



PRO SERIES

**GLASSFRONT MERCHANDISER
MODEL: 3091**

SERVICE MANUAL

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January 1996

P/N 4207485

For Service Support, Replacement Parts and Parts Pricing Call 1-800-833-4411

TABLE OF CONTENTS

INTRODUCTION:	2	BATTERY BACKUP OPTION:	17
SPECIFICATIONS:	2	BATTERY INSTALLATION:	17
UNPACKING:	3	TROUBLE SHOOTING:	19
GROUNDING & ELECTRICAL:	3		
CONNECT TO POWER SOURCE:	4		
COIN MECHANISM:	5		
OPTIONAL SWITCH SETTING:	5		
PRODUCT LOADING:	6		
HELIX TIMING:	6		
CHANGING TRAY CONFIGURATION:	6		
CHANGING TRAY SPACING:	6		
HELIX TIMING:	7		
CHANGING HELIX CONFIGURATION:	8		
PRODUCT SPACERS:	8		
PRODUCT PUSHERS:	8		
CONTROLLER FUNCTIONS:	8		
SALES MODE:	8		
SERVICE MODE:	9		
DIAGNOSTICS:	10		
COIN DISPENSE MODE:	11		
MOTOR COUNT MODE:	11		
VEND OPTIONS MODE:	11		
LANGUAGE OPTION:	13		
PRICE SETTING INSTRUCTIONS:	13		
COPY PRICE MODE:	14		
VERIFYING VEND PRICES:	14		
VEND COUNT OPTION:	15		
POINT OF SALES MESSAGE MODE:	15		
TEST VEND MODE:	16		

INTRODUCTION:

The contents of this manual will contain service and installation guidelines pertaining to the Pro Series Glassfront Merchandiser vendors along with various optional equipment and accessories that are offered within the product line. Each machine is capable of supporting a satellite "Can Vendor". Contact your local distributor or Sales Division for additional information pertaining to the satellite vendor. Installation instructions for the Satellite will be furnished with the machine.

The Pro Series Glassfront is equipped with an electronic control system that can be programmed by the owner operator to include various features to satisfy specific needs for individual locations as needs arise. Some of the features are "Discount Pricing", "Programmable Message Center", "Cash Accountability", "Total Vends", etc. Details of each of the features that are available are defined within this manual.

The electronics within the control system allows all selections to be priced separately at various vend prices ranging from \$.05 to \$99.95 in five cent increments. All programming of the vend functions, pricing and features are done at the controller and changes and/or information can be retrieved without the need of any additional accessories or remote parts.

Electrical malfunctions are recorded by the controller and will be displayed to service personnel when the machine is placed in the "Service Mode".

All models have the "mix-and-match" designed trays that allow changing of the selection configurations by adding or reducing the number of motors or changing the auger sizes. This allows the owner operator to change the product mix or vendible product size on the spot to meet the specific needs of a location. Adjustments and re-configuration of the trays can be made without the use of tools. Basic tray configurations are offered from the factory, however, the trays can be re-arranged on location as all models include the necessary wiring and controls for the full capacity of all possible configurations.

The height between each tray is adjustable in one (1") inch increments and a wide variety of augers are available, making it possible to vend a wide range of product sizes. The vending sequence of the Pro Series Glassfront is a "first-in"/"first-out" procedure for each

selection, eliminating the need for stock rotation to maintain fresh products in the vend area.

Each selection will have its own individual motor and auger and functional selections will continue to operate if other items become nonfunctional. Nonfunctional selections will be recorded in memory of the controller and will be displayed to service personnel when the controller is placed in the Service Mode.

Each machine will be identified by a model number and specific serial number. These identification numbers will appear on the Serial Number Plate attached to the inside and rear of the vendor. Record these numbers for your records. All inquiries and correspondence pertaining to this vendor should reference the model and serial numbers.

It is recommended that this manual be read thoroughly to familiarize the service person with the functions of all components along with the features that are available. The initial set-up of a machine is a very important step of insuring that the equipment operates in a trouble-free manner. By following the instructions at the initial installation of the machine, service problems can be avoided and set-up time will be minimized. Should you have any questions pertaining to the information in this manual, replacement parts, or the operation of the vendor, you should contact your local distributor or:

Selectivend, Inc.
P. O. Box 488
165 North 10th Street
Waukee, Iowa 50263-0488

Or call Technical Service Department, 1-800-833-4411

SPECIFICATIONS:

ELECTRICAL REQUIREMENTS:

Line Voltage 120 Volt AC, 60 cycle
Current Draw 1.2 Amp

GENERAL:

Height 72 inches
Width 35 inches
Depth 34 inches
Weight 500 pounds

CAPACITY:

Selections 36 Select
Total Items 553 Items
Product Pricing \$.05 to \$99.95

UNPACKING:

This machine has been thoroughly inspected before leaving the factory and the delivering carrier has accepted this vendor as their responsibility. Any damage or irregularities should be noted at the time of delivery and reported to the carrier. Request a written inspection report from the claims inspector to file any claim for damage. File the claim with the **CARRIER (NOT THE MANUFACTURER)** within 15 days after receipt of the machine.

To minimize installation time and to avoid service problems due to improper installation, follow the instructions outlined in this manual.

Consult local state and federal codes and regulations before installation of the vendor.

Record the model number and serial number of the vendor for your records. These numbers can be found on the serial plate located on the rear of the cabinet. Refer to these numbers on all correspondence and inquiries pertaining to this vendor.

Carefully remove the outside packing material in a manner not to damage the finish or exterior of the machine. Inspect the machine for concealed shipping damage. Report any damage hidden by the shipping material directly to the delivering carrier on a hidden damage report.

Remove the two (2) retaining blocks from the shipping pallet (see **Illustration #1A**). Slide the vendor forward on the shipping pallet until the side legs are clear of the pallet (see **Illustration #1B**). Tilt the machine sideways until the rear legs are clear of the pallet and remove the pallet. (See **Illustration #1C**).

Position the vendor in its place of operation, never more than 6 feet from the electrical power source and check that the door will open fully without interference. Leave at least six (6) inches of space between the back of the machine and any wall or obstruction for proper air circulation.

Level the vendor making sure all leg levelers are touching the floor. (See **Illustration #2**) The vendor **MUST** be level to obtain proper operation and proper acceptance of coins through the coin mechanism. When the vendor is level, the door can be opened to any position and not move by itself. Try the door half closed, straight out and

in the wide open position before deciding the vendor is level.

Remove all packing material, shipping brackets and tape from inside the vendor. Adhesive residue can be removed with denatured alcohol or common household vinegar. To try to operate the vendor without removing the tape and shipping brackets may result in damage or vend failures.

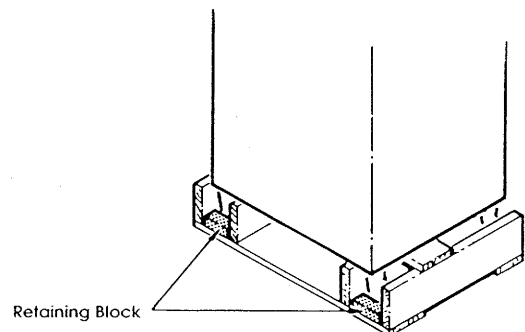


ILLUSTRATION #1A

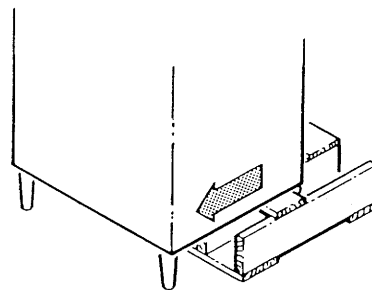


ILLUSTRATION #1B

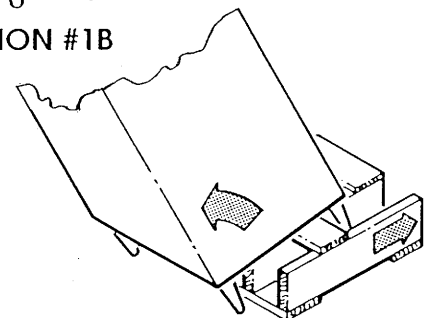


ILLUSTRATION #1C

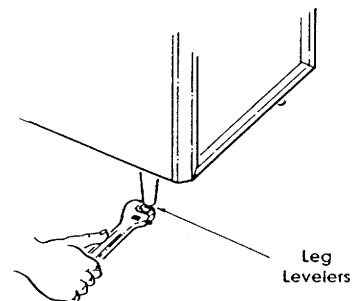


ILLUSTRATION #2

GROUNDING & ELECTRICAL:

For proper operation of any equipment utilizing electronic controlled components, it is recommended that the equipment be placed on an isolated or dedicated circuit. The electrical power supply should be a 15 Amp, 115 Volt AC, 60 Hz, properly polarized and grounded isolated noise free circuit. Shown in **Illustration #3** and **Illustration #4** are two (2) properly grounded and polarized wall outlets. **Illustration #3** is a three (3) wire grounding type wall outlet. **Illustration #4** is a two (2) wire outlet with a three (3) plug adaptor in place. To verify that the receptacle is properly grounded and polarized, insert one probe of a volt/ohm meter (set to check AC line voltage) or a test light in the ground terminal (hole) and the other probe into the "hot" terminal of the outlet. You should read line voltage, or the test light should light. The following checks should be made to insure that a proper power supply is evident:

1. **Voltage Check:** When the AC volt-meter probes are connected to the **HOT** and **NEUTRAL** terminal, the volt-meter should indicate 108 to 132 volts AC.
2. **Polarity and Ground Check:** When the AC volt-meter probes are connected to the **HOT** and **GROUND** terminals the volt-meter should indicate 108 to 132 volts AC.
3. **Amperage Check:** At the fuse box or circuit breaker panel, locate the proper circuit and ensure that the fuse or breaker protecting that circuit is rated at 15 Amps or greater.

