



**DIXIE-NARCO**  
**GLASS FRONT BEVERAGE VENDER**  
**Model DN 2145**

**OPERATION / SERVICE**  
**MANUAL**

First Production 0001-8000BW  
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**Dixie-Narco**

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## **GENERAL INFORMATION**

### ***VENDER SAFETY PRECAUTIONS***

Please read this manual in its entirety. This service information is intended to be used by a qualified service technician, who is familiar with proper and safe procedures to be followed when repairing, replacing, or adjusting any Dixie-Narco vender components. All repairs should be performed by a qualified service technician who is equipped with the proper tools and replacement components, using genuine Dixie-Narco factory parts.

Repairs and/or servicing attempted by uninformed persons can result in hazards developing due to improper assembly or adjustments while performing such repairs. Persons not having a proper background may subject themselves to the risk of injury or electrical shock which can be serious or even fatal.

### ***PRODUCT IDENTIFICATION***

The age of Dixie-Narco products is determined by the date code incorporated in the serial number.

The vender serial number takes the form xxxx-yyyzzz. The first 4 digits (xxxx) identify the specific vender. The next 4 digits (yyyy) identify the manufacturing run that the vender was built in. The last two alpha characters (zz) identify the quarter and the year the vender was built. The first alpha-character identifies the quarter.

A = 1<sup>st</sup> quarter  
B = 2<sup>nd</sup> quarter  
C = 3<sup>rd</sup> quarter  
D = 4<sup>th</sup> quarter

The second alpha-character identifies the year:

W = 1998  
X = 1999  
Y = 2000  
Z = 2001

### ***PHYSICAL CHARACTERISTICS OF DN 2145***

Height: 72" (1828.8 mm)  
Width: 42" (1066.8 mm)  
Depth: 32" (812.8 mm)  
Base: 6" (152.4 mm)  
Shipping Weight: 622 lbs. (282 kg)  
Glass Front is 30" (762 mm) wide, 52" (1320.8 mm) high

## **INSTALLATION & SET-UP**

The Dixie-Narco Beverage Maximum Display Can and Bottle vender is designed utilizing the latest technology.

### ***RECEIVING INSPECTION***

#### ***DO NOT STORE THE VENDER OUTSIDE.***

Upon receipt, inspect the vender for any shipping damage. If there is any damage have the driver note the damage on the bill of lading and notify Dixie-Narco. Although I.C.C. regulations require that the consignee originate shipping damage claims, Dixie-Narco will gladly help if you must file a claim.

### ***UNPACKING THE VENDERS***

Remove the stretch wrap fiberboard edge protectors and corrugated front protector from the outside of the vender.

Once the vender is unpacked, check the recovery unit for any additional parts, price/product labels, service/operation manual, or other information concerning factory equipped accessories.

### ***ELECTRIC POWER NEEDED***

Refer to the cabinet serial number plate to determine the proper voltage and frequency the machine requires (domestically this requirement is 115 Volts, 60 Hertz). Domestic venders will operate properly at +/-10% of the specified voltage. For domestic models this is between 103 volts and 127 volts. The cabinet serial plate also indicates the Amperage of the vender. Single phase, alternating current is required. The vender must be plugged in its own properly rated circuit with its own circuit protection (fuse/circuit breaker).

**DO NOT USE AN EXTENSION CORD.**



### ***GROUND THE VENDER***

The vender is equipped with a three wire power supply cord and MUST be plugged in a properly grounded outlet.

**DO NOT REMOVE THE GROUND PIN OR IN ANY WAY BYPASS THE GROUNDING OF THE VENDER.**

If the outlet will not accept the power cord plug, contact an electrician to install a proper AC outlet.

**WARNING:** Failure to comply with these instructions may subject the user to the risk of injury or electrical shock which can be serious or fatal.

## **COIN CHANGERS AND OTHER ACCESSORIES**

The DN 2145 vender must have an MDB coin changer installed and can have an MDB bill acceptor installed. If the MDB coin changer and other MDB accessories are not factory installed, refer to the instructions received from the manufacturer of the MDB coin changer and other MDB accessories for proper set-up and installation.

The DN 2145 vender will support the following MDB coin changers:

- Multi-Drop Coin Mech (Domestic)
  - Coinco 9302GX
  - Mars TRC6510

The DN 2145 vender will support the following MDB bill validators:

- Multi-Drop Bill Validators (Domestic)
  - Coinco BA 30B
  - Mars VN2512

The DN 2145 vender will support the following MDB card readers:

- Multi-Drop Card Readers (Domestic)
  - Debitek V1S-MDB
  - Danyl Smartcard VCU-MDB

## **PLACING THE VENDER ON LOCATION**

The DN 2145 vender is for **INDOOR USE ONLY**. It should be kept out of direct sunlight and away from any heat source.

**CAUTION: DO NOT TRANSPORT THE VENDER TO OR FROM THE LOCATION LOADED WITH PRODUCT OR DAMAGE TO THE VENDER MAY RESULT. ENSURE TRAY ASSEMBLIES ARE SECURED WHEN MOVING VENDER OR DAMAGE TO THE VENDER MAY RESULT.**

The vender must be located on a solid, flat, and level surface. Ensure the flooring can bear the weight load of a fully stocked vender (approximately 1150 lbs.). The vender must be positioned close enough to an electrical outlet that an extension cord is not required. The vender should be moved with a pallet jack and should never be slid or pushed in place. Never side load leveling legs; doing so will cause damage to the legs.

### ***LEVEL THE VENDER***

Adjust the front leveling legs, ensuring that an even gap exists between the glass door and the top security angle and receiver box, then level the cabinet front-to-rear. A carpenter's level will help verify that the machine is level. Leveling legs are adjusted using a 7/8" wrench (Leg Assy. W025). Lowering the leg will raise the machine approximately 1/4" per 4 turns. If the machine is to be used next to another vender, check the top and side for proper alignment. Minimum leg extensions should be used in leveling and alignment to attain greater stability. Make sure that all the leveling legs are in contact with the floor. If you cannot level the vender, select another location. Do not place any objects under the machine.

**Leveling is extremely important to ensure proper vender operation.**

**DANGER: The vender must be properly located and leveled to minimize risk of injury or death from tipping in the event of user misuse or vandalism.**

### ***SPACE THE VENDER***

Do not block the rear of the vender. Keep the vender 3.25 inches (82.6 mm) from the wall to ensure adequate airflow to the condenser and compressor. At the front of the vender, make sure that nothing obstructs the air intake at the bottom of the main door and cabinet. At the rear of the vender, make sure nothing obstructs the air exhaust at the bottom of the cabinet.

### ***LOADING THE VENDER***

All DN 2145 venders are shipped ready to vend 20 oz. Bottles from trays C, D, and E and 16 oz. Bottles from trays A and B unless another package was specified at the time the vender was ordered from the factory. If a package other than these are to be vended, contact a Dixie-Narco Factory Service Representative or refer to the proper Technical Bulletin for spacer settings.

### ***PRODUCT***

The DN 2145 is designed to vend a wide range of cans, glass, and plastic beverage containers in sizes from 8 oz. to 20 oz. It has a double-pane, tempered safety glass door for clear viewing of all products.

The machine is set-up with:

5 Trays, 9 columns each, 8 products per column

Maximum capacity is 9 cases of 20 oz. product on bottom 3 trays and 6 cases of 16 oz. product on top two trays (360 items)

## **SERVICE NOTE**

### *Battery Backup*

The battery backup is used to retain information programmed in the system (pricing, time, date, etc.) in case of power interruptions, or any time the main power is off. When the vender is shipped, the battery is connected and memory is being maintained. Replacement boards will be shipped with the battery disconnected to extend its life. If the vender is to be stored for long periods of time, disconnecting the battery is recommended. The following steps will guide you through this procedure.

- Open the service door and unplug the main power harness located on the front of the power box.
- Locate the main control board mounted on the right side wall.
- Remove the screw securing the cover to the board.
- The backup system jumper is located just below the battery near the center of the board (refer to figure 2, page 33)
- Remove the jumper covering the pins and place it on only one pin for storage.
- Reinstall the cover and tighten the screw.
- Reverse this procedure to connect the battery.

## **INSTALLATION AND SETUP INSTRUCTIONS**

Open the service door on the right side using the key provided in the coin return cup, or if shipped with a locking clip, remove the clip and install the lock.

Ensure there is no power to the AC Distribution Box. On venders with a main power switch on the AC Distribution Box the switch needs to be in the OFF position. On venders with a main power quick disconnect plug on the AC Distribution Box the quick disconnect plug needs to be unplugged.

Check that all connectors are firmly seated on the control board and at the various components on the service door (coin mech, keypad, etc.).

Retrieve the main power plug from the hole in the rear of the vender and plug the cord in a properly grounded 120VAC, 15 Amp, receptacle (U.S. and Canada).

Open the service door and apply power to the AC distribution Box (if equipped with a bill acceptor, the acceptor should cycle twice). The display on the door should scroll message "USE EXACT CHANGE", fluorescent lamp should be lit and the cooling unit should start.

If the display scrolls "OUT OF SERVICE", or the cooling unit fails to start, refer to the PROBLEM SOLVING CHARTS beginning on page 35.



# **LOADING**

## ***LOADING CHANGE TUBES***

### **MDB UNITS**

Open the service door.

Load the coin mechanism with coins to the desired level by inserting coins in the loading slots on the coin tube front.

Minimum coin tube levels are:

6-8 nickels

7-8 dimes

5-6 quarters

NOTE: A low coin level in the coin tubes will interfere with operation of the bill validator.

(For additional information about coin mechanism refer to manufacturer's instructions.)

## ***LOADING PRODUCT***

Proper product loading and product sizing to spacer/gate are very important in ensuring problem free vending. Pay close attention to the product's center of gravity. Taller products, such as the 20 oz. Pepsi and Coke products and the Arizona Iced Tea in the 16.9 oz. can, cannot be vended from trays A or B. Regional products are sometimes bottled and/or canned in unique shapes and sizes. It is strongly recommended these products be tested for problem free vending before large quantities are purchased.

**Note:** Loading should be done as quickly as possible to minimize product/cabinet exposure to warmth and humidity.

Open the service door then open the product compartment glass door.

After loading is finished check the price tags to ensure they correspond to existing products. Pricing labels are located in the service bag shipped with every vender.

Close the product compartment glass door.

Close the service door and lock. Closing the service door will place the machine in service and start the refrigeration cycle.

# **VENDING CONTROLLER UNIT (VCU)**

## **GENERAL INFORMATION**

In order to fully utilize the many features of your vender it is important that you first understand the options available and procedures for programming the vending controller unit (control board).

All programming, testing, and service functions are accomplished by using the keypad in an easy to follow, display prompted format. There are three modes of operation for servicing, testing, and setting up your vender. Each of the three may be accessed by opening the service door and pushing the mode selection button (red button on back of display module). The mode selection button will cycle through each of the three modes in turn; Service Mode, Test Mode, and Set-Up Mode. In each of these modes, the "A" key is used to scroll through the available options/settings within that mode/selection (Note: In each of the mode selections, pressing the character key next to the listed option will take you directly to that feature – see menu items chart on page 12.), the "\*" key is used as an enter key to select the currently displayed item/feature, and the "CLR" key is used as a done or exit key. Closing the service door will exit whatever mode of operation you are currently in and place the vender back in service.

## **NORMAL OPERATION MESSAGES**

At initial power-up, the program will start and the display will briefly show the software version in use as VER #.## (i.e. VER1.11), followed by the default idle message, "ENJOY A REFRESHING DRINK NOW", or the user entered idle message unless these are overridden by a higher priority status message.

### **STATUS MESSAGES**

#### **OUT OF SERVICE**

Replaces the idle message if the vender is out of service due to a fault condition.

#### **USE EXACT CHANGE**

Replaces the idle message if the last message from the coin mechanism showed the amount in the nickel tube (default tube) to be below the minimum level.

#### **USE COINS ONLY**

Replaces the idle message if the vender is equipped with a bill validator and the last message from the bill validator reported a fault.

#### **REMOVE BOTTLE**

Replaces the idle message if there is product blocking the sensor or the sensor is mis-aligned.

#### **PRODUCT COOL IN ## MIN**

Displayed if the "Set Cool Down" Feature is active for the selection made.

#### **ITS HAPPY HOUR SELECT AN ITEM TO CHECK THE PRICE**

Replaces the idle message during Happy Hour time period

#### **MAKE ANOTHER SELECTION**

Displayed if the customer selects an item (column) that has been taken out of service (Disabled).

#### **MACHINE NOT AVAILABLE UNTIL ##:## (Time)**

Displayed if the "Set Not Available" feature is active and a selection is made during the time frame designated. The time displayed is the ending time of the not available period.

### **PRICE CHECK**

The price of an item may be checked by selecting the item on the keypad. Push the alpha-numeric sequence for the desired item (i.e. A3). The selected item will be displayed for approximately 1 second, then the item's price will be displayed for approximately 1 second (i.e. "A3" then "PR \$0.75"), then the display will go back to the idle message.

### **CREDIT**

When a purchase is made from the Vendor the display will show the total amount entered as coins are dropped and/or bills are inserted.

## **MDB UNIT OPERATING MODE MENU ITEMS**

<b>KEY</b>	<b>SERVICE MODE</b>	<b>KEY</b>	<b>TEST MODE</b>	<b>KEY</b>	<b>SETUP MODE</b>
A	NEXT ITEM	A	NEXT ITEM	A	NEXT ITEM
B	CASH BOX	B	LIST ERRORS	B	<b>ENTER MESSAGE</b>
C	SALES	C	SELF TEST	C	<b>CLEAR MESSAGE</b>
D		D	DISPLAY TEST	D	<b>ENABLE DOLLAR SIGN</b>
E	SET COOL DOWN	E	KEYPAD TEST	E	<b>CLEAR COOL DOWN</b>
F	CLEAR TOTALS	F	AUTO SEQUENCE	F	<b>MASTER RESET</b>
1	NUMBER SOLD	1	DROP 5	1	<b>MACHINE NUMBER</b>
2	ENABLE ITEM	2	DROP 10	2	<b>SET HAPPY HOUR</b>
3	SALES PER COL	3	DROP 25	3	<b>SET NOT AVAILABLE</b>
4	ESCROW	4		4	<b>WINNER MODE</b>
5	FORCE	5	DOOR OPENINGS	5	DATE/TIME
6		6	POWER OUTAGES	6	TOTAL SALES
7	SET PRICE	7		7	MAX CREDIT
8	SET HAPPY	8		8	<b>DROP SENSOR</b>
9	TEST VEND	9	TEST VEND	9	SET COOL TIME
0	CLEAR ERRORS	0	CLEAR ERRORS	0	<b>SET PASSWORD</b>

NOTE: All items in **bold** under SETUP MODE require password entry for access.  
**FACTORY DEFAULT PASSWORD IS 0000.**

### **SERVICE MODE**

Enter SERVICE MODE by opening the service door and pressing the Mode Selection button once. The display will read 'SERVICE MODE'.

### **CASH BOX**

Shows the amount diverted to the cash box from the coin mechanism since the last CLEAR TOTALS or MASTER RESET. To view the amount diverted to the cash box, press the letter "B" on the keypad and the display will read "CASH BOX \$###.##". Press the "CLR" key to return to "SERVICE MODE".

### **SALES**

Shows total sales since last CLEAR TOTALS or MASTER RESET. To view the total sales press the letter "C" on the keypad and the display will read "SALES \$###.##". Press the "CLR" key to return to "SERVICE MODE".

### **SET COOL DOWN**

Allows the service technician to set a cool down period for each selection that is warm after restocking. This feature may be set on an individual item, an entire row, or the entire machine. Once set, the cool down period duration is the time entered by the service technician in SET COOL TIME, or the default time of 240 minutes if no time was entered. Press the letter "E" on the keypad and the display will read "ITEM". There are now three choices.

