



7800 DELUXE SNACK/CANDY VENDORS

**FIELD SERVICE MANUAL
& PARTS CATALOG**

**Part No. 900-68702
First Edition**

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SPECIFICATIONS:

7800 DELUXE

SNACK/CANDY VENDORS

GENERAL

	7800 (5 Column)	7800JR (4 Column)	7800C (3 Column)
Depth	35-1/2" (87 cm)	35-1/2" (87 cm)	35-1/2" (87 cm)
Width	39-3/16" (96 cm)	33-13/16" (83 cm)	28-1/2" (70 cm)
Height	72" (176.5 cm)	72" (176.5 cm)	72" (176.5 cm)
Net Weight	Approximately 600 to 750 lbs. (1320 - 1650 kg.)		
Shipping Weight	Depending upon configuration		
Air Cooled Models	Refrigerant R134A - 6.0 oz. (212.8g)		

ELECTRICAL

Power Requirements		BTU Output	
U.S. Domestic	120 VAC 15A	Without refrigeration	100 BTU/hr
Non-Domestic	220/240 VAC, 50Hz., 12A	With refrigeration	1500 BTU/hr
Power Consumption			
Without refrigeration	.030 kWh (Avg.)		
With refrigeration	.440 kWh (Avg.)		

COIN MECHANISMS

120 V Models - 12 Pin

MARS	VN4000	TRC - 6000, MC 5000
COINCO	GLOBAL,L	9300L, 9300L+

24 V Models - 15 Pin only

MARS	VN4010	TRC - 6010 - XV
COINCO	GLOBAL,L	9302LF, 9302L+

European Coin Mechs

MARS	MS 1600, MS 1900
	CASHFLOW
ASKOYN	AN - 200
NRI	6-26.4400

MDB Coin Mechs

MARS	VN4510, TRC6510, CASHFLOW 560
COINCO	9302GX GLOBAL MDB PLUS

BILL ACCEPTORS

ROWE	*MAKA	*MARS
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***NOTE:** Contact bill acceptor manufacturer.

MDB BILL VALIDATORS

MARS	VN 2300, VN 2500, AE 2600
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COINCO	BA 32R
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CARD READERS

Contact Card Reader manufacturer for machine compatibility.

CAUTION !

Do not use 24 volt Coin Mech with 12 pin plugs! This will result in permanent damage to the Coin Mech and/or vending machine.

VENDOR CAPACITY - Number of Selections

7800

5 Shelf

25, 30, 35, 40, 45, or 50 plus
Gum and Mint (5 selections)

6 Shelf

30, 35, 40, 45, 50, 55, or 60 plus
Gum and Mint (5 selections)

7800JR

5 Shelf

20, 24, 28, 32, 36, or 40 plus
Gum and Mint (4 selections)

6 Shelf

24, 28, 32, 36, 40, 44, or 48 plus
Gum and Mint (4 selections)

7800C

5 Shelf

15, 18, 21, 24, 27, or 30 plus
Gum and Mint (3 selections)

6 Shelf

18, 21, 24, 27, 30, 33 or 36 plus
Gum and Mint (3 selections)

HOW TO USE THIS MANUAL

This manual contains six sections. The front section contains a table of contents, tables and charts to aid in the identification of vendor models by number and specifications for each. Described below is a brief outline of the numbered sections and the information discussed there.

SECTION 1 - INSTALLATION - Section 1 contains unpacking, set-up instructions and Bill Acceptor DIP Switch settings. Use this section to install and check out the vendor.

SECTION 2 - DESCRIPTION - Section 2 contains a general introduction to the 7800 Deluxe Snack/Candy Vendor. This section provides an overview of the machine's major components, as well as explanations of its vending and management features. Before attempting to operate this vendor, read and familiarize yourself with this section and Section 1 - Installation.

SECTION 3 - PROGRAM OPERATION - Section 3 contains step-by-step instructions on how to program all of the machine's features, set prices and access MIS information.

SECTION 4 - TROUBLESHOOTING - Section 4 contains it's own table of contents, troubleshooting procedures, and Error Message & Problem/Solution Troubleshooting Charts. Wiring diagrams and machine schematics are also located in this section. Use this in conjunction with the information in Section 5 - Maintenance, to isolate and repair vendor malfunctions.

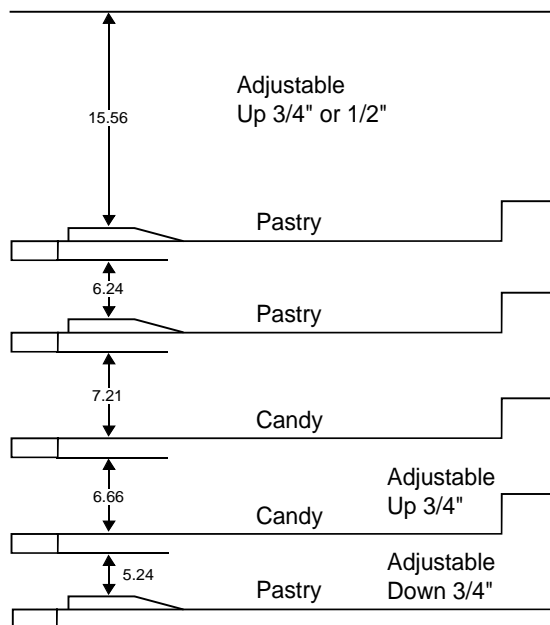
SECTION 5 - MAINTENANCE - Section 5 contains instruction for cleaning the snack vendor. It also includes instructions for removing and replacing the shelves, helixes, drive motors, and the Gum and Mint Unit.

SECTION 6 - PARTS CATALOG - Section 6 contains it's own table of contents, a list of optional kits and views of each assembly with the part and section called out. Part numbers under a four digit assembly number are indented to the right if they are shipped as a group when ordering the assembly number. If they are not indented they must be ordered individually.

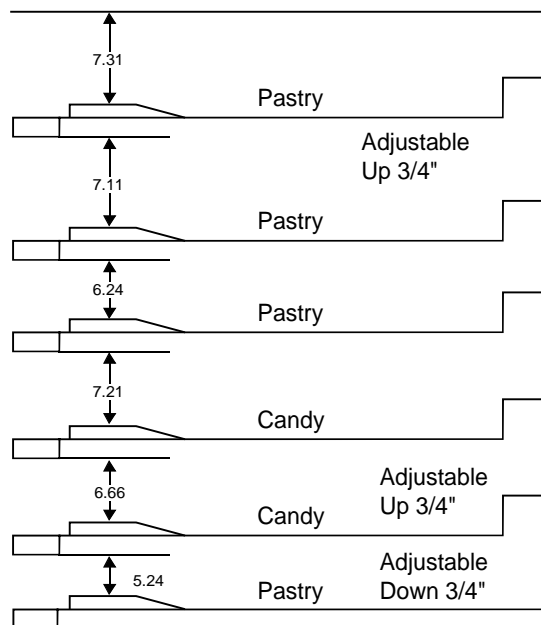
ROWE Vending Machine Coin Mech Usage Chart

Model		448E2	548/648	550/650	5900	7800	7800Dlx
Coinco							
9300L	Micromech 120 VPDC 12 Pin Con.	X	X	X	X		X
9302LF	Micromech 24 VPDC 15 Pin Con.	X	X	X	X	X	X
9300L+	Micromech 24 VPDC 15 Pin Con.				X	X	X
GLOBAL	Micromech 24 VPDC 15 Pin Con.					X	X
GLOBAL MDB PLUS 9302 -GX							X/X
Mars							
MC5000	Micromech 120 VPDC 12 Pin Con.	X	X	X	X		X
TRC6000	Micromech 120 VPDC 12 Pin Con.	X	X	X	X		X
TRC6010XV	Micromech 24 VPDC 15 Pin Con.	X	X	X	X	X	X
VN4010	Micromech 24 VPDC 15 Pin Con.					X	X
VN 4510							X
TRC 6510							X
TRC 6512							X
CASHFLOW 560							X
CashFlow	Executive 24VAC		X	X	X	X	X
MS1600	Executive 24VAC	X	X	X	X	X	X
MS1700	Executive 24VAC Tropicalized	X	X	X	X	X	X
MS1900	Executive 24VAC	X	X	X	X	X	X
NRI							
G-26.4400	Executive 24VAC	X	X	X	X	X	X
AZKOYEN							
AN-200	Executive 24VAC	X	X	X	X	X	X

Product Clearances



5 SHELF



6 SHELF

On both 5 shelf and 6 shelf models the second shelf from the bottom can be adjusted 3/4" higher or lower. There are three sets of rail mounting holes. On 5 shelf models the top shelf can be adjusted up 3/4" or 1-1/2". On 6 shelf models the fifth shelf from the bottom is adjustable up 3/4".

NOTE: Product used must not exceed 7" in height.

Product Widths

7800C - 3 Selection Shelves 7800JR - 4 Selection Shelves 7800 - 5 Selection Shelves				7800C -6 Selection Shelves 7800JR - 8 Selection Shelves 7800 - 10 Selection Shelves			
Items per Compartment	Helix Part Number	Max. Product Thickness	Product Width	Items per Compartment	Helix Part Number	Max. Product Thickness	Product Width
6	593-14	3-5/16"	2-1/2" / 5-1/4"	10	493-16	2"	1" / 2-1/4"
7	490-4013	2-13/16"	2-1/2" / 5-1/4"	12	493-15	1-5/8"	1" / 2-1/4"
10	490-34	2-1/16"	2-1/2" / 5-1/4"	15	490-31	1-5/16"	1" / 2-1/4"
12	490-33	1-11/16"	2-1/2" / 5-1/4"	18	490-30	1-1/16"	1" / 2-1/4"
15	490-32	1-5/16"	2-1/2" / 5-1/4"	24	490-29	3/4"	1" / 2-1/4"

NOTE:

7800 - The partition in selection 4 can be moved to any of 4 locations, altering the width of selections 4 and 5. The maximum width of selection 4 is 6-3/4". The minimum width for selection 5 is 3-3/4".

7800JR - The partition in selection 3 can be moved to any of 4 locations, altering the width of selections 3 and 4. The maximum width of selection 3 is 6-3/4". The minimum width for selection 4 is 3-3/4".

7800C - The partition in selection 2 can be moved to any of 4 locations, altering the width of selections 2 and 3. The maximum width of selection 2 is 6-3/4". The minimum width for selection 3 is 3-3/4".

7800C COMPACT VENDOR PRODUCT CAPACITIES 6 SHELF MODELS

Model 782-18-6
Capacity 218 Items*

10	10	10
10	10	12
12	12	12
12	12	12
12	12	15
15	15	15

Model 782-21-6
Capacity 290 Items*

10	10	10
10	10	12
12	12	12
12	12	15
15	15	18
18	18	24
15	15	15

Model 782-24-6
Capacity 363 Items*

10	10	10
12	12	12
15	15	15
18	18	18
18	18	18
15	15	15
24	24	24
12	12	12

Model 782-24-6
Capacity 363 Items*

10	10	10
12	15	15
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24
12	12	12

Model 782-30-6
Capacity 497 Items*

10	10	15
12	12	12
18	18	18
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24

Model 782-33-6
Capacity 571 Items*

10	10	15
18	18	18
18	18	18
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24

Model 782-36-6
Capacity 630 Items*

15	15	15
18	18	18
18	18	18
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24

* Each machine includes a 3-selection gum & mint unit with a 135 product capacity. The gum and mint capacity is in addition to the indicated capacities.

5 SHELF MODELS

Model 782-15-5
Capacity 182 Items*

10	10	10
10	10	12
12	12	12
12	12	12
15	15	15

Model 782-18-5
Capacity 254 Items*

10	10	10
10	10	12
12	12	12
12	12	12
15	15	15

Model 782-21-5
Capacity 321 Items*

10	10	10
12	12	15
18	18	18
18	18	18
15	15	15
24	24	24
12	12	12

Model 782-24-5
Capacity 395 Items*

10	10	15
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24
12	12	12

Model 782-27-5
Capacity 495 Items*

18	18	18
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24
12	12	12

Model 782-30-5
Capacity 540 Items*

18	18	18
18	18	18
18	18	18
18	18	18
18	18	18
15	15	15
24	24	24

* Each machine includes a 3-selection gum & mint unit with a 135 product capacity. The gum and mint capacity is in addition to the indicated capacities.

Three and six selection shelves fit in any position, see chart above. Helix coils can be freely interchanged with other helix coils of different capacities, provided they are the same diameter.

7800 DELUXE PRODUCT CAPACITIES 6 SHELF MODELS

Model 7870
Capacity 370 Items*

10	10	10	10	10
10	10	12	12	12
12	12	12	12	12
12	12	12	12	12
12	12	15	15	15
15	15	15	15	15

Model 7875
Capacity 502 Items*

10	10	10	10	10
10	10	12	12	12
12	12	12	12	12
12	12	15	15	15
15	15	18	18	18
15	15	15	15	15

Model 7880
Capacity 617 Items*

10	10	10	10	10
12	12	12	12	12
15	15	15	15	15
18	18	18	18	18
15	15	15	15	15
15	15	15	15	15

Model 7885
Capacity 734 Items*

10	10	10	10	10
12	15	15	15	15
18	18	18	18	18
18	18	18	18	18
15	15	15	15	15
15	15	15	15	15

Model 7870
Capacity 839 Items*

10	10	15	15	15
12	12	12	12	12
18	18	18	18	18
18	18	18	18	18
18	18	18	15	15
15	15	15	24	24

Model 7875
Capacity 955 Items*

10	12	12	12	15
18	18	18	18	18
18	18	18	18	18
18	18	18	18	18
18	18	18	15	15
15	15	15	24	24

Model 7780
Capacity 1044 Items*

15	15	15	15	15
18	18	18	18	18
18	18	18	18	18
18	18	18	18	18
18	18	18	15	15
15	15	15	24	24

6 SHELF MODELS

Model 7825
Capacity 310 Items*

10	10	10	10	10
10	10	12	12	12
12	12	12	12	12
12	12	15	15	15
15	15	15	15	15

Model 7870
Capacity 437 Items*

10	10	10	10	10
15	15	12	12	12
15	15	15	15	15
15	15	18	18	18
12	12	12	12	12

Model 7875
Capacity 551 Items*

10	10	10	10	10
15	15	15	15	15
18	18	18	18	18
15	15	15	15	15
15	15	15	15	15

* Each machine includes a 5-selection gum & mint unit with a 225 product capacity. The gum and mint capacity is in addition to the indicated capacities.

Model 7880
Capacity 677 Items*

10	10	15	15	15
12	12	12	12	12
18	18	18	18	18
18	18	18	18	18
15	15	15	24	24

Model 7885
Capacity 793 Items*

10	12	12	12	15
18	18	18	18	18
18	18	18	18	18
18	18	18	18	18
15	15	15	24	24

Model 7770
Capacity 894 Items*

18	18	18	18	18
18	18	18	18	18
18	18	18	18	18
18	18	18	15	15
15	15	15	24	24

7800JR DELUXE PRODUCT CAPACITIES 6 SHELF MODELS

Model 7824-6
Capacity 294 Items*

10	10	10	10
10	10	12	12
12	12	12	12
12	12	12	12
12	12	15	15
15	15	15	15

Model 7828-6
Capacity 390 Items*

10	10	10	10
10	10	12	12
12	12	12	12
12	12	15	15
15	15	18	18
15	15	15	15

Model 7876-6
Capacity 580 Items*

10	10	10	10
12	12	12	12
15	15	15	15
18	18	18	18
15	15	18	18
15	15	15	15

Model 7876-6
Capacity 580 Items*

10	10	10	10
12	15	15	15
18	18	18	18
18	18	18	18
15	15	18	18
12	12	12	12

Model 7880-6
Capacity 662 Items*

10	10	15	15
12	12	12	12
18	18	18	18
18	18	18	18
18	18	15	15
15	15	24	24

Model 7884-6
Capacity 757 Items*

10	12	12	15
18	18	18	18
18	18	18	18
18	18	18	18
18	18	15	15
15	15	24	24

Model 7888-6
Capacity 840 Items*

15	15	15	15
18	18	18	18
18	18	18	18
18	18	18	18
18	18	18	18
15	15	24	24

5 SHELF MODELS

Model 7820-5
Capacity 246 Items*

10	10	10	10
10	10	12	12
12	12	12	12
12	12	15	15
15	15	15	15

Model 7824-5
Capacity 242 Items*

10	10	10	10
10	10	12	12
12	12	12	12
15	15	18	18
15	15	15	15

Model 7828-5
Capacity 430 Items*

10	10	10	10
10	10	12	12
18	18	18	18
15	15	18	18
12	12	12	12

* Each machine includes a 4-selection gum & mint unit with a 180 product capacity. The gum and mint capacity is in addition to the indicated capacities.

Model 7872-5
Capacity 530 Items*

10	10	15	15
18	18	18	18
18	18	18	18
15	15	24	24
10	12	12	15

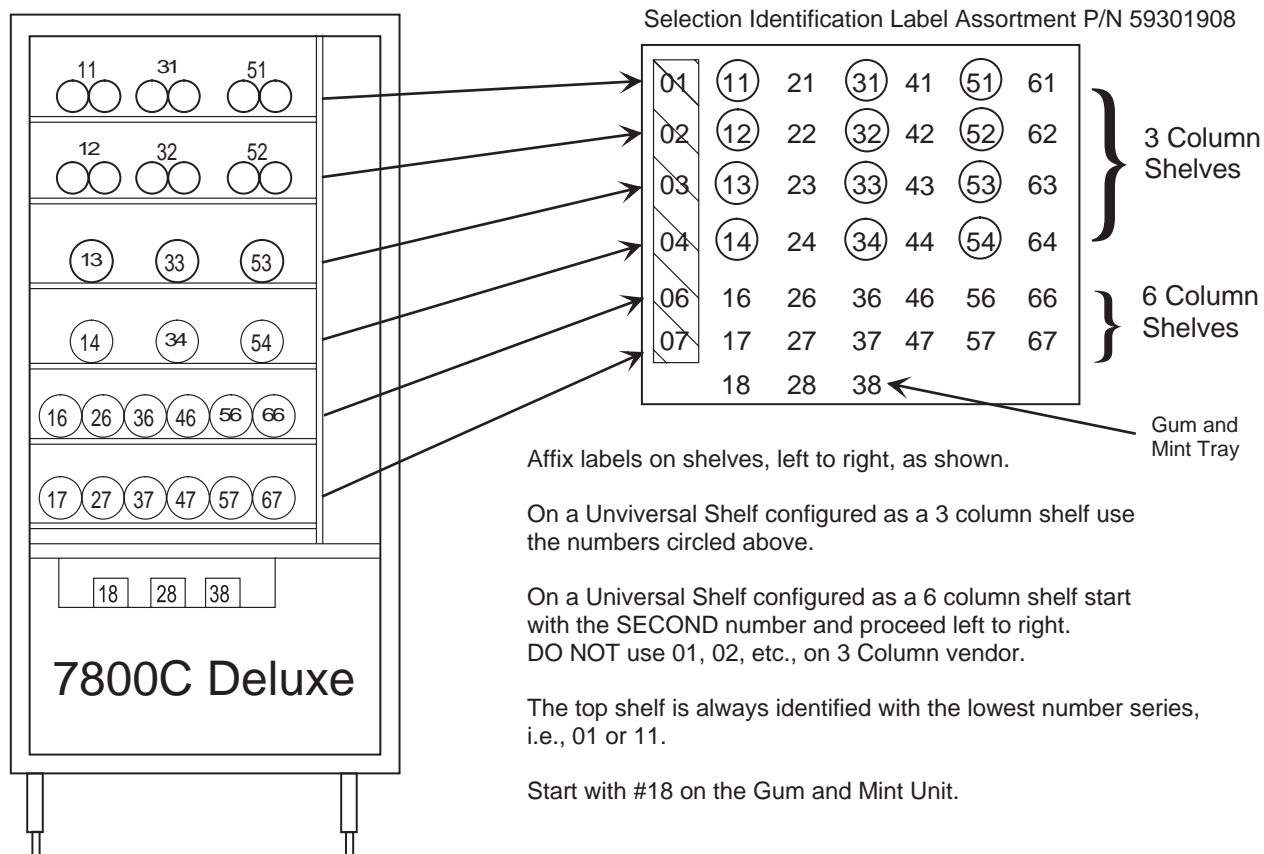
Model 7890
Capacity 795 Items*

18	18	18	18
18	18	18	18
18	18	15	15
15	15	24	24
10	12	12	15

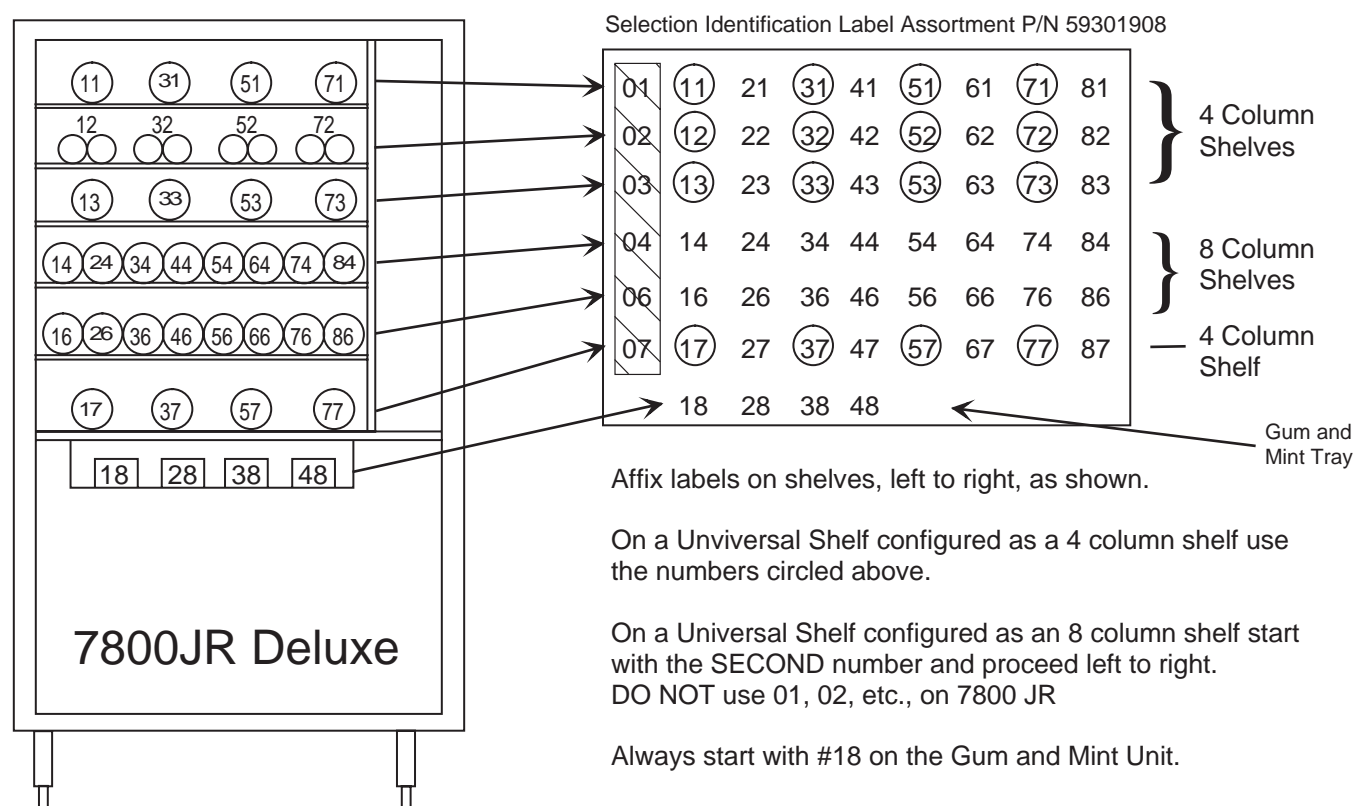
Model 7890
Capacity 894 Items*

18	18	18	18
18	18	18	18
18	18	18	18
15	15	18	18
15	15	24	24

7800C Deluxe Selection Identification



7800JR Deluxe Selection Identification



7800 Deluxe Selection Identification

This page intentionally left blank.

This section contains instructions for unpacking, moving and installing the 7800 Deluxe vendor on location. Installation is quick and easy when done in the proper sequence.

UNPACKING

The Snack Vendor is shipped in one carton with all major assemblies in place, ready for installation. Inspect the exterior and interior of the cabinet for evidence of damage. In case of damage, please notify the delivering carrier at once to examine the vendor regardless of the external condition of the carton. Under U.S. regulations, damage claims must be collected by the consignee. Do not return shipping-damaged merchandise until after your claim has been established. Once your claim is established, damaged merchandise may then be returned to your Rowe Distributor for repair. The invoice for repair charges may then be collected from the carrier. Do not destroy packing material or boxes until the carrier's agent has examined them.

