

INSTRUCTIONS FOR INSTALLING A MAKA VALIDATOR KIT

KIT PART NUMBER	APPLICATION	SERIAL NUMBER
3152348	COLDTRON	31510915 and UP
6202322	HOTTRON	62051161 and UP
3152530	COLDTRON (Canteen)	-
6202355	HOTTRON (Canteen)	-
3152347	COLDTRON	-

Read these instructions carefully and completely before installing one of these kits. Retain the instructions for future reference and for part numbers.

These kits contain the following parts:

PART NO.	DESCRIPTION	QUANTITY
<i>PARTS COMMON TO ALL OF THESE KITS</i>		
1451097	Screw #8-32 x .31 Hex Head	5
1451336	PCB Assembly, Interface	1
1452312	Screw #10-32 x .31 THS	2
1452323	Angle Insert, Validator	1
1452326	Insert Instructions, Upper	1
1452327	Insert Instructions, Lower	1
2221049	Wire Clamp .302	1
2306487	Lockwasher #10 External	1
3152308	Angle, Controller Mounting	1
3152325	Harness, Validator to Control Board	1
4047095	Screw #8-32 x 5/16	1
4241250	Cable Clamp .62	1
3152349	Instructions, Kit Installation	1
<i>ADDITIONAL PARTS USED IN KIT 3152348</i>		
1452359	Validator and Controller, MAKA (400 bill stacker)	1
3152381	IC Assembly, Programmed (U2)	1
3152382	IC Assembly, Programmed (U3)	1
3152387	Bracket, Upper, MAKA Validator	1
3152388	Bracket, Lower, MAKA Validator	1
9900081	Nut #8-32 KEPS	4
<i>ADDITIONAL PARTS USED IN KIT 6202322</i>		
1452359	Validator and Controller, MAKA (400 bill stacker)	1
6202343	IC Assembly, Programmed (U2)	1
6202344	IC Assembly, Programmed (U3)	1
3152387	Bracket, Upper, MAKA Validator	1
3152388	Bracket, Lower, MAKA Validator	1
9900081	Nut #8-32 KEPS	4
<i>ADDITIONAL PARTS USED IN KIT 3152530</i>		
1452359	Validator and Controller, MAKA (400 bill stacker)	1
3152512	IC Assembly, Programmed (U2)	1
3152513	IC Assembly, Programmed (U3)	1
<i>ADDITIONAL PARTS USED IN KIT 6202355</i>		
1452359	Validator and Controller, MAKA (400 bill stacker)	1
6202345	IC Assembly, Programmed (U2)	1
6202346	IC Assembly, Programmed (U3)	1
<i>ADDITIONAL PARTS USED IN KIT 3152347</i>		
1452336	Validator and Controller, MAKA (100 bill stacker)	1
3152341	IC Assembly, Programmed (U2)	1
3152342	IC Assembly, Programmed (U3)	1

IMPORTANT

Observe proper electro-static control procedures. Failure to do so may result in damage to the IC Assemblies.

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. FIGURE 1 SHOWS ALL THE PARTS IN THE KIT. IF ANY PARTS ARE MISSING, CONTACT NATIONAL VENDORS' PARTS DEPARTMENT IMMEDIATELY.

