Vendo
SANDEN

Glass Front Snack Vendor
VS 411 and VSR 411

OPERATIONS MANUAL

08/2005

Contents

Glass Front Snack Vendor
VS 411 and VSR 411

SAFETY SECTION

A COMMITMENT TO SAFETY

SandenVendo America, Inc. is committed to safety in every aspect of our product design. SandenVendo America, Inc. is committed to alerting every user to the possible dangers involved in improper handling or maintenance of our equipment. The servicing of any electrical or mechanical device involves **potential hazards**, both to those servicing the equipment and to users of the equipment. These hazards can arise because of improper maintenance techniques. The purpose of this manual is to alert everyone servicing SandenVendo America, Inc. equipment of potentially hazardous areas, and to provide **basic safety guidelines** for proper maintenance.

This manual contains various **warnings** that should be carefully read to minimize the risk of personal injury to service personnel. This manual also contains service information to insure that proper methods are followed to avoid damaging the vendor or making it unsafe. It is also important to understand these **warnings** are not exhaustive. SandenVendo America, Inc. could not possibly know, evaluate, or advise of all of the conceivable ways in which service might be done. Nor can SandenVendo America, Inc. predict all of the possible hazardous results. The safety precautions outlined in this manual provide the basis for an effective safety program. Use these precautions, along with the service manual, when installing or servicing the vendor.

We strongly recommend a similar commitment to safety by every servicing organization. Only **properly-trained personnel should have access to the interior of the machine.** This will minimize the potential hazards that are inherent in electrical and mechanical devices. SandenVendo America, Inc. has no control over the machine once it leaves the premises. It is the owner or lessor's responsibility to maintain the vendor in a safe condition. See Section I of this manual for proper installation procedures and refer to the appropriate service manual for recommended maintenance procedures. If you have any questions, please contact the Technical Services Department of the SandenVendo America, Inc. office nearest you.

SAFETY RULES

- Read the Safety Manual before installation or service.
- Test for proper grounding before installing to reduce the risk of electrical shock and fire.
- Disconnect power cord from wall outlet before servicing or clearing product jams. The vending mechanism can trap and pinch hands.
- Use only fully-trained service technicians for Power- On servicing.
- Remove any product prior to moving a vendor.
- Use adequate equipment when moving a vendor.
- Always wear eye protection, and protect your hands, face, and body when working near the refrigeration system.
- Use only authorized replacement parts.
- Be aware of inherent dangers in rocking or tipping a vending machine.

SECTION I: VENDOR INSTALLATION

A. Vendors are large, bulky machines of significant size and weight. Improper handling can result in injury. When moving a vendor, carefully plan the route to be taken and the people and equipment required to accomplish the task safely.

B. Remove all tape, shipping sealant, and Styrofoam from the vendor. Loosen any shipping devices used to secure interior parts during shipping. Remove the wooden shipping base attached to the vendor base by the vendor leveling screws. Make certain the leveling screws are in place and functional.

C. Position the vendor 5.9 inches (15 cm) from a well-constructed wall (of a building or otherwise) on a flat, smooth surface.

***IMPORTANT**: The vendor requires 5.9 inches (15 cm) of air space from the wall to ensure proper air circulation to cool the refrigeration unit.*

D. Adjust the leveling screws to compensate for any irregularities on the floor surface. Ideally, no adjustment will be necessary and the leveling legs will be flush with the bottom of the vendor. A spirit level is a useful aid to level the vendor. When the outer door is open, it will remain stationary if the vendor is properly leveled. Vendors must be level to ensure proper operation and to maintain stability characteristics. Do not add legs to the vendor. **The leveling legs shall not raise the vendor more than 1 1/8 inch (2.5 cm) above the ground.**

E. Check the manufacturer's nameplate on the left or right side of the vendor's outer door to verify the main power supply requirements of the vendor. Be sure the main power supply matches the requirements of the vendor. To ensure safe operation, plug the vendor only into a properly grounded outlet.
DO NOT USE EXTENSION CORDS.

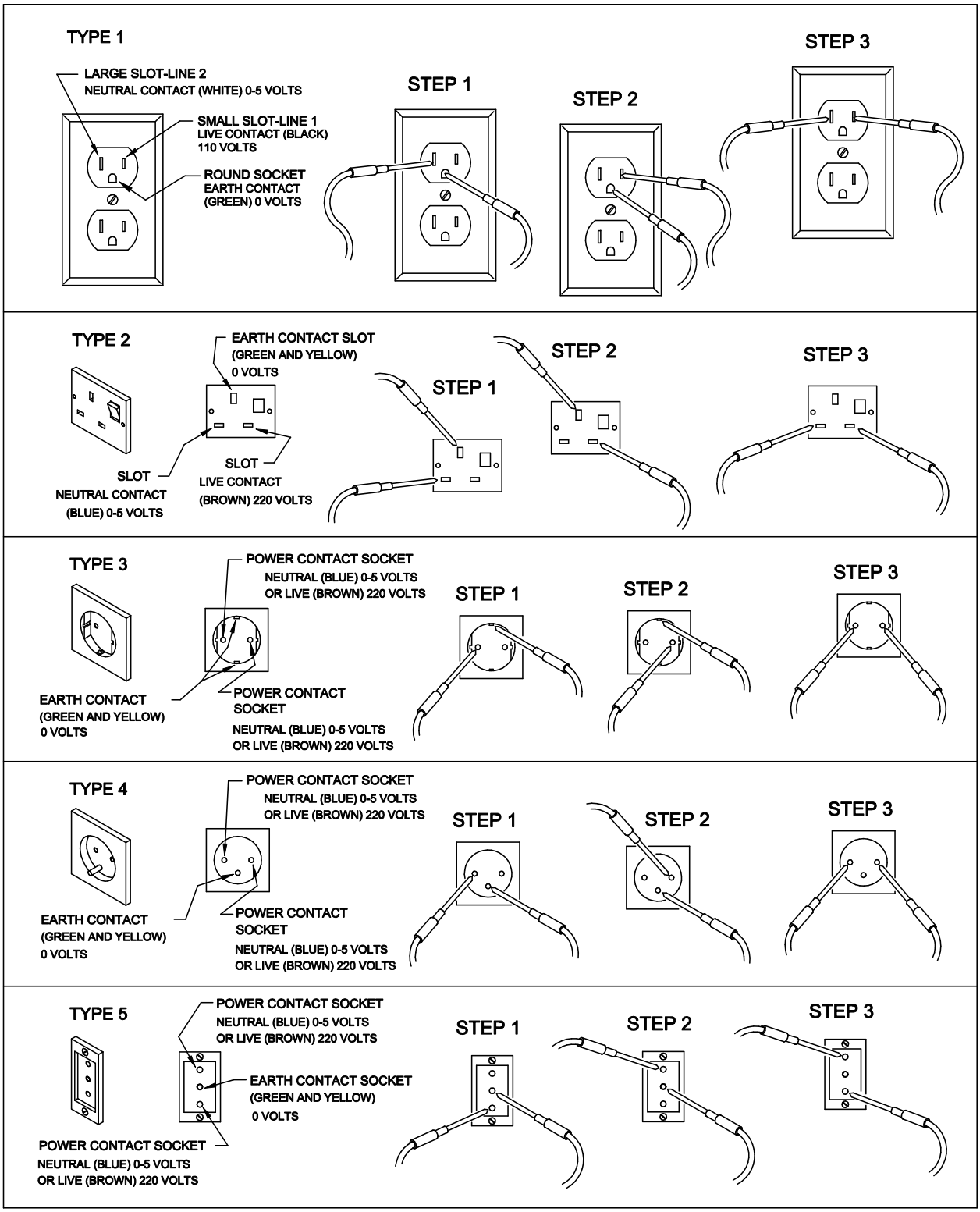
F. Recommended voltage specs = volts required + amps of circuit.

NOTE: Any power supply variance more than ± 10% may cause the vendor to malfunction.

* Power outlets must be properly **grounded**.

* Power outlets must be properly **polarized**, where applicable.

Test the outlets using the following information.
(Refer to Figure 1 on Page S-4.)


TYPE 1
LARGE SLOT-LINE 2
NEUTRAL CONTACT (WHITE) 0-5 VOLTS
SMALL SLOT-LINE 1
LIVE CONTACT (BLACK)
110 VOLTS
ROUND SOCKET
EARTH CONTACT
(GREEN) 0 VOLTS
STEP 1
STEP 2
STEP 3
TYPE 2
EARTH CONTACT SLOT
(GREEN AND YELLOW)
0 VOLTS
SLOT
NEUTRAL CONTACT
(BLUE) 0-5 VOLTS
SLOT
LIVE CONTACT
(BROWN) 220 VOLTS
STEP 1
STEP 2
STEP 3
TYPE 3
POWER CONTACT SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
EARTH CONTACT
(GREEN AND YELLOW)
0 VOLTS
POWER CONTACT
SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
STEP 1
STEP 2
STEP 3
TYPE 4
POWER CONTACT SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
EARTH CONTACT
(GREEN AND YELLOW)
0 VOLTS
POWER CONTACT
SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
STEP 1
STEP 2
STEP 3
TYPE 5
POWER CONTACT SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
EARTH CONTACT SOCKET
(GREEN AND YELLOW)
0 VOLTS
POWER CONTACT SOCKET
NEUTRAL (BLUE) 0-5 VOLTS
OR LIVE (BROWN) 220 VOLTS
STEP 1
STEP 2
STEP 3

SECTION I: VENDOR INSTALLATION (CONTINUED)

For Type 1 and Type 2 outlets, test for Grounding and Polarization as follows:

1. With a test device (volt meter or test light), connect one probe to the receptacle's neutral contact and the other to the live contact. The test device should show a reaction.

2. Connect one probe to the receptacle's earth contact and the other to the live contact. The test device should show a reaction.

For Type 3 through Type 5 outlets, test for Grounding as follows:

1. With a test device (volt meter or test light), determine which of the receptacle's power contacts is the live contact.

   A. Connect one probe to the receptacle's earth contact.

   B. Connect the second probe to the left (or upper) power contact. If a reaction occurs, this is the live power contact. If a reaction does not occur, move the second probe to the right (or lower) contact. A reaction should occur, indicating that this is the live power contact.

2. Connect one probe to the receptacle's live power contact (as determined in step 1). Connect the second probe to the other power contact (neutral). The test device should show a reaction.

IF THE ABOVE CONDITIONS ARE NOT MET FOR THE GIVEN OUTLET TYPE, CONTACT A LICENSED ELECTRICIAN AND HAVE THE NECESSARY CORRECTIONS MADE.

SECTION II: ELECTRICAL HAZARDS

GENERAL

SandenVendo America, Inc. vending machines are provided with the appropriate power supply setting for your area. Some models are equipped with step-down transformers, as required. This enables the vending machine to operate on different main voltages. Refer to Section I. E. for information to determine the main power requirements. Refer to the appropriate service manual for details of step-down transformer operations.

The power sources just mentioned are standard for both household and commercial lighting and appliances. However, careless or improper handling of electrical circuits can result in injury or death. Anyone installing, repairing, loading, opening, or otherwise servicing a vending machine should be alerted to this point. Apply all of the normal precautions observed in handling electrical circuits, such as:

- Refrigeration servicing to be performed by qualified personnel only.
- Unplug the vendor or move power switch to off position before servicing or clearing product jams.
- Replace electrical cords if there is any evidence of fraying or other damage.
- Keep all protective covers and ground wires in place.
- Plug equipment into outlets that are properly grounded and polarized (where applicable), and protected with fuses or circuit breakers.
- All electrical connections must be dry and free of moisture before applying power.

A. Grounding Systems

SandenVendo America, Inc. vending machines are provided with the appropriate service cord for the power supply in your area. The service cord will connect to the matching electrical outlet. Always ensure that the outlet to be used is properly grounded before plugging in the vendor. (See pages S-3 through S-5.)

WARNING

ALWAYS TEST TO VERIFY PROPER GROUNDING PRIOR TO INSTALLATION TO REDUCE THE RISK OF ELECTRICAL SHOCK AND FIRE

The electrical grounding system also includes the bonding of all metal components within the vendor. This involves a system of bonding wires identified by green or green and yellow marking. The system uses serrated head screws, lock washers, and star washers to ensure the electrical connection between parts. Maintenance of vending equipment may involve disassembly. Include the above items when reassembling, even if the vending machine may appear to function normally without them. Omitting any of these items can compromise a link in the grounding system. See the appropriate service manual or kit instructions for components and assembly instructions.

SECTION II: ELECTRICAL HAZARDS (CONTINUED)

B. Servicing with "Power Off"

For maximum safety, unplug the service cord from the wall outlet before opening the vendor door. This will remove power from the equipment and avoid electrical and mechanical hazards. Service personnel should remain aware of possible hazards from hot components even though electrical power is off. See the appropriate sections of this manual for further information.

C. Servicing with "Power On"

Some service situations may require access with the power on. Power on servicing should be performed **only by fully-qualified service technicians**. Particular caution is required in servicing assemblies that combine electrical power and mechanical movement. Sudden movement (to escape mechanical action) can result in contact with live circuits and vice versa. It is therefore doubly important to maintain maximum clearances from both moving parts and live circuits when servicing.

WARNING

"POWER ON" SERVICING SHOULD BE ACCOMPLISHED ONLY BY FULLY-TRAINED PERSONNEL. SUCH SERVICE BY UNQUALIFIED INDIVIDUALS CAN BE DANGEROUS.

Power to lighting and refrigeration system is shut off automatically by the electronic controller when the outer door is opened.

NOTE: For power-on servicing of the vendor's lighting system, turn lighting power on by accessing the Lights test function of the electronic controller (see programming on inner door).

For power-on servicing of the vendor's refrigeration system, turn refrigeration power on by accessing the Compressor test function of the electronic controller (see programming on inner door).

SECTION III: MECHANICAL HAZARDS

A. Servicing of Moving Parts and Assemblies

When servicing assemblies involving moving parts, **use extreme caution!!** Keep fingers, hands, loose clothing, hair, tools, or any foreign material clear of entrapment.

As noted before under the electrical hazards section, Power On servicing should **only** be performed by qualified personnel. Refer to and heed the warnings noted in the electrical hazards section. These warnings refer to the potential hazards associated with electrical power and moving parts. Always maintain maximum clearances from electrical and moving parts.

Always install protective covers and guards when reassembling equipment.

WARNING

THIS VENDING MACHINE INCLUDES MECHANICAL EQUIPMENT WHICH CAN BE HAZARDOUS IF IMPROPERLY HANDLED OR SERVICED. USE CAUTION AND CONSULT THE VENDO SAFETY MANUAL AND VENDO SERVICE MANUAL FOR ADDITIONAL SAFETY INFORMATION.

SECTION IV: REFRIGERATION HAZARDS

GENERAL

Refrigeration systems involve both electrical power and mechanical action. These systems may present any of the potential dangers shown in the sections on electrical and mechanical hazards contained in this manual. See Sections II and III for further information.

A. Compressed Refrigerant

Refrigeration systems involve the compression and evaporation of gases. The pressures contained represent a potential hazard if suddenly released in confined areas. Caution is required when performing maintenance tests or repairs. All testing of sealed refrigeration systems must be done by trained personnel who are familiar with the systems and pressures involved.

B. Physical Protection

The accidental release of refrigerant gases can result in physical injuries. Always wear protective glasses and protect your hands, face, and body when working near the refrigeration system.

WARNING

ALWAYS WEAR EYE PROTECTION AND PROTECT YOUR HANDS, FACE, AND BODY WHEN WORKING NEAR THE REFRIGERATION SYSTEM

SECTION V: TEMPERATURE HAZARDS

GENERAL

Maintenance personnel should be alerted to the potential hazards from hot metal surfaces. High temperatures may be present throughout the refrigeration system even though electrical power has been removed.

SECTION VI: SUBSTITUTIONS AND MODIFICATIONS

GENERAL

Unauthorized changes or the substitution of unauthorized parts can compromise the equipment designs. This can result in unsafe conditions for either the service personnel or the equipment users. Always refer to the appropriate parts and service manual for replacement parts and maintenance instructions. If questions arise, contact the Technical Services Department of the SandenVendo America, Inc. office in your area.

When servicing the vending machine, always reassemble all components to their original location and position. Maintain the correct routing for tubing, electrical wiring, etc.. Replace all clamps, brackets, and guides to their original locations. Replace all tubing, sleeving, insulating material, and protective covers to their original condition

⚠ WARNING ⚠

VENDO EQUIPMENT HAS BEEN PROVIDED WITH APPROPRIATE PROTECTIVE DEVICES TO PROTECT AGAINST THE POSSIBILITY OF OVERHEATING AND FIRE AS A RESULT OF EQUIPMENT OR COMPONENT FAILURES. SUBSTITUTION, MODIFICATION, OR BYPASSING OF SUCH PROTECTIVE DEVICES CAN CREATE DANGEROUS CONDITIONS. PROTECTIVE CIRCUITS SHOULD NEVER BE BYPASSED, AND FAILED PROTECTIVE DEVICES MUST BE REPLACED ONLY WITH FACTORY-AUTHORIZED PARTS.

A. Service Cord Replacement

SandenVendo America, Inc. vending machines are furnished with unique power supply cords. If replacement becomes necessary, consult the appropriate parts and service manual and order the correct replacement cord for the model of vending machine in question. Do not use substitute replacement cords. Only authorized service personnel with appropriate training should replace the vending machine service cord. If a question should arise concerning which service cord to order, contact the Technical Services Department of the SandenVendo America, Inc. office in your area.

SECTION VI: SUBSTITUTIONS AND MODIFICATIONS (CONTINUED)

WARNING

THIS APPLIANCE MUST BE EARTHED.
IMPORTANT!

The wires in the main leads are colored in accordance with the following code:

110v/120v	220v/240v	
Green	Green and Yellow	Earth
White	Blue	Neutral
Black	Brown	Live

SECTION VII: CONSUMER SAFETY WARNING

⚠ WARNING ⚠

VENDOR CAN BE OVERTURNED IF SUFFICIENT FORCE IS APPLIED AND MAY RESULT IN SERIOUS INJURY OR DEATH.

GENERAL

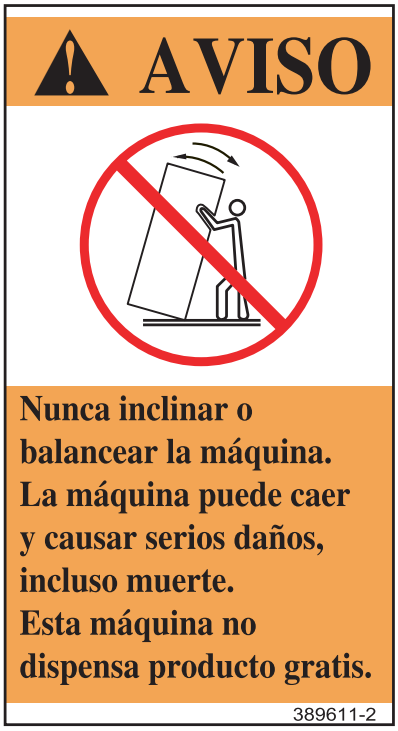
There have been incidents, including fatalities, when vending machines have been vandalized by being pulled over in an attempt to obtain free product or money.

To warn of the danger involved in tipping, shaking, or rocking the vending machine, a decal has been designed to be affixed to vending machines. (One such decal is applied on the vending machine.) SandenVendo America, Inc. will supply sufficient decals to be placed on all machines, on request. If you have any questions, contact the Technical Services Department of the SandenVendo America, Inc. office in your area.

THE FOLLOWING DECAL SHOULD BE PLACED IN A POSITION ON THE VENDOR CONTROL PANEL AT EYE LEVEL

ENGLISH

FRENCH



SPANISH

SECTION VIII: PARTS, SALES, & SERVICE CENTERS OF SANDEN COMPANY

AREA	ADDRESS	PHONE NUMBERS
United States, Canada	SandenVendo America, Inc. 10710 Sanden Drive Dallas, TX 75238-1335 U.S.A.	Tel: (800) 344-7216 ext. 3368 Fax: (800) 541-5684
Japan	Sanden International Corporation 31-7 Taito 1-Chome Taito-ku Tokyo 110, Japan	Tel: (81) 3-3835-1321 Fax: (81) 3-3833-7096
Europe, Mid-East Africa, Mid-Asia	Vendo GMBH Spangerstr. 22, P.O. Box 130940 40599 Dusseldorf Germany	Tel: (49) 211-74-039-0 Fax: (49) 211-7488541
Australia, New Zealand	Sanden International Pty. Ltd. 54 Allingham St., Condell Park N.S.W. 2200 Australia	Tel: 61-2-9791-0999 Fax: 61-2-9791-9029
Singapore, Hong Kong, Indonesia, Phillippines, India	Sanden International (Singapore) Pte., Ltd. Sanden House, 25, Ang Mo Kio St. 65 Singapore 569062 The Republic of Singapore	Tel: 65-482-5500 Fax: 65-482-1697
Taiwan	Sanden International Taiwan Corp. No, 21-6, Sec 1 Tun Hwa S. Rd., Taipei, Taiwan Taiwan, ROC	Tel: 886-2-570-6106 Fax: 886-2-577-1959
Belgium	N.V. Vendo Benelux, S.A. Industrial Research Park N.O.H. 13 Font St. Landry 1120 Brussels Belgium	Tel: 32-2-268-2595 Fax: 32-2-268-2862
England	Vendo UK Ltd. Vendo House Kingsclere Road Basingstoke, Hants RG21, 5GU Great Britain	Tel: 44-1256-479309 Fax: 44-1256-844469
Italy	Vendo Italy S.p.A. Casella Postale 9 1-15033 Casale Monferrato Italy	Tel: 39-142-335111 Fax: 39-142-5623-48
Spain	Vendo Iberia, S.A. C/ Sant Ferran No. 92 Poligono Industrial la Almeda, Sector P-1 08940 Cornella, (Barcelona), Spain	Tel: 343-474-1555 Fax: 343-474-1842

SECTION IX: PARTS, SALES, & SERVICE CENTERS OF SANDEN COMPANY FOR LATIN AMERICA

AREA	ADDRESS	PHONE NUMBERS
Mexico	Vendo de Mexico Camino Real de Toluca No. 154 Col. Bellavista 01140 Mexico D.F. Mexico	Tel: (525) 515-9745 Fax: (525) 277-0111
Central America	SandenVendo America, Inc. 10710 Sanden Drive Dallas, TX 75238-1335 U.S.A.	Tel: (800) 344-7216 ext. 3368 Fax: (800) 541-5684
Chile	Pelp Internacional, S.A. 4560 El Rosal Huechuraba, Santiago, Chile	Tel: (562) 243-9710 Fax: (562) 740-0504
Brazil	Cimaq Industria e Comercio de Maq, Ltda. Estrada Uniao e Industria, 9.120 Itaipava 25730-730 Petropolis Rio de Janeiro, Brazil	Tel: (55242) 22-2666 Fax: (55242) 22-3244
South America	SandenVendo America, Inc. 10710 Sanden Drive Dallas, TX 75238-1335 U.S.A.	Tel: (800) 344-7216 ext. 3368 Fax: (800) 541-5684

NOTES

Glass Front Snack Vendor
VS 411 and VSR 411

GENERAL INFORMATION SECTION

General information

1.0 Introduction

This service manual covers the VS411 and the VSR411 Snack Vending Machine.
This manual is designed to act as a reference for service technicians.
We recommend that you study this manual as there are many features and uses.
If you do not understand any part of this manual please contact The SandenVendo America, Inc. Technical Service Department at (800) 344-7216 ext 3368.

