

Series 2200 Mini Vendor



Polyvend[®]
Service Manual

\$7.50

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**MODEL PV-221 OC AND PV-221 OG
AUTOMATIC TABLETOP MERCHANDISER
SERVICE MANUAL**

GENERAL



The Polyvend Automatic Helix Merchandiser has 10 independent dispensing units. Each helix is activated by a separate push button in conjunction with a signal from the coin equipment.

The dispensing assemblies are installed on a plug-in basis from the front of the machine. This design provides an invaluable aid to the service personnel, allowing easy removal and replacement of any dispensing unit on location. These dispensing units are supplied with helices having various pitches to accommodate a wide range of products. The smaller diameter helix accommodates the thinner products such as candy bars, etc.. The larger diameter helices accommodate thicker products such as bags of potato chips. The chart below shows the standard configuration of our machine.

PV2210
CAPACITY 104

Product Size Capability			
Snack Helix	Product Thickness	Candy Helix	Product Thickness
11 Count	1"	17 count	5/8"
8 Count	1"	12 Count	1"
6 Count	17/8"	10 Count	1 1/4"

-  = Helix delivery system / chip
-  = Helix delivery system / candy

* Subject to change without notice

SPECIFICATIONS

Height..... 30 1/2"
 Width.....26 5/16"
 Depth.. 24"
 Shipping Weight.....135 lbs. Approx.
 Voltage.. 115 Volts, 1 Amp.
 Note: Equipment UL listed, meets UL requirement UL-751.
 Voltage to coin changer..... 24 VAC

MINI-VENDOR CONTROLLER SPECIFICATIONS

INPUT

24VAC at 1AMP MAX

10.8VAC at 3AMP MAX

DISPLAY

The 3 digit L.E.D. display and the 3 red L.E.D.s are mounted on the reverse side of the control board so that when the control board is mounted all of the L.E.D.s will face the front of the machine.

The 3 red L.E.D.s indicate: "exact change", "selection price" and "make alternate selection".

MOTORS

24 Volt D.C.

COIN-MECH

interface with Coinco C-300-9404(24volt).

SOFTWARE

This unit has multi-price setting capabilities. This is done by first pressing the mode switch, then press the selection button and the current price will be displayed. When you release the button and press it again the price will increase in increments of five cents. By releasing the selection button for at least 1 second, then pressing it again, the price will decrease in the same increments. To set the next selection price, press the selection and repeat the price setting instructions. When you have completed setting your prices you may then press the mode switch or wait for 25 seconds and the unit will automatically go back to the vend mode. The maximum price that you can set on an item in this machine is \$3.15.

Note: Setting the price to 000 will allow a service vend (free vend) of that selection.

"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.

INSTALLATION

- Remove all external packing materials.
- * Check for shipping damage. If damage is apparent file a claim immediately. See shipping policy page 17.
- * Remove keys from the product delivery compartment (in small manila envelope) and unlock service door. Raise the service door and remove the two shipping screws one located on the right hand side of the top tray and other screw located on the left hand side. (See figure 1)

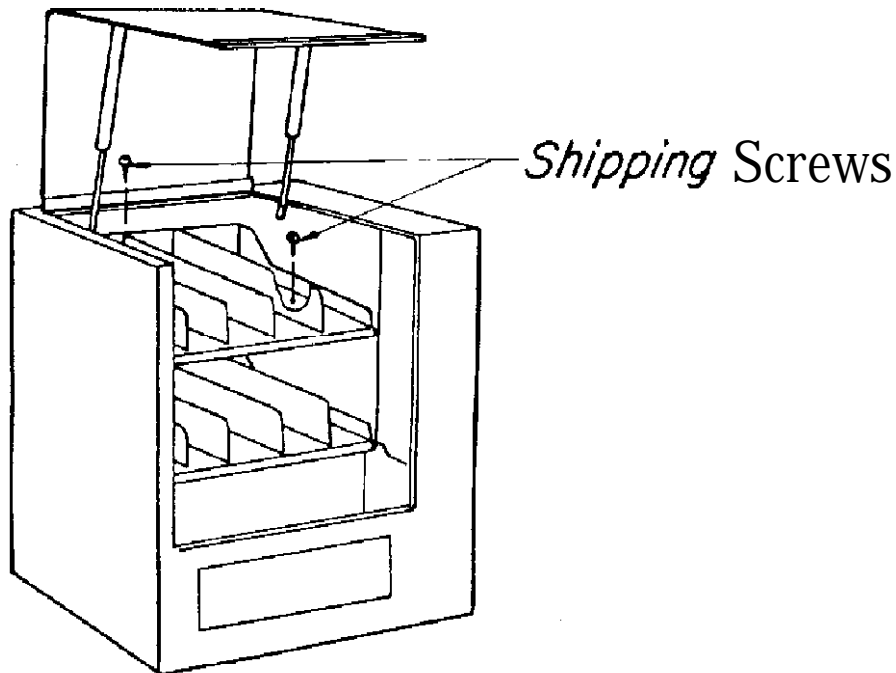
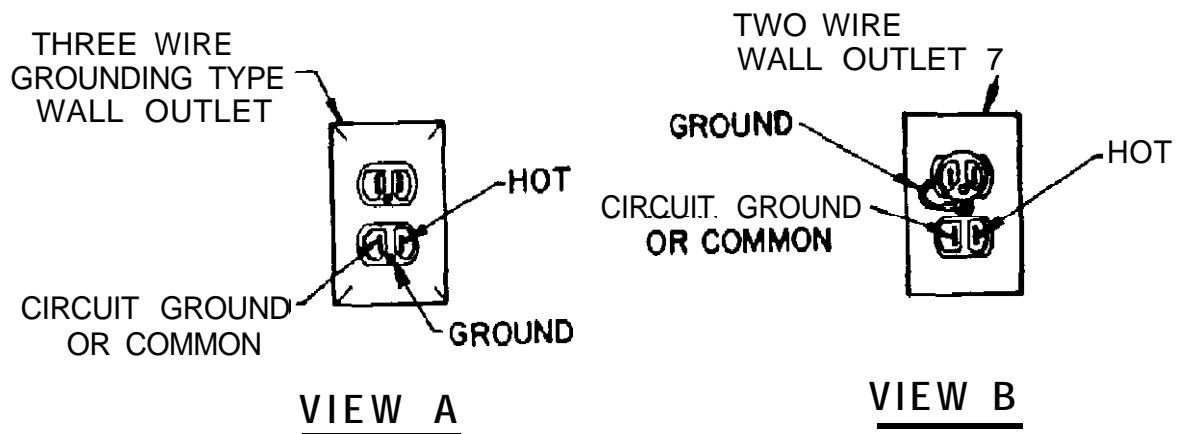


FIGURE 1

- Plug service cord into a 115 VAC source using the three prong grounded connector provided. If a grounded outlet is not available, use a proper external ground on ALL LOCATIONS. NOTE: In order to comply with electrical safety regulations and Underwriter's Laboratories requirements, all electrical equipment must be properly polarized and grounded. The Polyvend machine is wired so that it is properly polarized in accordance with the electrical code. If the wall outlet is wired and grounded properly, then the vending machine will connect properly.

