# Washer-Extractor

Cygnus Commercial Vended Control Refer to Page 4 for Model Numbers



#### Keep These Instructions for Future Reference.

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



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## 

### WARNING

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

W030

#### **NOTE: The WARNING and IMPORTANT**

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

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

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## **Model Identification**

Information in this manual is applicable to these washer-extractor models:

CHG065X	CHZ075X	CXZ060X	IHN235X	IXN060X
CHG075X	CHZ100X	CXZ065X	IHN305X	IXN065X
CHG100X	CHZ135X	CXZ075X	IHN400X	IXN075X
CHG135X	CHZ150X	CXZ100X	IHU065X	IXN100X
CHG150X	CHZ165X	CXZ135X	IHU075X	IXN135X
CHG165X	CHZ185X	CXZ165X	IHU100X	IXN165X
CHG185X	CHZ235X	CXZ235X	IHU135X	IXN235X
CHG235X	CHZ305X	CXZ305X	IHU150X	IXN305X
CHG305X	CHZ400X	HD100_CYGNUS-	IHU165X	IXU060X
CHG400X	CXG060X	COMM	IHU185X	IXU065X
CHN065X	CXG065X	HD135_CYGNUS-	IHU235X	IXU075X
CHN075X	CXG075X	COMM	IHU305X	IXU100X
CHN100X	CXG100X	HD165_CYGNUS-	IHU400X	IXU135X
CHN135X	CXG135X	COMM	IHW065X	IXU165X
CHN150X	CXG165X	HD235_CYGNUS-	IHW075X	IXU235X
CHN165X	CXG235X	COMM	IHW100X	IXU305X
CHN185X	CXG305X	HD305_CYGNUS-	IHW135X	IXW060X
CHN235X	CXN060X	COMM	IHW150X	IXW065X
CHN305X	CXN065X	HD60_CYGNUS-	IHW165X	IXW075X
CHN400X	CXN075X	COMM	IHW185X	IXW100X
CHU065X	CXN100X	HD65_CYGNUS-	IHW235X	IXW135X
CHU075X	CXN135X	COMM	IHW305X	IXW165X
CHU100X	CXN165X	HD75_CYGNUS-	IHW400X	IXW235X
CHU135X	CXN235X	COMM	IHZ065X	IXW305X
CHU150X	CXN305X	IHG065X	IHZ075X	IXZ060X
CHU165X	CXU060X	IHG075X	IHZ100X	IXZ065X
CHU185X	CXU065X	IHG100X	IHZ135X	IXZ075X
CHU235X	CXU075X	IHG135X	IHZ150X	IXZ100X
CHU305X	CXU100X	IHG150X	IHZ165X	IXZ135X
CHU400X	CXU135X	IHG165X	IHZ185X	IXZ165X
CHW065X	CXU165X	IHG185X	IHZ235X	IXZ235X
CHW075X	CXU235X	IHG235X	IHZ305X	IXZ305X
CHW100X	CXU305X	IHG305X	IHZ400X	WD100_CYGNUS-
CHW135X	CXW060X	IHG400X	IXG060X	C0MM
CHW150X	CXW065X	IHN065X	IXG065X	WD135_CYGNUS-
CHW165X	CXW075X	IHN075X	IXG075X	COMM
CHW185X	CXW100X	IHN100X	IXG100X	WD150_CYGNUS-
CHW235X	CXW135X	IHN135X	IXG135X	COMM
CHW305X	CXW165X	IHN150X	IXG165X	WD165_CYGNUS-
CHW400X	CXW235X	IHN165X	IXG235X	COMM
CHZ065X	CXW305X	IHN185X	IXG305X	

Continued

		Continued		
WD185_CYGN	WD75_CYGN	DHU305X	JHW065X	JXW060X
US-COMM	US-COMM	DHU400X	JHW075X	JXW065X
WD235_CYGN	DHU065X	DXU060X	JHW100X	JXW075X
US-COMM	DHU075X	DXU065X	JHW135X	JXW100X
WD305_CYGN	DHU100X	DXU075X	JHW150X	JXW135X
US-COMM	DHU135X	DXU100X	JHW165X	JXW165X
WD400_CYGN	DHU150X	DXU135X	JHW185X	JXW235X
US-COMM	DHU165X	DXU165X	JHW235X	JXW305X
WD65_CYGN	DHU185X	DXU235X	JHW305X	
US-COMM	DHU235X	DXU305X	JHW400X	

## **Preliminary Information**

### About the Control

This control is an advanced, programmable computer that lets the owner control machine features by pressing a sequence of keypads. Refer to *Figure 1*.

The control allows the owner to obtain information from the machine, run test cycles, modify the control's programmable features, set the service counters and view the error code history. Refer to *The Non-Active Menu* section for a list of features.

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

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

### **Glossary of Terms**

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

- Display This term refers to the window area of the control that displays words and values.
- LED (Light Emitting Diode) This term refers to the lights next to the keypads and status words of the control.

### **Power Failure Recovery**

If a cycle is in progress and the power fails, the water will be drained from the machine and the door can be opened after approximately 3 minutes. If the door is not opened and the power failure is longer than 2 weeks, the washer-extractor will resume the previously active cycle.

If the door is opened or if the length of the power failure is longer than 2 weeks, the control will end the cycle and the display will revert back to Start Mode.

#### Communications

The control may be programmed manually or by infrared communication with an external device.

#### Infra-red Communications

A PC allows the owner to program and retrieve information from the control without using the machine's keypad, which greatly expands the programming options available to the owner. However, it is not required to program and operate the washerextractor. The operation of a PC and the advanced features available are covered separately in the instructions included with the PC programming software, Cygnus Assist.

## **Control Identification**

## Up and Down Keypads (Refer to *Figure 1*)

The cycle number is shown in the display. Press the up and down keypads to change the cycle number. Press the start keypad to start the cycle. The up and down keypads are used in various combinations for obtaining information from the machine, running test cycles, modifying the control's programmable features, setting the service counters and viewing the error code history. These instructions cover the manual programming and data retrieval options.