NOTE:

The **HOT** side of the outlet should always be counter-clockwise from the **GROUND** terminal, with the ground terminal at the bottom. The **NEUTRAL** terminal will be clockwise from the "ground" terminal. See **Illustration #3 & #4**.

If you find that the receptacle is not properly grounded, or polarized, you should contact a licensed electrician to correctly polarize and/or ground the receptacle to ensure safe operation.

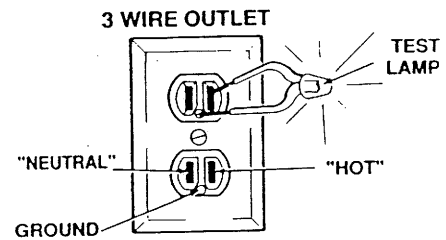


ILLUSTRATION #3

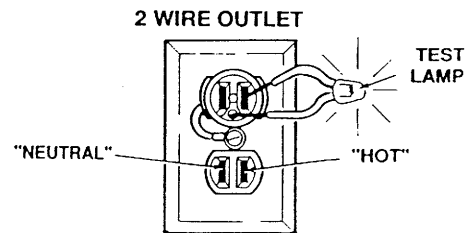


ILLUSTRATION #4

CONNECT TO POWER SOURCE:

Locate the key to the vendor taped inside the coin return cup. The "T" handle latch requires a minimum of three (3) full turns counter-clockwise to open the main door.

Pull the power cord out of the vendor to its full length. Carefully "seat" the rubber grommet on the power cord into the hole in the back of the vendor. The power cord will be stored in the lower compartment of the machine. Plug the power cord into the power source and turn on the main power switch located on the Control Panel in the upper right hand corner of the cabinet. See **Illustration #5**.

The product display light will be lit, the validator motors will cycle and the credit display will illuminate and scroll the "EXACT CHANGE ONLY" message.

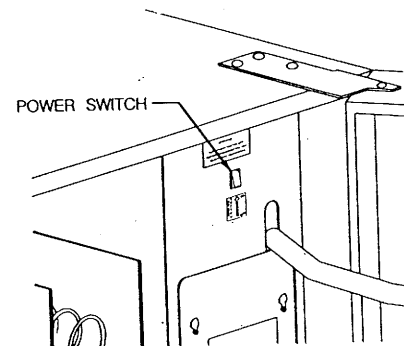


ILLUSTRATION #5

COIN MECHANISM:

Load the coin changer coin tubes with nickels, dimes and quarters. When adequate nickels have been loaded to cover the "low level sensors" in the nickel tube, the "EXACT CHANGE ONLY" message will be replaced with the "point of sales" message programmed into the controller.

Coins inserted will be stored in self-loading, high capacity change tubes and coins returned on over deposit will be the least number of coins available. Each change tube has a "high level" and "low level" sensor that indicates to the controller the status of coins in each tube. When the change tubes become full, covering the "high level" sensor, coins deposited will be routed to the cash box. The following chart indicates the approximate capacity of each of the coin tubes.

	COIN TUBE CAPACITY		25¢ OPTION	
	5¢	10¢	HI-25¢	LOW 25¢
FULL LEVEL	68-69	98-99	66-67	8-9
LOW LEVEL	7-8	10-11	8-9	8-9

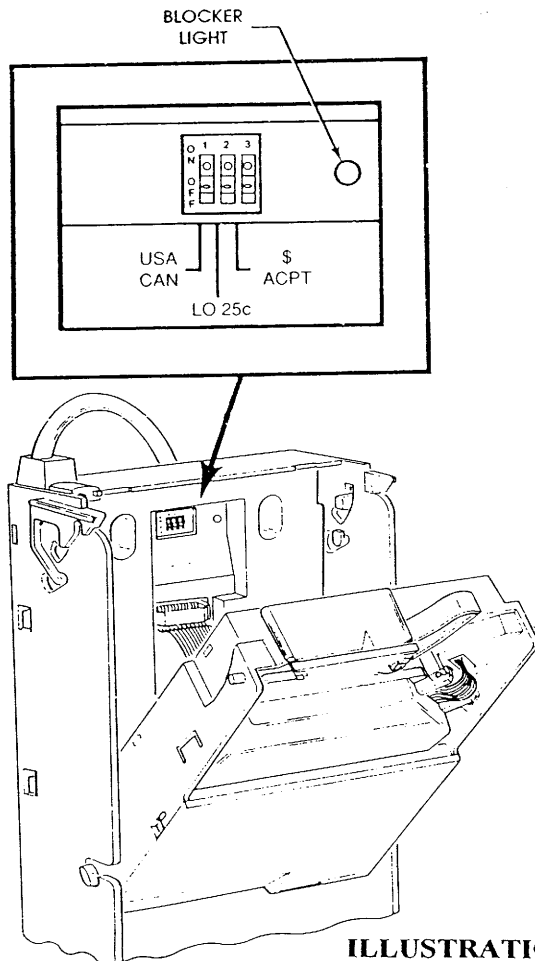


ILLUSTRATION #6

To empty coins stored in the change tubes refer to "Coin Dispense" section of this manual.

When coins in the nickel tube fall below the "low level" sensor the "EXACT CHANGE ONLY" message will be scrolled in the display.

NOTE:

If the vendor is equipped with a Dollar Bill Validator, the coin mechanism **must** have a minimum of nickels and quarters to cover the "low level" sensors to allow the validator to function. Refer to the chart above

OPTIONAL SWITCH SETTING:

The coin changer option switches have been factory set in the following positions:

#1	--	OFF
#2	--	OFF
#3	--	OFF

Should a different setting be desired or a new changer be installed, the following switch setting instructions are provided:

- A. Open the main door and turn the power switch to the "OFF" position. (See Illustration #5)
- B. Remove the Acceptor portion of the coin changer.
- C. Locate the coin changer option "dip" switches and select from the following optional settings:
 1. USA/CAN "ON": U.S. and Canadian coins will accepted
OFF: Canadian coins will be rejected
 2. Lo 25¢ ON: Quarters are diverted to the cash box once the change tube has inventoried approximately 8 quarters.
OFF: Quarters are diverted into the change tube until the change tube is full
 3. \$ ACPT ON: Dollar coins will be accepted
OFF: Dollar coins will be rejected.

NOTE:

If a Bill Validator is being used the LO 25¢ option switch should be in the "Hi" or "OFF" position.

PRODUCT LOADING:

When loading, product in the trays, lift up slightly to disengage the detent and pull forward on the tray. As the tray travels forward on its rail system, it will automatically tilt downward to allow for easy access for servicing.

When loading the products, load from front to back making sure all items fit freely between the augers. Do not attempt to force oversize items into the spaces. All spaces forward **must** have a product in them; **do not skip a space**. The bottom of the item should be placed on the bottom of the compartment above the product augers, with the label facing the front of the machine easily identifiable to the buying customer. General guidelines for each product type are as follows: See **Illustration #7**.

1. **Large Snack Helix** -- Large bagged items are generally loaded with the bottom of the product resting on the tray floor, spanning the helix coil.
2. **Medium Snack Helix** -- Medium bagged items and large candy/snack items are generally loaded with the bottom of the product resting on the tray bottom, between the helix coils.
3. **Sandwich Cracker/Candy Helix** -- Sandwich cracker and candy items are generally loaded with the bottom of the product resting on the tray bottom, between the helix coils.
4. **Gum/Mint Split Helix** -- Gum, mint or extremely small items are generally loaded with the bottom of the product resting on the tray bottom, between the helix coils.

When finished with the loading of each tray, make sure the tray is returned to its proper standby position. All trays **must** be pushed to the rear portion of the cabinet area and properly seated in the detent position.

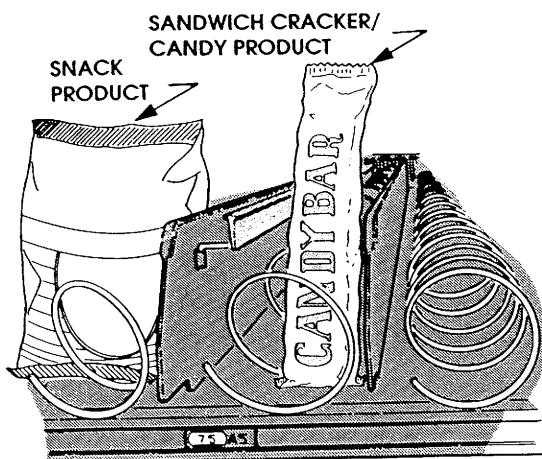


ILLUSTRATION #7

Each auger can be rotated in 20 degree increments, changing the position of the auger end for a different "drop-off" point. Most items can be vended successfully when the auger end is positioned at 6 o'clock. All helixes will be set at the 6:00 o'clock position when shipped from the factory. See "Helix Timing" for adjustments.

CHANGING TRAY CONFIGURATION:

The design of the Pro Series allows for changing the tray configuration on location. The capability to rearrange tray spacing, auger pitch, the number of selections per tray and various combinations of auger types gives the owner/operator the flexibility to "mix-and-match" product sizes and prices to fit specific location needs.

The spacing between each tray can be altered to compensate for various heights of products. The trays can be raised or lowered in one inch increments to provide additional headroom for vending taller items. When changing the spacing between two trays, the height between the adjoining tray will be reduced or increased by the same amount.