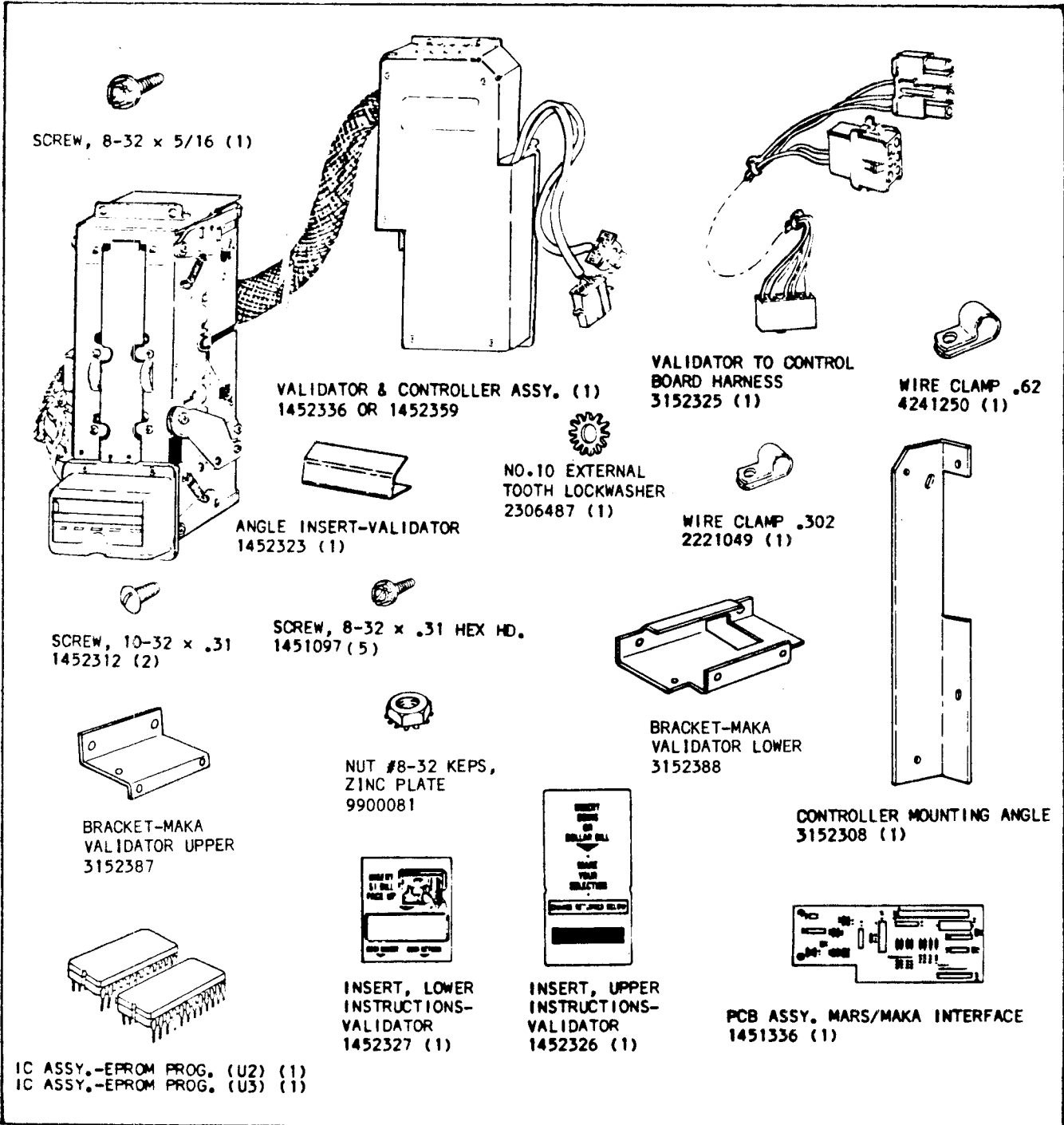


FIGURE 1

IMPORTANT

This kit can be installed only if the merchandiser is equipped with a COINTRON 3000, MARS 5000 or MARS TRC 6000 coin changer.

KIT INSTALLATION

- * This kit should be installed by a qualified technician.
- * Turn the Main Power Switch to OFF while installing this kit.

1. INSTALLING THE NEW INSTRUCTION INSERTS (See Figure 2)

- * Remove the screws that secure the upper casting to the door frame and remove the upper casting.
- * Remove the upper instruction insert and replace it with the upper instruction insert supplied with the kit.
- * Secure the upper casting in place using the screws removed previously.