Figure 1

## **Display Identification**

### **LED Status Lights**

### (Refer to Figure 1)

LED Status Lights are used to indicate the cycle status. See below for information on each LED.

#### PREWASH LED

The Prewash LED is lit at the beginning of the prewash portion of the cycle and will remain lit until the prewash is complete.

#### WASH LED

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

#### **RINSE 1 LED**

The Rinse 1 LED is lit at the beginning of the rinse 1 portion of the cycle and will remain lit until the rinse 1 is complete.

#### **RINSE 2 LED**

The Rinse 2 LED is lit at the beginning of the rinse 2 portion of the cycle and will remain lit until the rinse 2 is complete.

#### **RINSE 3 LED**

The Rinse 3 LED is lit at the beginning of the rinse 3 portion of the cycle and will remain lit until the rinse 3 is complete.

#### **RINSE 4 LED**

The Rinse 4 LED is lit at the beginning of the rinse 4 portion of the cycle and will remain lit until the rinse 4 is complete.

#### SPIN LED

The Spin LED is lit at the beginning of the spin portion of the cycle and will remain lit until the spin is complete.

#### Cycle Numbers, Water Temperature, Cycle Time Display and Price Settings

The display is used to show the cycle numbers, water temperature, cycle time, error codes and descriptive codes related to the control's programmable options.

## **Special Features**

### **Viewing Control Information**

The control will store information in its memory that can be retrieved by pressing various combinations of Select Cycle keypads. The control will record machine cycles and hours of operation.

For more information, refer to the *1. Information Sub-Menu* "offor" section.

#### **Testing Machine Components**

By entering the Non-Active Menu's Test Sub-Menu, the operator may perform the following tests:

- Water Level Test and Calibration
- Water Inlet Test
- Motor Test
- Temperature Sensor Test and Calibration
- Drain Value Test
- Relay Test
- Door, Door Lock, Out-Of-Balance Switch and Speed Test
- Coin Inputs
- Display Test

For detailed information, refer to the 2. *Test Sub-Menu* "**EE5**<del>L</del>" section.

### **Rapid Advance Feature**

This feature allows the operator to manually advance through an active cycle. This feature is useful when tests must be performed immediately on a washerextractor currently in an active cycle.

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

#### **Communication Mode**

This feature allows the control to communicate with a PC equipped with the Cygnus Assist software using infra-red communications. This allows the control to be programmed and have its data read without using the machine's keypad.

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

## **Washer-Extractor Operation**

### Start Up

When power is applied to the washer-extractor, if the control was not powered down during a running cycle, it will enter Start Mode.

### **Start Mode**

The control enters this mode when machine is ready for operation. The display will show the cycle number.

After pressing the ① keypad with the door closed and locked, the cycle will begin.

### **Run Mode**

Upon the start of a cycle, the control's display alternates between the cycle number, the water temperature and the remaining cycle time. The appropriate cycle segment and step LEDs will light while the machine passes through the cycle.

### **Stop Mode**

The control enters this mode if the operator ends the cycle before it is completed by pressing the ① keypad. Once the control does not detect water or cylinder rotation, it will enter End Of Cycle mode.

### End of Cycle Mode

When a cycle is complete, the control will display "End" until the door is opened. When the door is opened, the control will return to Start mode.

## **The Non-Active Menu**

## What is Available in the Non-Active Menu?

The Non-Active menu can be used to obtain information from the machine, run test cycles, modify the control's programmable features, set the service counters and view the error code history.

### **Entering the Non-Active Menu**

## NOTE: To Enter the Non-Active Menu, a cycle must not be in process.

- 1. Press and hold the  $\blacktriangle$  keypad.
- 2. While continuing to press thekeypad, press and release the ▼ keypad.
- 3. Continue to hold the ▲ keypad until the display shows the entry code.

#### NOTE: By default, the entry code is 1000.

4. Modify the entry code as needed and press the () keypad. The display shows "InFo", which is the abbreviation for the Info Menu, the first option within the Non-Active Menu.

#### **Non-Active Menu Navigation**

- 1. Enter the Non-Active Menu (refer to the *Entering the Non-Active Menu* section).
- 2. Press the ▲ or ▼ keypads to scroll through the Non-Active Menu options (Refer to *Table 1*).
- 3. Press the () keypad to enter a Non-Active Menu option.
- 4. Press the ① keypad to exit the Non-Active Menu.

### **Non-Active Menu Options**

Option Number	Option Display	Description
1	"	The Information Sub-Menu allows the operator to view
1	1,1,1,1	information about the control.
a.	"coin l"	Total number of coins inserted into coin 1.
b.	"coin 2"	Total number of coins inserted into coin 2.
с.	"cyclES"	Total number of cycles performed
d.	"hour 5"	Total hours of operation
e.	"SEriAL nr"	Machine's serial number
f.	"doı"	Machine's installation date
g.	"РАгАП LiSE"	Machine's installation date
2	"٢ ٢ ٢ ٢	The Test Sub-Menu allows the operator to test some of the
2		machine's components.
a.	"LEUEL"	Water level test
b.	"InLEES"	Water inlet test
с.	"ПоЕог"	Motor test
d.	"HEAL"	Temperature sensor test and calibration
e.	"drAin"	Drain valve test
f.	"rELAYS"	Relay test
g.	"InPuES"	Door, door lock and out-of-balance switch test
h.	"coin5"	Coins Test
i.	"d, SPLAY"	Display test
3	"codE SEL"	The Entry Code Set Sub-Menu allows the user to modify the machine's entry code
		The Clock Set Sub-Menu allows the user to set the machine's
4	"cloch SEL"	year, month, day, day of the week, hour and minutes.
5	"nEL AddrESS"	Enter a network address.
6	"AdUAncE EnAbLEd"	The Rapid Advance Enable Sub-Menu allows the operator to turn the rapid advance option on or off.
7	"EENP EnABLEd"	The Temperature Indication Enable Sub-Menu allows the operator to turn the temperature indicator (which appears during a cycle) on or off.
8	"ППС"	The MMC Sub-Menu allows the operator to manage data on the MMC card.
9	"PricE5"	The Prices Sub-Menu allows the operator to modify each cycle's vend price.
10	"5ErUicE countEr5"	The Service Counters Sub-Menu allows the operator to display service maintenance reminders on the machine's control after the machine has been operated for a specified number of hours or cycles.
11	"LEEHLY counters"	The Weekly Cycle Count Sub-Menu allows the operator to view the number of times each cycle has been run over the last 7 days.
12	"LASE Error5"	The Last Errors Sub-Menu allows the operator to view a list of errors that have occurred during the last cycle that was run on the machine.
13	"out of ordEr"	The Out of Order Sub-Menu allows the operator to place a machine out of service, preventing it from being used.