1. Pressing the "\*" key will place the entire machine in cool down.
2. Pressing a row selection followed by "\*" will place that row in cool down. For example, pressing "A\*" will place the "A" row in cool down.
3. Pressing an item selection will place just that item in cool down. For example, pressing "A1" will place that selection only in cool down.

Press the "CLR" key to return to "SERVICE MODE".

## **CLEAR TOTALS**

Allows the service technician to clear totals in CASH BOX, SALES, NUMBER SOLD, DOOR OPENINGS, and POWER OUTAGES.

Press the letter "F" on the keypad and the display will read "CLEAR TOTALS \* = Y". Press the "\*" key, the totals are cleared and the display returns to "SERVICE MODE".

## **NUMBER SOLD**

Shows the total number of items sold since the last CLEAR TOTALS or MASTER RESET. Press the number "1" on the keypad and the display will read "NUMBER SOLD ###". Press the "CLR" key to return to "SERVICE MODE".

## **ENABLE ITEM**

Allows an individual selection, a complete tray, or the entire machine to be enabled or disabled. Press the number "2" on the keypad and the display will read "ENABLE ITEM". Press the "\*" key and the display will read "ITEM". There are now three choices:

1. Pressing the "\*" key will toggle between enable and disable for the entire machine, the display will show the current state.
2. Pressing a tray selection followed by "\*" will show the current state of that tray, for example, pressing "A\*" will show the current state for the A tray, pressing "A\*" again will toggle the state.
3. Pressing an item selection will show the current state of that item, for example, pressing "A1" will show the current state of that item, pressing "A1" again will toggle the state.

Press the "CLR" key to return to "SERVICE MODE".

## **SALES PER COL**

Shows the total number sold from each selection since the last CLEAR TOTALS or MASTER RESET.

Press the number "3" on the keypad and the display will scroll "SALES BY COLUMN". Press the "\*" key and the display will read "ITEM". Select the item to be checked (the total number sold from that selection will be on the left side of the display and the item number will be on the right side of the display). Press the "CLR" key when completed.

## **ESCROW**

Allows a bill to be returned if the change return lever is pressed before a selection is made.

Press the number "4" on the keypad and the display will read "ESCROW Y" or "ESCROW N", depending on the current state. Pressing the "\*" key will toggle the state. This feature only affects those machines with a bill validator installed. Press the "CLR" key to return to "SERVICE MODE".

## **FORCE**

Allows the change return lever to be inhibited until after the lowest vend price is made or exceeded.

Press the number "5" on the keypad and the display will read "Force Y" or "FORCE N", depending on the current state. Pressing the "\*" key will toggle the state. Press the "CLR" key to return to "SERVICE MODE".

## **SET PRICE**

Allows the setting of regular prices for an individual item, a complete tray, or the entire machine.

Press the number "7" on the keypad and the display will scroll "SET REGULAR PRICES" once, then "\$00.00" will be displayed. Prices are entered using the numbers on the keypad and will shift in from the right as numbers are pressed.

Price setting is covered in detail in the INITIAL PROGRAMMING section of this manual. See pages 36, 37, and 39. Press the "CLR" key to return to "SERVICE MODE".

## **SET HAPPY**

Allows the setting of Happy Hour prices for an individual item, a complete tray, or the entire machine.

Press the number "8" on the keypad and the display will scroll "SET HAPPY HOUR PRICES" once, then "\$00.00" will be displayed. Happy hour prices are entered in the same way as regular prices. Refer to price setting in the INITIAL PROGRAMMING section of this manual. See pages 26 and 27. Press the "CLR" key to return to "SERVICE MODE".

**TEST VEND**

Allows the service technician to test vend any item.

Press the number "9" on the keypad and the display will read "ITEM". Select the item/column to be tested by pressing the corresponding keys on the keypad (i.e. A6), and the corresponding solenoid will cycle.

Press the "CLR" key to return to "SERVICE MODE".

**CLEAR ERRORS**

Allows the service technician to clear any recorded errors.

Press the number "0" on the keypad and the display will read "CLEAR ERRORS \* = Y". Press the "\*" key and the errors are cleared and the display returns to "SERVICE MODE".

## TEST MODE

Enter TEST MODE by opening the service door and pressing the Mode Selection button twice. The display will read "TEST MODE".

## **LIST ERRORS**

Allows the service technician to view a list of all recorded errors. Press the letter "B" on the keypad and the display will read "TEMP SEN". Errors and explanations are listed below.

**Note:** *The prompts listed will only show on the display if an error has occurred.*

Use the "A" key to move through the error listing until the word "NONE" is displayed.

<b>TEMP SEN</b>	Normal indication. No error present in machine.
<b>NONE</b>	Indicates no other errors are recorded.
<b>CHAN ERR</b> (VEND ERR)	Indicates one or more channels/solenoids are out of service. When the display reads "CHAN ERR" (this may read "VEND ERR", depending on the software version installed in your machine) press the "*" key and the first channel/solenoid with a problem will be displayed.
<b>OVER CRR</b>	Indicates an over current condition has occurred (i.e. a shorted component or a low power condition). This error is serious. If it reoccurs after CLEAR ERRORS further troubleshooting will be required.
<b>BILL VAL</b>	Indicates a fault message from the bill validator.
<b>COIN MECH</b>	Indicates a fault message from the coin mechanism. <b>This error will place the machine out of service until resolved.</b>
<b>COIN PWR</b>	Indicates the coin mechanism is not responding to the controller board. <b>This error will place the machine out of service until resolved.</b>
<b>ROW_ERR</b>	Indicates a row driver (A – E, always listed with driver letter, i.e. Row A ERR) on the controller board has encountered a short or very high current condition. <b>This error will put the machine out of service until resolved.</b>
<b>COL_ERR</b>	Indicates a column driver (1 – 9, always listed with driver number, i.e. COL 1 ERR) on the controller board has encountered a short or very high current condition. <b>This error will put the machine out of service until resolved.</b>
<b>LOW 28 V</b>	Indicates a problem with the controller board's 28 volt power supply. <b>This error will put the machine out of service until resolved.</b>
<b>LOW LED V</b>	Indicates a low power condition to display board.
<b>MEM ERR</b>	Indicates the controller board's memory may be damaged.
<b>KEYPAD</b>	Indicates a failure of the keypad or associated cable.
<b>LOW PWR</b>	Indicates low line voltage (power supply to the machine) or a blown fuse (machine's internal power supply).
<b>PWR OUT</b>	Indicates an interruption of power to the controller board. When the display reads PWR OUT press the "*" key and the date and time of the last such power outage is displayed.

Press the "CLR" key to return to "TEST MODE".

## **SELF TEST**

Allows the service technician to run a quick diagnostics of all systems.

Press the letter "C" on the keypad and the display will read 'SELF TEST \* = Y'. Press the "\*" key and the test will run and the display will read "ERRS = ##".

Normal error indications are based on the machine's configuration. The service technician should list errors after Self Test. Press the "CLR" key to return to "TEST MODE".

## **DISPLAY TEST**

Allows the service technician to check all segments of the LED display unit. PRESS AND HOLD the letter "D" on the keypad and the display will alternate between all \*'s and all 0's with decimal points. Releasing the letter "D" on the keypad will return to "TEST MODE".

## **KEYPAD TEST**

Allows the service technician to test any or all keypad keys.

Press the letter "E" on the keypad and the display will go blank, then each keypad entry will shift into the display from the right until the "CLR" key is pressed. This will return to "TEST MODE".

## **AUTO SEQUENCE**

Allows the service technician to put the machine into automatic vend. An item will be vended every second, starting from A1 and running through the ninth selection on the bottom tray of the machine, then repeating until the service technician stops it.

Press the letter "F" on the keypad and the display will read "OK? \* = Y". Press the "\*" key, automatic vend will start, display will show channel/motor currently being tested. Press the "\*" key to pause and restart the sequence, press the "CLR" key to stop and return to "TEST MODE".

**CAUTION: It is strongly recommended this feature only be used to check channels/solenoids on empty machines.**

## **DROP 5**

Allows the service technician to test the coin mech by dispensing nickels. Press the number "1" on the keypad, the display will read "DROP 5" and the coin mechanism will dispense one nickel and return to "TEST MODE".

## **DROP 10**

Allows the service technician to test the coin mech by dispensing dimes. Press the number "2" on the keypad, the display will read "DROP 10" and the coin mechanism will dispense one dime and return to "TEST MODE".

## **DROP 25**

Allows the service technician to test the coin mech by dispensing quarters. Press the number "3" on the keypad, the display will read "DROP 25" and the coin mechanism will dispense one quarter and return to "TEST MODE".

## **DOOR OPENINGS**

Shows number of times the service door has been opened since last CLEAR TOTALS or MASTER RESET.

Press the number "5" on the keypad and "DOOR OPEN #" will scroll across the display. Use the "\*" key, and the "A" key, to view the day, date, and time of the last 5 openings. Press the "CLR" key to return to "TEST MODE".

## **POWER OUTAGES**

Shows number of times the machine has lost power since last CLEAR

TOTALS or MASTER RESET. (This is a power outage for any reason including the machine being unplugged or the machine's master power switch being turned off).

Press the number "6" on the keypad and "PWR OUT #" will scroll across the display. Use the "\*" key, and the "A" key, to view the day, date, and time of the last 5 power outages. Press the "CLR" key to return to "TEST MODE".

## **CLEAR ERRORS**

Allows the service technician to clear any recorded errors.

Press the number "0" on the keypad and the display will read "CLEAR ERRORS \* = Y". Press the "\*" key, the errors are cleared and the display returns to "SERVICE MODE".

Press the "CLR" key to return to "TEST MODE".



## **SETUP MODE**

Enter SETUP MODE by opening service door and pressing the Mode Selection button three times. The display will read "SETUP MODE".

**NOTE:** Several areas in the SETUP MODE are password protected. When entry into one of these areas is attempted the display will read "PW". The password must be entered at this point before the service technician is allowed to proceed. The password need only be entered once during a service call provided the service door is not closed. If the door is closed and then reopened the password must be reentered before accessing a protected area. Factory default password is 0000.

The display will show \*s as the password is entered. When the last character is entered the display will read "OK", then will shift into the requested area . If the display reads "BAD" after the last character is entered it means the password was not accepted.

### **ENTER MESSAGE                      PASSWORD REQUIRED**

Allows the entry of a custom idle message to replace the default idle message.

Press the letter "B" on the keypad and "ENTER MESSAGE" will scroll across the display. Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily then will read "A". The program is now ready to accept the new message. The "A" key will move forward through the alphabet, numbers, space, punctuation marks, and an &, and the "B" key will move backwards through the same list. When the desired character is displayed in the extreme right hand spot press the "\*" key. That character is now entered and the display moves to the left one space as the new message is built. When the new message is complete press the "CLR" key. This will return to "SETUP MODE".

### **CLEAR MESSAGE                      (PASSWORD REQUIRED)**

Allows the service technician to clear any custom idle message and return to the default idle message.

Press the letter "C" on the keypad and "CLEAR MESSAGE \* = Y" will scroll across the display. Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily then will return to "SETUP MODE". **Note:** *If password was entered prior to this function, when the "\*" key is pressed, the message is cleared and will return to "SETUP MODE".*

### **ENABLE DOLLAR SIGN                      (PASSWORD REQUIRED)**

Allows the service technician to remove the dollar sign, \$, from the display when a product price, customer credit, or change due is displayed. When enabled, the dollar sign will appear in the display; when disabled it will not appear.

Press the letter "D" on the keypad, the display will scroll, "ENABLE DOLLAR SIGN", followed by the current state, Y = Enabled, N = Disabled. To change the state (i.e.; Enabled to Disabled) press the "\*" key. The display will read "PW". Enter the password, the display will flash "OK" then "ENABLE DOLLAR SIGN Y" will scroll across the display. Press the "\*" key and "ENABLE DOLLAR SIGN N" will scroll across the display. Press the "CLR" key to return to "SETUP MODE".

### **CLEAR COOL DOWN                      (PASSWORD REQUIRED)**

Allows the service technician to stop a cool down period prior to the set time duration.

Press the letter "E" on the keypad and "CLEAR COOL DOWN \* = Y" will scroll across the display. Press the "\*" key, the display will read "PW". Enter the password and the display will return to "SETUP MODE". **Note:** *If password was entered prior to this function, when the "\*" key is pressed the cool down period is stopped and will return to "SETUP MODE".*

**MASTER RESET (PASSWORD REQUIRED)**

Allows the service technician to restore factory defaults to the machine or reset the Controller Board's memory after reconfiguring a tray. Since this feature resets sales data, care should be taken prior to using. Press the letter "F" on the key pad and "MASTER RESET \* Y" will scroll across the display. Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily and then will return to the idle message. After using this feature the service technician must go to the SERVICE MODE or TEST MODE and CLEAR ERRORS.

The table below outlines the results of using MASTER RESET.

ITEM	RESET TO
CASH BOX	\$0.00
SALES	\$0.00
NUMBER SOLD	0
TOTAL SALES	\$0.00
REGULAR PRICES	\$1.00
HAPPY HOUR PRICES	\$1.00
MAXIMUM CREDIT	\$5.00
DROP SENSOR VER 1.06 and ↑	ENABLED VER 1.06-1.09 DISABLED VER 1.10 and ↑
ENABLE DOLLAR SIGN VER 1.09 and ↑	ENABLED
COOL DOWN TIME	0
COOL DOWN PERIOD	CLEARED
HAPPY HOUR TIMES	CLEARED
NOT AVAILABLE TIMES	CLEARED
ESCROW Y	ESCROW N
FORCE Y	FORCE N
DISABLED ITEM	ENABLED
DOOR OPENINGS	0
POWER OUTAGES	0
WINNER MODE	0
MACHINE NUMBER	1
IDLE MESSAGE	DEFAULT MESSAGE
PASSWORD	0000
DATE/TIME	NO CHANGE

### **MACHINE NUMBER (PASSWORD REQUIRED)**

Allows assigning a user number to the machine for audit and/or inventory control requirements.

Press the number "1" on the keypad and "MACHINE NUMBER ##" will scroll across the display (the ## displayed is the number currently assigned to the machine). Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily, then "NUMBER" will be displayed. Enter the new number (numeric field, 5 characters maximum). If the new number is less than 5 characters press the "\*" key after entering it and the display will return to "SETUP MODE".

### **SET HAPPY HOUR (PASSWORD REQUIRED)**

Allows the service technician to set times and days for Happy Hour operation.

Press the number "2" on the keypad and "SET HAPPY HOUR" will scroll across the display. Happy hour start time, end time, and days of the week can now be programmed into the system. All times must be entered in military time format (24 hour clock). Setting Happy Hour is covered in detail in the INITIAL PROGRAMMING section of this manual. See pages 25, 26, 27, and 28. Press the "CLR" key to return to "SETUP MODE".

### **SET NOT AVAILABLE (PASSWORD REQUIRED)**

Allows the service technician to set times and days for periods, use of the machine is to be restricted.

Press the number "3" on the keypad and "SET NOT AVAILABLE" will scroll across the display. Not available start time, end time, and days of the week can now be programmed into the system. All times must be entered in military time format (24 hour clock). Only one not available period of time per 24 hours may be set using this feature. Setting Not Available is covered in detail in the INITIAL PROGRAMMING section of this manual. See pages 28 and 29. Press the "CLR" key to return to "SETUP MODE".

### **WINNER MODE (PASSWORD REQUIRED)**

Allows the service technician to set the machine up to dispense a free product on a random basis. This mode CANNOT be made item selective. If set, each product in the machine is subject to being dispensed free. The winning customer is determined by the program picking a number at random from 1 to the winner mode set number. Inputting a 0 disables this mode. Press the number "4" on the keypad and "WINNER MODE ##" will scroll across the display (the ## is the current setting). Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily then "MODE" will be displayed. Enter a number from 1 to 255 and press the "\*" key. The mode is set and the display returns to "SETUP MODE".