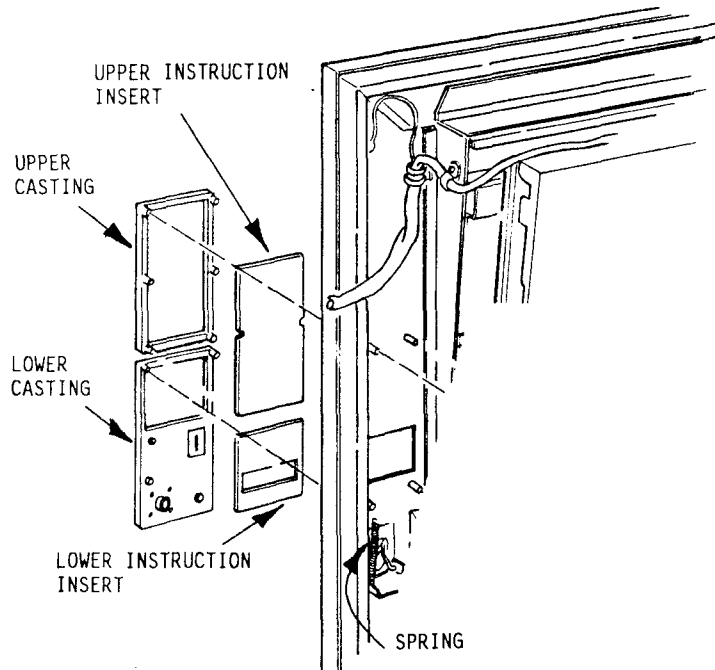


FIGURE 2

- * Remove the coin chute assembly.
- * Remove the scavenger assembly as follows:
 - Remove the spring
 - Remove the cotter pin
 - Remove the scavenger handle
- * Remove the screws that secures the lower casting to the door frame and remove the lower casting.
- * Remove the lower instruction insert and replace it with the lower instruction insert supplied with the kit.
- * Secure the lower casting in place using the screws removed previously.
- * Reassemble the coin chute assembly and scavenger assembly.

2. INSTALLATION OF CONTROLLER MOUNTING ANGLE AND VALIDATOR BRACKETS

NOTE

If your merchandiser has an old style door, the validator mounting brackets are already welded to the door.

A. INSTALLATION OF THE VALIDATOR BRACKETS (Figure 3A)

- * There are three sets of threaded studs on the interior side of the door. They are located above the coin scavenger mechanism.
- * Secure the lower validator bracket to the bottom pair of studs. Use two of the #8-32 nuts supplied with the kit.
- * Secure the upper validator bracket to the top pair of studs. Use the other two #8-32 nuts supplied with the kit.

