

**POLYVEND LTD.**  
**MODEL PV-2210**  
**AUTOMATIC TABLE MERCHANDISER**

**GENERAL**

The Polyvend Automatic Helix Merchandiser has 10 independent dispensing units, with each helix activated by a separate pushbutton. The dispensing assemblies are installed on a plug-in basis from the front of the machine. This design provides easy access to dispensing units on location. The dispensing units are supplied with helices of various pitches to accommodate a wide range of products. A standard machine is supplied with the following:

1. 1 helix, holding 17 candy products up to 16mm in thickness.
2. 3 helices, each helix holds 12 candy products up to 25mm in thickness.
3. 2 helices, each helix holds 10 candy products up to 31 mm in thickness.
4. 2 helices, each helix holds 6 snack products up to 48mm in thickness.
5. 1 helix, with helix holding 8 snack products up to 38mm in thickness.
6. 1 helix, with helix holding 11 snack products up to 25mm in thickness.

**SPECIFICATIONS**

Height.....762mm

Width..... 668mm

Depth..... 609mm

Shipping Weight..... kg Approx.

Voltage..... Europe except England 220VAC 50 cycle 1 Amp  
England, 240VAC 50 cycle 1 Amp

Voltage to coin changer.....24 VAC

# INSTALLATION

- \* Remove all external packing material.
- \* Check for shipping damage.
- \* Remove keys from product dispensing compartment (in small manila envelope) and unlock the service door. Raise the service door and remove the shipping bar across the top of the machine (see figure 1).
- \* Remove shipping screw holding top tray (see figure 1).

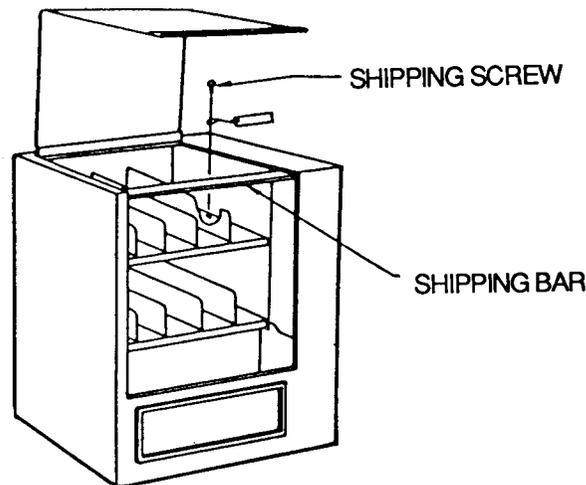


FIGURE 1

1. Install coin changer into the machine in the area located behind the removable door (changer access door) on the right inner side of the compartment. (See figure 2). There are three (3) screws with approximately 5mm of thread showing. The changer is mounted on these screws. Open the acceptor and tighten the two (2) top screws. Plug the large electronic plug on the changer into the connector provided and the small nine (9) pin plug into the receptacle on the control board wiring harness.
2. Plug service cord into an electrical source, (see note) maintaining proper polarity using the three prong grounded connector provided.

Note: 220 VAC/ 50 cycles in Europe except England.  
240 VAC/ 50 cycles in England.

3. Push up on the coin return lever to check the operation of the coin changer. Operation should be smooth. If not, insure proper alignment of the changer with the coin return lever.
4. Load the coin tubes on the coin changer with the proper coinage. Operate each dispenser using coins. Test each dispenser to ensure smooth operation.

