Vendo
SANDEN

VUE 30 40

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SAFETY SECTION

A COMMITMENT TO SAFETY

SandenVendo America is committed to safety in every aspect of our product design. SandenVendo America 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 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 could not possibly know, evaluate, or advise of all of the conceivable ways in which service might be done. Nor can SandenVendo America 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 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 office nearest you.

SAFETY RULES

- **Place and store unit inside. Outdoor use or storage voids warranty**.
- 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 or air dam 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 three to four inches (7.6 cm to 10.2 cm) from a well-constructed wall (of a building or otherwise) on a flat, smooth surface.

   IMPORTANT: The vendor requires three inches (7.6 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 above the ground.**

E.   Check the manufacturer's nameplate on the left or right side of the vendor's cabinet 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 $\pm$ 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

FIGURE 1

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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.**

G.   Door Support (Figure 2)

The door support is to ensure that the outer door closes squarely to the cabinet.
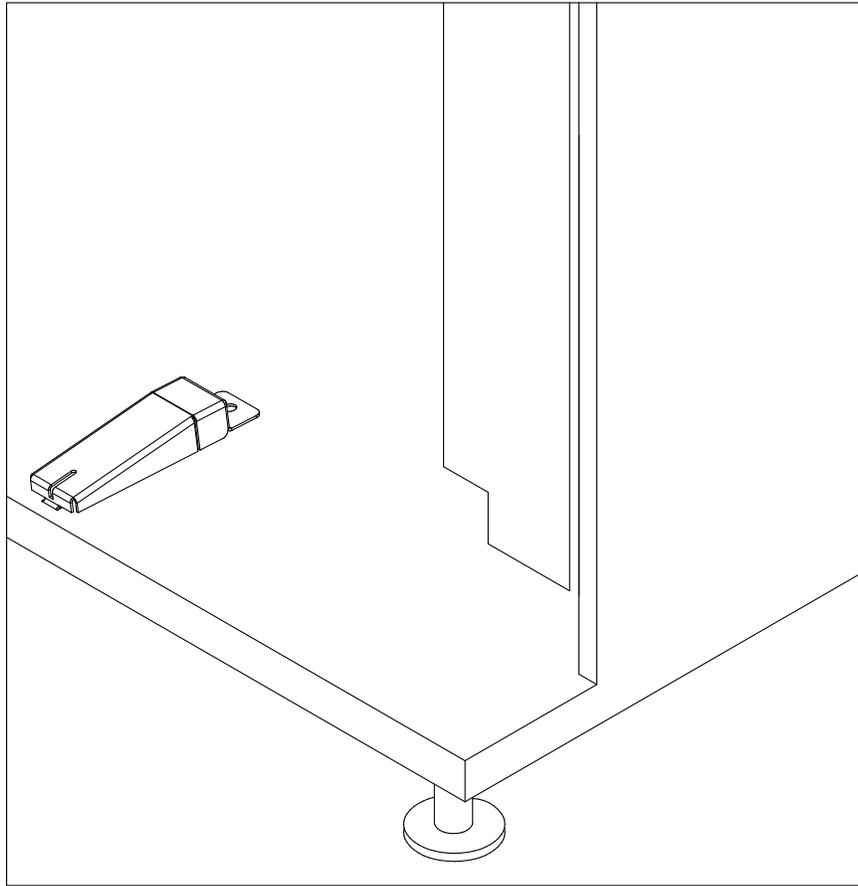
FIGURE 2

NOTE: Refer to the appropriate parts and service manual for detailed instructions, operating principles, and recommended maintenance intervals and procedures.

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. However, it is strongly recommended that servicing the lighting system or the refrigeration system only be performed after unplugging the vendor power cord, either at the wall outlet, or at the service cord power outlet, located at the front of the power distribution panel. (See Figure 3 on facing page.)

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.

The VUE vendor features a circuit interrupting style ballast. If the lamp is replaced, you must cycle the power to the machine to bring the light back on.

For power-on servicing of the vendor's refrigeration system, turn refrigeration power on by accessing the Compressor test function of the electronic controller.

8.0 AMP FUSE

3.15 AMP FUSE
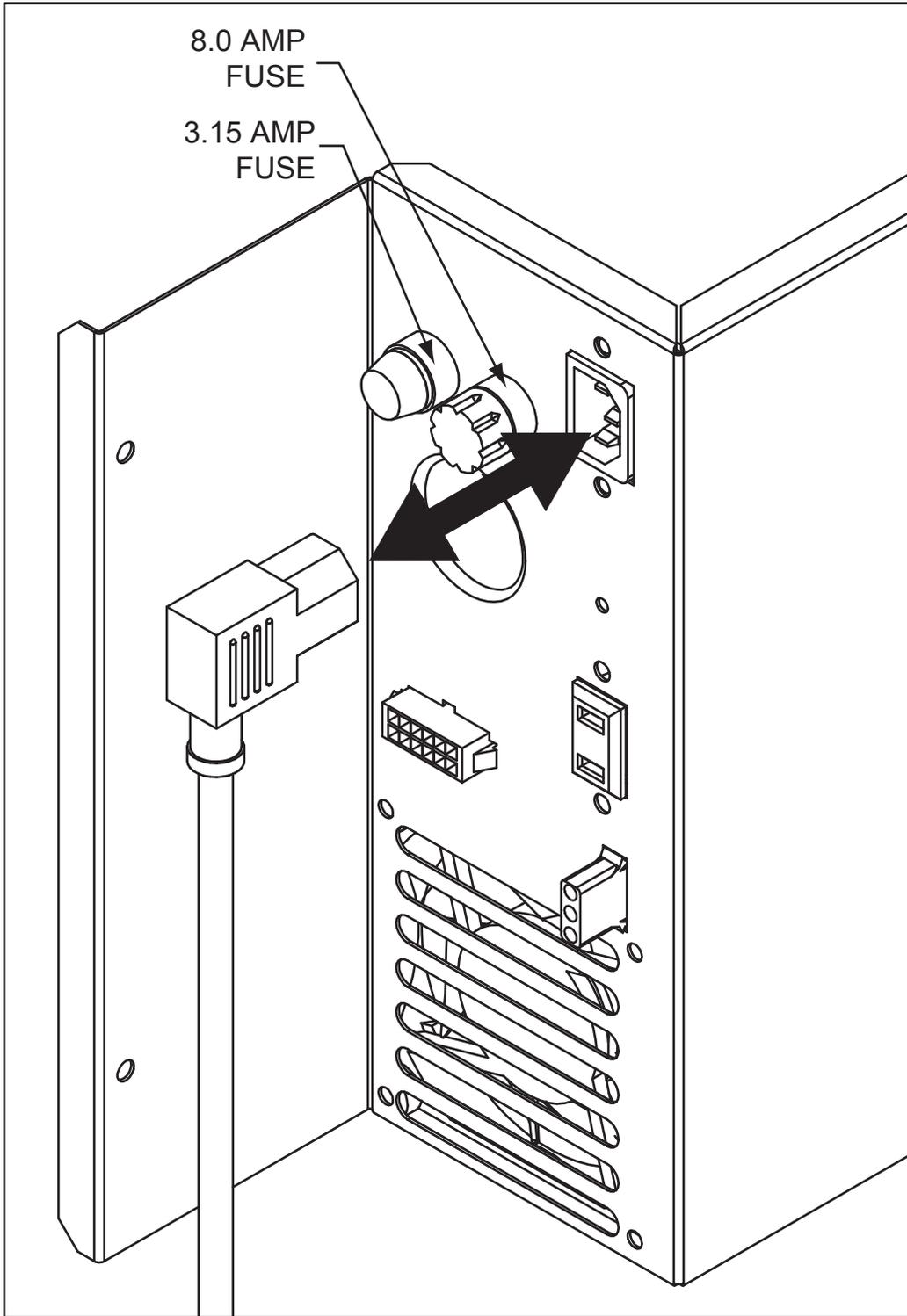
FIGURE 3

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 SAFETY MANUAL AND THE SERVICE MANUAL FOR ADDITIONAL SAFETY INFORMATION.

⚠️ **WARNING**

RISK OF ENTRAPMENT!

⚠️ **WARNING**

RISK OF SHOCK! ELECTRICAL!

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.

⚠	**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**

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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. SandenVendo America 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 office in your area.

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

⚠ **WARNING**

Never rock or tilt. Machine can fall over and cause serious injury or death.

Vending machine will not dispense free product.

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ENGLISH

⚠ **MISE EN GARDE**

Ne jamais secouer ou incliner. Le distributeur peut se renverser et causer des blessures graves ou la morte. Cette machine ne distribue pas de produits gratuitement.

389611-1

FRENCH

⚠ **AVISO**

Nunca inclinar o balancear la máquina. La máquina puede caer y causar serios daños, incluso muerte. Esta máquina no dispensa producto gratis.

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SPANISH

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SECTION VIII: PARTS, SALES, & SERVICE CENTERS
OF THE 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

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PARTS, SALES, & SERVICE CENTERS OF THE 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

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NOTES

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GENERAL INFORMATION
SECTION

This manual contains programming, operation, and complete parts and electrical wiring diagrams.

The controller is a microprocessor which will permit pricing per selection from 0.00 to 99.99. This machine also has space-to-sales programming as well as energy savings modes.

GFV Model Numbers	240	320
Dimensions H x W x D	72" x 34" x 34.5"	72" x 41.5" x 34.5"
Shipping Weight	760 lbs	800 lbs
Shelves	5 - 7	5 - 7
Trays per shelf	3	4
Facings / shelf	6	8
Total # of facings:		
5 shelf	30	40
7 shelf	42	56
Total capacity:		
20 oz bottle	240	320
12 oz can	378	504

Dimensions and shipping weight will vary slightly due to manufacturing tolerances, shipping boards and whether or not coinage is installed.

⚠ WARNING

Load this unit with shelf-stable product ONLY.

This unit is not equipped to safely vend perishable product.

Loading this unit with improper product may result in serious illness or injury to the consumer.

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INITIAL SET-UP

A. UNPACKING

Remove all plastic film, cardboard and tape from the outside of the vendor. Loosen any shipping devices used to secure interior parts during shipment (backspacer, shims or spacers).

To remove shipping boards from base, raise vendor on a well-stabilized lifting device. Remove the leveling bolts which hold the boards in place and remove the boards. Replace bolts to equal heights in the threaded holes. Another method to remove shipping boards is to split the boards apart. Using a pinch bar or a heavy screwdriver and hammer, insert tool into the slots and force the boards apart. **The leveling legs shall not raise the vendor more than 1 1/8 inch above the ground.**

B. POSITIONING

IMPORTANT: PLACE THE VENDOR IN DESIRED LOCATION AT LEAST THREE INCHES (7.6CM) AWAY FROM ANY REAR OBSTRUCTION. This is for proper air flow through the refrigeration compartment. The refrigeration system requires rear to front air circulation for proper operation.

C. POWER SUPPLY CONNECTION

CAUTION: DO NOT USE AN EXTENSION CORD!

The vendor's power requirements will vary depending upon the country it was purchased for. To verify the power requirements of the vendor, check the serial plate located on the hinged side of the outer door. The power requirements are listed on the serial plate.

To insure safe operation of the vendor, the vendor's power supply must be a properly grounded and polarized outlet. Before plugging the vendor into the outlet, test the outlet to confirm it will meet the vendor's power requirements. If the power supply of the outlet is different from the power requirements of the vendor, a transformer may be necessary.

If the power requirements are not properly met, contact a licensed electrician and have the necessary correction made.

Should you require additional information, contact the Technical Services Department of the SandenVendo America, Inc. office in your area.
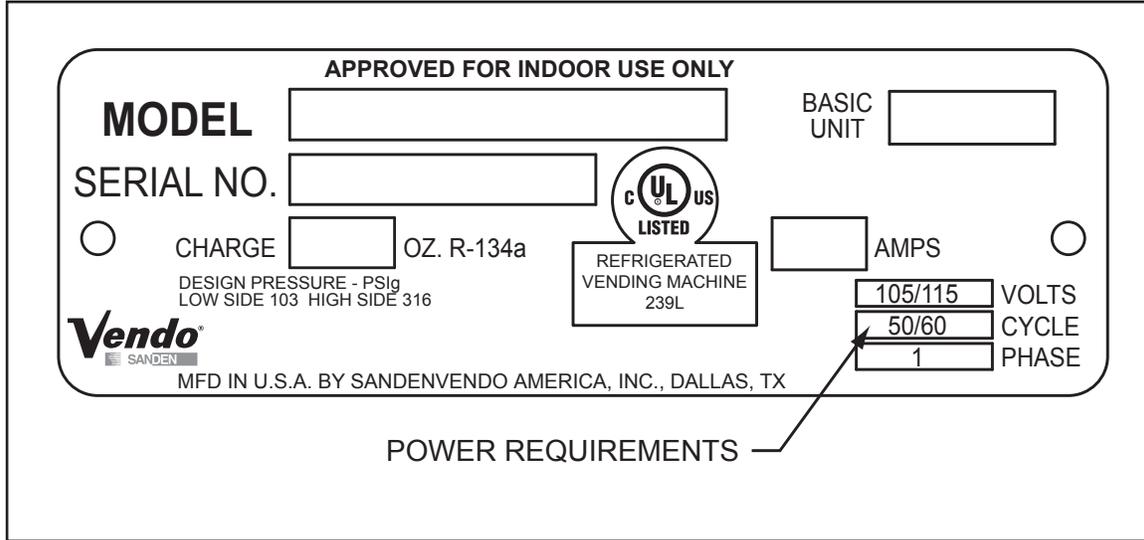
FIGURE 1

NOTE: The **Model** number of the vending machine is located on the top, left hand corner of the serial plate. A typical model number could read "320GFT001". The 320 is the model number, GFT represents the product line of the vendor, and the remaining digits tell what options are included.

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TRAY LABEL INSTALLATION

Insert tray I.D. labels as shown in Figure 2. The top left hand position is "10", and tray locations to the right of this position are numbered "11", "12", etc. from left to right. The second shelf from the top begins its column numbering with "20"; the third shelf begins with "30" and so on.

Insert price labels in the area indicated. Product I.D. labels can be inserted in each product pusher as indicated.

PRODUCT I.D.
LABEL PLACEMENT

TRAY I.D.
LABEL PLACEMENT

PRICE LABEL
PLACEMENT

PRICE LABEL
PLACEMENT

TRAY I.D.
LABEL PLACEMENT

FIGURE 2

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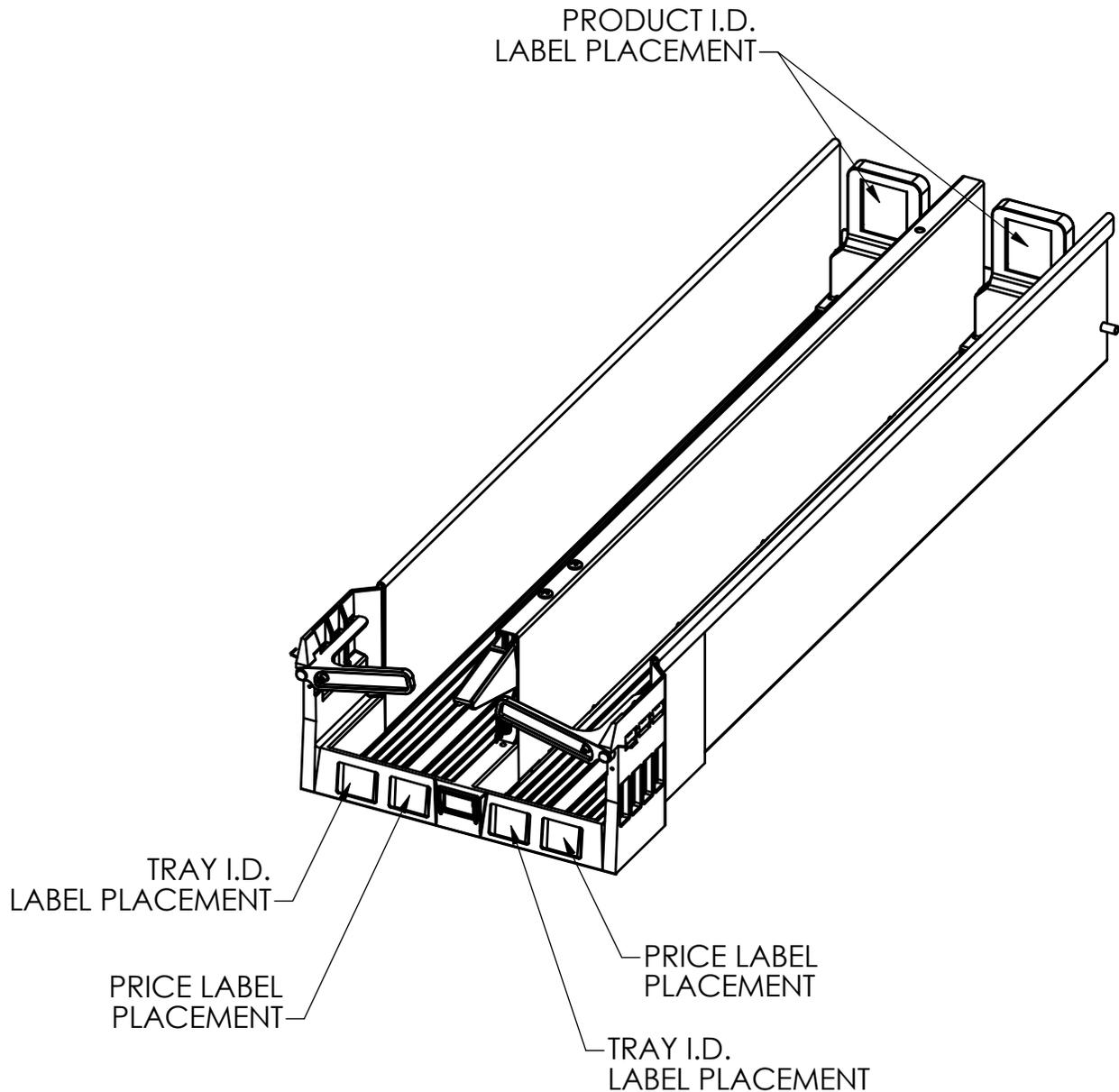
LOADING INSTRUCTIONS

BASIC LOAD SET-UP

1. Withdraw the tray from the cabinet by lifting slightly before pulling toward you. The tray will tilt down slightly to ease loading. Pull forward until the tray stop is reached.

2. Push the product pusher to the rear of the tray. The product pusher should lock into place in this position. Add new product to the tray. When the tray is pushed back onto the shelf, the product pusher will automaticlly unlock, and move to the back of the product queue. Ensure the tray is fully latched into position on the shelf.

   It is suggested that one tray is loaded at a time, to maintain stability.

VEND MECHANISM PART DESCRIPTION

PRODUCT PUSHER

LEFT HAND GATE

CENTER GATE

RIGHT HAND GATE
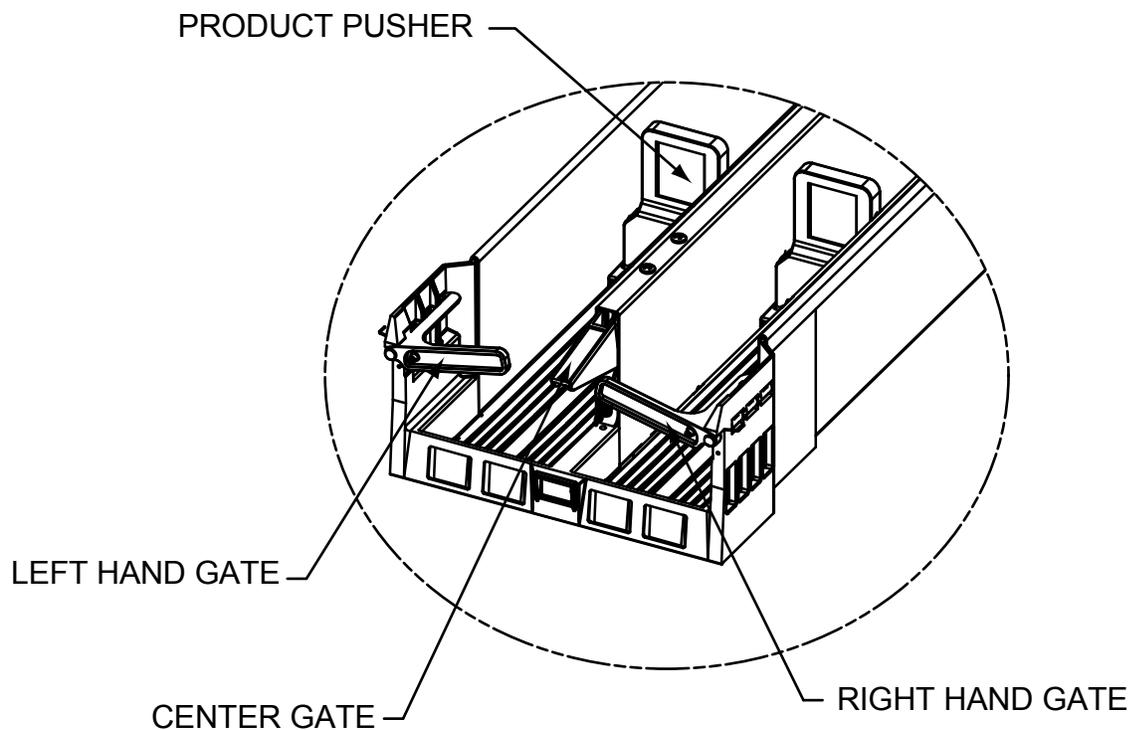
TRAY ASSEMBLY DETAIL

FIGURE 3

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VUE VENDOR PART DESCRIPTION (CONTINUED)

LIGHT

COINAGE
MOUNTING
SLIDE

HOPPER
ASSEMBLY

X - RAIL
Y - RAIL
HAND ASSEMBLY

POWER
DISTRIBUTION
ASSEMBLY

TRAY AND SHELF ASSEMBLIES
(SEE PREVIOUS PAGE FOR TRAY DETAIL)

REFRIGERATION
CASSETTE

FIGURE 4

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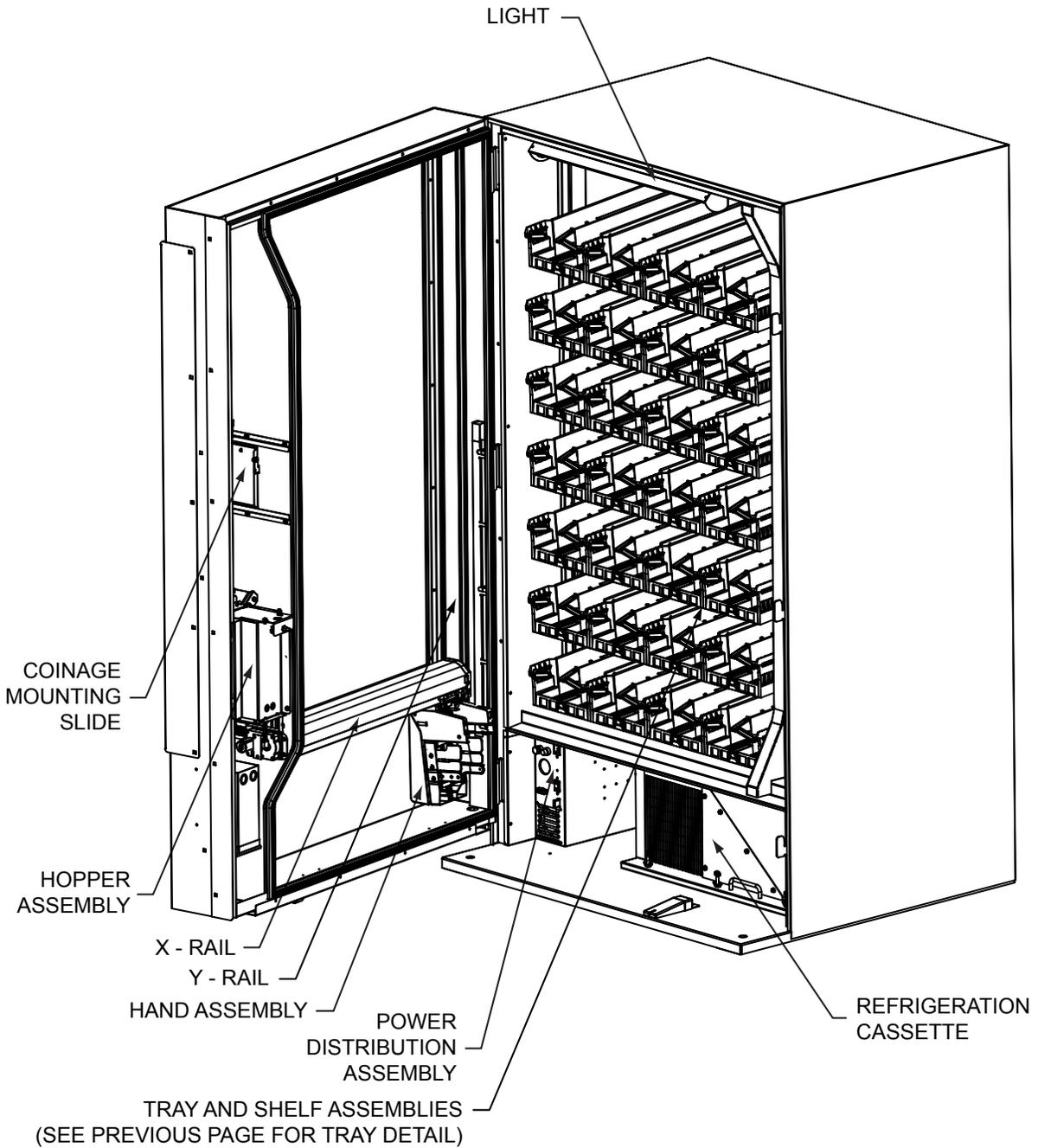
NOTES

VEC 15
PROGRAMMING SECTION

VEC 15 PROGRAMMING OPERATION

The VEC 15.1 Controller uses a 4-button programming system:

Programming Buttons: # 1 – Exit/ Home
                                   # 2 – Increase/ Advance
                                   # 3 – Decrease/ Backup
                                   # 4 – Enter/ Save

```
1  2  3
4  5  6
7  8  9
CLR 0 ENT
```

DISPLAY KEYPAD

To access Mode functions, open the door. Locate the Mode Button on the Main Control Board and press until Diagnostics appears. Use selection button 2 or 3 to navigate through the modes.

The Modes are as follows:
Diagnostics
Coin Payout
Tube Fill
Test Mode
Calibration
Cash Data
Sales Data
Discount Counter*
Free Counter*
Set Price
Configuration
Door Closed Password
Set Language
Set Clock **
Lighting **
Refrigeration ***

Sales Block 1-8 **
Discount **
Override ****
Custom Message
Return

*   For the Discount Counter and/ or Free Vend Counter to work, the option must be
         turned on and Set Clock Function must be activated and set. An override switch is
         required to activate the counters.

**   These modes will only appear when the Timing Features in Configuration is
         turned On.

***   Limited options appear in this mode depending on whether the Timing Features in
         Configuration is On/Off.

****   A secondary 'kit' is required for this option.

Note: Items that are in quotes, for example: "X Motor", are what is displayed on the 20 character display:

Diagnostics:

Press Button 4 to enter Diagnostics Mode. If no errors have occurred, the display will read "Error None". If an error code displays, enter the code using Button 4. Press Button 2 to advance through the 'detailed summary' of the individual error codes. To clear the errors, press and hold Button 4. The display will read "Error None". To exit the Diagnostics Mode, press Button 1.

Coin Payout:

Coin Payout Mode allows the operator to 'test' for proper operation of the changer tubes.
1. Enter on Button 4.
2. Advance on Button 2 to choose denomination.
3. Enter on Button 4 to dispense denomination displayed.
4. Exit on Button 1.

Tube Fill:

The changer coin tubes can be filled via the external coin insert plate or the acceptor part of the changer. This mode enables the Control Board to keep an accurate count of the coins.
1. Enter on Button 4.
2. Insert coins through either the coin insert slot or acceptor part of the changer. The controller will display the 'value' and quantity of coins in the changer tubes.

Test Mode:

Test Mode   Vending:
Up to five products can be vended in this mode.
1. Press Button 4 – Display will read 'Close Door to Vend'.
2. Close outer door.
3. Display will read 'Please make a selection'.
4. Product should dispense.

Test Mode   Test Hopper Flap:
1. Enter on Button 4 – Testing in Progress – followed by Hopper Flap open/ wait/ close will display while performing these actions.
2. Exit on Button 1.

Test Mode   Test Hopper Bucket:
1. Enter on Button 4 – 'Testing in Progress' followed by 'Hopper Bucket open/ Hopper Bucket close' will display while performing these actions.
2. Exit on Button 1.

Test Mode   Test Vend Detection:
1. Enter on Button 4 – Display will read 'Testing in Progress' followed by:

   ●●● – there is nothing blocking the optics, or ○○○ – optics are blocked.
   Hopper Bucket will open to allow blocking/ unblocking of the optics.
2. Exit on Button 1.

**Test Mode   Test Motors:**

After completion of work in Test Motors, please ensure that X, Y, Z and Clamp Motors have returned to the 'Home' position before closing the outer door.

**Test Motors   X Motor:**
1. Enter on Button 4 – 'Pls wait….Entering Test Motors Mode', followed by 'Test Motors   X Motor' – Rail should move to the top of the vendor.
2. Enter on Button 4 – X Motor   Go Home.
3. Enter on Button 4 – 'Testing in Progress' – Hand should move to the Lock side of the door.
4. Exit on Button 1.
5. Advance on Button 2 – 'Go Opposite of Home'.
6. Enter on Button 4 – 'Testing in Progress' – Hand should move to hinge side of the door.
7. Press Button 1 twice to exit – Test Motors   X Motor.

**Test Motors   Y Motor:**
1. Advance on Button 2 – Test Motors   Y Motor
2. Enter on Button 4 – 'Y Motor   Go Home'
3. Enter on Button 4 – 'Testing in Progress' – Rail should move to the bottom of the door.
4. Exit on Button 1
5. Advance on Button 2 – 'Y Motor   Go Opposite of Home'
6. Enter on Button 4 – 'Testing in Progress' – Rail should move to top of door
7. Exit on Button 1 twice – 'Test Motors   Y Motor'

**Test Motors   Z Motor:**

1. Advance on Button 2 – ' Test Motors   Z Motor'
2. Enter on Button 4 – Calibration – Z Pos   Z Cycle
3. Enter on Button 4 - Testing in Progress – Hand Clamp moves towards the shelves, pauses momentarily, then retracts.
4. Exit on Button 1 twice – Test Motors   Z Motor
* Note – Do not apply pressure to the 'Arm' as it could potentially jam. Power down vendor, wait 10 seconds, power on. Vendor should 'Home' any out of sync parts on the arm.**

Test Motors   Clamp Motor:

1. Enter on Button 4 – 'Clamp Motor   Clamp Open'
2. Enter again on Button 4 – 'Testing in Progress' – the Fingers on the Hand should open

*** The Hand will not open if it is already open***

3. Exit on Button 1
4. Advance on Button 2 – 'Clamp Motor   Clamp Close'

*** The Hand will not close if it is already closed***

5. Enter on Button 4 – 'Testing in Progress' – The Fingers on the Hand Clamp should close
6. Press Button 1 twice to exit

Test Motor   Get X Y Z Positions:
This is not applicable unless there is a problem. Please refer to the detailed instructions in the 'Trouble Shooting Section' of the Vue 30/40 Manual.