### **DATE / TIME**

Shows the day, date, and time setting currently in the system in the following format: SUN 09/08/96 1330

Press the number "5" on the keypad, the day, date, and time will scroll across the display. Setting the day, date, and time is covered in detail in the INITIAL PROGRAMMING section of this manual. See page 21. Press the "CLR" key to return to "SETUP MODE".

### **TOTAL SALES**

Shows total sales since machine manufacture or last MASTER RESET. This total is not cleared by CLEAR TOTALS.

Press the number "6" on the keypad, the display will read "TOTAL SALES \$###.##". Press the "CLR" key to return to "SETUP MODE".

### **MAX CREDIT**

Allows the service technician to set the maximum credit which can be established during a vend. If credit accumulates to this point the coin mechanism and bill validator are disabled, after a purchase is made both will be re-enabled. It is very important that the service technician make sure this value is higher than the highest priced product.

Press the number "7" on the keypad and "MAX CREDIT \$#.##" (\$#.## is the current setting) will scroll across the display. To change this setting press the "\*" key. The display will read "\$0.00". Enter the new amount and press the "\*" key. The new setting is entered and the display returns to "SETUP MODE".

### **DROP SENSOR (PASSWORD REQUIRED)**

Allows Enabling or Disabling of drop sensor Credit Guard function. When Enabled the customer will retain credit for amount deposited if a product does not pass through the sensor beam in the recovery unit. This state will allow 3 attempts to vend a product before credit is lost. Both states will prevent a vend if a product is in the recovery unit. Press the number "8" on the keypad and "ENABLE DROP SENSOR" will scroll across the display followed by the current state; N - DISABLED, Y - ENABLED. To change, press the "\*" key and the display will prompt for the password. After the password has been entered, pressing the "\*" key will switch the state. Press the "CLR" key to return to "SETUP MODE".

### **SET COOL TIME**

Allows the service technician to vary the time duration of the cool down period from 0 to 255 minutes. If no time is entered here, and the SET COOL DOWN feature is started, the time duration of the cool down period will be 240 minutes (4 hours). To set the cool down time press the letter "D" on the keypad and the display will read "SET COOL TIME". Press the "\*" key and the display will read "COOL T". Use the keypad to enter the duration of the cool down period that you wish to use. Press the "\*" key to enter the cool down time displayed. Press the "CLR" key to return to "SETUP MODE".

### **SET PASSWORD (PASSWORD REQUIRED)**

Allows the service technician to enter a personalized password.

**IF YOU DECIDE TO CHANGE FROM THE DEFAULT PASSWORD, PLEASE ENTER THE NEW PASSWORD SLOWLY AND CAREFULLY!!!**

Press the number "0" on the keypad and "ENTER PASSWORD" will scroll across the display. Press the "\*" key and the display will read "PW". Enter the password, the display will read "OK" momentarily then "NEW PW" will be displayed. Enter the new password. After the fourth character of the new PW is entered the display will scroll "ENTER PASSWORD". Press the "CLR" key and the display returns to "SETUP MODE".

# INITIAL PROGRAMMING

## **DATE / TIME**

Proper setting of items such as Happy Hour and Not Available times, as well as obtaining viable information regarding Door Openings, Power Outages, etc. depend on a correct DATE/TIME setting. Each machine leaves the factory with the date, and local time (Eastern Standard) entered into the programming. This setting should be checked and changed if necessary. Enter "SETUP MODE" by opening the service door and pressing the Mode Selection button three times. Press the number "5" on the keypad, the day, date, and time will scroll across the display in the following format: SUN 09/08/96 1330. To change press the "\*" key and the display will read "SAT". Use the "A" key to scroll through the days. When the desired day is displayed press the "\*" key. The display will read "MONTH". Enter the two digits for the month and press the "\*" key. The display will read "DAY". Enter the date (2 digits) and press the "\*" key. The display will read "YEAR". Enter the year (last two digits) and press the "\*" key. The display will read "HOUR". Enter the hour (00 - 23) and press the "\*" key. The display will read "MIN". Enter the minutes (00 - 59) and press the "\*" key. The date / time is now set and the display returns to "SETUP MODE".

The following example will step through setting Noon, Monday, September 9th, 1996 into the system's program. Enter the "SETUP MODE" and proceed as follows:

PRESS KEY	DISPLAY WILL READ
5	SUN 09/08/96 1330 This is an example. Actual display may be different.
*	SAT
A	SUN
A	MON
*	MONTH
0	MONTH 0
9	MONTH 09
*	DAY
0	DAY 0
9	DAY 09
*	YEAR
9	YEAR 9
6	YEAR 96
*	HOUR
1	HOUR1
2	HOUR12
*	MIN
0	MIN 0
0	MIN 00
*	SETUP MODE

## REGULAR PRICES

The capability of this machine to vend a wide variety of products requires the ability to set a wide range of prices. The programming features of this machine meet that requirement by allowing the service technician to quickly and easily enter or change regular prices.

Enter "SERVICE MODE" by opening the service door and pressing the Mode Selection button once.

Press the number "7" on the keypad and the display will scroll "SET REGULAR PRICES". Then "\$00.00" will be displayed. As the prices are entered the numbers will shift in from the right on the display. When the desired price is displayed it may be assigned to an individual selection, an entire tray (shelf), or to all selections in the machine.

When setting prices for individual selections DO NOT press the "\*" key. The "\*" key is only used to assign a price to an entire tray or to all selections in the machine. When setting one price for an entire tray the "\*" key is pressed after designating the tray (display reads "\$1.00 A"), when the "\*" key is pressed the display will read "\$1.00 A\*" momentarily then will return to just the price. When setting the entire machine at one price the "\*" key is pressed after entering the price (display reads "\$1.00"), when the "\*" key is pressed the display will read "\$1.00 \*" momentarily then will return to just the price.

When setting prices for individual selections the tray and column (i.e., A1) is entered following the price. As soon as the column designator (the number) is pushed, the price and selection will be displayed momentarily (i.e., "\$1.00 A1"), then the display will return to just the price.

Always check the setting for MAX CREDIT before setting prices (Not applicable to International machines).

### POINTS TO REMEMBER:

- Prices entered must not exceed the MAX CREDIT set in the system's program (Not applicable to International machines).
- DO NOT press the "\*" key when setting prices for individual selections.

The following example will step through setting the entire machine to one price. Enter the "SERVICE MODE" and proceed as follows:

### SETTING ONE PRICE

Setting the entire machine to \$1.50

Notice the impact of pressing the "\*" key

Press Key	Display will read
7	SET REGULAR PRICES (scrolls then) \$0.00
1	\$0.01
5	\$0.15
0	\$1.50
*	\$1.50
CLR	SERVICE MODE

The following example will step through setting various prices throughout the machine. Enter the "SERVICE MODE" and proceed as follows:

**SETTING REGULAR PRICES**

Settings are to be:

A and B trays \$0.75  
 C1, C2, C3, C4, & C5 \$1.25  
 C6, C7, C8, & C9 \$1.50  
 D and E trays \$2.00

Assume standard 5 tray configuration

<b>Press Key</b>	<b>Display will read</b>
7	SET REGULAR PRICES (scrolls then) \$0.00
7	\$0.07
5	\$0.75
A	\$0.75 A
*	\$0.75
B	\$0.75 B
*	\$0.75
CLR	SERVICE MODE
7	SET REGULAR PRICES (scrolls then) \$0.00
1	\$0.01
2	\$0.12
5	\$1.25
C	\$1.25 C
1	\$1.25
C	\$1.25 C
2	\$1.25
C	\$1.25 C
3	\$1.25
C	\$1.25 C
4	\$1.25
C	\$1.25 C
5	\$1.25
CLR	SERVICE MODE
7	SET REGULAR PRICES (scrolls then) \$0.00
1	\$0.01
7	\$0.17
5	\$1.75
C	\$1.75 C
6	\$1.75

(Continued on next page)

Press Key	Display will read
C	\$1.75 C
7	\$1.75
C	\$1.75 C
8	\$1.75
C	\$1.75 C
9	\$1.75
CLR	SERVICE MODE
7	SET REGULAR PRICES (scrolls then) \$0.00
2	\$0.02
0	\$0.20
0	\$2.00
D	\$2.00 D
*	\$2.00
E	\$2.00 E
*	\$2.00
CLR	SERVICE MODE

## **HAPPY HOUR TIMES**

Promoting a new product, increasing sales during slow or off-peak hours, or showing customer appreciation all can be accomplished by setting up reduced prices for defined periods of time.

This area is password protected. Before entering or changing this setting the service technician must enter the password.

Enter "SETUP MODE" by opening the service door and pressing the Mode Selection button three times.

Press the number "2" on the keypad and "SET HAPPY HOUR" will scroll across the display. Press the "\*" key and the display will read "PW". Enter the password and the display will flash "OK". Then "H.H. START TIME 00 00" will scroll across the display. The service technician can now set the programming for Happy Hour.

See chart on page 25 for setting times.

### **POINTS TO REMEMBER:**

- Before setting Happy Hour times and days, it is recommended that the service technician check DATE/TIME settings in the system's programming.
- All times entered must be in 24 hour format.

The following example will step through setting Happy Hour times and days. Enter the "SETUP MODE" and proceed as follows:



**SETTING HAPPY HOUR TIMES**  
**Setting time from 1500 to 1630**  
**(3:00PM to 4:30PM)**  
on Monday, Wednesday, and Friday

Press Key	Display will read
2	SET HAPPY HOUR (scrolls)
*	PW
Enter Password	OK (flashes then) H.H. START TIME 00 00 (scrolls)
*	HOUR
1	OUR 1
5	UR 15
*	MIN
0	IN 0
0	N 00
*	H.H. END TIME 00 00 (scrolls)
*	HOUR
1	OUR 1
6	UR 16
*	MIN
3	IN 3
0	N 30
*	H.H. DAYS (scrolls)
*	SUN NO
A	MON NO
*	MON YES
A	TUE NO
A	WED NO
*	WED YES
A	THU NO
A	FRI NO
*	FRI YES
A	SAT NO
CLR	SET HAPPY HOUR (scrolls)
CLR	SETUP MODE

## **HAPPY HOUR PRICES**

The procedures for setting Happy Hour prices are nearly identical to those for setting regular prices. The only difference is, instead of pressing the number "7" on the keypad to access the program, you now press the number "8" when in "SERVICE MODE".

Enter "SERVICE MODE" by opening the service door and pressing the Mode Selection button once.

Press the number "8" on the keypad, the display will scroll "SET HAPPY HOUR PRICES", then "\$00.00" will be displayed. As the prices are entered the numbers will shift in from the right on the display. When the desired price is displayed it may be assigned to an individual selection, an entire tray (shelf), or to all selections in the machine.

When setting prices for individual selections DO NOT press the "\*" key. As soon as the column designator (the number) is pushed, the price and selection will be displayed momentarily (i.e., "\$1.00 A1"), then the display will return to just the price. The "\*" key is only used to assign a price to an entire tray or to all selections in the machine.

When setting one price for an entire tray the "\*" key is pressed after designating the tray (display reads "\$1.00 A"), when the "\*" key is pressed the display will read "\$1.00 A\*" momentarily then will return to just the price.

When setting the entire machine at one price the "\*" key is pressed after entering the price (display reads "\$1.00"), when the "\*" key is pressed the display will read "\$1.00 \*" momentarily then will return to just the price.

Always check the setting for MAX CREDIT before setting prices (Not applicable to International machines).

### **POINTS TO REMEMBER:**

- Prices entered must not exceed the MAX CREDIT set in the system's program prices (Not applicable to International machines).
- DO NOT press the "\*" key when setting prices for individual selections.

The following example will step through setting two different Happy Hour prices in the machine. Enter the "SERVICE MODE" and proceed as follows:

### SETTING HAPPY HOUR PRICES

**Settings are to be:**

A and B trays	\$0.75
C and D trays	\$1.00
E tray	\$1.50

Press Key	Display will read
8	SET HAPPY HOUR PRICES (scrolls then) \$0.00
7	\$0.07
5	\$0.75
A	\$0.75 A
*	\$0.75
B	\$0.75 B
*	\$0.75
CLR	SERVICE MODE
8	SET HAPPY HOUR PRICES (scrolls then) \$0.00
1	\$0.01
0	\$0.10
0	\$1.00
C	\$1.00 C
*	\$1.00
D	\$1.00 D
*	\$1.00
CLR	SERVICE MODE
8	SET HAPPY HOUR PRICES (scrolls then) \$0.00
1	\$0.01
5	\$0.15
0	\$1.50
E	\$1.50 E
*	\$1.50
CLR	SERVICE MODE

## **NOT AVAILABLE TIMES**

Many locations, such as schools, have requirements that the machines be rendered "unavailable" during certain times. The procedures for setting Not Available Times are nearly identical to those for setting Happy Hour times. The only difference is, instead of pressing the number "2" on the keypad to access the program, you now press the number "3".

This area is password protected. Before entering or changing this setting the service technician must enter the password.

Enter "SETUP MODE" by opening the service door and pressing the Mode Selection button three times.

Press the number "3" on the keypad and "SET NOT AVAILABLE" will scroll across the display. Press the "\*" key, the display will read "PW". Enter the password and the display will flash "OK". Then "N.A. START TIME 00 00" will scroll across the display. The service technician can now set the programming for the Not Available period.

### **POINTS TO REMEMBER:**

- Before setting Not Available times and days, it is recommended that the service technician check DATE/TIME settings in the system's programming.
- All times entered must be in 24 hour format.

The example on the following page will step through setting Not Available times and days. Enter the "SETUP MODE" and proceed as follows:

### **SETTING NOT AVAILABLE TIMES Setting time from 0830 to 1700 (8:30 AM to 5:00PM) on Monday through Friday**

<b>Press Key</b>	<b>Display will read</b>
3	SET NOT AVAILABLE scrolls
*	PW
Enter password	OK (flashes then) N.A. START TIME 00 00 scrolls
*	HOUR
0	OUR 0
8	UR 08
*	MIN
3	IN 3
0	N 30
*	N.A. END TIME 00 00 scrolls
*	HOUR
1	OUR 1

Press Key	Display will read
7	UR 17
*	MIN
0	IN 0
0	N 00
*	N.A. DAYS scrolls
*	SUN NO
A	MON NO
*	MON YES
A	TUE NO
*	TUE YES
A	WED NO
*	WED YES
A	THUR NO
*	THUR YES
A	FRI NO
*	FRI YES
A	SAT NO
CLR	SETUP MODE

**NOTE: PLEASE CALL THE DIXIE-NARCO SERVICE DEPARTMENT  
AT (800) 688-9090 FOR FURTHER ASSISTANCE.**

## **GENERAL MAINTENANCE**

The most important facets of proper care and maintenance of your machine are the electrical power supplied to it, leveling, and cleanliness of the machine.

### ***POWER***

- This machine must be connected to a dedicated 120 VAC, 15 Amp circuit (U.S. and Canada) or 220VAC, 6 Amp circuit (International) for optimum performance.

**CAUTION:** Remove power to the AC distributor box when any electrical components are connected / disconnected for testing or replacement.

### ***CLEANING***

- The Condensers and condenser fans on the Tecumseh Roll-Up unit must be checked and cleaned using a vacuum or brush to clear any dust accumulation.
- The display glass area should be cleaned, inside and out, with glass or non-abrasive all purpose cleaner, using paper towels.
- Trays and tray inserts should be cleaned periodically using warm water and any mild general purpose, non-abrasive cleaner. Care should be taken to ensure water does not enter the solenoids. Do Not use solvents or abrasive materials to clean any portion of the tray.
- Product delivery bin should be cleaned periodically using warm water and any mild general purpose, non-abrasive cleaner.
- Gasket around product door should be wiped down using warm water, any mild general purpose, non-abrasive cleaner and a soft towel. Never lubricate gasket and always check for cracking or deformities which may cause leaks. Replace if necessary.
- The coin sensor in the coin mechanism and the bill path in the bill validator should be checked and cleaned periodically. Refer to manufacturer's instructions for guidance.