SET-UP INSTRUCTIONS

Preliminary (Primary Delivery)

If it is necessary to move the vendor through a narrow doorway, proceed as follows. The power cord anchoring plate can be dismounted from the rear wall, allowing the power cord and plug to be pushed into the cabinet. Be certain to remount the anchoring plate to prevent damage to the power cord. If more clearance is required it will be necessary to pivot the door hinges.

1. Open the main door.
2. Remove the door stop rod.
3. Disconnect the door harness at the plug, located below the delivery box on the hinge side.
4. Disconnect the bill acceptor harness at the power box on the cabinet floor (if so equipped).

5. Open the main door far enough to expose the three counter sunk screws in the top hinge. Block the door to support its weight.

!CAUTION!

The door is heavy. Take appropriate precautions before proceeding.

6. Remove the two 1/2" hex head bolts from the cabinet side of the top hinge plate.
7. Remove the three counter sunk screws and nuts from the top hinge plate on the door.
8. Rotate the upper hinge assembly away from the door frame and lift the door straight "up" off the lower hinge point.
9. If additional clearance is required, the lower hinge can be pivoted by removing the FRONT 1/2" hex head bolt and loosening the rear bolt one turn. The security shield mounted on the left front edge of the cabinet is also removable if required.

!CAUTION!

The Main switch must be OFF when changing, connecting or disconnecting any electrical components.

10. After passing through the confined area, reassemble the door to the cabinet, being certain to secure all of the parts and harnesses removed in the preceding steps.

Section 1: Installation

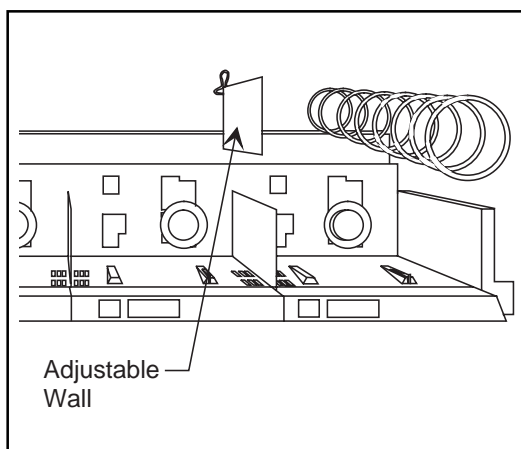


Figure 1-1
Adjustable Wall (5-Selection Shelf)

Initial Set-up Procedure

Set up the vendor as follows:

1. Open the main door all the way.
2. Set the main switch to OFF.
3. Level the cabinet front to rear and side to side. All four cabinet legs are adjustable.
4. Ensure that the fluorescent lamp is secure in its socket and that all electrical plugs are firmly seated in their sockets.
5. Plug the line cord into an appropriate receptacle. Ensure good ground.
6. Install a recommended coin mech, if applicable. See Specification sheet on page vi.
 - a) Check coin chute alignment.
 - b) Check return lever operation.
 - c) Adjust if necessary.
7. Set the main switch to ON.
8. Set pricing. (See *Program Operation, Section 3.*)
9. Pull the top product shelf out and lower it to the loading position. Load product in accordance with the specifications listed at the beginning of this manual.
10. Three (782), four (788) and five (787) selection shelves feature an adjustable wall to the left of the far right spiral. The wall can be installed in any one of the four positions in the



Figure 1-2
Adjustable Wall (10-Selection Shelf)

bottom of the tray. After adjusting the wall for the desired width, check to be certain that the product moves freely when the selection on each side of the adjustable wall is vended (See *Figure 1-1* and Page 6-22). Additional tray walls are shipped with each machine and can be installed in the pastry tray slots to accommodate the narrower items. On 6, 8 or 10 selection trays, the adjustable wall swings out from the right side of the shelf wall (See *Figure 1-2*).

11. Install product pushers where required. The plastic product pushers are snapped onto the helix in the desired position to assure product delivery (See *Page 2-2, Figure 2-1*).
12. Place selection identification labels on selections according to pages xiii & xiv.
13. Place price labels on selections.
14. Gum and Mint Assembly: Unclip price cover bezel and install selection number and price label.
15. Gum and Mint Assembly: Reinstall the price cover bezel by snapping it into place.
16. Gum and Mint Assembly: Load the horizontal Gum and Mint Unit by grasping the pair of handles located on the front of the machine and pulling forward. Slide the cover to the rear of machine.

17. Gum and Mint Assembly: After sliding the cover forward, push the Gum and Mint Unit back into position.
18. Gum and Mint Assembly: Adjust the clear flippers to avoid double vends.
19. Deposit coins and test vend each selection. Check coin return operation.

UBA Bill Acceptor Switch Settings

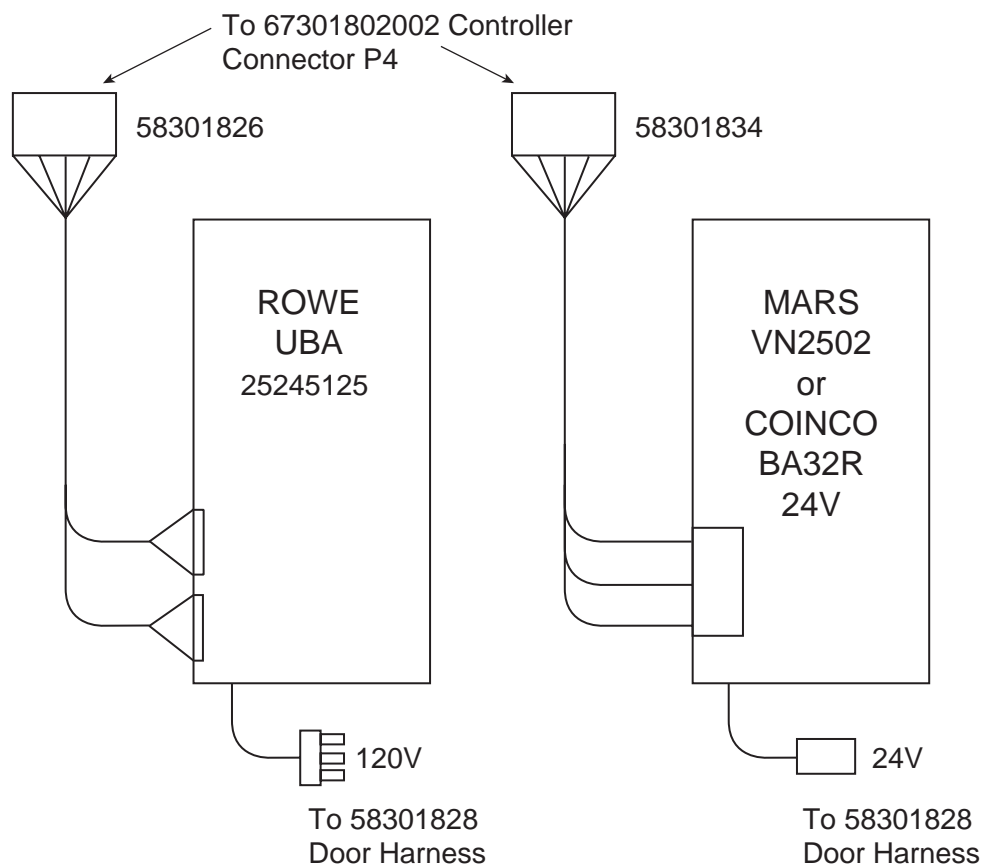
All of the DIP switch settings located on the Rowe UBA assembly circuit board must be set to the OFF position, except switch #2, which must be set to the ON position.

BILL ACCEPTOR DIP SWITCH SETTINGS

ROWE	UBA	#2 ON
MAKA	NBE-20	#1 ON
MARS	VFM-3*	#1, #8 & #7 ON
MARS	VFM**	#2, #6 & #7 ON
MARS	VN2502	#7 ON, #8 OFF
COINCO	BA32R	#3 OFF, #6 & #8 ON

* MARS VFM-3 Version 1-3

** MARS VFM Version 4-5



P/N 58301816 may be used to adapt MARS 120V units.

Figure 1-3. 787/788/782 Bill Validator Wiring Diagram

Section 2: Description

INTRODUCTION

The Rowe 7800 Deluxe family of Snack/Candy Vendors includes the large capacity 7800 Deluxe, the medium capacity 7800JR Deluxe and the 7800C Deluxe Compact Vendor. All 7800 Deluxe models vend a wide variety of products from a combination of dual, pastry and candy helixes. Helixes are available in several capacities and are interchangeable between all three models. Each helix is operated by its own motor for trouble-free long life. State of the art electronics provide quick and easy programming, and detailed Management Information System (MIS) data.

During a purchase, merchandise is moved from the display shelf by a rotating helix coil and dispensed into a delivery compartment easily accessible to the customer. A time tested delivery door is easy for the customer to open, but remains theft-proof.

Units with Dual-Helix Shelves will ensure a positive product flow and frontal alignment of larger products. Universal shelves allow the combination of single and Dual-Helix delivery on any shelf creating many snack combinations.

Machine product capacity depends on the size and variety of helix coils used. Coils are removed and replaced without tools, merely by lifting out the existing helix and dropping the replacement straight in.

Product thickness varies considerably. Choose a helix that is appropriate for the product being vended (*See Page 2-2*). Ensure that product fits loosely within the helix coil. Do not place product into a helix that is too small; damage to the product and the vendor may result. Because some bagged snacks swell in size over their normal shelf life, some trial selection is necessary. The product thickness range specified in this publication for each helix coil is an approximate

measurement and will vary according to factors such as how much a product settles, product type, swelling and weight.

Standard shelf capacities for each model are shown on *pages x-xii*.

The slide-out Horizontal Gum and Mint Unit is mounted on its own shelf. Releasing the latch handles on the front of the unit allows it to be pulled forward for easy loading and servicing. Column widths can be easily adjusted by using the product adjustment guides. Double vending is avoided by sliding the product flipper to the proper location and tightening the knob.

A four note Rowe Universal Bill Acceptor (accepts \$1.00, \$5.00, \$10.00 and \$20.00 bills) is available as an option. The acceptor has single bill escrow. Combination purchases using a bill and coins are possible and change for the purchase is dispensed from the coin mech.

An optional bulk coin hopper is available. When installed, the 7800 will work as a coin changer paying change from the hopper. Additionally, change from product purchases will be paid from the hopper first, reducing the need to refill the coin mech change tubes.

The addition of the optional refrigeration unit extends the sales period of temperature sensitive products. Because the cabinet temperature is maintained between 50°F and 70°F, discoloration and melting of chocolate candies and sugar covered pastries is prevented.

The 7800 Deluxe controller allows the operator to access special vending functions and management information. Detailed Management Information System (MIS) data is accumulated by the controller and can be printed on an optional printer or displayed, line by line, on the message center.

Bulk Hopper Operation (Optional)

The 7800 Deluxe Snack/Candy vendor can be fitted with an optional coin dispenser and bulk coin hopper. These are the same reliable coin hopper and coin dispenser components found in Rowe's premium bill changer products. When the bulk coin hopper option installed with a multi-note bill acceptor like the Rowe RBA-7, the 7800 can be used as a bill changer. Simply insert your bill and make selection 00. Change will be paid from the coin hopper.

A programmable option allows you to set the credit amount where the 7800 automatically dispenses change. For example, set the Automatic Change option (see Section 3) to \$5.00. Any \$10.00 or \$20.00 bill inserted into the bill validator will automatically be changed since the credit is greater than \$5.00.

In normal vending operation, the bulk coin dispenser system works as an extension of the coin changer. When change is required after a purchase, coins are dispensed from the bulk hopper before they are dispensed from the coin changer.

Set up options allow the use of coin COUNt control or coin LEVEL sense control to determine when the bulk hopper is empty. If set to COUNt, the 7800 controller uses the current hopper coin count to determine if change can be paid from the hopper. If set to LEVEL, the hopper coin count is kept at 99 or 100 until the coin level detector senses the hopper is low on coins. At that time, the count is reduced by 1 for each coin dispensed until the count reaches 0. If at any time there is not enough coins in the hopper to pay change, the bill will be returned to the customer and the display will show "n0 CHAnGE".

The bulk hopper option requires the use of a bill validator with escrow, either serial, pulse or MDB. The bulk hopper option is not available when using an Executive type coin changer.

PRODUCT SHELVES

Universal Shelves

All of the shelves in the 7800 Deluxe Snack/Candy Vendor are universal shelves. This means that all shelves use a universal power connection bracket, which

Figure 2-1

allows them to be placed at any position within the machine. A universal shelf can be modified to support any combination of candy, pastry and dual helixes. Modifying shelves requires removing or adding motors and helixes.

Shelf Configurations

Shelves are available in three standard configurations: candy, pastry and dual helix. These shelves can be installed at any position within the machine and can be freely interchanged with any other shelf. Helixes can be interchanged to accommodate different product widths. Refer to page ix for helix capacity and part numbers.

Candy Shelf

A candy shelf has one helix for each possible motor position (787 - 10 Selections, 788 - 8 Selections, 782 - 6 Selections). A candy shelf should be used to vend products up to 2-1/4" wide and 2" thick.

Pastry Shelf

A pastry shelf has one helix for each pair of motor positions (787 - 5 Selections, 788 - 4 Selections, 782 - 3 Selections). A pastry shelf should be used to vend products that are 2-1/2" to 5-1/4" wide and 1-5/16" to 2-1/16" thick.

Dual Helix

Dual helix shelves have two helixes working in conjunction with each other at each pair of motor positions (787 - 5 Selections, 788 - 4 Selections, 782 - 3 Selections). A dual helix selection is driven by a single motor which turns a gear and sprocket arrangement, rotating the helixes in opposite directions. A dual helix shelf is used to vend products that are 2-1/2" to 5-1/4" wide and 1-5/16" to 2-1/16" thick.

Adjustable Shelf Wall

The 7800 Deluxe Snack/Candy Vendor uses adjustable shelf walls to accommodate varying product widths.

Dual helix and pastry shelves (3, 4 or 5 selection) have an adjustable shelf wall located between the last two selections on the right side of the shelf. The divider can be removed and placed in one of the four slots in the bottom of the tray. Additional dividers are shipped with each machine.

On candy shelves (6, 8 or 10 selections) the adjustable wall swings out from the right side of the shelf wall.

Loading a Shelf

1. Pull the shelf forward to the loading position.
2. Place product between the helix coils. Start from the front and work toward the rear.
3. Adjust the shelf walls to fit the product. Ensure that product moves freely.

HORIZONTAL GUM AND MINT UNIT

The 7800 Deluxe Snack/Candy Vendor uses a horizontal gum and mint unit located on its own shelf. The unit slides out of the vendor for easy loading and servicing.

Operation

Product is vended from the gum and mint unit by a motor and product ejector system. During a vend, the motor turns and raises the product ejector. The ejector pushes the product up and over the front of the gum and mint unit. The flipper ensures that only one product is released during each vend. The flippers can be adjusted forward or back to coordinate with the product size. Adjustable product guides can be installed to accommodate narrow product.

Loading the Gum & Mint Unit

To load the Gum and Mint Unit:

1. Grasp the latch handles and pull the unit forward until it stops. This is the loading position.
2. Slide the cover to the rear of the unit.

3. Install adjustable product guides, if necessary, to accommodate narrow product.
4. Place product in the appropriate selections.

NOTE

Do NOT attempt to pull the product pushers forward toward the product. This will damage the constant force springs. When the unit is returned to the vend position, the product pushers will be seated properly against the product.

6. Return the Gum and Mint Unit to the vend position.
7. Test vend each selection. Adjust the flippers to prevent double vending.

COIN MECHANISM (DOMESTIC)

A coin mechanism (coin mech) is required to operate this vendor. Refer to *page vi or vii* for compatible coin mech listings. The coin mech works in conjunction with other credit acceptance devices, such as a bill validator or debit card reader, to accept and dispense coins during a vend. The 7800 Deluxe controller regulates the number of coins accepted and dispensed through the coin mech.

Installing the coin mech

7800 Deluxe Snack Vendors are compatible with several different coin mech models. The coin mech should be installed according to the directions provided by the coin mech manufacturer.

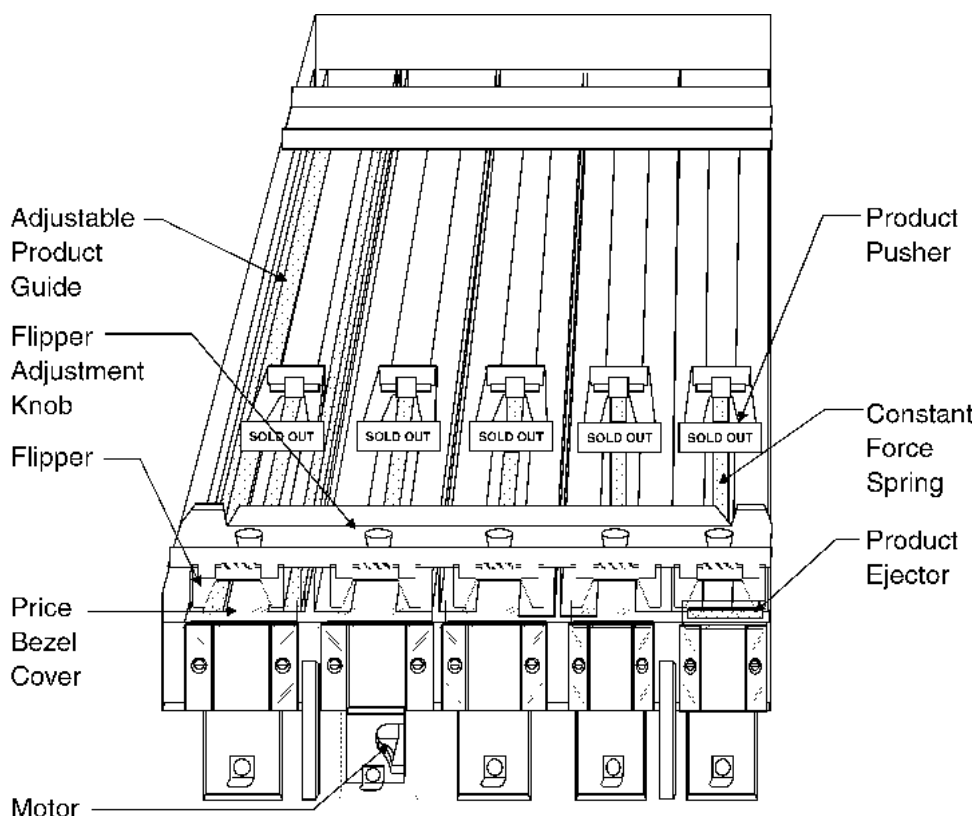


Figure 2-2

Because this vendor can operate several different coin mech models, it is important to ensure that the coin mech installed on your vendor is aligned properly with the coin chute located on the vendor. Also check to ensure that the vendor's coin return lever actuates the coin return lever on the coin mech. Make the adjustments necessary for the coin mech to operate properly.

Coin Mech Loading With Cash Accountability

There are three methods of loading coins into the coin mech while in the service mode:

1. Coins can be added to the coin mech through the normal coin insert located on the customer display. If coins are loaded in this manner the number of coins is registered by the controller and automatically added to the coin tube total.
2. Coins can be added through the top flight deck located on the top of the coin mech. If coins are loaded through the top flight deck, the number of coins is registered by the controller and automatically added to the coin tube total.
3. Coins can be added through the side of the coin mech, directly into the coin tubes. If coins are added directly to the coin tubes they are not registered by the controller, and the number of coins loaded must be entered using Menu 1 - Load and Calibrate Coin Tubes, in the Service Mode. **It is extremely important to record the correct number of coins when loading coins directly into the coin tubes. Payout and acceptance criteria are based upon the number of coins in the coin mech.**
4. Coin count/level should be set to coin count. See *Section 3 - Programming*.

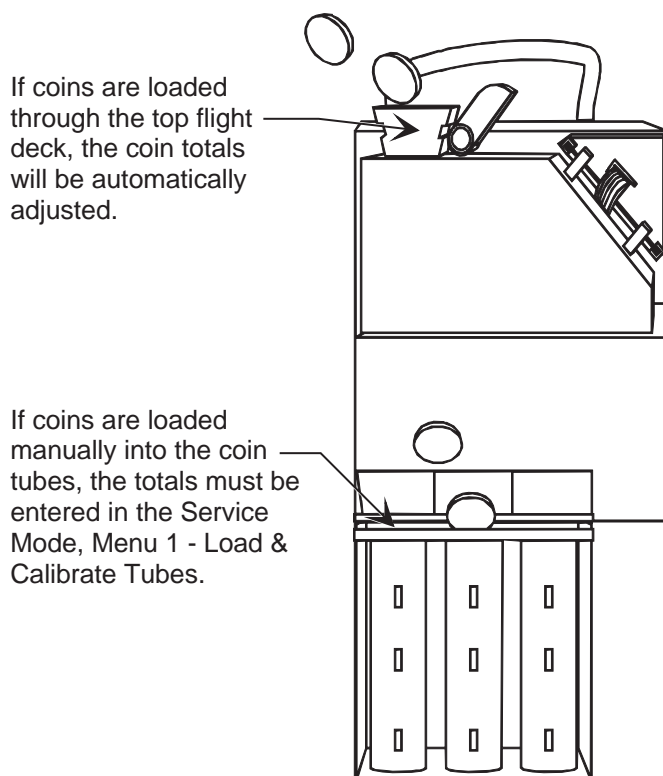


Figure 2-3. Coin Mech Loading

Coin Mech Loading Without Cash Accountability

1. Load coins directly into the payout tubes, as shown below.
2. Using this method the snack controller relies on sensor information supplied by the coin mech to determine if correct change is available.
3. Make sure coin count/level is set to coin level. See *Section 3 - Programing*.

MDB Type Coin Mech Loading

1. The MDB Coin Mech keeps track of the number of coins in the change tubes. For this reason, always load the coin tubes by adding coins through the top flight deck.
2. Service Mode, Menu 1 - Load and Calibrate Tubes will only display the tube coin counts in an MDB type coin mech. The counts cannot be changed manually.

SELECTION IDENTIFICATION

(See page xiii & xiv)

Selection identification is as follows:

First digit:

The first digit identifies the location of an item on the shelf.

Dual Helix & Pastry Shelves

On all models with a 3, 4, or 5 item shelf, the first item from the left is 1, the second is 3, the third is 5, etc.

Candy Shelves

On a model 782 or 788, 6 or 8 selection shelf, the first item from the left is 1, the second item is 2, the third item is 3, etc. On a model 787, 10 selection shelf, the first item is 0, the second item is 1, the third item is 2, etc.

Second digit:

The second digit identifies the shelf locations. The top shelf is 1, second from top is 2, third from top is 3, fourth from top is 4, fifth from top is 6, sixth from top is 7. Gum and Mint selections are 9 on a 7 shelf configuration and 8 on a 6 shelf configuration. In the case of a five shelf machine the top shelf is designated as #2.

Examples:

Six Shelf Machine

Top Shelf - 5 Selection					Fourth Shelf - 5 Selection				
11	31	51	71	91	14	34	54	74	94
Second Shelf - 5 Selection					Fifth Shelf - 10 Selection				
12	32	52	72	92					
					06	16	26	36	46
					53	66	76	86	96
Third Shelf - 10 Selection					Sixth Shelf - 5 Selection				
					17	37	57	77	97
03	13	23	33	43					
53	63	73	83	93					

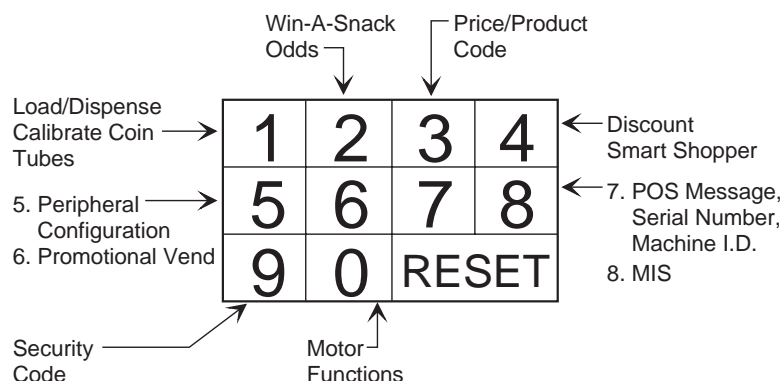


Figure 2-4. Keypad functions in the service mode.

