VALICHANGER
OPERATIONS MANUAL
SERIES AC2003
Coin Mech and Printer Instruction Inside!

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Internet Address: www.americanchanger.com
Service Questions?: e-mail: service@americanchanger.com

Specifications

Operating voltage .... 120 VAC +10/-15 %
Power consumpt.(controller only, add hopper and validator)10w
Operating temperature ...... 32 - 130 degrees Fahrenheit
Interface to Hoppers .... 24vdc & 12vdc 1.5 amps max.
Interface to Validators ...... 120vac .5 amps max.

Warranty
CoinCo MAGPRO 00 B & MARS AE2601 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

It is the End User's responsibility to follow cleaning maintenance procedure outline on page(s) 19/23.
Any unit coming in for repair requiring only a cleaning will be charged a flat rate of $65.00 plus shipping and handling.

Dispensing System and Logic Board
The dispenser and logic board is warranted for one year from date of purchase.

COVERED
¥ Defects caused by material or workmanship.
NOT COVERED
¥ Damage caused by physical abuse.
¥ Misapplication
¥ Vandalism
¥ End Users attempt, on his own to repair.

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
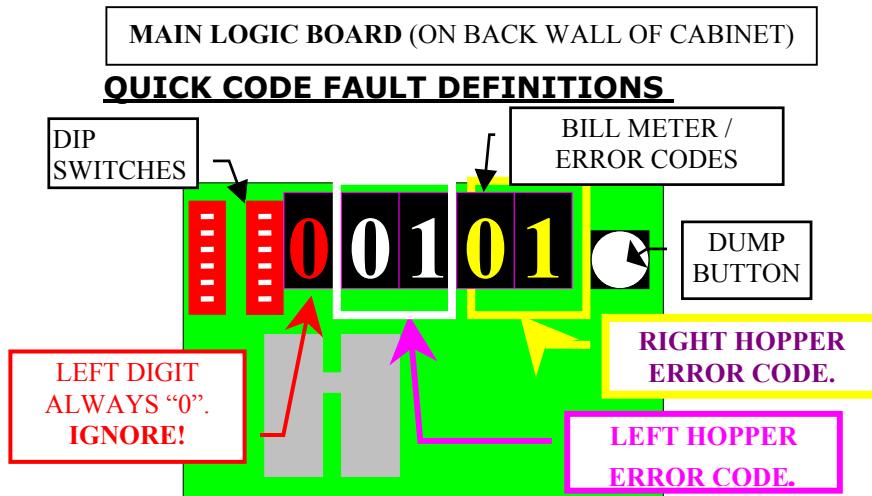
Attention Please:

American Changer is now building in a Surge Suppressor on every main logic board made after September 1st, 1998. This will help eliminate power related noise problems for our customers. It will not protect you from large voltage spikes or lightning strikes over 150VAC.

If this is a concern for your area of business, we recommend purchasing a surge protector locally **NOTE: A POWER STRIP IS NOT A SURGE PROTECTOR**.

Thank You,
American Changer Corp.
(888) 741-9840

MAIN LOGIC BOARD (ON BACK WALL OF CABINET)

QUICK CODE FAULT DEFINITIONS

DIP SWITCHES

BILL METER / ERROR CODES

0 0101

DUMP BUTTON

RIGHT HOPPER ERROR CODE.

LEFT DIGIT ALWAYS "0". **IGNORE!**

LEFT HOPPER ERROR CODE.

Press the "DUMP" Button before turning off changer. Match the code to samples below to find out why the hopper(s) were shut down

LEFT HOPPER ERRORS

0 00 00 - NO ERRORS
0 01 00 - LOW COIN
0 02 00 - EXIT WINDOW JAM
0 03 00 - BAD HOPPER BOARD
0 04 00 - JAMMED
0 10 00 - JACKPOT PREVENTED

RIGHT HOPPER ERRORS

0 0 0 00 - NO ERRORS
0 0 0 01 - LOW COIN
0 0 0 02 - EXIT WINDOW JAM
0 0 0 03 - BAD HOPPER BOARD
0 0 0 04 - JAMMED
0 0 0 10 - JACKPOT PREVENTED

IF THE "EMPTY" LED IS LIT, LOOK FOR CODES FOR BOTH HOPPERS TO BE DISPLAYED!

UNCRATING AND SET-UP

Remove your Series AC2003 changer from the shipping box. Open the door. Inspect for any connectors or components that may have been dislodged during shipping. The lock and keys for your changer will be inside the manila envelope along with this manual. To install the lock, insert the cylinder into the round hole in the middle of the T-handle and push until it stops. Now turn the key and lock until you hear it "snap." 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 red tag that comes between the keys. This ID # starts with "ACC ####".**
> **Write your Key # here "ACC_____".**
> *ALL KEY ORDERS TAKE 4-6 WEEKS!!!*

NOTE: THE METER ON THE MAIN LOGIC BOARD CANNOT BE RESET TO ZERO!!!

TEST:
Before permanently installing the changer, do a functional test to verify that there is no shipping damage to your new changer(s).

Extend the power cord through the hole in the back of the changer or the bottom and plug it into a ***grounded 120vac outlet***. **The dip switches are already set for a 4 coin per dollar pay-out of the hoppers, and the Bill validator is ready to accept $1-$5-$10-$20 dollar bills.**

Fill the each hopper with at least 100 coins. On the main logic board turn the switch on the bottom right corner "ON". **(SEE FIG. 1 ON PG.3)** *The rocker switch has a "1" and "0" printed on it. When the "1" is pressed down the changer is "ON".*

MOUNTING THE AC2003 TO A WALL

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

1. Disconnect any and all AC power going to the series 2001 changer. (See fig. 1)
   A. Unplug the AC line cord from the bottom of the board.
   B. Unplug the validator connectors on the right side of the board.
   C. Unplug the hoppers harness connectors on the left side of the board.
   D. Unbolt the ground wire from the right side of the cabinet.
   E. Remove the main logic board and hoppers from the inside of the changer.
   F. Put the nuts back on the studs to avoid losing the brass spacers on the studs.
2. Slide the hoppers out of the cabinet.
3. Note: You will need to verify with the building code that it is allowable to plug the changer into a 3 prong grounded outlet. If it is not, there must be 120VAC run through conduit to the changer. If it is not required, proceed to step #6.
4. Let the electrician run the conduit, install the new breaker, wire and help decide how the wiring will enter the changer (from the back or the bottom). This will affect the mounting location.

5. After the conduit has been installed, proceed with the mounting.
6. Locate the 4 punch-outs on the back wall of the changer. Using a screwdriver and hammer knock the punch-outs out by hitting them from the inside of the changer.
7. Using a stud locator, find a location to hang the changer by locating the wall studs.
8. Find an appropriate wall to bolt the changer into. The wall should have studs or be constructed of concrete. Consult a professional with any questions you may have.
9. *NOTE: HANGING THE CHANGER FROM LESS THAN ALL 4 HOLES MAY BE DANGEROUS. EACH HOLE NEEDS A BOLT THROUGH EACH ONE MOUNTED SECURELY TO THE WALL. MOUNTING THE CHANGER IN ANY OTHER WAY MAY RESULT IN THE CHANGER BEING TORN OFF OR FALLING OFF THE WALL RESULTING IN PERSONAL OR CUSTOMER INJURY ALONG WITH ELECTRICAL SHOCK.*
10. Choose a height to mount the changer keeping in mind that a handicapped person in a wheelchair should still be able to insert a bill into the bill validator. (We recommend no higher than 4 feet above the ground.)
11. Have someone hold the changer against the wall while someone else marks the holes. **CAUTION:** *THE CHANGER WEIGHS 85 POUNDS DO NOT EXERT YOURSELF SO THAT YOU MAY CAUSE AN INJURY.*
12. *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!*
13. Hold the changer back up to the wall. Thread and tighten bolts.
14. Verify that the machine is securely mounted.
15. Reinstall the main logic board.
    A. Before installing the main logic board, verify that the plastic safety-insulating sheet is still against the back wall where the board will be mounted and that there is a 3/8" spacer on each stud.
    B. Install the main logic board and properly tighten the nuts.
    C. Re-bolt the ground wire into the right side of the cabinet.
    D. Plug the validator connector into the right side of the board.
    E. Plug the hoppers harness connectors into the left side of the board

16. If the changer is permanently connected through a conduit, proceed to step #18.
17. Feed the AC line cord out the bottom or the back of the changer then perform the following.
    A. Connect the AC line cord into the bottom of the main logic board.
    B. Plug the male end into the AC wall outlet. ***Do not use an extension cord unless allowed by the building electrical code***.
    C. **Important:** Attach the line cord clamp to the line cord. Verify it is at the right length and that the line cord is not rubbing against any sharp edges or is being strained in any way. Then mount the line

cord clamp to the studs at the hole. Tighten securely. Installation is finished and you can proceed to the "Filling the Hopper" section.

18. In order to continue you will need to purchase electrical cable conduit, a standard 3-prong AC wall outlet and 12-gauge wire. We highly recommend HIRING a qualified electrician to perform the following!

A. Install the conduit box on the conduit entering the cabinet in the lower right side of the cabinet.

B. Secure the 3 wires (hot, neutral, and ground) to the AC wall outlet and the ground wire should also be directly attached to the cabinet ground terminal.

C. Connect the AC line cord into the bottom of the main logic board.

D. Plug the male end into the AC outlet just installed.

E. Properly fold the line cord to avoid sharp corners and any other damage.

Proceed to the "Filling the Hoppers" section.

FILLING THE HOPPERS

When each hoppers has less than 80 - 100 coins left the red "Empty" LED will light on the front of the changer. If you have disconnected your LED make sure the orange wire is going to the terminal on the LED that has the red wired terminal. *__Whenever the "Empty" LED is "ON" the validator is disabled and it will no longer accept bills.__*

1. Turn OFF the power on the main logic board.
2. Slide the hoppers out from the cabinet and insert the coins through the opening on the top. *There must be at least enough coins to cover the two gold plates at the bottom of the hoppers*. **(Somewhere between 160 and 1600 coins minimum to maximum**.)
3. Slide the hoppers back into the hopper plate. **Do not use excessive force!**
4. Turn "ON" the power switch. The "Empty" LED is now off and the bill validator is ready to accept bills.

USING THE DUMP MODE TO EMPTY THE HOPPERS

1. Open the cabinet door.
2. Turn OFF the POWER switch.
3. Place a suitable container in front of the hoppers to catch the coins.
4. Press and hold the "DUMP" button on the upper right corner of the Main Logic Board. Turn ON the Power switch. The red LED numbers on the main logic board will come on all "00000's". Once the red "00000's" lights up the SECOND time, release the "DUMP" button. If it is not released within one second, the "DUMP" mode is canceled as a security feature.
5. The hoppers will dispense coins until the POWER switch is turned OFF. If the red LED numbers are not counting up rapidly on the Main Logic Board's display the dump mode was not accessed. Please try again.
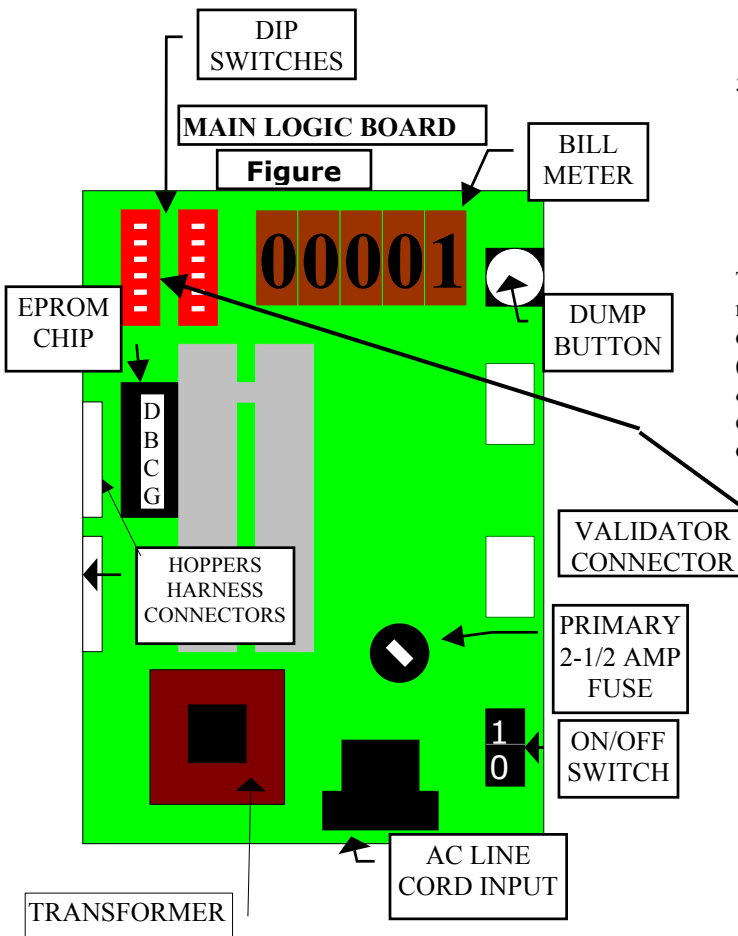
THE DIP SWITCHES

The AC2003 series changer is capable of dispensing coins in many different pay out modes. Setting the coins out per dollar is controlled by which Dipswitches turned "ON." (Refer to figure 1 for their location.) For example, switch #3 & #5 is "ON" on the left DipSwitch; the payout equals 4 coins per dollar. Two coins alternating per hopper for one dollar.
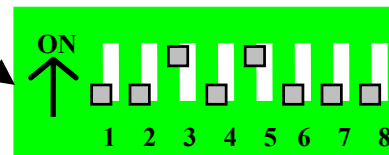

DIP SWITCHES

MAIN LOGIC BOARD

Figure

BILL METER

00001

EPROM CHIP

DUMP BUTTON

D B C G

VALIDATOR CONNECTOR

HOPPERS HARNESS CONNECTORS

PRIMARY 2-1/2 AMP FUSE

1 0

ON/OFF SWITCH

AC LINE CORD INPUT

TRANSFORMER

ON

1 2 3 4 5 6 7 8

FIGURE 2
(THIS IS NOT THE DIPSWITCH BANK FOR SETTING THE BILL DENOMINATIONS.
(For those dip switches go to page 18-19.)

ALL CALCULATIONS ARE BASED ON THE TOTAL COINS YOU SET FOR THE $1.00 BILL

For Mode #8, disregard the $ sign. (I.e. $2 = 2 tokens not $2 in tokens.)

THE FOLLOWING BONUS OPTIONS ARE CONTROLLED BY THE RIGHT DIP SWITCH ONLY!!

"NO" MEANS "NO BONUS" FOR THIS BILL.

RIGHT SWT "ON"	$5	$10	$20	RIGHT SWT "ON"	$5	$10	$20	RIGHT SWT "ON"	$5	$10	$20	RIGHT SWT "ON"	$5	$10	$20
5	NO	NO	$1	1-5	$1	$2	$5	2-6	$2	$4	$10	1-2-6	$3	$6	$14
6	NO	NO	$2	1-6	$1	$2	$6	2-5-6	$2	$4	$11	1-2-5-6	$3	$6	$15
5-6	NO	NO	$3	1-5-6	$1	$2	$7	2-7	$2	$4	$12	1-2-7	$3	$6	$16
7	NO	NO	$4	1-7	$1	$2	$8	2-5-7	$2	$4	$13	1-2-5-7	$3	$6	$17
5-7	NO	NO	$5	1-5-7	$1	$2	$9	2-6-7	$2	$4	$14	1-2-6-7	$3	$6	$18
6-7	NO	NO	$6	1-6-7	$1	$2	$10	2-5-6-7	$2	$4	$15	1-2-5-6-7	$3	$6	$19
5-6-7	NO	NO	$7	1-5-6-7	$1	$2	$11	2-3	$2	$5	$10	1-2-3	$3	$7	$14
3	NO	$1	$2	1-3	$1	$3	$6	2-3-5	$2	$5	$11	1-2-3-5	$3	$7	$15
3-5	NO	$1	$3	1-3-5	$1	$3	$7	2-3-6	$2	$5	$12	1-2-3-6	$3	$7	$16
3-6	NO	$1	$4	1-3-6	$1	$3	$8	2-3-5-6	$2	$5	$13	1-2-3-5-6	$3	$7	$17
3-5-6	NO	$1	$5	1-3-5-6	$1	$3	$9	2-3-7	$2	$5	$14	1-2-3-7	$3	$7	$18
3-7	NO	$1	$6	1-3-7	$1	$3	$10	2-3-5-7	$2	$5	$15	1-2-3-5-7	$3	$7	$19
3-5-7	NO	$1	$7	1-3-5-7	$1	$3	$11	2-3-6-7	$2	$5	$16	1-2-3-6-7	$3	$7	$20
3-6-7	NO	$1	$8	1-3-5-6-7	$1	$3	$12	2-3-5-6-7	$2	$5	$17	1-2-3-5-6-7	$3	$7	$21
3-5-6-7	NO	$1	$9	1-4	$1	$4	$8	2-4	$2	$6	$12	1-2-4	$3	$8	$16
4	NO	$2	$4	1-4-5	$1	$4	$9	2-4-5	$2	$6	$13	1-2-4-5	$3	$8	$17
4-5	NO	$2	$5	1-4-6	$1	$4	$10	2-4-6	$2	$6	$14	1-2-4-6	$3	$8	$18
4-6	NO	$2	$6	1-4-5-6	$1	$4	$11	2-4-5-6	$2	$6	$15	1-2-4-5-6	$3	$8	$19
4-5-6	NO	$2	$7	1-4-7	$1	$4	$12	2-4-7	$2	$6	$16	1-2-4-7	$3	$8	$20
4-7	NO	$2	$8	1-4-5-7	$1	$4	$13	2-4-5-7	$2	$6	$17	1-2-4-5-7	$3	$8	$21
4-5-7	NO	$2	$9	1-4-6-7	$1	$4	$14	2-4-6-7	$2	$6	$18	1-2-4-6-7	$3	$8	$22
4-6-7	NO	$2	$10	1-4-5-6-7	$1	$4	$15	2-4-5-6-7	$2	$6	$19	1-2-4-5-6-7	$3	$8	$23
4-5-6-7	NO	$2	$11	1-3-4	$1	$5	$10	2-3-4	$2	$7	$14	1-2-3-4	$3	$9	$18
3-4	NO	$3	$6	1-3-4-5	$1	$5	$11	2-3-4-5	$2	$7	$15	1-2-3-4-5	$3	$9	$19
3-4-5	NO	$3	$7	1-3-4-6	$1	$5	$12	2-3-4-6	$2	$7	$16	1-2-3-4-6	$3	$9	$20
3-4-6	NO	$3	$8	1-3-4-5-6	$1	$5	$13	2-3-4-5-6	$2	$7	$17	1-2-3-4-5-6	$3	$9	$21
3-4-5-6	NO	$3	$9	1-3-4-7	$1	$5	$14	2-3-4-7	$2	$7	$18	1-2-3-4-7	$3	$9	$22
3-4-7	NO	$3	$10	1-3-4-5-7	$1	$5	$15	2-3-4-5-7	$2	$7	$19	1-2-3-4-5-7	$3	$9	$23
3-4-5-7	NO	$3	$11	1-3-4-6-7	$1	$5	$16	2-3-4-6-7	$2	$7	$20	1-2-3-4-6-7	$3	$9	$24
3-4-6-7	NO	$3	$12	1-3-4-5-6-7	$1	$5	$17	2-3-4-5-6-7	$2	$7	$21	1-2-3-4-5-6-7	$3	$9	$25
3-4-5-6-7	NO	$3	$13	2	$2	$4	$8	1-2	$3	$6	$12				
1	$1	$2	$4	2-5	$2	$4	$9	1-2-5	$3	$6	$13				