Cleaning of product delivery bin and cleaning the condenser area all require removal of the product delivery bin.

To remove:

- Open service door.
- Open product door.
- Pull bin straight out until clear of the machine and set aside.

When reinstalling make sure that product delivery bin is pushed all the way back before closing product and service doors.

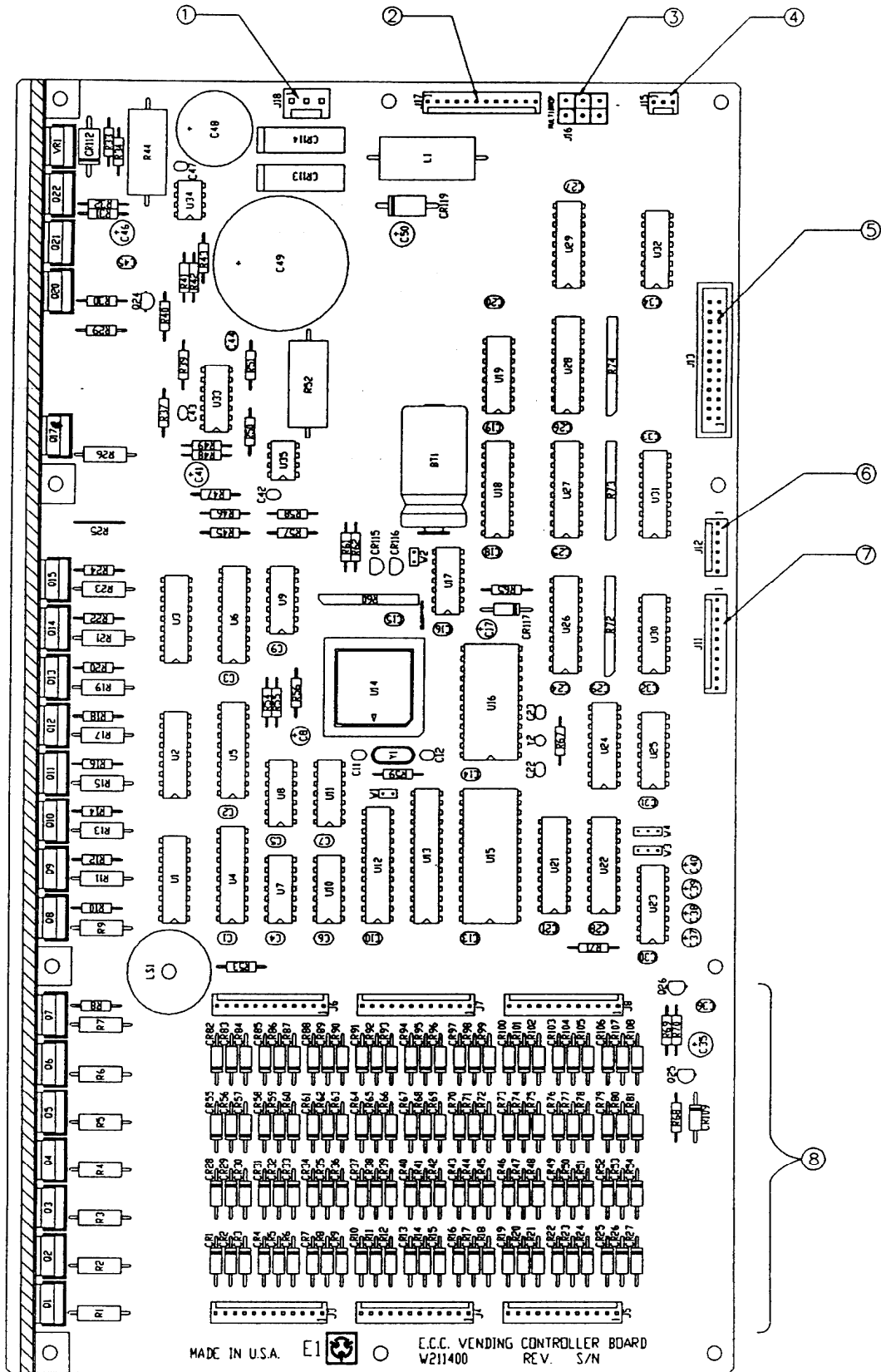


FIGURE 1 – MDB CONTROLLER CONNECTIONS

**Table 1 – MDB Controller Board Connections**

<b>INDEX NUMBER</b>	<b>CONNECTION</b>	<b>DESCRIPTION</b>
1	J18	Power from AC Distribution Box
2	J17	Bottle Drop Sensor
3	J16	Multi Drop Bus
4	J15	Door Interlock Switch
5	J13	Digital Display
6	J12	Temperature Sensor
7	J11	Keypad
8	TRAYS	BOTTOM ROW J3 – A, J4 – B, J5 – C TOP ROW J6 – D, J7 – E, J8 - 7



## EPROM REPLACEMENT

Software changes/upgrades are accomplished by changing the EPROM on the Control Board. Remove power to the AC Distribution Box and proceed as follows:

- Remove the cover from the Control Board.
- Remove the Battery clip to allow the Board's memory to drain.  
(Leave the clip off for a minimum of 10 minutes)
- Replace the EPROM.  
(The EPROM's legs bend easily. Remove and replace very carefully)
- Replace the Battery clip and cover.
- Apply power to the AC distribution box.
- Go in the "Setup Mode" and push "F" for Master Reset.
- Go in the "Test Mode" and push "0" to clear errors.

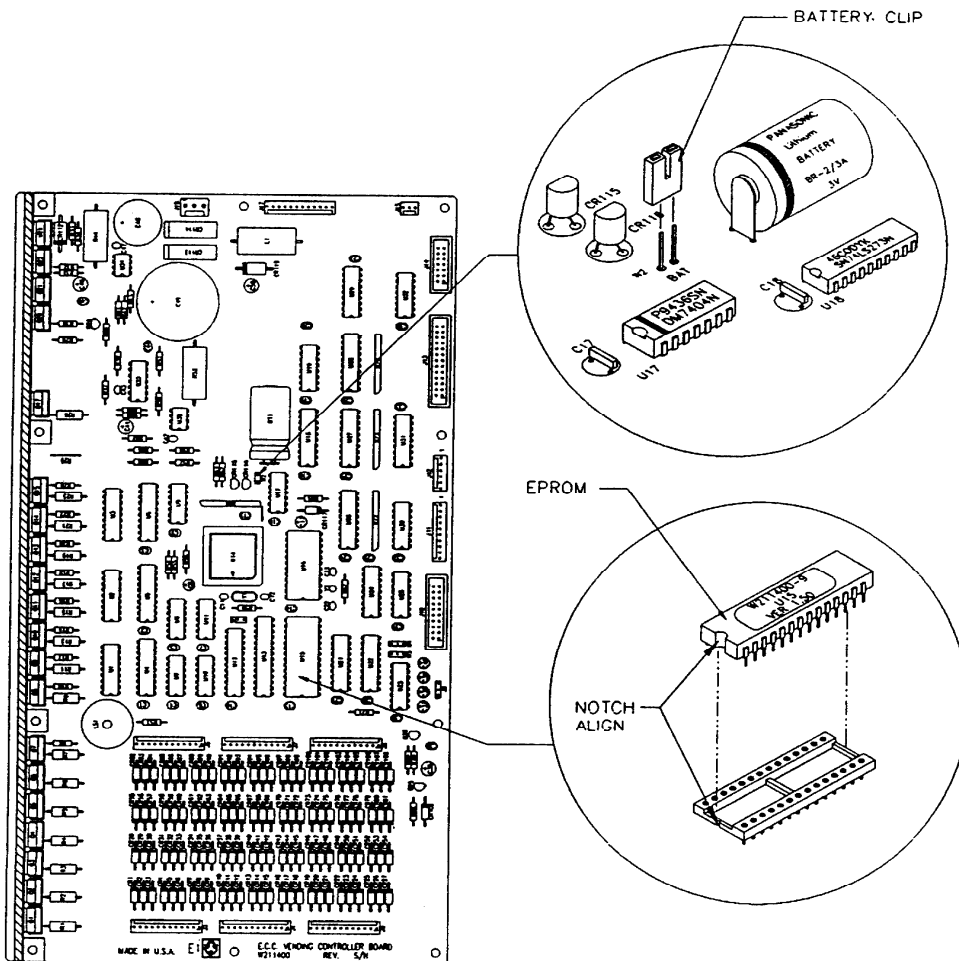


FIGURE 2 – EPROM REPLACEMENT

# **MAJOR COMPONENT DESCRIPTION**

## **AC DISTRIBUTION BOX**

2145

110VAC and 220VAC units

Main Power Switch/Plug	Interrupts Hot side of incoming power to all components in machine.
15 Amp Outlet (110VAC) 15 Amp Outlet (220VAC)	Provides power to refrigeration unit.
Transformer (T1)	Provides 24 Volt and 12 Volt (center tap) power to the Controller Board.
Fuse (X2 Top Left Side)	2 Amp Sloblo; protects primary of T1.
Fuse (X3 Bottom)	10 Amp, 32 Volt, Sloblo; protects 24 volt input to Controller Board from secondary of T1.
Fuse (X4 Top Right Side)	2 Amp, Sloblo; protects 12 Volt input to Controller Board from secondary, center tap of T1.
Varistor	Across incoming AC power to remove large power spikes.

## **REFRIGERATION UNIT**

110VAC and 220VAC units

2145 (Roll-Up)

Compressor	Tecumseh, ½ HP, 115VAC, 60 Hz, 1 Phase AK168AT-032-B4 Tecumseh, ½ HP, 220VAC, 50 Hz, 1 Phase AK168JT-032-B4 Roll-Up unit uses 13 oz. of 134A refrigerant
Start Relay	110VAC – Tecumseh, 90701 220VAC – Tecumseh, 90701-1 Double Pole, 115VAC
Start Capacitor	110VAC – CGE 01A4D160161NNTC 165VAC, 161-193MFD 220VAC – Phillips, 3535B6A0072A330A3 330VAC, 72 – 88 MFD
Thermal Overload	110VAC – Klixon, CRT16AGN-130 220VAC – Klixon, 12D6L
Condenser Fan	Motor – Morrill Motors 110VAC – SPGE9HB1 220VAC – SPGE9HEM2 Blade – Roll-Up, 8" dia., 40° pitch
Evaporator Fan	Motor – Morrill Motors 110VAC – SPGE9HBV1 220VAC – SPGE9HMOV2 Blade – 8" dia., 20° pitch

## PROBLEM SOLVING CHART

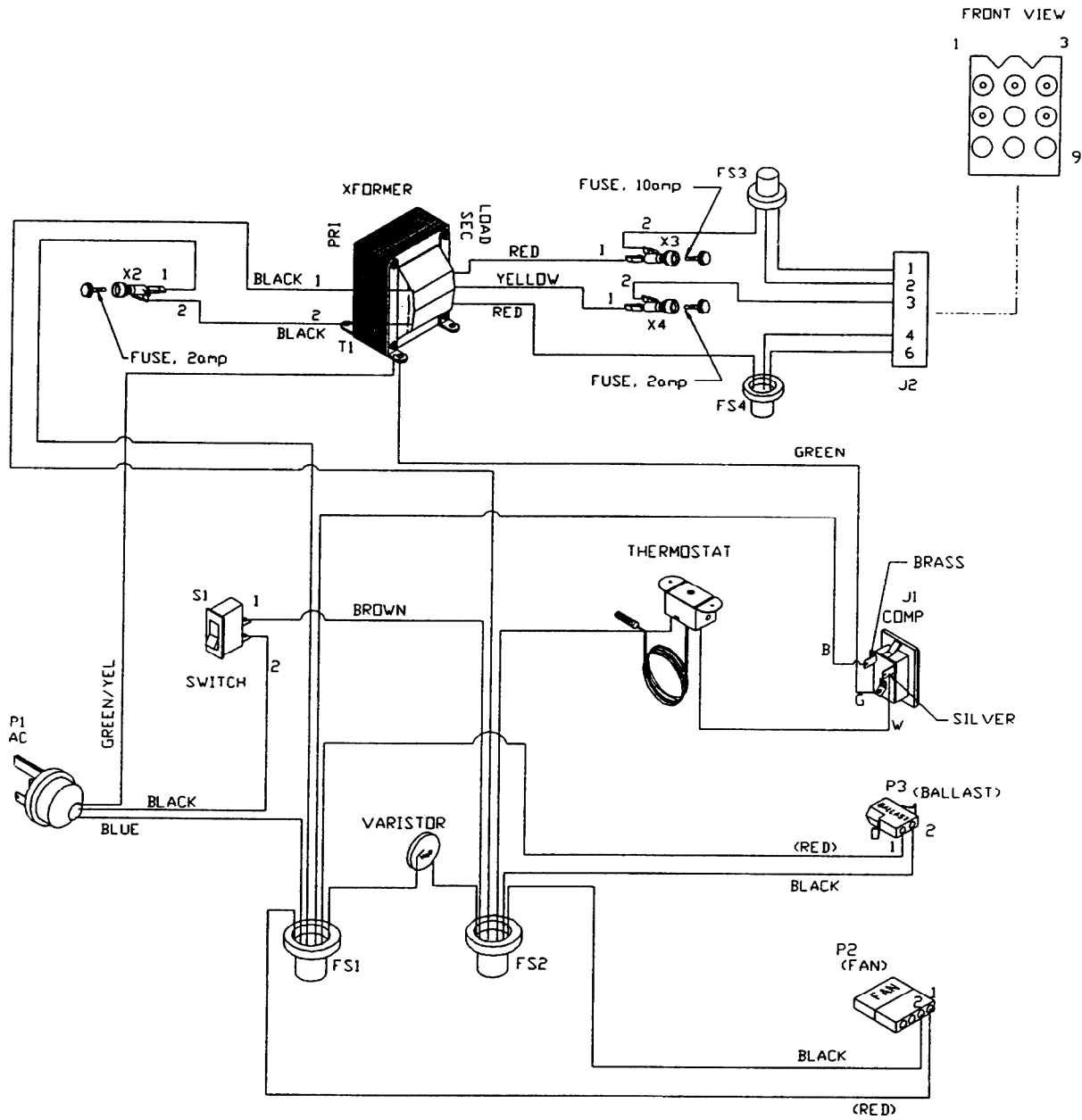
This chart is intended as a guide to isolate and correct most problems you might encounter. Should your machine scroll "OUT OF SERVICE", go in the TEST MODE and press "B" to list errors.

SYMPTOM/PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
All coins are rejected.	Main power OFF / disconnected.	Apply power.
	Fuse blown.	Check fuses and replace if necessary.
	Machine is Out of Service.	List errors to determine cause of Out of Service. Refer to page 15 for error explanations.
	Loose connection.	Check cable at coin mech and controller board.
	Jammed coin mechanism.	Clear coins.
	Weak spring on gate of changer. (COINCO units only)	Replace spring.
	Gate Partially Open	Clean and reset gate. If COINCO unit check spring
	Dirty/Faulty coin sensor.	Clean/Replace.
	Incompatible coin mechanism.	Replace.
	Defective coin mechanism.	Replace.
	Defective controller board.	Replace.
All bills are rejected.	Main power OFF / disconnected.	Apply power.
	Fuse blown.	Check fuses and replace if necessary.
	Machine is Out of Service.	List errors to determine cause of Out of Service. Refer to page 15 for error explanations.
	Loose connection.	Check cable at bill validator and controller board.
	Coin mechanism low on coins.	Fill coin tubes.
	Bill path obstructed/dirty.	Clear/clean path.
	Wrong option switch settings.	Reset.
	Incompatible bill validator.	Replace.
	Defective bill validator.	Replace.
Defective controller board.	Replace.	

