default, this signal is turned off. If enabled, the signal will sound for three seconds at one of three programmable volume levels at the end of a cycle.

### 2. Keypad Depression Signal

By default, this signal is set at the lowest volume level and will sound for .25 seconds. This signal will sound each time a successful keypad depression has been executed.

### 3. Coin Drop Signal

By default, this signal is off. If enabled, the signal will sound for .25 seconds at one of three programmable volume levels each time a coin is entered.

NOTE: Refer to Section VIII, Option 1, to program signal options.

# **Section V Electronic Control Special Features**

### **Programming the Electronic Control**

The Electronic Control allows the tumbler owner to program special features. Cycle and vend information may be programmed and displayed by opening and closing the service door and then pressing combinations of SELECT CYCLE pads on the Electronic Control keypad.

For details on programming cycle and vend information, refer to "Programming the Electronic Control," Section VIII.

### **Collecting Audit Information**

With the Electronic Control, the tumbler owner is able to access valuable audit information by opening and closing the service door and then pressing various sequences of SELECT CYCLE pads on the Electronic Control keypad. The Electronic Control will record and display coin vault openings, coins entered, service door openings, total tumbler cycles, total NO HEAT cycles, special vend options, power failures, downloads, and others.

For detailed information on audit features, refer to "Collecting Audit Information," Section IX.

## **Testing Machine and Electronic Control Functions**

Special programmable diagnostic features built into the Electronic Control allow the owner to test specific information with the tumbler in and out of an active cycle. By opening and closing the service door and then pressing various sequences of SELECT CYCLE pads, the owner may perform the following tests:

- Self Diagnostic Test
- Tumbler-On Temperature Test
- Thermistor Temperature Display Test
- Coin Vault Opening Test
- Service Door Opening Test
- Coin Drop Input Test
- Real-Time Clock Day Test
- Real-Time Clock Hour Test

For detailed information on running diagnostic tests, refer to "Testing Machine and Electronic Control Functions," Section X.

### Sales Floor Feature

The Electronic Control tumbler has a built-in sales floor feature used to display all the LED lights, the status words, and the three digits with the colon and decimal point. This function is designed to show potential customers the high-tech features of the Electronic Control control.

For detailed information on using the Sales Floor feature, refer to *Section XI*.

### **Rapid Advance Feature**

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

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

## **Clear the Electronic Control Vend Feature**

This feature allows the user to return the Electronic Control back to "Ready" mode, *Figure 3*, if coins have been entered but the full vend price has not been satisfied.

For more information on using the Clear Vend feature, refer to *Section XIII*.

### **OPL Applications**

When using the Electronic Control in OPL applications, use Special Vend A options for proper programming. Refer to *Programming the Electronic Control, Section VIII, options 3-9*.

## **Section VI**

## **Opening the Service Door**

(For Models 30XG and 32DG Only)

### **Overview**

Manually programming the Electronic Control often requires the operator to open and close the service door. Opening and closing the service door trips a switch allowing access to various programmable options, diagnostics, and audit capabilities.

On stacked tumblers the service door is located above each Electronic Control control, *Figure 7*.

On stand-alone tumblers the service door is located on the top of the meter case, *Figure 8*.

After opening and closing the service door, the programmer has 4.25 minutes to begin programming. If a SELECT CYCLE pad has not been pressed in that time, the control will revert back to the "Ready" mode, *Figure 3*.

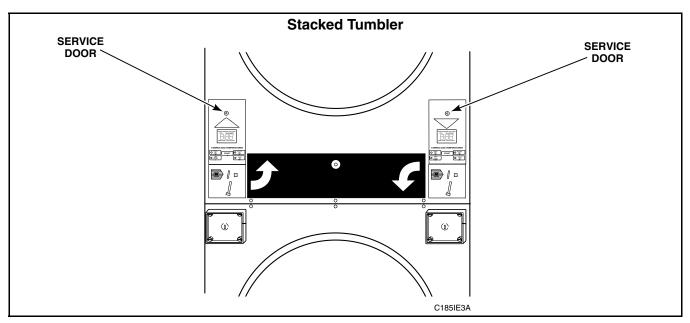


Figure 7

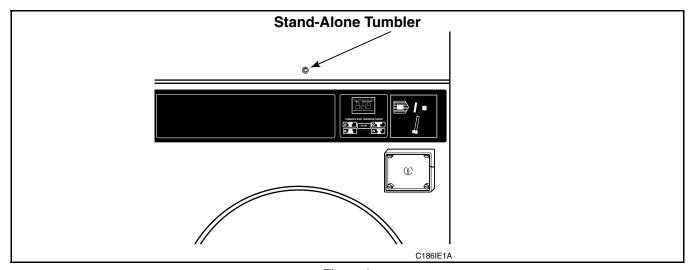


Figure 8

### **Removing the Controls**

### **Stacked Tumbler**

To remove control from tumbler, unlock it. Push down and in on bottom of control so that the top of the control tilts forward. Pull control out far enough to disconnect wires. Remove control and place it in a clean, dry location where it cannot be damaged.

### **Stand-Alone Tumbler**

Unlock access panel over control and remove. Then remove 2 screws and swing out control. Push up on control until top hinge clears slot. Disconnect wire harness from cabinet harness. Remove white switch by pressing in on locking tabs, and pull switch out through front. Place control in a clean, dry location where it cannot be damaged.

IMPORTANT: Refer to wiring diagram when rewiring control.

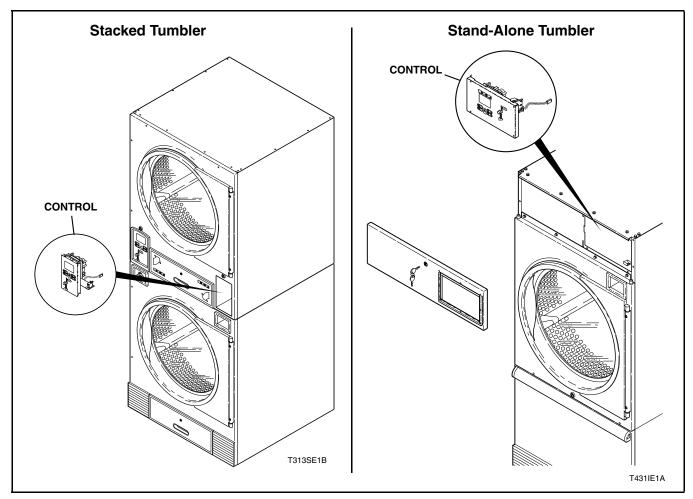


Figure 9

# **Section VII Entering the Special Mode**

### Overview

For programming, testing, and retrieving information from the Electronic Control, it is often necessary to enter the Special Mode by following the 4 simple steps below.

### **How To Enter The Special Mode**

- 1. Be sure the tumbler is in the "Ready" mode, before continuing to step 2. See *Figure 3*. If the tumbler is in an active cycle, rapid advance through the cycle, see the Rapid Advance feature, (*Section XIII*). If coins have been entered, see the Clear Vend feature (*Section XIII*).
- 2. Open and close the service door. See **Section VI**.
- 3. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand.
- 4. The VFD will show "SPC," Figure 10.

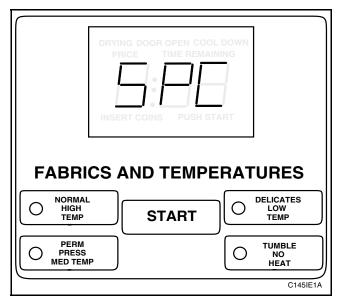


Figure 10

The rest of this section describes the six special features that the Electronic Control can enter. It is necessary to enter the Special Mode when programming special features 1-4 in the list below.

- 1. Programming the Electronic Control
- 2. Collecting Audit Information
- 3. Testing Machine and Electronic Control Functions
- 4. Sales Floor Feature
- 5. Rapid Advance Feature
- 6. Clearing the Micro Vend Feature

Once in the special mode, continue on into one of the features described in detail on the following pages.

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

# **Section VIII**Programming the Electronic Control

### What Can Be Programmed?

This feature allows the owner to program cycle information, standard vend pricing, special vends and others. Refer to this section when programming the Electronic Control.

This section offers a detailed description of all 29 options available to program.

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

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

NOTE: The 3 letters in the Option column of the Programmable Options List is what will show in the VFD display when that option is selected.

\* Options marked with an asterisk are for basic start-up programming.

### **Programmable Options Available**

#	OPTION	DESCRIPTION		
1	"Slg"	Audio Signal		
*2	"nPr"	Normal Vend Price		
3	"SPA"	Special Vend A On/Off Days of Week		
4	"AnP"	Special Vend A Normal Price		
5	"AFP"	Special Vend A NO HEAT Price		
6	"AnL"" "	Special Vend A Normal Time		
7	"AFL"	Special Vend A NO HEAT Time		
8	"ASH"" "	Special Vend A Start Hour		
9	"AEH"	Special Vend A End Hour		
*10	"nCL"	Normal Cycle (HIGH, MED, LOW) Time		
*11	"HCL"	HIGH TEMP Cool Down Time		
*12	"HdE"	HIGH TEMP Temperature		
*13	"PCL"	MED TEMP Cool Down Time		
*14	"PdE"	MED TEMP Temperature		
*15	"LCL"	LOW TEMP Cool Down Time		
*16	"LdE"	LOW TEMP Temperature		
*17	"Add"	Additional Time		
*18	"FPr"	NO HEAT Vend Price		
*19	"FCL"	NO HEAT Cycle Time		
*20	"COI"	Coin Value		
21	"dCS"	Default Cycle Status		
22	"rPF"	Reset After a Power Failure		
23	"CFg"	Control Configuration - Daylight Savings - Fahrenheit/Celcius - Decimal Point		
24	"Cln"	Set Real-Time Clock (minutes)		
25	"CHr"	Set Real-Time Clock (hours)		
26	"CdA"	Set Real-Time Clock (days of week)		
27	"CdE"	Set Real-Time Clock (date)		
28	"COn"	Set Real-Time Clock (month)		
29	"CYr"	Set Real-Time Clock (year)		

### 1. Audio Signal "SIg"

This option allows the user to program when the signals will sound and at what volume level.

