



# ® "PAYSTATION" ®

## SERIES AC8000/8001

### OPERATIONS MANUAL

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## Specifications

Operating voltage 120 VAC +10/-15 %  
Power consumpt.(controller only, add hoppers and validator) 100w  
Operating temperature 0 - 120 degrees Fahrenheit  
Interface to Hoppers 24vdc 2.5 amps max.  
Interface to Validators 120vac 1.5 amps max.

## Warranty

CoinCo MagPro52SA/MARS AE2602 Validator is warranted for two years from date of purchase.

### COVERED

- Defect in workmanship or material.

### NOT COVERED

- Damage caused by physical abuse.
- Misapplication.
- Vandalism.
- End users attempt, on his own to repair item.
- Cleaning maintenance.

### Dispensing System and Logic Board

The Hopper(s), logic boards & All other cabinet parts are warranted for one year from date of purchase.

### COVERED

- Defects caused by material or workmanship.

### NOT COVERED

- Lightning, voltage spikes, and acts of nature.
- Damage caused by physical abuse.
- Misapplication
- Vandalism
- End Users attempt, on his own to repair.

*Information and the software revision supplied with this manual are subject to change without notice from American Changer.*

**It Is The End User's Responsibility To Follow All Cleaning Maintenance Procedures, ESPECIALLY ON RETURNED ADVANCED REPLACEMENT ITEMS.**

**ANY RETURNED UNIT REQUIRING ONLY A CLEANING WILL BE CHARGED A FLAT RATE OF \$65.00 PLUS SHIPPING AND HANDLING.**

A Return material authorization number (RMA#) must be obtained before returning a unit for repair. A copy of invoices must accompany any and all warrantee work.



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Logic Board schematics available upon request (Email only).

## UNCRATING AND SET-UP

Remove your Series AC8000/8001 PayStation from the shipping box. Take the Hex handle out of the envelope to open the door. (*The lock system is a screw-in type and therefore, must be turned at least 10 times counter-clockwise until it opens.*) Inspect for any connectors or components that may have been dislodged during shipping. The lock and keys for your PayStation will be inside the manila envelope along with this manual. To install the lock, insert each cylinder into the center of the round holes. Turn the key counter-clockwise ¼ turn and remove the keys.

**NOTE: The only way to get a duplicate set of keys made is to save the silver tag that comes between the keys. \_\_\_\_\_.**

### TEST:

After permanently installing the PayStation, do a functional test to verify that there is no shipping damage to your new PayStation(s).

Connect power through the a conduit into the PayStation. **Fill the each coin hopper with at least 100 coins.** On the Power Supply / Relay logic board turn the switch on the bottom left corner "ON". (**SEE FIG. 1**) *The rocker switch has a "1" and "0" printed on it. When the "1" is pressed "IN" the PayStation is "ON".* Make sure the LCD display lights up, the green LED on the top left of the power supply board comes ON. If this happen occurs, you may continue hooking up the other car wash relay wiring.

### MOUNTING THE AC8000 / AC8001

On the bottom of the cabinet of the AC8000/1, locate the 4-mounting holes predrilled into the bottom of the unit (The other 4 holes are for water drainage.). Using lag bolts, bolt down the machine to prevent the machine from being moved, shaken or tipped over.

**REFUSAL TO MOUNT THE CHANGER OR NOT USING ALL 4-MOUNTING HOLES MAY BE DANGEROUS!!!**

**IF YOU ARE UNSURE IN ANY WAY IN PROCEEDING WITH THE FOLLOWING STEPS, PLEASE HIRE A LOCAL PROFESSIONAL ELECTRICIAN TO MOUNT YOUR PAYSTATION FOR YOU!**

1. Disconnect any and all AC power going to the PayStation.
2. Slide the hoppers out of the cabinet.
3. Choose a height to mount the PayStation. Keep in mind that a SUV or a small car needs to be able to see the display and insert money into the bill validator. (We recommend the bottom of the machine should be 30" off the ground.) **CAUTION: THE PAYSTATION WEIGHS 150 POUNDS**

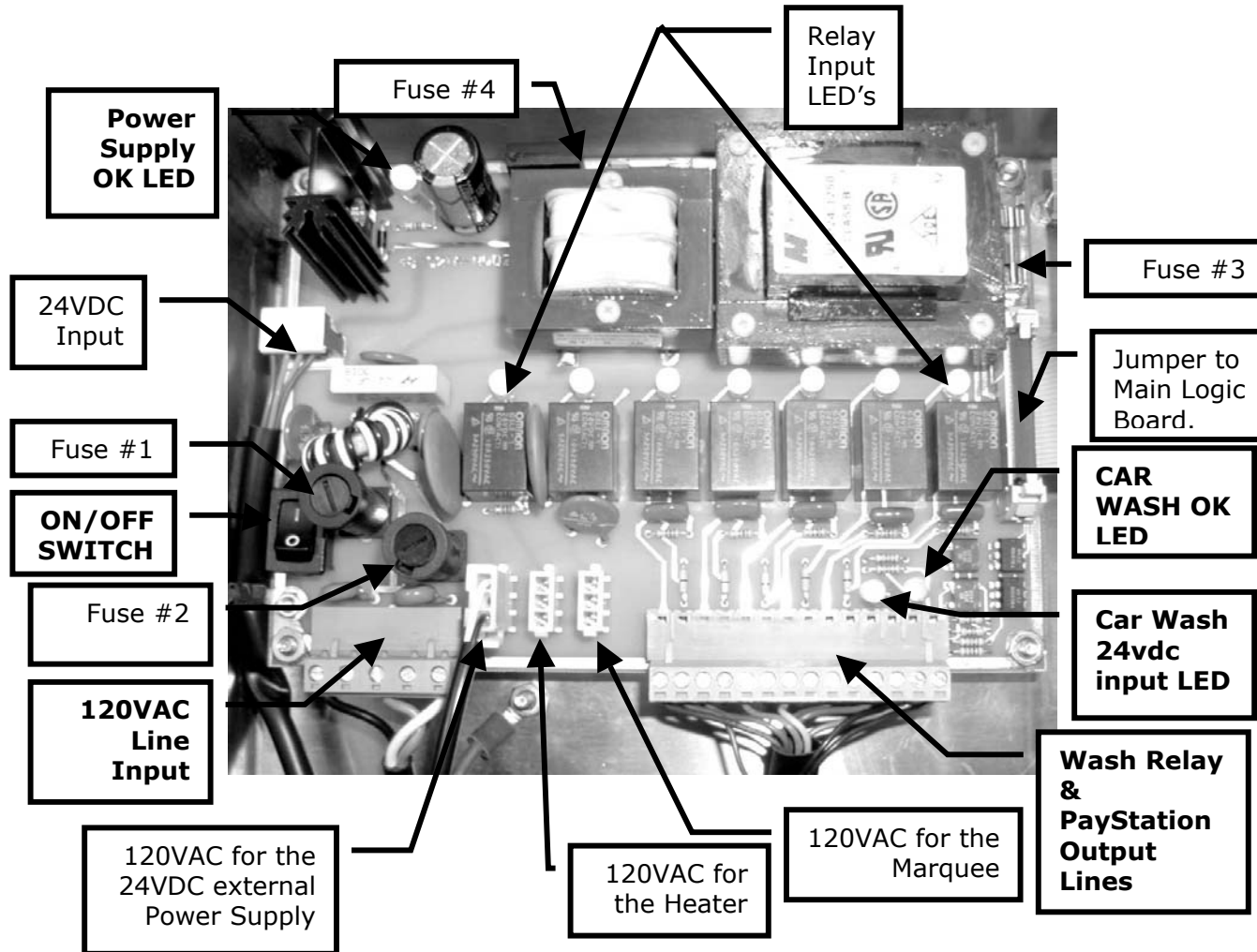
**DO NOT EXERT YOURSELF SO THAT YOU MAY CAUSE AN INJURY.**

4. Brick the PayStation base to the required height or mount the stainless steel base, an option we offer, permanently.

**Note: There are 4 drain holes on the bottom of the PayStation to help in water drainage. YOU MUST mount the Paystation off the concrete slab, about 1" to allow for water to drain from out of the cabinet to the ground below. If you are mounting this machine to a base purchased from American Changer then the holes are already supplied in the base.**

5. Let the electrician run the conduit, install the new breaker, wire and help decide how the wiring will enter the PayStation (from the back or the bottom). This will affect the mounting location.
6. Brick in the sides of the PayStation.
7. **BEFORE DRILLING THE FOUR MARKED HOLES ENSURE THAT THERE ARE NO ELECTRICAL WIRES, TELEPHONE LINES, GAS, OR WATER LINES BEHIND THE WALL WHICH DISRUPTING MAY CAUSE A LOSS OF LIFE OR PERSONAL INJURY!**
8. Locate the 4 1/2" holes on the bottom or on the back wall of the PayStation. Using concrete anchor bolts, drill and bolt the PayStation cabinet to the brick enclosure.
9. Verify that the machine is securely mounted.
10. Bolt a 2" thick cement top to the top of the PayStation. This allows the enclosure to be retrofitted to add the light kit later if so desired.
11. We highly recommend HIRING a qualified electrician to perform the following!
12. Secure the 3 electrical wires as follows:
  - A. Connect the AC hot line to Terminal Block 1, Pin #1.
  - B. Connect the AC neutral line to Terminal Block 1, Pin #5.
  - C. Connect the safety ground / earth ground TO THE GROUND STUD OF THE CABINET!
13. Refer Page 6 for the hook ups for the Car Wash Controller input lines.

**Fig 1 AC8061 POWER SUPPLY / RELAY BOARD**

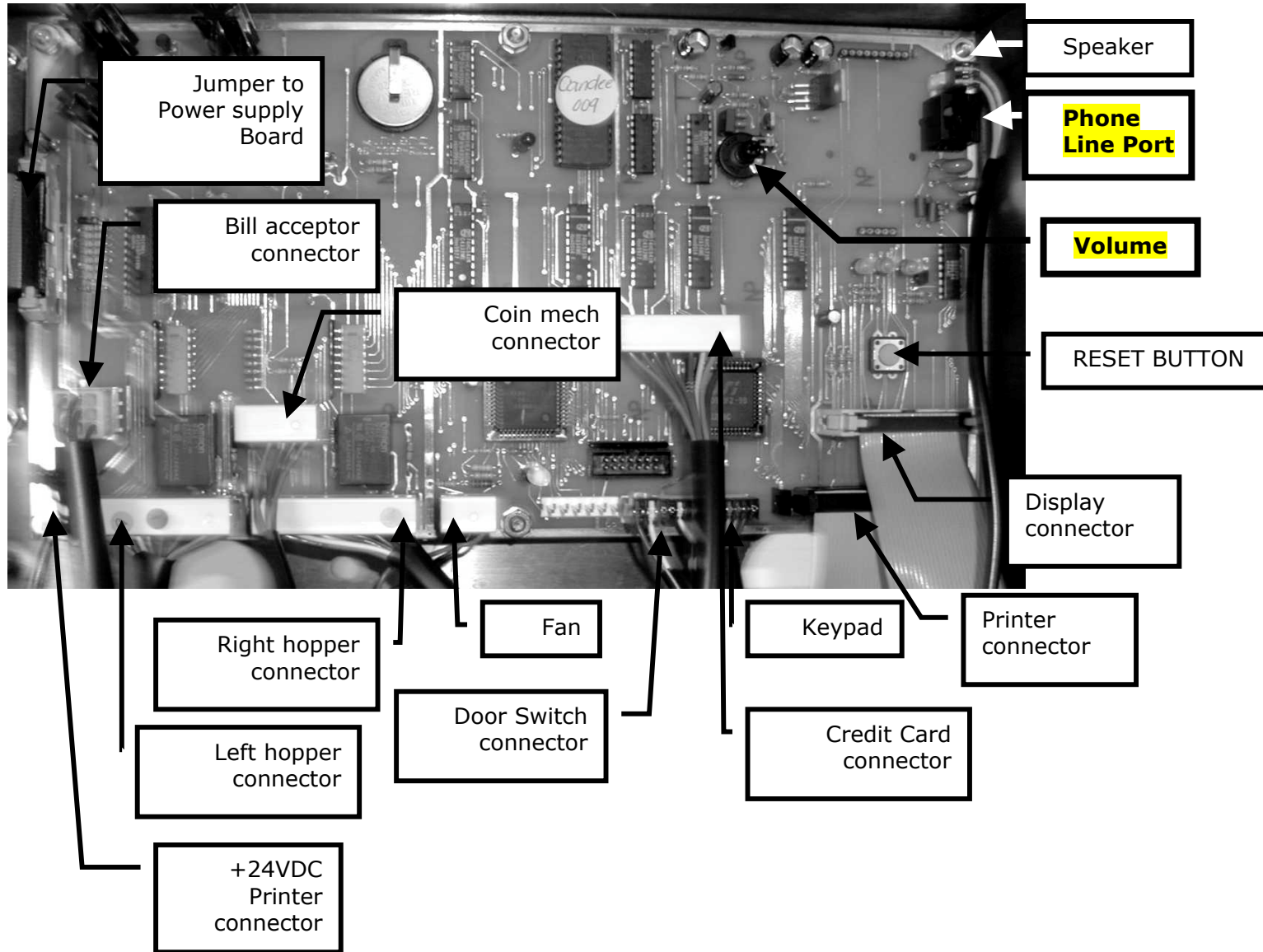


**FUSES (See figure #1)**

**Fuse #1 & #2 - High voltage fuses:** These are the primary transformer AC fuses. Use replacement 2-1/2-amp fuses ONLY!) **REPLACING THIS FUSE WITH ANYTHING OTHER THAN A 2 ½ AMP "AS" MAY RESULT IN A FIRE OR AN UNSAFE WORKING CONDITION!** (See fig. 1 for location of main logic board. Any direct short of the Transform will cause this fuse to blow. Replace

**Fuses #3 & #4 - Low voltage fuses:** These are the secondary transformers fuses (Fuse #3) for the 5 - 28VDC section of the main logic board and hoppers and the validator 24VAC fuse (Fuse #4). Replace this fuse with a 2-1/2-amp fuse only. **REPLACING THIS FUSE WITH ANYTHING OTHER THAN A 2 ½ AMP MAY RESULT IN A FIRE OR AN UNSAFE WORKING CONDITION!**

**FIG 2 AC8060 MAIN LOGIC BOARD**

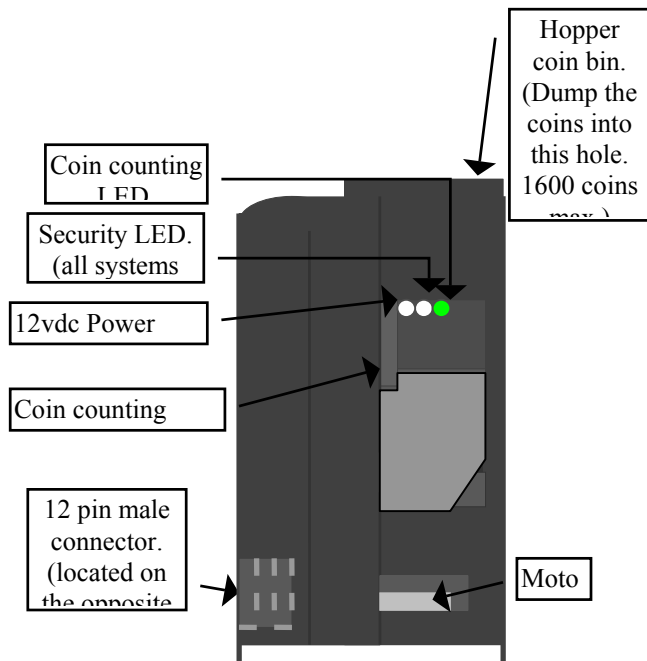




### Money Controls Hopper MKIV

Three green LED indicators are fitted on the hoppers and are visible in the section where the coins exit the hoppers. From left to right these are designated as follows:

1. Logic power supply on (12 & 24vdc present).
2. Security optical obstruction indicator -. Should be "on" when unit is OK.
3. Output indicator, indicates coin passing photo-sensor. This is the optical sensor the coin will obstruct on its way out of the hoppers. For normal operation LED # 3 will be off until coins are dispensed.



### Coin/Token Sizes

The hoppers will automatically adjust to dispense coins/tokens in size from 20-30 mm in diameter and 1.25 - 3.5 mm in thickness.

A nickel is approximately 21 mm; a quarter is approximately 25mm. A Susan B. Anthony is 28mm

### WIRE HOOK UPS FOR THE PAYSTATION

Once the PayStation is installed, the next step will be running the wires from the Car Wash Controller (**CWC**) to the PayStation. There are 2 Terminal Blocks (**TB**) located in the manual package. Hook the 120VAC wires to the 5-pin TB1 as follows:

1. Connect 120VAC HOT to Pin #1.
2. Connect Earth GROUND TO CABINET ONLY!
3. Connect 120VAC NEUTRAL to pin #5.

NOTE: Skip pins #2 - #4.

### **THE EARTH/SAFETY GROUND MUST BE HOOKED DIRECTLY TO THE CABINET!**

The next step is to hook up the relay wash signals, Unitec protocol CWC return, & 24VDC from the CWC to the second, longer, terminal block.

1. Connect the + (positive wire) least expensive car wash relay wire to pin #1 & ground to pin #2.

Note: Pins 2-4-6-8-10 Relay Commons are shorted together.

2. Connect the + for the second highest car wash relay wires to pin #3 & the common to pin #4.
3. Connect the + for the third priced car wash to pin #5 & common to pin #6.
4. Connect the highest price car wash + wire to pin #7 & common to pin #8

**Note:** Relay #5 is used in the "Full" & "Blinking" protocol modes as a way for the CWC to monitor the PayStation. This relay "Shorts" when the PayStation is out of service.

### **MAKE SURE THE CAR WASH CONTROLLER IS SET FOR THE CORRECT PROTOCOL**

(To match the correct protocols for your car wash controller, see page ^.) Connect the + protocol wire to pin #11 and the common (or -) to pin #12.

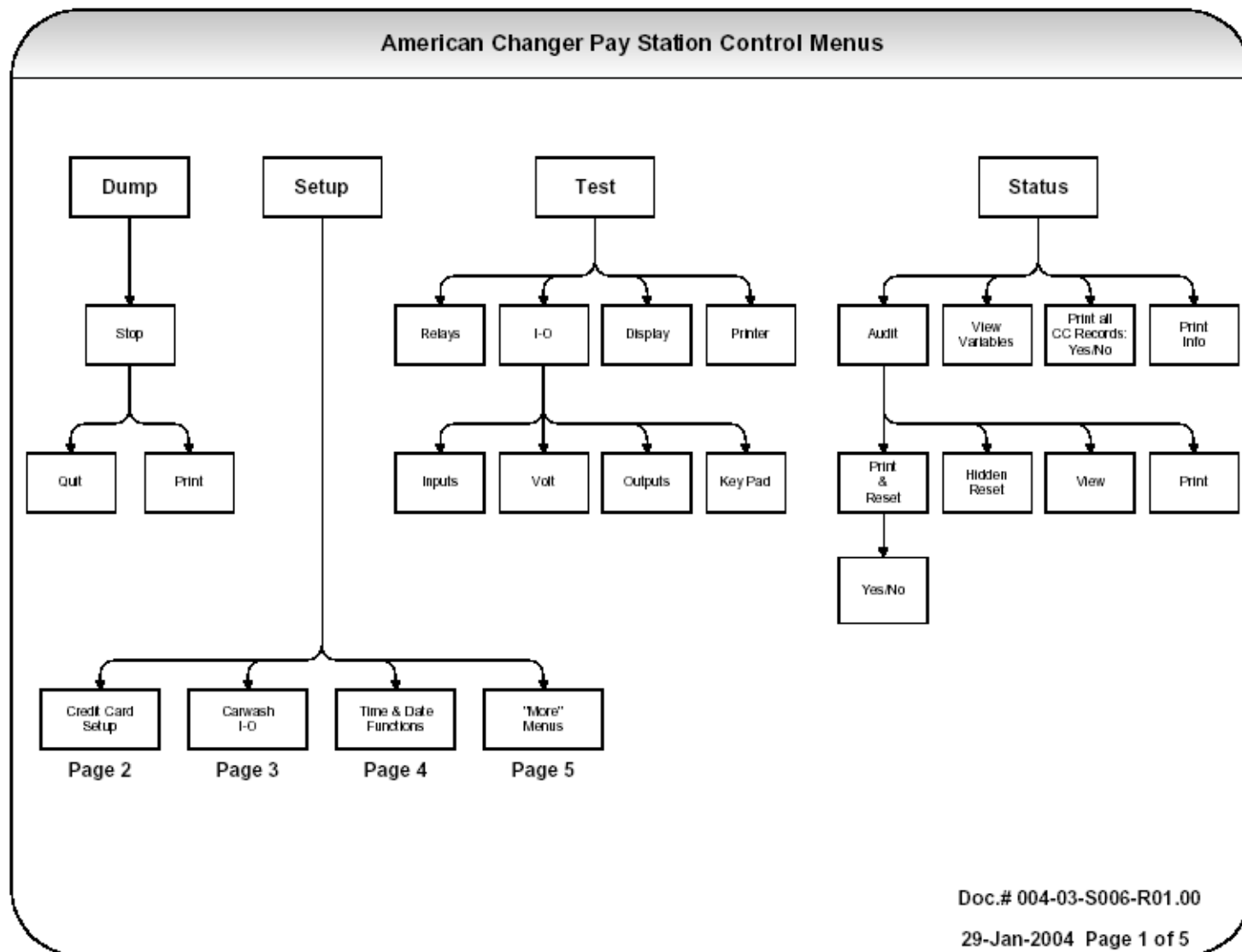
5. *The PayStation needs +24VDC or 24VAC from the Car Wash Controller in order to operate. The PayStation monitors these lines to determine if the CWC is powered up or down. Connect the +24VDC line to pin #13 and the -24VDC to pin #14.*

This concludes the wire hook section. Press the terminal blocks into the connectors on the Main logic board until they "snap".