<b>SYMPTOM/PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
Incorrect change dispensed.	Vend prices set incorrectly.	Check price and reset if necessary.
	Coins not laying flat in tubes.	Check coin tubes, clear and reload coins.
	Defective coin mechanism.	Replace.
	Defective controller board.	Replace.
Selection will not vend.	Vend price set incorrectly.	Check price and reset if necessary.
	Insufficient credit.	Check price, ensure credit is equal to or greater.
	Product and gate mis-matched.	Check gate/spacer.
	Gate sticking.	Move product away from gate (removing the weight) and use "Test Vend" to check gate operation. Use small amount of WD-40 on pins and recheck. Check for bent pins.
	Dirty/worn tray insert (slide).	Clean / Check for flash / Replace.
	Loose connections.	Check cable connections at controller board and solenoid.
	Defective solenoid.	Use "Test Vend" to check solenoid, replace if necessary.
	Defective cable.	Move cable in question to a new position on controller board and recheck.
Ice/frost on evaporator.	Defective controller board.	Replace.
	Condensate drain plugged.	Clear drain.
Condensate on outside of product door.	Air leak.	Check product door seal and cable openings in cabinet.
	Machine in direct sunlight.	Move machine.
Compressor will not stop.	Machine in location with humidity above 70%.	Move machine.
	Defective thermostat.	Replace.

SYMPTOM/PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Compressor will not start.	Service door open.	Close service door.
	Compressor is unplugged.	Plug compressor in outlet on face of AC distribution box.
	Defective door interlock switch.	Replace.
	Low voltage.	Check power source.
	Defective thermostat.	Replace.
	Defective starting component (capacitor, relay).	Replace.
	Defective compressor.	Replace.
	<b><i>Troubleshooting Tip: Use a short 15 Amp extension cord and plug the compressor directly into the wall outlet. This will bypass the AC distribution box.</i></b>	
Machine not cooling.	Dirty or clogged condenser.	Clean.
	Defective thermostat.	Replace.
	Restricted airflow.	Check rear screen for obstructions. Ensure rear of cabinet is at least 3.25" (82.6mm) from wall.
	Machine in direct sunlight.	Move machine.
	Faulty product seal.	Replace.
	Condenser fan or evaporator fan not running.	Check for blade obstruction. Check fan circuit.
	Evaporator is iced up.	Check for air leaks or clogged condensate drain line.