Table 1

#### **Non-Active Menu Flowchart**



#### 1. Information Sub-Menu "InFo"

The Information Sub-Menu allows the operator to view information about the control.

#### How to Access the Information Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "unFo" appears in the display.
- 3. Press the () keypad. "בס יח ו" appears in the display.
- 4. Press the ▲ or ▼ keypads until the desired option appears in the display. Refer to *Table 2*.

Option Display	Description
"בסוח ו"	Total number of coins inserted into coin 1
"coin 2"	Total number of coins inserted into coin 2
"cyclE5"	Total number of cycles performed
"hour5"	Total hours of operation
"SEriAL nr"	Machine's serial number
"daı "	Machine's installation date NOTE: The date on which the machine completed it's 10 <sup>th</sup> cycle will be recorded by the control as the machine's "installation date" (DD-MM-YYYY).
"PArAN LISE"	Machine's parameter list

Table 2

#### How to Exit the Information Sub-Menu

#### Information Sub-Menu Flowchart



### 2. Test Sub-Menu "LE5L" (1 of 4)

The Test Sub-Menu allows the operator to test some of the machine's components.

#### How to Access the Test Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "E5E" appears in the display.
- 3. Press the () keypad. "LEUEL" appears in the display.
- 4. Press the ▲ or ▼ keypads to scroll through the Test Sub-Menu's options.
- Press the () keypad to access the desired Test Sub-Menu's option. Refer to the Using the Test Sub-Menu's Options section for details on each option.

#### Using the Test Sub-Menu's Options

a. Water Level Test "LEUEL"

## NOTE: Make sure all water has been drained from the machine.

- i. Press the () keypad. "XX.X", which is the measured water level, appears in the display and flashes.
- Press the () keypad. "XX.X", which is the water level to be measured, appears in the display.
- iii. Note the number shown in the display and mark the middle of the door glass.
- iv. Press the () keypad. "Fill." appears in the display and the machine begins to fill with water.
- v. Fill the machine to the mark made on the middle of the door glass. Press the ▼ keypad to turn off the water and the ▲ keypad to turn on the water as needed.
- vi. Press the () keypad. "XX.X", which is the current water level, appears in the display and flashes.

- vii. Compare the number shown in the display to the number that was recorded earlier. If necessary, press the ▲ or ▼ keypads to change the number shown in the display until it matches the number that was recorded earlier.
- viii. Press the () keypad. "XX.X", which is the measured water level, is shown in the display.
- ix. Press the ① keypad. "LEUEL" appears in the display.
- b. Water Inlet Test "InLEE5"
  - i. Press the () keypad. "hot I" appears in the display.
  - ii. Press the  $\blacktriangle$  or  $\blacktriangledown$  keypads to scroll through the inlets until the desired inlet is shown in the display. Refer to *Table 3*.

Display	Description
"hot l"	Hot water 1
"hot 2"	Hot water 2
"hot 3"	Hot water 3
"cLd I"	Cold water 1
"cld 2"	Cold water 2
"cLd Э"	Cold water 3
"drcŁ"	Direct (optional)
	Table 3

iii. Press the () keypad to turn on the desired inlet. The display shows a dot next to the inlet number (e.g., "hot 1.").

- iv. Press the () keypad to turn off the desired inlet.
- v. Press the ① keypad. "InLEE5" appears in the display.

(continued)

### Test Sub-Menu Flowchart (1 of 4)



### 2. Test Sub-Menu "LE5L" (2 of 4)

- c. Motor Test "Notor"
  - i. Press the () keypad. "4856" appears in the display.
  - ii. Press the ▲ or ▼ keypads to scroll through the Motor Test sub-menu's options until the desired option is shown in the display. Refer to *Table 4*.

Display	Description
" <u>'</u> 'ASh"	Motor wash speed
"5Pın"	Motor spin speed
"EunE"	Autotune the motor with the invertor drive
	T-bla A

#### Table 4

- iii. Press the () keypad to select the desired option.
  - "'1'A5h": The motor goes into wash speed and "r XX" or "L XX" appears on the display.
  - "5P1n": The motor goes into spin speed and the speed "XX" appears on the display. The machine will accelerate to 500 RPM (if allowed by the machine) and continue at this speed for a few seconds. The machine will then accelerate to it's maximum spin speed and will continue at this speed for 10 minutes.
  - "EunE": The display shows "L'ALE" and then "rESEELING INUERED". The display then flashes "EunE" as the invertor drive is autotuned.

#### NOTE: The "Lחש" option will automatically turn off once the autotune is complete.

- iv. Press the ① keypad to turn off the option.
- v. Press the ① keypad. "notor" appears in the display.
- d. Temperature Sensor Test and Calibration "hERL".
  - Press the () keypad. The measured temperature "XX°c" appears in the display. The machine is filled with water to the safety level.
  - ii. Press the ▲ or ▼ keypads to scroll through the Temperature Sensor Test and Calibration sub-menu's options until the

desired option is shown in the display. Refer to *Table 5*.