## PROGRAMMING THE PAYSTATION

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## PROGRAMMING FLOW CHART FOR THE PAYSTATION 1F-D04 SOFTWARE

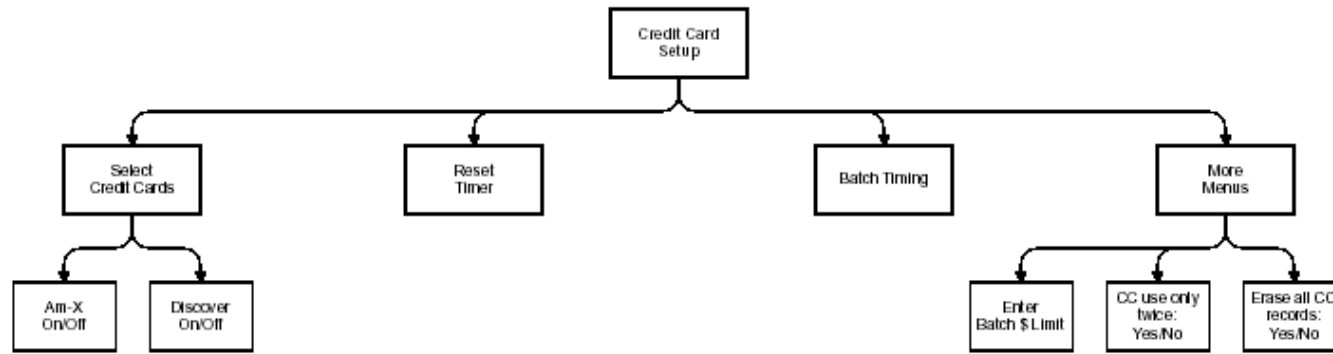


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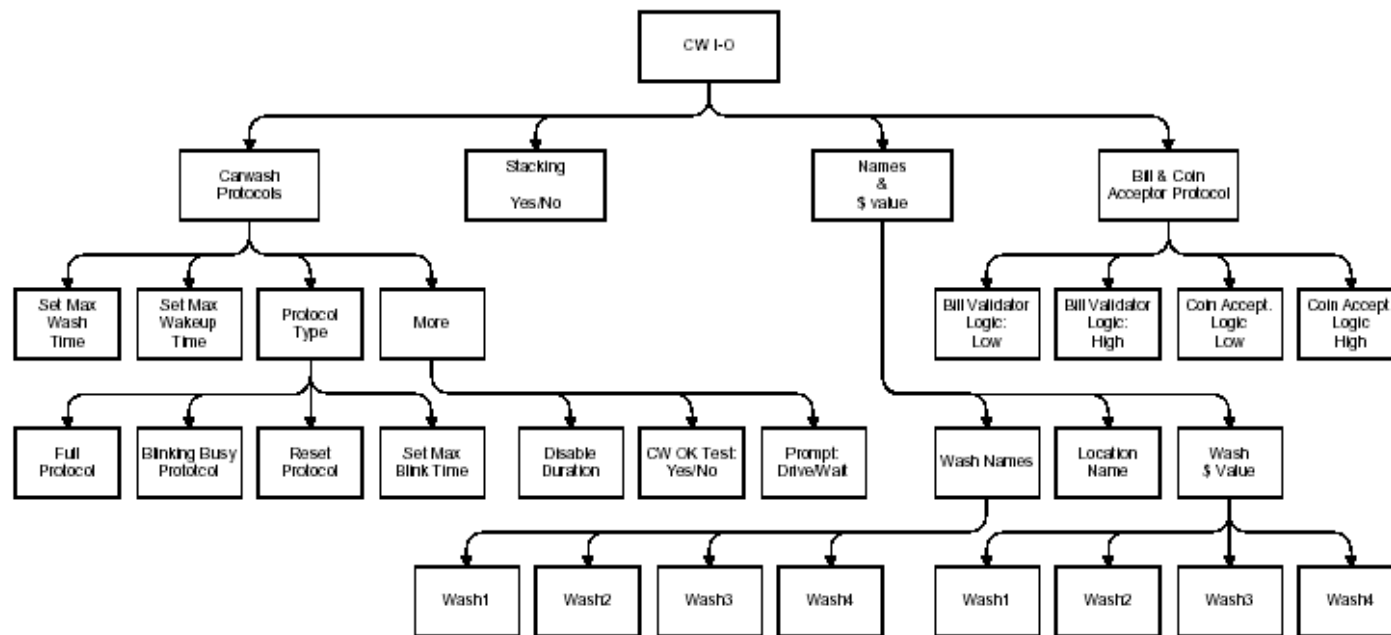
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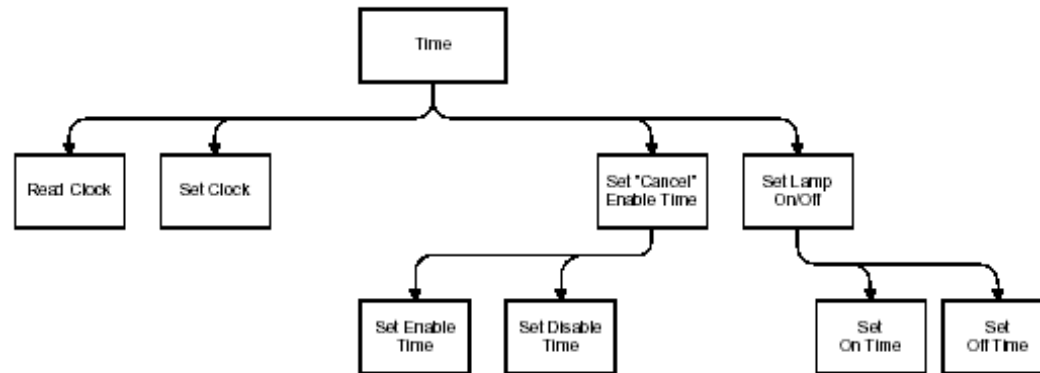
## American Changer Pay Station Control Menus



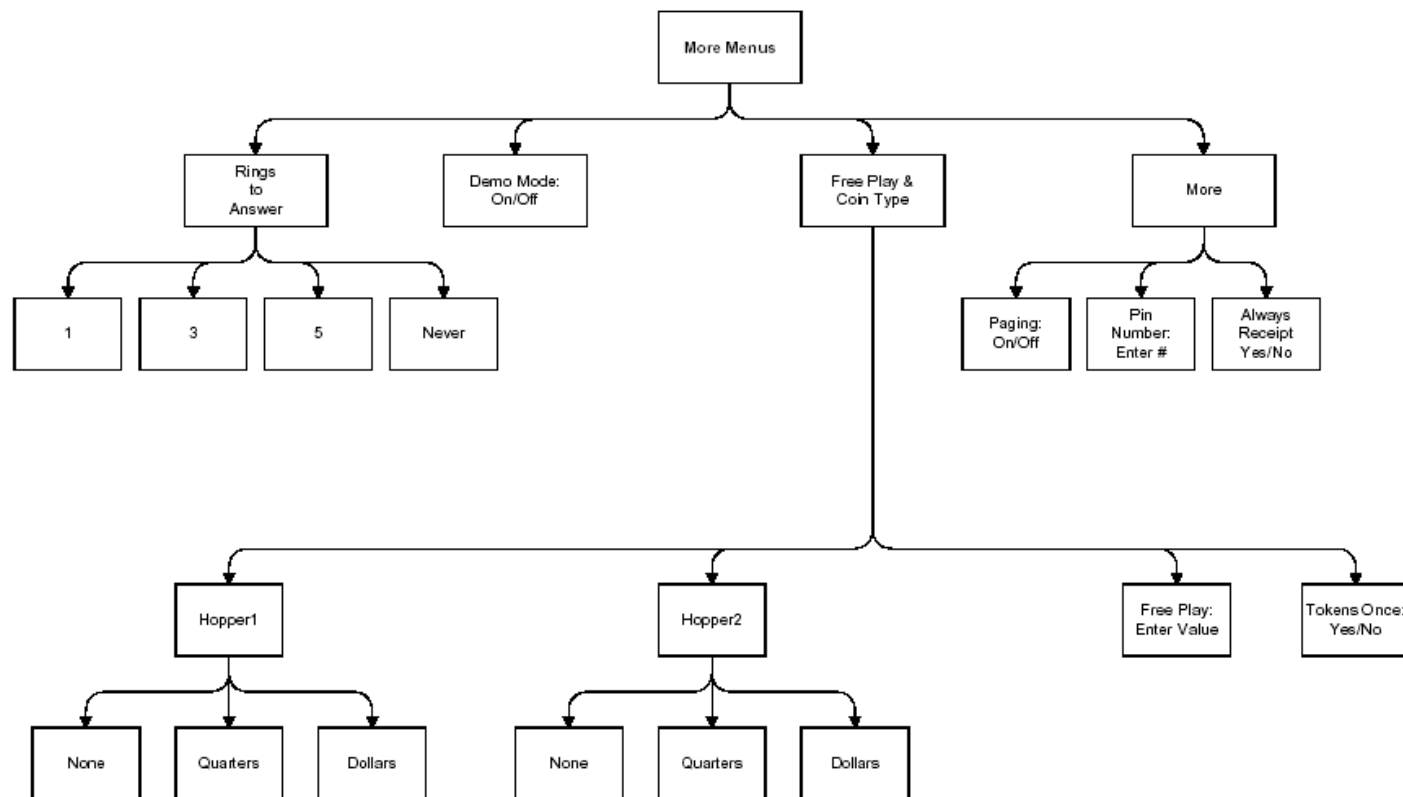
## American Changer PayStation Control Menus



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## ACCESSING THE PROGRAM MODE

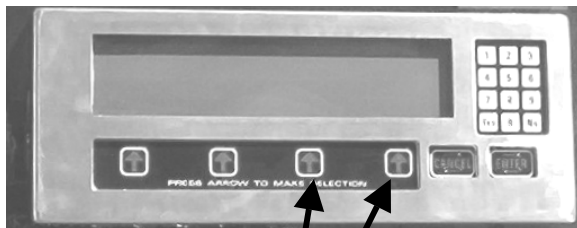
Using the LCD display on the front of the machine programs the PayStation. The "Program" mode must be entered in order to set car wash pricing, error time outs, audit features using the printer, troubleshooting features & dumping the hoppers.

The first thing that must be done to enter the program mode is entering the "Pin Number". To do this you must OPEN THE DOOR TO THE PAYSTATION! The door switch must be actuated in order to allow the pin # screen to be accessed.

1. Open the PayStation door to at least a 45-degree angle.
2. Press right two car wash price select keys simultaneously.
3. Enter the default numbers 4-3-2-1.

### Changing the 4-digit pin number.

4. You may wish to have another pin # besides the default. To change the Pin # press the from the front screen:
  - A. #2 – Set Up
  - B. #4 – More Menus
  - C. #4 – More Menus
  - D. #2 – Pin #



Press these 2 select buttons simultaneously to bring up pin # screen

Default Pin # is 4-3-2-1.

Enter the new Pin # and hit enter then repeat the second time to activate it.

**Warning – Once the pin # IS CHANGED American PayStation cannot restore the old pin # without doing a "System Reset". A "System Reset" will cause a loss of ALL SAVED AUDIT AND PRICING DATA!**

## FUNCTIONAL DESCRIPTION OF ALL PROGRAMMING MODES

*Programming will be described as it appears on the screen from left to right starting with the opening menu. "#" plus a number (I.e. #2-#2-#3) show which buttons to press STARTING WITH THE MAIN SCREEN that will navigate you to this step. (\*\*\*) Means that American Changer also downloads this data once the credit card functions are approved by a processor.)*

### #1 - The Dump Mode:

This mode will cause the hopper(s) to run continuously. While running the front display will show the amount counted out of each hopper and a total dispensed for audit purposes. Press the "Stop" arrow to end the dump mode. **The dump mode does not show up on the count for the printer audit features for the end of the week totals.**

To get a total of the coins dumped, press the "Print" key before exiting this mode.

### #2 – The Set-up Mode

This mode is quite involved and will be broken down by modes and sub modes.

#### #2-#1 – CC FUNC (Credit Card Functions)

##### #2-#1-#1- ENABLE CREDIT CARDS

#2-#1-#1-#1 – AMERICANX (Accept American Express) "YES" or "NO"? **Default is "NO"**. To change, press the "YES" or "NO" key on the number pad. \*\*\*

#2-#1-#1-#2 – DISCOVER (Accept Discover) "YES" or "NO"? **Default is "NO"**. To change, press the "YES" or "NO" key on the number pad. \*\*\*

#2-#1-#2 – Failure Reset. **NEVER PRESS THIS BUTTON UNLESS A TECH FROM American Changer AUTHORIZES YOU TO DO SO!!!**

#2-#1-#3 – Batch Times. This is the time in "once a day batching" the modem will call out and transfer the credit card transactions to the processor. Time is set on a 24-hour clock in hours (hh) and minutes (mm). \*\*\*

#2-#1-#4 - More Menus – Credit card options are continued.

#2-#1-#4-#1 – Batch Limit – Highest dollar amount allowed before batch time where modem connects and downloads Credit Card charges. **Default is \$899.**  
\*\*\*

#2-#1-#4-#2 – Transact. Limit – Limits credit card transactions per card to two per day (midnight to midnight). "YES" or "NO" **Default is "YES"**. To change, press the "YES" or "NO" key on the number pad. \*\*\*

#2-#1-#4-#3 – Erase all CC Records Erase credit card records in memory that have been authorized, but not yet downloaded.  
**WARNING – PRESSING "YES" DELETES ALL CHARGES NOT DOWNLOADED! NEVER PRESS THIS KEY WITHOUT PRINTING OUT CREDIT CARD CHARGES IN MENU #4 - #3!**

### **(End Credit Card Functions)**

## **#2-#2 – CW-IO (PayStation Input / Output set-up menus)**

#2-#2-#1 - Protocols The PayStation has 3 CWC values that must be set in order for the machine to function correctly.

#2-#2-#1-#1 - Washing – This value is the longest that a wash cycle will run. If the CWC's "Busy" signal lasts longer then this time interval the PayStation will place itself out of order. The formula for the "Washing" value is wash time = minutes X 60 X 10. I.e. say the longest wash your car wash has is 4 min. 30 sec. You wish the timeout to occur at 5 min. Therefore, 5 min = **5 X 60 X 10 = 3000. The Default value is "0000", or to ignore this feature.** \*\*\*

#2-#2-#1-#2 - WakeUp – This value is the longest time the PayStation will wait for the CWC to respond to a wash vend signal before going out of order. Formula: WakeUp time = seconds X 10. I.e. if you want the PayStation to wait 3 seconds before going out of order then, 3 X 10 = 30. **The Default value is "0000", or to ignore this feature.** \*\*\*

#2-#2-#1-#3 – Protocol Type – Depending on the type of CWC system being used with the Paystation will determine the type of protocol to use. Examples of the major

manufacturers are listed with each protocol to help set and make your set up smooth.

#2-#2-#1-#3-#1- FULL PROTOCOL – The communication type uses the 24VDC "OK" line on wires #13 & #14 to check the status of CWC. Car Wash manufacturers using this protocol are: **D&S 5000, So. Pride WindTracker, etc.**

#2-#2-#1-#3-#2- BLINKING PROTOCOL – The communication type uses the 24VDC "BUSY" line on wires #11 & #12 to monitor the status of CWC. It is important to set the "Bad Blink" setting in order for this protocol to function correctly. Car Wash manufacturers using this protocol are:

#2-#2-#1-#3-#3- RESET PROTOCOL – The communication type uses a special add on logic relay board (ACC part # AC8062.2-HM) to reverse the input logic coming in from the CWC. The Paystation also uses Relay #5 to route it's own 24VDC to trick itself into its own "Busy" signal. Car Wash manufacturers using this protocol are:  
**Hamilton Conversions  
(Some) Southern Pride's**

#2-#2-#1-#3-#4- BadBlink – This time is the minimum time the car wash can be busy. Any 24V signal on the busy line less than the time set will be registered as a out of service condition from the CWC. All times are set to 1/10<sup>th</sup> of a second. I.e. "0020" = 20/10ths of a second or 2 seconds. **The Default value is "0000", or to ignore this feature.** \*\*\*

## **#2-#2-#1-#4- MORE MENUS**

#2-#2-#1-#3-#4-#1- Duration Disable – Used in conjunction with Cancel button disable. If a PayStation is disabled due to a timeout of a car NOT driving in to start a wash this timer will reset the machine after either 15, 30 or 60 minutes has expired. The owner also has the option to never allow the machine to come back on with out a hard reset. **The Default value is "NEVER", or a switch reset.** \*\*\*

#2-#2-#1-#3-#4-#2- OK Test – If the distributor needs to test the unit before it is installed with the car wash controller. "Enable car wash OK Test?" "YES" or "NO" "YES" turns on the test and the PayStation. **This should be used as a temporary measure ONLY! The Default setting is "NO".** \*\*\*



#2-#2-#1-#3-#4-#3- Prompt Voice Drive-in – This allow the owner to choose between telling the customer via voice prompt to drive in when the transaction is completed or just say "Thank You".

**#2-#2-#2 – Stacking** – Enable stacking of the car wash? (When the car wash is in use, this enables you to take the next customer's payment before the first car is finished washing?) "YES" or "NO" **Default is "YES"**. To change, press the "YES" or "NO" key on the number pad. \*\*\*

**#2-#2-#3 – Wash & Location names + Wash Values** – Programming the individual wash and location settings.

#2-#2-#3-#1-(#1, #2, #3, #4) – Name your wash using **NINE** Letters. Once the Alphabet appears use arrow numbers #2-#3 to navigate the letter choices. #4 arrow enters the character and the #1 erases the last letter chosen. *Note: In order to center the name above each price use the "space" key to center around the nine spaces. The "space" letter is to the left of the capital "A".* \*\*\*

#2-#2-#3-#2-#1 – Program the Location Name - Using 40 total characters. Once the Alphabet appears use arrow numbers #2-#3 to navigate the letter choices. #4 arrow enters the character and the #1 erases the last letter chosen. *Note: In order to center the name above each price use the "space" key to center around the 40 spaces. The "space" letter is to the left of the capital "A".* \*\*\*

#2-#2-#3-#3-(#1, #2, #3, #4) – Set the values of each of four washes. Each wash must be set in quarter increments (I.e. a \$4.00 wash = 16 quarters or "16"). Minimum wash amount is 25 cents or "01". Maximum wash value is \$24.75 or "99". **The Default value is \$10.00 or "40" for all four washes.** \*\*\*

#2-#2-#4 – Protocols – This controls the enable/disable logic controlling the bill validator and electronic coin mech. **The Defaults are "LOW" for the Bills and "HIGH" for the Coins.**

### **(End CW-IO Functions)**

## **#2-#3 – TIME (Set and observe the time of day)**

#2-#3-#1 – Read Clock – This will show you the time of day of the Paystation.

#2-#3-#2 – Set Clock – this will allow you to set the year, month, day, hour, minute, seconds of the Paystation in format:  
yr,mm,dd,hr,mn,ss

use the number keys to the left of the display to enter this information. Press the "Enter" key when complete and to start the clock with the new time. **Time is set in the 24-hour clock mode or military time! \*\*\***

#2-#3-#3 – Set Cancel – Set the time of day that the "CANCEL BUTTON" is disabled. . Set the Start time of day the button is disabled. Now set the time of day the button will be re-enabled. **Default value is time 00:00 to 00:00. This means the button is NOT DISABLED!\*\*\***

#2-#3-#4 – Set Light – This option is to set the "On" and "Off" time for the optional light up header. **Time is set in the 24-hour clock mode or military time!**

### **(End TIME Functions)**

## **#2-#4 – MORE MENUS – Continued setup options.**

#2-#4-#1 – Ans. Rings – Set how many rings on the incoming phone line before the PayStation's mode picks up.

**The Default value is "3"**. ONCE THE PAYSTATION IS COMPLETELY PROGRAMMED, WE RECOMMEND "0" TO PREVENT TELEMARKETERS FROM GRABBING THE PHONE LINE.

#2-#4-#2 – Demo Mode – **This is for show room floor displays only! It enables the credit card reader without a phone line and is equivalent to a FREE VEND mode!** The Default value is "NO"!

#2-#4-#3 – **FREEPLAY (WASHBUCK) & Hopper Coin Type** – This option sets up the type of coins dispensed from you hoppers, the value of your WASHBUCK, and if you would like to accept multiple IDX tokens (NOT WASHBUCKS) for a car wash.