# ELECTRICAL DIAGRAMS AND SCHEMATICS



**FIGURE 3 – AC DISTRIBUTION BOX SCHEMATIC**

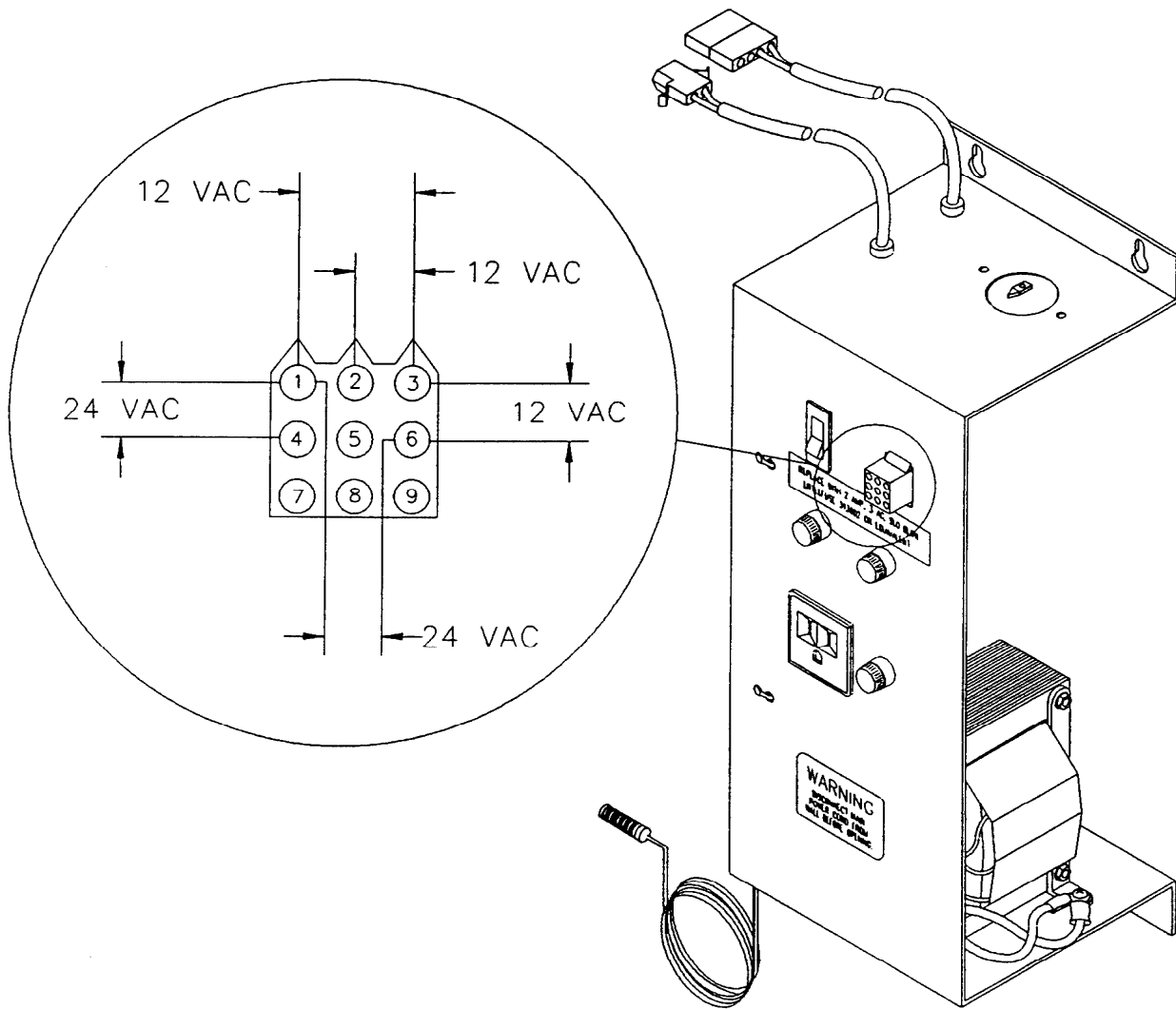


FIGURE 4 – AC DISTRIBUTION BOX, J2 VOLTAGES

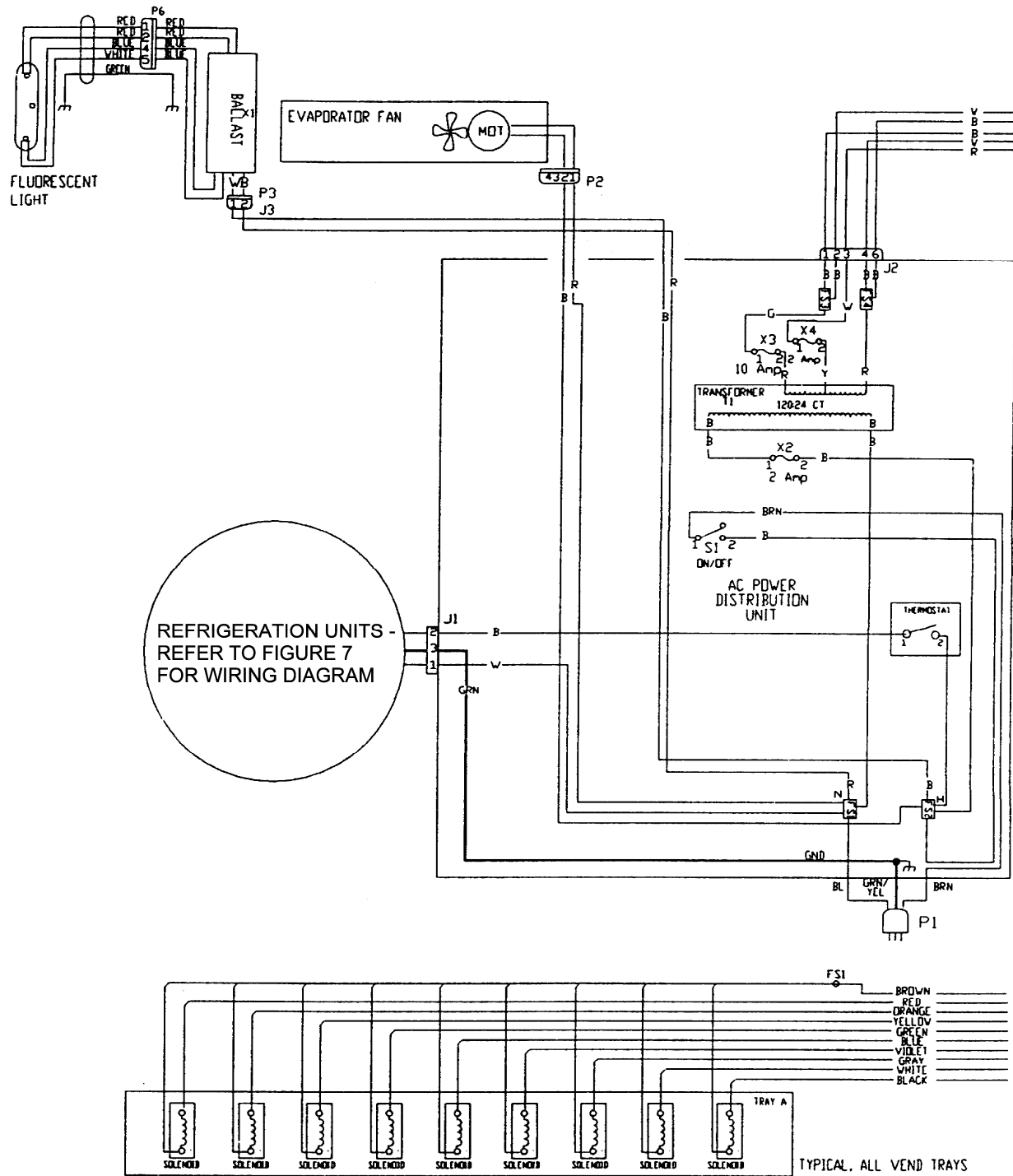


FIGURE 5 – SYSTEM SCHEMATIC (LEFT SIDE)  
SAMPLE



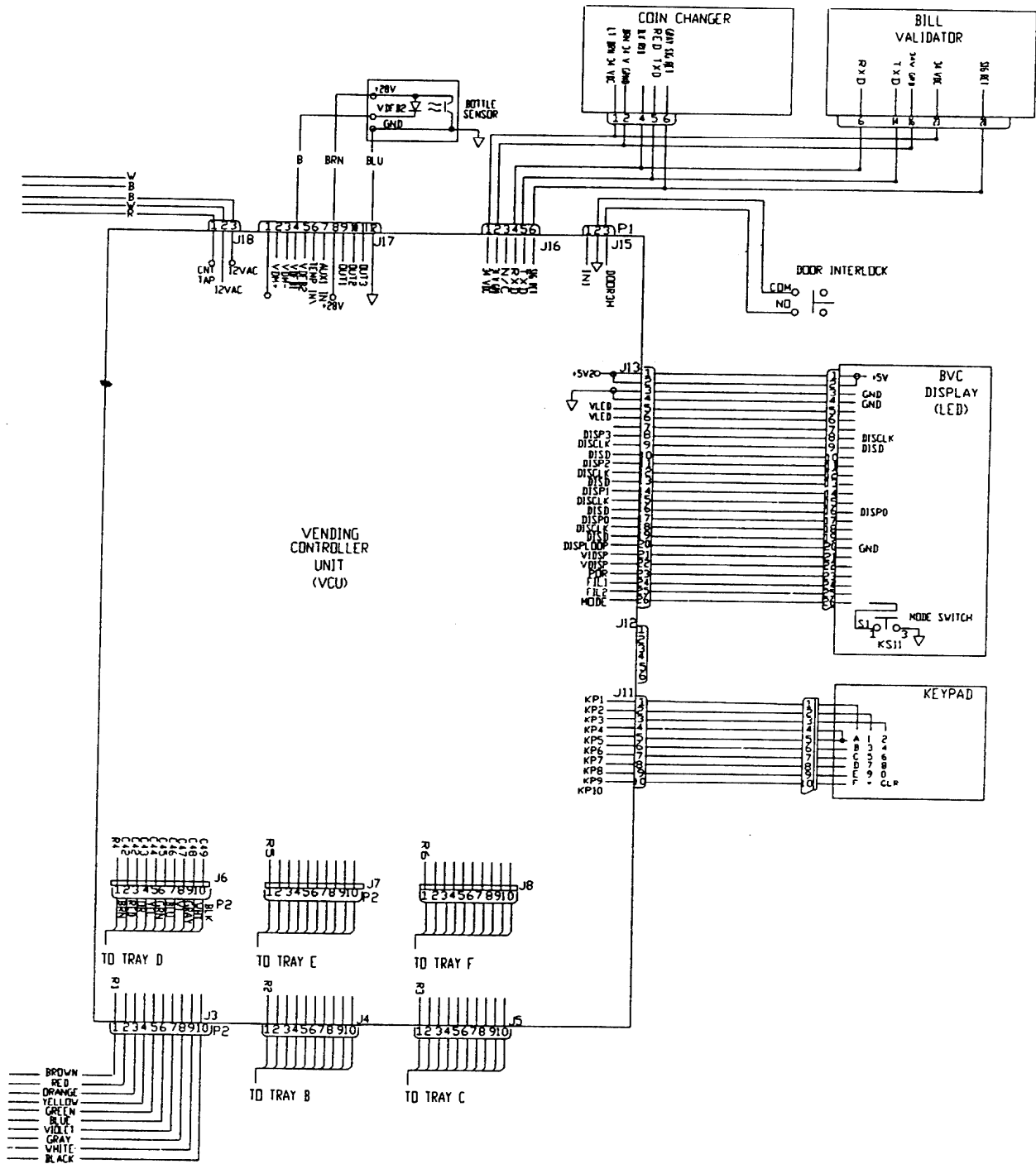


FIGURE 6 – SYSTEM SCHEMATIC (RIGHT SIDE; MDB) SAMPLE

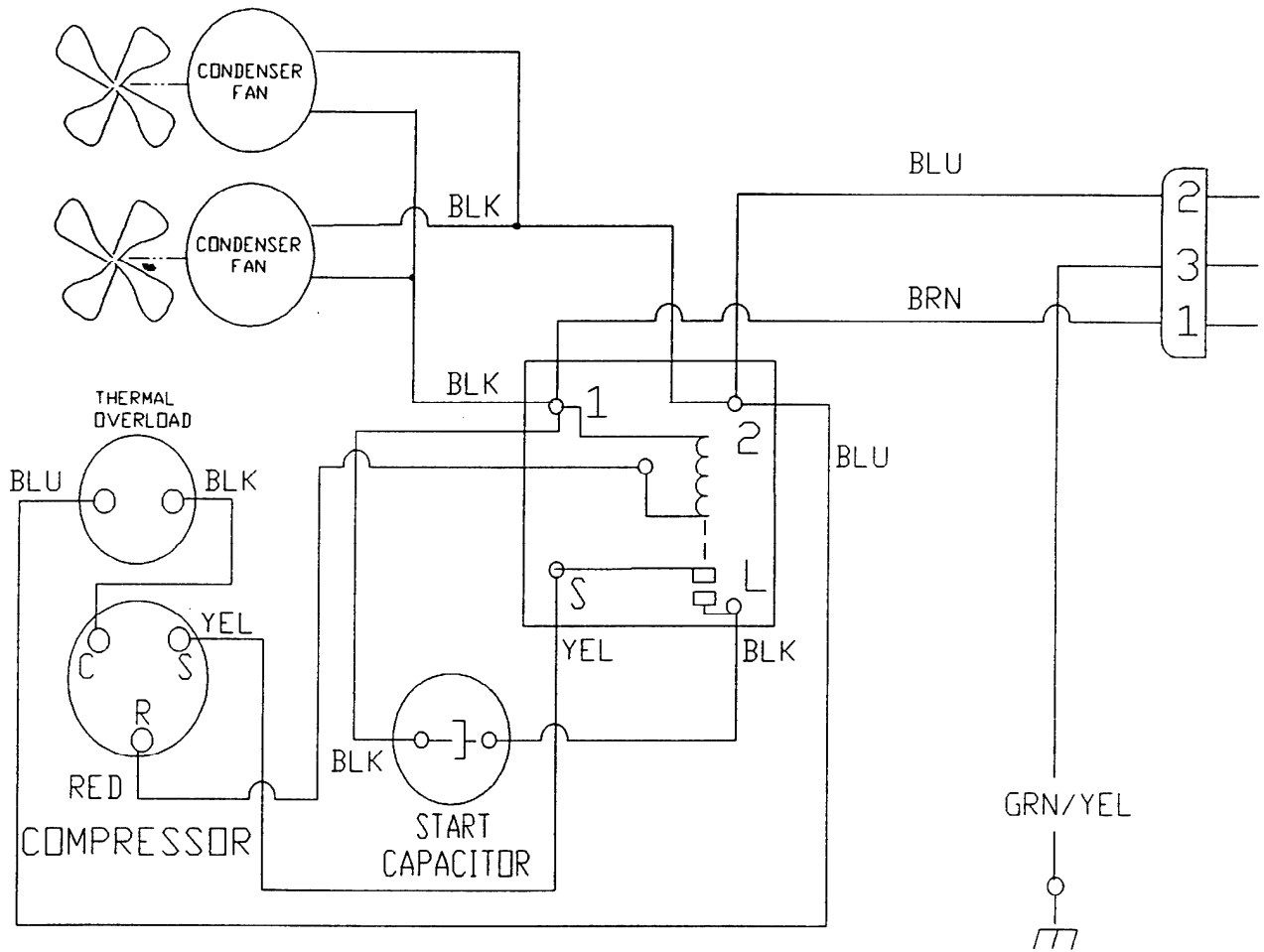


FIGURE 7 – COMPRESSOR WIRING DIAGRAM (2145 – ROLL UP CONDENSER)

# PARTS LIST AND DIAGRAMS

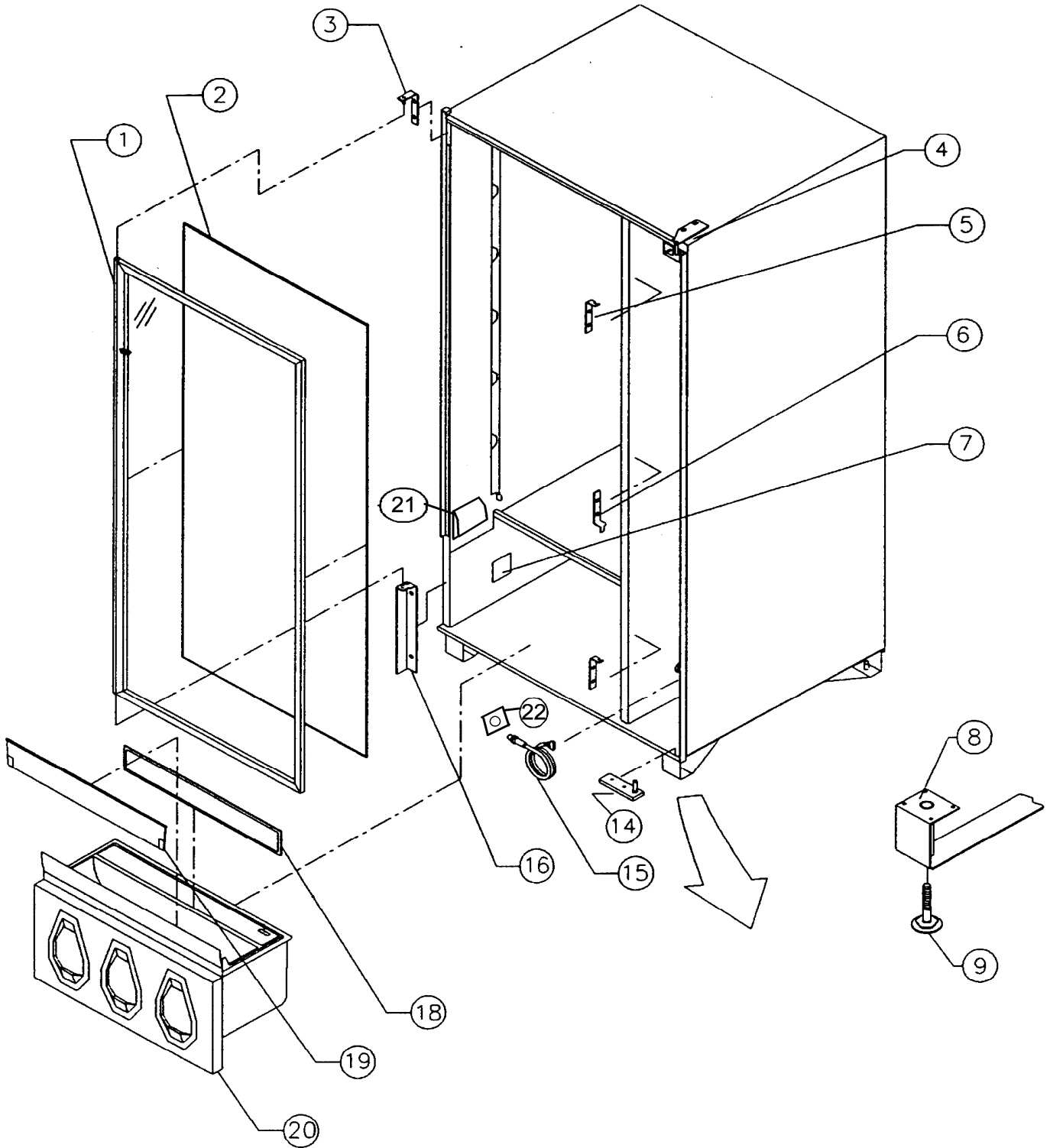


FIGURE 8 – MACHINE FRONT VIEW

Machine Front View

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
1	W307	Door Assembly, Glass
2	W058	Gasket, Glass Door
3	W327	Top Hinge, Glass Door
4	W334	Top Hinge, Service Door
5	F240-2	Top Catch, 3-Point Lock
6	W296	Strike, Door Lock, 3-Point
7	W945	Reflective Tape, 3" Square
8	W025-1	Leg Assembly, Steel, Formed
9	D048	Leg Leveler, 1/2-20, 2.88LG
14	W337	Bottom Hinge, Service Door
15	804,913,760.01	Assy., Product Sensor w/ Harness
16	W326	Bottom Hinge, Glass Door
18	W443	Assy. Pad, Recovery Unit
19	D124	Door Assembly, Recovery Unit (D332)
20	D332	Assy. Recovery Unit, Tall
21	W363	Deflector, Bottle Drop Plastic Wedge
22	622,050,900.03	Sensor Mounting Plate

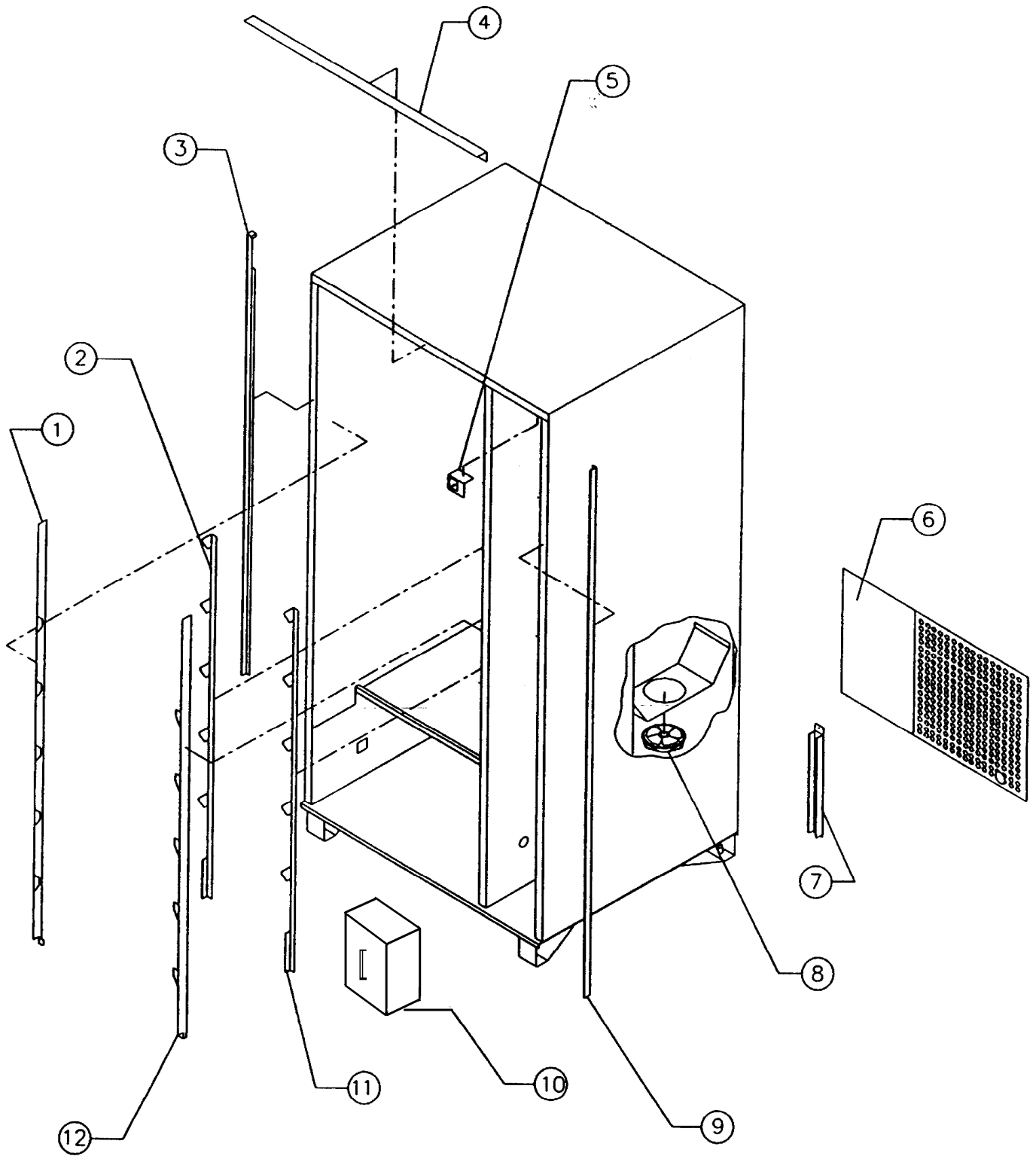


FIGURE 9 – CABINET DETAIL

### Cabinet Detail

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
1	622,070,020.03	Left Tray Mounting Bracket
2	D042	Rear Tray Support Bracket
3	W355	Security Angle Hinge, Left
4	W366	Security Trim, Top
5	804,100,770.21	Switch, Door
6	W417	Grille, Rear
7	622,020,080.03	Brace, Rear Base Plate
8	W369	Fan Assy., Evaporator (115V 60 Hz, 9W)
9	W356	Security Angle Hinge, Right
10	622,050,100.03	Cash Box Assy.
11	D042	Rear Tray Support Bracket
12	622,070,030.03	Right Tray Mounting Bracket
13	622,050,100.03	Coin Box Holder
14	622,050,000.03	Cash Box Shelf
15	D200-3	Locking Cash Box Kit (used w/ Metal Cash Box)

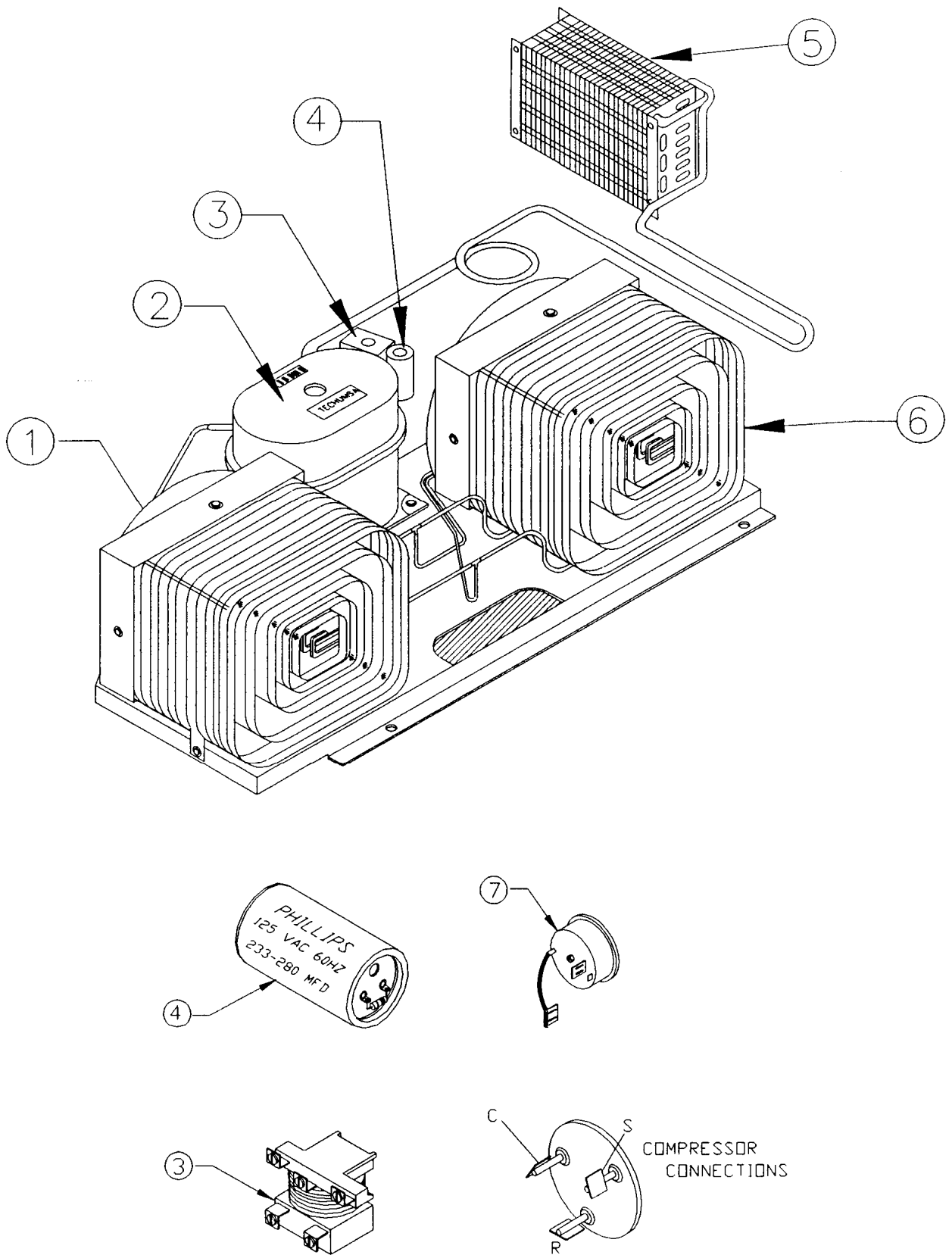


FIGURE 10 – REFRIGERATION UNIT – TECUMSEH (2145 – ROLL UP CONDENSER)