Making a Selection

To make a selection, deposit the proper amount of money. The display shows the amount of credit entered. The price is displayed beneath each item. Press the two digits corresponding to the selection number shown beneath the product.

The purpose of the <Reset> button is to erase the first number if it is entered incorrectly. This can also be accomplished by pushing the coin return.

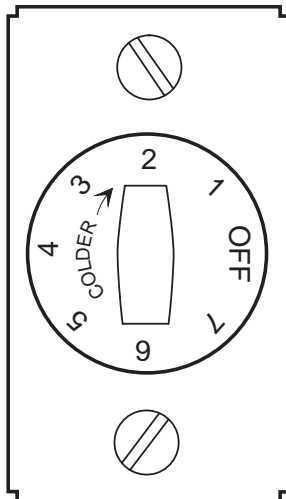
Selection Buttons

There are 10 selection buttons numbered from 1 to 0. There is also a <Reset> button. These buttons are used by the patron to make a purchase from the vendor. They are also used by service personnel to access the service mode and program all of the machine's operating and management features. Refer to Section 3 for detailed programming instructions for the vendor using the service mode.

Temperature Control (Optional)

The temperature control knob is mounted to the refrigeration unit, near its AC power input socket, beside the transformer box assembly.

To maintain an even temperature distribution the evaporator blower runs continuously, even if the control is set to off. Turn the temperature control knob slowly clockwise from the off position until the condenser fan and compressor start. Let the system run for twenty (20) minutes before checking the cabinet temperature. If a lower temperature is desired turn the control knob clockwise to the



next higher number. Allow the system to run twenty (20) minutes before taking another reading.

Special Vending Modes

The 7800 Deluxe incorporates many special vending features. These features are enabled and disabled using the DIP switches located on the 7800 Deluxe Controller. The DIP switch settings and their associated features are listed below. When the DIP switch is ON, the associated feature is enabled. Setting the DIP switch OFF will disable the feature.

Changing the language setting applies only to the message prompts displayed to the customer. The text in the service will remain in English. Alternate languages may be selected when the Alternate Language option is programmed (see page 3-11).

Dip Switch Settings

Position	Assignment
1	Language
2	Language
3	Force Vend
4	Promotional Vend
5	Multivend
6	Win-A-Snack

Table For Language Setting

Alt. Lang	Position 1	Position 2	Language
N	ON	ON	Spanish
N	ON	OFF	French
N	OFF	ON	German
N	OFF	OFF	English
Y	OFF	OFF	Portuguese

Force Vend

This feature is intended to force credit accrued from a bill validator or coin mech to be used to purchase an item. Escrow attempts of the bills held in the bill validator or coins deposited in the coin mech will not be allowed if this feature is active. This credit will not be returned if a vend is unsuccessful or an invalid selection is made. Change will be made.

Promotional Vend

This feature is intended to free vend a second item when an item is purchased for the programmed price. Five pairs of items may be programmed. *See Page 3-7* for programming instruction.

Multivend

This feature is intended to increase sales and make multiple purchases more convenient for a customer. After a first selection is made, the "SELECT OTHER ITEM" message will be displayed. The remaining credit will be shown on the display and another selection may be made. If more money is inserted, the credit will remain indefinitely, until a vend is made or the coin return is depressed. If there is no machine activity following the first vend, the remaining credit will automatically be returned after 10 seconds.

Win-A-Snack

This feature is intended to free vend a product on a random basis with a prescribed occurrence level being programmed by the service person. When a Win-A-Snack win occurs, the selected item will be vended and the entire credit will be returned. Range of odds: 1:50 to 1:500 in steps of 50.

Smart Shopper

The smart shopper feature allows the customer to purchase two items of the same selection, and receive the second at a discounted price.

When a discount is programmed, this

feature is always enabled. If the discount amount is set to zero or greater than the maximum price this feature will have no effect. All items in the machine will be discounted the same amount as programmed. 66 for programming instructions.

To operate this feature, the <RESET> button must be pressed twice before a selection is made. The smart shopper mode will remain active for 60 seconds after the reset button is pressed or until a selection is made. A double vend will be conducted on the chosen selection and change will be returned, with the discounted amount being calculated into the second vend's price.

Remote No Sale

When the Remote No Sale Switch is ON, sales on row 4 will be disabled. The "SELECT OTHER ITEM" message will be displayed if a row 4 selection is attempted. This feature may be used to prevent sales of items during particular times (manual setting).

Feature Prioritization

Win-A-Snack and Promotional Vend
Multivend
Smart Shopper Mode
Force Vend

Explanation of Prioritization

Assume the following machine configuration:

Win-A-Snack - ON
 Promotional Vend - ON
 Force Vend - ON
 Smart Shopper Mode - ON

Consider the instance of a Win-A-Snack winner after the <RESET> button has been pressed twice. If a purchased side of a promotional pair is selected and sufficient credit was already inserted from a bill validator, the first item will be vended, then the free item will be vended and the entire amount of deposited money returned. In essence the Force Vend and Smart Shopper features have been overruled by the Win-A-Snack feature but the Promotional Vend was performed in conjunction with a Win-A-Snack winner.

Automatic Lockout

The Automatic Lockout feature is implemented by setting one or more time periods, or events, in which the machine is to be disabled. During a lockout period, the display will scroll the message “MACHINE DISABLED UNTIL XXXX,” where

“XXXX” is the time the machine will return to service. There are 10 programmable events available. An event may be programmed to occur on a particular day, every work day (Monday through Friday), or every day of the week. When programming Automatic Lockout events, make sure events do not overlap and OFF times are always later than ON times.

COIN PAYOUT BUTTONS

Four momentary push button switches are located on the control board for dispensing coins. The following coins may be dispensed: nickel, dime, quarter, and dollar (for changers with dollar coin payout). These buttons will only be enabled during a Key <1> Load/Dispense/Calibrate routine in the service mode with a domestic changer connected. The approximate rate of dispense with a button depressed is 2 coins per second. These buttons will be ignored if more than one is pressed.

SERVICE <MODE> BUTTON

The Service <MODE> Button is a momentary push button located on the control board and is used to enter and exit the service mode.

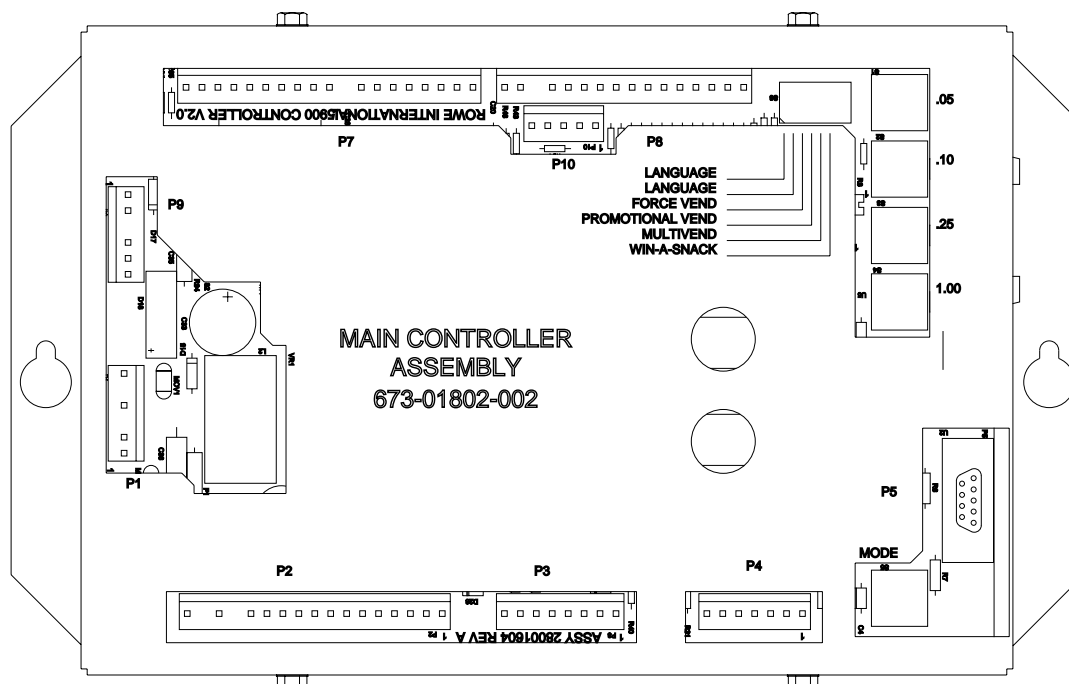


Figure 2-5

DISPLAY MESSAGE PROMPTS**“EXACT COINS ONLY”**

This message is scrolled when the changer reports that the nickel tube does not contain any coins above the low level sensor. With an MS 1900 Coin Mech, the controller will scroll this message when the changer is signaling an exact change only status (i.e., less than 4 nickels in the coin tubes).

“SELECT OTHER ITEM”

This message is shown on the display when a vend is attempted on row 4 with the unit programmed for Remote No Sale, following an unsuccessful vend, following an invalid selection number and during a Multivend operation.

“PRICE”

This message is shown for 600 milliseconds after a valid keypad selection has been made. The selection's price will immediately follow the selection on the display.

“THANKS”

This message is shown for 600 milliseconds following a successful vend and dispensing of change.

“CHANGE”

This message is shown only when using a domestic Coin Mech. It will be shown for 600 milliseconds immediately following a successful vend.

“COINS ONLY”

This message is scrolled when the dime and quarter tubes are empty but the nickel tube has coins.

“MACHINE OUT OF ORDER”

This message is scrolled when a particular peripheral is selected and a valid start-up message is not received. The bill validator will not disable the machine since no start-up message is available. If no peripherals are selected, the machine will display the Point of Sales message.

AUDIO FEEDBACK

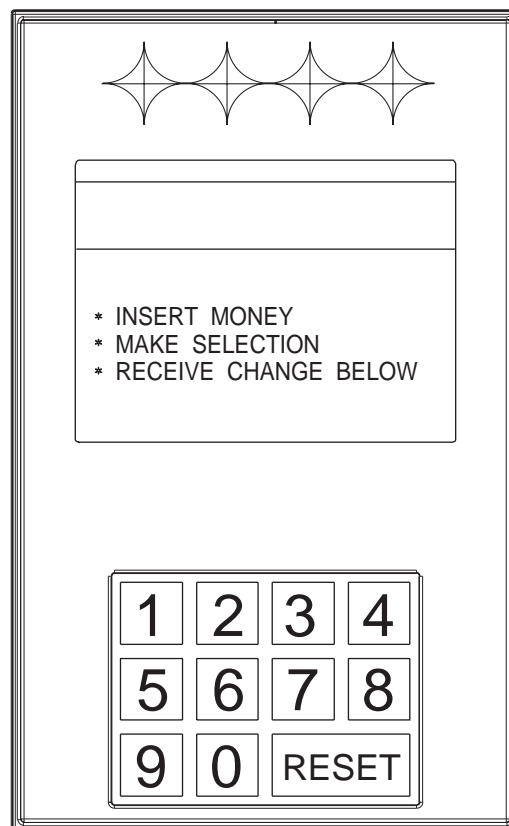
A piezo-type chime mounted on the display board is sounded for the following events:

- Insufficient credit condition after a selection was made (3 - 300 millisecond beeps)
- Unsuccessful vend (3 - 300 millisecond beeps)
- Between Multivend selections
- Successfully decoded keypad entries
- Opening of the door
- Pressing of the service mode button
- Exit from service mode

The chime can be disabled from the service mode.

THE POINT OF SALE MESSAGE

This message is scrolled during periods of no activity when the changer is not exhibiting a low coin tube status. The message



will be a maximum of 250 characters in length and will be programmable in the service mode. This message will not be effected by the position of the Language DIP switch. *See Page 3-7* for instructions on programming this message.

MANAGEMENT INFORMATION SYSTEM (MIS) DATA

The 7800 Deluxe controller stores sales and credit information useful in tracking the vendor's performance. MIS information can be displayed on the customer display or printed with an optional printer. For instructions on accessing MIS information refer to page 3-10.

The following information is collected and stored by the 6800 Deluxe controller:

MACHINE SERIAL NUMBER:

Range: (Blank) to 9999999999

MACHINE IDENTIFICATION NUMBER

Range: (Blank) to 9999999999

AUDIT NUMBER: (Non-resettable)

Equals the number of times the retrieval of MIS Information has been performed (Mode Key - <7>)

Range: 1 - 99999

SALES (Resettable)

Range: 0 - \$999,999.95

SALES (Non-Resettable)

Range: 0 - \$999,999.95

BAG TOTAL

Equals total accumulation of Cash Box plus Bill total amounts.

Range: 0 - \$999,999.95

CASH BOX

Equals total amount in Cash Box

Range: 0 - \$999,999.95

CARD SALES

Equals total amount in credit sales vended

Range: 0 - \$999,999.95

BILLS IN STACKER: (Where applicable)

BILL TOTAL - Equals all bill denominations in Bill Acceptor Stacker

Range: 0 - \$999,999.00

Ones 0 - \$65,535.00

Twos 0 - \$131,070.00

Fives 0 - \$327,675.00

Tens 0 - \$655,350.00

Twenties 0 - \$999,980.00

COINS IN TUBES:

TUBE TOTAL - Equals all coin denominations in Coin Mech Tubes

Range: 0 - \$357.00

\$1 Coin 0 - \$255.00

Quarters 0 - \$63.75

Dimes 0 - \$25.50

Nickels 0 - \$12.75

WIN SNACK VENDS: Equals the total win counts and cash amount given away.

Range: 0 - \$999,999.95

SHOPPER VENDS: Equals the number of vends and cash amount of discounted product dispensed.

Range: 0 - \$999,999.95

PROMO VENDS: Equals the number of vends and cash amount of free selection vended when making a certain paid selection.

Range: 0 - \$999,999.95

VEND PER PRODUCT CODE: Equals the number of times an assigned product code selection had been vended.

MIS PRINTER SETUP

The 7800 Deluxe software allows configuration to a selectable baud rate, no parity, 8 data bits, and 1 stop bit. This setup allows the 7800 Deluxe Snack/Candy Vendor to be configured the same as the Rowe 548/648 Showcase Merchandiser, the 550/650 Showcase Merchandiser, and the Rowe CD Jukebox. The same printer may now be used to retrieve data from all these machines without changing the printer setup. Printer wiring has also been simplified. Only three wires are required. Below is the pinout of a generic printer harness. Check the owner's manual for the printer you are using to verify proper connections at the printer end.

Rowe recommends the Seiko DPU-411-21BU Serial printer for retrieving MIS data. A printer harness, Rowe P/N 593-1800, is required to connect the printer to the controller.

7800 Deluxe Control Board

(Tx) P5-3 → Pin 2 or 3 (Rx)
(GND) P5-5 ↔ Pin 7 (GND)
(CTS) P5-8 ← Pin 5 or 20 (BUSY)

ROWE INTERNATIONAL

SNACK SOFTWARE V 1.0

ACCOUNT RECORD

11:22 11-13-95

SERIAL # - 0000000000
MACHINE ID - 0000000000
AUDIT NUMBER 23

SALES (R) - \$ 1.00
SALES (N) - \$ 26.50
BAG TOTAL - \$ 6.00
CASH BOX - \$.00
CARD SALES - \$.00

BILLS IN STACKER

BILL TOTAL - \$ 6.00
ONES - 1 \$ 1.00
TWOS - 0 \$.00
FIVES - 1 \$ 5.00
TENS - 0 \$.00
TWENTIES - 0 \$.00

COINS IN TUBES

TUBE TOTAL - \$ 8.00
\$1 COIN - 0 \$.00
QUARTERS - 20 \$ 5.00
DIMES - 20 \$ 2.00
NICKELS - 20 \$ 1.00

WIN-SNK VENDS - 0 \$.00
SHOPPER VENDS - 0 \$.00
PROMO VENDS - 0 \$.00
FREE VENDS - 0 \$.00

VENDS PER PRODUCT CODE
CODE 01 VENDS - 2

Sample MIS Report
Figure 2-6

Section 3: Program Operation

INTRODUCTION

This section contains detailed instructions on how to program all of the machine's features, retrieve MIS information, set prices, and load and calibrate the coin tubes.

There are two operation modes that the operator can access. The first mode is the Diagnostic Mode, which is activated when the door is opened. The Diagnostic Mode will list recorded machine errors and allow the operator to clear them from the system. The second mode is the Service Mode, through which the operator can program the various machine functions and retrieve MIS information.

In this manual, messages that appear on the display will be shown in upper case letters enclosed by quotation marks. The keys on the selection panel used to program the machine are enclosed in <> marks.

DIAGNOSTIC MODE

The following error messages will be displayed during the Diagnostic Mode. They will be displayed repetitively in the following order until cleared or until the Service Mode is entered. To clear an error, press the <RESET> Key. "NO ERRORS" followed by "SYSTEM OK" will be displayed when the last error is cleared.

Error Messages

"OVER CRNT=xx" - This message indicates motors that have been short circuited or jammed.

"HOME FAIL=xx" - This message lists motors that have not returned to the home position or that have failed to move from the home position.

"SHORT CYC=xx" - This message lists motors that may have an intermittent home switch or loose wire connections.

"CHK PRICE xx" - This message indicates selections with corrupted or invalid prices.

"HPR EMPTY" - This message appears if the optional bulk coin hopper is installed and the hopper is empty.

"EXTRA COIN" - This message appears if the optional bulk coin hopper is installed and too many coins may have been payed out.

"C DTR BLKD" - This message appears if the optional bulk coin hopper is installed and the coin detector is blocked.

"CM FAULT" - This message appears when communication with a coin changer is not working or the coin changer has communicated a fatal fault.

"TUBE FAULT" - This message appears when the coin changer indicates a coin tube jam or coin tube sensor fault.

"COIN JAM" - This message appears when a coin changer communicates a coin jam.

"BA FAULT" - This message appears when a bill validator communicates a fatal fault.

"STKR FULL" - This message indicates the bill stacker on the bill validator is full or jammed.

"BILL JAM" - This message indicates there is a jammed bill in the bill validator.

To correct any of the errors listed above, refer to *Section 4 - Troubleshooting*.

SERVICE MODE OPERATION

The Service Mode is accessed by either pressing the <MODE> button on the control board while the main door is open, or by entering the security code on the keypad. If the security feature is enabled, the service mode must be entered by entering the security code on the keypad in order to have access to secured menus. Once in the Service Mode, the operator will be able to access all of the 7800 Deluxe operating and management options. The different options in the Service Mode are located in ten menus. The menus are accessed through the number keys on the keypad. Follow the instructions in this section to program the 7800 Snack/Candy Vendor. Refer to the *flow chart on page 3-2*.

I. Access the Service Mode

1. Press the <MODE> button on the control board. A dash “-” will appear in the far left display digit indicating that the root service menu has been accessed. If the security feature is enabled, enter the security code using the keypad to gain access to all menus. If there is no keypad activity for 60 seconds, the controller will return to the Diagnostic Mode.
2. Press one of the following keys to access the menu you wish to program.
 - <1> Load and Calibrate the Change Tubes
 - <2> Win-A-Snack Odds Programming
 - <3> Price, Product Code, and Discount Eligibility
 - <4> Smart Shopper and Discount Amount Programming
 - <5> Credit System Configuration
 - <6> Promotional Vend Pairing
 - <7> POS Message, Serial and ID Number Programming, Date, Time, Auto Lockout Setup, and Free Vend

<8> MIS Display, Printer Communications, and DEX/UCS.

<9> Programming the Security Code and Security Features

<0> Motor Functions

3. Press the <RESET> key to exit the current menu and return to the root menu.

KEY 1

II. KEY 1 - Load/Dispense/Calibrate the Changer Tubes

Purpose:

To allow the operator to inventory and adjust the number of coins in the coin tubes. Note that when an MDB coin changer is installed, this function will show the number of coins in the tubes but will not allow manual changes. The MDB coin changer keeps track of the number of coin in the tubes and reports the number to the controller. Also, if an Executive type coin changer is installed, the tube counts are not used at all.

If coins are manually added to the tubes from the front of the changer, the coin count must be adjusted in this menu. If coins are deposited or paid out while in this mode the display will automatically show the inventory of the last coin dropped.

The coin tube display will show X.XX YY where X.XX is the value and YY is the count of the coins in a tube. Note that there may be more than one tube with the same type of coin in it.

NOTE

When the dumb type coin changer is selected, the tube count will automatically be adjusted when the level sensor is covered or uncovered and the coin tube counts may become corrupted.

Programming Instructions

1. Press <1> on the keypad.
2. Response will be: “X.XX YY” where

- X.XX represents the coin value and YY represents the number of coins in the tube.
3. Press <0> to move to the next coin tube without changing the coin count in this tube.
 4. Press <1> to increment the tube total.
 5. Press <2> to decrement the tube total.
 6. Press <0> to move to the next tube after inventory changes.
 7. Press <RESET> to return to the root menu.
 8. Repeat steps 1-6 for each of the coin tubes.

NOTE

Payout and acceptance criteria are based on the values of the coin tube levels.

KEY 2

III. KEY 2 - Win-a-Snack Odds Programming

Purpose:

To program the Win-a-Snack odds. The odds range from 1:50 to 1:500.

Programming Instructions:

1. Press <2> on the keypad.
2. Response will be "ODDS 1/XXX".
XXX represents a number between 50 and 500.
3. Press <1> to increment the odds at intervals of 50.
4. Press <2> to decrement the odds at intervals of 50.
5. Press <0> to save the change and return to the root menu.
6. Press <RESET> to return to the root menu without saving changes.

NOTE

Dip switch #6 on the control board must be ON to enable this feature.

KEY 3

IV. KEY 3 - Price, Product Code, and Discount Eligibility Setting

Purpose:

To set prices and product codes and to enable the Smart Shopper discount. The amount of the Smart Shopper discount will be programmed in the next menu. Only selections that have a motor present can be modified in this menu.

NOTE

Ensure that the shelf to be programmed is in the vend position, with the electrical connector at the rear of the shelf engaged with the electrical connector mounted to the cabinet.

NOTE

When installing a new control board, all selections must be reprogrammed to avoid setting error messages in the diagnostics. Selections that had prices previously set but whose motors are no longer detected will be flagged as "CHK PRICE" in the diagnostic display.

Programming Instructions:

1. Press <3> on the keypad.
2. Response will be "SET PRICE?".
3. Enter a two digit selection number.
4. Response will be "AA BBBB * CC".
 'AA' = Selection number
 'BBBB' = Price
 '*' = Discount eligibility
 'CC' = Product code
5. Press <1> to increment the price.
6. Press <2> to decrement the price.
7. Press <3> to increment the product code.
8. Press <4> to decrement the product code.
9. Press <5> to toggle the discount eligibility option (The asterisk indicates

that the option is enabled).

10. Choose one of the following applicable options to view/save price changes.
 - Press <6> to view the next selection price.
 - Press <7> to save the price to the entire shelf and exit to the root menu.
 - Press <8> to save the price to every selection in the entire machine and exit to the root menu.
 - Press <9> to save the changes. The information saved will be displayed at the next selection on the shelf. To modify the settings on the rest of the selections, repeat steps 5-9. To keep the settings the same, press <9> again. In this manner prices may be copied from one selection to the next.

NOTE

When reviewing the settings in Prices, Key <6> may be used to quickly view one setting after another without having to SAVE each setting.

KEY 4

V. KEY 4 - Smart Shopper Discount Amount

Purpose:

To set the amount of the Smart Shopper discount. The Smart Shopper discount is only valid on items on which the Smart Shopper option was enabled in Menu 3.

Programming Instructions:

1. Press <4> on the keypad.
2. Response will be "DSCNT XXX". XXX represents the amount of the discount.
3. Press <1> to increment discount.
4. Press <2> to decrement discount.
5. Press <0> to save the discount amount.

KEY 5

VI. Key 5 - Manual Peripheral Configuration

Purpose:

To select the type of credit system used, MDB, EXECUTIVE, or DUMB, and configure the credit system parameters. The following options are configured in this menu:

DUMB

Coin Changer

Coin Count/Coin Level

Scale

Decimal point position

Bill Validator

Pulse/Serial

Escrow Capability

Escrow Enabled

Denominations accepted
(\$1, \$2, \$5, \$10, \$20)

MDB

Coin Changer

Small coin acceptance

Overbuy

Bill Validator

Escrow Enabled

EXEC

Price holding

Price display

NOTE

When reviewing the setting in Credit System Configuration, key <6> may be used to quickly view one setting after another without having to SAVE each setting with the <5> key.

NOTE

After making any changes in this manu, the machin must be turned off and then back on gefore the new settings will take effect.

