SNACKSHOP LCM5
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# instruction manual for

SNACKSHOP LCM5



75 WEST PLATO BOULEVARD • ST. PAUL, MINNESOTA 55107-2095

Part 17500013 Form 11/99

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### WARRANTY

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Automatic Products international Itd. (APi) expressly warrants these automatic merchandisers (the "Unit"), manufactured by it, to be free under normal use and service from defects in material or workmanship for a period of two (2) years from the date of delivery of this Unit to the original purchaser. This warranty extends only to the original purchaser of the Unit. The exclusive remedy for this warranty is limited to the repair or replacement, at APi's sole option, of any part or parts of the Unit that are returned to APi or to the authorized dealer or distributor of APi from whom the unit was purchased with all transportation charges prepaid, and which, on APi's examination, shall, conclusively appear to have been defective. This warranty does not:

a. extend to any Unit, or part thereof, that was subjected to misuse, neglect, or accident by other than APi after its delivery to the original purchaser;

- b. extend to any Unit, or part thereof, that was modified, altered, incorrectly wired or improperly installed by anyone other than APi or used in violation of the instructions provided by APi;
- c. extend to a Unit which has been repaired or altered by anyone other than APi or authorized dealer/distributor:
- d. extend to a Unit which has had the serial number removed, defaced or otherwise altered;
- e. extend to plastic or glass windows, lamps, fluorescent tubes and water contact parts;
- f. extend to any unit used outdoors;
- g. extend to accessories used with the Unit that were manufactured by some person or entity other than APi.

API DISCLAIMS ALL OTHER WARRANTIES OF ANY KIND AS TO THE UNIT AND ALL WARRANTIES OF ANY KIND AS TO ANY ACCESSORIES. THIS DISCLAIMER OF WARRANTIES INCLUDES ANY EXPRESS WARRANTIES OTHER THAN THE LIMITED WARRANTY PROVIDED ABOVE AS TO THE UNIT AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AS TO THE UNIT AND ANY ACCESSORIES. UNDER NO CIRCUMSTANCES SHALL API BE RESPONSIBLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, LOSSES OR EXPENSES ARISING FROM OR IN CONNECTION WITH THE USE OF, OR THE INABILITY TO USE, THE GOODS FOR ANY PURPOSE WHATSOEVER.

APi or any other person is authorized to assume for APi, or agree to on behalf of APi, any other liability or warranty in connection with the sale of this unit.

APi reserves the right to make any changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in Unit theretofore manufactured or sold.

Snackshop LCM has been designed from superior engineering and with quality throughout. It has been built of rugged construction for many years of reliable trouble-free operation. (Note: For indoor use only.) CAUTION: THIS MACHINE IS DESIGNED FOR INDOOR USAGE ONLY. ANY OTHER USAGE MAY VOID THE MANUFACTURERS WARRANTY.

To achieve the most economical trouble-free operation from your Snackshop LCM, it is recommended that this service manual be thoroughly read and instructions followed pertaining to all loading and servicing, etc., of the vendor.

Should you have any questions pertaining to this manual or the vendor, please contact your local Automatic Products Company distributor or write directly to:



### **CONTROL-SETUP AND OPERATION**

PRESS MODE SWITCH ONCE TO ENTER SERVICE MODE.
THEN PRESS APPROPRIATE BUTTON ON
DOOR FRONT SELECTION PAD.

### COIN DISPENSING

PRESS NO.1 - PRESS [A] DISPENSES 25¢ COIN PRESS [B] DISPENSES 5¢ COIN PRESS [C] DISPENSES 10¢ COIN PRESS [D] DISPENSES \$1.00 COIN

### ACCOUNTABILITY

PRESS NO. 3 - PRESS [A] TOTAL VEND COUNT PRESS [B] TOTAL CASH

PRESS [C] TOTAL CAN VENDS PRESS [D] TOTAL CASH CANS

### PRICE SETTING

PRESS NO. 4 - (DISPLAY WILL SHOW "PRC")

PRESS SELECTION TO BE PRICED
PRESS ▲ BUTTON TO INCREASE PRICE
PRESS ▼ BUTTON TO DECREASE PRICE
THIS MUST BE DONE FOR EACH
SELECTION TO BE PRICED.

NOTE: PRICING "00" IS FREE VEND.

#### **TEST VEND**

PRESS NO. 5 - (DISPLAY WILL SHOW "SLCT")

PRESS DESIRED SELECTION TO BE TEST VENDED.

charge to our customers a

### VEND MODE/automaticproducts.com

PRESS [E] - (DISPLAY WILL SHOW "OPTN")

PRESS [A] - FORCE VEND YES OR NO
PRESS [B] - BILL ESCROW YES OR NO
PRESS [C] - MULTI-VEND YES OR NO
PRESS [D] - CANNED DRINK YES OR NO
PRESS [F] - FREE VEND YES OR NO
IF FREE VEND IS ON YES ENTIRE MACHINE

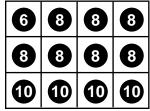
WILL FREE VEND IF BUTTON NO. 5 IS PRESSED THEN ANY SELECTION MADE.

### **EXIT FROM SERVICE MODE**

PRESS MODE SWITCH OR MACHINE WILL EXIT AUTOMATICALLY AFTER 30 SECONDS.

### LCM capacities.

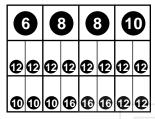
Unless otherwise specified machine will be shipped with spiral assortment shown below. Figures in circles represent capacities in each spiral.



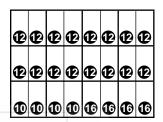
MODEL LCM5 - 312 Capacity as shown: 102 units



MODEL LCM5 - 316 Capacity as shown: 164 units



MODEL LCM5 - 320 Capacity as shown: 230 units



MODEL LCM5 - 324 Capacity as shown: 296 units

### PRODUCT SIZE CAPABILITY

Shelves	Height	Width of Snack Shelves Only	Width of Candy Shelves Only	Depth of Snack Spirals Only Choice:	Depth of Candy Spirals Only Choice:
Top Second Third	7-3/4" 7-1/4" 6-3/8"	2-1/2" to 5-1/4" 2-1/2" to 5-1/4" 2-1/2" to 5-1/4"	1" to 2-14" 1" to 2-14" 1" to 2-14"	4-Item Spiral 3" 6-Item Spiral 2-3/32" 8-Item Spiral 1-9/16" 10-Item Spiral 1-7/32"	3-Item Spiral 3-15/16" 6-Item Spiral 1-15/16" 8-Item Spiral 1-1/2" 10-Item Spiral 1-1/8"
		This	locument is av	ailable free of	12-Item Spiral 15/16" 16-Item Spiral 11/16" 20-Item Spiral 1/2"

Eight selection shelves for candy and other narrow items fit on all three positions.

Spiral of one item capacity can be freely interchanged with any other of the same diameter.

Boxed items may need slightly larger clearances to vend properly.

Movable spacers available to adjust widths to ranges shown in each selection.

### **CAN COOL UNIT CAPACITIES**

Using 330 ml Cans (European)	Using 375 Cans (Aust.)	Using 355 ml Cans (Domestic)
15 Cans in Long Track	15 Cans in Long Track	15 Cans in Long Track
9 Cans in Short Track	9 Cans in Short Track	8 Cans in Short Track
96 Cans Total (8 select)	72 Cans Total (6 select)	92 Cans Total (8 select)

88 cans vendable with one can in each column by sold out switch (8 select).

66 cans vendable with one can in each column by sold out switch (6 select).

#### **INSTALLATION REQUIREMENTS:**

- Back to wall gap 6 inches minimum
- Front (door swing clearance) 33-1/2 inches
- Floor level within 1 inch
- Machine to be leveled to within 1 degree front to back and side to side

The LCM5 will be capable of operating in a temperature range of 10° C to +50° C (50° F to 104° F) in still air (90% R.H. non-condensing). The unit will be capable of being stored in a temperature range -45° C to +80° C. The above spec assumes the machine is not in direct sunlight.

### unpacking

The Snackshop LCM is assembled and packed so that a minimum amount of time is necessary for preparation to install it on location. The following steps are recommended to insure correct unpacking.

 Shipping Damage. Thoroughly inspect the exterior of the carton for damage which may have occurred during shipment. Report any damage to delivering carrier and follow their instructions.

NOTE: Machines with refrigeration units delivered on their sides should be stood upright for 24 hours before the machine is plugged into an outlet.

- Remove staples from lower edge and those at top of carton, and slit carton vertically at the taped corner. Open and remove carton. Remove the remainder of the packing material. Machines shipped with a lock in place, the keys are located in the coin return cup.
- 3. Removing Vendor with a Fork Lift Truck. Remove the carton from the vendor. Open the door on the vendor and remove the hold down bracket at the front center of the cabinet base and close the vendor door. From the front of the vendor, tip the vendor backward and run forks under the cabinet.

- 4. On machines with lock in place, unlock, and turn handle to open door. When no lock is furnished, remove tape and turn handle. Swing door to its full open position.
- 5. Remove all packing tape and paper from various areas of machine and the shipping strap.
- Warranty. The warranty card is attached to the cover of this manual. It must be filled out in full and mailed at once to insure coverage.

IMPORTANT: A set of anchoring brackets are sent with each machine. The kit is located in the bottom of the machine complete with instructions. It is recommended that this kit be installed to prevent shifting of the machine. Part # 660438

- WATCH THROUGHOUT THE MANUAL FOR THIS SPECIAL ♦ DIAMOND MARK.THIS INDICATES A
- POINT OF SPECIAL INFORMATION OR A HINT

····

- THAT WILL ASSIST YOU IN SETTING UP,
- OPERATING OR TROUBLESHOOTING THE
- MACHINE.



CAUTION: Certain procedures in both the operating section and the service section require that voltage be on in the machine. Only trained personnel should perform this function. Exercise extreme caution while performing these procedures. These procedures will be marked with the lightening bolt symbol as it appears at left.



CAUTION: Certain procedures in both the operating section and the service section requires a qualified trained technician to perform the particular task at hand. These procedures will be marked with the exclamation symbol as it appears at left.

### installation\_\_\_\_\_

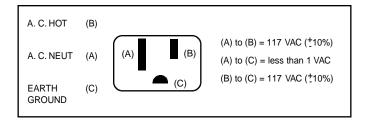
1. Leveling the Machine on location is important for the proper function of the machine. The four leveling screws in the legs are the means of leveling the machine. After positioning the machine, level machine in front to rear and right to left directions. After leveling, turn front right (lock side) leveling screw in about one-half turn to drop this corner slightly to make the door easier to close and lock.



CAUTION: THIS MACHINE IS DESIGNED FOR INDOOR USAGE ONLY. ANY OTHER USAGE MAY VOID THE MANUFACTURERS WARRANTY.



CAUTION: THE FOLLOWING PROCEDURE REQUIRES THAT THE MACHINE HAVE POWER APPLIED AND A POTENTIAL ELECTRICAL SHOCK HAZARD EXISTS. Voltage and Polarity Check. It is important that this
machine is hooked up to the proper voltage and polarity.
Using a voltmeter, perform the following checks from the
illustration shown.

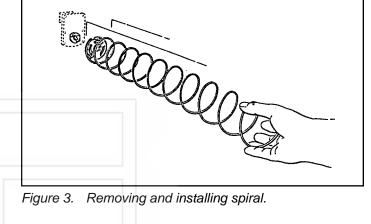


NOTE: Should the readings be different from above, have a certified electrician correct the problem.

### installation

3. Loading Snack Shelves. Open door to full open position, push down on white and gray plastic lock levers (Figure 1.) on right side panel by shelf to unlock shelf, holding lever down. Grasp the shelf slightly and pull forward until shelf reaches its stop. The shelves tilt down (do not drop) to make loading easier. Only one product shelf should be In the loading position at a time. When returning a shelf, be sure the shelf is in its full home or vend position. Begin loading with the top shelf. Move it to the loading position. The height spacing for items is greatest in this shelf and the tallest bagged items should be placed there. Soft items, such as pastry, pies, etc., should be placed in the lowest snack shelf, making the drop distance as short as possible.

**IMPORTANT:** Product must not be forced into the spiral spaces but should fit freely. If the product is too tight, use a larger pitch spiral. The bottom of the product should be placed on top of the spiral wire that rests on the shelf surface. (*Figure 2.*) The width of the product must be greater than the diameter of the snack spiral. If it is smaller, the product may fall through when it is in the front, ready to vend position.



4. **Removal of Spiral.** Grasp the front of the spiral and turn

it clockwise. Lift the spiral up and off of the spiral lock and

turn the spiral counterclockwise to lock it in place. Be sure

the front end of the spiral is positioned properly (with the

front end of the spiral pointing downward on the left side).

(Figure 3.) The spiral lock is attached between the spiral

retainer tabs. Give a light forward pull on front of the spiral

to check if it is locked in place.

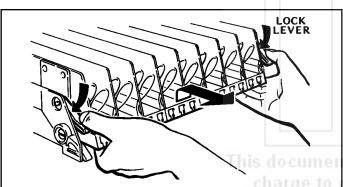


Figure 1. Moving shelf into loading position.

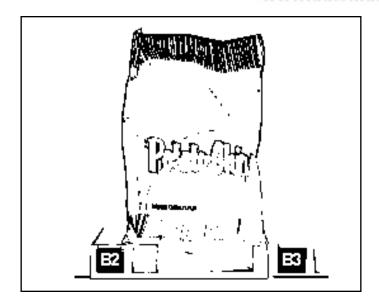


Figure 2. Placement of product on main product snack shelves and front end position of spiral.

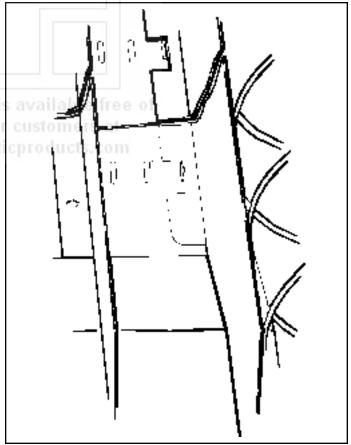


Figure 4. Alignment of moveable product spacers.