1.1 Machine specifications

Product Name	Glass Front Snack Vending Machine
Product Type	VS-411 & VSR-411
Location Environment	Inside only
Outside size inch (mm) (Length x Width x Depth)	72 x 37 x 28 (1830 x 940 x 720)
Weight lbs (kg)	Net weight 661.35 (300)
Adjustment scope for screw inch (mm)	.79 (20)
Voltage (v)	115 +10%/-15%
Frequency (Hz)	60
Nominal current (A)	VS-411 (0.6) & VSR-411 (8.5)
Product capacity	Followed by owner's needs (note: for normal product capacity, please see list below)
Refrigeration Temperature	Environment Temperature ≤ 104°F (40°C), Temperature Inside of machine ≤ 77°F (25°C)

Tray position (Black Color)	Product tray	# of Products per Chute	# of Products per Tray
A	4 product tray	8	32
B	4 product tray	10	40
C	8 product tray	10	80
D	8 product tray	12	96
E	8 product tray	14	112
F	8 product tray	18	144

1.2 Principle operation

When coins or bills are inserted, the identification system will identify the bills and coins; then the amount of money will appear in the LCD window. Press the key pad to choose the goods you want to purchase. Then machine will drive the selected products to the vend hopper. If there is still some change left, you can continue purchasing. If you don't want to purchase anything more, press the coin return button to get the change. If no other products are selected within a 30 second period, the change will be automatically returned.

1.3 Startup

1. Open the door of the machine, connect the power, and turn on the power switch.
2. Fill coin mechanism with change.
3. Fill all the products into the trays one by one (See 1.7 Filling Operation).
4. Install the price label (See 1.8 Price Label Layout).
5. Set up the machine control system as per the customers' requirements (See the Programing Section of the manual).
6. Lock the door of the vending machine. The vending machine is ready for use.

1.4 Purchase Product

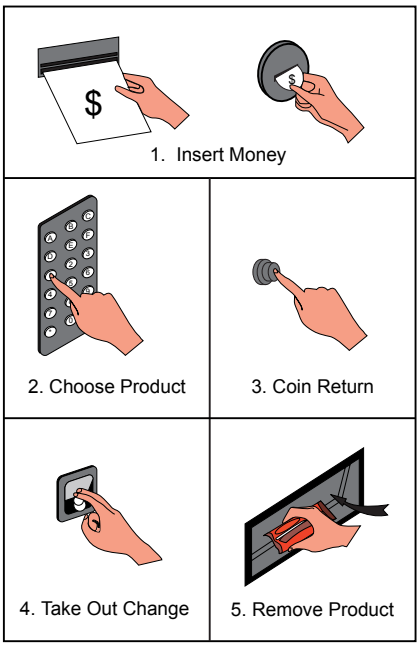


Diagram 1

1.5 Installation Requirements

1.5.1 Ensure the machine is level, and adjust the screws on the feet as below (diagram 2). A level machine will ensure that the door automatically stays in any position when it is open.

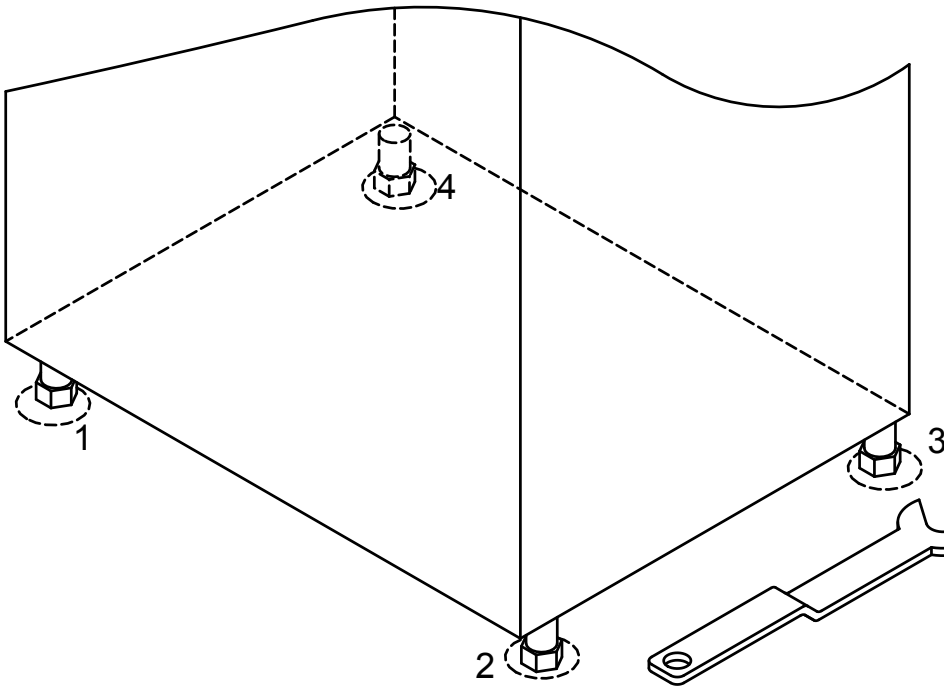


Diagram 2

1.5.2 Make sure the machine has enough space in the front and at the door axis side to let the door open enough.

1.5.3 The distance between the wall and the back of the vending machine should be more than 15cm (5.9 inches) to ensure a good air flow, otherwise the function of chiller will be affected and may not work properly.

1.5.4 Put the machine on flat and stable ground. Prevent water splash on the machine and avoid leakage that may harm people after raining. Keep away from heat source. Avoid direct sun light and put in a place where there is good air conditioning.

1.5.5 The power supply must be 115V/60Hz and the rated supply current should be more than 16A. The ground wire must connect with ground to prevent shock, and to prevent electromagnetic interference caused by static electricity. All wire connections must be made by a professional electrician.

1.6 Filling Operation

Open the door to the maximum position. Lift up the tray approximately 30mm (1.18 inch), and then pull it out to the stop position. There should be only one tray in the filling products position at a time. When pushing the tray back, it must be pushed back to the original position as shown in (diagram 3).

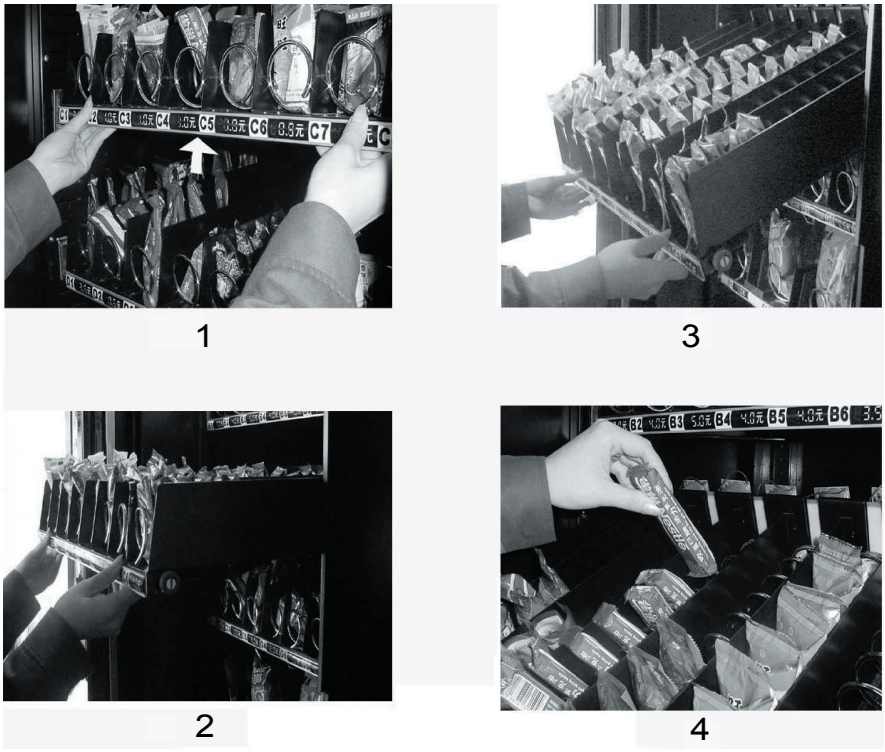


Diagram 3

When filling products, don't force them into the spiral. Products should be put in freely. If there is not enough space for it to move, it will get jammed, and the consumer won't

get the product. If you find the product does not fit loosely in the spriral, select a bigger spiral.
For plastic packaged products, we suggest folding the bottom of the product, before putting it into the tray in order to prevent product jamming as shown below (diagram 4).

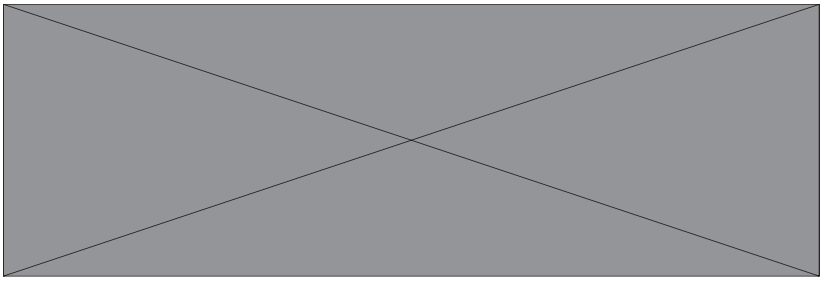


Diagram 4

When filling products, please try to put all products to lean in the same direction.
When filling products, please notice the height of the product to avoid jamming between two trays.

1.7 Price Label Layout
Put the price label into shelf strip insert as shown (diagram 5).

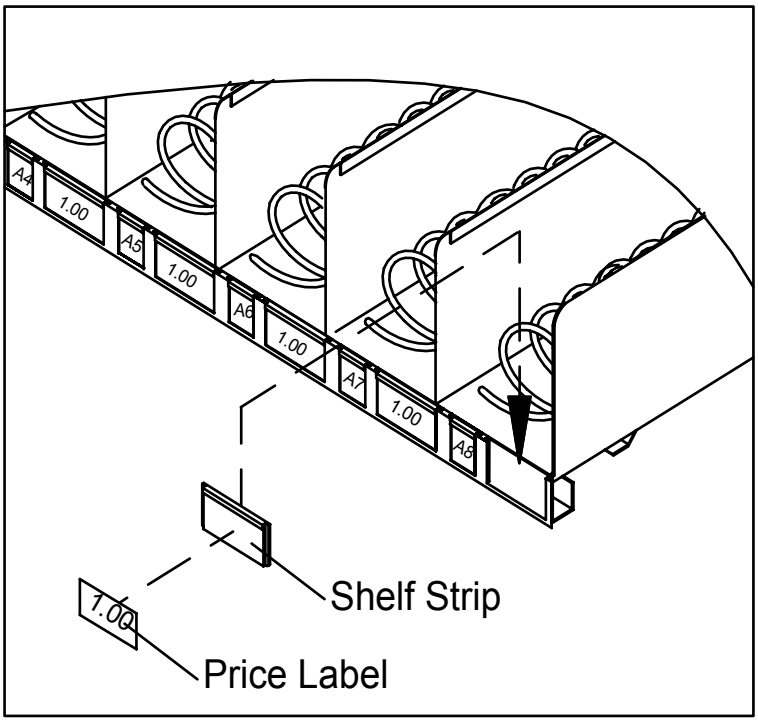


Diagram 5

1.8 Routine Maintenance

1.8.1 Use soft cloth dipped in detergent to clean the bill entry chute. This will help to prevent dust from affecting the bill identification mechanism.

1.8.2 Use soft cloth dipped in detergent to clean the coin entry chute. This will help to prevent coins from sticking on the chute affecting the normal working process.

1.8.3 Ensure the tray, vend hopper, and key pad are clean.

1.8.4 Once the power is connected, do not remove the plug, otherwise data will be lost and it will even damage other electric components.

1.8.5 Do not place goods around the evaporator in the cabinet, as this will affect the function of the chiller and cause problems.

1.8.6 Liquids are to be prohibited from contacting the electrical parts and the mechanism on the Bill Validator or Coin Mechanism.

1.8.7 Use soft cloth dipped in detergent to clean the glass and the surface of the machine.

1.9 Troubleshooting

Problem	Reasons	Solution
Does not accept bills	1. Changer out of change 2. Foreign material inside of Bill Validator 3. Money is incorrect 4. Plugs are loose 5. Bill Validator is damaged	1. Correctly fill up coins 2. Clean the Bill Validator 3. Use correct money 4. Reinstall the connector after turning off the power 5. Change to a new one
Does not accept coins	1. Change is incorrect 2. Indicator of Coin Mechanism (CM) is not working 3. Coin jam or dust in the CM 4. Jam on electromagnetic distribution brake 5. Indicator of CM is designating an error 6. Water got into CM 7. CM damaged	1. False coin can not be accepted, use correct currency 2. Check if the power and plug are loose 3. Open up the machine to clean CM 4. Use small tool to remove the jammed components 5. Check low level transducer, use Alpha to delete all the faults by adjusting 349 address to 1 6. Take out the CM ,use dryer to dry it 7. Change to a new one
Incorrect change given	1. Coins incorrectly filled 2. Control board didn't adjust into the correct position for returning change 3. Coin return pole of CM got jam 4. The address of the CM is not correct 5. Label price and setting price are not matched 6. CM is damaged 7. Coin return mechanism is in the wrong position	1. After resetting, fill coins correctly 2. Adjust into the correct change status otherwise no change will return or less change will return. 3. Check the part that got jammed. Check the reposition status of each coin return pole, (press button MODE twice, each pole returns to front automatically) 4. Adjust each position or change 5. Reset price carefully to match 6. Change to a new one 7. Check and correct the coin return mechanism position
Correct change given, but no product was given	1. Spiral jamming 2. Spiral didn't return to the same position 3. Mistakingly chose the empty chute 4. Incorrect product filling	1. Cleanup and reposition it to let the motor turn one cycle 2. Take out the spiral to adjust it to the original position 3. Adjust the price of empty chute to "0" or the highest price or fill the chute 4. Choose correct products for the spiral. If the dimension of the products is smaller than 2/3 of the spiral diameter, they will cause a jam

Products in the chute, but does not sell	1. The price of product is higher than the inserted money 2. Vend motor failure	1. Continue to insert money until it is enough or more than the product price 2. Test motor by swapping motor connection with another motor. If that motor works, replace the defective motor.
Refrigeration Compressor has no refrigerating effect	1. Air flow hatch got jammed 2. The position of thermostat is not correct 3. Low on refrigerant	1. Clean it up, position the rear of the machine 15cm (5.9 inch) from the wall. 2. Adjust the controller into the right position 3. Find professional refrigeration maintenance person to replace or add refrigerant.
The door can not be locked	1. The machine is not leveled. 2. The distance between Lock and Lock socket is long.	1. Level the machine, adjust the screw under the lock one pitch lower than other three screws 2. Loosen the door lock mounting nut, adjusting it up and down until you can close the door easily
Products continue to go out	1. Selling products mechanism has problems	1. Check the motor position switch whether it works normally, if it works normally, then it is the control board's problem, change to a new one.

NOTES

Glass Front Snack Vendor
VS 411 and VSR 411

PROGRAMMING SECTION

Control Board Programming

1.0 Overview

The Vending Machine Controller (VMC) fitted to the 411VS & 411VSR is known as the MCB560. This is similar in design and operation to the unit fitted to the MARS SERIES 2000 BRANDED VENDOR (MDB board interface).

A maximum of 60 selections are made via a matrixed keypad ("A" – "F", "1" – "9", "*", "0", "#"), where a product selection is made by pressing one letter and one numeric key.

A	B	C
D	E	F
1	2	3
4	5	6
7	8	9
*	0	#

The VMC may be programmed using one of the following methods

1) Manual programming is performed with the door open using the mode switch (located on the VMC) and the selection switches.
2) Automated programming is performed by uploading configuration and/or price information from the DEX/UCS hard wired interface.

1.1 Programming Guide

All programming is performed using the selection keypad. The board provides two interface modes - sales and service. Sales mode is accesed by pressing and holding the door switch for 5 seconds when the door is open. The service mode is accessed by pressing the mode switch on the VMC (the door must remain open while in service mode). Once in service mode the "#" key is used to scroll through the service modes. The available service modes are listed below.

1.1.1 Sales Mode

Once in Sales Mode, total sales per machine, per shelf, or per spiral can be viewed.

1.1.2 Service Mode

In Servie Mode, press the number key to scroll through each mode as indicated below. For an overview of the Service Mode, see page P-17.

1.1.3 Setup/tube Ctl
1.1.4 Set Price
1.1.5 Machine Test
1.1.6 Mis/history/errors Display
1.1.7 Entry Code/password

Additionally, Engineer service modes are accessible by entering the correct 4 digit password. The additional service modes are listed below.

1.1.8 Space To Sales (Sts) Programming
1.1.9 Display Programming
1.1.10 Machine Resets
1.1.11 Set Time Functions
1.1.12 Set Mis Access
1.1.13 Motor Pairing

The default password is “3142”.
Appendix 1 lists all VMC parameters, and their default settings.

1.1.3 Setup/tube Ctl (Service Mode 1)

This mode is first accessed when the VMC mode switch is pressed.

This service mode is used to perform the following actions:

- Configure the machine
- Dispense coins
- Select the type of coin mech used
- Display the coin tube inventory
- Setup the overpay feature
- Set/clear the vend detector present flag

Each of these options is set by repeated presses of the same button.

Button	Option
A	Cash Handling
B	Change Handling
D, E, 1, 2	Coin dispense (MDB only)
7	Coin tube inventory display
8	Single/multi price
*	Set overpay value
0	Vend detect sensor fitted

BUTTON “A”, CASH HANDLING

Pressing button "A" will display the present mode of cash handling. Repeated presses of the button scrolls through the different types of cash handling.

CASH HANDLING	DESCRIPTION
Force Vend	No escrow return unless a selected product is sold out.
Force Bill/Coin	If a bill is stacked or a non tubed coin is accepted, then a selection must be made.
Change Machine	Bills are always stacked. Escrow Return always returns the credit.
Neutral	Except that the first bill is held in escrow, the mode is the same as “Change Machine”
No Change	Change is never paid out. The machine operates with a bill acceptor only or with a tubeless coin mech.

BUTTON “B”, CHANGE HANDLING

Pressing button "B" will display the present mode of Change Handling (Multi/Normal Vend). Continued presses of the button, toggles between the different types of change handling.

CHANGE HANDLING MODE	DESCRIPTION
Normal Vend	Change is paid out after the VMC detects the delivery of product (if the Vend Detect beam is used) or after the motor leaves home (no Vend Detection used)
Multivend	If the remaining credit (after a vend) is >= to the minimum Vend price, the credit will not automatically be returned at the end of the vend. A customer can add additional credit, buy another product, or retrieve the credit. The credit is automaticly returned after 20 seconds.

BUTTONS “D”, “E”, “1”, and “2”, COIN DISPENSE

The VMC recognises the selections "D", "E", "1", and "2" as dispense switches for a 3 or 4 tube MDB coin mech.

SWITCH	DESCRIPTION
D	Dispenses coins from the tube associated with the 1st/lowest value coin
E	Dispenses coins from the tube associated with the 2nd coin
1	Dispenses coins from the tube associated with the 3rd coin
2	Dispenses coins from the tube associated with the 4tht/highest value tubed coin

If the tube inventory mode is activated (via button "7"), these switches are still active.
If an Executive mech is used, then these switches have no function.

BUTTON “7”, COIN TUBE INVENTORY DISPLAY

Pressing button "7" will cause the display to show the last known value of the coin mech tube inventory ("Inv xxx.xx"). Depositing coins will increase the value and dispensing coins will decrease the value. This status is only available with MDB coin mechs (when an Executive mech is attached, the display will show "Inv 000.00").

BUTTON "8", SINGLE/MULTI PRICE SELECTION

Pressing button "8" will display the present configuration of the machine (single vs.multi price). Continued presses of the button toggles between the two different modes.

DISPLAYED MODE	DESCRIPTION
Single Price	All items are sold at the price assigned to selection A1. Note, the prices of the other selections A2 – F0 are not cleared or reset to the price of selection A1.
Multi Price	All items are sold at the prices specified for each selection.

