

6.35  
 MAKE ALTERNATE  
SELECTION  
 — PRICE —  
 USE EXACT CHANGE

## MULTI-PRICE ELECTRONIC COINAGE SYSTEM



**25 Selection**

with or without  
Validator

GLASSFRONT  
VENDORS

# SERVICE & PARTS MANUAL

P/N 4200898  
REVISION APRIL 1988

This Manual Covers Machines:  
Starting with S/N 500057.

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## INTRODUCTION:

The contents will cover the 25 Selection Glassfront Vendor. The glassfront vendor has a "first-in", "first-out" vending procedure and features the "Vend the Item You See," therefore does not require a display item and eliminates the need for product rotation to insure product freshness. Each product tray can be pulled forward for easy loading of the items and cleaning and servicing. There are two types of trays; a Flat Wire Helix Tray, which is used for vending large items, such as pastry, chips, etc.; and a Round Wire Helix Tray for small items such as candy, gum, and mints. Each selection has an individual hopper advancing the next product to the Vend Area.

These vendors will include an electronic multi-price coin changer and control system with a digital display on the outer door. All selections can be individually priced at different vend prices. These 25 Selection Glassfront Vendors will have the ability to operate with or without a Maka Model NB-14C Dollar Bill Validator. The Coinage, Dollar Bill Validator and Control System will be explained in detail through-out this manual.

This manual will cover machines produced and identified starting with serial number 500057.

## SPECIFICATIONS:

### Electrical:

#### Cabinet:

Line Source 115 VAC, 60 Cycle  
Current - 1.4 AMPs maximum

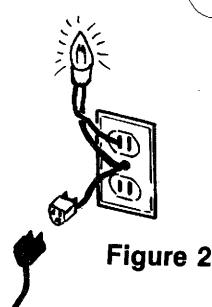
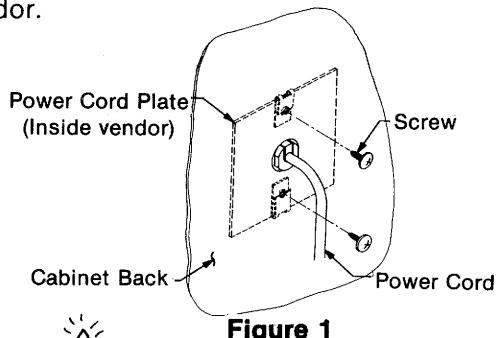
Height: 68"  
Width: 38"  
Depth: 31"  
Weight: 570 Pounds

#### Coinage & Control System:

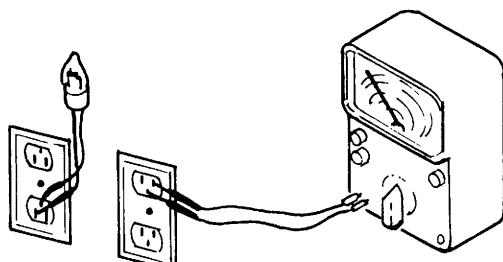
Accepts nickels, dimes, quarters and one dollar bills, (when equipped with a Dollar Bill Validator). Selection of individual vend prices, 5¢ through \$6.35, adjustable in 5¢ increments. Digital display on outer door indicates amount of credit deposited for each vend. Escrow or coin return until vend.

## INSTALLATION INSTRUCTIONS:

1. Remove all packing material in a manner not to damage the finish or exterior of the Vendor. To unlock the door, the key will be found taped inside the Coin Return Cup. Remove all shipping brackets, inner packing material, and tape from the Vendor. To try to operate the Vendor without removing the tape from the moving parts may result in damage.
2. Record the Model Number and Serial Number of the Vendor and refer to these numbers on all inquiries and correspondence pertaining to that Vendor.
3. Run the Power Cord through the hole in the cabinet back. Align the two holes on the Cord Plate with the holes on the back of the Cabinet. Then attach the Plate, with the screws provided. (See Figure 1.)
4. To insure safe operation of an electrically equipped vendor, the vendor must be grounded. To verify that the receptacle is properly grounded, connect one probe of the test light to the screw holding the receptacle cover. Insert the other probe into the opening of each outlet. If the test light does not light when placed in either side of the receptacle, the receptacle is not grounded. To provide a proper ground use an adapter which has a ground wire attached. The wire should be connected to a ground such as a water pipe. If the receptacle is grounded but is not the three-prong type, the adapter may be used. Attach the wire to a ground or to the receptacle cover securing screw. (See Figure 2.)



## INSTALLATION INSTRUCTIONS: (Continued)



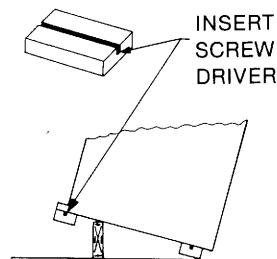
**Figure 3**

**Receptacle with three (3) female openings.** To verify that the receptacle is properly grounded and polarized, insert one probe of a voltmeter (set to check AC line voltage) or test light, in the ground terminal position "hole" of the 3-position receptacle, insert the other probe (of voltmeter or test light) in the L.H. slot (if ground "hole" is up) or in the R.H. slot (if ground "hole" is down). You should read 115 VAC on the voltmeter, or the light should light.

If you find this is not the result, you should contact a licensed electrician to correctly polarize and/or ground the receptacle to insure safe operation.

Consult Local, State, and Federal codes for compliance before installation of vendor. See Figure 3.)

- Remove Knock-A-Way Support by inserting a screwdriver and splitting the Knock-A-Way in two. Turn the leveling screws in as far as possible. Position the Vendor in its place of operation. Level the Vendor, making sure all levelers are touching the floor. The Vendor must be level for proper operation and acceptance of coins through the Coin Mechanism. If the Vendor is properly leveled, it should not rock or teeter on any of the levelers. (See Figure 4.)



**Figure 4**

## HELIX TIMING:

To obtain a consistent vend and proper advancement of the product, the Helix coils must be properly timed. When installing or replacing a motor it is necessary to time the Helix. Make sure the Motor is in its detent or home position.

### Small Flat Helix:

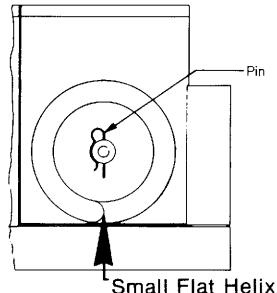
To remove, pull out pin at back of Helix. Replace Helix on motor shaft with end of Helix positioned as shown by arrow, align hole in Helix with motor shaft and replace pin. (See Figure 5.)

### Large Flat Helix:

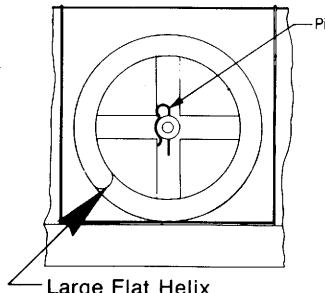
Same procedure as defined above for Small Flat Helix. (See Figure 6.)

### Round Wire (Divided) Helix:

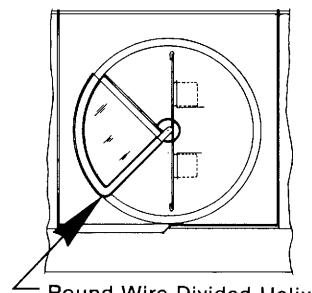
No timing is needed. Be sure the "D" on helix aligns with the "D" hole on the Motor. (See Figure 7.)



**Figure 5**



**Figure 6**



**Figure 7**

## PRODUCT LOADING:

1. Lift front of drawer upward and pull forward to stops.
2. Load all products upright, front to back, with the identification forward.
3. The Flat Wire Helix loads with the products resting on the bottom coil of the Helix.
4. The Round Wire Helix loads with the products resting on the floor between the Helix.
5. After loading, check to see that the adjustable floor (See Helix Timing) is properly adjusted. Adjust by moving floor in or out to assure the front product will not skip out of the Helix.
6. Finally, test vend each selection to insure the first slot in each selection is filled and at the Vend position.
7. Make sure the products fit easily into the Helix spacings.

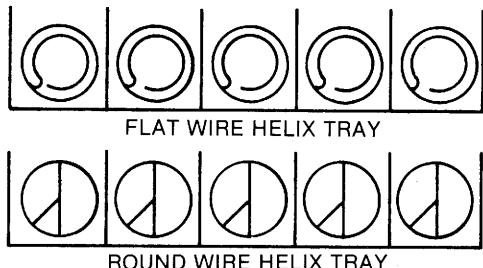


Figure 8

## POWER SWITCH:

These machines will include a "POWER SWITCH" located above the Control Panel. This switch will be operated by the Outer Door. When the door is closed, the switch will be operated to the "ON" position, placing the vendor in the VEND MODE. When the door is opened, the switch will operate to the "OFF" position removing all power to the Controller, Selection Buttons, the complete vending circuit, or the 24 Volt system.

When servicing the machine, with the main door opened, it will be necessary to place the POWER SWITCH in its "ON" position. "PULL" outward on the Switch Plunger. Do not close the door or actuate this switch while programming the Controller. This will interrupt the power and the input will not be placed in memory.

**NOTE:** Improper adjustment of the Power Switch will make the Vendor inoperative. To check adjustment with the Outer Door closed:

1. Push Selection Button - "Price" light and "Vend Price" will appear in display - Switch adjusted properly.
2. Push Selection Button - Blank display - Switch out of adjustment, adjust until Step #1 is evident.

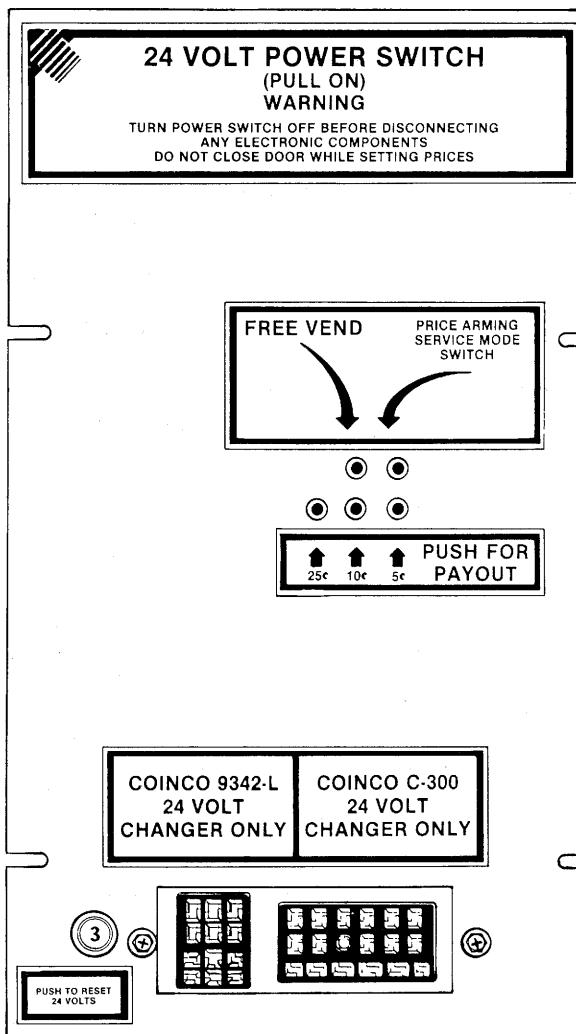


Figure 9  
Vendor Changer Socket

# COINAGE INSTALLATION & OPERATION GUIDE:

Coinco 9342L Coin Changer may be used on these machines, when equipped with or without a Dollar Bill Validator. The changer will accept nickels, dimes, and quarters and accumulate up to \$6.35 in 5¢ increments. All functions and prices are controlled by the Controller, not the Coin Changer.

**NOTE:** Coinco C300-9404-977 may be used on these machines, when the machine is not equipped with a Dollar Bill Validator. The Coinco C-300 Coin Changer will accept nickels, dimes and quarters and accumulate up to only \$3.15 in 5¢ increments.

## Features

Pay out nickels, dimes, and quarters from Self-Loading, High Capacity change tubes in the least number of coins available.

Select high or low quarter tube level with the flip of a switch.

Dollar coins can be accepted or rejected with a flip of a switch.

For features: (SEE OPTION SWITCH SETTING)

**CAUTION: DO NOT PLUG OR UNPLUG CHANGER WITH POWER APPLIED.**

## Installation Instructions:

1. Remove the acceptor from the changer by releasing acceptor studs from changer latches and pulling the top of the acceptor forward and away from changer. Unplug ribbon cable from changer. Free lower acceptor studs from changer housing. With the acceptor removed, set key holes in back of changer housing over the mounting screws in the vendor. Tighten snugly.

**NOTE:** See Figure 10 for C-300 and 9342L mounting hole location.

2. Set the desired changer options. (See option switch setting.)
3. Replace the acceptor by inserting bottom acceptor studs into changer housing guides. Plug the acceptor ribbon cable into the changer. Press top of acceptor into changer housing until top acceptor studs lock into changer's acceptor latches.
4. Plug changer into 12 pin vendor socket.
5. Load coin tubes making sure all coins lie flat.
6. Test changer with a variety of coins to insure proper operation.