Shown in view A and B are two properly grounded and polarized wall outlets. One is a three wire grounded type wall outlet (See View A) and one is a two wire outlet (See View B) with an adapter in place.

Should the polarity at the wall outlet show any way other than that shown below, the outlet should be rewired by qualified personnel.



- CAUTION: DISCONNECT POWER TO THE VENDING MACHINE BEFORE REMOVING THE CONTROL BOARD, COIN CHANGER OR WORKING ON ANY ELECTRICAL COMPONENTS IN THE MACHINE.
- Test the coin release mechanism to insure smooth operation. If the operation is not smooth, check to make sure that you have the proper alignment of the changer with the coin return lever.
- * Load the coin tubes on the coin changer located behind the sliding door on the right inner side of the product compartment. It is very important to fill both 10c and 5c tubes for proper changer pay back. Note: The maximum amount of change the coin tubes in a C-300 changer will hold is \$9.40, \$7.00 in dimes and \$2.40 in nickles.
- * Set the desired prices of each selection. (See Price Setting Instructions)
- Operate each dispenser using coins. Operation should be smooth.

COIN BOX REMOVAL

To the bottom left of the coin changer is the coin box release lever. Pull up on this lever and the coin box will slide forward out the front of the machine, allowing you to remove the coin box (See figure 2). To lock the coin box, push the coin box into the cabinet until the front of the box is flush with the cabinet.

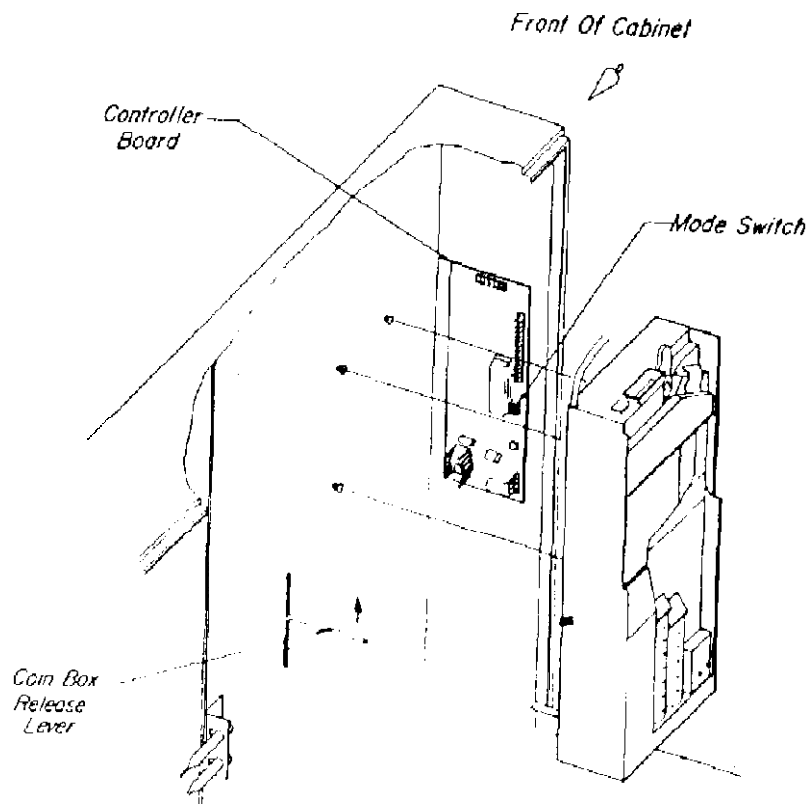


FIGURE 2

WARRANTY LIMITED

Polyvend Inc. warrants this equipment to the ORIGINAL PURCHASER only, for a period of one (1) year from the date of shipment to be free from significant defects in material for workmanship, two (2) years on electronic components and five (5) years on vending motors to the extent such parts are warranted to Polyvend Inc., except for filter cartridges, starters, light bulbs and fuses, which will be warranted for two months from date of shipment.

Should any part prove defective within the warranted period, Polyvend Inc. will repair or replace (at its option) the defective component, but will not provide the labor, removal or reinstallation cost associated with such parts. All returned products or parts must be shipped freight prepaid to Polyvend and Polyvend will then prepay the shipping cost of the returned goods. Polyvend Inc. reserves the right to refuse any collect shipment. Any part returned under the terms of this warranty should be accompanied with a brief description of the defect or failure along with the model number and serial number.

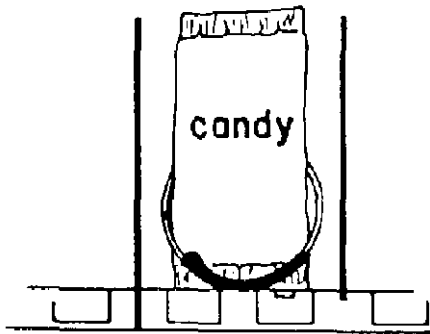
This warranty applies only if the equipment is serviced and maintained in strict accordance with the instructions given in the Polyvend Service Manual and that no unauthorized repair or disassembly has been done. Any defect caused by improper source of power supplied, abuse of the product, accident, alteration, vandalism, mineral build-up, or improper cleaning or service techniques will not be covered by warranty.

Polyvend service or repair to items not in warranty will be subject to the standard service charge for repair of the failed components. For warranty or service information call or write to Polyvend Service Department.

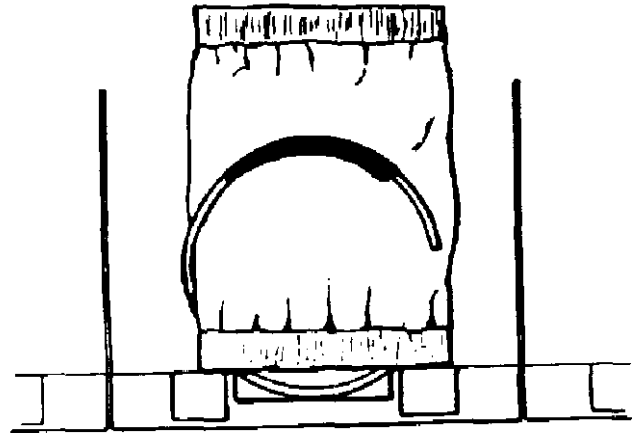
PRODUCT LOADING SECTION

HELIX TRAY DISPENSERS

The Polyvend PV-2210C and PV-2210G has several helix pitches. To assure proper operation and maximum capacity, the product size should closely match the opening between the winding of the helix. The product should fit between the windings of the helix so as NOT to be tight, but should fill most of the opening (See figures below). Be sure to place the product all the way to the bottom of the tray and tilt free end at the top backwards.



Candy Helix IN
Detent



*Chip (Large) Helix
In Detent Position*

PRODUCT LOADING

All product loading is accomplished from the front. Using one of the two keys provided, unlock and raise the service door to the full open position as shown in Fig. 1. This provides access to all dispensers.