BUTTON “*”, INC/DEC THE OVERPAY VALUE

When button "*" is first pressed, the machine will display: Overpay xx.xx
Where xx.xx is the max overpay amount. While the above message is displayed, pressing and holding selection switch "*" will increase the amount of overpay. Pressing and holding the switch a second time will decrease the amount.

BUTTON "0", VEND DETECT IS PRESENT

Pressing the button "0" will display the present configuration of the machine (Vend Detect Present, Yes vs. No). Continued presses of the button toggles between the two different modes.

DISPLAYED MODE	DESCRIPTION
Vend Detect Yes	The Vend Detect hardware is present in the machine.
Vend Detect No	The Vend Detect hardware is not present in the machine.

The standard machine does not have vend detect technology fitted.

1.1.4 Set Price (Service Mode 2)

Pressing the "#" button once while in the service mode accesses this function. The display will show "Set Price". There are two options within this service mode, Viewing Prices or Setting Prices.
Viewing Prices
When the display shows "Set Price", the pressing of an alpha button ("A"-"F"), sets the VMC into price viewing mode. The display will show

View A_ XXX.XX (Assuming "A" was pressed)
View A1 XX.XX (Assuming "1" was pressed)

Where XX.XX is the price currently set.

Setting Prices

If the display is showing “**Set Price**", or "**View XX.XX**", the pressing of a numeric button ("0"-"9") sets the VMC into price setting mode. The display will show

Set __ 000.0x (Where x is the numeric pressed)

The pressing of numeric buttons will introduce numbers to the right hand side, and the existing numbers will be shifted left. When the required price is displayed the pressing of an alpha button will freeze the price. The alpha character is interpreted as the first key in the spiral identification (e.g. "A1"). If the price is set to 60p and "A" pressed the display will show

Set A_ 0.60

Pressing a numeric key will assign this price to a selection. The price is confirmed by pressing the “#” key and the machine then goes to the next service mode. If the "*" button is pressed, this assigns the price to the entire shelf (e.g. Set C* 0.50, will assign a price of 0.50 to all selections on tray C).

If another selection button sequence (e.g. "A3", "B4", "F7") is entered, the VMC will assign the displayed price to that selection.

If a numeric button is pressed when the VMC is expecting an alpha key, the VMC will assume that the price is being changed, and allow numeric values to be entered.

If two alpha buttons are pressed (e.g. AA), the VMC will return to View mode.

Notes on Prices

The maximum price available is 65000 times the scaling factor when using MDB interface. When using the Exec interface the maximum price is 250 base units. When in PRICE HOLDING/PRICE DISPLAY mode, the range of price lines is 1 to 10.

When neither a coin mech or debit card reader is present prices can only be set in increments of 0.05. When either a coin mech and/or debit card reader is present, prices can be set in increments of the lowest scaling factor.

If a price is entered that is NOT an increment of the lowest scaling factor the VMC will round down the price. Pre-configured (Reset) price is 650.00. If you accidently press an incorrect number when setting the price, continue pressing the “0” key until the digit spaces can be reset by you to the correct price.

1.1.5 Machine Test (Service Mode 3).

It is possible to test a range of machine functions. Some require additional hardware to be used. The functions that can be tested are

Vend Motors
Vend Detector
Keypad Buttons
Touch Interface
DEX Interface

Pressing the "#" button twice while in the service mode accesses this function. The display will show "Machine Test". The button functions are as follows:

A – Test Motor, increment letter	B – Test Motor, increment number
D – Test Motor, run motor	E – Activate Beam Test
1 – Activate Switch Test	2 – Activate Touch Test
4 – Activate DEX Test	5 – N/A
7 – Motor Scan Start/Continue	8 – Motor Scan Skip/Continue
* - Stop Test	0 – Stop Test

Test Vend Motor

While in Machine Test mode, pressing buttons "A", "B" or "D" will display "Test Motor A1", and the machine will enter the test motor mode. Button "A" is used to increment the alpha character, and button "B" increments the numerical value. Pressing button "D" runs the motor.

When button "D" is pressed the VMC will attempt to run the selected motor. The possible messages during the motor test are:

A1 Running Indicates the motor is running

A1 Low Current Indicates the motor failed due to low current

A1 High Current Indicates that a high level of current was detected

A1 Stuck Home Indicates that the motor never left home

A1 Time Out Indicates that the motor did not return to home

A1 Motor Ok Indicates the motor completed the test vend successfully

The motor test mode is exited by hitting the mode switch or buttons "*" or "0".

Test Vend Detect.

This has not been implemented on the initial machine production. The information below is therefore only a proposed implementation.

Pressing the "E" will display "Vend Detect Test". A second press of "E" activates the vend detect test. While the test mode is active the display will show "Beam Ok"

when the detector is in steady state, and then will display "Beam Error" if the detector is disturbed.

The Vend Detect test mode is exited by hitting the mode switch or buttons "*" or "0".

Keypad Test

While the machine is in test mode, pressing button "1" will display "Switch Test". A second press of "1" activates the test. While the mode is active, the display will show any button which is pressed. Exiting the test occurs if no button is pressed for 30 seconds.

DEX/UCS Test

While the machine is in test mode, pressing "4" will display "DEX/UCS Test". Pressing "4" a second time activates the DEX/UCS test mode. While the mode is active, the VMC transmits a test pattern to the DEX/UCS port. This test message is verified by connecting a loop back cable from the DEX/UCS port to the Exec port. Possible messages during the test are:

DEX/UCS Test Message when "4" is pressed for the first time

Insert Loop Back Message when VMC is waiting for the loop back to be connected

DEX/UCS Test Passed Message when test passes

DEX/UCS Test Failed Message when test fails

The DEX/UCS test mode is exited by hitting the mode switch or buttons "*" or "0".

Motor Scan Test

While the machine is in test mode, pressing "7" will display "Motor Scan Test". Pressing "7" a second time activates the Motor Scan test. The VMC will then run each motor in turn and confirms the motors return to the home position. The VMC will attempt to run all motors. If a motor fault is detected, the test will stop and the bad motor identified and the problem displayed. Pressing "7" will retest the faulty motor, and pressing "8" will resume the test on the next motor. Possible messages during the Motor Scan test are

A1 Running Indicates the motor is running

A1 Low Current Indicates the motor failed due to low current

A1 High Current Indicates that a high level of current was detected

A1 Stuck Home Indicates that the motor never left home

A1 Time Out Indicates that the motor did not return to home

A1 Motor Ok Indicates the motor completed the test vend successfully

The motor scan test mode is exited by hitting the mode switch or buttons "*" or "0".

1.1.6 Displaying Mis/error Information (Service Mode 4)

The Display MIS/Error/History Mode is entered when the "#" button is pressed three times. Upon entering the mode, the display will show "MIS Display". The selection button actions are :

(A) Dec thru Reset. MIS	(B) Inc thru Reset. MIS
(D) Dec thru Hist. MIS	(E) Inc thru Hist. MIS
(1) Dec thru Event log	(2) Inc thru Event log
(4) Dec thru Error log	(5) Inc thru Error log
(7) Cycles thru Reset type	(8) Displays time/Performs Reset
(*) n/a	(0) n/a

MIS DISPLAY

Buttons "A", "B", "D", and "E" are used to view the MIS information. The MIS information is reported in the DEX/UCS format. The DEX/UCS codes are described in appendix C.

EVENT HISTORY DISPLAY

Buttons "1" and "2" are used to view the Door History, and Exact Change history. Button "8" is used to display the time/date when the event occurred (the time/date is displayed until another button is pressed). Door History can not be reset; the display shows the last 2 occurrences of the door being opened. The "Sold Out" and "Exact Change" events can be reset. If there have not been any events since the last reset, "None" will be displayed.

Note, that the door has to be closed for 30 seconds before an additional event is logged. The Sold Out feature only applies to those machines fitted with a vend detector and 'Hot Buttons'.

Door history is displayed as:

Door Opened Last When the door was last opened.

Door Opened Prev When the door was previously opened.

The Exact Change information is displayed as:

Exact Change Det Indicates that the machine was in the Exact Change State

When button "8" is pressed, the time and date is displayed as:

hh:mm dd/mm/yy dd

Where hh:mm is the time when the event occurred.

Where dd/mm/yy is the date when the event occurred.

Where dd is the duration in hours, for Exact Change.

Pressing button "8" again, takes you back to the event message.

ERROR LOG DISPLAY

Buttons "4" and "5" are used to view the error log. Button "8" is used to display the time/date when the event occurred (the time/date is displayed until another button depression). The error log can store 20 events (the last event to occur is the 1st displayed). If the log is empty (due to a reset), "No Errors" is displayed.

The possible error messages are:

Coin Mech	When an MDB coin mech has reported an error
Bill Acceptor	When an MDB bill acc. has reported an error
Card Reader	When an MDB reader has reported an error
Selection x	When selection button "x" (A – F, 1 – 0, *) is bad (e.g. button is closed for > 30 sec)
Motor xx	When motor "xx" (A1 – F8) has gone bad (ran OK during motor scan, but failed during a vend.)
Door Opened	When the door has been left opened > 60min
Touch	When there's a problem with Touch
DEX	When there's a problem with DEX
Fraud Detect	When a fraud attempt has been detected (e.g. reported by a card reader, etc.)
Chute Fraud	When a fraud at the chute has been detected

Bill Fraud When a bill acceptor fraud has been detected (e.g. bill pull)
Battery When the RAM is corrupted due to the battery
SW Mismatch When the SW rev's mismatch (uP and Flash)

When button "8" is pressed, the time date is displayed as:

hh:mm dd/mm/yy

Where hh:mm is the time.
Where dd/mm/yy is the date when the event occurred.
Pressing button "8" again, takes you back to the event message.

RESETTING THE MIS/HISTORY/ERROR LOGS

Button "7"cycles through the different types of resets:

Reset MIS Resets Interval/Resetable fields
Reset Event Log Resets the Event History log
Reset Error Log Resets the Error log

Button "8" performs the reset (the switch must be held for 2 seconds).
Note that errors are not auto cleared from the log (e.g. if an error associated with button "4" has been posted, it will not automatically be removed when button "4" is repaired).

1.1.7 Entry Code/password (Service Mode 5)

The Entry Code Mode is entered when the "#" button is pressed four times. Upon entering the Entry Code Mode, the display will show "Entry Code".
In order to enter the STS Programming mode or the modes above (modes 7 – 13), an entry code must be keyed in. If the correct entry code is not keyed in, then a press of the mode switch (or "#" button) will cause the system to enter normal operation mode. The entry code is entered by pressing selection buttons "3", "1", "4", and "2", in sequence, followed by a press of the "#" button in order to proceed to the Space to Sales Programming mode.
Once the correct entry code has been keyed in, it will not need to be keyed in again unless the door is closed or a five minute service time out has occurred.

1.1.8 Space To Sales (STS) For The Hot Buttons (Service Mode 6)

The STS programming mode is entered when the door is opened and the "#" button is depressed five times. Upon entering the mode, the display will show "STS Programming". The STS for the 3 Hot buttons can be viewed, cleared, and modified (motors can be both added and removed).
Note: This feature has not been implemented in the current version of this machine.
Therefore no functionality has been implemented.

1.1.9 Display Programming (Service Mode 7)

The Display Programming Mode is entered when the "#" button is pressed six times. Upon entering the mode, the display will show "Display Setup".
The selection button actions are:

(A) Selects English or Alt Lang	(B) Set to English
(D) Dec thru Msg List	(E) Inc thru Msg List
(1) Moves cursor left	(2) Moves cursor right
(4) Dec value at cursor pos.	(5) Inc value at cursor pos.
(7) Insert space	(8) Delete char at cursor
(*) Selects Display Config	(0) Selects options for Config

Button "A" selects between the standard English messages and the alternate (programmable/loadable) messages. The standard English messages can not be modified, only the alternate language messages can be changed. Note that the alternate messages are loaded via DEX.

Button "B" copies the English messages into the alternate message area. Note, that this button must be pressed twice (at least 1 second apart, but not more than 5 seconds apart).

Buttons "D", "E", "1", "2", "4", "5", "7" and "8" are used to change the alternate messages.

Buttons "*" and "0" are used to control the information displayed to the user. Button "*" cycles through 5 different parameters, while button "0" cycles through the options associated with the parameters. The parameters and their options are below:

Append Time to the User Message
Display Time No/12H/24H (no, 12 or 24 hour format)
Append the Block Time to the User Message
Blocker Time No/12H/24H (no, 12 or 24 hour format)
Append Discount Message to the User Message
Discount Yes/No
Display Exact Change State (Append message, etc.)
Exact Chg No/Some/Full
Append Reason to the Out of Order Message
Err Codes Yes/No
Beep for Each Key Depression
Beep Key Yes/No

After a machine reset, the default settings are:

Display Time No
Blocker Time 24H
Discount Yes
Exact Chg Some
Err Codes Yes
Beep Key Yes

1.1.10 Machine Resets (Service Mode 8)

The VMC allows 3 types of Machine Resets (in addition to the MIS interval reset, the error log reset, and the history event log reset).

Configuration Reset
Total Machine Reset
MIS Historical Reset

The Machine Reset mode is entered when the "#" button is pressed seven times.
Upon entering the mode, the display will show "Machine Reset".
The button functions are given below:

(A) N/A	(B) N/A
(D) Moves to Previous Menu	(E) Moves to the Next Menu
(1) N/A	(2) N/A
(4) Decrements the Value	(5) Increments the Value
(7) Executes Reset	(8) Executes Reset
(*) N/A	(0) N/A

CONFIGURATION RESET

Once the display shows "Machine Resets", pressing selection button "E" will move control to the next menu level, where the machine will display:

Config Reset N

Pressing selection button "4" or "5" will change the "N" to a "Y". Once the display shows:

Config Reset Y

Pressing buttons "7" or "8" will cause the machine's configuration to be reset to the default values.

TOTAL MACHINE RESET

Once the display shows "Machine Resets", pressing selection button "E" (move to the next menu) twice or button "D" (move to the previous menu) twice, will move control to the menu level, where the machine will display:

Total Reset N

Pressing selection buttons "4" or "5" will change the "N" to a "Y". Once the display shows:

Total Reset Y

Pressing buttons "7" or "8" will cause a total machine reset. The following items will be reset:

Credit
Machine's configuration
MIS – Resetable data
MIS – Historical data
Error Logs
History Logs
Messages (Language will be set to English)

The following items will NOT be reset:

VMC's serial umber (CB101)
VMC's model number (CB102)

It is recommended, that a "Total Machine Reset" be performed, whenever a board is installed into a machine, or when there is a major software upgrade.

MIS HISTORICAL RESET

Once the display shows "Machine Resets", pressing selection button "E" (move to the next menu) 3 times or button "D" (move to the previous menu) once, will move control to the menu level, where the machine will display:

MIS Hist Reset N

Pressing selection button "4" or "5" will change the "N" to a "Y". Once the display shows:

MIS Mis Reset Y

Pressing buttons "7" or "8" will cause the Historical MIS information to be reset.

1.1.11 Set Time Functions (Service Mode 9)

The Time Function programming mode is entered when the "#" button is pressed nine times. Upon entering the mode, the display will show "Time Programming". In this mode, the operator can:

Set the Machine's Time (3 screens/lines used for set-up)
Set the Discount (9 screens/lines used for set-up)
Set Blocker 0 - 9 (8 screens/lines used for set-up)

ACCESSING THE DIFFERENT SCREENS & FIELDS

The VMC's time related settings are configured via 12 Top menus/lines and 92 sub menus/lines.
The top menus/lines are accessed by buttons "A" and "B".
The sub menus/lines are accessed by using buttons "D" and "E".
Once the desired menu/line is being displayed, buttons "1" and "2" are used to move the cursor to the desired position. Once the cursor is at the desired location, selection buttons "7" and "8" are used to change the setting.

Note that at any time (while in the Time Programming mode), buttons "*" & "0" can be used to restore the previous configuration.
The button functions are given below:

(A) Move to Previous Top Menu	(B) Move to Next Top Menu
(D) Moves to Previous Sub Menu	(E) Moves to the Next Sub Menu
(1) Moves the Cursor Left	(2) Moves the Cursor Right
(4) Decrements the Value	(5) Increments the Value
(7) N/A	(8) N/A
(*) Restore	(0) Restore

SETTING THE SELECTIONS TO WHICH THE TIME FUNCTIONS APPLY
(The following sections apply to the set-up of both the Discount and Blocker Menu's)
The method for entering the selections that are effected by the Blocker and Discount, is described below.
Through 3 different screens/lines, each of the selections can be:

Viewed & Unassigned
Cleared (all selections can be cleared with one action)
Assigned

Examples of each screen/line are shown below:

B1 View Sel A3 A5 Provides the capability to view the selections assigned to Blocker 1 (shown to be A3, A5).

B2 Clear Sel N Provides the capability to clear all of the selections assigned to Blocker 2 (The "N" must first be changed to "Y").

D1 Assign Sel N Provides the capability to assign selections to Discount 1 (The "N" must first be changed to "Y").

The following 3 pages describe "Viewing", "Clearing" and "Assigning" selections in more detail.

VIEWING THE ASSIGNED SELECTIONS
Using the "D" and "E" keys, the screens/lines associated with viewing the assigned selections can be displayed.

D1 View Sel xnyn
B0 View Sel xnyn
.....
B9 View Sel xnyn

Where D1 is for the Discount, B0 is for Blocker 0, and B9 is for Blocker 9.
The "xn" and "yn" is the beginning of the list of selections that are assigned to the associated feature. If no selections are assigned, then nothing will be displayed in the last four fields of the display. The cursor is under the 1st entry in the list (e.g. A5B2).

Using the "1" and "2" buttons, the cursor can be moved through the whole list (assuming the list is greater than 2 selections).

Note: the cursor can not be moved beyond the beginning or the end of the list. As an example, pressing "2" twice, could cause the display to show:

B1 View Sel A1A2 Assuming A1, A2, B1, B2, are assigned to Blocker 1.
B1 View Sel A2B1 After the "2" key is pressed once.
B1 View Sel B1B2 After the "2" key is pressed twice.

While the cursor is under a particular selection, that selection can be deleted from the list by using the “4” or “5” buttons. Pressing either button a second time will reinstate the selection. Once a selection is deleted and the cursor is moved, the selection can not be reinstated. Below is an example of deleting a selection.

B1 View Sel B1B2 Assuming B1, B2 are assigned to Blocker 1
B1 View Sel __B2 After the "5" button is pressed
B1 View Sel B1B2 After the "5" button is pressed again
B1 View Sel B2 After the "2" button is pressed
B1 View Sel __ After the "5" button is pressed
B1 View Sel B1 After the "1" button is pressed

(The "B2" selection can not longer be reinstated)

CLEARING ALL THE ASSIGNED SELECTIONS

Using the "D" and "E" buttons, the screens/lines associated with clearing all of the assigned selections can be displayed.

D1 Clear Sel N
B0 Clear Sel N
.....
B9 Clear Sel N

Where D1 is for the Discount, B0 is for Blocker 0, and B9 is for Blocker 9.
The "N" in the above lines, can be changed to a "Y" via buttons "4" or "5". If buttons "7" or "8" are pressed while there’s a "Y", all selections assigned to a feature will be cleared.

B1 Clear Sel Y Hitting keys "7" or "8" will clear all assigned selections

ASSIGNING THE SELECTIONS

Using the "D" and "E" buttons, the screens/lines associated with assigning selections can be displayed.

D1 Assign Sel N
B0 Assign Sel N
.....
B9 Assign Sel N

Where D1 is for the Discount, B0 is for Blocker 0, and B9 is for Blocker 9.
The "N" in the above lines, can be changed to a "Y" via buttons "4" or "5". If keys "7" or "8" are pressed while there’s a "Y", the VMC will enter the mode where selections are assigned to a feature. To exit this mode, an alpha button (i.e. A, B, C, D, E, or F) must be pressed twice.
The following example shows the information displayed as selections are assigned to Blocker 1:

B1 Assign Sel Y Hitting keys "7" or "8" will enter the mode where selections are assigned.
B1 Assign Sel __ Displayed after the "7" or "8" is hit.
B1 Assign Sel A3 Displayed after the selection "A3" is entered.
B1 Assign Sel B3 Displayed after the selection "B3" is entered.
B1 Assign Sel C* Displayed after "C*" is entered (Causes all selections on shelf "C" to be assigned).
B1 Assign Sel N Displayed after an alpha key is hit twice (e.g. "AA").

SET TIME

When the display shows "Set Date/Time", pressing selection button "E", moves control to the screen used for setting the machine’s date:

Date dd/mm/yy

Using buttons "1" and "2", the cursor can be moved between the day, month, and year fields. While in a field, buttons "4" and "5" can be used to change the value. Pressing selection button "E" again, moves control to the screen used for setting the machine’s time:

Time hh:mm

Using buttons "1" and "2", the cursor can be moved between the hour and minute fields. While in a field, buttons "4" and "5" can be used to change the value. **Note that the 24-hour clock is used here.**
With the display showing the time, pressing button "E" again, moves control to the screen used for setting the type of Daylight Saving Time:

DST Europe

Using buttons "4" and "5", the value/type can be set to:

None
N. America
Europe
Australia

SET DISCOUNT

With the display showing "Set Date/Time" (or while the machine is in a sub menu of Set Date/Time), hitting button "B" moves control to the screens used for setting the parameters associated with the Discount. ("Set Discounts" is displayed).

When the display shows "Set Discounts", hitting button "E", moves control to the 1st screen used for setting up the machine's discount feature. Repeatedly hitting button "E" takes the operator through all of the screens listed below:

D1 Active Y	"Y" indicates that the feature is enabled. "N" is disabled
D1 Amount xxx.xx	Indicates the amount of the discount.
D1 Start hh:mm	Indicates the time when the discount is active (hh:mm) .
D1 Start mtwtfss	Indicates the day(s) when the discount is active, (UPPER CASE indicates that the discount will be turned on for that day).
D1 Stop hh:mm	Indicates the time when the discount is deactivated (hh:mm).
D1 Stop mtwtfss	Indicates the day(s) when the discount is deactivated (UPPER CASE) indicates that the discount will be turned off for that day).