DIPSWITCH OPTION SETTINGS

Mode	I Want My Coin Hoppers to Dispense.......	Left Dip Switch 1	2	3	4	5	6	7	8	Right Dip Switch 1	2	3	4	5	6	7	8
#0	4 Quarters per dollar	O	O	C	O	C	O	O	O	O	O	O	O	O	O	O	O
#1	4 Tokens with a bonus payback in $1 incr. (Bill Meter counts in $1's.)	O	O	C	O	C	O	O	O	See bonus table.							
#2	$1.00 SBA's, Luni's or Tokens and quarters.	O	O	O	O	O	C	O	O	C	C	O	O	O	O	O	O
#3	5 nickles then the balance in quarters.	O	O	C	O	C	C	O	O	O	O	O	O	O	O	O	O
#4	Tokens valued between $1.25 - $15.75 the balance paid in quarters	O	O	O	O	O	O	C	O	Set by $.25 increments							
#6	4 Tokens with a bonus payback in $1 incr. (Bill Meter counts in $.25)	O	O	C	O	O	C	C	O	See bonus table.							
#7	Nickles ONLY paid out of both hoppers, with quarter acceptor.	O	O	O	O	C	C	C	O	O	O	O	O	O	O	O	O
#8	4 Tokens with a bonus payback in $1 incr. (Bill Meter counts in $1's.)	O	O	C	O	O	O	O	C	See bonus table.							
#9	4 Quarters per dollar with 5 - 10 & 25 Cent Coin Acceptor. + Bonus Options	O	O	C	O	C	O	O	C	See bonus table.							
#10	4 Tokens with a bonus payback in $.25 incr. (Bill Meter counts in $.25)	O	O	C	O	O	C	O	C	See bonus table.							
#11	Golf Token Mode (Optional $1 coin acceptor) (Bill Meter counts in $1)	O	O	O	O	C	C	O	C	Set in $1 increments.							
#12	Australian Mode $1 Coins and Twenty cent pieces	O	O	O	O	O	O	C	C	O	O	O	O	O	O	O	O
#13	5 Dimes and the balance in Quarters	O	O	O	O	C	O	C	C	O	O	O	O	O	O	O	O
#14	Canadian Luni - Tuni Payout Mode See Pg.7 For options on Right Dips.	O	O	O	O	O	C	C	C	O	C	O	O	O	O	O	O

C   IS DIPSWITCH "ON"

HOW TO USE THE BONUS TABLE

Think of the bonus table as the total amount of EXTRA tokens after the regular payout, that you wish to receive:
EXAMPLE: PAYOUT: 4 tokens for $1, 24 for a $5, 52 for a $10, 120 for a $20.
24 tokens = $1 extra in tokens
52 tokens = $3 extra in tokens
120 tkns = $10 extra in tokens.
Now go to the bonus table, find where the $5 column =$1
Look over to the $10 and go down until you see $3.
Finally go to the $20 column to where = $10.
You should be at 1-3-7; Turn "ON" your right dipswitches 1-3-7 to set this payout.

DIPSWITCHES

The following table shows how to set the dip switches to your desired payout.

"ON"	COINS PER DOLLAR
#1	1
#2	2
#3	4
#4	8

The left DipSwitch controls the left hopper's pay out and the right DipSwitch controls the right hopper's pay out.
Refer to the next table to set up your changer for the settings you need.

MODE DESCRIPTIONS

Some of the modes are self-explanatory while others have sub modes built into the chip. Here is a list of the modes and sub modes when applicable.

MODE 2 - $1 coins the balance in quarters:

The quarters for each bill are controlled by the sub mode settings of the right dipswitches #1 & #2.
Neither "ON" – 16 Quarters balance in $1 coins.
#1 "ON" only – 8 Quarters balance in $1 coins.
#2 "ON" only – 12 Quarters balance in $1 coins.
#1 & #2 "ON" – 4 Quarters balance in $1 coins.

MODES' #5 & #11 – Setting right dips in "$1 increments":

Refer to Page 6 Under "Dipswitches Cont.". But instead of counting up in coins, think of it as dollars.

MODE #14 – Canadian $1 &$2 coin payout:

The right dipswitches #1 & #2 can alter the amount of $1 coins given to each denomination.

Luni's per $	$5	$10	$20
Neither "ON" -	1L	0L	0L
#1 "ON"	3L	2L	2L
#2 "ON"	3L	4L	4L

The machine will always give 2 Luni's for a Tuni.

FUSE

High voltage fuse: This is the primary transformer AC fuse for the main logic board and the validator. Any direct short of the Transformer or validator will cause this fuse to blow. Replace this fuse with a 2-½ amp AS fuse only. ***REPLACING THIS FUSE WITH ANYTHING OTHER THAN A 2 ½ AMP "GDC" MAY RESULT IN A <u>FIRE</u> OR AN <u>UNSAFE WORKING CONDITION</u>!!*** (See fig. 1 for location of this fuse.)

Indicator Lights

Main Logic Board:
1. Green LED on: AC power applied to the logic board, all fuses are good.
2. Decimal Point & Red LED:
   A. Heartbeat - 5 and 12vdc present. The changer is in standby waiting for a bill pulse.
   B. On Steady - Out of service, Hopper error detected.

Validator logic board:
1. Red LED
   A. On Steady - Standby Mode, waiting for bill insertion.
   B. Flashing - Error mode, go to page for error code information.
   C. Off - The changer "Empty" LED is lit.

WIRE HARNESS COLOR AND DEFINITIONS

Validator harness:
Red -   Switched Hot 120VAC
White -   Neutral 120VAC
Black -   120VAC Low current validator enable
Yellow - +5vdc credit pulse line
Blue -   -5vdc credit pulse line
Orange - +12vdc Empty LED
Brown - -12vdc Empty LED

Hopper Harness
Gray -   Coin counting optic status line
White -   Low coin sense (+5vdc)
Green -   Coin counting optic pay out feedback line
Yellow - Raw sensor output line
Purple - Hopper pay out line from main logic board (+)
Brown - Hopper pay out line from main logic board (-)
Red -   +12vdc logic board supply voltage
Black(s) -12v, 24v low coin sense ground
Orange - +24vdc Motor supply voltage

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.

There is an option available to dispense smaller coins.

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

Coin Control 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.
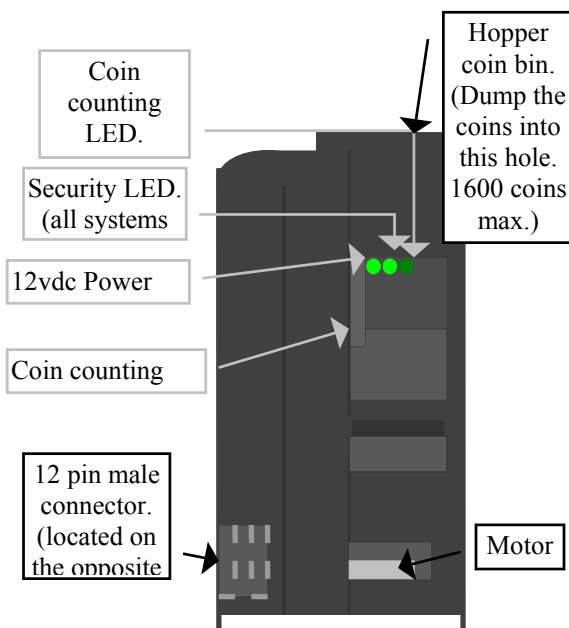
HOPPER ERROR CODE DEFINITIONS
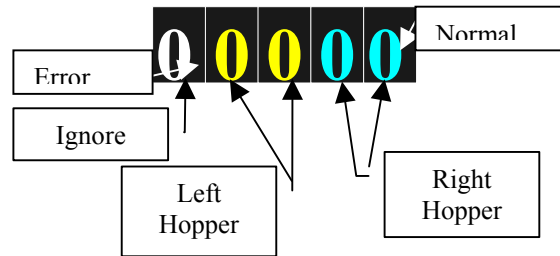
The DBCG-1 EPROM chips allow for the hoppers to run in a one-hopper mode if one hopper goes down and the ability to explain why that hopper was shut down. To access this mode press the DUMP button while in the normal operating mode. The meter display will disappear and be replaced by the error readout. You will know if you are in the one-hopper mode if only one hopper is dispensing coins, one hopper is full and the other is empty, or that your far-left decimal point on the light-up display is lit instead of the far-right. The most left display (#1) is not used. The #2 & #3 display are for the left hopper and #4 & #5 display are for the right hopper. Here are the error code definitions:

01=Low coin.
02=Object stuck in optic window.
04=Did not pay enough coins.
10=Paid too many coins (2 max) Jackpot protection!

An error read-out of **"00100"** states the left hopper was shut down due to low coins. A read-out of "**00003**" states an optic window failure and low coin was detected. I.e. 01 + 02 = 03.

AC2066.3 Condor Electronic Coin Mech. (Upgrade) Programming

The next page will teach you how to program the Condor.

If you have an AC6000 Program the $1 coin in the #1 Slot. You can not accept Quarters and dollar coins with out a new wire harness.

If you have a AC6001 or AC6003, program the Quarter into the #1 slot and the dollar coin in the #4 slot.

LED

Rotary Switch

Programming Button
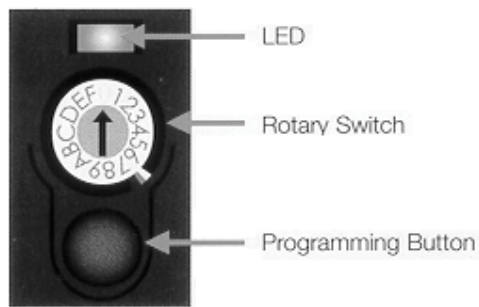
To Teach and Run a coin or token into Condor follow this procedure:

To start with the LED should be lit green and the rotary switch in position 0

Using a small flathead screwdriver turn the rotary switch to position 1 (or 1 to 6 for multi coin Condors) and press the programming button. The LED should change to red

Feed a selection of the coin to be taught into the acceptor until the LED begings to flast green (this typically happens after 4 coins). Press the programming button once more.

The LED should return to green.
Turn the rotary switch back to 0.
The acceptor is now ready to accept coins.

THE (AC7070) PRINTER OPTION UPGRADE
Installation & programming instructions.

6.

SECTION A. – General Information
All AC7070 Printer Boards (PB) are year 2000 compliant.

Figure 1

Printer With Paper

Option Buttons #1-#4

Top Connector #3

Bottom Connector #2

Logic EPROM Ver.B-06

Battery 2-Year Shelf life

Ribbon Connector #1

Print Contrast Adj. Dial
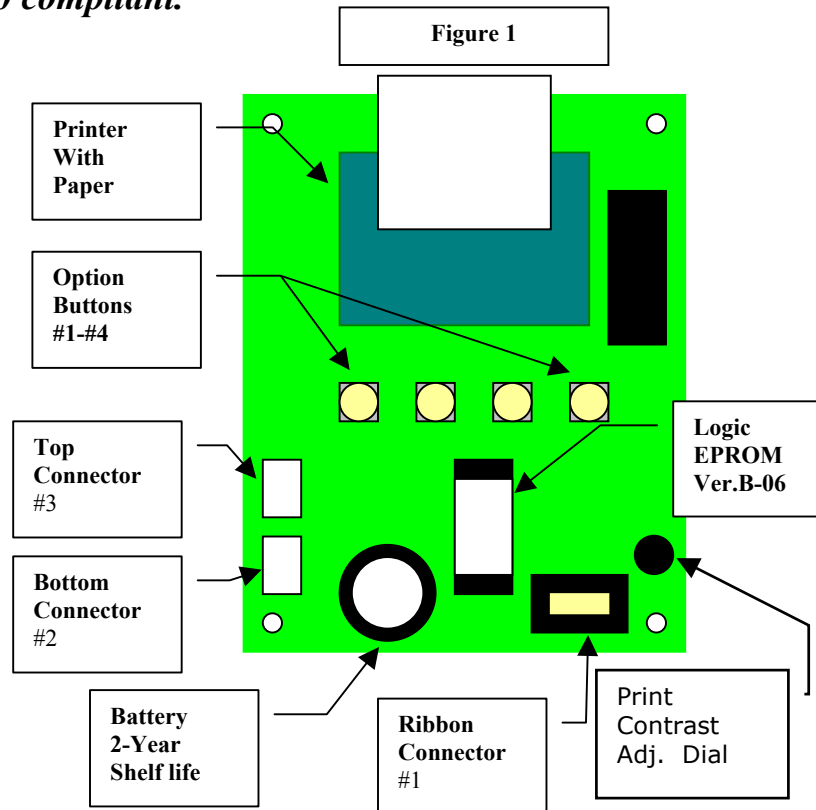
FAST FACTS:
1. Replace battery every 2-years with a 3V-Lithium #CR2320, Positive side UP. It is a very common battery and can be found just about everywhere, even Radio Shack. Replace battery with the power on so not to lose the existing programming.
2. Replace paper with:
   A. Nippon TP50KS-E2C **or** TP50KS-A
   B. Honshu FH65BU-2 **or** FH65BX-14N
   C. Mitsubishi F-200U9W3 **or** F-200U7N5
   Using any other paper than the type specified will dramatically cut down the life of the printer. Office Depot should carry at least one of these paper types..
3. Change the paper with power on at the printer board. Feed the paper into the back of the printer until it stops. Press and hold the #3 paper feed button until the paper comes into view.
4. The dial in the lower right corner of the print board is to set print contrast. DO NOT MAKE THE CONTRAST to dark. It will cause the print head to burn up. It should be set to be just legible.
5. THE PRINTER IS MAINTENANCE FREE!!! Do not try to mechanically adjust, lubricate or pry on the printer. ANY PRINTER MAINTENANCE VOIDS THE WARRANTY!!! Blowing the dust out of the

printer with canned air every 6-monthes is recommended and required by the warranty.

SECTION B. – Installation

INSTALLATION OF THE AC7070 PRINTER BOARD ON INDIVIDUAL MACHINES

If your Printer was installed at the factory skip Section C .

INSTALLATION PROCEDURE FOR AC2003 SERIES CHANGER

1. **Remove power from the machine.**
2. **Remove the hoppers from the machine.**
3. **Remove the hopper plates and disconnect the harnesses from the Main Logic Board.**
4. **Remove the original validator harness.**
5. **Install the new plates and connect the harnesses to the Main Logic Board. (Right plate to the bottom hopper connector.)**
6. **Make sure the inside left wall of the cabinet is free of dirt and oil.**
7. **Peel the covers off the 4 stick pads at each corner of the board.**
8. **Attach the board firmly onto the side of the cabinet by pressing firmly in each of the Four Corners of the board simultaneously.**

9. **Connect the RIBBON CABLE to the AC2000 series on the Printer Board.**
10. **Attach the RIBBON CABLE to the pigtails of the hopper plates.**
11. **Attach the new validator harness. Connect it to the lower plug on the Main Logic board, the Empty LED, and to the Bottom Connector #2 on the Printer Board.**
12. **Reinstall the hoppers onto the hopper plates.**

Section C. – Printout Description.

DESCRIPTION OF THE PRINTER'S PRINT-OUT
When you first receive your Printer, you will see a printout on the tape sticking out of the Printer. Below is the description line by line:

Machine # - This will be programmed by the user later. It is the programmable number designation assigned for this machine.
Sequence # - This is the audit number assigned to the receipt. The printer will print out 2 receipts per sequence.
Date & Time – Date and time the printout occurred.
Quarters through Hundreds – The amount of each currency accepted since the printer was last reset.
Sum – The amount in dollars the printer has accumulated since it was last reset.
Total – The amount in dollars the printer has accumulated in it's lifetime. THIS TOTAL CAN NEVER BE RESET!!!
Hopper 1 & Hopper 2 – The amount of coins given out of each hopper since the printer was last reset. In a 1-hopper machine only, Hopper 1 will accumulate.

THE DENOMINATIONS AT THE BOTTOM OF THE PRINTOUT REPRESENT THE LAST 3 BILLS ACCEPTED BY THE BILL ACCEPTOR(S).

Section D. – Programming the Printer

How to Program the AC7070 Printer Option
There are 4 programming modes associated with the Printer: Machine #, Time, Date, and the ability to make the "SUM" on the printer printout resetable or non-resetable.
To enter the programming mode, turn the main logic board of the machine off. Press and hold down the #2 & #3 while turning on power to the main logic board. Release the #2 & #3 pushbuttons as soon as the printer head move, (Approx. 1 second).. The Printer prints out "****Set up Mode****" and you're ready to start!
Now that we're in the set up mode let's press #1 to set machine number. This number represents this machine. This way if you have multiple printers and receipts scattered on your desk, the machine number will tell you which machine the receipt is for. This number has three digits. Right now the machine is number "000". Follow the directions on the printout. Every time you press the # button the red light will flash and the digit associated with that digit counts up by one. DO NOT RUSH!!!