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 and load it. See figure 1.

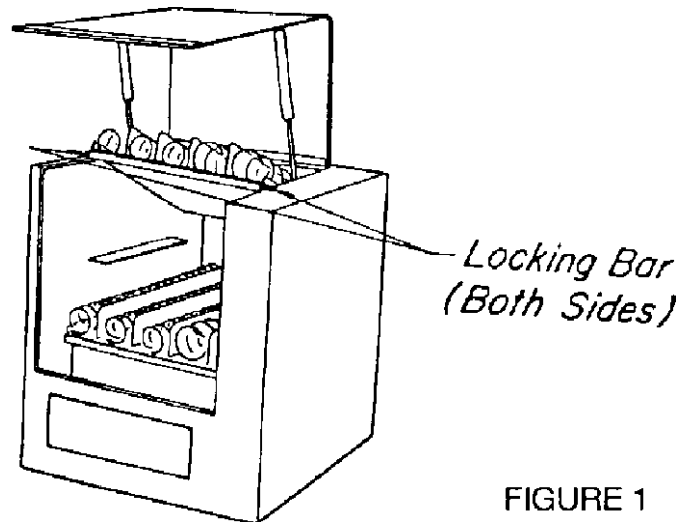


FIGURE 1

NOTE: All products should ride on shelf and not on helix wire. This applies to all products, but is most important with tall products which must vend bottom first. Certain candies and cigarettes have flat or semi-flat bottoms which are thick and wide. Polyvend has designed into our helix the flexibility to be 100% sure of the vending of this type of product. (See page 11 for special loading instructions). If needed for narrow products use the two spacers provided with the machine. See figure 2. For additional spacers, order part no. 18244-01.

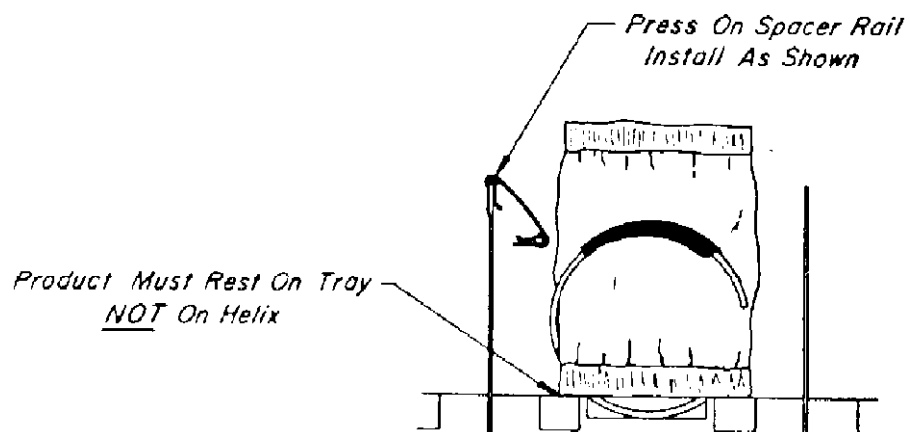


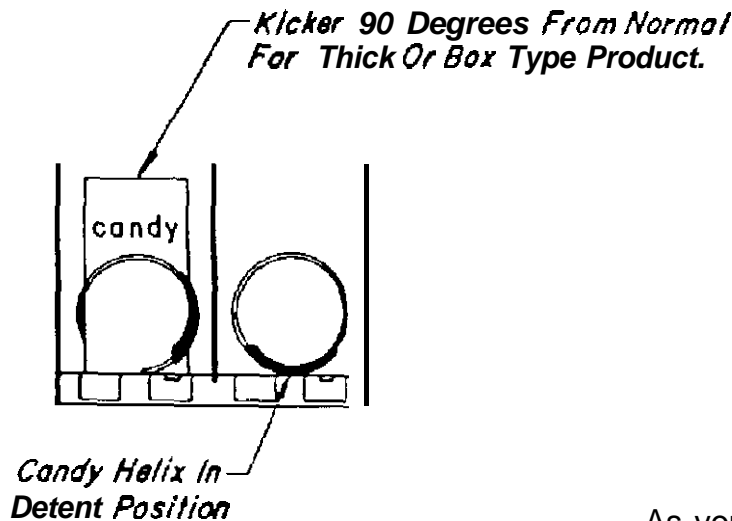
FIGURE 2

NOTICE

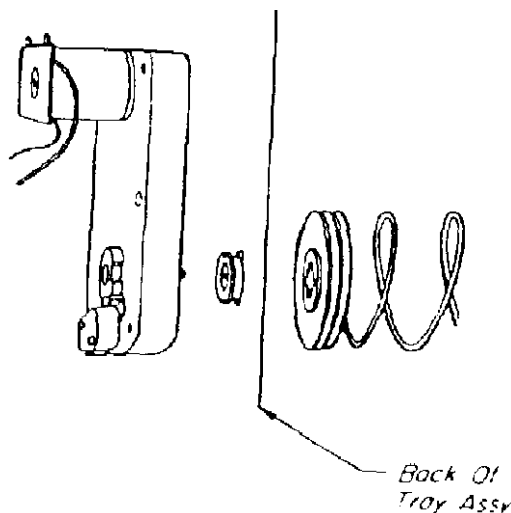
Special loading instructions for box type product or thick flat bottom candy.

Candy Helix only!

Certain candies and cigarettes have flat or semi-flat bottoms which are thick and wide. We have designed into our helix the flexibility to be 100% sure of the vending of this type of product. By moving the position of the helix and thus the kicker. it ensures the best dispensing for boxed products. You simply unlock the helix by twisting counter clockwise 10 to 15 degrees. The helix should be in the position as shown below.



As you can see, the coupling has two locking pins and the hub has four slots. Unlock by twisting left and lock by twisting right.



PRICE SETTING INSTRUCTIONS

Just inside of changer access door to the right of the changer is the control board. **There** is a push button on the nearest edge. (See figure 1). When pushed the machine will go into the service mode.

After entering the service mode press the selection you want to get the price on once and the existing price will appear on the digital display. Release the button for one second and press the button again, the price will increase in nickle increments. If you pass the desired price, release the button for one second and press the button again, the price will move down in nickle increments. Once you have the desired price on that selection you may move to another selection.

To place the selection into the service mode (free vend) just set the price to 0.00. To lock in all prices after they have been set, you can press the service mode button or wait 25 seconds for the time out feature to lock in the prices. Be sure to place the correct price stickers on the appropriate selections to correspond to the prices set.