The following 3 items are discussed in more detail in section 'Assigning the Selections'

D1 Clear Sel N	If the "N" is changed to "Y", and keys "7" or "8" are hit, all selections will be cleared.
D1 Assign Sel N	Provides the capability to assign selections (the "N" must be changed to "Y", and keys "7 or "8" must 1st be pressed). Use "AA" to exit.

In the above screens/lines (and also in the blocker section that follows), the cursor can be moved between the different fields using buttons "1" and "2" (e.g. between hour and minute, or between the days of the week). Once in the field, the values can be changed via buttons "4" and "5" ("Y" to "N" : xxx.xx = 000.00 - 650.00 : hh = 00 – 23 : mm = 00 – 59 : m = "m' or "M" : t = "t" or "T", etc).

SET BLOCKER 0 - 9

With the display showing "Set Discounts" (or while the machine is in a sub menu of Set Discounts), hitting button "B" again, moves control to the screens used for setting the parameters associated with Blocker 0 ("Set Blocker 0" is displayed).

When the display shows "Set Blocker 0", hitting button "E", moves control to the 1st screen used for setting up the machine's Blocker 0 feature. Repeatedly hitting button "E" takes the operator through all of the screens listed below:

B0 Active Y	"Y" indicates that the feature is enabled. "N" is disabled
B0 Start hh:mm	Indicates the time when the blocker is active (hh:mm)
B0 Start mtwtfss	Indicates the day(s) when the blocker is active (UPPER CASE) indicates that the blocker will be turned on for that day).
B0 Stop hh:mm	Indicates the time when the blocker is deactivated (hh:mm).
B0 Stop mtwtfss	Indicates the day(s) when the blocker is deactivated (UPPER CASE) indicates that the blocker will be turned off for that day).
B0 View Sel xnyn	Provides the capability to view the assigned selections, and to unassign individual selections.
B0 Clear Sel N	If the "N" is changed to "Y", and buttons "7" or "8" are hit, all selections will be cleared.
B0 Assign Sel N	Provides the capability to assign selections (the "N" must be changed to "Y", and buttons "7" or "8" must 1st be pressed). Use "AA" to exit.

With the display showing "Set Blocker 0" (or while the machine is in a sub menu of Set Blocker 0), hitting button "B" again, moves control to the screens used for setting the parameters associated with Blocker 1. ("Set Blocker 1" is displayed). Repeatedly hitting switch "B" takes the machine through all of the Blockers (0 – 9). For whatever Blocker is selected (0 – 9), hitting button "E", moves control to the 1st screen used for setting up the Blocker.

1.1.12 Set Mis Access (Service Mode 10)

The "Set MIS Access" programming mode is entered when the door is opened and the "#" button is pressed ten times. Upon entering the mode, the display will show "Set MIS Access".

In this mode, the operator can:

Restrict access to the Optics communications
Restrict access to the Door Closed DEX comm.
Restrict access to the Door Closed MIS display
Change the Optics password
Change the password for the Door Closed MIS retrieval

Note that at any time (while in the this programming mode), buttons "*" & "0" can be used to restore the previous configuration.

The button functions are given below:

(A) Controls Optics Access	(B) Ind. if Optics req's a password
(D) Controls DEX Access	(E) En. Door Closed MIS access
(1) Used to enter password	(2) Used to enter password
(4) Used to enter password	(5) N/A
(7) N/A	(8) N/A
(*)Assoc'd w/Optic's password	(0) Assoc'd w/MIS password

LIMITING ACCESS FOR THE DEX COMM (W/DOOR CLOSED)

With the display showing "Set MIS Access", pressing button "D" will move control to the mode where the access to the DEX communication (with the door closed), is set. The first time button "D" is pressed, the display will show the present setting; additional presses will change the setting to one of the other options.

DEX Audit Only Indicates that MIS audit info can be retrieved from the VMC, but the VMC can not be configured via DEX.

DEX Audit/Config Indicates that the MIS audit info can be retrieved from the VMC, plus the VMC can be configured via DEX.

DEX Disabled Indicates that the DEX comm (when the door is closed) is disabled.

LIMITING ACCESS FOR MIS DISPLAY (W/DOOR CLOSED)

With the display showing "Set MIS Access", pressing button "E" will move control to the mode where the access to the MIS information (via the display - with the door closed), is set. The first time button "E" is pressed, the display will show the present setting; additional presses will change the setting to one of the other options.

Closed Dr MIS Y Indicates that MIS audit info can be retrieved from the VMC.

Closed Dr MIS N Indicates that the MIS audit info can not be displayed when the door is closed.

ENTERING THE PASSWORD FOR DOOR CLOSED MIS DISPLAY

With the display showing "Set MIS Access", pressing button "0" will move control to the mode where the Data Retrieval password (required to display the MIS information when the door is closed), is displayed and changed. The first time button "0" is pressed, the display will show the present password (e.g. the default is "4132"). An additional press will put the machine into the mode for changing the password. While in this mode, buttons "1" – "4" are used to enter the new password (e.g. button "1" is used to enter a "1", etc.), while all other switches exit the mode.

CD Password 2314 Indicates the present password.
CD Password _ _ _ _ Indicates that the next 4 button presses, will be used as the new password. As the keys are entered, they are displayed

1.1.13 Set Motor Pairing (MODE 11)

The "Set Motor Pairing" programming mode is entered when the door is opened and the "#" button is pressed eleven times. Upon entering the mode, the display will show "Set Mtr Pairing". Motor pairing is used when extremely large items need to be vended. On the initial release of machines this functionality is not supported. In this mode, the operator can:

Add motors to the pairing list
Remove motors from the pairing list

Note that at any time (while in the this programming mode), switch "0" can be used to restore the previous configuration.
The button functions are given below:

(A) N/A	(B) N/A
(D) Moves to Previous Screen	(E) Moves to the Next Screen
(1) Moves the Cursor Left	(2) Moves the Cursor Right
(4) Decrements the Value	(5) Increments the Value
(7) Executes Clears, etc.	(8) Executes Clears, etc.
(*) Wild Card	(0) Restore

Note that when pairing two motors (e.g. A3 and A4 – only adjacent motors can be paired), only the odd motor is referenced (e.g. "A3") - the even motor is assumed. As an example: if "A3" is specified as being paired, then it is assumed that it is being paired with "A4".
VIEWING THE ASSIGNED SELECTIONS
Using the "D" and "E" buttons, the screen/line associated with viewing the paired motors can be displayed.

Paired Mtr xnyn

The "xn" and "yn" is the beginning of the list of paired motors. If no motors are paired, then nothing will be displayed in the last four fields of the display. The cursor is under the 1st entry in the list (e.g. A5B1).
Using the "1" and "2" buttons, the cursor can be moved through the whole list (assuming the list is greater than 2 selections). Note, the cursor can not be moved beyond the beginning or the end of the list. As an example, hitting the "2" twice, could cause the display to show:

Paired Mtr A1A3 Assuming A1/A2, A3/A4, B1/B2, are paired
Paired Mtr A3B1 After the "2" key is hit once
Paired Mtr B1B3 After the "2" key is hit twice

While the cursor is under a particular motor, that motor can be deleted from the list by using the "4" or "5" buttons. Hitting either button a second time will restore the selection. Once a motor is deleted from the list and the cursor is moved, the motor can not be restated. Below is an example of removing a motor from the pairing list.

Paired Mtr B1B3 Assuming B1/ B2, B3/B4 are paired
Paired Mtr __B3 After the "5" key is hit
Paired Mtr B1B3 After the "5" key is hit again
Paired Mtr B3 After the "2" key is hit
Paired Mtr __ After the "5" key is hit
Paired Mtr B1 After the "1" key is hit (the "B2" motor can not longer be restated)

CLEARING ALL THE ASSIGNED SELECTIONS

Using buttons "D" and "E", the screen/line associated with clearing all pairing, can be displayed.

Clear Pairing N

The "N" in the above lines, can be changed to a "Y" via buttons "4" or "5". If buttons "7" or "8" are hit while there's a "Y", all pairings will be cleared.

Clear Pairing Y Hitting buttons "7" or "8" will clear all assigned selections

ASSIGNING THE SELECTIONS

Using buttons "D" and "E", the screen/line associated with pairing motors, can be displayed.

Assign Pairs N

The "N" in the above lines, can be changed to a "Y" via buttons "4" or "5". If buttons "7" or "8" are hit while there's a "Y", the VMC will enter the mode where motors are paired. To exit this mode, an alpha button must be pressed twice. The following example shows the information displayed as motors are paired:

Assign Pairs Y Hitting buttons "7" or "8" will enter the mode where motors are paired.
Assign Pairs __ Displayed after the "7" or "8" is hit
Assign Pairs A3 Displayed after the selection "A3" is entered (pairs A3 & A4)
Assign Pairs B3 Displayed after the selection "B3" is entered (pairs B3 & B4)
Assign Pairs C* Displayed after "C*" is entered (causes all selections on shelf "C" to be paired).
Assign Pairs N Displayed after an alpha button is hit twice (e.g. "AA"). While entering pairs, the even buttons (e.g. 2, 4, ...) are disabled.

1.2 Internal Diagnostics

During power up, the VMC performs a Check Sum on the flash. If the check sum is incorrect, the display will go blank and all operation will be stopped (i.e. the uP will not jump into the flash code space).

SALES MODE OVERVIEW:

Programming Guide - Sales Mode			
Activate Sales mode by pressing door switch and holding for 5 seconds			
Mode	Set With	Display	Comments
#1 Total Sales	~	TOT SALES ####	Displays total machine sales
	A	A* ###	Displays total sales for shelf A
	B	B* ###	Displays total sales for shelf B
	C	C* ###	Displays total sales for shelf C
	D	D* ###	Displays total sales for shelf D
	E	E* ###	Displays total sales for shelf E
	F	F* ###	Displays total sales for shelf F
	1	(A-F)1 ###	Displays total sales for SPIRAL (A-F)1
	2	(A-F)2 ###	Displays total sales for SPIRAL (A-F)2
	3	(A-F)3 ###	Displays total sales for SPIRAL (A-F)3
	4	(A-F)4 ###	Displays total sales for SPIRAL (A-F)4
	5	(A-F)5 ###	Displays total sales for SPIRAL (A-F)5
	6	(A-F)6 ###	Displays total sales for SPIRAL (A-F)6
	7	(A-F)7 ###	Displays total sales for SPIRAL (A-F)7
	8	(A-F)8 ###	Displays total sales for SPIRAL (A-F)8
	0	Coin Mech	No effect

SERVICE MODE OVERVIEW:

Programming Guide - Service Mode
Activate programming mode with mode switch on control board. Toggle between modes using the '#' key

Mode	Set With	Sub Mode
#1 Setup/Tube Ctl	A	Cash Handling
	B	Change Handling
	D	Coin Dispense - Lowest tube
	E	Coin Dispense - 2nd tube
	1	Coin Dispense - 3rd tube
	2	Coin Dispense - 4th tube
	7	Coin Tube Inventory Display
	8	Single/Multi Price Setting
	*	Set Overpay Value
	0	Vend Detect Sensor Fitted
#2 Set Price	A-F	Press Letter & Number
		To Show Price of Selection
	0-9	Press numbers to enter price
	A-F,1-9	Press Selection to set price
#3 Machine Test	A	Motor Test, Letter Increment
	B	Motor Test, Number Increment
	D	Motor Test, Run
	E	Beam Test (not yet implemented)
	1	Key Test (Press '1' to activate)
	2	Touch Test
	4	DEX Test
	5	Exec/IRDA Test
	7	Motor Scan Test
	8	Motor Scan Skip/Continue
#4 MIS/History/ Error Display	A	Decrement thru Reset
	B	Increment thru Reset
	D	Decrement thru Hist
	E	Increment thru Hist
	1	Decrement thru Event Log
	2	Increment thru Event Log
	4	Decrement thru Error Log
	5	Increment thru Error Log
	7	Cycles thru Reset type
	8	Displays time/Performs Reset
#5 Entry Code/Password		Key in password
Enables access to programming modes 6-12		
#6 Space to Sales Programming		Not Implemented

Mode	Set With	Sub mode
#7 Display Programming	A	Selects English or Alt Language
	B	Copies English to Alt Language
	D	Decrement thru Message List
	E	Increment thru Message List
	1	Move Cursor Left
	2	Move Cursor Right
	4	Decrement Value at Cursor
	5	Increment Value at Cursor
	7	Insert Space
	8	Delete Character
	*	Selects Display Configuration
	0	Select Options for Configuration
#8 Machine Resets	D	Move to Previous Menu
	E	Move to Next Menu
	1	Decrement Value
	2	Increment Value
	7,8	Executes Reset
#9 Set Time Functions	A	Move to Previous Top Menu
	B	Move to Next Top Menu
	D	Move to Previous Sub Menu
	E	Move to Next Sub Menu
	1	Move Cursor Left
	2	Move Cursor Right
	4	Decrement Value
	5	Increment Value
	*,2	Restore
#10 Set MIS Access	A	Controls Optics Access
	B	Indicate Optics Password
	D	DEX Access
	E	Enable Door Closed Access
	1,2,4	Use to enter Password
	*	Associated with Optics Password
	0	Associated with MIS Password
#11 Motor Pairing	D	Previous Screen
	E	Next Screen
	1	Move Cursor Left
	2	Move Cursor Right
	4	Decrement Value
	5	Increment Value
	7,8	Executes Clears, Etc
	*	Wild Card
	0	Restore

NOTES

Glass Front Snack Vendor
VS 411 and VSR 411

FAULT FINDING SECTION

Fault Finding

Problem	Possible Solution
No power	• Check supply connection • Check that IEC power connector is connected to front of power box • Check fuses on power box
Keypad not working	• Check keypad harness connections
No coins accepted	• Check message on coin mechanism • Ensure coin mechanism connected to only one interface (MDB or EXEC)
Poor vend reliability	• Check spiral size is correct • Check end of spiral position is correct • Are products being loaded correctly? • Use spacer boards and product pushers to improve reliability
All prices are the same	• Check multi-price/single-price setting • Check all prices are set correctly
No change paid	• Check that sufficient coins are in coin mechanism
“Use Exact Change” message showing with sufficient change in coin mechanism	• Check that all the prices are set correctly, including those not used (ie, spiral A5 to A8, B5 to B8, C5 to C8)
Larger value coins not accepted when low on change	• Check that the overpay value is set correctly.
Door not closing properly	• Check that the floor is level, and that the feet are adjusted correctly.

NOTES

NOTES

Glass Front Snack Vendor
VS 411 and VSR 411

MAINTENANCE SECTION

Maintenance

It is important to ensure that the chiller vents are cleaned whenever a service engineer visits a machine. This function is easily performed by removing the front chiller cover panel inside the machine, and cleaning the floor vent and chiller grill.

1.0 Chiller removal

The chiller is a self enclosed unit which can be easily removed and exchanged. To remove the chiller:

1. Disconnect machine from power supply (either disconnect mains plug or internal IEC power connector).
2. Disconnect IEC chiller connector from power box.
3. Remove the 4 screws retaining the chiller cover panel, and remove panel.
4. Loosen screws on left and right side chiller retaining brackets. The brackets can then be lifted and removed.
5. The chiller unit can now be slid forward and removed from the machine.
6. Re-fitting of the chiller is the reverse of this process.

NOTE : The chiller unit is heavy and precautions must be taken when lifting or moving the unit.

1.1 Power box removal

The Power Box contains the following electrical components. Lighting Ballast, Mains Filter, Transformer, Interlock Switch, Mains and Chiller IEC Sockets, Fuses.

To Remove the Power Box

1. Disconnect both IEC power cables from the front of the Power Box.
2. Remove the four retaining screws fron the Power Box.
3. The Power Box should be slid forward using the handle and removed from the machine. Two harnesses at the rear of the Power Box need to be diconnected to remove the Power Box entirely from the machine.
4. Re-fitting the Power Box is the reverse of this process. Take care to avoid trapping the two internal harnesses when inserting the Power Box into the machine.

1.2 Tray removal

To remove the tray, first disconnect the relevant tray power cable from the connection panel to the right of the trays. The cable should be pulled through and placed on top of the tray. Pull the tray towards you as performed when loading the tray. At the trays maximum position lift the front edge of the tray to 45 degrees above horizontal and pull the tray towards you. As it comes forward be careful to support the back of the tray.

NOTE: Trays can be heavy and you are advised to first remove all products from the spirals.

1.3 Lock Change/replacement

It is possible to replace the barrel lock for most standard lock types. To do this simply unlock the door, pull the T-handle to its furthest extent and use a tool to release the lock pip from the T-handle (on the outside of the T-handle barrel). To replace the T-handle assembly, remove the nuts from the inside of the door.

1.4 Control board replacement

The control board is held in place with 4 PCB mounting posts. All the harneses which connect to the board are unique and keyed to ease identification. Please see the Electrical Wiring Diagram for further guidance.

1.5 Motor Replacement

All motors are identical and can be used in any spiral (with the exception of the double product spiral motor which vends every 180 degrees). To replace a motor, first remove the tray as described previously. Disconnect the motor harness at the rear of the motor. The motor assembly and spiral can be lifted from the tray. The spiral mounting clip can be removed from the motor housing by compressing the clips at the rear

and pushing the mounting clip forward through the motor housing. When replacing the spiral ensure that the end of the spiral is in the appropriate position for the product being vended.

1.6 Vend Hopper Replacement

The vend hopper and vend flap is a single unit which can be replaced. To remove the hopper.

1. Open machine main door.
2. Remove the 2 screws at each end of the hopper which attach the hopper bracket to the door (total of 4 screws to remove).
3. The hopper will now lift away from the door.
4. Replacing the vend hopper is the reverse of this process.
5. To adjust the vend flap height/alignment loosen the bolts at each end of the hopper which support the hopper deflectors. The hopper deflectors and vend flap can then be raised or lowered independently of the hopper itself.

NOTES

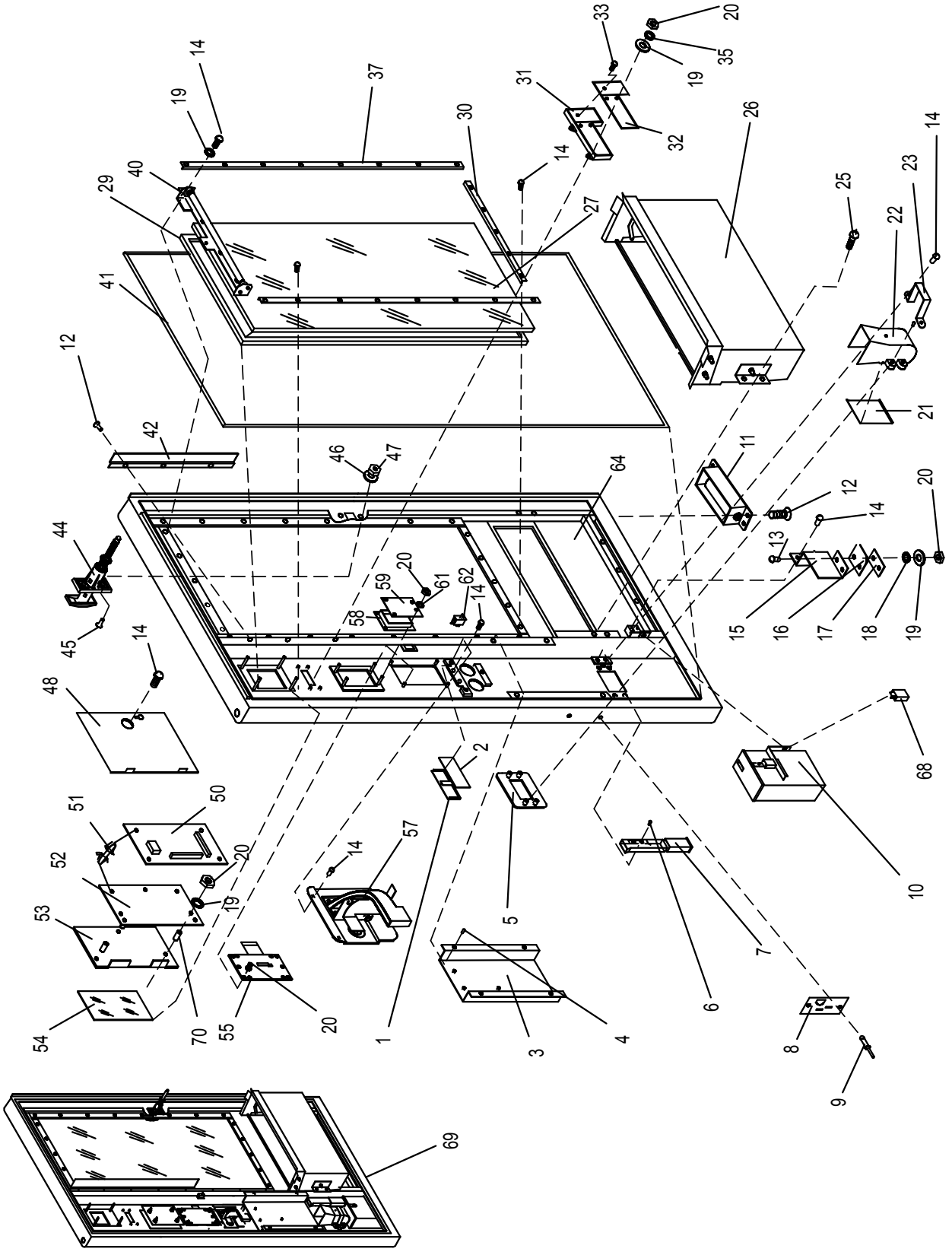
APPENDIX A - CONFIGURABLE SETTINGS AND DEFAULTS