<p style="text-align:center;color:red">**ALWAYS ENSURE THE CLAMP HAND HAS RETRACTED
BEFORE CLOSING THE DOOR**</p>

Note – When you are in any Test Motor operation where the 'HAND' is Extended be sure to EXIT MODE on Button 1 before closing the Door

Test Mode   Sensor Status:

1. Enter on Button 4 - Sensor Status - ● – Inactive or ○ – Active

    X ● or ○   - X Home Sensor located on the Z Housing

    Y ● or ○   - Y Home Sensor located on the X Rail

    Z ● or ○   - Z Home Sensor located on the PDC

    C ● or ○   - Hand Clamp Sensor located on the Hand

    F ● or ○   - Forward Looking Optics – Located on the top right corner of the Hand.
     If any 'Reflectors' are removed/ fall off of the Hinged or Lock Side of the vendor and it is a 5 shelf unit – it will fail the Discovery. In 'Discovery' they must be on all outside shelves. The middle shelves do not matter.
    Note: In case the sensors are changed, press '4' to refresh the sensor status.

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Test Mode   Display:
1. Enter on Button 4
2. The 20 'boxes of pixels' on each line should illuminate
3. Exit on Button 1

Test Mode   Switches:
1. Enter on Button 4
2. Activation of individual selection buttons (1 – 12) should display
3. To Exit, press and hold Button 1 for 5 seconds or until Display returns to 'Test
   Mode   Switches'

Test Mode   Relays:
This Mode allows you to test the following relays:
   1. Compressor
   2. Fluorescent Light
   3. Heater
   4. Fan

1. Enter on Button 1 – Compressor 'Off'
2. Enter again on Button 4 – 'Off' flashes
3. Advance on Button 2 – 'On' flashes
4. Enter on Button 4 – Compressor should turn 'on' if relay is functional
5. Exit on Button 1 – Compressor will default back to 'Off'

Repeat steps 1 through 5 for desired relay. To exit 'Test Mode' and return to the Main Menu, press Button 1 three times.

Calibration:
Calibration   PDC Software Maintenance:
The PDC Maintenance Position Mode should only be accessed if a chip needs to be replaced in the Hand. Please refer to the 'Trouble Shooting Section' of the Vue 30/40 Manual.
1. Enter on Button 4 – Maintenance 'Off'
2. Press Button 4 – 'Off' flashes
3. Advance on Button 2 – 'On' flashes
4. Save on Button 4 – Hand should extend for access to the Control Board

*** After completion of work in 'Calibration PDC Software Maintenance', ensure that X, Y, Z and Clamp Motors have returned to the 'Home' position - Power down vendor, wait 1 minute then Power on vendor BEFORE closing the outer door. It will perform a Recovery/ Discovery automatically. ***

Calibration   Discovery:

Please refer to the Levels and explanations listed below:

Level – 0   We are not doing a 'Discovery – no motion. No Discovery is required
Level – 1   Check Physical Shelves against the stored data. If shelf is in stored data,
              is there a reflector that corresponds to it
Level – 2   Sets vendor for actual physical locations for trays and shelves

1. Enter on Button 4 – Discovery
2. Enter again on Button 4 – 'Discovery   Level 0'
3. Enter on Button 4 – 'Level 0' flashes
4. Advance on Button 2 to desired level
5. Press Button 4 to save
6. If Level 1 or 2 is chosen, the display will read 'Please close the door' followed by
   'Press 1 – Accept
7. Press Button 1 to start the Discovery process
8. Vendor will return to 'Sales Mode' when Discovery has been completed.

** Note: Calibration Menus are Password protected. Please contact Technical Service:
        1-800-344-7216 for assistance in changing vendor configuration.*

Trays/Shelves Numbering Diagram
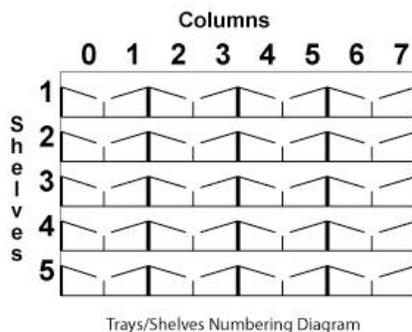
Calibration   Discovery Correction:
Allows the user to alter vending positions in X and Y for the entire vendor, a particular shelf or a particular tray set. **This mode is used in Trouble Shooting only.**

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Calibration Test Vend Pos:

Allows the vendor to do a self-test and change vending positions if it encounters a problem with vending. It can test the entire vendor, a particular shelf or a particular tray set.

1. Enter on Button 4 – Test Vend Pos – Dsbl will display - Dsbl is flashing
2. Advance on Button 2 to choose either All, Tray or ShLf
3. Press Button 4 to 'save' setting – Please close the Door followed by:
   Press 1 – Accept, 8 – Cancel will display
4. Press Button 1 to begin the test vend process
5. Refer to 'Calibration Get Failures' to view the results of this test.

For Shelves and Columns use this diagram:

Trays/Shelves Numbering Diagram
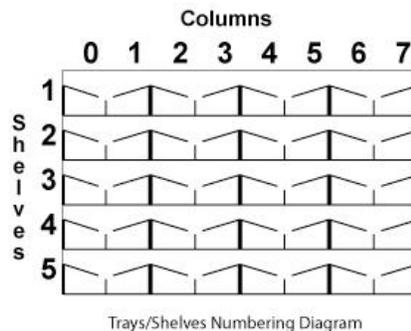
For Tray Numbers use this diagram:

Trays Numbers
(from left to right)

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![Vendo SANDEN logo]
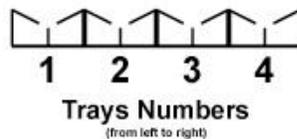
Calibration   Test Vend w/pdt:
Allows the vendor to do a self- test of all positions including running the Hopper Flap and Hopper Bucket.
1. Enter on Button 4 – Calibration – Test Vend w/pdt Dsbl
2. Enter on Button 4 again – Dsbl flashes
3. Advance on Button 2 to All
4. Press Button 4 to 'save' setting – Display will read - Please close the Door followed by
    Press 1 – Accept
5. Press Button 1 to start the Test Vend process

Calibration   Get Failures:
While self-testing, the PDC creates a log of errors it encounters. This function allows you to step

through these errors. For each location on the shelf ● indicates success while ○ indicates a failure.

Example: |●●|●●|●●|●●|

1. Press Button 4 to scroll to shelves to view any failures
2. Press Button 1 to exit

Calibration   Set # of Trays:
Allows the operator to 'choose' the number of 'Trays' in the vendor.
1. Enter on Button 4 – 'Set # of Trays   3, 4 or 5'
2. Enter on Button 4 – '3, 4 or 5' is flashing
3. Advance on Button 2 to desired Tray Setting that matches the vendor
4. Press Button 4 to 'save' setting
5. Press Button 1 to send the new setting to the Main Controller. Display will read – Please wait then exit automatically to Calibration – Set # of Trays
*** Number of Trays MUST match the Vendor ***

Calibration   Set Z pdt Position:
Allows the operator to adjust the depth that 'Z' goes into the vendor to retrieve product.
1. Enter on Button 4 – 'Set Z pdt Position'. Current position is shown
2. Enter on Button 4 – Current position is flashing
3. Advance on Button 2 to desired product position
4. Press Button 4 to 'save' setting
5. Press Button 1 to send the new setting to the Main Controller. Display will read –
    Please wait then exit automatically to Calibration – Set Z pdt Position

Cash Data:

This Mode allows you to retrieve the total Historical Cash from product purchases.
1. Enter on Button 4 – the non re-settable, Historical Cash Total will scroll
2. Advance on Button 2 to scroll through the shelves
3. Enter on Button 4 to show the columns in the shelves
4. Press Button 1 to exit.

Sales Data:

This Mode allows you to retrieve the total Historical Sales from product purchases.
1. Enter on Button 4 – the non re-settable, Historical Sales Total will scroll
2. Advance on Button 2 to scroll through the selections
3. Enter on Button 4 to show the columns in the shelves
4. Press Button 1 to exit.

Discount Counter:

This Mode will only display when 'Discounts' are used. It allows access to the Sales and Cash Data for discounted vends.
1. Enter on Button 4 – 'Cash Data'
2. Enter again on Button 4 – Display will read 'Cash Data Total' and display the value of all discounts towards paid sales. This total is non re-settable and begins when the 'Discount' feature is enabled.
3. Advance on Button 2 to scroll through the various selections
4. Press Button 1 to exit
5. Advance on Button 2 – 'Sales Data'
6. Enter on Button 4 – 'Sales Data Total' will display as well as the number of discounted sales. This total is non re-settable and begins when the 'Discount' feature is enabled
7. Advance on Button 2 to scroll through the various selections
8. Press Button 1 to exit.

Free Counter:

This Mode will only display when 'Free Vends' were made. It allows the user access to the number of 'Free Sales and Cash Data' lost.
1. Enter on Button 4 – Cash Data total XX.XX, which is the value of the money lost based on the set price. This total is non re-settable and begins when the 'Free Vend Override' is enabled.
2. Advance on Button 2 – 'Sales Data Total X', which is the total number of products dispensed. This total is non re-settable and begins when the 'Free Vend Override' is enabled.
3. Press Button 1 to exit.

Clearing the Cash Data, Sales Data, Discount Counter or Free Counter:
To reset the individual selection counter, scroll to the selection number, press and hold buttons
 # 1 and 4 for 3 seconds, **0000 will display**. You can also set 'MIS Auto Reset ' to 'On' under
'Configuration'

Set Price:

This Mode allows you the option to price each selection to the same vend price, or price each shelf, tray or column. (_Refer to diagram on next page_)

To set all selections to a 'single price':

1. Enter on Button 4 – All Selections .XX will display (current vend price)
2. Enter again on Button 4 – .XX (current vend price) will flash
3. Advance on Button 2 to increase the price
4. Press Button 3 to decrease the price
5. Press Button 4 to save change
6. Press Button 1 to exit.

To set price per shelf:

1. Enter on Button 4 – Set Price - Shelf 1
2. Enter on Button 4 again – Shelf 1 - All Columns displays
3. Enter on Button 4 – Shelf 1 – All columns XX flashes
4. Advance on Button 2/ decrease on Button 3 to desired price
5. Press Button 4 to save change – Shelf 1 – All columns XX
6. Press Button 1 – Set Price – Shelf 1
7. Advance on Button 2 – Set Price – Shelf 2
8. Set prices following steps outlined above for the balance of shelves
9. Exit on Button 1 twice to return to Set Price
** *You must price Shelf 6 & 7 although they may not be in the vendor. Otherwise a 99.95 vend price may display.* **

To set price per column:

1. Enter on Button 4 – Shelf 1 – All Columns
2. Advance on Button 2 to begin pricing individual columns
3. Enter on Button 4 – Column 0 and current price flashes
4. Advance on Button 2/ decrease on Button 3 to desired price
5. Press Button 4 to save change
6. Continue as outlined above for all columns on Shelf 1
7. Press Button 1 to exit once all columns on Shelf 1 have been priced.
8. Advance on Button 2 – Shelf 2
9. Price columns as indicated above for Shelves 2 through 7
10. Exit on Button 1 twice to return to Set Price
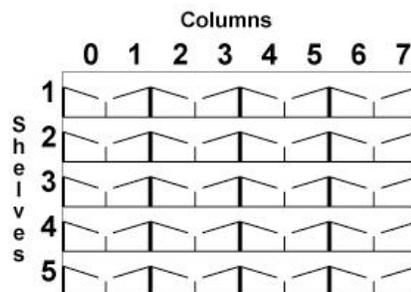
Trays/Shelves Numbering Diagram

Configuration:

To change individual options for Configuration Settings, enter the option on Button 4. Re-enter on Button 4, 'On or Off' will be flashing. Advance to 'On or Off' on Button 2 and save the change on Button 4. Program each Configuration Option in this manner.

Configuration Options are detailed below:

Multi-Price:

On – Selections may be programmed individually

Off – Single Price based on price of Selection 1

Timing Features:

On - Access to 'Clock Settings' and associated modes

Off – Access is denied

Door Summary:

On - Sales, Cash and Errors are displayed when outer door is opened

Off – Sales and Cash are not displayed, error summary will be

MIS Auto Reset:

On - Pressing the Door Switch will reset individual selection data back to 0

Off – Sales and Cash Data will not be reset by the Door Switch

Consumer Overpay:

On - Money will be accepted when the 'Correct Change Light' is on and there is in-
       sufficient coin in the coin tubes.

Off – Exact change only required to make a vend

Save Credit Timer:

On - Credit established will display for 5 minutes only

Off – Credit established will remain until either a vend is made or the coin return is
       pressed.

Force Vend:

On - The consumer will not be able to deposit money, press the coin return and
       receive change without attempting a vend first.

Off – Vendor is set as a 'change' machine. Consumer can deposit money, press the
       coin return and receive change.

Multi-Vend:

On - The consumer may insert sufficient credit to make multiple purchases.
       Remaining credit will display until consumer either makes another selection
       or presses the coin return.

Off – Consumer makes a single purchase and change is returned immediately.

Configuration (Cont.):

Deny Escrow:
On - Validator will stack all bills received
Off – Validator will 'hold' the bill in 'escrow' until the vend is complete.
      if the consumer presses the coin return the 'bill' is returned to them.
S/O (Error) Indicator:
On - A small symbol - (♦) will appear in the lower right hand corner of the display
      when the vendor detects an error or a sold out column.
Off – The symbol will not appear.
Count by Selection/Price:
Count by Selection – Individual Sales and Cash Data are displayed.
Count by Price – Individual Sales and Cash Data is reported by vend price.
MIS Reset with DEX:
On - Non-Historical MIS Data will reset when a DEX read has been done.
Off – No MIS Data will be reset.
Double Talk: - This is a kit supplied by a third party source**
On - Module will vocalize messages.
Off – Module will not vocalize messages.
Display Scroll:
On - Messages 'Scroll' from left to right side of display.
Off – Messages do not scroll.
Display Temperature:
Off – Cabinet temperature will not display.
Ref – Internal Refrigeration Temperature will display as 'Refrigeration Temperature'.
Cbt – Internal Cabinet Temperature will display as 'Cabinet Temperature'. **
** Note: Requires Temperature Lockout Kit in order to display
Vend Protect:
On – The 'Hand' will stay next to the flap until product is removed/ bucket closes.
Off – The 'Hand' will return to the 'Home' position after product is delivered to
        the vend flap.

Door Closed Password:

Allows the operator to set a password to access Sales Data when the door is closed. **This
function does not work if a vend price is set at 0.00 **
1. Enter on Button 4 – current 'Password' will display with the 1st digit flashing
   indicating that it is ready to be edited
2. Press Buttons 2 and 3 to change the digits. NOTE: Valid digits are 1 through 6.
   The Password 0000 will disable this feature.
3. Press Button 4 to save digit and advance to the next
4. Press Button 4 after 4th digit is assigned – Door Closed Password will display
** Do not close door prior to programming all 4 digits of the password.

Set Language:

The current Languages available for programming are: English, Spanish and French.

1. Enter on Button 4 – current language will display
2. Enter on Button 4 again – current language flashes
3. Advance on Button 2 to desired language
4. Press Button 4 to save
5. Press Button 1 to exit.

Set Clock:

When the 'Timing Features' in Configuration Mode is turned 'On', this Clock can be set.

1. Enter on Button 4 at Set Clock – Enable Off will display (If no prior programming was done)
3. Enter on Button 4 – Off will flash
4. Press Button 2 to advance Off to On
5. Press Button 4 to save setting
6. Advance on Button 2 – 'Daylight Savings'
7. Enter on Button 4 – current setting will display
8. Press Button 4 – current setting flashes
9. Advance on Button 2 to desired setting
10. Press Button 4 to save setting
11. Press Button 1 to exit Daylight Savings
12. Advance on Button 2 - MM/DD/YYYY HH:MM will display
13. Enter on Button 4 – MM flashes (month)
14. Advance on Button 2 to correct month
15. Press Button 4 to 'save' – DD flashes (day)
16. Advance on Button 2 to correct day
17. Press Button 4 to 'save' – YYYY - with YY flashing (last 2 digits of year)
18. Advance on Button 2 to correct year
19. Press button 4 to 'save' – HH flashes (hour)
20. Advance on Button 2 to correct hour
21. Press Button 4 to 'save' – mm flashes (minutes)
22. Advance on Button 2 to correct minutes
23. Press Button 4 to save setting – MM/DD/YYYY HH:MM will display
24. Press Button 1 to exit - Set Clock

Lighting:

'Timing Features' in Configuration Mode must be turned 'On' to access this feature. You have the option to turn the lights or LED off once during a 24-hour period for energy conservation. The options available are Cabinet and LED.

Example:

> Lighting Mode – Enable On/ Off
> Lighting – Cabinet
> Start Time 1 – Start Day 1 – Mon-Sun/Everyday
>   Start 1 hh:mm
> Stop Time 1 – Stop Day 1 – Mon-Sun/Everyday
>   Stop 1 hh:mm
>
> Lighting – LEDs
> Start Time 2 – Start Day 2 – Mon-Sun/Everyday
>   Start 2 hh:mm
> Stop Time 2 – Stop Day 2 – Mon-Sun/Everyday
>   Stop 2 hh:mm
> * On – associated with a programmed start/stop
> * Off – not associated with a programmed start/stop

1. Press Button 4 – 'Lighting – Mode   Enable Off (if no prior program was set)
2. Press Button 4 – Off is flashing
3. Advance on Button 2 – On
4. Press Button 4 to save setting – Lighting – Mode Enable On
5. Press Button 4 to 'save'
6. Advance on Button 2 – Lighting Cabinet
7. Advance again on Button 2 – Lighting LEDs

To Set Lighting Cabinet or Lighting LEDs:

1. Press Button 4 to enter – Start Time 1(Lighting) or Start Time 2 (LEDs)
2. Press Button 4 again – Start Day 1 or 2 – mon-sun-everyday Off/On
3. Press Button 4 again – Off/On flashes
4. Press Button 2 to scroll between On/Off
5. Press Button 4 to save setting
6. Press Button 1 - Start Day 1 or 2
7. Advance on Button 2 - Start 1: 08:00 (if no prior programming was set – hh:mm)
8. Enter on Button 4 at 'Start 1 or 2 - the 08 flashes (hour)
9. Advance on Button 2 to desired setting
10. Press Button 4 to save – :00 begins flashing (minutes)
11. Advance on Button 2 to desired setting
12. Press Button 4 to save setting – Start 1 or 2 and hh:mm you programmed will display
13. Press Button 1 - Start Time 1or 2
14. Press Button 2 to advance to Stop Time 1or 2
15. Press Button 4 – Stop Day 1 or 2
16. Press Button 4 – Stop Day 1 or 2 – mon-sun-everyday Off/On
17. Repeat above steps for Stop Time 1or 2

Refrigeration:

If 'Timing Features' in Configuration Mode are 'Off', you will only have access to the following features:
Set point
Sensor Reading
Degree X – Celsius or Fahrenheit
Fan Default
Periodic Defrost – On/Off
When Timing Features is set on in Configuration, you can raise the cabinet temperature 18 °F/ 4°C twice during a 24 hour period for energy conservation.

Refrigeration:

1. Enter on Button 4 – 'Set Point'
2. Enter on Button 4 – current 'Set Point' will display – (Factory setting is 36°F/2°C)
3. Press Button 4 – current temperature will flash
4. Press Button 2 or 3 to scroll through the following settings:

Temperature setting	32	33	34	35	36	37	38	39	40
Cut-in Temperature (F)	34	35	36	37	38	39	40	41	42
Cut-out Temperature (F)	31	32	33	34	35	36	37	38	39
Nominal Temperature (F)	32	33	34	35	36	37	38	39	40
Nominal Temperature ©	0	0.5	1	1.5	2	2.5	3	3.5	4

5. Press Button 4 to 'save' desired setting
7. Press Button 1 to exit – Set Point
8. Advance on Button 2 – Sensor Reading
9. Press Button 4 – Current reading in either F/C will display – must be set as Ref in Configuration first.
10. Press Button 1 – Sensor Reading
11. Advance on Button 2 – Degree F/C
12. Enter on Button 4 – current setting flashes
13. Press Button 2 to scroll between F/C
14. Press Button 4 to save desired setting

Fan Default:

Default Mode: Fan on/off behaves in same respect as the compressor.

Mode 1: Fan is time delayed with compressor cut in/cut out

1. At cut in, fan will come on 1 minute after compressor turns on
2. At cut out, fan will continue to run 1 minute after compressor is off
3. Fan off with door switch activation

Periodic Defrost:
1. Press Button 4 – On/Off
2. Press Button 4 – On/Off flashes
3. Advance on Button 2 to desired setting
   On – The vendor will defrost every 6 hours for 30 minutes. This feature is used in extremely high humidity environments.
   Off – The vendor will not defrost every 6 hours.
4. Press Button 4 to 'save' setting
5. Press Button 1 to exit

When 'Timing Features' in Configuration are turned 'On', the following Modes are accessible:

```
Refrigeration – Enable Timer On/Off
Start Time – Start Day 1/2 – Mon-Sun/All
              Start hh:mm
Stop Time – Stop Day 1/2 – Mon-Sun/All
              Stop hh:mm
```

Enable Timer:
1. Press Button 4 – On/Off flashes
2. Advance on Button 2 to desired setting
3. Press Button 4 to 'save' setting
4. Press Button 2 – Start Time 1. Time Refrigeration turns off/begin conservation
5. Press Button 4 – Start Day 1
6. Press Button 4 – current setting flashes
7. Press Button 2/ 3 to scroll through days of the week or 'All'
8. Press Button 4 – On/Off flashes
9. Advance on Button 2 to desired setting
10. Press Button 4 to 'save' setting
11. Press Button 1 to exit – Start Day 1
12. Press Button 2 to advance to Start 1 hh:mm
13. Press Button 4 at Start 1   hh:mm – hh flashes
14. Press Button 2 to set the hh
15. Press Button 4 to 'save' setting – mm flashes
16. Press Button 2 to set: mm
17. Press Button 4 to 'save' setting
18. Press Button 1 to exit – Start Day 1
19. Advance on Button 2 – Stop Day 1
20. Follow the steps outlined above to complete Stop Time 1, Start Time 2, Stop Time 2
21. Press Button 2 to advance

TempLO (Temperature Lock Out):
1. Enable timing feature in configuration
2. Advance on button 2 to TempLO shlf 1
3. Press Button 4 – Disable will flash
4. Advance on Button 2 – Enable
5. Press Button 4 to 'save' setting
6. Continue in above manner for all shelves associated with Temperature Lockout

Note: The Temperature Lockout Feature (TempLO) requires an additional temperature sensor connected at the top left on the inside of the cabinet. When the cabinet temperature is above 41ºF/ 3.5 ºC for more then 15 minutes, the vendor will shut down any shelves associated with the Temperature Lockout Feature.

Sales Block: (8 Blocks are available in this Mode)
Sales Block allows the operator to turn Selections On/Off at 8 intervals during a 24-hour period. Times must <u>not</u> overlap. You must enter the following information:

> Selections – the selection buttons that will be disabled during the blocked time
> > Start Time – the time selections will be 'Off Line'
> > Start Days – the days selections will be 'Off Line'
> > Stop Time – the time selections will turn back 'On'
> > Stop Days – the days selections will turn back 'On'

Sales Block 1 – 8 Cont'd:

Sales Block 1:

1. Press Button 4 – Enable On/Off, Light
> > Enable Off – Block Function is disabled
> > Enable On – Block Function is enabled
> Enable Light – Block Function is enabled and lights are off when blocking occurs
2. Press Button 4 – On/Off Light flashes
3. Press Button 2 to advance to desired setting
4. Press Button 4 to 'save' setting – your choice will display
5. Press Button 2 to advance to – Selections

Choose Selections:

1. Press Button 4 at Selections – All Selections On/Off will display
2. Press Button 4 – On/Off flashes
3. Advance on Button 2 to desired setting
4. Press Button 4 to 'save' setting
5. Press Button 1 to exit

Set all Selections:

1. Press Button 4 – All Selections On/Off
2. Press Button 4 – On/Off flashes
3. Press Button 2 to advance to desired setting
4. Press Button 4 to 'save' setting
5. Press Button 1 to exit – Selections

Selections per Shelf:

1. Press Button 4 – All Selections On/Off
2. Press Button 2 to advance to desired shelf
3. Press Button 4 – All Columns
4. Press Button 4 again – On/Off flashes
5. Press Button 2 to advance to On/Off
6. Press Button 4 to 'save' setting
7. Press Button 1 twice to exit – Selections

Set Columns:

1. Press Button 4 – All Selections On/Off
2. Press Button 2 to advance to desired shelf
3. Press Button 4 – All Columns
4. Press Button 2 to advance to desired Column
5. Press Button 4 – On/Off flashes
6. Press Button 2 to advance to desired setting
7. Press Button 4 to 'save' setting
8. Press Button 1 twice to exit

Start Time: (Beginning of Blocking Period)

1. Press Button 2 – Start Time
2. Press Button 4 – Start Day
3. Press Button 4 – Every Day
4. Press Button 2 or 3 to select days or Every Day
5. Press Button 4 to change the status of the days – On/Off flashes
   If the status is 'On', product delivery is blocked
   If the status is 'Off', product delivery is normal
6. Press Button 2 to change status
7. Press Button 4 to 'save' setting
8. Press Button 1 – Start Day
9. Press Button 2 – Start hh:mm
10. Press Button 4 – hh (hour setting0 flashes
11. Press Button 2 to advance to desired Start Hour. (Military Time)
12. Press Button 4 to 'save' setting -: mm flashes
13. Press Button 2 to advance to desired minutes
14. Press Button 4 to 'save' setting
15. Press Button 1 to exit and return to Start Time

Stop Time: (End of Blocking Period)

1. Advance on Button 2 – Stop Time
2. Press Button 4 – Stop Day
3. Press Button 4
4. Press Button 2 or 3 to select days or Every Day
5. Press Button 4 to change the status of the days – On/Off flashes
   If the status is 'On', product delivery is blocked
   If the status is 'Off', product delivery is normal
6. Press Button 2 to change status
7. Press Button 4 to 'save' setting
8. Press Button 2 – Stop hh:mm
9. Press Button 4 – hh (hour setting) flashes
10. Press Button 2 to advance to desired Start Hour. (Military Time)
11. Press Button 4 to 'save' setting -: mm flashes
12. Press Button 2 to advance to desired minutes
13. Press Button 4 to 'save' setting
14. Press Button 1 to exit and return to Stop Time
15. Pressing Button 1 again will return the operator to Sales Block 1-8 mode

Discount:

This feature permits the operator to program the vendor to discount product once during a 24-hour period. To program a Discount, you must enter the following information:

Discounted Selection(s) – Selection(s) offered at a discounted price
Start Time – Time the Discount begins
Start Day(s) – Days the Discount is offered
Stop Time – Time(s) Discount ends
Stop Day – Day(s) the Discount ends
Amount – Amount subtracted/discounted from original vend price

Choose Selections:

1. Press Button 4 – Enable On/Off
   Enable Off – Discount function is disabled
   Enable On – Discount function is enabled
2. Press Button 4 – Off flashes
3. Press Button 2 to select desired setting
4. Press Button 4 to 'save' setting – Enable 'On' will display
5. Press Button 2 – Discounted Selection

Set Discount for 'All' Selections:

1. Press Button 4 – Discount all selections 'Off'
3. Press Button 4 – 'Off' flashes
4. Press Button 2 to Advance to 'On'
5. Press Button 4 to 'save' setting
6. Press Button 1 to exit

Set Discounted Selections per Shelf:

1. Press Button 4 – Discount All Selections 'Off'
2. Advance on Button 2 to desired shelf number
3. Press Button 4 to enter – Shelf X - All Columns 'Off'
4. Press Button 4 – On/Off flashes
5. Advance on Button 2 to desired setting
6. Press Button 4 to 'save' setting
7. Press Button 1 to exit

Start Time:

1. Advance on Button 2 – Discount Start Time
2. Press Button 4 – Discount Start Day
3. Press Button 4 – Mon-Sun/Everyday
4. Press Button 4 again – Everyday flashes
5. Advance on Button 2 to desired day
6. Press Button 4 – On/Off flashes
7. Advance on Button 2 to change current status
8. Press Button 4 to 'save' setting
9. Set balance of Selections in manner described above
10. Exit on Button 1 – Discount Start Day
11. Advance on Button 2 – Start hh:mm (hour/ minutes)
12. Press Button 4 – hh flashes
13. Advance on Button 2 to desired setting
14. Press Button 4 to 'save' setting :mm flashes
15. Advance on Button 2 to desired setting
16. Press Button 4 to 'save' setting
17. Press Button 1 to exit – Start Time

Stop Time:

1. Advance on Button 2 – Stop Time
2. Press Button 4 – Stop Day
3. Press Button 4 – mon-sun/everyday
4. Press Button 4 again – everyday flashes
5. Advance on Button 2 to desired day
6. Press Button 4 – On/Off flashes
7. Advance on Button 2 to change current status
8. Press Button 4 to 'save' setting
9. Set balance of Selections in manner described above
10. Exit on Button 1 – Stop Day
11. Advance on Button 2 – Stop hh:mm (hour/ minutes)
12. Press Button 4 – hh flashes
13. Advance on Button 2 to desired setting
14. Press Button 4 to 'save' setting :mm flashes
15. Advance on Button 2 to desired setting
16. Press Button 4 to 'save' setting
17. Press Button 1 to exit – Stop Time

Set Discount Amount:

The Discount is the amount being subtracted from the regular vend price.

1. Press Button 4 - .00 flashing
2. Advance on Button 2 to desired discount amount
3. Press Button 4 to 'save' setting
4. Press Button 1 to exit – Discount Amount

Override: (Optional Kit)

The Key Switch Override Kit allows the operator to 'bypass without removing' Timing Features the operator has programmed in the controller.

On – Key Swith will override these Timing features.
Off – Key Switch will not override these Timing features.

The following Timing featuress can be programmed to the key switch.

Free Vend – On/Off
Sales Blocking – On/Off
Discount – On/Off
Light Timing – On/Off
Refrigeration – On/Off

Free Vend:

1. Enter on Button 4 – On/Off flashes
2. Advance on Button 2 to desired setting
3. Press Button 4 to 'save' setting
4. Press Button 1 to exit – Free Vend

Program Sales Blocking, Discount, Light Timing and Refrigeration in the manner described above. Press Button 1 to exit.

Custom Message:

The custom message feature allows the operator to program a 2 line X 20 character message.

Note:
1. Press Button 1 to make a space between words.
2. The message cannot be saved until all the characters on the top line have been entered.