Display	Description
"oFF"	Turn the heating off or on
or	NOTE: This option is only visible if the
"on"	machine is configured for 1 heating type.
"h l"	Turn heating type 1 off or on
or	NOTE: This option is only visible if the
"h I."	machine is configured for 2 heating type.
"አረ"	Turn heating type 2 off or on
or	NOTE: This option is only visible if the
"h 2."	machine is configured for 2 heating type.
"cAL"	Calibrate the temperature sensor

Table 5

- iii. Press the () keypad to select the desired option.
  - "oFF" or "on": Turn the heating off or on. "oFF" is displayed when the heating is turned off and "on" is displayed when the heating is turned on.

## **NOTE:** This option is only visible if the machine is configured for 1 heating type.

• "*h* l" or "*h* l.": Turn heating type 1 off or on. "*h* l" is displayed when the heating is turned off and "*h* l." is displayed when the heating is turned on.

## NOTE: This option is only visible if the machine is configured for 2 heating types.

 "h 2" or "h 2.": Turn heating type 2 off or on. "h 2" is displayed when the heating is turned off and "h 2." is displayed when the heating is turned on.

## NOTE: This option is only visible if the machine is configured for 2 heating types.

- "cAL":
- a. The measured temperature "XX°c" appears in the display and flashes.
- b. Press the ▲ or ▼ keypads to increase or decrease the temperature display as needed.
- c. Press the () keypad. "5AUE or" appears in the display.
- d. To save the temperature display change, press the ▲ or ▼ keypad.
   "SAUE YE5" appears in the display.
- e. Press the () keypad. "⊂*RL*" appears in the display.
- iv. Press the ① keypad. "<code>hEAL</code>" appears in the display.

### Test Sub-Menu Flowchart (2 of 4)



### 2. Test Sub-Menu "LE5L" (3 of 4)

- e. Drain Valve Test "dr Ann"
  - i. Press the () keypad. "Fill X.X" appears in the display.
  - ii. Press the ▲ or ▼ keypads to scroll through the Drain Valve Test sub-menu's options until the desired option is shown in the display. Refer to *Table 6*.

Display	Description
"FILL X.X"	Fill the machine with water
"drA ( X.X"	Open and close the drain valve NOTE: This option is only visible if the machine is configured for 1 drain valve.
"dr I X.X"	Open and close the first drain valve NOTE: This option is only visible if the machine is configured for 2 drain valves.
"dr 2 X.X"	Open and close the second drain valve NOTE: This option is only visible if the machine is configured for 2 drain valves.

Table 6

- iii. Press the () keypad to turn on the desired option.
  - "Fill X.X": Turn the machine's water inlet valves on and off. "Fill X.X" is displayed when the inlet valves are turned off and "Fill. X.X" is displayed when the inlet valves are turned on.
  - "drR1 X.X": Open and close the drain valve. "drR1 X.X" is displayed when the drain valve is closed and "drR1. X.X" is displayed when the drain valve is open.

**NOTE:** This option is only visible if the machine is configured for 1 drain valve.

• "dr l": Open and close the first drain valve. "dr l. X.X" is displayed when the drain valve is closed and "dr l. X.X" is displayed when the drain valve is open.

**NOTE:** This option is only visible if the machine is configured for 2 drain valves.

 "dr 2": Open and close the second drain valve. "dr 2 X.X" is displayed when the drain valve is closed and "dr 2. X.X" is displayed when the drain valve is open.

> NOTE: This option is only visible if the machine is configured for 2 drain valves.

- iv. Press the () keypad to turn off the desired option.
- v. Press the ① keypad. "dr Aun" appears in the display.
- f. Relay Test "rELAY5"
  - i. Press the () keypad. "r l" appears in the display.
  - ii. Press the ▲ or ▼ keypads to scroll through the relays until the desired relay is shown in the display.
  - iii. Press the () keypad to turn on the desired relay. The display shows a dot next to the inlet number (e.g., "r 1.").
  - iv. Press the () keypad to turn off the desired relay.
  - v. Press the ① keypad. "rELRY5" appears in the display.

(continued)

### Test Sub-Menu Flowchart (3 of 4)



#### 2. Test Sub-Menu "LE5L" (4 of 4)

- g. Inputs Test "InPut5"
  - i. Press the () keypad. "cLEr" appears in the display.
  - ii. Press the ▲ or ▼ keypads to scroll through the inputs until the desired input is shown in the display. Refer to *Table 7*.

Display	Description		
	Door, lock, out-of-balance switch and rotation sensor		
	NOTE: "c" is displayed when the		
	door is closed, "L" is displayed when		
"cLEr"	the door is locked, "E" is displayed		
	when an out-of-balance switch input		
	signal is received and "r" is displayed		
	when a rotation sensor input signal is		
	received.		
	Input 1		
·· _ /"	NOTE: The display changes to		
וחו	" 👝 1." when an input signal is		
	received.		
·· _ ٦»	Input 2		
	NOTE: The display changes to		
111 E	" n 2." when an input signal is		
	received.		

Table 7

- iii. Press the ① keypad. "₁¬P⊔Ł5" appears in the display.
- h. Coins Test "coin5"
  - i. Press the () keypad. "- " appears in the display.
  - ii. By activating the input of the coin switch number 1 appears in the display, (= activation of coin input 1) or number 2 appears in the display, (= activation of coin input 2).
  - iii. Press the ① keypad. "corn5" appears in the display.
- i. Display Test "d, 5PLAY"
  - i. Press the () keypad. All of the display's LEDs turn on.
  - ii. Press the ① keypad. "J, 5PLAY" is displayed.

#### How to Exit the Test Sub-Menu

### Test Sub-Menu Flowchart (4 of 4)



#### 3. Entry Code Set Sub-Menu "codE 5EL"

The Entry Code Set Sub-Menu allows the operator to modify the machine's entry code.