CHANGING TRAY SPACING:

To change spacing between the trays, follow the steps outlined below:

1. Pull out the tray to be adjusted until it stops.
2. Disconnect the tray plug from its receptacle on the right hand side wall. (See **Illustration #8**)

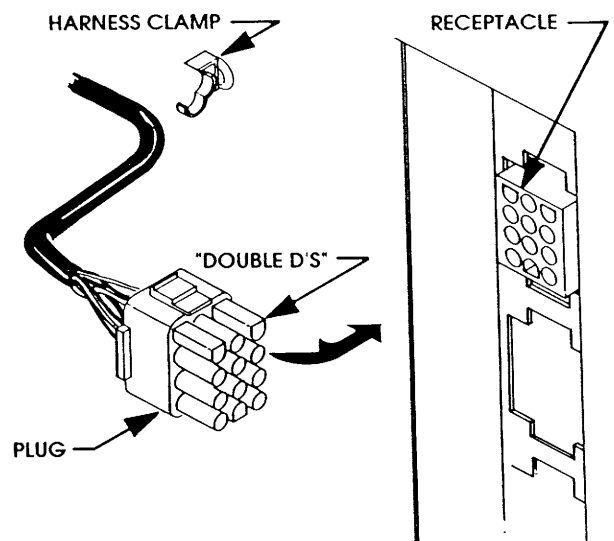
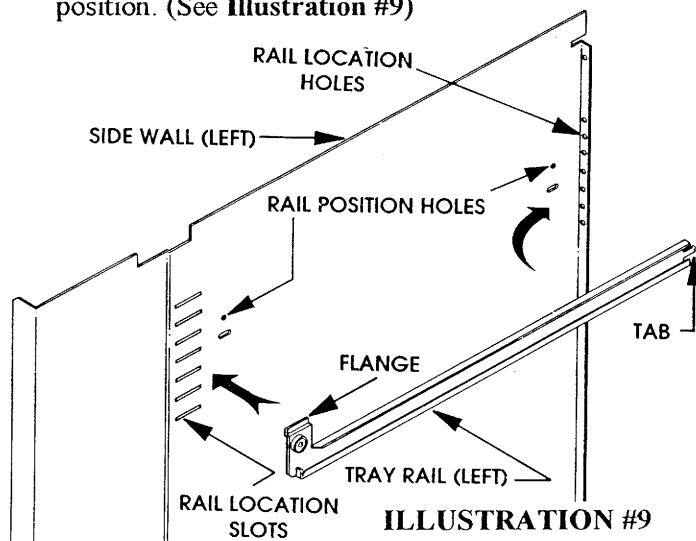


ILLUSTRATION #8

- Lift up on the rear of the tray and remove it from the vendor.
- Move both the left and right side rails to the new position. (See **Illustration #9**)



NOTE:
 Rails must be level from front to back and evenly spaced from top to bottom on each side

- Re-insert the tray assembly, making sure the tray harness mates properly with the cabinet harness.
- Test vend the tray in its new position to assure that the tray plug is properly seated.

HELIX TIMING:

Should you experience difficulty in vending odd size or shaped item, helix retiming can be accomplished on a trial and error basis. To change the auger end positions:

- Pull the tray containing the helix to be re-timed forward to its stop.
- Remove all product from the helix.
- Depress the motor cover latch and remove the motor cover. (See **Illustration #10**)
- Lift the helix and motor slightly (approximately 3/4") to disengage the helix hub from its retaining rib on the bottom of the tray. (See **Illustration #11**)
- Separate the helix and hub from the motor by pulling forward on the helix hub to disengage its spline from the motor internal gear. (See **Illustration #11**)

- Rotate the helix and hub in either direction and re-install by pushing the spline back into the internal gear of the motor.
- Push down on the motor and helix hub to re-seat the hub onto its retaining rib in the bottom of the tray. Pull forward on the helix to insure proper engagement.
- Replace the motor cover by hooking the left end into its retainer on the tray and snapping the right end into its spring latch. (See **Illustration #10**)
- Load the helix with product and return the tray to its vend position making sure it is properly seated in its detent position.
- Test vend product and readjust if necessary.

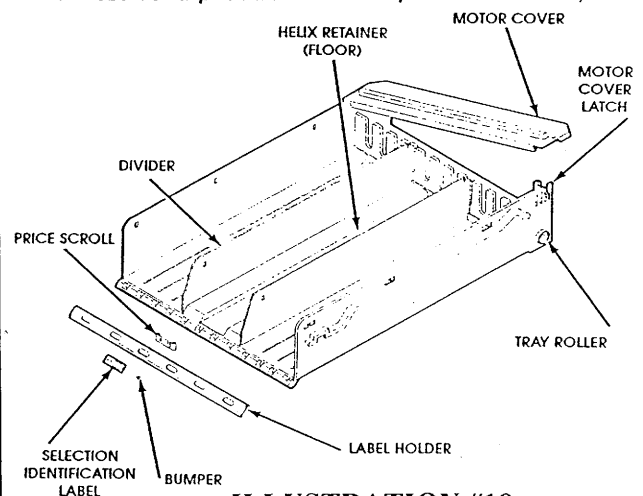


ILLUSTRATION #10

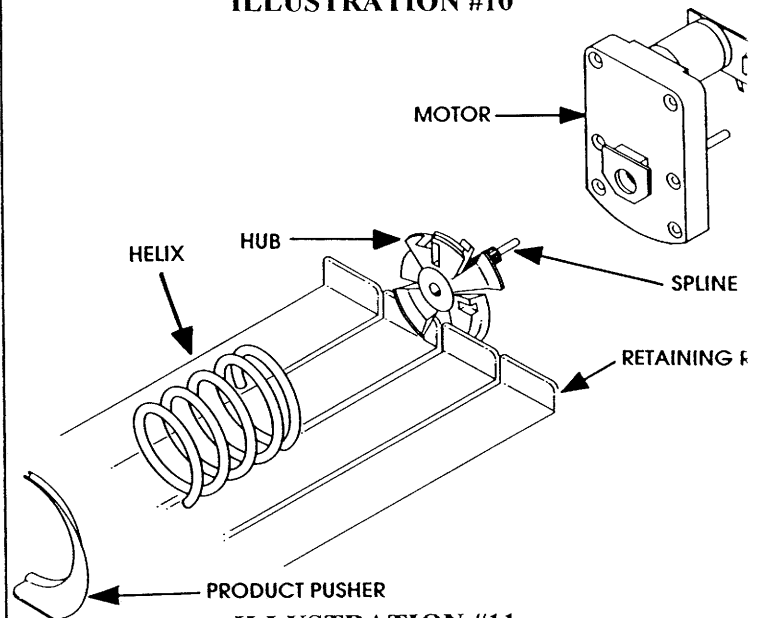


ILLUSTRATION #11

CHANGING HELIX CONFIGURATION:

The "mix-and-match" design of the product tray provides easy conversion of the compartments for vending different sized items. It is possible to convert a snack (single, large) compartment into two (2) candy (small item) compartments, or to convert two (2) candy compartments into a single snack compartment. Each tray harness includes the necessary wiring to accommodate a maximum of eight (8) selections per tray.

Kits are available from your local distributor or (Selectivend Inc. / P.O. box 488 / Waukegan, Iowa 50263-0488. Listed below are kits that are available for converting a "candy to snack" or a "snack to candy" type compartment:

AUGER TYPE	PRODUCT SIZE			KIT PART NO.
	WIDTH	THICK	ITEMS	
"CANDY"	2 3/4	1 3/16	15	1200137-070
	2 3/4	15/16	18	1200137-071
	2 3/4	21/32	24	1200137-072
	2 3/4	1/2	30	1200137-073
	2 3/4	1 1/2	12	1200137-074
	2 3/4	2 1/32	9	1200137-075
	2 3/4	3 3/32	6	1200137-076
"SNACK"	5 1/2	1 13/16	10	1200137-077
	5 1/2	1 1/2	12	1200137-078
	5 1/2	1 3/16	15	1200137-079
	5 1/2	2 11/16	7	1200137-080
	5 1/2	2 5/8	8	1200137-081

PRODUCT SPACERS:

Product spacers are supplied to be used when vending "Narrow" products. Items will vend more consistently when contained in a straight up condition. Adjust the spacer to loosely contain the product toward the right side of the compartment, forcing the item to stand upright. To adjust the spacer, pull forward to make the space narrower and push backward to make the space wider. (See Illustration #12)

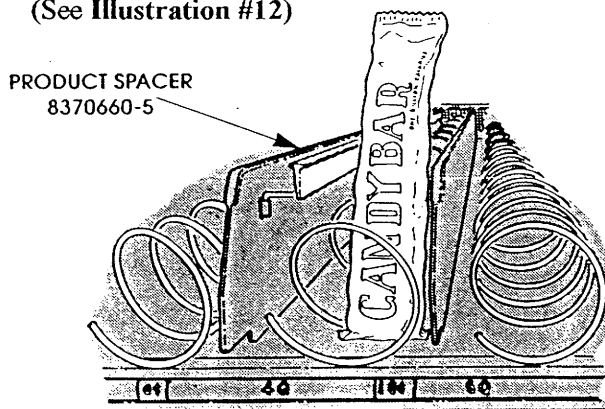


ILLUSTRATION #12

PRODUCT PUSHERS:

Product pushers can be used on bag items such as peanuts and other similar products. The pusher snaps over the wire at the end of the auger and will assist in pushing the item further off the tray. (See Illustration #13)

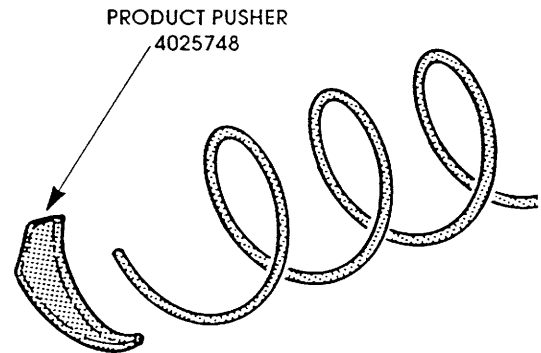


ILLUSTRATION #13

CONTROLLER FUNCTIONS:

SALES MODE:

The "Sales Mode" is the normal operating mode of the vendor. When in the "sales mode" the controller will monitor the status of the electronic components within the machine to determine whether they are functional when needed. The controller will also communicate to the buying customer the vend requirements. Messages will be displayed in the digital readout stating the status of the vendor. The following messages will be displayed:

POINT OF SALES Message

This is a sales message and is usually an encouragement to the buying customer to purchase the products. The message is displayed in a scrolling format and will appear continuously as long as the coin mechanism has an adequate supply of coins in the change tubes. If the change supply in the coin mechanism is below the "low level" sensors in the payout tubes, the "EXACT CHANGE ONLY" message will appear.