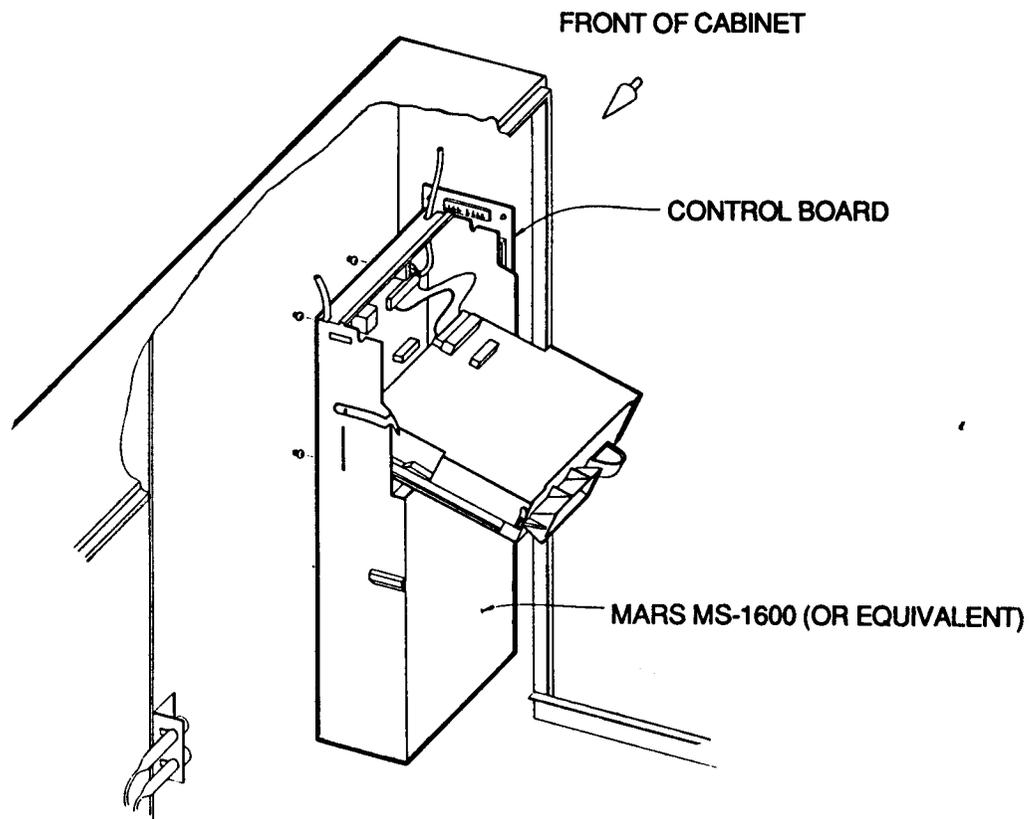


FIGURE 2

## COIN BOX REMOVAL

Take one of the two keys that you use to open the service door and unlock the coin box located on the front lower right hand corner of the machine. Slide the coin box to the left and then pull the box out the front. To install the coin box, slide the box in and then over to the right. Lock the box and remove the key.

## PRODUCT LOADING

All products are loaded from the front of the machine. To load, unlock the service door with one of the keys provided and open the service door of the machine. Raise the door and prop open with the rod provided as shown in Fig. 1.

To load the bottom shelf, lift the upper tray assembly and slide the locking bars outward. Load the bottom shelf, then lower the top shelf.

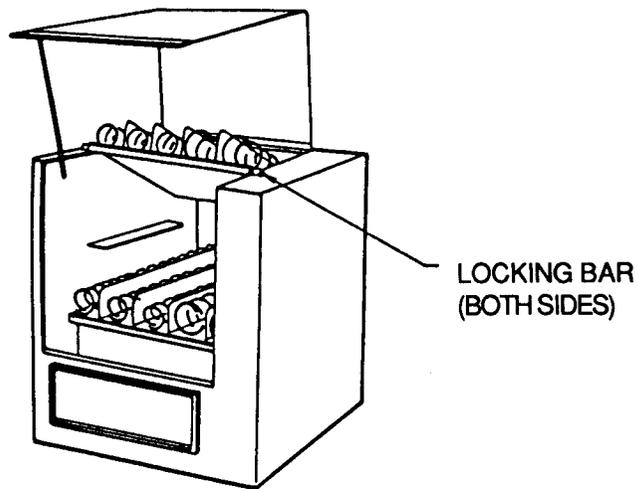
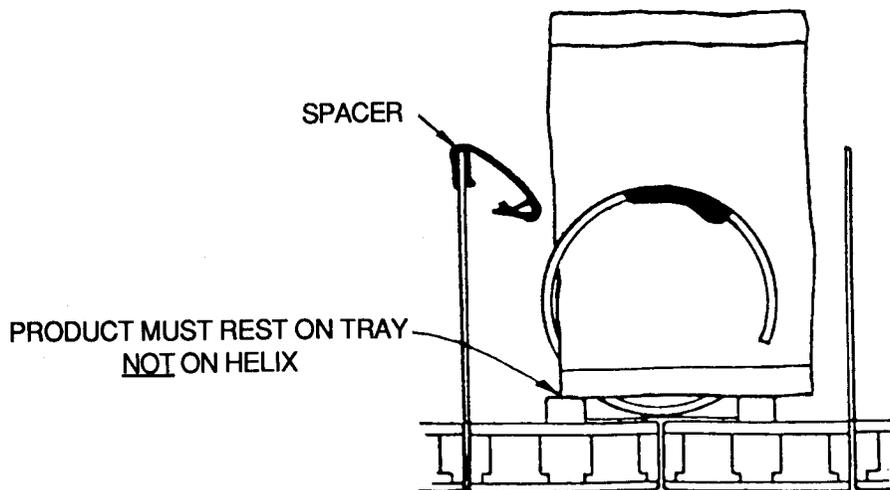


FIGURE 1

**Note:** All products should ride on shelf and not on helix wire. If needed for narrow products use the two spacers provided with the machine. For additional spacers, order part no. 18244-01.



# MINI VENDOR CONTROLLER SPECIFICATIONS

## Input

24 VAC at 1 Amp Max.

12 VAC at 3 Amp Max.

## Display

The four digit L.E.D. display board is mounted on the front panel. The lamps directly under the display are for, "Exact Change," "Selection Price" and "Alternate Selection".