There are three occasions where a signal may sound during the tumbler operation. These three occasions are listed below:

### 1. End of Cycle Signal

By default, this signal is turned off. If turned on, the signal will sound for three seconds at one of three programmable volume levels at the end of a cycle.

### 2. Keypad Depression Signal

By default, this signal is set at the lowest volume level and will sound for .25 seconds. This signal will sound each time a keypad is pressed.

### 3. Coin Drop Signal

By default, this signal is off. If turned on, the signal will sound for .25 seconds at one of three programmable volume levels each time a coin is entered.

### How To Program the "SIg"

- Control must be in Special Mode. Refer to Section VII
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 11*.



Figure 11

When "SIg" appears in the VFD press the START pad. A three-digit number will appear in the VFD.

## NOTE: The number appearing in the VFD is the current number that was selected from Chart 1 located on the following page.

- 4. Locate the desired three-digit number in the first column of Chart 1 on the following page.
- 5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number until correct.

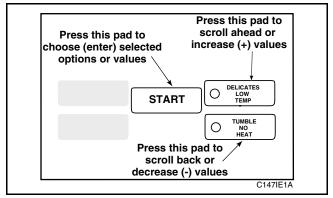


Figure 12

6. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "nPr" will appear in the VFD.

## NOTE: To program "nPr" (Normal Vend Price), see *Option 2*. To program other options, refer to the appropriate section.

For Example: A user might wish to have the signal sound only when a keypad is pressed and at the lowest level. Entering the three-digit number 035 in step four would disable all the options except LOW VOLUME and KEYPAD. In this instance the signal would sound at the lowest volume only when a keypad is pressed.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### How to read Chart 1

To determine the correct three-digit number required in step four on the previous page, review the chart below. Read Chart 1 from left to right. Each row begins with a three-digit number required in step 4.

Each three-digit number in the first column is followed by the words ON or OFF in the following columns. The word ON or OFF indicates if the option at the top of that column is turned on or turned off when that number is entered.

Chart 1: "Slg"

Signal Value	High Volume	Medium Volume	Low Volume	Coin Input	Cycle End	Key Pad
000	OFF	OFF	OFF	OFF	OFF	OFF
035	OFF	OFF	ON	OFF	OFF	ON
037	OFF	OFF	ON	OFF	ON	OFF
039	OFF	OFF	ON	OFF	ON	ON
041	OFF	OFF	ON	ON	OFF	OFF
043	OFF	OFF	ON	ON	OFF	ON
045	OFF	OFF	ON	ON	ON	OFF
047	OFF	OFF	ON	ON	ON	ON
067	OFF	ON	OFF	OFF	OFF	ON
069	OFF	ON	OFF	OFF	ON	OFF
071	OFF	ON	OFF	OFF	ON	ON
073	OFF	ON	OFF	ON	OFF	OFF
075	OFF	ON	OFF	ON	OFF	ON
077	OFF	ON	OFF	ON	ON	OFF
079	OFF	ON	OFF	ON	ON	ON
131	ON	OFF	OFF	OFF	OFF	ON
133	ON	OFF	OFF	OFF	ON	OFF
135	ON	OFF	OFF	OFF	ON	ON
137	ON	OFF	OFF	ON	OFF	OFF
139	ON	OFF	OFF	ON	OFF	ON
141	ON	OFF	OFF	ON	ON	OFF
143	ON	OFF	OFF	ON	ON	ON

### 2. Normal Vend Price "nPr"

This option allows the user to set the normal (heated cycle) vend pricing which will be displayed in the VFD when in the "Ready" mode. The vend price programmed in this option is used for all cycles except the NO HEAT cycle.

Program this option whenever a heated cycle vend price needs to be changed.

### How to set the Normal Vend Price

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 13*.



Figure 13

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "nPr" appears in the VFD, *Figure 14*.



Figure 14

4. When "nPr" appears in the VFD, press the START pad. The current number of coins required to fulfill the vend price will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of coins to the desired number of coins, *Figure 15*.

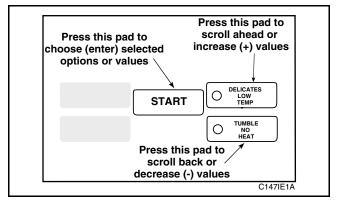


Figure 15

6. When the correct number of coins appears in the VFD, press the START pad to enter the corrected number. The next programmable option "SPA" will appear in the VFD.

NOTE: To program "SPA" (Special Vend A), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### Special Vend A ON/OFF Days of Week "SPA"

This option allows the user to set the start day and stop day of a special vend.

Special Vend A is used to interrupt the standard vend cycles for special occasions. The special vend can be programmed to start at a specific time or day of the week and end on another.

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

### How to program Special Vend A Days of Week

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 16*.



Figure 16

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "SPA" appears in the VFD, *Figure 17*.



Figure 17

4. When "SPA" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

NOTE: The number appearing in the VFD is the current number that was selected from Chart 2 beginning on the following page.

- 5. Locate the desired three-digit number in the first column of Chart 2 on the following pages.
- 6. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to increase or decrease the current three-digit number displayed in the VFD to the desired three-digit number, *Figure 18*.

NOTE: When using control in OPL application, select code 255 to keep Special Vend A turned on at all times.

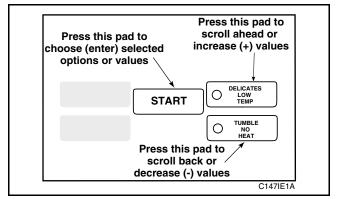


Figure 18

7. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "AnP" will appear in the VFD.

NOTE: To program "AnP" (Special Vend A Normal Price), see *Option 4*. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### **How to read Chart 2**

To determine the correct three-digit number required in step four on the previous page, review the chart below. Read Chart 2 from left to right. Each row begins with a three-digit number required in step 4. Each three-digit number in the first column is followed by the words ON or OFF in the following columns. The word ON or OFF indicates if the option at the top of that column is turned on or turned off when that number is entered.

Chart 2: Special Vend A Day Value Chart "SPA"

<b>"SPA"</b> VALUE"	SAT	FRI	THUR	WED	TUE	MON	SUN
000	OFF	OFF	OFF	OFF	OFF	OFF	OFF
003	OFF	OFF	OFF	OFF	OFF	OFF	ON
005	OFF	OFF	OFF	OFF	OFF	ON	OFF
007	OFF	OFF	OFF	OFF	OFF	ON	ON
009	OFF	OFF	OFF	OFF	ON	OFF	OFF
011	OFF	OFF	OFF	OFF	ON	OFF	ON
013	OFF	OFF	OFF	OFF	ON	ON	OFF
015	OFF	OFF	OFF	OFF	ON	ON	ON
017	OFF	OFF	OFF	ON	OFF	OFF	OFF
019	OFF	OFF	OFF	ON	OFF	OFF	ON
021	OFF	OFF	OFF	ON	OFF	ON	OFF
023	OFF	OFF	OFF	ON	OFF	ON	ON
025	OFF	OFF	OFF	ON	ON	OFF	OFF
027	OFF	OFF	OFF	ON	ON	OFF	ON
029	OFF	OFF	OFF	ON	ON	ON	OFF
031	OFF	OFF	OFF	ON	ON	ON	ON
033	OFF	OFF	ON	OFF	OFF	OFF	OFF
035	OFF	OFF	ON	OFF	OFF	OFF	ON
037	OFF	OFF	ON	OFF	OFF	ON	OFF
039	OFF	OFF	ON	OFF	OFF	ON	ON
041	OFF	OFF	ON	OFF	ON	OFF	OFF
043	OFF	OFF	ON	OFF	ON	OFF	ON
045	OFF	OFF	ON	OFF	ON	ON	OFF
047	OFF	OFF	ON	OFF	ON	ON	ON
049	OFF	OFF	ON	ON	OFF	OFF	OFF
051	OFF	OFF	ON	ON	OFF	OFF	ON
053	OFF	OFF	ON	ON	OFF	ON	OFF
055	OFF	OFF	ON	ON	OFF	ON	ON
057	OFF	OFF	ON	ON	ON	OFF	OFF
059	OFF	OFF	ON	ON	ON	OFF	ON
061	OFF	OFF	ON	ON	ON	ON	OFF
063	OFF	OFF	ON	ON	ON	ON	ON
065	OFF	ON	OFF	OFF	OFF	OFF	OFF
067	OFF	ON	OFF	OFF	OFF	OFF	ON
069	OFF	ON	OFF	OFF	OFF	ON	OFF
071	OFF	ON	OFF	OFF	OFF	ON	ON
073	OFF	ON	OFF	OFF	ON	OFF	OFF