IF YOU DID NOT SEE THE RED LIGHT ON THE PRINTER BOARD FLASH YOU COUNT DID NOT INCREMENT!!! If you made a mistake, press OK (#4), then #2 to restart the operation. For a sample we'll assign #358 as our machine number.
1. Press the #1 button 3 times to set the "hundred's" digit.. *(Try to press once per second. This is a good rhythm. Ensure the red light on the printer board also flashed three times.)*
2. Press the #2 button five times to set the "ten's" digit.
3. Press the #3 button 8 times to set the "one's" digit.
4. Press #4 OK. *(If the printer does not show the desired machine number press#2, and go back to step #1)*
5. Press #4.
The printer will now print a receipt showing the new machine number at the top of the paper.

Time – Reenter the program mode and this time press #2 for the 24-hour clock. In the sample below I will use 9:52 AM. (*For those of you unfamiliar with this type of time setting here is a sample. 1:00 AM = 0100 hours, Noon = 1200 hours, 1:00 PM = 1300 hours, 6:00 PM = 1800 hours, Midnight = 0000 hours.)*
1. Press #3 for the TENS setting on the 24-hour clock. (*Since the sample time is 9:52 AM or 0952 hours DO NOT PRESS#3. Just hit #4 to move on.)*
2. Press #3 9 times to set the hour, then press #4.
3. Press #3 5 times to set the hour, then press #4.
4. Press #3 2 times to set the hour, then press #4.
5. Press #4 OK. *(If the printer does not show the desired machine number press#2, and go back to step #1)* .
6. Press #4.
The printer will now print a receipt showing the new time at the top of the paper.

Date – Reenter the program mode. The sample will be May 15th 2000.
1. Press #3 for the date mode.
2. Press #2 for 2000 then press enter.
3. The printout shows 2000, if it is correct press #4.
4. Press #4 for the "ten's" digit of the year.
5. Press #3 to set the "one's" digit of the year. For the example press #3 2 times.
6. The printer now shows the completed year., if it is correct press #4.
7. To set the month "ten's" digit press #3. In the example the month is '05' so press #4 .
8. Set the "one's" digit of the month, in the example press #3 5 times. Press#4.
9. Press #4 if printout matches the month.
10. Set the "ten's" digit of the date by pressing #3.
11. Press #3 to set the "one's" digit of the date.
12. Press #4 if date printout is correct.

The printer will now print a receipt showing the new date at the top of the paper.

Resetable Counter – This feature either locks the "Sum" total on the printout, or allows it to be reset each time you increment the sequence number.

1. Enter the program mode.
2. Press #4.
3. Locked – YES or NO.

The printer will now print a receipt.

Section E. – Printer Operation

The Printer operation is fairly simplistic. The Printer gets its input pulses from the bill validator and sorts them into the categories such as "quarters" and "twenties". For the "hopper" category, each hopper 's exit window is monitored and each coin is counted as it's dispensed.

Using the Printer – Once installed the printer should be used as any normal accounting device. THE PRINTER WILL NOT LOSE ANY ACCOUNTING INFORMATION WHEN POWER IS LOST! A printout can be obtained by pressing the "PRINT" (#2) button. This action will not reset the accounting features. It is a monitoring printout only! Another helpful feature of the Printer is the printout of the last 3 bills entered. This feature was installed to double check customers that say they lost money in the machine.

Every accounting period the Printer will need to dump it's information and start over. This is accomplished by pressing the #1 and #4 buttons simultaneously. The printout will have *Reset Count Receipt* at the top. There are 2 receipts printed, then the counters are reset to 0.

THE "TOTAL" COUNT CAN NEVER BE RESET!!!

Functional Description of the Series AC2003 Changer

To follow along with this walk-through of your changer, fill the hoppers with coins and turn the changer on.

1. When power is applied the validator will cycle twice, the out-of-service LED flashes then goes out, the green LED on the main logic board comes on steady, and the decimal point on the main logic board number display will flicker on once per second in the standby mode.
2. During the power-up mode the main logic board relay clicks twice enabling power (120vac) to the validator. When this relay is not enabled it routes 12vdc ground to the out-of-service LED. Without power to the validator the changer cannot accept bills. Since we are not in the error mode, the red LED on the validator logic board is on steady.
3. When a bill is inserted into the validator bill slot, the bill will be pulled inside. The validator then compares what the bill looks like to its memory. After the bill is validated it grounds the 5vdc lines causing a pulse along the yellow and blue validator harness wires to pins 5 and 15 of the main logic board. Each pulse stands for the amount of the denomination validated. (i.e. 1 pulse for $1, 5 pulses for $5).

4. The 5vdc pulse then travels from pins 5 and 15 to the EPROM chip (ver. DBCG-1") pin #25. The EPROM sends a 12vdc pulse to the meter chip (U5) out pins #21
5. & 22 (one pulse per denomination validated). The EPROM also multiplies the bill pulse by the DipSwitch settings (The EPROM reads the DipSwitch settings during the power up mode and stores them into memory.)
6. The EPROM then sends the hopper pulses out pin #23 to pins 6 and 7 of the red 12 pin hopper plugs. These pulses travel through the purple and brown wires of the hoppers wire harness to the hoppers pins 8 and 12.
7. The hopper turns itself on with the first hopper pulse. The hoppers counts the hoppers pulses sent from the EPROM chip on IN3 (pin 12) while dispensing the coins at the same time. When the amount of hoppers pulses in equals the coins dispensed through the coin counting optical sensor the hopper turns itself off.
8. The Changer returns to the standby mode with the decimal point flashing once per second until another bill is inserted.

Functional Descriptions of Out-of-Service Conditions

Out-of-Service conditions occur for the Series AC2003 changer for the following reasons; low coins, hopper fault error, validator fault, or a blown fuse.

1. **Blown Fuse**: an AC power spike in line voltage or a bad transformer on the main logic board can cause A blown fuse on the main logic board. If either fuse blows the indication is the green LED on the main logic board will not light.
   A. Replace the fuse. If the green LED now lights then there was a spike.
   B. If it does not and the fuse blows again the power transformer is shorted. To test the transformer use a voltmeter set for ohms and measure across the primary (40ohms) and the secondary (1.5ohms).
2. **Hopper Fault**: A hopper fault can either be a jammed hopper, a blocked coin counting optic or a bad hopper logic board.
   A. Indications for a jammed hopper are the changer accepts bills, the meter counts up, but nothing or not enough coins are paid out.

1. After 2 minutes the EPROM shuts off the validator if the coins are not paid out correctly. The "Empty" LED will flash once per second.
2. At this point the three options open are to attempt repair on your own, call your distributor, or return the defective hopper to American Changer.
   B. Indications for a blocked coin optic or bad hopper logic board are the out-of-service LED on the outside of the changer is lit and the red LED on the main logic board is lit and flickers off once per second.
      1. If two of the 3 green LED's on hopper logic board are lit then the hopper logic board is bad.
      2. If there is a coin or foreign object caught in the coin exit window LED's #1 and #3 will be lit on the hopper logic board instead of LED's #1 and #2.
         a. Take off the side of the hopper with the 5 Philips screws. Pull up on the exit window logic board and look for the jammed item.
         b. Ensure you have the pins aligned before reconnecting logic board.

3. **Validator Fault**: When a validator fault occurs the validator's EPROM shuts down the validator and flashes an error code via the red LED on the validator logic board. When there is no error this LED is on steady. The validator only gives bill pulses to the main logic board so the main board never knows if the validator isn't functioning. Therefore the out-of-service-LED will not light. (Seepage 10 for validator error codes.)
4. **Low Coins**: The low coin condition is probably the most common fault. The EPROM on the main logic board is constantly checking for low coins in the hoppers. This is done with a low current 5vdc signal on pin #3 of the hopper's output connector. The voltage then travels down the hopper's wire harness on the white wire to pin #7 of hopper's plug. The signal is applied to one of the gold low contact plates at the bottom of the hoppers. The 5v travels through the coins through the other contact gold plate to hopper's pin #2. It then goes through the black wire in the hopper's harness to pin #10 on the main logic board. Any interruption of more than 1/2 a second will cause an out-of-service condition.
   A. Clean the bottom gold plates of the hoppers with steel wool or fine sandpaper. Refill the hoppers and try again.
   B. Check continuity, (0 ohms) resistance, from pins 3 (white) and 10 (black) of the red hopper harnesses. Make sure both hoppers are full and the changer is turned off.
      1. If the continuity is 0 ohms, replace the main logic board.
   C. Pull the hoppers out of the changer, then look at the 12 pin black male connector that sticks out of the hoppers. Place the continuity checker's leads on pins 2 & 7.
      1. If the continuity is 0 ohms, replace that hopper's plate or adjust the hopper's plate female socket's pins so that they are not so spread out.

2. If the continuity is infinity, then replace that hopper.

VALIDATOR INTERFACES
18 PIN INTERFACE CONNECTOR DETAILS
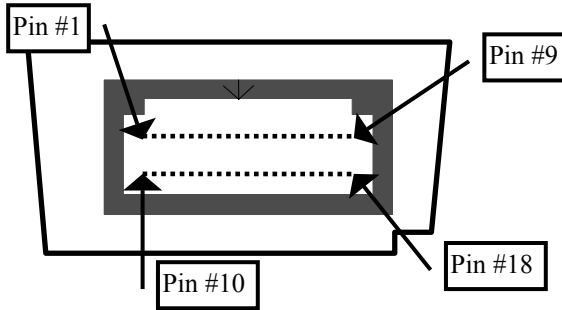
Interfacing the Mars 2501/2511 Series with the ValiChanger
8-Position Switch

1	off
2	on
3	off
4	on
5	off
6	on
7	off
8	off

No change is required to the 18-pin connector..
Ensure the black & yellow wires go to a wire nut and the green & white go to the other wire nut

Interfacing the Mars 2601/2611 Series with the ValiChanger
8-Position Switch

1	on
2	on
3	on
4	on
5	off
6	on
7	off
8	off

The 18-pin connector is not required.

Interfacing the Mars AL-4 or AL-4 Plus Series with the ValiChanger

8-Position Switch		4-Position Switch	
1	on	1	off
2	off	2	off
3	on	3	off
4	on	4	off
5	on		
6	off		
7	off		
8	on		

The 18-pin connector is not required.

Interfacing the Maka NB-10 with the ValiChanger
To interface the Maka NB-10 validator with the ValiChanger the following settings should be used for the "$1 = one pulse" configuration. See the validator manual for full details. The 18-pin interface connector should not be used.

Interfacing the Maka NB/NBE-20 with the ValiChanger
To interface the Maka NB/NBE-20 validator with the ValiChanger the following settings should be used for the "$1 = one pulse" configuration. See the validator manual for full details. The DipSwitch settings should be:
6-Position Switch

1	on
2	on
3	off
4	off
5	off
6	off

The 18-pin interface connector supplied with the ValiChanger should have pins 3, 4, 14, 15 & 18 connected and pins 7,9,12 connected.

Interfacing the CoinCo BA30SA with the ValiChanger
Connect wires 4 & 12 (Black & Red) to gather on the 18-pin connector to enable the Validator.

CoinCo MAGPRO Series Flash Codes
Flash codes 1-18 may appear during normal servicing of the BA30. If more than one error or condition exists, the lower number flash code will appear until its respective error or condition is corrected. The left and right sensors referenced below are given viewing the BA30 from the front.

# of Flashes	Description of Flash Codes
1	Bill box full
2	N/A
3	Check bill path
4	All bill accept switches are off
5	Bill jam or sensor error
6	Stacker motor/home sensor
7	Transport motor/encoder sensor
8	N/A
9	EPROM Has Failed
10	EPROM Has Failed
11	Center Optic Failed
12	Right Optic Failed
13	Left Optic Failed
14	Bill Position Sensor Error
15	Right Bill Position Sensor Error
16	Left Bill Position Sensor Error
17	Lower Anti-Stringing Armature out of place
18	Upper Anti-Stringing Armature out of place

MAG
BILL ACCEPTOR
Operation and Service Manual

COINCO MAG50B VALIDATOR SECTION

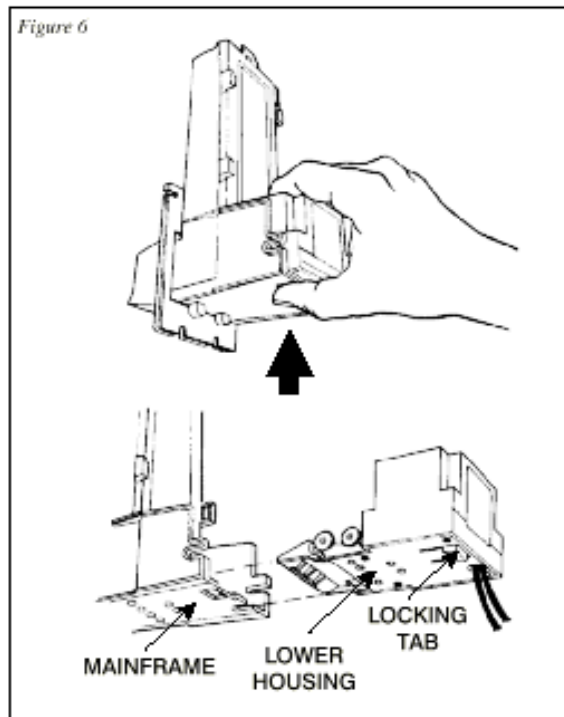**Removing the bill box.**
To remove the 1000 bill stacker from the CoinCo validator follow the picture below.

Figure 4

BILL BOX TAB

BILL BOX
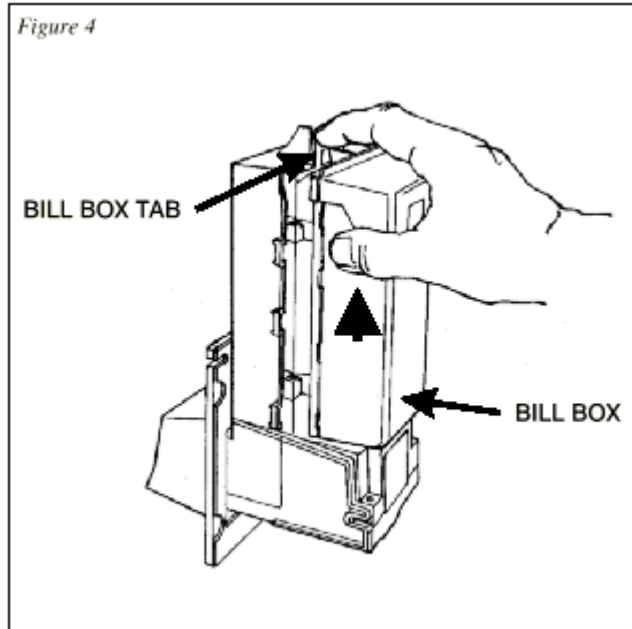
REMOVING A BILL JAM

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

Figure 6

LOCKING
TAB

MAINFRAME

LOWER
HOUSING

SETTING THE BILL ACCEPT DIP SWITCHES

Figure 1

OPTION SWITCH

ACCESS HOLE

#8

#1

Figure 5

LOCKING TABS

MAIN LOGIC BOARD

LOGIC BOARD BOX

LOGIC BOX LID
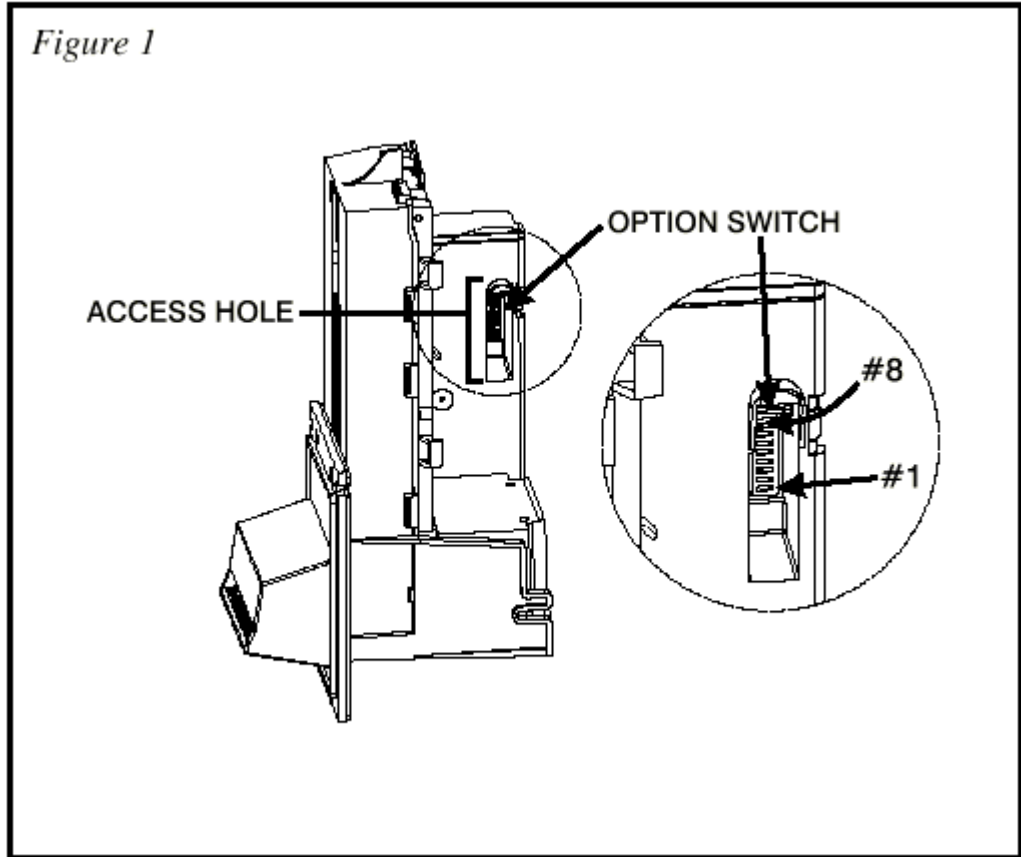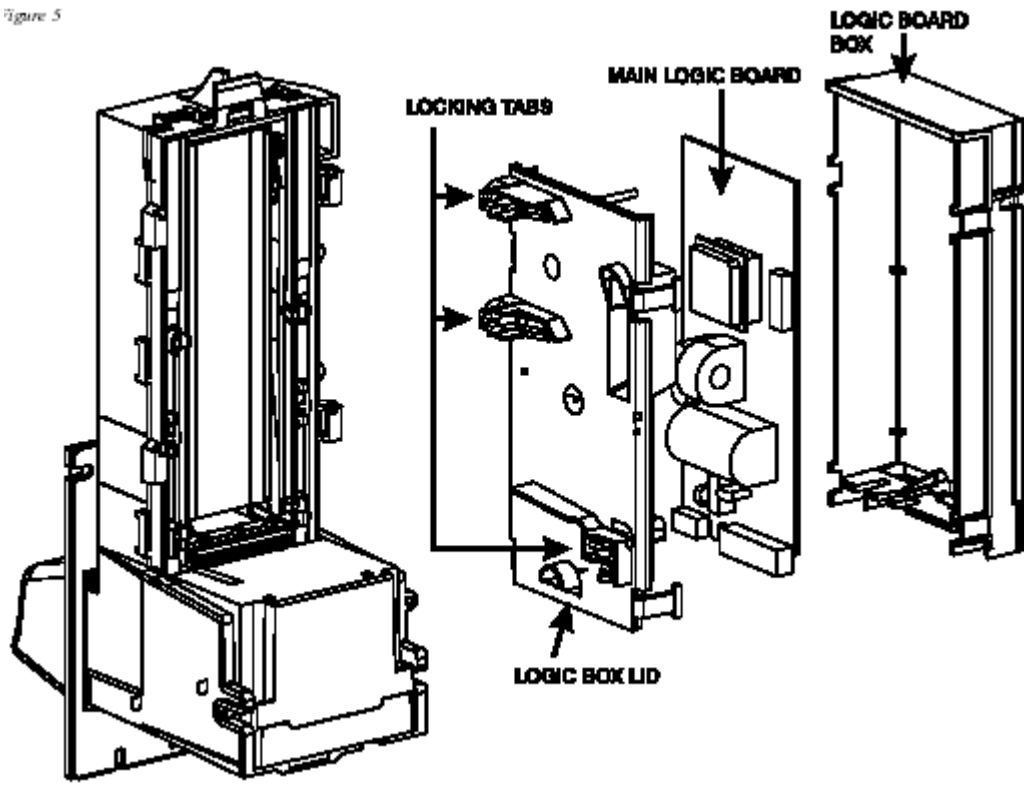
SWITCH	ON	OFF
1	High Security	Standard Acceptance
2	Accepts bills in one directions only (face up, green seal first)	Accepts bills in both directions (face up)
3	Standard credit pulse 150ms on 150ms off	Short credit pulse 50 ms on 50 ms off
4	$20 Accept	$20 Reject
5	$10 Accept	$10 Reject
6	$5 Accept	$5 Reject
7	$2 Accept	$2 Reject
8	$1 Accept	$1 Reject
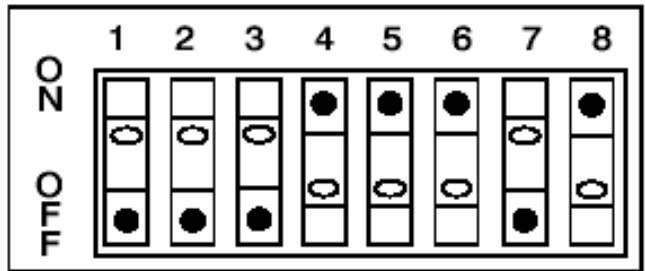
CLEANING THE BILL VALIDATOR