## Helix Motors

24 Volts DC.

## Coin-Mech.

Mars MS-1600 or equivalent.

**NOTE:** This unit **DOES NOT COME WITH A COIN-CHANGER IN IT.** Changer must be provided by the customer.

## Software

This unit has multiprice setting capabilities. This is done by first pressing the mode switch then press the selection button, the current price will be displayed. By releasing the selection button, then pressing again after one second, the price will increase in the respective increments. By releasing the selection button for at least one second, then pressing it again will decrease the price at the same rate. Setting the price to 0000 will allow free vend of that selection. When you have completed 'setting your prices you may then press the mode switch or wait 25 seconds and the unit will automatically go back to the vend mode.

"Exact Change" lamp is lighted when adequate change is not available.

"Selection Price" lamp will light if there is insufficient credit for the button pressed. Additional credit must be added to purchase that item or a lower credit item chosen.

"Make Alternate Selection" lamp will light when a selection is made and there is a malfunction in that circuit resulting in no product being vended.

## PRICE SETTING INSTRUCTIONS

Inside of the changer access door to the right side of the changer, mounted on the backside of the front cabinet panel is the controller board. On the nearest edge of the board is a red push button (see figure below). When this button is pushed the machine will go into price setting mode (the display will go blank noting service mode). After entering the price setting mode, press the desired selection button once and the existing price will be displayed. Release selection button for one second and push the button again. The price will increase in increments of the base currency of the changer installed in the machine.

Example: English Pence would be in increments of one (1). If you desire to lower the price after raising it, release the selection button for one second and then press it again, the price will move down in the same increments.

Once you have the desired price on the chosen item you may move to another selection and repeat the price setting procedure.

To place a selection into **FREE VEND** just set the price to 0000.

After you set all of your prices they will be locked in when you exit the mode by pushing the mode switch or by waiting 25 seconds.

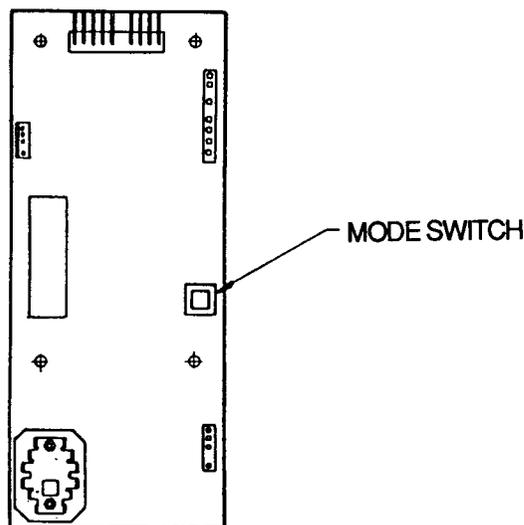


FIGURE 1

Note: The PV-2210 POLYVEND vending machine is normally set for the 12 selection mode. If for some reason the machine should get into the 20 selection mode, you can reprogram the machine as stated below.

The Reprogramming procedure follows:

1. Press the selection mode switch once. Display should be blank. Press both the A and B buttons at the same time, the display should show A-b.
2. Press 0 and the display shows "12". You are now in the twelve (12) selection mode.
3. Press the mode switch to lock in the twelve (12) selection mode.
4. To check and see if the machine is in the twelve (12) selection mode, press the mode switch and then press a selection. The display should show the price of that selection. If you press any selection and get no display you are in the twenty (20) selection mode.

## **TROUBLE SHOOTING**

**CAUTION: DISCONNECT POWER TO THE VENDING MACHINE BEFORE REMOVING THE CONTROLLER BOARD, COIN CHANGER, WORKING ON HELIX MOTORS OR WIRING.**

### **MACHINE WILL NOT ACCEPT COINS**

1. Make sure it is plugged into the wall outlet.
2. Check the type of coin changer in the machine, it must be a 24 volt Mars MS-1600 or equivalent.
3. Check for credit on the machine by attempting a selection.
4. Check to make sure that coin return is operating smoothly. If acceptor mechanism in changer is not operating smoothly clean and repair or replace.
5. Check the 24 VAC power supply by observing that there is a red dot on each of the four digital readouts on the changer. If there are no red dots on the readout, the 24 volt fuse is blown, the controller board is defective, the transformer has failed on the 24 volt side or the wiring is defective. **DISCONNECT POWER TO VENDING MACHINE BEFORE REMOVING THE CONTROLLER BOARD OR COIN-CHANGER.** Remove the two three (3) amp. fuses or unplug the machine from the wall outlet. Failure to remove power from the vending machine can result in electrical damage to the board and changer. Replace defective board and apply power to the machine.
6. Check machine for leveling (such a condition can cause a rejected coin to drop through rejector mechanism).
7. Check for a loose connector plug on the controller board.