#2-#4-#3-#1 – Set value of LEFT hopper.  
Set what coin you will vend from your left hopper. Choices include; NONE or No coins in the hopper, Quarters or quarter valued tokens, and \$1 coins or \$1 valued tokens.  
**Default value is "\$1 COINS". \*\*\***

#2-#4-#3-#2 – Set value of RIGHT hopper. Set what coin you will vend from your left hopper. Choices include; NONE or No coins in the hopper, Quarters or quarter valued tokens, and \$1 coins or \$1 valued tokens. **Default value is "QUARTERS". \*\*\***

#2-#4-#3-#3 – Set value of WASHBUCK.  
(If applicable) Set the value in increments of a quarter. I.e. If you WASHBUCK will be valued at \$1 then set the value at "04" or 4 quarters. **Default value is "00". \*\*\***

#2-#4-#3-#4 – Tokens Once? – This allows the owner to accept the SAME VALUE promotional tokens more than once. (Note: This does NOT mean WASHBUCKS. We cannot accept multiple WASHBUCKS at this time.) **Default value is "YES". \*\*\***

#2-#4-#3-#4 – More Menus. Setup Cont.

#2-#4-#3-#4-#1 – Paging – Enable the Pager function? "YES" or "NO". American Changer will set up the pager phone number when the machine is setup for the first time. You can turn the function on or off locally from the menu. **The Default value is "ON". \*\*\***

#2-#4-#3-#4-#2 – Pin Number – Change the Pin Number of the machine from this menu.

**WARNING – Once the PIN NUMBER IS CHANGED American Changer cannot restore the old pin # without doing a "System Reset". A "System Reset" will cause a loss of **ALL SAVED AUDIT AND PRICING DATA!** P.S. Don't lose your new number :o)**

#2-#4-#3-#4-#3 – Print Receipt? – This gives the owner the ability to ALWAYS print a receipt after a credit card transaction or ask the customer a Yes/No prompt if he would like one. **The default setting is "ALWAYS"**

### **(End SETUP Functions)**

## **#3 – The Test Mode - (PayStation Test Options)**

#3-#1 – Relay Test – This function tests the relay board for faulty relays. By putting the PayStation into this test you can monitor that all relays are "clicking", as they should. This will also light the LED associated with the relay. The LED lighting IS NOT an indication that the relay is good. (Relay board Part number AC8061.)

#3-#2 – I-O – This will test the input/outputs present throughout the machine.

#3-#2-#1 – Inputs – These are the inputs. "I" are "shorts" or "on" or "+5-v". the "0" is "open" or "off" or "ground".

#3-#2-#2 – Voltages – These are the machine power supply voltages. They are listed as follows:

**V1** = (5-Volts) 4,900-5,150 is good.  
**V2** = (10-Volts) 9,000-11,000 is good.  
**V3** = (Unused)  
**V4** = (24-Volts) Power Supply –  
24,000-25,000 is good  
**V5** = (24-Volts) Hoppers –  
24,000 – 24,500 is good  
**V6** = (m amps) Left Hopper current 27-50  
**V7** = (m amps) Right Hopper current 27-50  
**V8** = Temp inside cabinet in **CELSIUS!**  
(Double it and add 30 to get Fahrenheit.)  
Heater comes on at 5-10 C.

#3-#2-#1 – Keypad – Tests all the buttons of the keypad by showing them on the LCD display. Does not include the "cancel" button. Exiting the test tests this button.

#3-#2-#1 – Outputs – These are the outputs. "I" are "shorts" or "on" or "+5-v". the "0" is "open" or "off" or "ground".

#3-#3 – Display Test – This will illuminate the front display. This test is helpful in discovering any non-functioning display lines or a display harness in case of failure.

#3-#4 – Printer Test – This test will verify if the printer is functioning properly. *Note: Most printer problems occur when changing out the paper due to improper feeding of the new paper.*

### **(End TEST Functions)**

#### #4 – Status - (PayStation Status of Operations)

##### #4-#1 – Audit (PayStation Audit Options)

#4-#1-#1 – Rest & Print – This function will print all counters for the PayStation and reset the resettable counts to zero. It cannot reset the non-resettable counters. The sequential number counter is incremented by one.

#4-#1-#2 – Not Used

#4-#1-#3 – View – Show on the display only basic accounting counters.

#4-#1-#4 – Print – Prints accounting totals without resetting the counters.

##### #4-#2 – Variables (PayStation display of watchdog parameters.)

#4-#3 – Print all CC Records (Prints all Credit card charges remaining in memory. This are only the charges not yet downloaded to the bank.)

##### #4-#4 – Print Info (PayStation print out of all parameters.)

On the AC8000 that does not have the printer, the display will show the basic accounting features. Total Bills Inserted, Total washes, etc. Please copy down the totals from the front display for your records.

#### Audit Print Out

**Car Wash ### - Audit**  
**Date – year, mm, dd -Time – hr: mm: ss**  
**Audit Sequence # #**  
Machine Number  
Year, month, day, time and sequence number of the report.

**Total Money: \$ #####. ##**  
Non-resettable count of total bills accepted by the machine in its lifetime.

**Total Bills: \$ #####**  
Total Paper bills accepted - Resettable

**Ones: \$ #####**  
Total \$1 bills accepted - Resettable

**Fives: \$ #####**  
Total \$5 bills accepted - Resettable

**Tens: \$ #####**  
Total \$10 bills accepted - Resettable

**Twenties: \$ #####**  
Total \$20 bills accepted - Resettable

**Fifties: \$ #####**  
Total \$50 bills accepted - Resettable

**Hundreds: \$ #####**  
Total \$100 bills accepted - Resettable

**Dollar Coins: \$ #####**  
Total \$1 coins accepted - Resettable

**Quarters: \$ #####**  
Total .25 accepted - Resettable

**Tokens: \$ #####**  
Total IDX Tokens accepted - Resettable

**TokenNotes: \$ #####**  
Total WASHBUCKS accepted - Resettable

**CreditCards: \$ ##, ###. ##**  
Total Credit Card sales - Resettable

**Change-Hop-1: \$ ##, ###. ##**  
Total change out LEFT Hopper - Resettable

**Change-Hop-2: \$ ##, ###. ##**  
Total change out RIGHT Hopper- Resettable

**Washes-1: #####**  
Total LEFT wash button - Resettable

**Washes-2: #####**  
Total 2ND wash button - Resettable

**Washes-3: #####**  
Total 3RD wash button - Resettable

**Washes-4: #####**  
Total RIGHT wash button - Resettable

**Washes-Total: #####**  
Total ALL Washes - Resettable

**Hopper #1: OK**  
Status of LEFT Hopper

**Hopper #2: OK**  
Status of RIGHT Hopper

**Validator: OK**  
Status of Bill Acceptor

**Credit Card: OK**  
Status of CREDIT CARD Operations

**Total Hop-1: \$ ##, ###. ##**  
Lifetime dispensed LEFT Hopper-Non-Resettable

**Total Hop-1: \$ ##, ###. ##**  
Lifetime dispense RIGHT Hopper-Non-Resettable

**Machine ### - Information**  
**Year-mm-dd - Time: hr: mm: ss**

**Hopper1 Type = #**  
**Hopper2 Type = #**  
Type of coins dispensed from each hopper.  
1=quarter, 4=\$1 coin, 0=None

**Selection #1 = \$ ##. ##**  
**Selection #2 = \$ ##. ##**  
**Selection #3 = \$ ##. ##**  
**Selection #4 = \$ ##. ##**  
Cost of all 4 washes in dollars.

**IDX #1 Value = ##**  
**IDX #2 Value = ##**  
**IDX #3 Value = ##**  
**IDX #4 Value = ##**  
Value of each IDX Token used. Totals are in quarter increments.

**FreePl. Value = ##**  
Value of WASHBUCK coupon used. Total is in quarter increments.

**PhoneAuthPri = #####**  
**PhoneAuthSec= #####**  
**PhoneCaptPri = #####**  
**PhoneCaptSec= #####**  
Phone numbers PayStation calls out to Authorize and Charge Credit Cards.

**PhoneOffice = Not Used**  
**PhonePager = #####**  
Phone number called when PayStation or Car Wash Controller is down.

**BIN = #####**  
**Agent Bank = #####**  
**Agent Chain = #####**  
**Merchant # = #####**  
**Store # = ####**  
**Terminal # = ####**  
**Merch Categ = ####**  
**Merch City = XXXXXXXXXXXX**  
**Merch State = XX**  
**ZipCode = #####**  
**Country Cod = ###**  
**CurrencyCd = ###**  
**Merch Loc = 000001**  
**Terminal V# = #####**  
**TimeZoneDif = ###**  
These are your Credit card set up functions. Underlined lines maybe requested of Techs when you call in for a card processing problem.

**Batch Seq. # = ###**  
The current processing batch number.

**Max twice CC = y or n**  
CC# limit 2 times in 24-hr period?

**Accept Am-X = y or n**  
**Discover = y or n**  
Machine accepts Amex/Discover Cards?

**--Continued--**

**--Continued--**

**Demo Mode = NO**  
Is machine in the Demo Mode?

**PagerEnabled = y or n**

**Capture \$ = ####**  
Set how much machine will batch out at in dollars.

**Dollar Now = ####**  
How much CC sales equal that have not been batched yet today.

**Sched. Capt. = hr: mm: ss**  
Time machine is set to do once a day batching.

**Ring Answer = #**  
How many rings the PayStation modem will allow before picking up.

**Audit Ptr Addr= XXXX**  
**AuthDoneAddr= XXXX**  
**CaptWorkAddr= XXXX**  
**CaptDoneAddr= XXXX**  
**Bill Validator = Low**  
**Coin Acceptor = Hi**  
**Reset Timer = No**  
**Multiple Token= XX**  
**CW Protocol XXXX**  
**CW OK Test XXXXX**  
**Cancel En/Dis XXXXXX XXXXXX**  
Time cancel button is turned on until off.

**Max Blink Time .XX Sec**  
**Max Busy Time .XX Sec**  
**Max WakeupTime .XX Sec**  
**Stacking Y or N**  
Is Paystation in the stacking mode.

Internal use only!

**System Data Logger Information**  
See Page 15!

**--End Machine Info Print Out--**

**(End Section 2 Programming)**

# PayStation Remote Paging Features and Error Codes

The **Paging** option pages/calls the owner if the Pay Station detects a problem.

***For the paging option to work, the PayStation must be configured remotely by American Changer to load the pager number into the software.***

The PayStation will page **most** numeric pagers. (A cell phone with caller ID can be used but there is no error code transmitted, the only thing seen will be that the phone number the PayStation is connected to called). If you are using a cell phone and see that the PayStation is calling see **Page 16**.

Once the telephone number is configured in the Paystation, the paging function is operational. It can be turned on and off via the setup menu

While the PayStation is paging, the display momentarily shows:



The following is a list of the codes that will be sent to the pager:

\*00 \* ID # of Machine \* up to 4 error codes \*

**The 4 error codes are:**

- 01 Hopper**
- 02 Validator**
- 03 Credit card/phone**
- 04 Car wash**

**Example: A validator problem would usually display 00|333|02**

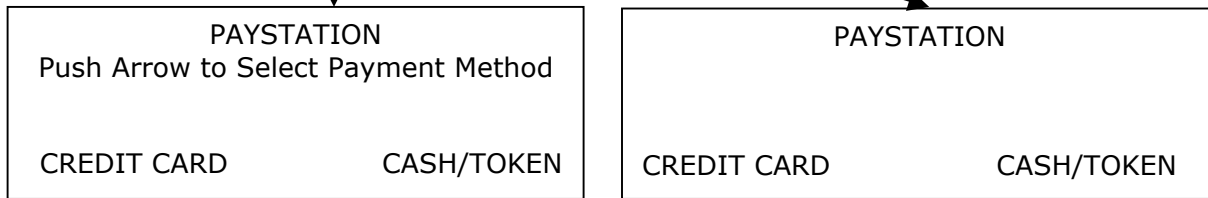
The first two digits come up zero.

The next three digits are the machine numbers. (Chosen by the user during configuration)

The last two are the error code with a zero in front.

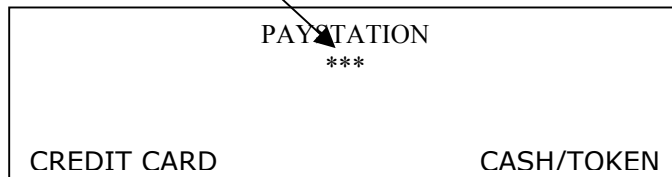
## AC8001 ON SCREEN ERROR INDICATORS

When the PayStation is functioning with out any errors and is configured to accept credit cards, the main screen appears as below. The "Push Arrows to Select Payment Method" appears for approximately three seconds then disappears.

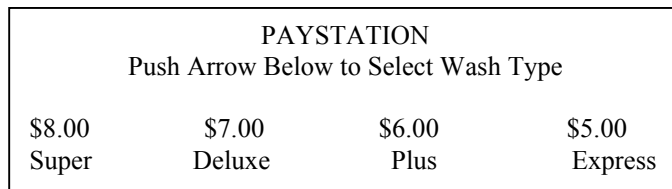


If three asterisks or stars alternately appear with the "Push Arrows to Select Payment Method" it's possible there is an error. (When running in a one hopper mode these are displayed. Also, they will appear if a credit card fails to authorize when it is swiped, but once a successful authorization occurs they disappear.

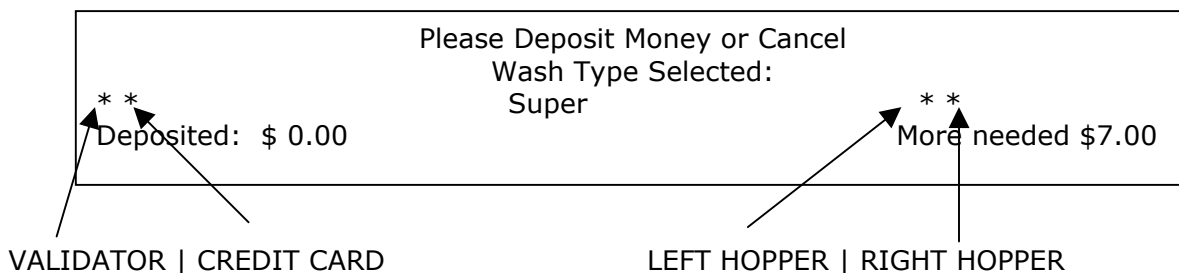
**To determine if there is an error, go to 1. then 2.**



**1. PRESS ARROW TO SELECT CASH/TOKEN**



**2. PRESS ARROW TO SELECT ANY WASH**



*ERROR CODES ARE INDICATED AS ABOVE ON THE DEPOSIT MONEY SCREEN*



## Data Logger Info

The printout shows the last 25 events. This data is shown on the bottom of the Machine "Print Info" print out.

From left, the data fields are:

DD = day of the month  
HH = hour in 24 hour format  
MM = minutes

Evnt = Event occurred  
Code = Result code of event

Flag 1 = Wsh\_Flag WshFail  
Flag 2 = CC\_Veri CC\_Veri  
Flag 3 = CC\_Stat CC\_Stat  
Flag 4 = CC\_Fail CC\_Fail  
Flag 5 = Pager PagerFlg

### Current defined events are:

Strt = Power up or Restart  
**Flag = Flag Failure**  
Wash = Washer started  
Ring = Ringing  
OffH = Going Offhook (Dialtone ?)  
Auth = CC Authorize  
Bat = Batch  
Page = Page  
Swch = Switched to cash  
Ccrd = Credit card read and failed (good ones not recorded)

### Current defined Codes are:

OK = OK  
Bad = Bad  
Aprv = Approved  
Rej = Rejected  
GB = Good Batch  
QD = Quit Duplicate  
NoDT = No Dial Tone  
Busy = Busy  
Nanr = No Answer  
Phon = Phone Problem  
Othr = Other problems  
Modm = Modem Failure  
Comm = Communication Failure  
Data = Bad CC data (read problems)  
Exp = Expired Card  
Type = Wrong type card  
Time = Timeout on CC  
Rept = Too many repeat uses

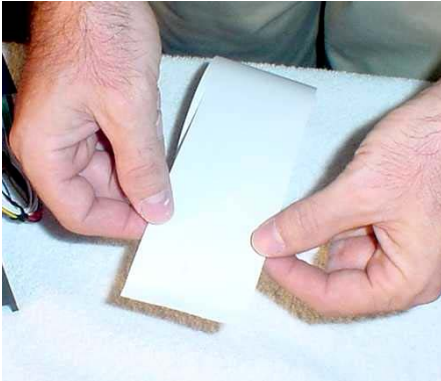
Note: A brand "X" card might be listed as wrong type or bad date if the internal fields are different from a standard credit card.

### Pager Flag: Emergency pager flag

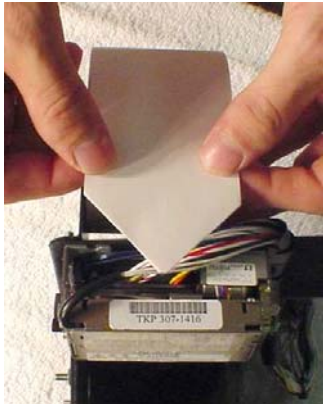
All 0 = No problem = no page  
0 = Counter 0-15 Counts down in minutes time to page  
1 = Counter  
2 = Counter  
3 = Failed to send page bit  
4 = Hopper Errors  
5 = Validator Errors  
6 = CC Errors or communication  
7 = Equipment failure

## REPLACING THE PRINTER PAPER

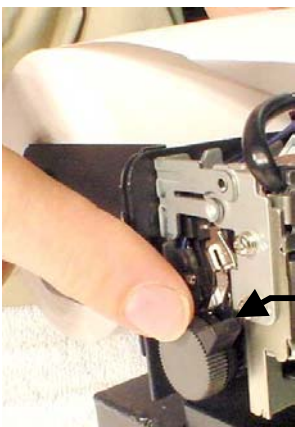
Before the printer paper has run out you might wish to contact your Distributor and order more Printer paper. The part number is **AC7071-01** and it is a special brand which is hard to find. Most AC6007 problems occur from the printer. Either the operator buys the wrong paper or has trouble loading the paper. Please follow the following steps to properly load your thermal printer with new paper.



1. Hold the paper as shown.

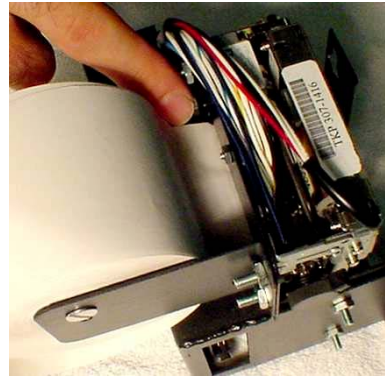


2. Fold or cut paper into a point.

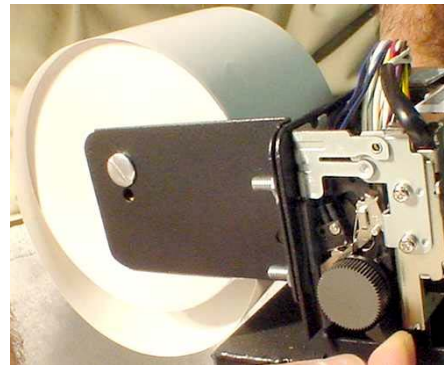


"Lever UP"

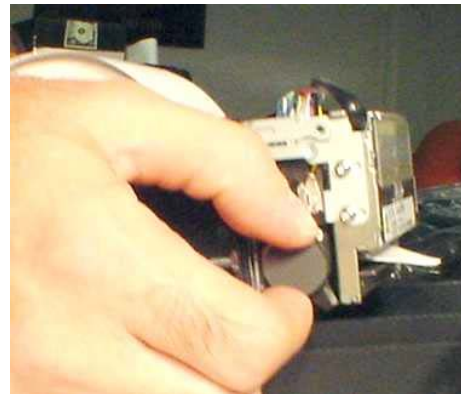
3. Move the "feed lock lever" to the "UP" position.



4. From the back, feed paper through, over the post and through the slot until the paper stops.



5. Move the "feed lock lever" to the "DOWN" position.



6. Manually turn the feed wheel in the "clockwise" direction until you feed the paper arrow through the cut head.
7. In the program mode choose a report to print (I.e. audit, printer test or Machine info) and make sure the printer prints all the lines and cuts the paper.

## FUNCTIONAL DESCRIPTION OF THE AC8000/8001 PAYSTATION

After the PayStation has been installed and the computer programming complete, the machine is ready to operate. Exiting the "Program" mode will bring up the main Pricing screen. A voice will prompt you to select a car wash type.

Using the select buttons choose a car wash. **YOU MUST SELECT A CAR WASH TYPE BEFORE THE PAYSTATION WILL ACCEPT ANY TYPE OF CURRENCY!**

Once the pricing type is selected, a voice prompt will ask the customer to deposit the money. At this point in time the only pay types are bills, \$1 coins, quarters, or IDX tokens. Insert one of these payment types at this time.

Once the amount of the car wash selected is reached the PayStation will send a wash pulse to the CWC. As the wash relay is pulled the green LED on the Power Supply / Relay board will flash showing the pulse sent to the CWC. If the CWC is busy washing another car, the PayStation will wait until the busy signal from the CWC drops to 0V. At this time multiple of things occur.