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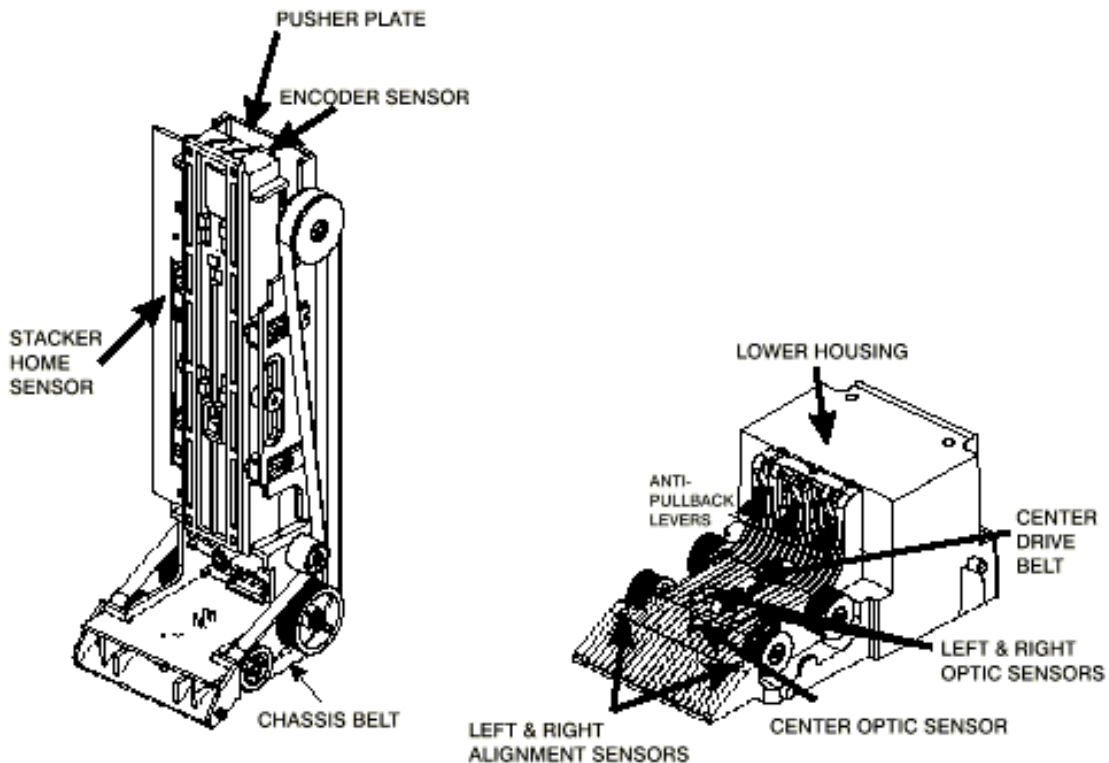
CLEANING AND MAINTENANCE:

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 MAGPRO bill acceptor.*

The MAGPRO 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 functions property.

MAGPRO 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.
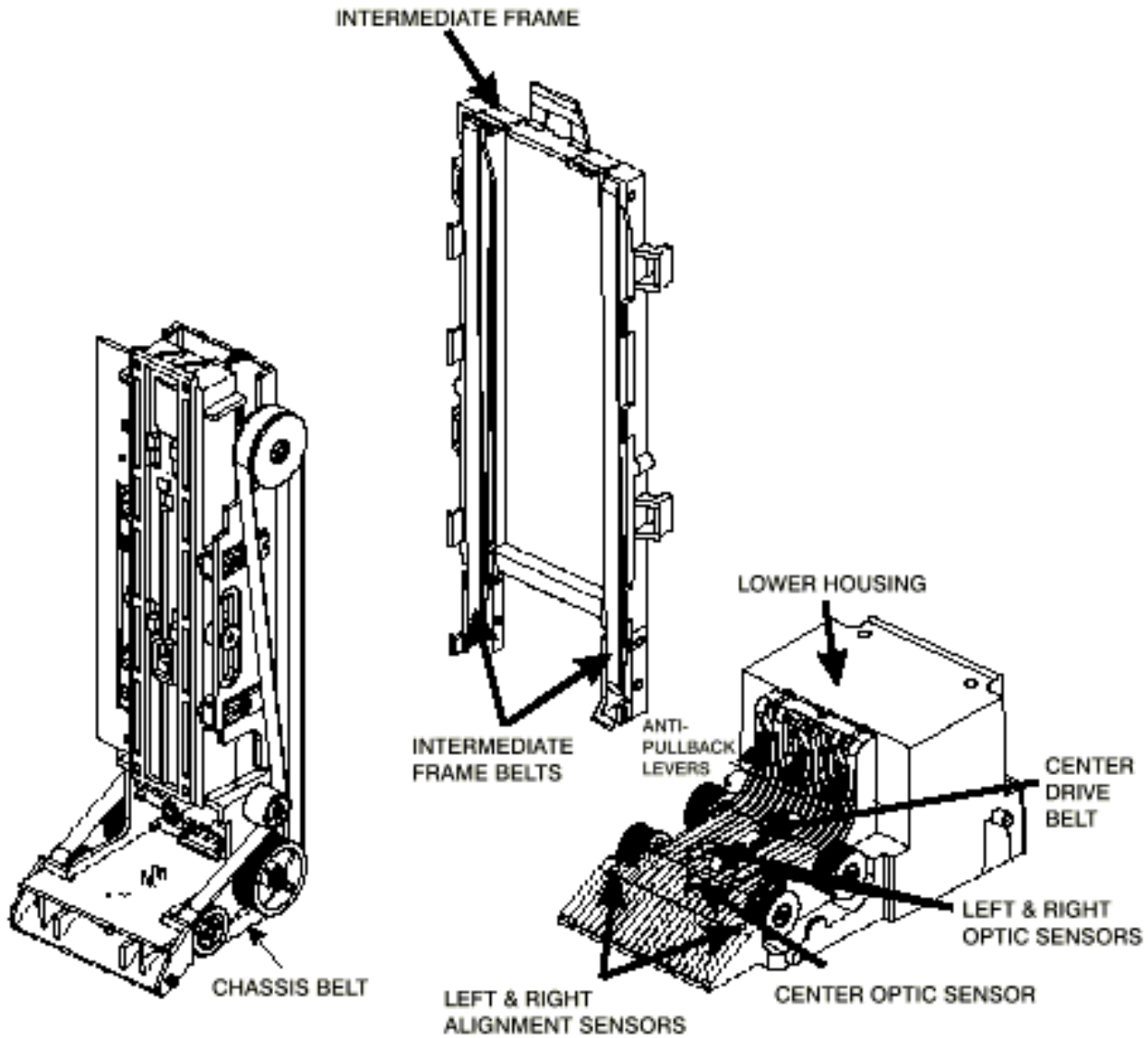
6 OR 7 ERROR CODE FLASHES

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 validators 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 Changer 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 changer 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.

INTERMEDIATE FRAME

LOWER HOUSING

INTERMEDIATE FRAME BELTS

ANTI-PULLBACK LEVERS

CENTER DRIVE BELT

LEFT & RIGHT OPTIC SENSORS

CHASSIS BELT

LEFT & RIGHT ALIGNMENT SENSORS

CENTER OPTIC SENSOR

MARS AE2601   120VAC $1-$20

MEI MARS AE2601 VALIDATOR SECTION

In order to use the Mars type VN2611 type validator the hopper extensions must be removed in order for the machine door to shut.

This is not a problem when using the Mars VN2601 style validator!

BILL ACCEPTOR

Removing the bill box

> 2. Push BLUE button forward.

> 1. Push bill box up and out.

Clearing A Bill Jam

Blue Latch

Magazine

Bill Path

Service Button

Status LED

LED Housing

> 1. Pull up on silver bar (Rod)
> 2. Pull bar away from the Mars.
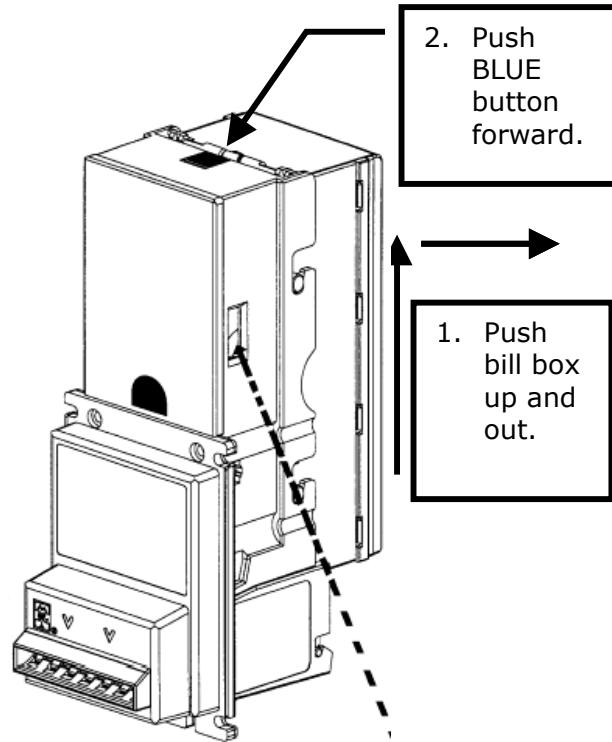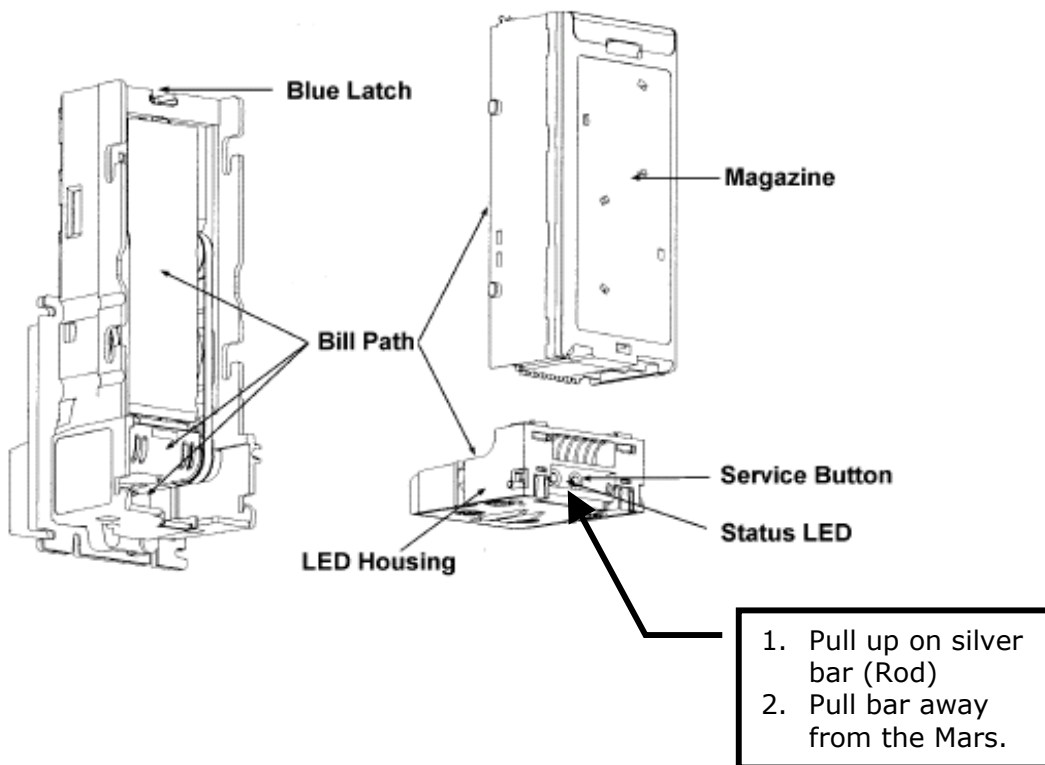
Setting the Dip Switches

Switch 1	Switch 2		Factory Default
ON	OFF	1 Way Bill Acceptance	
OFF	ON	2 Way Bill Acceptance	
ON	ON	4 Way Bill Acceptance	X
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		X
OFF	Harness Enable		
Switch 7			
ON	4 Pulse Per Dollar		
OFF	1 Pulse Per Dollar		X
Switch 8**			
ON	Vending Interfaces		
OFF	Gaming Interfaces		X

* Switch 3 affects all denominations. See Coupon Configuration on page xx for individual acceptance/security enabling options.

** The AE2600 defaults to short pulse.
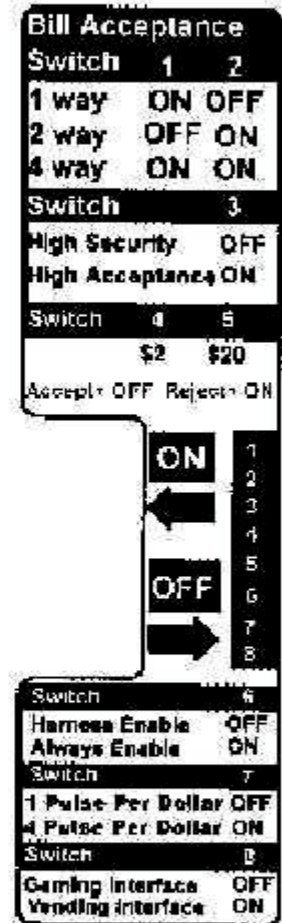
Cleaning & Maintenance

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.
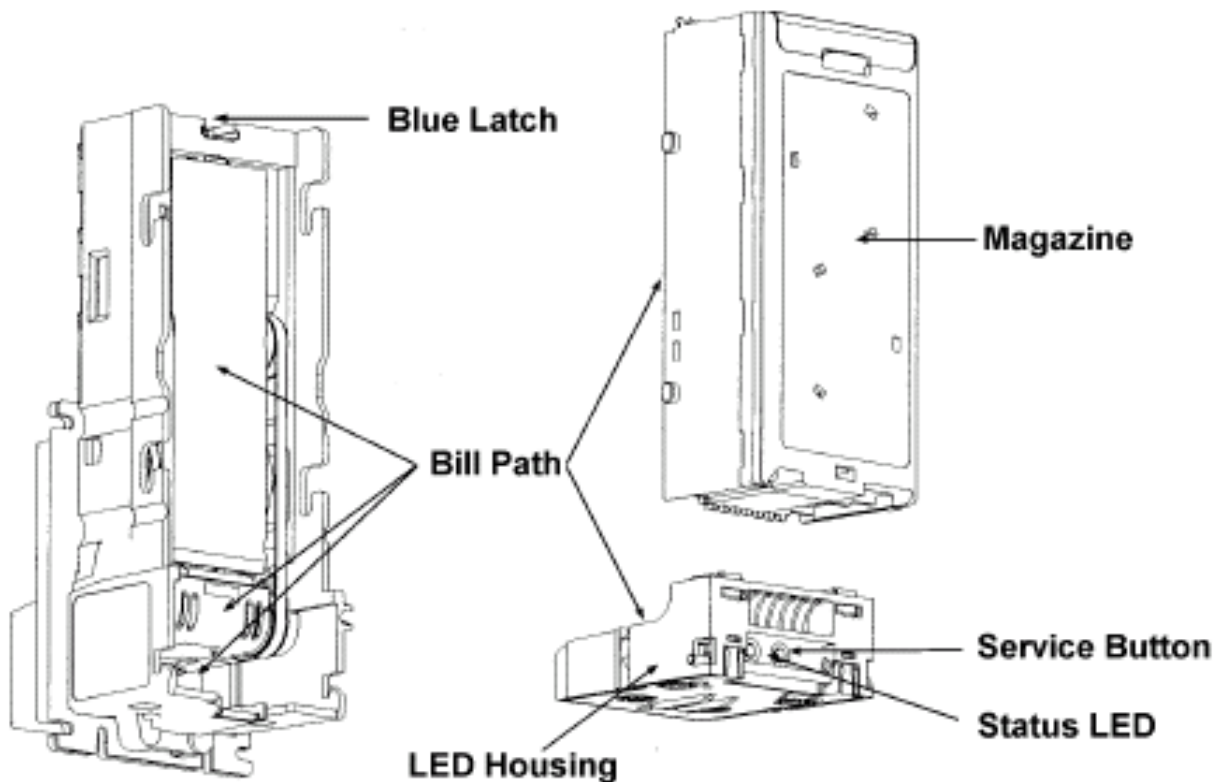
Coupon Configuration

The AE2601 may be configured using a coupon. The coupon is included in the AE2601 Series Installation Guide. Carefully cut the coupon along
the dotted-line edge to remove it from the installation guide. Copies of the original coupon may be produced with a standard, carbon-based,
non-color copier. Cut copies to match the size of the original coupon.
All option switches must be in the OFF position for the coupon selections to be active.
The coupon selection will remain with the AE2601 until the unit is reprogrammed, even if power is removed.
When filling out the coupon, note the following:
Use only a #2 pencil to fill in the blocks
Fill in the entire block
Do not mark the coupon outside the blocks
or on the back of the coupon
Fill in _**ONE**_ block for _**EVERY**_ line

Coupon Programming

1.   Fill out the coupon using the table below.
2.   Locate the service button on the back of the unit (refer to Figure 2).
3.   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.
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 AE2601 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

FIGURE 1

FIGURE 2

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.