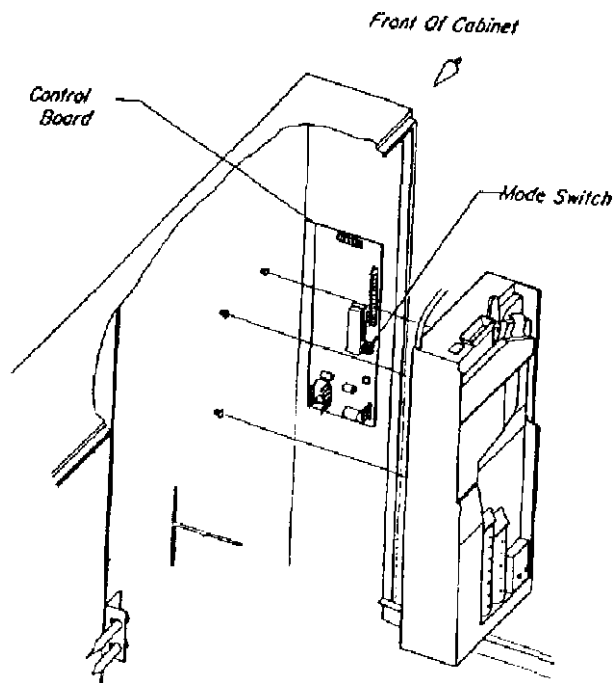


FIGURE 1

SERVICE SECTION

TROUBLE SHOOTING

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

SYMPTOM	CAUSE	CORRECTIVE ACTION
All wins deposited are rejected.	<p>Check for credit</p> <p>Machine not level</p> <p>Wrong coin changer</p> <p>Coin lever jammed</p> <p>Defective coin mech.</p>	<p>Make a selection</p> <p>Level machine</p> <p>Changer should be Coinco C-300-9404C.</p> <p>Clear acceptor mech. repair or replace.</p> <p>Replace coin mech.</p>
All coins deposited are rejected and display is blank.	<p>Loss of power to control board.</p> <p>Defective control board.</p>	<p>Check fuse, transformer and power at wall outlet.</p> <p>Replace control board.</p>
Selection Motor fails to energize	<p>Insufficient credit established</p> <p>Wire connector disconnected from motor board.</p> <p>Defective motor assembly. See Note: 1</p> <p>Defective control board.</p>	<p>Check to see that selection price is same as deposited amount on digital display.</p> <p>Reconnect wire on motor.</p> <p>Replace motor assy</p> <p>Replace control board.</p>
Two or more motors fail to run. Test or service vend.	<p>Defective control board.</p> <p>Loose connector plug on control board.</p> <p>Broken or pinched wire.</p>	<p>Replace control board.</p> <p>Reconnect plug.</p> <p>Trace wire harness for broken or pinched wire,</p>

SYMPTOM	CAUSE	CORRECTIVE ACTION
Selection motor does not complete cycle.	Defective full cycle switch. Defective components on motor P.C. board assembly. Defective motor. Defective control board.	Replace motor ass'y. Replace motor ass'y. Replace motor ass'y. Replace control board.
Selection motor runs continuously.	Defective full cycle switch. Defective control board.	Replace motor ass'y. Replace control board.
Two motors run at the same time.	Defective control board. Shorted wiring harness.	Replace control board. Repair or replace wiring.
Display blank. Manual payout on changer works.	Defective control board.	Replace control board.
Garbage on display	Defective control board.	Replace control board.
Can not make vend selection. Amount of coins deposited shows on display. See note 2:	Defective selector switch.	Replace selector switch.
Incorrect change returned (nickle and dime tubes in changer have plenty 01 change).	Defective changer	Replace changer.
<p>Note 1: Substitute an operational motor assembly in the position not working. Press the selection button. If the motor now functions properly, the replaced motor needs repair.</p> <p>Note 2: Check for a defective selector switch or a bad connection at the selector by trying to change the price on a selection. If price can not be changed, selector switch is defective.</p>		

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 dull or 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.**

POLYVEND SHIPPING POLICY

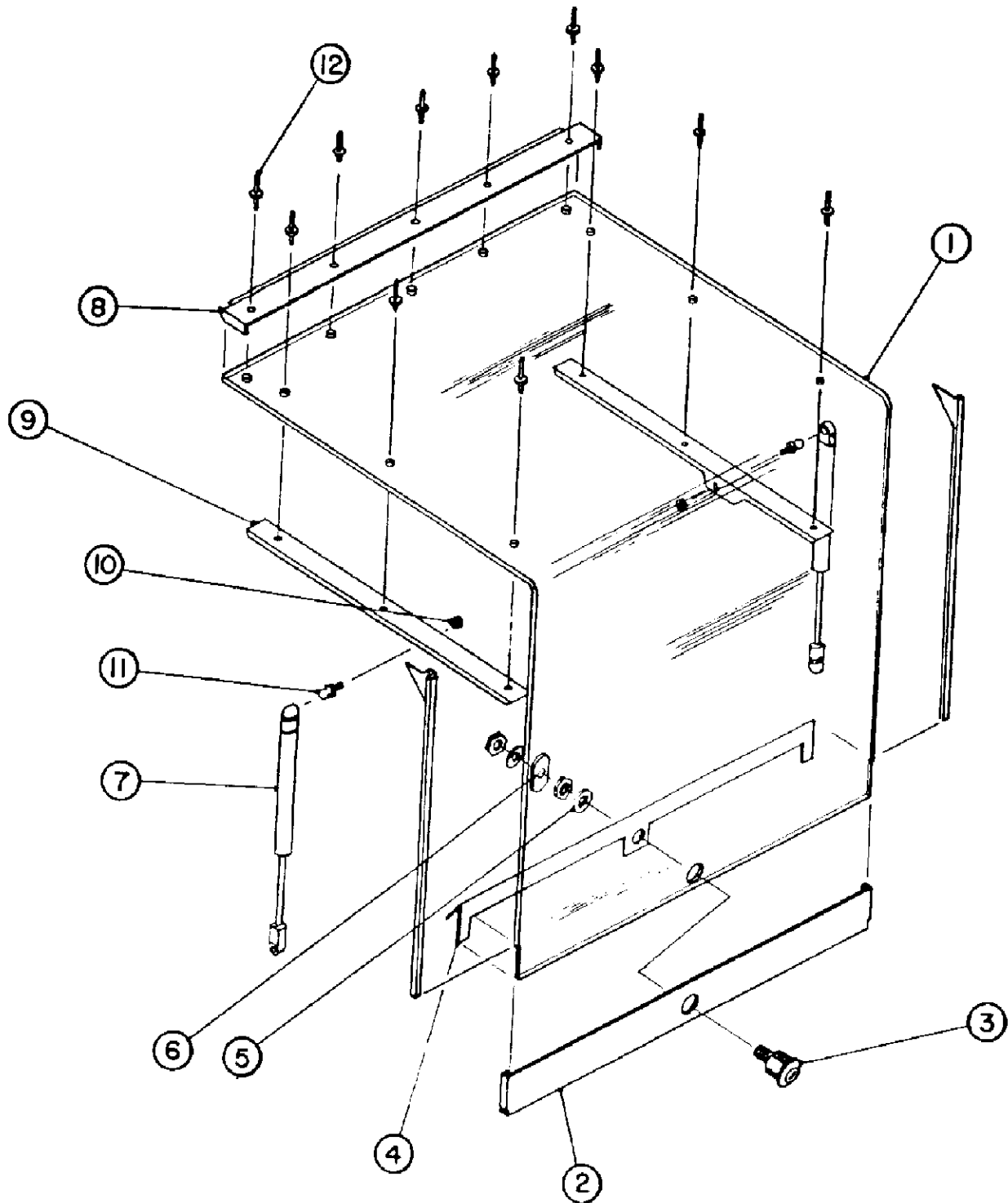
The following information is being given to you to assist you in the safe delivery of your merchandise and in expediting of freight damage claims.