#### How to Access the Entry Code Set Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "codE 5EE" appears in the display.
- 3. Press the () keypad. The entry code appears in the display. The first character flashes on and off.
- 4. Press the ▲ or ▼ keypads to modify the entry code's first character as needed.
- 5. Press the () keypad. The second character flashes on and off.
- 6. Press the ▲ or ▼ keypads to modify the entry code's second character as needed.
- 7. Press the () keypad. The third character flashes on and off.
- 8. Press the ▲ or ▼ keypads to modify the entry code's third character as needed.
- 9. Press the () keypad. The fourth character flashes on and off.
- 10. Press the ▲ or ▼ keypads to modify the entry code's fourth character as needed.
- Press the () keypad. "codE 5EE" appears in the display.

#### How to Exit the Entry Code Set Sub-Menu



#### Entry Code Set Sub-Menu Flowchart

#### 4. Clock Set Sub-Menu "cLoch 5EL"

The Clock Set Sub-Menu allows the operator to set the machine's year, month, day, day of the week, hour and minutes.

#### How to Access the Clock Set Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "cLoch 5EE" appears in the display.
- 3. Press the () keypad. "∃ERr XXXX" appears in the display.
- 4. Press the () keypad until the desired option appears in the display. Refer to *Table 8*.

Option Display	Description
"УЕЯг"	Set the machine's year
"Ποηξη""	Set the machine's month
"889"	Set the machine's day
"dAy of ''EER"	Set the machine's day of the week
"hour"	Set the machine's hour
"NinuEES"	Set the machine's minutes

#### Table 8

- 5. Press the ▲ or ▼ keypads to edit the option as needed.
- 6. Press the () keypad. "cLocH 5EE" appears in the display.

#### How to Exit the Clock Set Sub-Menu

#### **Clock Set Sub-Menu Flowchart**



#### 5. Network Address Sub-Menu "nEL RddrE55"

Enter a network address.

## How to Access the Network Address Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "nEL RddrE55" appears in the display.
- 3. Press the () keypad. "XXX" appears in the display.
- 4. Enter the correct network address with the ▲ or ▲ keypads.
- 5. Enter or confirm with the () keypad.

## How to Exit the Network Address Sub-Menu

#### Network Address Sub-Menu Flowchart



#### 6. Rapid advance Enable Sub-Menu "AdUAnce EnAbLed"

The Rapid Advance Enable Sub-Menu allows the operator to turn the rapid advance option on or off.

## How to Access the Rapid Advance Enable Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "AdUAncE EnAbLEd oFF" or "AdUAncE EnAbLEd on" appears in the display.
- 3. Press the () keypad to turn the rapid advance option on or off. "AdUAncE EnAbLEd oFF" appears in the display when the rapid advance option is off and "AdUAncE EnAbLEd on" appears in the display when the rapid advance option is on.

## How to Exit the Rapid Advance Enable Sub-Menu

## Rapid Advance Enable Sub-Menu Flowchart



#### 7. Temperature Indication Enable Sub-Menu "LENP EnAbLEd"

The Temperature Indication Enable Sub-Menu allows the operator to turn the temperature indicator (which appears during a cycle) on or off.

## How to Access the Temperature Indication Enable Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "EENP EnAbLEd oFF" or "EENP EnAbLEd on" appears in the display.
- Press the () keypad to turn the temperature indication option on or off.
   "EENP EnRbLEd DFF" appears in the display when the temperature indication option is off and "EENP EnRbLEd DO" appears in the display when the temperature indication option is on.

## How to Exit the Temperature Indication Enable Sub-Menu

### Temperature Indication Enable Sub-Menu Flowchart



#### 

The MMC Sub-Menu allows the operator to manage data on the MMC card.

#### How to Access the MMC Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "ППЕ" appears in the display.
- 3. Press the () keypad. "U E' F LE5" appears in the display.
- 4. Press the ▲ or ▼ keypads to scroll through the MMC Sub-Menu's options.
- Press the () keypad to access the desired MMC Sub-Menu's option. Refer to the Using the MMC Sub-Menu's Options section for details on each option.

#### Using the MMC Sub-Menu's Options

- a. View MMC Card's Files "U, E' F, LE5"
  - i. Press the () keypad. The first wash program file ("*I*.XXX") appears in the display.

NOTE: If no wash program files are found on the MMC card, "no FiLE5" appears in the display.

- ii. Press the ▲ or ▼ keypads to scroll through the wash program files.
- iii. Press the ① keypad. "U₁E' F₁LE5" appears in the display.
- b. Load Wash Data "'\_'A5hdAEA LoAd"
  - i. Press the () keypad. The wash data file ("1.XXX") appears in the display. The first wash data file on the MMC card that is appropriate for the machine's ID chip and machine type is downloaded to the machine. After the file is downloaded, the machine is rebooted. After the machine is rebooted, the wash data version and the type of machine appear in the display.

NOTE: Only wash data that is appropriate for a machine can be downloaded to the machine.

- c. Save Wash Data "L'AShdREA SAUE"
  - i. Press the () keypad. "L'ALE" appears in the display and the machine's wash data is saved to the MMC card. Once the save is complete, "L'AShdAEA SAUE" appears in the display.
- d. Save History "h. Story SAUE"
  - i. Press the () keypad. "L'ALE" appears in the display and the machine's history is saved to the MMC card. Once the save is complete, "hubbory 5AUE" appears in the display.
- e. Load prices "PricE5 LoAd"
  - i. Press the () keypad. The prices appear in the display.
  - ii. Scroll through the available files by pressing the  $\blacktriangle$  or  $\blacktriangledown$  keypads.
  - iii. To load the file with the chosen price press the () keypad. The file has been loaded.
  - iv. Press the ① keypad. "PricE5 LoAd" appears in the display.
- f. Save Prices "PricE5 5AUE"
  - i. Press the () keypad to save the current price. ""A: E" appears in the display, the price has been saved onto the MMC card.
  - Press the ① keypad. "PricE5 5RUE" appears in the display.