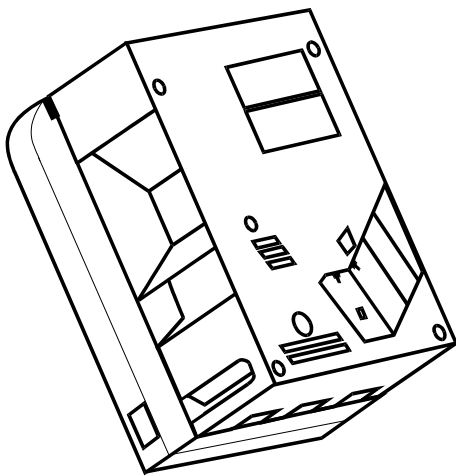| Signal	Meaning	Solution
LED ON	Indicates that the unit is enabled and ready to accept a bill.	No action necessary.
LED OFF	Indicates that no power has been applied to the unit.	Check to ensure that power is applied.
1 Flash	Indicates that something is obstructing the bill path.	Remove the magazine and LED housing; inspect for foreign material.
2 Flashes	Indicates that the unit is not enabled.	Verify configuration. Check the coin tube levels in the coin changer. Check the option switches in the coin changer. Note: Many machines disable the bill acceptor if the machine door is open and the door switch is not activated or if the machine is out of product.
3 Flashes	Indicates that the bill path needs cleaning for optimum performance.	Remove the magazine and LED housing and follow cleaning instructions (page 22) 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.

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.

MKIV UNIVERSAL HOPPER

INDEX

SERVICE MANUAL

1. COIN BOX REMOVAL

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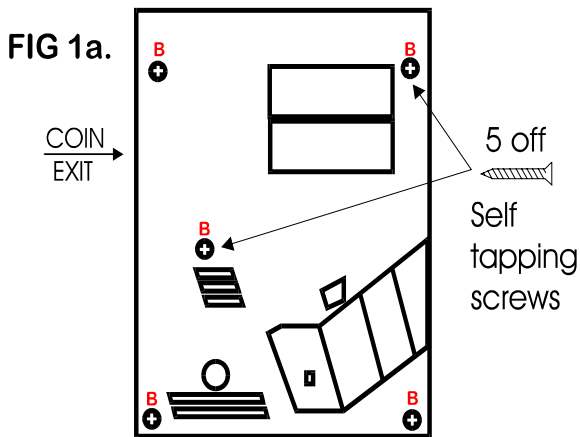
   Refer to FIG 1.

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.

FIG 1.

WASHER
NUT
CRIMP & WIRE
COIN EXIT
LOCKING NUT
STUD
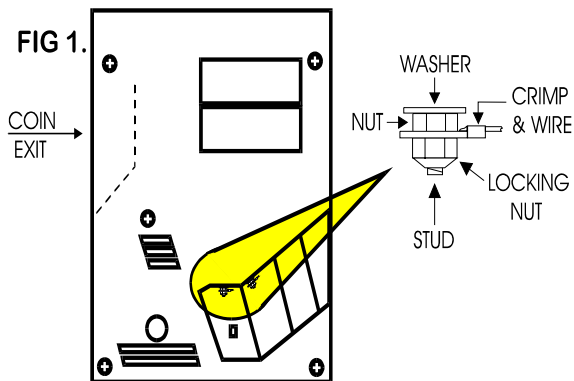
Refer to FIG 1a.

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

FIG 1a.

COIN EXIT
B B
B
5 off
Self tapping screws
B B

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.
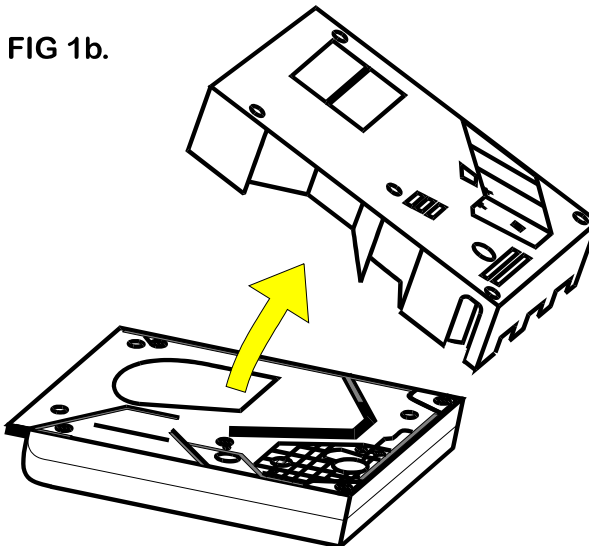
ACCESS IS NOW AVAILABLE TO THE 'LOW LEVEL' SENSE PLATES, THE MAIN PCB, THE EXIT WINDOW, THE MOTOR TERMINALS & PART OF THE WIRING LOOM.
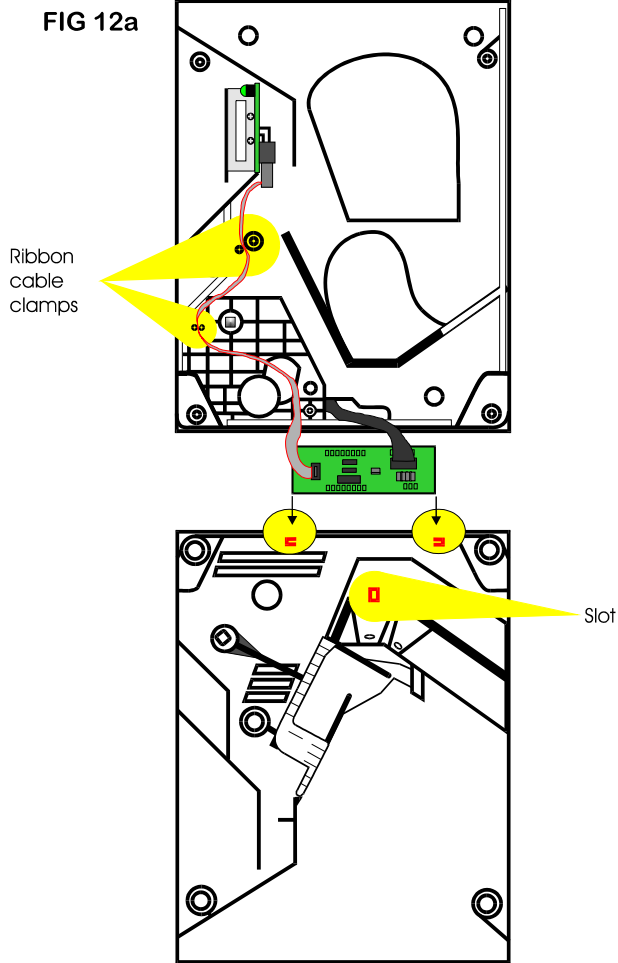
1a. COIN BOX ASSEMBLY

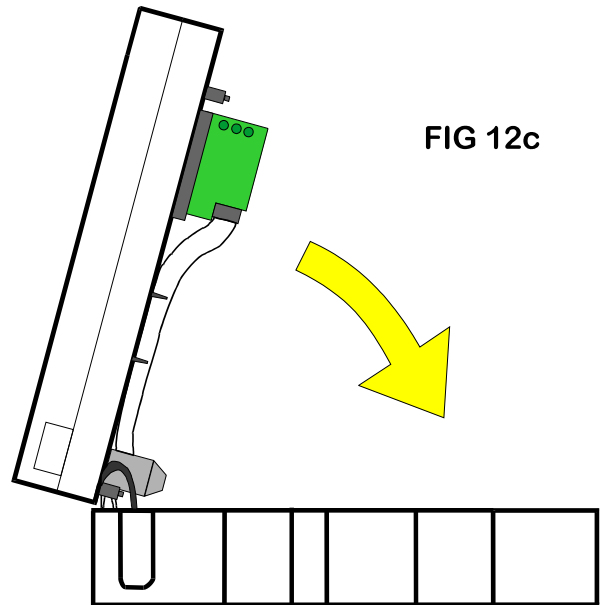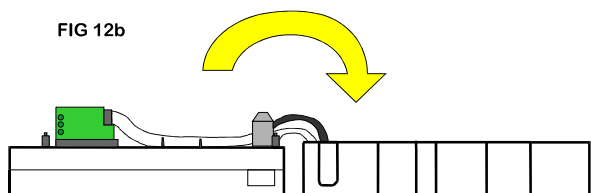1. Firstly, locate the 'stirrer in the 'coin box as shown in FIG 12.

FIG 12.

Stirrer location 1
Stirrer location 2
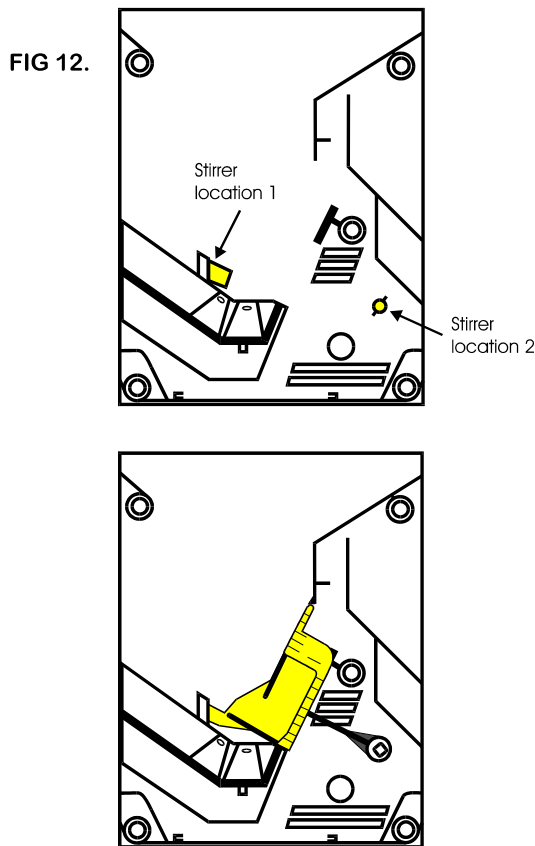
COIN BOX ASSEMBLY (cont.)

2. Line up the 'centre plate' & 'coin box' as shown below. FIG 12a.

3. Route the ribbon cable as shown below.

4. Fit the 'logic board' into slots shown below.

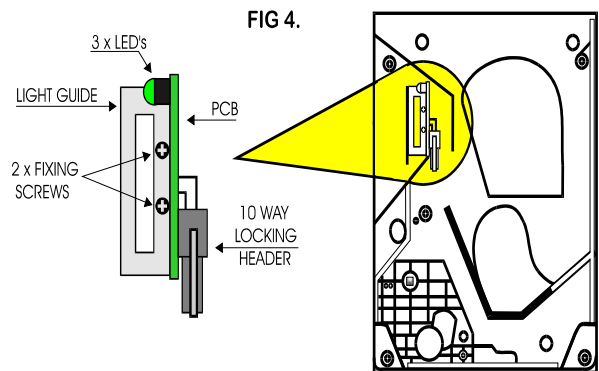5. Feed the level sense wires through the slot shown below.

FIG 12a

Ribbon cable clamps

Slot

FIG 12c

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

2. EXIT WINDOW REPLACEMENT

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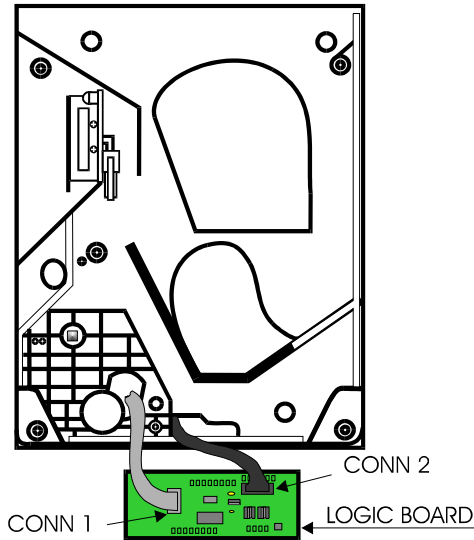4. Unclip & remove the 10-way ribbon cable header.

FIG 4.

3 x LED's

LIGHT GUIDE

PCB

2 x FIXING SCREWS

10 WAY LOCKING HEADER

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

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

FIG 12b

3. LOGIC BOARD REPLACEMENT

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

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

FIG 5.

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. Clasping 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. Clasping 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.
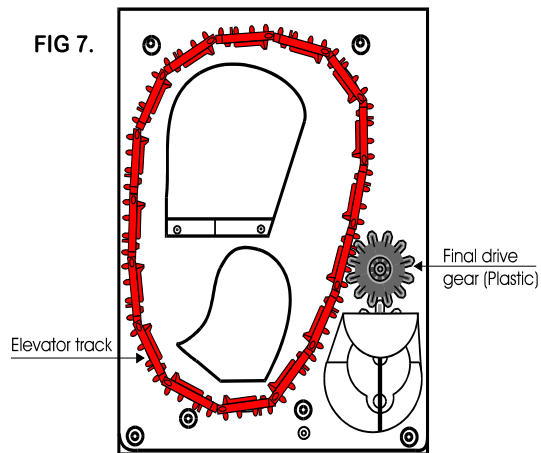
FIG 6.
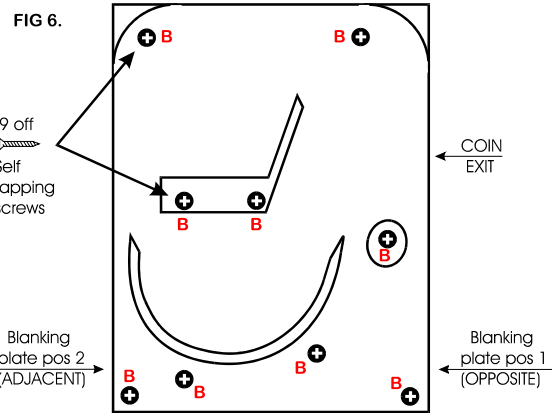
5. To re-assemble, follow the above steps in reverse.

5. TRACK PLATE REMOVAL

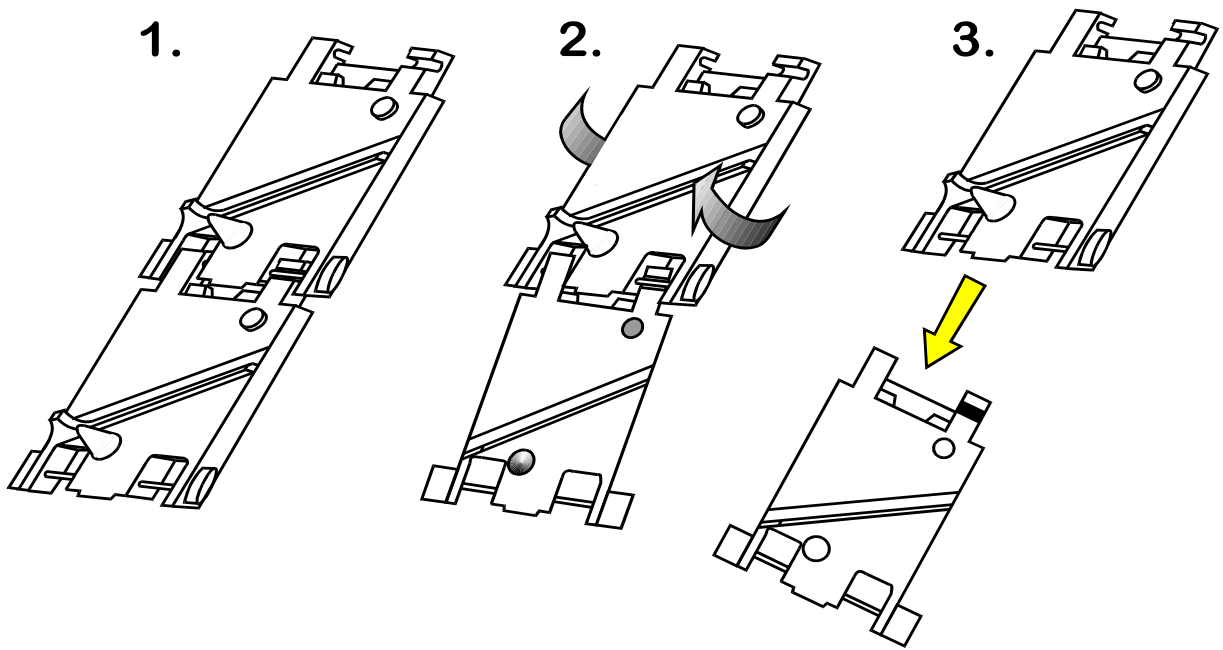1. 1. First, remove the 'end plate', section 6.

      See FIG 7.