- 5. Product Spacers, 4-Selection Shelf. A product spacer is used to reduce the width of the product area and should be used on any 4-selection snack shelf where the product width is 4-1/2" or less. Spacers should fit within 1/8" of the product but should not fit tight against the product. There are three positions in each snack space where these spacers can be placed. To install the spacer, align the lock ears (on the lower edge of the spacer) with one of the three sets of slots (one front and one rear). (Figure 4.) Push the spacer to the rear to allow the ears to enter the slots, then allow the spacer to move forward. Be sure the ears are in the same set of slots, front and rear. (Figure 4.) Continue loading all spirals. Adjust with spacers where needed in the top shelf. Return the top shelf to the vend position and following this procedure, load the remainder of the large spiral shelves. The shelf divider separating the right (lock side) column from the next column is movable to allow vending of products wider than 5-1/2" in the second column. If this is used, the right column must be used to vend narrower products.
- 6. Loading Main Product Candy Shelves. The 8-selection (candy type) shelves are loaded similar to the 4-selection shelves, except that, the bottom of the product sits on the shelf in front of the spiral wire (Figure 5.) that rests on the shelf. These products must also fit properly in the spiral

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Figure 5. Placement of product on main product candy shelves and front end of spiral.

- space. **Do not force product into spiral.** These spirals are removed and installed the same as the large spiral (*Figure 3.*), except that, the front end position is different (approximately 5 o'clock) (*Figure 5.*) and the front left side of the spiral must be behind the small tab located on the left side of the product space side wall. (*Figure 5.*, *Detail A*)
- 7. Product Spacers, 8-selection shelf. The 8-selection shelves are equipped with a product spacer (Figure 6.) that can be pivoted from the right side of each product space. These spacers should be pivoted out to hold the product upright, but not tight against the product. Leave about 1/8" clearance between the spacer and the product.

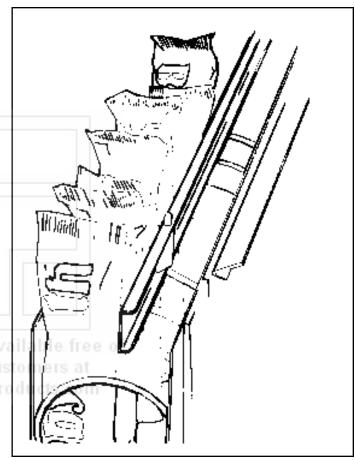


Figure 6. 8-selection shelf product spacer positioned to hold candy upright.

8. Product Pusher. The machine contains enough pushers for you to install a pusher on each candy spiral. This plastic part is designed to push the top of the product forward while it is vending, helping it to fall from the shelf. It can also be used with products that have the wrapper end flap on the outside of the package. In this case, the pusher prevents these products from hanging on the spiral by spreading the flap. The pusher is installed approximately 210 degrees from the front end of the spiral with the tab extending forward. (Figure 7.) Locate the pusher in its proper position, hold it against the spiral wire and push the semi-circular part around the spiral wire.

Note: Not every selection spiral will need a product pusher. (Example: box items)

### installation

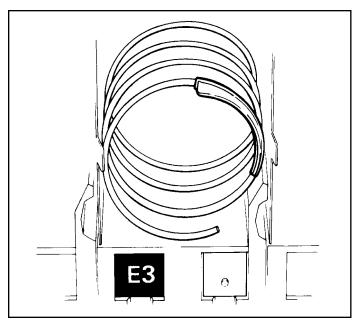


Figure 7. Location of product pusher on spiral.

- 9. Bagged or Boxed Items in the 8-selection shelves, if not loaded properly, could be a problem. The sealed edge of the bag may get under the spiral wire causing the product to hang up after it has been vended. It is recommended that the lower edge of these types of product be folded forward and up (Figure 8.) next to the product before inserting into the spiral space. It is also recommended to use an 18 count spiral for bagged items because of the product settling to the bottom of the package.
- 10. Cigarette Vending from Snackshop LCM5. Cigarettes can be vended from the candy shelves using the 10 capacity spiral for the soft pack regular, king, 100mm or 120mm packs. The 8 capacity spiral should be used for box packs.
- 11. **Lock Product Shelves.** After all the product has been loaded, be sure all shelves are returned to their vend position behind the front roller guide.
- 12. **Install Proper Price Tabs** into price tab holder for each selection in the main product area. (*Figure 9.*)

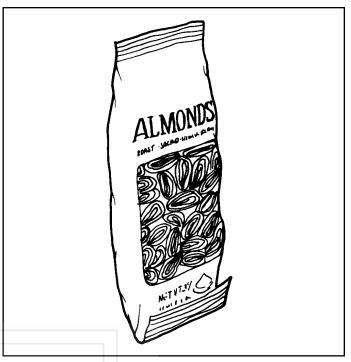


Figure 8. Folded bagged items bottom edge forward and up.

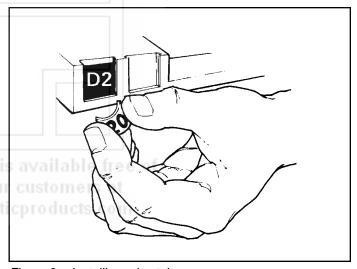


Figure 9. Installing price tabs.

### program operation



**CAUTION: THE FOLLOWING PROCEDURE** REQUIRES THAT THE MACHINE HAVE POWER APPLIED AND A POTENTIAL **ELECTRICAL SHOCK HAZARD EXISTS.** 

1. Control-Service Mode. The Service mode is entered by pressing and releasing the mode button located on the component side of the controller. A second depression of the mode button will exit the service mode and return the controller to the Sales mode. If a period of no keypad activity occurs for 25.5 seconds, the controller will automatically revert to the Sales mode.

Upon entering the Service mode, diagnositics will be diaplayed by the controller until an additional Service mode function has been selected. Diagnostics include the number of configured motors and defective or jammed motors.

Entrance to the Service mode clears the current credit and disables all credit acceptance (except for Protocol A devices, here the VMC is the slave and must not modify credit acceptance/accumulation). Selection motors are automatically configured upon power up, reset and exiting Service mode. The following list of functions are available while in the Service mode.



**CAUTION:** THE FOLLOWING PROCEDURE REQUIRES THAT THE MACHINE HAVE POWER APPLIED AND A POTENTIAL **ELECTRICAL SHOCK HAZARD EXISTS.** 

- 2. PRESS #1 Coin Dispense Mode. Coins are dispensed from the inventory tubes by pressing key #1. The controller will display "coin" and wait for an additional key to be pressed as follows:
  - Pressing [A] dispenses the left coin tube (25¢)
  - Pressing [B] dispenses the middle coin tube (5¢)
  - Pressing [C] dispenses the right coin tube (10¢)
  - Pressing [D] dispenses the fourth coin tube (\$1 coin)

To exit this mode, press another function key or leave the service mode pressing the mode switch.



**CAUTION: THE FOLLOWING PROCEDURE** REQUIRES THAT THE MACHINE HAVE **POWER APPLIED AND A POTENTIAL ELECTRICAL SHOCK HAZARD EXISTS.** 

- 3. PRESS #3 Accountability Mode. Vend count and cash total accountability will be displayed by pressing key [3]. The controller will display "Acct" and wait for an additional key to be pressed as follows:
  - a. Press button [Al to display total vend count. The vend counter will be eight digit numbers displayed as the upper four for 2 seconds followed by the lower four for 2 seconds.

Example: Displays "0001" (1st upper four #'s)

Displays "0025" (2nd lower four #'s)

"0001" together with "0025" = 10,025 vends.

b. Press button [B] to display total cash sales. The cash

counter works the same way as step "a" above, except the last two digits will have a decimal point in front indicating cents.

Example: Displays "0002" (1st upper four #'s)

Displays "01.20" (2nd lower four #'s)

"0002" together with "01.20" = \$201.20 total

cash sales.

NOTE: The digital vend counter will rollover after 99,999,999 and the cash counter will rollover after \$999,999.95.

- c. Press button [C] to display total can vend counts. The display will show total cans vended the same way as step "A".
- d Press button [D] to display total can cash sales. The cash counter works the same way as step "B" above.
- e. To exit this mode, press another function key or leave the service mode by pressing the mode switch.
- f. Press button [D] to display bill. Press [D] again. IMPORTANT!! Must be set on 20 for 5¢ increments.



**CAUTION: THE FOLLOWING PROCEDURE REQUIRES THAT THE MACHINE HAVE** POWER APPLIED AND A POTENTIAL **ELECTRICAL SHOCK HAZARD EXISTS.** 

4. PRESS #4 - Price Set Mode. To begin the price setting procedure, press key [4]. The controller will display "Prc" and wait for a selection to be entered. Once the selection is entered, the current price will be displayed. The price can now be increased with the scrolling up (A) button or decreased with the scrolling down (▼) button. (Figure 10.) The maximum price can be set to \$99.95. Setting a selection price to \$00.00 will put it on free vend.

#### Step Procedure.

- a. In the Service mode, press [4] (displays "Prc").
- b. Press selection item to be priced (displays current
- c. Using the up (▲) or down (▼) buttons will change to the price desired. (Figure 10.)
- d. Repeat steps "b" and "c" to price another selection.
- e. To exit this mode, press another function key or leave the Service mode by pressing the mode switch.



**CAUTION: THE FOLLOWING PROCEDURE** REQUIRES THAT THE MACHINE HAVE POWER APPLIED AND A POTENTIAL **ELECTRICAL SHOCK HAZARD EXISTS.** 

5. PRESS #5 - Test Vend Mode. To test vend a single selection, press key [5]. The controller will display "SLct" and wait for a selection to be entered. Once the selection is entered, a vend of the motor will be attempted. If the vend is successful, the controller will blank the display and exit the test vend mode. If the selected motor fails, the controller will display "FAiL" for 2 seconds and then exit.

#### Step Procedure.

a. In the Service mode, press [5] (displays "SLcT").b. Press the motor selection to test vend (machine will display selection and cycle motor unless vend test fails, which would display "FAiL"). 6

### program operation \_

- c. To test vend other selections, press [5] and repeat steps "a" and "b".
- d. To exit this mode, press another function key or leave Service mode by pressing the mode switch.

NOTE: Test vending a selection that had failed previously, will reset if the motor successfully completes a vend cycle.

PRESS #6 - Diagnostic Vend Test. This feature can be used to test vend all configured motors within the machine before installing on location. The controller will display each selection as a vend attempt is made. If the vend is successful, the controller will continue on with the next selection. If the selected motor fails the controller will display "FAiL" for 2 seconds and then continue. When a vend attempt on all motors has been completed, the controller will blank the display and exit the test vend mode. To exit this mode, press another function key and hold until the current vend is completed or exit the Service mode.



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- **6. Vend Option Mode.** To enter the vend option mode, press key [E]. The controller will display "OPtn" and wait for additional key to be pressed for following features:
  - a. Press key [A] Force Vend.
    (displays "FrcY" or "Frcn")
    Press key [A] again to toggle between force vend enabled ("FcrY") and force vend disabled ("Frcn").

b. Press Key [B] - Escrow Enable.

(displays "EScY" or "EScn")

Press key [B] again to toggle between escrow enable ("EScY") or escrow disable ("EScn").

The escrow enable option allows the validator to return a bill inserted by a customer who changes their mind. The bill inserted will be held by the validator without being stacked. When the coin return button is pushed, the bill is returned.

c. Press key [C] - **Multi-Vend.** (displays "MuLY" or "MuLn")

Press key [C] again to toggle between multi-vend enable ("MuLY") or multi-vend disable ("MuLn").

The multi-vend option allows the customer the option to vend multiple items without reentering credit. Change will not be returned immediately after a vend and credit will remain on the display for up to 20 seconds. Escrow attempts will be valid at any time or change will be returned after 20 seconds of no vend activity.

- d. Press key [D] Can Drink.(displays "CAnY")Press [D] again to toggle between "CAnY" and" CAnn".
- e. Press key [F] Free Vend.
  (displays "FREY" or "FREN")
  Press key [F] again to toggle between Free Vend Enable ("FREY") or Free Vend Disable ("FREN").

The Free Vend option allows the customer to test vend each selection motor for proper operation.

NOTE: The machine should be on "CAnY".

### components



CAUTION: THE FOLLOWING PROCEDURE REQUIRES THAT THE MACHINE HAVE POWER APPLIED AND A POTENTIAL ELECTRICAL SHOCK HAZARD EXISTS.

- Power Supply. The 115V AC power cord from the wall outlet comes into the machine and plugs into the back of the main junction box located on the bottom right side of the cabinet. The voltage output to the board is 24 volts and is plugged in the top right corner (P1 position).
- Changers. The Snackshop LCM can use a variety of either Coinco or Mars changers. The machine is wired for only 24 volt models. The changers available are Coinco (9302L or 9302LF) and Mars (TRC-6010 or TRC-6010XV). In addition, control boards support MDB (Multi-Drop Bus) peripherals which include coin mechanisms, validators and card readers. MDB harness is P/N 680576.
- Controller Board. This module is located on the inside door (above selector panel) of the vending machine. The controller will govern all vending activity within the machine. It has the capability of driving eighty/selections.
- 4. **Mode Switch.** The Snackshop LCM has only one mode switch that allows control of the machine functions. It is located on the control board. This switch will allow 6 modes of operation.

- 1. Operate (vending mode)
- 2. Change payout
- 3. Accountability
- 4. Price setting
- 5. Test vend
- 6. Vend option
- 5. **Operate Mode.** The operate mode is when the machine is in the normal customer vending mode. The following steps explain the operation and sequence of events when making a vend.
  - a. Digital Display. During standby with no credit in machine, the digital display will show all zeros with a designated decimal point. When an alpha-numeric character is pressed, this selection will be displayed.
  - b. Credit Operation. Credit may be accumulated through either a coin changer or bill validator mechanism. Credit acceptance will disable when the accumulated credit equals or exceeds the highest priced item. If using an executive or "Protocol A" type coin mechanism, credit acceptance is controlled by the changer. The bill validator will be enabled when a combination of nickels and dimes, or nickels and quarters are available in the changer.
  - vend Process. After a keypad entry is made, the controller will determine if sufficient credit is available and

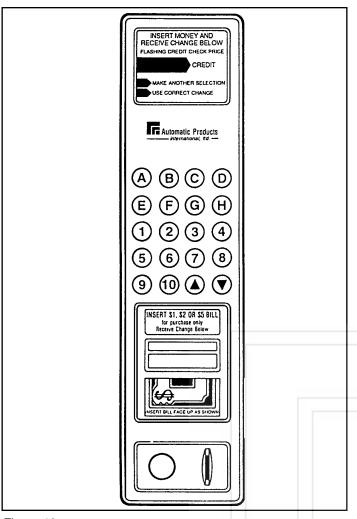


Figure 10.

the status of the selection. If the accumulated price and the motor is present, a vend attempt will be made for that selection. During this time, the selection will be shown on the display. If credit is less than the selection price, the price will be flashed for 3 seconds or until an alpha key is pressed. If the motor is flagged as bad, the selection and the "MAKE ALTERNATE SELECTION" LED will be flashed for 3 seconds or until an alpha key is pressed.