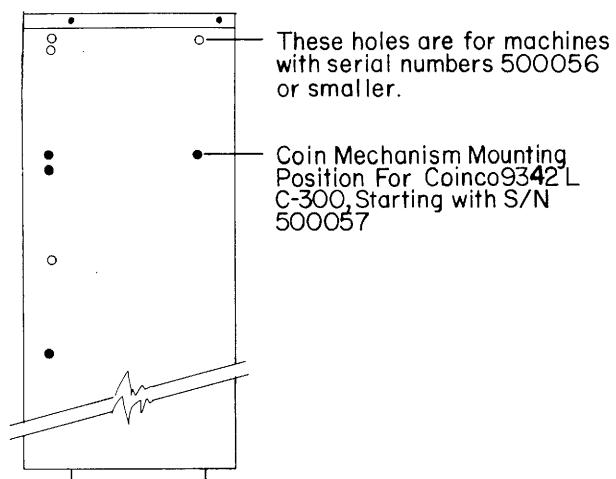
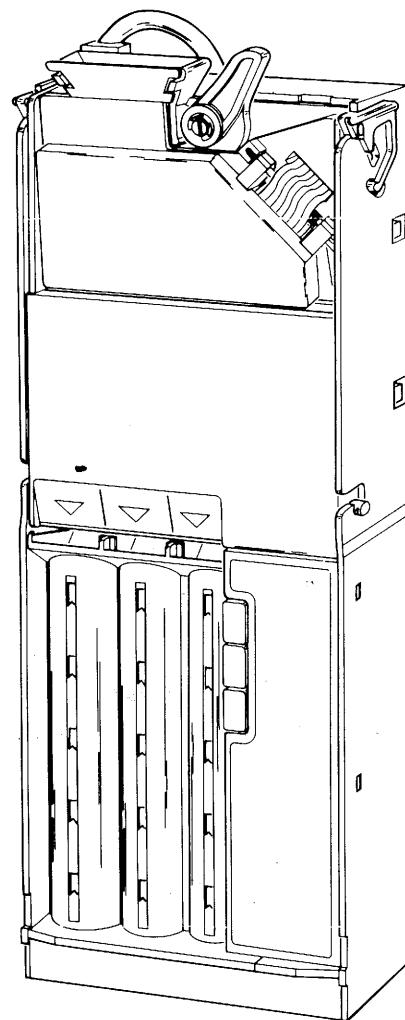


Figure 10

## OPTION SWITCH SETTING:

1. Unplug the coin changer.
2. Remove the acceptor.
3. Located in the upper portion of the changer is a single switch module with 3 rocker switches. (See Figure 11). When the top of the rocker switch is pushed in, it is in the "ON" position. The switches correspond as follows:

1-USA/CAN	ON:	U.S. and Canadian coins will be accepted.
	OFF:	Canadian coins will be rejected.
2-LO 25¢	ON:	Quarters are directed to cash box once change tube has approximately 18 quarters.
	OFF:	Quarters are put into change tube until change tube is full.
3-\$ ACPT	ON:	Dollar bills will be accepted.
	OFF:	Dollar bills will be rejected.
4. Replace acceptor.
5. Plug changer into vendor 12 pin socket.
6. Test with a variety of coins to insure proper operation.

## PRICE SETTING INSTRUCTIONS:

**IMPORTANT:** Before any functions, price setting, vend price verification, etc., can be performed, it is necessary to "pull" the Power Switch to the "ON" position. The Power Switch is located above the Control Panel. Pull out on Switch to turn "ON." See Power Switch section on Page 4.

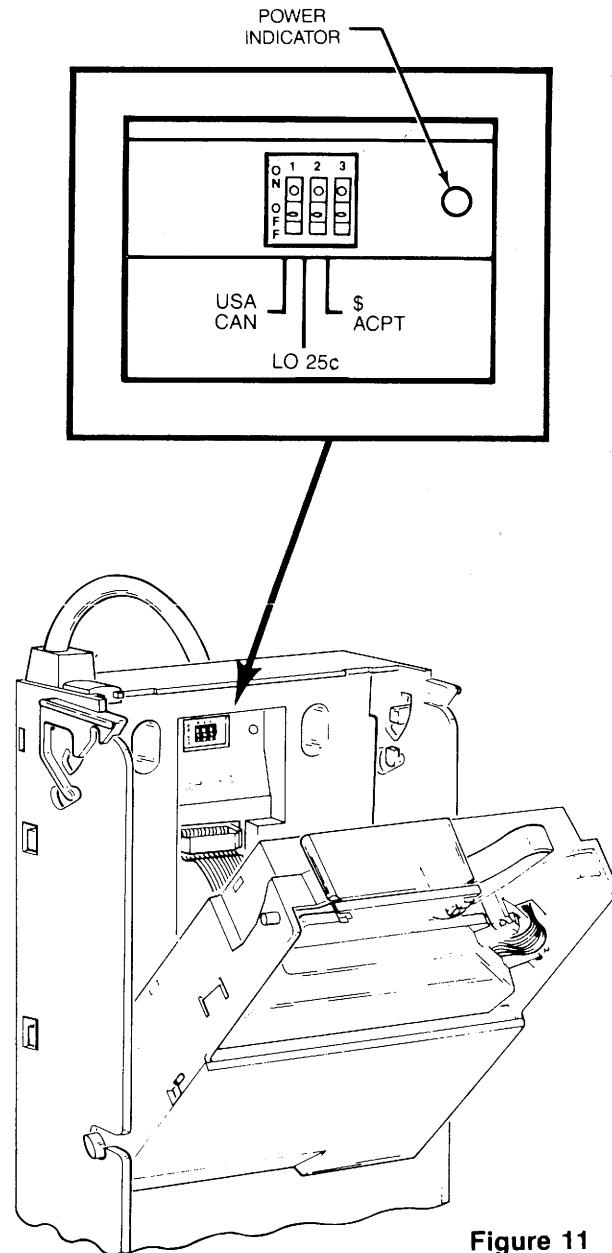


Figure 11

### Electronic Controller:

**NOTE:** Vend prices must be established for each Selection. On initial installation it is necessary to follow these instructions for all selections. **ALL SELECTIONS MUST BE PRICED.**

# PRICE SETTING INSTRUCTIONS: (Continued)

## I. Price Setting Instructions:

- A. Enter the Service Mode by pulling the Power Switch to it's "ON" position as described on Page 6 and then depress the Price Arming/Service Switch (See Figure 9, Page 4). The display will show only a decimal point.
- NOTE:** Refer to "SERVICE MESSAGES" if anything other than decimal point is displayed.
- B. Press and release a Selection Button, the current vend price will be displayed.
- C. **TO INCREASE THE PRICE**, press the Selection button again, the price will increase by 5¢ every ½ second. Release the button when the desired price is displayed.
- D. If the price is correct, price setting is complete, go to Step F.
- E. **TO DECREASE THE PRICE**, leave the button released for one second. Press the button again, the price will decrease by 5¢ every ½ second. Release the button when the desired price is displayed. Price setting is now complete.
- F. The Controller will return to the Vend Mode after 25 seconds, or you may "Free Vend" by following steps below, starting with Step 2.

**CAUTION:** Do not close the outer door while in the Price Setting function, or actuate the Power Switch. If the Power Switch is actuated before the Controller returns to the Vend Mode the input will not be placed in memory. It is recommended that the "Free Vend" function be followed to assure proper exit of the Service Mode.

## II. Free Vend:

- A. Enter the Service Mode by pulling the Power Switch to it's on "ON" position as described on Page 6 and then depress the Price Arming Switch (See Figure 9, Page 4).
- B. Depress "FREE VEND" Switch (See Figure 9, Page 4), three (3) flashing bars will appear in the display.
- C. Depress Selection button to "Free Vend". The Vend Price is displayed and the product is dispensed. If the product is not delivered, then "MAKE ANOTHER SELECTION" will appear in the display.
- D. The Controller will return to the Vend Mode after the "Free Vend" is completed.

## III. Service Messages:

- A. Depress the Price Arming/Service Switch and observe the Credit Display:

### MESSAGES:

Decimal Point Only	= No problems
Letter "C" Displayed	= Possible changer problem, no vend in last 24 hours.
Motor number(s) Displayed	= Faulty motor(s). Check for shorted or jammed motor.

## PRICE SETTING INSTRUCTIONS: (Continued)

**NOTE:** If more than one problem, they will be displayed alternately. Once the Controller has been removed from the "SERVICE MODE" these problems will not be displayed again. The failures are removed from memory and will not reappear until the failure has been repeated.

### IV. Price Labels:

- A. Place Price Labels on the drawer, below each selection. Make sure the label can be clearly seen from the outside of the machine and that the label price agrees with the price recorded in the controller.

### V. Digital Readout:

- A. The Digital Readout is located on the outside of the Outer Door just above the Selection Buttons. The Read-out will display to the customer the total deposits or credits for each vend and when a vend is initiated, the amount to be refunded will be displayed. To verify a selection vend price, push the Selection Button in question, the Price Light will be illuminated and the Vend Price will appear in the display. Specific functions and steps are defined in other sections of this manual.

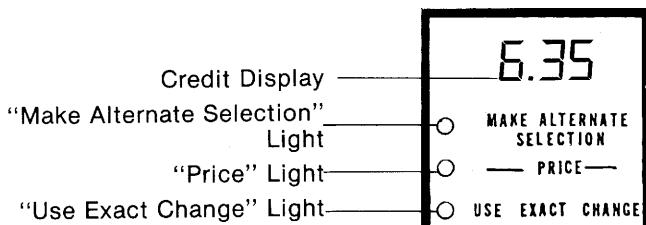


Figure 12

## CONTROLLER & DIGITAL READOUT:

### General Functions:

The Controller allows each selection to be set at different vend prices in increments of 5¢, up to a maximum of \$6.35. All functions, totalizing, vend circuits, etc., are controlled by the Controller. Credits or amounts for each vend are displayed on the Digital Readout. Service messages or service problems are displayed on the readout when the Controller is placed in the Service Mode. Vend price verification is also available by pushing selection buttons while the machine is in the normal Vend Mode.

### Entering The Service Mode:

Before any Service function is executed, the Controller must be placed in the Service Mode. This is accomplished by first placing the Power Switch, located above the Control Panel (See Figure 9), to the "ON" position. Next, depress the "PRICE ARMING/SERVICE SWITCH" located on the Control Panel. The Controller will remain in the Service Mode if any selection button or key is depressed at least once every 25 seconds. If more than 25 seconds elapses without a key or button being depressed, the Controller will return to the Vend Mode.

When entering the Service Mode, the Service message results are displayed to the Service Person. The results are presented on the Digital Display and should be noted by the Service Person **immediately** before any service procedure is initiated. Once a service procedure is initiated, all Service messages are removed from memory and will not reappear again until the failures have been repeated.

## CONTROLLER & DIGITAL READOUT (Continued)

The faulty or problem selection number will be displayed, if more than one faulty selection is evident, the display will alternate between these selections. If the letter 'C' is displayed, this indicates a possible changer problem, or the machine has been vended during a 24 hour period. The changer fault will be cleared when the next vend is made.

Once a fault or problem has been determined, it will be placed in the memory of the Controller. When that Selection Button is pushed, the "MAKE ALTERNATE SELECTION" light will be displayed. All credits or deposits are retained and will be returned to the customer when the COIN RETURN lever is operated. This selection must be repaired or the Controller must be cleared before the Selection can be vended again. During servicing, vend the problem selection, if the "MAKE ALTERNATE SELECTION" light appears, the problem has not been corrected.

A Motor is determined to be defective if it takes more than  $\frac{1}{2}$  second for the motor to leave the home (start position), or more than 8 seconds for the motor to return to the home position or complete its vend cycle.

### Vend Price Verification:

Vend prices can be verified while the machine is in the normal Vend Mode. This is accomplished by depressing a Selection Button. The "PRICE" light on the display will illuminate and the Vend Price will appear in the display. If the price displayed does not agree with the item being selected, refer to PRICE SETTING INSTRUCTIONS section of the Service Manual. During the Vend Price Verification, no product will be vended if there is insufficient credit in the display. If the price equals "00", then most likely this selection has been determined inoperative and that selection will be displayed when the Controller is placed in the Diagnostic or Service Mode. Refer to this section in the Service Manual for a more thorough explanation.

### Normal Vend Operation:

The value of all monies deposited will be displayed in the digital readout. When proper credit is established and a Selection Button is depressed, the vend is initiated. The amount deposited will disappear from the display and the display will indicate the amount of money that is to be refunded. The product will be dispensed and the change will be returned on any over deposit after the vend has been completed. If a vend is attempted without sufficient credit, the "PRICE" light and Vend Price will be displayed on the digital readout, no product will be dispensed. If a vend is attempted on a selection that has been determined defective, the "MAKE ALTERNATE SELECTION" light will appear.

#### Motor Jumper

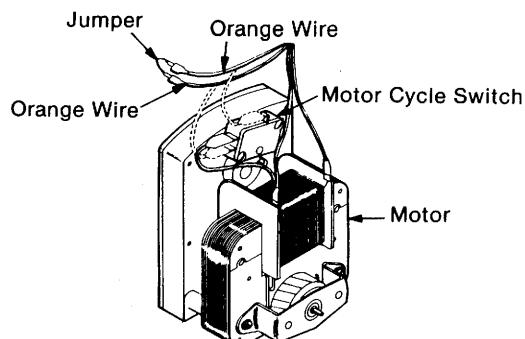


Figure 13

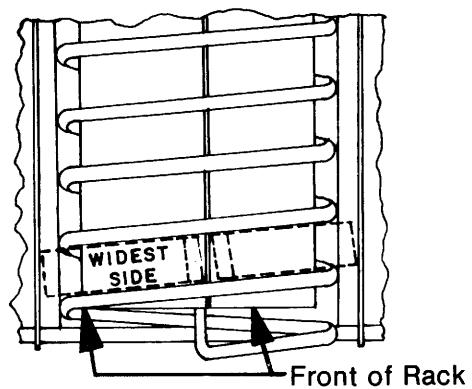
Any motor may be disconnected or removed from the vendor. By the use of a motor jumper the vendor will continue to work on all selections, except for the selection on which the jumper is used.

## **Motor Jumper (Continued)**

To use the motor jumper, disconnect the two orange wires from the motor cycle switch and connect one to each side of the motor jumper. Remove white/orange wire from motor coil and wrap with electrical tape. If removing motor completely, make sure to tape the ends of the remaining wires so they will not short to the cabinet. When reconnecting orange wires to switch be sure to put them in the proper places as shown on motor decal.

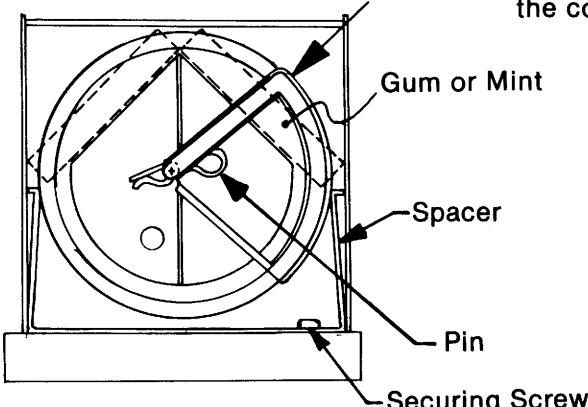
A Tray Jumper Plug may be used when removing an entire tray. Plug the jumper plug into the end of the cable, coming from the side panel. This will allow the vendor to remain in operation.