1. Press Button 4 at Custom Message – Enable On/Off
2. Press Button 2 – On/Off flashes
3. Advance on Button 2 to On
4. Press Button 4 to 'save' setting
5. Advance on Button 2 – current messages displays
6. Press Button 4 – 1st character flashes
7. Press Button 2 to advance to desired character
8. Press Button 4 to 'save' character – immediately advances to next character
9. Continue setting message using steps outlined above
10. Press and hold Button 1 for 3 seconds to save the message and exit mode

Return:

Exits the programming mode and returns the vendor to stand-by

NOTES

CABINET SECTION
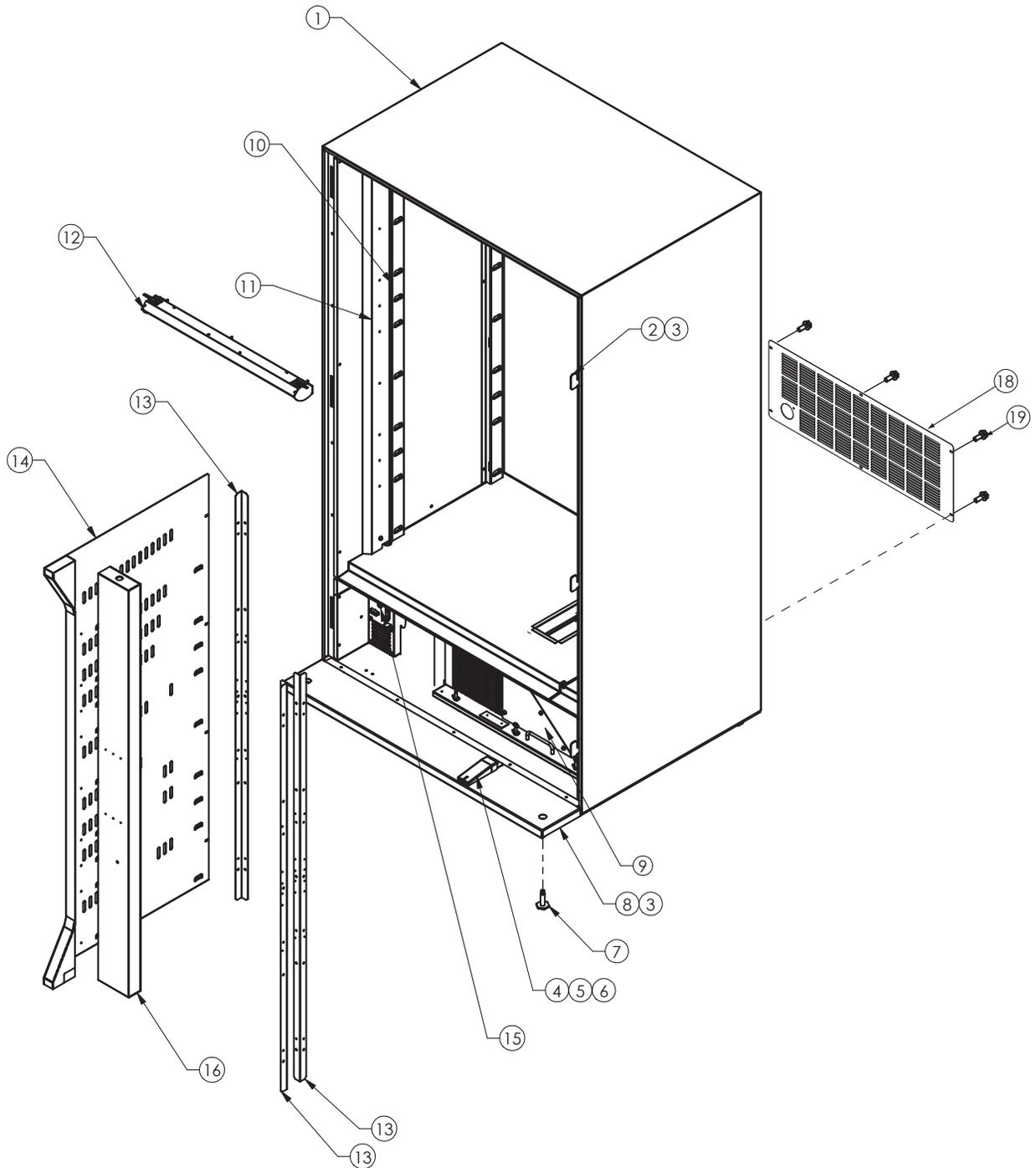
CABINET ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	FOAMED CABINET	1	*
2	CABINET LATCH	3	1125644
3	SCREW, #10 X 3/8" CR TAP	11	V802212
	RAMP ASSEMBLY	1	1127193
4	RAMP, DOOR	1	1126224
5	THUMB SCREW, 1/4-20 X .5, RAMP	1	1127060
6	SHIM PLATE, RAMP	1	1127852
7	LEVELING BOLT	4	1059902
8	BASE COVER PANEL	1	*
9	REFRIGERATION ASSEMBLY (SEE PAGE C-4)	1	~
10	CHANNEL-TRAY SUPPORT	2	1126639
11	HINGE COVER PANEL	1	1128097
12	LIGHT ASSEMBLY (SEE PAGE C-5)	1	~
13	ANGLE MOUNT, VERTICAL PANEL	3	1127646
14	AIR DUCT ASSEMBLY	1	1127962
15	POWER DISTRIBUTION ASSEMBLY (SEE PAGES C6-C9)	1	~
16	VERTICAL FOAM PANEL	1	1127988
17	HARNESS, CABINET (NOT SHOWN)	1	1127592
18	PANEL,SCREEN,REAR,41.5"	1	1126686
19	#10 X 1/2" SELF DRILLLING SCREW	6	V801489

FOR A COMPLETE LIST OF HARNESSES, PLEASE SEE PAGE C-10.

* NOTE: WHEN ORDERING FOAMED CABINET ASSEMBLY OR BASE COVER PANEL, PLEASE PROVIDE **9- CODE** AND **MANUFACTURER'S DATE CODE**.

04/2006
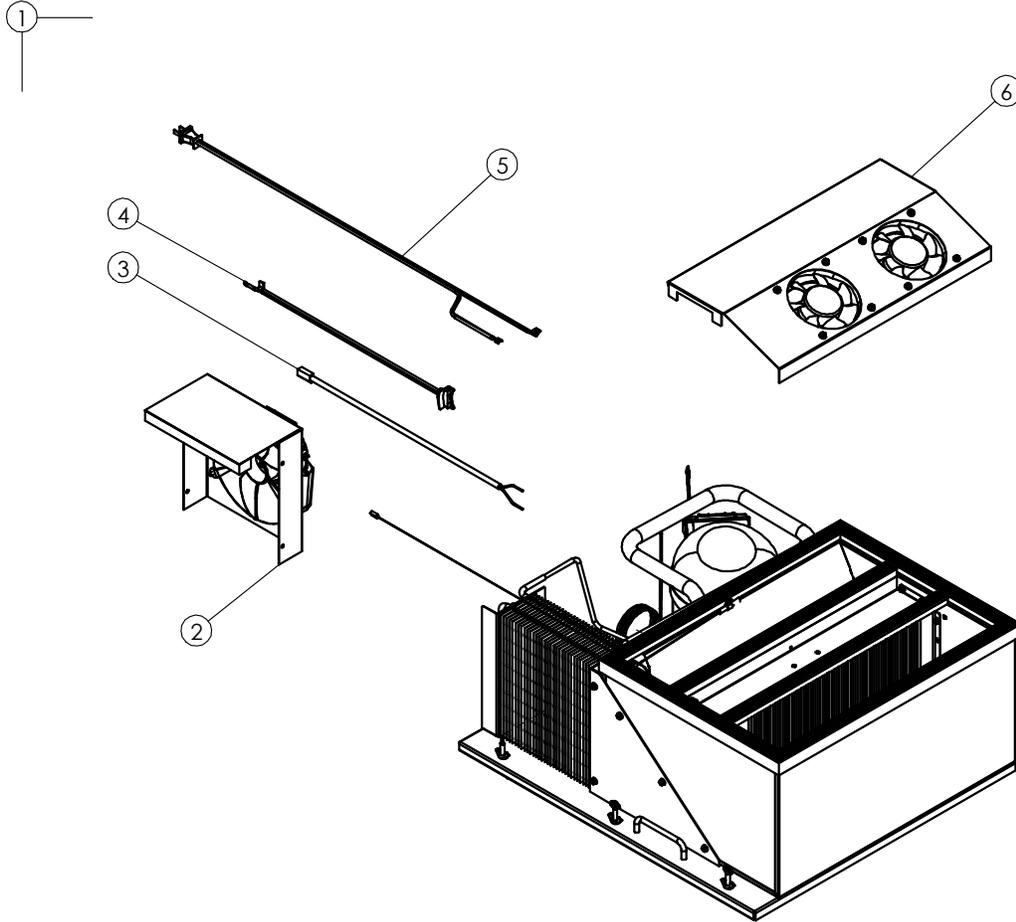
REFRIGERATION ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	REFRIGERATION UNIT ASSEMBLY, 115V	1	1033131-261
	REFRIGERATION UNIT ASSEMBLY, 230V	1	1033131-262
2	FAN ASSY, CONDENSOR, 115V	1	1126307
	FAN ASSY, CONDENSOR, 230V	1	1127995
3	HARNESS, FAN MOTOR	1	1125571
4	CORD, CONDENSOR MOTOR	1	1121020
5	POWER CORD, COMPRESSOR	1	1121019-3
6	FAN ASSY, EVAPORATOR, 115V	1	1126260
	FAN ASSY, EVAPORATOR, 230V	1	1127994

FOR A COMPLETE LIST OF HARNESSES, PLEASE SEE PAGE C-10.

04/2006
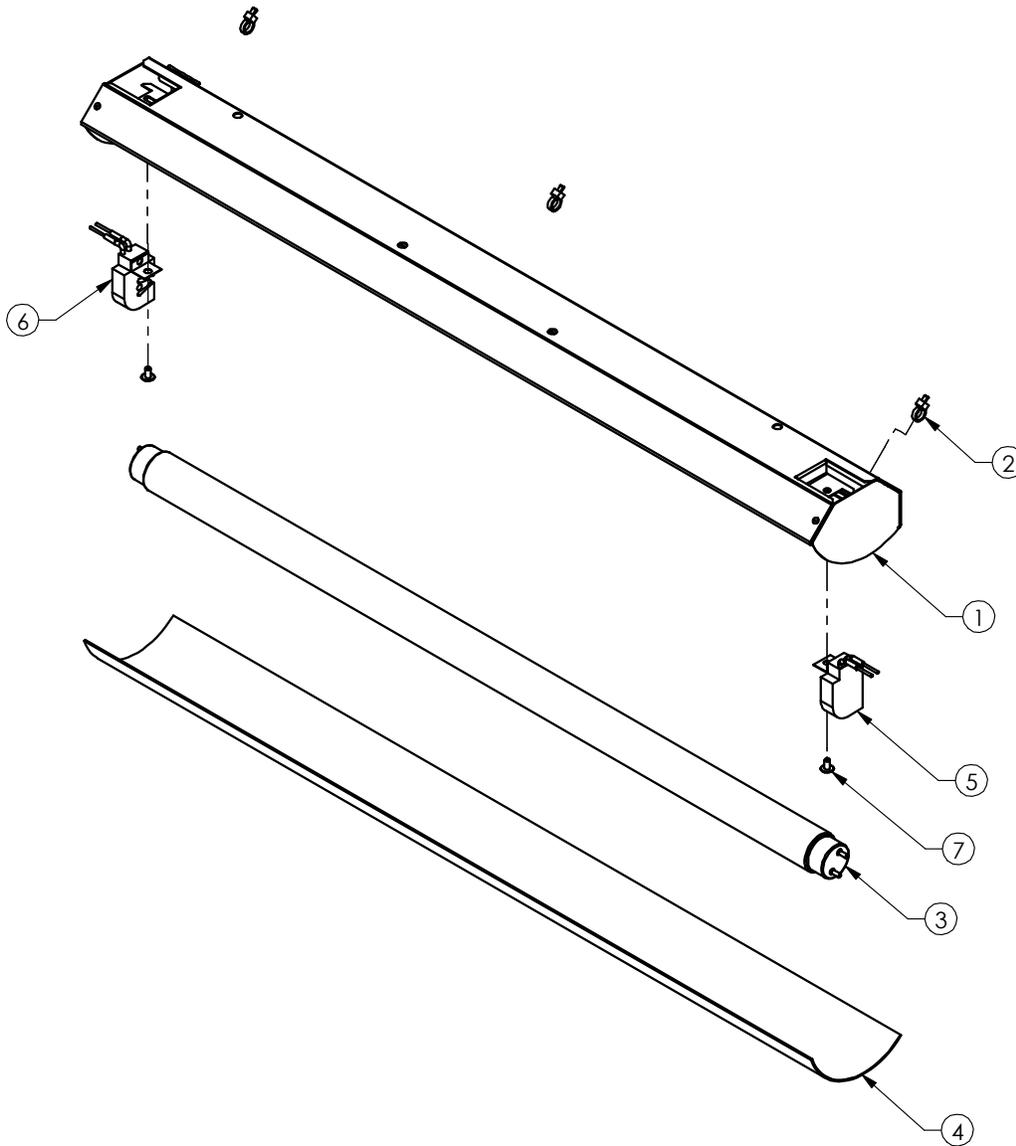
LIGHTING ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	LAMP HOLDER	1	1127650
2	TIE WRAP RT-350	3	342469-1
3	LAMP, 2FT, T-8, 17W	1	1121173
4	LAMP LENS	1	1125967
5	LAMPHOLDER, .591 RH	1	1126146
6	LAMPHOLDER, .591 LH	1	1126145
7	SCREW, 6-35 X.25 TRUSS HEAD	2	V802243

FOR A COMPLETE LIST OF HARNESSES, PLEASE SEE PAGE C-10.

04/2006
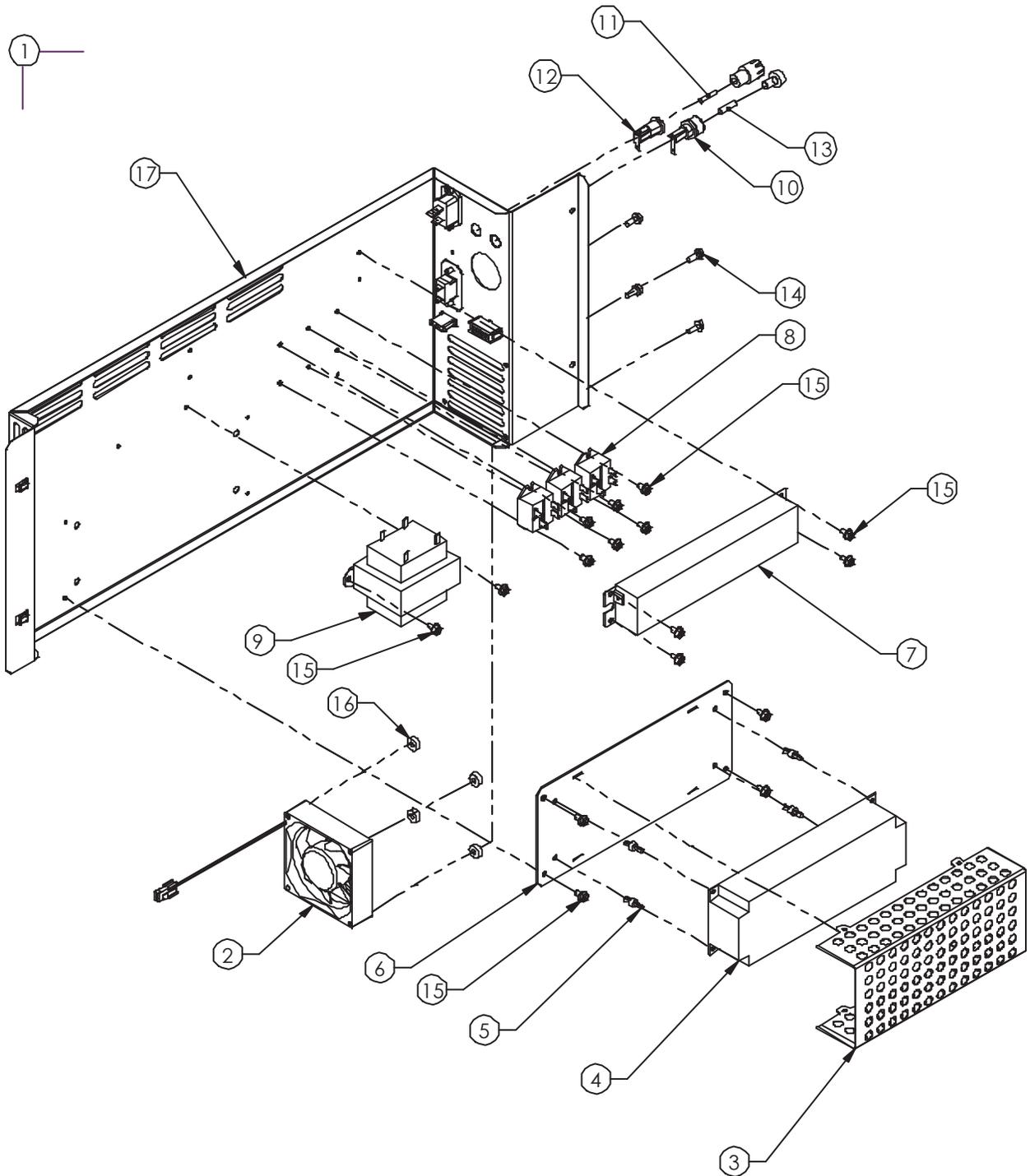
POWER DISTRIBUTION ASSEMBLY, 115V

ITEM NO	DESCRIPTION	QTY	PART NO
1	POWER DISTRIBUTION ASSEMBLY, 115 V	1	1128115
2	FAN	1	1127890
	POWER SUPPLY ASSEMBLY	1	1128111
3	POWER SUPPLY COVER	1	1127365
4	POWER SUPPLY, 24 VOLT DC	1	1127299
5	STANDOFF	4	1121740
6	POWER SUPPLY PLATE	1	1128109
7	ELECTRONIC BALLAST ASSEMBLY	1	1127556
8	RELAY, 24 VOLT DC	3	1125525
9	TRANSFORMER, 24 VAC	1	1111201
10	FUSE HOLDER	1	1128474
11	FUSE, 0.8A/250V, 3AG SLO-BLOW	1	1053864
12	FUSE HOLDER	1	1128473
13	FUSE, 3.15 AMP SLOW BLOW	1	1127484
14	SCREW, 10-16 X 1/2" HEX HEAD	4	V801422
15	SCREW, 10-16 X 5/16" HEX HEAD	16	V801421
16	BUSHING	4	1116634
17	PANEL, POWER DISTRIBUTION	1	1128056
18	HARNESS, POWER DISTRIBUTION (NOT SHOWN)	1	1127482
19	CORD SET 90 DEG. PLUG & IEC (NOT SHOWN)	1	1124281

FOR A COMPLETE LIST OF HARNESSES, PLEASE SEE PAGE C-10.

C-8
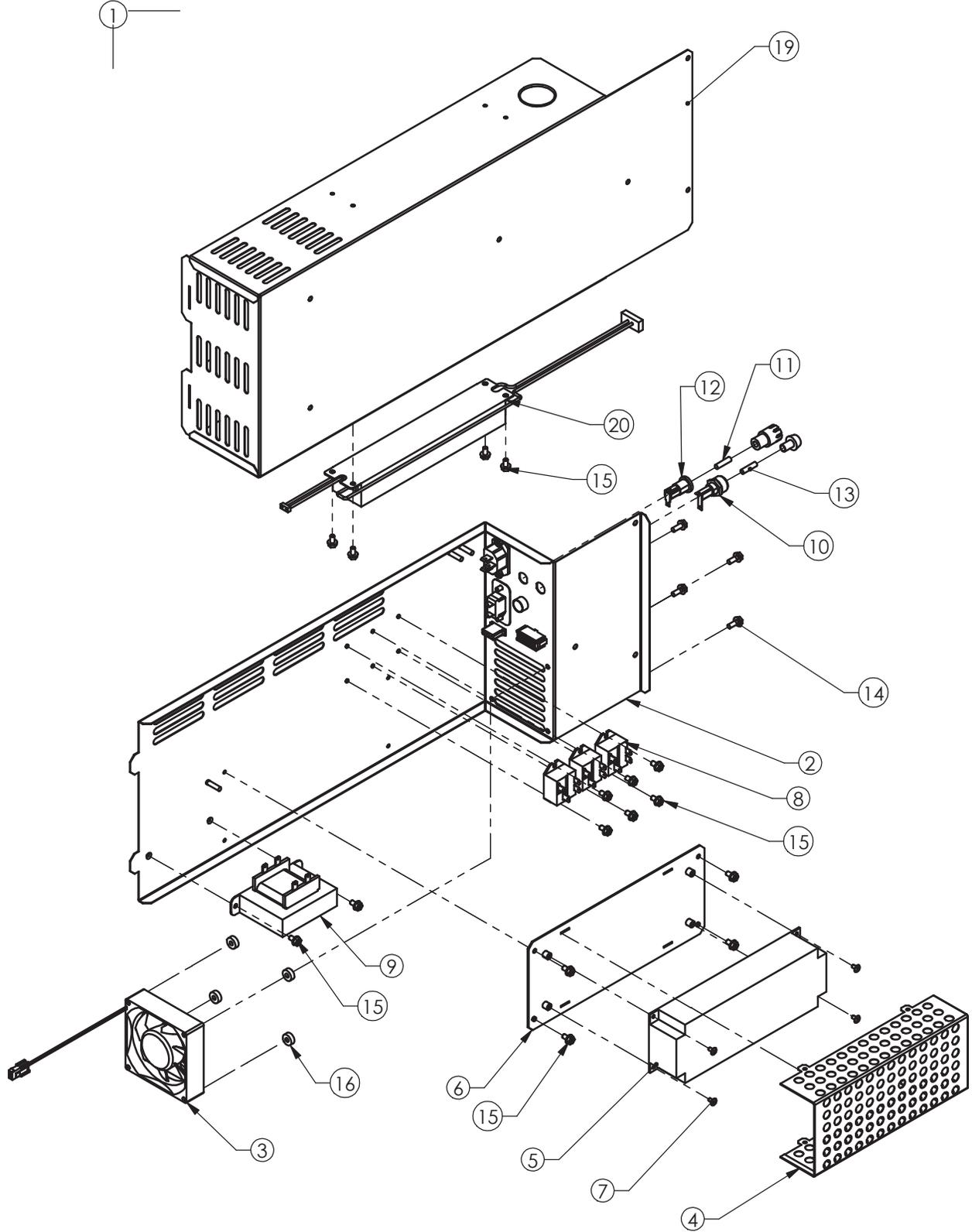
POWER DISTRIBUTION ASSEMBLY, 230V

ITEM NO	DESCRIPTION	QTY	PART NO
1	POWER DISTRIBUTION ASSEMBLY, 230V	1	1128002
2	PANEL, POWER DISTRIBUTION	1	1128056
3	FAN	1	1127890
	POWER SUPPLY ASSEMBLY	1	1128111
4	POWER SUPPLY COVER	1	1127365
5	POWER SUPPLY, 24 VOLT DC	1	1127299
6	POWER SUPPLY PLATE ASSY	1	1128110
7	SCREW, 6-35X.25 TRUSS HEAD	4	V802243
8	RELAY, 24 VOLT DC	3	1125525
9	TRANSFORMER, INTERNATIONAL, 24 VAC	1	1121932
10	FUSE HOLDER (1¼ " X 1/4")	1	1128474
11	FUSE, 0.8A/250V, 3AG SLO-BLOW	1	1053864
12	FUSE HOLDER (5mm X 20 mm)	1	1128473
13	FUSE, 3.15 AMP SLOW BLOW	1	1127484
14	SCREW, 10-16 X 1/2" HEX HEAD	4	V801422
15	SCREW, 10-16 X 5/16" HEX HEAD	16	V801421
16	BUSHING	4	1116634
17	HARNESS, POWER DISTRIBUTION, HIGH VOLTAGE (NOT SHOWN)	1	1128054
18	HARNESS, POWER DISTRIBUTION, LOW VOLTAGE (NOT SHOWN)	1	1128055
19	BOX, DISTRIBUTION PANEL	1	1128051
20	ELECTRONIC BALLAST ASSEMBLY	1	1127556
21	CORDSET, UK (NOT SHOWN)	1	1121642
	CORDSET,CONT EUROPE (NOT SHOWN)	1	1121641
	CORDSET, AUSTRALIA (NOT SHOWN)	1	1121643

FOR A COMPLETE LIST OF HARNESSES, PLEASE SEE PAGE C-10.

HARNESS QUICK GUIDE

PART NO	DESCRIPTION
1127592	Cabinet Harness
1128054	Power Distribution Harness, High Voltage
1128055	Power Distribution Harness, Low Voltage
1125571	Fan Motor Harness
1121019-3	Compressor Power Cord
1121020	Condensor Motor Cord
1124281	Cord Set 90 Deg Plug & IEC
1121642	Cord Set, UK
1121641	Cord Set, Cont. Europe
1121643	Cord Set, Australia

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NOTES

SHELVES & TRAYS
PARTS SECTION
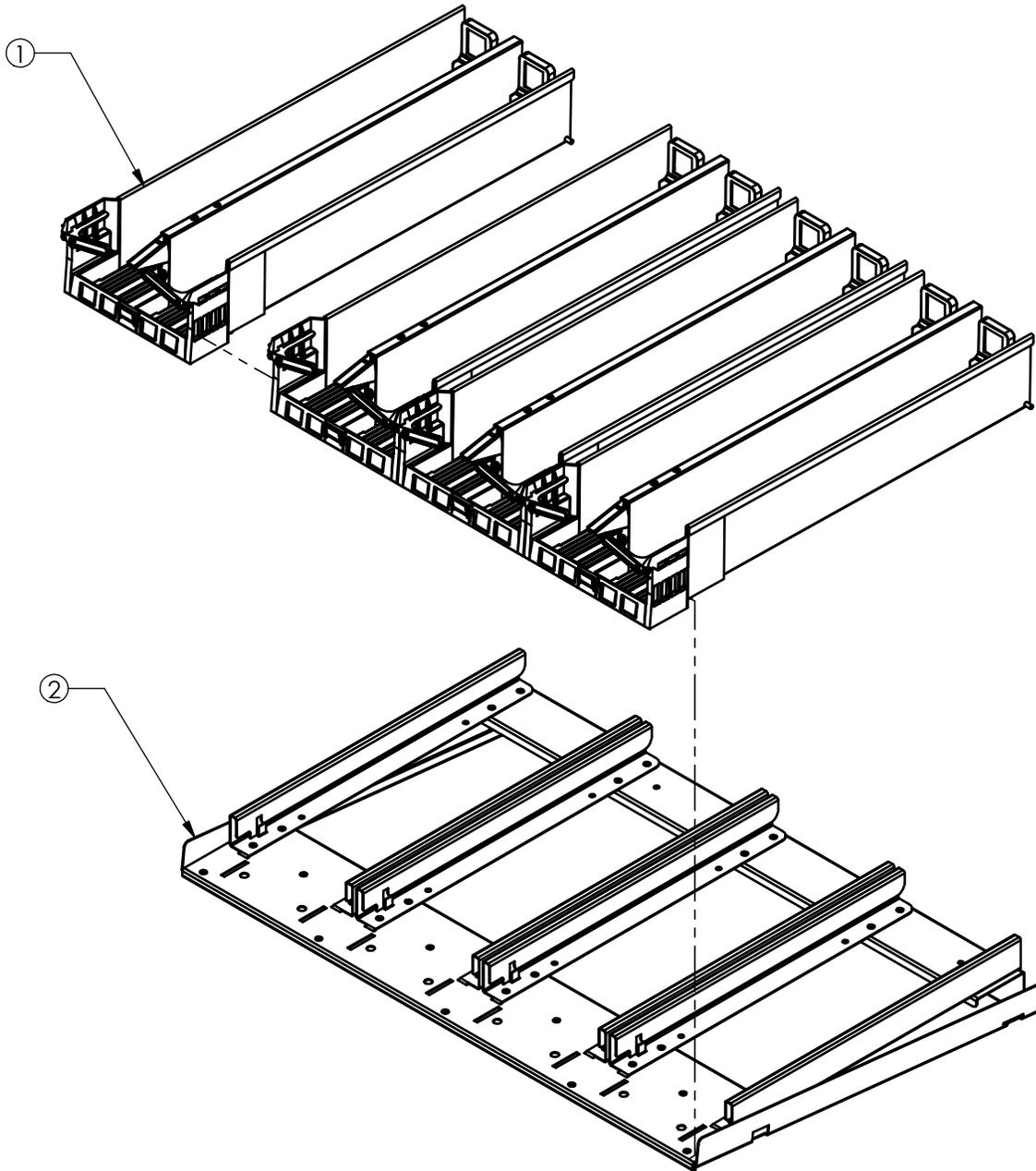
SHELF AND TRAY ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	TRAY ASSEMBLY	1	1125204
2	SHELF ASSEMBLY, 41.5"	A/R	1125195
	SHELF ASSEMBLY, UPPER, 41.5"	1	1125195-1
	SHELF ASSEMBLY, 34"	A/R	1126050
	SHELF ASSEMBLY, UPPER, 34"	1	1126050-1

ST-2

ST-3
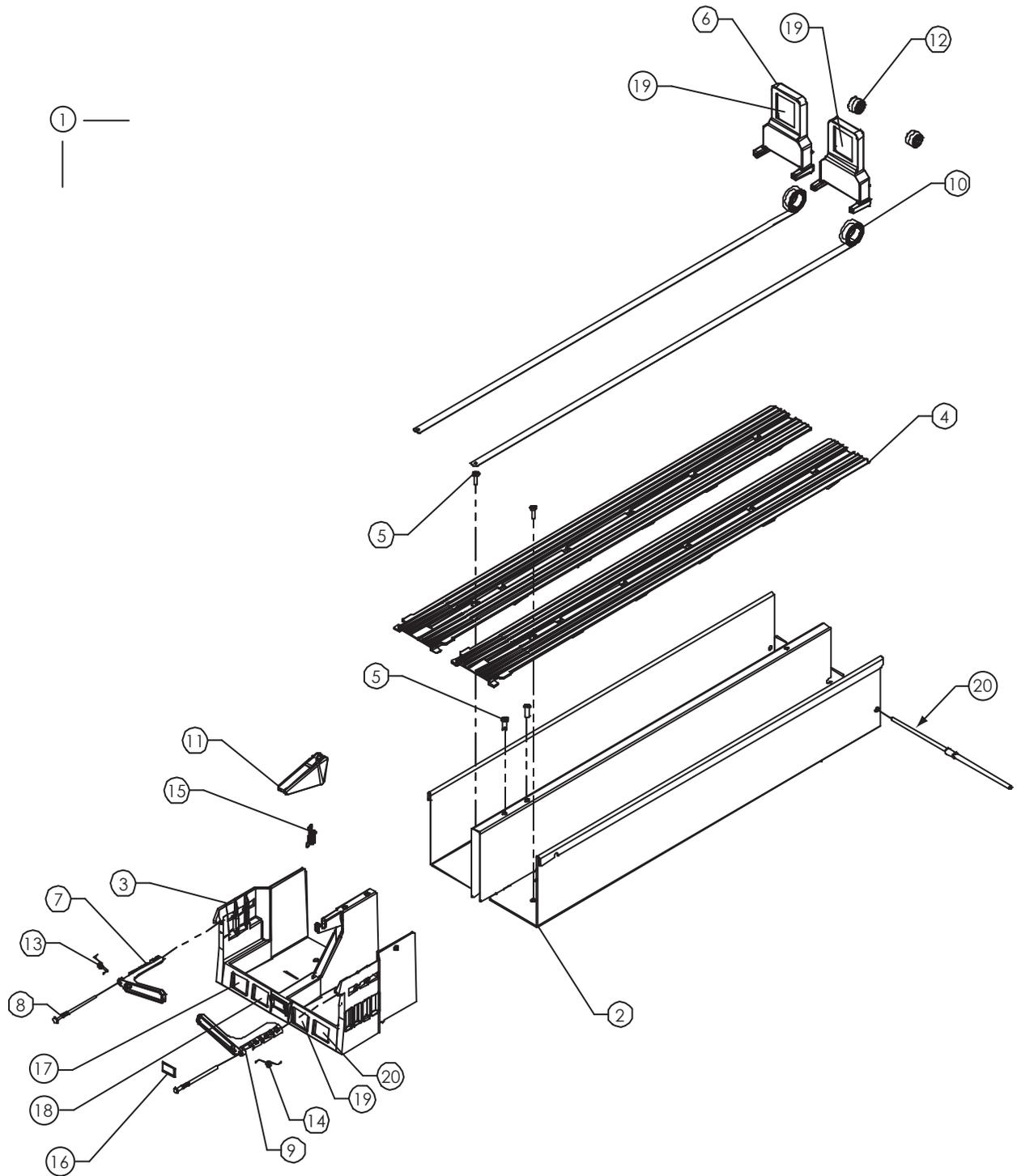
TRAY ASSEMBLY

ITEM	DESCRIPTION	QTY.	PART NO.
1	TRAY ASSEMBLY	1	1125204
2	TRAY BODY ASSEMBLY	1	1128180
3	TRAY FRONT	1	1125142
4	PRODUCT SLIDER, TRAY	2	1125141
5	SCREW #8-10 X 1/2" PAN HEAD	4	V802214
6	PUSHER, TRAY ASSY	2	1125140
7	GATE, LEFT, TRAY ASSY	1	1128285
8	PIN, PIVOT, TRAY FRONT	2	1125192
9	GATE, RIGHT, TRAY ASSY	1	1128284
10	SPRING, PUSHER, TRAY ASSY	2	1125526
11	GATE, CENTER, TRAY ASSY	1	1125737
12	ROLLER, SPRING	2	1125821
13	SPRING, TORSION, LEFT	1	1125856
14	SPRING, TORSION, RIGHT	1	1125856-1
15	SPRING, TENSION	1	1060023
16	REFLECTOR, TRAY ASSY	1	1126341
17	PRODUCT NUMBER LABEL	1	1127640
18	PRICE LABELS	A/R	*
19	PRODUCT I.D. LABELS	A/R	*
20	STOP ROD	1	1126342

* NOTE: WHEN ORDERING PRICE LABELS AND PRODUCT I.D. LABELS, PLEASE PROVIDE **9-CODE** AND **STYLE**.

