

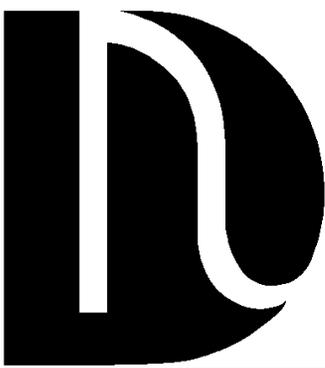
# **SERVICE MANUAL**

## **SIID ELECTRONIC VENDERS WITH COCA-COLA FOUR BUTTON PROGRAMMING**

**First Production 0001-6240BT  
April 1995**

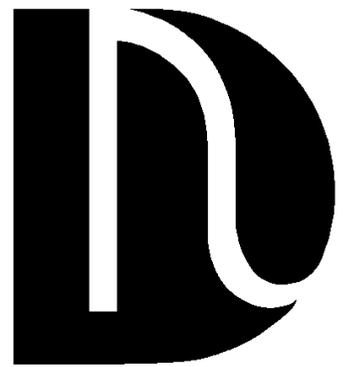
# **Dixie-Narco**

**DIXIE-NARCO BLVD.  
P.O. DRAWER 719  
WILLISTON, SC 29853-0719**



**January 15, 1998**

**803,902,490.31**



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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 the proper background may subject themselves to the risk of injury or electrical shock which can be serious or even fatal.**

## MODELS AND DETAILS

### **DNCB 168**

Height: 1439mm (56 11/16")  
Width: 711mm (28 5/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 211 (464 lbs)

### **DNCB 180**

Height: 1439mm (56 11/16")  
Width: 711mm (28 5/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 211 (464 lbs)

### **DNCB 276**

Height: 1829mm (72")  
Width: 711mm (28 5/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 260 (574 lbs)

### **DNCB 300**

Height: 1829mm (72")  
Width: 711mm (28 5/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 260 (574 lbs)

### **DNCB 348**

Height: 1829mm (72")  
Width: 940mm (37 1/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 330 (728 lbs)

### **DNCB 360**

Height: 1829mm (72")  
Width: 940mm (37 1/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 288 (634 lbs)

### **DNCB 368**

Height: 1829mm (72")  
Width: 940mm (37 1/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 312 (688 lbs)

### **DNCB 414**

Height: 2007mm (79 1/2")  
Width: 940mm (37 1/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 358 (790 lbs)

### **DNCB 440**

Height: 2007mm (79 1/2")  
Width: 940mm (37 1/16")  
Depth: 737mm (30 1/2")  
Shipping  
Wt: 331 (730 lbs)

### **DNCB 501T**

Height: 1829mm (72")  
Width: 940mm (37 1/16")  
Depth: 813mm (32")  
Shipping  
Wt: 344 (758 lbs)

### **DNCB 522T**

Height: 1829mm (72")  
Width: 940mm (37 1/16")  
Depth: 813mm (32")  
Shipping  
Wt: 305 (672 lbs)

### **DNCB 600T**

Height: 2007mm (79 1/2")  
Width: 940mm (37 1/16")  
Depth: 813mm (32")  
Shipping  
Wt: 381 (840 lbs)

## 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-yyyzz. 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 = 1st quarter
- B = 2nd quarter
- C = 3rd quarter
- D = 4th quarter

The second alpha-character identifies the year:

- T = 1995
- U = 1996
- V = 1997
- W = 1998
- X = 1999
- Y = 2000
- Z = 2001

# **SIID CAN & BOTTLE VENDER**

## **INSTALLATION & SET-UP**

The Dixie-Narco SIID can and bottle vender is designed utilizing the latest technology featuring a highly sophisticated, micro-computer based control system. The SIID Electronic Vender is designed to meet the growing need for accountability, multi-pricing, programmability, and system diagnostics in can vending equipment. Along with these functions, DEX/UCS-communications to a hand-held computer is available to provide the ability to measure each vending location for product performance, vender performance, and accessing accounting data. This data can be used to maximize the efficiency of routes for servicing venders. DEX communications also provides the bottler security for the integrity of the "cash in" versus the "product sold". The vender design provides the flexibility required for the changing beverage industry as well as dependable performance for many years. This manual is prepared to assist the proper installation and set-up of the vender. Please read this manual carefully and become familiar with the SIID Vender before placing the vender on location.

### **RECEIVING INSPECTION**

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 and top cover from the vender. If flavor labels were shipped with your vender they will be affixed to the back of a vender in the shipment or in the cash box.

**NOTE:** DO NOT STORE THE VENDER OUTSIDE WITH THE STRETCH WRAP ON. THIS COULD CAUSE THE STRETCH WRAP TO BOND TO THE VENDER'S SURFACE, WHICH COULD DAMAGE THE FINISH.