## **INSTALLATION — GUM & MINT RACK**

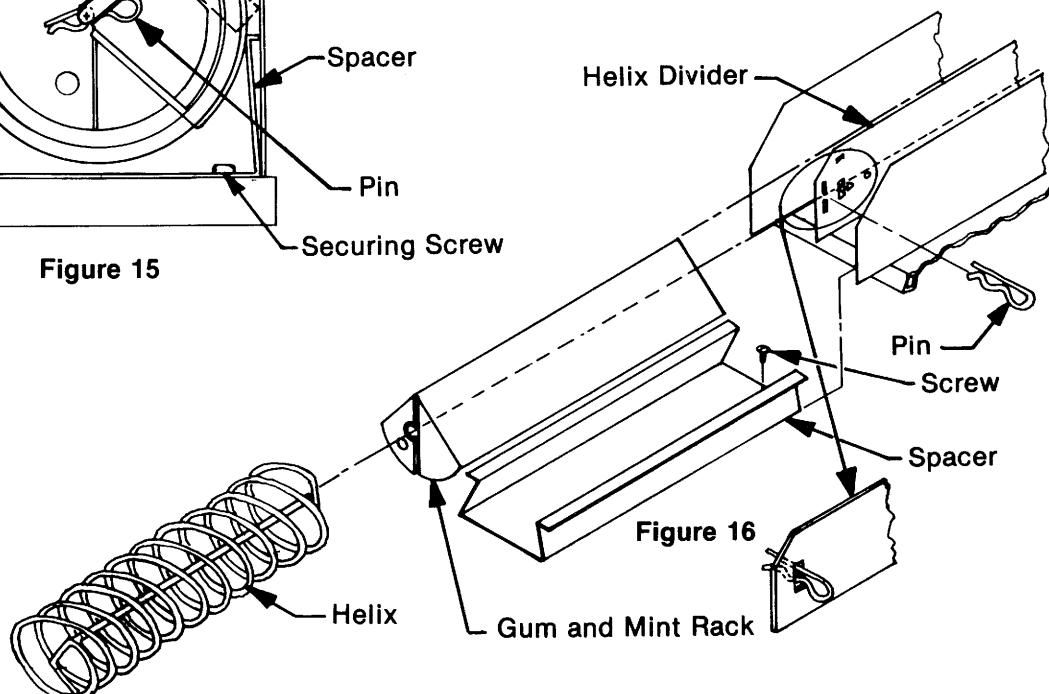


**Figure 14**

1. Remove helix by pulling outward at center of shaft.
2. Remove screw at back of adjustable shelf. Remove adjustable shelf (with rubber grommet attached) and discard. Slide spacer into position, align hole at back and reinstall screw.
3. Slide gum and mint rack onto the helix driver and hold in place by installing pin through hole in divider as shown in Figure 16.
4. Install helix through hole in gum and mint rack into "D" slot in motor.
5. Position front of helix as shown by arrow in Figure 15.
6. Stretch or compress front coil on helix and align with front of gum and mint rack as shown by arrow in Figure 14.
7. Load gum packs with the widest side between the coils. Do not sit gum on its edge.



**Figure 15**



**Figure 16**

# DOLLAR BILL VALIDATOR

The 25 Selection Glassfront Vendor Model 25VB is equipped to operate with or without a dollar bill validator. When installed, a Maka Dollar Validator Model NB14C will be used in the vendor. To operate the dollar bill validator a Coinco 9432L Coin Mechanism must be used as the coin mechanism in the vendor. The Coinco 9432L Coin Mechanism must have nickels and quarters placed into the coin tubes of the coin mechanism before the dollar validator will accept a dollar bill.

## I. Operation Warning

### Electric Power Source

AC 27 V  $\pm$  3 V, 60 Hz  
for NB 14C.

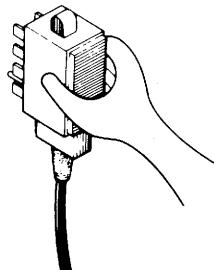


Figure 17

### Latch Engagement

Push in the stacker firmly until it latches.

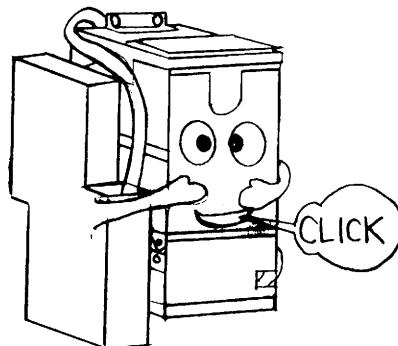


Figure 18

## II. How To Use

### How To Withdraw \$1 Bills

Push up the latch and pull down the stacker.

Take hold of the bills and pull them out.  
(Warning: Be sure to re-set stacker to original position)

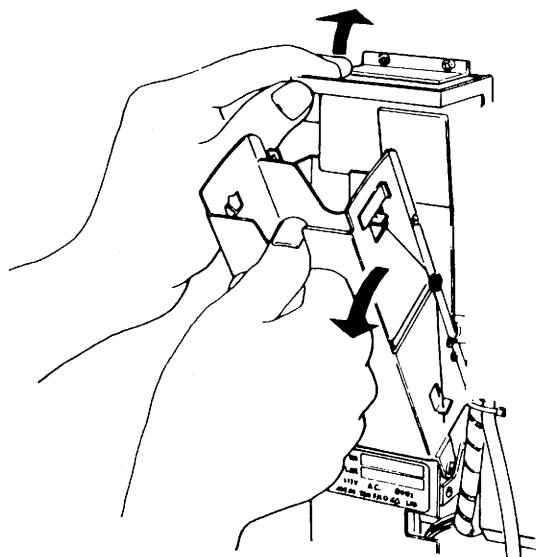


Figure 19

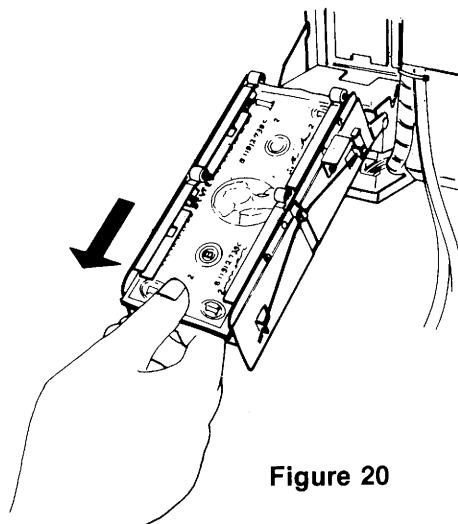
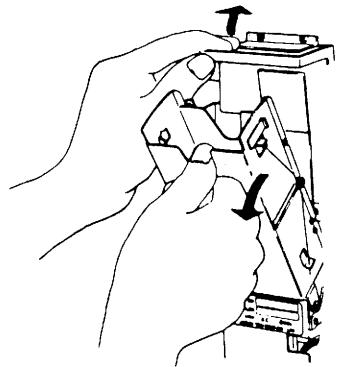


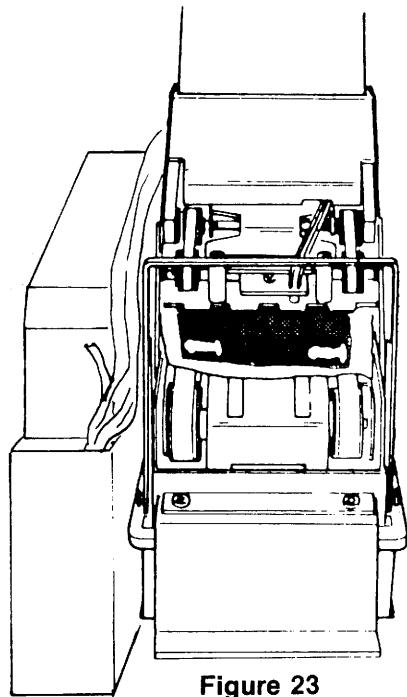
Figure 20

**Inspection: If Authentic \$1 bill will not Accept or is Rejected after Insertion.**

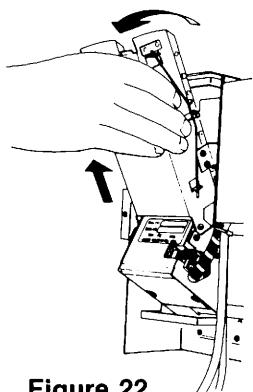


**Figure 21**

Push up the latch and pull down the stacker.  
If full of bills, withdraw them.  
Remove any bills or foreign matter clogging  
the stacker.



**Figure 23**



**Figure 22**

Press down the latch and pull up the stacker.

**Cut the power off and turn it on again.**  
(Warning: Be sure to return stacker to original position.)

### III. Structure and Movement

#### A. Module and Component Location

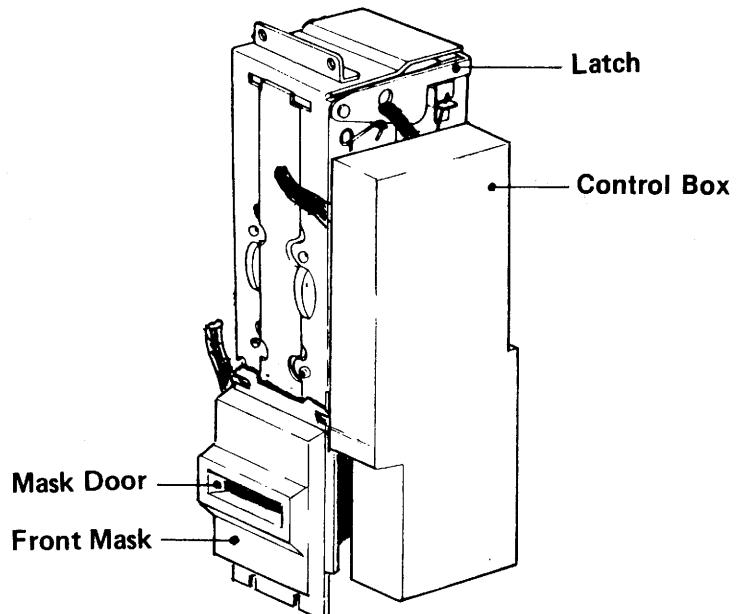


Figure 24

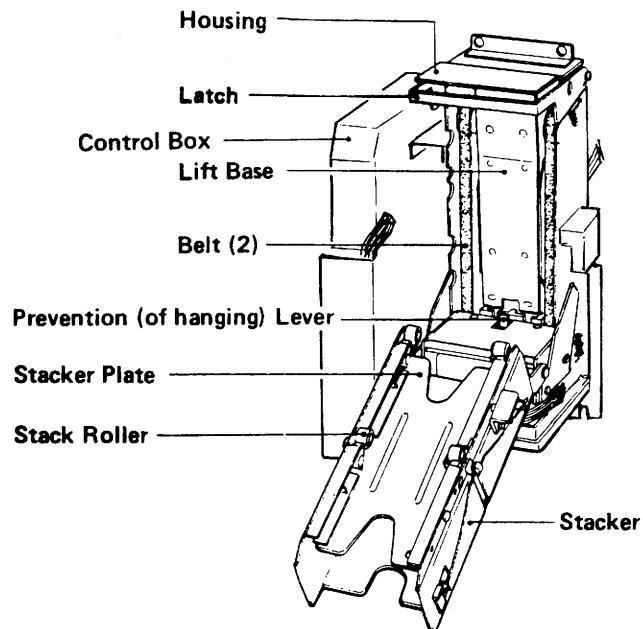


Figure 25

## B. Passage of Bill and Equipment Operation

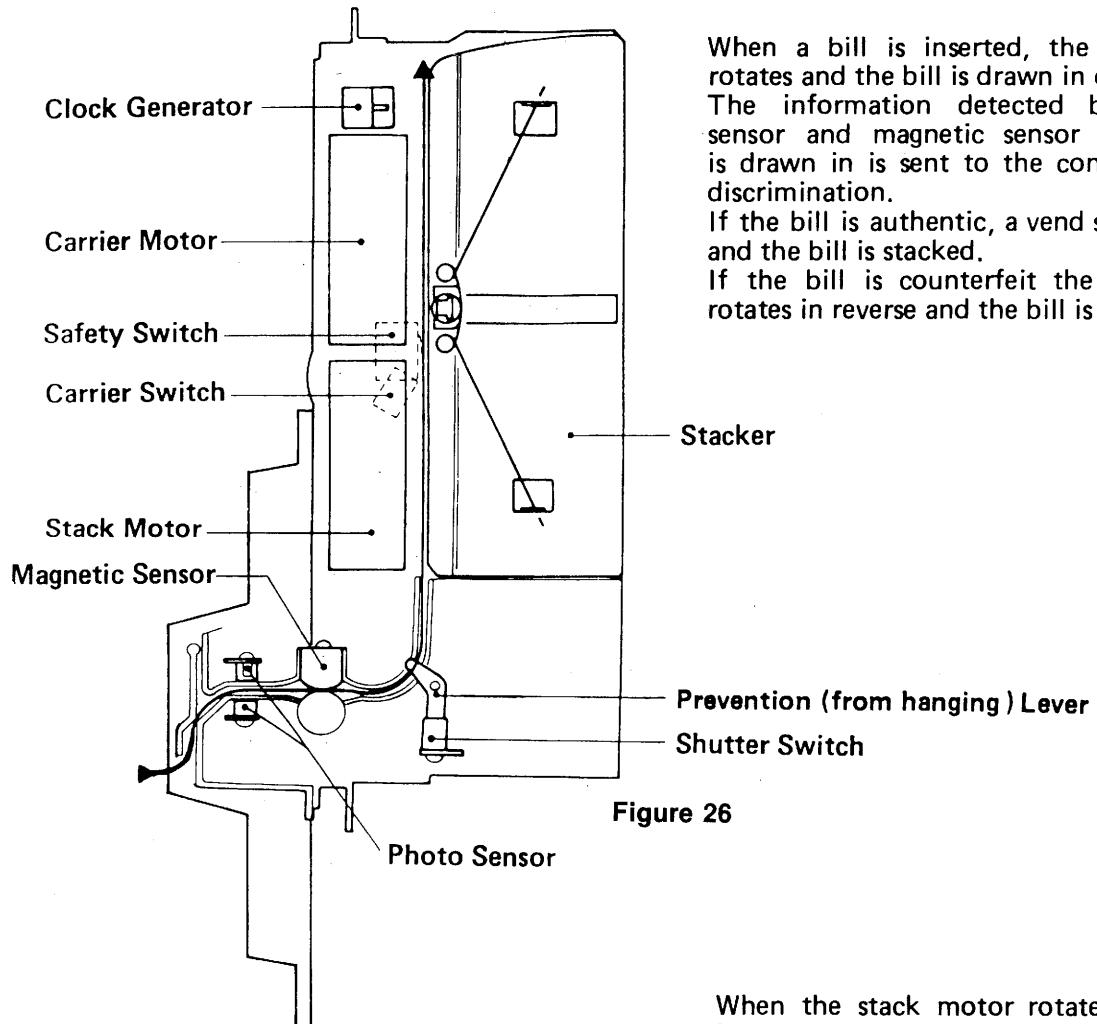


Figure 26

When a bill is inserted, the carrier motor rotates and the bill is drawn in on the belt. The information detected by the photo sensor and magnetic sensor when the bill is drawn in is sent to the control board for discrimination. If the bill is authentic, a vend signal is output and the bill is stacked. If the bill is counterfeit the carrier motor rotates in reverse and the bill is returned.