**Refrigeration Unit – Tecumseh (2145 – Roll Up Condenser)**

<b>INDEX NUMBER</b>	<b>PART NUMBER</b>	<b>PART DESCRIPTION</b>
1	D029	Condenser Fan Assy., 115VAC (Hidden)
	D029-1	Condenser Fan Assy., 230VAC (Hidden)
	F470	Condenser Fan Motor, 115VAC 60 Hz 9W
	F471	Condenser Fan Motor, 230VAC 50 Hz 9W
	F469	Condenser Fan Blade, 8" 30 <sup>0</sup> P
2	W291	Compressor, 115VAC/60 Hz
	W290	Compressor, 220VAC/50 Hz
3	D609-1	Start Relay, 110VAC - Tecumseh
	D609-2	Start Relay, 220VAC - Tecumseh
4	D610-1	Start Capacitor, 110VAC - Tecumseh
	D610-2	Start Capacitor, 220VAC - Tecumseh
5	802,600,630.01	Evaporator
6	802,600,620.01	Condenser, Roll Up
7	D608-1	Thermal Overload, 110VAC - Tecumseh
	D608-2	Thermal Overload 220VAC - Tecumseh
8	622,040,200.03	Refrigeration Unit w/ Roll Up Condenser 110VAC



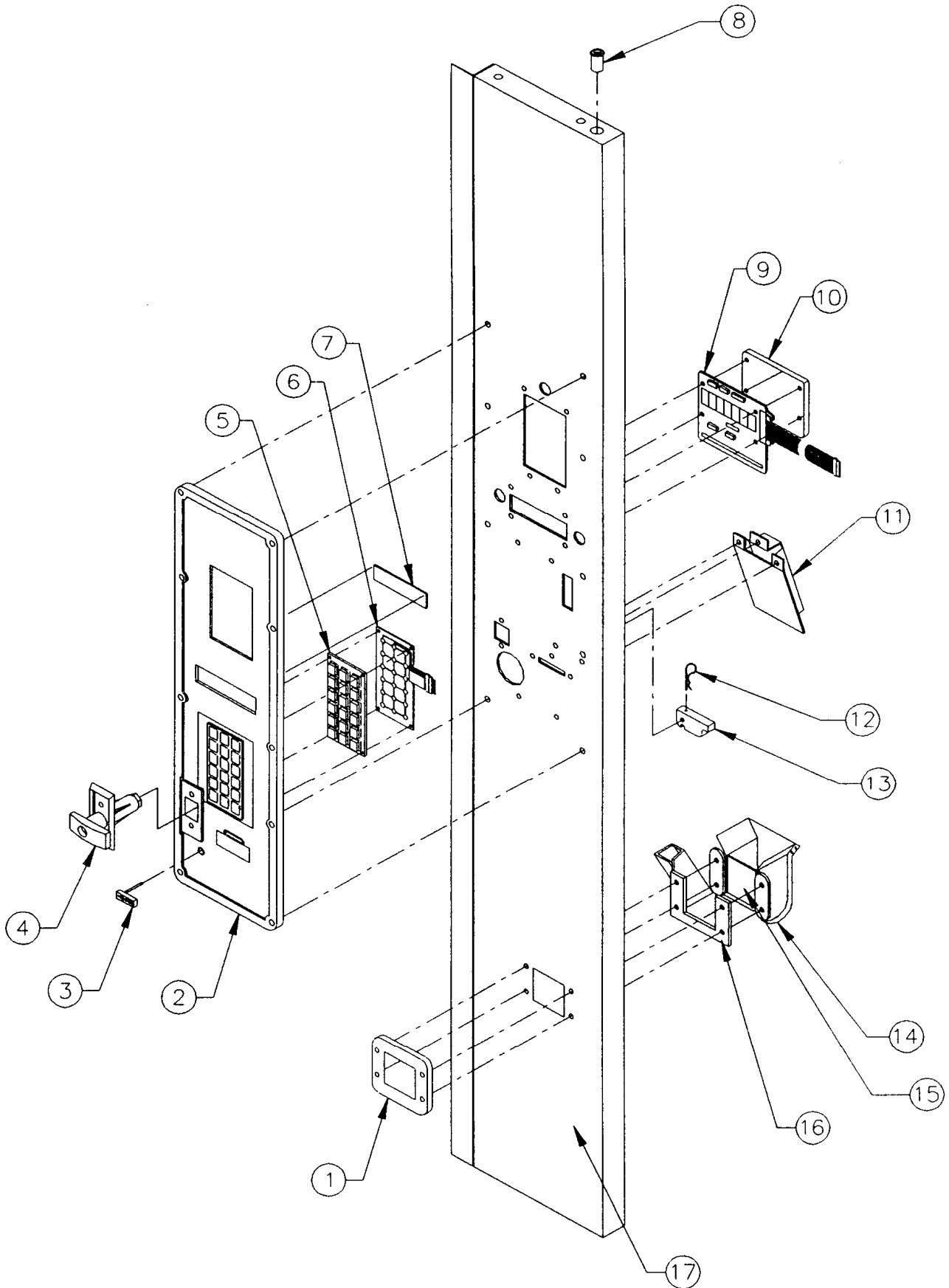


FIGURE 11 – SERVICE DOOR (FRONT)

### Service Door (Front)

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
ASSY	622,050,500.03	Service Door Assembly, 3 Point Lock
1	W383	Bezel, Coin Return
2	000,011,950.15	Bezel, Service Door
3	W013	Assy. Coin Return Lever
4	801,518,060.01	Lock, T-Handle
5	W453-2	Button Array Keypad, Rubber
6	W453-1	Keypad, Membrane Switch
7	W367	Display Filter, Red
8	W737	Bearing, Service Door
9	W481	Assembly, 8 Digit, 14 Segment Display
10	W121	Cover, Display
11	W333	Slide, Coin
12	F327	Cotter Pin
13	W329	Cam, Coin Return
14	622,050,300.03	Assy., Coin Return Cup
15	622,050,140.03	Coin Return Door Flap
16	D385	Assembly, Coin Guide
17	D165	Service Door, (3 Point Lock)
	D164	Service Door, (3 Point Lock w/ 2 knock outs)
18	D114	Keypad, Cable Clamp Kit

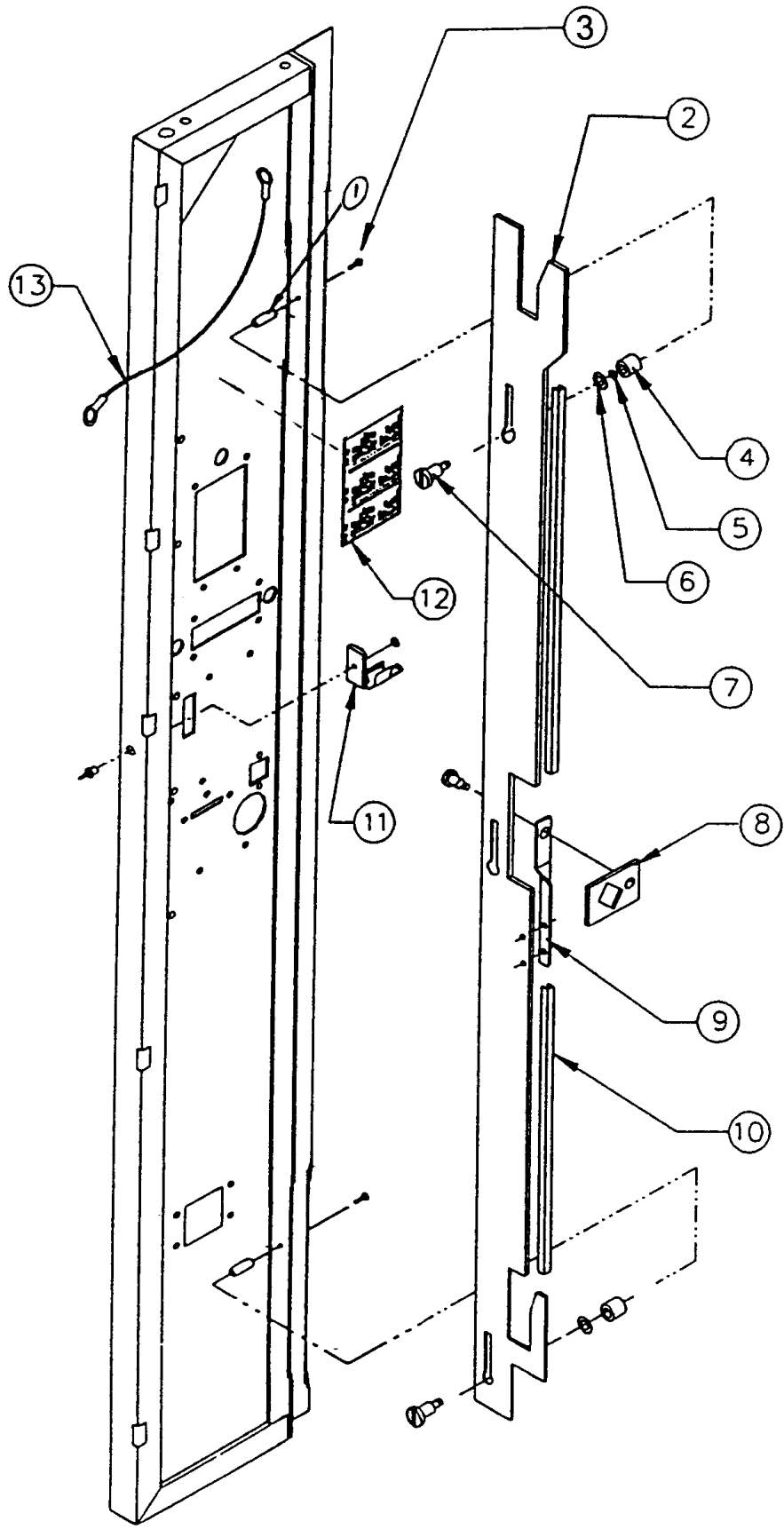


FIGURE 12 – SERVICE DOOR (BACK)

**Service Door (Back)**

<b>INDEX NUMBER</b>	<b>PART NUMBER</b>	<b>PART DESCRIPTION</b>
1	F557	Stand Off
2	F240-1	Latch Bar
3	STH1032X038-STZ	Phillips Trusshead Screw #10-32x <sup>3</sup> / <sub>8</sub>
4	F240-3	Latch Spacer
5	WFL02205005-STZ	Washer, Flat
6	WFL02606904-NYX	Washer, Nylon
7	SSH1032X013-SSX	Screw, Shoulder 10-32, .25 OD
8	F240-4	Latch, Pawl
9	F240-5	Latch, Rod
10	W199	Protective Strip, Plastic (2 pieces)
11	D588	Keypad Cable Clamp
	D114	Keypad Cable Clamp Kit
12	803,853,260.01	Service Menu Label DN 2145, MDB
13	W396	Lanyard, Service Door

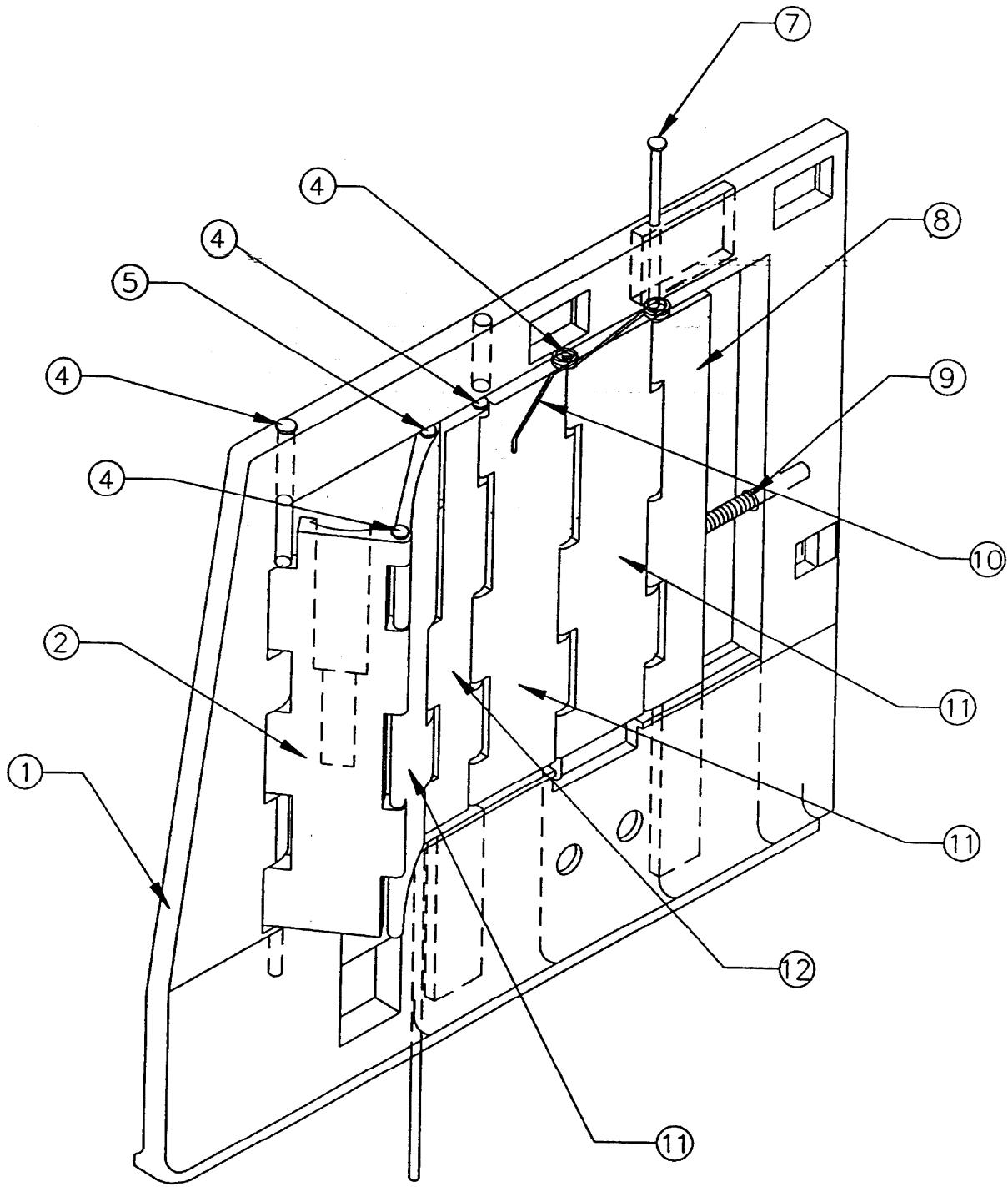


FIGURE 13 – TALL GATE DETAIL

### Tail Gate Detail

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
ASSY.	D012	Tail Gate Assembly
1	W211	Frame, Release Mechanism
2	W207	Front Knuckle, Release Mechanism
4	W216-1	Pin, Front Knuckle, Release Mechanism - #1
5	W216-3	Pin, Solenoid, Release Mechanism - #3
7	W216-7	Pin, Rear Shuttle, Release Mechanism - #5
8	W210	Rear Shuttle, Release Mechanism
9	W768-1	Spring, Rear Shuttle, 11.1 lb/in
10	D107	Spring, Product Pusher
11	W208	Rear Knuckle, Release Mechanism
12	D329	Front Shuttle, Release Mechanism