### **COIN MECHANISM DOES NOT ACCEPT ALL COINS**

1. Check coin mechanism instructions for coin acceptance program. Mechanism may be programmed not to accept certain denominations of coins.
2. Check coin shoot to make sure it is not bent.

### **MACHINE WILL ACCEPT ALL COINS**

#### **NO SELECTION CAN BE MADE:**

1. Does display show the amount of coins inserted? If display is blank, check the 12 volt fuse, check for defective controller board or changer.
2. Check all connector plugs on controller board for proper connection.
3. If display is blank and the L.E.D. on the changer has a red dot in each window, check for defective controller board.
4. If display shows garbage, replace controller board.
5. If display shows proper amount of coins inserted and will not vend when pushing a selection button, check for a defective selector switch or a bad connection at the selector switch by trying to change the price on a selection.

### **ONLY ONE SELECTION CANNOT BE MADE:**

1. Place that selection price to 0000. If price cannot be changed, selector switch or controller board is defective.
2. If motor assembly appears bad substitute an operational motor assembly in this position and press the selection button. If motor assembly now functions properly, the replaced motor needs to be repaired or replaced. If motor is working properly, the wiring is defective.

### **MACHINE WILL ACCEPT ALL COINS AND SELECTION CAN BE MADE**

#### **SELECTION MOTOR DOES NOT COMPLETE ONE CYCLE:**

1. Check to make sure that you have 24 volts from the power supply by checking the L.E.D. on the changer. There should be a red dot in each of the four (4) L.E.D. windows on the changer.

**NOTE:** Red dots may be flickering. This is an acceptable condition.

2. If 24 volts is present:
  - A. Set the selection that did not complete the cycle to "free vend".
  - B. Push the selection button to see if it will free vend. If the helix does not, check to see if there is a loose connection at the motor, the motor is defective or the full cycle switch is defective. **CAUTION: DISCONNECT POWER TO THE VENDING MACHINE BEFORE REMOVING THE CONTROLLER BOARD, THE CHANGER, WORKING ON THE MOTORS OR WIRING.** Remove the two (2) 3 amp. fuses or unplug the machine from the wall outlet. Failure to remove power from the vending machine can result in electrical damage to the controller board and coin changer.
3. If you suspect that a motor is bad, exchange it with an operational motor. If the motor assembly now functions properly, the replaced motor needs to be repaired or replaced.

### **COINS ARE ACCEPTED, SELECTION IS MADE AND PRODUCT IS RECEIVED**

#### **NO CHANGE IS RETURNED:**

1. Check coin mechanism program for multivend or maximum change. See changer literature for instructions on program.
2. Check to make sure that "Exact Change" light is not burned out.

### **COIN IS ACCEPTED, L.E.D. READOUT SHOWS DIFFERENT VALUE COIN THAN COIN DEPOSITED.**

1. Check coin mechanism to insure the proper scale has been programmed for the currency you are using. Refer to the coin mechanism literature.