EXACT CHANGE ONLY Message

This message will be displayed when the change supply in the coin mechanism is below the "low level" sensors in the change tubes. This message

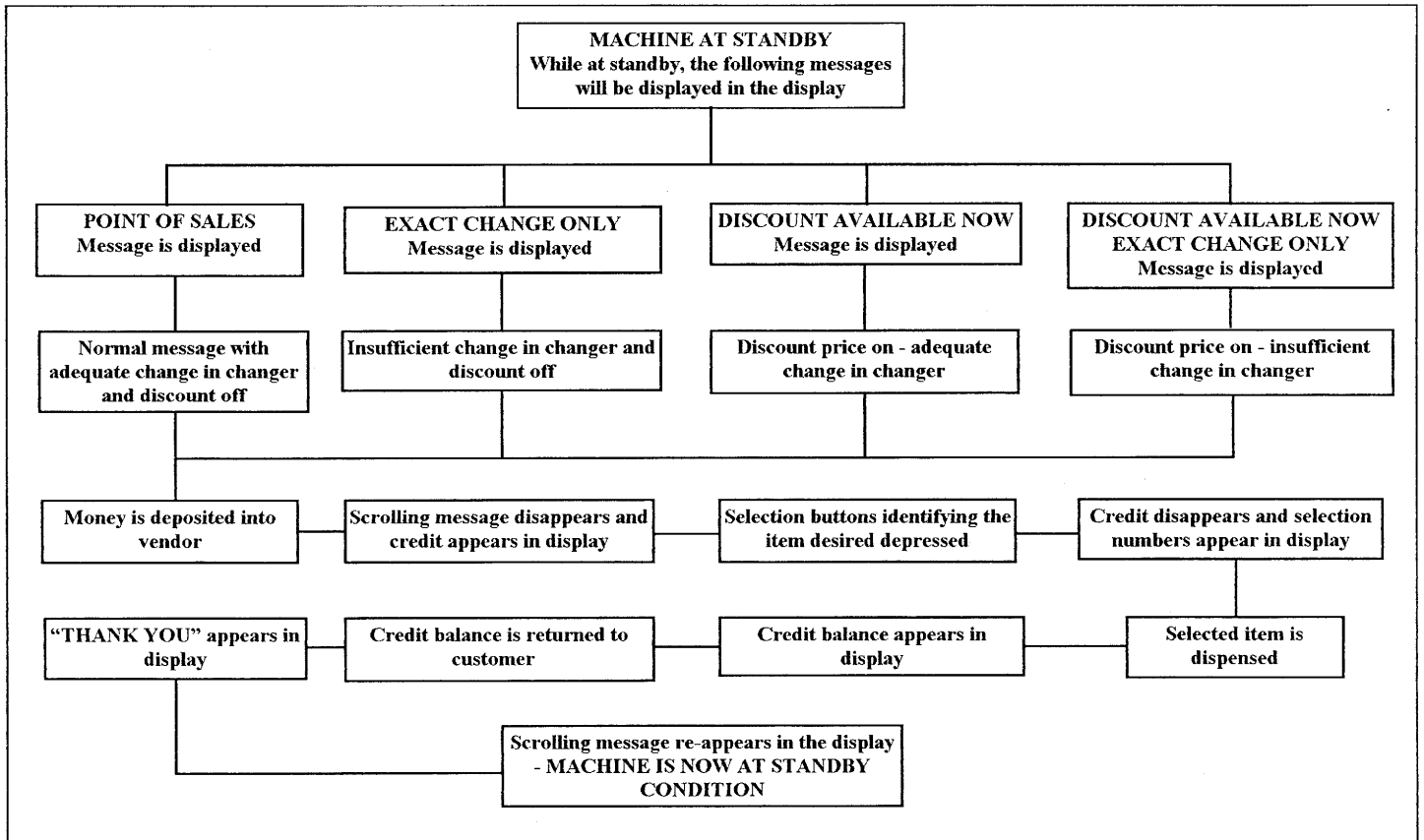
will take priority over the “Point of Sales” message.

DISCOUNT AVAILABLE NOW Message

This message will be displayed when the discount feature has been programmed into the controller

and the feature becomes active. Refer to **Discount Feature Section** for instructions on setting the discount and activating this feature.

The following will define the standby condition of the Glassfront Merchandiser along with the step-by-step operation during a normal vend cycle with credit inserted to equal or exceed the vend price of the item selected.



SERVICE MODE:

The “Service Mode” will allow the service personnel access to the programming functions of the controller. The controller must be placed in the “Service mode” to alter any programming, establish new programs, retrieve diagnostic information and other features.

When the controller is placed in the “Service Mode”, faulty selections that have been recorded will appear in the display. Any information displayed in the digital display should be recorded immediately. Any input or key depression on the key pad will remove this information from the controller’s memory and failures will not be

displayed again until that specific failure has been repeated during normal vend cycles. See **Diagnostics and Trouble Shooting Sections** for further details pertaining to failures.

When in the “Service Mode” the keys on the key pad will perform different functions depending on the specific mode, or requirements of the program to be accomplished. The “key” functions will be defined in detail under each mode description throughout this manual. Furnished in the service packet is a Key Pad Overlay that can be placed over the key pad to illustrate the programming functions.

To place the controller in the "Service Mode", depress the service mode button located on the control board. (See **Illustration #14**)

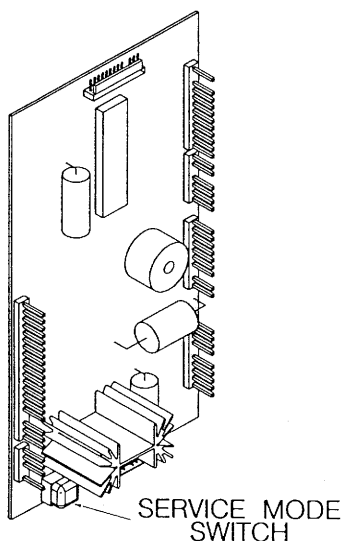


ILLUSTRATION #14

Record any diagnostics that appear in the display. If no diagnostics are displayed, no electrical problems with the motors were detected by the controller since the last depression of the "Service Mode" Switch.

NOTE:

The controller will automatically exit the "Service Mode" and enter the "Sales Mode" in 25 seconds if no input or depression of the key pad is made during that time. Each depression or input will allow for another 25 seconds before the controller times out.

The following chart can be used as a "quick reference" for entering the various Modes along with the necessary "key" depressions that will be used for changing the programs in the Glassfront Merchandiser. Complete details and steps for individual modes are outlined throughout the service manual.

Place the controller in the "Service Mode" by depressing the "Service Mode" button located on the control board. (See **Illustration #14**) and follow the instructions shown in the chart.

MODE KEY	FUNCTION or MODE	TO PROGRAM - ENTER THE FOLLOWING
1	COIN DISPENSE	1 + A = 5¢ 1 + B = 10¢ 1 + C = 25¢
2	MOTOR COUNT	2 = NUMBER OF MOTORS
3	FORCE VEND	3 + A = FORCE VEND "ON" 3 + A = FORCE VEND "OFF"
	MULTI VEND	3 + B = MULTI VEND "ON" 3 + B = MULTI VEND "OFF"
4	LANGUAGE	4 + E = ENGLISH
5	SET PRICE	5 + (SEL.) + (PRICE) + #
	COPY PRICE	5 + (SEL.) + (PRICE) + * + (SEL.) + (SEL.) ... + #
6	VEND COUNT	6 + A = TOTAL VENDS 6 + B = TOTAL CASH
	MESSAGE	7 + (MESSAGE) + NEXT MENU + ENTER
8	TEST VEND SEL.	8 + (SEL.)
9	TEST VEND ROW	9 + (ROW)
0	TEST VEND MACH.	0 = TEST VEND MACHINE
*	SET TIME (CLOCK)	* + A + (TIME OF DAY) + #
	SET TIME (DISC)	* + B + (TIME) + # = START 1
		* + C + (TIME) + # = STOP 1
		* + D + (TIME) + # = START 2
	* + E + (TIME) + # = STOP 2	
	* + F + (TIME) + # = START 3	
	* + G + (TIME) + # = STOP 3	
#	DISCOUNT CONTROL	# + A = DISCOUNT "ON" # + A = DISCOUNT "OFF"
	SET AMOUNT	# + B + (AMOUNT) + #
	SET ROW/ROWS	# + C + (FIRST ROW) + #

DIAGNOSTICS:

Each time the controller is placed in the "Service Mode", failures pertaining to the electrical circuit to the vend motors will be displayed if a particular selection failed to vend when selected by the buying customer. If an item is selected and the vendor is unable to complete the vend, the controller will display to the buying customer **"MAKE OTHER SELECTION"**, and that particular selection will be removed from the program. The faulty selection will remain inoperative until cleared or repaired.