## C. Stacker Operation

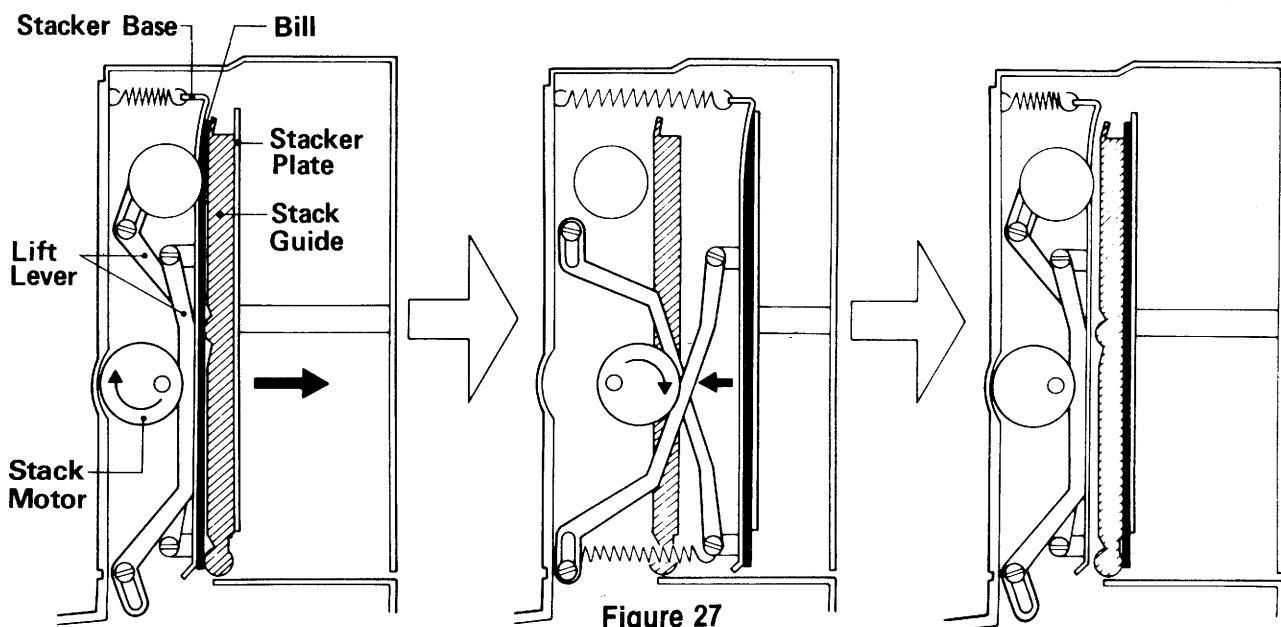


Figure 27

## IV. Cleaning

If the moving parts become dirty, get wet, or are stuck with foreign particles, proper operation cannot be maintained. Clean according to the requirements of the situation.

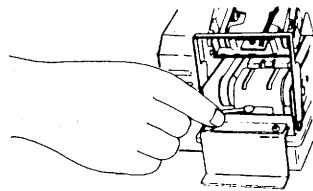


Figure 28

Clean the photo-sensor and magnetic heads with an applicator.

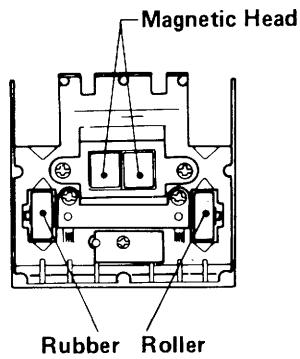


Figure 30

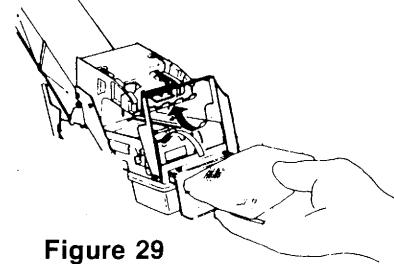


Figure 29

Wipe clean the chute roller, and belt with a soft cloth.

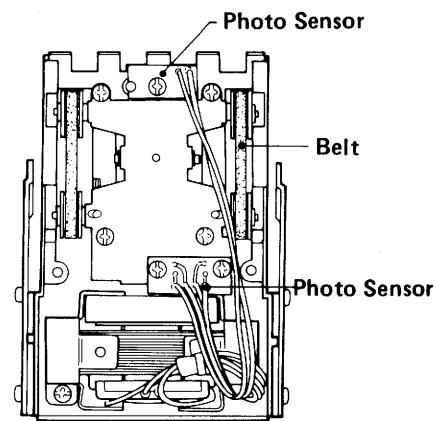


Figure 31

## V. Inspection

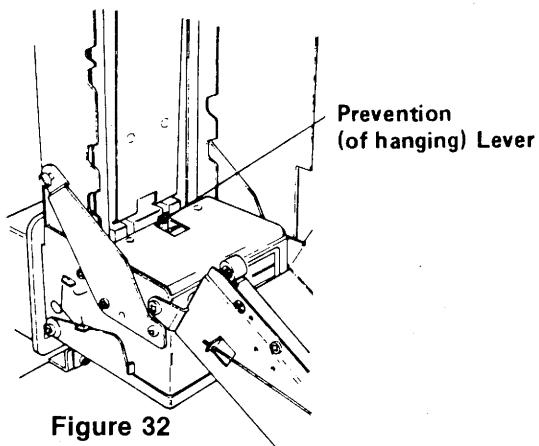


Figure 32

Prevention (of hanging) Lever  
It should pull out easily and when released, return smoothly without sticking.

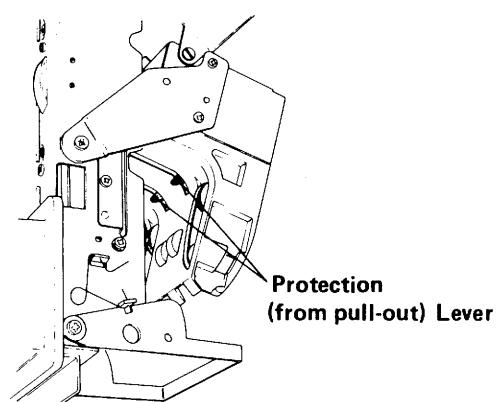


Figure 33

Protection (from pull-out) Lever  
It should push easily, and when released, return smoothly without sticking.

## Dollar Bill Validator Installation:

To install a Dollar Bill Validator in a Validator-ready machine proceed as follows:

### REMOVE:

1. Wire Cover.
2. Push Button Cover.
3. Filler Retainer. "SAVE SCREWS"
4. Validator Opening Filler.
5. Black Plug in Operating Instructions on Selector Panel.
6. Operation Instructions Label on Selector Panel.

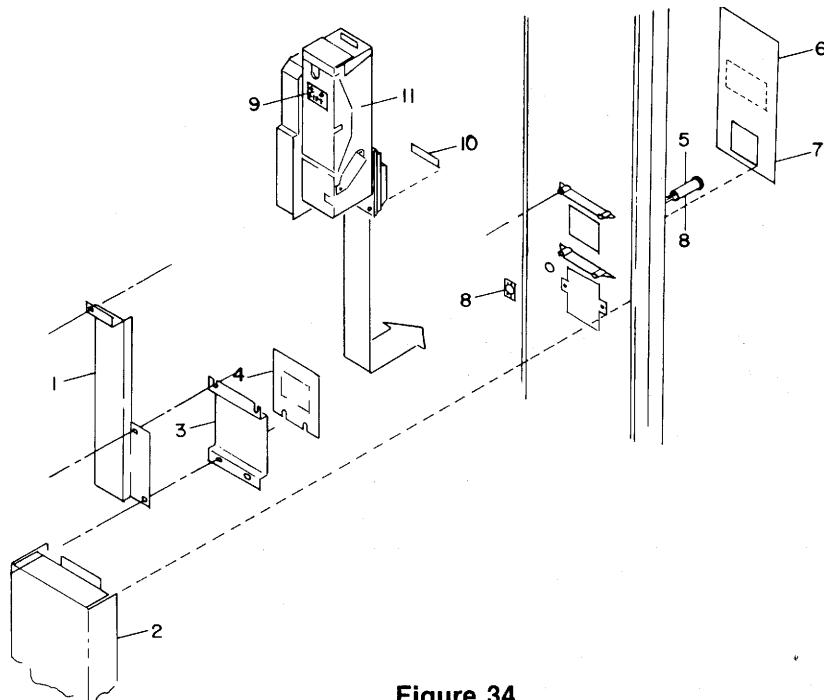


Figure 34

### INSTALL:

7. New Operating Instructions Label to Selector Panel Casting.
8. New Indicator Light with Fastener through Selector Panel Casting.
9. New "LIFT BAR" Label to Validator Stackter.
10. New "INSERT BILLS ONLY" Label to Validator Mask below Mask.
11. New Maka Validator using the 4 screws saved in Step 3 above.  
Plug in Harness Connections, Validator, and Service Light.

# TROUBLE SHOOTING:

## I. Motor and Motor Circuit

- A. The motor will be determined defective if it takes more than ½ second for the motor to leave the home (start) position.
  - 1. The machine will continue to operate if the Motor fails in a position where the Carrier Switch is in the N.C., or home position.
- B. The Motor will be determined defective if it takes more than 8 seconds for the motor to return to the home position or complete it's vend cycle.
  - 1. If the Motor fails in a position where the Carrier Switch is in the N.O. position, the machine will not operate. Money can still be deposited, however, when a Selection Button is depressed, the "MAKE ALTERNATE SELECTION" light will appear. Money will be refunded when the COIN RETURN lever is operated.
- C. Terminal off Motor coils will be detected as a faulty motor.
  - 1. Machine will continue to function on all other selections.
- D. Burned out Motor or open coil will be detected.
  - 1. Machine will continue to function on all other selections.
- E. Jammed Motor will be detected.
  - 1. The machine will continue to operate if the motor is jammed in the home position. (Carrier Switch in N.C. position)

## II. Motor Carrier Switch:

- A. Broken wire to Common or terminal off Common of Carrier Switch. This is the Orange & Orange/Black circuit thru the Motor Switches.
- B. Broken wire to N.C. or terminal off N.O. of Carrier Switch. This is the wire from the Carrier Switch to the Motor.
  - 1. This failure will make the machine inoperative.

**NOTE:** The "MAKE ALTERNATE SELECTION" light will appear, when any selection that has been determined to be inoperative, is operated. All credits will be cleared and money will be returned when the COIN RETURN lever is operated.

- C. Check all Tray Plugs and Receptacles for proper connection.
  - 1. Turn each Motor clockwise by hand, starting with #1. They should run by themselves after a slight turn.
  - 2. When you find the first Motor that does not run, you have found the break in the series circuit. It is between the last Motor that ran and the first Motor that did not.
  - 3. Also check the Plugs on the Trays of both motors if the last one was the last motor in a tray and the first Motor that did not run is the first Motor on the next Tray.
  - 4. If none of the motors run, check the Orange wire between No. 1 Motor and the Control Panel.

## III. Vendor Refuses All Coins:

- A. Power Switch out of adjustment. Switch is not being activated when Outer Door is closed. See Power Switch section, page 4 for proper adjustment and function.
- B. Product Light out.
  - 1. Check power cord to see if it is plugged in.
  - 2. Check fuse or circuit breaker in building for power.
  - 3. Check Black or White wires from the line cord to the transformer.

## **Troubleshooting (Continued)**

- C. Light is on, but C.R.E.M.'s coils are not pulled in.
  - 1. Check circuit breaker on Control Panel.
  - 2. Check for power to Changer. Operate Inventory Switches; Payout Motor on changer should run.
- D. Light is on and the C.R.E.M.'s are pulled in.
  - 1. Check Rejector.
    - a. Check Coin Paths for foreign materials. Coin Acceptor paths must be clean.
    - b. Check Rejector on a level surface and drop coins to find problem.
  - 2. Check to see that the blocking fingers do not protrude into Coin Paths.
  - 3. Check to see that Vendor is level.
- E. Coin Mechanism accepts coins, but "USE EXACT CHANGE" Light appears.
  - 1. Check to see if Payout Tubes have enough Change:
    - a. Requires a minimum of 6 Nickels to actuate switch.
    - b. Requires a minimum of 13 Dimes to actuate switch.
  - 2. Check to see if Change Empty Switches in Changer are activated.

### **IV. Vendor Vends Properly, But Pays Out Wrong or No Change.**

- A. Vend prices set wrong. (Verify vend prices)
- B. Loose connections in Harnessing. (Check all connections)
- C. Change tubes empty of coins or Empty Switch not sensing empty condition due to a failure of the Switch.
- D. Defective Coin Changer. (Verify vend prices and try other selections before replacing Changer)
- E. Defective Control Board. (Verify vend prices and try different vend prices and selections before replacing Controller)

### **V. Vendor Preselects One Product When Credit Is Reached.**

- A. Check for stuck Push Buttons.
- B. Check for shorted Selector Switch.

### **VI. Vendor Free Vends on One Selection.**

- A. Credit not cancelled because Motor Cycle Switch is not breaking, resetting the Controller.

### **VII. Vendor Will Not Allow Vend Price to be Set.**

- A. Bad Controller - Replace System.
- B. Defective Selection Switch - Replace or Repair.