Programming Instructions:

1. Press <5> on the keypad.
2. Response will be "CTYPE XXXX" where XXXX will be DUMB, MDB, or EXEC.
3. Press <1> to cycle through the three choices.
4. Press <5> to select the choice on the display.
5. Proceed to step 1 in the section for the type of cash system selected for further programming instructions.

Dumb Cash System (CTYPE DUMB)

This cash system supports the standard "dumb" type coin changer (CoinCo L and Lplus, Mars MicroMech, and other compatibles) along with either a serial or pulse type bill validator with or without escrow capability. An MC-5000 compliant card reader is also supported.

Coin Changer (COIN MEC Y/N)

Set this option to 'Y' if a coin changer or card reader is installed otherwise set this option to 'N'.

Coin Level/Coin Count

With COIN COUNT selected, bill validator enable and the "COINS ONLY" messages are activated based on coin tube counts stored in the MIS section. With COIN LEVEL selected, not only are the coin tubes counts that are stored in MIS used, but the low coin level sensors in the coin changer are used as well. If the coin count for one of the coins is greater than 4 and the level sensor is blocked, the count is modified with the normal acceptance and dispensing of coins. If the level sensor should open up and the count is greater than 4, the count is automatically adjusted to 4. On the other hand, if the count goes below 4 and the sensor is still covered up, the count will be set back to 4. Again, bill validator enable and the "COINS ONLY" messages are activated based on the coin

counts; however, the counts may be modified based on the true coin levels.

Scale/Decimal

A bill validator may be added without a coin changer. Because the coin changer sets the scale factor and decimal location for pricing, those items must be programmed when a coin changer is not configured. When a coin changer is configured, these values have no effect.

Bill Validator (BILL VAL Y/N)

Set this option to 'Y' if a bill validator is installed otherwise set this option to 'N'.

Serial/Pulse (BV TYPE S/P)

This selects the type of bill validator installed. A serial bill validator must use the Rowe RBA-7 Serial Interface or the Mars VFM4 serial interface or equivalent. A pulse bill validator must output credit on a single wire with roughly 50ms pulses with 50ms spaces between pulses.

Escrow Capability (BV ESCROW Y/N)

By design, a serial bill validator has escrow capability. Set this option to 'Y' when using a serial bill validator. Pulse interface validators must conform to Rowe CBA-2 escrow protocol to use the escrow feature. Check with the bill validator manufacturer to see if the validator you wish to use has the proper capability. This setting, when set to 'Y', does not automatically cause a bill to be held in escrow. It only lets the controller know that the validator has an escrow circuit.

Escrow Enabled (ESCROW ON/OFF)

This feature when set 'ON' will enable the escrow function and hold a bill in the escrow position when the total credit exceeds the maximum priced item in the snack machine. When set to 'OFF' the bill will be moved to the stacker immediately.

Denominations Accepted (ACPT \$xx Y/N)

This option will allow unconditional rejection of specific denominations. This feature has no effect when using a pulse bill validator without escrow capability. In those cases, refer to the bill validator manufacturer for instructions for rejecting specific notes.

Dumb Credit System Programming Instructions:

1. Display responds with "COIN MEC Y" or "COIN MEC N".
2. Press <1> to toggle Y/N.
3. Press <5> to save the setting and proceed to the next menu option.
4. Display responds with "COIN COUNT" or "COIN LEVEL".
5. Press <1> to toggle COUNT/LEVEL.
6. Press <5> to save the setting and proceed to the next menu option.
7. Display responds "SCALE 5".
8. Press <1> to change the scale, 1, 5, 10, 20, 50, 100.
9. Press <5> to save the setting displayed and proceed to the next menu option.
10. Display responds "DP POS 0.00".
11. Press <1> to change the decimal position to .000, 000, 00.0, 0.00.
12. Press <5> to save and proceed to the next menu option.
13. Display responds "BILL VAL Y" or "BILL VAL N".
14. Press <1> to toggle Y/N.
15. Press <5> to save and proceed to the next menu option.
16. Display responds "BV TYPE S" or "BV TYPE P". S for serial, P for pulse.
17. Press <1> to toggle S/P.
18. Press <5> to save and proceed to the next menu option.
19. Display responds "BV ESCROW Y" or "BV ESCROW N".
20. Press <1> to toggle Y/N.
21. Press <5> to save and proceed to the next menu option.
22. Display responds "ESCROW ON" or "ESCROW OFF".
23. Press <1> to toggle ON/OFF.
24. Press <5> to save and proceed to the next menu option.
25. Display responds "ACPT \$ 1 Y" or "ACPT \$ 1 N".
26. Press <1> to toggle Y/N.
27. Press <5> to save and proceed to the next menu option.
28. Display responds "ACPT \$ 2 Y" or "ACPT \$ 2 N".
29. Press <1> to toggle Y/N.
30. Press <5> to save and proceed to the next menu option.
31. Display responds "ACPT \$ 5 Y" or "ACPT \$ 5 N".
32. Press <1> to toggle Y/N.
33. Press <5> to save and proceed to the next menu option.
34. Display responds "ACPT \$10 Y" or "ACPT \$10 N".
35. Press <1> to toggle Y/N.
36. Press <5> to save and proceed to the next menu option.
37. Display responds "ACPT \$20 Y" or "ACPT \$20 N".
38. Press <1> to toggle Y/N.
39. Press <5> to save and go back to step 1 above or press <0> to save and return to the '-' prompt.

MDB Cash System (CTYPE MDB)

This cash system option supports a standard MDB coin changer and bill validator.

Coin Changer (COIN MEC Y/N)

Set this option to 'Y' if a coin changer is installed otherwise set this option to 'N'.

Small Coin Acceptance (SM COINS Y/N)

Some MDB coin changers are set up to accept coin values smaller than the lowest value coin stored in a coin tube. Setting this option to 'N' will cause the coin changer to reject these smaller value coins. Set this option to 'Y' if small coins should be accepted. Prices are based on the lowest value coin that is stored in a coin tube. If small coins are accepted, it is possible to have leftover credit that cannot be returned to the customer.

Credit Overbuy (OVERBUY Y/N)

This feature works in conjunction with small coins. If small coins are accepted and a leftover credit is left on the machine, setting this feature to 'Y' will cause the leftover to be cleared and added to Overbuy in the MIS. Set this feature to 'N' to leave leftover credit on the machine.

Bill Validator (BILL VAL Y/N)

Set this option to 'Y' if a bill validator is installed otherwise set this option to 'N'.

Escrow Enabled (ESCROW ON/OFF)

This feature when set on 'ON' will enable the escrow function and hold a bill in the escrow position when the total credit exceeds the maximum priced item in the snack machine. When set to 'OFF' the bill will be moved to the stacker immediately.

MDB Credit System Programming Instructions:

1. Display responds with "COIN MEC Y" or "COIN MEC N".
2. Press <1> to toggle Y/N.
3. Press <5> to save the setting and proceed to the next menu option.
4. Display responds with "SM COINS Y" or "SM COINS N".
5. Press <1> to toggle Y/N.

6. Press <5> to save the setting and proceed to the next menu option.
7. Display responds with "OVERBUY Y" or "OVERBUY N".
8. Press <1> to toggle Y/N.
9. Press <5> to save the setting and proceed to the next menu option.
10. Display responds with "BILL VAL Y" or "BILL VAL N".
11. Press <1> to toggle Y/N.
12. Press <5> to save the setting and proceed to the next menu option.
13. Display responds with "ESCROW ON" or "ESCROW OFF".
14. Press <1> to toggle ON/OFF.
15. Press <5> to save and go back to step 1 above or press <0> to save and return to the '-' prompt.

Executive Cash System (CTYPE EXEC)

This cash system option supports a standard executive coin changer.

Price Holding (PRC HLDG Y/N)

With this option set to 'N' the price for selection is set in the snack machine. When this option is set to 'Y' up to 10 different prices may be set in the coin changer and selections in the snack machine are assigned 1 of the 10 possible prices.

Price Display (PRC DISP Y/N)

If this option is set to 'Y' the price of a selection can be displayed by entering the selection number before any credit is established. This option can only be used when Price Holding is set to 'Y'. Otherwise it has no effect.

Executive Credit System Programming Instructions:

1. Display responds with "PRC HLDG Y" or "PRC HLDG N".
2. Press <1> to toggle Y/N.
3. Press <5> to save the setting and proceed to the next menu option.
4. Display responds with "PRC DISP Y" or "PRC DISP N".
5. Press <1> to toggle Y/N.
6. Press <5> to save and go back to step 1 above or press <0> to save and return to the '-' prompt.

KEY 6

VII. KEY 6 - Promotional Vend Pair Programming

Purpose:

To select which items will be vended free with selected purchases when the Promotional Vend feature is enabled.

Programming Instructions:

1. Press <6> on the keypad.
2. The display will read "01 PXX FXX".
"01" represents the selected pair.
"PXX" refers to the purchased selection. "FXX" refers to the item that will be vended free.
3. Press <1> to increment the purchase selection.
4. Press <2> to decrement the purchase selection.
5. Press <3> to increment the free selection.
6. Press <4> to decrement the free selection.
7. Press <5> to save the selection and proceed to the next pair of selections.
8. Press <0> to save the last pair entered and return to the root menu.
9. Press <RESET> to ignore the last entered pair and return to the root menu.
10. Repeat steps 1-7 to set up to five pairs.

NOTE

Dip switch #4 on the control board must be ON to enable this feature.

KEY 7

VIII. KEY 7 - Point-of-Sale Message Serial Number

Machine ID
Date/Time
Auto Lockout
Baud Rate
Free Vend

Purpose:

To program the point-of-sale message and the machine's serial and ID numbers.

Programming Instructions:

1. Press <7> on the keypad.
2. Press <1> to program the POS Message. Press <2> to program the Serial Number. Press <3> to program the Machine ID number.
Press <4> to set the date.
Press <5> to set the time and the day of the week.
Press <6> to program the Automatic Lockout Feature.
Press <7> to set the date format.
Press <8> to set the printer baud rate.
Press <9> to enable and disable the Beeper.
Press <0> to set Free Vend mode.

A. Programming the POS Message

1. The display will read "P>_A". The 'P>' is the prompt to enter the message. The dash is where the letters will appear as they are placed in the POS message. The 'A' at the right side of the display is the character that will be placed in the message. Programmable characters are; uppercase A-Z, 0-9, space, #, \$, *, and -.
2. Erase previous message

- a. Press <9>
- b. Press <0>
3. Press <7> to return to the POS menu.
4. Press <1> to begin programming message.
5. Use the following keys to program the POS message:
 - <1> Move cursor position to the right.
 - <2> Move cursor position to the left.
 - <3> Increment character.
 - <4> Decrement character.
 - <5> Place character in message.
 - <6> Insert character in message.
 - <7> Delete character.
 - <9> First of two keystrokes required to delete to the end of the message. The <0> must be pressed to complete this function.
 - <0> Save message and exit to root menu.
 - <RESET> Exit to the root menu with no changes saved.
6. Press <3> until the column on the right scrolls to the desired letter. Hold the key down to scroll more quickly.
7. Press <5> to enter the letter.
8. Repeat step 6 until the message is complete. Use the other control keys as needed.
9. Press <0> to save the message and return to the root menu.

B. Programming the Serial Number

1. Press <7> on the keypad.
2. Press <2> to get to the serial number programming mode.
3. Use the same control keys used to program the POS message.
4. Program the number.
5. Press <0> to save the message and return to the root menu.

C. Programming the ID Number

1. Press <7> on the keypad.

2. Press <3> to get to the ID programming mode.
3. Use the same control keys used to program the POS message and the serial number to program the ID number.
4. Program the ID number.
5. Press <0> to save the message and return to the root menu.

D. Programming the Date

1. Press <7> on the keypad.
2. Press <4> to get to the date programming mode. The date format will be shown before the date is displayed.
3. Press <1> to increase the MM field. Press <2> to decrease the MM field.
4. Press <3> to increase the DD field. Press <4> to decrease the DD field.
5. Press <7> to increase the YY field. Press <8> to decrease the YY field.
6. When the correct date is showing in the display, press <0> to save and exit the date programming mode.
7. Press <RESET> to exit without saving the new date.

E. Programming the Time and Day

1. Press <7> on the keypad.
2. Press <5> to get to the time and day programming mode. The time and day will be displayed as "HH.MM DAY".
3. Press <1> to increase the HH field. Press <2> to decrease the HH field.
4. Press <3> to increase the MM field. Press <4> to decrease the MM field.
5. Press <7> to increase the DAY field. Press <8> to decrease the DAY field.
6. When the correct time and day is showing in the display, press <0> to save and exit the time and day programming mode.
7. Press <RESET> to exit without saving the new date.

F. Programming the Lockout Feature

1. Press <7> on the keypad.
2. Press <6> to get to the lockout programming mode. The display will show "PGM X DAY", where 'X' is a number from 0 to 9 and 'DAY' is a specific day of the week, or 'WKDS', indicating work days Monday through Friday, or 'WEEK', indicating every day of the week, or 'OFF,' indicating that this program entry is not used.
3. Press <6> to change the program event number. There are 10 programmable events, numbered 0 to 9.
4. Press <1> or <2> to change the DAY.
5. Press <5> to display the ON time for the program event. The display will show "ON HH.MM", where 'ON' indicates the time 'HH.MM' that the machine will be disabled.
6. Press <1> to increment the hours HH. Press <2> to decrement the hours HH.
7. Press <3> to increment the minutes MM. Press <4> to decrement the minutes MM.
8. Press <5> to display the OFF time for the program event. The display will show "OFF HH.MM", where 'OFF' indicates the time 'HH.MM' that the machine will go back into service. Be sure the OFF time is later than the ON time.
9. Follow steps 6 and 7 to set the OFF time.
10. Follow steps 3 through 8 to set up other programmed lockout days and times.
11. Press <7> to set the displayed event OFF and to reset the ON and OFF times to '00.00'.
12. Press <RESET> to exit the lockout programming mode. All settings are automatically saved as they are made.

G. Setting the Date Format

1. Press <7> on the keypad.
2. Press <7> again to get to the date format mode.
3. Press <1> to toggle the date format between MM/DD/YY and DD/MM/YY.
4. Press <0> to save the new date format and exit.
5. Press <RESET> to exit the date format mode without saving any changes.

H. Programming the Printer Baud Rate

1. Press <7> on the keypad.
2. Press <8> to get to the baud rate mode.
3. Press <1> to change the baud rate.
4. Press <0> to save the new baud rate and exit.
5. Press <RESET> to exit the baud rate mode without saving any changes.

I. Select Alternate Language

1. Press <7> on the keypad.
2. Press <9> to get to the alternate language mode.
3. Press <1> to toggle Y/N.
4. Press <0> to save the setting and exit.
5. Press <RESET> to exit without changing the alternate language mode.

J. Free Vend

1. Press <7> on the keypad.
2. Press <9> to get to the Free Vend mode.
3. Press <1> to toggle Y/N.
4. Press <0> to save the setting and exit.
5. Press <RESET> to exit without changing the Free Vend mode.

KEY 8

IX. KEY 8 - MIS Display, Printer Communications, and DEX

Purpose:

To retrieve MIS information. The controller allows selection of the type of MIS re-

triever. The report may be printed, displayed or sent to DEX/UCS collection device.

Programming Instructions:

1. Press <8> on the keypad. The display will show "DISPLAY MIS. Push <1> again to display "PRINT MIS". Push <1> again to display "DEX MIS". Push <1> again to re-display "DISPLAY MIS".
2. With the desired function displayed, push <0> to start the report. If the report is displayed, follow the steps below.
3. Response will be "SERIAL NUMBER" (the first line of MIS data).
4. Press <0> to proceed to the next line of MIS data.
5. Repeat step three until you reach the end of the MIS data. The last line will prompt the operator, "CLR MIS N".
6. Press <1> to toggle Y/N.
7. Press <RESET> at any time to return to the root menu.

KEY 9

X. Key 9 - Security Code Programming

Purpose:

To protect specific menus from unauthorized access. If the security feature is enabled, the operator must select which menus are protected by the security feature. Menus that are protected by the security feature will only be available if the Service Mode is accessed by entering the security code on the keypad. Menus that are not protected by the security feature will be accessible when the service mode is accessed by pressing the "MODE" button on the controller.

Programming Instructions:

1. Press <9> on the keypad.
2. Response will be "ENTER CODE".
3. Enter a four digit security code.

4. The code number will flash four times.
5. The display will read "SECURE OFF/ON".
6. Press <1> to toggle Off/On.
7. Press <5> to step through each menu.
8. Press <1> to toggle Off/On.

NOTE

This feature must be set to ON to prevent unauthorized access or code changes. Menu 9 must also be set to ON.

9. Press <0> to save the new security status and return to the root menu.
10. Press <RESET> to exit this function without saving.

XI. KEY 0 - Motor Count Test Vend, and Hopper Setup

Purpose:

To test all of the motors in the machine to make sure they are working and to setup the optional bulk coin dispenser. There are seven options available in this menu.

Key 1 is the motor count.

Key 2 allows test vending individual motors one at a time.

Key 3 allows test vending all motors in the machine.

Key 4 displays motor status information.

Key 5 will display the maximum price set in the machine.

Key 6 will run the automatic motor detection function.

Key 7 accesses the bulk coin dispenser setup features.

Programming Instructions:

A. Motor Count

1. Press <0> to get to the motor function menu.
2. The display will read "MTR FUNCT?".
3. Press <1> to display the motor count.

The display will read "MOTORS xx" where xx represents the number of motors detected in the snack machine.

4. Press <RESET> to return to the '-' prompt.

B. Test Vend Individual Motors

1. Press <0> on the keypad.
2. The display will read "MTR FUNCT?".
3. Press <2> on the keypad.
4. The display will read "T VEND —".
5. Enter a 2 digit selection.
6. The display will read "TESTING xx" where xx is the selection motor being tested.
7. If the motor runs without any problem the display will read "MOTOR OK". If an error was detected the display will read "MTR ERROR". If the 2 digit selection does not exist the display will read "BAD SELECT".
8. The display will return to the "MTR FUNCT?" prompt.

C. Test Vend All Motors

1. Press <0> on the keypad.
2. The display will read "MTR FUNCT?".
3. Press <3> on the keypad.
4. The display will read "T VEND ALL".
5. Press <0> to start the test.
6. The display will read "TESTING xx" where xx is the motor being tested.
7. To abort the test before it is finished push the <RESET> key. The display returns to the '-' prompt.
8. After the test is finished the display returns to "MTR FUNCT?"

D. Motor Status

1. Press <0> on the keypad.
2. The display will read "MTR FUNCT?".
3. Press <4> on the keypad.
4. The display will read "MTR 01= xx"

where xx represents the motor status.

5. Enter a 2 digit selection.
6. As the digits are entered the display will show the status of that motor. If xx is shown as two dashes "--", the motor number is not a valid number (selections ending in 0 or 5 for example). If xx is shown as OK, the motor is OK. If xx shows a hexadecimal number, the motor may have a problem and the hexadecimal number indicates what the problem may be.

No. Possible Problem

- 1 Motor not present
- 2 Motor present but not home
- 4 Motor draws too much current
- 8 Motor will not leave home
- 10 Motor short cycle
- 20 Bad price

A motor may have more than one possible problem. In that case the numbers are added together and displayed. Example: Motor will not leave home and draws too much current. The number shown will be $8 + 4 = 0C$.

7. Enter any other 2 digit selection to view status for that motor.
8. Press <RESET> to return to the '-' prompt.

E. Maximum Price

1. Press <0> on the keypad.
2. The display will read "MTR FUNCT?".
3. Press <5> on the keypad.
4. The display will read "MAX P x.xx" where x.xx represents the highest price selection in the snack machine.
5. Press <RESET> to return to the '-' prompt.

F. Automatically Detect Motors

1. Press <0> on the keypad.
2. The display will read "MTR

- FUNCT?”.
3. Press <6> on the keypad.
 4. The display will read “MTR DETECT”.
 5. Press <0> to run the detection.
 6. The display will read “DETECTING” and return to the ‘-’ prompt. View the Motor Count option to verify all installed motors were detected.

G. Hopper Configuration

1. Press <0> on the keypad.
2. The display will read “MTR FUNCT?”.
3. Press <7> on the keypad.
4. The display will read “HOPPER Y” or “HOPPER N”.
5. Press <1> to toggle Y/N. If the Executive Credit System is configured, this feature is not available and the display will not change to “HOPPER Y”.
6. Press <5> to save and advance to the next menu option.
7. The display will read “HC VAL x.xx” where x.xx represents the value of the coins loaded in the bulk hopper.
8. Press <1> to change the coin value to 0.25, 1.00, or 2.00.
9. Press <5> to save and advance to the next menu option.
10. The display will read “HPR CNT”.
11. Press <1> to change "HPR COUNT" to "HPR LEVEL" and back to "HPR COUNT".
12. Press <5> to save and advance to the next menu option.
13. The display will read "C CNTxxx" meaning Coin Count where xxx represents the number of the coins loaded in the bulk hopper.
14. Press <1> to add 50 to the hopper count.
15. Press <2> to subtract 50 from the hopper count.
16. Press <5> to save and advance to the next menu option.
17. The display will read “A OVR x.xx” meaning Automatic Over where x.xx represents the amount of credit that must be established on the snack machine before the machine will automatically dispense change from the bulk hopper.
18. Press <1> to add to the value.
19. Press <2> to subtract from the value.
20. Press <5> to save and advance to the next menu option.
21. The display will read “CHNG ALL Y” or “CHNG ALL N”.
22. Press <1> to toggle Y/N.
23. Press <5> to save and advance to the next menu option.
24. The display will read “HOPPER TST”.
25. Press <0> to turn on the hopper motor for 5 seconds.
26. The display will return to the ‘-’ prompt.

Section 4: Troubleshooting

INTRODUCTION

This section contains Troubleshooting Charts, a Block Wiring Diagram, and an Interconnect Block Diagram. The first chart lists the error messages that may be displayed while in the diagnostic mode. The second lists possible problems and suggested solutions.

Clear Errors

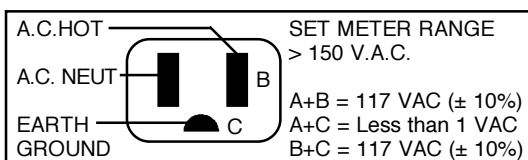
Diagnostic error messages are cleared by pressing <RESET> while in the diagnostic mode. Following a diagnostic reset, "NO ERRORS" will be displayed for 1 second. ***Clearing errors does not correct the problems indicated by the error messages, it only removes the message from the machine's memory.***

TROUBLESHOOTING PROCEDURES

It is important to troubleshoot logically. Many malfunctions are caused by minor defects such as loose connections or dirty contacts. Ensure that the vendor is connected to a good power source and follow the checklist at right before replacing any parts.

Voltage and Polarity Check

With a voltmeter, check for proper voltage, polarity and good ground using the following example:



Check List

- Check circuit breakers. These are located on the Transformer Box assembly at the bottom left hand side of the cabinet.
- Check to ensure that the Main power switch is ON - located on the bottom of the power panel.

- Check to ensure that all plugs are firmly seated in their receptacles.
- Check to ensure that connector pins are not bent, broken or pushed through the back of the connector or receptacle when mated.
- Check to ensure that wires are not broken at connector pins.

Locating and Replacing Defective Motors

1. Open the main door and check the display for "OVER CRNT=" or "HOME FAIL=" errors.
2. Record all the selection numbers that follow these error messages.
3. Check all disabled selection helixes for improper loading, jams, etc.
4. Run a single selection motor test on each disabled selection by following the instructions in Motor Count and Test Vend on page 3-11.
5. If the motor fails to operate, first check applicable wires and connectors to the motor. Second, replace defective motor assembly as follows:
 - a. Remove helix.
 - b. Insert hub removal tool (593-902) and pull hub off.
 - c. Compress motor retaining tabs and remove motor.
6. Run a test vend on repaired selections.
7. After all repairs are made, press <RESET> while viewing the error messages to clear all faults.

REFRIGERATION SYSTEM (OPTIONAL)

If the refrigeration system compressor is inoperative, perform the following checks before replacing the unit. Be sure to hold the Refrigeration Interlock Switch closed when making the operational checks.

1. Measure the line voltage. If it is below 105 volts, the compressor may fail to start or it may run hot.
2. If line voltage is correct, check automatic control thermostat operation by connecting a jumper wire across the terminal with power disconnected.
3. The Start Capacitor, Run Capacitor, and Start Relay are best tested by substituting them with known good components. This way there can be no doubt of test results.
4. Check Thermal Overload for continuity.
5. With motor leads disconnected from circuits, check compressor motor windings with Volt/Ohm meter set on R x 1 scale.
(Readings $\pm 10\%$)
Common to Start 32 Ohms
Common to Run 7 Ohms
Start to Run 38 Ohms*
* Measured at ambient room temperature.
6. Check for grounded winding with Volt/Ohm meter from Start Capacitor to metal casing and Run Capacitor to metal casing. There should be no continuity. If there is, replace the compressor.