PARAMETER	SUB PARAMETER	SET VIA	POSSIBLE SETTING	DEFAULT
Cash Handling		Mode 2, SW A	= Force Vend or Force Bill/Coin or Change Machine or Neutral or No Change Machine	Force Bill/Coin
Change Handling		Mode 2, SW B	= Norm Vend or Multivend	Norm Vend
Mech Type		Mode 2, SW 5	= Executive or Price Holding	Executive
Single/Multi Price		Mode 2, SW 8	= Single Price or Multi Price	Multi Price
Overpay Amount		Mode 2, SW *	= 0.00 - 650.00	0.00
Vend Detect Present		Mode 2, SW 0	= No or Yes	No
Prices	Selection A1 Selection A2 … Selection F8	Mode 3, SW A - F, 1 - 0, * SW A1, A2, …F7, F8	Sel A1 = 0.00 - 650.00 Sel A2 = 0.00 - 650.00 … Sel F8 = 0.00 - 650.00	Sel A1 = 650.00 Sel A2 = 650.00 … Sel F8 = 650.00
Space to Sales	Hot Sel 1 Hot Sel 2 Hot Sel 3	Mode 7, Hot Buttons SW A - F, 1 - 0, * SW A1, A2, …F7, F8	Hot Sel 1 = 0, 1, to 60 motors Hot Sel 2 = 0, 1, to 60 motors Hot Sel 3 = 0, 1, to 60 motors	Hot Sel 1 = assigned to none Hot Sel 2 = assigned to none Hot Sel 3 = assigned to none
Messages	At Lang Select	Mode 8, SW A	= English or Alternate Language	English
	Copy English Msg to Alt Msg Space	Mode 8, SW B, SW B	N/A	The Alt Msg = English
	Change Alt Msg	Mode 8, SW D, E selects the message SW 1, 2 ,4, 5, 7, 8 changes the message	Msg 2 = a - a, A - Z …. Msg 220 = a - z, A - Z	Enjoy one of our find Snacks!
	Append Block Time to User Msg	Mode 8, SW *, 0	= No or Time (12) or Time (24)	Time (24)
	Append Time to User Msg	Mode 8, SW *, 0	= None or Time (12) or Time (24)	None
	Display Fault for Out of Order	Mode 8, SW *, 0	= Yes or No	Yes
	Display Exact Change State	Mode 8, SW *, 0	= No or Some or Full	Some (ind Exact Change if there's almost 100% need for exact change
	Append Discount Msg to the User Msg	Mode 8, SW *, 0	= Yes or No	Yes
	Beep for Each Keystroke	Mode 8, SW *, 0	= Yes or No	Yes
Time	Time	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59	00:00
	Date	Mode 11, SW A - F, 1 - 9, 0, *	1/1/00 - 31/12/99	1/1/00
	Daylight Savings	Mode 11, SW A - F, 1 - 9, 0, *	= None or N. Amer or Euro (Europe) or Aust (Australia)	Euro

Blocker	Enabled	Mode 11, SW A - F, 1 - 9, 0, *	= Yes or No	No
	On Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 MTWTFSS (all days)
	Off Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 mtwtfss (no days)
	Selection A1 Selection A2 … Selection F0	Mode 11, SW A - F, 1 - 9, 0, * SW A1, A2, …F7, F8	Sel A1 Effected = Y/N Sel A2 Effected = Y/N … Sel F8 Effected = Y/N	Sel A1 Effected = Y Sel A2 Effected = Y … Sel F8 Effected = Y
Blocker 1 - 9	Enabled	Mode 11, SW A - F, 1 - 9, 0, *	= Yes or No	No
	On Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 MTWTFSS (all days)
	Off Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 mtwtfss (no days)
	Selection A1 Selection A2 … Selection F0	Mode 11, SW A - F, 1 - 9, 0, * SW A1, A2, …F7, F8	Sel A1 Effected = Y/N Sel A2 Effected = Y/N … Sel F8 Effected = Y/N	Sel A1 Effected = Y Sel A2 Effected = Y … Sel F8 Effected = Y
Discount	Enabled	Mode 11, SW A - F, 1 - 9, 0, *	= Yes or No	No
	Amount	Mode 11, SW A - F, 1 - 9, 0, *	0.00 - 650.00	650.0
	On Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 MTWTFSS (all days)
	Off Time/Day	Mode 11, SW A - F, 1 - 9, 0, *	00:00 - 23:59 mtwtfss - MTWTFSS	00:00 mtwtfss (no days)
	Selection A1 Selection A2 … Selection F0	Mode 11, SW A - F, 1 - 9, 0, * SW A1, A2, …F7, F8	Sel A1 Effected = Y/N Sel A2 Effected = Y/N … Sel F8 Effected = Y/N	Sel A1 Effected = Y Sel A2 Effected = Y … Sel F8 Effected = Y
MIS Access	Optics Comm	Mode 12, SW A	= Disabled or Transmit to MIS only or Up/Down load	Transmit to MIS only
	Password for Optics	Mode 12, SW B	= Required or Not Required	Required
	Dex with Door Closed	Mode 12, SW D	= Disabled or Transmit to MIS only or Up/Down load	Transmit to MIS only
	MIS Display with Door Closed	Mode 12, SW E	= Disabled or Enabled	Enabled
	Password for Optics	Mode 12, SW * for select SW 1 - 4 for password	Digit 1 = 1 - 4 Digit 2 = 1 - 4 Digit 3 = 1 - 4 Digit 4 = 1 - 4	1212
	Password for MIS Display with Door Closed	Mode 12, SW * for select SW 1 - 4 for password	Digit 1 = 1 - 4 Digit 2 = 1 - 4 Digit 3 = 1 - 4 Digit 4 = 1 - 4	4132
Motor Pairing	Selection A1 Selection A3 … Selection F9	Mode 13, SW A - F, 1 - 9, 0, * SW A1, A3, …F5, F7	Sel A1 & A2 paired = Y/N Sel A3 & A4 paired = Y/N … Sel F7 & F8 paired = Y/N	Sel A1 & A2 paired = N Sel A3 & A4 paired = N … Sel F7 & F8 paired = N

NOTES

APPENDIX B - PARTS DRAWINGS AND DESCRIPTIONS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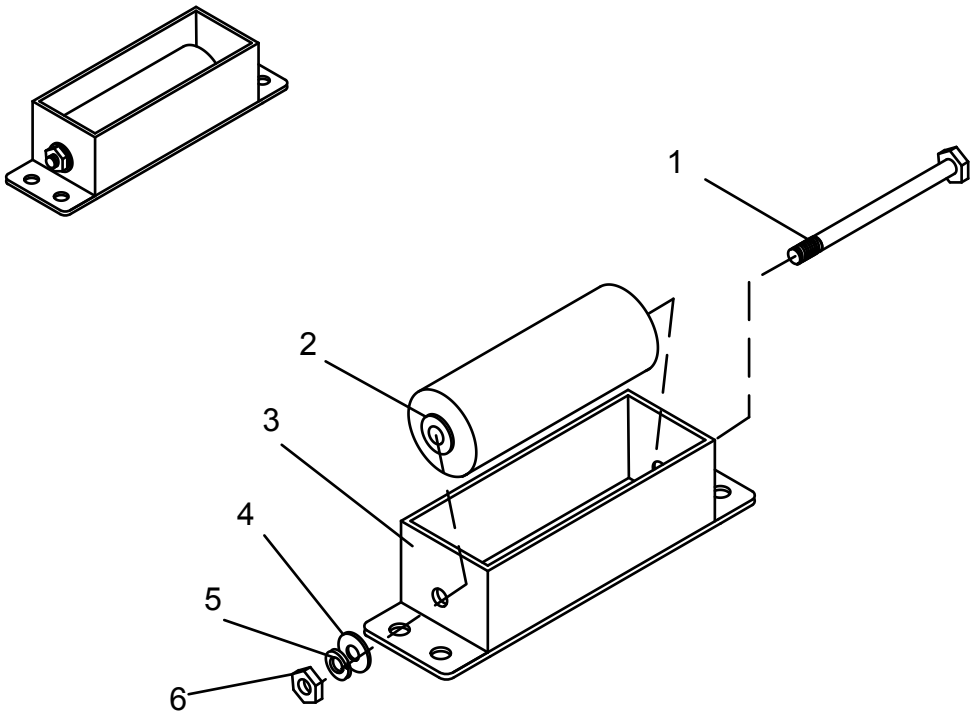
DOOR ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	COIN INFORMATION WINDOW	1	T100201
2	RETAINING PLATE, COIN INFORMATION WINDOW	1	411C.210005
3	PANEL, COIN MECH	1	411C.213000
4	SELF TAPPING SCREW - M4X8	4	
5	MOUNTING PLATE, FRONT	1	411C.242002
6	SELF TAPPING SCREW - M4X8	2	
7	CASHBOX TUB ASSEMBLY	1	411C.243000
8	NAMEPLATE	1	411C.210019
9	RIVET 4X8	2	V802257
10	CASHBOX WELD ASSEMBLY	1	411C.244000
11	FOOT ROLLER ASSEMBLY (SEE PGS 4-5)	1	411C.214000
12	SELF TAPPING SCREW - M5X10	7	V802258
13	SCREW M4X16	2	GB818-2000
14	SELF TAPPING SCREW - M4X8	40	V802018
15	MOUNTING BRACKET, DOOR SWITCH ACTUATOR	1	411CN.210015
16	DOOR SWITCH ACTUATOR	1	411C.210016
17	RETAINING PLATE, DOOR SWITCH ACTUATOR	1	411C.210014
18	SPRING WASHER M4	2	GB93-87
19	WASHER M4	40	V802259
20	NUT M4	32	V802260
21	COIN FLAP	1	411C.242003
22	HOUSING, COIN RETURN	1	T100101
23	RETAINING BRACKET, COIN RETURN HOUSING	1	411C.210017
24	SELF TAPPING SCREW M5X8	4	V802261
25	VENDING HOPPER ASSEMBLY (SEE PGS 8-9)	1	411C.230000
26	GLASS	1	411C.212002
27	SEAL	1	411C.212001
28	RETAINING PLATE, GLASS - BOTTOM	1	411C.210001
29	LCD MOUNTING PLATE	1	T10301
30	LCD ASSEMBLY	1	411C.210018
31	SPRING WASHER M4	4	GB93-87
32	RETAINING PLATE, GLASS - LHS/RHS	2	411C.210007
33	LAMP BRACKET ASSEMBLY (SEE PGS 6-7)	1	411C.421000
34	DOOR SEAL	1	411C.210006
35	DOOR BAFFLE	1	411CN.210021
36	LOCK HANDLE (SEE PGS 14-15)	1	411C.512000
37	SCREW M6X20	2	V802263
38	SPRING WASHER M6	2	V802264
39	NUT M6	2	V802265
40	COVER, VMC	1	411C.210011
41	VMC	4	1128197

ITEM	DESCRIPTION	QTY	PART NO.
42	MOUNTING CLIP, VMC	1	1128198
43	MOUNTING PLATE, VMC	1	411C.210010
44	RETAINING PLATE, INSTRUCTION WINDOW	1	411C.210003
45	INSTRUCTION WINDOW	1	411C.210002
46	KEYPAD ASSEMBLY (SEE PGS 10-11)	1	411C.440000
47	COIN ENTRY & RETURN MECHANISM (SEE PGS 12-13)	1	411C.241000
48	MOUNTING BRACKET, VALIDATOR EXTENSION	1	411CN.210020
49	COVER, VALIDATOR	1	411CN.210022
50	INSULATION SPACER, VMC	4	411C.210009
51	DOOR SWITCH	1	1DM1
52	DOOR WELD ASSEMBLY	1	411C.211000
53	LOCK	2	
54	DOOR ASSEMBLY	1	411C.200000
55	INSULATION SPACER, VMC	3	411C.210009
56	WASHER M6	3	V802266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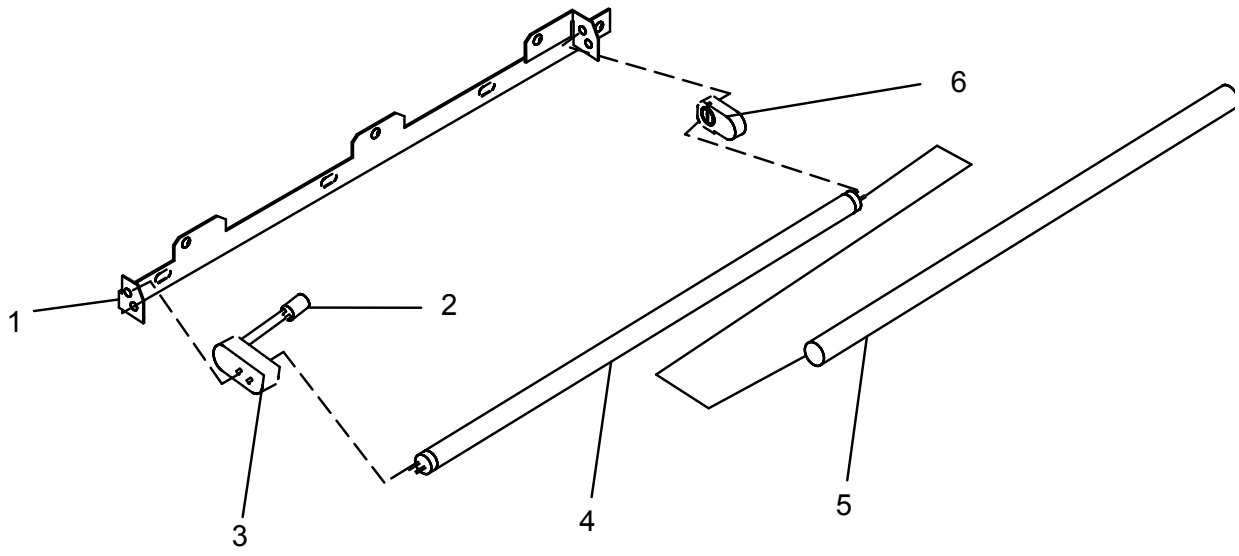
FOOT ROLLER ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
	FOOT ROLLER ASSEMBLY	1	411C.214000
1	ROLLER MOUNTING SHAFT	1	411C.214002
2	ROLLER	1	411C.214003
3	ROLLER BRACKET	1	411C.214001
4	WASHER M6	1	V802267
5	SPRING WASHER M6	1	V802264
6	NUT M6	1	V802265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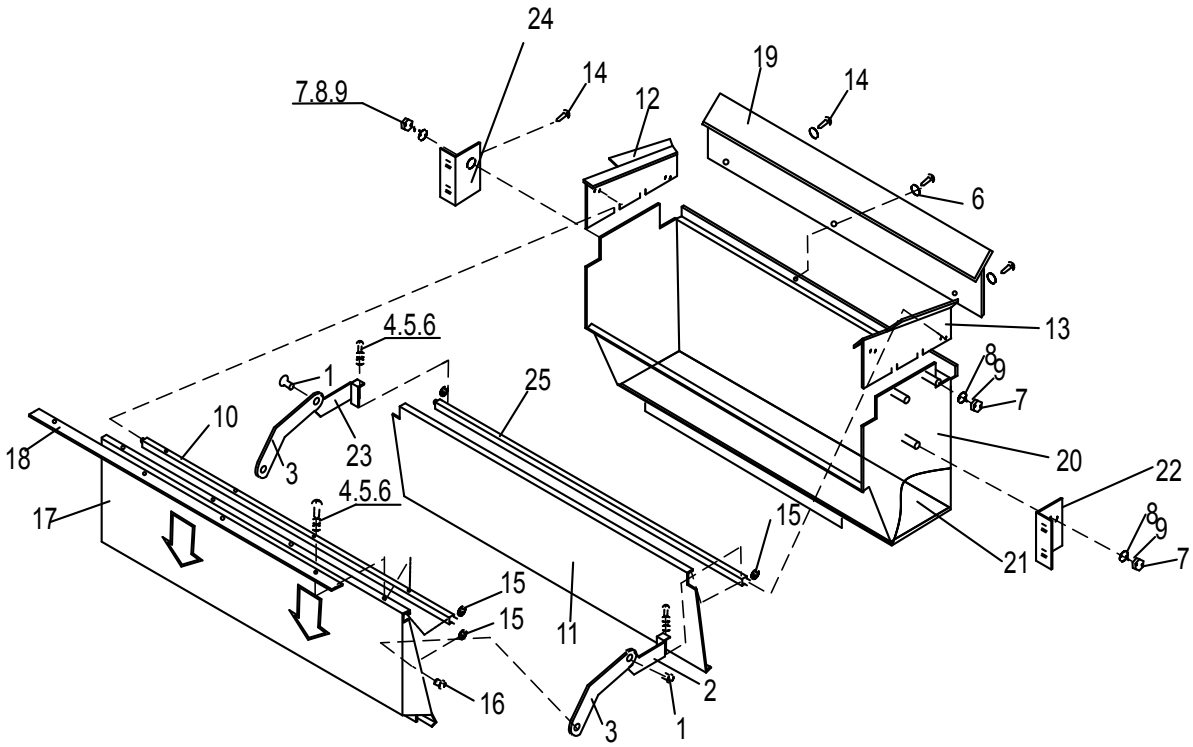
LAMP ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	LAMP MOUNTING BRACKET	1	411C421001
2	STARTER	1	411C421003
3	LHS LAMP SOCKET	1	411C421004
4	LAMP (PHILLIPS TDL 18W/33 COOL WHITE)	1	411C421005
5	TRANSPARENT TUBE PROTECTOR	1	411C421002
6	RHS LAMP SOCKET	1	411C421006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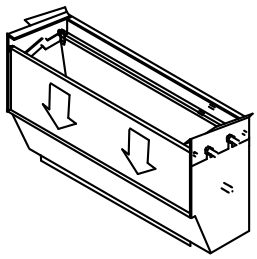
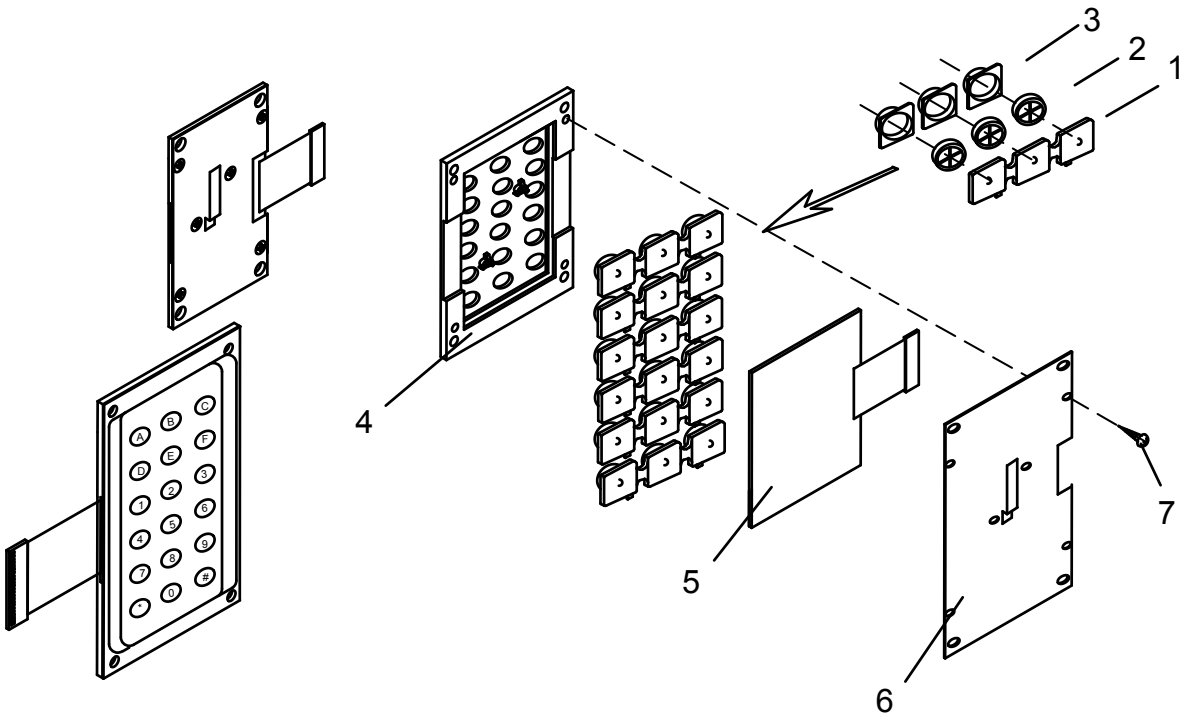