### MMC Sub-Menu Flowchart (1 of 3)

#### 8. MMC Sub-Menu "חחב" (2 of 3)

- g. Load Help File "hELPF, LE LoAd"
  - i. Press the () keypad. The first help file ("1.XXX") appears in the display.

NOTE: If no help files are found on the MMC card, "or FiLE5" appears in the display.

- ii. Press the ▲ or ▼ keypads to scroll through the help files.
- iii. When the desired help file appears in the display, press the () keypad. "'I'R' E" appears in the display and the help file is downloaded to the machine. After the file is downloaded, the machine is rebooted.
- iv. Press the ① keypad. "hELPF, LE LoRd" appears in the display.

- h. Save Help File "hELPF, LE SAUE"
  - i. Press the () keypad. "L'ALE" appears in the display and the machine's help file is saved to the MMC card. Once the save is complete, "HELPFILE SAUE" appears in the display.

(continued)

### MMC Sub-Menu Flowchart (2 of 3)



#### 

- i. Update Firmware "UPdALE Firnu'ArE"
  - i. Press the () keypad. "5ur E no" appears in the display.

NOTE: If no firmware file is found on the MMC card, "no Fir  $\Pi'$  appears in the display.

- ii. Press the ▲ or ▼ keypad. "JE5" appears in the display.
- iii. Press the () keypad. "L'ALE" appears in the display and the firmware file is downloaded to the machine. After the file is downloaded, the machine is rebooted.

## NOTE: Press the ① keypad to cancel the firmware download.

- j. Format Card "For NAL cArd"
  - i. Press the () keypad. "Sur E no" appears in the display.
  - ii. Press the ▲ or ▼ keypad. "JE5" appears in the display.
  - iii. Press the () keypad. The MMC card is formatted.

#### How to Exit the MMC Sub-Menu



### MMC Sub-Menu Flowchart (3 of 3)

### 9. Prices Sub-Menu "PricE5"

The Prices Sub-Menu allows the operator to modify each cycle's vend price.

#### How to Access the Prices Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "PricE5" appears in the display.
- 3. Press the () keypad. "Pr / X.XX" appears in the display.
- 4. Press the ▲ or ▼ keypads until the desired cycle's vend price appears in the display.
- 5. Press the () keypad. The vend prices flashes on and off, meaning it can be edited.
- 6. Press the ▲ or ▼ keypads as needed to edit the vend price.
- 7. Press the () keypad. The vend prices stops flashing.
- 8. Press the ① keypad. "5AUE oo" appears in the display.
- Press the ▲ or ▼ keypad. "5RUE ∀E5" appears in the display.
- 10. Press the () keypad. ""\"A: E" appears in the display. After the vend price is saved, "PricE5" appears in the display.

#### How to Exit the Prices Sub-Menu

#### **Prices Sub-Menu Flowchart**



#### **10. Service Counters Sub-Menu** "5EruicE coUntEr5"

The Service Counters Sub-Menu allows the operator to display service maintenance reminders on the machine's control after the machine has been operated for a specified number of hours or cycles.

## How to Access the Service Counters Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "5ErUicE countEr5" appears in the display.
- 3. Press the () keypad. "hollr5 oFF" or "hollr5 X.X" appears in the display.
- 4. Press the ▲ or ▼ keypads until the desired option appears in the display. Refer to *Table 9*.

Option Display	Description
"hoUr5 oFF" or "hoUr5 X.X"	Display service maintenance reminders on the machine's control after the machine has been operated for a specified number
	of hours.
"сУсLES oFF" or "сУсLES X.X"	Display service maintenance reminders on the machine's control after the machine has been operated for a specified number of cycles.

Table 9

- 5. Press the () keypad.
  - If "hour 5 oFF" or "cJcLE5 oFF" was displayed, "on" appears in the display, followed by the number of hours or cycles ("X.X"). Press the ▲ or ▼ keypads as needed to edit the number of hours or cycles.
  - If "hour 5 X.X" or "cyclE5 X.X" was displayed, "oFF" appears in the display.

## How to Exit the Service Counters Sub-Menu

#### Service Counters Sub-Menu Flowchart



#### 11. Weekly Cycle Count Sub-Menu "''EEFLY coUntEr5"

The Weekly Cycle Count Sub-Menu allows the operator to view the number of times each cycle has been run over the last 7 days.

## How to Access the Weekly Cycle Count Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "'\_'EEFL'J countEr5" appears in the display.
- Press the () keypad. Cycle 1 and the number of times Cycle 1 has been run over the last 7 days ("Pr + XXXX") appears in the display.
- 4. Press the ▲ or ▼ keypads until the desired cycle number appears in the display.
- 5. Press the ① keypad. "Er R5E no" appears in the display.
- 6. To erase the weekly cycle counts...
  - a. Press the ▲ or ▼ keypad. "ErR5E ∀E5" appears in the display.
  - b. Press the () keypad. The weekly cycle counts are erased and "LEEFLY countEr5" appears in the display.

#### How to Exit the Information Sub-Menu

#### Weekly Cycle Count Sub-Menu Flowchart



#### **12. Last Errors Sub-Menu** "LASE Error5"

The Last Errors Sub-Menu allows the operator to view a list of errors that have occurred during the last cycle that was run on the machine.

#### How to Access the Last Errors Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "LR5E Error5" appears in the display.
- 3. Press the () keypad. The last recorded error appears in the display. Refer to the *Error Messages* section for error definitions.

NOTE: If no errors have taken place during the last cycle that was run on the machine, "no Error5" appears in the display.

4. Press the ▲ or ▼ keypads to scroll through all of the errors recorded during the last cycle that was run on the machine.