## **CLEANING INSTRUCTIONS**

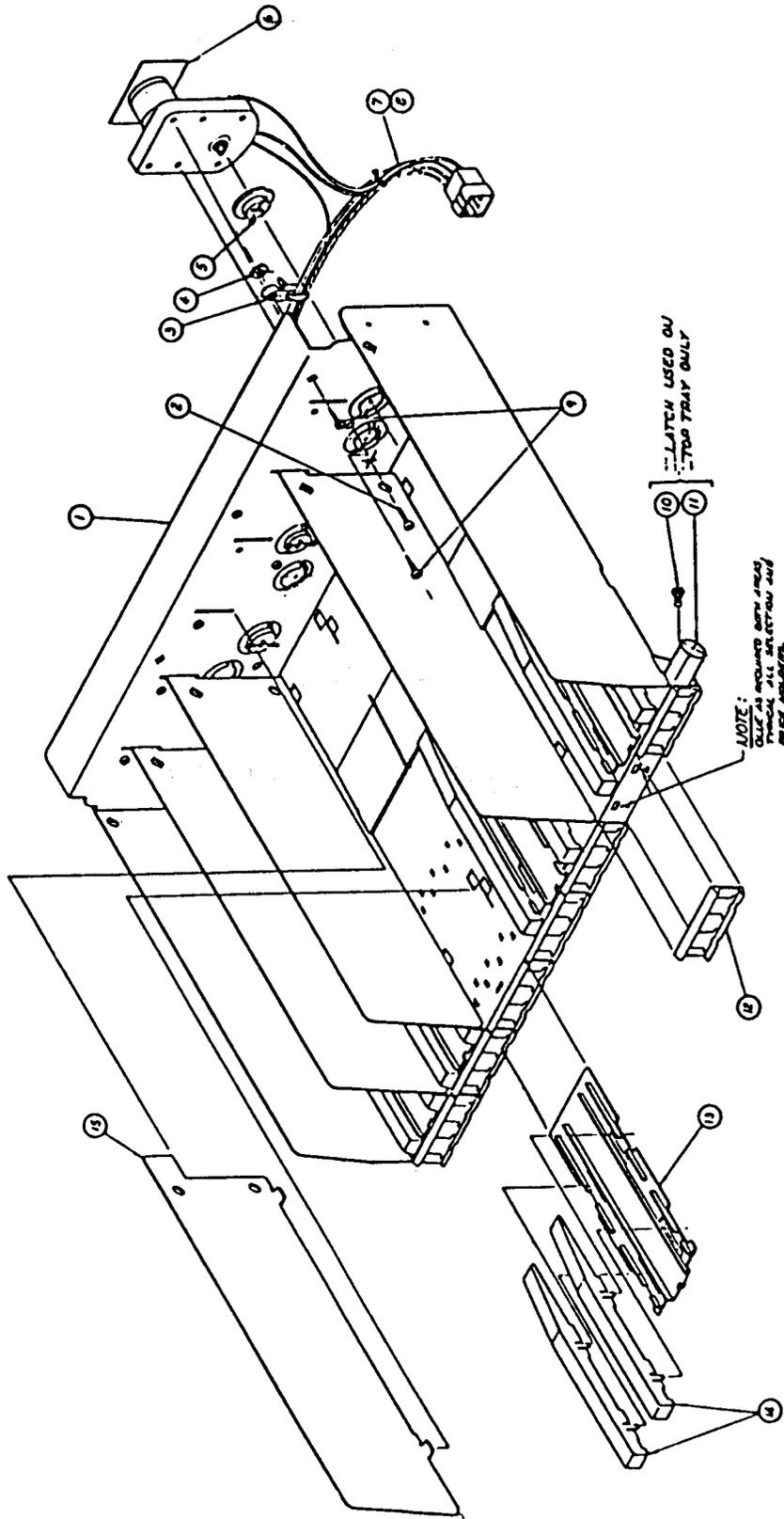
### **PAINTED SURFACES**

All painted surfaces can be cleaned with a clean cloth and any common brand of household detergent. Do not use harsh abrasive materials on the painted surfaces that would scratch the paint.

### **GLASS ITEMS**

The product loading door may be cleaned with any commercial window cleaner. **DO NOT USE ANY KIND OF SOLVENTS ON THE PLEXIGLASS LOADING DOOR.** Solvents will cause the plexiglass loading door to cloud up. Use a soft cloth to clean door. **DO NOT USE PAPER PRODUCTS.**