VEND HOPPER ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
	VEND HOPPER ASSEMBLY	1	411C.230000
1	PIVOT PIN	2	411C.233004
2	RIGHT CRANK	1	411C.233002
3	LINK ROD	2	411C.233003
4	SCREW M4X1O	11	V802268
5	SPRING WASHER M4	11	V802262
6	OPEN WASHER M6	18	V802267
7	NUT M6	6	V802265
8	WASHER M6	6	V802267
9	SPRING WASHER M6	6	V802264
10	FRONT FLAP PIVOT ROD	1	411C.230004
11	THEFT PROTECTION FLAP	1	411C.230007
12	PRODUCT GUIDE - LHS	1	411C.230001
13	PRODUCT GUIDE - RHS	1	411C.230008
14	SELF TAP SCREW M4X8	3	V802018
15	CIRCLIP	8	GB896
16	LINK ROD ASSEMBLY PIVOT PIN	2	411C.230003
17	DOOR FLAP ASSEMBLY	1	411C.232000
18	TOP FRONT EDGE SEALING PLATE	1	411C.230006
19	DEFLECTOR BRACKET	1	411C.230010
20	VEND HOPPER	1	411C.231000
21	BUFFER PAD	1	411C.230012
22	HOPPER MOUNTING BRACKET - RHS	1	411C.230001
23	LEFT CRANK	1	411C.233001
24	HOPPER MOUNTING BRACKET - LHS	1	411C.230002
25	THEFT PROTECTION FLAP PIVOT ROD	1	411C.230005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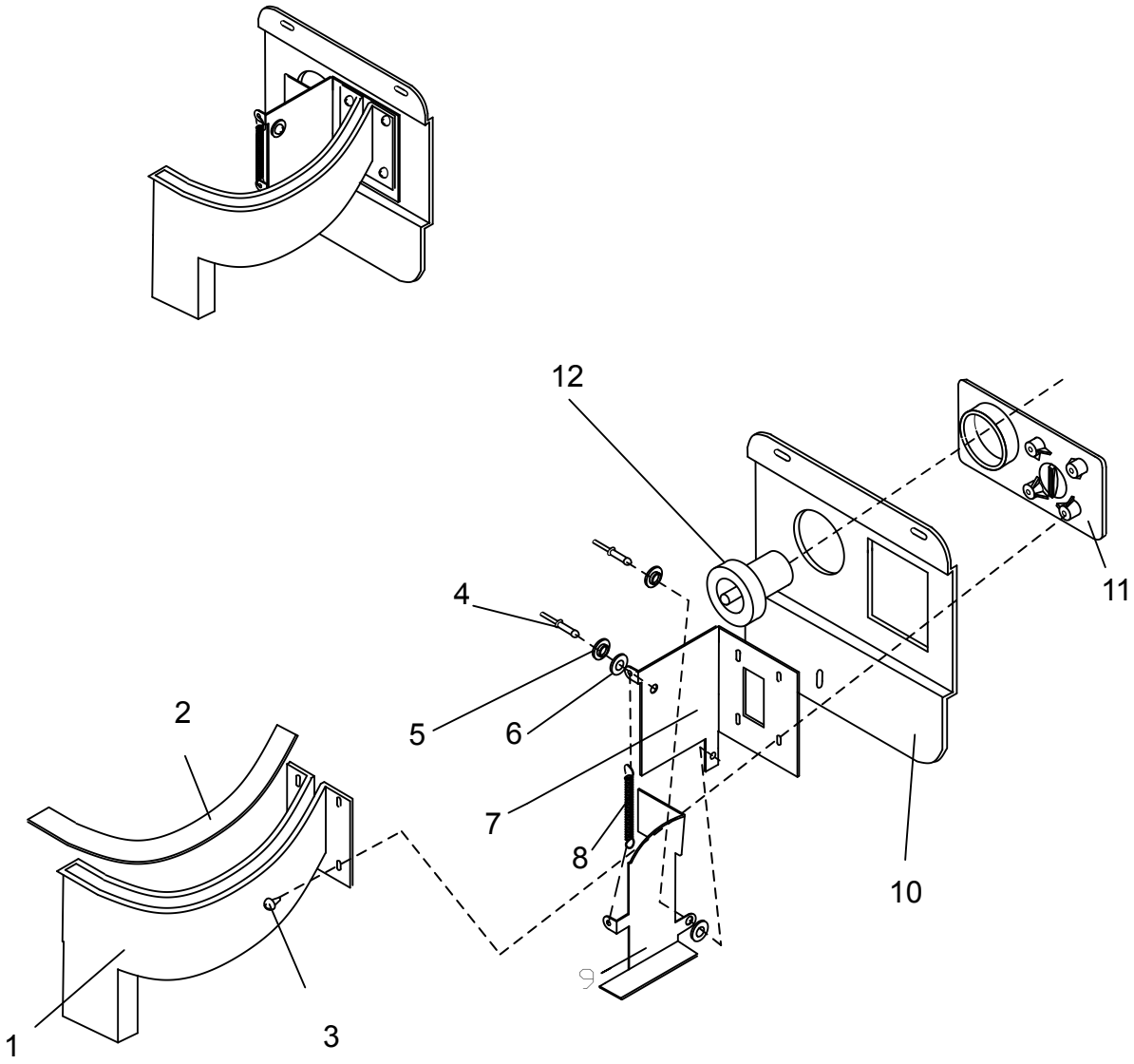
KEYPAD ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	BUTTON SUPPORT PANEL	6	411C.441003
2	INNER BUTTON	1	411C.441004-21
3	BUTTON LENS	18	411C.441001
4	KEYPAD FRONT MID	1	411C.440001
5	MEMBRANE PAD	1	411C.440002
6	MEMBRANE BACKING PLATE	1	411C.440003
7	SELF DRILL SCREW M0X6	6	V802269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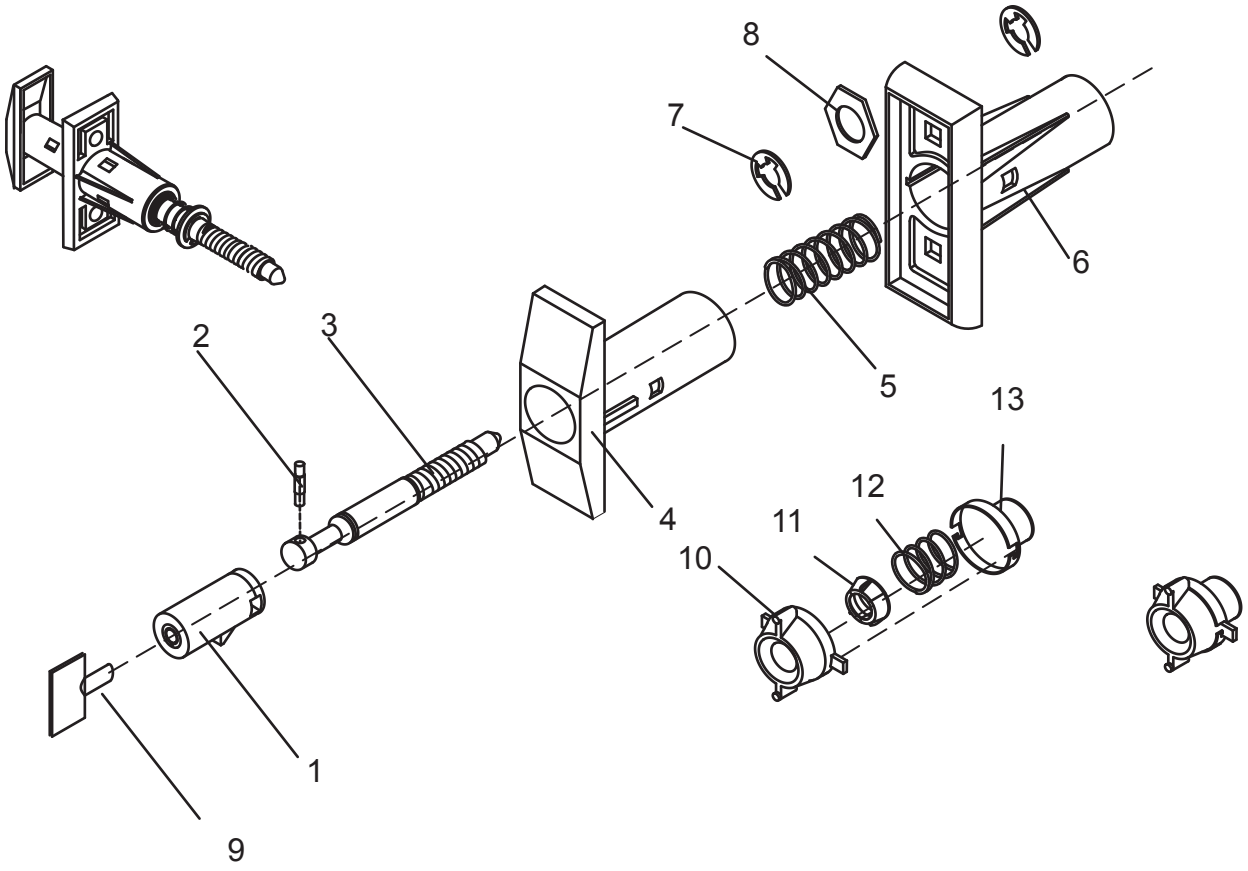
COIN ENTRY & RETURN MECHANISM

ITEM	DESCRIPTION	QTY	PART NO.
1	COIN CHUTE BODY	1	411C.241008
2	COIN CHUTE COVER	1	411C.241009
3	SCREW ST M4.2X9.5	4	GB845-85
4	RIVET M4X12	2	GB12618-90
5	RETAINING WASHER	2	411C.241002
6	WASHER M5	2	GB96-85
7	PIVOT BRACKET	1	411C.241007
8	SPRING	1	411C.241001
9	OPERATING LEVER	1	411C.241004
10	FRONT PANEL MOUNTING PLATE	1	411C.241006
11	BUTTON FRONT PANEL	1	411C.241007
12	OPERATING BUTTON	1	411C.241005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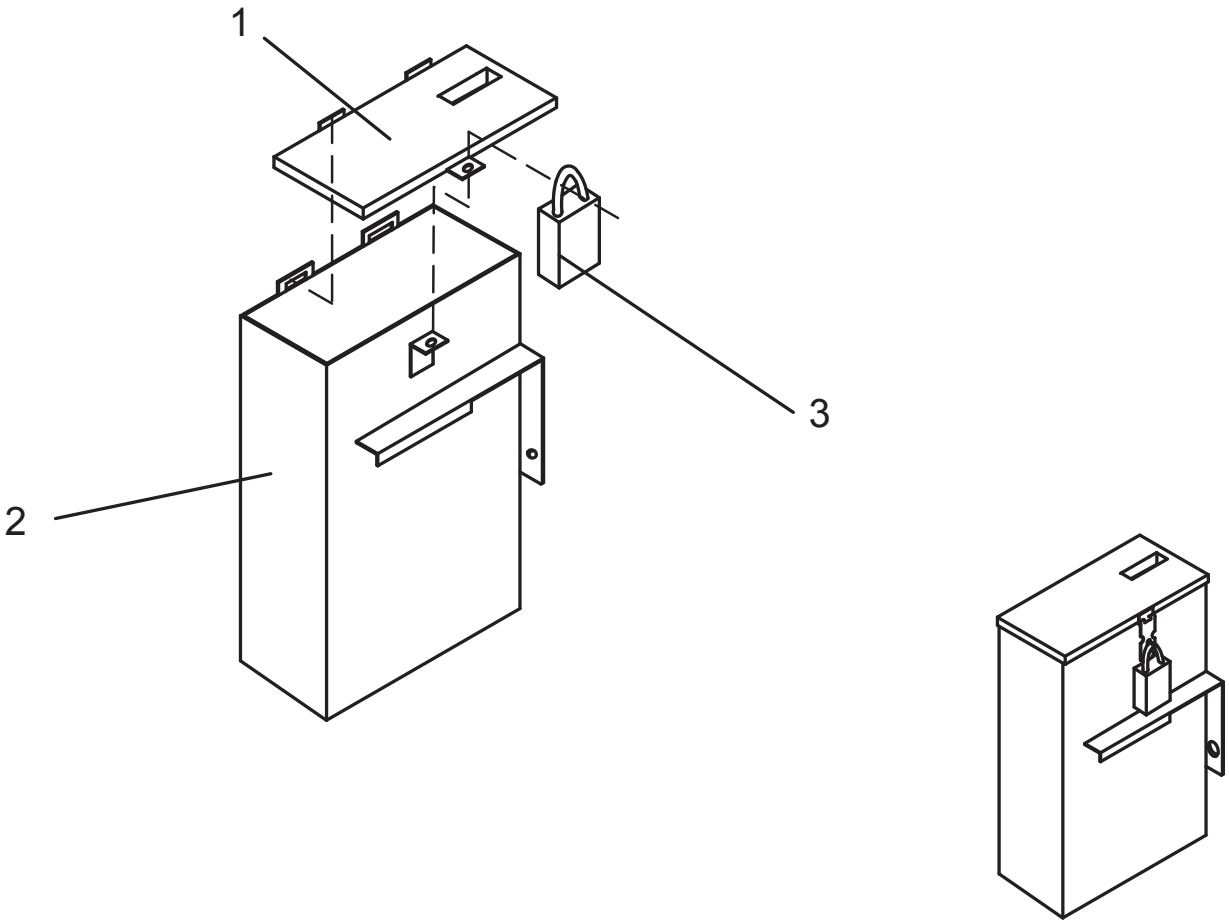
LOCK ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
	LOCK ASSEMBLY	1	411C.512000
1	LOCK BARREL	1	411C.512007
2	PIN	1	411C.512003
3	THREADED SHAFT	1	411C.512006
4	T-HANDLE	1	411C.512001
5	SPRING	1	411C.512004
6	T-FLANGE	1	411C.512002
7	CIRCLIP M9	2	GB896-86
8	HEXAGONAL WASHER	1	411C.512005
9	KEY	3	411C.512008
10	HOLDER	1	411C.511002
11	NUT ASSEMBLY	1	411C.511003
12	SPRING	1	411C.511004
13	COVER	1	411C.511001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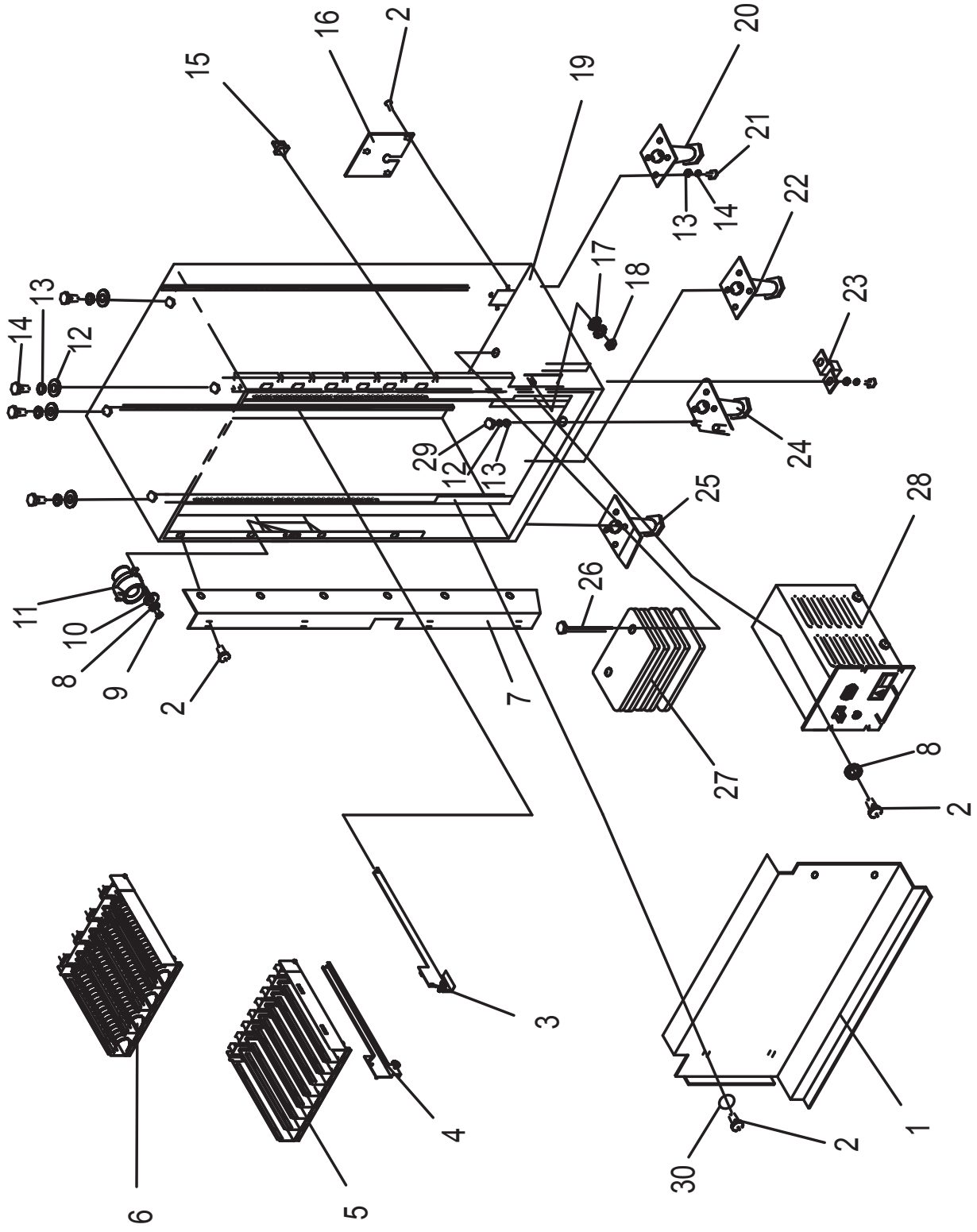
CASH BOX ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	CASH BOX LID	1	411C.244002
2	CASH BOX BODY	1	411C.244003
3	LOCK	1	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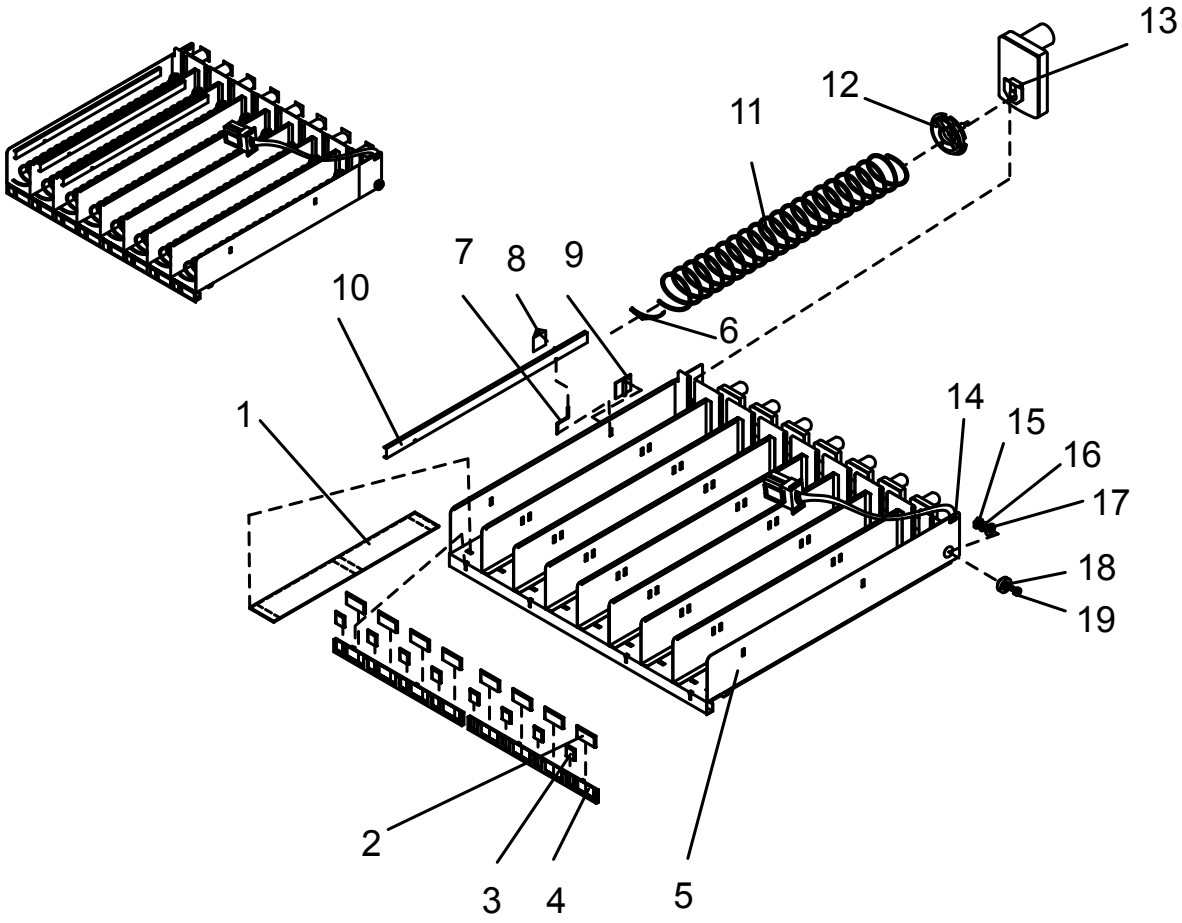
CABINET ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	COVER PLATE	1	411C.000004
2	SELF TAPPING SCREW M5X10	35	V802270
3	RUNNER ASSEMBLY - RHS (SEE PGS 26-27)	6	411C.123000
4	RUNNER ASSEMBLY - LHS (SEE PGS 26-27)	6	411C.122000
5	TRAY SUB ASSEMBLY - 8 PRODUCT (SEE PGS 20-21)	4	411CN.321000
6	TRAY SUB ASSEMBLY - 4 PRODUCT (SEE PGS 24-25)	2	411CN.323000
7	ANTI-THEFT PANEL - LHS	1	411C.120002
8	SPRING WASHER M5	2	V802266
9	SCREW M5X8	2	V802271
10	LOCK RETAINING WASHER	2	411C.110033
11	SLAM NUT (SEE PGS 14-15)	1	411C.511000
12	WASHER M8	20	V802272
13	SPRING WASHER M8	20	V802273
14	SCREW M8X12	4	V802274
15	HARNESS BRACKET	1	SQ-B
16	POWER HARNESS BACKING PLATE	1	411C.110003
17	WASHER M6	2	V802267
18	NUT M6	1	V802265
19	CABINET WELD ASSEMBLY	1	411C.111000
20	FOOT ASSEMBLY - LHS BACK	1	411C.135000
21	SCREW M8X20	16	V802275
22	FOOT ASSEMBLY - LHS BACK	1	411C.135000
23	SUPPORT PLATE - DECORATION PANEL	4	411C.150001
24	FOOT ASSEMBLY - LHS FRONT	1	411C.133000
25	FOOT ASSEMBLY - LHS FRONT	1	411C.132000
26	SCREW M10X110	2	V802276
27	COUNTERWEIGHT	5	411CN.000003
28	POWER BOX ASSEMBLY (SEE PGS 28-29)	1	411CN.430000
29	NUT M8	16	V802277
30	WASHER M5	19	V802266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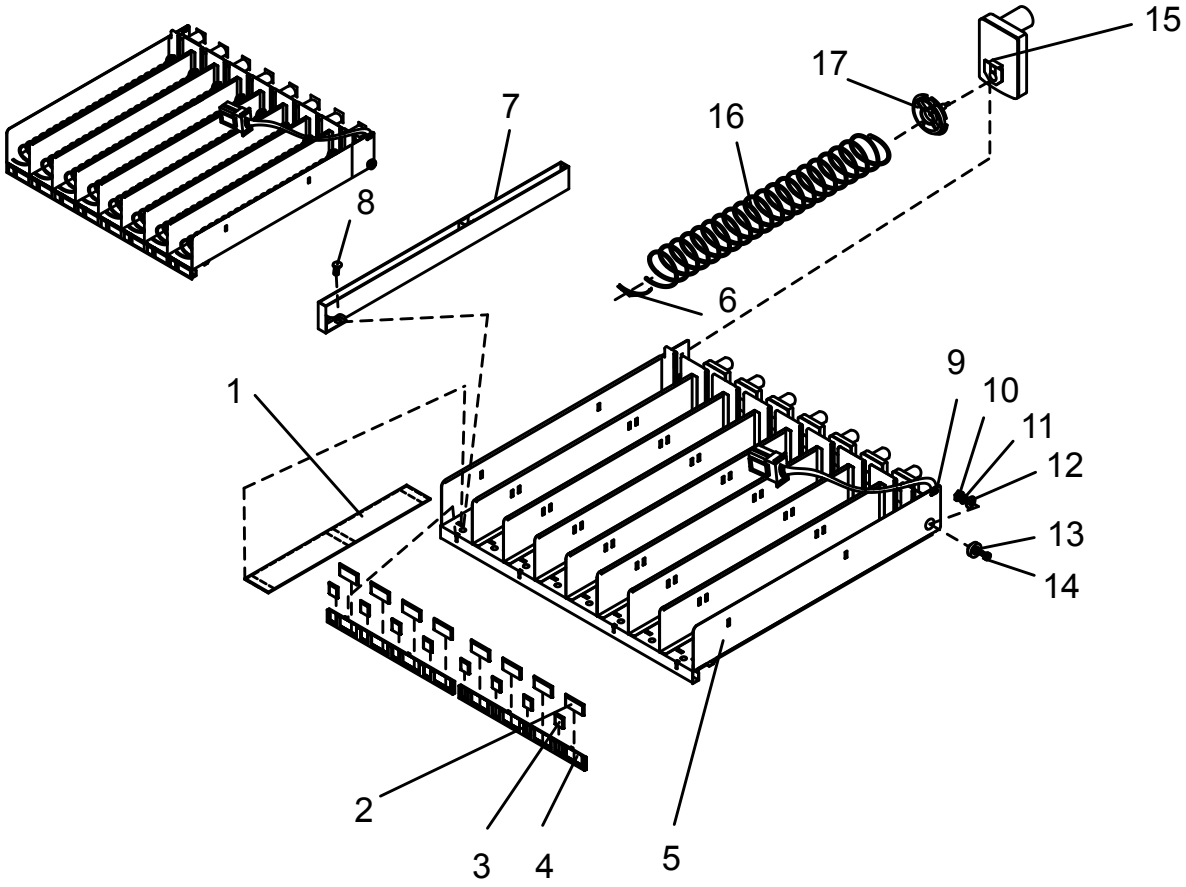
TRAY SUB ASSEMBLY - 8 PRODUCT