#### How to Exit the Last Errors Sub-Menu

### Last Errors Sub-Menu Flowchart



#### 13. Out of Order Sub-Menu "out of ordEr"

The Out of Order Sub-Menu allows the operator to place a machine out of service, preventing it from being used.

## How to Access the Out of Order Sub-Menu

- 1. Enter the Non-Active menu (refer to the *Entering the Non-Active Menu* section).
- Press the ▲ or ▼ keypads to scroll through the Non-Active Menu's sub-menus until "□ut □F □rdEr □FF" (if the out of order option is currently off) or "□ut □F □rdEr □n" (if the out of order option is currently on) appears in the display.
- 3. Press the () keypad. "out of ordEr on" or "out of ordEr oFF" appears in the display.

#### How to Exit the Out of Order Sub-Menu

### **Out of Order Sub-Menu Flowchart**



## **Error Messages**

### **Error Messages**

Following is a list of possible error messages that may be displayed.

Error Message	Possible Cause/Correction
ERROR 1: PROGRAM TITLE ERROR	Program titles are missing from display board. After installing
	new display board, program titles were not copied from main
	board to display board.
ERROR 2: COMPONENT UNKNOWN	Wash program contains unknown component.
ERROR 3: COMPONENT ERROR	Wash program contains component with incorrect length.
ERROR 4: SUBROUTINE NOT FOUND	Wash program contains unknown component.
ERROR 5: WRONG PASSWORD	Incorrect password entered.
ERROR 6: WASH DATA ERROR	Incorrect or incomplete wash data. Restore wash data from
	display board. Reload wash data using MMC card or PC.
ERROR 7: INVERTER COMMUNICATION ERROR	No communication from main board. Inspect inverter board
	wiring.
	No communication between inverter and main board. Inspect
	inverter wiring.
ERROR 8: INVERTER AUTOTUNING ERROR	Incorrect status during autotuning.
ERROR 9: INVERTER PARAMETER ERROR	Inverter refused parameters.
	Error while entering parameters into inverter.
ERROR 10: INVERTER STATUS ERROR	Inspect inverter for error messages.
	OC1: Overcurrent accelerating
	• OC2: Overcurrent constant speed
	• OC3: Overcurrent decelerating
	• OV1: Overvoltage accelerating
	• OV2: Overvoltage constant speed
	• OV3: Overvoltage decelerating
	PE: EEPROM failure
	PUE: Communication error
	• RET: Retries exceeded
	• P24: 24 V Short circuit
	• E.S. Option fault 5
	• E.o. CPU enfor $\sigma$
	• E./. CPU effor /
	• THIN: Motor evenload
	• I HIVI. IVIOLOI OVELIOAU • FIN: Heatsink overheat
	• OIT: Stall prevention
	BE: Brake alarm
	• GE: Ground fault
	<ul> <li>I.F: Output phase failure</li> </ul>
	OHT: Thermal relay operation
	OPT <sup>•</sup> Option alarm
ERROR 11: REAL TIME CLOCK ERROR	Check control's date and time setting on the setting menu
	Check voltage on main board.
ERROR 12: TILT SWITCH ERROR	Check tilt switch's position.
ERROR 12. HEI SWITCH ERROR	Check connection of tilt switch on display board
	Using test program, check tilt switch's input signal

(continued)

(0	ontinued)
Error Message	Possible Cause/Correction
ERROR 14: TEMPERATURE ERROR	Inspect temperature sensor.
	Inspect heating resistances/relays and wiring.
	Check input/output voltage of temperature sensor on main
	board.
	Using test program, test temperature sensor.
ERROR 15: LEVEL SENSOR ERROR	Check calibration of water level switch.
ERROR 16: CAN COMMUNICATION ERROR	Inspect wiring between main board and display board.
ERROR 17: WRONG MACHINE TYPE	Check that programmed machine type matches actual machine
	type.
ERROR 18: WRONG WASH DATA ERROR	Washdata on main board does not correspond with machine
	type.
ERROR 19: ID CHIP READ ERROR	Inspect ID chip connection on main board.
ERROR 20: ID CHIP WRITE ERROR	Inspect ID chip connection on main board.
ERROR 21: MMC TRANSFER ERROR	Error during MMC card data transfer.
ERROR 22: DOORLOCK ERROR	Door does not lock. Check wiring between door lock board
	and door lock. Using test program, check input signals S1 and
EDDOD 24. WDONG DIGDLAW TYDE EDDOD	S2.
ERROR 24: WRONG DISPLAY I YPE ERROR	When the main board is analoged, the mask data source the
EKROR 25: WASH DATA BACKUP ERROR	when the main board is replaced, the wash data cannot be undeted from the display board to the main board
EDDOD 26: NEW ID CHID EDDOD	When an ID akin is replaced at the same time as the main
ERROR 20. NEW ID CHIF ERROR	board a programmed ID chip must be installed
EDDOD 27: INIVALID EILE SIZE EDDOD	An invalid size (larger than 128 kbytes) has been selected
ERROR 27. INVALID FILE SIZE ERROR	The real time clock cannot be read
ERROR 29: RTC WRITE ERROR	The real time clock cannot be written
FRROR 30: FFPROM READ FRROR	The main board's eeprom cannot be read
ERROR 30: EERROM WRITE ERROR	The main board's eeprom cannot be written
FRROR 32: WATER LEVEL TOO LOW	Water level is too low during heating cycle
FRROR 33: SOFTWARE VERSION ERROR	When the main board or display board is replaced, the cards
	have different software versions.
ERROR 34: MCU FAILURE ERROR	The processor isn't functioning properly.
ERROR 50: LEVEL STOP ERROR	Programmed water level not reached. Inspect water pressure
	and water inlet valve filters. Inspect water inlet valves and
	wiring Inspect water level sensor and wiring. Inspect drain
	valve and wiring. Using test program, test water inlet valves,
	water level sensor and drain valves.
ERROR 51: HEAT STOP ERROR	Programmed temperature not reached. Inspect heating
	resistances, heating relays, water level switch and wiring.
	Using test program, test heating resistances and water level
	switch.
ERROR 52: DRAIN ERROR	Inspect drain valve, drain pipe and water level hose. Using test
EDDOD 62. HEATING EDDOD	program, test function of drain valve.
ERROR 53: HEATING ERROR	Programmed temperature not reached. Inspect heating
	resistances, heating relays, water level switch and wiring.
	switch
FRROR 54. FULL FRROR	Programmed water level not reached Increat water pressure
ERROR 34, FILL ERROR	and water inlet valve filters. Inspect water inlet valves and
	wiring Inspect water level sensor and wiring Inspect drain
	valve and wiring Using test program test water inlet valves
	water level sensor and drain valve.