- d. Change Payment. Following a successful vend, the amount of change to be returned will be displayed for 2 seconds or until all coinage is paid back. A least coin payout algorithm will be implemented.
- e. Use Correct Change LED. If the changer's least value coin tube is empty, the "USE CORRECT CHANGE" LED will be illuminated continuously.
- 6. Selection Panel. The selection panel (Figure 10.) on the Snackshop LCM incorporates that use of a self enclosed membrane switch panel. This eliminates the need for individual switches and wiring. The membrane switch panel is housed in a panel with individual buttons protecting the switch face. The panel front also houses the display lens. The display lens gives instructions to the customer for 2 conditions which might occur (make another selection/use correct change). The display lens also contains 3 LED lights.

7. Vend Motors. The Snackshop LCM incorporates the use of a high RPM DC motor. Due to new design, the vend motor may no longer be homed by hand. DO NOT TRY TO TURN THE SPIRALS BY HAND. DAMAGE TO THE MOTOR WILL RESULT. It is also important to check polarity before applying current to the motor. 2 diodes and a capacitor are used to prevent circuit feedback and may have to be checked when trouble shooting motor problems.

#### NOTE: Use black color motor only.

- Lighting System. There is only 1 flourescent lamp in the Snackshop LCM. The lamp is located on the top, inside of the door which lights up the main product area. The starter is located on the hinge side of the lamp. The ballast and line filter is located on the top, front, left shelf support. (Page 18, Item 16.)
- 9. Main Product Shelves. There are three main product shelves per machine. Each containing either 4 or 8 selections. Each selection has its own motor mounted to the back of the shelf. Every shelf has its own harness and plug for connecting to the remainder of the circuit through the cabinet receptacle, located in the right, rear of the cabinet. The motors are the same on either type shelf. It is now possible in the Snackshop LCM to exchange a 4-selection shelf with a 8-selection shelf or vice versa. You also have the capability to gain 1/2" either up or down on any shelf. To do this, the shelf should be removed and the cabinet back harness receptacle lowered or raised with the right and left shelf tracks.

NOTE: When exchanging the shelves, you will not need any parts, but you will have to reprogram the machines for prices and selections

#### Removing Product Shelf.

a. Lift up and push the lock levers toward the back of cabinet. (Figure 1., Page 3.)



- b. Pull shelf to its loading position.
- Grasp shelf in front and rear center. Lift front of shelf up above horizontal and pull shelf forward while lifting.
- d. To install shelf, reverse above procedure.
- 10. Delivery Bin. This is located below the display window on the door and is mechanically operated. The linkage on the outside end of the delivery bin may require occasionally lubrication. Should the door become difficult to operate, place a small amount of grease on the arm tracks.

#### Removing Delivery Bin.

a. Remove the screws from the underside of the delivery bin. These screws fasten into the lower door brace and remove the screws and brackets at the top of the delivery bin.



b. Grasp delivery bin on both sides, lift up and pull back.
 Should bin be tight, rock it by lifting on one end, then the other.

### components

#### Replacing Delivery Bin.

- a. Locate lip on front edge of delivery bin, over lower edge of opening in door and behind trim. Press down along lip to make sure it is fully engaged between door and trim.
- Install the 4 screws and 2 brackets, to secure bin to door.
- 11. Coin Return. The coin return lever is located on the sliding panel and the coin return linkage is located above the changer, scavenges the slug rejector. Actuation of the coin return lever, will clear the rejector of any damaged coin and will also cancel all credit on the changer, returning that amount to the customer.
- **12. Coin Acceptance.** A coin or coins (5¢, 10¢ or 25¢) being deposited, passes thru the rejecter and into their respective coin paths in the changer, establishing the credit. The coins then enter either the self-load change tubes on the changer or the cash box. Actuation of the coin return lever prior to making a selection will cancel all credit on the changer and will return the amount of deposit back to the customer.

### cleaning

The Snackshop LCM will do the best merchandising job for you if it is kept clean. The display window can be cleaned with any good glass cleaner. The exterior and interior surfaces should be cleaned with warm water and mild detergent. Rinse thoroughly and dry all surfaces.

The main product shelves can be best cleaned with the spirals and product spacers removed. Refer to page 3 for removal of spirals and page 4 for removal of the product spacer.

#### **CAUTION:**

Do not use any cleaners containing silicon, as this could cause electrical failures.

Clean the acceptor on the changer frequently, accumulated dirt in this area can cause coins to hang or not be accepted. Follow recommended cleaning procedures as described by the manufacturer.

This document is available free of charge to our customers at www.automaticproducts.com

### optional equipment

**1. Ventilating Fan:** (Part #660441 - 120 volts)

The ventilating fan keeps a steady flow of air moving through the vendor cabinet. Installation of the fan takes only a few minutes. All the vendors are wired with a fan plug on the junction box for easy installation.

2. Gum & Mint. Gum & mint units are available as an option with Snackshop LCM vendors. For information pertaining to oading or servicing gum & mint unit, refer to this service manual for loading instructions and for service instructions.

#### **CAUTION:**

Do not attempt to use the special candy spirals in a 10 selection shelf.

3. Soup Dispenser LCM5 (Kit 750083-1)

A canned soup dispenser is available as an option for use in the 4-selection snack shelves. The dispenser is easy to install and holds up to seven cans in the unit.

- 4. Dollar Bill Validators. The validators take only a few minutes to install and my be purchased through the manufacturer of the unit. LCM machines will only use 24 volt validators.
- 5. Dual Spiral Shelf. Snack shelves can be set up to have dual spirals per selection on the shelf. The dual spirals will help vend specialty items better.
- 6. Convertible Shelf. The convertible shelf allows you to convert a snack shelf into a combination candy and snack shelf. The convertible shelf can be converted from 2 to 8 candy selections. (Example: 4 candy selections & 2 snack.)
- **7. Can Storage Tray.** (660553-1). The storage tray is used accordingly. to store spare cans inside the machine.

**8. Coin Mechs.** The API 120/320 Series machines support the following 24 volt Micromech and Multi Drop Bus Coin Mechs:

### 24 Volt Micromech Models - 15 pin plug only

Coinco 9302 LF

Mars TRC-6010XV

VN-4010

Conlux USLX-004-01F

#### Multi Drop Bus Models

Mars TRC-6510 VN-4510 Coinco 9302-GX Conlux USLZ-004-01F

The machine will automatically determine at power up which Coin Mech is connected and configure itself accordingly.

**9. Bill Validators.** The API 120/320 Series supports the following 24 volt MDB Bill Validators:

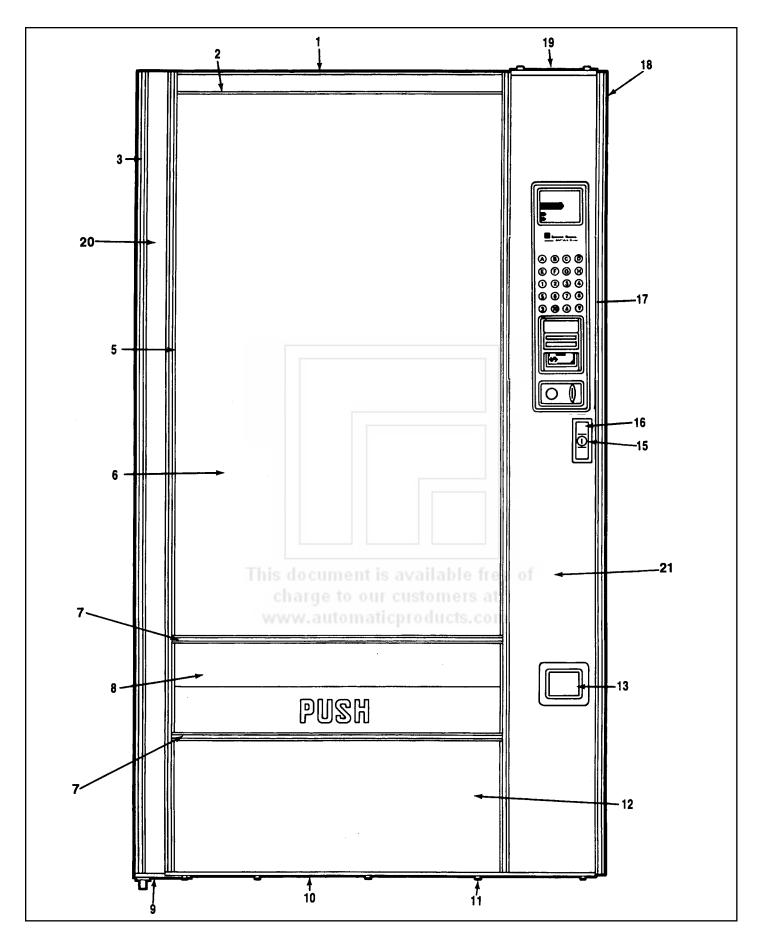
### 24 Volt Validators

Coinco BA32SA
BA32R
Mars VFM1-L2-U4C
VFM3-L2-U4C
VN-2502-U5E

#### Multi Drop Bus Validators

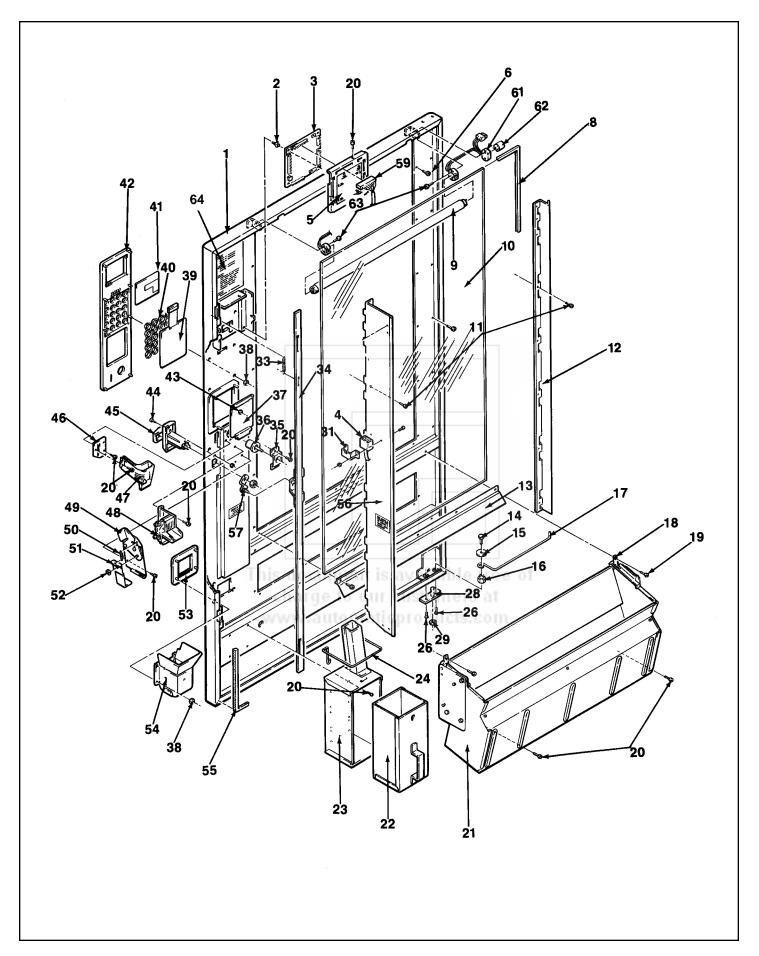
Coinco BA32SA BA32R Mars VN-2502-U5M

The machine will automatically determine at power up which Validator is connected and configure itself accordingly.