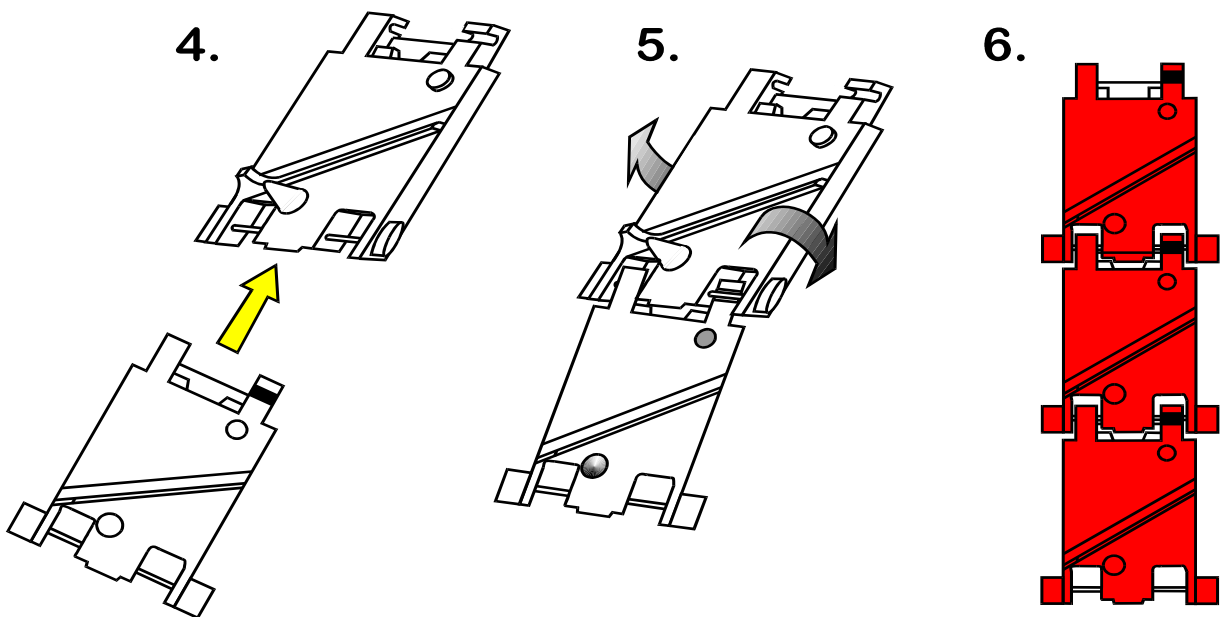2. The 'elevator track' & 'final drive gear' can now be removed by lifting up & away from the 'center plate'.

FIG 7.

5a. TRACK PLATE ASSEMBLY

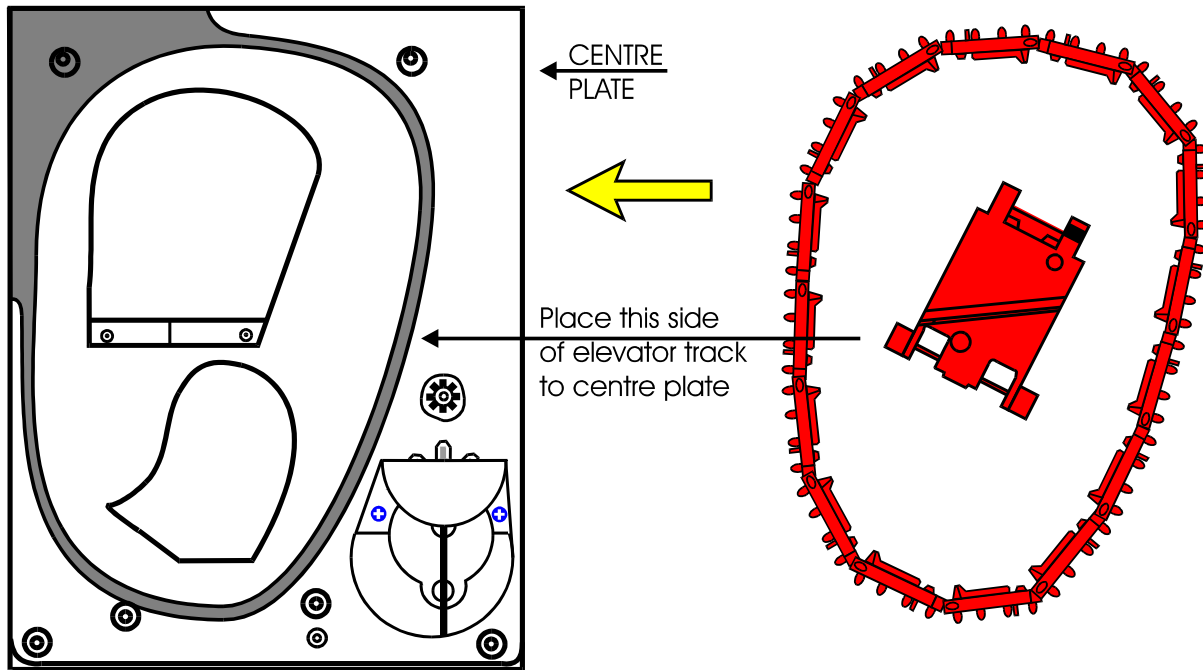The following 3 sketches show how to take the 'track plate' apart.

1.

2.

3.

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

.

4.

5.

6.

5b. TRACK PLATE REPLACEMENT

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

FIG 7b.

CENTRE
PLATE

Place this side
of elevator track
to centre plate

2. Once the 'track plate' is in position, turn the track through 720 ^{0} 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.

Final drive
gear (Plastic)
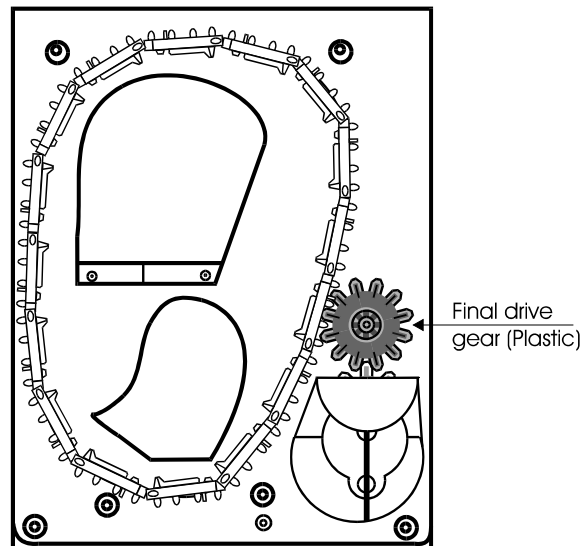
6. GEAR BOX ASSEMBLY

1. Remove the end plate. Section 6.

2. Remove the 'elevator track' & 'final drive gear'. Section 7.
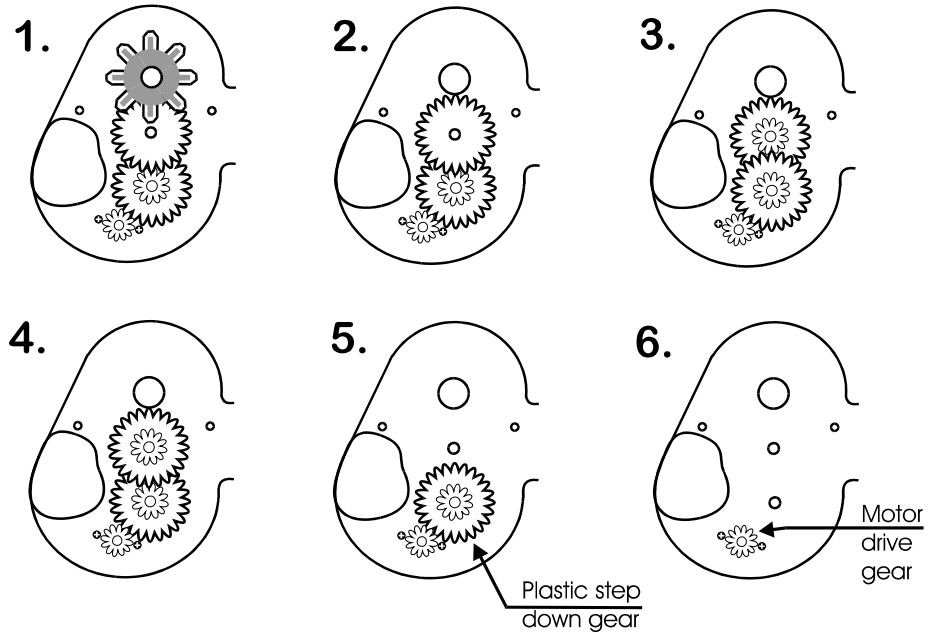
FIG 9.

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.

1.

2.

3.

4.

5.

Plastic step down gear

6.

Motor drive gear

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.

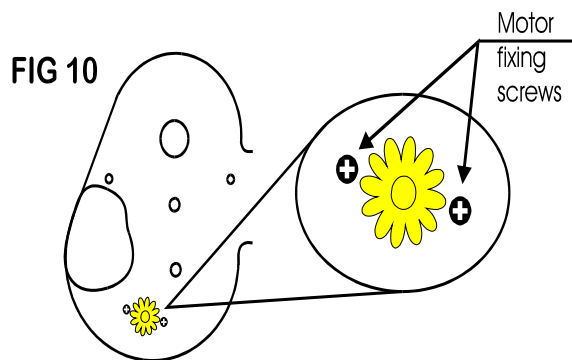3. Remove the 'end plate'. Section 6.

4. Remove the 'track plate' & final drive gear. Section 7.

5. Remove the gearbox cover. Section 8.

6. Disassemble the gearbox. Section 9.

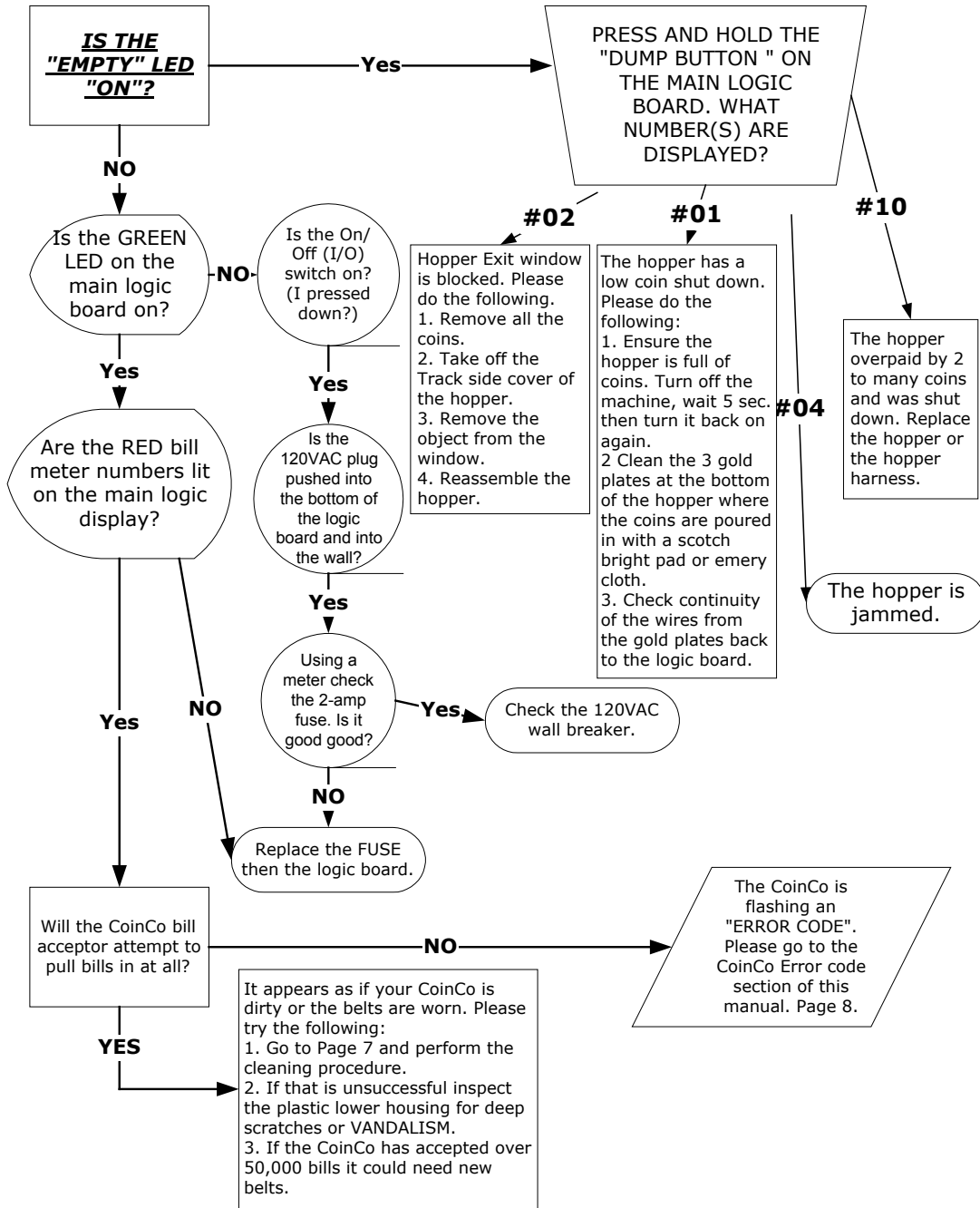7. Unscrew the 2 motor fixing screws. FIG 10.

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

FIG 10

Motor fixing screws

TECHNICAL FLOW DIAGRAM FOR THE AC2003

NOTE: Before starting this procedure ensure the changer is plugged in, the ON/OFF switch is on,
the hoppers are full of coins, and all wire harnesses are connected securely and correctly.
The wires exiting the red connectors should point away from the board!!

Start here !!!

IS THE "EMPTY" LED "ON"?

Yes →

PRESS AND HOLD THE "DUMP BUTTON " ON THE MAIN LOGIC BOARD. WHAT NUMBER(S) ARE DISPLAYED?

NO

Is the GREEN LED on the main logic board on?

NO → Is the On/Off (I/O) switch on? (I pressed down?)

Yes

Yes

Are the RED bill meter numbers lit on the main logic display?

Is the 120VAC plug pushed into the bottom of the logic board and into the wall?

Yes

Using a meter check the 2-amp fuse. Is it good good?

Yes → Check the 120VAC wall breaker.

NO

Replace the FUSE then the logic board.

#02

Hopper Exit window is blocked. Please do the following.
1. Remove all the coins.
2. Take off the Track side cover of the hopper.
3. Remove the object from the window.
4. Reassemble the hopper.

#01

The hopper has a low coin shut down. Please do the following:
1. Ensure the hopper is full of coins. Turn off the machine, wait 5 sec. then turn it back on again.
2 Clean the 3 gold plates at the bottom of the hopper where the coins are poured in with a scotch bright pad or emery cloth.
3. Check continuity of the wires from the gold plates back to the logic board.

#10

The hopper overpaid by 2 to many coins and was shut down. Replace the hopper or the hopper harness.

#04

The hopper is jammed.

Yes

NO

Will the CoinCo bill acceptor attempt to pull bills in at all?

NO →

The CoinCo is flashing an "ERROR CODE". Please go to the CoinCo Error code section of this manual. Page 8.

YES

It appears as if your CoinCo is dirty or the belts are worn. Please try the following:
1. Go to Page 7 and perform the cleaning procedure.
2. If that is unsuccessful inspect the plastic lower housing for deep scratches or VANDALISM.
3. If the CoinCo has accepted over 50,000 bills it could need new belts.

For a more detailed trouble shooting information proceed to the next section!

FOR TECHNICAL SERVICE OR TO OBTAIN A RETURN AUTHORIZATION NUMBER CALL (888) 741-9840
ANY REPAIR RETURNED WITHOUT A RETURN AUTH. # WILL BE REFUSED!!

TROUBLESHOOTING GUIDE

TO USE THE TROUBLESHOOTING GUIDE, MATCH UP THE PROBLEM, THEN FOLLOW THE SOLUTION SUGGESTIONS. After every step re-try operating the changer to see if the problem has been solved.

Problem:	*Solution:*
A. **The changer is completely dead.** (The green LED on the main logic board is not lit.)	1. Ensure the changer is plugged in. 2. Ensure the on/off switch is rocked to the (1) position (down). 3. Unplug the female end of the line cord from the main logic board AC connector and plug it in again tightly. 4. Measure the AC voltage at the outlet or check the breaker/fuse box. You can also plug another item into the AC wall outlet to ensure there is power present at the outlet. 5. Inspect the AC line cord for cuts or abrasions. 6. Check both fuses on the Main Logic Board. 7. Replace the main logic board. 8. Replace the line cord.

B. **The "Empty LED is lit.** BOTH HOPPERS ARE OUT OF SERVICE.	1. Ensure the hoppers are not out of coins. (There should be enough coins in the hoppers to cover the gold low level contact plates approximately $30-$40. These plates are located at the bottom of the hoppers where you pour the coins.)
	2. Check the hoppers wire harness that extends from the back of the plate that the hoppers slide in and out on for chipped pieces or other damage. (Pay close attention to pins # 2 & 7.)
	3. Clean the gold contact plates with steel wool.
	4. Perform the following steps:
	  A. Turn the changer off.
	  B. Ensure the left hopper plate red connector on the left side of the main logic board (MLB) is plugged into the bottom connector, and the right is plugged into the top connector.
	  C. On the MLB slide all the dipswitches left to the "off" position.
	  D. On the left DipSwitch slide #3 "ON" enabling a 4 coin per dollar payout.
	  E. On the right Dip switch slide #8 "ON" disabling the top hopper connector and enabling the changer into the "One Hopper Mode"
	  F. Turn the changer on.
	  G. If the "Empty" LED on the front of the changer is now off, remove the right hopper and service this hopper. The changer will function in this mode until the hopper is fixed.
	  H. If the "Empty" LED is still "on", turn the changer off and switch the hoppers, and turn the changer back on.
	  I. If the "Empty" LED on the front of the changer is now off, remove the right hopper and service this hopper. The changer will function in this mode until the hopper is fixed. *Remember to remove the coin chute from the hopper or the coins will fall into the changer instead of into the coin cup!*
	  J. If the "Empty" LED is still "ON", turn off the changer.
	  K. Reverse the hopper's plate connections, (top to bottom, bottom to top), and repeat steps F thru I. ***Keep in mind that you are trouble shooting the Hopper Plates instead of the hoppers***
	5. Replace the Main Logic Board.
	6. Replace both hoppers.
	7. Replace both hopper plates with the harnesses.