1. The bills inserted count up the "Total Money", and all other associated audit features.
2. The wash total electronic counter is incremented by 1.
3. If there is any change to be given back a correct mixture of \$1 coins and quarters will be received by the customer. These audit counters are also incremented.

If the customer presses the "cancel" button on the keypad a refund in \$1 coin and quarters is given back to the customer. The coins and bills will increment on the audit counters.

## FUNCTIONAL OPERATION OF THE HOPPER OUT-OF-SERVICE CONDITIONS

In a two-hopper system, the other hopper will work as a backup or give change as needed. In a one hopper system there isn't a backup.

There are 4 instances, which will shut down a hopper.

1. Low Coin – This is the most common occurrence. This is shutdown happens when the coins in the hopper fall below the gold plates which conduct low voltage between them. The hopper will dispense coins from the other hopper when the TokenStation reads the signal. Once the first hopper is read to have "low coins" a call over the phone line is place to the pager/Cellphone that one hopper is down. If the other hopper runs out of coins THE PAYSTATION WILL CONTINUE TO DISPENSE COINS FROM EITHER HOPPER UNTIL BOTH HOPPERS TIME OUT WITH A JAM ERROR CODE. **AFTER BOTH HOPPERS ARE EMPTY THE PAYSTATION WILL CONTINUE TO OPERATE. THE MACHINE WILL NOT SHUT DOWN IF BOTH HOPPERS CANNOT DISPENSE COINS!** A second call on the pager will now be place telling the operator that the second hopper is "Low".
2. Security Failure – There are 2 cases which cause a security failure.
  - A. The hopper is missing. The hopper is not slid into the hopper plate connector.
  - B. There is a foreign object or coin lodged in the coin counting window. Remove the side of the hopper with 5 screws and look in the area where the coins exit the hopper. Check the slot for foreign matter and remove it from the slot.
3. Jammed or Timeout Failure – This failure occurs when the hopper is told to dispense coins and after 45 seconds no coin has been dispensed. This failure is present when the hopper coin belt is jammed or the hopper has run out of coins. If the coin belt is jammed proceed to the MK4 Hopper section for instructions to un-jam the hopper.
4. Over-Pay Failure – This is the error that occurs when the hopper pays out two too many coins then told to dispense. A very dirty exit sensor most often causes this error.

# Model X10

## Coin Learn & Field Test Procedure



### Coin Learn Procedure

1. Slide the front cover up and identify the three controls to be used in this procedure:
  - Black or Red push button near center bottom. (used to input the number of credit pulses)
  - 16 position rotary switch to the right of the push-button. (#0 is normal RUN position, #1-#6 are for learning each of 6 possible coin types that can be accepted) (#0 is normal RUN position, #1-#9 and #A, #B, #C are for learning each of 12 possible coin types that can be accepted)
  - LED indicator half way up on the right side. (Green in RUN mode, red in LEARN mode)
2. Turn the rotary switch to one of the LEARN positions #1-#6 or #1-#C (for example, pick #3 for learning the 3rd coin type) and observe the LED turns red to indicate it is now ready to learn.
3. Push the black or red button once for each credit pulse you wish to have issued for this coin. For example, a \$1 coin would require 4 credit pulses if you are also accepting \$0.25 coins for one credit pulse.
4. Slide the cover back on the unit to make sure outside light does not interfere with the sensors.
5. Show the unit 6 different samples of the coin by depositing them into the acceptor as usual. It is best to use 6 different coins since there are typically slight variations from coin-to-coin.
6. After the 6th sample coin is deposited, the LED will flash red-green a few times to indicate the LEARN procedure is complete and the coin parameters are stored in memory.
7. Slide the front cover open again and turn the rotary switch back to position #0 and observe the LED turning green. Check that you have not accidentally turned it too far to position #15 which is a field test function position, in which it will not accept coins.
8. Slide the front cover back down and you should now be able to accept the new coin.

### Coin De-Learn Procedure

1. Slide the front cover up and turn the rotary switch to the coin # position you wish to DE-LEARN.
2. Push the black or red button once to initiate the LEARN sequence.
3. Turn the rotary switch back to position #0 without depositing any coins to signal the

unit that you wish it to erase the parameters for this coin. The LED will flash red-green to indicate completion.

4. Slide the front cover back down.

### FIELD TESTS & DIAGNOSTICS

A green LED shows normal operation in switch position #0. If the LED is flashing yellow or alternately red-green, it indicates a malfunction has been detected. Some malfunctions can be corrected in the field. See below.

#### GATE RELAY TEST (rotary switch #0)

Press the black or red button to activate the gate relay. If not normal, it may be physically obstructed or its wire unplugged.

#### INDUCTIVE METAL SENSOR TESTS (rotary switch #E, #F)

Turn the rotary switch to positions #E and #F to test the inductive sensor. Normal LED color is green. A red color indicates either there is metal in front of the inductive sensors or the circuit is malfunctioning.

#### DIAMETER OPTICS SENSOR TESTS (rotary switch #B, #C, #D)

Turn the rotary switch to positions #B, #C, and #D to test the diameter thru-beam optical sensors. Normal LED color is green. A red or orange color indicated either there is an object or dirt blocking one of these three sensors or cleaning of the coin chute is required, or the circuit is malfunctioning.

#### X-MARK CODE OPTICS SENSOR CALIBRATION (rotary switch #9,)

Fold a piece of white paper twice (to 4 thickness) and insert it into the center of the coin chute. Turn the rotary switch to position #9 (front side optics) and press the black or red button. The unit will use information gathered to calibrate the sensitivity of its reflective sensors for reading the X-Mark optical code on tokens. The LED should be an orange color after calibration. Repeat for switch position #A (rear side optics).

#### CREDIT SENSOR TEST (rotary switch #8)

Turn the rotary switch to position #8 to test the Credit Sensors (V2.0 chip and after). If not installed the LED will blink yellow, if installed and in good order it will be green, if installed and dirty or blocked, orange to red color.

#### MEMORY TEST (rotary switch #7)

Turn the rotary switch to positions #7 to test the validity of memory. Normal LED color is green. A red color indicates that memory is corrupted. It may be possible to correct this by re-learning the coins. If not, the memory chip is bad.

# MAG BILL ACCEPTOR

Operation and Service Manual

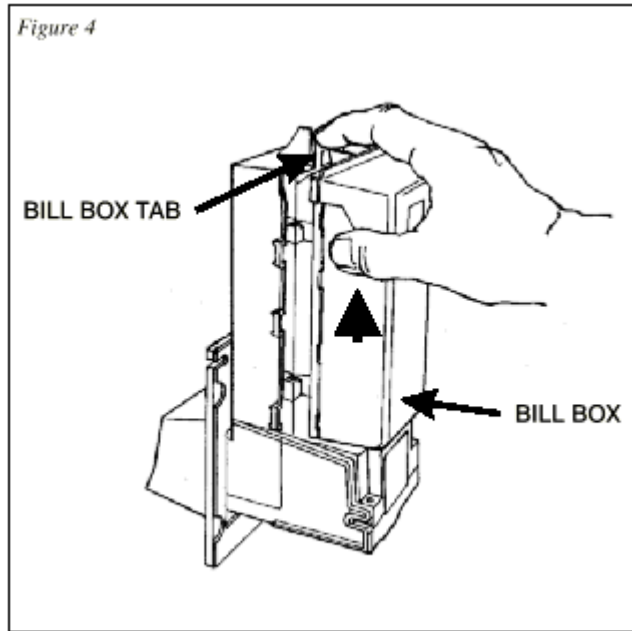


## COINCO BA32SA VALIDATOR SECTION

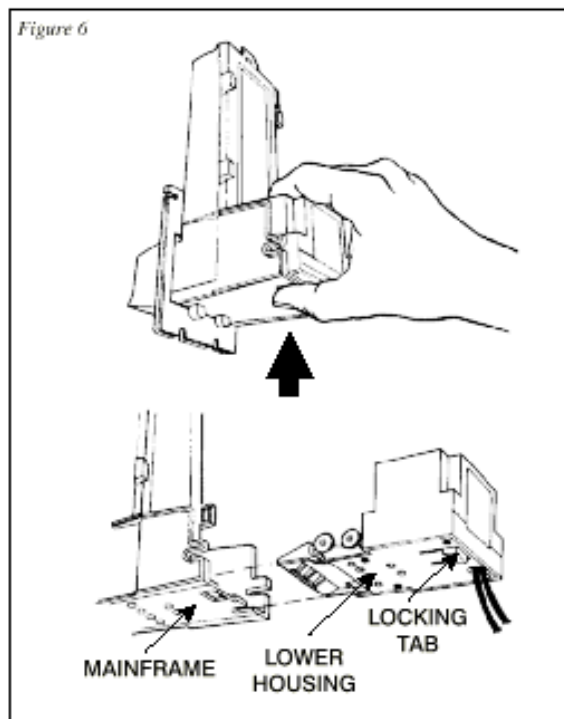
	<b>PAGE</b>
Removing the Bill Box	26
Clearing a bill jam	26
Setting the bill types accepted	27
Cleaning the sensors	27
Cleaning a salted unit	28
Replacing the belts	30

### Removing the bill box.

To remove the 1000 bill stacker from the CoinCo validator follow the picture below.



From time to time a foreign object or ripped bill will become caught in the validator. Follow the picture below to remove the item.





## SETTING THE BILL ACCEPT DIP SWITCHES

Figure 1

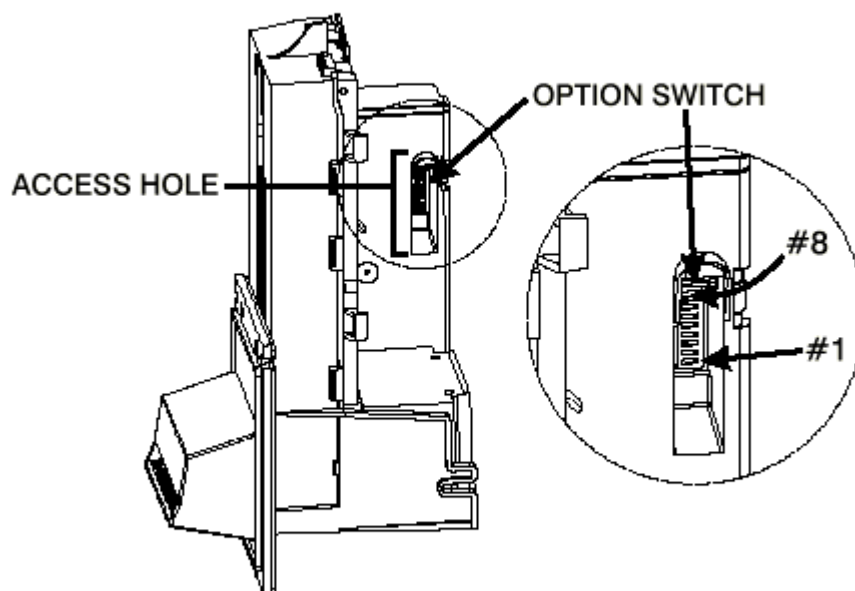
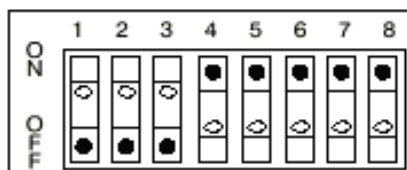


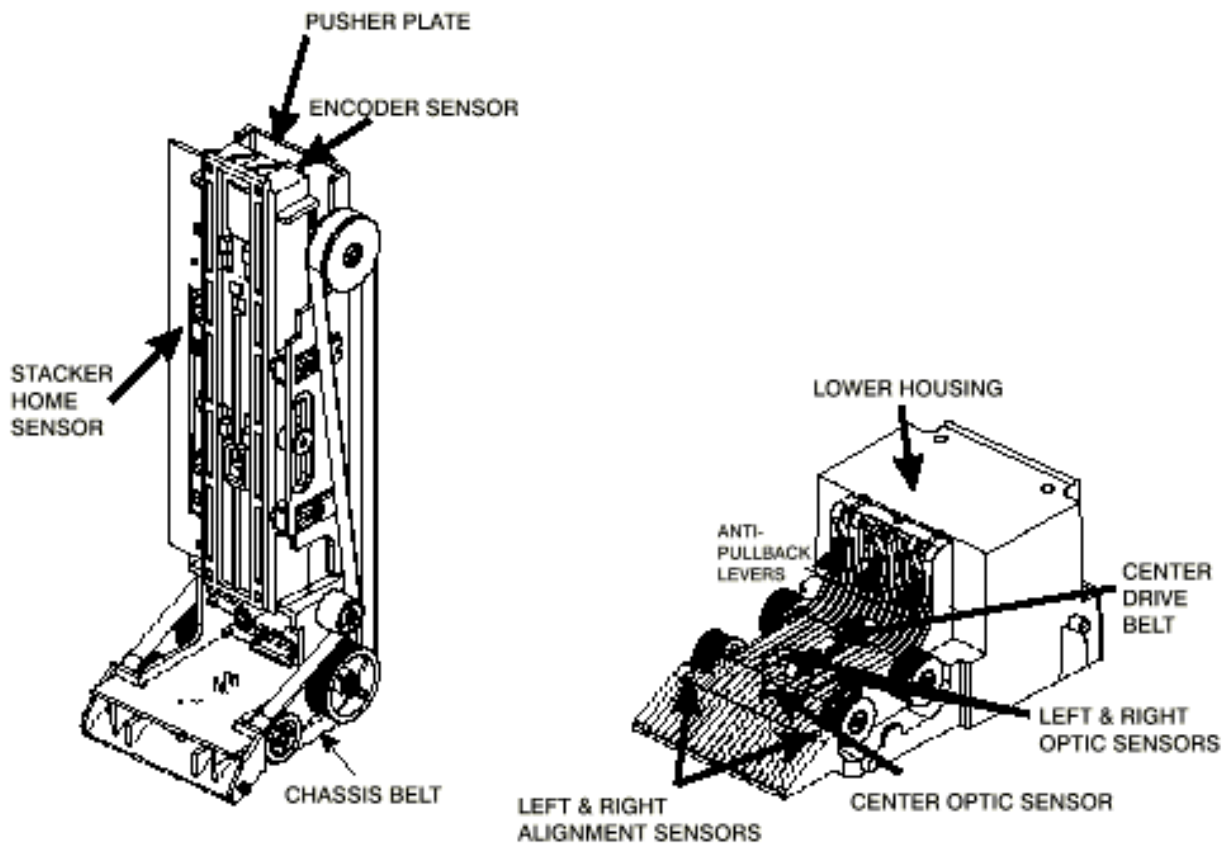
Figure 2



SWITCH	ON	0
1	High Security	Standard Acceptance
2	Accepts bills in one directions only (face up, green seal first)	Accepts bills in both directions (face up)
3	Serial or Parallel Interface	Pulse Interface
4	\$20 Accept	\$20 Reject
5	\$10 Accept	\$10 Reject
6	\$5 Accept	\$5 Reject
7	\$2 Accept	\$2 Reject
8	\$1 Accept	\$1 Reject

## CLEANING THE BILL VALIDATOR

Refer to the pictures and the procedure on the next page to clean the bill validator every 4-6 months.



**BA30B (B) CLEANING IF ANY OF THESE PROCEDURES ARE PERFORMED TO YOUR VALIDATOR AFTER IT IS RETURNED UNDER A WARRANTY REPLACEMENT, YOU WILL BE SUBJECTED TO A \$35.00 LABOR FEE.**

**BA30B CLEANING AND MAINTENANCE:**

**Note:** Petroleum-based cleaners and freon-based propellants can damage plastic and some electronic components. Scouring pads and stiff brushes may harm the protective conformal coating on the circuit boards and can mar the plastic. These items should never be used when cleaning the BA30 bill acceptor.

**The BA30 should be cleaned every 7,000 bills or every 4 -6 months (or as needed, depending on the environmental conditions of the location). Dust can be removed with a soft brush or cloth or it can be blown out using compressed air.**

**Procedure:**

1. Disconnect power from the bill acceptor.
2. Remove the bill box and use a soft cloth to wipe the dust from around the intermediate frame and stacker plate.
3. Remove the lower track.
4. Using compressed air or a soft brush, blow or brush the dust off of the optic sensors and out of the recessed sensor openings.
5. Remove dust from around the belts and wheels on the lower housing and the sensors on the upper sensor board. The upper sensors are located directly above the lower housing sensor when the lower housing is installed.
6. The bill path can be cleaned to remove further dirt and oil using a soft cloth moistened with a mild soap and water solution.
7. Clean the magnetic head using a swab and isopropyl alcohol.
8. Once the lower housing is dry, place it back into the mainframe so that the tab on the bottom locks into place.
9. Blow the dust out of the encoder wheel and its sensors. (It may be necessary to extend the stacker plate to access the encoder wheel. Supplying power to the unit momentarily can do this, so that the stacker plate extends.)
10. Remove dust from the transport belt areas and from any other places of build up.
11. Remount the bill box.
12. Apply power and insert bills to verify that the unit is functioning properly.

**BA30 CLEANING PROCEDURE FOR SALT WATER POLLUTED UNITS:**

**Note:** Petroleum-based cleaners and freon-based propellants can damage plastic and some electronic components. Scouring pads and stiff brushes may harm the protective conformal coating on the circuit boards and can mar the plastic. These items should never be used when cleaning the BA30 bill acceptor.

**Procedure:**

1. Remove power from the bill acceptor.
2. Remove the bill acceptor from the vending machine.
3. Open the bill box lid and verify that the stacker plate is in the stand-by/home position. If it is not in the home position, apply power and observe that the stacker plate returns home.

**Warning:** If moisture is present, allow the unit to dry thoroughly before applying power to avoid possible shock hazard. If the stacker plate does not return to the home position, remove power and carefully remove the bill box to avoid damaging the bill box and/or stacker plate.

4. Remove the lower housing.
5. Remove the bottom cover from the lower housing.
6. Run hot water (1101/4-1401/4F) over the lower housing from the top and bottom. Using a soft brush, gently clean any residual salt. Use a soft absorbent cloth to clean any residue off the lower housing. If the transformer gets wet, allow the unit to dry for 24 hours before applying power.
7. Remove the front mask. Using hot water and a soft brush, clean the front mask, upper sensor board, main frame anti-pullback levers and position sensor mount.

*Caution: The motors are not protected from water, therefore the unit must be held in a manner that prevents water from running over the intermediate frame crossbar.*

*8. Remove the position sensor cover on the crossbar and carefully lift the LED from its mount. (Early models only.)*

*Caution: Protective coating on the LED leads should not be damaged. Clean all salt residue from the mount, sensor hole and detector area.*

*The detector can be seen through the sensor hole, and is located in the chassis. Replace the position sensor cover. (Early models only.)*

9. Verify that the anti-pullback levers move freely and that the spring returns them to their open position.
10. Allow the unit to dry thoroughly.
11. Clean the magnetic head using a swab and isopropyl alcohol.
12. Replace the front mask
13. Replace the lower housing cover.
14. Replace the lower housing into the main frame.
15. Remount the bill box.
16. Apply power and insert bills to verify that the unit is functioning properly.