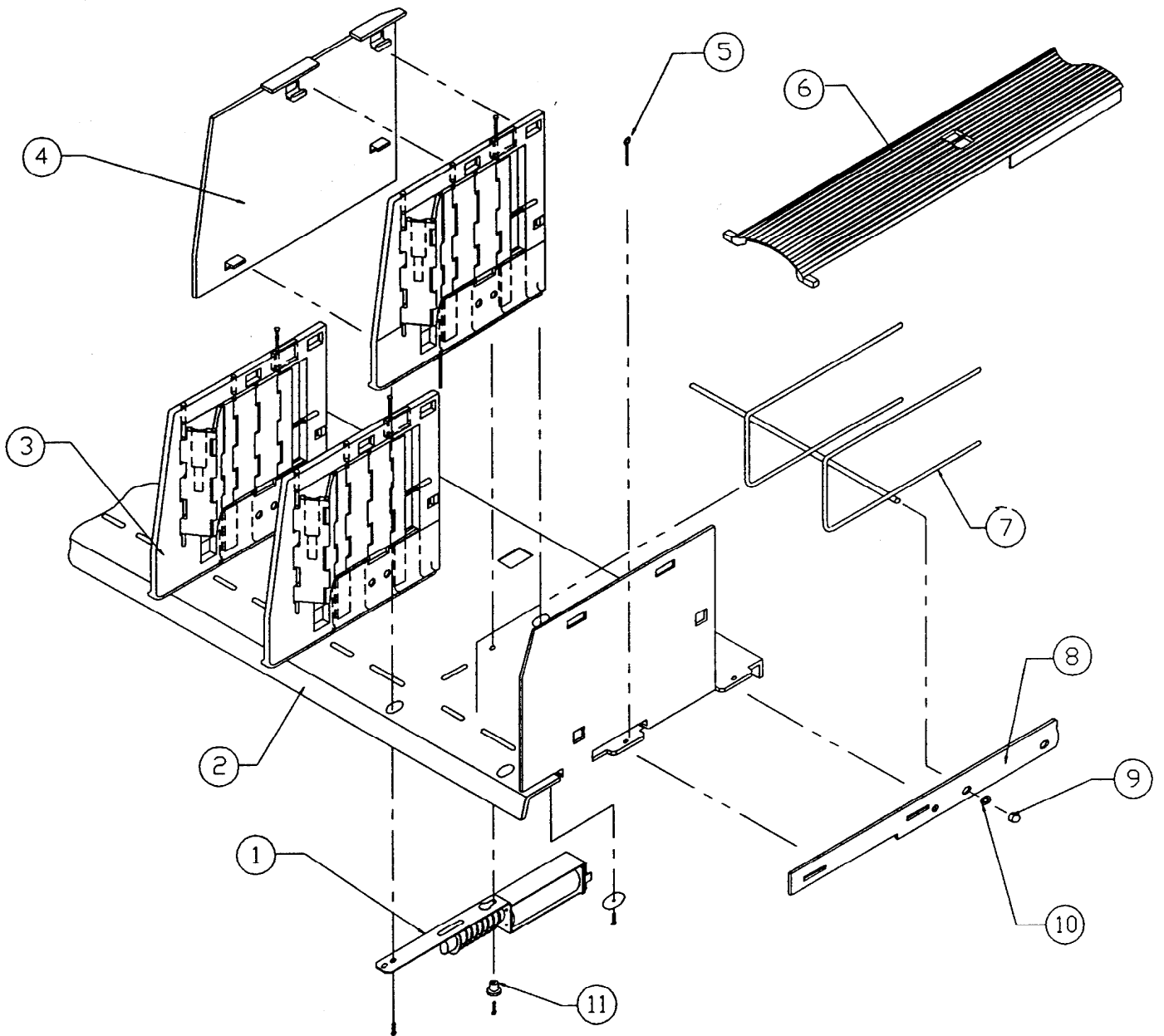


FIGURE 14 – TALL GATE TRAY DETAIL

### Tall Gate Tray Detail

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
ASSY.	622,070,100.03	Tray Assembly, Tall Gate
1	W219	Solenoid, 24 Volt
2	622,070,010.13	Chassis, Tray, Tall Gate
3	D012	Tall Gate Assembly
4	Spacer	
	W212-1	Spacer, Tall Gate, 3/16"
	W212-2	Spacer, Tall Gate, 3/8"
5	W789	Cotter Pin
6	D331-DS	Slide, w/delrin & silicone, (Tray Insert) 20 oz.
7	W132	Tray, Wire, Formed
8	D327	Bracket, Side, Tray
9	W834	Plastic Tray Cap
10	W398	Washer, Retainer
11	W218	Washer, Solenoid Retainer
12	D103-1	Stabilizer "C" Tray
	D103-2	Stabilizer "D" Tray



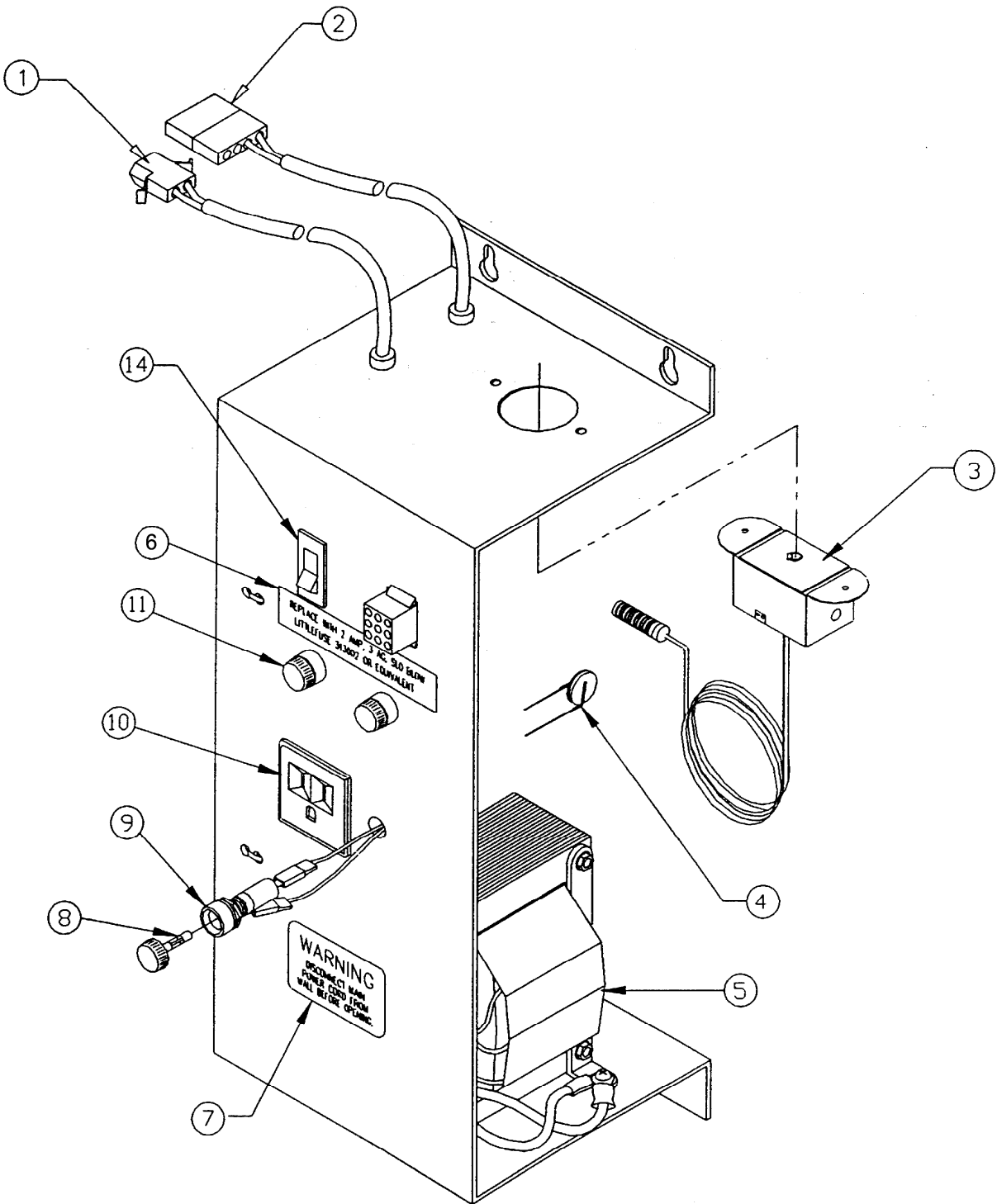


FIGURE 15 – AC DISTRIBUTION BOX, 110 VAC

### AC Distribution Box, 110VAC

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
ASSY.	622,060,100.03	AC Distribution Box, 110VAC / 60 Hz <i>(Note: Need to order 804,913,770.01 &amp; 804,913,750.01 if you are replacing an old AC Distribution Box with the rocker switch)</i>
1	W684-1	Cable Assembly – Light
2	W684-2	Cable Assembly – Evaporator Fan
3	W654-1	Thermostat, Cold Control
4	W641	Varistor, 25 Amp, 650V
5	W646	Transformer, 120V/24V, 60 Hz, 8 A
6	803,853,210.01	2 Amp Fuse / 10 Amp Fuse Label
7	803,852,220.01	Label, Electrical Box, "WARNING – Disconnect Main Power Cord Before Servicing"
8	W659	Fuse, 10 Amp, 32V, Sloblo
9	W660	Fuse Holder, Panel Mounted, Quick Disconnect
10	W662	Outlet, 15 Amp, Grounded
11	W658	Fuse, 2 Amp, 250V, Sloblo
14	W546	Switch, Rocker, Panel Mounted
NOT SHOWN	F194	Main Power Harness 125V, 20 A
NOT SHOWN	804,913,770.01	Main Power Harness (Williston AC Distribution Box)

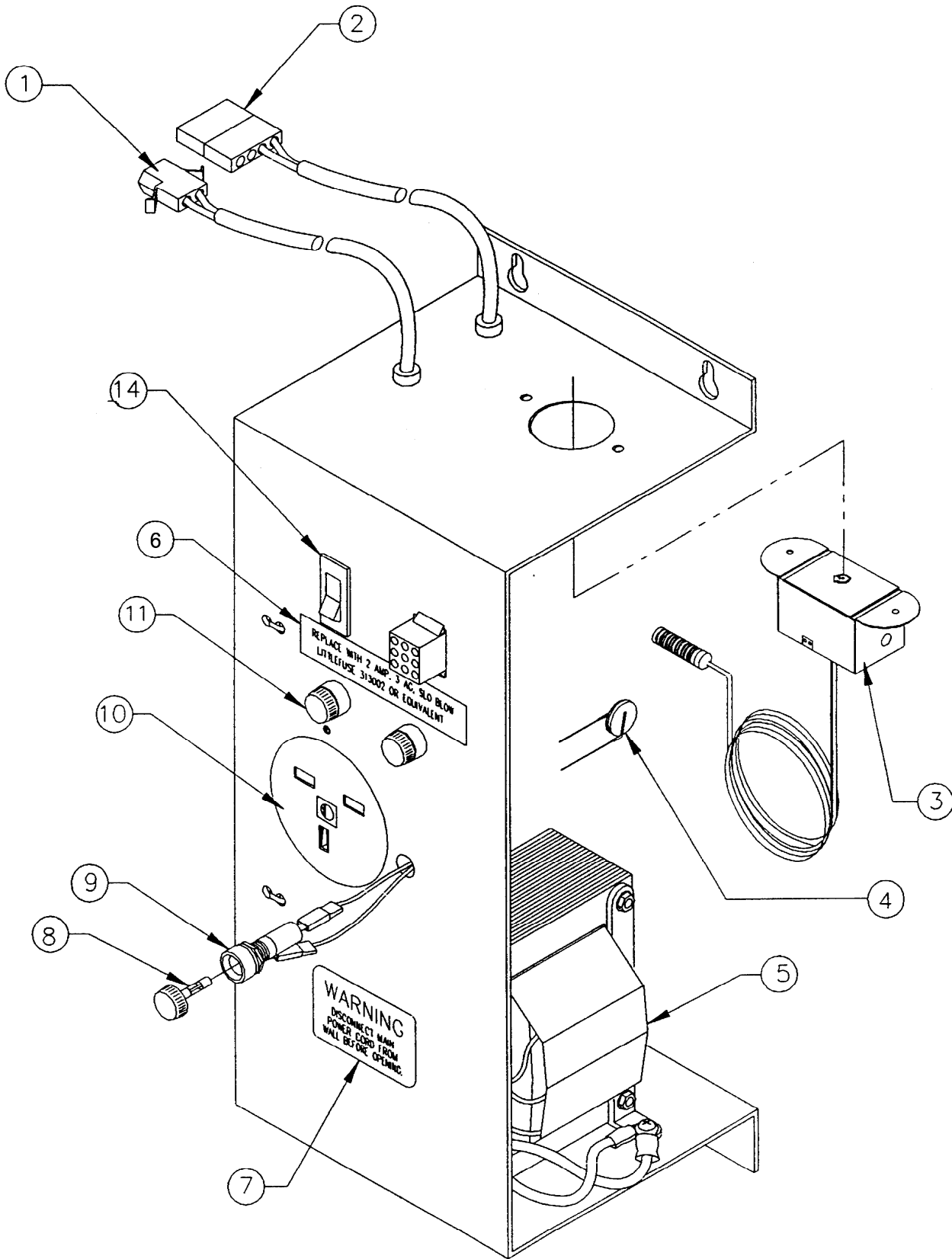


FIGURE 16 – AC DISTRIBUTION BOX, 220VAC

### AC Distribution Box, 220VAC

INDEX NUMBER	PART NUMBER	PART DESCRIPTION
ASSY.	W101	AC Distribution Box, 230VAC / 50 Hz
1	W684-1	Cable Assembly – Light
2	W684-2	Cable Assembly – Evaporator Fan
3	W654-1	Thermostat, Cold Control
4	W641	Varistor, 25 Amp, 650V
5	F475	Transformer, 230V/24V, 50 Hz.
6	803,853,210.01	Label, Fuse 10 Amp, 32V and Fuse 2 Amp, 250V
7	803,852,220.01	Label, Electrical Box, "WARNING – Disconnect Main Power Cord Before Servicing"
8	W659	Fuse, 10 Amp, 32V, Sloblo
9	W660	Fuseholder, Panel Mounted, Quick Disconnect
10	F443	Outlet, 13 Amp, 250V
11	W658	Fuse 2 Amp, 250V, Sloblo
14	W546	Switch, Rocker, Panel Mounted
NOT SHOWN	F301	Main Power Cord 220V
NOT SHOWN	F535	Plug, 15 Amp, 240V (Power In) – 2 Pole 3 Wire (Main Power Plug)

### Miscellaneous Parts Not Shown

PART NUMBER	PART DESCRIPTION
803,902,680.01	Manual, Service / Operation
W485	Label Set, Price and Product
W485-1	Label Set, Product Only (i.e. A1, A2, etc.)
D014	Wall Stand-Off Bracket Kit
D046-1	Spacer Pack, 5 Tray, 20 oz. (Assorted Sizes)
W599-69	EPROM, Firmware, Beverage MDB
804,913,670.01	Controller Board to Door Switch Harness
804,913,750.01	Power to Controller Board Harness
804,913,690.01	Controller Board to Keypad Harness
804,913,680.01	Controller Board to Display Harness
W486	Ballast Assembly, 110VAC / 60 Hz
W153	Ballast Assembly, 220VAC / 50 Hz
W351	Lens, Fluorescent Lamp Assembly
W845	Fluorescent Lamp, 40W, 48"
804,913,740.01	Tray Harness
804,913,780.01	Light Harness
804,913,470.11	MDB Coin Mech Interface Harness
W315-69	Control Board, MDB

## COMPATIBLE CURRENCY/CREDIT UNITS

### MDB COIN MECHANISMS:

Mars TRC6510      MDB 24 Volt 6 Pin  
Coinco 9302GX      MDB 24 Volt 6 Pin

### MDB BILL VALIDATORS:

Mars VN2512  
Coinco BA 30B

### MDB CARD READERS:

Debitek V15-MDB  
Danyl Smartcard VCU-MDB

**Note:** The control board will not allow these units to be set to accept \$2.00 bills.

### PERIPHERAL INTERFACE HARNESS:

MDB Cable Assembly – 804,913,470.11