Our terms of sale are F.O.B. our factory; the responsibility for damage in transit is the freight carrier's whether it be visible or concealed damage. We have taken every precaution to insure safe arrival of this equipment, but our responsibility ceases when the shipment is turned over to the freight carrier.

The acceptance of this shipment by the carrier is an acknowledgement that the equipment was delivered to them in good condition and properly packed. The carrier who delivers this merchandise to your door is responsible for its safe delivery.

PROCEDURE FOR VISIBLE DAMAGE

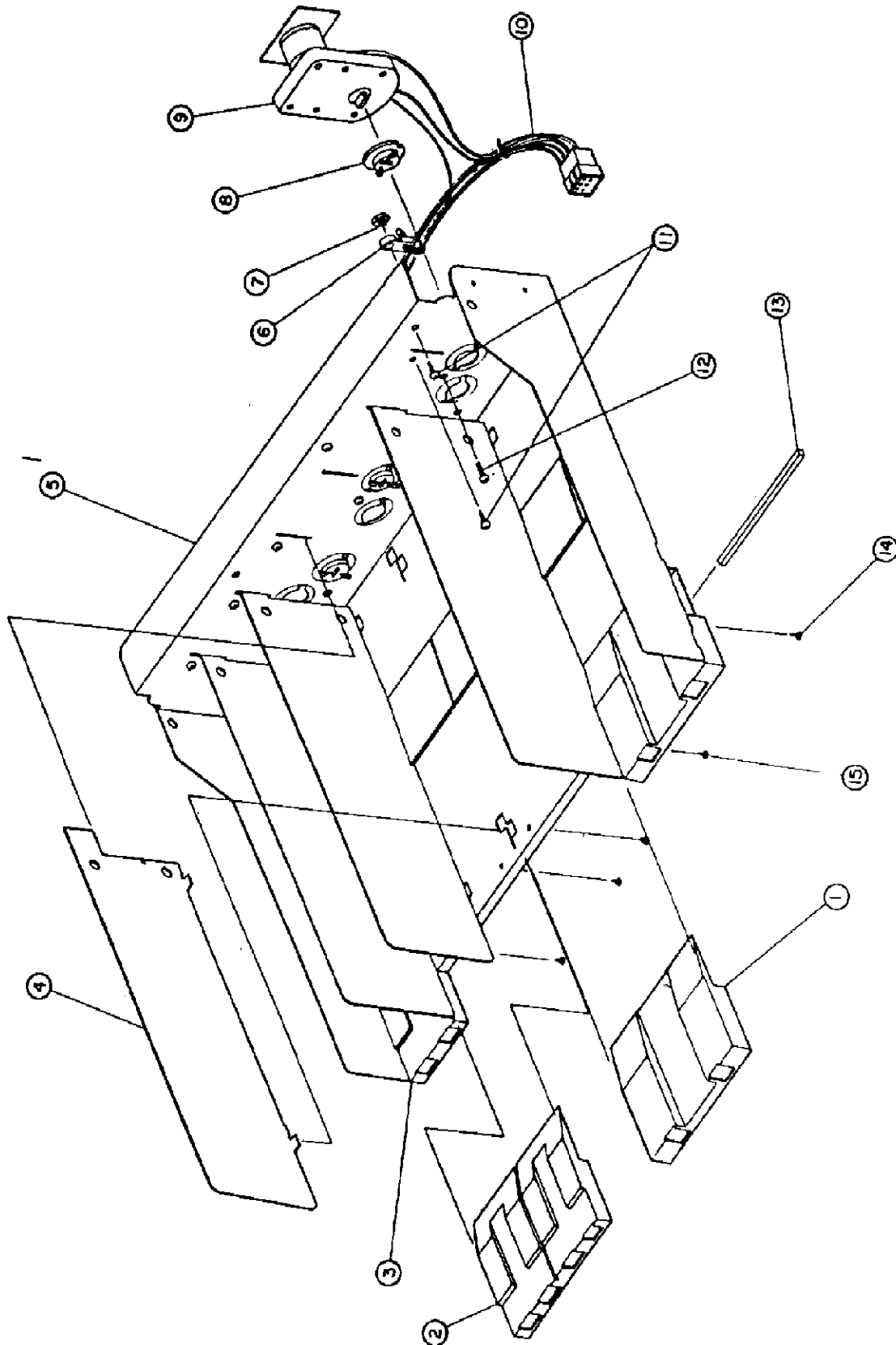
1. IT IS VERY IMPORTANT TO INSPECT IMMEDIATELY ALL FREIGHT DELIVERIES, WHETHER MACHINES OR PARTS. If there is any visible damage you have the right to refuse the merchandise or to accept the damaged shipment. If you accept it, make certain that you have the delivery personnel note on the freight bill the nature and extent of damage.
2. After you determine extent and cost of damage, notify the delivering freight carrier's office by phone and confirm with a written notice within 15 days requesting an inspection of the damaged merchandise. Keep a copy of the inspection request for claim purposes. Do not destroy the packing material until shipment is inspected! and claim is settled.
3. When inspector arrives, ask for a claim form. In filing a claim, you may make a cash settlement with the carrier for the full invoice price of the merchandise. Do not return merchandise without authorization from Polyvend Inc., Service department. Ask freight carrier to return "DEADHEAD". Do not claim more than cash price of machine plus freight.



DOOR ASSEMBLY

PARTS LIST DOOR ASSEMBLY DIAGRAM

ITEM	DESCRIPTION	PART NO.	QTY	PART NO.	QTY
		BLACK CABINET		GRAY CABINET	
1	DOOR, ACRYLIC	19962	1	19962	1
2	LOCK PLATE	19626-BLK	1	19626.LG	1
3	BARREL & TUMBLER ASSY.	114239-08	1	14239-08	1
4	PRODUCT DEFLECTOR	19625-BLK	1	19625-LG	1
5	WASHER, INT. THD. 3/4	366	1	365	1
6	CAM LOCK	18048	1	18048	1
7	GAS, SPRING	19926	2	19926	2
8	PIVOT BRACKET	20056-BLK	1	120056-LG	1
9	DOOR SUPPORT	19919-BLK	1	19919-GLH	1
9A	DOOR SUPPORT	19919-BRH	1	19919-GRH	1
10	NUT HEX 5/16x18 STEEL	14937	2	14937	2
11	BALL STUD 10mm	19927	2	19927	2
12	POP RIVET	ST-I 642 1 /8	11	ST-I 642 1/8	11