ITEM	DESCRIPTION	QTY	PART NO.
1	TRAY BASE	8	411C.321010
2	PRICE LABEL INSERT	8	411C.321003
3	SPIRAL LABEL INSERT	8	411C.321002
4	SHELF STRIP	2	411C.321001
5	WELDED TRAY ASSEMBLY - 8 PRODUCT	1	411C.321100
6	PUSHER	8	T100502
7	BARGE BOARD Z-BAR	32	411C.321005
8	Z BAR PLATE	32	T101001
9	BARGE BOARD CLIP	32	411C.321008
10	BARGE BOARD - LHS	8	411C.321004
11	SPIRAL - PITCH 40.5mm - 10 PRODUCTS SPIRAL - PITCH 33mm - 12 PRODUCTS SPIRAL - PITCH 29.5mm - 14 PRODUCTS SPIRAL - PITCH 22.5mm - 18 PRODUCTS	8 8 8 8	411C.310006 411C.310004 411C.310010 411C.310005
12	SPIRAL HOLDER - SMALL	8	T1005402
13	MOTOR & SPIRAL ASSEMBLY	8	411C.310000
14	NYLON BUNCH M3X120	1	411C.460012
15	WASHER M6	2	V802267
16	SPRING WASHER M6	2	V802264
17	NUT M6	2	V802265
18	ROLLER	2	T100901
19	ROLLER SHAFT	2	411C.321202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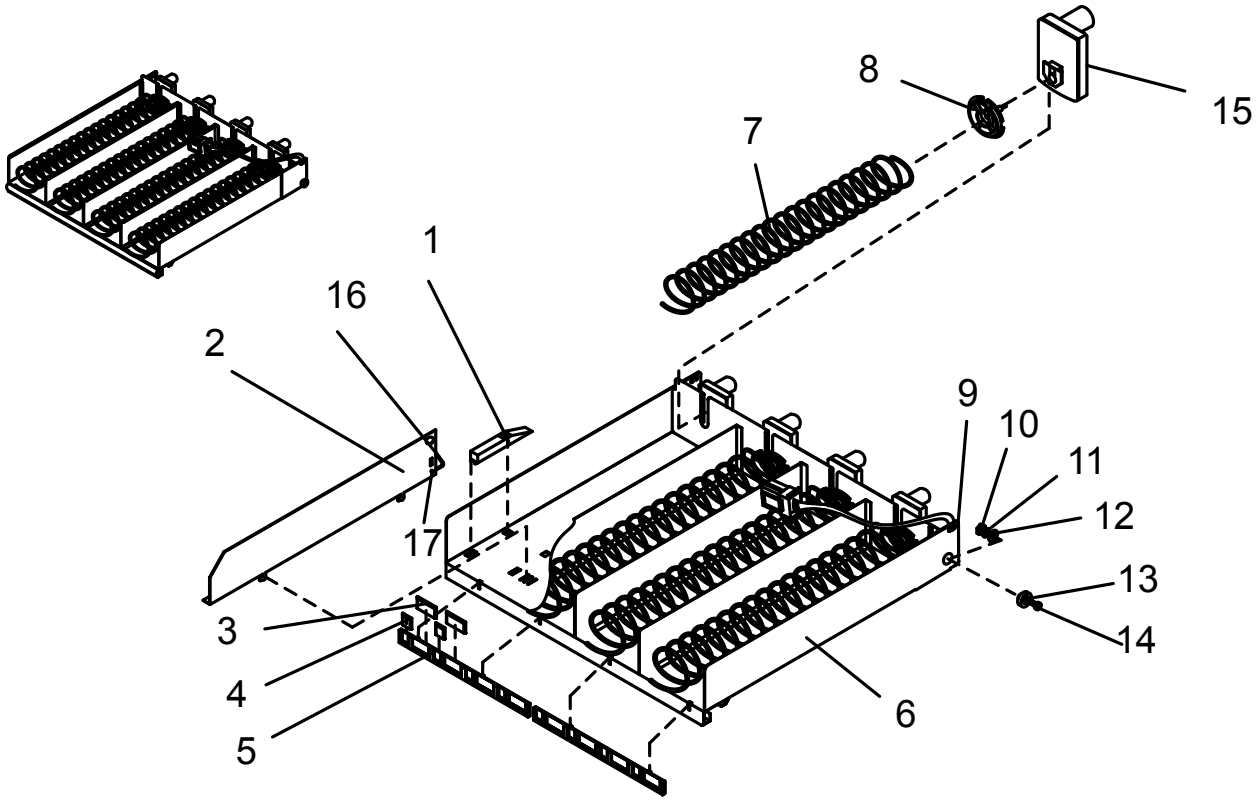
TRAY SUB ASSEMBLY - CHEWING GUM

ITEM	DESCRIPTION	QTY	PART NO.
1	TRAY BASE	8	411C.321010
2	PRICE LABEL INSERT	8	411C.321003
3	SPIRAL LABEL INSERT	8	411C.321002
4	SHELF STRIP	2	411C.321001
5	WELDED TRAY ASSEMBLY - 8 PRODUCT	1	411C.321100
6	PUSHER	8	T100502
7	ISOLATION BOARD	8	411C.321012
8	SCREW M4X8	8	GB819.1-2000
9	NYLON BUNCH M3X120	1	411C.460012
10	WASHER M6	2	V802276
11	SPRING WASHER M6	2	V802264
12	NUT M6	2	V802265
13	ROLLER	2	T100901
14	ROLLER SHAFT	2	411C.321202
15	MOTOR & SPIRAL ASSEMBLY	8	411C.310000
16	SPIRAL - PITCH 22.5mm - 18 PRODUCTS	8	411C.310005
17	SPIRAL HOLDER	8	T100402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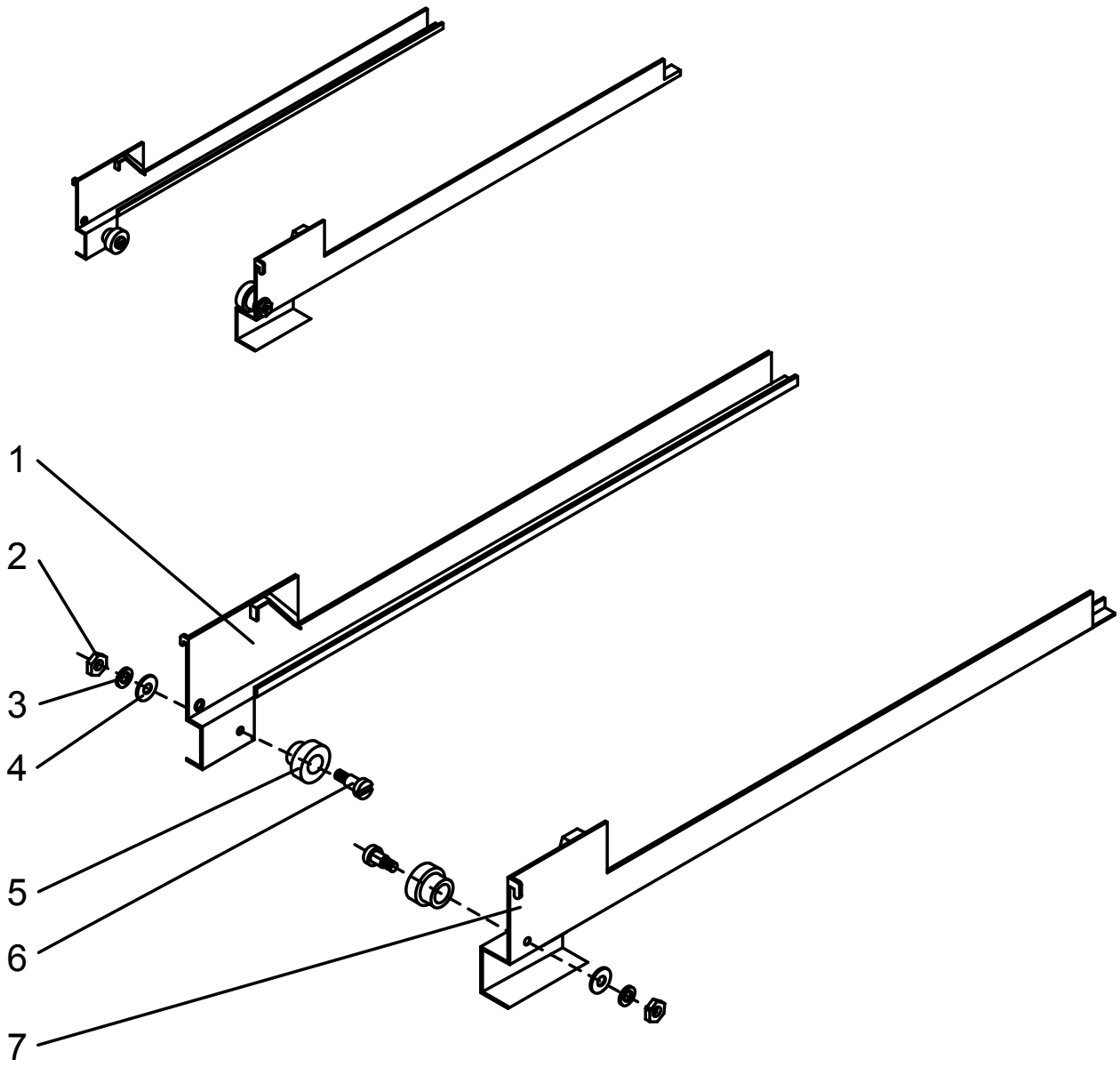
TRAY SUB ASSEMBLY - 4 PRODUCT

ITEM	DESCRIPTION	QTY	PART NO.
1	SPIRAL RUNNER	8	411C.323001
2	SPACER BOARD ASSEMBLY	4	411C.323200
3	PRICE LABEL INSERT	8	411C.321003
4	SPIRAL LABEL INSERT	8	411C.321002
5	SHELF STRIP	2	411C.321001
6	WELDED TRAY ASSEMBLY - 4 PRODUCT	1	411C.323100
7	SPIRAL - PITCH 51mm - 8 PRODUCTS	4	411C.310003
	SPIRAL - PITCH 41mm - 10 PRODUCTS	4	411C.310009
8	SPIRAL HOLDER - LARGE	4	T100401
9	NYLON BUNCH 3X129	1	411C.460012
10	WASHER M6	2	V802267
11	SPRING WASHER M6	2	V802264
12	NUT M6	2	V802265
13	ROLLER	2	T100901
14	ROLLER SHAFT	2	411C.321202
15	MOTOR & SPIRAL ASSEMBLY	4	411C.310000
16	RIVET 2.5X4	1	V802278
17	SPRING	1	411C.323201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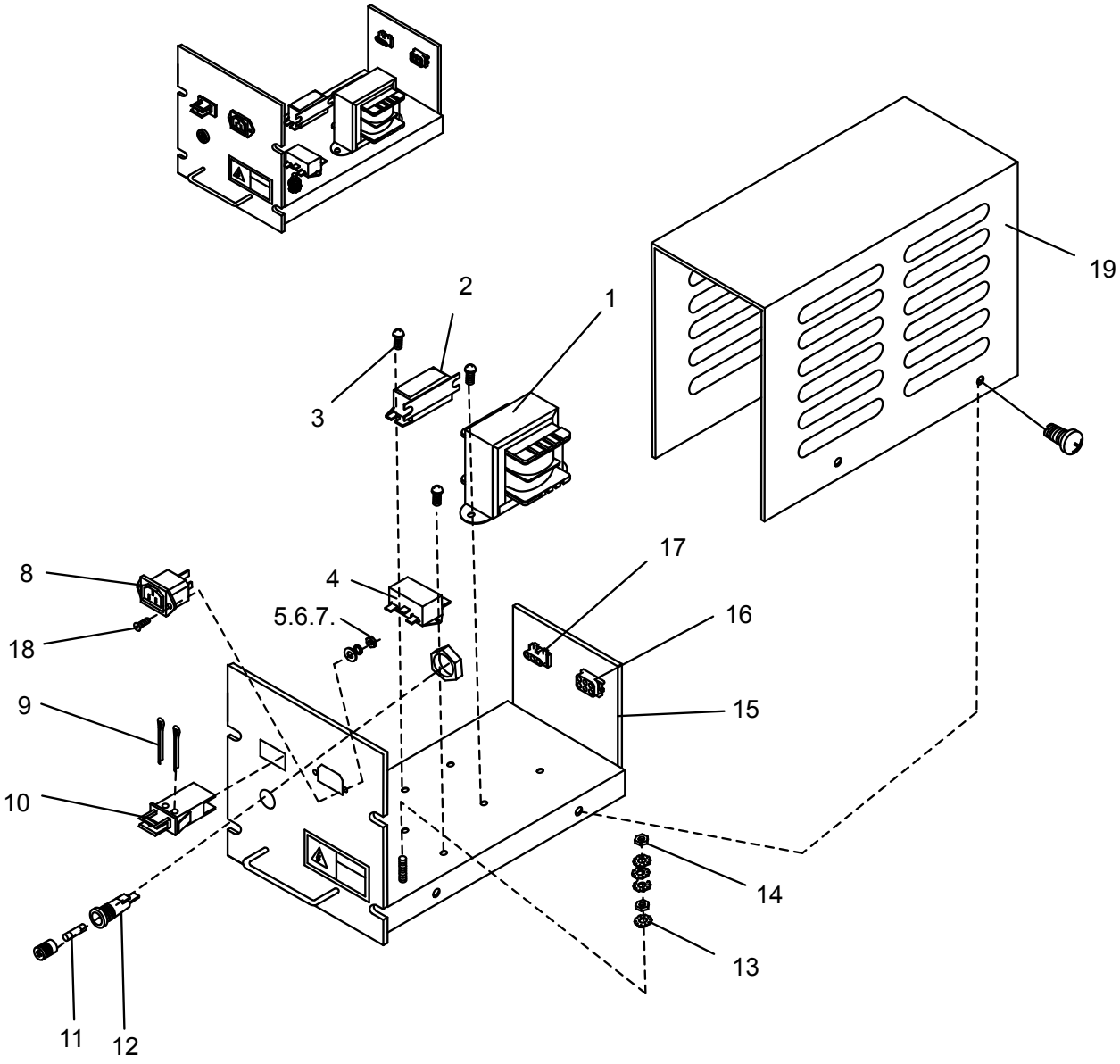
LEFT & RIGHT RUNNER ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	RUNNER SUB ASSEMBLY - LHS	1	411C.122100
2	NUT M6	1	V802265
3	WASHER M6	1	V802267
4	SPRING WASHER M6	1	V802264
5	ROLLER	1	T100901
6	ROLLER SHAFT	1	411C.321202
7	RUNNER SUB ASSEMBLY - RHS	1	411C.123100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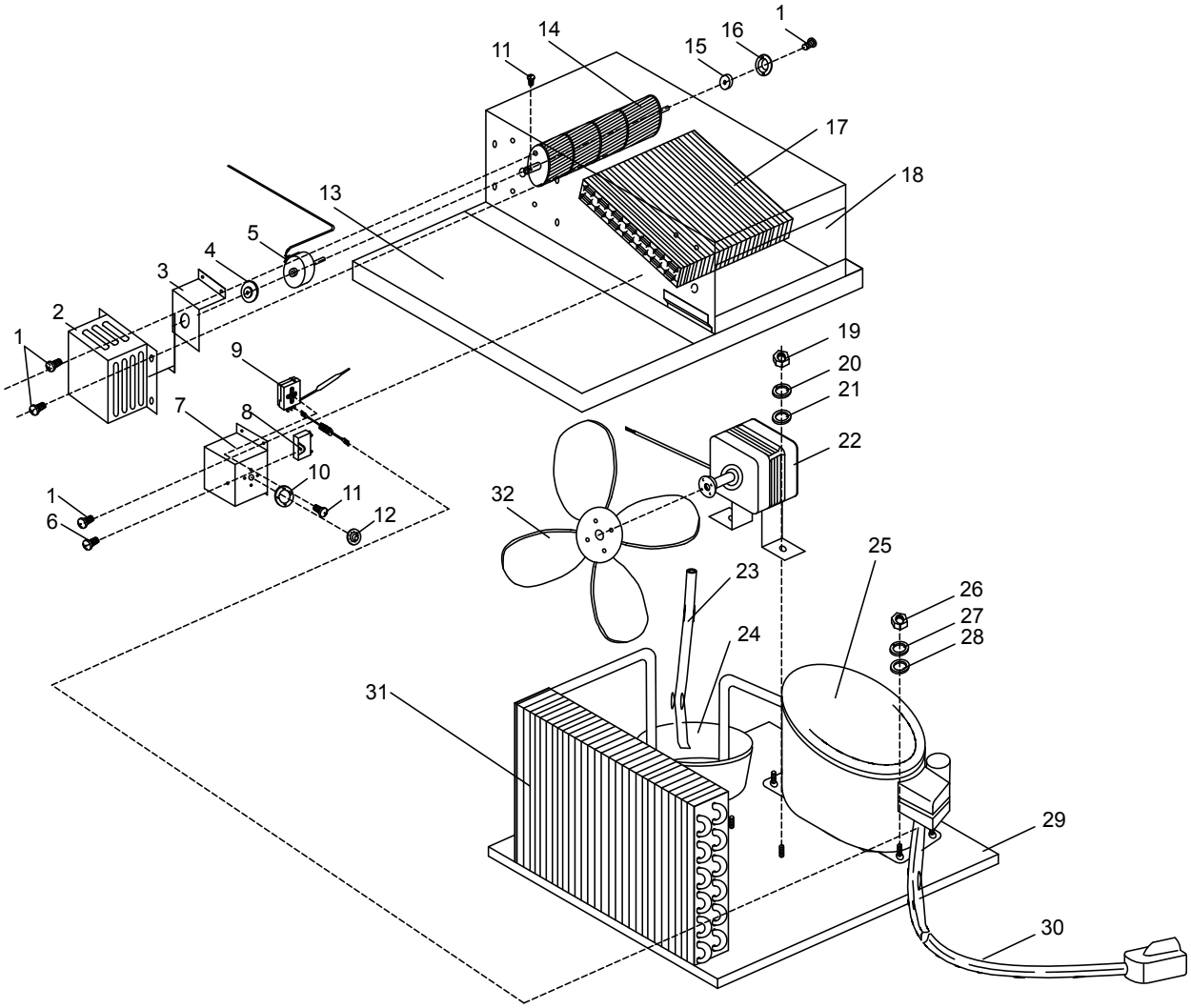
POWER BOX ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
1	AC TRANSFORMER	1	2-30-1982
2	BALLAST	1	E142246B
3	SELF TAPPING SCREW M4X8	10	
4	BALLAST	1	E142246B
5	NUT M3	4	V802279
6	SPRING WASHER M3	4	V802280
7	WASHER M3	4	V802281
8	POWER PLUG	4	GB6170-86
9	LOCK	2	411C.430011
10	DOOR SWITCH	1	XTD 22AZ1
11	FUSE	1	
12	FUSE HOLDER	1	B0341RD
13	WASHER M6	6	V802267
14	NUT M6	2	V802265
15	POWER BOX METAL CLOSURE	1	411CN.431000
16	VMC POWER SOCKET	1	AMP 1-480705-0
17	LAMP POWER SOCKET	1	AMP 1-480700-0
18	SCREW M3X12	4	V802282
19	POWER SUPPLY COVER	1	411CN.431004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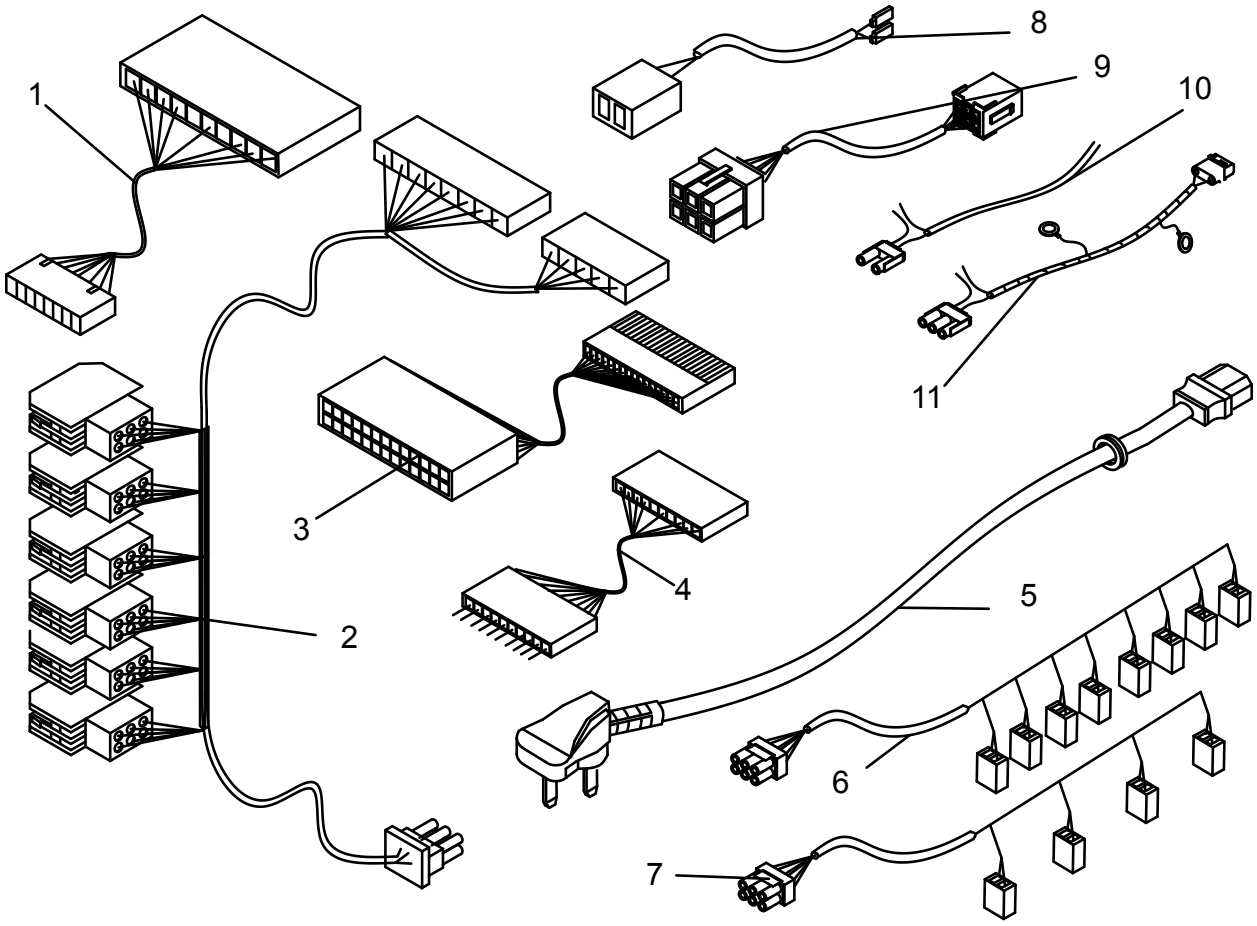
REFRIGERATION ASSEMBLY