NOTES

DOOR
PARTS SECTION
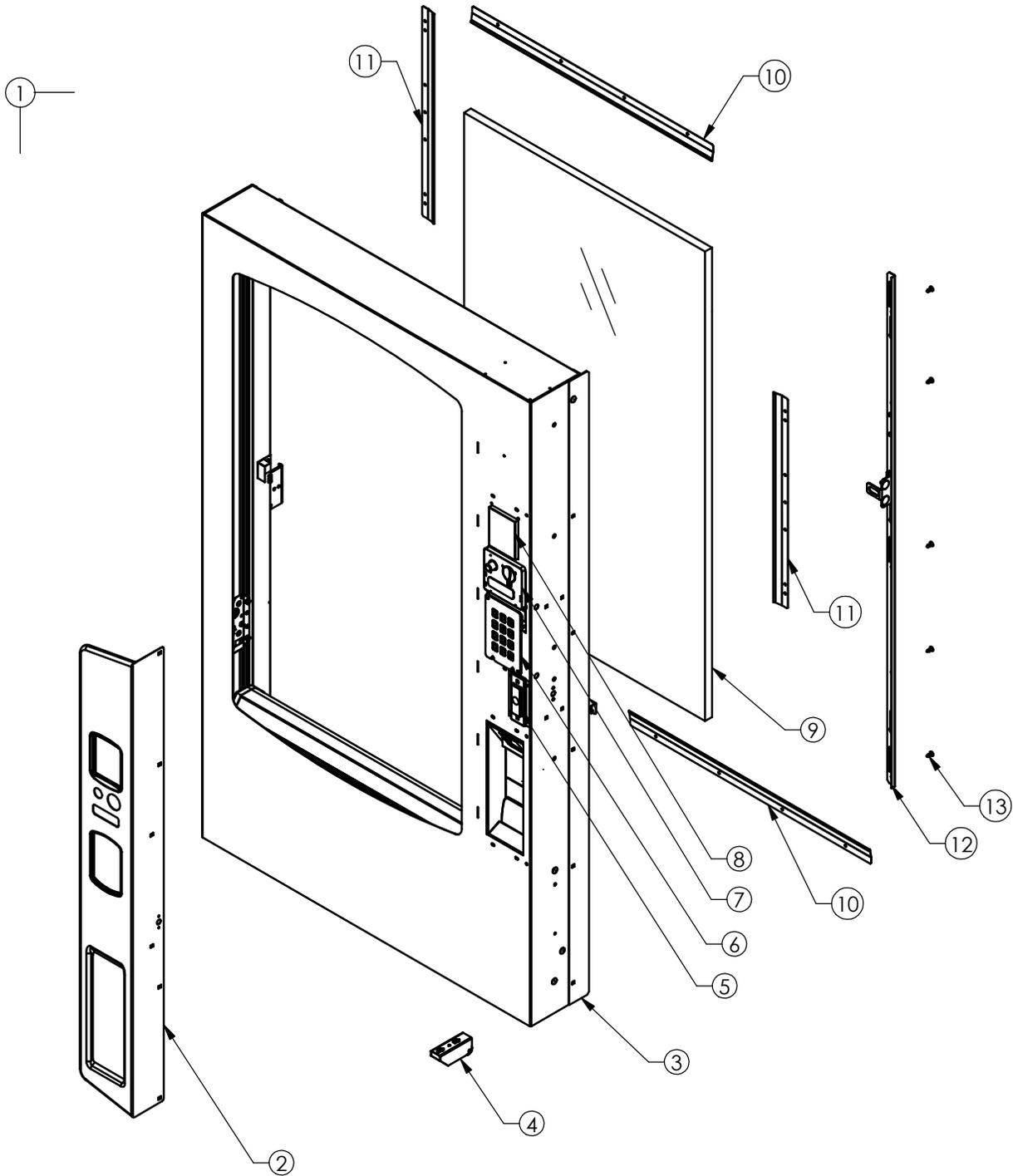
DOOR ASSEMBLY

ITEM NO	DESCRIPTION	QTY.	PART NO
1	SERVICE DOOR ASSEMBLY	~	*
2	CONTROL PANEL	1	*
3	DOOR GUARD	1	*
4	DOOR ROLLER ASSEMBLY	1	1120564-7
5	T-HANDLE LOCK ASSEMBY (SEE D24)	1	1127407
6	KEYPAD ASSEMBLY (SEE D17)	1	1127321
7	COIN ENTRY & COIN RETURN ASSEMBLY (SEE D18-D19)	~	~
8	DBV PLUG	1	388216
9	INSULATED GLASS PANEL	1	1125109
10	GLASS RETAINER - TOP & BOTTOM	2	1126250
11	GLASS RETAINER - RIGHT & LEFT	2	1126250-1
12	LATCH SLIDER BAR ASSEMBLY, T-HANDLE LOCK	1	1125550
	LATCH SLIDER BAR ASSEMBLY, ELECTRONIC LOCK	1	1125550-1
13	GLIDE, NYLON	5	1126532

* NOTE: WHEN ORDERING SERVICE DOOR ASSEMBLY, CONTROL PANEL, OR DOOR GUARD, PLEASE PROVIDE **9-CODE** AND **MANUFACTURER'S DATE CODE**.

(Optional Part)

D-4
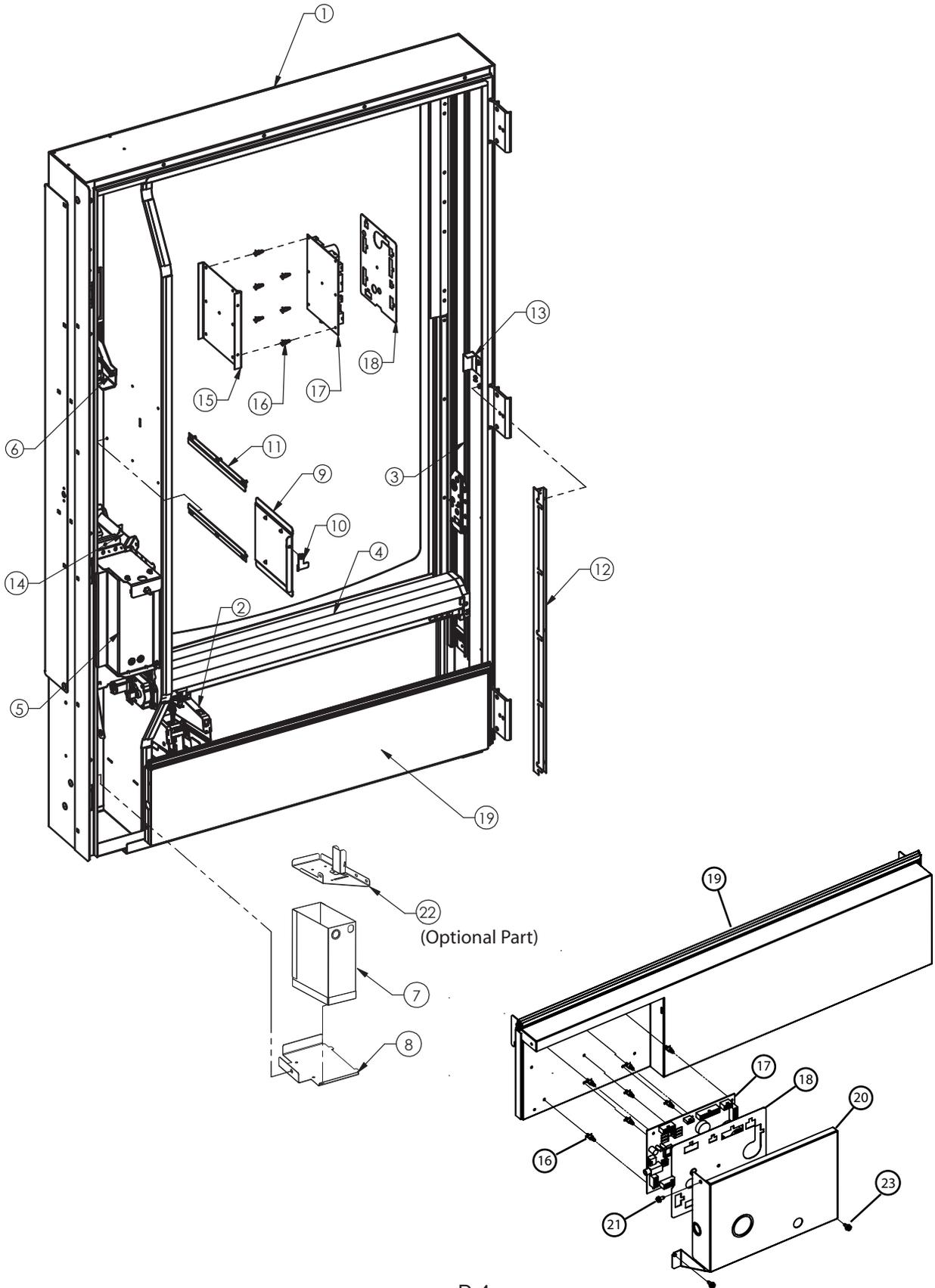
DOOR ASSEMBLY (CONTINUED)

ITEM NO	DESCRIPTION	QTY.	PART NO
1	FOAMED OUTER DOOR	1	*
2	Z-HOUSING & HAND ASSEMLBIES (SEE PG D8)	1	~
3	Y-RAIL ASSEMBLY-HINGE SIDE (SEE PGS D9 - D10)	1	1128143
3	Y-RAIL ASSEMBLY-LATCH SIDE (SEE PGS D11 - D12)	1	1128144
4	X-RAIL & X-CARRIAGE ASSEMBLIES (SEE PGS D13 - D16)	1	~
5	DELIVERY ASSEMBLY (SEE PGS D20-23)	1	~
6	COIN ENTRY & COIN RETURN ASSEMBLY (SEE PGS D18 - D19)	1	~
7	COIN BOX	1	1128808
8	COIN BOX SHELF	1	1125511
9	COINAGE MOUNTING BRACKET	1	1128574
10	COINAGE SLIDE LATCH	1	1127225
11	COINAGE GUIDE MOUNTING BRACKET	2	1126794
12	CABLE GUIDE BRACKET	1	1128759
13	COVER, HARNESS LOOP	1	1126775
14	CHUTE, COINBOX	1	1127248
~	CONTROL BOARD ASSEMBLY	1	1126512
15	CONTROL BOARD MOUNTING BRACKET	1	1125533
16	STANDOFF	7	1121740
17	PCBA - VEC 15.1	1	1128085
18	PCBA COVER	1	1123529
19	LOWER INSULATED PANEL ASSEMBLY-NO CUT OUT, 41.5"	1	1126059
19	LOWER INSULATED PANEL ASSEMBLY-NO CUT OUT, 34"	1	1126055
19	LOWER INSULATED PANEL ASSEMBLY-WITH CUT OUT, 41.5"	1	1128015
19	LOWER INSULATED PANEL ASSEMBLY-WITH CUT OUT, 34"	1	1128072
20	BRACKET, CONTROL BOARD, COVER	1	1134991
21	SCREW, #10-16 X 1/2 P HEX HD ZP	1	V802141
22	MTG BRKT ASSY, COIN SECURITY	1	1128516
23	SCREW, #10-16 X 1/2 CR HEX SELF DRILL	2	V801489

* NOTE: WHEN ORDERING FOAMED DOOR ASSEMBLY PLEASE PROVIDE **9-CODE** AND **MANUFACTURER'S DATE CODE**.

D-6
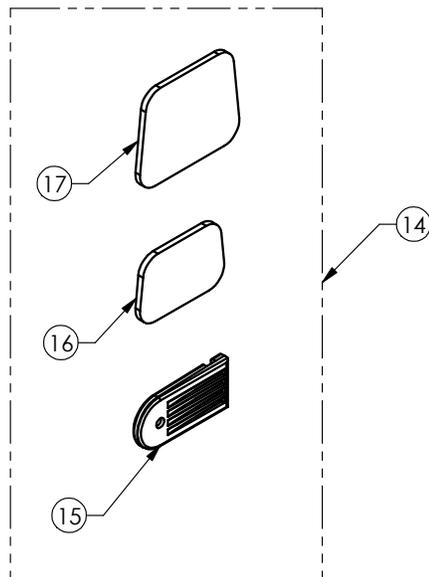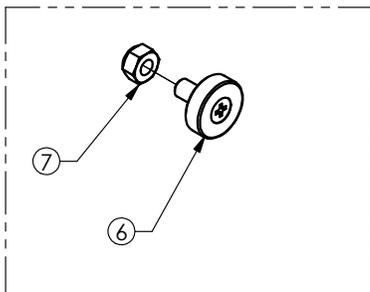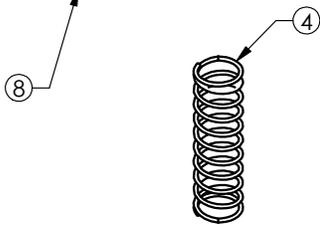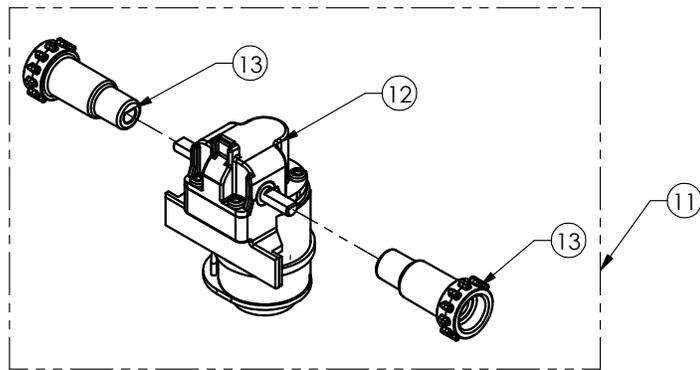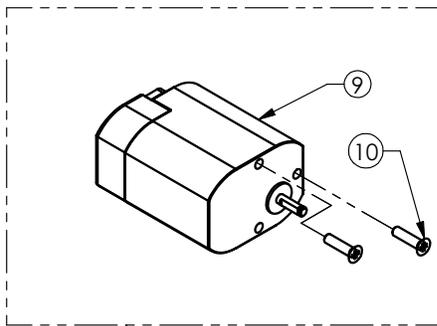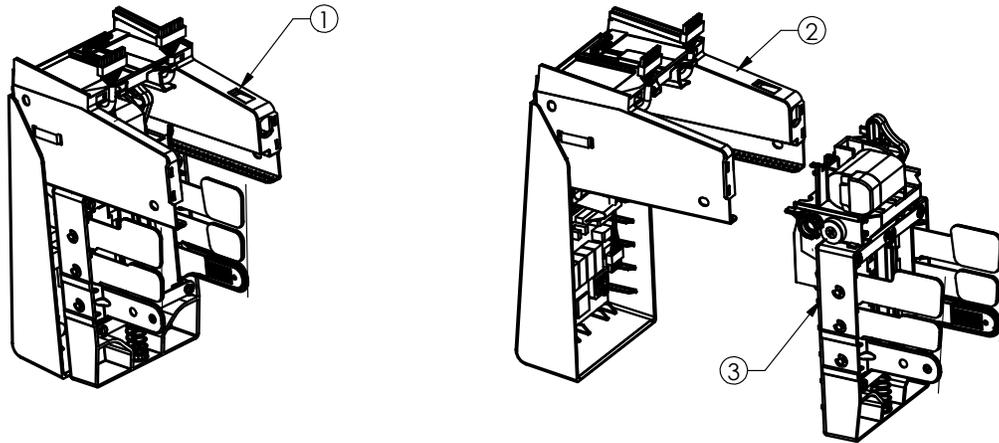
HAND ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	Z HOUSING/HAND ASSEMBLY	1	1127445
2	Z HOUSING ASSEMBLY	1	1125084
3	HAND ASSEMBLY	1	1127404
4	SPRING, DRIVER ASSIST	1	1127303
5	ROLLER GUIDE REPLACEMENT KIT	1	1128060
6	ROLLER GUIDE	1	1125068
7	NYLOCK NUT - 6mm	1	V802235
8	CLAMP MOTOR REPLACEMENT KIT	1	1128061
9	MOTOR, CLAMP AXIS	1	1127440
10	SCREW - 3mm X 12mm - CR FLAT HEAD	2	V802254
11	Z MOTOR REPLACEMENT KIT	1	1128062
12	X-Z DRIVE MOTOR	1	1124015
13	DRIVE WHEEL - Z AXIS	2	1123967
14	FINGER PAD REPLACEMENT KIT	1	1128063
15	GRIPPER - FINGER - GFV	2	1126841
16	PAD - GRIPPER - MID	2	1128369
17	PAD - GRIPPER - UPPER	2	1128368
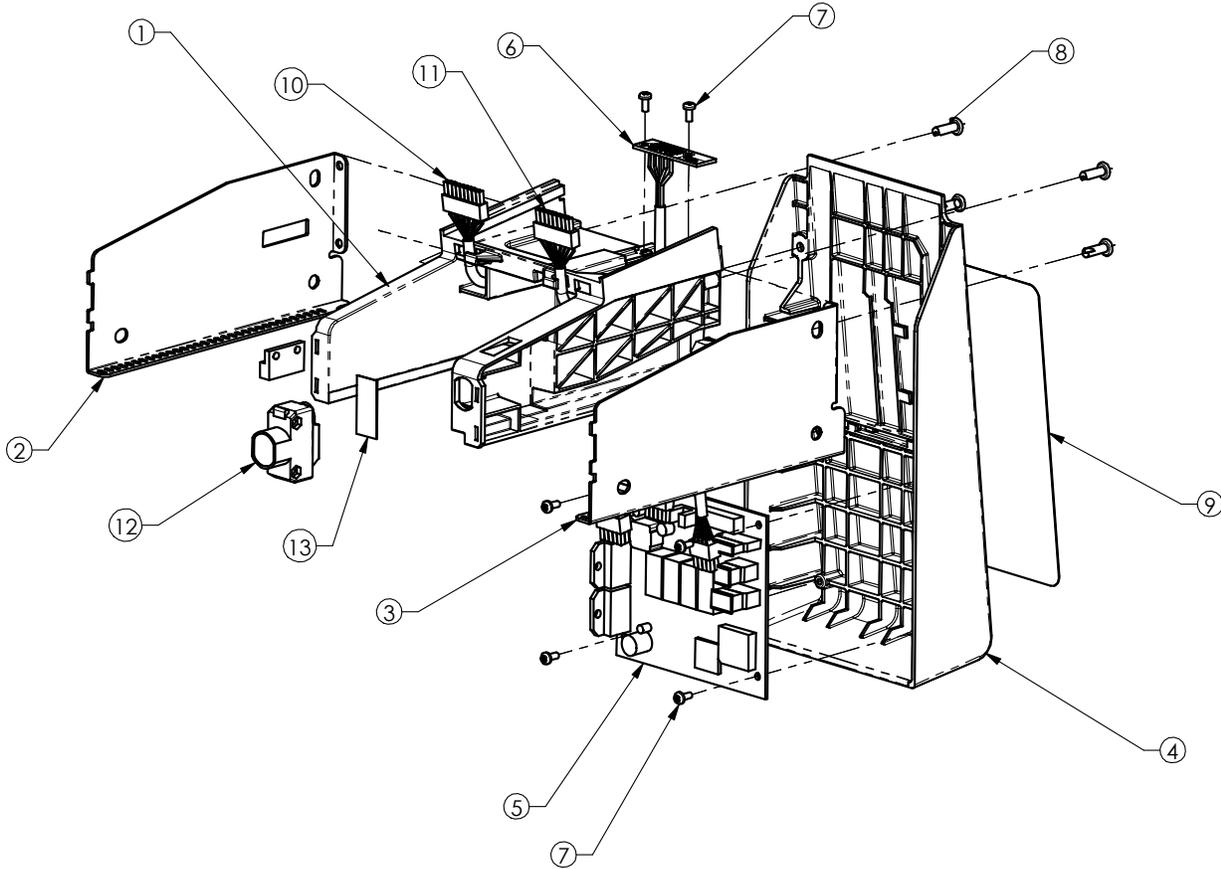
Z HOUSING ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	HOUSING - Z AXIS	1	1125085
2	RAIL - RIGHT	1	1125081-1
3	RAIL - LEFT	1	1125081
4	COVER - BACK	1	1125055
5	PC CONTROLLER - HAND	1	1128355
6	PC BOARD ASSY - X CAR.	1	1125518
7	TAPPING SCREW - #4 PLASTITE	6	V802186
8	SCREW, # 8 - 10 X 1/2" LG	4	V802214
9	DECAL - BACK COVER	1	*
10	HARNESS - HAND - POWER	1	1126309
11	HARNESS - HAND - DATA	1	1126310
12	SENSOR HARNESS ASSY	1	1126113
13	SHIM, FORWARD OPTIC, GFV	1	1127871

* NOTE: WHEN ORDERING THE DECAL - BACK COVER, PLEASE PROVIDE **9-CODE** AND **STYLE**.

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Option #1

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1127330

1125079

8
Option #2

D-9

05/2006
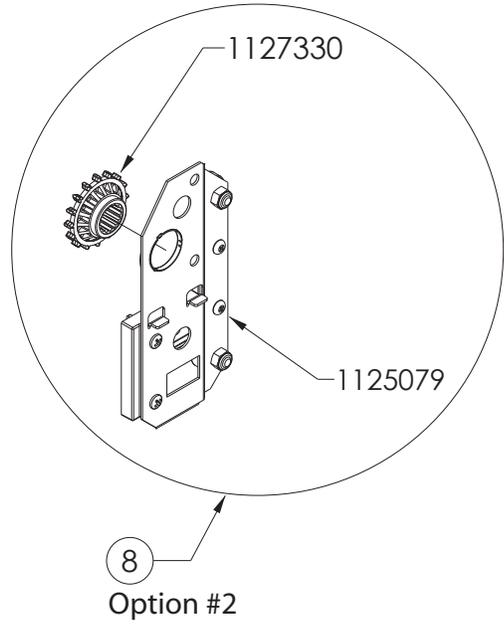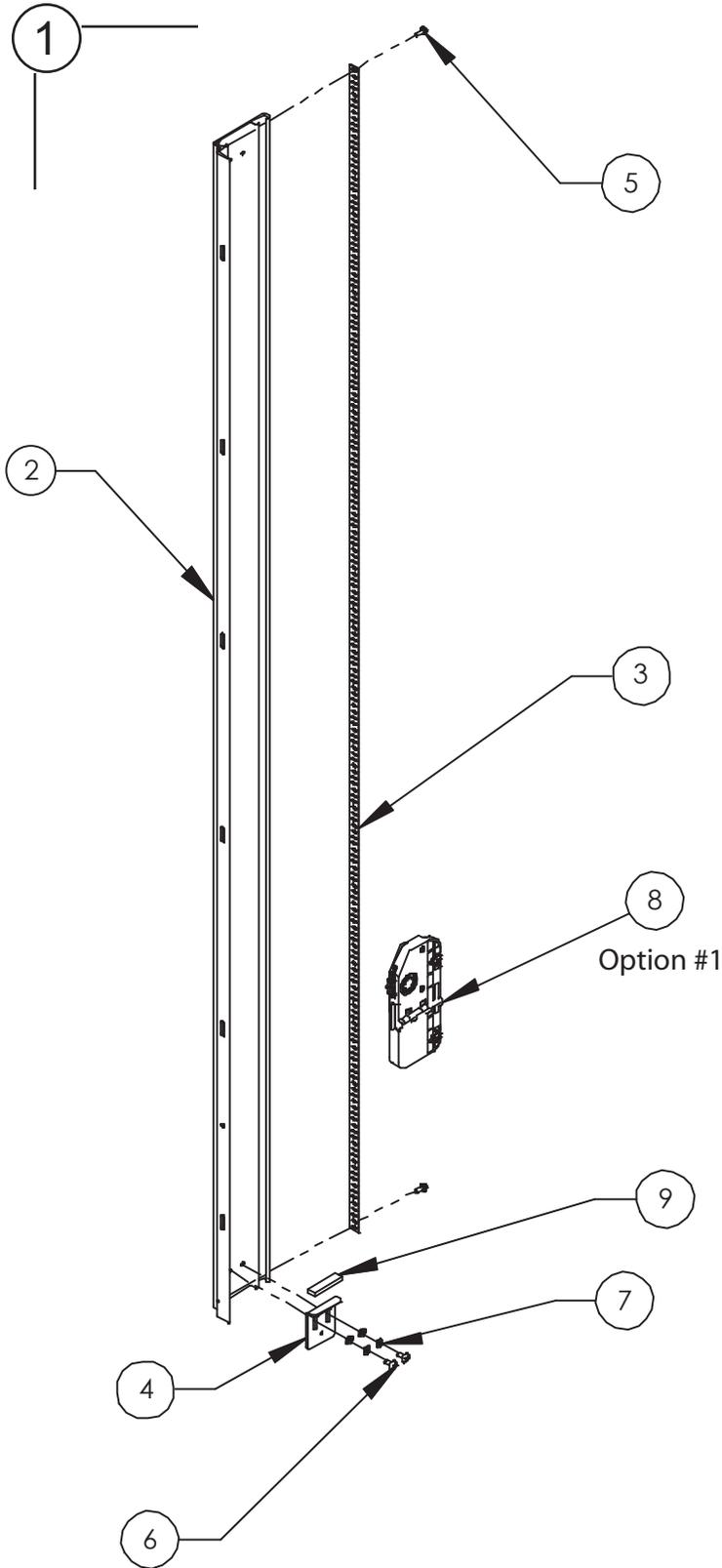
Y RAIL ASSEMBLY - LEFT / HINGE SIDE

ITEM NO	DESCRIPTION	QTY.	PART NO
1	Y-RAIL ASSEMBLY, HINGE SIDE	1	1128143
2	EXTRUSION RAIL - Y AXIS - LEFT	1	1128139
3	STRIP - DRIVE TRACK - Y AXIS	1	1128142
4	BRKT - STOP - Y RAIL	1	1127860
5	8-18 7/16 HEX SLOT STL-ZINC	2	V800586
6	SCREW, #10 - 16 X 3/8	2	V802212
7	WSHR .375 O.D. X .170 I.D.	4	V801455
8 Option #1	DRIVE CARRAGE ASSY - Y AXIS - LEFT	1	1127863
8 Option #2	DRIVE CARRAGE ASSY - Y AXIS - LEFT	1	1125079
	DRIVE WHEEL - Y AXIS	1	1127330
	PAD, Y-AXIS STOP, GFV	1	1127935

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① ④ ③ ② ②

⑧
Option #1

⑨ ⑤ ⑦ ⑥

1127330
1125080
1127891
1125941

⑧
Option #2

D-11

Vendo
SANDEN
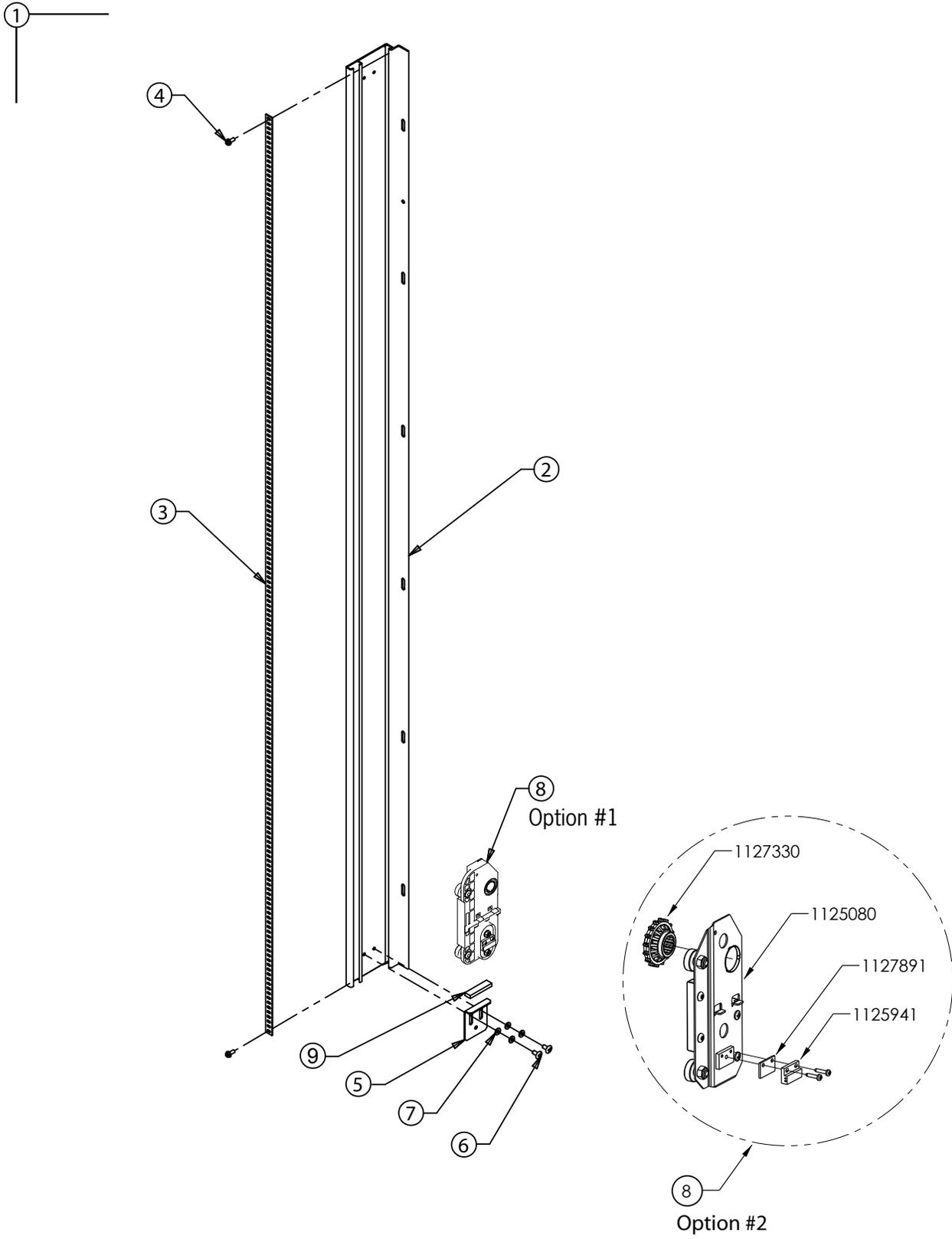
Y RAIL ASSEMBLY - RIGHT / LATCH SIDE