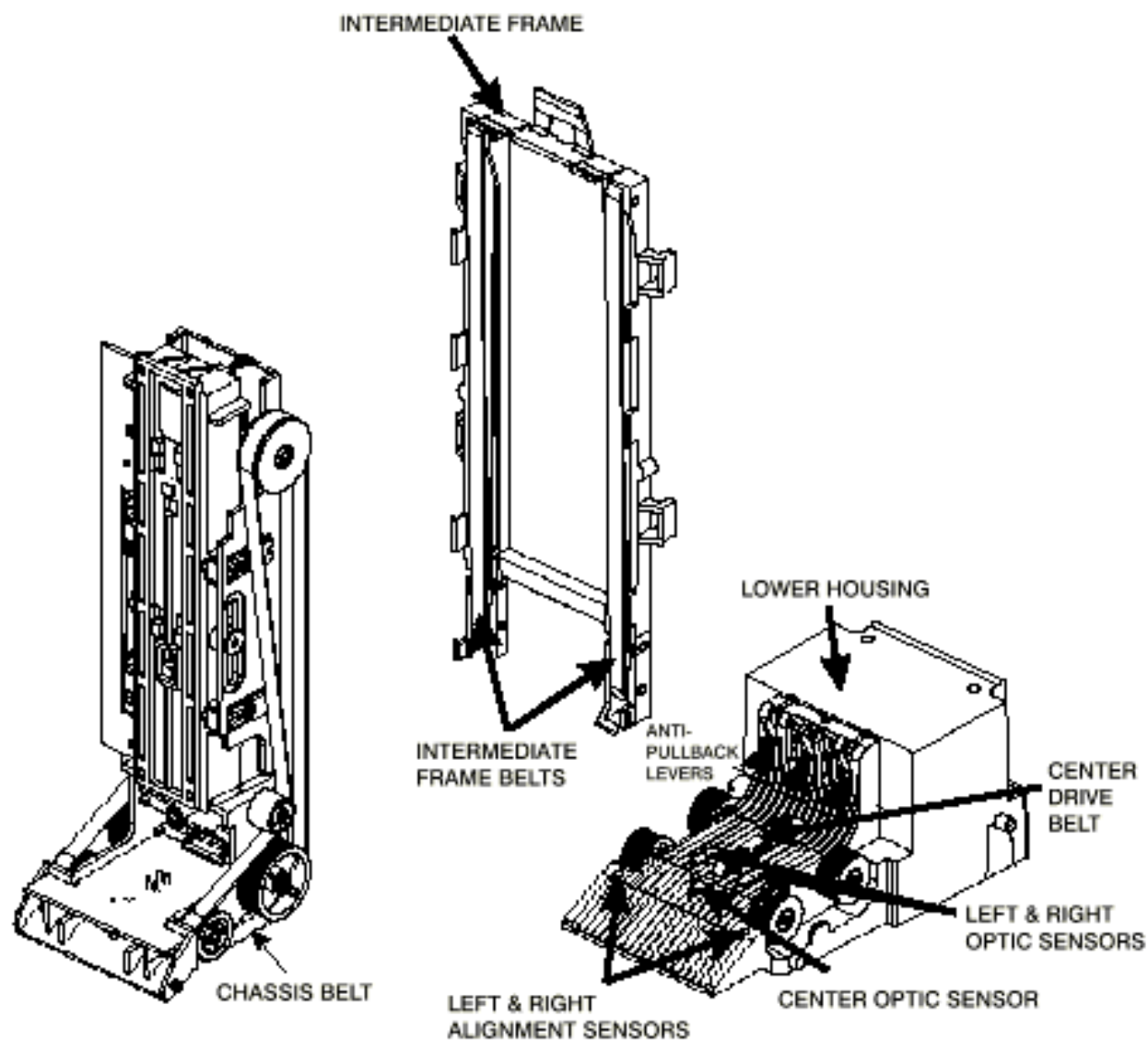
**6 OR 7 ERROR CODE FLASHES**

*The cleaning procedure for this common occurrence is listed below. Just follow these steps.*

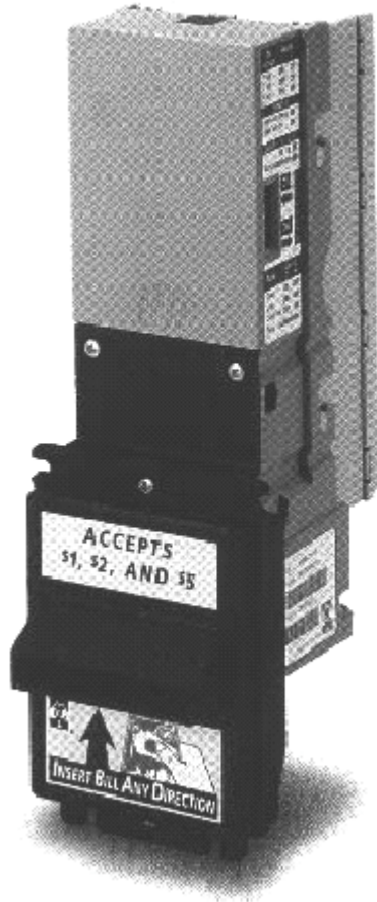
1. If this code has occurred on a new machine or one that the validator's DIP switches were just changed, Ensure that all the white plugs on the side of the validator board away from the red LED are plugged in securely.
2. Remove the bill box.
3. Turn the PayStation ON then OFF in an attempt to stop the metal push plate so that it COASTS into the fully outward position.
4. Using an air compressor or a can of compressed air blow out the area behind the push plate until it is completely free of all dust and lint.
5. Turn the PayStation power back on so that the push plate returns to the inward position. If the same error code persists, repeat steps 1 - 3 concentrating on the top center area behind the plate.
6. Replace the bill box.

## REPLACING THE BELTS

Every 2-3 years the belts on the CoinCo will wear out. To replace them, remove the validator components down to the picture show. Refer to the parts diagram at the end of the manual for help getting to this point.



# MARS AE2602

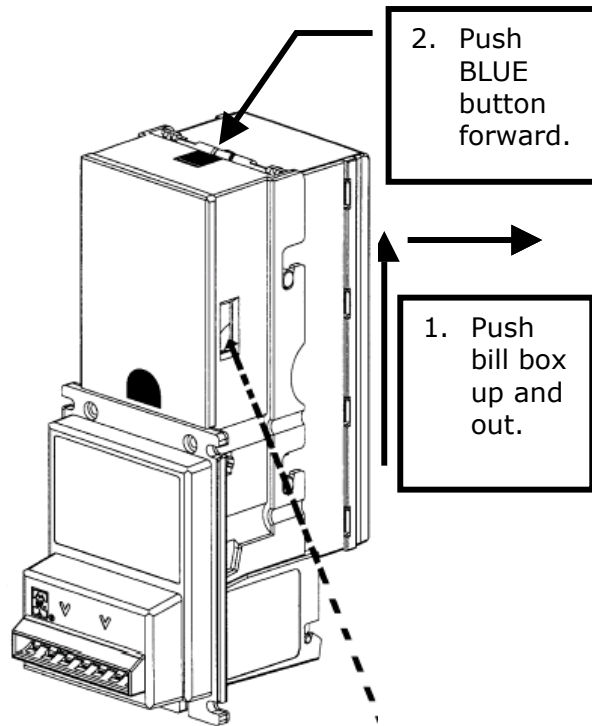


## MEI MARS AE2602 VALIDATOR SECTION

	PAGE
Removing the Bill Box	27
Clearing a bill jam	27
Setting the bill types accepted	28
Cleaning the Validator	29
Trouble Shooting & Trouble Codes	30
Coupon Programming (Dip Switch)	30

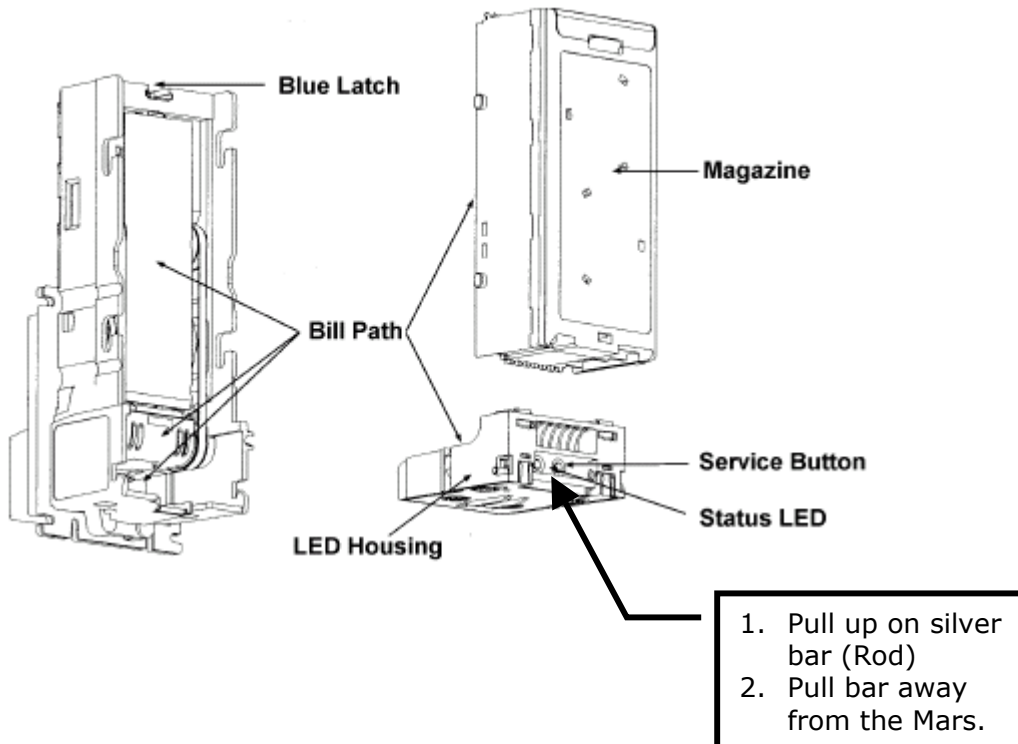
## BILL ACCEPTOR 24VDC \$1-\$20

## Removing the bill box

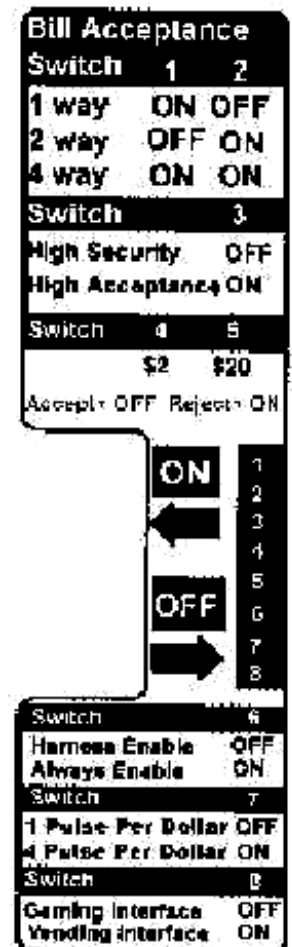


---

## Clearing A Bill Jam



			Factory Default
Switch 1	Switch 2		
ON	OFF	1 Way Bill Acceptance	
OFF	ON	2 Way Bill Acceptance	X
ON	ON	4 Way Bill Acceptance	
Switch 3*			
OFF	High Security		X
ON	High Acceptance		
Switch 4			
ON	Rejects \$ 2 Bills		X
OFF	Accepts \$ 2 Bills		
Switch 5			
ON	Rejects \$20 Bills		
OFF	Accepts \$20 Bills		X
Switch 6			
ON	Always Enable		
OFF	Harness Enable		X
Switch 7			
ON	4 Pulse Per Dollar		
OFF	1 Pulse Per Dollar		X
Switch 8**			
ON	Vending Interfaces		
OFF	Gaming Interfaces		X
<p>* Switch 3 affects all denominations. See Coupon Configuration on page xx for individual acceptance/security enabling options.</p> <p>** The AE2600 defaults to short pulse.</p>			



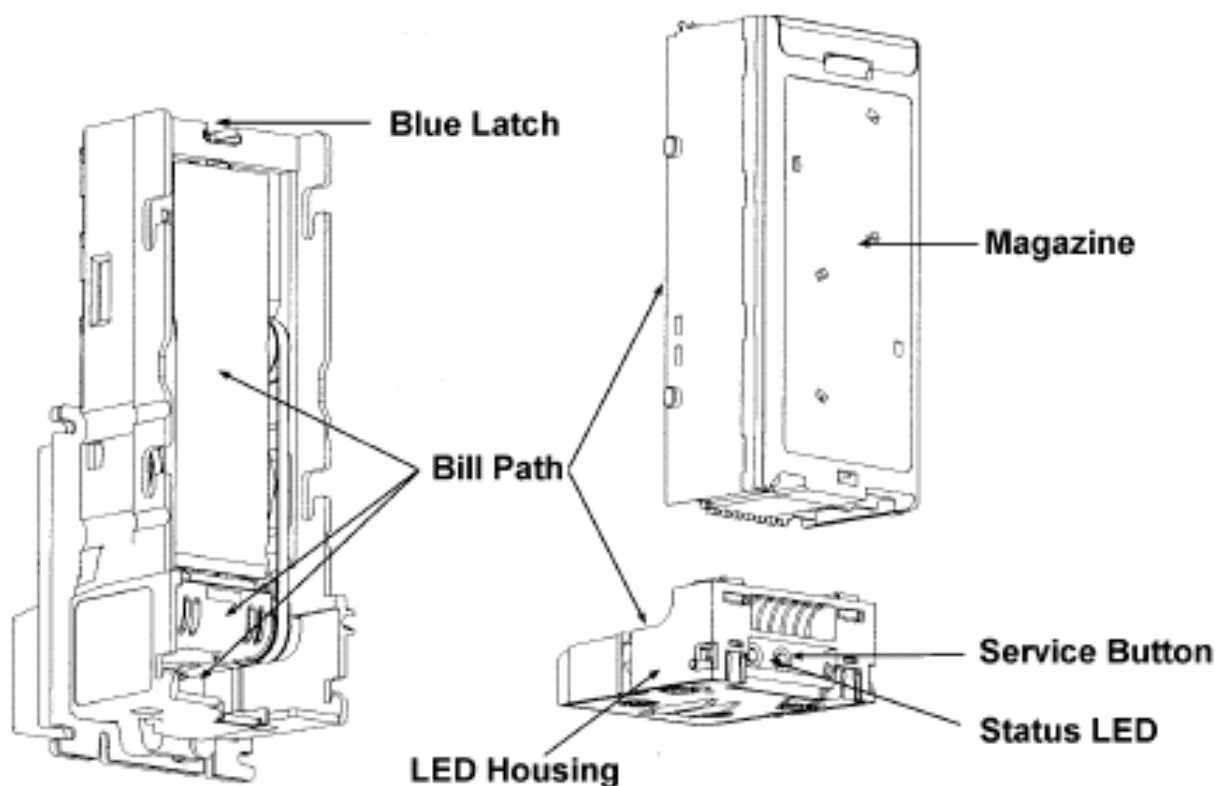
## Setting the Dip Switches

## Cleaning & Maintenance

### Cleaning

You can clean the bill acceptor while it is still mounted in the machine.

1. Remove power from the machine.
2. Unlatch the magazine by pushing the blue latch (located on the top of the unit) toward the front of the unit.
3. Unhook and remove the magazine by holding the latch and lifting up and then back on the magazine.
4. Unlatch the LED Housing by lifting up on the metal bar (located below the Status LED).
5. Remove the LED Housing by holding the metal bar and pulling back on the LED Housing.
6. Clean the bill path with a soft cloth. You may use mild, non-abrasive, non-petroleum based cleaners if sprayed on the cloth.





## Trouble Codes

### **Status LED**

A Status LED provides assistance in diagnosing the condition of the Series AE2600. The following is a description of the LED codes, their meanings, and suggested remedial actions.

**LED ON** - Indicates that the unit is enabled and ready to accept a bill.  
*No action is necessary.*

**LED OFF** - Indicates that no power has been applied to the unit.  
*Check to ensure that power is applied.*

**1 Flash** - Indicates that something is obstructing the bill path.  
*Remove the magazine and LED housing. Inspect for foreign material.*

**2 Flashes** - Indicates that the unit is not enabled.  
*Verify configuration. Check the dipswitches.*

**3 Flashes** - Indicates that the bill path needs cleaning for optimum performance.  
*Remove the magazine and LED housing and follow cleaning instructions (page 29) to clean the bill path.*

**4 Flashes** - Indicates that something is obstructing the bill path.  
*Remove the LED housing and look at the bill path on the housing and inside the unit for foreign material; clean as necessary.*

**5 Flashes** - Indicates that the magazine is removed (the unit will not accept without the magazine attached).  
*Reinstall the magazine.*

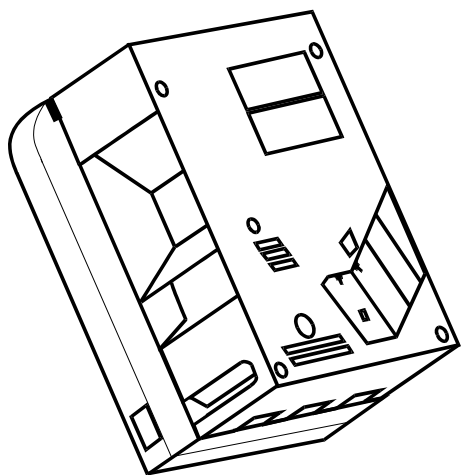
**Continuous Slow** - Unit is defective.  
*Replace the unit.*

**Continuous Fast** - The magazine is full of money.  
*Remove the money from the magazine.*

## Coupon Programming

1. Locate the **service button** on the back of the unit (Page 29).
2. Press the button once to enter the coupon setup mode. Pressing again will exit the mode. The unit will automatically exit coupon setup mode upon acceptance of the coupon configuration.
3. The LED Status indicator (located to the left of the service button) will flash rapidly indicating that the unit is in coupon setup mode.
4. Insert the coupon marked-side up. The AE2600 will pull the coupon in, read it, and then return it to the user. A good coupon will be returned immediately. After the coupon is pulled from the bill acceptor mouth, the unit will flash the Status LED ten times to confirm a good configuration. A bad coupon will be held for ten seconds before being returned. This delay is to make you aware that there is a problem with the coupon. When the coupon is pulled from the bill acceptor mouth, the unit will flash the Status LED the number of times corresponding to the section of the coupon wherein a problem lies. For example, if the problem is in section five, the LED will flash five times. Section numbers are located to the far right of each section on the coupon.
5. If the configuration is rejected, check the coupon and repeat the process.

# MKIV UNIVERSAL HOPPER



## INDEX

### PAGE

1. Coin box removal & assemble	37-39
2. Exit window replacement	38
3. Logic board replacement	39
4. End plate removal.	39
5. Coin Belt Removal	40
5a. <b>Coin Belt Assembly</b>	40
5b. <b>Coin Belt Replacement</b>	41
5c. <b>Final drive gear replacement</b>	42
6. Gearbox assembly	42
7. 7. Motor replacement	42

## SERVICE MANUAL

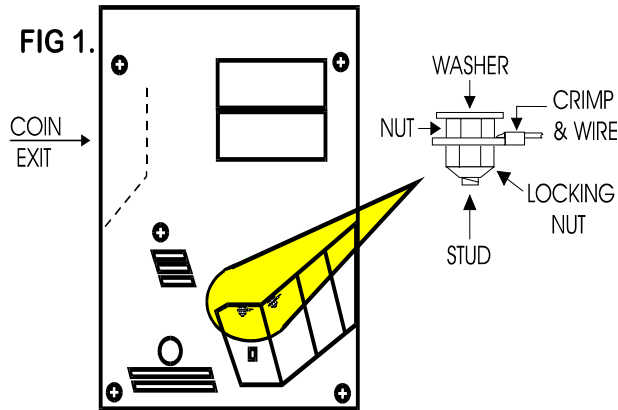
***To UN-jam the hopper, refer  
to sections 4 – 5b, pages  
38–39.***

## 1. COIN BOX REMOVAL

1. Place the hopper in front of you as shown, (looking at the outside of the 'coin box').

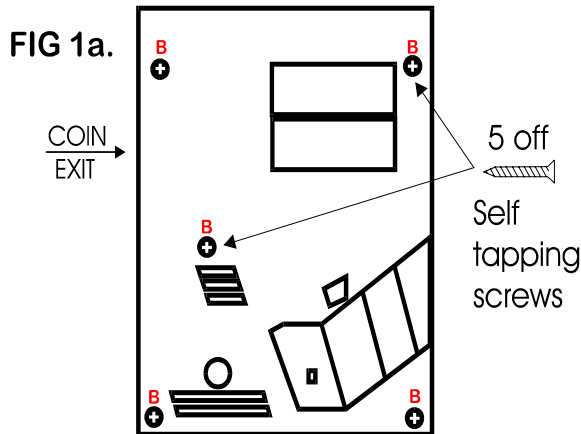
Refer to FIG 1.

2. Remove the 2 locking nuts, which hold the 'low level sense plate' wires to the studs.
3. Remove the crimp & wire from the studs.



Refer to FIG 1a.

4. Remove the 5 screws indicated (B), which hold the 'coin box' to the 'center plate'.



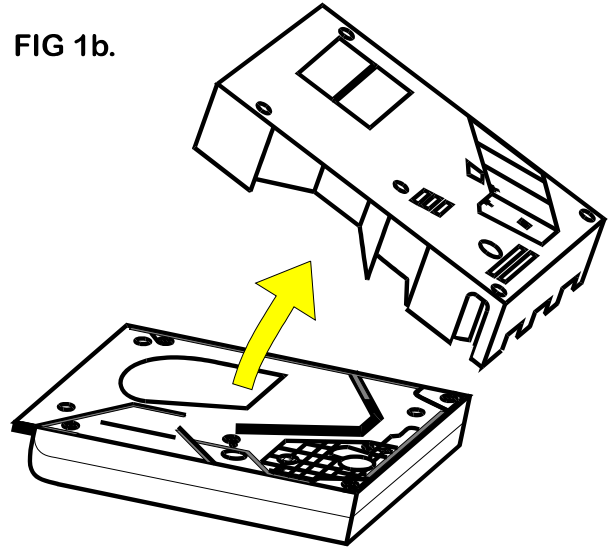
Refer to FIG 1b.

6. Gently lift the 'coin box' away from the rest of the hopper.

**NOTE:-** The 'logic board' & 'stirrer' are located in the 'coin box'.

7. As the 'coin box' is being removed, carefully slide the 'logic board' out. The stirrer may stay with the 'coin box' or fall onto the center plate.

FIG 1b.