ITEM	DESCRIPTION	QTY	PART NO.
	CHILLER		411C.610000
1	SCREW M4X8	3	V802119
2	EVAPORATOR MOTOR COVER	1	411C.610003
3	EVAPORATOR FAN MOUNTING BRACKET	1	411C.610002
4	ANTI-VIBRATION BUSHING	1	411C.615000
5	EVAPORATOR MOTOR	1	411C.615001
6	SCREW M3X12	2	V802283
7	THERMOSTAT MOUNTING BRACKET	1	411C.610001
8	EVAPORATOR MOTOR CAPACITOR	1	411C.615002
9	THERMOSTAT	1	411C.615003
10	THERMOSTAT POSITION WASHER	1	411C.615004
11	SCREW M4X10	4	V802025
12	THERMOSTAT KNOB	1	
13	DIVIDER PLATE	1	411C.610010
14	EVAPORATOR FAN	1	411C.610009
15	ANTI-VIBRATION WASHER	1	411C.615006
16	BEARING COVER	1	411C.610004
17	EVAPORATOR	1	411C.610014
18	EVAPORATOR COVER ASSY	1	411C.611000
19	HEX NUT M6	11	V802265
20	SPRING WASHER M6	6	V802264
21	WASHER M6	2	V802267
22	CHILLER FAN MOTOR	1	411C.615007
23	DRAINAGE TUBE	1	411C.615008
24	CONDENSATE PAN	1	411C.615009
25	COMPRESSOR	1	NF11
26	NUT M8	4	V802277
27	SPRING WASHER M8	4	V802273
28	WASHER M8	4	V802272
29	CHILLER BASE PLATE	1	411C.612000
30	CHILLER HARNESS	1	411C.615011
31	CONDENSER	1	411C.610013
32	CONDENSER FAN	1	411C.615013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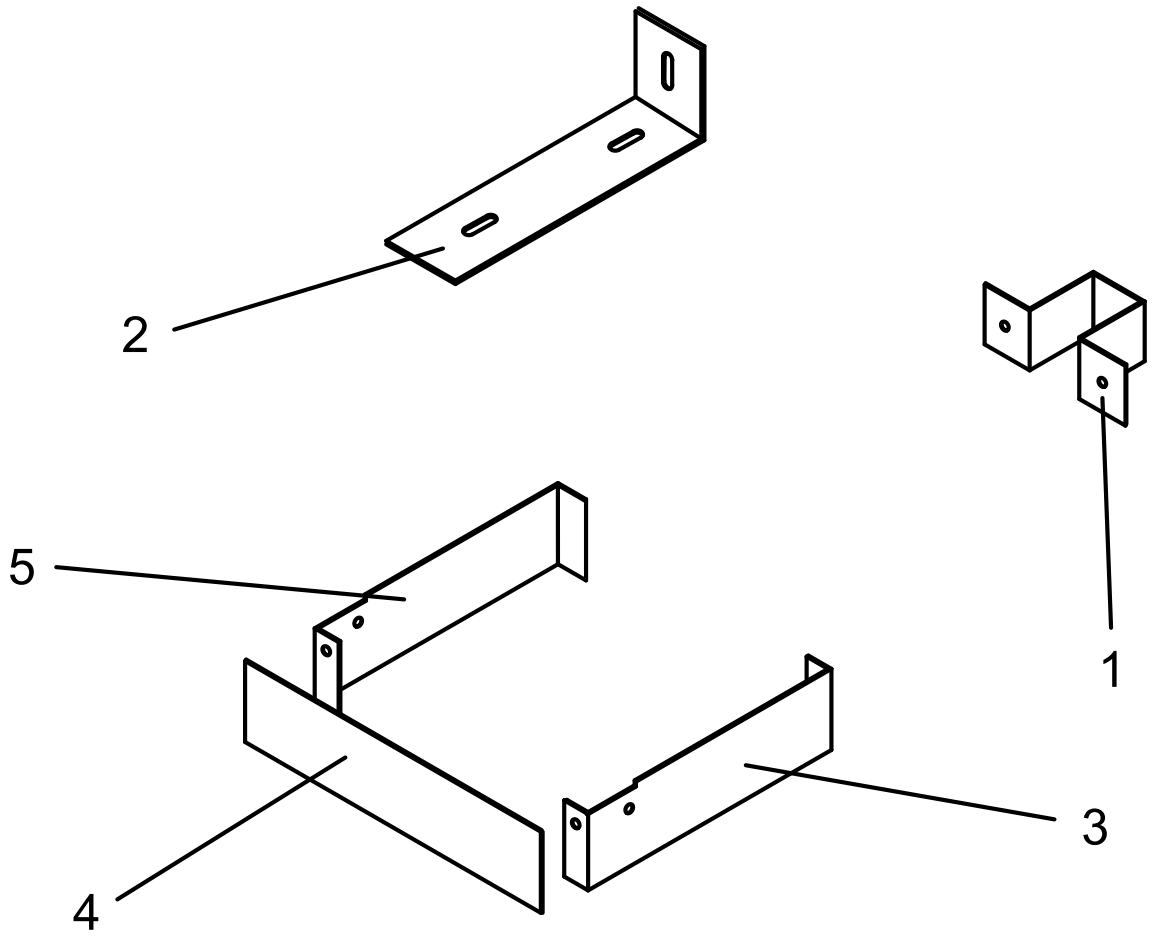
HARNESSES

ITEM	DESCRIPTION	QTY	PART NO.
1	IrDA HARNESS	1	411C.460006
2	MAIN HARNESS - TRAY MOTOR	2	411C.460002
3	LCD HARNESS	3	411C.460007
4	KEYPAD HARNESS	4	411C.460005
5	MAIN POWER CABLE	5	411C.460001
6	TRAY - 8 PRODUCTS HARNESS	6	411C.460004
7	TRAY - 4 PRODUCTS HARNESS	7	411C.460003
8	DOOR SWITCH HARNESS	8	411C.460008
9	MDB HARNESS	9	411C.460011
10	LIGHT HARNESS	10	411C.460010
11	LIGHT POWER HARNESS	11	411C.460009


2
1
5
3
4

OPTIONAL PARTS

ITEM	DESCRIPTION	QTY	PART NO.
1	LOCK RETAINING PANEL	1	411C.110029
2	RETAINING PANEL	2	411C.110030
3	DECORATION PANEL - R	1	411C.150004
4	DECORATION PANEL - F	1	411C.150002
5	DECORATION PANEL - L	1	411C.150003

NOTES

APPENDIX C - MIS HISTORY ERROR STORAGE

ID	CONTENTS	DATA FORMAT OR EXAMPLE	INFO GROUP (MIS, ERROR)	HISTORY DISPLAYED	AVAILABLE W/DOOR CLOSED
ID101	Machine (VMC) serial number	MEI 043920103132	MIS	X	
ID102	Machine (VMC) model number	MSV660	MIS	X	
ID103	Software revision	0103 (for rev 1.03)	MIS	X	
ID104	Machine location	Xxxxxxxxxx	MIS	X	
ID106	Machine asset number	xxxxxxxxxxxx	MIS	X	
ID501	Today's date	YYMMDD	MIS	X	
ID502	Machine's time	HHMM	MIS	X	
CB101	VMC serial number	ME1 043920106132	MIS		
CB102	VMC model number	MCB560	MIS		
CB103	Software revision	0103 (for rev 1.03)	MIS		
SD101	Security access key in use	000000000000	MIS		
EA301	Number of audit (elect) reads		MIS-H	X	
EA701	Number of power cycles		MIS-R	X	
EA702	Number of power cycles		MIS-H	X	
CA101	Coin mech ID number		MIS		
CA102	Coin mech model number		MIS		
CA103	Coin mech SW rev		MIS		
BA101	Bill acceptor ID number		MIS		
BA102	Bill acceptor model number		MIS		
BA103	Bill acceptor SW rev		MIS		
DA101	Debit card reader ID number		MIS		
DA102	Debit card reader model number		MIS		
DA103	Debit card reader SW rev		MIS		
VA101	Value of paid sales		MIS-H	X	
VA102	Number of all paid vends		MIS-H	X	X
VA103	Value of paid vends		MIS-R	X	
VA104	Number of all paid vends		MIS-R	X	
VA202	Number of test vends		MIS-H	X	
VA204	Number of test vends		MIS-R	X	
CA201	Value of cash sales		MIS-H	X	
CA202	Number of cash sales		MIS-H	X	
CA203	Value of cash sales		MIS-R	X	
CA204	Number of cash sales		MIS-R	X	
CA301	Value of cash in		MIS-R	X	
CA302	Value of cash to cash box		MIS-R	X	
CA303	Value of cash to tubes		MIS-R	X	
CA304	Value of bills stacked		MIS-R	X	
CA305	Value of cash in		MIS-H	X	
CA306	Value of cash to cash box		MIS-H	X	
CA307	Value of cash to tubes		MIS-H	X	

ID	CONTENTS	DATA FORMAT OR EXAMPLE	INFO GROUP (MIS, ERROR)	HISTORY DISPLAYED	AVAILABLE W/DOOR CLOSED
CA308	Value of bills stacked		MIS-H	X	
CA401	Value coins paid out (chg + manual)		MIS-R	X	
CA402	Value coins paid out (manual)		MIS-R	X	
CA403	Value coins paid out (chg + manual)		MIS-H	X	
CA404	Value of coins paid out (manual)		MIS-H	X	
CA701	Value of discount (Disc = price - paid)		MIS-R	X	
CA702	Value of discount (Disc = price - paid)		MIS-H	X	
CA801	Value of overpay (amount stolen)		MIS-R	X	
CA802	Value of overpay		MIS-H	X	
CA901	Value of vends during exact chg		MIS-R	X	
CA902	Value of vends during exact chg		MIS-H	X	
CA1001	Value of cash manually added		MIS-R	X	
CA1002	Value of cash manually added		MIS-H	X	
CA1501	Value of tube contents		MIS		
DA201	Value of debit card sales		MIS-H	X	
DA202	Number of debit card sales		MIS-H	X	
DA203	Value of debit card sales		MIS-R	X	
DA204	Number of debit card sales		MIS-R	X	
TA201	Value of token vends (amount saved)		MIS-H	X	
TA202	Number of tokens vends		MIS-H	X	
TA203	Value of token vends		MIS-R	X	
TA204	Number of tokens vends		MIS-R	X	
PA101	Product number (Ax,Bx,Cx,Dx,Ex,Fx)		MIS		
PA201	Number of paid sales of (PA101)		MIS-H	X	
PA202	Value of sales of (PA101)		MIS-H	X	
PA203	Number of paid sales of (PA101)		MIS-R	X	X
PA204	Value of sales of (PA101)		MIS-R	X	
PA101	Product number (A1,A2, -F7,F8)		MIS		
PA102	Normal vend price of (PA101)		MIS		
PA201	Number of paid sales of (PA101)		MIS-H	X	
PA202	Value of sales of (PA101)		MIS-H	X	
PA203	Number of paid sales of (PA101)		MIS-R	X	X
PA204	Value of sales of (PA101)		MIS-R	X	
EA201	Event ID	MIS RESET	MIS-H		
EA203	Number of times the MIS was reset		MIS-H		
EA101	Event ID	DOOR HIST 1	HIST	X	
EA102	Date when door was last opened	YYMMDD	HIST	X	

ID	CONTENTS	DATA FORMAT OR EXAMPLE	INFO GROUP (MIS, ERROR)	HISTORY DISPLAYED	AVAILABLE W/DOOR CLOSED
EA103	Timw when door was last opened	HHMM	HIST	X	
EA101	Event ID	DOOR HIST 2	HIST	X	
EA102	Date when door was last opened	YYMMDD	HIST	X	
EA103	Timw when door was last opened	HHMM	HIST	X	
EA101	Event ID	EXACT CHG	HIST	X	
EA102	Date when exact change 1st occurred	YYMMDD	HIST	X	
EA103	Time when exact change 1st occurred	HHMM	HIST	X	
EA104	Total duration of exact change cond.	In Minutes	HIST	X	
EA101	Event ID (up to 16)	ERROR	ERROR	X	
EA102	Date when the error occurred	YYMMDD	ERROR	X	
EA103	Time when the error occurred	HHMM	ERROR	X	
EA106	Type of error (see below for codes)	2-4 code + sub code	ERROR	X	
MA501	Setting ID	e.g. STS, MONEY, MSG	CONF		
MA502	Setting associated with (MA501)		CONF		
MA503	Setting associated with (MA501)		CONF		
MA504	Setting associated with (MA501)		CONF		
MA505	Setting associated with (MA501)		CONF		

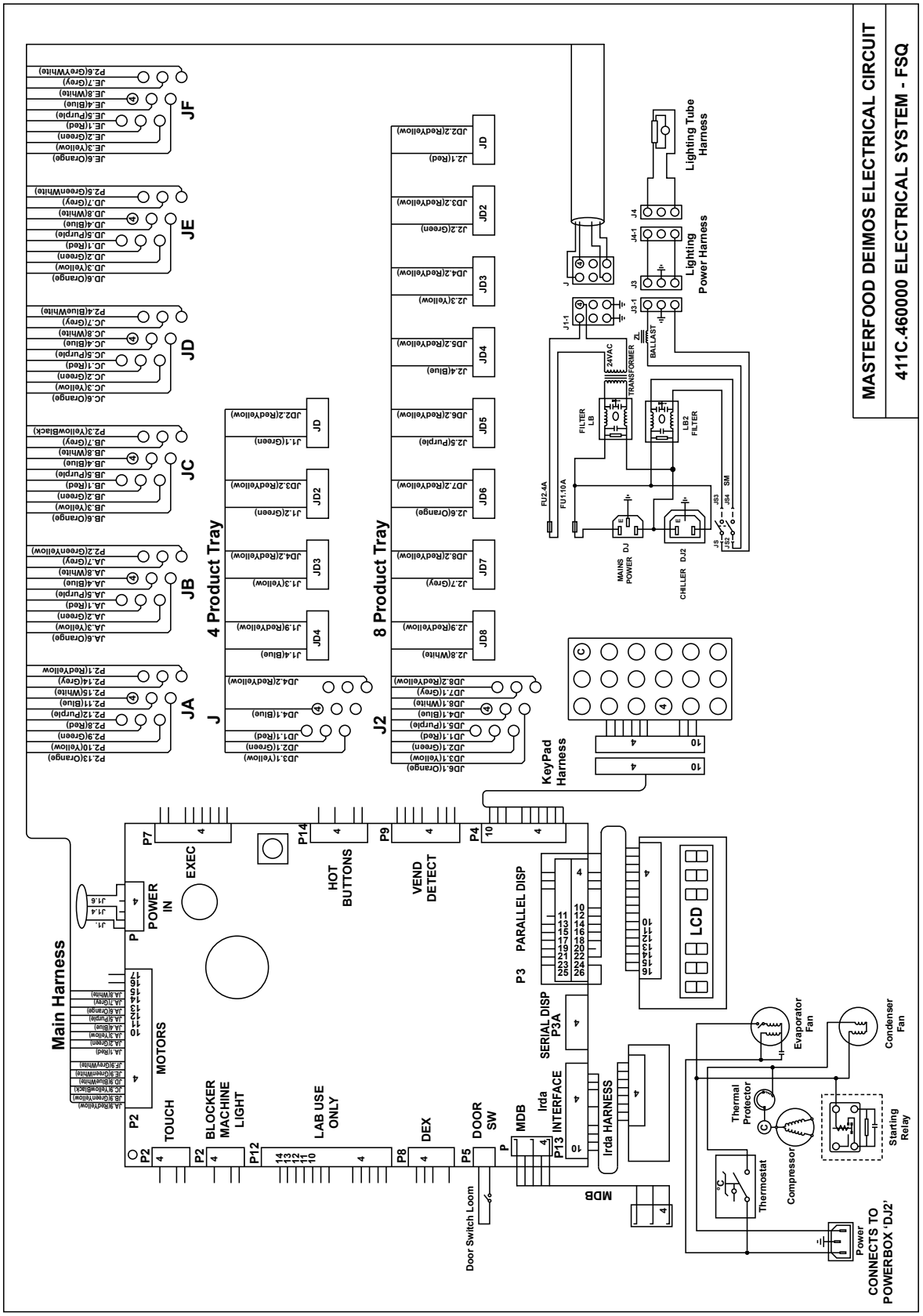
ERRORS

The possible errors are:

Coin Mech Error	Coin Mech issue
Bill Acceptor Error	Bill Acceptor issue
Card Reader	Debit Card issue
Selection	Selection problem (+2 digits to indicate the selection #)
Motor	Vend motor problem (+2 char. to indicate the motor; e.g. A4)
Door Opened Error	Door left open
Touch Error	Problems with Touch
DEX Error	Problems with DEX interface
IrDA Error	Problems with IrDA interface
Fraud Detect	Fraud attempt detected (e.g. card reader)
Chute Fraud	Fraud attempt via the chute
Bill Fraud	Fraud attempt via bill pull
Batter Error	RAM/Battery issue
SW Mismatch Error	Mismatch between the uP and the Flash SW

NOTES

APPENDIX D - ELECTRICAL WIRING DIAGRAM



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