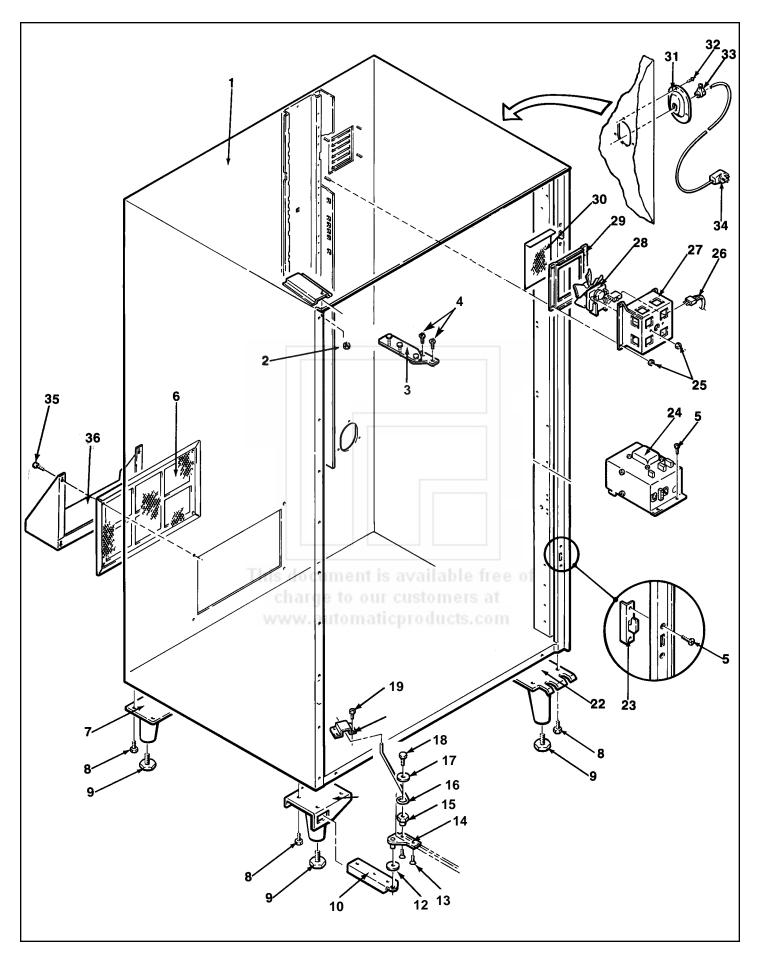


## door - outside front

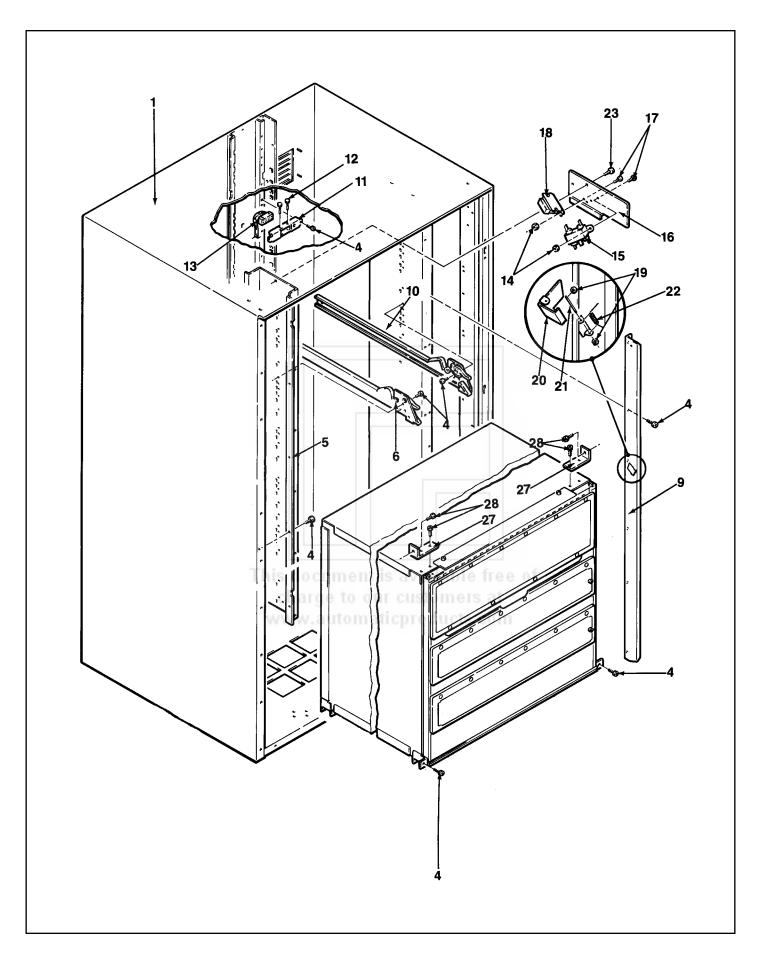
Item No.	Part No.	Description		Item No.	Part No.	Description
No.  1 2 3 5 6 7 8 9 10 11 12 13	9art No.  340044-10 201690-3 201690-14 340057-2 340058-46 750141-1  340058-12 201356-2 201356-42 640012 201678-2 420186 201692-15 201692-55 660581 660581-1 440411 440411-1 440412	Top Trim Vantage Top Trim Insert.Hide Black. Top Trim Insert. Dark Gray. Trim Outside Vertical.Black. Right & Left Side. Trim Vertical. window. Black, Right & Left Side. Front Window. (44 5/8 x21 9/16 x 1/8).  NOTE: Replacement Glass Must Be HardTempered or Lexan Only. Trim Horizontal.Window. Black. Delivery Tray Panel. True Grit Black. Delivery Tray Panel. Dark Gray. Assembly, Lower Door Hinge Plate. Bottom Door Edging. Screw Pan Hd.Drill Pt. (6-20 x 1/2) Qty.4. Lower Horizontal Panel.Dark Gray. Coin Cup Trim. Coin Cup Trim.Medium Gray. Coin Cup Trim.Black Coin Cup Trim.Gray Coin Cup Door	cus	15 16 17 18 19 20 21	420071 660319 420146 440444 600807 600807-1 600822 600822-2 600599-1 201678-7 202059-28 202059-49 202059-51 202059-53 12000205-14 12000205-15 750202	Ace Lock W/2 Keys. Assembly Lock Handle W/Lock Arm & Nut. Lock Handle Only. Bezel Ring. Door Only. Square. Specify Color Door Only. Square w/Van Door Only. European. Specify Color. Door Only. European Style. Specify Color. w/Door Guard Door Only. With Validator Hole And Debit Card Use. Specify Color. European Top Lock Door Edging. Panel, Left Side Vertical. Painted. Specify Color. Panel, Left Side Vertical. White. Panel, Left Side Vertical. Sterling Royce. Panel, Right Side Vertical. Upper. Painted. Specify Color. Panel, Right Side Vertical. Upper. White. Panel, Right Side Vertical. Upper. Dove Gray. Panel, Right Side Vertical. Upper. Sterling Royce. Point of Sale Window Add On Kit (not shown)



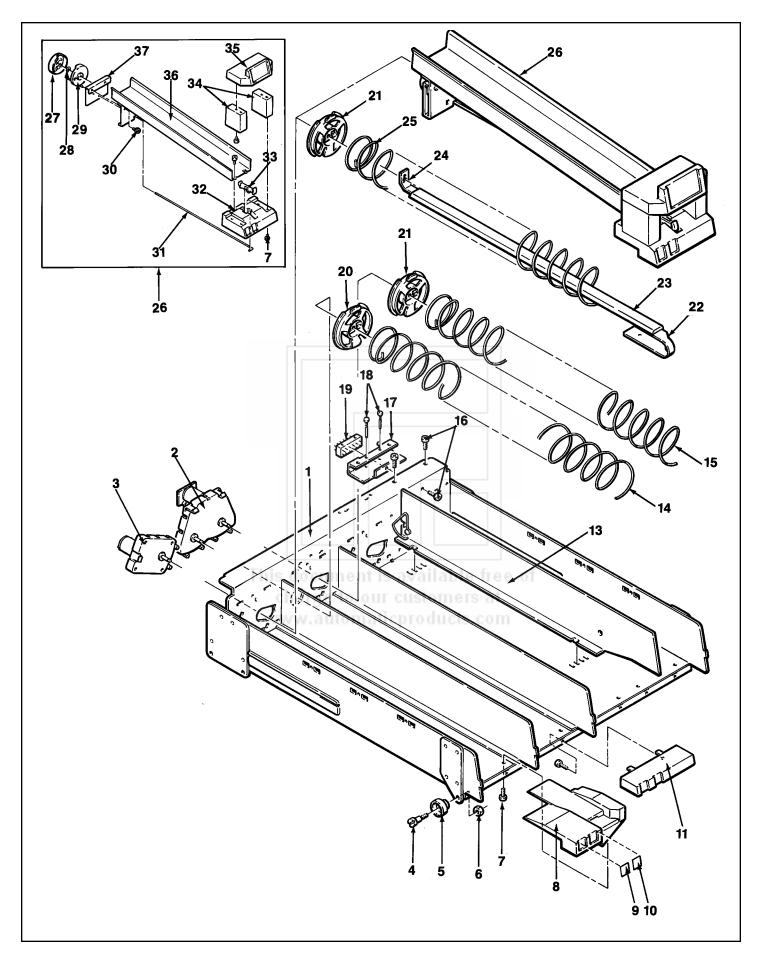
Item No.	Part No.	Description	Item No.	Part No.	Description
1	600822	Door Only, Euro Style, Specify Color	41	440390	Instruction Glass
	16000040	Door Only, Standard, Specify Color		440401	Instruction Glass, French
2	420303	Control Board Stand-off		440400	Instruction Glass, Mexico
3	360206	Control Board w/MDB		440402	Instruction Glass, Dutch
		(Requires Cover 202325)		440403	Instruction Glass, German
4	680547	Harness Changer Plug-In		440440	Instruction Glass, Italian
	680567	Harness Changer Plug-In, Executive Export		17400005	Instruction Glass, Russian
	680576	Harness MDB		17400007	Instruction Glass, Hungary
	420303	Control Board Stand - Off	42	660517	Assembly Complete, Selector Bezel, Gray
5	202325	Control Board Cover Only		660517-1	Assembly Complete, Selector Bezel, Black
	660528	Control Board Cover w/Decal		440389-1	Selector Bezel Only, Gray
	460628	Decal Only		440389	Selector Bezel Only, Black
	460671	Decal, Dutch	43	404-8	Nut, Hex Head (8-32)
6	201-6R7	Screw, Round Head, Phillips, Type B (6-18	44	118-10-8	Bolt, Carriage (10-24 x 1/2)
		x 7/16), Quantity - 2	45	660319-1	Assembly Complete, Lock Handle w/Lock
7	680512	Assembly Complete, Lamp Harness		1	Arm & Nut
8	460436	Insulation, Rubber, 143" (Order length needed)	46	201712	Coin Chute Bracket
9	380022-5	Lamp, Fluorescent (F18T8 CW-24)	47	440311	Coin Chute, Plastic
10	750141-1	Window, Front (44-5/8 x 21-9/16 x 1/8)	48	660488	Assembly, Coin Chute, Plastic
		NOTE: Replacement Glass Must Be Hard	49	660367	Assembly Complete, Coin Return
		Tempered or Lexan Only.		640152	Assembly, Coin Return Bracket
	460570	Decal, "Cool-Cool" (not shown)	50	400007	Spring
11	201-6R11	Screw, Round Head, Phillips, Type B (6-20 x 11/16)	51	201703	Coin Return Link
12	201381 -3	Shield & Window Clamp	52	751-25	Retaining Ring (1/4)
13	201385	Window Clamp, Bottom	53	660581	Coin Cup Front Assembly, Black
14	114-41-8	Screw, Hex Head, Machine (1/4-20 x 1/2)		660581-1	Coin Cup Front Assembly, Gray
15	420010-10	Washer		440411	Trim, Coin Cup, Black
16	300156	Nut, Special, Door Stop Anchor		440411-1	Trim, Coin Cup, Gray
17	400090	Door Stop		440412	Coin Cup Door (not shown)
18	200906	Delivery Bin Anchor Strap	54	440413	Coin Cup, Plastic
19	217-8R10	Screw, Pan Head, Phillips, Type A (8 x 5/8)		440414	Coin Cup, Chute
20	210-8R6	Screw, (8-32 x 3/8)		660618	Assembly Coin Cup w/Striker Export
21		Assembly Complete, Delivery Bin (See page	availa	440413	Coin Cup Only Export
		OF for itamizad narta)		202432	Striker Door Switch Export
22	600179-1	Cash Box	l I	1 300184	Shoulder Bushing (2) Export
23	600714	Cash Box Mounting Bracket	:produ	276-8R6	Screw Pan Hd Self Tap (8-32x3/8)(2)
24	400180	Cash Box Retainer		400188	Spring Striker Door Switch Export
25	420003-1	Screw, Flat Head (1/4-20 x 1/2)	55	460041	Insulation, Foam (Order length needed)
26	420003	Screw, Flat Head (1/4-20 x 3/4)	56	12000010	Window, Side Shield, Lock Side
27	420040-9	Hole Plug	57	640131	Lock Arm Only
28	640157	Lower Hinge Plate	58	404-10	Nut, Hex Head (10-24)
29	420010-18	Washer	59	680548	Harness, Bill Validator Hook-Up
31	202024	Changer Socket Bracket		680641	Harness Mars MDB 24 Volt
	202775	Loading Barricade Closer (Not Shown)	61	680512	Harness, Lamp
32	380023	Starter (FS-25)		680456-1	Harness, Lamp (not shown)
33	400112	Spring Locking Bar	62	380023	Starter, FS-25
34	600432-3	Locking Bar Only		380023-4	Starter, FS-11, 240V
35	201660	Coin Return Bracket	63	750097	Lock and Cam for Cash Box. w/2 keys.
36	440289	Coin Return Button, Gray			Specify Number.
	440289-3	Coin Return Button, Black		420020	Lock w/1 key. Specify Number.
37	660370	Assembly, Validator Filler, Black		420069	Cam Cash Box Locking only.
٠.	660370-3	Assembly, Validator Filler, Gray	64	460629	Decal Mode Instructions, English
38	18443	Nut, Hex Head, 1/4 Self Threading	"	460672	Decal Mode Instructions, Dutch
39	660519	Assembly, Selector Switch Panel		460679	Decal Mode Instructions, Italian
40	440304	Selector Buttons, Quantity - 20		460680	Decal Mode Instructions, Spain
.0		25.55.5.			



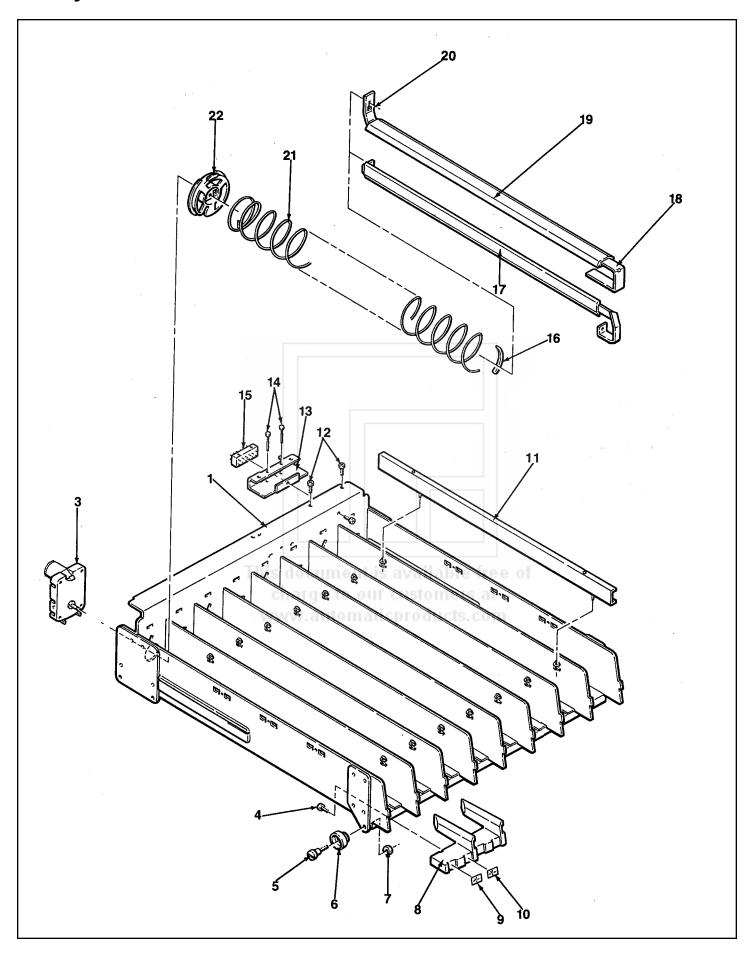
Item No.	Part No.	Description		Item No.	Part No.	Description
No.  1  2 3 4 5 6 7 8 9  10 11 12 13 14 15 16 17 18 19 22 23	Part No.  600830  600830-1  438-41 640150 420003-1 276-8R6 16600047 600195 420187 300103 660599 201773 600195 420010-22 420003 640157 300151 400090 420010-10 114-41 -8 200940 600197 600433	Cabinet Assembly Complete w/legs, Specify Color, Chill Cabinet Assembly Complete, w/Legs, Specify Color, Amb. Nut, Kep (1/4" x 20) Assembly, Upper Hinge, Specify Color Screw, Flat Head (1/4-20 x 1/2) Screw, Pan Head, Self Tap (8-32 x 3/8) Assembly, Back Screen Leg Assembly, Rear, Specify Color Screw, Hex Head, Machine (5/16-18 x 3/4) Leg Leveler Leg Leveler Bolt "Multisnack" Lower Hinge Support, Specify Color Leg Assembly, Front, Pivot Side, Specify Color Washer Screw, Flat Head (1/4-20 x 3/4) Assembly, Lower Door Plate, Specify Color Nut, Special. Door Stop Anchor Door Stop Washer Screw, Hex Head, Machine (1 /4-20 x 1/2) Door Stop Bracket Assembly, Leg, Front Lock Side, Specify Color Assembly, Door Lock Catch		No.  25 26 27 28  29 30 31 32 33 34	404-4 680456-1 202072 360122-2 360122-3 660441 660441-1 360122-3 202070 202235 202071 202270 420078-1 380052-3 16600099-01 16600099-01 16600099-02	Hex Nut (8-32) Harness Fan Fan Housing Fan Motor, 115 Volt Fan Motor, 230 Volt Kit, Fan Add-On, 115 Volt Kit, Fan Add-On, 230 Volt Fan Motor, 230 Volt Screen Bracket Cover Plate, Use w/o Fan Screen Power Inlet Cord Plate Pop Rivet Strain Relief Bushing w/Screw Assembly Power Inlet Cord Ambient, 1.5 Volt Assembly, Power Inlet Cord, Complete, AP/UK, Export Assembly, Power Inlet Cord, Complete, Israel, Export Assembly, Power Inlet Cord, Complete, Multisnack Screw Pan HD Phillips (8-32 x 1/2) Deflector
23 24	600433 660529	Assembly, Door Lock Catch Assembly, Junction Box (see page 39-40 for itemized parts)  This document is charge to our	CUS	ailab	ers at	