ITEM NO	DESCRIPTION	QTY	PART NO
1	Y RAIL ASSEMBLY, LATCH SIDE	1	1128144
2	EXTRUSION RAIL - Y AXIS - RIGHT	2	1128139
3	STRIP - DRIVE TRACK - Y AXIS	1	1128142
4	8-18 7/16 HEX SLOT STL-ZINC	2	V800586
5	BRKT - STOP - Y RAIL	1	1127860
6	SCREW, #10 - 16 X 3/8	2	V802212
7	WSHR .375 O.D. X .170 I.D.	4	V801455
8 Option #1	DRIVE CARRAGE ASSY - Y AXIS - RIGHT	1	1127862
8 Option #2	DRIVE CARRAGE ASSY - Y AXIS - RIGHT	1	1125080
	DRIVE WHEEL - Y AXIS	1	1127330
	SPACER,MAGNET,X-HOME	1	1127891
	MAGNETIC ACTUATOR-HAMLIN	1	1125941
9	PAD, Y-AXIS STOP, GFV	1	1127935

ONLY FOR REFERENCE
NOT INCLUDE WITH THIS ASSEMBLY

D-13
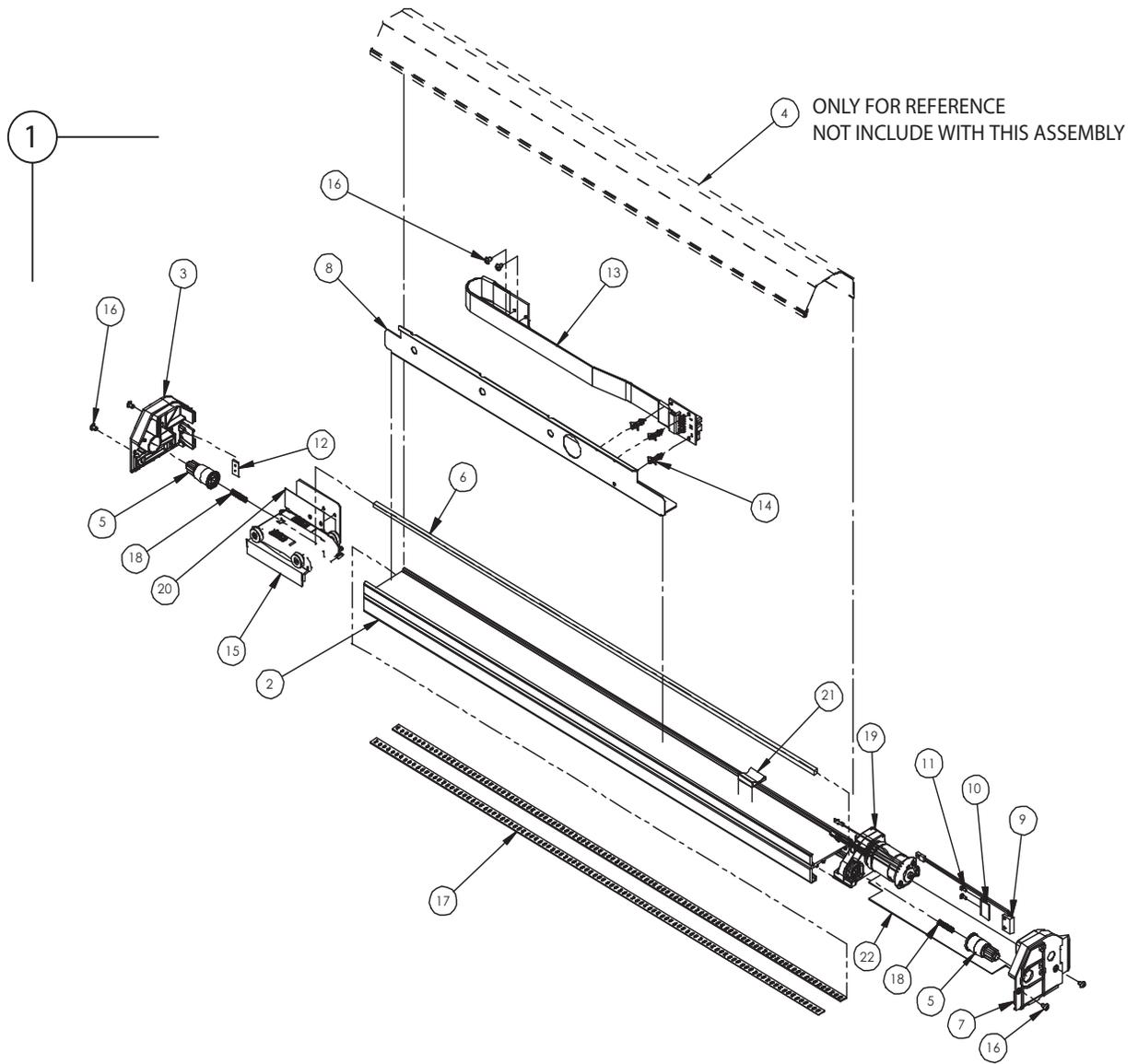
X RAIL ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	RAIL ASSEMBLY - X AXIS - 41.5"	1	1126917
1	RAIL ASSEMBLY - X AXIS - 34"	1	1127459
2	EXTRUSION RAIL - X AXIS - 41.5"	1	1127460
2	EXTRUSION RAIL - X AXIS - 34"	1	1127460-1
3	END CAP, X-RAIL, LH	1	1127536
4*	COVER, TOP, X-AXIS DRIVE, 41.5"	1	1127534
4*	COVER, TOP, X-AXIS DRIVE, 34"	1	1127534-1
5	COUPLING, DRIVE	2	1127331
6	SQUARE SHAFT, .25, Y-AXIS, 41.5"	1	1125078
6	SQUARE SHAFT, .25, Y-AXIS, 34"	1	1125078-1
7	END CAP, X-RAIL, RH	1	1127535
8	PARTITION, RIBBON CABLE	1	1126918
9	REED SWITCH ASY, Y-AXIS	1	1126244
10	BRKT, RTNR, Y-HOME SWITCH	1	1126141
11	TAPPING SCREW - #4 PLASTITE	2	V802186
12	PLATE, TAPPING, END CAP	1	1126142
13	RIBBON CABLE ASSY - X RAIL	1	1127463
14	STANDOFF, PCBA, Y-MOTOR	3	1126194
15	CARRIAGE ASSY, X-AXIS, GFV (SEE D15-D16)	1	1125987
16	SCREW, #8-18 X 1/4	6	V800634
17	STRIP - DRIVE TRACK - X AXIS - 41.5"	2	1127848
17	STRIP - DRIVE TRACK - X AXIS - 34"	2	1127848-1
18	SPRING, Y-AXIS DRIVE ROD, GFV	2	1126156
19	DRIVE MOTOR, Y-AXIS	1	1129922
20	SHEET, INSULATOR, GFV TRAV BD	1	1126763
21	CLIP, HARNESS, ADHESIVE BACK	1	1030639
22	RTNR, Y-RAIL, X-RAIL ASY, GFV, 41.5"	1	1128319
22	RTNR, Y-RAIL, X-RAIL ASY, GFV, 34"	1	1128319-1

* **NOTE**: REFERENCE PART TO BE ORDERED SEPERATELY IS NOT INLCUDED WITH THIS ASSEMBLY WHEN ORDER

D-15
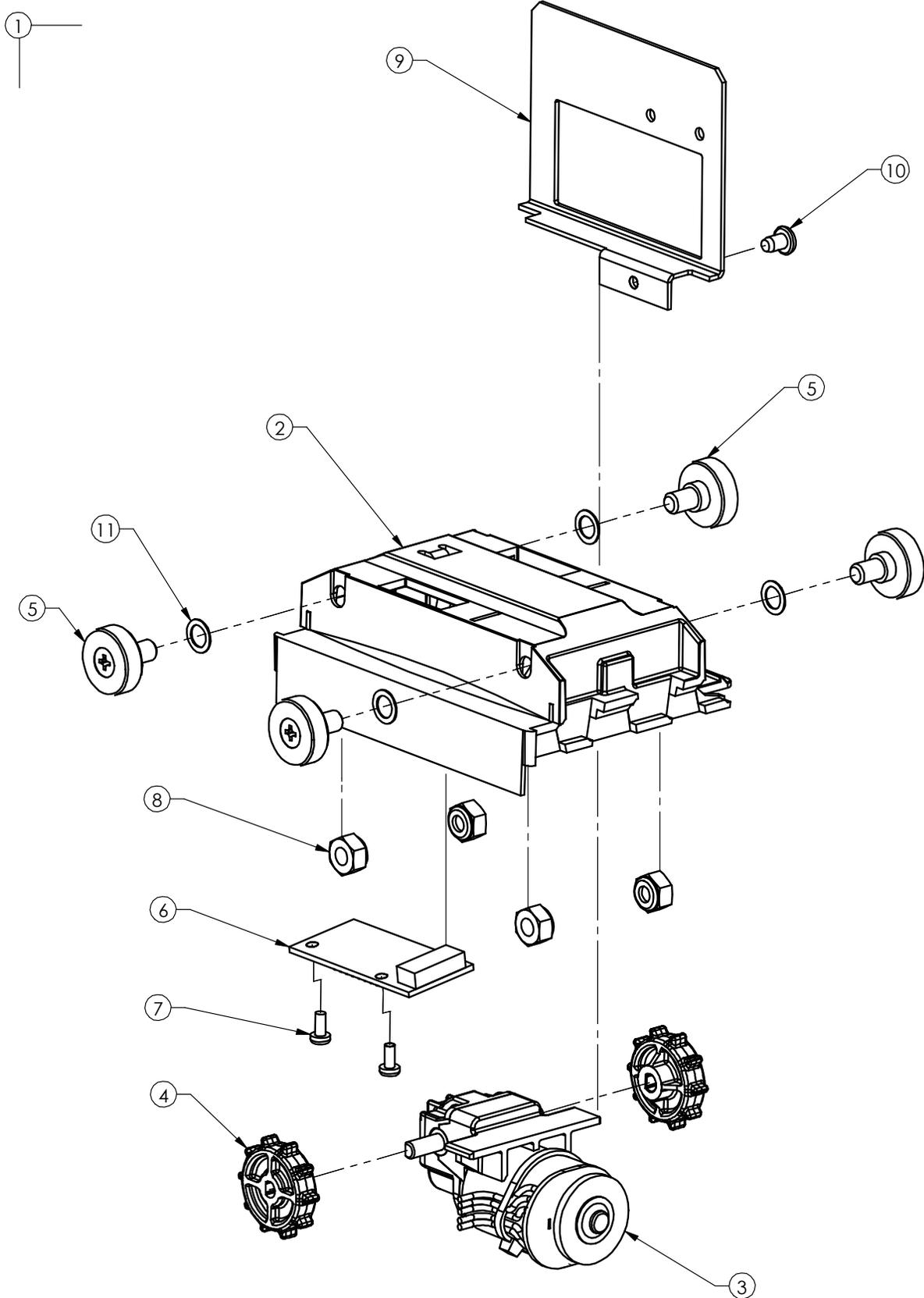
X AXIS CARRIAGE ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	CARRIAGE ASSEMBLY - Y AXIS DRIVE	1	1125987
2	HOUSING - X CARRIAGE	1	1125066
3	X-Z DRIVE MOTOR	1	1124015
4	DRIVE WHEEL - X AXIS	2	1123961
5	ROLLER GUIDE	4	1125068
6	PC BOARD - CONNECTOR - X CARRIAGE	1	1125517
7	TAPPING SCREW - #4 PLASTITE	2	V802186
8	NYLOCK NUT - 6mm	4	V802235
9	BRKT - FFC CABLE ASSY	1	1125300
10	SCREW, # 8 - 18 X 1/4	1	V800634
11	WASHER, .25ID X .38OD X .016 SS	4	1127883

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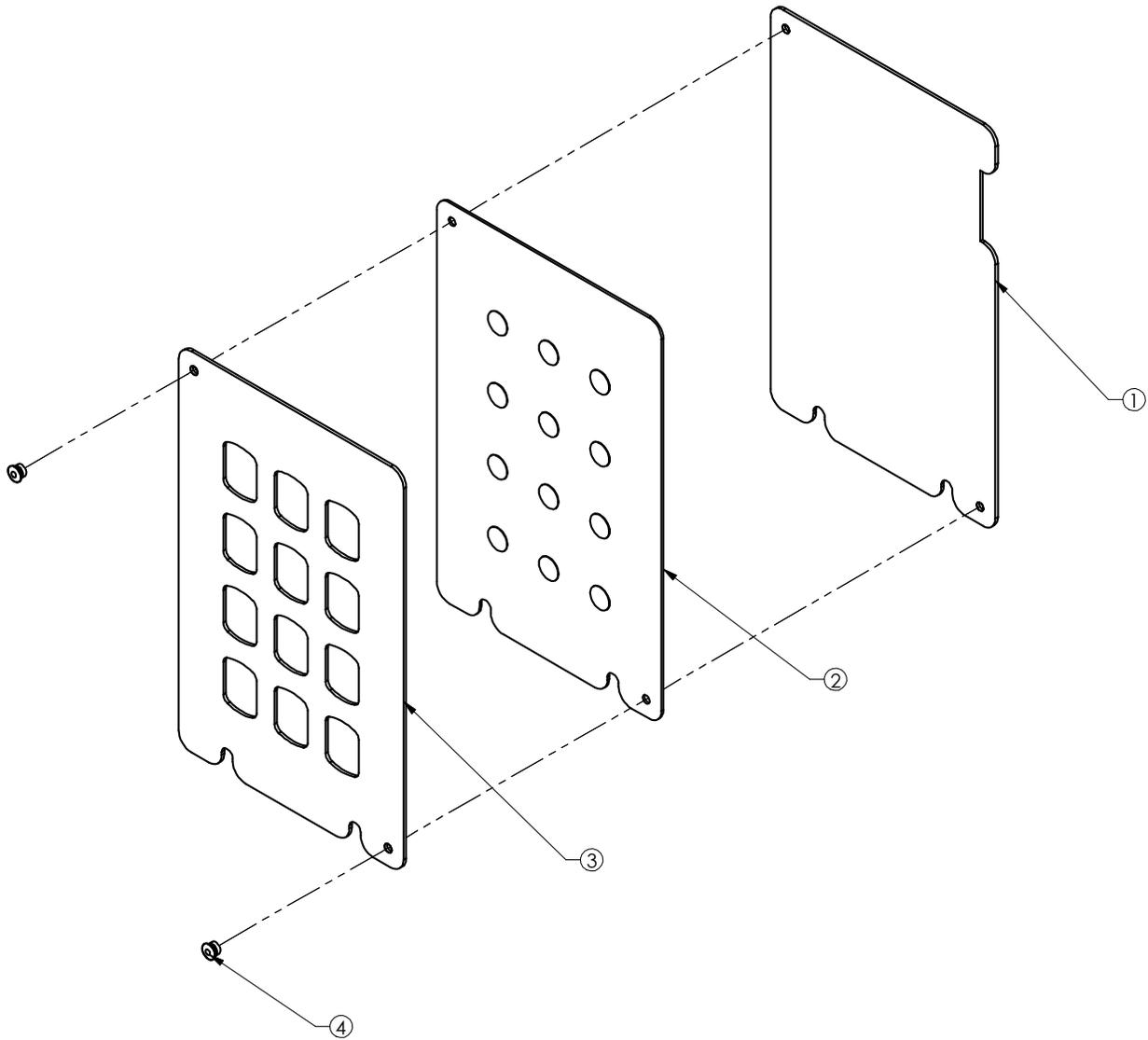
KEYPAD ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	BACKING PLATE, MEMBRANE SWITCH	1	1127320
2	MEMBRANE SWITCH - 12 BUTTON	1	1127318
3	MEMBRANE COVER	1	*
4	RVT 1/8 STL.POP .063-.125 GRIP	2	V801412

* NOTE: WHEN ORDERING THE MEMBRANE COVER PLEASE PROVIDE **9-CODE** AND
MANUFACTURER'S DATE CODE.

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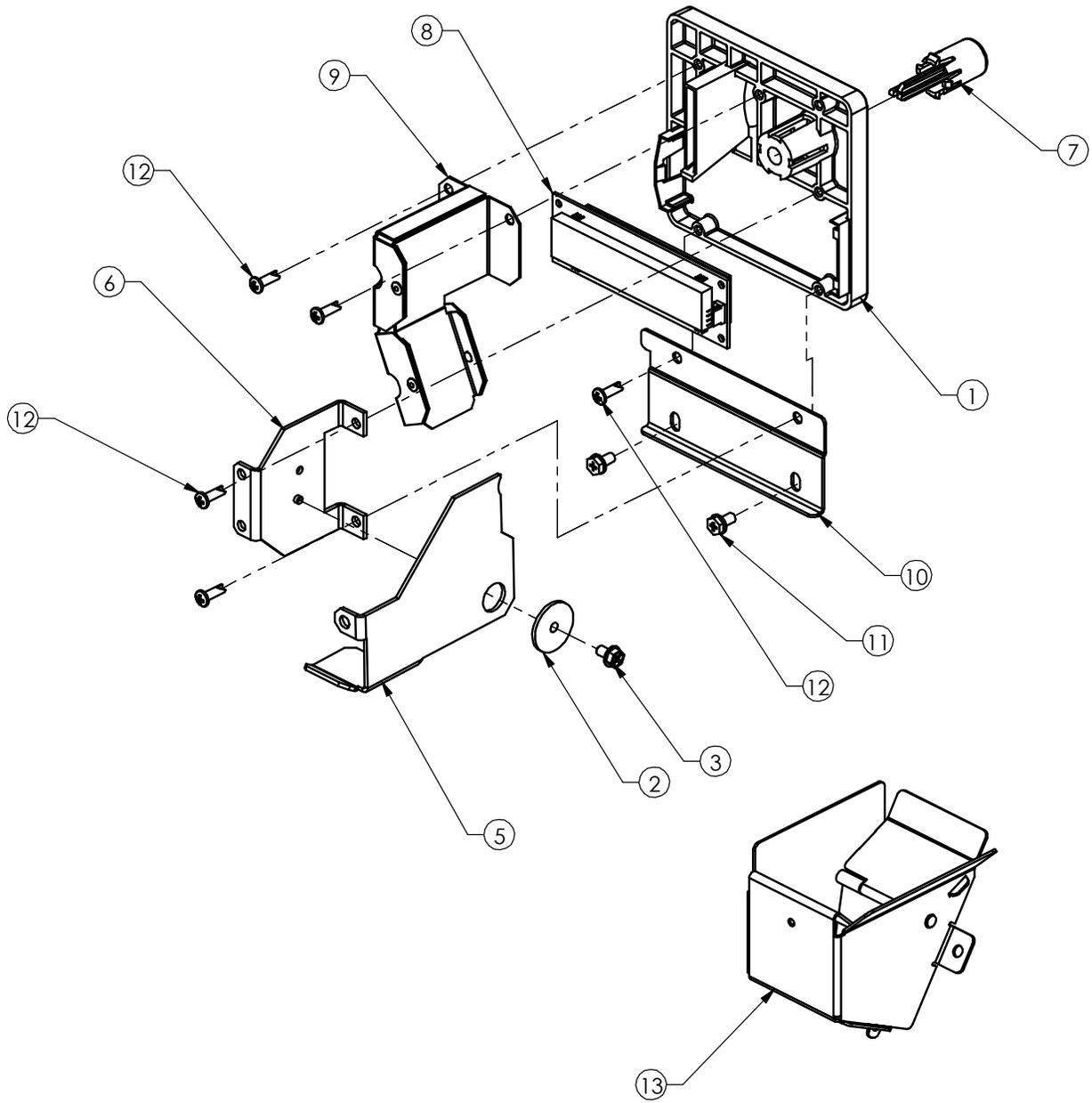
COIN ENTRY & COIN RETURN ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	COIN INSERT, GFV	1	1125367
	LEVER,SCAVENGER ASSY, GFV	1	1125394
2	SHOULDER WASHER,NYLON	1	1122715
3	SCRW 10-16 5/16 B CR HEX TAP	1	V801422
4	(K) SPRING SOLD OUT	1	390326
5	LEVER,COIN RETURN,GFV	1	1127340
6	PIVOT BRKT,COIN RETURN LEVER	1	1127373
7	BUTTON, COIN RETURN	1	1050473
8	DISPLAY, 2X20 SERIAL (LED)	1	1121184
9	COIN CHUTE ASSY, GFV	1	1125397
10	BRKT, COIN INSERT SUPPORT	1	1127058
11	SCREW, #10 -16 X 3/8 B CR HEX STL	2	V801421
12	SCREW, # 8 - 10 X 1/2" LG	5	V802214
13	COIN RETURN CHUTE ASSEMBLY	1	1126488
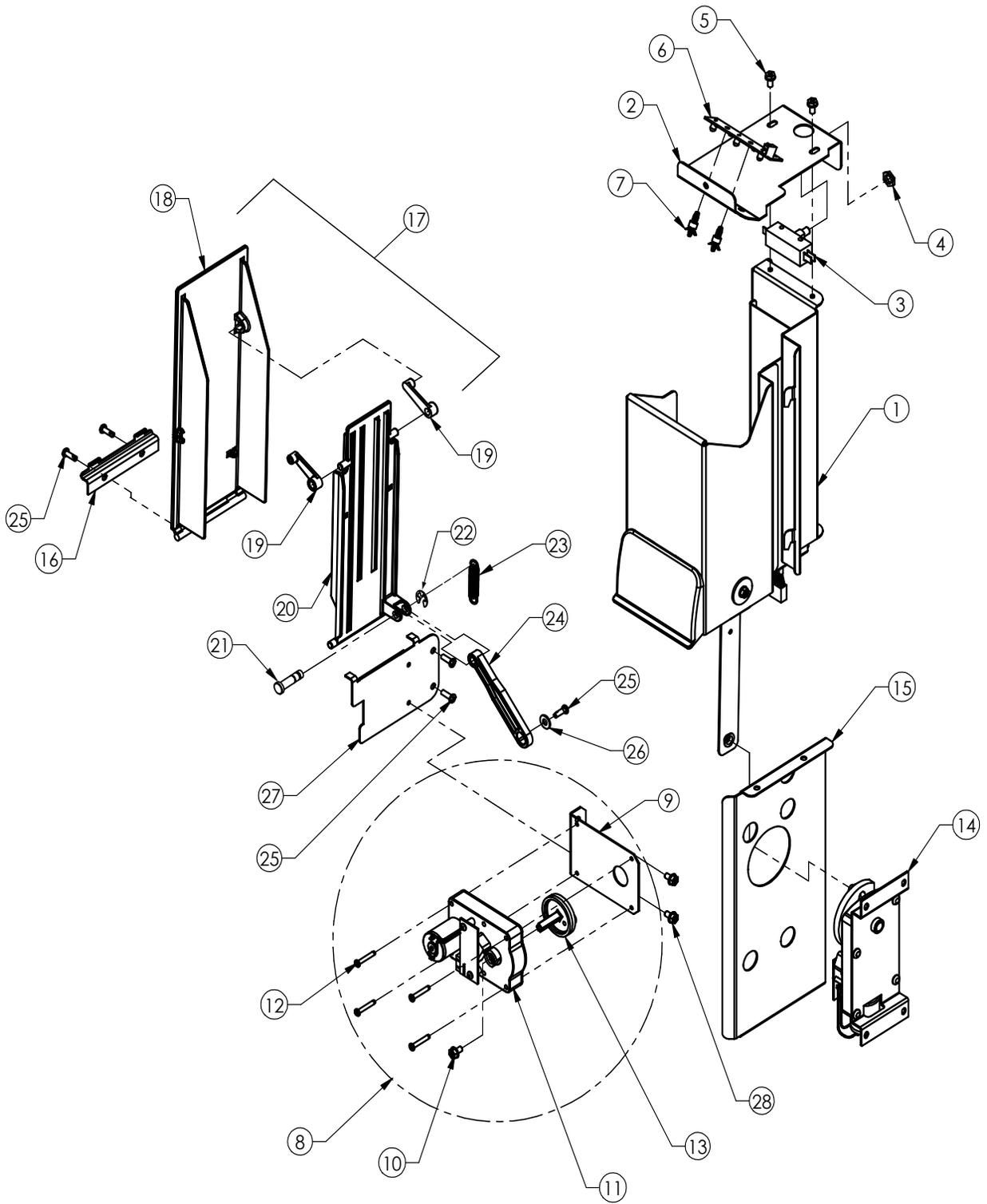
DELIVERY HOPPER AND FLAP ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	DELIVERY BUCKET ASSEMBLY (SEE D22-D23)	1	1126166
2	COVER PLATE, DELIVERY BUCKET	1	1127249
3	ELECTRIC DOOR SWITCH	1	323007
4	NUT, 3/8-32 X 3/32 HEX	1	V801449
5	SCREW, #10 -16 X 3/8 B CR HEX STL	2	V802047
6	PCBA, HOPPER ILLUMINATION LEDS	1	1126506
7	1/4 NYLON STANDOFF	2	1121740
8	ASSEMBLY, DELIVERY FLAP MOTOR	1	1128274
9	BRKT, DELIVERY FLAP MOTOR MTG	1	1128235
10	SCREW, #10-16 X 5/16 B CR HEX TAP	1	V801421
11	GEAR MOTOR, DELIVERY FLAP	1	1128053
12	SCREW, #8 X 7/8 CR PAN HD	4	V802180
13	CRANK, DELIVERY FLAP MOTOR	1	1128233
14	DELIVERY BUCKET MOTOR	1	1125709
15	BARRIER PANEL, BUCKET MOTOR	1	1128339
16	RETAINER, OUTER FLAP	1	1125891
17	FLAP ASSEMBLY, PRODUCT DELIVERY	1	1128272
18	FLAP, PRODUCT DELIVERY	1	1125871
19	LEVER ARM, DELIVERY FLAP	2	1125873
20	INNER FLAP, PRODUCT DELIVERY	1	1128236
21	PIVOT PIN, INNER FLAP, GFV	1	1128410
22	1/4 E SPG-STL RETAINER RINGS	1	V801077
23	SPRING	1	1126510
24	DRIVE LINK, DELIVERY FLAP	1	1128234
25	SCREW, #8-10X1/2 CR PN THRD CUT 25 ZI	5	V802214
26	WASHER #10 STL PLAIN	1	V801013
27	BRACKET, INNER FLAP RETAINER	1	1128250
28	SCREW, #10-16 X 5/16 B CR HEX TAP	2	V801421

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DELIVERY HOPPER ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	BRACKET, DELIVERY BUCKET MOUNTING	1	1125329
2	BUCKET, DELIVERY	1	1126533
3	FOOTER, DELIVERY BUCKET	1	1128191
4	OPTIC DETECTOR ASSY	1	1128328
5	SCREW, #10-16 X 3/8 B CR HEX STL	2	V802047
6	SCREW, # 8-18 X 1/4	2	V800634
7	LINK, DELIVERY BUCKET DRIVE	1	1128654
8	WASHER, SHOULDER, NYLON	1	1122715
9	SCREW, #10 X 1/2	3	V801422
10	BEARING, NYLINER	1	385603-5
11	PLATE, DELIVERY BUCKET FILLER	1	1127254
12	SPACER, NYLON, #10 SCREW, 3/16"	4	1125765-1
13	NUT, #8 - 32 WITH LOCK WASHER	4	V800956
14	EDGE TRIM BUMPER	1	1127310
15	CLAMP .25	1	324099-3

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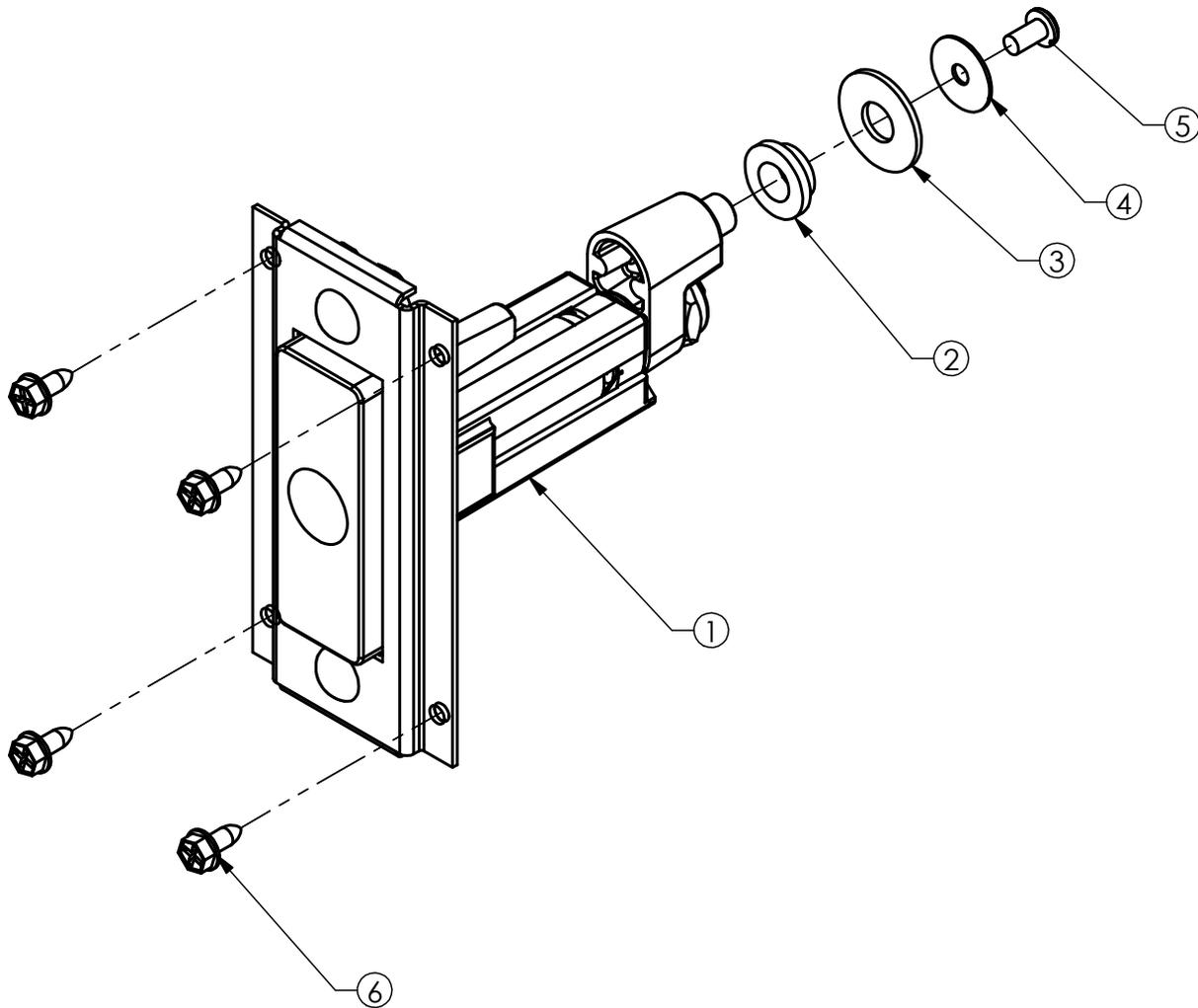
T-HANDLE LOCK ASSEMBLY

ITEM NO	DESCRIPTION	QTY	PART NO
1	T-HANDLE ASSY, GFV	1	1127406
2	SHOULDER SPACER, LOCK CAM	1	1124527
3	WASHER - 3/8, B PLAIN FLAT	1	V801491
4	WASHER,13/64, LEWIS#24082-200	1	389026
5	SCREW -10-32 X .375, CR PAN H STL MACH	1	V800128
6	SCREW - #10 TAPPING - TYPE A	4	V802141

05/2006

Vendo®
SANDEN

VUE 30 40

MAINTENANCE
SECTION

MAINTENANCE

The following section is a basic guide for general maintenance and servicing of the vendor. This section is divided into three parts: (I) Preventative Maintenance, (II) Lubrication Guide, and (III) Care and Cleaning.