Each time the controller is switched in or out of the "Sales Mode" or "Service Mode", the motor circuits are scanned to determine the number of active or operational circuits at that time. The diagnostics being displayed indicate the selections that were functional when the "Sales Mode" was last activated, however, due to failures or removal, are not in the circuit now. For instance, if a tray is not properly connected with the main cabinet harness, these selections would appear as faulty when the "Service Mode" is entered.

Faulty motor selection numbers will be displayed in a rotational sequence. If no selection numbers are displayed in the display when the controller is first placed into the "Service Mode", no electrical problems with motors were detected since the last depression of the "Service Mode" Switch.

It is **IMPORTANT** that the information displayed be recorded immediately. Any input or key depression of the key pad will remove this information from the controller's memory and the failures will not be displayed again until that specific failure has been repeated during a normal vend cycle.

The selection number indicates the area where the problem was detected and will assist service personnel in isolating the source or cause of the problem.

NOTE:
Exiting the "Service Mode" or advancing to another step by depressing the key pad will remove the diagnostics from the controller's memory.

COIN DISPENSE MODE:

In the "Coin Dispense Mode", coins that are stored in the pay out tubes of the coin mechanism can be removed. To access the "Coin Dispense Mode" the controller must first be placed in the "Service Mode" by depressing the Service Mode Switch located on the Control Board. (See **Illustration #14**)

- The "Coin Dispense Mode" is accomplished as follows:
1. Depress key "1" -- "DISPENSE \$" will be displayed
 2. Depress key "A" -- Nickels will be dispensed
 3. Depress key "B" -- Dimes will be dispensed
 4. Depress key "C" -- Quarters will be dispensed

Coins will continue to be dispensed from the pay out tubes as long as its activating key is depressed.

Exit the "Coin Dispense Mode" by entering any other "function" key, or by depressing the "Service Mode" Switch on the control board.

MOTOR COUNT MODE:

The "Motor Count Mode", when operated causes the controller to indicate the total number of functional motors that are in the system. This number should agree with the total number of selections that are in the machine. Only the total number of motors will be flashed.

Individual selection numbers will not be displayed. The motor count command is accomplished as follows:

1. Enter the "Service Mode"
2. Depress key "2" - The number of functional motors will be briefly flashed in the digital display

NOTE:
The motor count can be displayed constantly by pressing and holding key "2".

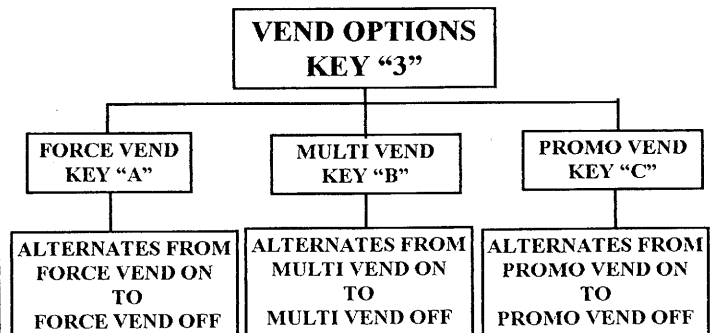
If the motor count displayed does not agree with the total number of selections in the machine, this indicates that the electrical circuit of all motors is not complete. The service person should determine what motor/motors are not functioning. Listed below are suggested steps to be taken:

1. Were faulty motors displayed when the "Service Mode" was entered?
Problem would be in these areas.
2. Test vend all selections.
Problem: faulty selection will not vend.
3. Refer to "Trouble Shooting" section of this manual for further assistance.

VEND OPTIONS MODE:

Vend options are available that can be programmed into the controller. When using any of the vend options, a battery backup is required to maintain the settings in case of loss of power. **"SEE BATTERY BACKUP OPTION"** Without a battery back-up, when power is lost the settings will default to "OFF". The options allow the machine to be programmed to function as a changer without making a purchase, make multiple selections with single deposits, or vend a free item when selecting another product. The three (3) options that are available are identified as:

- "FORCE VEND" Set with key "A"
- "MULTI VEND" Set with key "B"
- "PROMO VEND" Set with key "C"



Each time the individual modes are entered, the controller will alternate from the "On" or "Off" position.

EXAMPLE:

If a specific mode has been programmed to the "ON" position, the next time the controller is placed in this mode it will automatically toggle the mode to the "OFF" position.

FORCE VEND OPTION:

In the Option Mode the "force vend" programming is set with the "A" key on the keypad. To change the "Force Vend" setting the controller must be placed in the "Service Mode" and advanced to the "Option Mode". Follow the steps listed below:

1. Depress the Service Mode button located on the control board (see **Illustration #14**)
2. Press key "3" on the keypad.
3. Press key "A" on the keypad. Each time the mode is entered the setting will alternate from the "ON" to "OFF" position. (i.e., if it was set to the "ON" position, when entered it will be toggled to the "OFF" setting)

FORCE VEND ON:

When the "Force Vend On Mode" is selected, the controller will force the buying customer to make a purchase when a dollar bill is inserted, overriding the "coin return" command. When in the "Force Vend On Mode", coin return of 5¢, 10¢ & 25¢ coins is not affected.

FORCE VEND OFF (Non-Escrowing Validator):

When the "Force Vend Off Mode" is selected with a non-escrowing validator the controller will allow the buying customer to receive change from a dollar bill insertion if the coin return button is pressed. A purchase is not necessary.

FORCE VEND OFF (Escrowing Validator):

When in the "Force Vend Off Mode" is selected with a validator that includes an escrow feature the controller reacts differently, depending on the maximum vend price within the machine.

Example 1: Maximum vend price set at 95¢ or less.
The dollar bill will be returned when the coin

return button is pressed. A purchase is not necessary.

Example 2: Maximum vend price set at \$1.00 or more. The controller will allow the buying customer to receive change from a dollar bill insertion when the coin return button is pressed. A purchase is not necessary.

MULTI VEND OPTION:

In the Option Mode the "multi vend" programming is set with the "B" key on the keypad. To change the "Multi Vend" setting the controller must be placed in the "Service Mode" and advanced to the "Option Mode". Follow the steps listed below:

1. Depress the Service Mode button located on the control board (see **Illustration #14**)
2. Press key "3" on the keypad.
3. Press key "B" on the keypad. Each time the mode is entered the setting will alternate from the "ON" to "OFF" position. (i.e., if it was set to the "ON" position when entered it will be toggled to the "OFF" setting)

MULTI VEND ON:

When in the "Multi Vend On Mode" the credit is flashed in the display at all times. In this mode, if the vend price of a selection is smaller than the established credit and that selection is vended, no change will be paid out. The customer can use the remaining credit to purchase other items, or push "Coin Return" to receive the balance. Multiple vends can be selected as long as adequate credit is available. When in this mode, to receive change on over-deposit the "Coin Return" button must be pushed.

MULTI VEND OFF:

When in the "Multi Vend Off Mode" the controller is set in a single selection vend mode, or normal operation. Change will be returned, if the established credit exceeds the vend price, each time a vend is completed.

PROMO VEND OPTION:

"Promo Vend" option allows the buying customer to receive an additional item "free" when purchasing another. Provisions have been made that Item "A3" will be vended "free" each time "A1" is selected, item "B3" will be vended "free" each time item "B1" is selected. Other selections in the machine will operate normally.

Individual vends from Items "A3" and "B3" can be obtained while in "Promo Vend" if these selections are depressed with adequate credit inserted.

In the Option Mode the "promo vend" programming is set with the "C" key on the keypad. To change the "Promo Vend" setting the controller must be placed in the "Service Mode" and advanced to the "Option Mode". Follow the steps listed below:

1. Depress the Service Mode button located on the control board (see **Illustration #14**)
2. Press key "3" on the keypad.
3. Press key "C" on the keypad. Each time the mode is entered the setting will alternate from the "ON" to "OFF" position. (i.e., if it was set to the "ON" position, when entered it will be toggled to the "OFF" setting)

PROMO VEND ON:

When in the "Promo Vend On Mode", item "A3" will be vended "free" when "A1" is selected and item "B3" will be vended "free" when "B1" is selected.

PROMO VEND OFF:

When in the "Promo Vend Off Mode" all selections will operate normally.

LANGUAGE OPTION:

This mode has been incorporated for machines located outside the united states or in areas where the English language is not used. All machines shipped from the factory will be programmed in the English language unless otherwise specified on the initial order. To verify that the controller is in the proper mode for the English language, place the controller in the "Service Mode" by depressing the Service Mode button on the control board (See **Illustration #14**). Depress key "4" plus key "E". Return controller to the "Sales Mode" by depressing the "Service Mode" button. The scrolling message will appear in English.

If it becomes necessary to program the controller for a different language, place the controller in the "Service Mode" by pressing the "Service Mode" button on the control board and then press "4 + ...". The following options are available at this time:

4 + E = ENGLISH	4 + G = ITALIAN
4 + F = FRENCH	4 + D = SPANISH

PRICE SETTING INSTRUCTIONS:

All pricing is controlled by the controller and must be programmed into the controller's memory. The vend prices can only be programmed while in the "Service Mode". Vend prices are programmed into the memory of the controller by using the key pad to input the commands or requirements.