### **VIII. Validator Will Not Accept \$1 Bills (Service Light Off)**

- A. Stacker switch opened stacker not activating stacker switch.
- B. Stacker full of dollar bills.

## **Troubleshooting (Continued)**

- C. Validator unplugged.
- D. Foreign material stuck in validator.
- E. Coin mechanism change tubes low or empty quarters.
- F. Magnetic head dirty.
- G. Photo cell dirty
- H. Coin mechanism nickel tube low or empty.

## **IX. Validator Will Not Accept \$1 Bills (Service Light On)**

- A. Stack is full of dollar bills.

## **CARE AND CLEANING:**

### **Cabinet:**

Disconnect vendor from power source.

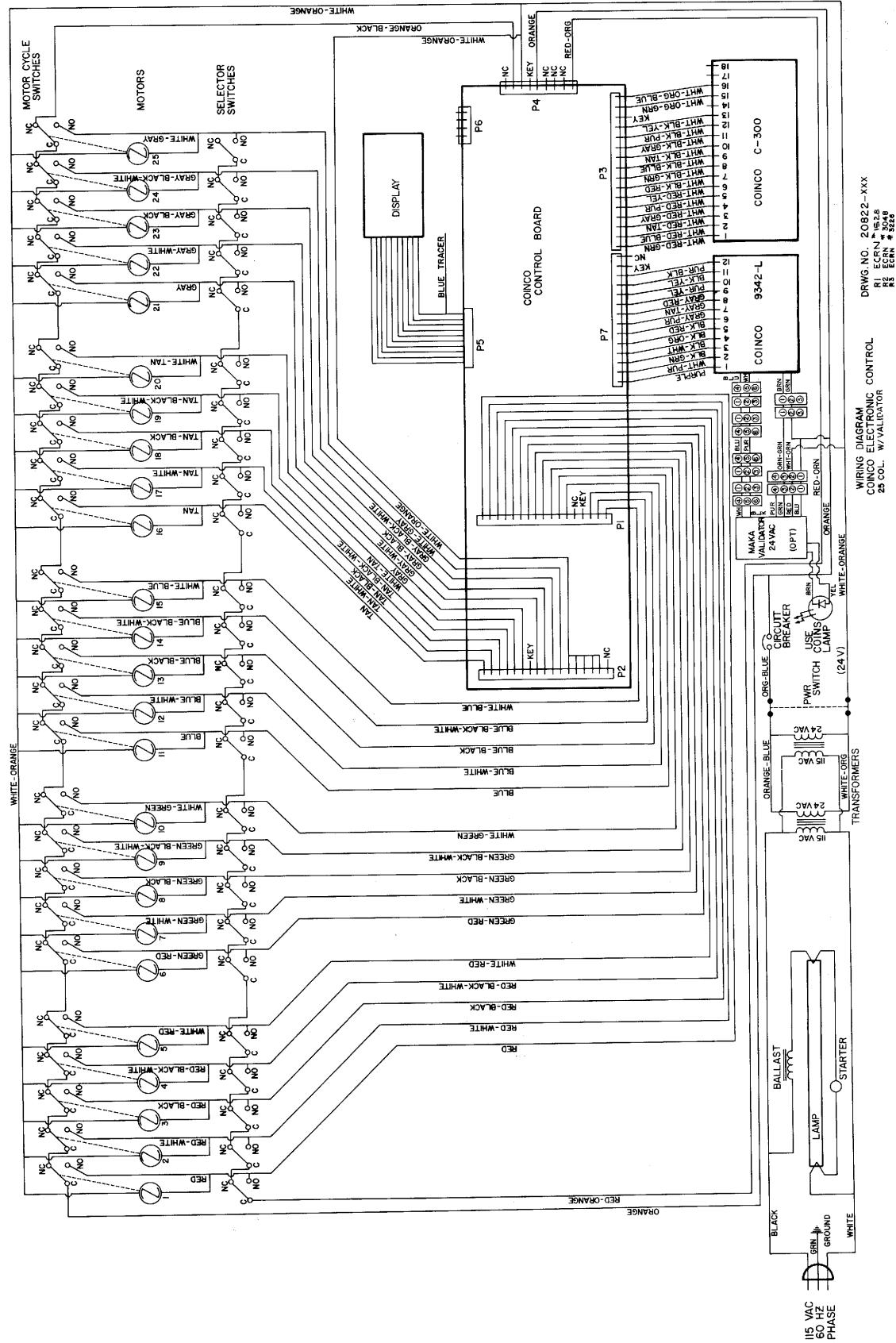
- Cabinet Exterior: Wash with warm water and soap.  
Occasionally wax with a good auto wax.
- Cabinet Interior: Clear out any foreign particles from delivery box on cabinet. If needed, use a damp sponge and wipe dry.
- Windows: Use any type of plastic window cleaner.

### **Acceptor:**

1. Remove acceptor from coin mechanism.
2. Use a stiff paint brush or toothbrush to clean foreign matter from the acceptor.
3. Dry thoroughly by shaking or by applying filtered compressed air.

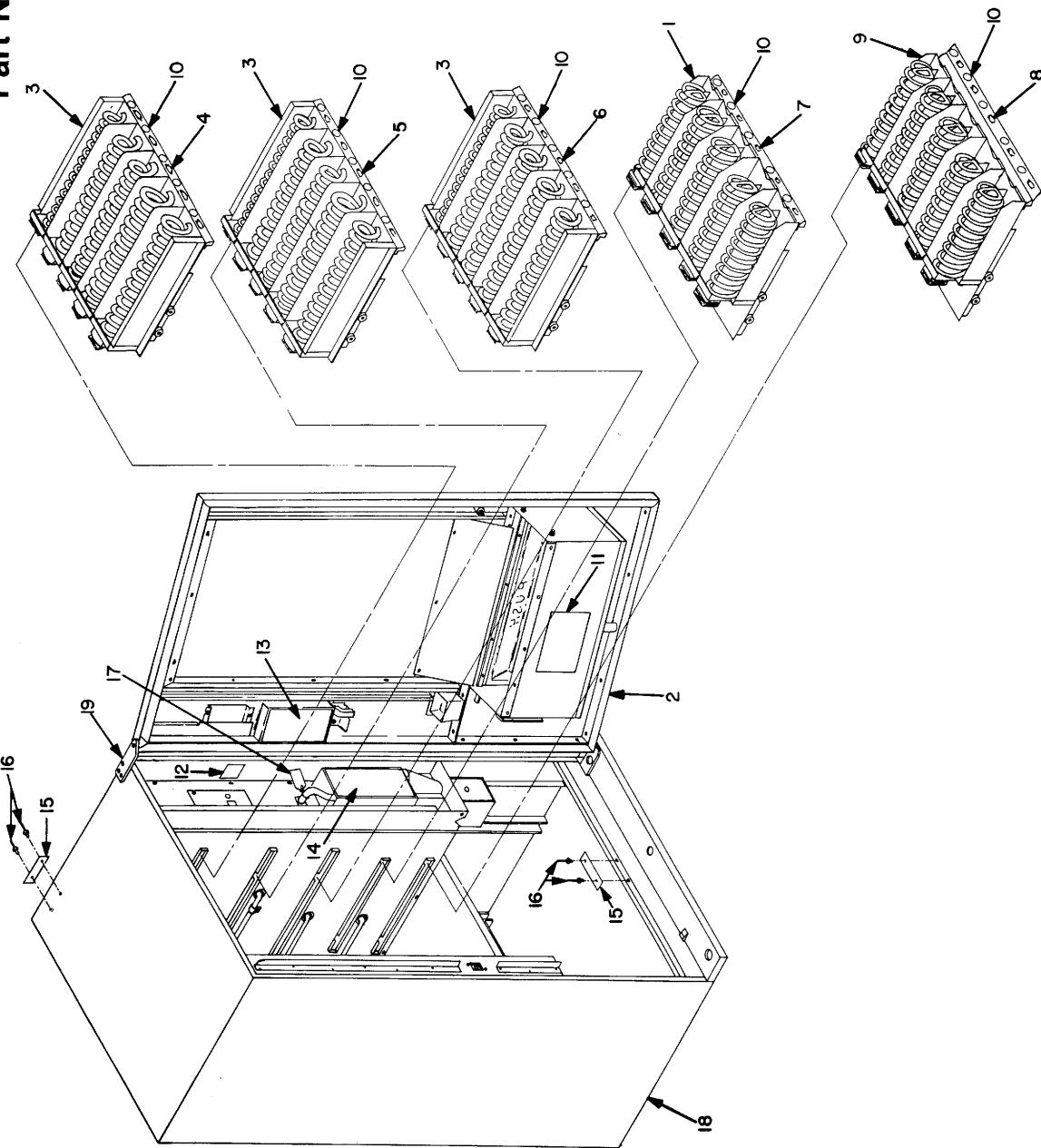
# WIRING DIAGRAM

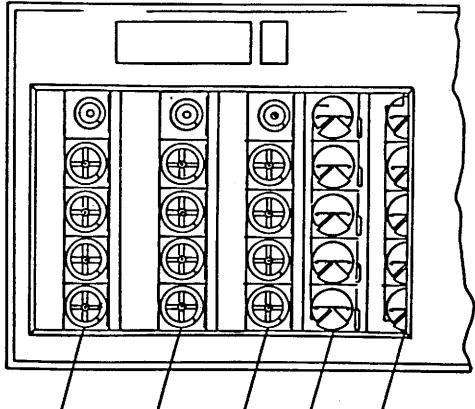
Part Number 20822



**UNIT FINAL ASSEMBLY**

**Part Number 1210615**



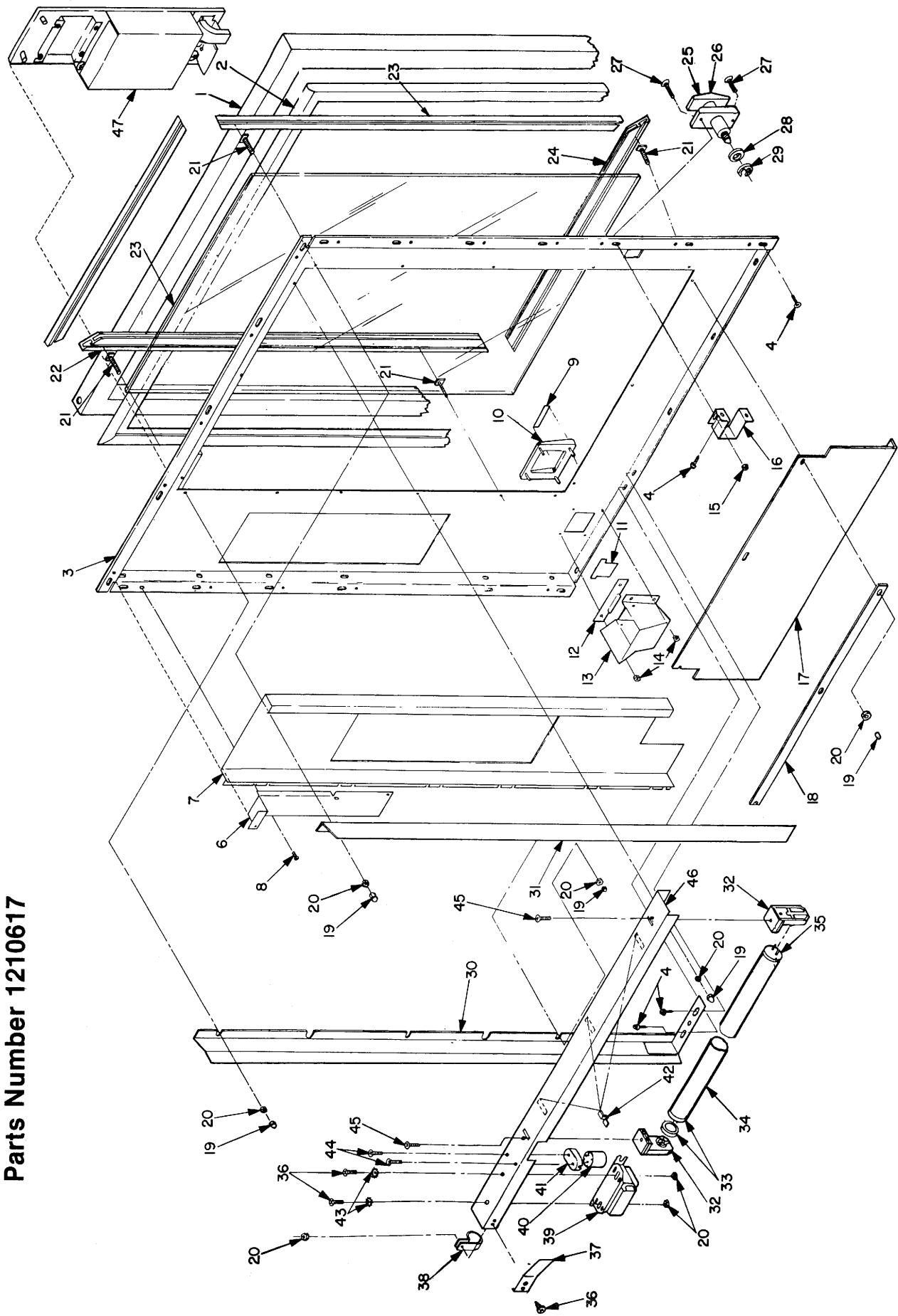


Item	Part No.	No. Req'd	Description
12	*8038421	1	Decal - Patent
13	20819	1	Label - Price Setting
14	34440	1	Label - Control Panel (9342L Coinco)
15	27380	2	Serial Plate
16	50667	4	Rivet
17	20480	1	Tag - For 24 Volt Service Only
18	*1210616	1	Complete Cabinet Assembly
19	*4200032	1	Decal - Made in USA Flag

Item	Part No.	No. Req'd	Description
1	*1210615	1	Unit Final Assembly
1	101143	1	Wire Helix Tray No. 4 Page 33
2	*1210617	1	Complete Door Assembly
3	101145	3	Flat Wire Helix Tray Ass'y. Page 32
4	20493	1	Decal - Item Selection (1-5)
5	20494	1	Decal - Item Selection (6-10)
6	20495	1	Decal - Item Selection (11-15)
7	20496	1	Decal - Item Selection (16-20)
8	20497	1	Decal - Item Selection (21-25)
9	101144	1	Wire Helix Tray Final Ass'y No. 5 Page 34
10	*4020689-000	30	Decal - 30 cent Price
	*4020708-000	5	Decal - 35 cent Price
11	20822	1	Decal - Wiring Diagram