I.   PREVENTATIVE MAINTENANCE SUGGESTIONS:
Whenever a vendor is visited on its site, the following service should be performed. Preventative maintenance will help prevent future problems with the vendor.

A.   Observe the vendor and its surrounding area for any unusual indications of problems (rear of cabinet, obstructions of the air flow, condensate puddles, lamp off, etc.).

B.   Open the door and visually check the inside of the vendor (water accumulation, rust marks, moisture around the edges of the door, etc.).

C.   Check the fluorescent lamp, replace as necessary. Replace lamp within 24 to 48 hours of burnout. This will prevent damage to the ballast. *

D.   Check the product temperature for proper cooling.

E.   Check the evaporator drain for obstruction; water in the evaporator area must drain to the condensation pan.

F.   Clean the condenser fins.

G.   Check that evaporator fan runs normally.

H.   Check that the compressor and condenser fan run normally.

I.   Investigate any unusual sounds (fan blades hitting something, refrigeration lines rattling, etc.).

J.   Clean coin acceptor.

K.   Check for proper operation of the coinage mechanism by inserting all denominations of coins accepted by the vendor.

L.   Test the vendor and make a report on the problems.

* NOTE: The VUE vendor features a circuit interrupting style ballast. If the lamp is replaced, you must cycle the power to the machine to bring the light back on.

II.   LUBRICATION GUIDE:
Lubricate indicated areas as directed on the chart below.

INTERVALS	PARTS	LUBRICANT
Every six months	Door latch slide mechanism & T-handle assembly	Grade two, high low temperature grease

REFRIGERATION OPERATION

The refrigeration operation section is divided into three areas: Basic Refrigeration Principle, Detailed Vending Machine Refrigeration Cycle, and Parts Description.

BASIC REFRIGERATION PRINCIPLE

What a refrigeration system really accomplishes is the transfer of heat. A refrigeration system removes the excess heat from a refrigerated area and then transfers it to a condenser where it is dissipated. As heat is removed, the refrigerated area cools.

In vending machines, large quantities of the heat must be transferred rapidly, economically and efficiently. This process must be able to withstand continuous repetition, without loss of refrigerant, over an extended period. The most common system used in the vending industry is the vapor compression (or simple compression) cycle system. It consists of four basic elements: An evaporator, a compressor, a condenser, and a pressure-reducing device (all part of a sealed system).

The compression system operates at two pressure levels: The low evaporating pressure and the high condensing pressure. The refrigerant acts as the transport medium, in which heat is moved from the evaporator to the condenser; at the condenser, the heat is dissipated into the surrounding air.

The liquid refrigerant changes from a liquid to a vapor and back to a liquid again. This change of state allows the refrigerant to absorb, and rapidly discharge, large quantities of heat efficiently.

BASIC VAPOR COMPRESSION SYSTEM CYCLE:
In the evaporator, the liquid refrigerant vaporizes. This change occurs at a temperature low enough to absorb heat from the refrigerated space. The temperature of vaporization is controlled by the pressure maintained in the evaporator (the higher the pressure, the higher the vaporization point).

The compressor pumps the vapor from the evaporator, through the suction line, and to the condenser. The compressor takes the low pressure vapor and compresses it, increasing both the pressure and the temperature. The compressor pumps the vapor at a rate rapid enough to maintain the ideal pressure. The hot, high pressure vapor is forced out of the compressor, into the discharge line and then into the condenser.

Air is blown through the condenser, allowing heat to transfer from the condenser and into the passing air. As the heat is removed, the stored refrigerant is condensed into a liquid. The liquid refrigerant is stored in the lower tube of the condenser. This is where it flows through the capillary tube back into the evaporator, where the refrigeration cycle is repeated.

DETAILED REFRIGERATION CYCLE

The following is a detailed refrigeration cycle as it applies to the refrigeration system installed in Vendo equipment. (Refer to the flow chart in Figure 1.)

As the air temperature in the cabinet rises, the electronic temperature sensor reports the air temperature to the electronic controller. The electronic controller actuates the refrigeration control relay, which turns on both the compressor and condenser fan motor.

The evaporator fan pulls air from the front of the refrigerated space of the cabinet. It pulls the air through the evaporator, and blows it up the rear of the vend stack. (The evaporator fan runs continuously.) As the air passes through the evaporator, heat is drawn from the air and transferred to the liquid refrigerant. As the cooled air circulates through the vend stack, heat is drawn from the product and transferred to the circulating air. The heated air is again drawn through the evaporator where the heat is removed.

In the evaporator, the liquid refrigerant draws heat from the circulating air. As refrigerant receives heat, it vaporizes.

The compressor pumps the vapor from the evaporator and compresses it, increasing both pressure and temperature. The compressor forces the compressed vapor out, through the discharge line and into the condenser.

The condenser fan pulls air through the condenser. As the hot refrigerant vapor passes through the condenser tubes, heat is drawn from the vapor. This heat is dissipated into the passing air. The air then exits out the back of the vendor. As the refrigerant vapor in the condenser lines is cooled, it returns to a liquid state.

From the condenser the liquid flows to the drier. The drier removes any water and solid particles from the liquid refrigerant.

The cooled liquid refrigerant continues from the drier, through the capillary tube, to the evaporator. The capillary tube steadies the flow rate of the refrigerant. Its small inside diameter allows the pressure in the evaporator to remain low while the pressure in the condenser is high.

The cool refrigerant in the evaporator draws heat from the circulating air in the cabinet. As the temperature in the cabinet drops, the electronic temperature sensor reports the air temperature to the electronic controller. The electronic controller deactivates the refrigeration control relay, which turns off the compressor and condenser fan motor.

When the air temperature in the cabinet rises above the electronic controller's cut in setting, the compressor and the condenser fan engage again.

FIGURE 1

M-5
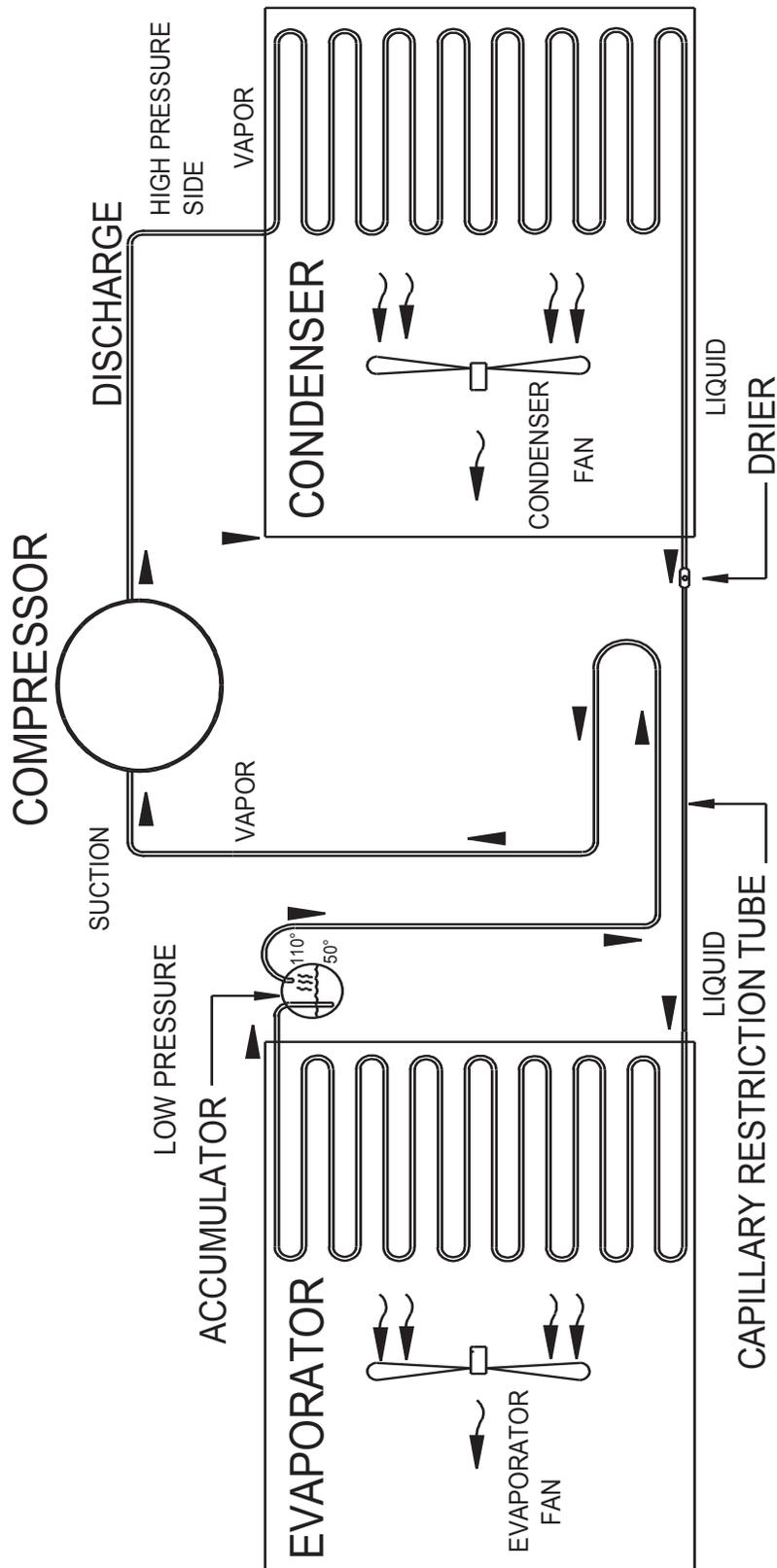
REFRIGERATION PARTS DESCRIPTION

The compressor, condenser, drier, capillary tube, evaporator, and accumulator are part of a sealed system (refer to Figure 2). These items are not available separately.

COMPRESSOR
The compressor takes in low pressure vapor and compresses it, increasing both the pressure and the temperature. The hot, high pressure gas is forced out to the condenser. The compressor and the motor that drives the compressor are sealed inside a housing. The compressor, as a unit, is mounted on the refrigeration base. The base is mounted in the bottom of the vendor, outside the sealed refrigeration space.

CONDENSER
The condenser takes heat out of the high pressure vapor that it receives from the compressor. As the vapor passes through the condenser it cools and returns to a liquid state. The condenser is mounted to the refrigeration base near the front of the vendor. It is easily accessible for cleaning.

FILTER/DRIER
The drier is a molecular sieve strainer drier. It removes water and solid particles from refrigerant liquid. One side of the drier is connected to the outlet line of the condenser; the other side is connected to the capillary tube going to the evaporator.

CAPILLARY TUBE
The capillary tube controls, at a steady rate, the flow of refrigerant liquid to the evaporator. It has a very small inside diameter to keep pressure in the evaporator low while the pressure in the condenser is high. It is the connecting link between the condenser and evaporator.

EVAPORATOR
The evaporator is a heat transference device. It removes the heat from the air in a refrigerated space and transfers it to the refrigerant liquid. This liquid evaporates into a vapor and is removed by the compressor. The evaporator is mounted inside the refrigerated space of the cabinet, directly below the delivery chute.

ACCUMULATOR
The accumulator traps any refrigerant liquid, which did not boil off into a vapor before reaching the compressor. The accumulator allows the refrigerant liquid to boil off as a vapor (preventing damage to the compressor). It also prevents suction line sweating. The accumulator is mounted in the suction line on the outline side of the evaporator.

CONDENSER
FAN ASSEMBLY

CONDENSER

CONDENSER
FAN ASSEMBLY

COMPRESSOR

EVAPORATOR
FAN ASSEMBLY
(EVAPORATOR INSIDE
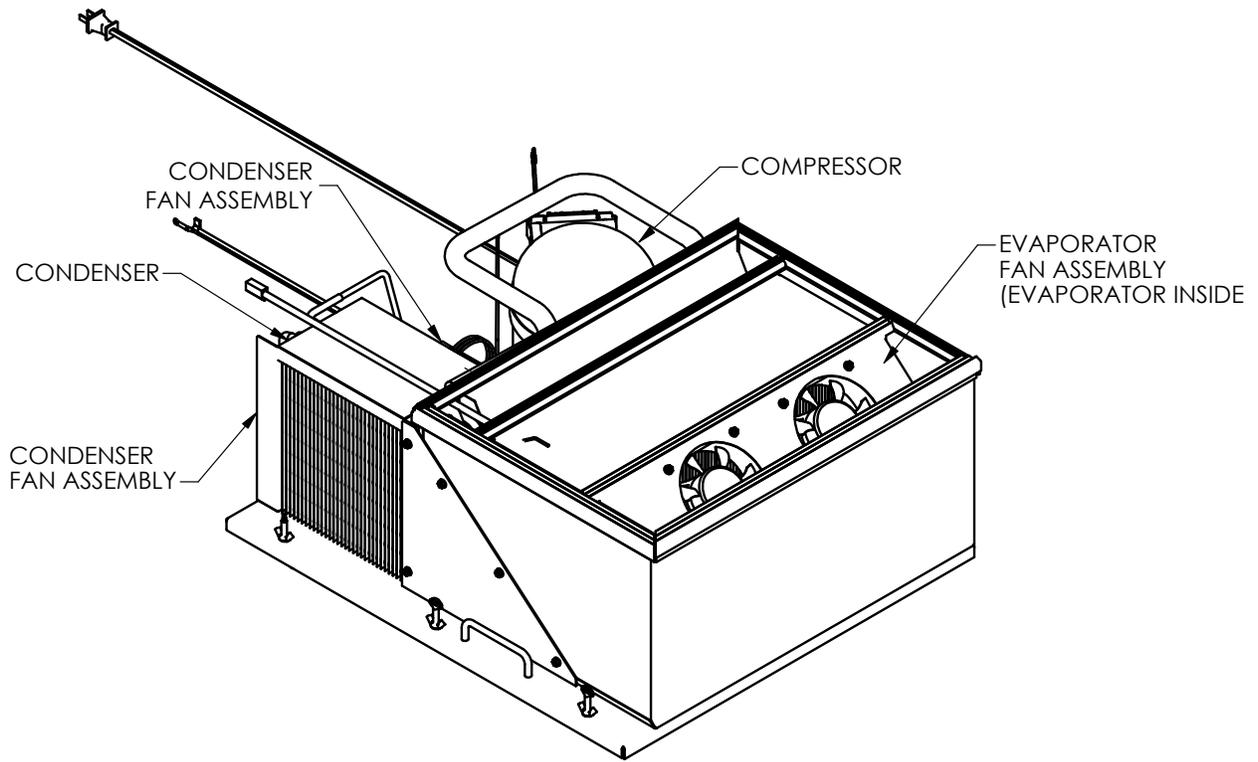
FIGURE 2

The parts listed below are not part of the sealed refrigeration system and are available separately.

START CAPACITOR - P/N: 1122999
The start capacitor is used to increase power during the start. This additional power will help get the compressor running in case there is any back pressure.

STARTING RELAY – INCLUDED IN ASSEMBLY P/N 513506066
The starting relay is mounted in the terminal box on the outside of the compressor under the housing. When the compressor first starts up, the starting relay closes and completes a starting circuit. When the compressor motor reaches operating speed, the starting relay opens and breaks the starting circuit.

THERMAL OVERLOAD SWITCH – INCLUDED IN ASSEMBLY P/N 513506066
The thermal overload switch is mounted in the terminal box on the outside of the compressor under the housing. If the compressor motor gets hot or draws too much current, the thermal overload opens and breaks the starting and running circuit of the motor. As the motor cools, the thermal overload closes, allowing the compressor to restart.

TEMPERATURE SENSOR – P/N 1122924
The temperature sensor is mounted in the inlet airflow of the evaporator. This monitors the air temperature and reports it to the electronic controller so that the controller can operate the refrigeration system via the power box.

NOTES

The Glass Front vendor provides self-diagnostics to aid you in the trouble shooting process. Error codes are stored in the controller's memory when a system error is sensed. These codes can be accessed the Diagnostic section of Programming.

The trouble shooting section contains Error Codes, General Machine Troubleshooting, and Vending Troubleshooting.

Error Codes (version 15)

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Vending Mechanism - PDC Error (Hand Control Board)			
X-motor Jam	X motor mechanism did not start or complete.	ServiceMode: The LED on the lower LEFT hand side should be a constant Red Light. 24VDC. (Fuse & Wires) If RED LED is not on, unplug machine, check 24VDC fuse on power distribution panel and wiring harnesses for continuity. The LED on the lower RIGHT hand side should be a 'flashing' Orange Light. 34VDC. Check the two pin power connector at the bottom of the door. Check connection to board on X rail. Check power supply connections in power distribution panel at bottom left of cabinet.	POWER DOWN. Replace fuse(s) & or wiring harnesses if necessary. POWER ON. Perform a test vend cycle. Wires must be seated firmly in the Molex Plug. Ensure Molex Plug has not been reversed.
		If X Motor has not returned to the home position, check to see if the hand is jammed on a tray or other item in the cabinet.	POWER DOWN. Clear jam, wait 5 seconds and POWER ON. If hand goes home after 'Auto Recovery', run 'X' Motor in Test Motors. Complete a test vend cycle. If hand does not go home in X, replace X motor.
		If unit has returned to the 'Home position', hand jammed. Check product positions to determine if any are sold out with product still in column.	Perform a Calibration Discovery 2. See Manual. Complete a test vend cycle of sold out products. If hand hits tray in X, adjust X home position by adding or removing spacers.
Y-motor Jam	Y' Motor portion of vending mechanism did not start or complete.	Preform System Check, see X-Motor Jam.	POWER DOWN. Replace fuse(s) if necessary. POWER ON. Complete a test vend cycle.

		If 'Y' Motor has not returned to the home position, check to see if the hand is jammed on a tray or other item in the cabinet.	Clear jam. POWER DOWN, wait 5 seconds then POWER ON. If hand (Y Motor) goes back home after 'Auto Recovery', run 'Y' Motor test in Test Motors. Complete a test vend cycle. If hand does not go home in 'Y', replace 'Y' Motor.
		If 'Y' Motor has returned to the home position, hand jammed, but recovered, check product positions to determine if any display 'sold out' with product still in a column.	Complete a test vend cycle of sold out products. If hand hits tray in Y, perform a Calibration Discovery 2.
Z-motor Jam	Z' Motor portion of vending mechanism did not start or complete.	Perform System Check, see X-Motor Jam.	POWER DOWN. Replace fuse(s) if necessary. POWER ON. Complete a test vend cycle.
		If unit is extended in 'Z' check 'Z' Housing Ribbon Cable (within the hand) to be sure it is plugged in. Please refer to Diagram 1A	POWER DOWN. Plug in 'Z' Housing Ribbon Cable. POWER ON. If hand goes back home after auto recovery, run 'Z' Motor Test in Test Motors. Complete a test vend cycle.
		If a product is in the hand, perform a visual check to see if the product is stopping the hand from closing around it.	Remove product from hand. POWER DOWN, wait 5 seconds. POWER ON. If hand goes back home after auto recovery, run 'Z' Motor Test in Test Motors. Complete a test vend cycle.
		If unit has returned to the home position, hand jammed, but recovered, check product positions to determine if any display 'sold out' with product still in a column.	Complete a test vend cycle of sold out products. If hand hits the tray front, run a Calibration Discovery 2. If hand jams on center gate, reduce 'Z' Product Position by 3 encodings in 'Calibration'. Please call Tech Services at: 1-800-344-7216 for information when attempting this function.
Clamp-motor Jam	Clamp Motor did not start or complete its cycle.	See X-Motor Jam information listed on prior page.	POWER DOWN. Replace fuse(s) if necessary. POWER ON. Complete a test vend cycle.
		Inspect clamp fingers to see if they are partially open only.	Clamp motor has failed. Replace clamp motor.

Jam - Recovered	A jam condition was encountered while vending, but recovered from the jam, and returned to the home position. The user was requested to select a new product.	Check product positions to determine if any display sold out with product still in a column.	Complete a Test Vend cycle of sold out products. If hand hits tray front, run Calibration - Discovery 2. If hand jams on center gate, reduce Z Product Position by 3 encodings. Please call Tech Services at: 1-800-344-7216 when attempting this function.
Failed Movement	This is a non - jam failure. A motor function failed to complete.	Depends on 'X, Y, Z' or Clamp Open/ Close movement attempted. If it is after Discovery, check the reflectors.	Test Mode: Test Motors - Check 'X, Y, Z, Clamp open/close Movement and regular Vending. Check all Sensors under Check Sensor Status. Install any missing reflectors.
X-Rail Not Level	During a Discovery 2 operation, the X rail was higher on one side by more than 1 inch.	POWER DOWN. Move the X rail manually to the center of the machine opposite a shelf. Close the door and inspect the bottom of the rail at the trays to determine which side is higher.	Remove the X-rail cap. On the latch side of the machine, release the Y gear coupling then move the X-rail down until it is level. Inspect, then run a Discovery 2.
FLO Always On (Forward Looking Optics)	During a target search operation, the Forward Looking Optic (FLO) was found to be continuously active.	Test 'FLO' with a corner-cube reflector piece. The device has 2 lights. The <u>Green Light</u> should be on. When the reflector is in front of the FLO, the second light should change from 'Off' to 'Orange'. Check reflectors along latch side trays. FLO may have only seen the shelf 4 reflector during scan. Verify 'X' Home is aligned with latch side reflectors.	If the <u>Green Light</u> is off, check the plug on the PDC. If the <u>Orange Light</u> does not turn on and off, POWER DOWN, then replace the FLO Assembly, Part # 1126113. POWER ON. If the Flo does turn on/ off, POWER DOWN, then replace the PDC board.
FLO Always Off(Forward Looking Optics)	During a target search operation, the Forward Looking Optic (FLO) would not activate.	Test 'FLO' with a corner-cube reflector piece. The device has 2 lights. The Green Light should be on. When the reflector is in front of the FLO, the second light should change from 'Off' to Orange. The FLO may not have missed all of the reflectors on latch side. Check that all reflectors are in place along latch side trays.	If the <u>Green Light</u> is off, check the plug on the PDC. If the <u>Orange Light</u> does not turn on and off, POWER DOWN, then replace the FLO Assembly, Part # 1126113. POWER ON. If the FLO does turn on/ off POWER DOWN, then replace the PDC board. Make sure the door is closed properly.

Missing Coordinates	During the 'Discovery Operation', a tray reflector was not found.	1) Verify the reflectors are in place on all of the top trays. 2) Are all reflectors on latch and hinge side trays installed.	Install any missing reflectors.
		Check power on the FLO device. The <u>Green Light</u> should be on. Test FLO with a corner-cube reflector piece. When the reflector is in front of the FLO, the second light should change from '<u>Off</u>' to <u>Orange</u>. Check all the trays are properly seated on the base metal.	If the <u>Green Light</u> is off, check the plug on the PDC. If the <u>Orange Light</u> does not turn on/ off, replace the FLO assembly. If the FLO does turn on/ off replace the PDC board. Reseat tray firmly in shelf
Missing Tray	A tray is missing on the top or bottom shelf.	There should be a reflector on each tray on top and bottom shelves.	Install any missing reflectors.
Shelf ends Mismatch	During a Discovery Operation, the number of trays found on the latch side, did not match the number of trays found on the hinged side of the vendor.	Check all tray positions. Make sure each tray has a corner-cube reflector in the center tray pocket.	Replace any missing tray reflectors. Run Discovery 2.
		Check all side trays are fully seated in shelves.	Reseat tray firmly in shelf. Run Discovery 2.
Shelf Not Level	During a Discovery Operation, one or more trays varied more than 1 inch in position from the hinge side to the latch side.	Check all tray positions. Make sure each tray is fully seated on the shelf.	Reseat tray firmly in shelf.

Failed Communication	PDC failed to communicate with VMC.	Check all harnessing between PDC and VMC.	POWER DOWN. Reseat any loose pins in harnesses. Reseat harness plugs. POWER ON.
		Check LED's on PDC. Lower Right Hand Light (Orange), should be flashing. Green flashing = PDC not receiving communication from VMC. Orange pulsing = PDC both receiving and transmitting communication. Red flashing = PDC closed communication. No flashing (LED off or solid color LED) = PDC not operating. Check the FLO power indicator light (should be solid green).	If Green Light is flashing, or the Orange Light is either steady or not lit, check MDB communication cable connections as above. If Red Light is flashing, PDC has logic error. POWER DOWN, wait 5 seconds then POWER ON. If the Orange Light is not flashing, LED is off and FLO power indicator is off, the PDC does not have power. Check for 'flashing' Red Light at the top right side of the Main Control Board. If this Control Board has power, check the MDB cables. If the Red Light is not flashing and the FLO power indicator is on, it is most likely an issue with the software flash chip. Replace the flash chip. If this does not repair the problem, replace the PDC.
Failed Unknown	An error occurred that did not conform to any known error.	Check all harnessing between PDC and Main Control Board.	POWER DOWN. Inspect/ reseat any loose pins in harnesses. Re-connect harness plugs. POWER ON.
		Check LED's on PDC. Lower right hand light should be flashing. Green Light flashing = PDC not receiving communication from VMC. Orange Light flashing = PDC both receiving and transmitting communication. Red Light flashing=PDC closed communication. Not flashing (LED is off, or a solid color) = PDC not operating. If LED is off, or a solid color, check FLO power indicator (FLO indicator should be solid green).	If the Green Light is flashing, check MDB communication cable connections as above. If the Orange Light is not flashing, LED is off and FLO power indicator is off, the PDC does not have power. If the Red Light is flashing, the PDC has a logic error. POWER DOWN, wait 5 seconds then POWER ON. No flashing = LED is off and Flo power indicator is off, the PDC does not have power. Check that the Red Light is flashing on the Main Control Board. If it is flashing, the Main Control Board is powered. Check the MDB cables. If the Red Light is not flashing on the Main Control Board and the FLO power indicator is on, it is likely an issue with the software flash chip. Replace the flash chip. If this does not repair the problem, replace the PDC.

		Test Mode: - Test Motors - Vending - perform Test Vends. Check the sensors in Test Mode - Check Sensors.	POWER DOWN. Replace any malfunctioning motors or sensors. POWER ON. If the problem persists, change the PDC and the Main Control Board.
Setup Flash Write Failed	Changes to the configuration could not be stored in the PDC's FLASH chip.	POWER DOWN, wait 5 seconds, then POWER ON.	1) If issue persists, the FLASH chip has failed. 2) Save all relevant information for PDC's Configuration. 3) Remove the FLASH chip using a 'chip extractor tool' and gently prying away from the housing. 4) Replace defective FLASH chip with the new one, pressing gently into position. 5) If the FLASH chip change does not work (after several attempts), replace the Hand.? 6) If it is a 3 Tray GFV, it will need to be re-programmed in 'Calibration: Set # of Trays'. The embedded default is 4 trays.
Failed Conformation	Discovery 1 scanned the latch side of the GFV and the trays discovered do not match those stored in FLASH. tray configuration changed.	Vendor will automatically perform a Discovery 2.	If no changes were made to the trays/shelves in GFV, it may indicate a missing reflector.
Inappropriate Command	Test/Config Mode command received while the VMC is not in Test/Config Mode. Eg. Test Motors command received while the machine is vending.	PDC will ignore the inappropriate command.	

Command Out of Sequence	The MDB command requested is inappropriate for the current state of the PDC. Eg. If the "Vend Drop" command was received when the hand was not at the hopper to drop a product during either a Vend, Startup, or Recovery.	PDC will ignore the command.	It should recover by itself. If it is a frequent occurrence change the 'Hand'.
Command in Progress	Test/Config Mode command received while the VMC is in the process of executing a Test/Config command.	PDC will automatically ignore the command.	
Command Data Out of Range	Test/Config Mode received an invalid comand.	VMC will retry sending the command to PDC	It should recover by itself. If it is a frequent occurrence change the 'Hand'.
Command Denied Safely	A command was rejected because it is unsafe.	PDC will automatically ignore the command.	Call Tech Services at: 1-800-344-7216
Shelf Invalid	Test/Config commands that have a shelf number as a parameter, can return this error for a shelf number, while in range, which identifies a shelf that was not found during discovery.	Performing Calibrations / Set Z corrections without running discovery will cause this error.	Service Mode: Calibration Discovery - Run Discovery 2 before making any Changes.

TC Failed Movement (Test Configuration failed Movement)	1.When one of the movements in X , Y , Z or Clamp fail during Test Motors. 2. When one of the sensors fails. (eg. X,Y, Z , Clamp or Forward Looking Optics Sensors)	1.Check to see if the X , Y , Z or Clamp movements are performing normally. On Exit from Test Motors the X,Y, Z and clamp should be in the home position. 2.Check the Sensors. (O denotes a good sensor. If the sensor is blocked - then change the respective sensor)	Service Mode: Test Motors - Sensor Status Check X, Y, Z, C and F. Refer to Programming Sction of the GFV Manual for Sensor Status Readings.

Vending Mechanism - VMC Error

Hop.Flap No Current	Hopper flap motor either did not run, or, no current was detected.	Check the Hopper flap harness connection.	Run Test Hopper Flap in Test Mode
			If motor moves, current detection circuitry has been damaged on VMC. Replace VMC board.
Hopper Flap Jam	VMC (Main Controller) detected high current while running the Hopper Flap motor. It did not detect the Hopper flap positioning switch.		Run Test Hopper Flap in Test Mode If motor does not move, replace Hopper Flap motor.
		Check to see if product is jamming the Flap	Remove the product. Run Test Hopper Flap in Test Mode
Hop.Buck No Current (Hopper Bucket no current)	Hopper Bucket Motor either did not run, or did not detect any current.	Check Hopper Bucket harness connection.	Disconnect then reconnect Hopper Bucket Harness Run Test Hopper Bucket in Test Mode
		Run Test Hopper Bucket in Test Mode	If motor moves, the current detection circuitry has been damaged on VMC. Replace VMC board.
Hopper Buck Jam	VMC (Main Controller) detected high current while running the Hopper Bucket.	Run Test Hopper bucket in Test Mode	If motor does not move, replace Hopper Bucket motor.
		Check to see if product is jamming the Bucket	Remove the product. Run Hopper Bucket Test.
Hopper Flap Switch	Hopper flap motor runs but does not detect the home switch.	Run Test Hopper Flap in Test Mode	Replace hopper flap motor assy.