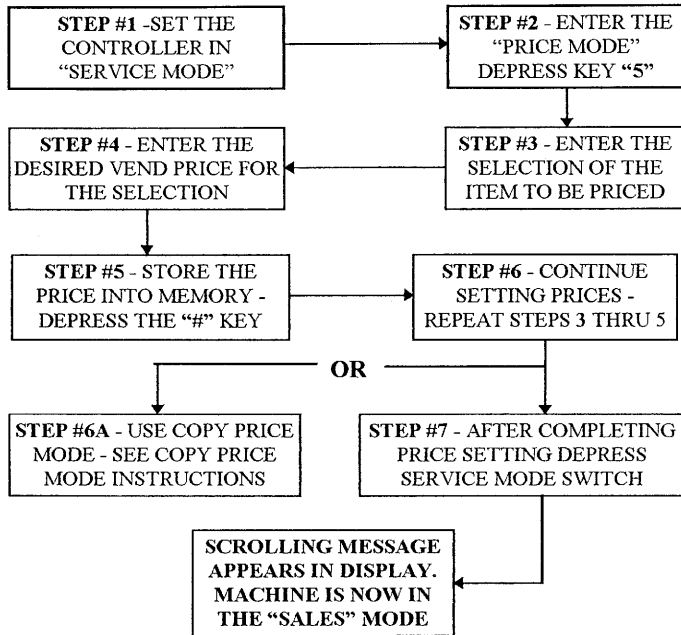
A vend price must be established for each selection. On items that will be vended at the same vend price, the "Copy Price Mode" can be used to duplicate the prices.

To establish vend prices, follow the steps outlined below:

1. Place the controller in the "Service Mode" by pressing the "Service Mode" button on the control board.
 - The display will indicate any faulty selections that have been recorded. If no faults are evident the display will be blank
2. Enter the "Price Mode" by depressing key "5" on the keypad.
 - "MAKE SELECTION" will be displayed
3. Enter the selection **letter** and **number** of the item to be priced.
 - The selection number and current vend price will be displayed.
4. Enter the desired vend price using the number keys on the keypad.
 - Example: If the numbers 1, 2 and 5 were entered, that item would have a vend price of \$1.25.
5. Store the price in memory by depressing the "#" key on the keypad, or use "Copy Price Mode".
6. Continue setting prices for other selections by repeating **Steps 3 through 5** or by following the "Copy Price" instructions.
7. After completing price setting, depress the "Service Mode" button located on the control board.
 - The scrolling message will appear in the display. The machine is now in the "Sales Mode".
8. Check prices of items programmed by depressing the selections in the "Sales Mode".

IMPORTANT:
When establishing vend prices, make sure the price label located on the product tray agrees with the vend price programmed into the controller and that they are properly located below the item they are identifying.

The following "flow chart" indicates the basic steps that are required when establishing vend prices on individual selections. If more than one selection is being vended at the same vend price use the "Copy Price Mode".



COPY PRICE MODE:

When there is more than one selection to be vended at the same vend price the "Copy Price Mode" can be used to duplicate prices for these selections. The "Copy Price Mode" can be accessed by following the instructions outlined below:

1. Place the controller in the "Service Mode" by pressing the "Service Mode" button on the control board.

The display will indicate any faulty selections that have been recorded. If no faults are evident the display will be blank

2. Enter the "Price Mode" by depressing key "5" on the keypad.

"MAKE SELECTION" will be displayed

3. Enter the selection **letter** and **number** of the item to be priced.

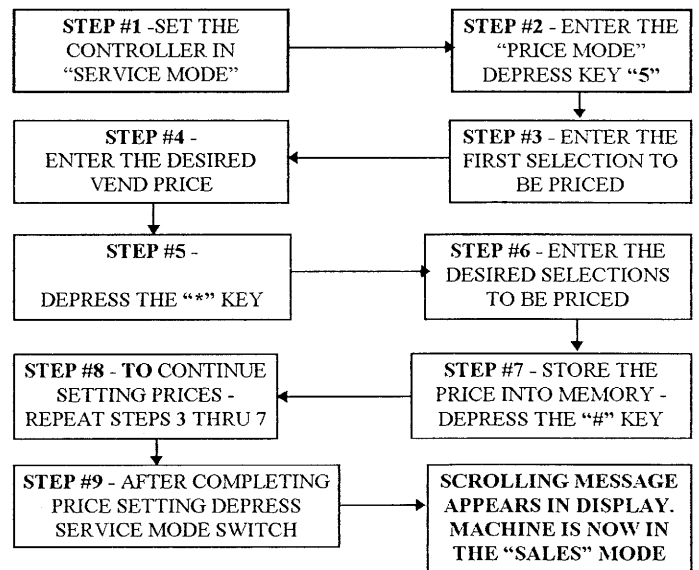
The selection number and current vend price will be displayed.

4. Enter the desired vend price using the number keys on the keypad.

Example: If the numbers 1, 2 and 5 were entered, that item would have a vend price of \$1.25.

5. Depress the "*" key on the keypad.
 - "COPY PRICE" will appear in the display.
6. Enter the desired selections to receive the Copy Price. All selections entered will receive the same vend price.
7. Store the prices in memory by depressing the "#" key on the keypad.
8. To continue to copy another price, repeat steps 3 through 7.
9. After completing price setting, depress the "Service Mode" button on the control board. The scrolling message will appear in the display. The machine is now in the "Sales Mode".

The following "flow chart" indicates the basic steps that are required when establishing vend prices using the "copy price" mode.



VERIFYING VEND PRICES:

The vend price for each selection can be verified at any time while the machine is in the "Sales Mode". To verify the price programmed into the controller, depress the specific selection numbers and the current vend price will be displayed for approximately three seconds. The price for each selection must also be identified by a "price scroll" on the tray under each product. Make sure the price programmed into the controller agrees with the label affixed to the tray for each selection. Secure the price scroll with the "bumpers" provided in the service packet (See **Illustration #10** page #7).

VEND COUNT OPTION:

Provisions have been incorporated into the controller that will allow the owner/operator to retrieve information such as "Total Cash" transactions and "Total Vend" cycles that have been performed by the vendor.

All money required for each vend is accumulated and will be displayed to the owner/operator when the "Total Cash Mode" is accessed. Total vends can also be retrieved when in the "Vend Count Mode".

These amounts are accumulated and recorded in a running total and the amounts are not resettable. Two records are maintained by the controller.

- TOTAL CASH
- TOTAL VENDS

This information can only be retrieved while the controller is in the "Service Mode". Instructions for retrieving this information is as follows:

1. Place the controller in the "Service Mode" by depressing the Service Mode button on the control board.
2. Enter the "Vend Count Mode" by depressing key "6" on the keypad.
 - The display will indicate "ENTER (A) FOR TOTAL VENDS OR (B) FOR TOTAL CASH"
3. Depress key "A" - the total number of vends will be displayed.
4. Depress key "B" - the total amount of accumulated cash will be displayed.

NOTE:

The "total vends" and "total cash" totals are not affected when using the "Test Vend" options.

POINT OF SALES MESSAGE MODE:

CAUTION:

Any key input in the "point of sales message" mode will overwrite the previous message

Provisions have been incorporated into the controller for a "point of sales message" that will be displayed to the buying customer. This message can be used by the owner/operator as advertising or an encouragement to the buying customer to purchase products. The point of sales

message will appear continuously while the machine is in a standby condition as long as the coin mechanism has an adequate supply of coins in the payout tubes. If the change supply in the coin mechanism is below the "low level" sensors in the payout tubes, the "EXACT CHANGE ONLY" message will be displayed.

The point of sales message can be changed on location by accessing the "point of sales message" mode. Messages can include up to 130 characters including spaces. While in the programming mode the keypad will function similar to a typewriter keyboard. A "Key Pad Overlay" is furnished in the service packet indicating the functions of various keys while in the programming mode. By placing the "overlay" over the selection panel, the owner/operator can "type" the new message into the controller's memory.

To program a new message the controller must be placed in the "Service Mode". The following outlines the steps to be taken:

1. Place the controller in the "Service Mode" by depressing the Service Mode button on the control board.
2. Enter the "Point of Sales Message Mode" by depressing key "7" on the keypad.
3. Type in the new message (maximum of 130 characters, including spaces)
 - Use the key pad overlay for location of characters on the keypad.
4. Enter the new message into the controller's memory by depressing the "Next Menu" key two (2) times.

NOTE:

If the keys defined in step 4 are not properly entered, portions of the previous message may appear.

A	G	N
K	Y	4
B	H	O
Q	Z	5
C	I	P
U	0	6
D	H	R
V	1	7
E	L	S
W	2	8
F	M	T
X	3	9
SPACE	NEXT MENU	BACK SPACE
*	ENTER	\$

NOTE:

The upper characters in each block are accessed directly by depressing the desired key, while the bottom characters in each block can only be accessed by depressing the "NEXT MENU" key each time those characters are needed

TEST VEND MODE:

The operational functions of the vendor can be verified by running various test vends. The machine can be tested by individual selections, a complete row, or all selections in the entire machine. When the test commands are entered the controller will check the motor circuit and run the selection through a complete vend cycle if the circuit is complete and the motor is functional. If the motor is not functional, or the motor circuit is not complete on a particular selection, the test function will not be made.

The controller will acknowledge all commands that can be performed by a single “beep” sound. Three “beeps” will be heard when a command cannot be performed. It will be necessary for the service person to observe the testing operation. Verifying that the functions are being performed, as the controller will also sound three “beeps” for selections that are not configured in the machine.

NOTE:

The testing functions and vending of the product while in the “Test Vend Mode” will not affect the records maintained by the controller pertaining to “Total Vends” or “Total Cash”.

TEST VEND SINGLE SELECTION:

Single selections can be test vend to verify that they are functioning properly. The controller will check the motor circuit and run the selection through a complete vend cycle if the circuit is complete and the motor is functional. The controller will acknowledge the commands that are being performed by a single “beep” sound. Three “beeps” will sound if a command cannot be performed.