Chart 2: (Page 1 of 4)

Chart 2: Special Vend A Day Value Chart "SPA" (Continued)

			•		T	T	T
"SPA" VALUE"	SAT	FRI	THUR	WED	TUE	MON	SUN
075	OFF	ON	OFF	OFF	ON	OFF	ON
077	OFF	ON	OFF	OFF	ON	ON	OFF
079	OFF	ON	OFF	OFF	ON	ON	ON
081	OFF	ON	OFF	ON	OFF	OFF	OFF
083	OFF	ON	OFF	ON	OFF	OFF	ON
085	OFF	ON	OFF	ON	OFF	ON	OFF
087	OFF	ON	OFF	ON	OFF	ON	ON
089	OFF	ON	OFF	ON	ON	OFF	OFF
091	OFF	ON	OFF	ON	ON	OFF	ON
093	OFF	ON	OFF	ON	ON	ON	OFF
095	OFF	ON	OFF	ON	ON	ON	ON
097	OFF	ON	ON	OFF	OFF	OFF	OFF
099	OFF	ON	ON	OFF	OFF	OFF	ON
101	OFF	ON	ON	OFF	OFF	ON	OFF
103	OFF	ON	ON	OFF	OFF	ON	ON
105	OFF	ON	ON	OFF	ON	OFF	OFF
107	OFF	ON	ON	OFF	ON	OFF	ON
109	OFF	ON	ON	OFF	ON	OFF	OFF
111	OFF	ON	ON	OFF	ON	ON	ON
113	OFF	ON	ON	ON	OFF	OFF	OFF
115	OFF	ON	ON	ON	OFF	OFF	ON
117	OFF	ON	ON	ON	OFF	ON	OFF
119	OFF	ON	ON	ON	OFF	ON	ON
121	OFF	ON	ON	ON	ON	OFF	OFF
123	OFF	ON	ON	ON	ON	OFF	ON
125	OFF	ON	ON	ON	ON	ON	OFF
127	OFF	ON	ON	ON	ON	ON	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF
131	ON	OFF	OFF	OFF	OFF	OFF	ON
133	ON	OFF	OFF	OFF	OFF	ON	OFF
135	ON	OFF	OFF	OFF	OFF	ON	ON
137	ON	OFF	OFF	OFF	ON	OFF	OFF
139	ON	OFF	OFF	OFF	ON	OFF	ON
141	ON	OFF	OFF	OFF	ON	ON	OFF
143	ON	OFF	OFF	OFF	ON	ON	ON
145	ON	OFF	OFF	ON	OFF	OFF	OFF
147	ON	OFF	OFF	ON	OFF	OFF	ON
149	ON	OFF	OFF	ON	OFF	ON	OFF
151	ON	OFF	OFF	ON	OFF	ON	ON
153	ON	OFF	OFF	ON	ON	OFF	OFF
155	ON	OFF	OFF	ON	ON	OFF	ON
157	ON	OFF	OFF	ON	ON	ON	OFF
159	ON	OFF	OFF	ON	ON	ON	ON
			hart 2. /				

Chart 2: (Page 2 of 4)

Chart 2: Special Vend A Day Value Chart "SPA" (Continued)

Contract of A Continued							
<b>"SPA"</b> VALUE"	SAT	FRI	THUR	WED	TUE	MON	SUN
161	ON	OFF	ON	OFF	OFF	OFF	OFF
163	ON	OFF	ON	OFF	OFF	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF
167	ON	OFF	ON	OFF	OFF	ON	ON
169	ON	OFF	ON	OFF	ON	OFF	OFF
171	ON	OFF	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	OFF	ON	ON	OFF
175	ON	OFF	ON	OFF	ON	ON	ON
177	ON	OFF	ON	ON	OFF	OFF	OFF
179	ON	OFF	ON	ON	OFF	OFF	ON
181	ON	OFF	ON	ON	OFF	ON	OFF
183	ON	OFF	ON	ON	OFF	ON	ON
185	ON	OFF	ON	ON	ON	OFF	OFF
187	ON	OFF	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF
191	ON	OFF	ON	ON	ON	ON	ON
193	ON	ON	OFF	OFF	OFF	OFF	OFF
195	ON	ON	OFF	OFF	OFF	OFF	ON
197	ON	ON	OFF	OFF	OFF	ON	OFF
199	ON	ON	OFF	OFF	OFF	ON	ON
201	ON	ON	OFF	OFF	ON	OFF	OFF
203	ON	ON	OFF	OFF	ON	OFF	ON
205	ON	ON	OFF	OFF	ON	ON	OFF
207	ON	ON	OFF	OFF	ON	ON	ON
209	ON	ON	OFF	ON	OFF	OFF	OFF
211	ON	ON	OFF	ON	OFF	OFF	ON
213	ON	ON	OFF	ON	OFF	ON	OFF
215	ON	ON	OFF	ON	OFF	ON	ON
217	ON	ON	OFF	ON	ON	OFF	OFF
219	ON	ON	OFF	ON	ON	OFF	ON
221	ON	ON	OFF	ON	ON	ON	OFF
223	ON	ON	OFF	ON	ON	ON	ON
225	ON	ON	ON	OFF	OFF	OFF	OFF
227	ON	ON	ON	OFF	OFF	OFF	ON
229	ON	ON	ON	OFF	OFF	ON	OFF
231	ON	ON	ON	OFF	OFF	ON	ON
233	ON	ON	ON	OFF	ON	OFF	OFF
235	ON	ON	ON	OFF	ON	OFF	ON
237	ON	ON	ON	OFF	ON	ON	OFF
239	ON	ON	ON	OFF	ON	ON	ON
241	ON	ON	ON	ON	OFF	OFF	OFF
243	ON	ON	ON	ON	OFF	OFF	ON
245	ON	ON	ON	ON	OFF	ON	OFF

Chart 2: (Page 3 of 4)

Chart 2: Special Vend A Day Value Chart "SPA" (Continued)

<b>"SPA"</b> VALUE"	SAT	FRI	THUR	WED	TUE	MON	SUN
247	ON	ON	ON	ON	OFF	ON	ON
249	ON	ON	ON	ON	ON	OFF	OFF
251	ON	ON	ON	ON	ON	OFF	ON
253	ON	ON	ON	ON	ON	ON	OFF
255	ON	ON	ON	ON	ON	ON	ON

Chart 2: (Page 4 of 4)

## 4. Special Vend A, Normal Price "AnP"

This option allows the user to set the heated cycle (LOW TEMP, MED TEMP, HIGH TEMP) vend pricing for Special Vend A.

In this option the user will set the number of coins needed to satisfy the vend price.

NOTE: This option is directly related to Option 20 (Coin Value "COI"). If the coin value is set for U.S. currency, and the coin drop accepts only quarters, the coin value should be set for "025". Therefore, each time a quarter is entered into the coin drop, the vend price will decrease 25 cents.

### How to set the Special Vend A Normal Price

- 1. Control must be in Special Mode.Refer to *Section VII*.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 19*.



Figure 19

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "AnP" appears in the VFD, *Figure 20*.



Figure 20

- 4. When "AnP" appears in the VFD, press the START pad. The current number of coins required to fulfill the Special Vend A normal price will appear in the VFD.
- 5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of coins displayed in the VFD to the desired number of coins, *Figure 21*.

NOTE: When using control in OPL application, enter "000" for vend price.

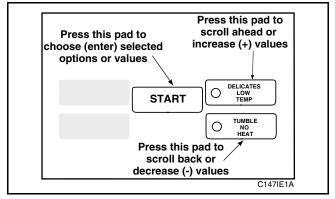


Figure 21

6. When the correct number of coins appears in the VFD, press the START pad to enter the corrected number. The next programmable option "AFP" will appear in the VFD.

NOTE: To program "AFP" (Special Vend A NO HEAT Price), see the following page. To program other options, refer to the appropriate section.

- Be sure service door has been opened and closed. Refer to Section VI.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 5. Special Vend A, NO HEAT Price "AFP"

This option allows the user to set the NO HEAT cycle price for Special Vend A.

In this option the user will set the number of coins needed to satisfy the NO HEAT vend price.

NOTE: This option is directly related to Option 20 (Coin Value "COI"). If the coin value is set for U.S. currency, and the coin drop accepts only quarters, the coin value should be set for "025". Therefore, each time a quarter is entered into the coin drop, the vend price will decrease 25 cents.

### How to set the Special Vend A NO HEAT Price

- Control must be in Special Mode. Refer to Section VII
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 22*.



Figure 22

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "AFP" appears in the VFD, *Figure 23*.



Figure 23

- 4. When "AFP" appears in the VFD, press the START pad. The current number of coins required to fulfill the Special Vend A NO HEAT price will appear in the VFD.
- 5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of coins displayed in the VFD to the desired number of coins, *Figure 24*.

NOTE: When using control in OPL application, enter "000" for vend price.

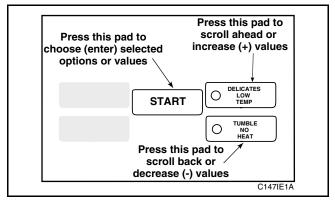


Figure 24

6. When the correct number of coins appears in the VFD, press the START pad to enter the correct number. The next programmable option "AnL" will appear in the VFD.

NOTE: To program "AnL" (Special Vend A Normal Time), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 6. Special Vend A, Normal Time "AnL"

This option allows the user to set the normal (heated cycle) time for Special Vend A.