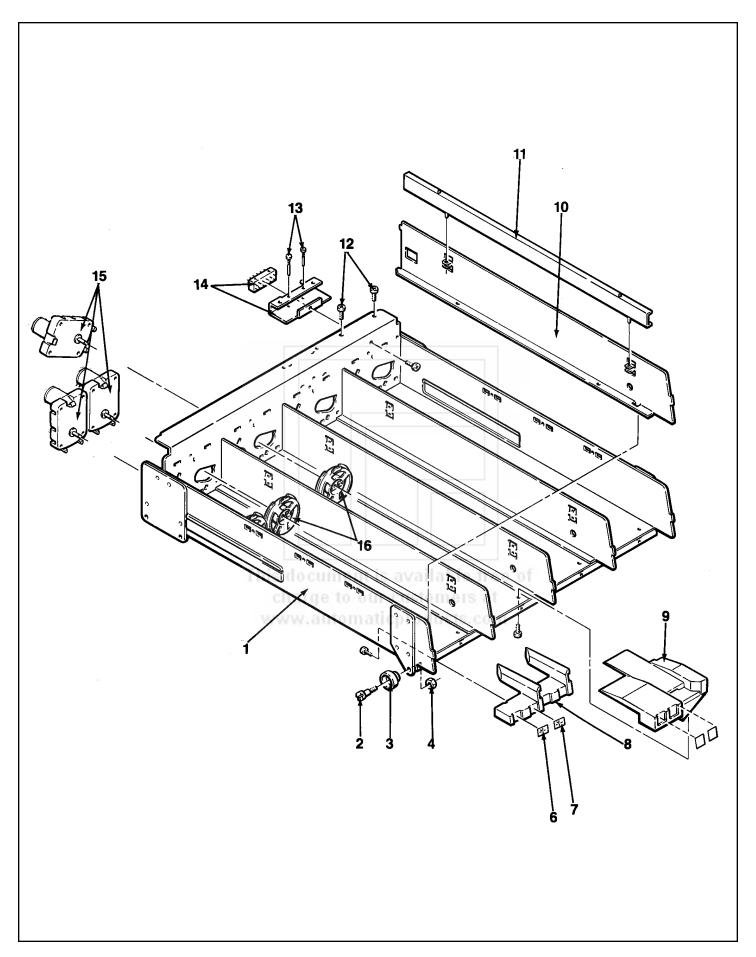


Item No.	Part No.	Description		Item No.	Part No.	Description
1 4 5 6 9 10 11 12 13 14 15 16	600830-1  276-8R6 12000008 640177-2 660712 1200009-01 16600003 640177-1 202177 420142-2 660516-2 404-6 380303 16600092  16600092-03  202251 210-8R6 680514 680513-2 751-9	Cabinet Assembly Complete, w/Legs, Specify Color. Screw, Pan Head, Self Tap (8-32 x 3/8) Shelf Support, Left Front Assembly, Cabinet Shelf Track, Left. Assembly, Complete, Filler Plate Filler Plate, Right Front Assembly, Complete, Filler Plate Assembly, Complete, Filler Plate Assembly, Cabinet Shelf Track, Right. Cabinet Receptacle, Mounting Bracket Only Drive Pin Assembly Complete, Cabinet Back Harness, Nut, Hex Head (6-32) Assembly, Line Filter Assembly Complete, Light Ballast & Filter, 115 Volt Assembly Complete, Light Ballast & Filter, 230 Volt, All LCM Cover Mounting Plate Only Screw, Pan Head (6-32 x 3/8) Ballast Only, 115 Volt Ballast Only, 230 Volt, All LCM Retaining Ring		20 21 22 23 27 28	202376 300211 400182 216-41 R8 202400 210-8R6	Latch Latch Pivot Pin Spring Screw Mounting Bracket Screw
		This document is charge to our www.automatic	CUS	tom	ers at	of



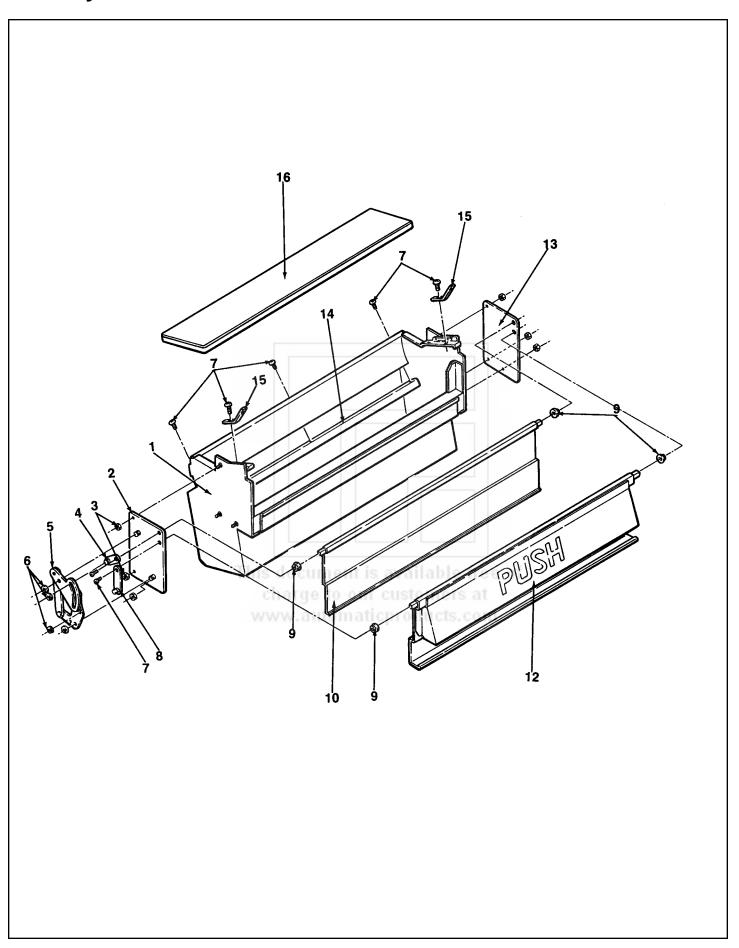
Item No.	Part No.	Description		Item No.	Part No.	Description
1	750121-8 660687	Assembly Complete, Snack Shelf w/o Spirals Assembly Complete, Snack Shelf w/o Spirals,		18 19	420142-2 660435-5	Pin Drive Assembly Complete, Harness and Plug Bracket
	750162-7	Chill Assembly Complete, Dual Snack Shelf		20	680446 440366	Harness, Pastry Shelf Only Spiral Retainer, Left Hand, Gray
	600819	Snack Shelf Only, Chill		21	440287	Spiral Retainer, White
	600267-5	Snack Shelf Only, AMB		22	201534	Front Support Only
2	750159-1	Kit, Dual Spiral Add-On		23	660330-3	Assembly, Product Rail, Pastry
	360169-1	Dual Spiral Motor Only, Black & White			440148-2	Plastic Product Rail Only
3	360138-1	Vend Motor Complete Gray & White		24	200913	Rear Support Bracket Only, Pastry Spiral
4	300203	Screw, Shelf Roller		25	400124-1	Snack Spiral, 6 Space, Chrome
5	440362	Shelf Roller			400125-1	Snack Spiral, 8 Space, Chrome
6	437-41	Nut, Keps (28 x 1/4)			400126-1	Snack Spiral, 10 Space, Chrome
7	305-8R6	Screw, Pan Head, Phillips, Plastite (8-16 x 318)			400165-1	Snack Spiral, 4 Space, Chrome
8	440285	Tab Holder, Price & Selection		26	750083-1	Kit, Can Dispenser
9	460346	Tab, Item		27	440201	Drive Cam, Rear
10	460347	Tab, Price, Assorted, 25¢ - \$1.50		28	751-31	Retaining Ring (31)
	460602	Tab, Price, Assorted, \$3.10 - \$4.05		29	440200	Drive Cam, Front
	14600010	Tab, Price, Assorted (\$3.75 - \$5.50)		30	300184	Bushing, Shoulder
11	440367	Dual Spiral Pastry Shelf, Front Only			277-10R8	Screw, Type 23 (10-32 x 1/2)
13	202770-1	Snack Shelf Extra Extension (Not Shown)		31	400094-1	Wire, Actuator
	640101-1	Spacer, Snack Shelf		32	440196	Trim, Price & Selection
14	400184-1	Short Spiral, Left Hand, 4 Space, Chrome		33	440199	Lever, Stop
	400186-1	Short Spiral, Left Hand, 3 Space, Chrome		34	440198	Leg, Top Can Guide & Sign Trim
	400174-1	Dual Spiral Only, Left Hand, 6 Space, Chrome		35	440197	Top, Can Guide & Sign Trim
	400175-1	Dual Spiral Only, Left Hand, 8 Space, Chrome		36	600308-1	Dispenser, Can, Trough Only
15	400176-1	Dual Spiral Only, Left Hand, 10 Space, Chrome		37	640109	Cam, Mounting Bracket & Spring Assembly
15	400183-1 400185-1	Short Spiral, Right Hand, 4 Space, Chrome				
	400165-1	Short Spiral, Right Hand, 3 Space, Chrome Dual Spiral Only, Right Hand, 6 Space, Chrome				
	400173-1	Dual Spiral Only, Right Hand, 8 Space, Chrome				
	400110-1	Dual Spiral Only, Right Hand, 10 Space, Chrome				
16	276-8R6			- : : - :	La Gran	. 6
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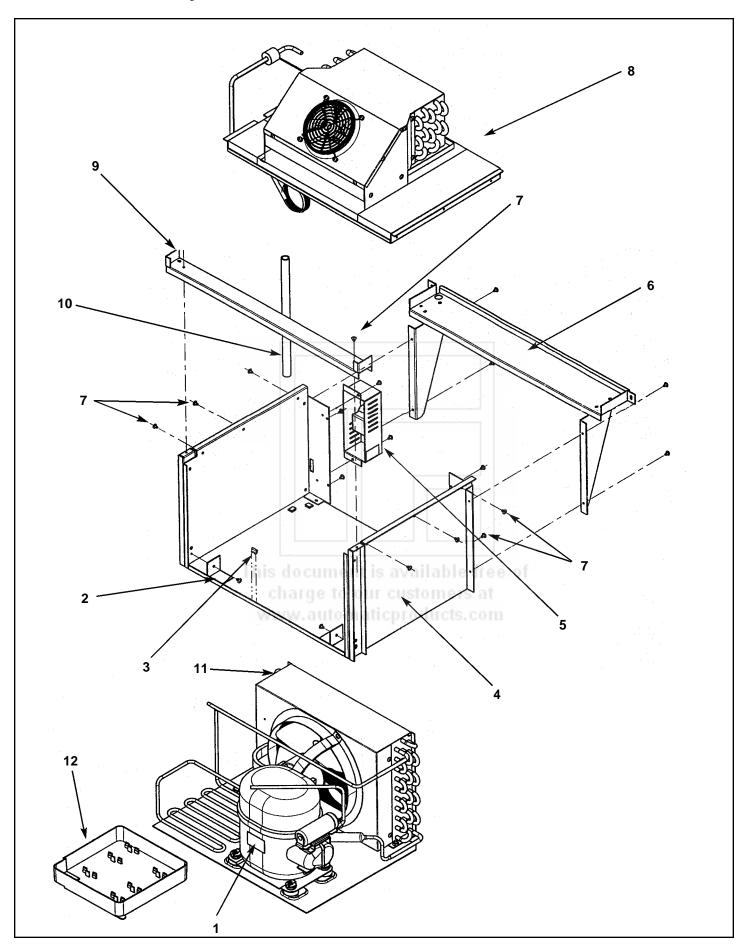