\* indicates new part number to parts list

**COMPLETE DOOR ASSEMBLY**  
Parts Number 1210617



# Complete Door Assembly Parts List

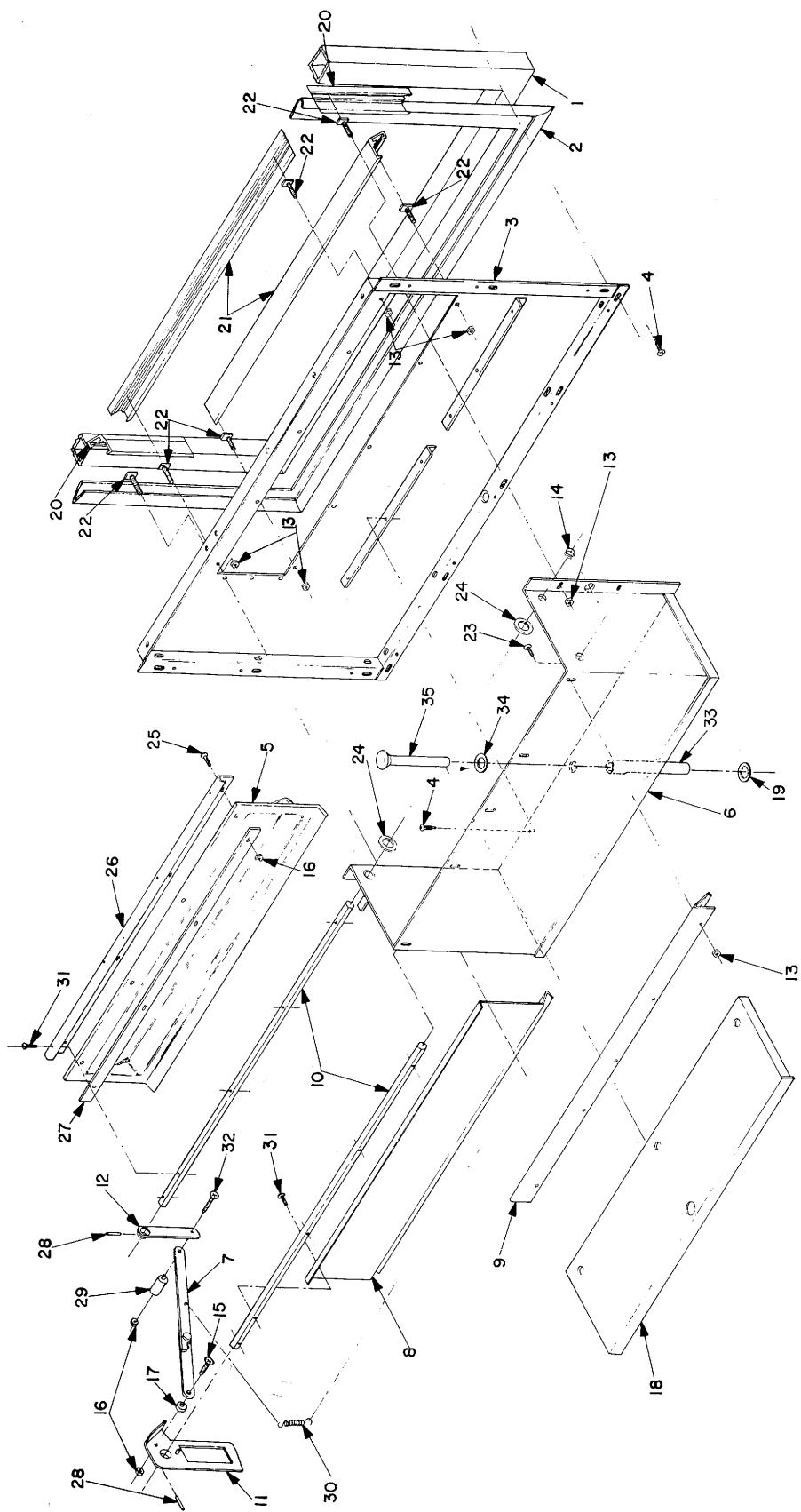
Item	Part No.	No. Req'd	Description
1	*1210617 101116-000	1	Complete Door Assembly Door Frame Weld Assembly
2	60309	1	Door Gasket
3	1210625	1	Top Door Panel Label Assembly
4	50202	A/R	#8-18 x 1/2 Phil Hex Washer Hd Tek Screw
5	Not Used		
6	*4200897-002 *4200888-002	1	Wire Cover
7	50202	1	Upper Panel Support
8	334984-000	1	#8-18 x 1/2 Phil Hex Washer Hd Tek Screw
9	334984-000	1	Decal - Change
10	334281-000	1	Change Bezel
11	20-0102-000	1	Coin Return Door
12	20-1422-000	1	Anti-Payout Tab
13	20-1649-000	1	Coin Return Cup
14	50587	4	Tinnerman Push-on
15	50546	2	#10-32 Twin Whiz Lock Nut
16	9823	1	Lock Housing
17	9876-000	1	Door Deflector
18	3371	1	Anti-Theft Guard
19	50548	13	#8 Nylon Screw Cover
20	50513	35	#8-32 Twin Whiz Lock Nut
21	50724	24	#8-32 x 3/8 T-Bolt
22	22370-002	2	Display Trim (Sides)
23	25546	1	Display Window
24	22370-001	2	Display Trim (Top & Bottom)
25	60328-1	1	Lan 1 Key Series w/Lock Cylinder
	60328-2	1	Lan 2 Key Series w/Lock Cylinder
	60328-3	1	Lan 3 Key Series w/Lock Cylinder
	60328-4	1	Lan 4 Key Series w/Lock Cylinder
	60328-5	1	Lan 5 Key Series w/Lock Cylinder
	60328-6	1	Lan 6 Key Series w/Lock Cylinder

Item	Part No.	No. Req'd	Description
26		26	
27	50338	2	#10-32 x 1/2 Flat Hd Phil M.S.
28	8694-000	1	Flat Washer - Door Lock .035 Thick
29	50555	1	Retainer - "E" Ring 1/2"
30	101903-000	1	Anti-Theft Guard Weld Assembly
31	9850-000	1	Anti-Theft Guard-Left
32	33548	2	Lamp Holder
33	33713-001	1	Safety Shield Tube
34	33713-002	2	End Cap - Safety Tube
35	33713-000	1	Lamp
36	50240	20	Safety Shield Kit - Plastic
37	33665	1	#8-32 x 3/8 Phil Pan Hd M.S.
38	60134	1	Switch Activator
39	33669	1	Clamp-Tubing 1"
40	33661	1	Ballast - SP19
41	33617	1	Starter - FS25
42	60130	3	Starter Socket
43	50585	4	Plastic Press Clip - 1/4"
44	50018	2	#8 Ext. Shakeproof Lockwasher
45	50112	2	#4-40 x 3/8 Phil Pan Hd M.S.
46	9917	1	#6-32 x 1/4 Phil Pan Hd M.S.
47	1210618	1	Light Reflector
			Complete Push Button Assembly

\* indicates new part number to parts list

# COMPLETE DOOR ASSEMBLY (Cont.)

Part Number 1102771



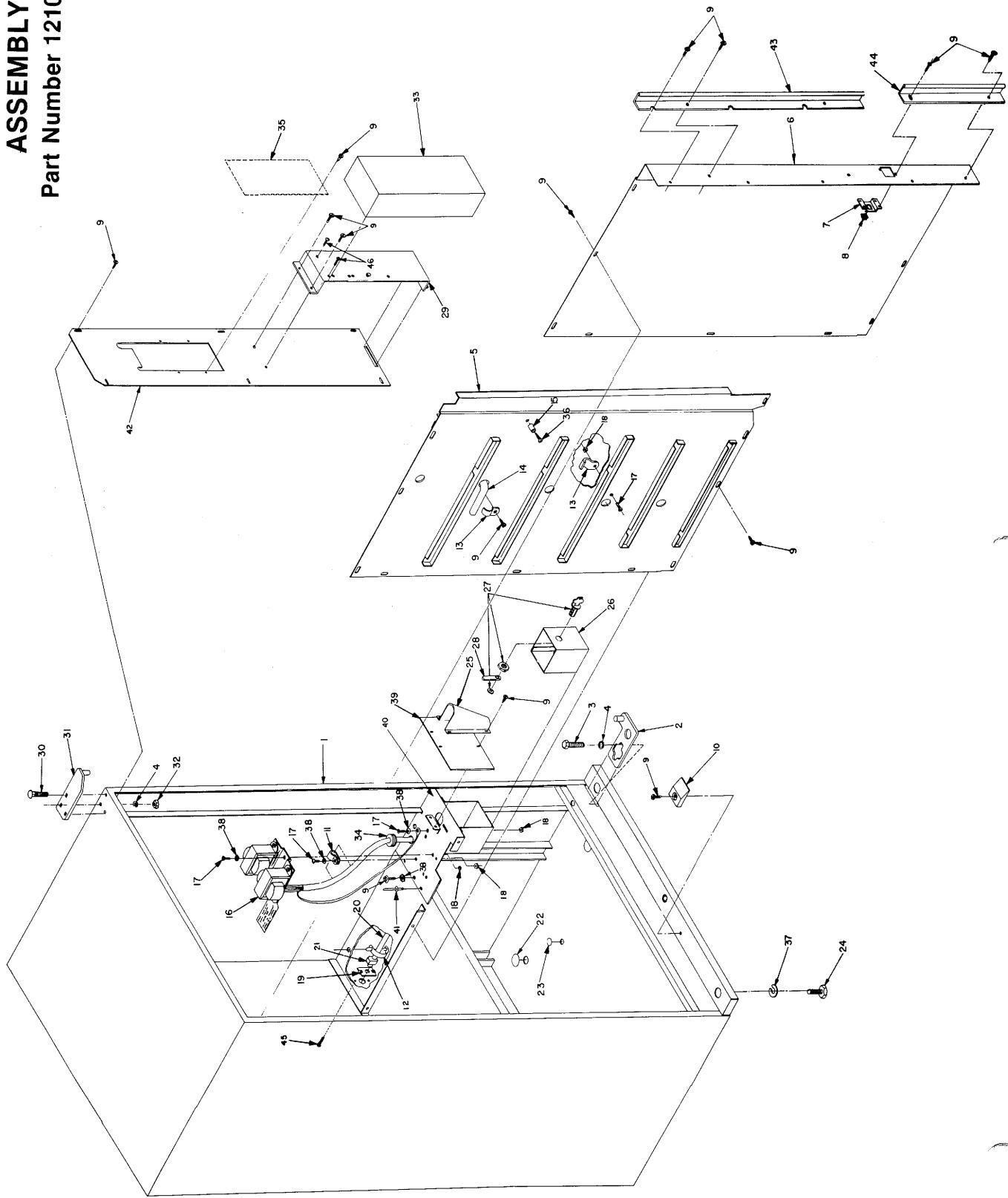
## Complete Door Assembly (Continued) Parts List

Item	Part No.	No. Req'd	Description
1	101116-000	1	Door Frame Weld Assembly
2	60309	1	Door Gasket
3	101114	1	Bottom Door Panel Assembly
4	50202	A/R	#8-18 Phil Hex Hd Washer Tek Screw
5	25264	1	Delivery Door
6	101690-000	1	Delivery Final Assembly
7	101206	1	Link Arm Assembly
8	8664	1	Anti-Cheat
9	8663	1	Angle-Product Deflector
10	8666	2	Shaft-Delivery
11	101694	1	Anti-Cheat Cam Assembly
12	101688	1	Door Link Weld Assembly
13	50513	5	#8-32 Twin Whiz Lock Nut
14	25263	4	Type 7 Snap-in Nyliner
15	50251	1	#8-32 x $\frac{5}{8}$ " Phil Pan Hd M.S.
16	50494	6	#8-32 F/M UniTorque Nut
17	30089	1	Bushing
18	9832	1	Delivery Liner
19	*4200917	1	$\frac{3}{16}$ " Push on Retainer
20	22357-001	2	Delivery Trim (Sides)
21	22357-002	2	Delivery Trim (Top & Bottom)
22	50724	A/R	#8-32 x $\frac{3}{8}$ " T-Bolt
23	50240	5	#8-32 x $\frac{3}{8}$ " Phil Phan Hd M.S.
24	50612	4	Flat Washer
25	50247	1	#8-32 x $\frac{1}{2}$ " Phil Pan Hd M.S.
26	8662	1	Bracket - Delivery Door Hinge
27	8665	1	Brace - Delivery Door
28	50725	2	$\frac{1}{8}$ x $\frac{3}{4}$ " Roll Pin
29	30079	1	Shoulder Spacer
30	21066	1	Spring
31	50225	6	#8-32 x $\frac{3}{8}$ " Phil Pan Hd. Tapite
32	*4050273	1	#8-32 x 1" Phil Phan Hd M.S.
33	25409	1	$\frac{3}{8}$ I.D. x $\frac{1}{8}$ " Wall - Mayon Tube 8"
34	*4200918	1	Washer - Rubber Composite $\frac{3}{8}$ "
35	60216	1	Drain