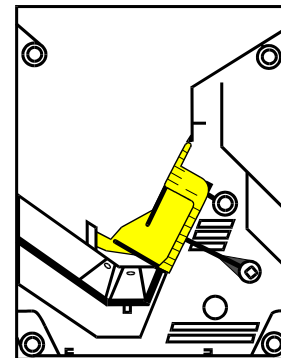
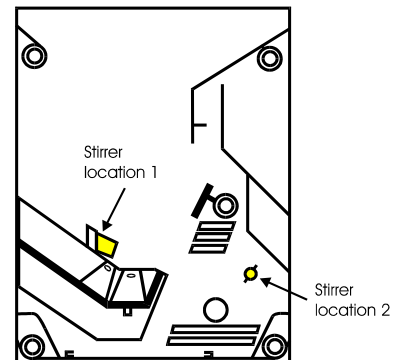


**ACCESS IS NOW AVAILABLE TO THE 'LOW LEVEL' SENSE PLATES, THE MAIN PCB, THE EXIT WINDOW, THE MOTOR TERMINALS & PART OF THE WIRING LOOM.**

## 1a. COIN BOX ASSEMBLY

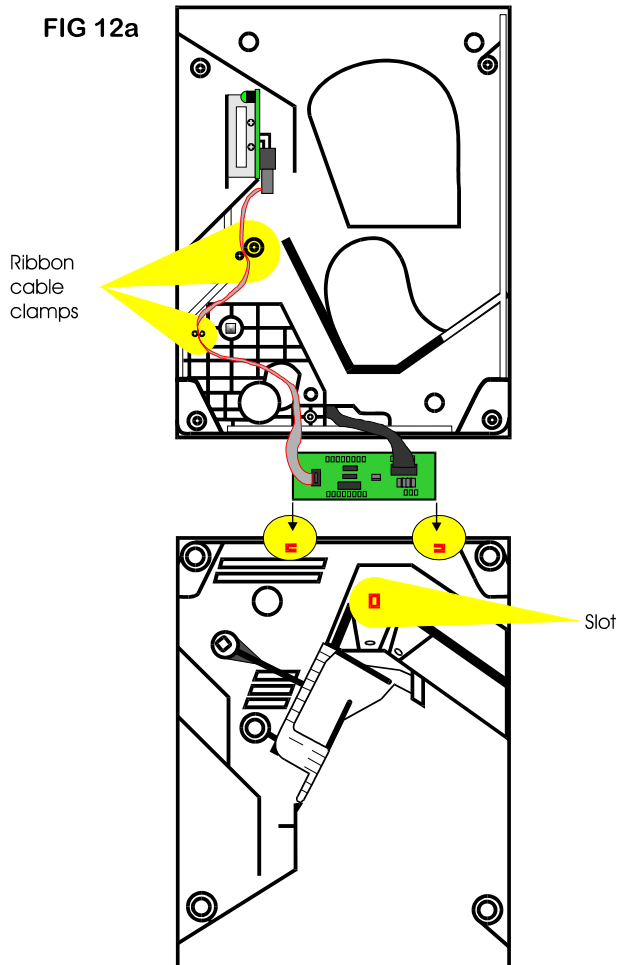
1. Firstly, locate the 'stirrer' in the 'coin box' as shown in FIG 12.

FIG 12.

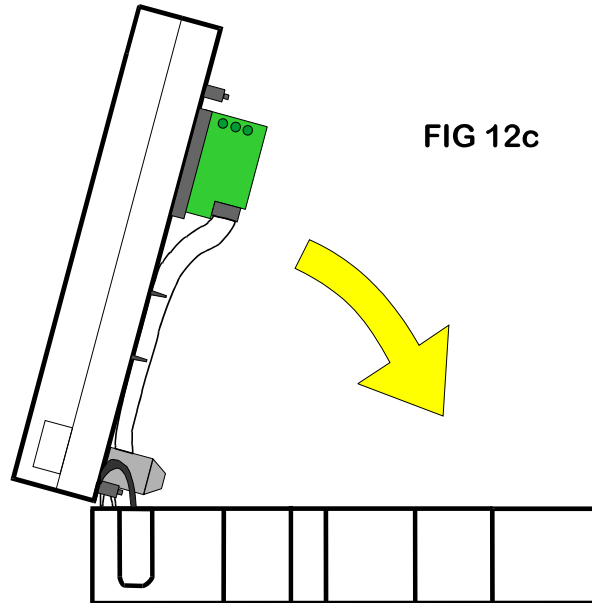
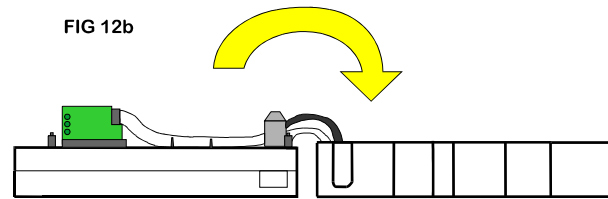


## COIN BOX ASSEMBLY (cont.)

- Line up the 'centre plate' & 'coin box' as shown below. FIG 12a.
- Route the ribbon cable as shown below.
- Fit the 'logic board' into slots shown below.
- Feed the level sense wires through the slot shown below.



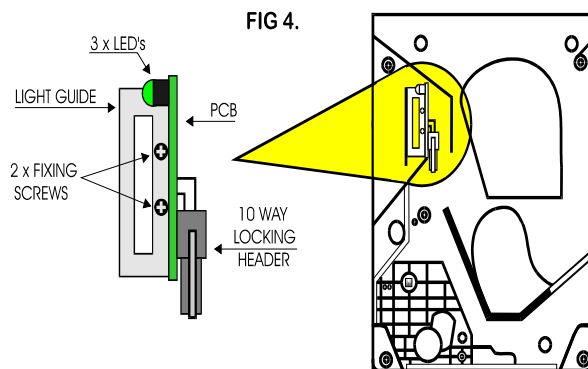
- Lift the 'centre plate' to meet the 'coin box'. FIG 12b & c.



- Align the 'center plate' & 'coin box' & push together.
- Turn the hopper over & refit the screws.
- Refit the level sense wires.

## 2. EXIT WINDOW REPLACEMENT

- First, remove the 'coin box', section 1.  
**This will then enable access to the 'exit window'**
- Unscrew & remove the 2 fixing screws. FIG 4.
- Remove the 'exit window' from the 'center plate'.
- Unclip & remove the 10-way ribbon cable header.

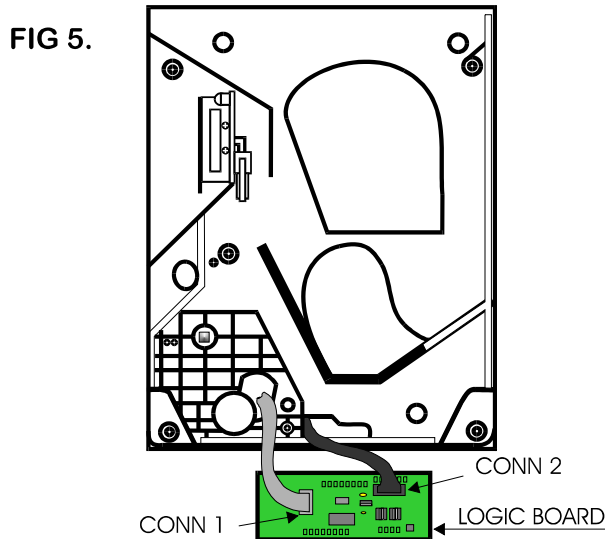


- To re-assemble, follow the above steps in reverse.

### 3. LOGIC BOARD REPLACEMENT

1. First, remove the 'coin box', section 1.

*This will then enable access to the 'logic board'.*



10-way ribbon IDC socket (CONN 1).

2. Move the two ejector arms at right angles to & away from the connector, if fitted.
3. This should release the socket from the header.
4. Clasp the connector between thumb & forefinger, pull away from pin header.
- 14-way crimp socket (CONN 2).
5. Gently, unclip the "friction lock" from the connector housing.
6. Clasp the connector between thumb & forefinger, pull away from pin header.
7. The Logic Board is now released.
8. To re-assemble, follow the above steps in reverse.

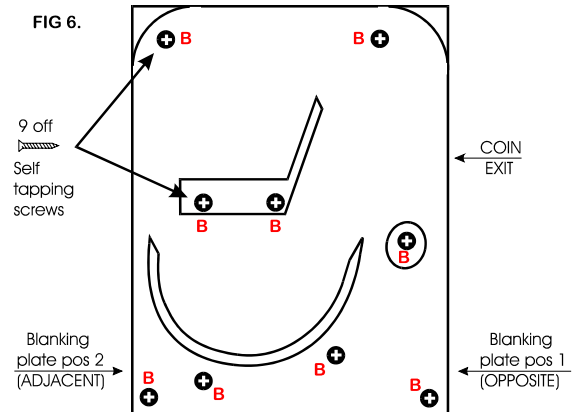
### 4. END PLATE REMOVAL

1. Place the hopper in front of you as shown, (looking at the outside of the 'end plate').

Refer to FIG 6.

2. Remove the 9 screws indicated (B), which hold the 'end plate' to the 'center plate'.
3. Locate the position of the 'connector blanking piece'.

4. Holding the 'connector blanking plate' gently lift the 'end plate' away from the rest of the hopper.



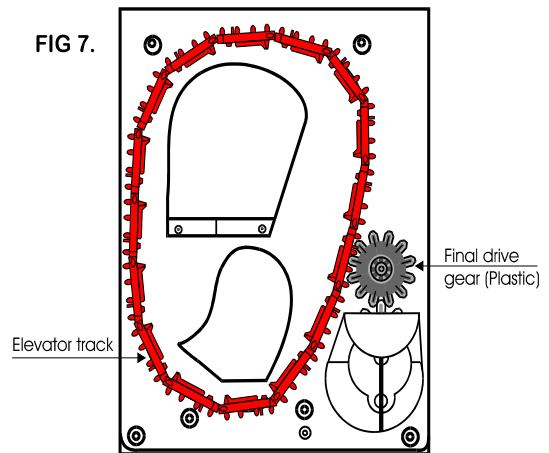
5. To re-assemble, follow the above steps in reverse.

### 5. TRACK PLATE REMOVAL

1. First, remove the 'end plate', section 6.

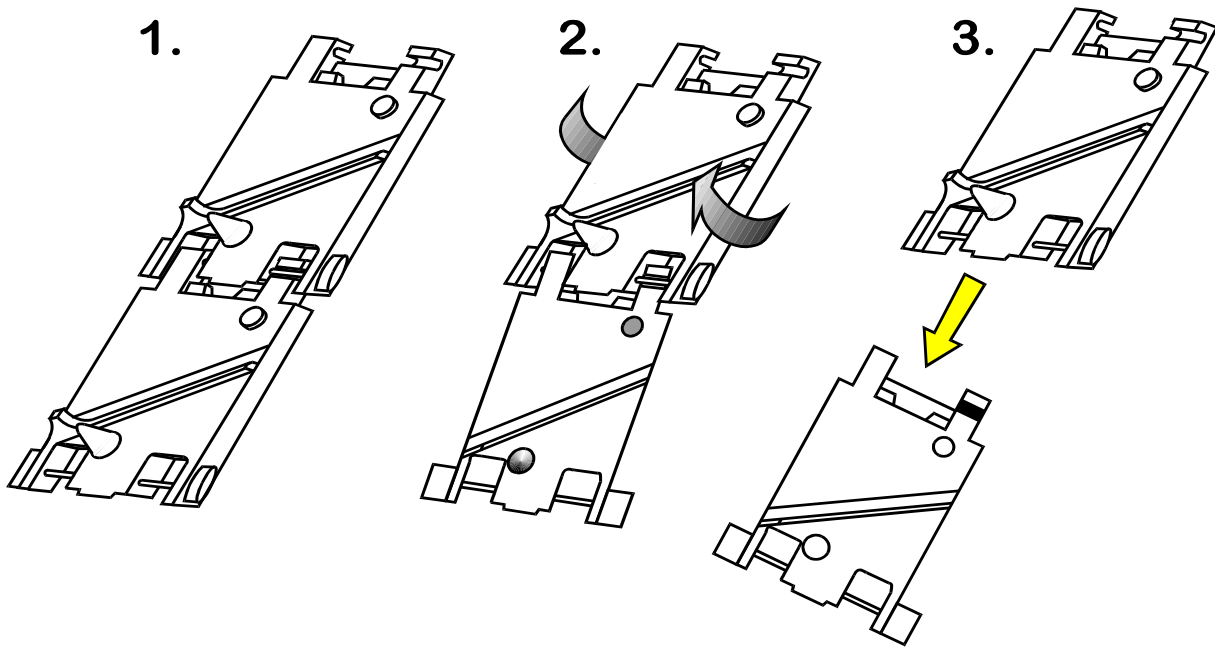
See FIG 7.

2. The 'elevator track' & 'final drive gear' can now be removed by lifting up & away from the 'center plate'.

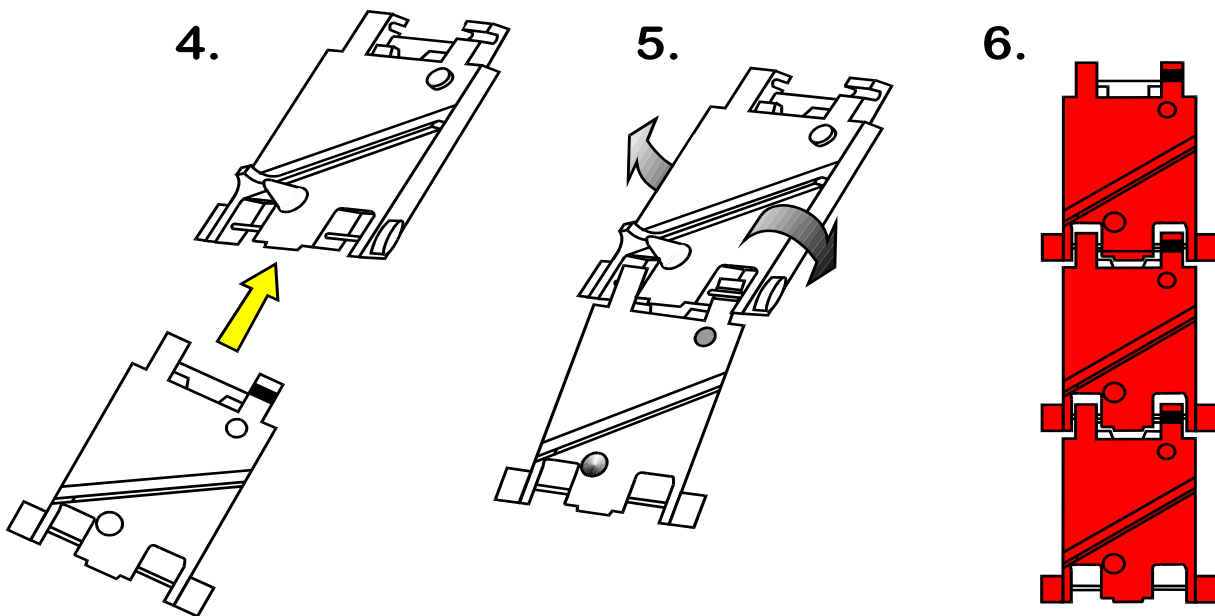


## 5a. TRACK PLATE ASSEMBLY

The following 3 sketches show how to take the 'track plate' apart.



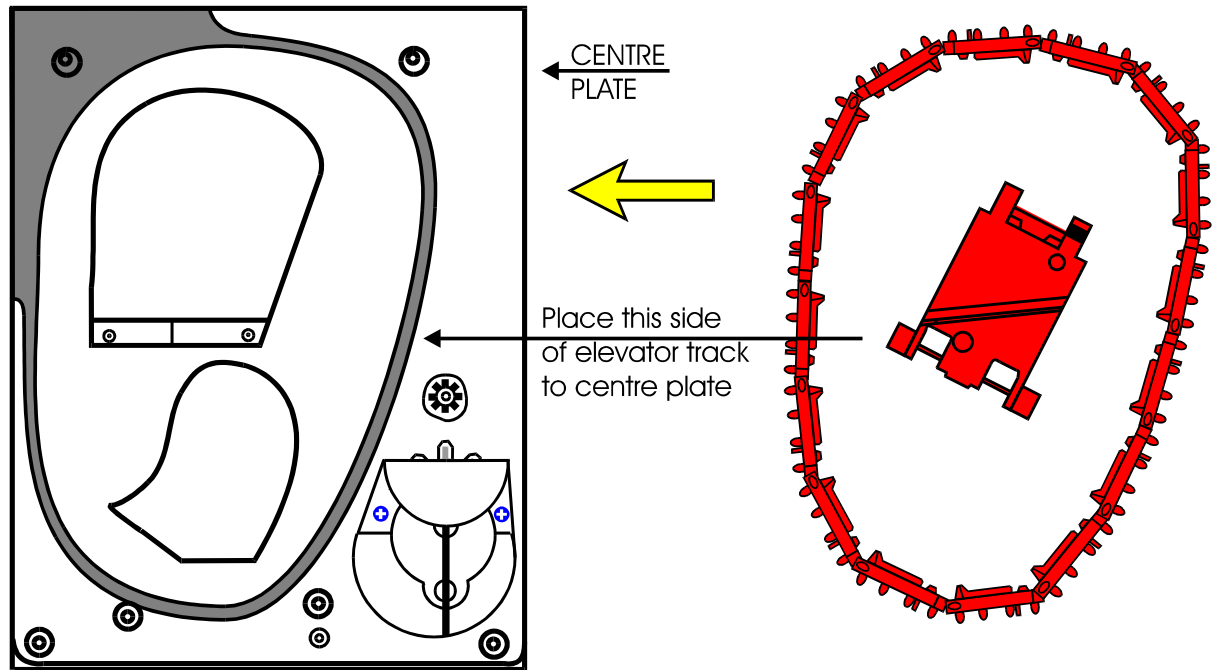
The following 3 sketches show how to assemble the 'track plate'.



## 5b. TRACK PLATE REPLACEMENT

1. The gray shaded area, in FIG 7b, is the 'track plate' guide path.

FIG 7b.



2. Once the 'track plate' is in position, turn the track through  $720^{\circ}$  to ensure it is seated in the guide path correctly.

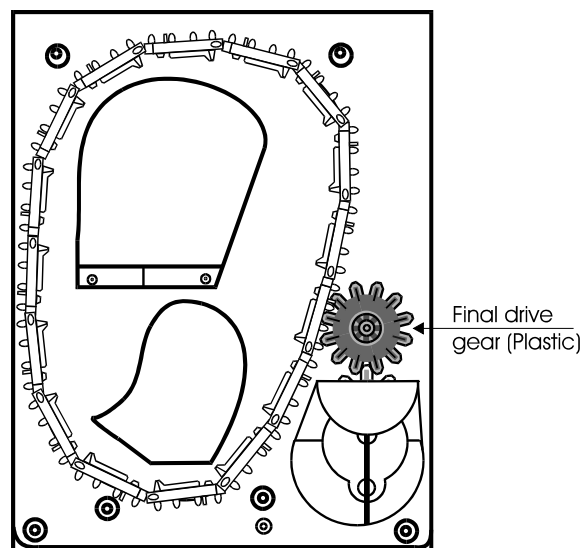
## 5c. FINAL DRIVE GEAR REPLACEMENT

1. Once the 'elevator track' is in place, the 'final drive gear' can be fitted by placing the gear over its mounting spindle, while lining the teeth up with the secondary drive gear, adjust the 'elevator track' so that the gear falls into place.

FIG 7c.

2. The end plate can now be re-fitted. See section 6.

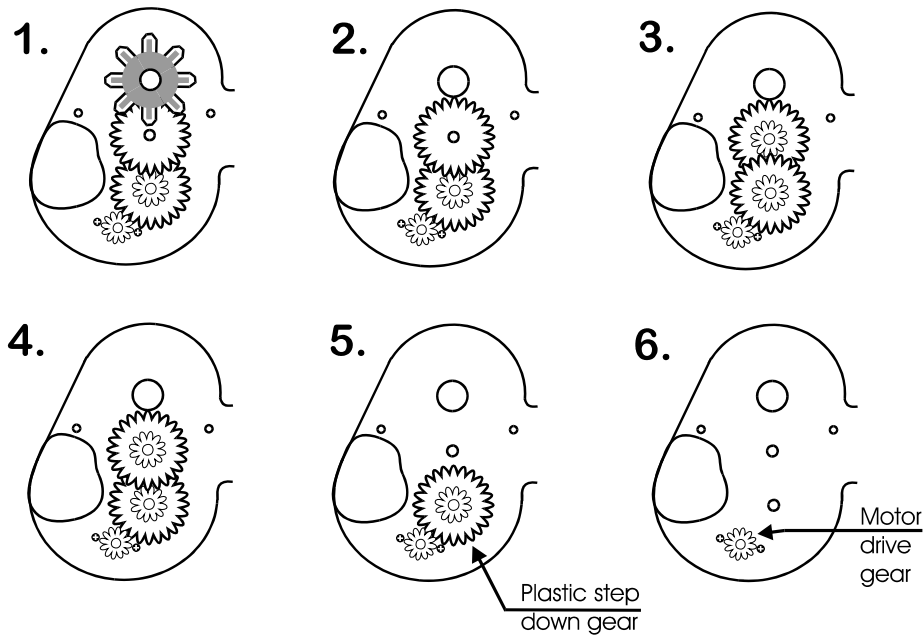
FIG 7c.



## 6. GEAR BOX ASSEMBLY

1. Remove the end plate. Section 6.
  2. Remove the 'elevator track' & 'final drive gear'. Section 7.
  3. Remove the gearbox cover. Section 8.
  4. Remove the gears in the order as shown in FIG 9.
- Access to the motor fixing screws is now possible.**
5. To re-assemble, follow the above steps in reverse.