## How to program the Special Vend A Normal Time "AnL"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 25*.



Figure 25

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "AnL" appears in the VFD, *Figure 26*.



Figure 26

4. When "AnL" appears in the VFD, press the START pad. The current number of minutes in a cycle will appear in the VFD.

5. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to increase or decrease the number of minutes displayed in the VFD to the desired number of minutes, *Figure 27*.

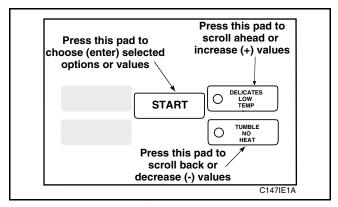


Figure 27

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "AFL" will appear in the VFD.

NOTE: To program "AFL" (Special Vend A NO HEAT Time), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 7. Special Vend A, NO HEAT Time "AFL"

This option allows the user to set the time for the NO HEAT cycle in Special Vend A.

## How to program Special Vend A NO HEAT Time "AFL"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure* 28.



Figure 28

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "AFL" appears in the VFD, *Figure 29*.



Figure 29

4. When "AFL" appears in the VFD, press the START pad. The current number of minutes in a NO HEAT cycle will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes to the desired number of minutes, *Figure 30*.

### NOTE: Suggested cool down times are as follows:

- 30 minute drying cycle program a four minute cool down cycle.
- 60 minute drying cycle program an eight minute cool down cycle.

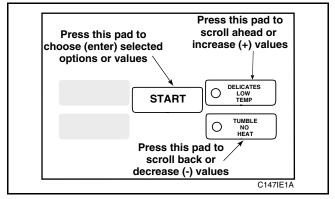


Figure 30

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "ASH" will appear in the VFD.

NOTE: To program "ASH" (Special Vend A Start Hour), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 8. Special Vend A, Start Hour "ASH"

This option allows the user to set the hour that Special Vend A will begin. The start and end hour programmed for a special vend must be within the same day.

## How to program Special Vend A Start Hour "ASH"

- 1. Control must be in Special Mode. Refer to **Section VII**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 31*.



Figure 31

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "ASH" appears in the VFD, *Figure 32*.



Figure 32

4. When "ASH" appears in the VFD, press the START pad. The current start hour (in military time) will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current hour to the desired hour, *Figure 33*.

NOTE: When using control in OPL application, enter "000" for start hour.

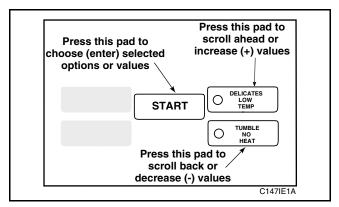


Figure 33

6. When the correct hour appears in the VFD, press the START pad to enter the corrected hour. The next programmable option "AEH" will appear in the VFD.

NOTE: Do not program "FREE" Special Vend A for more than 23 hours. This feature cannot be turned off manually if set for 24 hours.

NOTE: To program "AEH" (Special Vend A End Hour), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 9. Special Vend A, End Hour "AEH"

This option allows the user to set the hour that Special Vend A will end. The start and end hour programmed for a special vend must be within the same day.

## How to program Special Vend A End Hour "AEH"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 34*.



Figure 34

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "AEH" appears in the VFD, *Figure 35*.



Figure 35

4. When "AEH" appears in the VFD, press the START pad. The current end hour (in military time) will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current end hour to the desired end hour, *Figure 36*.

NOTE: When using control in OPL application, enter "000" for end hour.

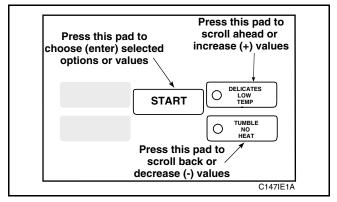


Figure 36

When the correct end hour appears in the VFD, press the START pad to enter the corrected end hour. The next programmable option "nCL" will appear in the VFD.

NOTE: Do not program "FREE" Special Vend A for more than 23 hours. This feature cannot be turned off manually if set for 24 hours.

NOTE: To program "nCL" (Normal Cycle HIGH, MED, LOW Time), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 10. Normal Cycle (HIGH, MED, LOW) Time "nCL"

This option allows the user to set the normal (heated cycle) time.

### **How to program Normal Time "nCL"**

- 1. Control must be in Special Mode. Refer to *Section VII*
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 37*.



Figure 37

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "nCL" appears in the VFD, *Figure 38*.



Figure 38

4. When "nCL" appears in the VFD, press the START pad. The current number of minutes set for the normal cycle time will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes to the desired number of minutes, *Figure 39*.

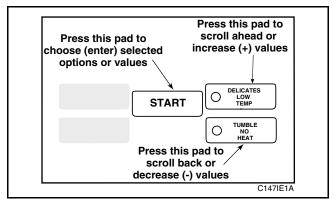


Figure 39

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "HCL" will appear in the VFD.

NOTE: To program "HCL" (HIGH TEMP Cool Down Time), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 11. HIGH TEMP Cool Down Time "HCL"

This option allows the user to set the amount of cool down time allowed in the HIGH TEMP cycle. It is recommended to set the Cool Down Time for at least three minutes.

## How to program HIGH TEMP Cool Down Time "HCI"

- 1. Control must be in Special Mode. Refer to **Section**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 40*.



Figure 40

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "HCL" appears in the VFD, *Figure 41*.



Figure 41

4. When "HCL" appears in the VFD, press the START pad. The current number of minutes of Cool Down will display in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes allowed in Cool Down, *Figure 42*.

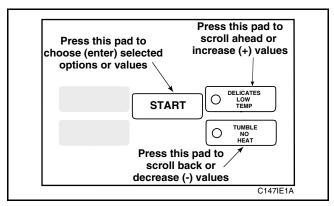


Figure 42

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "HdE" will appear in the VFD.

NOTE: To program "HdE" (HIGH TEMP Temperature), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 12. HIGH TEMP Temperature "HdE"

This option allows the user to set the maximum temperature in the HIGH TEMP cycle.

## How to program HIGH TEMP Temperature "HdE"

- 1. Control must be in Special Mode. Refer to *Section VII*.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 43*.



Figure 43

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "HdE" appears in the VFD, *Figure 44*.



Figure 44

4. When "HdE" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

## NOTE: The number appearing in the VFD is the current number that was selected from Chart 3 on this page.

5. Locate the desired three-digit number in the first column of Chart 3.

6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number displayed in the VFD to the desired three-digit number in Chart 3, *Figure 45*.

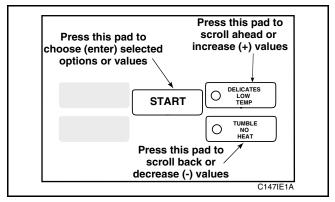


Figure 45

7. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "PCL" will appear in the VFD.

NOTE: To program "PCL" (MED TEMP Temperature), see the following page. To program other options, refer to the appropriate section.

Chart 3: HIGH TEMP Temperature "HdE"

HIGH TI	HIGH TEMPERATURE VALUE CHART						
VALUE	FAHRENHHEIT TEMP	CELSIUS TEMP					
000	160°F	71°C					
001	165°F	74°C					
002	170°F	77°C					
003	175°F	79°C					
004	180°F	82°C					
005	185°F	85°C					
006	190°F	88°C					

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 13. MED TEMP Cool Down Time "PCL"

This option allows the user to set the amount of cool down time allowed in the MED TEMP cycle. It is recommended to set the Cool Down Time for at least three minutes.

## How to program MED TEMP Cool Down Time "PCI"

- 1. Control must be in Special Mode. Refer to **Section**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 46*.



Figure 46

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "PCL" appears in the VFD, *Figure 47*.



Figure 47

4. When "PCL" appears in the VFD, press the START pad. The current number of minutes of Cool Down will display in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes allowed in Cool Down, *Figure 48*.

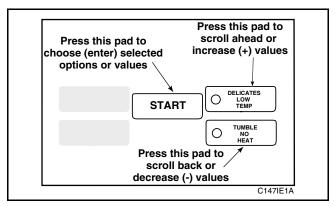


Figure 48

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "PdE" will appear in the VFD.

NOTE: To program "PdE" (MED TEMP Temperature), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 14. MED TEMP Temperature "PdE"

This option allows the user to set the maximum temperature in the MED TEMP cycle.

### How to program MED TEMP Temperature "PdE"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 49*.

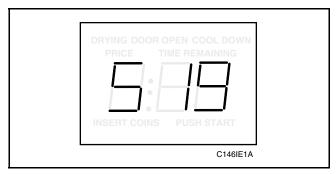


Figure 49

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "PdE" appears in the VFD, *Figure 50*.



Figure 50

4. When "PdE" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

## NOTE: The number appearing in the VFD is the current number that was selected from Chart 4 on this page.

5. Locate the desired three-digit number in the first column of Chart 4.

6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number in from Chart 4, *Figure 51*.

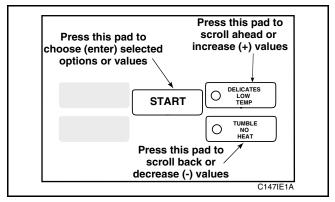


Figure 51

7. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "LCL" will appear in the VFD.

NOTE: To program "LCL" (LOW TEMP Cool Down Time), see the following page. To program other options, refer to the appropriate section.