Compressor Circuit

The Compressor circuit in the 7700 Air Cooled unit is a Permanent Split Capacitor Start Motor. This utilizes a single Start Capacitor with a value of 53/64 μ FD. There is a Start Relay Mounted on the Compressor; this is a Current Type Relay. When the Current in the Run Winding is

above a certain level, the Coil energizes. When the Coil energizes, the normally open contact closes, connecting the Start Capacitor to the Start Winding of the motor. The Start Relay @ Start Capacitor circuit causes a high starting torque to accelerate the Compressor Rotor Shaft to full speed. When the Compressor Rotor Shaft is at its running speed, the current through the Run Winding will drop to the normal Run Current, allowing the Coil of the Start Relay to de-energize. When the Coil de-energizes, the contact will open and break the Starting Circuit. The motor will continue to run via the current through the Run Winding. If the Run Winding current rises (i.e., the motor stops or stalls), the Start Relay Coil will again energize and the cycle above repeats itself.

Refrigeration Removal Instructions

1. Unplug the Snack/Candy vendor from wall.
2. Remove the four (4) screws securing the bottom right hand gusset.
3. Remove the G&M shelf if present.
4. Remove the bottom right cover of the Machine Room.
5. Unplug the Refrigeration Unit.
6. Remove the intake air screen and (2) cable clamps that held the screen.
7. Remove the (2) screws securing the Refrigeration Unit at the bottom of the cabinet.
8. The refrigeration unit is now ready to slide out.
9. To install, reverse the above procedures making sure Evaporator Unit fully engages the tab of Retaining Bracket at rear of machine.

!CAUTION!

Protective eye wear must be worn when testing refrigeration systems. This system is charged with 6.0 oz. of R134a refrigerant. Repairs should be performed by technicians trained and experienced in refrigeration troubleshooting and safety procedures.

Figure 4-1. Refrigeration System Wiring Diagram

Troubleshooting Chart 4-1

Error Messages

ERROR MESSAGE	PROBABLE CAUSE	SOLUTION
"OVER CRNT="	Shorted or jammed motor	Follow instructions on page 4-3 for locating and replacing defective motors.
"HOME FAIL="	Motor did not complete full rotation or leave the home position	Follow instructions on page 4-3 for locating and replacing defective motors.
"COIN JAM"	Coin jammed in coin mech	Clear jammed coin
"TUBEFAULT"	Defective Coin Mech level sensor	Replace
"CMFAULT"	Coin mech not sending power-up message	Check that coin mech is connected Check Credit System Configuration
	Defective Coin Mech	Replace
"BAFAULT"	Faulty credit messages from Bill Acceptor	Check BA connection
	Defective Bill Acceptor	Check Credit System Configuration Replace
"MACHINEOUTOFORDER" shows on display when door closed	Valid start-up message not received from configured peripheral	Check for error message and follow steps in the troubleshooting chart for that error message.
		Check Credit System Configuration.
"CHKPRICES="	Selection contains corrupted price.	Reprice selection.
		Reinstall shelf.
"STKRFULL"	Bill stacker in Bill Validator is full.	Empty Bill stacker.
	Bill stacker mechanism is jammed or defective.	Replace Bill Validator
"BILLJAM"	A note is jammed in the Bill Validator.	Clear the jammed note.

Troubleshooting Chart 4-2

Problem/Solution

PROBLEM	PROBABLE CAUSE	SOLUTION
No Indicator lights in machine	No AC power into machine	Check P1 of Controller 24 VAC @ pins 1 and 2 120 VAC @ pins 4 and 6 Check circuit breaker in transformer assembly.
Display does not light	No power to display	Check +5 VDC at display @ pins 12 to 14 Check +24 VDC at display @ pins 11 to 12
No Display	Loose or defective Harness	Check that P6 of Controller is seated Check connection @ P6 on Controller and P1 on Display
Does not accept coins	Coin Mech not reset or not receiving coin acceptance signal	Check that Accept Enable is low @ pins 6 to 2 on Coin Mech Socket Check +5 VDC @ pin 1 to 2 at Coin Mech Socket Check Coin Mech Manufacturer's Instructions Check +120 VPDC @ pin 10 to 12 at Coin Mech Socket Check +24 VPDC @ pin 13 to 15 at Coin Mech Socket Clear coin track
	Machine not level	Level cabinet
Does not accept bills	Defective Coin Mech	Replace
	Bill Acceptor not receiving bill acceptance signal	Insufficient change in coin tubes Check Coin Mech tube amounts in program Mode 1 Check peripheral configuration. Check for Accept Enable held low @ P4 pins 1 to 7 on Controller Check power to Bill Validator 120 VAC @ AC connector Check +5 VDC @ P4 pins 4 to 7 on Controller

Troubleshooting Chart 4-2

Problem/Solution

PROBLEM	PROBABLE CAUSE	SOLUTION
Does not register credit	Credit message not received from Coin Mech	Check for continuity between P2 pin 2 of controller and pin 6 of Coin Mech Socket
	Coin Mech defective	Replace
	Credit pulse not received from Bill Validator	Check for continuity between: Controller P4 UBAP3 pin 5 pin 5 pin 6 pin 6 & 8
	Defective Bill Validator	Replace
Does not give change	Controller defective	Replace
	No change in Coin Mech	Reload Coin Mech
	Dispense lines to Coin Mech disconnected	Check for continuity between: Controller P2 Coin Mech Socket pin 4 pin 8 pin 5 pin 7 pin 6 pin 9 pin 9 pin 14
	(Domestic Version)	
Incorrect change dispensed	Defective Coin Mech	Replace
	Vend prices not set to match label	Reprice selector or change label
	Defective Coin Mech	Replace
	Defective Controller	Replace
	Dispense lines to Coin Mech disconnected	Check for continuity between: Controller P2 Coin Mech Socket pin 4 pin 8 pin 5 pin 7 pin 6 pin 9 pin 9 pin 14
	(Domestic Version)	
Gum and Mint jamming or double vending	Flap Guides out of adjustment	Adjust Flap Guides
	Excess space causing Gum and Mint to shift left or right	Insert right and left rack product guides to fill space (Kit P/N 593-6007)
Selection motor cycles continuously	Defective full cycle switch	Remove power, check switch and replace motor if defective
	Defective Controller	Replace
Two motors run simultaneously	Defective components in motor circuit	Locate and replace defective components

Troubleshooting Chart 4-2 (Problem/Solution)

PROBLEM	PROBABLE CAUSE	SOLUTION
Two motors run simultaneously	Defective Controller	Replace
	Pinched or shorted wires in wire harness	Repair or replace wire harness.
Fluorescent light does not light	Defective lights or starter	Replace
Cannot buy from row 4	No sale switch ON	Set switch to OFF
	Controller P9 pin 1 and 2 shorted	Replace Controller
Fan does not run	Defective harness	Check for 120 VAC @ fan connector
	Defective fan	Replace
Display always shows "SYSTEM OK"	Defective door switch	Replace
	Door switch not activated when the door is closed	Adjust switch bracket until activation occurs

Troubleshooting Chart 4-3

Rowe Bill Acceptor

ERROR MESSAGE	PROBABLE CAUSE	SOLUTION
Bill Acceptor rejects a large number of valid bills. The BA STATUS LED will flash one or more times to indicate the cause of the reject.	BA STATUS LED flashes once after rejecting Bill.	Defective V1 or V4 cell. Defective UBA Unit.
	BA STATUS LED flashes twice or three times after rejecting Bill.	Twice indicates a defective V2 cell. Three times indicates a defective V3 cell or an object lodged in the transport.
	BA STATUS LED flashes four times after rejecting Bill.	Object lodged in Transport. Binding Anti-pull back lever. Defective lower harness and cell assembly. Defective UBA Unit.
	BA STATUS LED flashes five times after rejecting Bill.	Defective magnetic head or Transport. Defective UBA Unit.
	BA STATUS LED flashes six times after rejecting Bill.	Bill denomination has not been enabled
Transport motor does not start when a bill is inserted.	BA STATUS LED flashes eight times after rejecting Bill.	UBA was commanded to return the bill held in escrow.
	Power LED on UBA Unit not lit.	Problem in Power Supply. Defective harness to UBA Unit.
	Transport does not start, but clicking sound is heard in UBA Unit.	Object jammed in Transport. Defective UBA Unit.
	No sound or any other indication that Transport is trying to run.	Defective V1 cell. Defective UBA Unit. Defective Main Controller.
	BA STATUS LED is blinking.	UBA is not operational due to a "Fault" condition (See "UBA in shutdown").
Bills jam frequently.	Any bill transporting failure.	Anti-pull back lever not operating freely. Bill pressure roller binding. Transport inlet or track surfaces contain projections, rough spots or dirt. Transport belts out of adjustment or dirty. Transport belts not centered on rollers. Transport upper input roller does not move up and down freely. Defective Power Supply.

Troubleshooting Chart 4-3

Rowe Bill Acceptor

PROBLEM	PROBABLE CAUSE	SOLUTION
UBA in SHUTDOWN In this state, the BA Status LED will flash ON for 1 second and then flash one or more times. The number of flashes indicates the cause of the shutdown.	BA STATUS LED flashes once.	Object in Transport covering V1 cell. Defective UBA Unit.
	BA STATUS LED flashes 3 times.	Object covering V3 cell. Defective lower harness and cell assembly. Defective UBA unit.
	BA STATUS LED flashes 4 times.	Object in Transport Unit activating anti-pull back lever. Defective lower harness and cell assembly. Defective UBA Unit.
	BA STATUS LED flashes 5 times.	Bill Box full. Bill Box jammed in “off home” position. Bill Box home switch out of adjustment. Defective Bill Box. Defective UBA Unit.
	BA STATUS LED flashes 7 times.	Motor speed could not be adjusted. Incorrect belt tension. Defective drive motor. Defective UBA Unit.

Interconnect Block Diagram

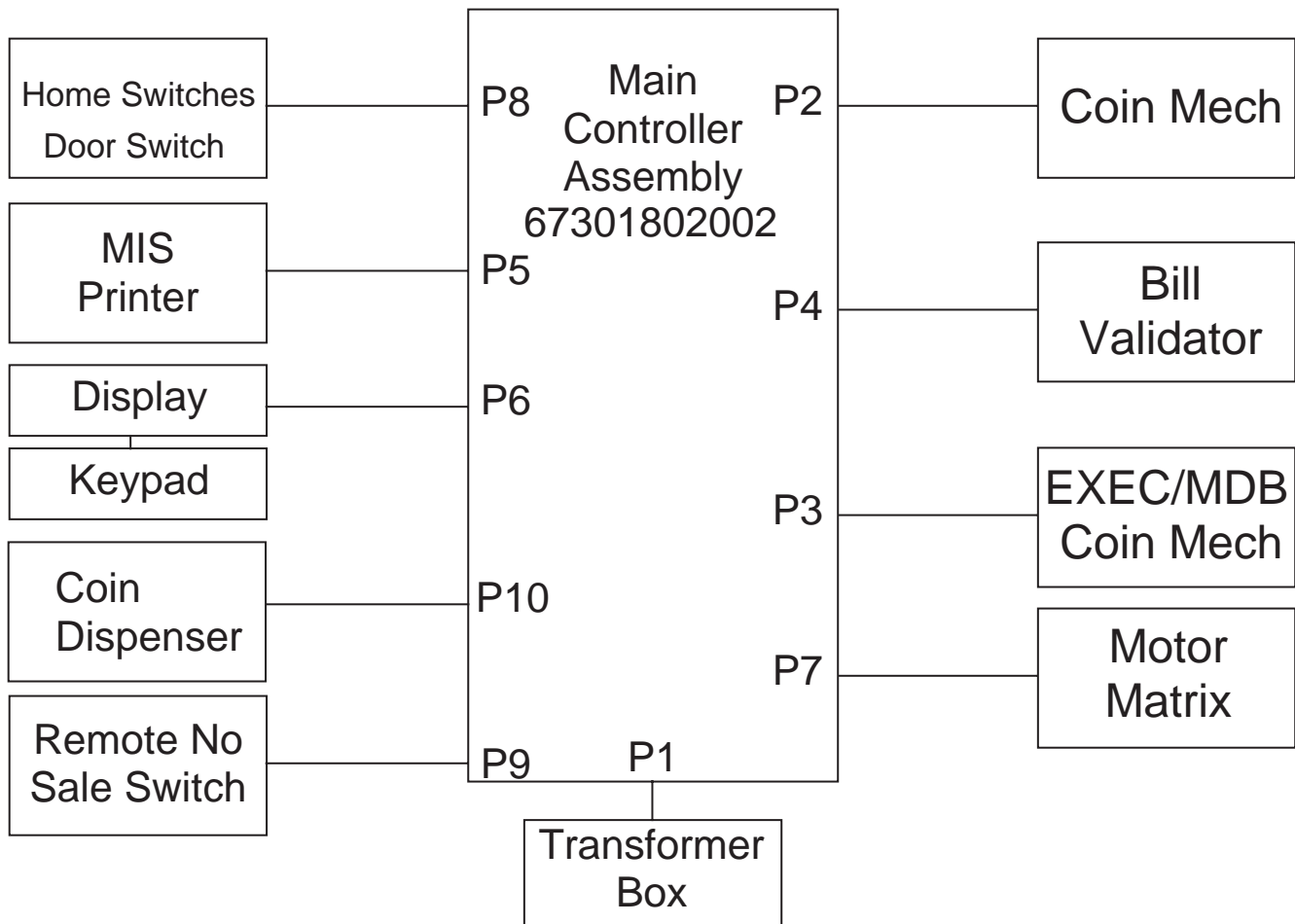


Figure 4-2. Block Diagram

15 Pin Coin Mech Socket

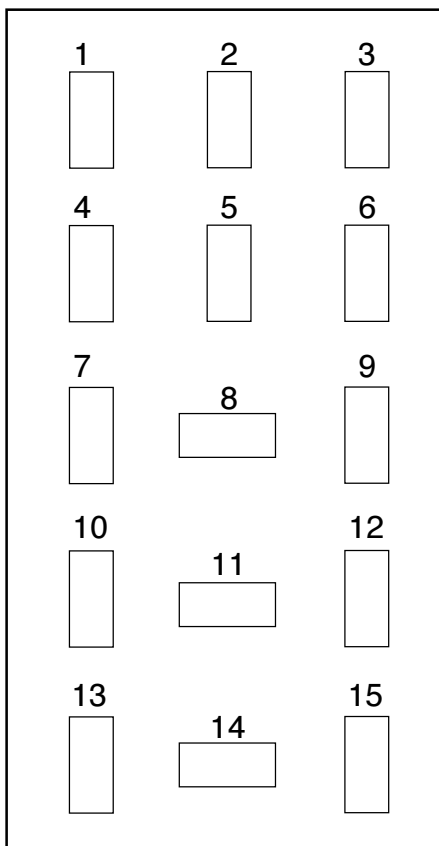
Coin Mechanisms

120V Models - 12 Pin

MARS	TRC-6000
MARS	VN4000
MARS	MC5000
COINCO	9300L

24V Models - 15 Pin ONLY

MARS	TRC-6010-XV
MARS	VN4010
COINCO	9302LF
COINCO	GLOBAL, LINT.
MAKA	USPX



1. +5 VDC - VIOLET
2. 5V RTN - YL / BN
3. Send - BROWN
4. Int - GRAY
5. Data - YL/ BK
6. Accept Enable - RED
7. Disp Quarters - GREEN
8. Disp. Dimes - YELLOW
9. Disp. Nickels - BLUE
10. -120 V PDC - WH / BK
11. Reset - ORANGE
12. +120 V PDC - BK / WH
13. -24 V PDC - YL / OR
14. Disp \$1 - YL / WH
15. +24 V PDC - YL / RD

CAUTION!

Do NOT use a 24 volt coin mech with the 12 pin plug. This will result in permanent damage to the coin mech and / or vendor.

Figure 4-3. Coin Mech Socket

Figure 4-4. 7800 Deluxe System Schematic Diagram, Sheet 1



For Equivalent Engineering Drawing See 90059311
Figure 4-5. 7800 Deluxe Controller Schematic Diagram, Sheet 1

*For Equivalent Engineering Drawing See 90059311
Figure 4-5. 7800 Deluxe Controller Schematic Diagram, Sheet 2*

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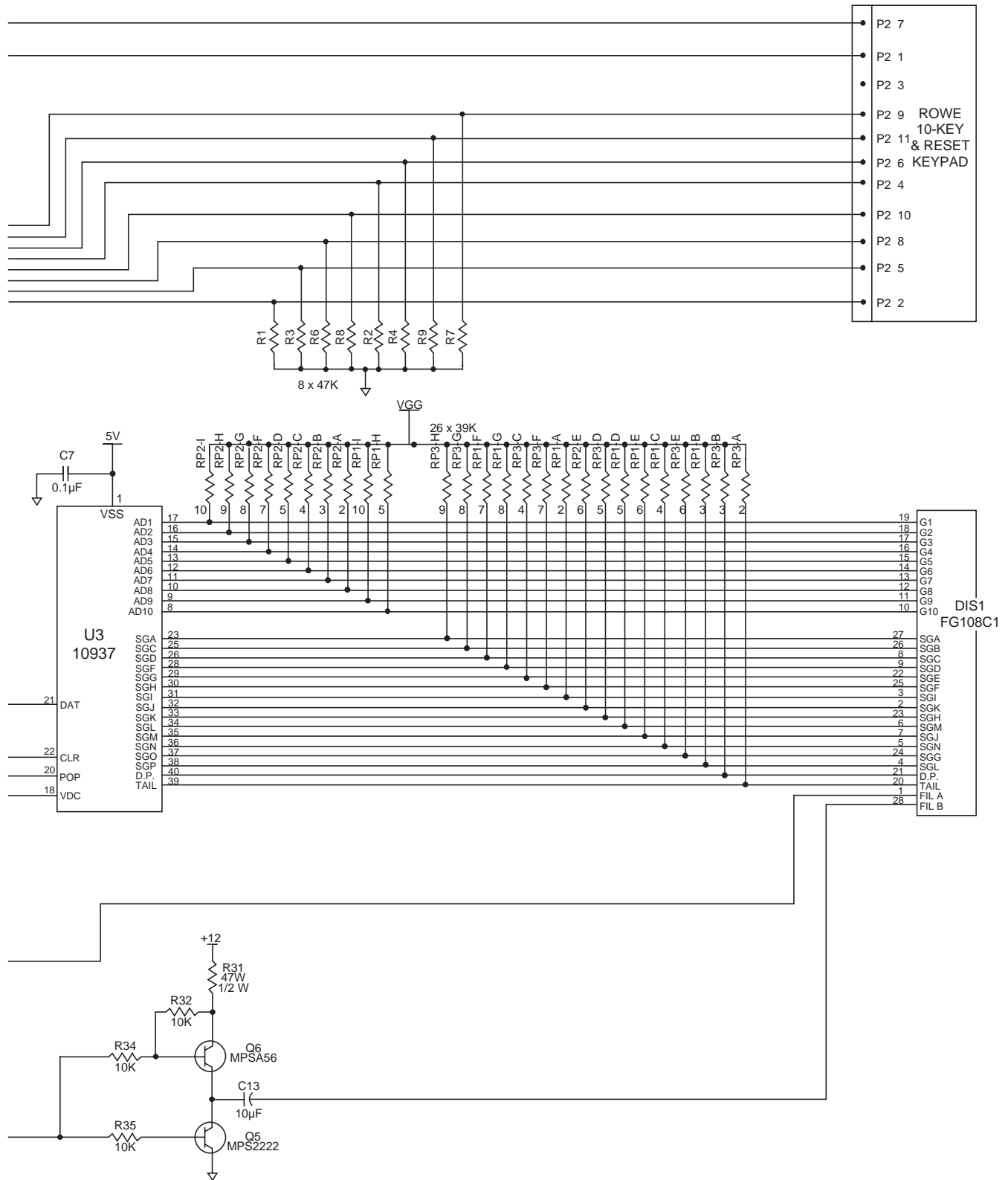


Figure 4-6. 7800 Deluxe Display Board Schematic Diagram

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Section 5: Maintenance

INTRODUCTION

This section contains information on proper cleaning procedures, as well as instructions on how to remove and replace key vendor components

CLEANING

To project the best selling image to the customer, and to prolong the beauty of the vendor, it is important to keep the Snack Vendor clean.

1. The display window should be cleaned inside and out with any good glass cleaner, using clean, soft cloths or paper towels.
2. Painted metal and vinyl surfaces can be cleaned with warm water and mild detergent, paying particular attention to the delivery box, inside and out. **DO NOT** get water on electrical components.
3. Use suitable metal cleaner for the brushed and polished metal located on front door.
4. Cleaning the shelves is easily accomplished with helix coils and adjustable walls removed (*See Removal and Replacement below*).
5. Check regularly to make sure that coin paths are clean and dry through the coin mechanism.

REMOVAL AND REPLACEMENT

Single Selection Helix

Helix replacement is easily accomplished without removing the shelf from the vendor. On 10-selection shelves, the adjustable wall must be removed from the compartment. Swing the adjustable wall forward as far as it will go and lift at the two pivot points. Then remove the helix as follows:

1. Pull the shelf out and let it tilt to its service position.

2. Grasp the front of the helix coil and lift straight up. This will release the helix from the helix hub at the rear of the shelf and the helix will be free in your hand.
3. To replace the helix, make sure that the helix tip at the rear is pointing downward into the gap in helix hub. Drop the helix into the compartment. Push the bottom coil of the helix rearward & snap it into the detente at the bottom of the hub.

Dual Selection Helix

1. Pull the shelf out and let it tilt in its service position.
2. If the shelf is equipped with adjustable walls, remove by swinging the adjustable wall forward as far as it will move then lift upwards.
3. Right Side Helix - Grasp the front section of the helix spiral and lift up approximately 3 to 5 inches. Turn the helix clockwise until it snaps loose from the helix hub.

NOTE

The right side main helix is larger than its left side counterpart.

4. Left Side Helix - Grasp the front section of the helix spiral and lift up approximately 3 to 5 inches. Turn the helix counterclockwise until it snaps loose from the helix hub.
5. Install the right and left side helix as follows:
 - a. Right Side Helix - Insert the helix end into the hub slot, then push in and twist the helix counter clockwise.
 - b. Left Side Helix - Insert the helix end into the hub slot then push in and twist clockwise.
6. If applicable, reinstall the adjustable wall.

SHELF REMOVAL

Shelf removal in the Rowe Snack/Candy Vendor is an easy operation. Remove the shelf as follows:

1. Carefully pull the shelf out to a normal service position (See Figure 5-2).
2. Lift the front of the shelf and continue to pull forward, making sure that the retaining studs clear the gap in the shelf supports (See Figure 5-3). Continue pulling the shelf forward until it stops.
3. Lower the front end of the shelf so that it will hang vertically in front of the machine. Lower shelves will not hang vertically.
4. Grasp the sides of the shelf and lift up and out.

Drive Motor

The 7800 Deluxe Snack/Candy Vendor uses a high RPM DC motor. The DC motor has a high starting torque and should provide long, reliable life.

GUM AND MINT UNIT REMOVAL

1. Pull out and remove the shelf above the gum and mint assembly.

!CAUTION!

DO NOT try to turn the motors by hand. Damage to the motor will result. Allow the machine to home the motors.

2. Remove the left shroud.
3. Remove the left and right (white) nylon shelf guides.
4. Pull the gum and mint release levers forward and slide the shelf out to the stop position.
5. Disconnect the spring overtravel prevention bracket.
6. Shift the shelf to left and pull it out.
7. To reassemble, reverse this procedure.