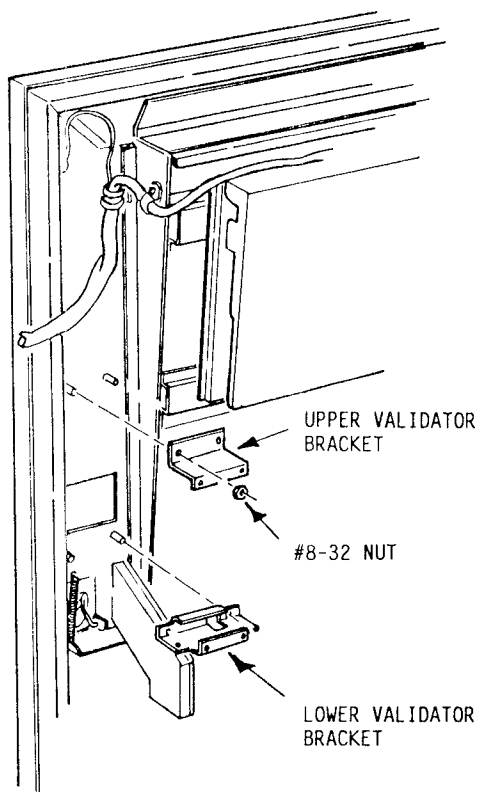


FIGURE 3a

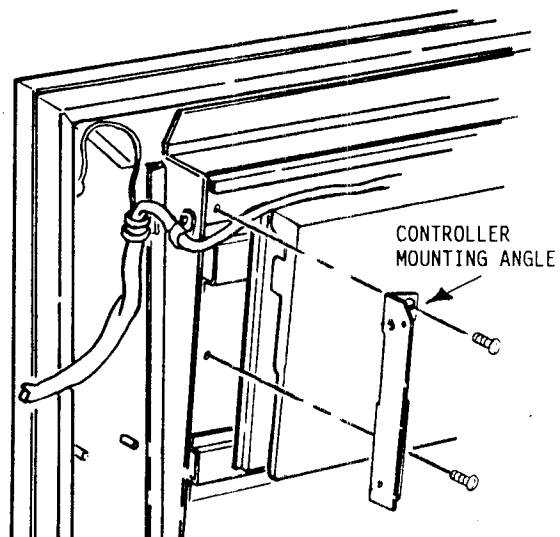


FIGURE 3b

B. INSTALLING THE CONTROLLER MOUNTING ANGLE (Figure 3B)

- * Remove the wire tie that secures the cables at the top of the door.
- * Attach the mounting angle to the door back panel assembly as shown. Use the two screws already in place on the panel.
- * Secure the cables previously joined with the wire tie. Use the .62 wire clamp and the #8-32 x 5/16 screw supplied with the kit. Secure the clamp to the controller mounting angle as shown.

3. INSTALLATION OF MAKA VALIDATOR and VALIDATOR CONTROLLER

A. INSTALLATION OF VALIDATOR (See Figure 4A and Insert)

- * Tape the angle insert to the validator.
- * Secure validator to the mounting brackets using the four #8-32 nuts supplied with the kit.

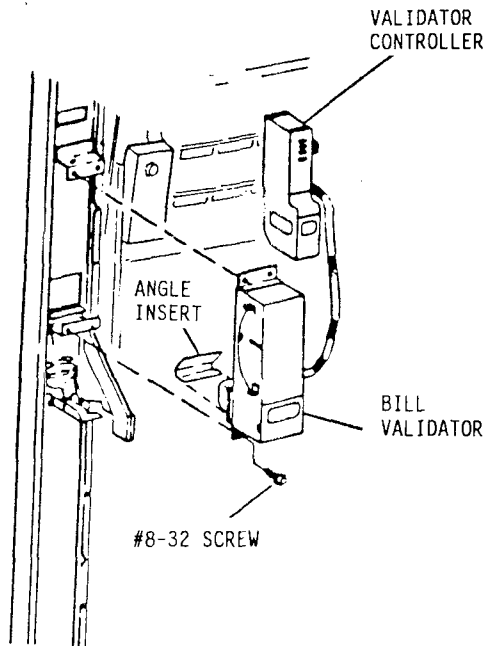


FIGURE 4a

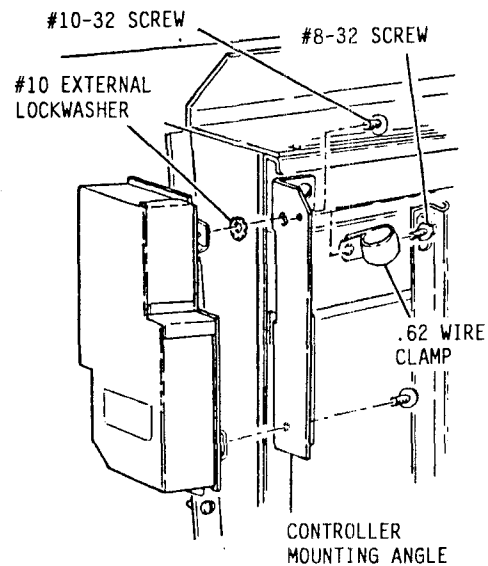
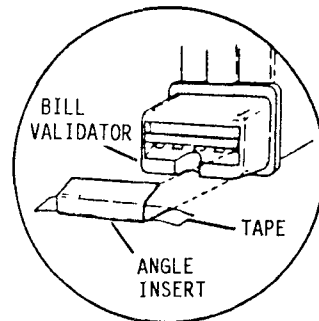


FIGURE 4b



B. INSTALLING THE VALIDATOR CONTROLLER (See Figure 4B)

- * Tuck the validator harness behind the validator and validator controller.
- * Secure the validator controller to the controller mounting angle. Use the two #10-32 screws and the #10 external tooth lock washer supplied with the kit.