To test vend a single selection follow the instructions outlined below:

1. Place the controller in the “Service Mode” by depressing the Service Mode button on the control board.
2. Depress key “8” on the keypad.
 - A single “beep” will sound and “MAKE SELECTION” will be displayed.
3. Enter the selection to be tested.
 - A single “beep” will sound, the vend price for the selection will be displayed and a single product will be dispensed.
4. To test vend another selection, repeat **Steps 2 and 3**.

NOTE:

If the product dispense cycle is unsuccessful, the display will remain blank, three “beeps” will sound and the system will remain in the “Service Mode” waiting for the next service command.

TEST VEND COMPLETE ROW:

All selections in a complete row can be tested to verify that they are functioning properly. The controller will check the motor circuits and run each selection in a single row, starting with the number “1” selection, if the circuit is complete and the motor is functional.

Each motor will be run through a complete vend cycle and the controller will acknowledge a functional selection with a single “beep”. If a selection is not functional, three “beeps” will sound indicating that the command cannot be performed and the controller will continue to the next selection.

While using the “row” test function it will be necessary to observe the testing of the selections to verify the operation as the controller will also sound three “beeps” for selections that are not configured in the machine.

The “Test Vend” operations will not affect the records being accumulated pertaining to “Total Vends” or “Total Cash”.

To test vend a complete row follow the instructions outlined below:

1. Place the controller in the “Service Mode” by depressing the Service Mode button on the control board.
2. Depress key “9” on the keypad.
 - A single “beep” will sound and “MAKE SELECTION” will be displayed.
3. Enter the row (Alpha) to be tested.
 - A single “beep” will sound, the vend price for the first selection will be displayed and a product will be dispensed. Each motor in the row will be run in succession.
4. To test vend another row, repeat **Steps 2 and 3**.

NOTE:

If the product dispense cycle is unsuccessful three “beeps” will sound and the controller will advance to the next selection. At the end of the row test the display will be blank and the system will remain in the “Service Mode” waiting for the next service command.

TEST VEND COMPLETE MACHINE:

All selections in the entire machine can be tested to verify that they are functioning properly. The controller will check the motor circuits and run each selection if the circuit is complete and the motors are functional.

Each motor will be run through a complete vend cycle and a product will be dispensed. The controller will acknowledge each functional selection with a single "beep". If a selection is not functional, three "beeps" will sound indicating that the command cannot be performed and the controller will continue to the next selection.

While using the "machine" test function it will be necessary to observe the operation of the individual selections, as the controller will also sound three "beeps" for selections that are not configured in the machine.

During the machine test cycle the records pertaining to "Total Vends" and "Total Cash" will not be affected.

Follow the instructions below to test vend the complete machine:

1. Place the controller in the "Service Mode" by depressing the Service Mode button located on the control board.
1. Depress key "0" on the keypad.
 - The machine test will begin immediately starting with selection "A1".

NOTE:

All functional motors will run through one complete vend cycle. **The machine test may be stopped at any time by depressing any "Alpha" key, otherwise all selections will be cycled.**

NOTE:

If the product dispense cycle is unsuccessful three "beeps" will sound and the controller will advance to the next selection. At the end of the machine test the display will be blank and the system will remain in the "Service Mode" waiting for the next service command.

BATTERY BACKUP OPTION:

The Pro Series Glassfront Merchandiser has provisions for a battery backup option that can be added to maintain time-related programs in case of power failure or any interruption of the main power source. The battery **must**

be a rechargeable 9 volt nickel-cadmium (transistor-style) and is capable of maintaining programmed backup functions for approximately 12 hours. A charging circuit is supplied on the control board and will restore the battery when A.C. power is supplied to the vendor.

A battery backup system must be incorporated to maintain memory for the following features.

1. Real Time Clock
2. Discount Sales Programs
3. Force Vend Options
4. Multi Vend Options
5. Promo Vend Options

If the A.C. power source is interrupted or lost and a battery backup is not utilized, the following will occur:

1. Clock settings will be lost.
2. Discount Sales Programs will be lost - features will default to "OFF".
3. Force-Vend Option will default to "OFF".
4. Multi-Vend Option will default to "OFF".
5. Promo-Vend Option will default to "OFF".

Other modes or settings do not require the battery backup in case of a power failure. The last program or input will be retained in the memory of the controller when the power is restored.

BATTERY INSTALLATION:

NOTE:

Use only a rechargeable 9 volt nickel-cadmium (transistor-style) battery.

To install the battery proceed as follows:

1. Turn power switch "OFF" or unplug the vendor from the power source.
2. Place battery in the clip provided on the circuit board with the battery connections aligning to the mating circuit board connectors. (see **Illustration #15**)
3. While supporting the circuit board terminal bracket, press down on the battery until the contacts lock together.

CAUTION:

When pressing down on the battery, be careful not to damage the power component on the circuit board.

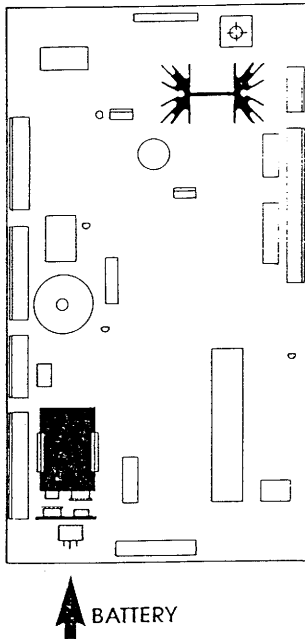


ILLUSTRATION #15

INSTALLATION CHECK LIST:

1. All shipping brackets, packing material and tape have been removed from the vendor.
2. Vendor is properly located for access to power source outlet and vendor is level.
3. All components are installed on the vendor and are in good condition.
4. Service cord plug in receptacle is grounded or ground adaptor has been installed.
5. All vend prices are set correctly.
6. All selections have been properly loaded and all items in each selection corresponds to the vend price and selection labels

7. All options and features have offered have been properly programmed into the controller. Refer to sections:
 - a.) FORCE VEND ON/OFF
 - b.) MULTI VEND ON/OFF
 - c.) PROMO VEND ON/OFF
 - d.) POINT OF SALES MESSAGE
 - e.) SET TIME
 - f.) DISCOUNT OPTIONS
 - g.) LANGUAGE OPTIONS

To eliminate minor service problems caused by human error and to familiarize the owner/operator with the features and operation of the vendor, review the following with the owner and/or service personnel that will be responsible for the machine at location.

1. Loading procedure and proper location and adjustments of spacers if they are included.
2. Price setting procedure for changing prices if necessary.
3. Basic diagnostic messages displayed and meaning or cause.
4. How to enter and exit the "Service Mode".
5. Test vend procedure.
6. Removal of money from both the coin mechanism and validator.
7. Basic operation and function of the vendor.

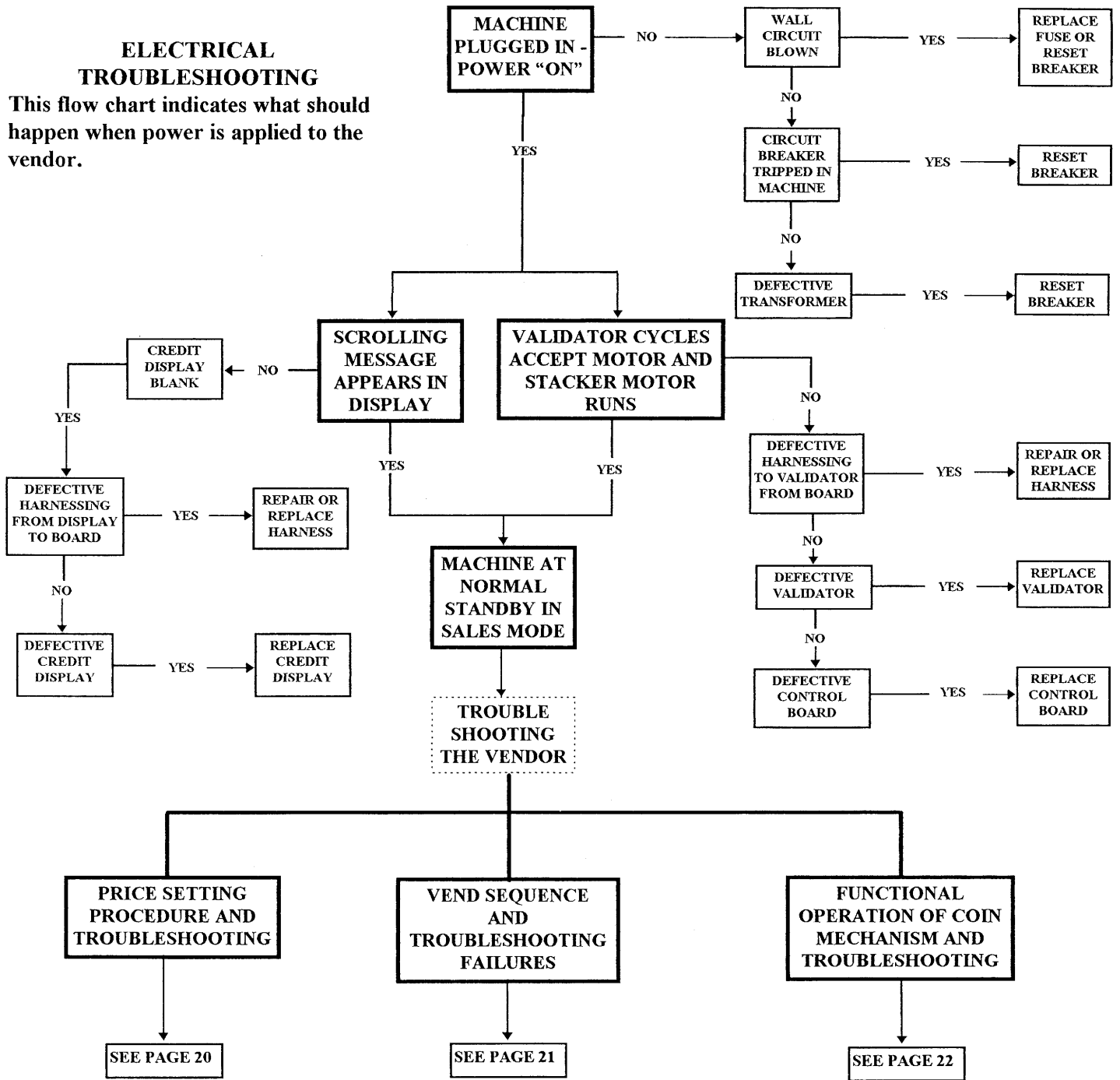
CARE & CLEANING:

Always disconnect the power source before cleaning. Do not get water or any moisture on electrical parts or any of the electronic components.