C. **The "Empty LED is lit.** The decimal point on the light-up number display is **"on"** more than it is **"off".**	1. Ensure the hoppers are pushed into the hopper's harness on the back of hopper plate tightly. 2. Ensure that left and center green hoppers LED's are lit only. Not the left and right LED's. If this is the case go to pg. 20 to un-jam the hopper exit window. 3. Replace the hopper. 4. Replace the hopper's plate and harness.

TROUBLESHOOTING GUIDE

TO USE THE TROUBLESHOOTING GUIDE, MATCH UP THE PROBLEM, THEN FOLLOW THE SOLUTION SUGGESTIONS. After every step re-try operating the changer to see if the problem has been solved.

Problem:	*Solution:*
D. The green LED on the Main Logic Board is lit but the Light-up display does not.	1. Bad 5 or 12vdc regulator on the main logic board. 2. The hoppers are shorted. 3. Replace main logic board. 4. Replace hoppers.
E. The bill validator accepts and stacks the bills, but the meter does not increase.	1. Check continuity and for pin damage to the blue and yellow wires on the validator harness. 2. Replace the validator wire harness. 3. Replace the validator.
F. The bill validator accepts and stacks the bills, and the meter does increase.	1. Ensure the dip switch settings are still correct. (#3 "ON" only) 2. Check the continuity of the brown and purple wires on the hoppers wire harness. 3. The hopper is jammed. Go to pgs.22-25 to un-jam the hoppers. 4. Replace the hoppers wire harness.
G. The bill validator will not pull in the bill and the "Empty" LED is not lit.	1. Ensure the orange wire going to the "Empty" LED is connected to the + or the terminal with the red mark by it. 2. Check for 12vdc going to the orange and brown wires. If there is, replace the LED. 3. Replace the main logic board. 4. Replace the bill validator. 5. Replace the validator wire harness.
H. The bill validator pulls in the bill slightly then rejects it.	1. Clean the validator. (pg.10) 2. Remove the lower housing (pg. 12) of the bill validator. Ensure the center wheel spins freely. Push straight down on it slightly to loosen. 3. Replace the bill validator.
I. The bill validator red status LED flashes a "5" error code.	1. Clean the validator optic LED's. (See pg.10) 2. Ensure that all the wire harness plugs are plugged firmly into their white female sockets. 3. Turn to the back page of this manual and check for a Coin Acceptors branch in your area to repair your bill validator .
J. The bill validator red status LED flashes a "6 or 7" error code.	1. Take the bill stacker off the bill validator. Cycle the power on / off using the switch on the main logic board and coast the silver push bar so that it stops in its fully extended position. Blow out the area behind the push bar with high pressure or canned air. Concentrate on the encoder wheel in the area top center behind the push bar. 2. Turn to the back page of this manual and check for a Coin Acceptors branch in your area to repair your bill validator .
K. The bill validators red status LED is on steady but it still will not accept the bill.	1. Pull out the lower housing, see page 12 , and look for something obstructing the bill path. (i.e. gum, papers, tickets, coins, etc.) 2. Look inside the Plexiglas case on the side of the bill validator. Ensure that all the wire harness plugs are plugged firmly into their white female sockets.

PARTS LIST FOR THE AC2003
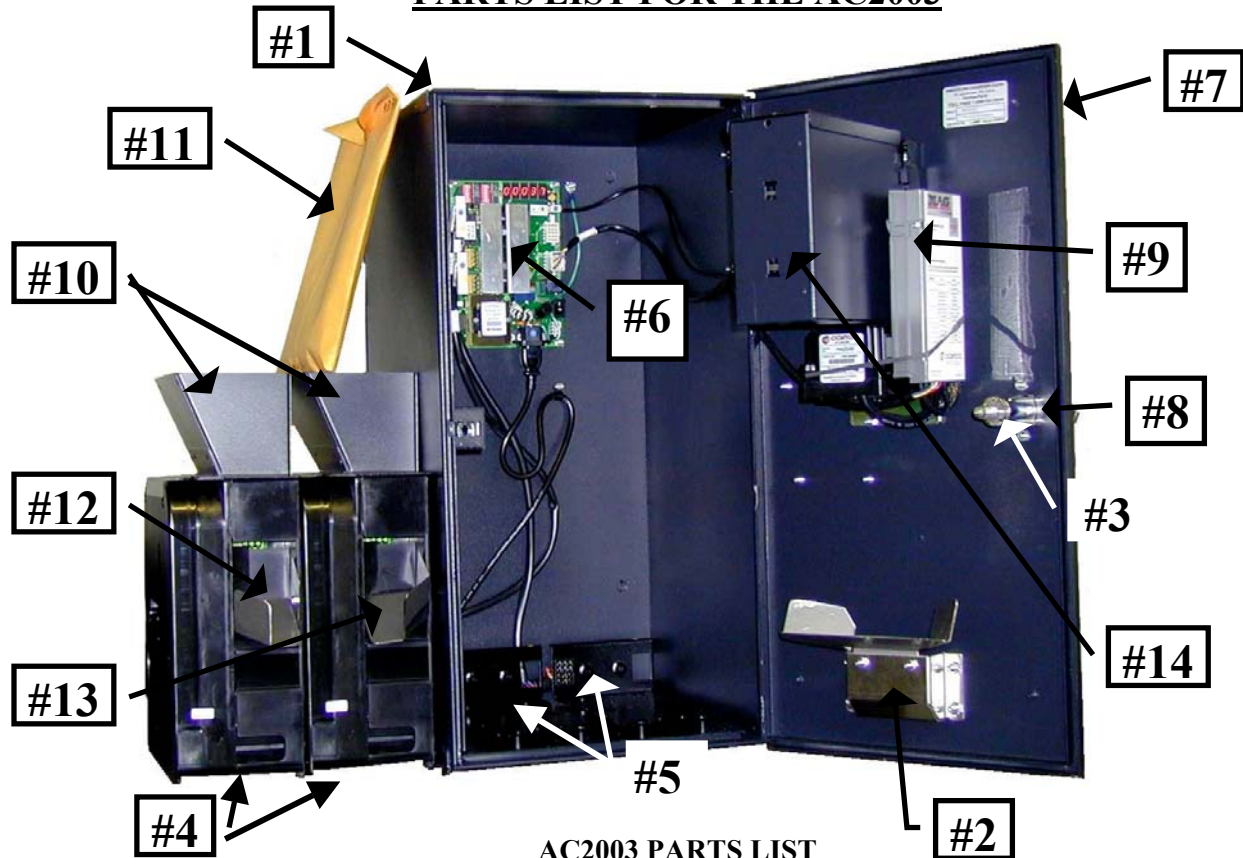
AC2003 PARTS LIST
(SHOWN ABOVE)

1. **AC2009**   - CABINET COMPLETE W/ COIN CUP (#2) & LOCK BRACKET (#3).
2. **AC2009-01** - COIN CUP
3. **AC2009-07** - LOCK BRACKET HASP.
4. **AC1041**   - COIN CONTROLS MKIV COIN HOPPER.
5. **AC1040.3** - COIN CONTROLS HOPPER PLATE W/ FEMALE PLUG & HARNESS.
6. **AC2061**   - MAIN LOGIC BOARD.
7. **AC2082**   - RED "**CHANGE**" FULL FACE LEXAN FRONT.
   AC2082.1 - RED "**TOKEN**" FULL FACE LEXAN FRONT
8. **AC1080**   - 90-DEGREE T-HANDLE.
9. **AC9000**   - COINCO BILL VALIDATOR.
10. **AC1042**   -HOPPER EXTENSION (1) 1200 COINS EACH
11. **2903**   -MANUAL PACKET
12. **2010-103** -LEFT CHROME COIN DIVERTER ONLY!
13. **2010-104** -RIGHT CHROME COIN DIVERTER ONLY!
14. **AC1044**   -METAL 1000 BILL STACKER (USE AC1044-L FOR LOCKING VERSION)

AC2003 OPTIONAL PARTS LIST
(ITEMS NOT SHOWN.)

AC2070 - BASE (PEDESTAL)	**1093-01** - Extra Keys (Need the ACC key number)
AC1090 - DOOR/TILT ALARM	**AC9003** - MEI Mars AE2601 Validator
AC1091 - TILT ALARM ONLY	**AC1045.1** - Mars 700 Bill Stacker
AC1093 - LOCK AND KEY	**AC1045.2** - Mars 1000 Bill Stacker
AC7070 - PRINTER OPTION	**AC2066.3** – CONDOR COIN MECH

#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
Counting Optic Board
#5B- 1041-24-06
Optic ribbon cable.
#6 - 1041-24-07
Red Track Belt
#7 - 1041-24-08
MK4 Wire Harness
#8 - 1040-24-113
Male 12-pin connector
#9 - 1040-24-112
(Not Shown)
Female 12-pin connector
(On the hopper plate.)
#10 - 1041-24-10
Idler gear
#11 - 1041-24-11
Gear Box
#12 - 1041-24-12
Gear Shaft
#13 - 1041-24-13
Black plastic Gear #1
#14 - 1041-24-14
Gear #3 & 4
#15 - 1041-24-15
Output gear
#16 - 1041-24-16
Idler Gear #4
#17 - 1040-24-22
Blanking Plate

Agitator

Centre plate

Top level sense plate location

Coin box

Exit win

End plate

Elevator track

#8

#3

#5A

High level sense plate

#2

Fixing scr

#4

#6

#21

#18

#5B

#18

#14 **#19**

#10

#20

#11

#13

#12

#16

#17 **#15**

#1

#23

#7

Low level sense plates location

#22

Blanking piece
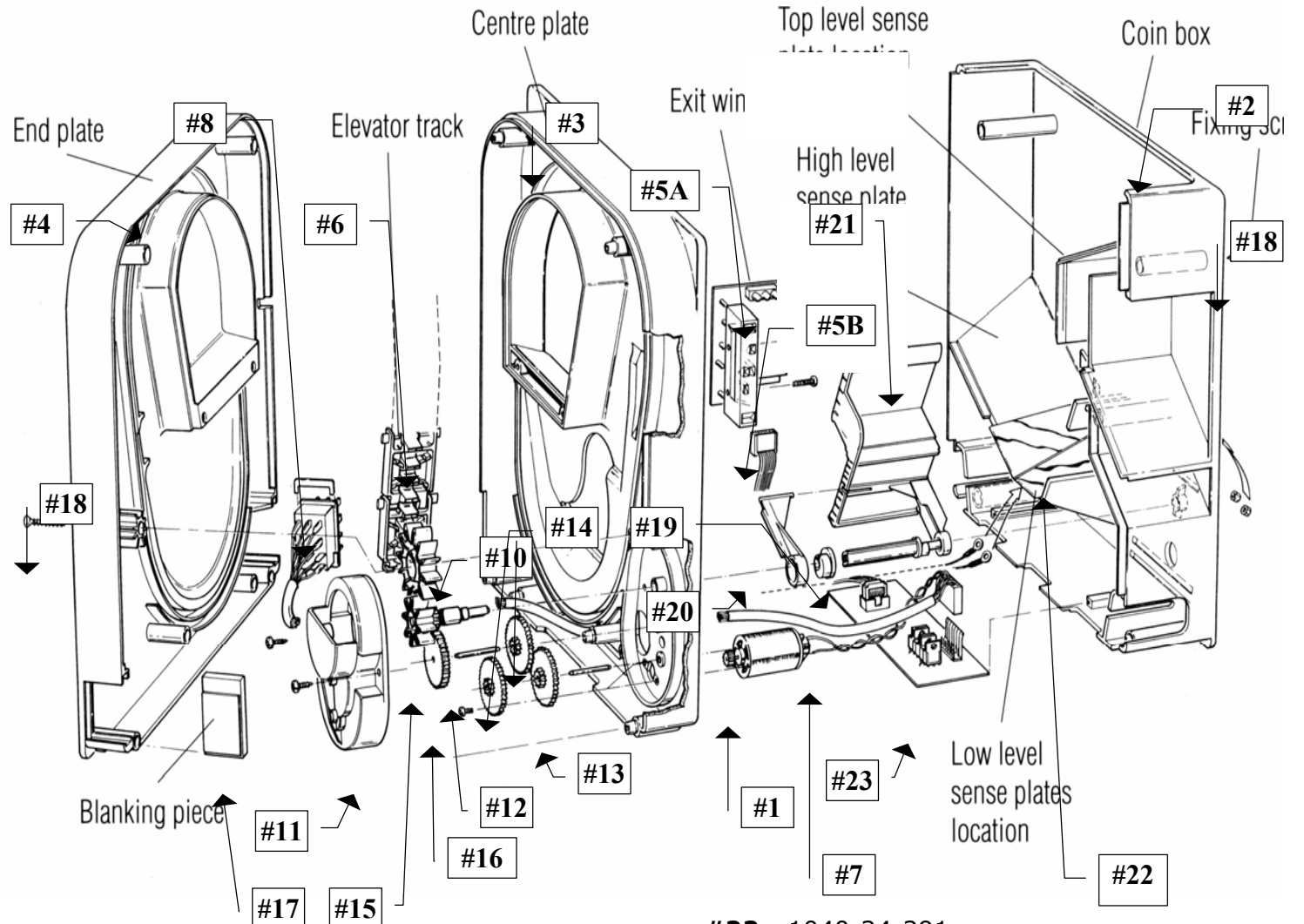
#18 - 1040-24-25
Fixing screw.
#19 - 1041-24-19
Cam Shaft.

1041-24-20
Cam shaft bearing
#20 -1041-24-21
Cam Agitator
#21 - 1041-24-22

#22 - 1040-24-291
Low level contact plate
#23 - 1041-27-373
Mark IV PC logic board

COINCO PARTS LIST

MOUNTING ASSEMBLY PARTS BREAKDOWN
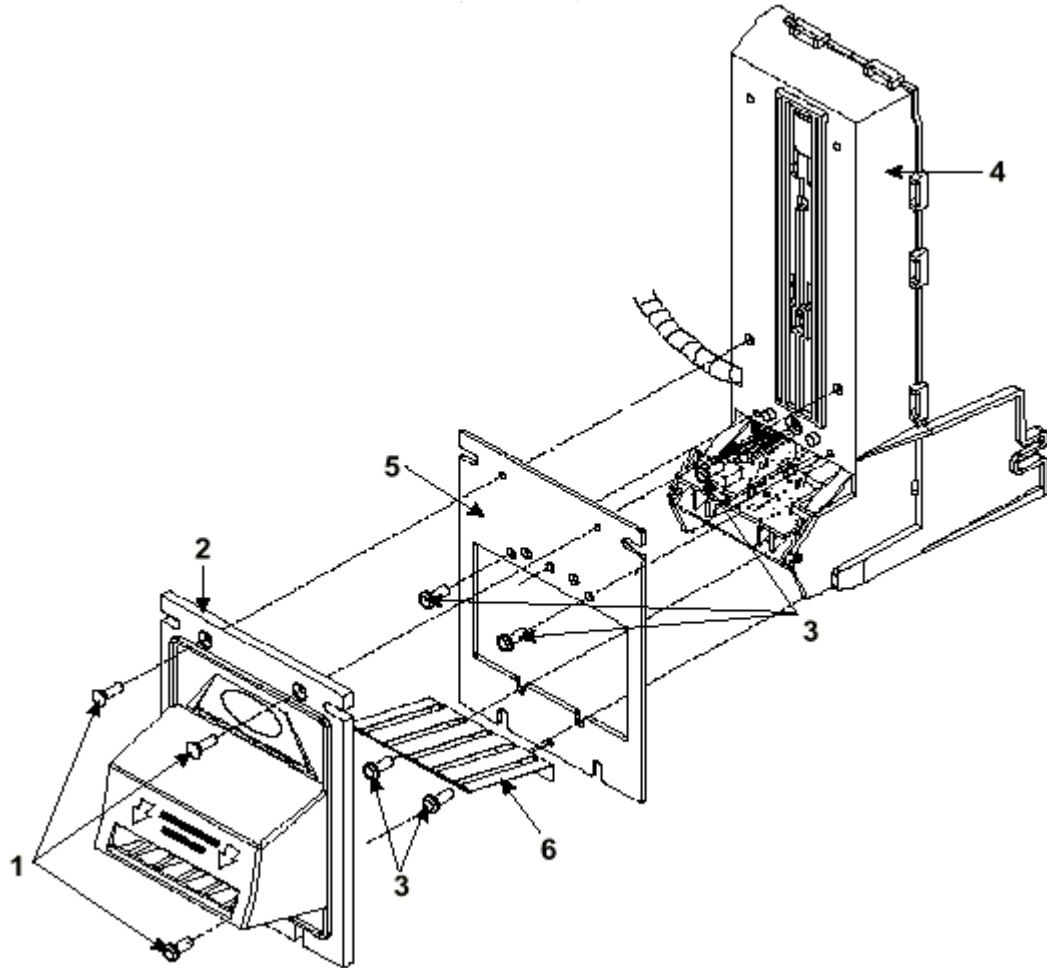
PICTURE #	PART #	DESCRIPTION
#1	MP90-1-1	Machine Screw
#2	MP90-1-2	"Snack Mask" Black Plastic
#3	MP90-1-3	Machine Screw
#4	MP90-1-4	Main Frame, Plastic
#5	MP91-1-5	Mask Gold Mounting Bracket
#6	MP90-1-6	Bill grounding spring
#7	MP91-1-7	Machine Nut

COINCO PARTS BREAKDOWN

BELTS
ONLY!