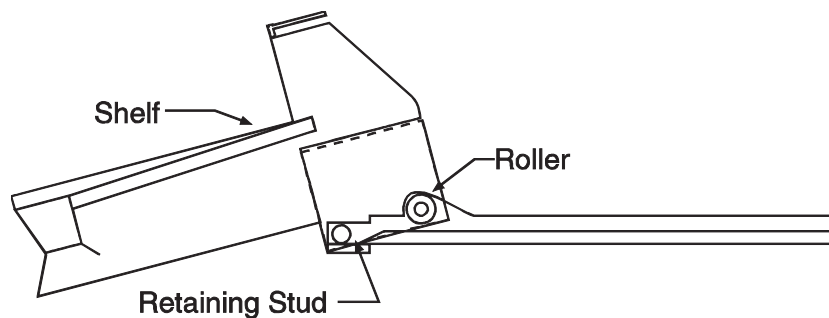


Fig. 5-1
Normal Service Position

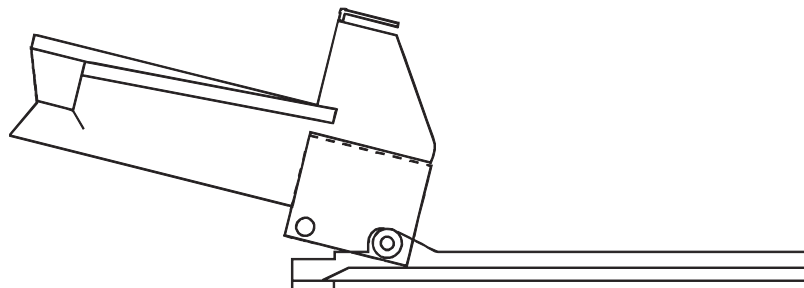


Fig. 5-2
Shelf Removal Primary Position

SELECTOR BUTTON ASSEMBLY REMOVAL

The selector button assembly in the snack vendor is a sturdy, reliable assembly developed and constantly improved over many years. The buttons exposed to the public are high impact plastic nested to bases soldered into an extremely reliable P.C. Board.

Should it ever be necessary to replace this assembly or any of its parts, proceed as follows:

1. Disconnect the cable.
2. Remove the 4 mounting screws.

NOTE

Do not remove the screws that mount the P.C. board.

3. Remove assembly.
4. To install, reverse this procedure.

HELIX HUB/MOTOR REMOVAL

1. Turn the power OFF.
2. Slide the shelf forward, lift the shelf upward and out. Let the shelf hang down.
3. Locate the hub removal tool (P/N 593-902) supplied with vendor.
4. Line up the hub tool "V" cutout (horizontally for 4 & 5 shelves, vertically for 8 & 10 shelves) to the motor shaft gap.
5. Push the hub tool in while pulling on the helix hub outward. Helix should snap off.
6. Disconnect the motor harness connection.
7. Press down on the top locking tab and push the motor out.
8. To install the motor and hub reverse this procedure.

NOTE

Hub Tool not needed to reinstall hub. When reattaching the helix to the hub, push until it snaps on.

9. Turn the main power ON.

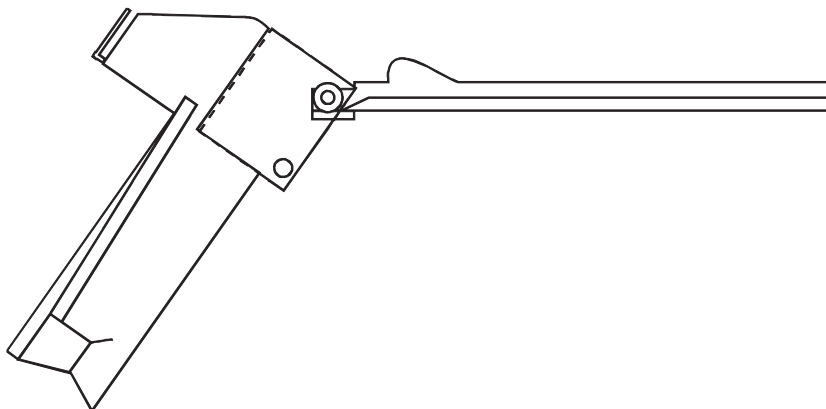


Fig. 5-3
Shelf Removal Final Position

UNIVERSAL SHELF CONVERSION

1. Converting from a Dual Helix to a Single Helix selection.
 - a. Remove the left and right helixes.
 - b. Remove the right side helix hub using the Hub Removal Tool (P/N 593-902).
 - c. Remove the left side gear hub by unscrewing the black rivet plate on the idler box.
 - d. Remove the idler box from the shelf weld assembly. Press down on the top locking tab and push outward.
 - e. Remove the motor assembly by pressing down on the top locking tab and pushing outward.
 - f. Rotate the motor 90° counter-clockwise.
 - g. Reinstall the motor assembly to the lower opening by snapping it in place.
 - h. Install the helix hub by positioning the hub slot opening to the right and pushing in until it snaps on.
 - i. Install the main larger helix spiral to the helix hub.
 - j. Reposition the product adjustable wall as desired.
2. Converting from a single to a dual helix.
 - a. Remove the helix.
 - b. Remove the helix hub by using the hub removal tool (P/N 593-902) supplied in vendor.
 - c. Remove the product adjustable wall for extra space.
 - d. Remove the motor assembly from the shelf weld assembly by pressing down on the top locking tab and pushing motor assembly outward.
 - e. Rotate the motor 90° clockwise.
 - f. Reinstall the motor assembly to the right most slot opening.
 - g. Reinstall the helix hub by positioning the hub slot opening to the right and pushing until it snaps on.
 - h. Install the idler box to the left most slot opening.
 - i. Install the gear hub using the black rivet plate. Position the gear hub with its slot opening to the left side.
 - j. Install the larger size helix to the right side hub and install the smaller size helix to the left side gear hub.
 - k. Reposition the Product Adjustment Wall as desired.

SECTION 7

PARTS CATALOG

INTRODUCTION

This parts catalog contains a list of replacement parts for the vendor that are available from Rowe Distributors. Each list contains an index of the part, Rowe Part Number, a description of the part and the quantity required for the assembly. Separate parts of riveted or welded assemblies are not available from the factory as replacement parts.

Parts Callout

Each table in the Parts Callout contains four columns. Following is a description of each column in the order of appearance on the Parts Callout tables.

Figure and Index No.

This column lists the figure number as the first entry on each page. An index number keys the part to the figure.

ROWE Part Number

This column lists the part number of the item that should be used for ordering. The same part, when ever used, retains the same number.

Description

This column gives the name of the assembly or part.

Quantity Per Assembly

This column contains the exact quantity of the item required for this assembly.

ORDERING REPLACEMENT PARTS

All parts must be ordered from an authorized Rowe Distributor. Parts orders are often delayed because of inadequate or incomplete ordering information. To avoid such delays, make sure to include all necessary information as indicated below.

1. Rowe Part Number and Description exactly as it appears in the Parts Catalog. State color if applicable.
2. Quantity being ordered.
3. Model and Serial Number of vendor for which the part is required. This is necessary because of manufacturing changes and updates.
4. Complete shipping address.
5. Specify shipping instructions. It is advisable to indicate an alternate shipping method if the packages may exceed the size and weight limits established by the shipping agency of your choice.

Note the voltage of electrical components.

OPTIONAL KITS

7800 Part No.	7800JR Part No.	7800C Part No.	DESCRIPTION	FUNCTION
42506037	"	"	UBA Bill Acceptor kit	Allows currency acceptance
49001925	"	"	Product Pusher Kit	Pushes product out
49004501	"	"	Shelf Extender Cable Assembly	Service shelf outside of cabinet
49006007	"	"	Product Filler Kit	Vends pastry
59306001	49406011	59106000	Kick Plate Kit	Styling
59306004	"	"	Fan Kit	Provides circulation
59306006	"	"	Additional Honor Guard	Removable cash bag
59306007	"	"	Gum and Mint Adapter Kit (Tums)	Vends "Tums & Certs"
59306015	"	"	Can Vendor Kit (12 Ounce)	Vends canned foods

SERVICE PARTS ONLY

49000028	"	"	Helix, 30 Count - Candy	
49000029	"	"	Helix, 24 Count - Candy	Fits Product <3/4"
49000030	"	"	Helix, 18 Count - Candy	Fits Product <1 1/16"
49000031	"	"	Helix, 15 Count - Candy	Fits Product <1 5/16"
49000032	"	"	Helix, 15 Count - Pastry	Fits Product <1 5/16"
49000033	"	"	Helix, 12 Count- Pastry	Fits Product <1 11/16"
49000034	"	"	Helix, 10 Count - Pastry	Fits Product <2 1/16"
49004013	"	"	Helix, 7 Count (Can) (12 Ounce)	Fits Can Products
49300015	"	"	Helix, 12 Count - Candy	Fits Product <1 5/8"
49300016	"	"	Helix, 10 Count - Candy	Fits Product <2"
59300011	"	"	Reverse Helix 15 Count - Candy	Fits Product <1 5/16"
59300012	"	"	Reverse Helix, 12 Count - Candy	Fits Product <1 5/8"
59300013	"	"	Reverse Helix, 10 Count - Candy	Fits Product <2"
59300014	"	"	Helix, 6 Count	Fits Lunch Bucket
59300015	"	"	Helix - Dual, Reverse Prod. L/H	(30 Ct.)

PARTS CATALOG

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Main Door Trim and Panels

Main Door Trim and Panels

MODEL & STYLE		7800 GENESIS	7800JR GENESIS	7800C GENESIS
1	Header Channel	98300005	98300007	98300003
2	Header Insert	98500004-009	98500005-009	98500020-009
	Label Snack/Changer (opt.)	67300411	67300402	67100402
3	Label - Combo Snack/Changer (opt.)	67300412	67300412	67300412
4	Trim - R/H & L/H Display Window	98300478	98300478	98300478
5	Trim - L/H & R/H Vertical	98300101	98300101	98300101
	Trim Retainer	98300325	98300325	98300325
6	Trim - Bottom Display	98300479	98300480	98300481
7	Overlay L/H Vertical (opt.)	98500032-009	98500032-009	98300032-009
8	Overlay Center (opt.)	49000485-078	49400432-078	59100411-078
9	Label - Rowe Logo	67300413	67300413	67300413
10	Trim Bottom Display	98300225	98300226	98300234
11	Overlay Lower Door (Stripes) (opt.)	49301476	49401422	59101407
12	Trim Bottom (opt. with item 11)	49300484-309	49400442-309	59100412-309
13	Overlay Selector	67300408009	67300408009	67300408009

There are many combinations of panel and overlay finishes based on individual company preferences. Part numbers for the styling overlays and panels are generally the same with the exception of the last dash number, which denotes the finish of the part. For example, item No. 2 above is 98500004-009 (Header Insert - Black). If this part were desired in a Presidential Walnut finish, the part number would be 98500004-002. The chart below lists the dash numbers and the corresponding finish.

HORIZONTAL PANELS		VERTICAL PANELS
- 001 Roweswood	- 015 Stainless Steel Mylar	- 002 Presidential Walnut
- 002 Presidential Walnut	- 029 Teak	- 007 Shadow Silver
- 003 Regency Walnut	- 032 Terra Cotta	- 011 Brushed Bronze
- 009 Black	- 069 Chamois	- 012 Port-Au-Prince
- 010 Golden Leather		- 013 Stainless Steel Mylar
		- 029 Teak
		- 079 Charcoal Brown

Main Door Exterior

Main Door Exterior

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	67301400	67401400	67101400	Door F/A	1
REF	67301401	67401401	67101401	Door Weld Assembly	1
1	40800511	Same	Same	Cap - Top Trim	1
2	58300404	"	"	Bezel - Keyboard/Display	1
3	40764301	"	"	PCB Assembly - Push Button Switch	1
4	58300416	"	"	Overlay Instruction/Readout	1
	58300430	"	"	Overlay Instruction/Readout - Spanish	1
	58300449	"	"	Overlay Instruction/Readout - French	1
5	47901420	"	"	Handle Assembly - Popout	1
6	58300405	"	"	Bezel - B/A & Coin	1
	92400176	"	"	Nut - 3/16 Stud Type	12
7	58300423	"	"	Filler Plate - Bezel	1
8	49000470	"	"	Slide Coin Return	1
9	45085604	"	"	Cupassy - Changer	1
10	40800510	"	"	Cap - Bottom Trim	1
11	44801407-309	"	"	Pivot Plate R/A - Bottom	1
12	67301404	67401402	67101402	Delivery Box Assembly	1
13	49300408	49400428	59100414	Glass - Display	1
	58300475	58400448	58100441	Glass - Insulated Display	1
14	49300410	Same	Same	Filler Plate & Glass Retainer - Not Shown	1
15	44801309-309	"	"	Pivot Plate - Top	1

Glass Sizes:

58300475 26 ⁵/₈ x 42 ³/₈ x ¹/₈ Thick Tempered Tuff

58400448 21 ¹/₄ x 42 ³/₈ x ¹/₈ Thick Tempered Tuff

58100441 15 ⁷/₈ x 42 ³/₈ x ¹/₈ Thick Tempered Tuff

Main Door Interior

Main Door Interior

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
1	67301401	67401401	67101401	Door Weld Assembly	1
2	67301801	67401800	67101800	Lamp Bracket Assy	1
	70080003	70080001	70080001	Starter - Fluorescent	1
	58300473	58400446	58100451	Bracket - Lamp Mounting	1
	97600021	Same	Same	Starter - Socket Assembly	1
	91700103	70060022	91700115	Lamp - Fluorescent	1
	58301824	Same	Same	Ballast Assembly - 60 HZ	1
	58301825	" "	" "	Ballast Assembly - 50 HZ	1
3	49300411	" "	" "	Bracket - Display Glass Mtg Non/Ins	2
	58100442	" "	" "	Bracket - Display Glass Mtg A/C	2
4	49300413-239	" "	" "	Delivery box Shroud - Left	1
	93400468	" "	" "	Screw #8 x 1/2 S/T	12
5	58301808	" "	" "	Harness - Floor Lamp	1
6	58301828	" "	" "	Harness - Data	1
7	44800739	" "	" "	Ramp - Door	1
	9340380	" "	" "	Screw #8 x 3/8 S/T (Stove)	2
8	58301829	" "	" "	Harness - Main Door	1
9	45085604	" "	" "	Cup Assembly - Coin Return	1
	35116901	" "	" "	Door - Change Cup	1
	35121501	" "	" "	Bracket - Coin Cup Mtg	2
10	25245125	" "	" "	Transport Assembly - UBA-2	1
	65079043	" "	" "	Transport Assembly - RBA7	1
11	58300467	" "	" "	Cam - Door Lock	1
	92400181	" "	" "	Nut 1/2 -20	1
	93300007	" "	" "	E-Ring	1
	49000353	" "	" "	Spring - Door Stop	1
12	58301408	" "	" "	Pin & Lockbar Assembly	1
13	58300415	" "	" "	Gate - Coin Insert	1
14	58301402	" "	" "	Coin Insert and Return Assembly	1
	58301403	" "	" "	Coin Return W/A	1
	58301404	" "	" "	Coin Return Cam R/A	1
	58301405	" "	" "	Coin Chute W/A	1
	58300414	" "	" "	Lever - Coin Return	1
	25600801	" "	" "	Rivet - Shoulder Coin Return	2
	70143005	" "	" "	Ring External Retaining	2
	70143002	" "	" "	Ring External Retaining	1
	21883601	" "	" "	Spring - Tension	1
15	40764301	" "	" "	PCB Assembly - Pushbutton Switch	1
16	67301802-001	" "	" "	Main Controller Assembly - Domestic	1
	59301845-100	" "	" "	Main Controller Assembly - Export	1
17	58301827	" "	" "	PCB Assembly - Pushbutton Switch	1
18	58300469	58400443	58100450	Upper/Lower Glass Mounting Non/Ins	2
	58300468	58400442	58100444	Upper/Lower Glass Mounting A/C	2
19	49400437-239	Same	Same	Brace - Door Shroud	1
21	58100454	" "	" "	Shroud Delivery Box -RH	1
22	44800575-309	" "	" "	Leg - Door	1
	93400428	" "	" "	Screw #8 x 3/8 S/T (Truss)	3
23	90805065	" "	" "	Label - Flow Chart 6800	1
	90805063	" "	" "	Label - Flow Chart 6800 - (Spanish)	1
	90805064	" "	" "	Label - Flow Chart 6800 - (French)	1
24	92801433	" "	" "	Gasket Type 55 (8.5" Long)	1
25	67301302	" "	" "	Coin Chute Assembly	1
	67300404	" "	" "	Coin Chute - Cover	1
	67300405	" "	" "	Coin Chute	1
26	67301903	" "	" "	Coin Box Assembly	1
27	67301902	" "	" "	Nest - Coin Box Assembly	1
28	58300450	" "	" "	Bracket - 6800 PCB MTG-DLX	1
29	58300448	" "	" "	Bracket Switch	1
30	44701869	" "	" "	Switch - Service	1

Delivery Box Assembly

Left Side

Right Side

Delivery Box Assembly

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	67301404	67401402	67101402	Delivery Box Assembly	1
1	58301413	58401413	58101402	Front Cover W/A	1
2	58300427	58400427	58100427	Cover Rear Delivery Box	1
3	58301412	Same	Same	Side Plate Assembly Rh	1
4	58300437	"	"	Side Plate Lh	1
5	67301405	67401405	67101403	Door Assembly - Back	1
6	67500417	Same	Same	Link - Delivery Door	2
7	67300418	"	"	Link - Inner Door	2
8	91600088	"	"	Plug Type 13 For .531 D. Hole	4
9	67300416	"	"	Spacer	4
10	92100310	"	"	Screw Machine #8-32 X 5/16	4
11	95000344	"	"	Washer	4
12	80443010	"	"	Screw #8-32 X 5/8 Tf	2
13	67301407	67401407	67101405	Front Door Assembly	1
14	93400485	Same	Same	Screw S/T #8 X 3/8	21
15	25181701	"	"	Spring - Tension (67101402 takes 1)	2
16	49300426	"	"	Plug - Recessed	1
17	67300419	"	"	Link - Middle	2
18	58300435	"	"	Pin - Linkage	4
19	70143004	"	"	Ring - External Retaining	4

Cabinet Assembly Components with Refrigeration Unit

Cabinet Assembly Components

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	67301900	67401900	67101900	Cabinet Assembly	1
	67301300	67401300	67101300	Cabinet W/A - Standard	1
	67301301	67401301	67101301	Cabinet W/A - Air Cooled (A/C)	1
1	49300911	49400901	59100902	Shield, Light & Security	1
	93400284	Same	Same	SCR-S/T, 8-32x3/8, TY-23, Truss	3
2	67300345	"	"	Panel RH-Changer (Standard)	1
	67300346	"	"	Panel RH Air Cooled (A/C)	1
3	59301600	59401600	59101600	Shelf Assembly - Dual Helix - See Fig. 9	Ref
4	59301610	59401610	59101603	Shelf Assembly - 10/8/6 Selection - See Fig. 10	Ref
5	59301605	59401605	59101603	Shelf Assembly - 5/4/3 Selection - See Fig. 8	Ref
6	70225103	Same	Same	Extrusion - Foam Rubber in Inches	145
7	49300325	"	"	Hook - Door Locking	2
	93400394	"	"	SCR-S/T, #10x1/2, TY-ZHXWSH	4
8	40801316-309	"	"	Leg W/A (Includes Leveler)	4
	40800352	"	"	Leveler Cabinet	4
9	67301803	"	"	Power Supply F/A 120V 60HZ - See Fig. 6	Ref
	67301804	"	"	Power Supply F/A 220V 50/60HZ - See Fig. 6	Ref
	67301805	"	"	Power Supply F/A 240V 50/60HZ - See Fig. 6	Ref
10	59500912	"	"	Mounting Bracket - Friction Pad	1
	49000389	"	"	Pad - Friction	2
	49000391	"	"	Washer - Curved	2
	93400394	"	"	SCR-S/T, #10X 1/2, TY-Z, HXWSH	4
	59500911	"	"	Stop - Rod/Main Door	1
11	67300332	67300333	67300331	Baffle w/Gum and Mint	1
	67300335	67300336	67300334	Baffle w/o Gum and Mint	1
	93400174	Same	Same	SCR-S/T, 8X3/8, TY-A, HZWSH	2
12	67300317	"	"	Channel-Shelf Mtg LH	2
13	67300343	"	"	Bracket - Top Channel Mtg	2
14	67300344	"	"	Bracket - Bottom Channel Mtg	1
15	44801309-309	"	"	Pivot Plate, Top	1
16	59301908	"	"	Assortment - Number Block	1
17	59301913	"	"	Price Card Assortment	1
18	58301200	"	"	Refrigeration Assembly (DOM) - See Fig. 12	1
	58322500	"	"	Refrigeration Assy (EXP) - See Fig. 12	1
19	59300742	"	"	Support - Front (Nylon)	2
	93400172	"	"	SCR-S/T, 8X5/8, TY-A, HXWSH	4
20	59301712-239	"	"	Bracket & Gusset W/A	1
21	59300322-239	"	"	Gusset-Cabinet	2
22	44801306-309	"	"	Pivot Bracket W/A	1
23	58101425-309	"	"	Bracket - Security Black	1
24	58100456	"	"	Baffle - Product 6700	1
25	67300313	67400306	67100306	Panel - Access Refridge (A/C)	optional 1
26	68300315	Same	Same	Panel - Access Refridge (A/C)	optional 1
27	67300316	"	"	Panel - Air Chamber (A/C)	optional 1
	67300338	"	"	Rivet - Plastic .240 D	optional 3
28	67300330	"	"	Bracket - Refridge Retainer (A/C)	optional 1
29	58301302	"	"	Screen - W/A Air Intake (A/C)	optional 1
	29022502	"	"	Spacer	optional 2
30	49321556	"	"	Screen Rear W/A (Not Shown) (A/C)	optional 1

Cabinet Assembly Components with Bill Changer

Cabinet Assembly Components

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
1	58301845	"	"	Harness Assembly Dispenser Interface	1
2	67301302	"	"	Chute	1
3	58301844	"	"	Harness	1
4	65094806	"	"	Coin Dispenser	1
5	67301304	"	"	Bracket Assembly Dispenser Chute MTG	1
	35066814	"	"	Relay Power (not shown)	1

Power Panel Components

Power Panel Components

Index Number	Rowe Part Number	Description	Quantity Per Assembly
	67301803	Power Supply F/A 120V 60Hz	REF
	67301804	Power Supply F/A 220V 50Hz	REF
	67301805	Power Supply F/A 240V 50Hz	REF
	58301600	Power Box Assembly (Export)	REF
	58301601	Power Box Assembly (North American)	REF
	82663006	Screw, #8-32 x 3/8 S/T	4
1	58301819	Transformer Assembly (North American)	1
	50501815	Transformer, Main (Export)	1
	93400436	Screw - SEMS S/T #10 x 3/8, Type Z	4
2	25152709	Filter & Lug Assembly	1
3	97901275	Socket, Outlet (North American)	1
	97901276	Socket, Outlet (Export)	1
4	30101711	Switch, Toggle	1
5	91200052	Circuit Breaker - 12 Amp	1
6	67300312	Panel - Power	1
7	70093104	Cable Clamp - 5/8	1
8	93700307	Screw - SEMS S/T #8 x 3/8, Type Z	5
9	90702083	Label - "Power ON - OFF"	1
10	58301812	Wire Set - Power Box (Export)	1
11	58301813	Harness, P.S. Box Internal (Export)	1
12	58301814	Harness, Voltage Adaptor - 220V (Export)	1
	58301815	Harness, Voltage Adaptor - 240V (Export)	1
	58301811	Harness, Voltage Adaptor - 120V (Export)	1
	58301809	Power Cord (North American) - Not Shown	1
	70233205	Bushing - Not Shown	1

Shelf Support and Plug Assemblies

Shelf Support and Plug Assemblies

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
1	59301824	Same	Same	Plug Bracket W/A	6
	59300805	"	"	Plug Bracket	1
	44802480	"	"	Step Washer	2
2	97901253	"	"	Socket, 15 Pin Female	6
3	58301800	"	"	Harness Asm., Main Cabinet (Behind Cover)	1
	30749005	"	"	Socket - 9 Pin	1
	30749006	"	"	Socket - 12 Pin	1
	30749007	"	"	Socket - 15 Pin	1
4	49000005	"	"	Roller, Shelf	12
	49000006	"	"	Bushing, Shelf Roller	12
	93400484	"	"	Screw, Self Tapping	10
5	49301322-239	"	"	Upper Shelf Support W/A - R/H Side	3
6	49301321-239	"	"	Upper Shelf Support W/A - L/H Side	3
7	67300340	67400307	67100307	Tie Bar L/H & R/H Partition	1
	93400307	Same	Same	Screw, Self Tapping	4
8	49301308-239	"	"	Shelf Support L/H	3
9	49301309-239	"	"	Shelf Support R/H	3
	93400151	"	"	Screw - Self Tapping	18
10	67300341	"	"	Channel - Center	1
11	67300342	"	"	Bracket Center - Channel	1