Wash with a mild detergent and water, rinse and dry thoroughly. Odors may be eliminated by including baking soda or ammonia in the cleaning solution. Wax occasionally with a quality car wax. Plastic exterior parts may be cleaned with a quality plastic cleaner.

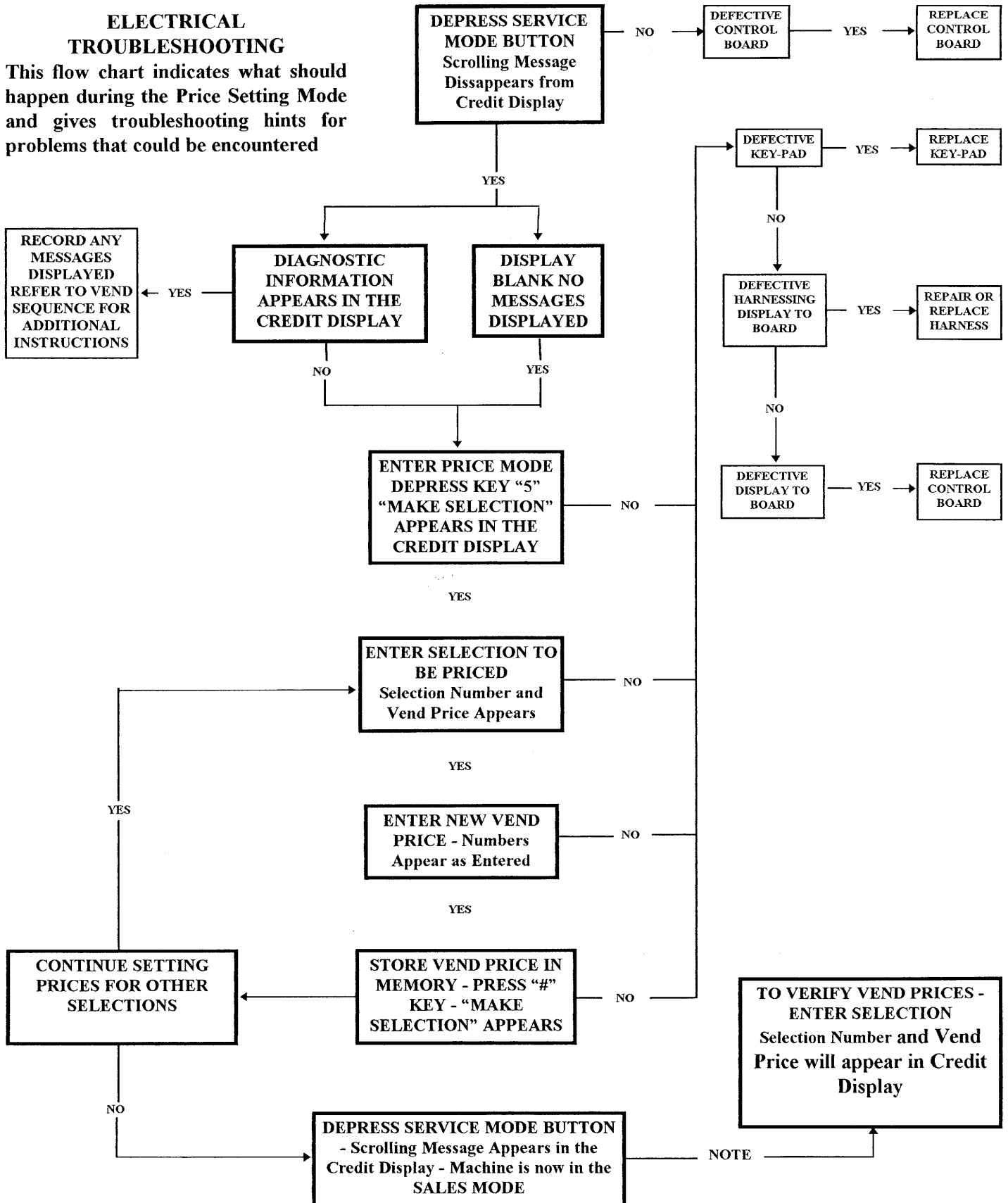
ELECTRICAL TROUBLESHOOTING

This flow chart indicates what should happen when power is applied to the vendor.



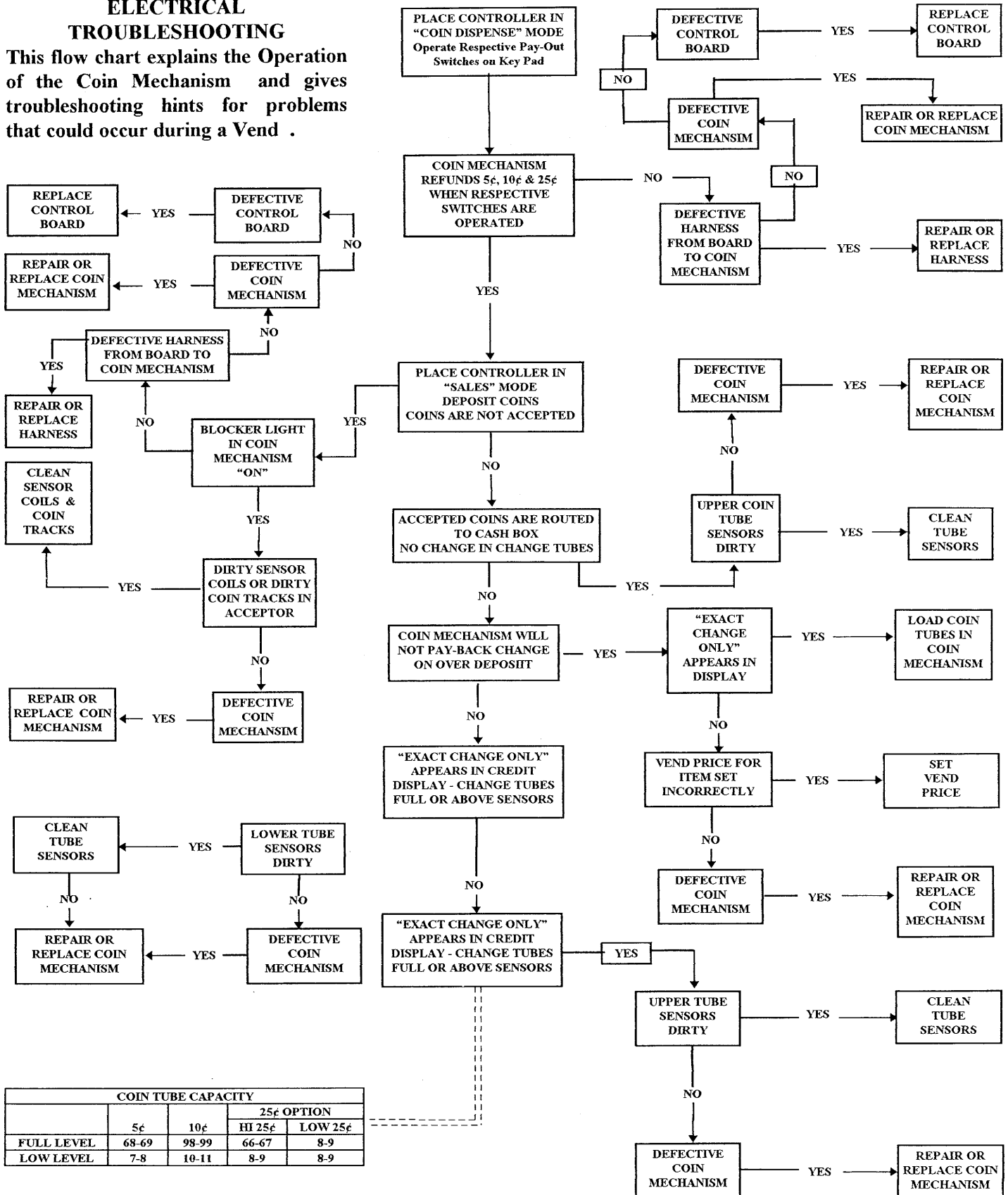
ELECTRICAL TROUBLESHOOTING

This flow chart indicates what should happen during the Price Setting Mode and gives troubleshooting hints for problems that could be encountered



ELECTRICAL TROUBLESHOOTING

This flow chart explains the Operation of the Coin Mechanism and gives troubleshooting hints for problems that could occur during a Vend .



COIN TUBE CAPACITY				
	5¢	10¢	25¢ OPTION	
			HI 25¢	LOW 25¢
FULL LEVEL	68-69	98-99	66-67	8-9
LOW LEVEL	7-8	10-11	8-9	8-9