**FIG 9.**



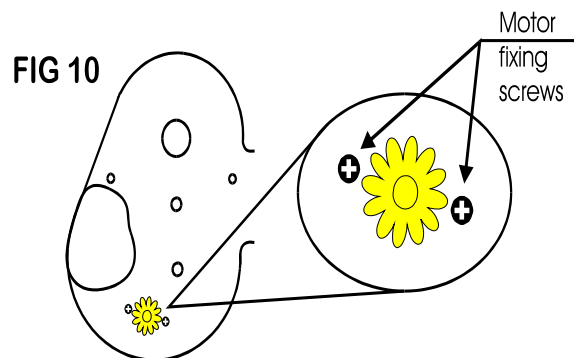
## 7. MOTOR REPLACEMENT

1. Remove the 'coin box'. Section 1.
2. Unsolder the red & black wires from the motor.

**NOTE: The black wire connects to the terminal marked with a RED dot.**

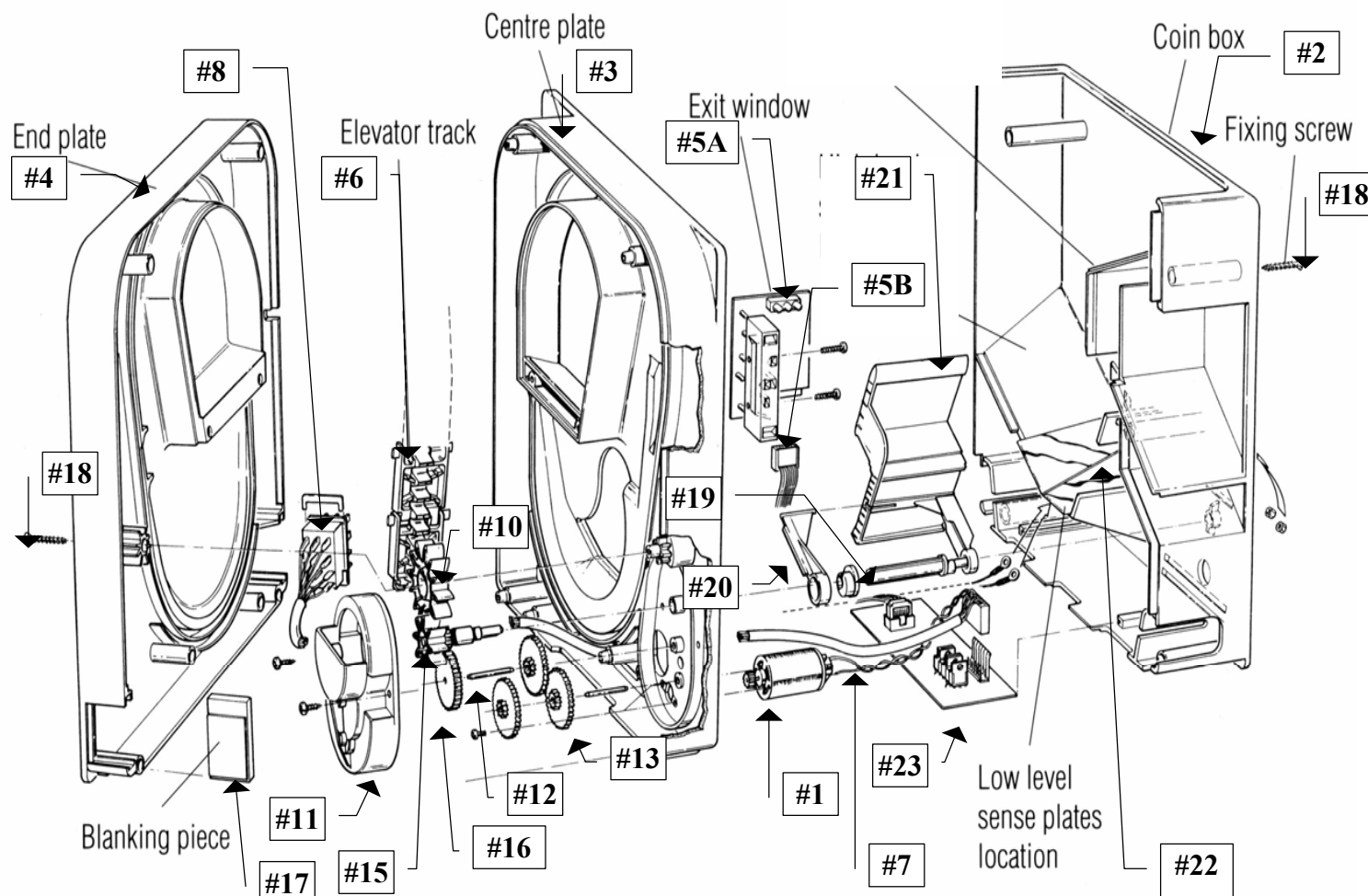
3. Remove the 'end plate'. Section 6.
4. Remove the 'track plate' & final drive gear. Section 7.
4. Remove the gearbox cover. Section 8.
6. Disassemble the gearbox. Section 9.

7. Unscrew the 2 motor fixing screws. FIG 10.
8. To re-assemble, follow the above steps in reverse.





- #1** - 1041-24-01 Motor.
- #2** - 1041-24-02 Motor Side Cover.
- #3** - 1041-24-03 Center Plate.
- #4** - 1041-24-04 End Plate.
- #5A**- 1041-24-05 Coin Counting Optic Board.
- #5B**- 1041-24-06 Optic board ribbon cable.
- #6** - 1041-24-07 Red track plates(16 per belt).
- #7** - 1041-24-08 Logic board wire harness.
- #8** - 1040-24-113 Male 12 pin connector.
- #9** - 1040-24-112 Female 12 pin connector.
- #10** - 1041-24-12 Idler gear
- #11** - 1041-24-13 Gear Box.
- #12** - 1041-24-14 Gear Shaft.
- #13** - 1041-24-15 Gear #1 Plastic
- #14** - 1041-24-16 Gear #2 & 3.
- #15** - 1041-24-17 Output gear.
- #16** - 1041-24-18 Gear #4
- #17** - 1040-24-22 Blanking Plate

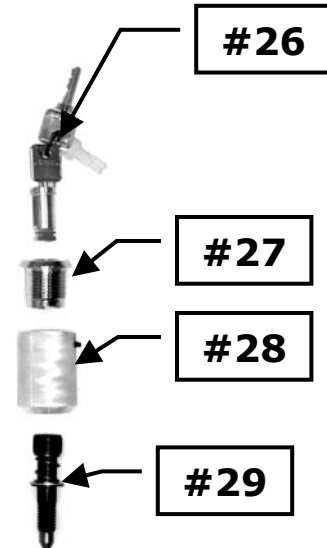
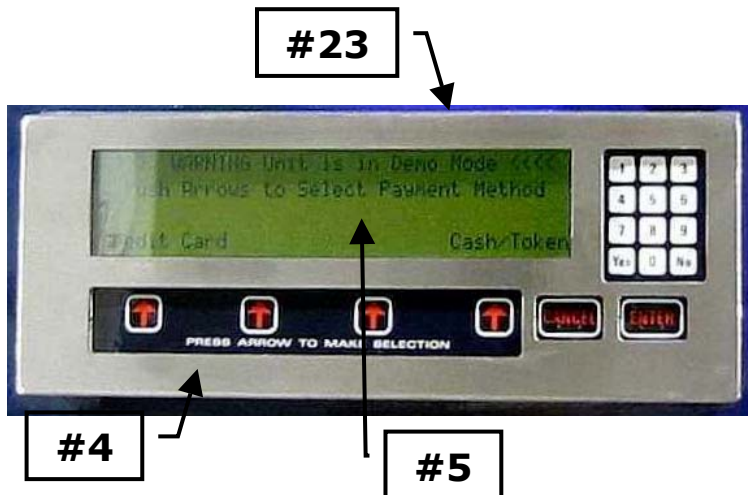
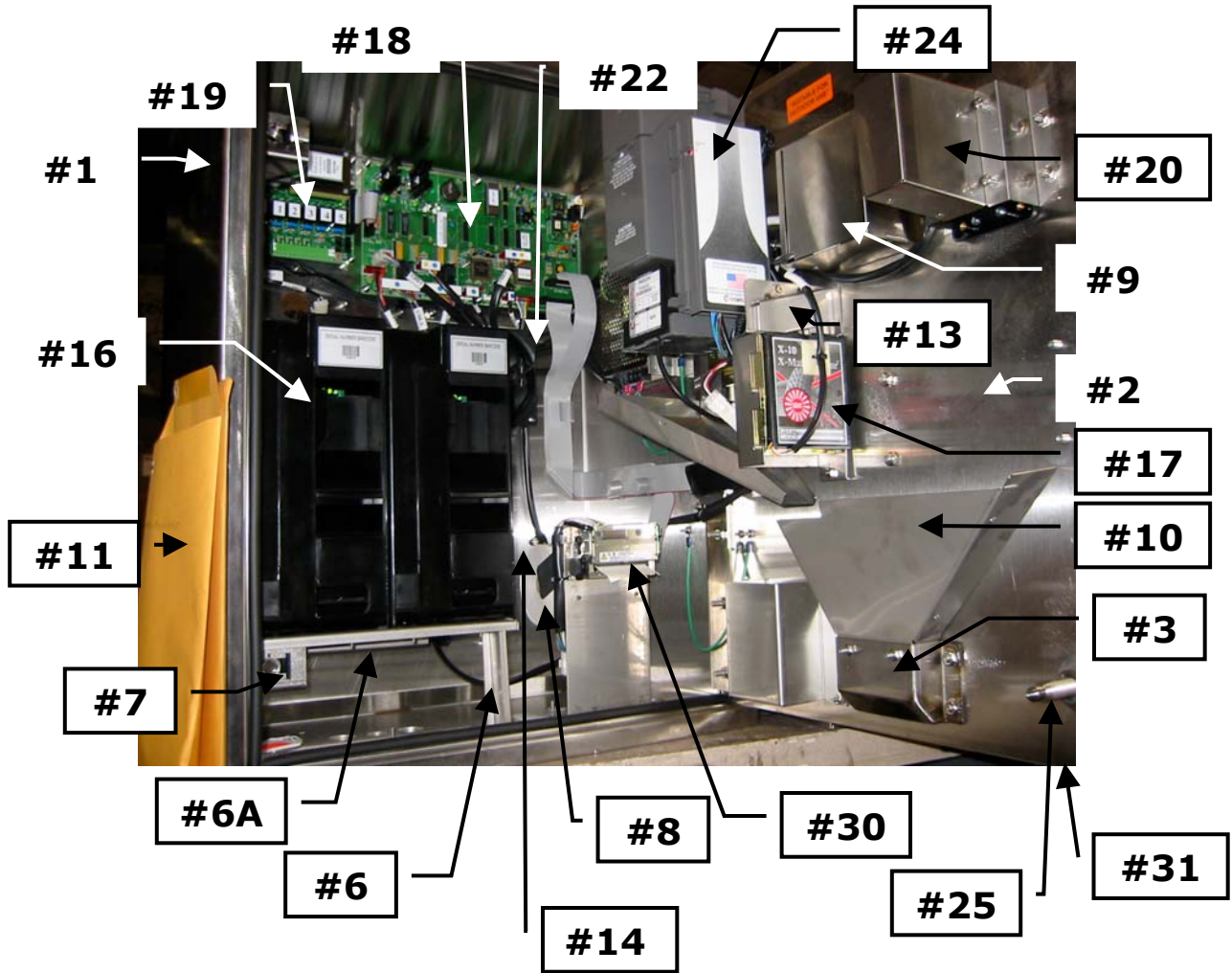


- #18** - 1040-24-25 Fixing screw.
- #19** - 1041-24-19 Cam Shaft.
- #20** - 1041-24-22 Agitator

- 1041-24-20 Cam shaft bearing
- #20** - 1041-24-21 Cam Agitator
- #21 - #22** - 1040-24-291 Low level contact plate.

- #23** - 1041-27-373 Mark IV PC logic board.

# **PARTS BREAKDOWN – AC8001 CABINET**



## **PARTS BREAKDOWN - AC8001 CABINET CONTINUED**

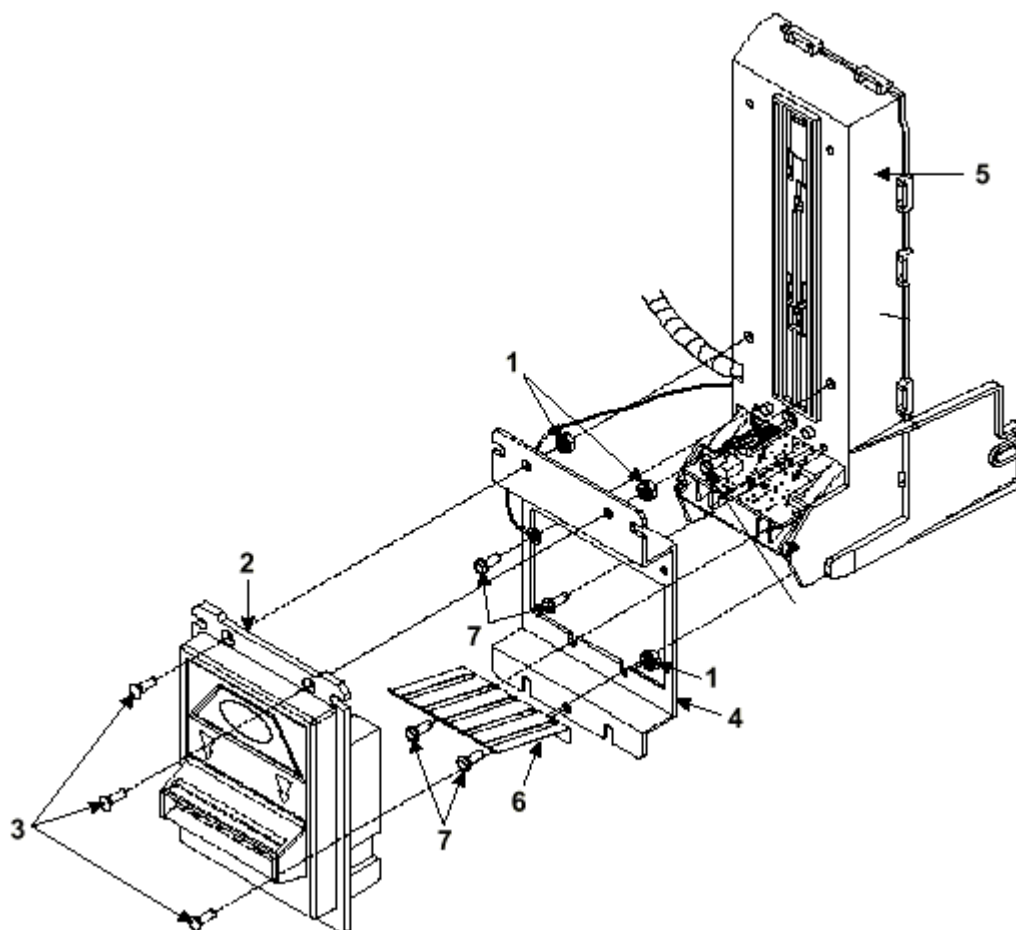
S/S = Stainless Steel

#1	AC8010	S/S Cabinet w/door
#2	AC8010.1	S/S Door ONLY (No lock Assy. or LEXAN door sticker)
#3	AC8010-01	S/S Coin Cup Complete
#4	AC8065	S/S LCD Display Assembly Complete!
#5	AC8065-03	Clear Lexan Display Protector
#6	AC8010-04	S/S Hopper Platform
#6A	AC8060-HTR	Heater for the AC8001
#7	AC8010-05	S/S Lock Bracket Assy. Complete
	AC8010-05A	S/S Lock Bracket Frame ONLY!
	8010-33	S/S Cage Nut
	8010-35	Welded T-Nut Cage Holder w/Nylock Bolt
#8	7071-01	4" Printer Paper Roll ONLY!
#9	AC8010-071	S/S Waterproof Speaker Box W/Speaker
#10	AC8010-01A	S/S Coin Cup Funnel (1 piece)
#11	8900	Manual AC8001
	AC8010-09	(Not Shown) S/S Left Conduit Double Hole Block (For Hamilton's)
	AC8010-10	(Not Shown) S/S Right Conduit Double Hole Block
	AC8010-11	(Not Shown) S/S Outside Fan Cover
#13	AC8010-12	S/S IDX Electronic Coin Mech Bracket Complete
	AC8010-13	(Not Shown) S/S Condor Coin Mech Bracket Complete
#14	AC8010-14	Black Metal Coin Box
	AC1040.6	(Not Shown) Hopper Plate w/Harness (1 of 2)
#16	AC1041	MK4 Money Controls Hopper (1 of 2)
#17	AC2066.5	IDX Electronic coin Mech
	AC2066.3	(Not Shown) Condor Electronic Coin Mech
#18	AC8060	Main Logic (Control) Board
	AC8067	(Not Shown) Modem Board
#19	AC8061	Power Supply Relay Board
	AC8062	(Not Shown) 24VDC Switching Power Supply
#20	AC9090	Credit Card Reader
#22	AC8064	Fan 12VDC
#23	AC8065-01	Deep S/S Display Protector (Requires Display Lexan Protector)
	AC8065-02	Shallow S/S Display Protector (Requires NO Display Lexan Protector)
#24	AC9002	CoinCo 24V MAGPRO52SA Bill Validator
#25	AC8080	Lock Assembly Complete
#26	AC1092	Medico Inserting Lock & Keys
#27	8080-01	S/S Outside Ring Medico Collar
#28	8080-02	Aluminum Hex bolt Holder w/ Set Screw
#29	8080-03	Hex Bolt Assembly (With spring & clips & washer)
	8080-04	Hex Bolt Lock Crank (Not Shown)
#30	AC7071	Audit Printer for the AC8000/8001 Complete
	AC7071.1	(Not Shown) Printer Logic board
#31	AC9081	Lexan Front Overlay for the AC8000

## **WIRE HARNESSES FOR THE AC8000 PAYSTATION**

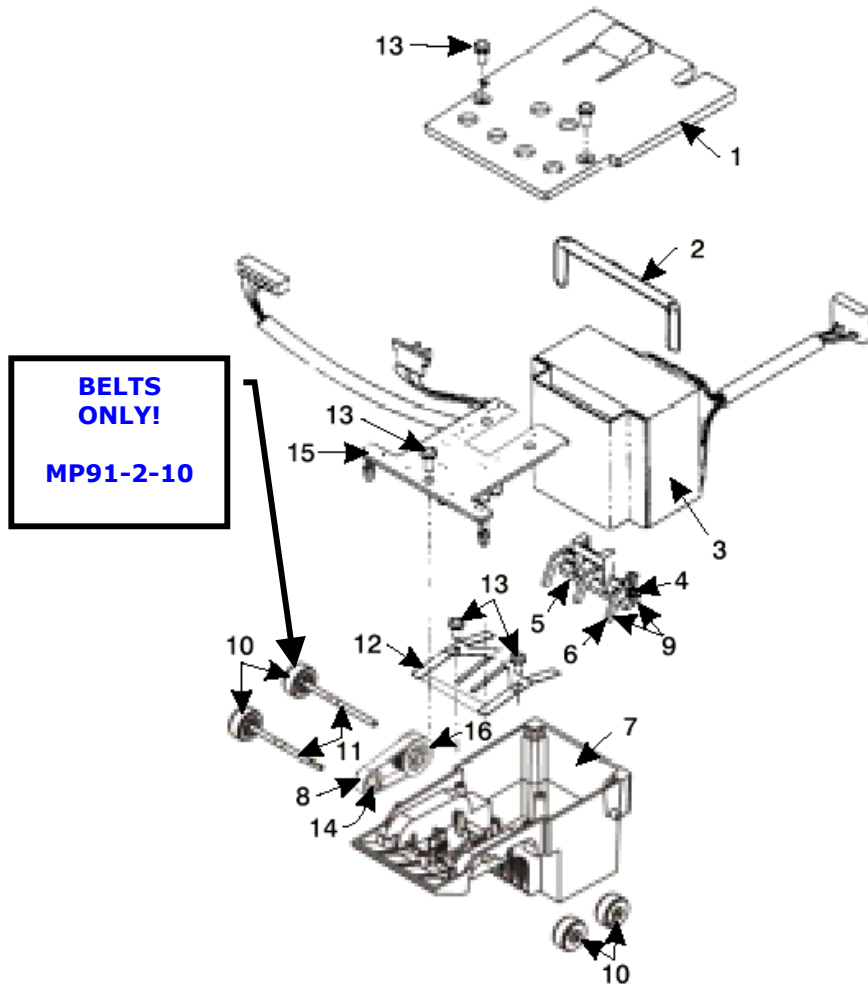
AC7071-H	Printer Power Harness
AC7071-RH	Printer RIBBON Cable harness
AC8060-DSH	Door Switch to MLB Harness
AC8060-H	CoinCo 24VSA Validator Wire Harness
AC8061-RH	Relay / PS Board to MLB RIBBON Harness (3")
AC8065-RH	LCD Display RIBBON Harness
AC8066-H	KeyPad to MLB Harness
AC8066.5-H	IDX Coin Mech Harness
AC9090-RH	Credit Card Reader RIBBON Harness