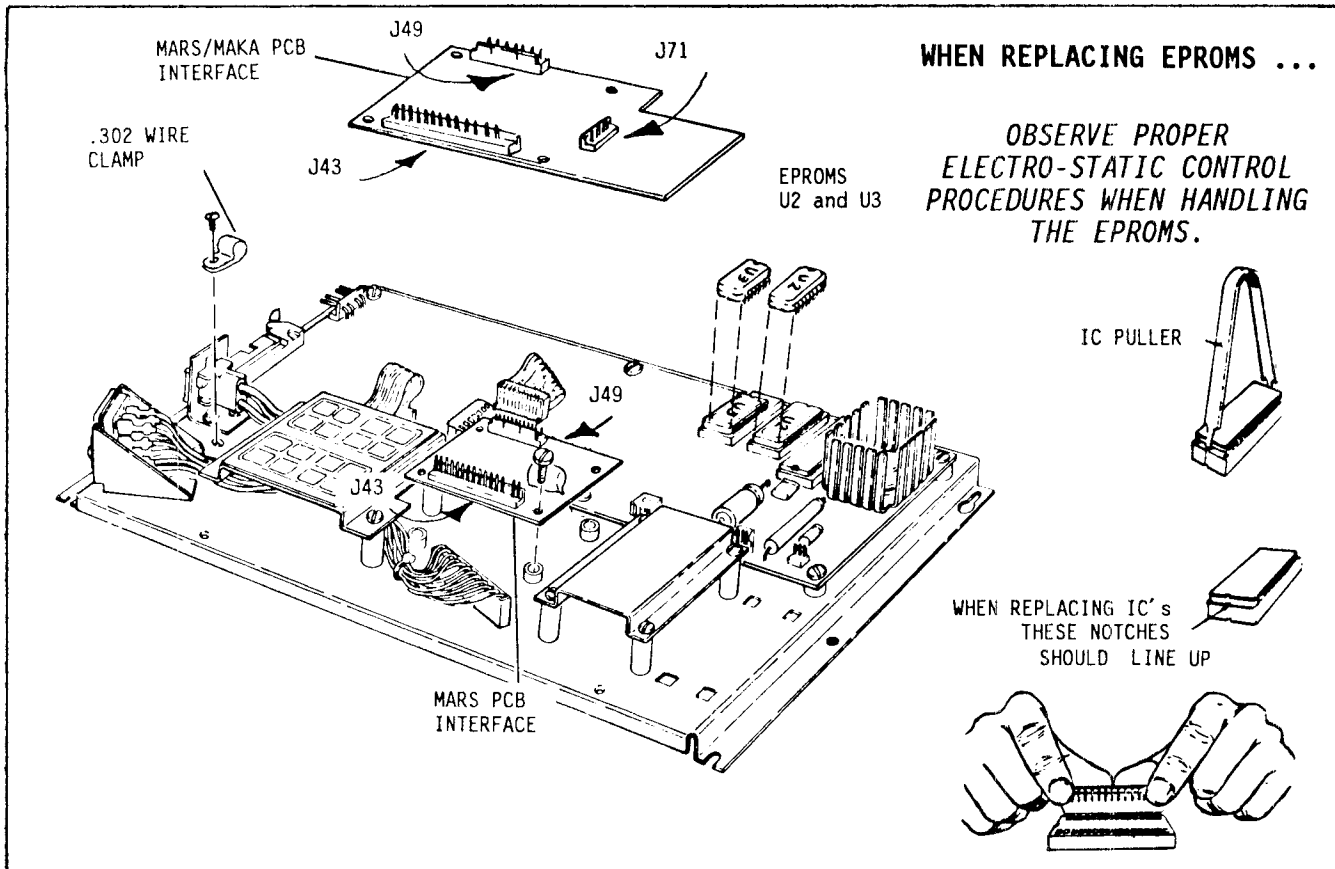


FIGURE 5

4. MODIFICATION OF DOOR CONTROLLER (See Figure 5)

- * Remove the cover of the door controller.
- * Disconnect the coin mechanism interface harness from J43 and the ribbon wire from J49.
- * Remove the four screws that secure the MARS 5000 interface PCB to the control board assembly. Remove the MARS 5000 interface PCB.
- * Install the MARS/MAKA interface PCB in place of the MARS 5000 interface PCB. Use the four screws previously removed.
- * Connect the coin mechanism harness to J43 and connect the ribbon wire to J49 of the MARS/MAKA interface PCB.
- * Route the validator to control board harness behind the function selector switch panel and connect the harness to J71 of the MARS/MAKA interface PCB.
- * Secure the free end of the harness to the control board assembly. Use the .302 wire clamp and the remaining #8-32 screw supplied with the kit.

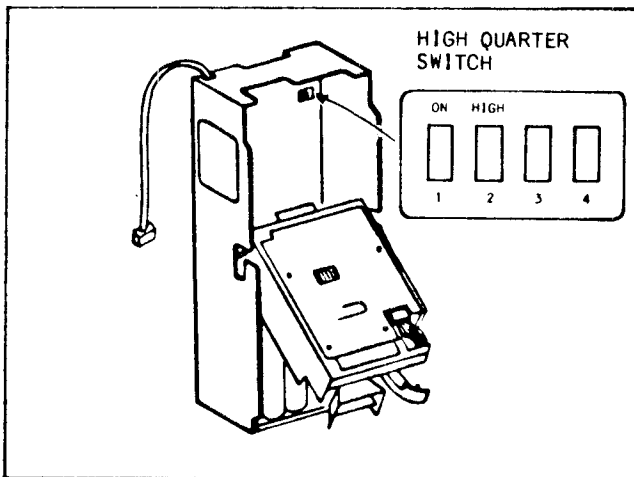
NOTE

The EPROMS are easier to remove when an IC Puller is used.

- * Locate and remove EPROMS U2 and U3. Replace them with the U2 and U3 EPROMS supplied with the kit.
- * Replace the control board cover.
- * Connect the validator controller to the validator to control board harness.
- * Turn the Main Power switch to ON.

5. SETTING THE HIGH QUARTER SWITCH ON THE COIN MECHANISM (See Figure 6)