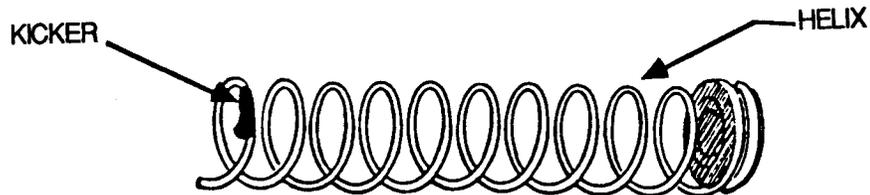
**DRAWINGS  
AND PARTS LIST**



TRAY ASSEMBLY

## PARTS LIST TRAY ASSEMBLY

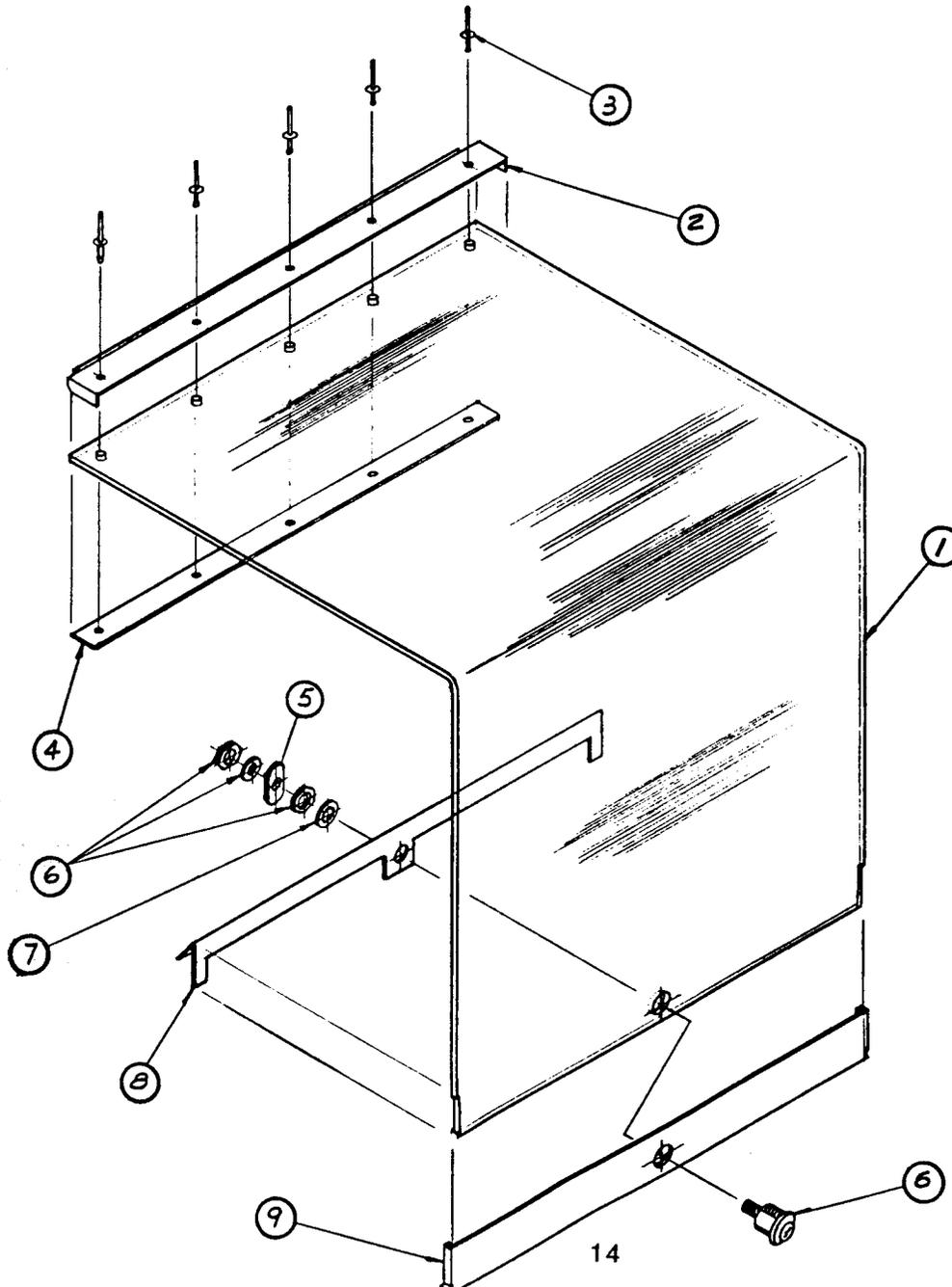
ITEM	PART NO.	DESCRIPTION	QTY
1	18420-BLK	Tray, weld assembly	1
2	1465-BLK	Screw, machine #8 - 32	-
3	80569	Tie, harness	1
4	1958	Nut. hex #8-32.	4
5	17537	Coupling, plastic hub	10
6	18365-3CC	Motor, DC Coinco 360	10
7	18133	Tray, harness - lower	1
8	18132	Tray, harness - top	1
9	2614-BLK	Screw # 8 - 18X1/2	-
10	18122	Screw, 1/4 - 20 X 1/2	-
11	18095	Locking bar, nylon.	2
12	17858	Sel. and price holder	14
13	17853	Tray filler bottom	10
14	17854	Helix tray rail	20
15	18149-BLK	Divider, tray	8



SNACK			CANDY		
Helix	Part No.	Product Thickness	Helix	Part No.	Product Thickness
11 ct	18374-03	25MM	17 ct	18372-08	16MM
8 ct	18374-05	38MM	12 ct	18372-05	25MM
6 ct	18374-01	48MM	10 ct	18372-07	31MM
Separate Kicker - 18303			Separate Kicker - 18302		