3, 4, or 5 Selection Shelf Assembly

3, 4, or 5 Selection Shelf Assembly

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	59301615	59401615	59101615	Shelf W/A	REF
	59301605	59401604	59101603	Shelf Assembly - 3/4/5 Select	REF
1	59301617	Same	Same	Adjustable Shelf Wall - Product	2/2/2
2	49000034	"	"	Pastry Helix - 10 Select	5/4/3
	49000033	"	"	Pastry Helix - 12 Select	5/4/3
	49000032	"	"	Pastry Helix - 15 Select	5/4/3
	59300014	"	"	Helix - 6 Count (for "Lunch Bucket" size items)	5/4/3
3	49000027	"	"	Helix Hub	5/4/3
4	59300613	"	"	Product Guide (Single Price)	5/4/3
	89293016	"	"	Screw	10/8/6
5	59300617	"	"	Helix Guide	10/8/6
6	59301908	"	"	Assortment - Number Block	1
7	59301913	"	"	Price Card Assortment	1
8	59300002	"	"	Plug Bracket	1
	97900253	"	"	Plug - 15 Pin Male	1
	97900169	"	"	Pin - Plug Anchoring	2
9	59301847	"	"	Motor Assembly	5/4/3
10	59301848	59401803	59401803	Shelf Harness Assembly	1
	97901180	Same	Same	Socket	5/4/4
11	49001925	"	"	Product Pusher Assortment (Not shown)	1
12	49000005	"	"	Shelf Roller	2
	49000042	"	"	Roller Bushing	2
	93400441	"	"	Screw	2
	92400064	"	"	Nut	2
	20100359	"	"	Canoe Clip (Not Shown)	2
13	59300902	"	"	Hub Removal Tool	1

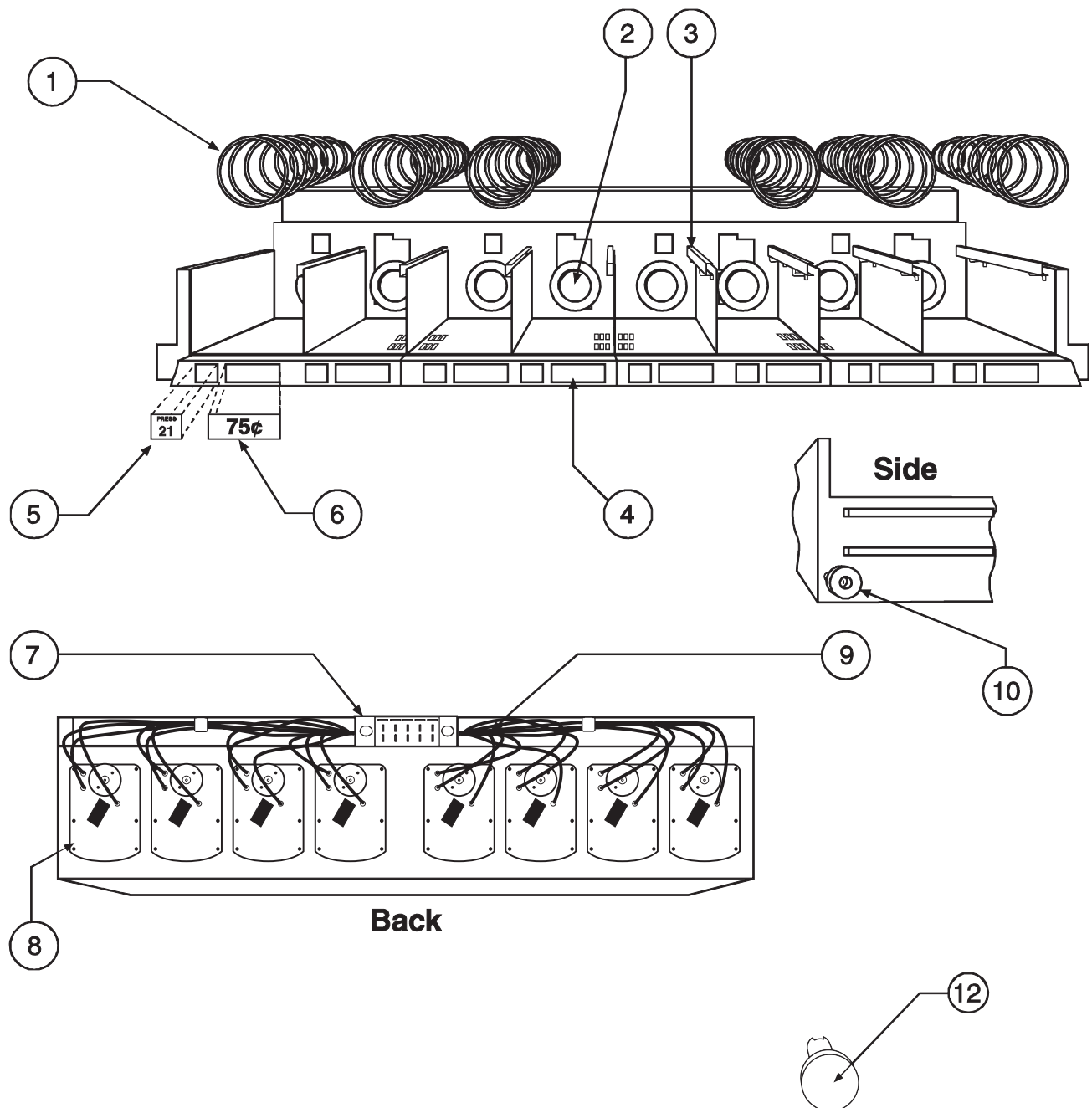
*For other count helixes available as service parts only, see page 6-2.

Dual Helix Shelf

Dual Helix Shelf

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	59301615	59401615	59101615	Shelf W/A	REF
	59301600	59401600	59101600	Shelf Assembly - Dual Helix 3/4/5 Select	REF
1	59301617	Same	Same	Adjustable Shelf Wall - Product	1/1/1
2	59300013	"	"	Reverse Helix - 10 Select	5/4/3
	59300012	"	"	Reverse Helix - 12 Select	5/4/3
	59300011	"	"	Reverse Helix - 15 Select	5/4/3
	59300015	"	"	Reverse Helix - 30 Select	5/4/3
3	49300016	"	"	Candy Helix - 10 Select	5/4/3
	49300015	"	"	Candy Helix - 12 Select	5/4/3
	49000031	"	"	Candy Helix - 15 Select	5/4/3
	49000018	"	"	Candy Helix - 30 Select	5/4/3
4	59300616	"	"	Helix Hub - Dual Helix Drive Gear	5/4/3
5	59300615	"	"	Helix Hub - Dual Helix Idler Gear	5/4/3
6	59300613	"	"	Product Guide (Single Price)	5/4/3
	89293016	"	"	Screw	10/8/6
7	59301908	"	"	Assortment - Number Block	1
8	59301913	"	"	Price Card Assortment	1
9	59300002	"	"	Plug Bracket	1
	97900253	"	"	Plug - 15 Pin Male	1
	97900169	"	"	Pin - Plug Anchoring	2
10	59301847	"	"	Motor Assembly	5/4/3
11	59301848	59401803	59401803	Shelf Harness Assembly	1
	97901180	Same	Same	Socket	5/4/4
12	59300618	"	"	Idler - Dual Helix	5/4/3
13	92901000	"	"	Rivet	5/4/3
14	49000005	"	"	Shelf Roller	2
	49000042	"	"	Roller Bushing	2
	93400441	"	"	Screw	2
	92400064	"	"	Nut	2
	20100359	"	"	Canoe Clip (Not Shown)	2
15	59300902	"	"	Hub Removal Tool	1
16	59300617	"	"	Helix Guide	10/8/6

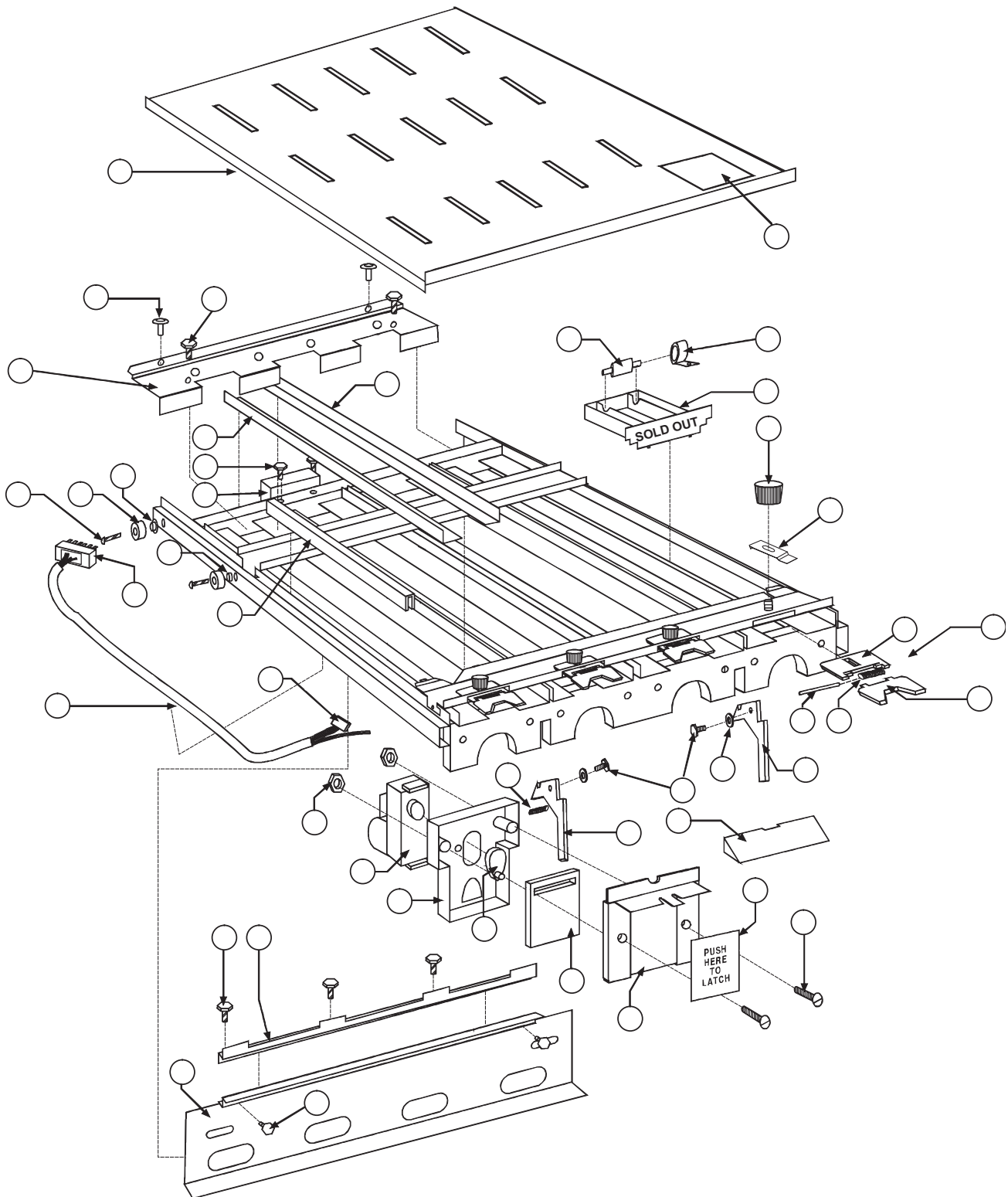
Candy Shelf



Candy Shelf

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	59301615	59401615	59101615	Shelf W/A	REF
	59301610	59401608	59101606	Shelf Assembly - Candy 6/8/10 Select	REF
1	49300016	"	"	Candy Helix - 10 Select	10/8/6
	49300015	"	"	Candy Helix - 12 Select	10/8/6
	49000031	"	"	Candy Helix - 15 Select	10/8/6
	49000030	"	"	Candy Helix - 18 Select	10/8/6
	49000029	"	"	Candy Helix - 24 Select	10/8/6
	49000028	"	"	Candy Helix - 30 Select	10/8/6
2	59300616	"	"	Helix Hub	5/4/3
3	59301616	"	"	Product Adjustment Arm Assembly	10/8/6
	49000008	"	"	Retaining Block	2/2/2
	59300619	"	"	Adjustment Wall Arm	2/2/2
	49000021	"	"	Adjustment Wall	1/1/1
4	59300614	"	"	Product Guide (Dual Price)	5/4/3
	89293016	"	"	Screw	10/8/6
5	59301908	"	"	Assortment - Number Block	1
6	59301913	"	"	Price Card Assortment	1
7	59300002	"	"	Plug Bracket	1
	97900253	"	"	Plug - 15 Pin Male	1
	97900169	"	"	Pin - Plug Anchoring	2
8	59301847	"	"	Motor Assembly	5/4/3
9	59301848	59401803	59401803	Shelf Harness Assembly	1
	97901180	Same	Same	Socket	5/4/4
10	49000005	"	"	Shelf Roller	2
	49000042	"	"	Roller Bushing	2
	93400441	"	"	Screw	2
	92400064	"	"	Nut	2
11	49001925	"	"	Product Pusher Assortment (Not Shown)	1
12	59300902	"	"	Hub Removal Tool	1

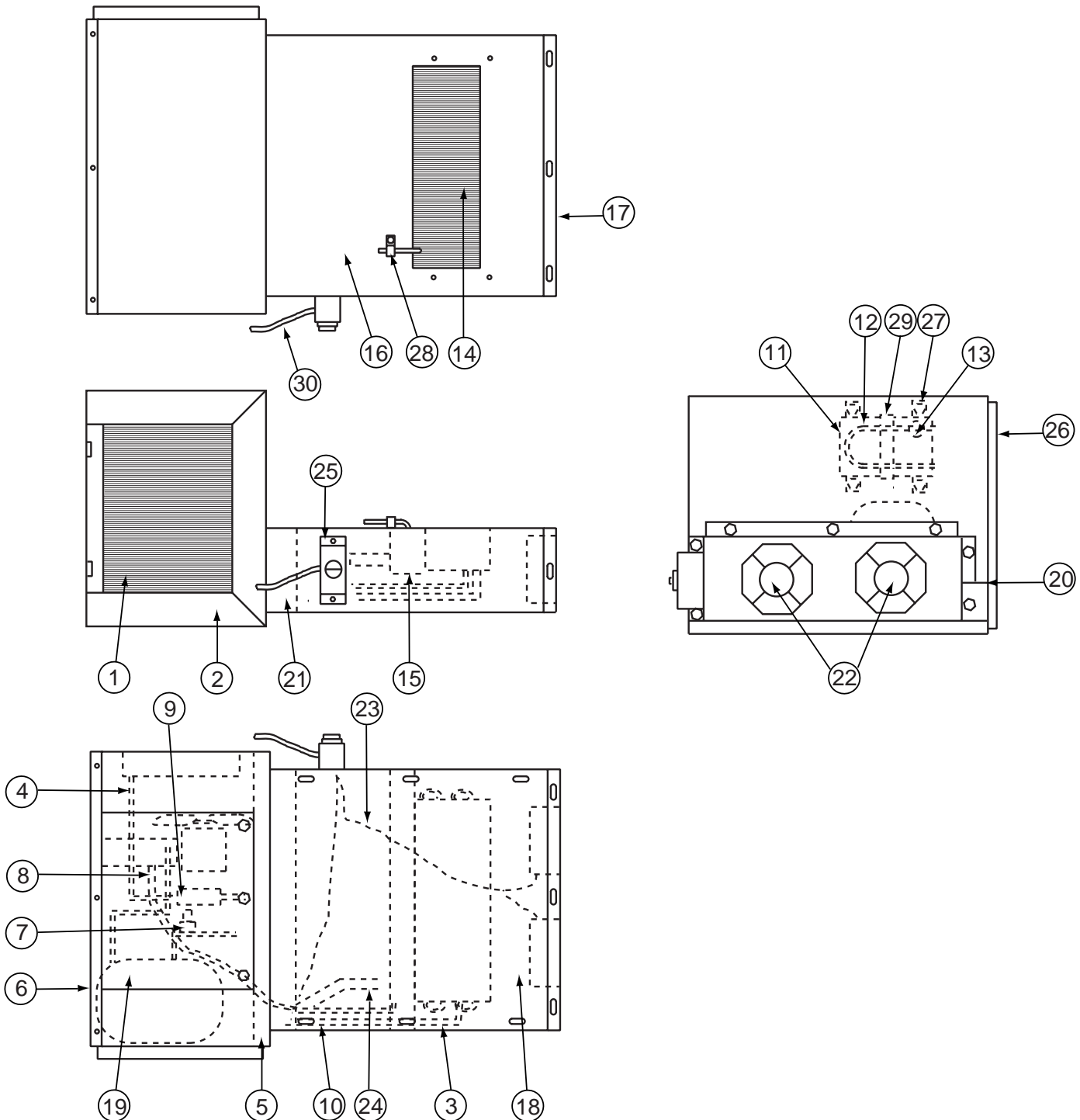
Gum and Mint Unit



Gum and Mint Unit

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	59301715	59401715	59101700	Gum and Mint Final Assembly	REF
	59301710	59401710	59101701	Gum and Mint Weld Assembly	REF
1	59300726-239	59400726-239	59100700-239	Cover Gum and Mint Unit	1
2	59300725-239	59400725-239	59100706-239	Retainer - Product Pusher	1
3	20100359	Same	Same	Canoe Clip	4
4	93400307	"	"	Screw - #8 x 3/8"	2
5	59300723	"	"	Product Guide - Adjustable (Left)	2(1-682)
6	93400307	"	"	Screw - #8 - 3/8"	2
7	59300002	"	"	Plug Bracket Mounting	1
8	93400484	"	"	Screw - 1/4-200 x 3/4"	4
9	49000005	"	"	Roller	4
10	49000006	"	"	Bushing - Roller	2
11	59301849	"	"	Harness - Gum and Mint	1
12	97901180	"	"	Socket	5
13	59300724	"	"	Product Guide - Adjustable (Right)	2(1-682)
14	59300729	"	"	Product Pusher	5/4/3
15	59300733	"	"	Hub - Negator	5/4/3
16	59300730	"	"	Spring - Constant Force	5/4/3
17	59300747	"	"	Torque Knob	5/4/3
18	59301706	"	"	Flipper Assembly	5/4/3
19	59300731	"	"	Bracket - Flipper Assembly	5/4/3
20	59300732	"	"	Product Flipper	5/4/3
21	59300734	"	"	Spring - Flipper	5/4/3
22	59300728	"	"	Pivot Pin - Flipper	5/4/3
23	59300760-002	"	"	Lever - Latch (Right)	1
24	93400307	"	"	Screw - #8 x 3/8"	2
25	59300760-001	"	NA	Lever - Latch (Left)	1
26	80663116	"	Same	Screw - Machine 8-32, 1"	10/8/6
27	90702241	"	"	Decal - "Push to Latch"	2/2/1
28	59300740	"	"	Bezel - Price Card	5/4/3
29	59300743	"	"	Product Ejector	5/4/3
30	59300738	"	"	Crank - Gum and Mint Motor	5/4/3
31	59300739	"	"	Housing - Motor Mounting	5/4/3
32	59301847	"	"	Motor Assembly	5/4/3
33	92400004	"	"	Nut 8-32	10/8/6
34	59300758	59400748	59100711	Spring Overtravel Prevention Retainer	1
35	93400307	Same	Same	Screw	5/4/3
36	93400307	"	"	Screw	2
37	67300701	67400701	67100701	Bracket - Spring Retainer	1
38	97900253	Same	Same	Plug	1
39	92803051	"	"	Rubber Gasket	2
40	49000042	"	"	Bushing	2
41	49900466	"	"	Washer - Step	2
42	59300741	"	"	Cover - Price Bezel	5/4/3
43	90702228	"	"	Label - Gum and Mint Cover	1
44	44800514	"	"	Latch Spring	10/8/6
45	59100420	"	"	Support - Flipper	5/4/3

Refrigeration Unit (Optional)



Refrigeration Unit (Optional)

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
1	58301201	58322501		Condensing Unit	1
2	58322502	Same		Cover-Condensing Unit	1
3	58322504	"	"	Tubing Suction	1
4	58322505	"	"	Tubing Condenser Out	1
5	58322516	"	"	Insulation Condenser Top	1
6	58322518	"	"	Base - Refrigeration Unit	1
7	58322520	"	"	Service Valve (Suction)	1
8	58322528	"	"	Tube - Capillary	1
9	59521543	"	"	Filter Dryer 134A	1
10	93902198	"	"	Tubing - Poly 1/2 D .38 Wall	1
11	58322503	"	"	Drain Pan - Condenser	1
12	58301202	58322525		Heater - Drain Pan 115 Vac	1
13	58322526	"	"	Thermostat - Bimetal	1
14	58322506	"	"	Evaporator	1
15	58322537	"	"	Pan Assembly - Drain (Evaporator)	1
16	58322508	"	"	Front - Evaporator Housing	1
17	58322509	"	"	Top - Evaporator Housing	1
18	58322510	"	"	Back - Evaporator Housing	1
19	58322527	"	"	Plate - Condenser Access	1
20	58322521	"	"	Cover - Slot	1
21	58322529	"	"	Insulation - Evaporator Bottom	1
22	58322533	58322534		Evaporator Fan	2
23	58301836	"	"	Harness - Refridge	1
24	93900021	"	"	Tubing - Clear Vinyl .25 ID .38OD. (in inches)	21
25	59521507	"	"	Thermostat and Bracket Assembly	1
26	92801411	"	"	Gasket - Sponge Rubber	1
27	92400015	"	"	Nut 5/16-18 Type 1	4
28	70093101	"	"	Clamp - Cable (1/8)	1
29	58322532	"	"	Heater - Holder	1
30	54801899	"	"	Power Cord - Compressor	1

Main Controller Circuit Board Assembly

Main Controller Circuit Board Assembly

Reference	Part Type		Value	Part Num.
C1	CAPACITOR-ELECTROLYTIC	22μF	25 VDC 20%	203A7D6100-2206
C2	CAPACITOR-ELECTROLYTIC	22μF	25 VDC 20%	203A7D6100-2206
C3	CAPACITOR-ELECTROLYTIC	22μF	25 VDC 20%	203A7D6100-2206
C4	MONOLYTHIC CERAMIC	470pF	50 VDC 10%	70028612
C5	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C6	CAPACITOR-ELECTROLYTIC	22μF	25 VDC 20%	203A7D6100-2206
C7	MONOLYTHIC CERAMIC	470pF	50 VDC 10%	70028612
C8	MONOLYTHIC CERAMIC	470pF	50 VDC 10%	70028612
C9	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C10	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C11	CAPACITOR-ELECTROLYTIC	22μF	25 VDC 20%	203A7D6100-2206
C12	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C13	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C14	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C15	MONOLYTHIC CERAMIC	22μF	25 VDC 20%	203A7D6100-2206
C16	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C17	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C18	MONOLYTHIC CERAMIC	22μF	25 VDC 20%	203A7D6100-2206
C19	CAPACITOR-TANTALUM	1uF	35 VDC 20%	70025301
C20	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C21	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C22	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C23	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C24	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C27	CAPACITOR-TANTALUM	1uF	35 VDC 20%	70025301
C28	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C32	MONOLYTHIC CERAMIC	.001μF	50 VDC 10%	70028618
C33	CAPACITOR-ELECTROLYTIC	470pF	50 VDC 10%	70028612
C34	POLY	.1μF	250 VDC 10%	203A5L5100-1004
C35	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C36	POLY	.1μF	250 VDC 10%	203A5L5100-1004
C37	MONOLYTHIC CERAMIC	1μF	50 VDC 10%	70028649
C38	CAPACITOR-ELECTROLYTIC	330μF	350 VDC 20%	70028114
C39	CAPACITOR-ELECTROLYTIC	330μF	350 VDC 20%	70028114
D9	DIODE-SILICON	1N4002	400 V 1 AMP	70035005
D10	DIODE-SILICON	1N4002	400 V 1 AMP	70035005
D12	DIODE-SILICON	1N5397	600V 1.5 AMP	220A015-00GP15J
D13	DIODE-SILICON	1N4002	400 V 1 AMP	70035005
D14	DIODE-SILICON	1N4002	400 V 1 AMP	70035005
D15	DIODE-SILICON	1N5397	600V 1.5 AMP	220A015-00GP15J
D16	DIODE-SILICON	1N5397	600V 1.5 AMP	220A015-00GP15J
D17	DIODE-ZENER	1N4750A	27 V 1 W	222A002-1N4750A
D18	RECTIFIER-BRIDGE		3 AMP	21622503
D20	DIODE-SILICON	1N5397	600V 1.5 AMP	220A015-00GP15J
D21	DIODE-SILICON	1N5397	600V 1.5 AMP	220A015-00GP15J
D24	DIODE-SILICON	1N4148	75 V .075 AMP	70035012
D25	DIODE-SILICON	1N4148	75 V .075 AMP	70035012
D26	DIODE-SILICON	1N4148	75 V .075 AMP	70035012
D27	DIODE-SILICON	1N4148	75 V .075 AMP	70035012
D28	DIODE-SILICON	MR820	50 V 5 AMP	70035017
F1	NOTUSED			

Main Controller Circuit Board Assy Cont.