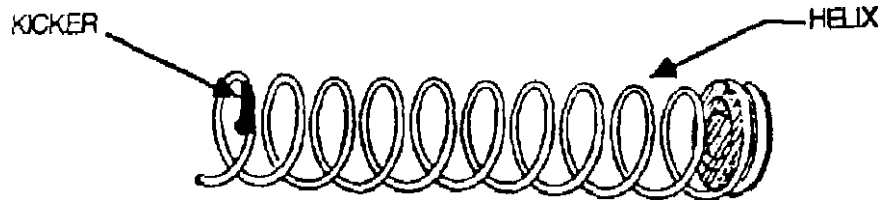
TRAY DIAGRAM

PARTS LIST

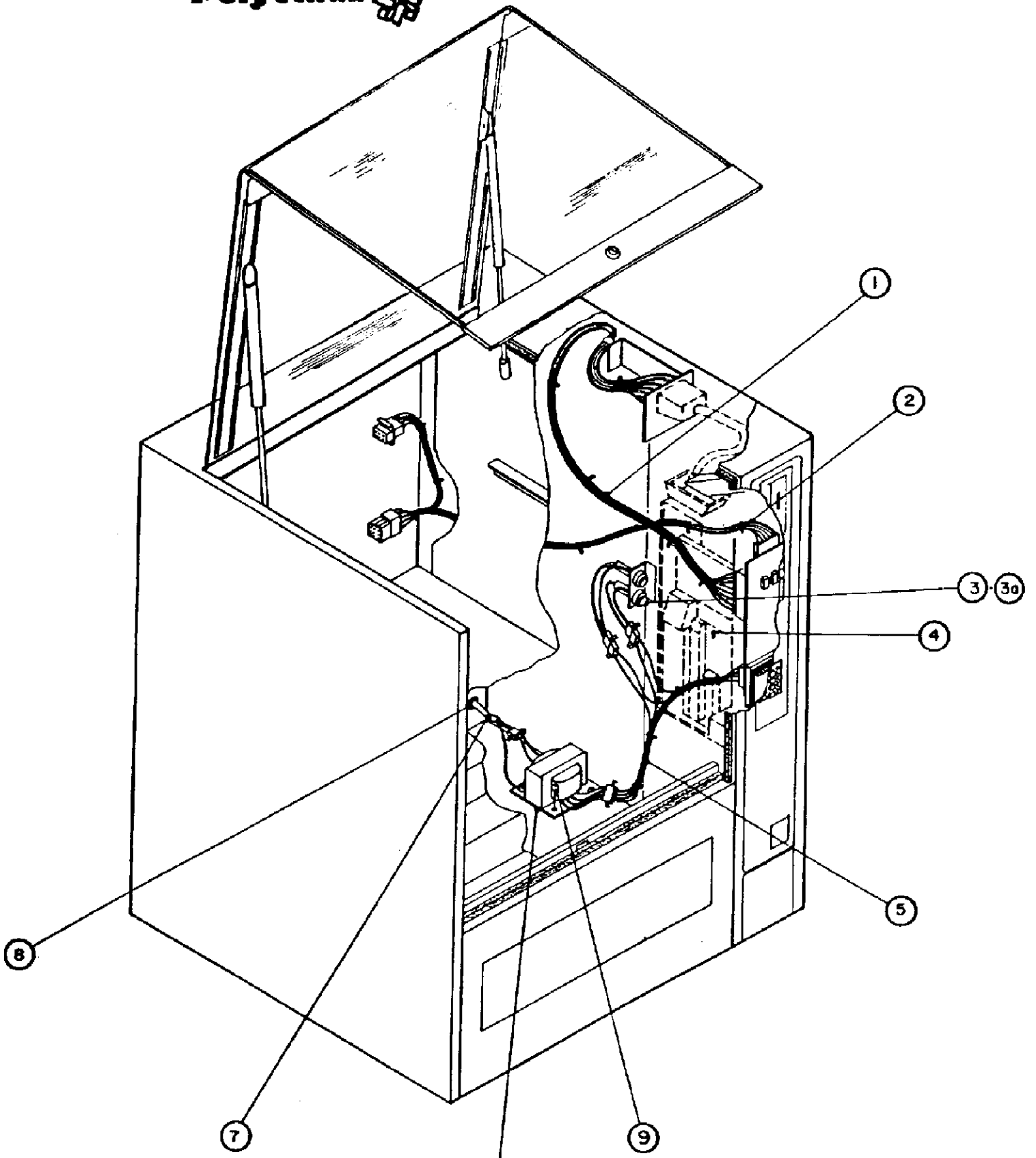
TRAY DIAGRAM

ITEM	DESCRIPTION	PART NO.	QTY
1	TRAY FRONT PASTRY	18926	1
2	TRAY FRONT CANDY	16925	1
4	TRAY FRONT CANDY, SINGLE	18925-MIN	1
5	DIVIDER, TRAY	18149-BLK	4
6	TRAY W.A.	19923-BLK	2
7	TIE NUT, HARNESS HEX #8-32	80569 1958	22
8	COUPLING PLASTIC HUB	17537	5
9	MOTOR, DC COINCO 360	18365-3CC	5
10	TRAY HARNESS, TOP TRAY	18132	1
10A	TRAY HARNESS, LOWER TRAY	18133	1
11	SCREW, MACHINE #8-32	1465-BLK	10
12	SCREW #8-1/8 X 112	2614-BLK	10
13	TRAY LATCH	19945	2
14	SCREW #8-1/8		2