## COINCO PARTS LIST



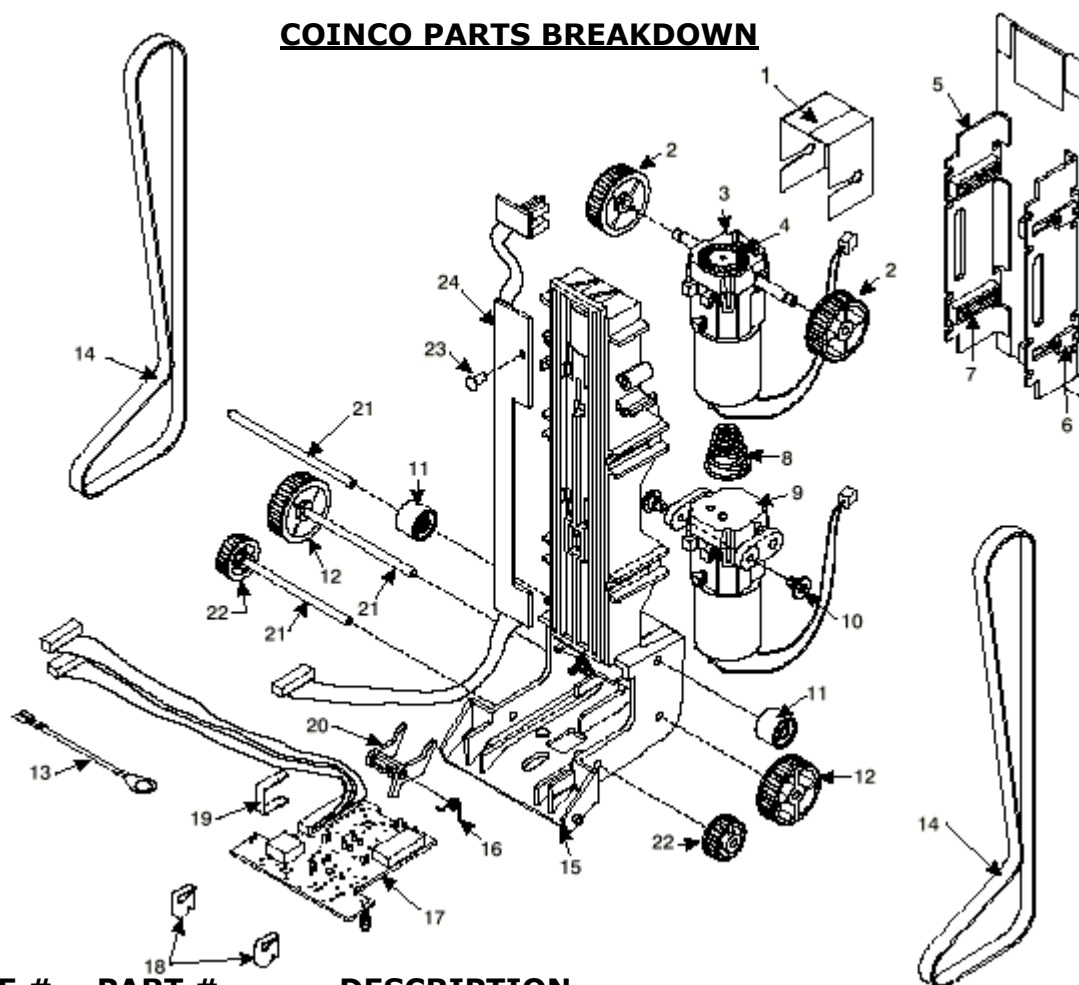
<u>PICTURE #</u>	<u>PART #</u>	<u>DESCRIPTION</u>
#1	MP90-1-1	Machine Screw
#2	MP91-1-2	"Snack Mask" Black Plastic
#3	MP90-1-3	Machine Screw
#4	MP90-1-4	Main Frame, Plastic
#5	MP91-1-5	Mask Gold Mounting Bracket
#6	MP90-1-6	Bill grounding spring
#7	MP91-1-7	Machine Nut

## COINCO PARTS BREAKDOWN



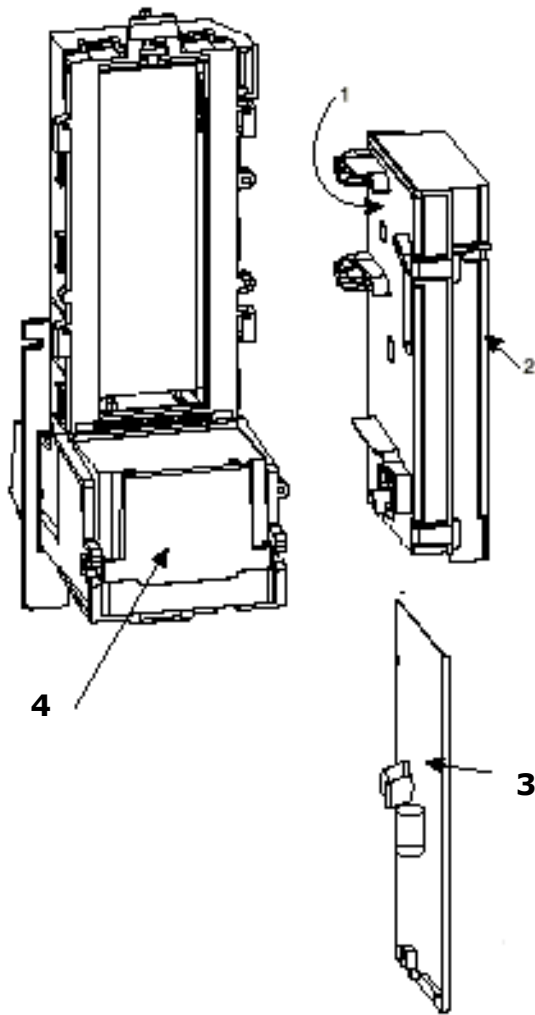
<u>PICTURE #</u>	<u>PART #</u>	<u>DESCRIPTION</u>
#1	MP90-2-1	Bottom Lower Housing Cover
#2	MP90-2-2	Transformer holding hose
#3	MP90-2-3	120VAC Transformer
#4	MP90-2-4	Lower Spring, Anti-Cheat Lever
#5	MP91-2-5	Lower Mounting, Anti-Cheat Lever
#6	MP90-2-6	Lower Anti-Cheat Lever
#7	MP90-2-7	Lower Housing Assembly, Complete
#8	MP90-2-8	Belt, Center
#9	MP90-2-9	Lower Anti-Cheat Assembly, Complete
#10	MP90-2-10	Plastic Wheels & Rubber Belts
<b>#10</b>	<b>MP91-2-10</b>	<b>Rubber Belts ONLY (Each)</b>
#11	MP90-1-11	Shaft, Drive
#12	MP90-2-12	Spring, MAG
#13	MP90-2-13	Screw, #4, Plastic
#14	MP90-2-14	Roller, Idler
#15	MP91-2-15	Sensor Board, Lower
#16	MP91-2-16	Pulley & Hub Assembly, Complete

## **COINCO PARTS BREAKDOWN**



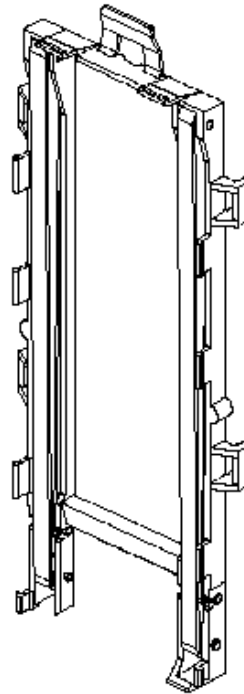
<b><u>PICTURE #</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
#1	MP90-3-1	Dust Cover
#2	MP90-3-2	Upper Transport & Hub Assembly, Complete
#3	MP91-3-3	Motor, Transport & Gear Assembly Complete
#4	MP90-3-4	Wheel, Encoder
#5	MP90-3-5	Stacker, Push-Plate Assembly
#8	MP90-3-8	Spring, Belt Tension
#9	MP90-3-9	Motor, Stacker Assembly Complete
#10	MP90-3-10	Pulley, Idler
#11	MP90-3-11	Lower Transport Pulley & Hub Assembly
#13	MP90-3-13	Belt, Upper Housing
#14	MP90-3-14	Frame, Upper Housing
#15	MP91-3-15	Sensor Board, Upper Housing
#16	MP90-3-16	Upper Board Clip
#17	MP90-3-17	Wire Clip
#18	MP90-3-18	Shaft, Pulley
#19	MP90-3-19	Shaft, Wheel
#21	MP90-3-21	Board, Stacker

## **COINCO PARTS BREAKDOWN**



### **INTERMEDIATE FRAME ASSEMBLY**

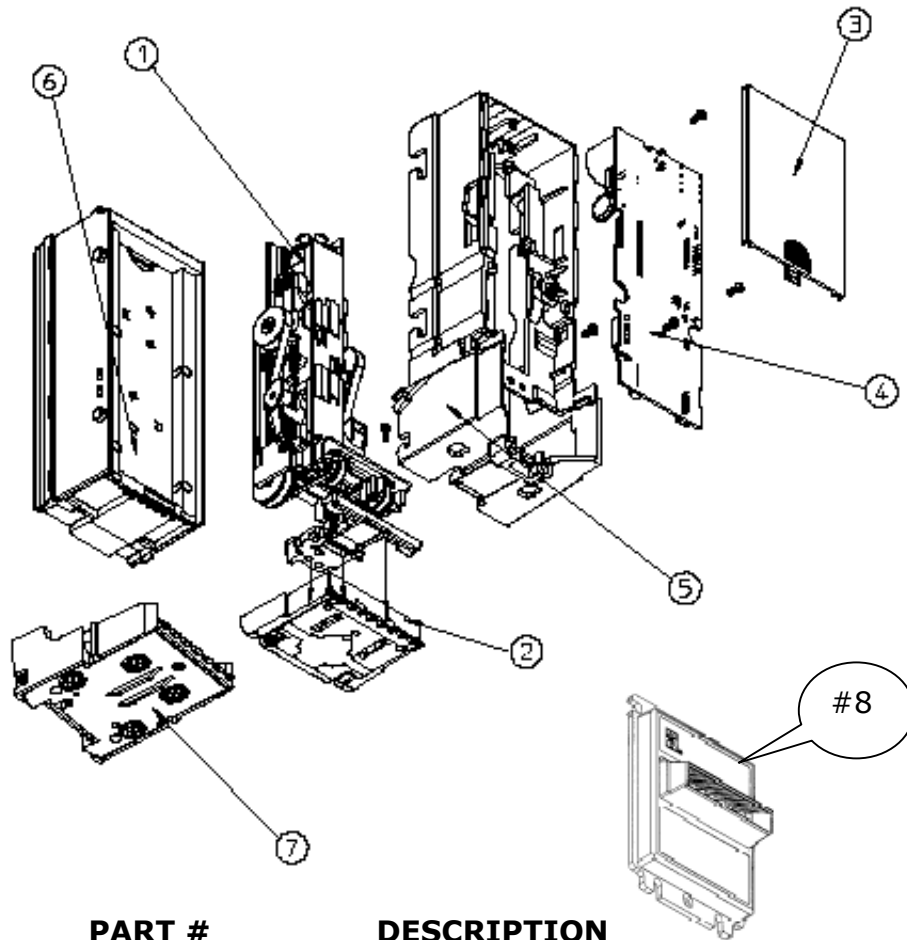
MP90-4-IF



<b><u>PICTURE #</u></b>	<b><u>PART #</u></b>	<b><u>DESCRIPTION</u></b>
#1	MP90-4-1	Lid, Logic board Box
#2	MP91-4-2	Body, Logic board Box
#3	MP90-4-3	Main Logic Board
#4	MP90-4-4	Sticker, Serial Number / Warranty
#5	MP90-4-IF	Intermediate Frame with Bearings

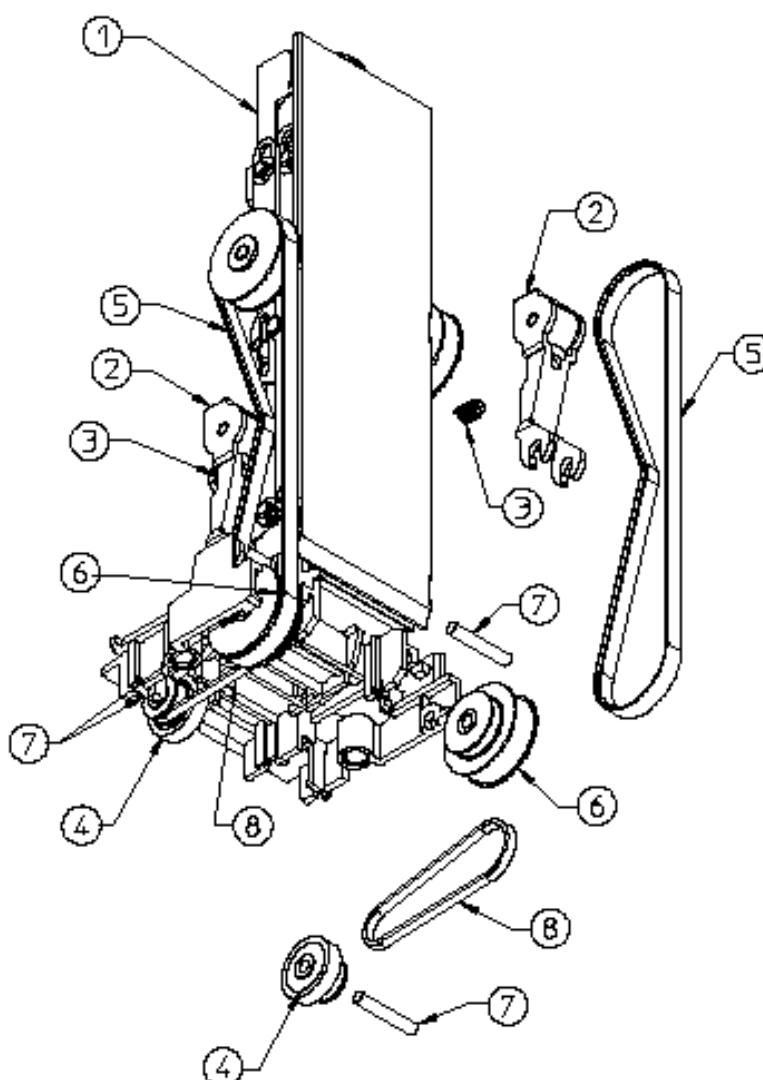


## **MARS AE2600 SERIES 24VDC PARTS BREAKDOWN**



<u><b>PICTURE #</b></u>	<u><b>PART #</b></u>	<u><b>DESCRIPTION</b></u>
#1	AE93-1-1	Stacker/Drive Assembly Kit
#2	AE93-1-2	Sensor Housing Assy, Complete
#3	AE93-1-3	Control Board Cover, Plastic
#4	AE91-1-4	24VDC Logic Board
#5	AE93-1-5	Main Chassis, Plastic
#6	AC1045	500 Stacker
#7	AE93-1-7	LED Housing Assy, Complete
#8	AE93-1-8	Black Front Bezzle, Plastic
#9	AE93-1-9	Metal Bezzle Support Plate ( <b>NOT SHOWN</b> )

## **CONTINUED**



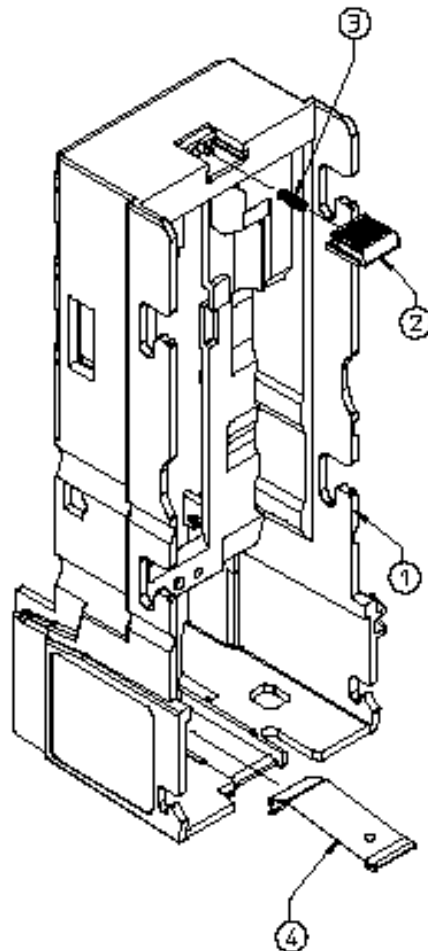
### **PICTURE #**

### **PART #**

### **DESCRIPTION**

#1	AE93-2-1	Gearbox Assy
#2	AE93-2-2	Tension Assy
#3	AE93-2-3	Tension Spring
#4	AE93-2-4	Tire/Wheel Assy
#5	AE93-2-5	Belt, Timing, (1 of 2)-143 Teeth
#6	AE93-2-6	Pulley, Compound
#7	AE93-2-7	Shaft, Pulley
#8	AE93-2-8	Belt, Timing, (1 of 2)-56 Teeth

## **CONTINUED**



### **PICTURE #**

#1  
#2  
#3  
#4

### **PART #**

AE93-1-5  
AE93-3-2  
AE93-3-3  
AE93-3-3

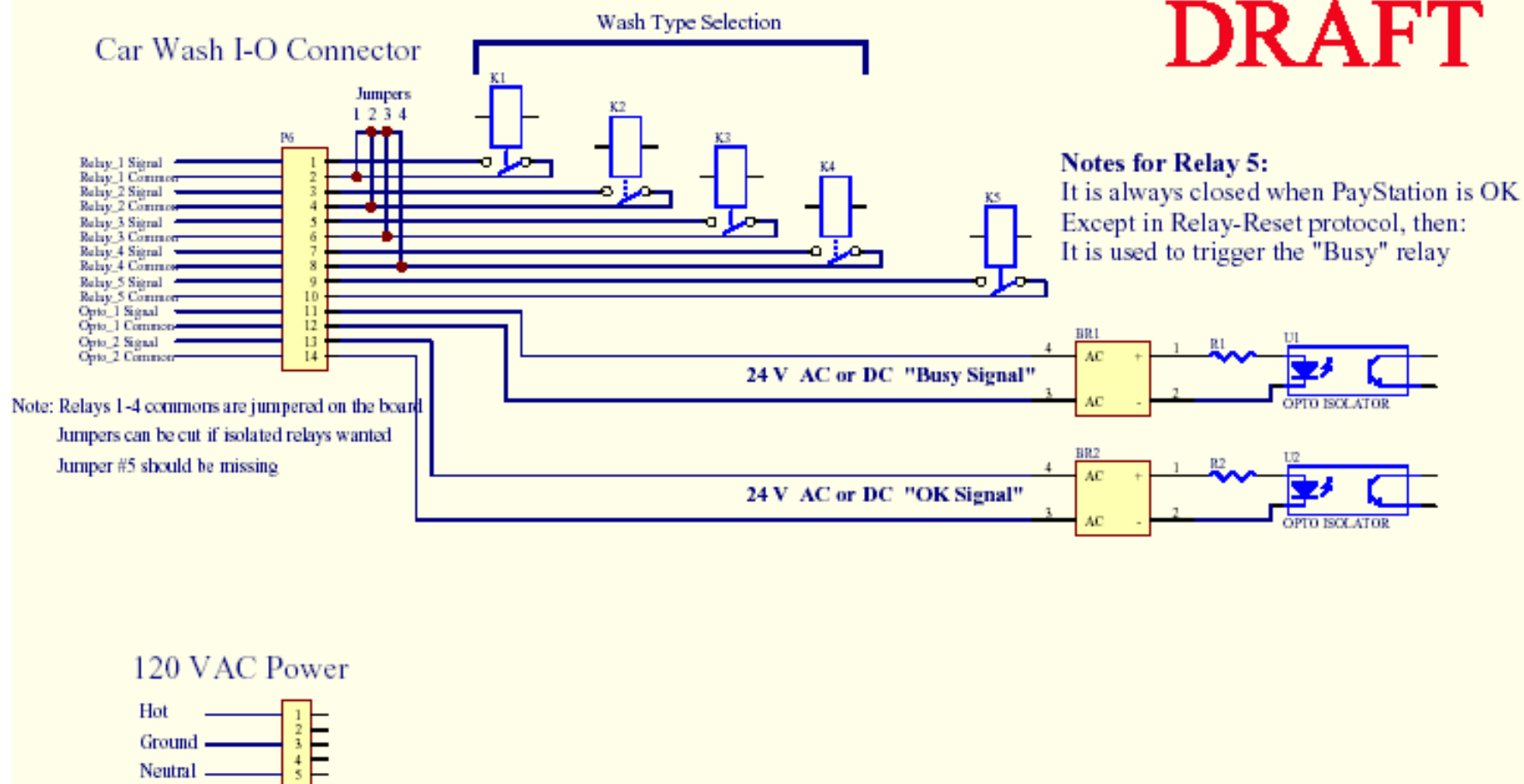
### **DESCRIPTION**

Main Chassis, Plastic  
Stacker Latch, Blue  
Spring, Stacker Latch  
Lower Housing Lift Spring

# RELAY LOGIC BOARD VERSION REV. "D" AND UP.

## PayStation to CarWash Connections

**DRAFT**



**NOTE:** The incoming ground wire must be connected directly to the cabinet ground stud!

# RELAY BOARD CONNECTIONS

## AC 8000/ 8001 RELAY BOARD

### WIRING INFO.

Board ver. Vinland 48-021A-RV02