## convertible shelf

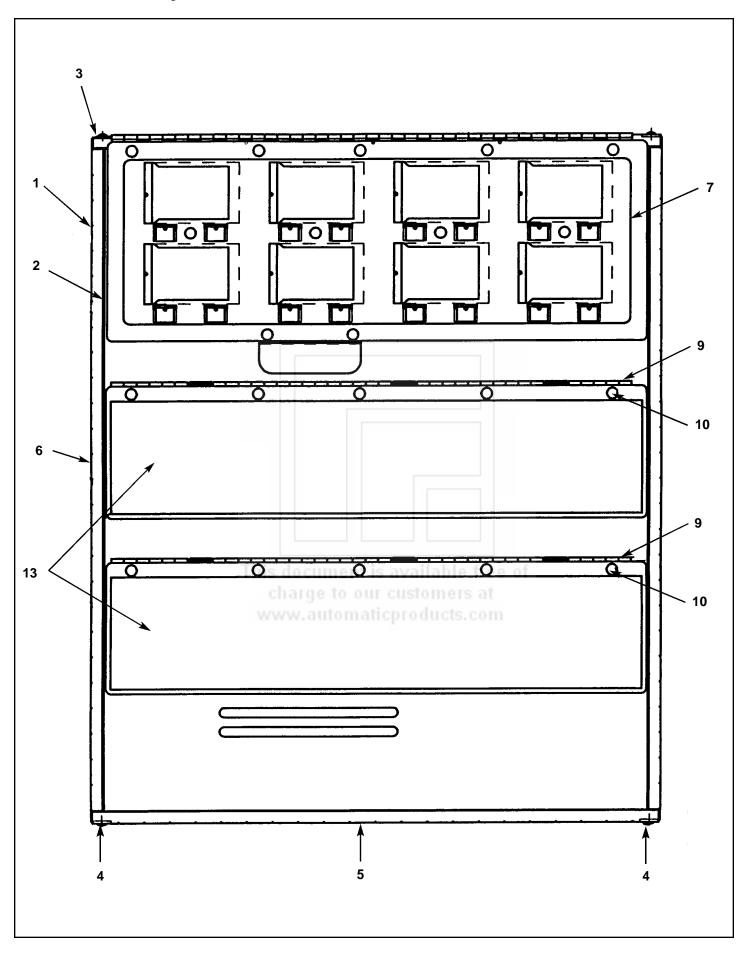
Item No.	Part No.	Description		Item No.	Part No.	Description
1	750148-10	Assembly Complete, Convertible Shelf (4 Snack Selections) w/o Spirals			460347-18 460347-19	Tabs, Price, All \$2.00 - \$2.05 Tabs, Price, All \$2.10 - \$2.15
	750148-11	Assembly Complete, Convertible Shelf (3 Snack Selections, 2 candy) w/o Spirals			460347-20 460347-21	Tabs, Price, All \$2.20 - \$2.25 Tabs, Price, All \$2.30 - \$2.35
	750148-12	Assembly Complete, Convertible Shelf (2 Snack Selections, 4 Candy) w/o Spirals			460347-22 460347-23	Tabs, Price, All \$2.40 - \$2.45 Tabs, Price, All \$2.50 - \$2.55
	750148-13	Assembly Complete, Convertible Shelf (1 Snack Selection, 6 Candy) w/o Spirals			460347-24 460347-25	Tabs, Price, All \$2.60 - \$2.65 Tabs, Price, All \$2.70 - \$2.75
	750148-14	Assembly Complete, Convertible Shelf (8 Candy Selections) w/o Spirals			460347-26 460347-27	Tabs, Price, All \$2.80 - \$2.85 Tabs, Price, All \$2.90 - \$2.95
	750159-1	Kit, Dual Spiral Add-on w/o Spirals (Use per selection)			460347-28 <b>460529</b>	Tabs, Price, All \$3.00 - \$3.05 <b>Tabs, Price, French</b>
2	600819 300203	Convertible Shelf Only Screw, Shelf Roller			460540 460561	Tabs, Price, Mexico Tabs, Price, Spanish
3 4	440362 437-41	Roller, Shelf Nut, Keps (28 x 1/4)			460644 460727	Tabs, Price, English Tabs, Price, Italian
5	305-8R6 460346	Screw, Pan Head, Phillips, Plastite (8-16 x3/8) Tabs, Item		8	440262	Tab Holder, Price/Selection, Offset Candy (See page 21, item 8 for Candy Spirals)
7	460347 460740	Tabs, Price, Assorted 25¢ - \$1.50 Tabs, Price, Assorted 75¢ - \$1.25		9	440285	Tab Holder, Price/Selection, Snack (See page 19, item 8 for Snack Spirals)
	14600010 460347-1	Tabs, Price, Assorted \$3.25 - \$5.50  Tabs, Price, All 30¢ - 35¢		10 11	200753-6 660178-2	Divider, Shelf, Candy Assembly, Candy Spacer
	460347-2 460347-3	Tabs, Price, All 40¢ - 45¢ Tabs, Price, All 50¢ - 55¢ Tabs, Price, All 604, 654		12 13	276-8R6 420142-2	Screw, Pan Head, Self Tap (8-32 x 3/8) Pin, Drive
	460347-4 460347-5 460347-6	Tabs, Price, All 60¢ - 65¢ Tabs, Price, All 70¢ - 75¢ Tabs, Price, All 80¢ - 85¢		14 15	660435-3 360138-1 750150-3	Harness, Candy Shelf with Plug Bracket Vend Motor Complete, Gray & White Kit, Convertible Shelf, 2 Selection Add-On
	460347-7 460347-8	Tabs, Price, All 90¢ - 95¢ Tabs, Price, All \$1.00 - \$1.05		16	440287	Lock, Spiral, White
	460347-9 460347-10	Tabs, Price, All \$1.10 - \$1.15 Tabs, Price, All \$1.20 - \$1.25				
	460347-11 460347-12	Tabs, Price, All \$1.30 - \$1.35				of
	460347-13 460347-14	Tabs, Price, All \$1.40 - \$1.45 Tabs, Price, All \$1.50 - \$1.55 Tabs, Price, All \$1.60 - \$1.65	cus pro	duc	ers at ts.com	
	460347-15 460347-16	Tabs, Price, All \$1.70 - \$1.75 Tabs, Price, All \$1.80 - \$1.85				
	460347-17	Tabs, Price, All \$1.90 - \$1.95				
			L			



Item No.	Part No.	Description		Item No.	Part No.	Description
1 2 3 4 5 6 7 8 9 10 12 13 14 15 16	660558-3 660558-1 600704-1 640187-1 438-8 640098 640100-1 751-37 276-8R6 640097 440129 420282 200763-1 200763-4 440373-3 440373-1 202285 200902-1 200906 420315-1	Delivery Bin Assembly, Complete, Gray Delivery Bin Assembly, Complete, Black Delivery Bin Only Arm Mounting Bracket Nut, Keps (8-32) Inner Door Bin Arm Bin Door Drive Assembly Retaining Ring (37) Screw, Pan Head, Self Tap, Phillips (8-32 x 3/8) Door Drive Arm Door Bearing Bin Door Washer (not shown) Inner Door Inner Door, Steel Door, Delivery Bin, Gray Door, Delivery Bin, Black Arm Mounting Bracket Baffle, Rear Delivery Bin Delivery Bin Anchor Strap Delivery Bin Pad Assembly, Can Dispenser				
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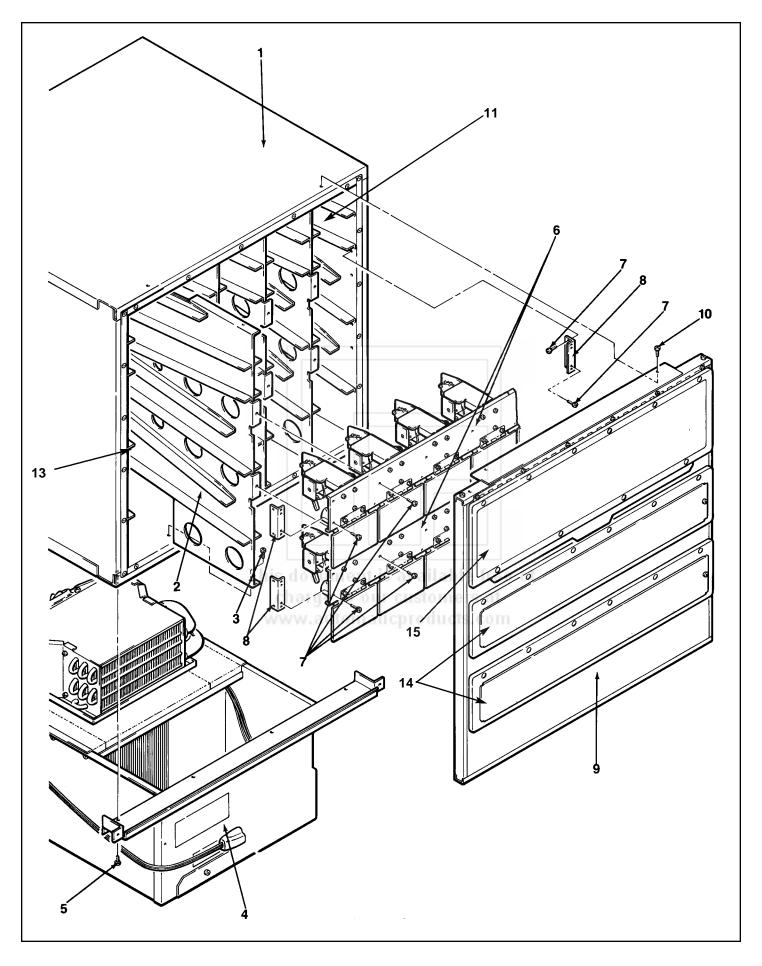


Part No.	Description			Part No.	Description
16600030 660711	Compressor Unit, Assembly Complete, 115 Volt Compressor Unit, Assembly Complete, Chill 115 Volt				
16600030-01	Compressor Unit, Assembly Complete, 230 Volt				
660711-1	Compressor Unit, Assembly Complete, 230 Volt Chill				
360269 <b>16700006</b>	Condensing Fan Only, 115 Volt Condensing Fan Only, 230 Volt				
202882 460768	Mounting Plate Bracket				
600832	Chassis Only, LCM5				
16600031-01	Assembly Timer & Snack Control AMB, 230 Volt				
210-8R6	Screw, Phillips #8 x 3/8				
16600029-01	Assembly Evaporator AMB, 230 Volt				
440318	Drain Tube				
660704-3	Assembly Condensing Unit, 230 Volt				
660692	Vent Screen (Not Shown)				
	This document is	avai	ilab		of
	www.automatic	prot	uuc		
	16600030 660711 16600030-01 660711-1 360269 16700006 202882 460768 600832 16600031-01 600833 210-8R6 16600029 16600029-01 420318 440318 660704-2 660704-3 440459	16600030 660711 Compressor Unit, Assembly Complete, 115 Volt 16600030-01 Compressor Unit, Assembly Complete, 230 Volt Compressor Unit, Assembly Complete, 230 Volt Chill 360269 16700006 202882 460768 Clip-Spring Chassis Only, LCM5 Assembly Timer & Snack Control AMB, 115 Volt Front Cooler Support Only Screw, Phillips #8 x 3/8 Assembly Evaporator AMB, 230 Volt Bushing Drain Tube Assembly Complete, 230 Volt Chill Condensing Fan Only, 115 Volt Assembly Timer & Snack Control AMB, 115 Volt Assembly Timer & Snack Control AMB, 230 Volt Front Cooler Support Only Screw, Phillips #8 x 3/8 Assembly Evaporator AMB, 230 Volt Bushing Drain Tube Assembly Condensing Unit, 115 Volt Assembly Condensing Unit, 115 Volt Assembly Condensing Unit, 230 Volt Evaporating Pan Vent Screen (Not Shown)	Part No.   Description	16600030	Part No.  Description  Compressor Unit, Assembly Complete, 115 Volt Compressor Unit, Assembly Complete, Chill 115 Volt Compressor Unit, Assembly Complete, 230 Volt Compressor Unit, Assembly Complete, 230 Volt Chill Compressor Unit, Assembly Complete, 230 Volt Chill Condensing Fan Only, 115 Volt Condensing Fan Only, 230 Volt Mounting Plate Bracket Clip-Spring Chassis Only, LCM5 Assembly Timer & Snack Control AMB, 115 Volt Assembly Timer & Snack Control AMB, 230 Volt Front Cooler Support Only Screw, Phillips #8 x 3/8 Assembly Evaporator AMB, 115 Volt Assembly Evaporator AMB, 230 Volt Bushing Drain Tube Assembly Condensing Unit, 115 Volt Assembly Condensing Unit, 115 Volt Assembly Condensing Unit, 230 Volt Evaporating Pan