HELIX DIAGRAM AND PARTS LIST



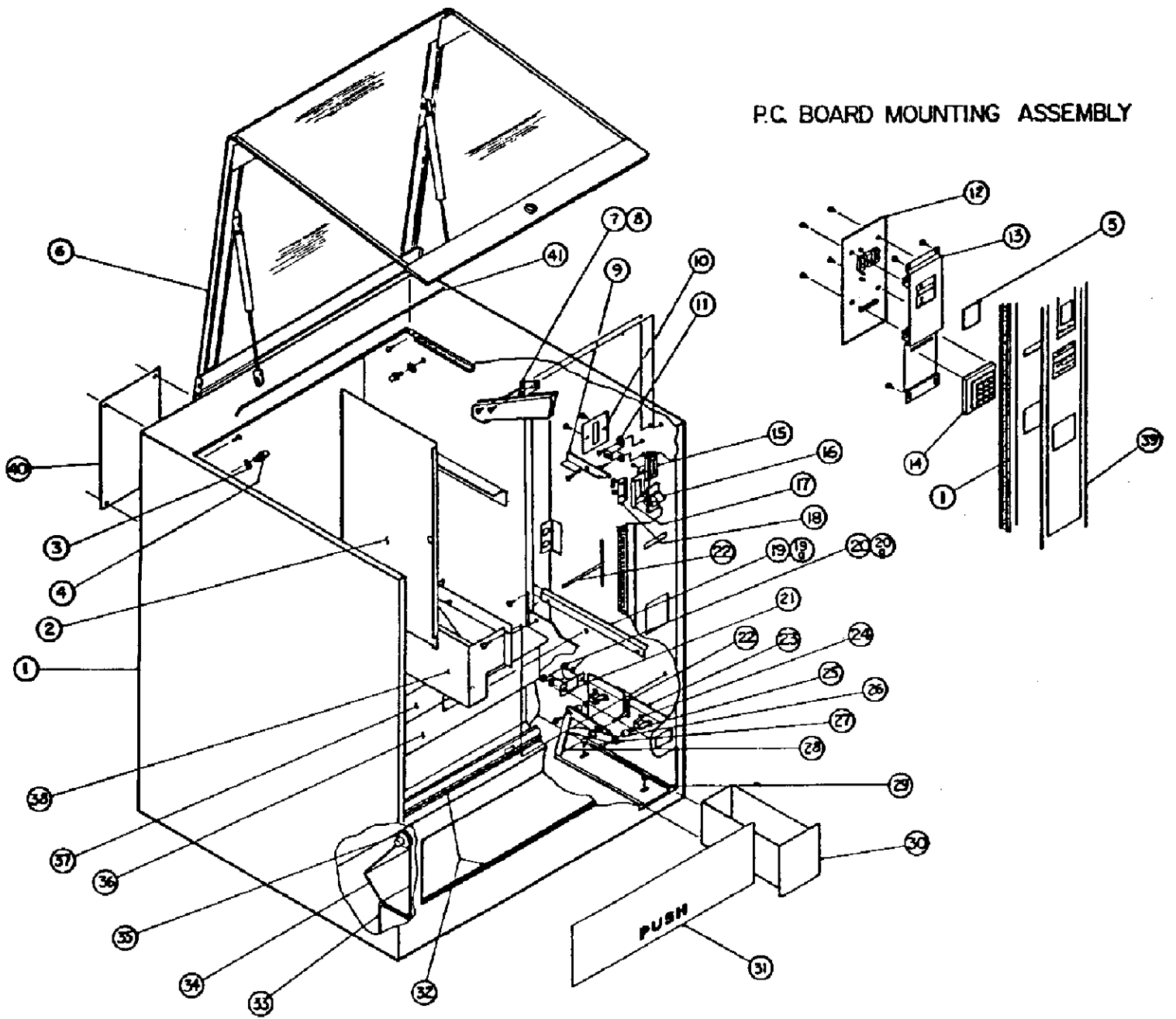
SNACK			CANDY		
HELIX	PART NO.	Product Thickness	HELIX	PART NO.	Product Thickness
11 ct	18374-03	1"	17ct	18372-08	5/8"
8ct	18374-05	1 1/2"	12ct	18372-05	1"
6ct	18374-01	1 7/8"	10ct	18372.07	1 1/4"
Separate Kicker - 18303			Separate Kicker - 18302		



WIRING DIAGRAM

PARTS LIST WIRING DIAGRAM

ITEM	DESCRIPTION	PART NO.	QTY
1	JONES PLUG HARNESS	18141	1
2	BOARD TO TRAY HARNESS	18142	1
3	FUSE, GLQ-3 3AMP	17409	2
3A	FUSE ASSY	17920	2
4	CHANGER C 300-9404	18216	1
5	POWER HARNESS	18234	1
6	TRANSFORMER	18283	1
7	CORD, SERVICE	17720	1
8	STRAIN RELIEF BUSHING	2438	1
9	SCREW #8-1 8 X3/8	1298-BLK	4