Chart 4: MED TEMP Cool Down Time "PdE"

MED TEMPERATURE VALUE CHART						
VALUE	FAHRENHHEIT TEMP	CELSIUS TEMP				
000	130°F	54°C				
001	135°F	57°C				
002	140°F	60°C				
003	145°F	63°C				
004	150°F	66°C				
005	155°F	68°C				
006	160°F	71°C				

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

## 15. LOW TEMP Cool Down Time "LCL"

This option allows the user to set the amount of cool down time allowed in the LOW TEMP cycle. It is recommended to set the Cool Down Time for at least three minutes.

## How to program LOW TEMP Cool Down Time "I CI"

- 1. Control must be in Special Mode. Refer to **Section**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 52*.

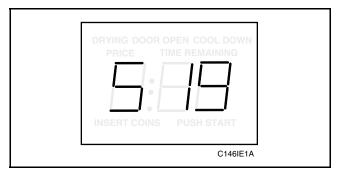


Figure 52

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "LCL" appears in the VFD, *Figure 53*.

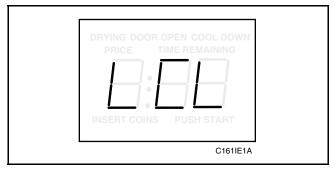


Figure 53

4. When "LCL" appears in the VFD, press the START pad. The current number of minutes of Cool Down will display in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes allowed in Cool Down, *Figure 54*.

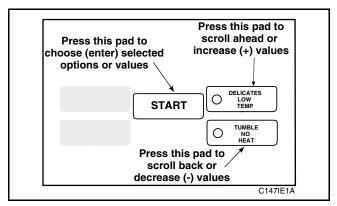


Figure 54

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "LdE" will appear in the VFD.

NOTE: To program "LdE" (LOW TEMP Temperature), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 16. LOW TEMP Temperature "LdE"

This option allows the user to set the maximum temperature in the LOW TEMP cycle.

## How to program LOW TEMP Temperature "LdE"

- 1. Control must be in Special Mode. Refer to *Section VII*
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 55*.

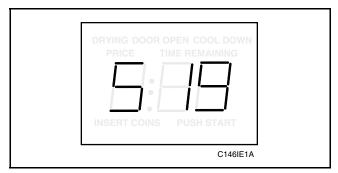


Figure 55

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "LdE" appears in the VFD, *Figure 56*.



Figure 56

4. When "LdE" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

# NOTE: The number appearing in the VFD is the current number that was selected from Chart 5 on this page.

5. Locate the desired three-digit number in the first column of Chart 5.

6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number from Chart 5, *Figure 57*.

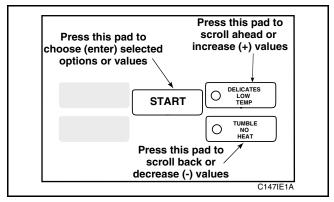


Figure 57

7. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "Add" will appear in the VFD.

NOTE: To program "Add" (Additional Time), see the following page. To program other options, refer to the appropriate section.

Chart 5: LOW TEMP Temperature "LdE"

LOW TEMPERATURE VALUE CHART			
VALUE	FAHRENHHEIT TEMP	CELSIUS TEMP	
000	100°F	38°C	
001	105°F	41°C	
002	110°F	43°C	
003	115°F	46°C	
004	120°F	49°C	
005	125°F	52°C	
006	130°F	54°C	

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 17. Additional Time "Add"

This option allows the user to set the amount of time that is added to a cycle whenever additional coin(s) are entered after the vend price has been satisfied.

### **How to program Additional Time "Add"**

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 58*.



Figure 58

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "Add" appears in the VFD, *Figure 59*.

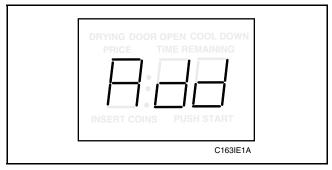


Figure 59

4. When "Add" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

NOTE: The number appearing in the VFD is the current number that was previously selected from Chart 6 on the following page.

5. Locate the desired three-digit number in the first column of Chart 6 on the following page.

NOTE: To determine the three-digit number to enter in the following step, refer to "How to Use This Chart" for Chart 6 on the following page.

6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number from Chart 6, *Figure 60*.

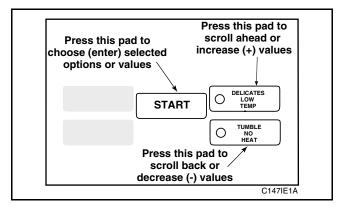


Figure 60

 Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "FPr" will appear in the VFD.

NOTE: To program "FPr" (NO HEAT Vend Price), see *Option 18*. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### How to read Chart 6

Use this chart to set the amount of time to be added to a cycle for each coin entered after the vend price has been satisfied.

The chart range begins at 127 and ends at 255. The lowest range (127) turns off the option. If (127) is entered, the entire vend price will be required for any

additional drying. If (128) is entered in step 6, **NO** additional time will be added when additional coins are entered. If (129) is entered in step 6, 1 minute will be added to the cycle when an additional coin is entered. If (130) is entered, two minutes will be added and so on for a maximum of (255) or 127 minutes.

Chart 6: Added Time Value Chart "Add"

NUMBER TO ENTER IN STEP 6	MINUTES ADDED PER COIN ENTERED
127	Turned OFF
128	NONE
129	1 Minute
130	2 Minutes
131	3 Minutes
132	4 Minutes
133	5 Minutes
add one minute for every number up to	
255	127 Minutes

### 18. NO HEAT Vend Price "FPr"

This option allows the user to set the NO HEAT cycle vend price.

NOTE: This option is directly related to Option 20 (Coin Value "COI"). If the coin value is set for U.S. currency, and the coin drop accepts only quarters, the coin value should be set for "025". Therefore, each time a quarter is entered into the coin drop, the vend price will decrease 25 cents.

### How to set the NO HEAT Vend Price

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 61*.



Figure 61

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "FPr" appears in the VFD, *Figure 62*.



Figure 62

4. When "FPr" appears in the VFD, press the START pad. The current number of coins required to fulfill the NO HEAT vend price will appear in the VFD.

5. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to increase or decrease the current number of coins displayed in the VFD to the desired number of coins, *Figure 63*.

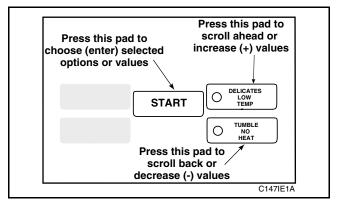


Figure 63

6. When the correct number of coins appears in the VFD, press the START pad to enter the corrected number. The next programmable option "FCL" will appear in the VFD.

NOTE: To program "FCL" (NO HEAT Cycle Time), see the following page. To program other options, refer to the appropriate section.

- Be sure service door has been opened and closed. Refer to Section VI.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 19. NO HEAT Cycle Time "FCL"

This option allows the user to set the time for the NO HEAT cycle.

### How to program the NO HEAT Time "FCL"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 64*.



Figure 64

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "FCL" appears in the VFD, *Figure 65*.



Figure 65

4. When "FCL" appears in the VFD, press the START pad. The current number of minutes for the NO HEAT cycle will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current number of minutes to the desired number of minutes, *Figure 66*.

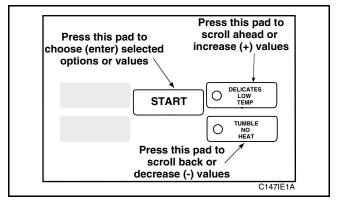


Figure 66

6. When the correct number of minutes appears in the VFD, press the START pad to enter the corrected number. The next programmable option "COI" will appear in the VFD.

NOTE: To program "COI" (Coin Value), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 20. Coin Value "COI"

This option allows the user 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 025.

If the Normal Vend Price (Option 2) is set for 3 coins, the Coin Value is set for "025," and the decimal point is turned on, the vend price for a normal heated cycle will be ".75".

### How to program the Coin Value "COI"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 67*.



Figure 67

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "COI" appears in the VFD, *Figure 68*.

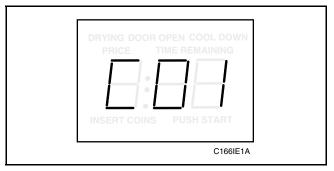


Figure 68

4. When "COI" appears in the VFD, press the START pad twice. The current coin value will appear in the VFD.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current coin value to the desired amount, *Figure 69*.

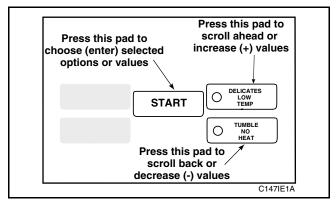


Figure 69

6. When the correct coin value appears in the VFD, press the START pad to enter the corrected number. The next programmable option "dCS" will appear in the VFD.

NOTE: To program "dCS" (Default Cycle Status), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 21. Default Cycle Status "dCS"

This option allows the user to set the default cycle the machine will enter when in "Ready" mode. When programming the default cycle refer to Chart 7 on this page.

### How to program the Default Cycle Status "dCS"

- 1. Control must be in Special Mode. Refer to **Section VII**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 70*.



Figure 70

3. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to scroll through the programmable options until "dCS" appears in the VFD, *Figure 71*.



Figure 71

4. When "dCS" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

NOTE: The number appearing in the VFD is the current number that was previously selected from Chart 7 on this page.