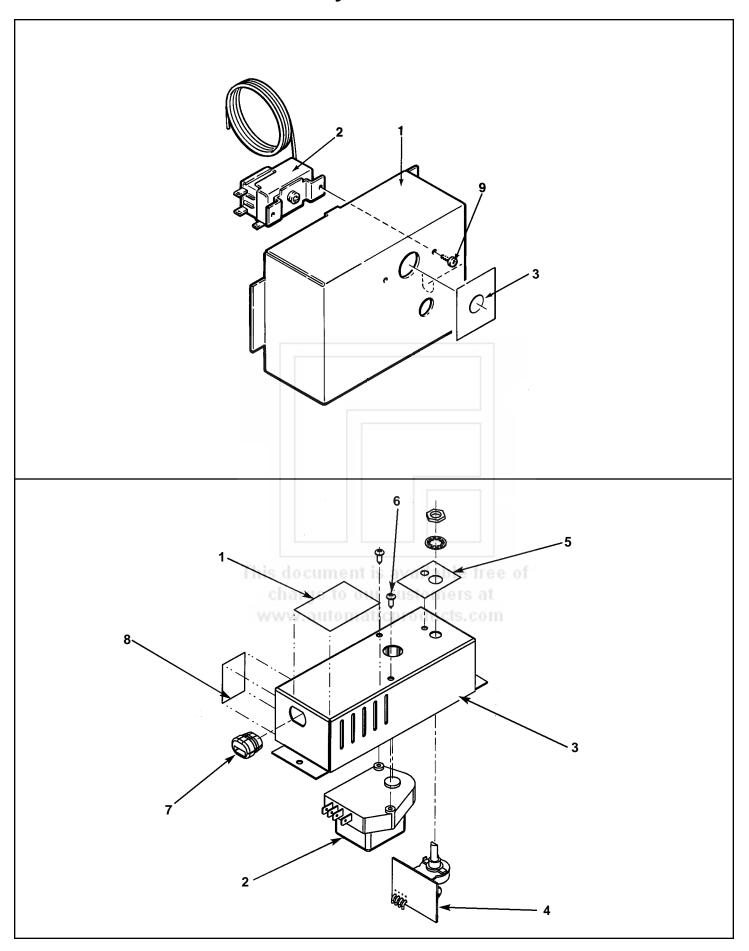


# \_door assembly

Item No.	Part No.	Description	Item No.	I	Description
1 2 3 4 5 6 7 8 9 10 12	660710 440457 420431 600831 210-8R6 202871-1 202394 660707 210-8R6 460770 217H6R8 217H6R5 440398 440398-1 660706 440456 420429	Front Panel Cooler Assembly, Chilled & not Chilled, (includes items 1-15) Frame, Front Panel, Chilled Gasket Top Support Weldment, Cooler Front Screw, Truss Head, Type A (8 x 3/8) Bottom Support, Cooler Front Side Support, Cooler Front Service Door Assembly (see page 35) Screw, Truss Head, Type A (#8 x 3/8) Hinge Assembly, Vend Door, Complete Screw (6 x 1/2) Screw (6 x 5/16) Shoulder Nut, Plastic 31/32 (Not Shown) Shoulder Nut, Plastic 11/32 (not Shown) Vend Door Assembly (see page 35) Vend Door Gasket			
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Item No.	Part No.	Description		Item No.	Part No.	Description
1	660700 660700-1 660703-1 660702 660702-1 660701 660701-1 600643	Cooler Assembly, US Chill (355 ML) Cooler Assembly, US AMB (355 ML) Cooler Assembly, UK/Juice AMB Cooler Assembly, UK/Juice Chill Cooler Assembly, Aust. (375 ML) Chill, LCM5 Cooler Assembly, Aust. (355 ML) AMB Cooler Assembly, UK (330 ML) Chill, LCM5 Cooler Assembly, UK (330 ML) Chill, LCM5 Cooler Assembly, UK/Juice, LCM5, (330) Assembly Cross Flow Blower & Bracket, Chill (Not Shown)				
2	360235 640233 <b>640199</b>	Cross Flow Blower Only. (Not Shown) Divider Panel Assembly Assy Divider Panel Guides Both Sides Assy Divider Panel Guides Both Sides				
3 4	<b>640200</b> 276-6R4	Assy Divider Panel Guides Both Sides Screw, Pan Head, Type 23 (6-32 x 1/4) Compressor Unit, Assembly Complete (see page 27)				
5 6 7 8 9 10	210-8R6 660694 276-8R6 202398 660710 217-8R10 202441 202441-1 202441-2 640235	Screw, Pan Head, Type A (#8 x 3/8) Qty. 21 Vend Motor Rack Assembly (see page 37) Screw, Pan Head, Type 23 (8-32 x 3/8) Qty. 8 Motor Rack Mounting Bracket Front Panel, Cooler Assembly (see page 29) Screw, Pan Head, Type B (#8 x 5/8) Filler Plate (Not Shown) Filler Plate European Filler Plate Australian Divider Panel Assembly LCM5 Right Side. UK & Aust.				
13 14	640234 660706	Divider Panel Assembly LCM5 Left Side. UK & Aust.		L		
15	660707	Assembly, Service Door LCM5	cust	tom		



### \_cold control

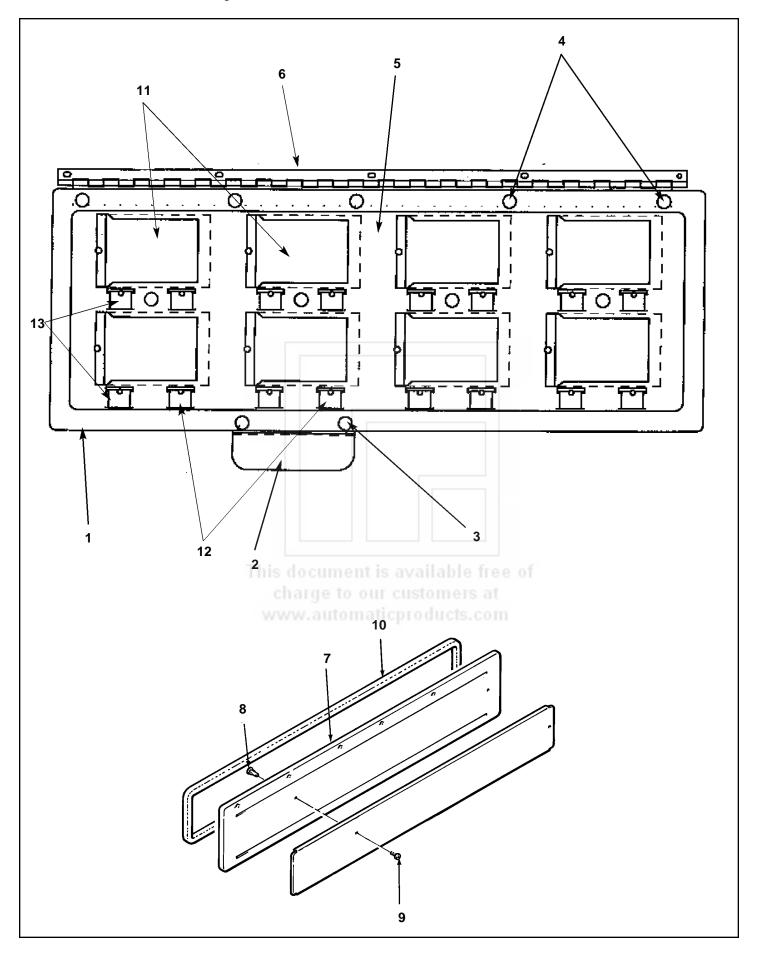
Item No.	Part No.	Description
1	660693 202849 <b>202366</b> 460642	Control Assembly, 115V (includes items 1-7) Cold Control Housing Only, 115V Cold Control Housing Only, 220/240V Decal, Voltage Disconnect (Not Shown)
2	360204 680648	Cold Control Switch Cold Control Harness (Not Shown)
3	460571	Label, Cold Control
4	276-8R6	Screw, Pan Head (8-32 x 7/16)

Item No.	Part No.	Description

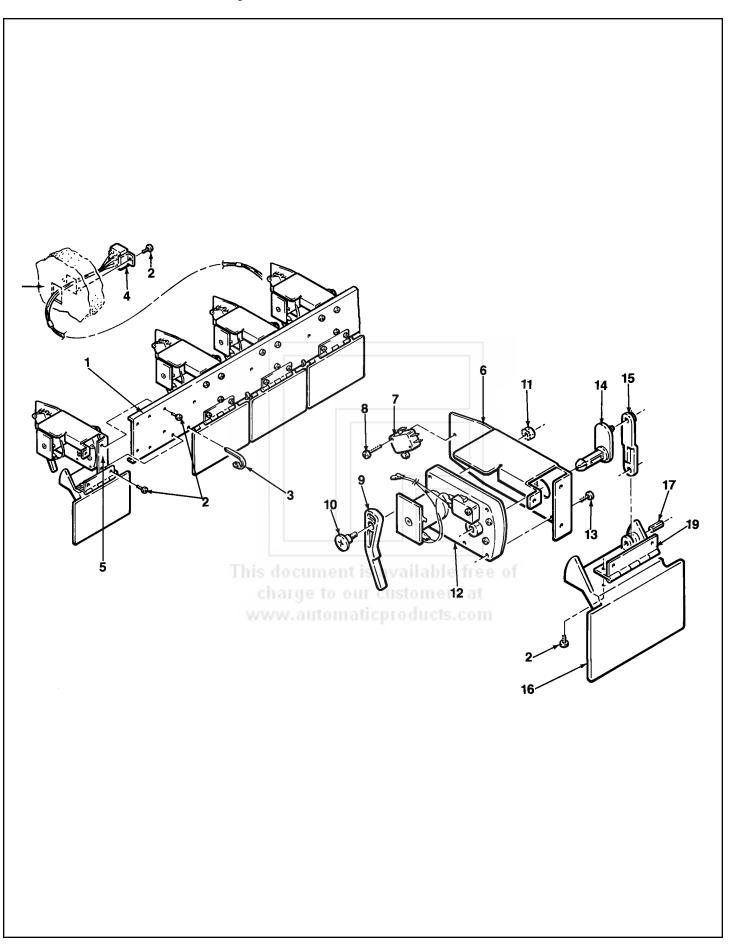
# \_ timer assembly

Item No.	Part No.	Description	
1	16600031 16600031-02 660690-2	00031-02 Assembly Complete. Timer/Snack Control.220V	
	16600031-01	Assembly Comlete. Timer/Snack Control.	
		208/240V - 50 HZ	
	460642	Decal, Voltage Disconnect	
2	380320	Defrost Timer 115V	
	380320-01	Defrost Timer. 208/240V	
	380320-02	Defrost Timer 220V	
3	202844	Defrost Timer Box Only	
	680650	Defrost Timer Harness LCM5 Chill (Not Shown)	

	Item No.	Part No.	Description
	4	360248	Assembly Fan Control PC Board LCM4/5 Chill
	5	460709	Label, Snack Section Cold Control
V	ailab	380293	Molex Plug. 4 Pin (Not Shown)
13	6	201-6R7	Screw, Right Hand, Type B #6 x 7/16
	7	380052-5	Strain Relief Bushing
	8	460458-03	Voltage Decal 208/220/240

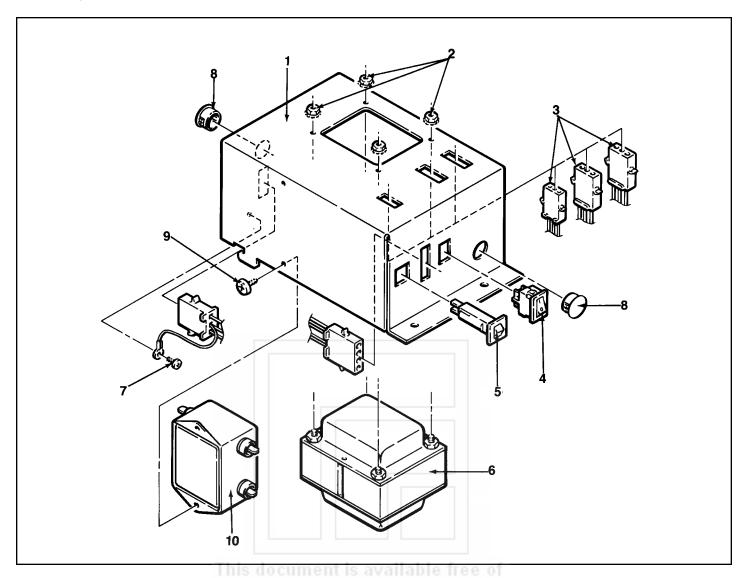


## \_\_\_ can door assembly



# \_vend motor assembly

Item No.	Part No.	Description		Item No.	Part No.	Description
	Part No. 660694 660695 660696 202851 202852 202850 276-8R6 380307 680649 660537 202391 380306 100-4-9 440394 300203 437-41 360199 305-7R8 440392 440393 440391 660554 300210 276-8R6 460630 276-8R6	Vend Motor Rack Assembly (includes items 1-5) Vend Motor Rack Assembly (includes items 1-5) UK (330ml) Vend Motor Rack Assembly (includes items 1-5) 5 3/8 spc, Australia Motor Assembly Mounting Bracket, Bare 5 1/16 special Motor Assembly Mounting Bracket, Bare, Aust Screw, Pan Head (8-32 x 3/8) Cable Tie Can Rack Harness, LCM5 Vend Motor Assembly (includes items 6-19) Motor Mounting Bracket Empty Switch Screw, Round Head (4-40 x 9/16) Empty Switch Lever Shelf Roller Screw Nut, Keps (1/4 - 28) Vend Motor, 24VDC Screw, Pan Head, Plastite (7 x 1/2) Motor Pivot Arm Link Arm Can Dispenser Only Assembly, Can Dispenser Linkage Link Pin Screw, Pan Head, (8-32 x 3/8) Can Dispenser Hinge Screw, Pan Head, Sems (8-32 x 3/8)	cus	No.	le free	

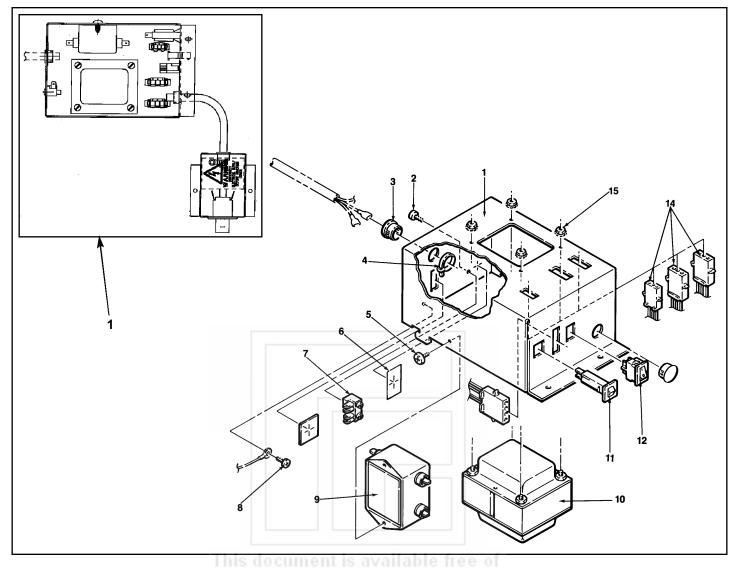


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Item No.	Part No.	Description
1	660529	Main Junction Box Assembly, Complete,
		LCM 5 & Chilled
	202355	Main Junction Box Only
2 3	437-8	Nut, Keps (8-32)
3	680559	Harness, Junction Box
4	380243	Switch, Rocker, On/Off
5	380241	Circuit Breaker, 3 Amp.
6	360194	Transformer
7	276-8R4	Screw, Pan Head, Self Tap (8-32 x 1/4)
8	420040-1	Snap Hole Plug
9	216-41R8	Screw, Pan Head, Type B (1/4 x 1/2)

Item No.	Part No.	Description
10	380304 420040-2 460642	Filter, Line Snap Bushing (1/2) Not Shown Decal Voltage, Not Shown