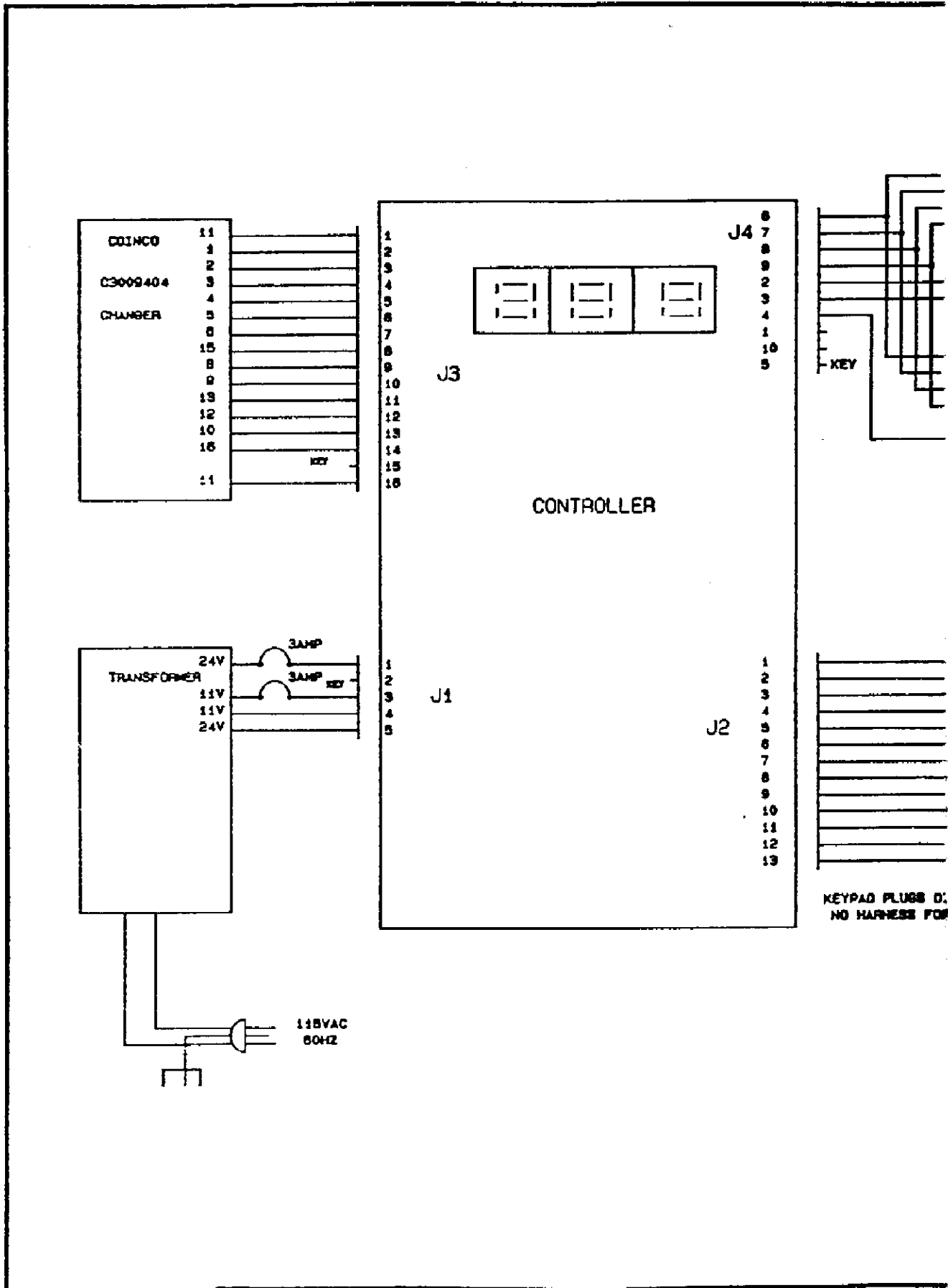


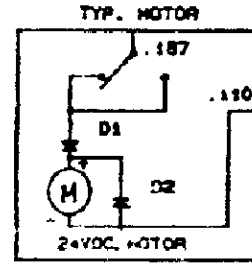
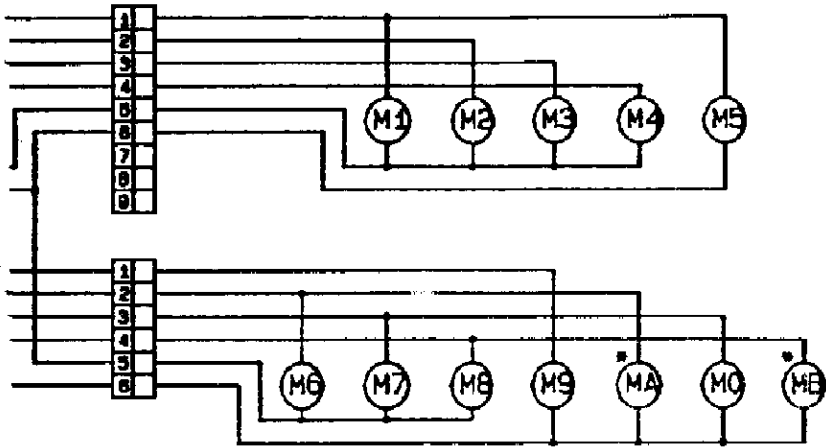
COMPLETE ASSEMBLY DIAGRAM

PARTS LIST COMPLETE ASSEMBLY DIAGRAM

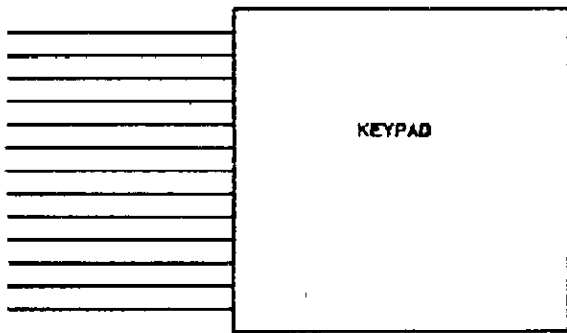
ITEM	DESCRIPTION	PART NO.	QTY	PART NO.	QTY
		BLACK CABINET		GREV CABINET	
1	SHELL W.A.	19916-BLK	1	19916-LG	1
2	DOOR-M.V. SLIDING	19604-BLK	1	19604-LG	1
3	WASHER	3276		3276	
4	BALL, STUD 10mm DIA.	19927	2	19927	2
5	LENS, CLEAR PLASTIC	19994	1	19994	1
6	DOOR ASSEMBLY	19944-BLK	1	19944-LG	1
7	COIN CHUTE	19952-BLK	1	19952-BLK	1
8	COVER, COIN CHUTE	19953-BLK	1	19953-BLK	1
9	LEVER-REJECT W.A.	19973	1	19973	1
10	RETAINER-COIN INLET	19954-00-BLK	1	19954-00-BLK	1
11	BRACKET-REJECT MOUNT	19959-00-BLK	1	19959-00-BLK	1
12	CONTROL BOARD-PCB-2	19903	1	19903	1
13	BRACKET CONTROL BD.	19897-BLK	1	19697	1
14	KEY PAD M.V.	19859-BLK	1	19859-BLK	1
15	COIN INLET	17930	1	17930	1
16	BUTTON, REJECT	19958	1	19956	1
17	SCAVENGE, SLIDE HOLDER	17901	1	17901	1
18	RETAINER, REJECT BUTTON	19950.BLK	1	19950-BLK	1
19	BRACKET, DOOR FRONT	19603-BLK	1	1960%ELK	1
19A	TRACK, SLIDING DOOR	19604-BLK	1	19604-BLK	1
20	NUT, HEX #6-32 STEEL	11694	2	11694	2
20A	WASHER, INT. THREADS #6	2497	2	2497	2
21	CUP ASSY. COIN RETURN	10342	1	10342	1
22	ROD, COIN BOX RELEASE	19951	1	19951	1
23	BRACKET, COIN BOX MTG.	19933.OO-BLK	1	19933-00-BLK	1
24	BRACKET, LATCH MOUNT	19947.OO-BLK	1	19947-00-BLK	1
25	WASHER	3276		3276	
26	SPACER	827	4	827	4
27	CAM, LOCK	19935	1	19935	1
26	CAM, PUSH MECH.	19936	1	19936	1
29	SLIDE, COIN BOX MTG.	19932-00-BLK	1	19932-00-BLK	1
30	COIN BOX, W.A.	19931-BLK	1	1993 1 -LG	1
31	DECAL, "PUSH" PROD. DELV.	19907-GE	1	19906-RE	1
32	STRIP, NEOPRENE 3/8 WIDE	810-00	8FT	810-00	8 F
33	SHELF, DELIVERY COMPART.	18113-BLK	1	18113-BLK	1
34	DOOR, DELIVERY COMPART.	20075.BLK	1	20075.BLK	1
35	WASHER, FLAT SP-250	4280	2	4280	2
36	FILLER, DELIVERY COMPART.	19942-BLK	1	19942-BLK	1
37	DELIVERY COMPART.	19943-BLK	1	19943-BLK	1
38	HOPPER W.A. 2210	19977-BLK	1	19977-BLK	1
39	DECAL. RT. SIDE	19902	1	19902	1
40	PLATE, TRANSF. COVER	19416-BLK	1	19416-LG	1
41	DOOR PIVOT	20057	1	20057	1

polyend- 

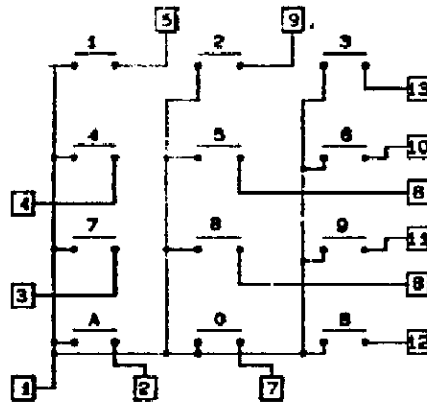




* OPTIONAL MOTORS NOT USED IN STANDARD CONFIGURATION



CONNECT DIRECTLY INTO CONTROLLER
 WITH THIS CONNECTION





Polyvend[®] INC.

700 South German Lane
Conway, Arkansas 72032 USA
(501) 327-1301