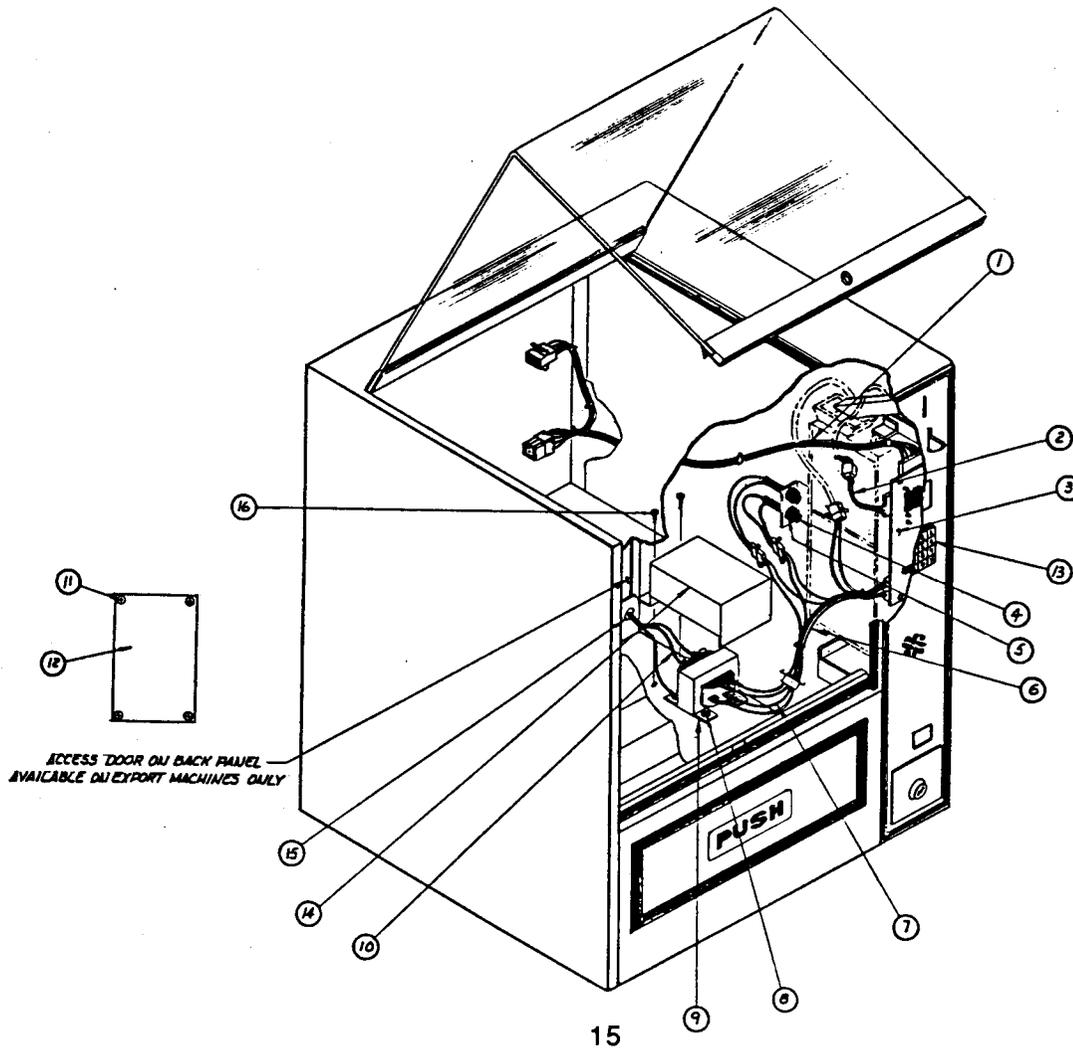
## PARTS LIST DOOR ASSEMBLY

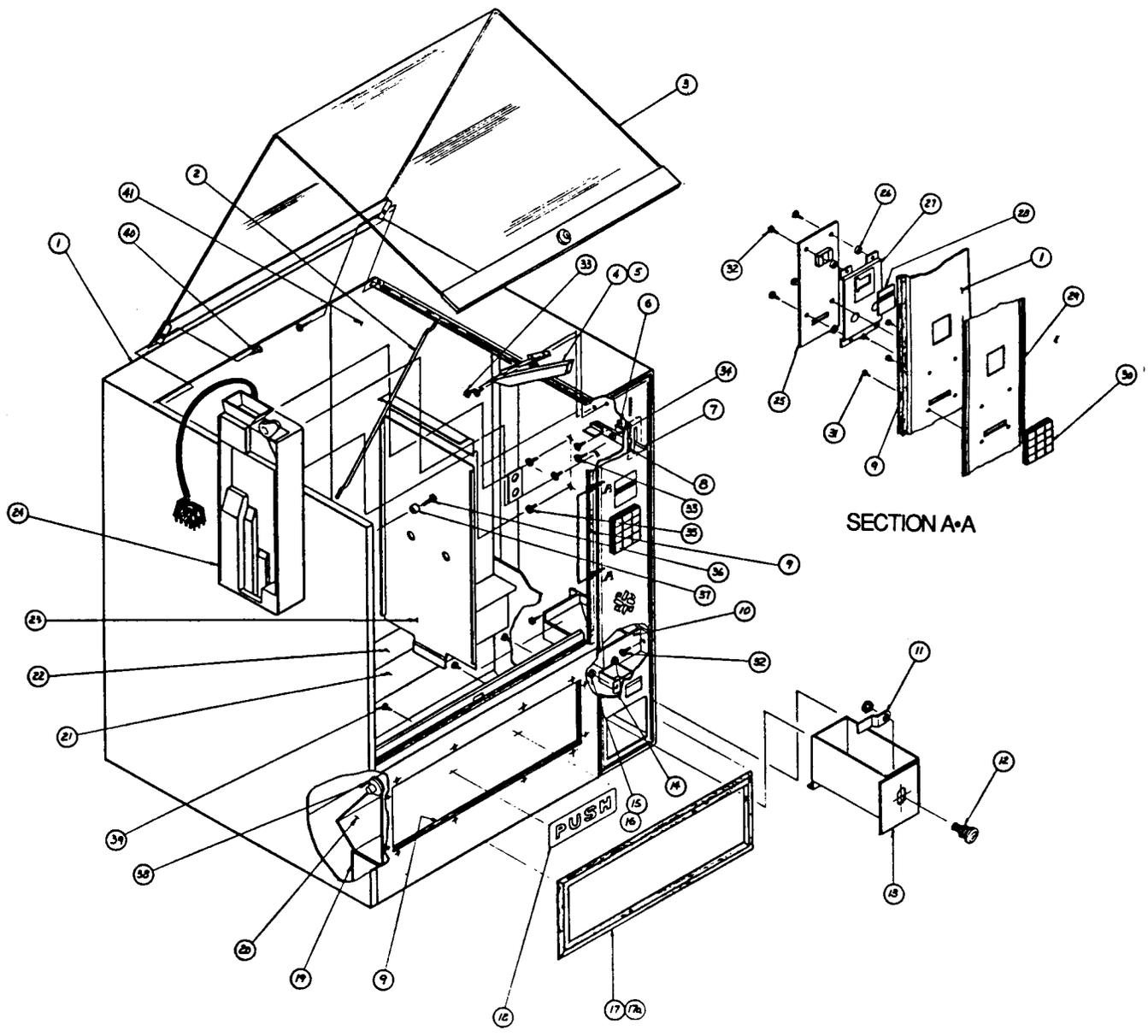
ITEM	PART NO.	DESCRIPTION	QTY
-	18900	Complete door assembly	1
1	19628	Acrylic door 2210	1
2	18061	Pivot bracket	1
3	ST-1642	Pop rivet 1/8"	5
4	18059-BRN	Back Plate, hinge	1
5	18048	Lock cam, zinc plate	1
6	14239-08	Barrel and tumbler ass'y	1
7	366	Washer, Int. Th. 3/4, .7	1
8	18896-BRN	Product deflector	1
9	18897-BRN	Plate lock	1