Hopper Bucket Switch	Hopper bucket motor runs but does not detect the home switch.	Run Test Hopper Bucket in Test Mode	Replace the hopper bucket motor assy.
Temperature Lockout Error			
Door Open Timer	Door was open more than 10 minutes during reloading. The cabinet could not cool below 41º F. (4º C)	Service Mode - Diagnostics - Clear the errors.	Replace the products from the Temperature lockout shelves
High Temperature	Cabinet temperature remained above 41º F (4º C) for more than 15 minutes	Service Mode - Diagnostics - Clear the errors.	Replace the products from the Temperature lockout shelves
Power Failure	Vendor lost power for more than 15 minutes. Cabinet temperature rose above 41º F (4º C).	Service Mode - Diagnostics - Clear the errors.	Replace the products from the Temperature lockout shelves
Bad Ambient Temperature Sensor	Ambient Temperature Sensor is not working	Open the door- The Ambient Temperature Sensor should be fitted at the top-left, front of the cabinet. (Silver probe with brown wiring)	Check wiring harness for continuity from the probe to the power supply at bottom left of cabinet. If Harness is damaged, replace. If it is not the harness - replace the Ambient Temperature Sensor.
Coin Changer			
Coin Communication	Changer communication error - no changer communication for more than 2 seconds.	Check that red light is flashing on control board.	If light is not flashing, there is no power to board. Check and replug any unplugged connections.
			If fuse is blown replace it.
			Replace transformer.
		Defective acceptor.	Replace acceptor.
Tube Sensor	Tube sensor is defective -- reported by changer.	Check changer tubes for blockage	Clear tube blockage. If no blockage is found, replace changer.

Coin Inlet	Changer inlet chute blocked - no coins sensed for over 96 hours by the changer.	Check inlet chute for blockage. Drop coins in Sales Mode or Tube Fill Mode to test acceptance. Manually clear the error.	Clear inlet chute blockage. If no blockage found, replace changer. If acceptance rate is acceptable, system is OK. If acceptance rate is low or changer will not accept coins, replace changer.
Tube Jam	Tube pay out jam -- reported by changer.	Check changer tubes and payout for blockage.	Clear blockage, if found. If no blockage is found, replace changer.
Coin Read Only Memory	Changer check sum incorrect -- reported by changer.	Unplug machine, wait at least five seconds, replug machine. Manually clear the error	If error does not clear, replace changer/acceptor.
			Replace acceptor
Excessive Escrow	Excessive escrow requests -- more than 255 requests since the last coin was sensed.	Check escrow lever and associated mechanisms.	Manually clear the lever and error.
		Close door then reopen. Check to see if error still occurs.	Replace changer/acceptor.
Coin Jam	Coin jam - reported by changer	Check changer/acceptor for jammed coins or other obstructions.	If no obstructions are apparent, replace changer/acceptor
Low Acceptance	Low acceptance rate -- coin acceptance has fallen below 80%	Check changer/acceptor for obstructions or dirt	If no obstructions are apparent, and acceptance appears to be OK, this may be an indication of cheating attempts.
		Drop coins test acceptance.	If no obstructions are apparent and coins do not accept, or acceptance rate is poor, replace changer/acceptor.
Accept Disconnect	Disconnected acceptor -- indicates that an acceptor is unplugged.	Check coin mechanism plugs. Check for faulty harness wiring (see wiring diagram for circuit).	Correct connections.
Routing	Coin routing - indicates a coin was routed incorrectly.	Verify acceptor set-up using manufacturer's recommendations.	If acceptor was set up correctly, replace acceptor.
Dollar Bill Validator			
Bill Validator Communication	Bill validator communications - No bill validator communication for 5 seconds.	If changer or card reader is being used, check for "Coin Communication" or "Coin Read Only Memory" errors.	If there are no "Coin Communication" or "Coin Read Only Memory" errors: 1) Check bill acceptor harness; 2) Replace bill acceptor. If there is a "Coin Communication" or "Coin Read Only Memory" 1) Check control board MDB harness.
		Turn off door switch and wait at least five seconds. Turn on door switch.	
Bill Validator Full	Bill validator full - reported by validator (STACKER command).	Insure bill cashbox is empty and that the cashbox is properly closed and in place.	If cashbox appears to be OK, replace bill acceptor.

Bill Validator Motor	Bill validator motor is reported as defective by validator.	No test available	Replace bill acceptor.
Bill Validator Jammed	Bill jammed -- reported by validator.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.
Bill Validator ROM	Bill validator check sum is incorrect.	Turn power switch off. Wait at least five seconds. Turn power switch on. Manually clear the error.	If error does not clear, replace bill acceptor.
Bill Validator Open	Bill validator is open.	Check that bill cashbox is closed and in correct position.	If cashbox appears to be OK, replace bill acceptor.
Bill Validator Sensor	Bill validator sensor is not functioning.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.
Card Reader			
Card Reader Communication	There is no card reader communication for 5 seconds.	If card reader/bill acceptor is being used, check for "Coin Read Only Memory" or "Bill Read Only Memory" errors.	If there is no "Coin Read Only Memory" or "Bill Read Only Memory" error: 1) Check changer harness. 2) Replace changer.
		Turn power switch off. Wait at least five seconds. Turn power switch on.	If there is a "Coin Read Only Memory" or "Bill Read Only Memory" error: 3) Check control board MdB harness.
Card Reader	Most recent "non-transient error" from the card reader.	No test available.	Refer to card reader manual for corrective action.
Refrigeration			
Temp Sensor	The temperature sensor is defective or unplugged.	Verify the temperature sensor harness is plugged into door harness at power box area.	Check for continuity on the sensor harness and the sensor harness is plugged in properly. If it still does not work, change the sensor probe.
		Verify the 2 brown wires, # 11 & 12 pins for the temperature sensor connection on the J7 plug of Main Control Board are firmly positioned in plug.	POWER DOWN. Remove J7 plug, push both brown wires into the pins. POWER ON. Service Mode: Configuration - Set 'Display Temperature' to 'on'. Close outer door. You should see the temp begin to lower once the refrigeration deck begins to cycle. If the temperature does not drop, change the sensor probe.
Compressor	System has failed to decrease temperature 1° per hour while the compressor is running.	Check refrigeration settings (refer to the refrigeration section of programming manual).	Change settings if required.
		Check whether the evaporator is frozen.	Check seal around cabinet.

		Verify the evaporator fan is running.	Check harness to fan motor and check output voltage. Test Mode - Relays: Evaporator Fan - attempt to turn the evaporator fan on then off in this mode.
Miscellaneous Problems			
Stuck Selection SW on Keypad	Bad Selection Switch - A Selection switch inside the Keypad was actuated more than 15 seconds in door closed, Sales Mode, or door open, Service Mode.	Check the selection switch number shown in the detailed error code "nn" to see if: 1) The Keypad is defective 2) The harness is wired incorrectly or shorted out.	The harness from the Ribbon Cable to the Selection Switch Keypad could be upside down. The # 2 slot on both the ribbon cable and harness should be empty. If this does not work, replace the Keypad.
Door Switch	Outer door has been open for more than one hour.	Check the vendor's door switch to see if it's sticking or miswired.	Replace the door switch, if defective.
Ram Error	Ram check sum for service mode settings stored in non-volatile memory has been corrupted.	No test available.	If error shows up frequently, replace the control board.
AC Low	AC voltage to the controller is less than 20Vrms for more than 30 seconds.	Check for low voltage at the wall outlet at vendor start-up.	Contact a qualified electrician.
Scale	Scaling Factor error - one of the credit peripherals has introduced a scaling factor that is not compatible with the current configuration.	Check the connections of changer harness; make sure changer is plugged in and working.	Make corrections to harness or replace the changer if necessary.
Inlet Sensor	Machine's coin inlet sensor is blocked for more than 1 minute.	Check changer harnessing for cut, pinched or crimped wires.	Make sure the coin return button is not pushed on the vendor or on the coin mechanism. Replace harnesses or changer.

| Escrow Return Mech. | 3 successive coins are detected at the inlet but do not make it into the changer in 10 seconds. | Check inlet for blockage. If nothing is found, check changer harnessing for cut, pinched or crimped wires. | Clear blockage or replace harness or changer. |

OPERATIONAL FAILURES - Machine is reported as non-operational.These are major failures that can shut the machine completely. Please check the display message on the machine and compare them to the messages listed below.

DISPLAY MESSAGE	ROOT CAUSE	CHECKING METHOD	CORRECTIVE ACTION
" Sorry...Machine Servicing Required Sorry... Please Come Again "	One of the following conditions would trigger this message. 1) Flap jammed and could not recover after 3 tries. 2) Bucket Jammed and could not recover. 3) X / Y movements failed and could not recover after 5 tries.	Service Mode - check error(s) displayed.	1.Conduct Hopper Flap Test. Check to see if the flap cam is broken. 2.Conduct Hopper Bucket Test. Check to see if the bucket movement is smooth. 3.Conduct Test Motors Test. Make sure there is no physical jam in the X / Y movements. 4. If the above tests 'fail' - call Technical Services at: 1-800-344-7216
"PDC Not Available Please Check Cables Machine is not ready Thank You"	PDC cannot communicate with the VMC	Check the MDB cable/port running from the VMC to the PDC.	POWER DOWN. Unplug the MDB connector and check the pins inside the MDB socket. Change the cable if it is found to be defective. POWER ON - Service Mode - Diagnostics, check whether the error code still appears. If it does, change the PDC.
"Calibration-Dscv 1 / 2 Failure - Please Check Diagnostics"	Machine could not complete Discovery 1 / 2 .	Service Mode: Diagnostics - check the error that displays.	POWER DOWN - wait 5 seconds then POWER ON the vendor. Perform Calibration 2 Discovery. If this does not correct problem call: Tech Service: 1-800-344-7216

"Calibration - Dscv 2 in progress .. Please wait" - but the vendor remains idle.	Electronics could not complete Discovery 2.	POWER ON The 'physical' stop made by the Y-Rail is at a lower position to the Y-Home sensor then it should be. **Note - the PDC does not slide down further once it stops.	Calibration Discovery Mode: Manually perform a discovery 2. The machine should scan the left side of the tray and then the right side of the tray. Once the hand finishes the left scan, the PDC will move to the home position and stop. The rail should not stop and slid. Adjust the physical stop so that it holds the rail in place. Please refer to Y-home adjustment.
"Auto Recovery Failure… Please wait" - but the vendor remains idle.	Electronics could not complete the initial startup routine.	Service Mode: Diagnostics - check the error code displayed.	POWER DOWN. Wait 5 seconds, POWER ON. Perform Calibration 2 Discovery in Service Mode.

VENDING ERRORS - These errors are intermittent and affect only some selections.

OBSERVATION	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
The PDC fixed fingers are off of the X-axis.	When a product is vended, the fixed fingers (Bottom 2) miss the middle gate.	Vend top-left selection - note the postion of the fixed finger. Vend top-right selection - note the position of the fixed finger. Check the position of red optic light from the PDC - while the hand is in 'Home' position- make sure the light is just below the center of the right-bottom tray.	POWER DOWN. Adjust the X-position to move to the left or right by adding or removing 1 or 2 spacers in the X-Home sensor located at the right-end cap of the rail. POWER ON. Perform 'Test' vends from all columns
Z-Moves in but does not take the product.	PDC fixed fingers hit the front gate on Z-out.	Perform a 'Test' vend of the affected column. Check to see that Z-extends fully and the hand moves down.	Make sure the gate pin holding the front gate in place is all the way in. If the hand hits the front gates or moves in after moving out, perform a Calibration 2 Discovery in Service Mode.
Selection(s) display a 'false' soldout.	Selections prematurely set to soldout.	Service Mode - Check the errors reported in diagnostics. Close the door. Vend the premature soldout selections to check the PDC X, Y, Z position.	Make sure there is no physical blockage for the vend process in the X/Y/Z movement. If the X, Y, Z tracks appear to be clear, perform a Calibration 2 Discovery.
Selection 30 / 40 / 50 display a 'false' soldout.	A Selection is made - PDC moves to the selection but does not complete the vend.	Check the metal retainer and cover for the IGUS Cable.	The IGUS Cable should be seated properly inside the bracket.Replace/fix the metal cover if it is twisted or bent outwards.
Power on - while the PDC is away from Home the Y Motor moves up a few inches and goes home.	At startup the Y-Motor tries to moves up but goes back to the 'Home' position.	POWER DOWN. Open the door then pull the Y-rail upwards away from the 'Home' position. POWER ON. The PDC should move up to the top of the door then go home.	If the rail tries to move up and stays idle - change the Y-ribbon cable. If the problem persists, change the Y-Motor.
Power on - while the PDC is in the 'Home' position, 'Y' Motor moves up, hits the top of the door then goes home.	PDC cannot detect the Y-home sensor.	Test Mode: Test all Sensors.	Change the Y-sensor attached to the door. If problem persists, change the Y -sensor on the PDC.

PDC movement on X-Rail is very slow while going home in X - Direction	Hand retrieves a product, the PDC appears to stop on X-axis when it is near the vend drop position	Vend any product, make sure the X-movement is smooth while the PDC is going to the home position in X.	If the PDC appears to stop then move, change the rollers in the X-carriage.
Hand stopping at the middle of the machine.	Hand moves to the hopper above position and stops.	1) Check the diagnostic message. 2) Check the hopper flap.	1) Perform action as defined in the error code. 2) Change flap motor if it is not working.
When the PDC is away from the 'Home' position, the rail moves upward in Y-direction and stops.	The PDC moved in Y direction but not in Z.	Service Mode: Activate PDC Software Maintainance	Make sure the hand assembly is fitted evenly on the L/R Z- tracks in the 'Hand Housing'. If the hand is off the tracks - POWER DOWN. Separate the hand assembly from the housing by rotating the Z-Motor Encoder Wheel (black wheel visible once hand is extended). Place the hand assembly evenly back onto the left and right tracks. POWER ON. Wait during Discovery. If performing this action does not correct the problem, change the PDC hand.
The PDC Hand crashes into the flap.	1.The Y Motor Encoder is potentially malfunctioning. 2.The flap linkage is broken	POWER DOWN Disconnect the Flap motor. 1) POWER ON while the hand is away from the home position. 2. Perform the flap test.	Check that the position of the hand is around the middle of the vend flap when it is in the vend drop mode. 1) If the vend drop position is below the normal position, change the Y Motor on the rail. 2) Ensure the link connecting the flap to the motor is not broken. Call Tech Service: 1-800-344-7216
The clamp closes but does not open fully.	While attempting to operate, the clamp fingers close but cannot open to their original position.	Test clamp motor in Test Motors Mode.	Perform Clamp Open test. If it does not open all the way, check whether the compression spring is seated correctly. Perform Clamp Close test. In the clamp closed position, check to see if the fingers are stuck. The fingers should move easily when pushed out. If the Clamp is working properly in 'Test Mode', change the clamp sensor board. In the problem persists, change the clamp motor.

Products are not moving forward.	The 'Pushers' are not advancing product properly.	There is a gap between the products and the product retainer.	Empty the column, spray the inside bottom of the tray with a "Food Grade" silicone spray. Reload the products and test.
Door will not close or is hard to close.	1) The hand catches the on the top of the bottom shear panel.2) Door latch is preventing the door from closing.3) Rollers do not seem to lift the door.	1) Make sure the 'Forward Looking Optic' on the hand is just below the reflector on the bottom left tray of the machine.2.Check whether the door latch on the cabinet is damaged.3) Check the rollers located beneath the door.	1) Adjust the Y-stop,Please refer to Y-Adjustment Section then perform Calibration 2 Discovery.2) If damaged, straighten out the latch and re-fit or re-place the door latch bar. 3. If the rollers are not pushing the door up, add a few washers underneath the roller slide.
Problem with the Flap Motor	Flap opens half way	Test Mode - Perform Test Hopper Flap function.	Check whether there is something physically blocking the inner flap from opening. Eg. Screws/ bolts / coins etc. If there is no blockage, change the flap bucket motor.
Problem with the Bucket Motor	Bucket tries to close and then re-opens	Test Mode - Perform Test Hopper Bucket function. 1) The linkage on the hopper bucket should move freely. 2) The plastic piece on the front panel may be scraping the front of the bucket. 3) The bucket may be scraping the side of the hopper.	If it does not perform properly: 1) Dis-assemble the link from the bucket assembly. 2) Run the Hopper Bucket Test. The bucket cam should rotate from switch to switch. 3) If the cam does not stop on the switch and runs for about 6 seconds change the bucket motor. 4) If the cam stops on the switch, inspect the bucket assembly for a physical blockage.
Problem with Bucket Motor	Outer door is closed - the bucket opens/ closes then remains open. Display reads: "Checking hopper flap and bucket"	1) Inspect the bottom of the bucket for any debris blocking the vend optics. 2) Check for water drops in the bucket due to condensation from product.	Verify the connections to the 'Vend Optics' are plugged in and seated correctly. If the 'Vend Optics' connectors are in place, change the 'Vend Sensor Optics'.

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
COIN ACCEPTANCE/PAYOUT (Record all errors for reference if Vendo Technical Service is required)		
Coin mechanism will not accept coins.	No power to control board.	Check to make sure the red LED on the control board is flashing red. If flashing, check MDB harness connections. If connections are good, replace changer.
	Harness from coin mech to board is cut or disconnected.	Use a meter and check each wire for continuity and ground.
	Short in coin mechanism.	Replace coin changer/acceptor.
	Acceptor is dirty or other problem may exist (not tuned).	Clean acceptor or contact your local coin mech dealer.
	Defective control board.	Replace control board.
No acceptance or rejects a percentage of good coins.	Coin return lever pressing down on acceptor's coin plunger.	Make sure changer is mounted correctly and the coin return lever is in the proper position.
	Acceptor is dirty or foreign matter is in the path.	Clean acceptor or contact dealer.
	Coin changer is improperly tuned (if tunable).	Contact manufacturer for tuning.
	Defective controller board.	Replace/test controller.
Always accepts coins but gives erratic/no credit.	If NO CREDIT: Defective harness between coin mech and control board (will have "CC" error).	Check harness f or cut wires or wrong/bad connections. Test each wire for continuity or test to ground. If found to be defective, replace.
	If ERRATIC OR NO CREDIT: Acceptor or coin mech.	Replace coin mech and test.
	If NO CREDIT: Defective controller.	Replace/test controller.
Changer will not payout coins.	Defective harness between coin mech and control board.	Test vendor's manual coin payout. If vendor won't pay out using the Coin Payout mode or during sales, check harness for cuts, bad continuity or wrong connections. If defective, replace and test.
	Defective coin mech.	Replace coin mech and test.
	Defective controller board.	If coin mech won't payout coins manually in the Coin Payout mode or during the Sales Mode and the above two procedures have failed, replace the control board and test payout both in the Coin Payout mode and during a sale.
	Changer payout buttons are disabled while door is closed or while in Open-Door Sales Mode.	Enter the Service Mode or access the Coin Payout Mode.
BILL ACCEPTANCE		
Bill Acceptor will not pull bill in.	No power to validator.	Unplug power. Wait for 10 seconds. Reconnect power and see if bill acceptor cycles. If not, check acceptor harnessing or replace the bill acceptor.
	Acceptance disabled by coin mech (if present), or bad harnessing.	Make sure that the coin mech is plugged in (accepts coins) and that the coin tubes have enough coins to enable bill acceptance.
	Coin mech is not operative.	Make sure that the changer harnessing is correctly connected and has continuity. Repair or replace if necessary.
	Replace acceptor and test.	If acceptor accepts, bill acceptor was defective.

Bill acceptor takes a bill but does not establish credit.	Defective acceptor harness (credit not getting from acceptor to control board through the harness).	Make sure that the acceptor and harnessing is correct for your style of acceptor and it is plugged in and wired properly.
	Defective acceptor.	Replace/test acceptor.
	Defective controller.	Replace/test controller.
Bill acceptor takes a bill and credits but not erasing credit.	Defective bill acceptor.	Replace acceptor and test acceptance and erasure of credit.
	Defective controller.	Replace/test controller for erasure of credit.
	Both vend sensors are defective	Replace vend sensor.
Acceptor takes a bill and allows payback of coins without a selection.	Controllers configurations not set properly.	Access vendor configuration mode and check the "Forced Vend" setting.

VENDING PROBLEMS

Hand not in home postion	Communication error between VMC and PDC or PDC software error	Cycle power to unit. Start-up routine should begin.
Hopper is open	Vend optics blocked	Enter Test Mode check Vend Detection (see service manual). Cycle power to unit. Strat-up routine should begin.Relpace/Test vend optics.
No vend upon selection.	No power or communication to hand.	Check for lights on hand. Left side red light (motor power) right side flashing (logicpower/ communication). If no light than check MDB connection on VMC.
Hand not aligned correctly to tray when vending.	Tray or shelf out of position (not seated). Tray table in the PDC not present or correct.	Reseat tray or shelf. Run calibration #1 then #2.
X-rail not moving, product in hand.	Vend flap motor umpluged or linkage broken.	Test vend flap in Test Mode. Replace if broken.
Completely sold out while product is still in the column.	Product pusher not functioning	Check to see if product pusher is engaged.

MISCELLANEOUS PROBLEMS

Door will not close completely.	Hand assembley hitting the lower blukhead. Tri-Teq lock system is in the locked position.	Reposition y-rail stops and check y-home magnet. Open Tri-Teq lock, check for damage to lock slide.
Display shows sold out immediately upon pressing selection button of full column (sold out not clearing).	Door switch wired incorrectly or cut/pinched.	Manually press door switch. If still not vending, check wiring or replace door switch.
	Defective control board.	If door switch is replaced and still reading sold out, replace control board.
Vendor appears dead; no digital display and no lights.	Defective main harness.	If red light on control board is off, check fuse and transformer.
No digital display; vendor lights on.	Defective display or display harness.	Check display and display harness. Replace if necessary.
	Check for a flashing red light on control board.	If no light, replace control board.
Vendor scrolls message on display but does not accept money.	Changer out of tune.	See "Tuning Changer".
	Defective changer.	Replace changer.
	Defective controller board.	Replace control board.
Vendor accepts money but does not display credit.	Defective changer.	Replace changer.
	Defective controller board.	Replace board.
Vendor accepts and credits money but does	Defective selection switch.	Replace switch.

not vend (does not indicate a sold-out).	Defective selection switch harness.	Repair or replace harness.
	Defective controller board.	Replace board.

REFRIGERATION

Problem	Cause	Solution
Refrigeration unit will not run.	Defective temperature sensor.	1. Check connection.
		2. Replace temperature sensor.
	Defective control board.	Replace board.
Refrigeration unit will not run at all.	No power to vendor.	Check power supply, also check service cord connections.
Unit will only run in the compressor relay test mode. (Located under Test Mode)	Defective cabinet switch.	Open and close the door to make sure lights and fan come on. If not, then check the cabinet switch.
	Defective temperature sensor.	Follow the same steps detailed above about the temperature sensor.
	Wait the 3 minute delay once the cabinet door is closed.	Wait to see if unit comes on.
	Defective control board.	If unit still does not come on, then replace the control board.
Unit will not run in the compressor relay test mode. **NOTE: Leave the compressor relay test mode on, in order to check for voltage.	Defective control board.	Unplug unit at power distibution panel. Remove air dam. Reconnect power. Enable compressor relay through Test Mode. Check 2-pin connection on power distribution for 110V.
	Defective relay.	Upon opening the cabinet door, the lights and fans should shut off. If they don't, replace the cabinet switch.
Refrigeration unit runs constantly.	Defective cabinet switch.	Upon opening the door, the display should read either errors, summary sales, or none. If it does not, then replace the cabinet switch.
	Defective control board.	Replace control board.
	Defective relay - contacts are welded together.	Replace relay.
Compressor will not start.	Overload protector inoperative.	Check overload (apply insulated jumper across terminal, if compressor starts, replace overload).
	Defective cabinet switch.	Check for error codes. Replace cabinet switch.
Compressor will not start, condenser fan motor running - unit hot (power to compressor).	Defective over load relay	Replace the over load relay.
	Compressor motor rocked	Replace the refer unit.
	Defective capacitor	Replace the capacitor.
	Defective PTC relay	Replace the PTC relay.
Compressor starts but does not run.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings and capillary	Replace the refrigeration unit.
	Defective over load relay	Replace the over load relay.
Compressor runs but cabinet temperature warm.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings	Replace the refrigeration unit.
	Defective drainage	Make sure the drain hose is not kinked or clogged.
	Defective temperature sensor	Replace the temperature sensor.
	Poor air flow	Make sure nothing is sitting in front of the evaporator.
	Defective control board	Replace the control board.
	Defective door seal	Make sure the vend flap and gasket are not open.
	Defective heat exchange on condenser/ Blocking air flow by dust, lint or fins damage	Clean the surface of the condenser fins or straighten the bent fins.

Both compressor and condenser fan motors will not operate.	Bad refrigeration control relay.	Test relay using relay test function of the electronic controller. Replace relay if necessary.
	Bad connection at power board.	Check wiring connections. Make corrections if necessary.
Evaporator frosted over.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings	Replace the refer unit.
	Defective drainage	Make sure the drain hose is not kinked or clogged. Re-install hose correctly if kinked or clogged.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the board.
	Poor sealing	Check gasket, vend flap, and permagum on the bulkhead.
Product freezing up (too cold).	Temperature setting too low.	Adjust set point in control board.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the control board.
Excessive noise.	Fan blade hitting shroud or transformation or loose fitting	Replace the fan blade or re-install correctly.
	From the inside of fan motor or loose fitting	Re-install or replace the motor.
	From the inside of compressor or loose fitting	Replace the refrigeration unit.

PDC Hand Assembly

Harness - Power

Harness - Data

Clamp Cam

X - Home Magnet

Forward Looking Optics

Clamp Motor

Z - Track

Clamp Finger

Ribbon Cable

PDC Board

Rubber Pads

Linkage

PDC Eprom

Compressor Spring
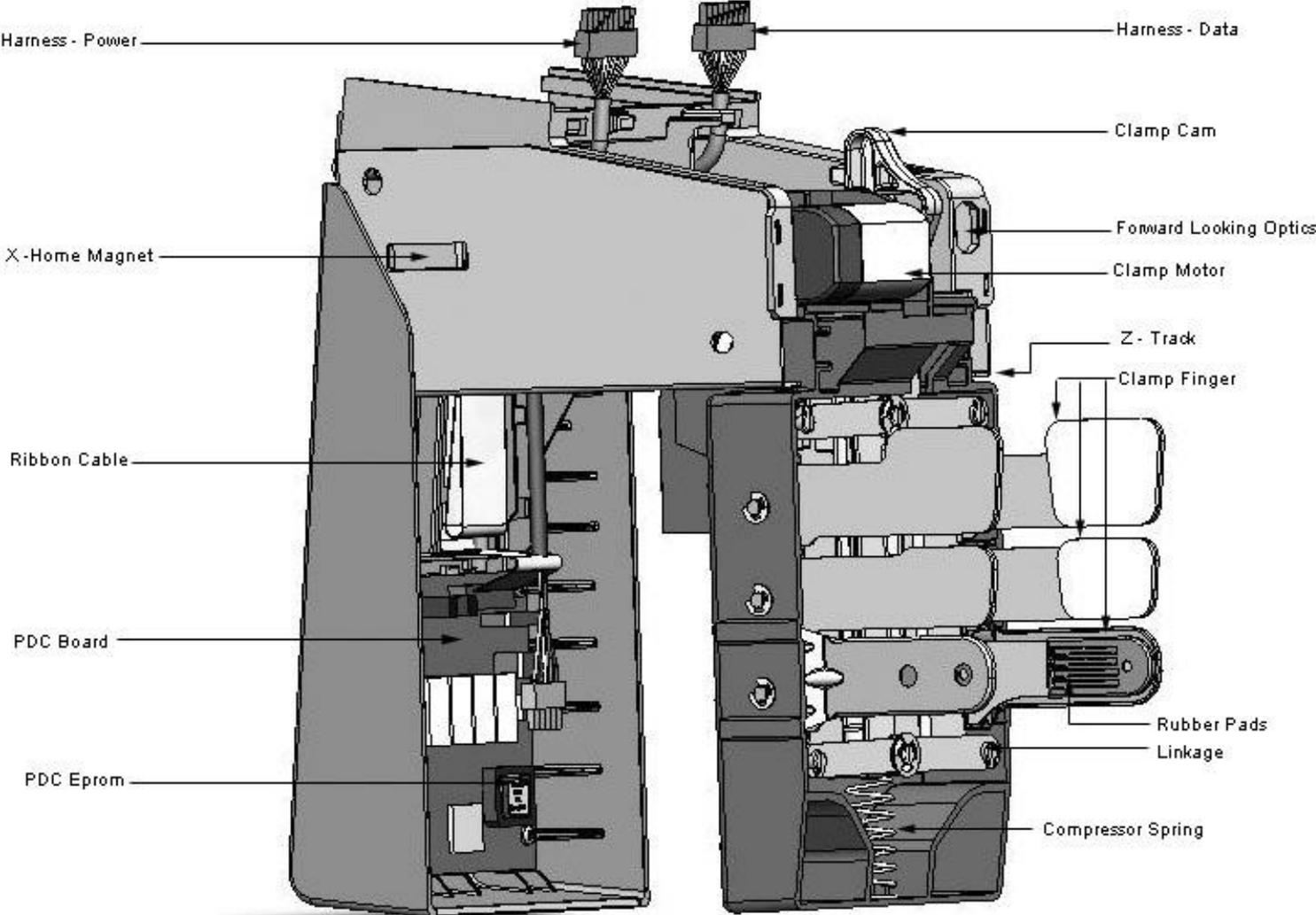
Figure 1.a - PDC Hand Assemly

GFV Cabinet, set Y home adjustment

WORK CONTENTS : Required tools to set Y home adjustment.

NOTE : (1) Spacers will be provided by the Tooling shop.

2 of each Spacer;
0.250 inch and
0.075 inch
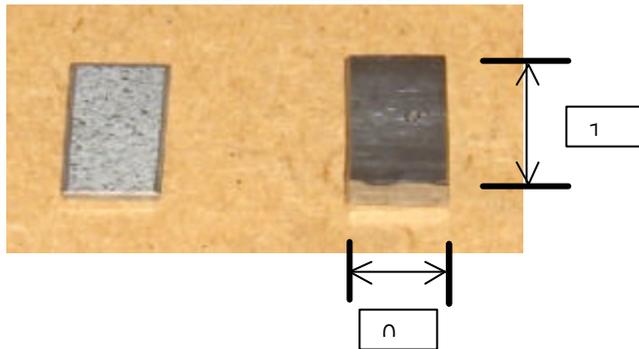
#2 Phillips screw
driver and a 5/16 open

1

∩

Diagnostic Tools:
Diagnostic; Test Mode;
Sensor Status

Diagnostic; Test Mode; Sensor Status
display. In this adjustment procedure we
are monitoring the |Yo| (Y sensor) status.

Test Mode
Sensors Status

Press "4"
to access

Testing In Progress
Xo|Yo|Zo|Co|F●|

Press "4"
to reset

Testing In Progress
Xo|Y●|Zo|Co|F●|

Press "4"
to reset

Diagnostic; Test Mode; Sensor Status
display. In this adjustment procedure we
are monitoring the |Yo| (Y sensor) status.

GFV Cabinet, set Y home adjustments.

WORK CONTENTS : GFV Cabinet Prerequisites.