MP91-2-10
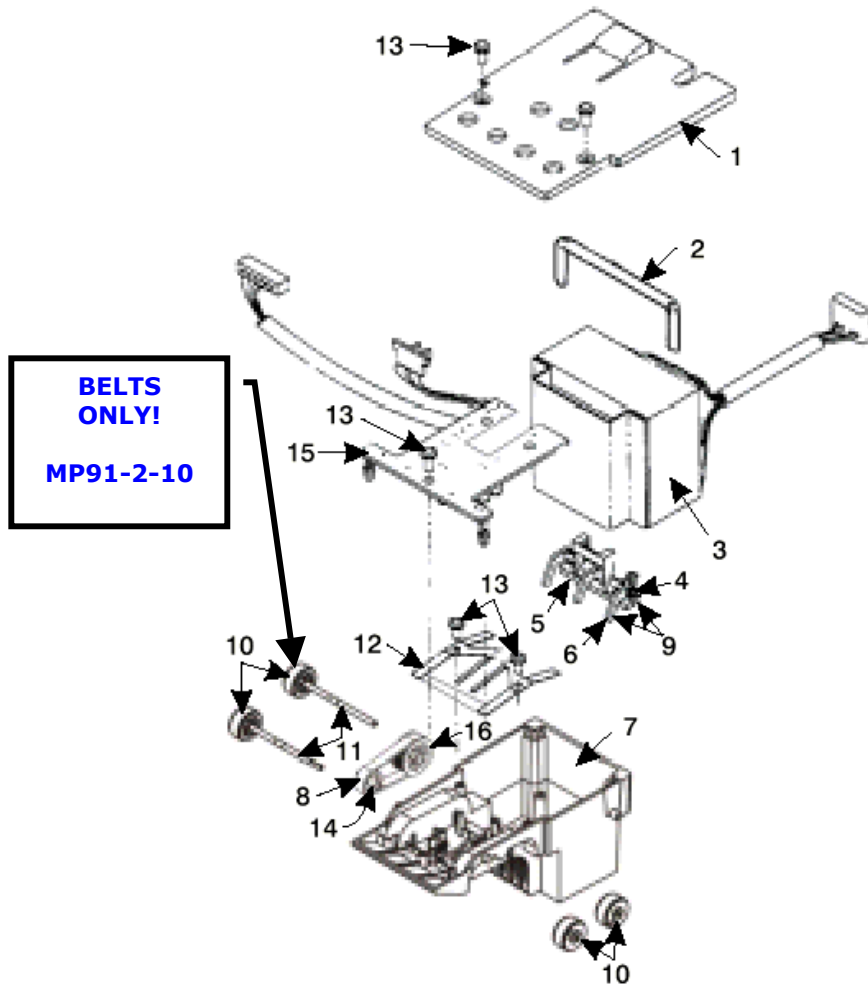
PICTURE #	PART #	DESCRIPTION
#1	MP90-2-1	Bottom Lower Housing Cover
#2	MP90-2-2	Transformer holding hose
#3	MP90-2-3	120VAC Transformer
#4	MP90-2-4	Lower Spring, Anti-Cheat Lever
#5	MP91-2-5	Lower Mounting, Anti-Cheat Lever
#6	MP90-2-6	Lower Anti-Cheat Lever
#7	MP90-2-7	Lower Housing Assembly, Complete
#8	MP90-2-8	Belt, Center
#9	MP90-2-9	Lower Anti-Cheat Assembly, Complete
#10	MP90-2-10	Plastic Wheels & Rubber Belts
#10	**MP91-2-10**	**Rubber Belts ONLY (Each)**
#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
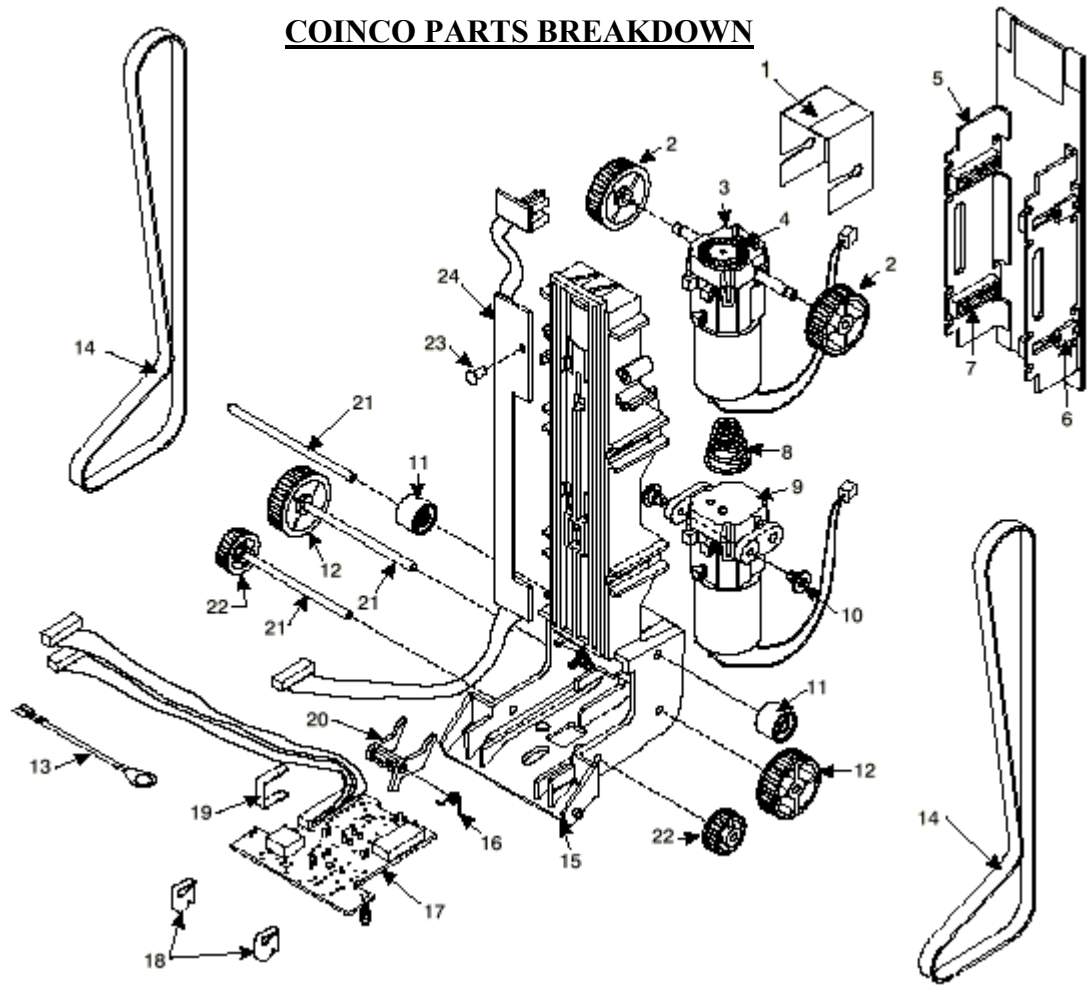
PICTURE #	PART #	DESCRIPTION
#1	MP90-3-1	Dust Cover
#2	MP90-3-2	Upper Transport & Hub Assembly, Complete
#3	MP91-3-3	Motor, Transport & Gear Assembly Complete
#4	MP90-3-4	Wheel, Encoder
#5	MP90-3-5	Stacker, Push-Plate Assembly
#8	MP90-3-8	Spring, Belt Tension
#9	MP90-3-9	Motor, Stacker Assembly Complete
#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 RAME ASSEMBLY

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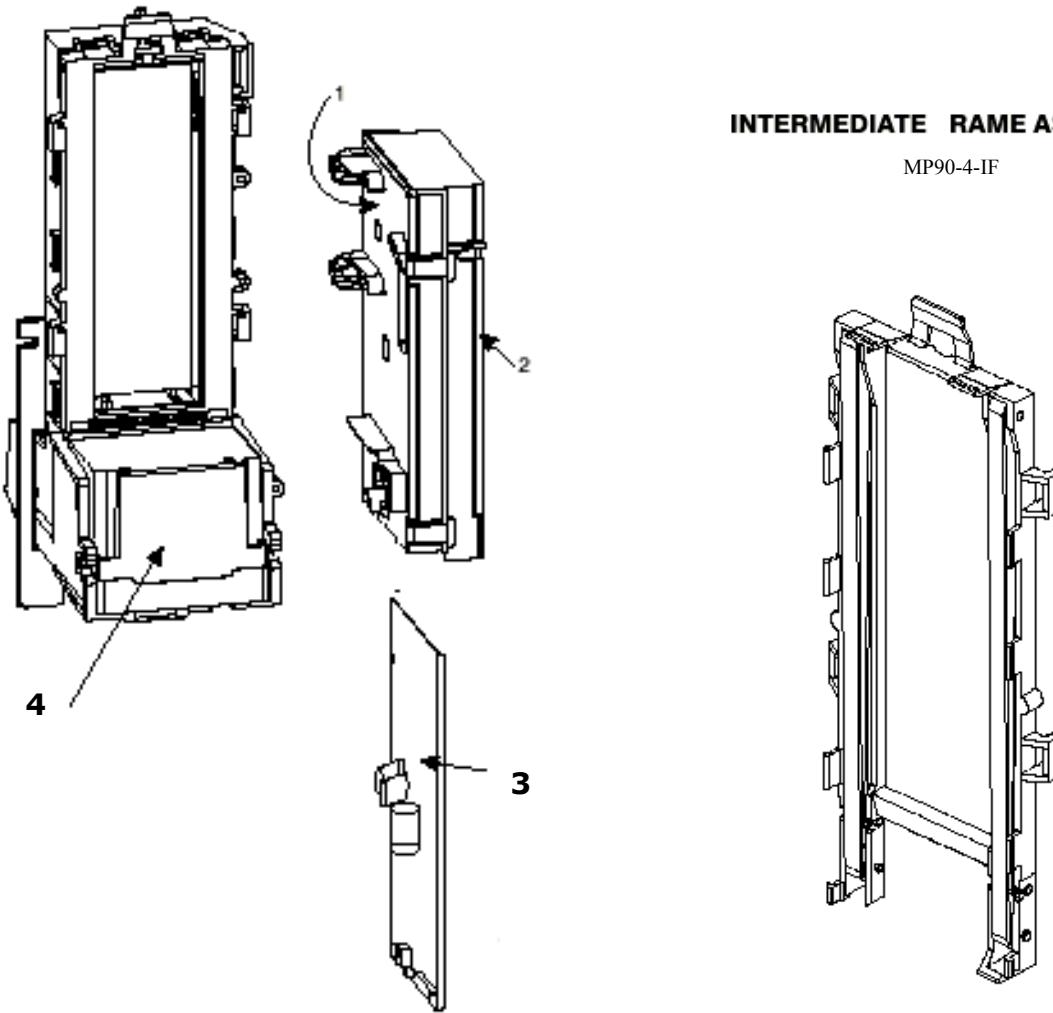
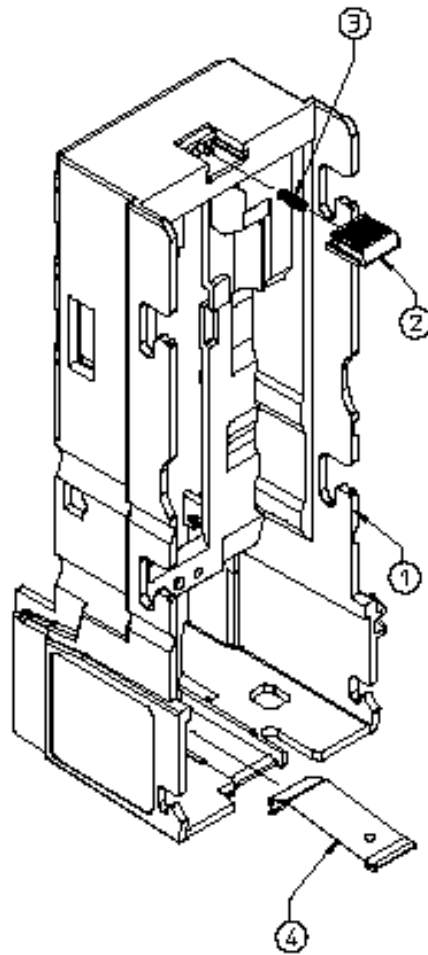| PICTURE #	PART #	DESCRIPTION
#1	MP90-4-1	Lid, Logic board Box
#2	MP91-4-2	Body, Logic board Box
#3	MP90-4-3	Main Logic Board
#4	MP90-4-4	Sticker, Serial Number / Warranty
#5	MP90-4-IF	Intermediate Frame with Bearings

MARS AE2600 SERIES 24VDC PARTS BREAKDOWN
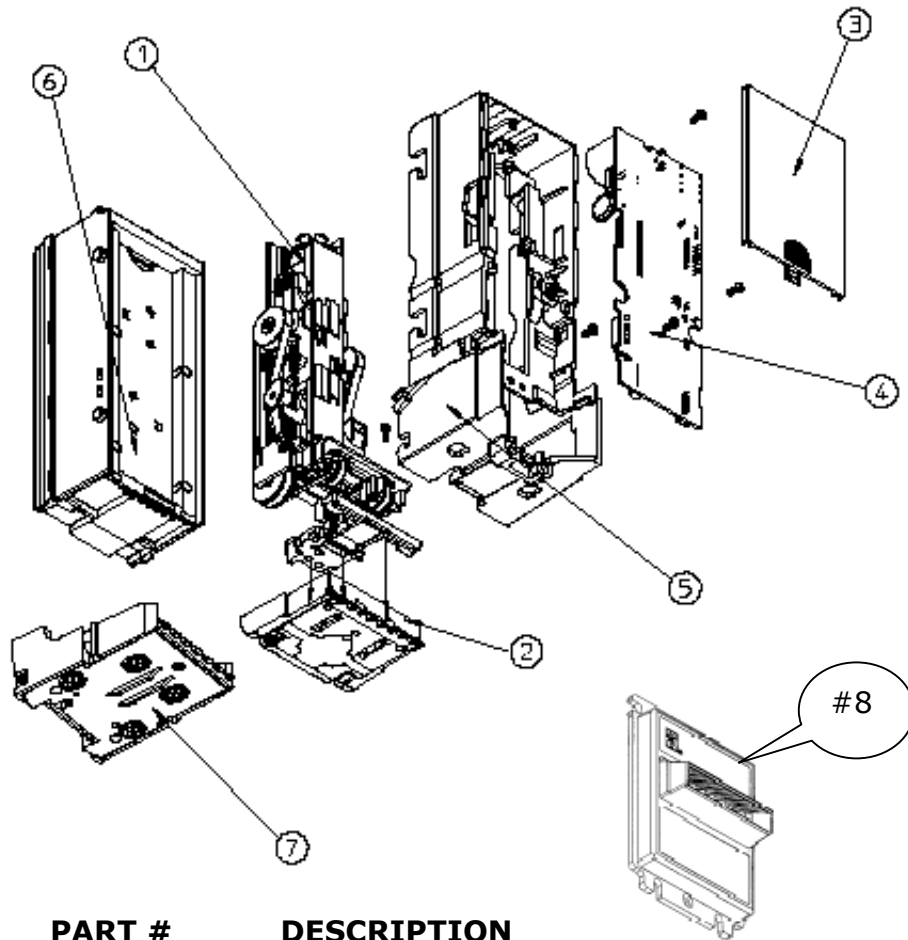
PICTURE #	PART #	DESCRIPTION
#1	AE93-1-1	Stacker/Drive Assembly Kit
#2	AE93-1-2	Sensor Housing Assy, Complete
#3	AE93-1-3	Control Board Cover, Plastic
#4	AE93-1-4	120VAC Logic Board
#5	AE93-1-5	Main Chassis, Plastic
#6	AC1045	500 Stacker
#7	AE93-1-7	LED Housing Assy, Complete
#8	AE93-1-8	Black Front Bezzle, Plastic
#9	AE93-1-9	Metal Bezzle Support Plate (**NOT SHOWN)**

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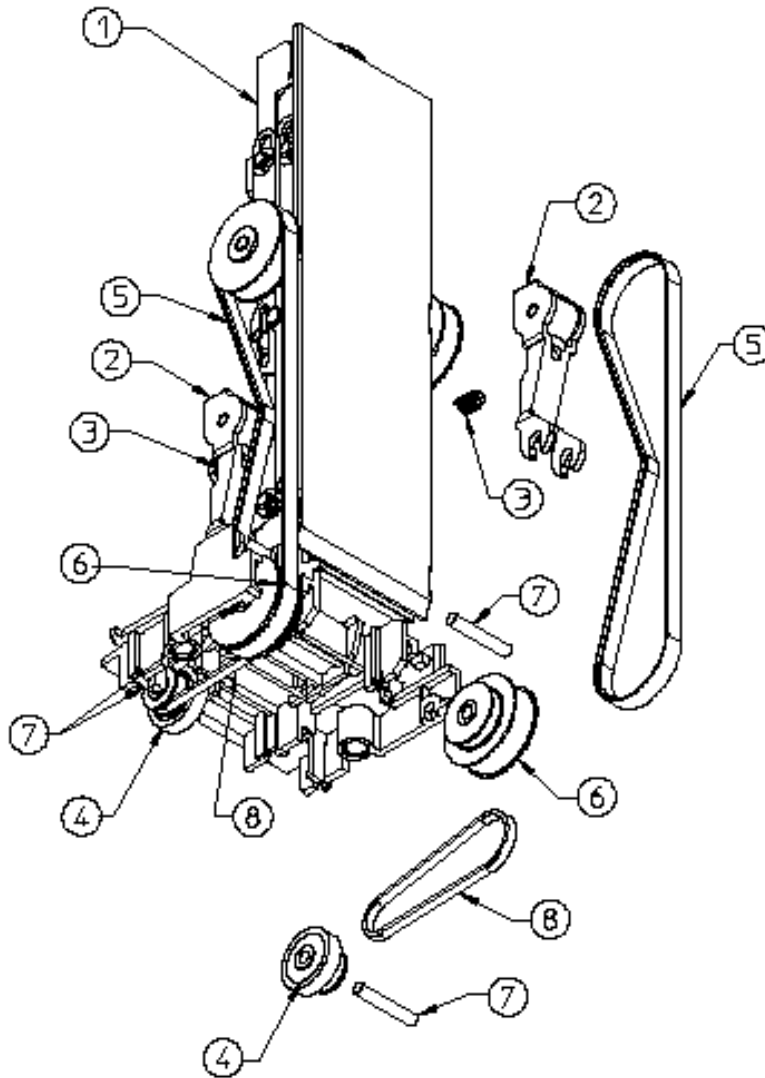
PICTURE #	PART #	DESCRIPTION
#1	AE93-2-1	Gearbox Assy
#2	AE93-2-2	Tension Assy
#3	AE93-2-3	Tension spring
#4	AE93-2-4	Tire/Wheel Assy
#5	AE93-2-5	Belt, Timing, (1 of 2)-143 Teeth
#6	AE93-2-6	Pulley, Compound
#7	AE93-2-7	Shaft, Pulley
#8	AE93-2-8	Belt, Timing, (1 of 2)-56 Teeth

CONTINUED

PICTURE #	PART #	DESCRIPTION
#1	AE93-1-5	Main Chassis, Plastic
#2	AE93-3-2	Stacker Latch, Blue
#3	AE93-3-3	Spring, Stacker Latch
#4	AE93-3-3	Lower Housing Lift Spring

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