## PARTS LIST ELECTRICAL COMPONENTS

ITEM	PART NO.	DESCRIPTION	QTY
1	18142	Harness, board to tray	1
2	19537	Harness, MS-1600/escrow	1
3	19525	Controller board	1
4	17409	Fuse, GLQ 3.0 amps, 300	2
5	17920	Fuse Assy	2
6	19399	Harness, power	1
7	17979	Jumper, 10v	1
8	1715	Screw, sems pan #8	4
9	17753	Transformer	1
10	18457	Service cord	1
11	1298- BLK	Screw #8 - 18 X 3/8 tap	4
12	19416-BRN	Plate, transformer AC	1
13	18098	Selector switch, mini	1
14	18456	Cover, transformer	1
15	2438	Bushing, strain relief	1
16	1715	Screw, sems #8 pan	2





**COMPLETE ASSEMBLY**

**PARTS LIST  
COMPLETE ASSEMBLY**

ITEM	PART NO.	DESCRIPTION	QTY
1	19541-BRN	Shell WA-UK 2210	1
2	18047	Support rod-door	1
3	18900	Door assembly	1
4	19440-BLK	Upper coin chute	1
5	19441-BLK	Cover coin chute	1
6	18129	Mounting bracket assy-reject lever	1
7	18130	Reject lever WA	1
8	18161	Plate-reject lever cover	1
9	810-00	Strip, neoprene, 3/8" W	-
10	19445-BLK	Hopper WA	1
11	18620-BLK	Cam-coin bank	1
12	14239-08	Barrel & Tumbler assy	1
13	18623-GT	Coin bank WA	1
14	10342	Cup assy-coin return	1
15	11694	Nut Hex #6-32 steel.	1
16	2497	Washer-Int thread #6	1
17	18881-01B	Trim-delivery area	1
17A	18881-02B	Trim-delivery area	1
18	18236	Decal - "PUSH"	1
19	18113-BLK	Shelf, delivery compartment	1
20	18146-BLK	Door, delivery compartment	1
21	18112-BLK	Filler, delivery compartment	1
22	18147-BLK	Delivery compartment	1
23	18111-BRN	Partition, component	1
24	18216	Changer, Mars MS-1600	1
25	19525	Controller, 4 digit L.E.D.	1
26	19662	Washer, flat SP-171	4
27	19529-BLK	Mounting bracket, controller	1
28	19524	Graphic readout	1
29	18118-UK	Decal, Mini-vendor	1
30	18098	Selector switch	1
31	18121	Screw #2-32 X 3/16	4
32	2614-BLK	Screw # 8-18 X 1/2 tap	1
33	1298-BLK	Screw # 8-18 X 3/8 tap	6
34	14375	Screw # 10-24 X 5/8	1
35	11894	Screw # 8-32 X 3/8	1
36	1299	Screw # 8-18 X 5/8 tap	1
37	827	Spacer, reject lever	1
38	4280	Washer, flat SP-250	2
39	1868-BLK	Screw # 8 - 18 X 1/4 tap	8
40	1715	Screw sems pan #8	2
41	18111-BRN	Partition, component	1