5. Locate the desired three-digit number in the first column of Chart 7.

# NOTE: To determine the three-digit number to enter in the following step, refer to Chart 7 at the bottom of the page.

6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number selected from Chart 7, *Figure 72*.

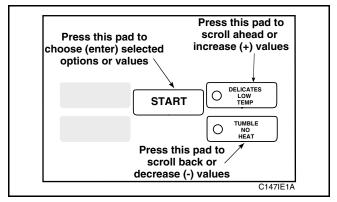


Figure 72

7. Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "rPF" will appear in the VFD.

NOTE: To program "rPF" (Reset After Power Failure), see the following page. To program other options, refer to the appropriate section.

Chart 7

NUMBER TO ENTER IN STEP 6	DEFAULT CYCLE
001	Tumble - NO HEAT
002	Delicates - LOW TEMP
004	Perm Press - MED TEMP
008	Normal - HIGH TEMP

- Be sure service door has been opened and closed. Refer to Section VI.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 22. Power Fail Reset "rPF"

This option allows the user to set the amount of time the Electronic Control will store active cycle information in the event of a power failure. The default settings for Power Fail Reset is 5 minutes.

### How to program the Power Fail Reset "rPF"

- 1. Control must be in Special Mode. Refer to *Section VII*.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 73*.



Figure 73

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "rPF" appears in the VFD, *Figure 74*.



Figure 74

4. When "rPF" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

NOTE: The number appearing in the VFD is the current number that was previously selected from Chart 8 on the next page. The default setting 005 will show in the VFD, which is Power Fail Reset OFF.

- 5. Locate the desired three-digit number in the first column of Chart 8.
- 6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number selected from Chart 8, *Figure 75*.

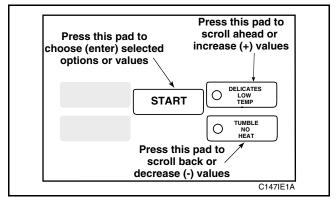


Figure 75

 Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "CFg" will appear in the VFD.

NOTE: To program "CFg" (Control Configuration), see *Option 23*. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### **How to read Chart 8**

Use this chart to set the amount of time for Power Fail Reset.

The chart range begins at 0 and ends at 255. Numbers entered between 0-127 turn off the option. If a number in this range is entered, the current cycle status will be saved for up to 6 years. When power is restored, the cycle will begin where it was interrupted. If (128) is entered in step 6, cycle information will not be saved if

power fails. If (129) is entered in step 6, the current cycle will be saved in the Electronic Control for up to one minute. If power is not restored within one minute, the control will revert back to "Ready" mode when power is restored. If (130) is entered, two minutes will be added to Power Fail Reset and so on for a maximum of (255) or 127 minutes.

Chart 8: Power Fail Reset "rPF"

NUMBER TO ENTER IN STEP 6	POWER FAIL RESET TIME	
000 - 127	Turned OFF Cycle will be saved for a minimum of 6 years	
128	Cycle information will not be saved	
129	1 minute without power before cycle is lost	
130	2 minutes without power before cycle is lost	
131	3 minutes without power before cycle is lost	
132	4 minutes without power before cycle is lost	
133	5 minutes without power before cycle is lost	
add	one minute for every number up to	
255	127 minutes without power before cycle is lost	

### 23. Control Configuration "CFg"

This option allows the user to enable or disable preprogrammed capabilities within the EDC.

## How to program the Control Configuration "CFq"

- 1. Control must be in Special Mode. Refer to **Section**
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, see *Figure 76*.



Figure 76

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CFg" appears in the VFD, *Figure 77*.

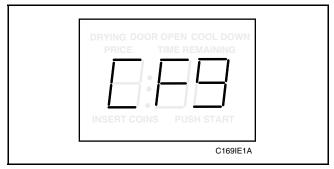


Figure 77

4. When "CFg" appears in the VFD, press the START pad. A three-digit number will appear in the VFD.

NOTE: The number appearing in the VFD is the current number that was previously selected from Chart 9 on the following page.

- 5. Locate the desired three-digit number in the first column of Chart 9.
- 6. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the current three-digit number to the desired three-digit number selected from Chart 9, *Figure 78*.

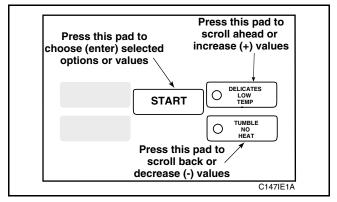


Figure 78

 Press the START pad when the correct three-digit number appears in the VFD. The next programmable option "CIn" will appear in the VFD.

NOTE: To program "CIn" (Set Real-Time Clock Minutes), see *Option 24*. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### How to read Chart 9

The configuration option (Chart 9) is used to enable/ disable the preprogrammed daylight savings option, Fahrenheit/Celsius option, and the decimal option in the Electronic Control. To change any or all of these configuration options, review the following descriptions carefully and choose the appropriate configuration value in Chart 9. Next, enter the appropriate value in step 6 on the previous page.

Daylight Savings This option automatically sets the clock in the Electronic Control to account for the time

change during Daylight Savings.

OFF= Turns off the automatic daylight savings option programmed in the Electronic

Control.

ON= Turns on the automatic daylight savings option programmed in the Electronic Control.

Fahrenheit/Celsius This option determines if temperatures will be displayed in Celsius or Fahrenheit

F = Temperature readings will be displayed in Fahrenheit.

C = Temperature readings will be displayed in Celsius.

Decimal Point This option determines if a decimal point is used when displaying the vend price. For

example: Machines using token currency may choose to remove the decimal point.

OFF= Turns off the decimal point from appearing in the VFD.

ON= Turns on the decimal point to appear in the VFD.

**Chart 9: Configuration Value Chart "CFg"** 

Configuration Value	Daylight Savings	Fahrenheit/ Celsius	Decimal Point
000	OFF	F	OFF
001	OFF	F	OFF
008	OFF	F	ON
009	OFF	F	ON
016	OFF	F	OFF
017	OFF	F	OFF
024	OFF	F	ON
025	OFF	F	ON
064	OFF	С	OFF
065	OFF	С	OFF
072	OFF	С	ON
073	OFF	С	ON
080	OFF	С	OFF
081	OFF	С	OFF
088	OFF	С	ON
089	OFF	С	ON

Configuration	Daylight	Fahrenheit/	Decimal
Value	Savings	Celsius	Point
128	ON	F	OFF
129	ON	F	OFF
136	ON	F	ON
137	ON	F	ON
144	ON	F	OFF
145	ON	F	OFF
152	ON	F	ON
153	ON	F	ON
192	ON	С	OFF
193	ON	С	OFF
200	ON	С	ON
201	ON	С	ON
208	ON	С	OFF
209	ON	C	OFF
216	ON	C	ON
217	ON	С	ON

# 24. Set Real-Time Clock (minutes) "Cln"

This option allows the user to set the Electronic Control's internal clock to the correct time in minutes.

# How to program Set Real-Time Clock (minutes) "Cln"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 79*.



Figure 79

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CIn" appears in the VFD, *Figure 80*.

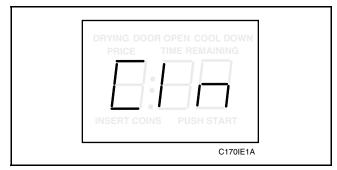


Figure 80

4. When "CIn" appears in the VFD, press the START pad. The current time in minutes will be displayed.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the minutes to the correct time, *Figure 81*.

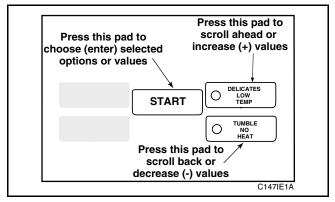


Figure 81

6. When the correct time in minutes appears in the VFD, press the START pad to enter the corrected time. The next programmable option "CHr" will appear in the VFD.

NOTE: To program "CHr" (Set Real-Time Clock Hours), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

# 25. Set Real-Time Clock (hours) "CHr"

This option allows the user to set the Electronic Control's internal clock to the correct time in hours.

## How to program Set Real-Time Clock (hours) "CHr"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 82*.



Figure 82

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CHr" appears in the VFD, *Figure 83*.

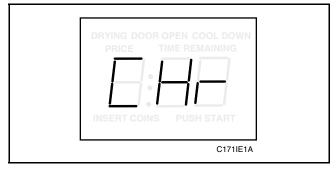


Figure 83

4. When "CHr" appears in the VFD, press the START pad. The current time in hours will be displayed.

**NOTE:** Hours are displayed in military time.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the hours to the correct time, *Figure 84*.

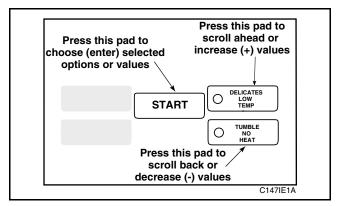


Figure 84

6. When the correct time in hours appears in the VFD, press the START pad to enter the corrected time. The next programmable option "CdA" will appear in the VFD.

NOTE: To program "CdA" (Set Real-Time Clock Days of Week), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 26. Set Real-Time Clock (day) "CdA"

This option allows the user to set the Electronic Control's internal clock to the correct day.

## How to program Set Real-Time Clock (day) "CdA"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 85*.



Figure 85

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CdA" appears in the VFD, *Figure 86*.