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Error Message	Possible Cause/Correction	
ERROR 55: ROTATION SENSOR ERROR	Control does not sense basket rotation. Using test program,	
	test function of rotation sensor. Check position of rotation	
	sensor. Check connection between main board and inverter.	
	Check status of inverter.	
ERROR 56: SPIN RETRY ERROR	Programmed number of imbalances is reached. Check tilt	
	switch's connection and position of tilt switch. Using test	
	program, test function of tilt switch. Check machine to make	
	sure it is loaded properly. Check machine's shock absorbers (if	
	present).	
ERROR 59: DOOR OPEN WHILE WASHING ERROR	Door is open or unlocked during machine operation. Check	
	wiring between door lock board and door lock. Check position	
	of switches S1 and S2. Using test program, test input signals	
	of S1 and S2. Using test program, test function of door lock.	

### **Events**

Following is a list of events that may be recorded.

Event	Description
EVENT 100: PROGRAM STARTED	Program start time and date.
EVENT 101: PROGRAM ENDED	Program end time and date.
EVENT 102: PROGRAM ABORTED	Program is aborted or stopped.
EVENT 103: LEVEL REACHED	Programmed water level reached.
EVENT 104: TEMPERATURE REACHED	Programmed temperature reached.
EVENT 105: HUMIDITY REACHED	Programmed humidity reached.
EVENT 106: SPIN RETRY	Spin is repeated because of tilt switch or water detection.
EVENT 107: SOAP ACTIVATION	Supplies activated.
EVENT 108: ABSO RESULT	SMART WAVE routine ended.
EVENT 109: WEIGHT ENTERED	Operator has entered load's weight.
EVENT 110: STALLING	The moter is stalling. The control decreases the frequency by 10%.
EVENT 111: SPIN INFO	The total number of spins is written to a log file.
EVENT 112: FINAL SPIN RPM	After the spin, the spin speed is recorded.
EVENT 113: USER HAS ADVANCED	Rapid advance function used.
EVENT 114: INVERTER NOT RUNNING	Inverter is communicating with motor, but motor is not
	running. Control resets inverter and resumes wash cycle.
EVENT 116: AUDIT INFO	Operating hours and cycles is stored.
EVENT 150: FIRST EVENT / WASH DATA EDITED	Wash data has been modified using machine's control.
EVENT 151: WASH DATA DOWNLOADED	Wash data has been modified by using PC.
EVENT 152: WASH DATA FROM MMC	Wash data has been modified by using MMC card.
EVENT 153: FIRMWARE FROM MMC	Firmware has been updated by using MMC card.
EVENT 157: HELP FILE DOWNLOADED	A help file has been downloaded via infrared cable.
EVENT 158: HELP FILE FROM MMC	A help file has been copied from MMC card to the machine.
EVENT 159: POWER UP	The machine has been powered up.
EVENT 160: POWER UP WASHING	The machine was powered down during a cycle, but the power was restored.
EVENT 161: NEW ID CHIP	A new ID chip has been installed.
EVENT 163: NEW MAINBOARD	A new main board has been installed.
EVENT 164: NEW DISPLAY BOARD	A new display board has been installed.
EVENT 165: BACKUP WASH DATA	The main board's wash data has been copied to the display board.
EVENT 166: RESTORE WASH DATA	The wash data has been restored from the display board to the main board.
EVENT 167: COPY DISPLAY FIRMWARE	The firmware has been copied from the display board to the main board.
EVENT 168: COPY MAINBOARD FIRMWARE	The firmware has been copied from the main board to the display board.
EVENT 169: RESTORE DISPLAY FIRMWARE	The firmware has been restored from the main board to the display board.
EVENT 170: RESTORE MAINBOARD FIRMWARE	The firmware has been restored from the display board to the main board.
EVENT 171: NEW BOOT	The boot software in the main board has been modified.
EVENT 172: COPY BOOT	The boot software in the main board has been copied to the display board.
EVENT 175: POWER FAILURE	The power was disconnected.
EVENT 176: POWER RESTORED	The power was lost but was then restored.
EVENT 177: BURN IN TEST STARTED	The burn-in test was started.
EVENT 178: CODE RESET	The entry code has been reset.
EVENT 179: TIME/DATESET	The date and time have been set via infrared cable or network.

## **Rapid Advance Feature**

The Rapid Advance feature allows the owner to manually advance through active cycles.

#### How to Use Rapid Advance

Control must be in an active cycle to use the Rapid Advance feature.

While a cycle is in process, pressing the () keypad will advance the washer-extractor to the next cycle step. The cycle indicator lights will tell which cycle step the washer-extractor is in.

For Example, if the washer is in the first fill cycle step, pressing the () keypad will advance the washer into the agitate cycle step.

NOTE: The Rapid Advance feature must be turned on for Rapid Advance to work. Refer to *option 6* ("AdUAncE EnAbLEd") in the *6. Rapid Advance Enable Sub-Menu* "AdUAncE EnAbLEd" section.

## **Communication Mode**

### **Infra-red Communications**

The Infra-red Communication feature allows the control to communicate with a PC via the Cygnus Assist Software. The control can be programmed and have its data read without using the keypad.