STEPS: (1) Before powering on the Cabinet or shutting the door verify the following:

    (1a) Door Ramp must be installed.

    (1b) All Trays must be installed and seated. Reflectors must be on all outside trays.

    (1c) Adjust latches on the Cabinet before shutting the door.

    (1d) Verify that when the door is closed that the hand assembly clears the bulkhead.

    (1e) Top of Door should be level with Cabinet top.

    (1f) X-Rail must be installed and level with the shelves.

    (1g) Power box must be installed.

    (1h) Y-Rail stop on the hinge side; the adjustment screws should be loose and the bracket in the down position.

NOTE: For help and explanation of the diagnostics and Sensor Status display refer to the VUE 30/40 VEC 15 Programming Manual.

Step 1h Illustration

Hinge side door, Y-Rail stop bracket. Position as shown.
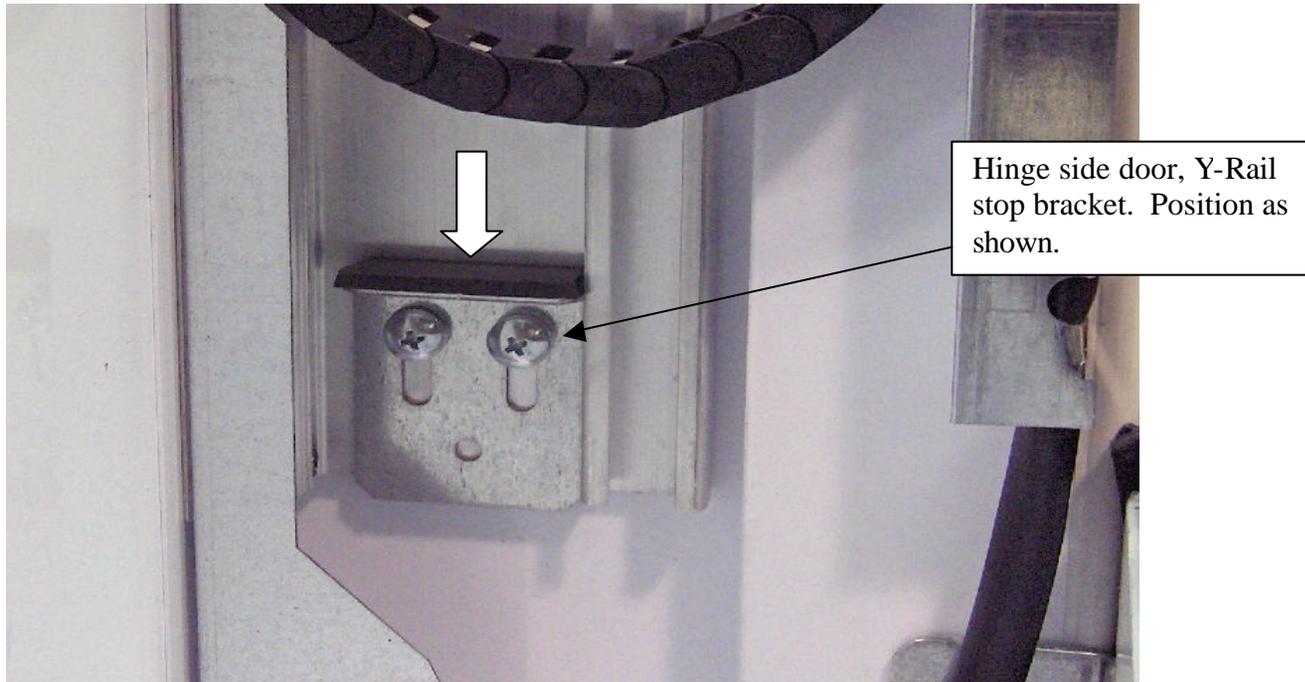
GFV Cabinet, set Y home adjustments.

WORK CONTENTS : Powering on the Cabinet.
Note: .

STEPS: (1) Before connecting the Power Box to Line Voltage (VAC) make connections
from the door harness to the power box.
(2) Connect the Power Box to Line Voltage (VAC).
(2a) At power up the Cabinet should go through the following sequence:
The optic light should be on (red beam) on the hand assembly.
The display on the front of the machine should go through the boot sequence.
The hand should go to the home position, lower left hand in the door.
The delivery bucket and delivery flap will go through the boot up sequence, open / close.

Light harness

Test Power
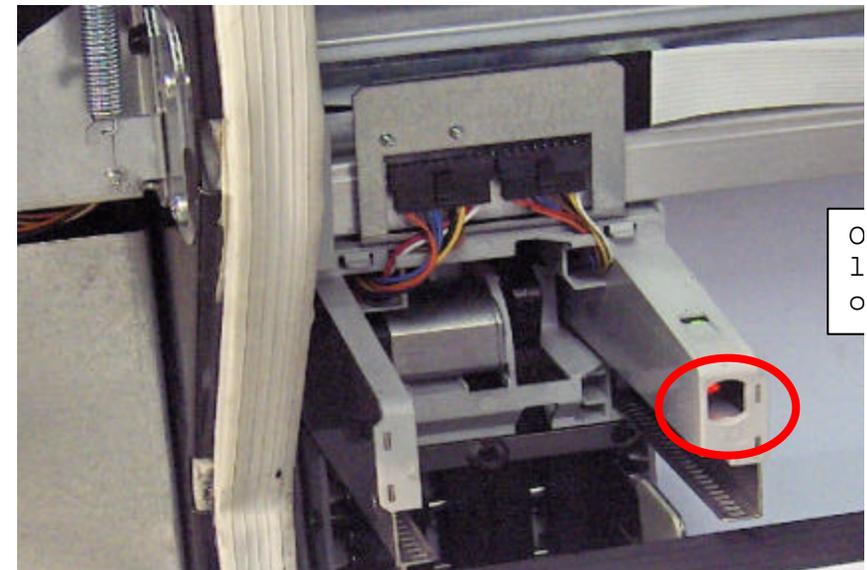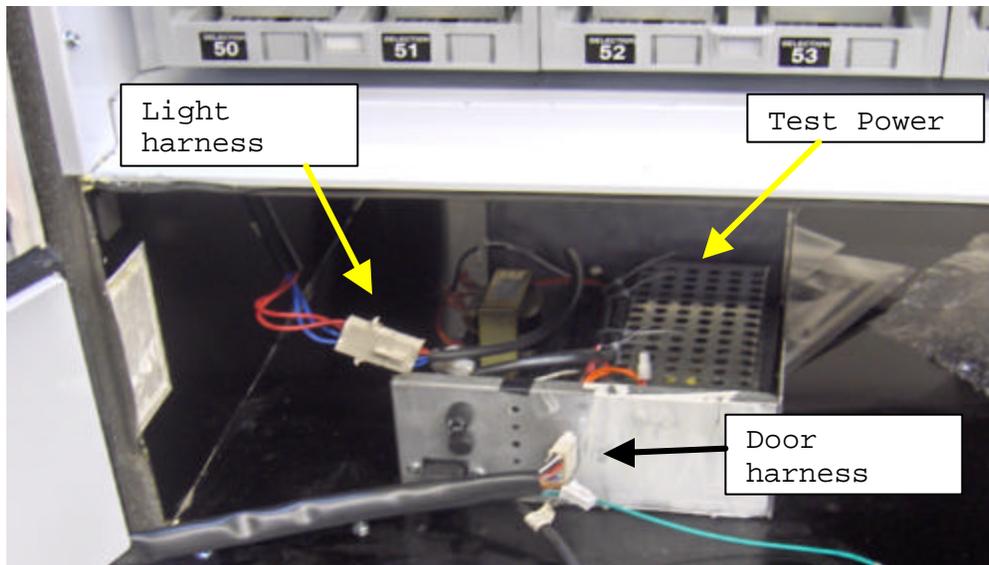
Door harness

RK CONTENTS : Positioning the Y-Rail stop bracket, latch side.

e:

PS: (1) Disconnect the Y-Motor power connector as shown.

 Verify the X-Rail assembly is set down against the Y-Rail stop on the latch side.
ove the X-Rail up then down to verify.

 Close and latch the door. The door must be latched for this adjustment.

 Verify that the optic red light is below the reflector on tray 56/57 as shown.

) If the amber LED on the forward looking optic is illuminated, or flashing then the Y stop bracket must be lower

) If the Y-stop bracket needs to be lowered, lower it in increments of 0.100 inches until the amber LED is off.

) Once the Y-Stop bracket (latch side) is set, level the Y-Stop bracket (hinge side) and tighten adjustment screw

) At this point the Y Stop brackets should be level with each other in relation to the X Rail assembly and the
ustment screws for both sides should be tight.

.

Step 1

Remove

X-Rail Assembly

Step 4

SELECTION 56

SELECTION 57

Step 4a   Forward

There are two LEDS
(green, amber)
where indicated by
the red circle.
Green LED is on
constantly, the
amber LED comes on
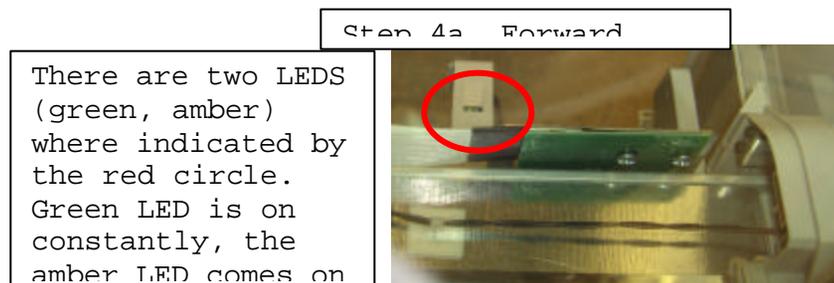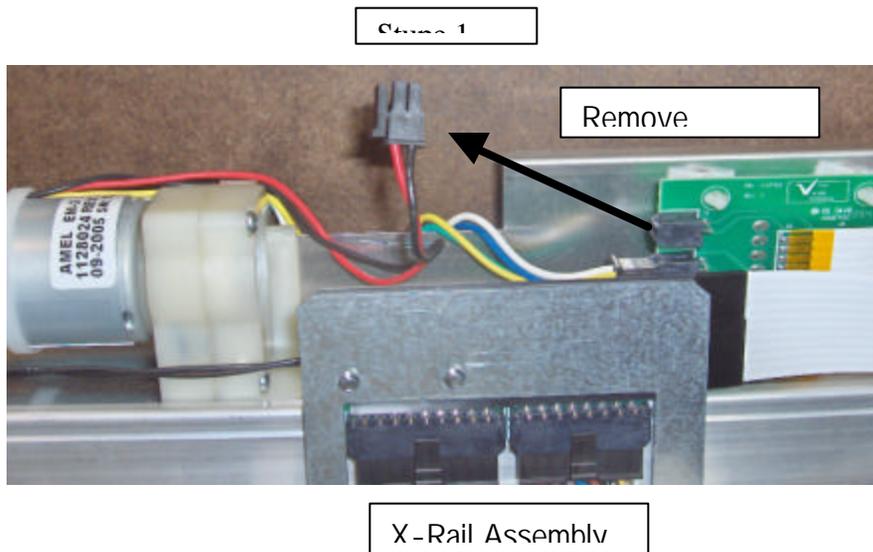
'RK CONTENTS : Checking position of the Y-home magnet.
te: Once the Y Home Stop is adjusted the Y Home magnet must be tested and adjusted if required.

EPS: (1) Adjust the Y Home magnet so that the top edge of the magnet overlaps the
ottom edge of the Y home sensor by 0.100" .
)With the X-Rail resting on the Y-Rail stops activate the "Sensor Status"
d verify the magnet is activating the sensor.
)If the Y Home sensor is active ('Yo" o is not filled in) go to page 6.
)If the Y Home sensor is inactive adjust the Y Home magnet up 0.100 inches, reset the
nsor Status by pressing key "4".
peat step 4 until the Y Home Sensor shows Active "Yo" ("o" not filled in),
en go to page 6.

Step 1

Y sensor

Adjust overlap
to 0.100

Y magnet
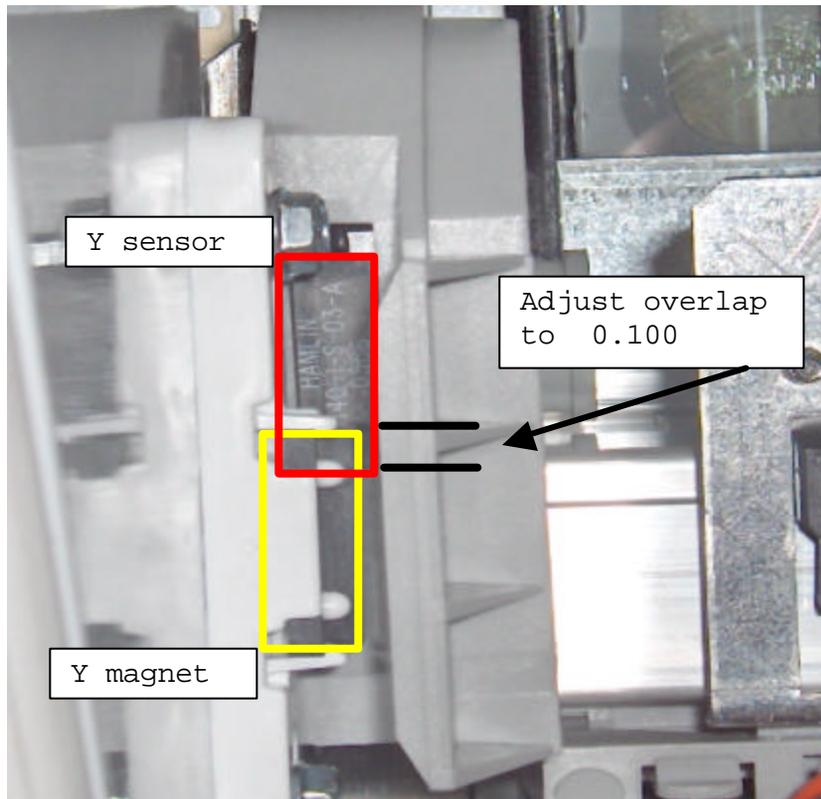
Step 2

Keypad selections:
"1" = exit /home
"2" = increase / advance
"3" = decrease / backup
"4" = enter / save

To Activate the Test Mode, Sensor Status:
1. Press the Mode button on the VMC board 2
times.
1a. Display should read "DAIGNOSTICS"
2. Press "key 2" until the "Test Mode"
appears in the display.
3. Press "key 4" to enter Test Mode menu.
4. Press "key 2" until the "Sensor Status"
appears.
5. Press "key 4" to enter Sensor Status.

To refresh Sensor Status press "key 4".

Sensor Status, "Yo", the "o" is the
indicator status:
? - Inactive (sensor did not detect magnet)
O - Active (sensor detected magnet)

GFV Cabinet, set Y home adjustment.

RK CONTENTS : Checking position of the Y-home magnet with 0.250 inch spacer.
te: .
EPS: (1) Raise the X-Rail and install the 0.250 inch " Standard 1/4 inch
            bolt" spacers on top of both Y Stops as shown. One on top of each stop.
        (2) Lower the X-Rail where it is resting on the Y-Rail stops and spacer.
        (3) Reset the "Sensor Status" and verify the magnet is not
        (4) activating the sensor ('Y?", o filled in).
        (5) If the Y Home sensor is not activated ('Y?", o filled in)
        (6) go to page 7.
        (5) If the Y Home sensor is active "Yo" ("o" not filled in)
        (6) adjust the Y Home magnet down 0.100 inches. Reset sensor status.
              Repeat step 5 until the Y Home Sensor
            shows Inactive "Y?" ("o" filled in), then goto page 7.

| Step 5 |

| Step 1 |

| Latch side Y - |

| hinge side Y - |

| Y sensor |

| Y magnet |

| Adjust Y Magnet down 0.100 |
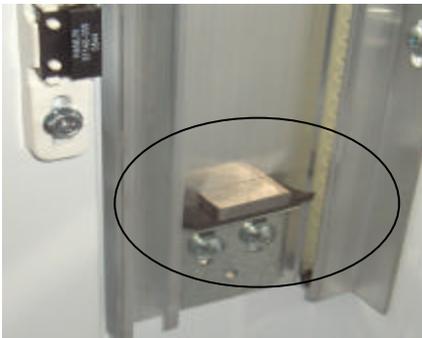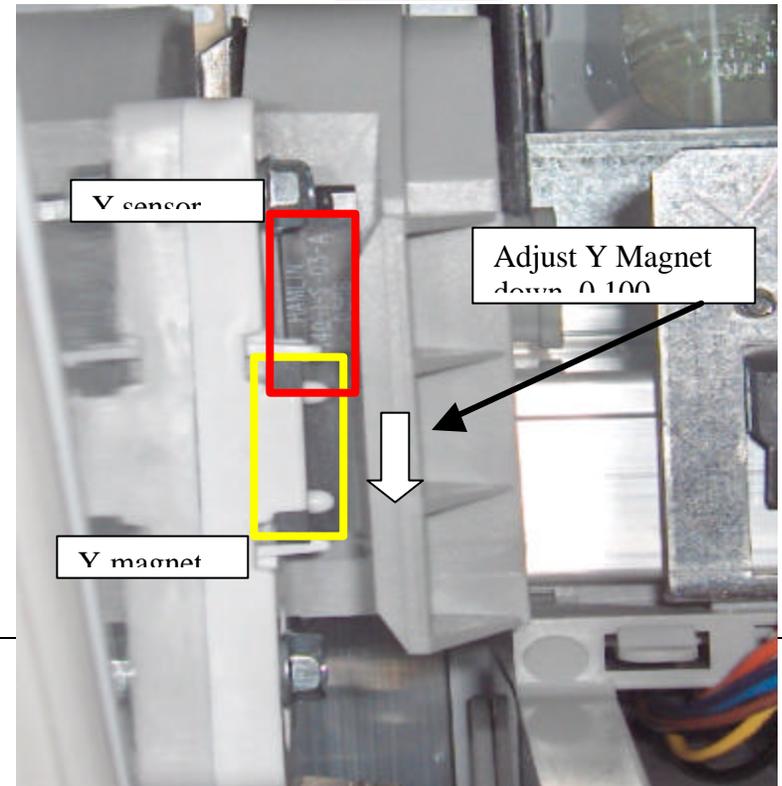
GFV Cabinet, set Y home adjustment.

RK CONTENTS : Checking position of the Y-home magnet with 0.075 inch spacer.
te: .
EPS: (1)   Raise the X-Rail and install the 0.075 inch spacers "same as

ickle" on top of both Y Stops as shown. One on top of each stop.
   (2)   Lower the X-Rail where it is resting on the Y-Rail stops and spacer.
   (3)   Reset the "Sensor Status" and verify the magnet is actived,
         sensor status ('Yo", o not filled in).
   (4)   If the Y Home sensor is activated ('Yo", o not filled in) go to page 8.
   (4)   If the Y Home sensor is inactive "Y?" ("o" filled in)
   (5)   adjust the Y Home magnet up 0.060 inches. Reset sensor status.
          Repeat step 5 until the Y Home Sensor shows
         active "Yo" ("o" not filled in), then goto page 6.

Step 5

Step 1

Y sensor

Adjust Y
Magnet up

Y magnet

Latch side, Y-

hinge side, Y-
Rail stop bkt.
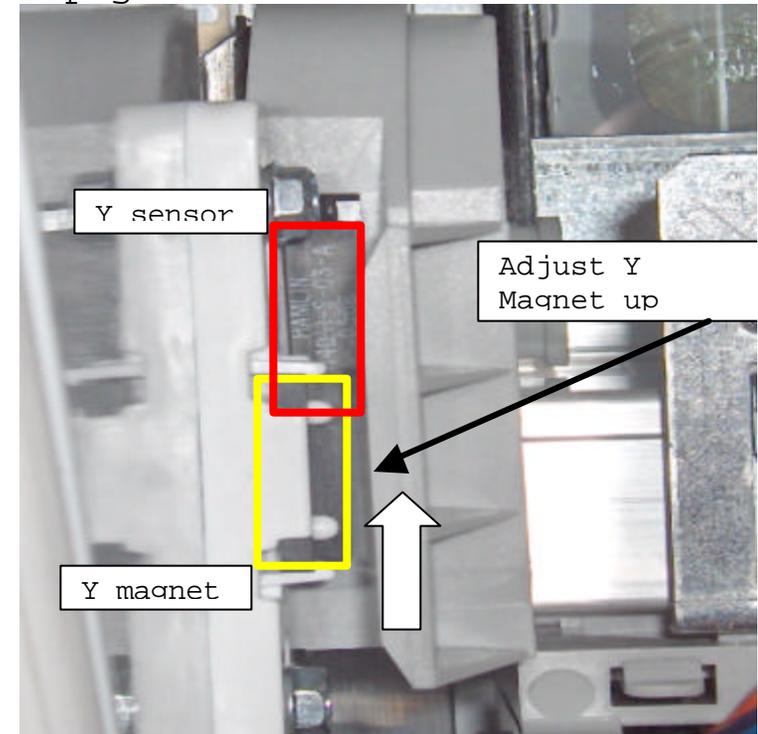
GFV Cabinet, set Y home adjustment.

WORK CONTENTS : Checking position of the Y-home magnet with no spacer.
Note: .

STEPS: (1)   Raise the X-Rail and remove both spacers as shown.
       (2)   Lower the X-Rail where it is resting on the Y-Rail stops.
       (3)   Reset the "Sensor Status" and verify the magnet is actived,
             sensor status('Yo", o not filled in).
       (4)   If the Y Home sensor is activated ('Yo", o not filled in) go to page 9.
       (4)   If the Y Home sensor is inactive "Y?" ("o" filled in) adjust
       (5)   the Y Home magnet up 0.060 inches. Reset sensor status.
             Repeat step 5 until the Y Home Sensor shows active
              "Yo" ("o" not filled in), then goto page 6.

Step 1

No spacers
for this test.

No spacers
for this test.
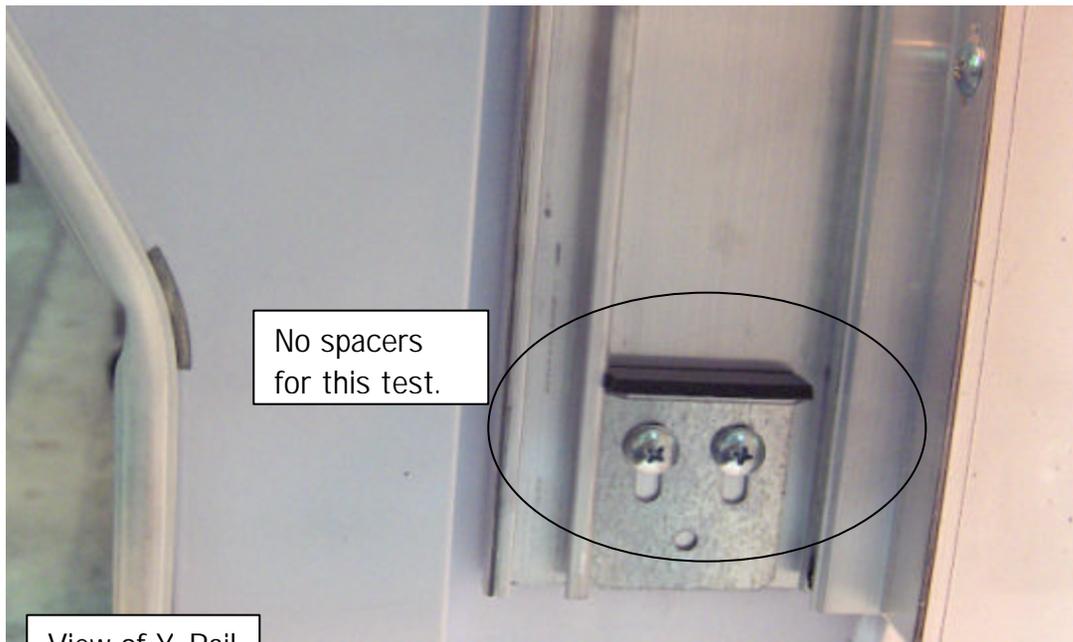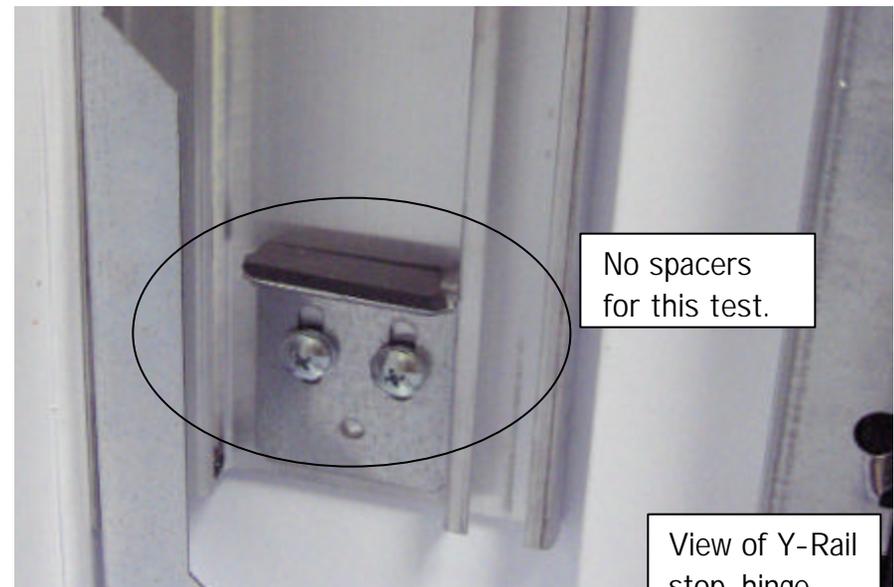
View of Y-Rail

View of Y-Rail
stop hinge

RK CONTENTS : Set the Y Stops.

te: .

EPS: (1)   With all the adjustments made it is time to tap and insert the Y Stop set screws
     (2)   Raise the X-Rail assembly to access the Y Stops, tap the set screw holes for
           both Y stop brackets.
     (3)   Insert the screw set (screw and 2 washers) in both Y Stops as shown in
           Step 3 and 4. Do not run the screw into the door liner.
     (4)   Lower the X Rail assembly to the stops, connect the Y Motor connector.
     (5)   Reset the power by unplugging then plugging in the power supply,
           shut the door and latch it. Machine should run Discovery 2
     (6)   Proceed to vending test or next test in sequence.

Step 4

Step 2

View of Y-Rail
stop, latch

tap the hole.
Screw p/n

Carriage
assembly.

Step 3
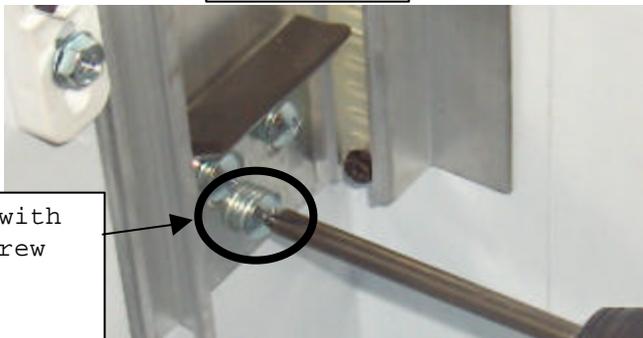
insert screw with
2 washers. Screw
p/n V802212,
washers p/n
V801455

Y Rail stop,
hinge side
adjust

set

```
   ┌─────────────┐
  (    Start     )
   └──────┬──────┘
          │
          ▼
┌──────────────────────────┐
│ Prerequisites:           │
│ X- Rail level, door ramp,│
│ trays seated, door/Cab   │
│ level, latches,          │
│ Y Rail stop (hinge side) │
└──────────┬───────────────┘
           │
           ▼
┌──────────────────────────┐
│ Power to Cabinet:        │
│ Make harness connections │
│ (light, door) to power   │
│ supply.                  │
└──────────┬───────────────┘
           │
           ▼
┌──────────────────────────┐
│ Once hand goes to home   │
│ position disconnect Y    │
│ Motor power connector.   │
└──────────┬───────────────┘
           │
           ▼
┌──────────────────────────┐
│ Close and latch door.    │
│ Adjust Y Home stop, latch│
│ side where Amber LED is  │
└──────────┬───────────────┘
           │
           ▼
┌──────────────────────────┐
│ Adjust Y Home magnet to  │
│ overlap sensor by approx.│
│ 0.100".  Reference only. │
└──────────┬───────────────┘
           │
           ▼
         ( A )
```

```
                                    ( A )
                                      │
                                      ▼
                        ┌──────────────────────────┐
                        │ Activate Test Mode,      │
                        │ Sensor Status.           │
                        └──────────┬───────────────┘
                                   │
              ┌────┐               ▼
              │ NO │          ◇ Is Y     ◇
              └────┘          ◇  sensor  ◇
                                   │
                               [ YES ]
                                   ▼
                        ┌──────────────────────────┐
                        │ Install 0.250"           │
                        │ spacers. Reset the       │
                        └──────────┬───────────────┘
                                   │          ┌────────────────────┐
                                   ▼          │ Adj Y home magnet  │
                              ◇ Is Y     ◇────│ down 0.100". Reset │
                              ◇  sensor  ◇    │ Sensor Status.     │
                              ◇ inactive ◇    └────────────────────┘
                                   │     [ NO ]
                               [ YES ]
                                   ▼
                        ┌──────────────────────────┐
                        │ Install 0.075"           │
                        │ spacers. Reset the       │
                        │ sensor status.           │
                        └──────────┬───────────────┘
                                   │          ┌────────────────────┐
                                   ▼          │ Adj Y home magnet  │
                              ◇ Is Y     ◇────│ up 0.60".Reset     │
                              ◇  sensor  ◇    │ Sensor Status.     │
                              ◇  active  ◇    └────────────────────┘
                                   │     [ NO ]
                               [ YES ]
                                   ▼
                                ┌──────┐
                                │  2   │
                                └──────┘
```

2

Were any adjustments made? —— YES —→ Page 1

NO

Remove all spacers. Reset the sensor status.

Is Y sensor active —— NO —→ Page 1

YES

Finish

Temperature Lockout Procedure

Instructions to activate the 'Temperature Lockout' abbreviated TempLO

1. Turn the Machine on.
2. Press 'Mode' Switch – The display should read "Diagnostic'
3. Press '2' to scroll to Configuration
4. Press '4' to enter
5. Press '2' to scroll to 'Display Temp '
6. Press '4' to enter – the 'Off' section will blink
7. Press '2' to change to 'Cbt'
8. Press '4' to enter
9. Close the door.

Please wait till the temperature reads – 41° F or less .

1. Open the Door – Press 'Mode' switch
2. Press '2' to scroll to Configuration
3. Press '4' to enter
4. Press '2' to scroll to 'Timing Features'
5. Press '4' to enter – the 'Off' section will blink
6. Press '2' to change to 'On'
7. Press '4' to enter
8. Press '1' twice to return to the 'Configuration'
9. Press '2' to scroll to Refrigeration.
10. Press '4' to enter
11. Press '2' to scroll to 'TempLO shlf1' *
12. Press '4' to enter – the 'Disable' section will blink
13. Press '2' to 'Enable'
14. Press '4' to enter
15. Press '1' to return to the 'Refrigeration'
16. Close the door.

* You can choose multiple shelves

Display Temperature:
Off – Cabinet Temperature will not display.
Ref- Internal Refrigeration Temperature will display as "Refrigeration Temperature "
Cbt- Internal Cabinet Temperature will display as " Cabinet Temperature"