Figure 86

4. When "CdA" appears in the VFD, press the START pad. The current day will be displayed.

NOTE: Sunday is considered day one (001), Monday is day two (002), and so on.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the day until correct, *Figure 87*.

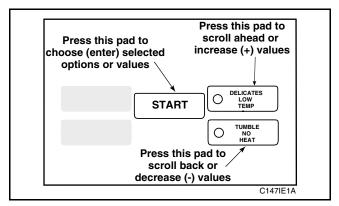


Figure 87

6. When the correct day appears in the VFD, press the START pad to enter the corrected time. The next programmable option "CdE" will appear in the VFD.

NOTE: To program "CdE" (Set Real-Time Clock Date), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 27. Set Real-Time Clock (date) "CdE"

This option allows the user to set the Electronic Control's internal clock to the correct day of the month.

## How to program Set Real-Time Clock (date) "CdE"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure* 88.



Figure 88

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CdE" appears in the VFD, *Figure 89*.



Figure 89

4. When "CdE" appears in the VFD, press the START pad. The current day of the month will be displayed.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the day of the month until correct, *Figure 90*.

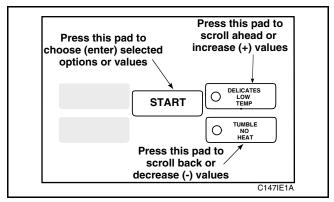


Figure 90

6. When the correct day of the month appears in the VFD, press the START pad to enter the corrected day. The next programmable option "COn" will appear in the VFD.

NOTE: To program "COn" (Set Real-Time Clock Month), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

# 28. Set Real-Time Clock (month) "COn"

This option allows the user to set the Electronic Control's internal clock to the correct month.

## How to program Set Real-Time Clock (month) "COn"

- Control must be in Special Mode. Refer to Section VII.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 91*.

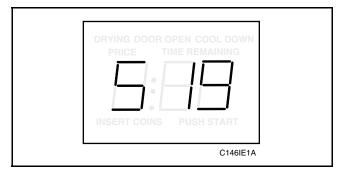


Figure 91

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "COn" appears in the VFD, *Figure 92*.



Figure 92

4. When "COn" appears in the VFD, press the START pad. The current month will be displayed.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the month until correct, *Figure 93*.

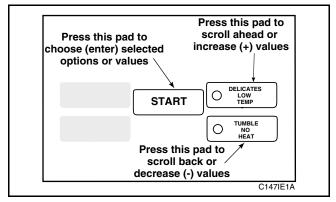


Figure 93

6. When the correct month appears in the VFD, press the START pad to enter the corrected month. The next programmable option "CYr" will appear in the VFD.

NOTE: To program "CYr" (Set Real-Time Clock Year), see the following page. To program other options, refer to the appropriate section.

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

### 29. Set Real-Time Clock (year) "CYr"

This option allows the user to set the Electronic Control's internal clock to the correct year.

## How to program Set Real-Time Clock (year) "CYr"

- 1. Control must be in Special Mode. Refer to *Section VII*
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. Programmable option number 1, (Audio Signal "SIg"), will appear in the VFD, *Figure 94*.



Figure 94

3. Press the LOW TEMP (+) pad **or** the NO HEAT (-) pad to scroll through the programmable options until "CYr" appears in the VFD, *Figure 95*.

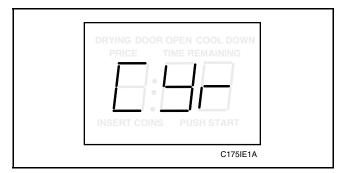


Figure 95

4. When "CYr" appears in the VFD, press the START pad. The current year will be displayed.

5. Press the LOW TEMP (+) pad or the NO HEAT (-) pad to increase or decrease the year until correct, *Figure 96*.

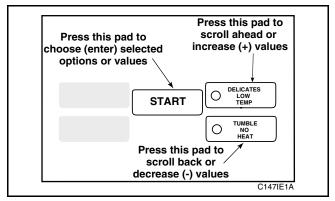


Figure 96

6. When the correct year appears in the VFD, press the START pad to enter the corrected year. "CYr" will appear in the VFD.

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

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand; press the MED TEMP pad with the other hand. The control will revert back to the "Ready" mode. See *Figure 3*.

# Section IX Collecting Audit Information

This feature allows the owner to retrieve audit information by pressing a sequence of SELECT CYCLE pads. For an explanation of the audit options available, see the Audit Options List on this page.

### **How To Enter Audit Feature**

- 1. Be sure the tumbler is in the "Ready" mode before continuing to step 2. See *Figure 3*. If the tumbler is in an active cycle, rapid advance through the cycle. See the Rapid Advance feature (*Section XII*). If coins have been entered, see the Clear Vend feature, (*Section XIII*).
- 2. Open and close the service door. See **Section VI**.
- 3. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. The VFD will show "SPC."
- 4. While pressing and holding the HIGH TEMP pad with one hand, press the LOW TEMP pad with the other hand. The VFD display will show the first Audit Option "CyC", *Figure 97*.

NOTE: If the procedure did not work, the control will return to "Ready" mode. See *Figure 3*.



Figure 97

5. Go to "How to Read Audit Data."

### **How To Read Audit Data**

1. Press the LOW TEMP (+) or NO HEAT (-) pad to scroll through the audit options until the desired option is displayed in the VFD. (Refer to the Audit Options List below).

### **Audit Options List**

#	Audit Option	Description	Total Audit Range
1	"CyC"	Total number of machine cycles	0 - 65,535
2	"CnS"	Total number of coins	0 - 16,000,000
3	"nCy"	Total number of NO HEAT cycles	0 - 65,535
4	"ACy"	Total number of Vend A cycles	0 - 65,535
5	"AnC"	Total number of Special Vend A NO HEAT cycles	0 - 65,535
6	"COP"	Total number of coin vault openings	0 - 65,535
7	"dOP"	Total number of service openings	0 - 65,535
8	"PFL"	Total number of power failures	0 - 255
9	"d L"	Total number of downloads	0 - 255

2. Press the START (enter) pad **once** to start the audit count. The first 3-digit segment of the count will appear in the VFD. Press the START pad as required to scroll to the desired 3-digit audit count segment. See NOTE below.

NOTE: Because the VFD can display up to 3 digits at one time, audit counts higher than 999, (i.e. 10,009), must be separated on individual 3-number segments. Each time the START pad is pressed in step two, the VFD will show the next three-digit segment. Refer to Chart 10 for the range of each audit count.

Chart 10

To advance to the desired 3-digit Audit Count segment for each option:				
AUDIT (	AUDIT OPTION		Press START   Press START   One Time   Two Times	
1	"CyC"	Thousands [000],000	Hundreds 000,[000]	
2	"CnS"	Millions [000],000,000,	Thousands 000,[000],000	Hundreds 000,000,[000]
3	"nCy"	Thousands [000],000	Hundreds 000,[000]	
4	"ACy"	Thousands [000],000	Hundreds 000,[000]	
5	"AnC"	Thousands [000],000	Hundreds 000,[000]	
6	"COP"	Thousands [000],000	Hundreds 000,[000]	
7	"dOP"	Thousands [000],000	Hundreds 000,[000]	
8	"PFL"	Hundreds [000]		
9	"dnL"	Hundreds [000]		

If, for example, the audit has counted 10,009 coins in the Total Number of Coins "CnS" option, pressing the START pad one time in step 2 will show [000],010,009 = (no millions). Pressing the start pad again will show 000,[010],000 = (ten thousand). Pressing the start pad a third time will show 000,010,[009] = (nine). The total = 000,010,009 or 10,009. (See Chart 10 for the audit range and number of segments displayed for each audit option).

- 3. Press the START (enter) pad again. The control will revert back to the next audit option in the Audit Options List.
- 4. To select other audit options, repeat steps 1-4.

### **How To Exit Audit Feature**

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the LOW TEMP pad with the other hand. The VFD will revert back to "Ready" mode. See *Figure 3*.

### **Section X**

### **Testing Machine and Electronic Control Functions**

The Electronic Control allows the owner to run diagnostic tests on various tumbler operations without servicing the tumbler. The diagnostic tests available to the owner are as follows:

- Diagnostic Test
- Tumbler-On Temperature Test
- Thermistor Temperature Display Test
- Coin Vault Opening Test
- Service Door Opening Test
- Coin Drop Input Test
- Real-Time Clock Day Test
- · Real-Time Clock Hour Test

### **How To Enter Testing Feature**

- 1. Be sure the tumbler is in the "Ready" mode before continuing to step 2. See *Figure 3*. If the tumbler is in an active cycle, rapid advance through the cycle. See the Rapid Advance feature (*Section XII*). If coins have been entered, see the Clear Vend feature (*Section XIII*).
- 2. Open and close the service door (see **Section VI**).
- 3. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. The VFD will show "SPC," *Figure 98*.

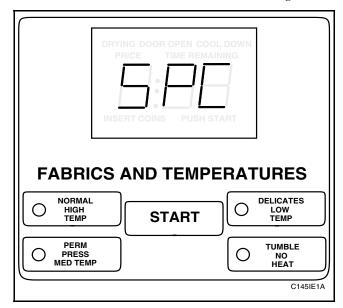


Figure 98

4. While pressing and holding the START pad with one hand, press the HIGH TEMP pad with the other hand. The VFD will show "S:XX" with "XX" indicating the software revision number. To start diagnostic tests see "*How To Start Tests*" below.