\* indicates new part number to parts list

## COMPLETE CABINET ASSEMBLY

Part Number 1210616



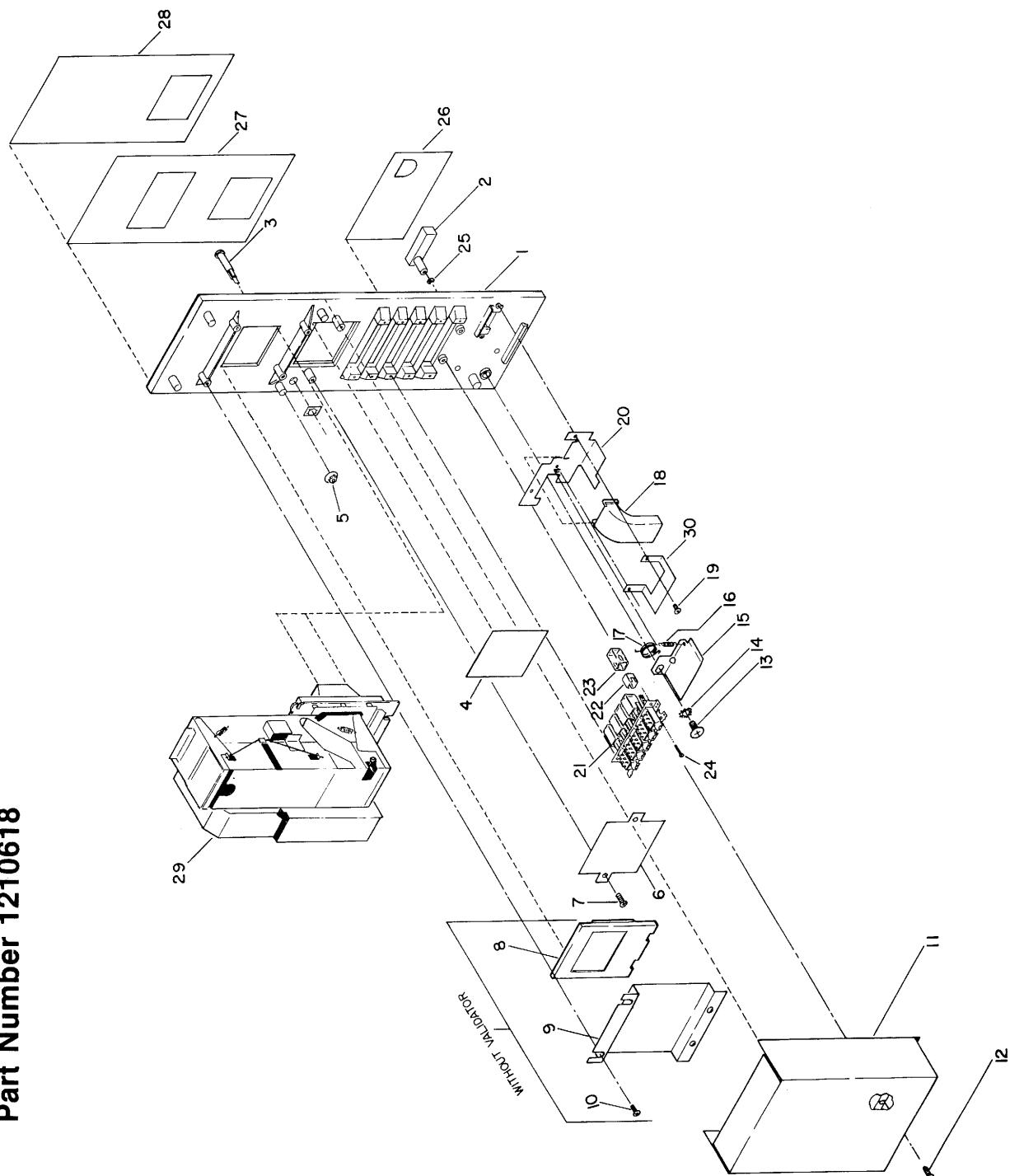
# Complete Cabinet Assembly Parts List

Item	Part No.	No. Req'd	Description
1	*1210616	1	Complete Cabinet Assembly
1	100794-000	1	Cabinet Weld Assembly
2	600018-000	1	Lower Hinge Stake Assembly
3	50072	2	$\frac{5}{16} \times \frac{3}{4}$ Hex Hd Bolt
4	716148-000	5	$\frac{5}{16}$ Lockwasher
5	100805	1	Right Panel Screw Assembly
6	100808	1	Left Panel Screw Assembly
7	9831	1	Locknut Bracket
8	50760	1	$\frac{1}{2}-13$ Lock Nut
9	50202	1	#8-18 x $\frac{1}{2}$ Phil Hex Washer Tek Screw
10	25610	1	Door Guide
11	60116	1	Plastic Wire Clamp - $\frac{3}{8}$ " Dia.
12	60230	1	Tinnerman Plastic Clamp
13	50750	5	Conduit Wire Clamp - $\frac{1}{2}$ "
14	33905	1	Harness - Main
15	60174	6	Rolled Split Spacer
16	101657	1	Complete Transformer Assembly
17	50240	6	#8-32 x $\frac{3}{8}$ Phil Pan Hd M.S.
18	50513	6	#8-32 Twin Whiz Lock Nut
19	100422	1	Power Cord Plate Assembly
20	33631-000	1	Power Cord - 3 Wire
21	33683	1	Cord Relief Bushing
22	25-0135-002	4	Hole Plug - 1" Dia.
23	25-0135-001	2	Hole Plug - $\frac{1}{2}$ " Dia.
24	60310	4	Leg Leveler - $\frac{1}{2}-13 \times 1\frac{13}{32}$
25	*4200538	1	Coin Chute
26	101137	1	Coin Box Weld Assembly
27	60318	1	Lock
28	60350	1	Lock Cam

Item	Part No.	No. Req'd	Description
29	*1210627	1	Coin Mech. Bracket Label Assembly
30	50099	3	$\frac{5}{16} \times \frac{3}{4}$ Carriage Bolt
31	101127	1	Upper Hinge Stake Assembly
32	50066	3	$\frac{5}{16}$ Hex Nut
33	*4034440	1	Coin Mech. 24 VAC - Coinco 9342L
34	33672	1	Rubber Grommet
35	*1210623	1	Controller Panel Final Assembly
36	50241	6	#8 x $\frac{3}{4}$ Phil Pan Hd Type "AB" S.M.S.
37	9927	4	Leg Leveler Washer (for skid)
38	50585	5	#8 External Shakeproof Lockwasher
39	9998	1	Plate - Transformer
40	101547	1	Coin Box Housing Weld Assembly
41	50685	2	$\frac{3}{16} \times \frac{1}{8}$ Pop Rivet
42	3410	1	Front Control Panel
43	8692	1	Anti-pilferage Angle
44	8693	1	Anti-pilferage
45	33-1309-000	2	#8 x $\frac{1}{2}$ Phil Truss Hd Type "A" S.M.S.
46	50180	2	#8-18 x $\frac{1}{2}$ Phil Pan Hd Tek Screw
			Lock and Cam Assembly - Coin Box (Not Shown)
			Capplugs - T-4 (Not Shown)
47	9394	1	Power Switch Bracket
48	34309	1	Power Switch
			Harness - Power Switch (Not Shown)
			Harness - Coin Mech.
			Harness - 24 V Transformer - Secondary
			Harness - 115 V Transformer - Primary
49	50240	2	#8 x $\frac{1}{4}$ Ind Phil Hex Hd Type "B"
50	*4033527	2	Cig Clip

\* Indicates new part number to parts list

**COMPLETE PUSH BUTTON ASSEMBLY**  
Part Number 1210618



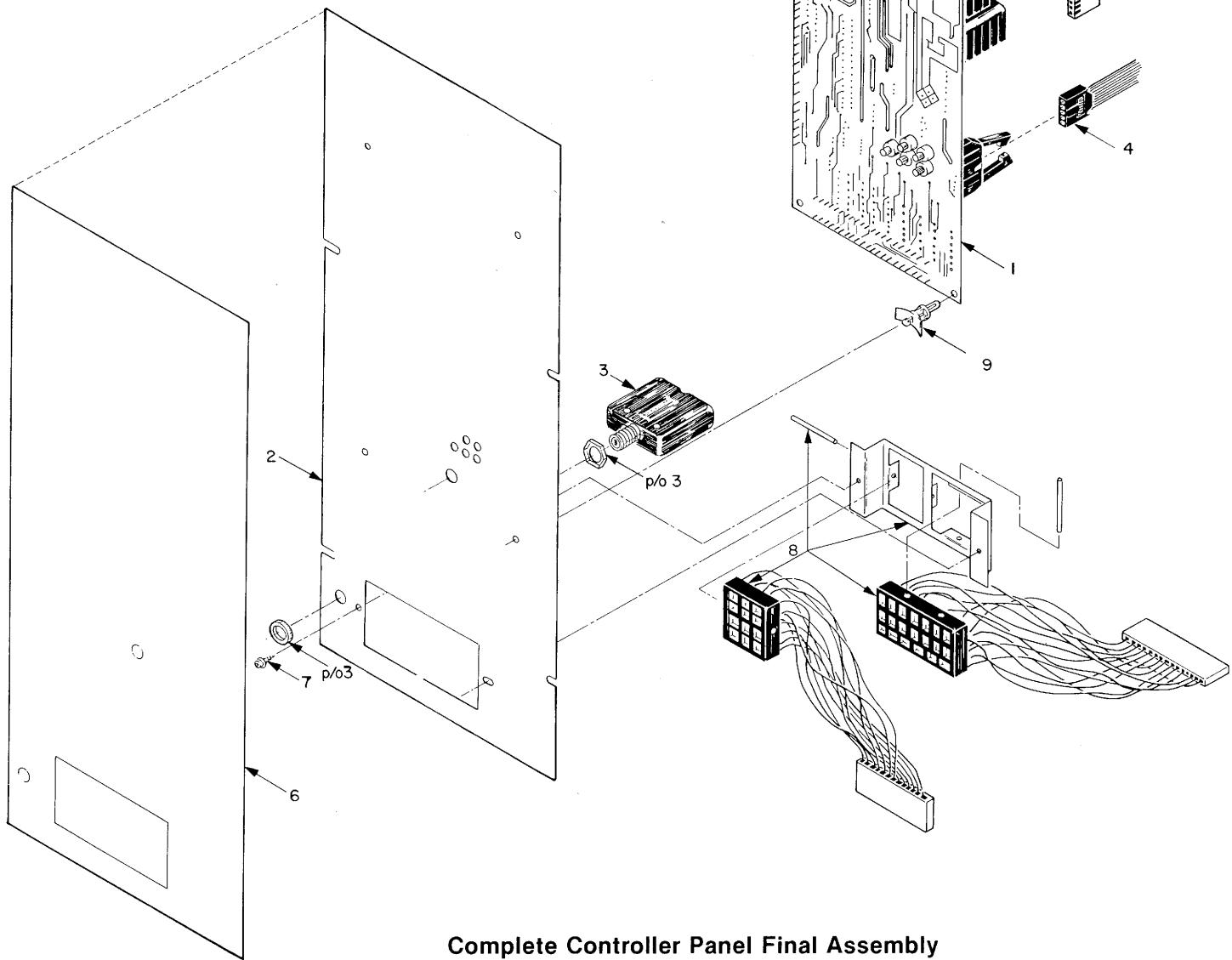
# Complete Push Button Assembly Parts List

Item	Part No.	No. Req'd	Description	Item	Part No.	No. Req'd	Description
1	*1210618	1	Complete Push Button Assembly		*4034092-006	1	#6 White Push Button
2	*4200753	1	Selector Panel		*4034092-007	1	#7 White Push Button
3	33-4283-000	1	Handle - Coin Release		*4034092-008	1	#8 White Push Button
4	*4200885	1	Light - Indicator w/Fastener		*4034092-009	1	#9 White Push Button
5	*4200790	1	Window - Readout		*4034092-010	1	#10 White Push Button
6	*4050747	6	1/4 Nut		*4034092-011	1	#11 White Push Button
7	*4034294	1	Display Board - Credit		*4034092-012	1	#12 White Push Button
8	*4050120	2	#6-32 x 5/16 Phil Pan Hd Type "23" S.T.S.		*4034092-013	1	#13 White Push Button
9	*4200886	1	Filler - Validator Opening		*4034092-014	1	#14 White Push Button
10	*4200887	1	Retainer - Filler		*4034092-015	1	#15 White Push Button
11	*4050120	10	#6-32 x 5/16 Phil Pan Hd Type "23" S.T.S.		*4034092-016	1	#16 White Push Button
12	*4200544-002	1	Push Button Cover		*4034092-017	1	#17 White Push Button
13	*4050120	2	#6-32 x 5/16 Phil Pan Hd Type "23" S.T.S.		*4034092-018	1	#18 White Push Button
14	20-0469-020	1	1/4-28 x 1/2 Phil Truss Hd M.S.		*4034092-019	1	#19 White Push Button
15	20-0717-008	1	Washer - Shakeproof Internal Teeth		*4034092-020	1	#20 White Push Button
16	33-4983-000	1	Lever - Coin Release		*4034092-021	1	#21 White Push Button
17	*7091076-100	1	Spring - Torsion		*4034092-022	1	#22 White Push Button
18	20-1748-004	1	Coin Intake Chute		*4034092-023	1	#23 White Push Button
19	20-0470-008	5	#6-32 x 3/16 Phil Pan Hd S.M.S. Self-Tapping		*4034092-024	1	#24 White Push Button
20	*4008715	1	Retainer - Coin Chute & Change Light		*4034092-025	1	#25 White Push Button
21	34214-001	5	Push Button Harness w/Switch	23	34093	25	Clear Cover - Push Button
22	*4034092-xxx	25	White Push-Button w/Number	24	50242	10	#8-32 x 5/8 Phil Pan Hd Tapite
	*4034092-001	1	#1 White Push Button	25	10-0816-000	1	Washer - Coin Release
	*4034092-002	1	#2 White Push Button	26	*4200798	1	Label - INSERT COINS
	*4034092-003	1	#3 White Push Button	27	*4200799	1	Label - Operating Instructions w/Validator
	*4034092-004	1	#4 White Push Button	28	*4200808	1	Label - Operating Instructions w/o Validator
	*4034092-005	1	#5 White Push Button	29	*4200892	1	Maka Validator - NB-14C w/Mask
				30	*4200946	1	Retainer - Coin Intake Chute