### \_ main junction box - export

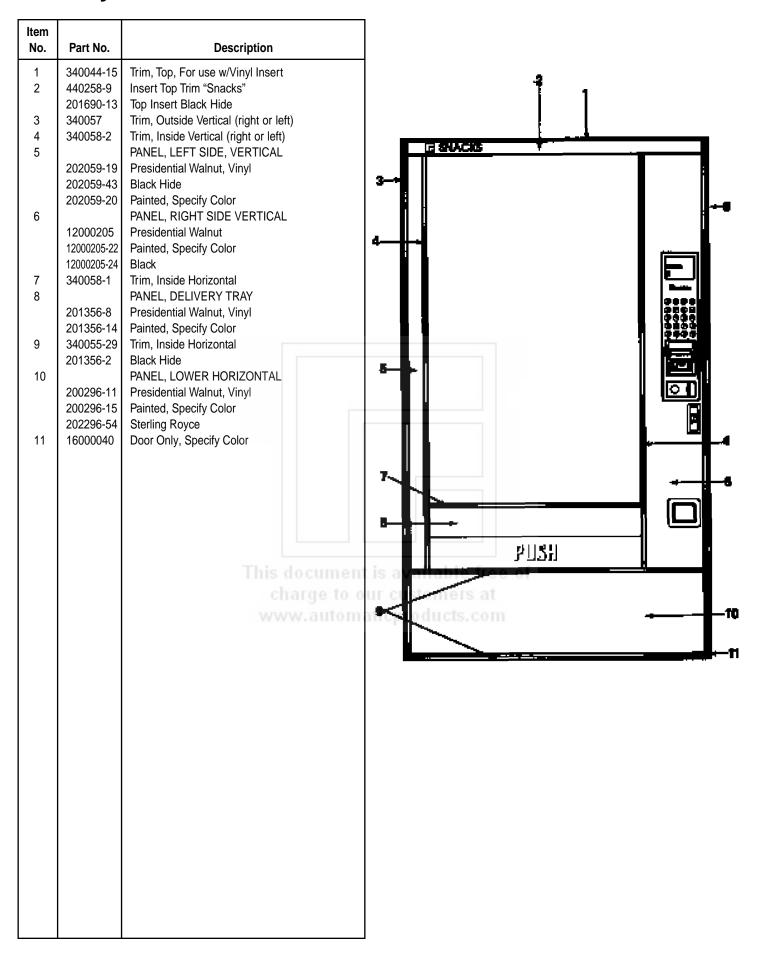


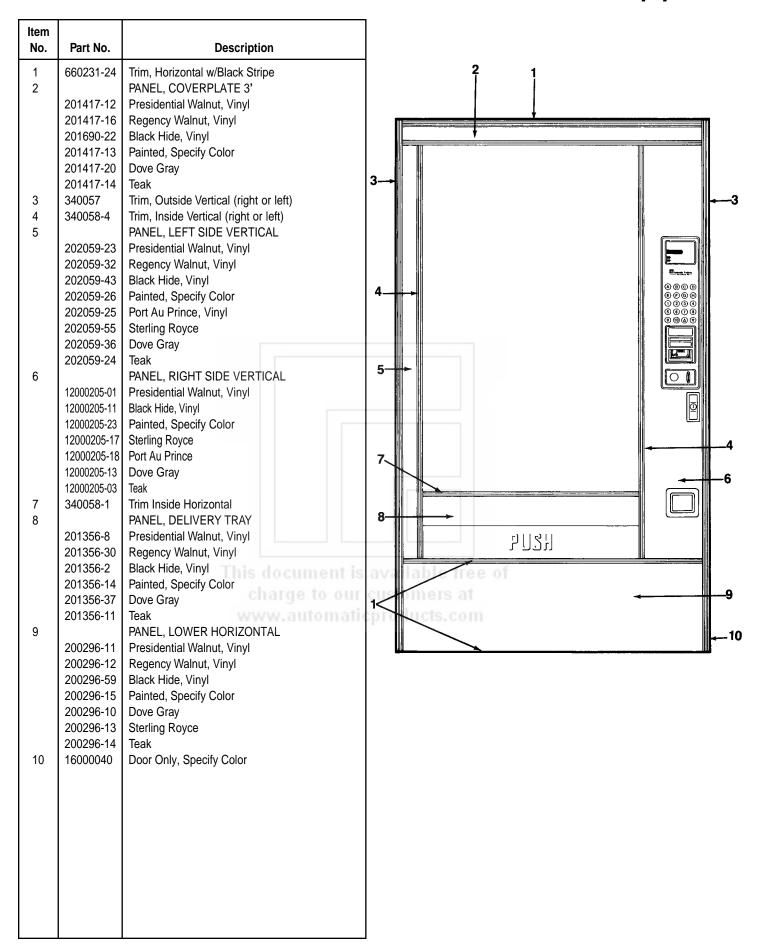
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Item No.	Part No.	Description		Item No.	Part No.
1 2 3 4 5 6	660689 202355 202843 380262 460642 210-8R6 420040-2 380078 216-41R8 440065	Main Junction Box Assembly, Complete, LCM, 230 Volt Main Junction Box Only Door Switch Box Only Door Switch Export Decal, Voltage Disconnect Screw, Pan Head, Self Tap (8 x 3/8) Snap Bushing (5/8) Cable Tie Screw, Pan Head, Type AB (1/4 - 1/2) Mylar Insulation		7 8 9 10 11 12 13 14 15	380285 276-8R4 380304 360203 460458-3 380241 380243 420040-2 680570-3 437-10

Item No.	Part No.	Description
7	380285	Terminal Block
8	276-8R4	Screw, Pan Head, Self Tap (8-32 x 1/4)
9	380304	RFI Filter
10	360203	Transformer, 230 Volt
	460458-3	Voltage Label 230V (Not Shown)
11	380241	Circuit Breaker, 3 Amp
12	380243	Rocker Switch
13	420040-2	Snap Plug (5/8)
14	680570-3	Harness, Junction Box, 230 Volt
15	437-10	Nut, Keps (10-32)

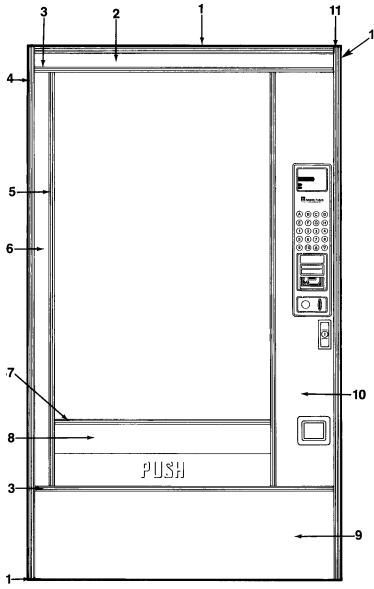
### **AP II style**





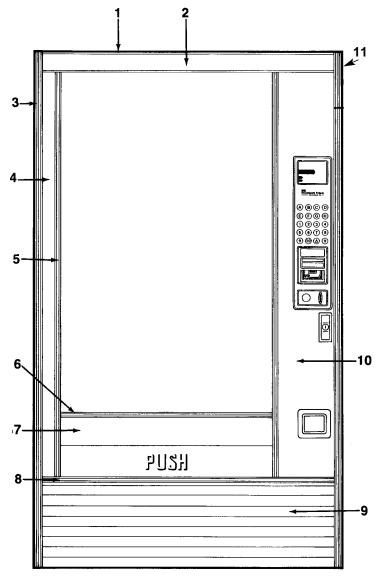
# tron II style

Item		
No.	Part No.	Description
1	340055-27	Trim, Horizontal
2	201417-17	Cover Up Plate, Galvanized
2	440312-2	Top Insert, Black
3 4	660231-24 340057-2	Trim Horizontal, Top & Bottom, w/Black Stripe Trim, Outside Vertical, Left or Right, Black
5	340057-2	Trim, Inside Vertical, Left or Right
6	202059-36	L S V P Dove Gray Tron
	202059-55	Sterling Royce
7	340058-1	Trim, Horizontal, Window
8	201356-35	Delivery Tray Panel, Sterling Royce
9	200296-10	Panel, Lower Horizontal, Dove Gray, Tron
40	200296-55	Sterling Royce
10	12000205-13	R S V P Dove Gray, Tron
11	12000205-17 202806-22	Sterling Royce
11	202806-22	Panel, Right Side Vertical-Upper. Dove Gray Sterling Royce
12	16000040	Door Only. Specify Color



# genesis style

Item		
No.	Part No.	Description
1	340042-13	Top, Trim
2	200526-29	Panel, Top Trim
3	340057	Trim, Outside Vertical, Silver
4	340058-6	Trim, Window. Black
5	202059-43	Panel, Left Side Vertical.Black Hide
6	340058-12	Trim, Window. Black
7	201356-35	Panel, Delivery Tray. Sterling Royce
8	340055-27	Trim, Horizontal Black
9	201692-47	Panel, Lower Horizontal Black Hyde w/Stripes
	201692-54 201678-2	Panel, Lower Horizontal.Black Hyde w/o Stripes Bottom, Vinyl Door Edging
	420186	Screw, HWH, Drill Point, Black (6-20 x 1/2)
	420100	Qty. 4
10	12000205-11	Panel, Right Side Vertical. Lower, Black Hyde
11	16000040	Door Only. Specify Color.
• •	10000010	Door Grilly. Opposity Golor.



PUSH MOUNT CABLE TE 880291	CABLE CLAMP ADHESIVE 34 - 420096 12 - 420096-1	WHRE CLAMP 420061
PUJG - 12 PPN 200209	(1) (1) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	MOLEX CRAIP TERMINAL 300234
SOCKET TO CIPCUIT SHEPTS	MOUNTING TYPE CABLE TIE 30078	2 PIN INTERNATIONAL WOLLEX Seczei
2 PM INTERNATIONAL MOLEX PECEPTACIE 360280	4 PIN INTERNATIONAL MOLEX PLUG 380296 3 PIN INTERNATIONAL MOLEX PLUG FREE HANGING - 380286 PANEL MOUNT - 380288-1	4 PIN INTERNATIONAL MOLEX RECEP 380293 3 PEN INTERNATIONAL MOLEX RECEPTICLE 380298
9 PIN INTERNATIONAL MOLEX PLUG 380582	MALE MOLEX TERMINAL SMALL .083 - 380005 LARGE .862 - 380130	FEMALE MOLEX TERMINAL SMALL .003 - 380004 LARGE .002 - 380129

#### **COINCO LCM CONTROLLER**

P1 POWER IN			
1	24 VAC HOT		
2	GROUND		
3	24 VAC NEUTRAL		
P2 SELECTION SWITCHES			
1/51/	DINI #4 DINI #0		

KEY	PIN #1	PIN #2
Α	1	9
В	1	8
С	1	7
D	3	7
E	4	7
F	4	8
G	3	4
Н	8	9
1	2	12
2	3	12
3	2	3
4	3	11
5	3	5
6	5	11
7	5	6
8	6	11
9	6	7
10	7	11
	7	8
	8	11

#### P3 COIN MECH.

1	TX +
2	TX -
3	RX -
4	GND -
5	RX +
6	24 VAC HOT
7	KEY
8	24 VAC RET
9	ME9100 DETECT

P4 BILL	. VALIDATOR
1	RENA1
2	KEY
3	KEY
4	RENA2
5	KEY
6	GND
7	ĪNT
8	PAR/SER
9	SEND/ESC
10	DATA
11	\$1 CREDIT
12	\$5 CREDIT
13	+5 VDC
14	ESC/NOESC
15	\$1 & \$5 ENABLE
16	HOT
17	RET

#### P5 US COIN MECH. AND L+

1	GND
2	KEY
3	24 VDC HOT NF
4	KEY
5	DATA
6	ĪNT
7	ACCEPT
8	MECH RESET
9	SEND
10	+5 VDC
11	GND
12	MIDDLETUBE
13	RIGHTTUBE
14	LEFTTUBE

**FOURTHTUBE** 

15

ro mo	On Drive
1	ROW A
2	ROW B
3	ROW C
4	ROW D
5	ROW E
6	ROW F
7	ROW G
8	ROW H
9	KEY
10	COL 1
11	COL 2
12	COL 3
13	COL 4
14	COL 5
15	COL 6
16	COL 7
17	COL 8
18	COL 9

P6 MOTOR DRIVE

#### P8 MULTI-DROP BUS (MDB)

COL 10

1	24 VUN
2	KEY
3	GND
4	RXD
5	TXD
6	GND
7	NC

19

### trouble shooting chart -



*CAUTION:* Certain procedures in the troubleshooting section require that voltage be on in the machine. Exercise extreme caution while performing these procedures to prevent injury.

Problem	Cause	Remedy	
No power	No lights	Check wall outlet for correct wiring, and line cord. See page 2.	
	Lights work - no power to board	Check transformer outputs & circuit breakers	
	No power to the board	Check wiring connections	
	Defective power board	Replace power board	
	Display blank	LCM machines-24VAC at white wires at P1	
Won't take coins	No power to machine	Check wall outlet, line cord & voltage	
	Defective changer	Replace changer	
	Machine only accepts one coin	Machine lost its vend prices - reprice and test	
	Defective circuit breaker	Replace circuit breaker	
	No power to coin payouts	Replace power board <i>or logic</i> board on LCM machines	
Won't payout coins/incorrect	No voltage	Check voltages	
change returned	Defective power board	Replace power board	
	Defective coin mechanism.	Replace coin mechanism.	
	Jammed coins in tube	Remove coins with power off	
Won't take bills	No coins in coin tubes	Fill coin tubes	
	Belts or stacker doesn't run on power-up	Check for 24 VAC at PI	
	Belts run-bill goes half way but won't accept	Replace validator	

\_ trouble shooting chart

Problem	Cause	Remedy	
Says make another selection	Motor ½ cycled	Home motor and retry /LCM do mode 5 test vend	
	Selection lost its price	Reset prices	
	Motor won't turn	Swap shelves with another	
		shelf and retry	
		Check shelf harness connection to board	
		Check 24VAC to logic board at PI	
Use correct change	Coin tubes empty	Re-fill coin tubes	
	Says use correct change with coin tubes full	Replace coin mechanism	
Spirals turn more than one turn	Capacitor discharging current	Re-solder capacitor or replace motor	
	Loose wire on motor	Repair wire	
	Defective motor switch	Replace switch	
	Defective control board	Replace control board	
More than one motor turns together	One of the motor wires is shorting out	Check each individual motor for loose or pinched wire	
	Defective control board	Replace control board	
	Incorrect vend motors installed	Black bodied motors for LCM	
		Ivory bodied motors for 110 series	
Unable to enter service mode	Check plugs on control board	Power down and remove and install connectors	
	Defective changer	Replace changer	
	Defective main board	Replace board	
Coin mechanism jackpots	Incorrect voltage	Check voltages± 10%	
	Defective coin mechanism	Replace coin mechanism	
	Defective board	Replace control board	
Motor doesn't home on door	No voltage	Check for correct voltages	
close	Defective board	Replace board	