NOTE: To start machine and Electronic Control tests, refer to the following quick reference chart, Chart 11. For detailed information on each test, see the Test Descriptions on the following pages.

**Chart 11: How to Start Tests** 

Diagnostic Test	Press Pad(s) to Start Test
Diagnostic Test	Press and hold NO HEAT/ Press HIGH TEMP
Tumbler ON Temperature Test	Press and hold START/ Press LOW TEMP
Thermistor Temperature Display Test	Press and hold START/ Press MED TEMP
Coin Vault Opening Test	Press HIGH TEMP
Service Door Opening Test	Press MED TEMP
Coin Drop Input Test	Press LOW TEMP
Real-Time Clock Day Test	Press and hold NO HEAT/ Press LOW TEMP
Real-Time Clock Hour Test	Press and hold START/ Press NO HEAT

### **How To Exit Testing Feature**

- 1. Open loading door, or;
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the START pad with the other hand. The control will revert to "Ready" mode. See *Figure 3*.

### **Test Descriptions**

### **Diagnostic Test**

To start this test, follow steps 1-4 in "How To Enter Testing Feature." Next, while pressing and holding the NO HEAT pad with one hand, press the HIGH TEMP pad with the other hand. The Diagnostic Test is designed to exercise various relays, signals, LED's, and VFD time displays. Chart 12 defines each step of the Diagnostic Test routine. To exit this test see NOTE below.

**Chart 12: Diagnostic Test Routine** 

Time Display	Illuminated LED's/VFD	Motor Relay	Heater Relay	Signal
111	All ON	ON	ON	OFF
222	All OFF	ON	ON	OFF
333	All ON	OFF	OFF	OFF
444	All ON	OFF	OFF	OFF
555	All OFF	OFF	OFF	OFF
666	All ON	OFF	OFF	LOW
777	All OFF	ON	OFF	MED
888	All ON	ON	ON	HIGH

NOTE: When the last step in the table is finished, the routine starts again from the beginning. To exit, press any pad or open the loading door. The VFD display will revert back to the "Ready" mode. See *Figure 3*.

### **Tumbler On Temperature Test**

To start this test, follow steps 1-4 in "How To Enter Testing Feature." Next, while pressing and holding the START pad with one hand, press the LOW TEMP pad with the other hand. This test will run a chosen cycle while displaying the temperature on the VFD display.

The temperature will be displayed in either Fahrenheit or Celsius depending on how the control was programmed (the default is Fahrenheit). When the test is complete, the control will revert back to the "Ready" mode. To end the test before the cycle is complete, press and hold the START pad with one hand, at the same time press the LOW TEMP pad with the other hand.

### **Thermistor Temperature Display Test**

To start this test, follow steps 1-4 in "How To Enter Testing Feature." Next, while pressing and holding the START pad with one hand, press the MED TEMP

pad with the other hand. This test simply displays the temperature sensed at the thermistor in either Fahrenheit or Celsius (the default is Fahrenheit). To exit this test, open the loading door or press and hold the START pad with one hand, then press the MED TEMP pad with the other hand. When the test is complete the control will revert back to the "Ready" mode.

### **Coin Vault Opening Test**

To start this test, follow steps 1-4 in "*How To Enter Testing Feature*." Next, press the HIGH TEMP pad. The VFD display will show "U:OO", *Figure 99*.

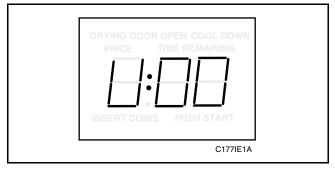


Figure 99

### Section X

Each time the coin vault is opened, the count on the VFD display increases. This routine tests if the coin vault counter is operating properly. During this test, the coin vault counter will save the time and date of the initial opening of the test. All further test openings have no effect on the coin vault opening counter.

To exit the Coin Vault Opening Test, press the HIGH TEMP pad or open the loading door. When the test is complete, the control will revert back to the "Ready" mode.

### **Service Door Opening Test**

To start this test, follow steps 1-4 in "*How To Enter Testing Feature*." Next, press the MED TEMP pad. The VFD display will show "S:OO", *Figure 100*.



Figure 100

Each time the service door is opened, the count on the VFD increases. This routine tests if the service door counter is operating properly. During this test, the service door counter will save only the time/date of the initial opening of the test. All further test openings have no effect on the service door opening counter.

To exit the Service Door Opening Test, press the MED TEMP pad or open the loading door. When the test is complete, the control will revert back to the "Ready" mode. See *Figure 3*.

### **Coin Drop Input Test**

To start this test, follow steps 1-4 in "*How To Enter Testing Feature*." Next, press the LOW TEMP pad. The VFD display will show "C:OO", *Figure 101*.

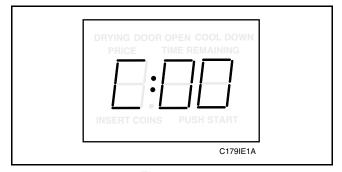


Figure 101

Each time a coin is entered, the count on the VFD increases. Coins entered during this test will be added to the total number of test coins and not the total number of coins. This routine tests if the coin drop counter is operating properly. To exit this test, press the LOW TEMP pad or open the loading door. When the test is complete, the control will revert back to the "Ready" mode. See *Figure 3*.

### Real Time Clock/Day Test

To enter this test, follow steps 1-4 in "How To Enter Testing Feature." Next, while pressing and holding the NO HEAT pad with one hand, press the LOW TEMP pad with the other hand. The VFD will display the current day. To exit this test, press and hold the NO HEAT pad; then press the LOW TEMP pad with the other hand. Or, open the loading door. When the test is complete, the control will revert back to the "Ready" mode. See Figure 3.

### **Real-Time Clock/Hour Test**

To enter this test, follow steps 1-4 in "How To Enter Testing Feature." Next, while pressing and holding the START pad with one hand, press the NO HEAT pad with the other hand. The VFD will display the current hour. To exit this test, press and hold the START pad with one hand; then press the NO HEAT pad with the other hand. Or, open the loading door. When the test is complete, the control will revert back to the "Ready" mode. See Figure 3.

# Section XI Sales Floor Feature

The Sales Floor Feature turns on the entire VFD display including all status words, LED's, and the three 7-segment digits.

### **How To Enter Sales Floor Feature**

- 1. Be sure the tumbler is in the "Ready" mode before continuing to step 2. See *Figure 3*. If the tumbler is in an active cycle, rapid advance through the cycle. See the Rapid Advance feature (*Section XII*). If coins have been entered, see the Clear Vend feature (*Section XIII*).
- 2. Open and close the service door (see **Section VI**).
- 3. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand. The VFD will show "SPC," *Figure 102*.

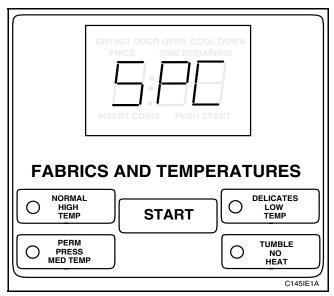


Figure 102

4. While pressing and holding the START pad with one hand, press the MED TEMP pad with the other hand. The display will light up.

### **How To Exit Sales Floor Feature**

- 1. Be sure service door has been opened and closed. Refer to *Section VI*.
- 2. While pressing and holding the START pad with one hand, press the MED TEMP pad with the other hand. The control will revert to "Ready" mode. See *Figure 3*.

# **Section XII**Rapid Advance Feature

The Rapid Advance feature allows the owner to quickly reduce the amount of time remaining in an active cycle or advance into a cycle from the "Ready" mode.

### **How To Enter Rapid Advance**

- Open and close the service door. Refer to Section VI.
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the START pad with the other hand.
- 3. Press the LOW TEMP pad and hold to rapidly reduce the time remaining in a cycle.

### **How To Exit Rapid Advance Feature**

1. With cycle in progress, advance the cycle until the control reverts back to the "Ready" mode. See *Figure 3*.

# Section XIII Clear Vend Feature

The Clear Vend feature allows the owner to return a control into the "Ready" mode. See *Figure 3*. If a tumbler is prompting for coins and some coins have been entered, but the full vend price has not been satisfied, the owner may clear the vend by performing the following steps:

### **How To Enter Clear Vend Feature**

- 1. Open and close the service door. Refer to Section VI
- 2. While pressing and holding the HIGH TEMP pad with one hand, press the MED TEMP pad with the other hand.

The control will revert back to the "Ready" mode. See *Figure 3*.

# **Section XIV**Default Tumbler Settings

Default Settings	Default	<b>Default Settings</b>	Default
Cycle	PERM PRESS MED TEMP	HIGH Temperature	190°
Cycle		MEDIUM Temperature	160°
Signal		LOW Temperature	130°
Keypress signal End of Cycle signal	ON OFF	Additional Time	ON (10 minutes)
Coin Drop Input signal	OFF	Power Fail Reset	OFF (5 minutes)
Volume level	Low	Special Vend A	OFF
NORMAL Vend Price	1 coin	Control Configurations	
NO HEAT Vend Price	1 coin	Daylight Savings	ON
Coin Value	.25	Fahrenheit/Celsius Decimal Point	FAHRENHEIT ON
Heat Cycle Time	10 minutes	Decimal Font	OIV
NO HEAT Cycle Time	10 minutes		
HIGH Cool Down	3 minutes		
MEDIUM Cool Down	3 minutes		
LOW Cool Down	3 minutes		