\* indicates new part number to parts list

# COMPLETE CONTROLLER PANEL FINAL ASS'Y

Part Number 1210623

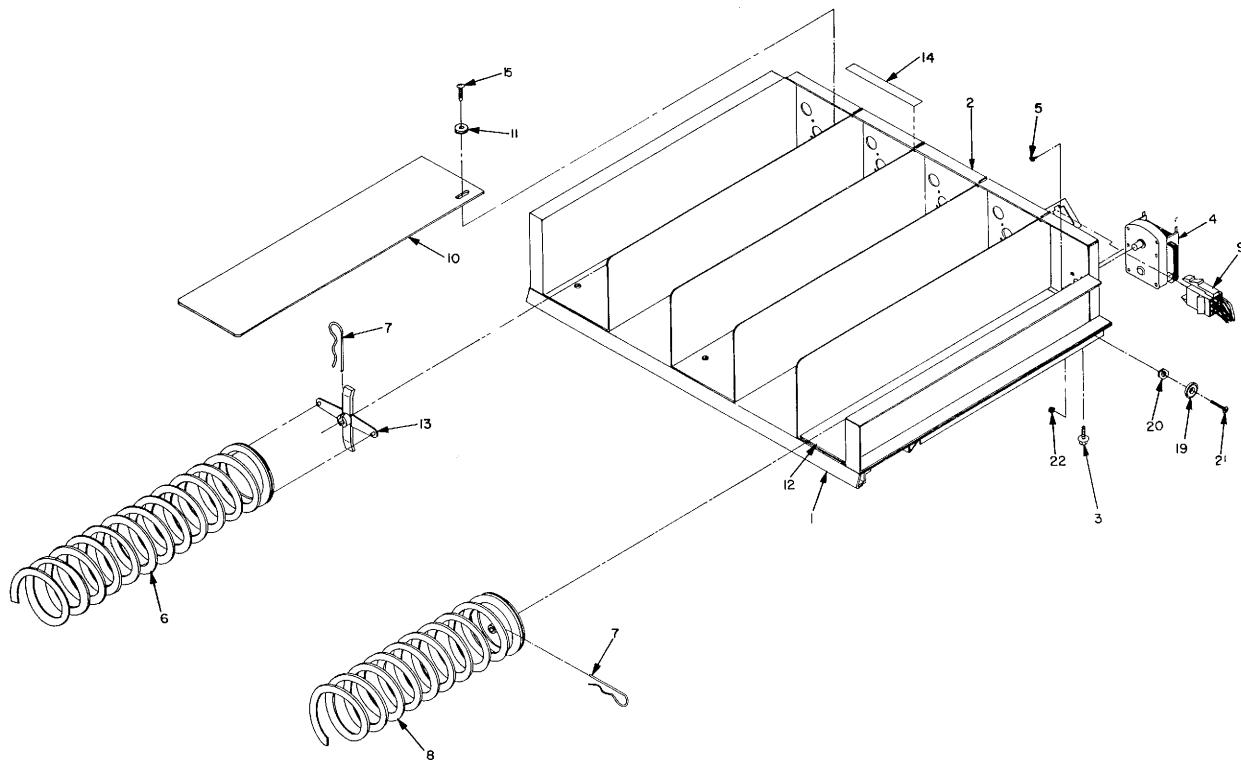


**Complete Controller Panel Final Assembly  
Parts List**

Item	Part No.	No. Req'd	Description
1	*1210623 34293	1	Compl. Controller Panel Final Assembly
2	1200211	1	Circuit Board - Coinco
3	33071	1	Controller Panel Label Assembly
4	34289	1	Circuit Breaker - 3 AMP
5	*4200890	1	Harness - Coin Mech
6	*4200895	1	Harness - Control
7	50202	2	Label - Control Panel
8	102769	1	#8-18 Phil Hex Washer Hd Tek Screw
9	25723	4	Dual Coin Mech Plug Assembly
			Stand-Off

\* indicates new part number to parts list

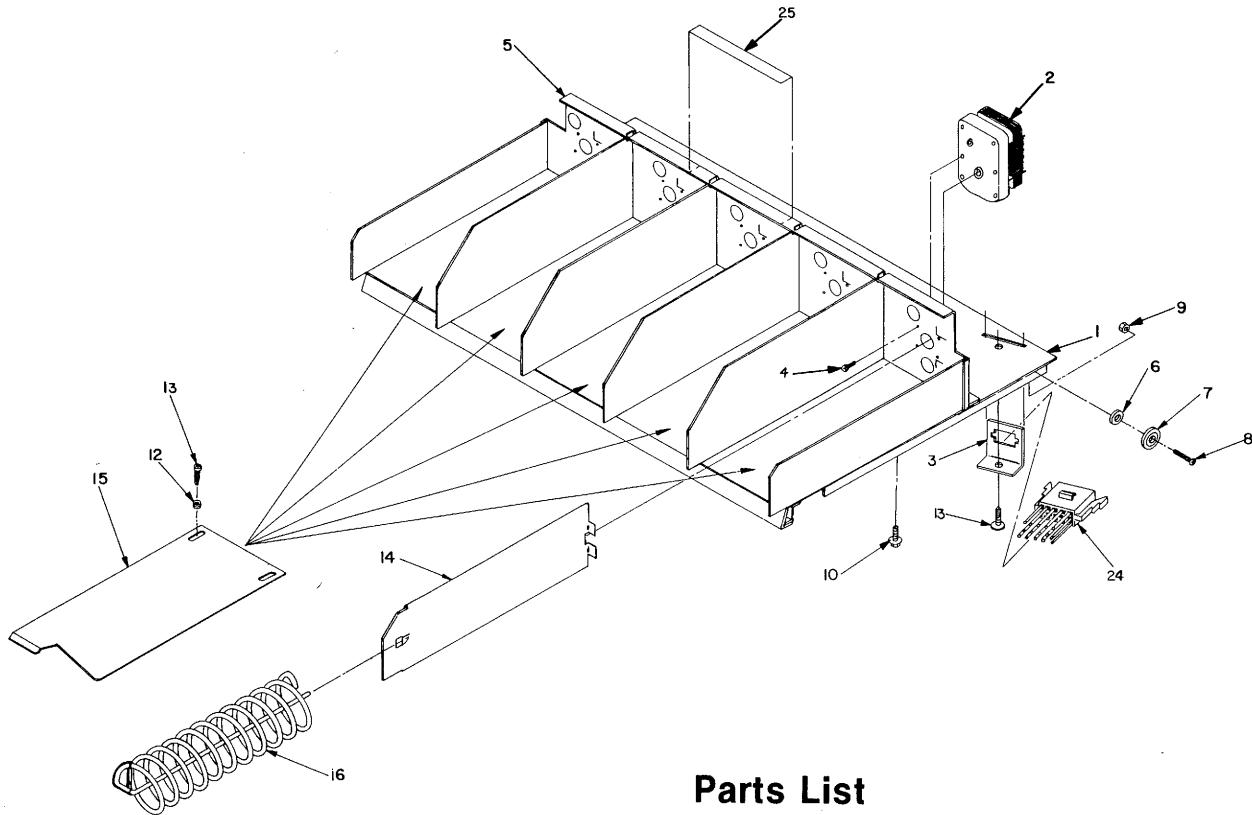
**FLAT WIRE HELIX TRAY FINAL ASSEMBLY**  
**TRAYS 1, 2, & 3**  
**Part Number 101145**



Item	Part No.	No. Req'd	Description
1	101145		Flat Wire Helix Tray Final Assembly
1	100796	1	Flat Wire Helix Tray Weld & Rivet Assembly
2	100809	1	Flat Wire Helix Tray Back Weld Assembly
3	50437	4	#10 x $\frac{5}{16}$ Ind Phil Hex Washer Type "B" S.M.S.
4	33943	5	Motor - 24 VAC
5	50240	10	#8-32 x $\frac{3}{8}$ Phil Pan Hd M.S.
6	60240	4	Flat Wire Helix - 4.250 Dia.
7	50773	5	#17 Hitch Pin
8	101194	1	Helix & Hub Assembly - 3.250 Dia.
9	33903	1	Harness - Tray
10	4263	4	Flat Wire Adjustable Shelf - Large
11	33967	5	Rubber Grommet
12	4264	1	Flat Wire Adjustable Shelf - Small
13	25596	4	Helix Adaptor
14	20582	1	Decal - Motor
15	50180	5	#8-18 x $\frac{1}{2}$ Phil Pan Hd M.S.
16	101935		3-1/4" Product Spacer Kit (Service Part Only) -(Not Shown)
17	60172	4	Nylon Roller
18	50496	4	1/2-20 F/M UniTorque Nut
19	50251	4	#8-32 x $\frac{5}{8}$ Phil Pan Hd M.S.
20	50494	4	#8-32 F/M UniTorque Nut
21	34114	5	Helix Motor Cycle Switch (Service Part Only)

\* indicates new part number to parts list

**WIRE HELIX TRAY 4  
FINAL ASSEMBLY**  
**Part Number 101143**



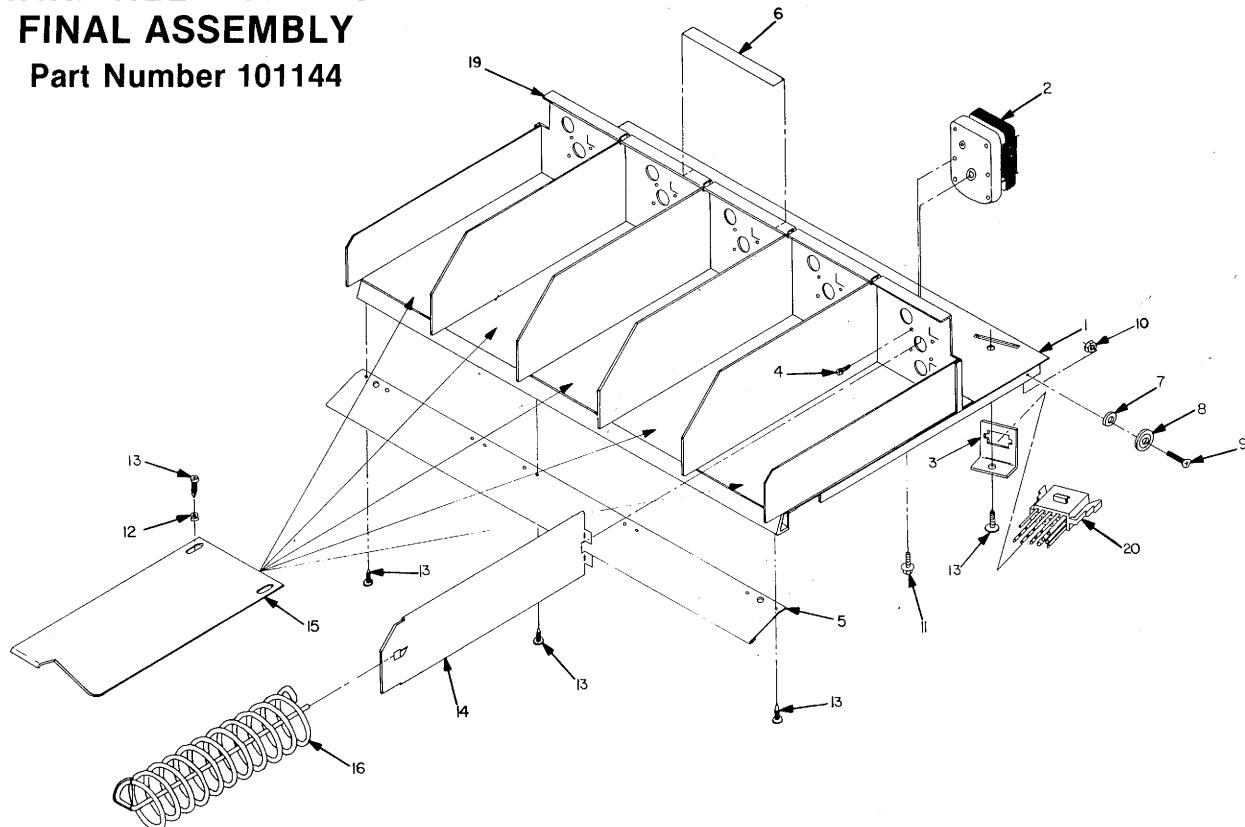
**Parts List**

Item	Part No.	No. Req'd	Description
	101143		Wire Helix Tray Final Assembly
1	101122-000	1	Wire Helix Tray Weld & Rivet Assembly
2	34090	5	Motor - Helix
3	9848-001	1	Plug Bracket
4	50240	10	#8-32 x 5/8" Phil Pan Hd M.S.
5	8097-001	1	Wire Helix Tray Back
6	50496	4	1/4-20 F/M UniTorque Nut
7	60172	4	Nylon Roller
8	50251	4	#8-32 x 5/8" Phil Pan Hd M.S.
9	50494	4	#8-32 x F/M UniTorque Nut
10	50437	3	#10 x 5/16 Ind Phil Hex Washer Hd Type "B" S.M.S.
11	33967	5	Rubber Grommet
12	50180	6	#8-18 x 1/2" Phil Pan Hd Tek Screw
13	8040	5	Helix Divider
14	9883	5	Adjustable Shelf
15	60283	5	Wire Helix
	25674	5	Helix Web
	60285	5 1/2	1-1/2" Wide Clear Tape - feet (Not Shown)
16	33903	1	Harness - Tray
17	20582	1	Decal - Motor
18	34114	5	Helix Motor Cycle Switch (Service Part Only)

\* indicates new part number to parts list

# WIRE HELIX TRAY 5 FINAL ASSEMBLY

Part Number 101144



## Parts List

Item	Part No.	No. Req'd	Description
1	1101144		Wire Helix Tray Final Assembly
1	1101122	1	Wire Helix Tray Weld & Rivet Assembly
2	34090	5	Motor - Helix
3	9848	1	Plug Bracket
4	50240	10	#8-32 x 3/8 Phil Pan Hd M.S.
5	9931	1	Tray Lip
6	20582	1	Decal - Motor
7	50496	4	1/4-20 F/M UniTorque Nut
8	60172	4	Nylon Roller
9	50251	4	#8-32 x 5/8 Phil Pan Hd M.S.
10	50494	4	#8-32 F/M UniTorque Nut
11	50437	3	#10 x 5/16 Ind Phil Hex Washer Hd Type "B" S.M.S.
12	33967	5	Rubber Grommet
13	50180	9	#8-18 x 1/2 Phil Pan Hd Tek Screw
14	8040	5	Divider - Wire Helix
15	9883	5	Shelf - Adjustable
16	60283	5	Wire Helix w/Plastic Web
	25674	A/R	Helix Web
17	8097-001	1	Wire Helix Tray Back
18	83903	1	Harness - Tray (p/o Ass'y P/N 101078)
19	34114	5	Helix Motor Cycle Switch (Service Part Only)
	60285	5 1/2	1-1/2" Wide Clear Tape (Not Shown)
	101727		Gum & Mint Kit w/Open Leaf Motor (Not Shown) (Service Part Only)
	102028		Gum & Mint Kit w/Closed Switch P/N 34090 (Not Shown) (Service Part Only)

\* indicates new part number to parts list

## **LANCE 25 COLUMN GLASSFRONT VENDOR ACCESSORY KITS**

Part Number	Description
1200137-036	Validator Installation Kit
1200137-037	Validator Update Kit
4009872	Rain Guard

# **NOTES**

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