- * When a bill validator is installed, the "High Quarter" switch on a MARS TRC 6000 changer must be set to the ON position.
- * The switch is located behind the rejector unit.



QUARTER SWITCH POSITION	ACTION
LOW	Will accept only one \$1 bill.
HIGH	Will accept \$1 bills equal in value to the first whole dollar above the vend price.

FIGURE 6

6. PROGRAM OPERATION

- * This bill validator option adds a new mode to both the Price Setting and the Data Recall programs.
- * ESCROW/NO ESCROW is added to the Price Setting program.
 - ESCROW MODE:* This option permits the return of four quarters when the reject/scavenger lever is operated
 - NO ESCROW MODE:* This option permits the return of four quarters when the reject/scavenger lever is operated, but only if change cannot be made

SETTING ESCROW/NO ESCROW MODE:

1. Enter the Price Setting program as described in the Set-Up Instructions.
 2. After *WIN* is shown in the display, press # to advance to the *ESCROW/NO ESCROW* mode.
 3. Press * to switch between the ESCROW and NO ESCROW options.
- * *DOL* is added to the Data Recall program.
 - DOL:* This indicates the total number of dollar (\$1) bills that have been accepted by the validator
 1. Enter the Data Recall program as described in the Set-Up Instructions.
 2. After *WCNT* is shown in the display, press # to advance to the *DOL* data category.