Reference	Part Type	Value	Part Num.
F2	NOTUSED		
JP1	HEADER	3 POSITION .100STRAIGHT	70078703
JP2	HEADER	3 POSITION .100STRAIGHT	70078703
JP3	HEADER	3 POSITION .100STRAIGHT	70078703
JP4	HEADER	3 POSITION .100STRAIGHT	70078703
L1	INDUCTOR	3 AMP 200 μ H	21513502
MOV1	METAL OXIDE VARISTOR	2.3 JOULE 35V _{rms}	70037506
MOV2	VARISTOR	13 JOULE 150 V	256A-150013-001
P1	HEADER - POLARIZED	6 POSITION .156	70075006
P2	HEADER - POLARIZED	17 POSITION .156	70075017
P3	HEADER - POLARIZED	8 POSITION .156	70075008
P4	HEADER - POLARIZED	7 POSITION .156	70075007
P5	HEADER - D-SUB	9 POSITION .156	350A02080061-00
P6	HEADER - SHROUDED 90°	14 POSITION .156	350A04997862-00
P7	HEADER - POLARIZED	19 POSITION .156	70075019
P8	HEADER - POLARIZED	16 POSITION .156	70075016
P9	HEADER - POLARIZED	6 POSITION .156	70075006
P10	HEADER - POLARIZED	5 POSITION .156	70075005
Q1	TRANSISTOR - SILICON NPN	MPS2222	225A000-MPS2222
Q2	TRANSISTOR - SILICON DARLINGTON	TIP120	225A002-0TIP120
Q3	TRANSISTOR - SILICON NPN	MPS2222	225A000-MPS2222
Q4	TRANSISTOR - SILICON PNP	MPSA56	70030104
Q5	TRANSISTOR - SILICON NPN	MPS2222	225A000-MPS2222
Q6	TRANSISTOR - SILICON PNP	MPSA56	70030104
Q7	TRANSISTOR - SILICON PNP	MPSA56	70030104
R1	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R2	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R3	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R4	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R5	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R6	RESISTOR - CARBON FILM	470 OHM 1/4W 5%	79901471
R7	RESISTOR - CARBON FILM	470 OHM 1/4W 5%	79901471
R8	RESISTOR - CARBON FILM	47K 1/8W 5%	79905473
R9	RESISTOR - CARBON FILM	10 OHM 1/4W 5%	79901100
R11	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R12	RESISTOR - CARBON FILM	100K 1/8W 5%	79905104
R14	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R15	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R16	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R17	RESISTOR - CARBON FILM	470 OHM 1/4W 5%	79901471
R18	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R19	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R20	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R21	RESISTOR - CARBON FILM	10K 1/8W 5%	79905103
R22	RESISTOR - CARBON FILM	82K 1/8W 5%	79905823
R23	RESISTOR - CARBON FILM	20K 1/8W 5%	79905203
R24	RESISTOR - CARBON FILM	82K 1/8W 5%	79905823

Main Controller Circuit Board Assy Cont.

Reference	Part Type		Value	Part Num.
R25	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R26	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R27	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R28	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R29	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R30	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R31	RESISTOR - CARBON FILM	100 OHM	1/8W 5%	79905101
R32	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R33	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R34	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R35	RESISTOR - CARBON FILM	100 OHM	1/8W 5%	79905101
R36	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R37	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R38	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R40	RESISTOR - CARBON FILM	100K	1/8W 5%	79905104
R41	RESISTOR - CARBON FILM	82K	1/8W 5%	79905823
R43	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R44	RESISTOR - CARBON FILM	200 OHM	1/8W 5%	79905201
R45	RESISTOR - CARBON FILM	10M	1/4W 5%	79901106
R46	RESISTOR - CARBON FILM	200 OHM	1/8W 5%	79905201
R48	RESISTOR - CARBON FILM	20K	1/8W 5%	79905203
R52	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R54	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R55	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R56	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R57	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R58	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R59	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R60	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R61	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R62	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R63	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R64	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R65	RESISTOR - CARBON FILM	27K	1/4W 5%	79901273
R66	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R67	RESISTOR - CARBON FILM	4.7K	1/8W 5%	79905472
R68	RESISTOR - CARBON FILM	47K	1/8W 5%	79905473
R69	RESISTOR - CARBON FILM	1K	1/8W 5%	79905102
R70	RESISTOR - CARBON FILM	1K	1/8W 5%	79905102
R71	RESISTOR - CARBON FILM	18 OHM	1/4W 5%	79901180
R72	RESISTOR - CARBON FILM	4.7K	1/8W 5%	79905472
R75	RESISTOR - METAL OXIDE	1.2 OHM	1W 5%	70010826
R76	RESISTOR - CARBON FILM	3.3K	1/8W 5%	79905332
R77	RESISTOR - FLAMEPROOF	5.1K	1/2W 5%	79908512
R78	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R80	RESISTOR - CARBON FILM	100K	1/8W 5%	79905104
R81	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R82	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R83	RESISTOR - CARBON FILM	4.7K	1/8W 5%	79905472
R84	RESISTOR - CARBON FILM	3.3K	1/8W 5%	79905332
R85	RESISTOR - CARBON FILM	330 OHM	1/8W 5%	79905331
R86	RESISTOR - CARBON FILM	100 OHM	1/8W 5%	79905101
R87	RESISTOR - CARBON FILM	10K	1/8W 5%	79905103
R88	RESISTOR - CARBON FILM	1K	1/8W 5%	79905102

Main Controller Circuit Board Assy Cont.

Reference	Part Type	Value	Part Num.
R89	RESISTOR - CARBONFILM	4.7K 1/4W 5%	79901479
R90	RESISTOR - CARBONFILM	1K 1/8W 5%	79905102
R91	RESISTOR - CARBONFILM	2K 1/8W 5%	79905202
R92	RESISTOR - CARBONFILM	6.2K 1/8W 5%	79905622
R93	RESISTOR - CARBONFILM	10K 1/8W 5%	79905103
R94	RESISTOR - CARBONFILM	10K 1/8W 5%	79905103
S1	SWITCH - PUSHBUTTON	S.P.S.T.N.O.	258A-00001F-001
S2	SWITCH - PUSHBUTTON	S.P.S.T.N.O.	258A-00001F-001
S3	SWITCH - PUSHBUTTON	S.P.S.T.N.O.	258A-00001F-001
S4	SWITCH - PUSHBUTTON	S.P.S.T.N.O.	258A-00001F-001
S5	SWITCH - PUSHBUTTON	S.P.S.T.N.O.	258A-00001F-001
S6	SWITCH - DIP	6POSITION	70043003
U1	I.C. - QUAD 2 INPUT NAND GATE 74HC00N		232A-00074HC00N
U2	I.C. - QUAD 2 INPUT NAND GATE 74HC00N		232A-00074HC00N
U3	I.C. - RS232 DUAL DRIVER/RECEIVER	MAX232	230A-00LT1181CN
U4	I.C. - HEX NON-INVERTING BUFFER	CD4050BCN	70034050
U5	I.C. - DARLINGTON ARRAY	ULN2003N	70036901
U6	I.C. - MICROPROCESSOR 68HC11		236A-068HC11A1P
U7	I.C. - UNDERVOLTAGE SENSING CIRCUIT	MC34064P5	30800243
U8	I.C. - FIRMWARE, PROGRAMMED EPROM COMBO SNACK		79800739
U9	I.C. - 8KX8 TIMEKEEPER RAM	DS1643	70036615
U10	I.C. - OCTAL TRANSCEIVER	74HC245N	232A-0074HC245N
U11	I.C. - OCTAL TRANSCEIVER	74HC245N	232A-0074HC245N
U12	I.C. - OCTAL TRANSCEIVER	74HC245N	232A-0074HC245N
U13	I.C. - HIGH CURRENT SOURCED DRIVER	UDN2981A	70036906
U14	I.C. - OCTAL D FLIP-FLOP 3 STATE	74HC373N	232A-0074HC373N
U15	PHOTOCOUPLER OPTO-ISOLATOR	ILD2	70033713
U16	I.C. - DRIVER 8 BIT SERIAL LATCH	UCN5841A	230A-000005841A
U17	I.C. - OCTAL D FLIP-FLOP 3 STATE	74HC374N	232A-0074HC374N
U18	I.C. - QUAD 2 INPUT NAND GATE 74HC00N		232A-00074HC00N
U19	I.C. - GAL PROGRAMMED	GAL16V8	28030201
U20	I.C. - OCTAL D FLIP-FLOP 3 STATE	74HC374N	232A-0074HC374N
U21	I.C. - PHOTOCOUPLER OPTOISOLATOR TRANSISTOR OUTPUT	4N37	238A-0000004N37
U23	I.C. - DRIVER SINK 8 BIT SERIAL LATCH	UDN2595A	230A-000002595A
U24	I.C. - DRIVER SOURCE 8 BIT SERIAL LATCH	UCN5890A	230A-000005890A
U25	I.C. - PHOTOCOUPLER OPTOISOLATOR TRANSISTOR OUTPUT	4N37	238A-0000004N37
U26	I.C. - PRECISION VOLTAGE REF 5V	MC1404U5	70037702
VR1	I.C. - REGULATOR SWITCHING ADJUSTABLE	LM2575-ADJ	70036520
Y1	CRYSTAL - QUARTZ	4.9152MHz	25167313

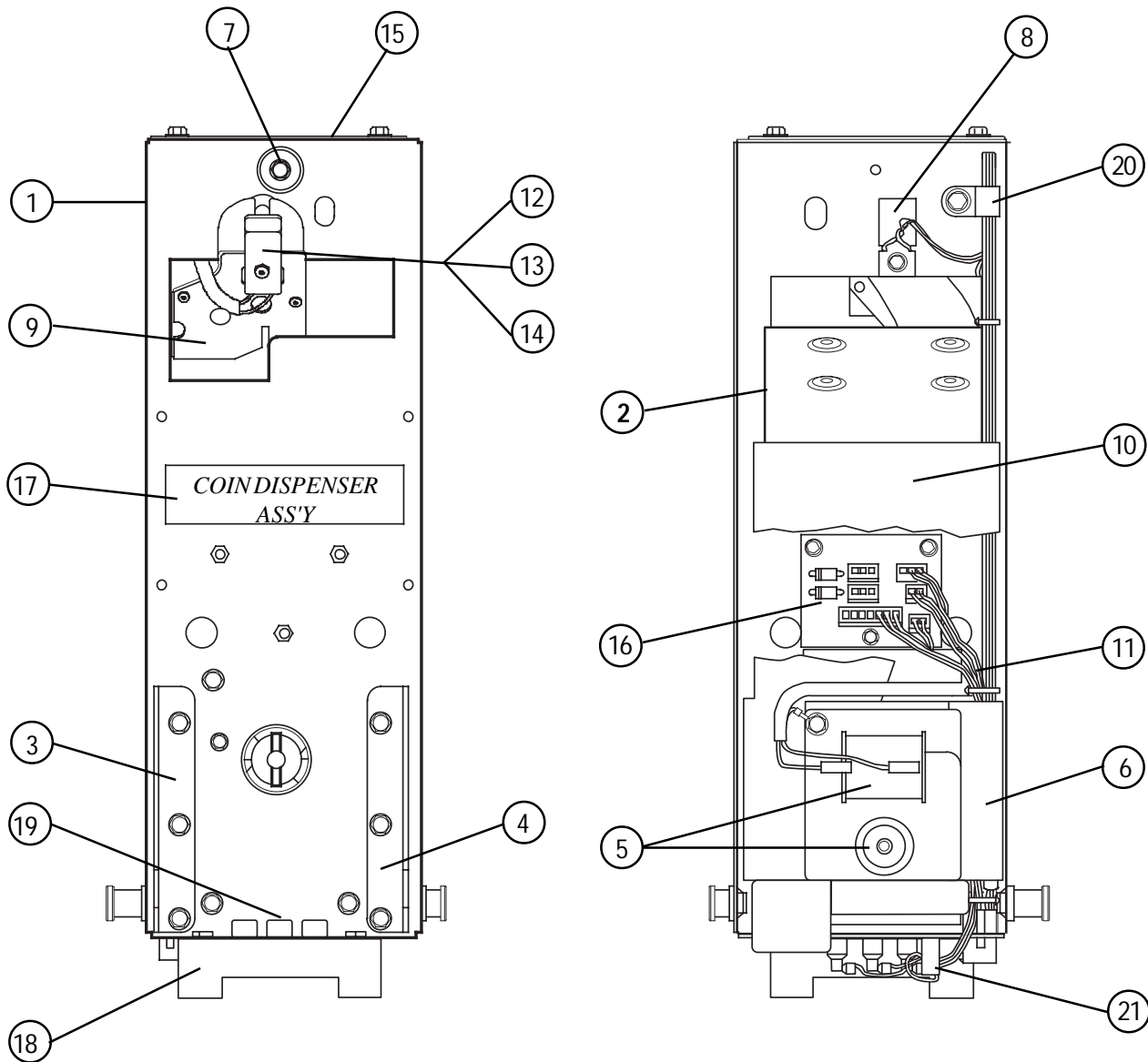
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Dispenser and Chute MTG Bracket Assembly

Dispenser and Chute MTG Bracket Assembly

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
Ref	67301304				
1	67301303	"	"	Bracket Assy-Dispenser MTG	1
2	35110801	"	"	Latch Assy - Hopper (BC-2R)	1
3	25181701	"	"	Spring Tension	1
4	25226801	"	"	Pivot - Latch	1
5	80444406	"	"	#10-32X3/8 Hex WHS (Swageform)	1
6	67300324	"	"	Dispenser Bracket Spacer	1
7	67300322	"	"	Side-Dispenser MTG Bracket	1
8	93400307	"	"	Screw, Sems S/T #8 x 3/8 HWH	9

Coin Dispenser Assembly



Coin Dispenser Assembly

Index No.	7800 Part Number	7800JR Part Number	7800C Part Number	Description	Quantity Per Assembly
	65094806			Dispenser Assembly	1
1	45035313			Frame and Pivot Assembly	1
2	45032617			Bucket Assembly - Change (<i>See Figure 8-10</i>)	1
3	35044702			Bracket-Mounting (Hopper L.H.)	1
4	35044802			Bracket-Mounting (Hopper R.H.)	1
5	45034102			Hopper Drive Motor Assembly	1
	45034001			Ratchet Coupling	1
	25097701			Compression Spring	1
	25151101			Extension Coupler - Shaft	1
6	45043601			Bracket-Mounting (Motor)	1
7	25112701			Bumper-Rubber	1
8	45076101			Holder Assembly - LED	1
	70035315			LED	1
9	45035005			Coin Chute Assembly - Hopper	1
10	35068203			Chute Assembly	1
11	58301843			Harness Assembly - Dispenser	1
12	25175702			Photo Detector Board and Terminal Assembly	1
13	70121626			Spacer (Nylon)	1
14	35048202			Cover-Terminal Board	1
15	25151702			Plate - Holddown	1
16	45076405			Circuit Board Assembly - Interconnect	1
17	25189422			Label - Coin Dispenser	1
18	35142801			Bracket - Contact Mtg	1
19	25552401			Board & Spring Contact Assembly	1
20	70093103			Clamp - Cable (1/4)	1
21	70093401			Clamp - Cable (17/32)	1

Display Board

INDEX NUMBER	ROWE PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
	593-1827	Display Board	REF
REFERENCE	DESCRIPTION	PART NUMBER	
C33,C34	Cap - 22PF 50V 5%	70028705	
C4,C8	Cap - 220PF 50V 10%	70028620	
C1,C7,C9	Cap - .1UF 50V 20%	70028649	
C3,C5,C6	Cap - 1UF 35V 10%	203A6E5100-1005	
C2,C10	Cap - 22UF 50V 20%	203A7D6100-2206	
C11,C12,C13	Cap - 10UF 50V 20%	203A7F6100-1006	
D2,D5,D6	Diode - 100V 1Amp.	220A002-01N4002	
D1	Zener - 9.1V 1W 5%	222A002-1N4739A	
D4	Zener - 4.7V .25W 5%	222A000-01N4688	
D3	Zener - 15V .4W 5%	70035522	
R5,R12	Res - 1.0K 1/8W 5%	79905102	
R17,R18,R32,R34,R35	Res - 10K 1/8W 5%	79905103	
R30	Res - 100K 1/8W 5%	79905104	
R10,R11,R13-R16,R36	Res - 2.2K 1/8W 5%	79905222	
R33	Res - 24K 1/8W 5%	79905243	
R19	Res - 3.3K 1/8W 5%	79905332	
R20	Res - 39K 1/8W 5%	79905393	
R21,R26,R37	Res - 4.7K 1/8W 5%	79905472	
R1-R4,R6-R9,R22-R24, R28,R29	Res - 47K 1/8W 5%	79905473	
R38	Res - 2.2 Ohm 1/4W 5%	79901229	
R25	Res - 68K 1/4W 5%	79901683	
R27	Res - 1K 1/2W 5%	79908102	
R31	Res - 47 Ohm 1/2W 5%	79908470	
RP1-RP3	Res Net - 39K x 9 10 Pin 200PPM	200A004935-0393	
Q6	Xstr, PNP -80V .5Amp	70030104	
Q3,Q4	Xstr - G.P. PNP 40V .1Amp	225A000-0MPSA70	
Q1,Q2,Q5,Q7	Xstr - NPN G.P. 30V .6Amp	225A000-MPS2222	
U1	IC - Shift Reg, 8 Stage	70034021	
U2	IC - Non-Inv. Hex Buffer	7034050	
U4	IC - Hex Inverter, Schmidt	70034106	
HS1	Heatsink to 220	335A-A210R0-0001	
DIS1	Display - 10 Char Vacuum	70714701	
SPK1	Alarm - Audible 70 DB. 1.3"	278A28-0006-001	
P1	Connector - 14 Pos.	350A04997862-00	
VR1	IC - Volt Reg 12V Linear	70036518	
U3	IC - Display Driver Vacuum Fluor.	30800237	
P2	Connector - 11 Pos.	350A26603110-00	

Harness List

58301800	Harness, Main Cabinet
58301829	Harness, Main Door - 6800 Deluxe
58301827	Harness, Keypad - 6800 Deluxe
58301830	Harness, Coin Mech-Domestic
58301826	Harness, CBA/UBA Data - 6800 Deluxe
58301832	Harness, Exec Mech Data - 6800 Deluxe
58301828	Harness, Door-Power - Dom.
58301833	Harness, Door-Power - Exec.
58301808	Harness, Fluorescent Lamp
58301809	Power Cord Assy - N. America
58301813	Harness, P.S. Box Int. (Export)
58301816	Harness, Mars VFM-3 Power Adapter
58301834	Harness, Mars VFM-3 Data - 6800 Deluxe
58301818	Power Cord - Europe & Export
59301848	Harness, Shelf 10 & 5 Motor
59401803	Harness, Shelf 8 & 4 (and 6 & 3) Motor
58301831	Harness, Display Board - 6800 Deluxe
59301849	Harness, Gum & Mint Unit

MISCELLANEOUS PROBLEMS

The following problems may occur in the Bill Changer without causing a fault code.

ERRATIC PAYOUT

Problem:

The changer is not consistently dispensing the correct number of coins.

Symptom:

One vend is short a coin. The next vend contains an extra coin.

Corrective Action:

1. **Check the coin chute on the back of the dispenser.** Most likely, a coin is getting hung up in the dispenser coin chute, after it has been “counted” by the detector, then being shaken loose by a later vend. Check the coin chute for any dirt or obstruction that might cause a coin to hang up.

LARGE NUMBER OF VALID BILLS REJECTED

Problem:

The bill acceptor rejects a large number of valid bills.

Corrective Action:

Refer to the Troubleshooting Chart in the Bill Acceptor Field Service Manual and Parts Catalog included with your Bill Changer.

BILLS JAM FREQUENTLY

Problem:

Bills repeatedly become jammed in the Bill Acceptor transport.

Corrective Action:

Refer to the Bill Jamming Checklist in the Bill Acceptor Field Service Manual and Parts Catalog included with your Bill Changer.

COIN COUNTING PHOTOTRANSISTOR (SENSOR) CHECK

Use the following procedure to check the phototransistor (sensor) in the dispenser coin detector system:

1. Switch the Bill Changer power OFF at the electrical box.
2. Remove the black plastic cover from the phototransistor and connect a common meter lead to the metal dispenser backing plate as shown in Figure 6-1.
3. Connect the positive (+) meter lead to the blue wire (*Figure 6-1, Sensor Check - Blue Wire*).
4. Turn the power switch ON and check to see that the LED is lit. The meter should indicate between 4.7 and 5.2 VDC.

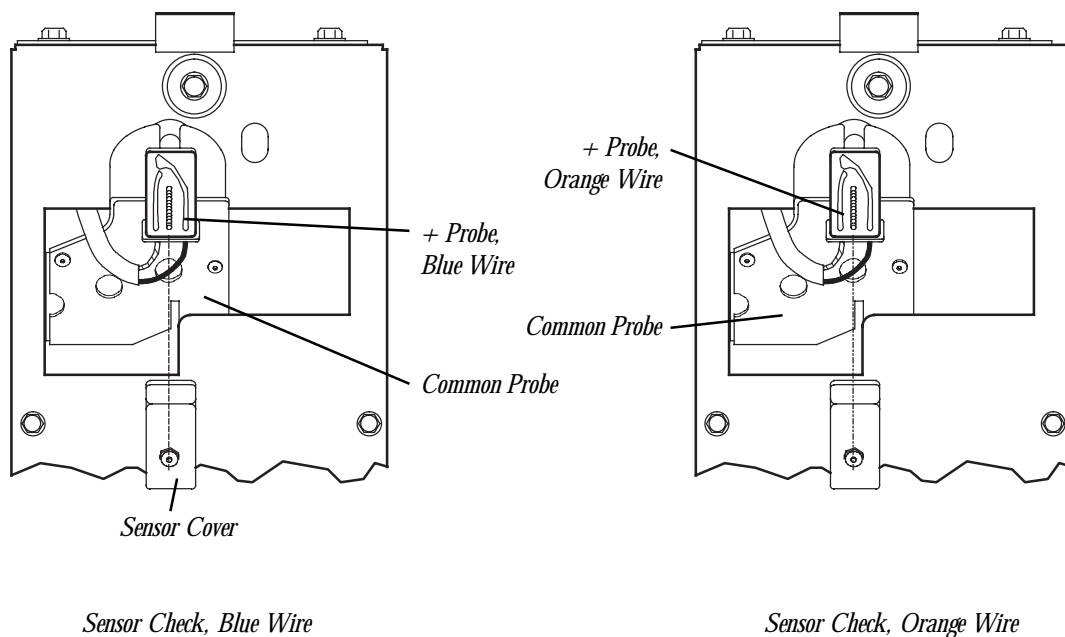
If the meter indication is not correct (between 4.7 and 5.2 VDC), the voltage regulator on the CCC board may need replacement (*see Section 7*). Repair the malfunction before continuing this procedure.

If the meter reading is correct:

5. Move the + meter lead to the orange wire on the phototransistor as shown in *Figure 6-1, Sensor Check - Orange Wire*. The meter should indicate between 3.5 and 5.0 VDC.

If the voltage is less than 3.5 volts, replace the phototransistor board with the correct part number listed in *Section 8: PARTS CATALOG*.

Figure 6-1
Sensor Check



LOW COIN SENSOR ELECTRICAL CHECK

Perform the following procedure to ensure that the Low Coin Sensor is functioning properly.

1. Turn the Bill Changer power to OFF.
2. Remove the hopper and empty it of all coins.

WARNING:

Make sure that the power is OFF before performing the following step.

3. Locate connector P3 on the Changer Control Computer (CCC). Connect a DC voltmeter to P3-5 (GND) and P3-4 (+).
4. Replace the empty hopper and turn Bill Changer power to ON. The voltmeter should read less than +.5 volts DC.
5. Tape 2 x 2 inch piece of aluminum foil around the end of a non-metallic object such as a long plastic ruler or wood stick. Figure 6-3, the Hopper Cleaning Brush is good for this purpose.
6. Place the foil end of the test object *inside* the hopper as close as possible to the location of the sensor (*Figure 6-2, Hopper Sensor Area*). The voltmeter should now have a reading of no less than 4.3 volts and a maximum of 5.5 volts.

Figure 6-2
Hopper Sensor
Area

Figure 6-3
Hopper Cleaning
Brush