HOW THE VALIDATOR WORKS: SIMPLIFIED (See Figure 7)

- * When a bill is inserted, the carrier motor rotates and the bill is drawn into the validator.
- * Two drive belts carry the bill past photo sensors and magnetic sensors.
- * Information from the sensors is processed by the validator controller.
- * After the sensory input is processed, one of two things will happen:
 1. An *AUTHENTIC* bill is accepted and the stack motor is energized. The stack motor actuates the lift lever which presses the bill into the stack. The bills are stacked between the stacker plate and stacker guide.
 2. A *COUNTERFEIT* bill is rejected. The carrier motor reverses direction and returns the bill.

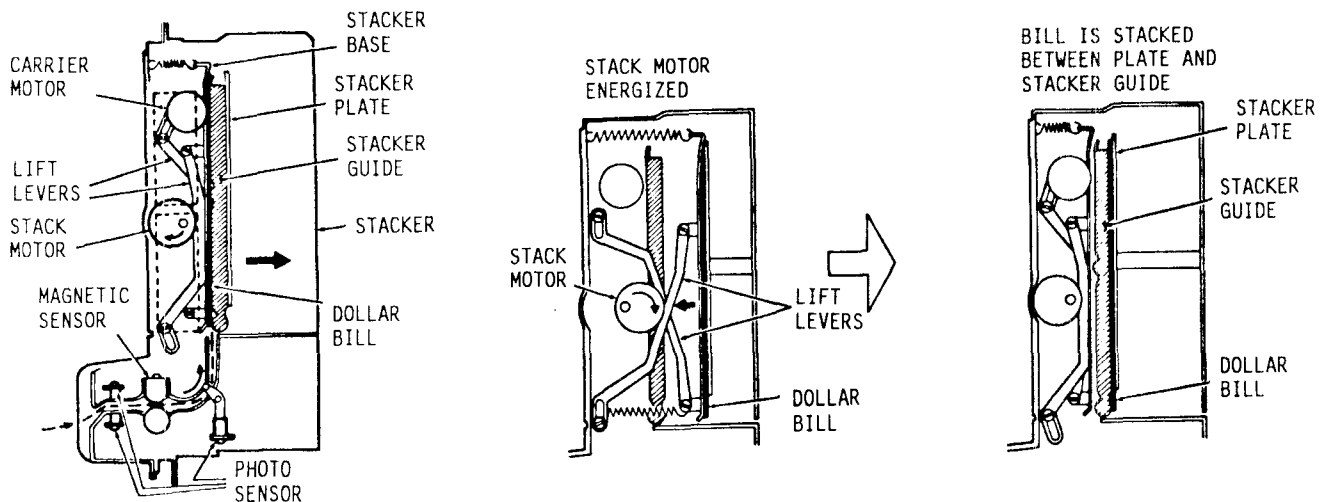


FIGURE 7

UNLOADING THE BILL STACKER (See Figure 8)

- * Push up on the latch.
- * Pivot the stacker forward and down.
- * Remove the bills.
- * Return the stacker to the original position and secure in place with the latch.

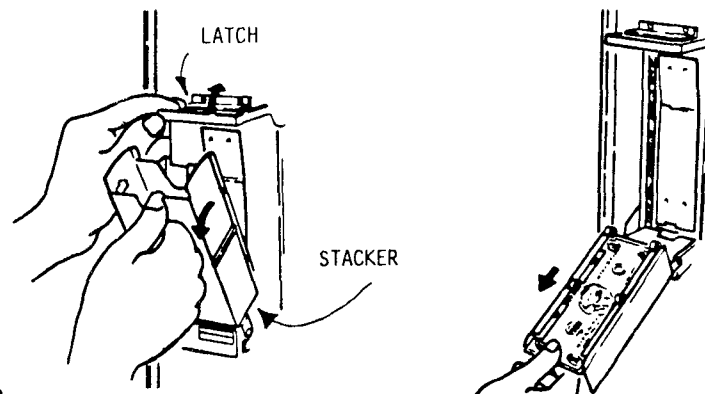


FIGURE 8

CLEANING THE VALIDATOR (See Figure 9)

- * Turn the Main Power Switch to OFF.
- * The bill insertion opening can be cleaned with a mild detergent. (View A)
- * The magnetic heads can be cleaned with a cotton applicator and a small amount of denatured alcohol. You can inspect the heads by pulling down on the bottom latch and then opening the validator. (View B)
- * Wipe the rollers and belts. Remove any foreign matter. Inspect the latches and levers for smooth operation. (View C)
- * Turn the Main Power Switch to ON and test the unit for acceptance of authentic bills.

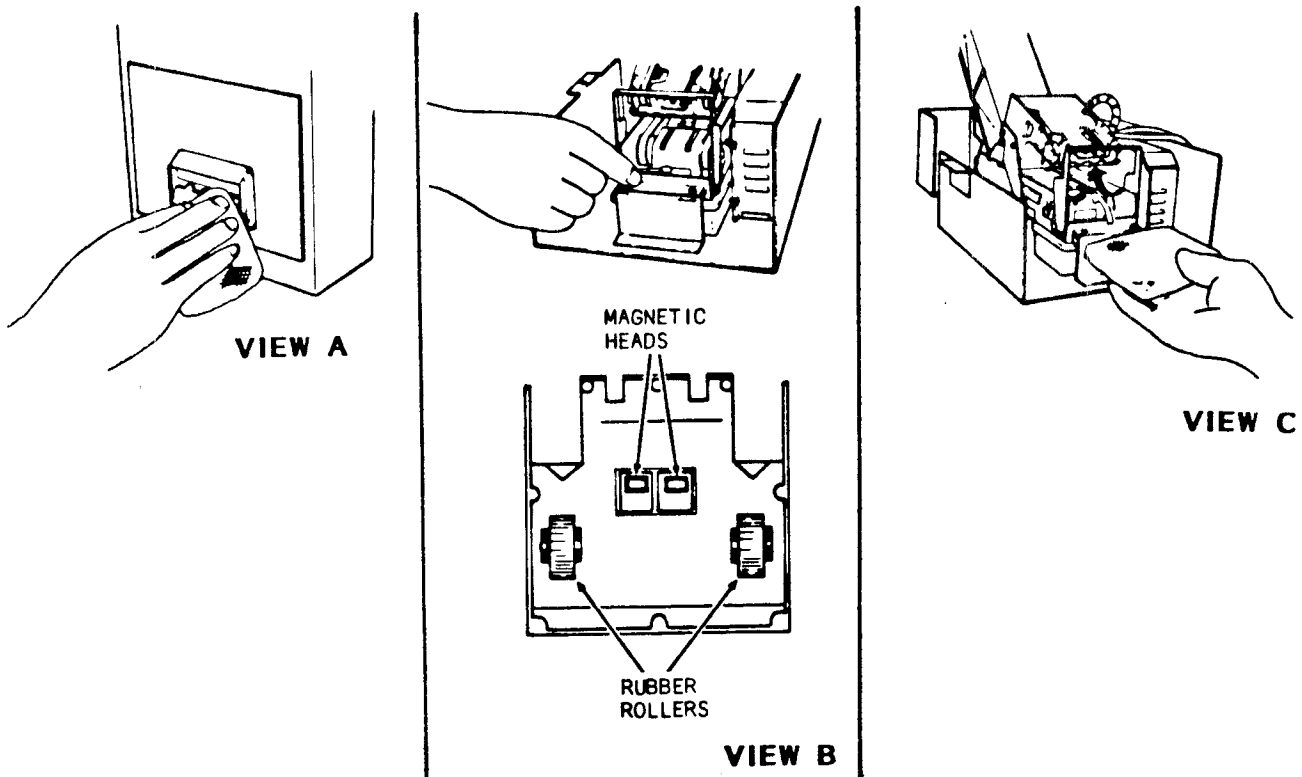


FIGURE 9