Remove the shipping boards from the bottom of the vender. The shipping boards are attached by the leveling legs. Remove the shipping boards by **unscrewing** the leveling legs. A 1½ inch "socket type" wrench should be used on the bottom of the leveling legs. Be sure to replace the legs after removing the shipping boards.

To open the vender, locate the door lock keys which are secured inside the coin return cup. After unlocking the door, rotate the "T"-handle counter-clockwise until the door can be opened. Once inside, check the coin box on the door for any additional parts, pricing labels, or information concerning factory equipped accessories. Check the "T"-handle for proper alignment and locking functions. Check the lamps for proper installation.

**WARNING:** Ensure that power is disconnected from the vender or that the power interrupt switch (if provided) is not defeated before inspecting or replacing the lamps. Failure to comply with these instructions may subject the user to the risk of injury or electrical shock, which can be serious or fatal.



**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 SIID vender must have a coin changer installed and can have a bill acceptor installed. If the coin changer and other accessories are not factory installed refer to the instructions received from the manufacturer of the coin changer and other accessories for proper set-up and installation.

The SIID vender will support the following coin changers:

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

**BILL ACCEPTORS**

If a bill acceptor is not factory installed, a bill acceptor interface harness must be ordered from Dixie-Narco. See the chart below:

**Bill Acceptor Interface Harnesses**

Acceptor	Coca-Cola Venders
Coinco BA-30	*Multidrop Bus

**\* Also requires parts from acceptor manufacturer.**

Note: Bill acceptors will be inhibited anytime the door interlock switch is in the center position (service mode enable) even if service mode time out has occurred restoring the vender to normal operation.

## **OTHER ACCESSORIES**

The SIID Vender is capable of interfacing to Debit Card and Data Recording systems. At this time only a few such accessories have been tested by Dixie-Narco. If such accessories are to be used check with either Dixie-Narco or the accessory manufacturer about physical and electrical compatibility before attempting to interface such accessories to the SIID Vender.

## **INSTALLING A COIN CHANGER**

Hang the coin changer on its mounting plate and secure it by tightening the three securing screws. Plug the coin changer into the 6 pin socket for MDB changers, in the vender.

**CAUTION:** The coin changer must be plugged in with the power removed from the door or the coin changer may not power on properly.

After restoring power, manually load the coin changer coin tubes with at least 10 coins each. Following the program instructions for the SIID Vender, program each selection for its own vend price. A price of \$0.00 is free vend. After the pricing is set return the vender to its operate mode either by closing the door or pulling the door closed switch out. "Prime" the coin changer by making a correct change transaction.

## **PLACING THE VENDER ON LOCATION**

**CAUTION: DO NOT TRANSPORT THE VENDER TO OR FROM THE LOCATION LOADED WITH PRODUCT OR DAMAGE TO THE VENDER MAY RESULT.**

The vender must be located on a solid, flat, and level surface. The vender must be positioned close enough to an electrical outlet that an extension cord is not required. If securing the vender to the floor or wall is required, call the Dixie-Narco Factory Service Department or your Dixie-Narco Representative for suggestions.

### **LEVEL THE VENDER**

Level the vender. When the vender is level the door can be opened to any position and it will not move by itself. Open the door to several different positions before deciding the vender is level.

Make sure that all of the leveling legs are touching the floor. If you cannot level the vender, select another location. Do not place any objects under the machine.

**DANGER: The vender must be properly located and leveled to minimize the 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 4 inches (10 cm) from the wall to insure 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. At the rear of the vender, make sure nothing obstructs the air exhaust at the bottom of the cabinet.

### **LOADING THE VENDER**

All SIID Venders are shipped ready to vend 12 oz. cans unless another package was specified at the time the vender was ordered from the factory. If a package other than a 12 oz. can is to be vended contact a Dixie-Narco Factory Service Representative, or refer to the proper technical bulletin for spacer settings and shims.

### **INITIAL LOADING**

Oscillators must be in the extreme left or right position to insure proper loading. When loading wide columns, the first row of cans should be loaded on the bottom bar of the oscillator. The second row of cans must be loaded on the top bar of the oscillator. Always load complete rows, do not load only to the back or only to the front of the column. Rotors must be in the "cup" position to receive the first cans. When loading narrow columns lay the rows in the column until the column is full.

Do not fill the columns to the top of the cabinet. Allow about 3 inches at the top of the column because the can stack will move up and down in the column during the vend cycle. Correct loading will prevent service calls and insure proper vending.

After loading a vender for the first time, test vend each selection with money until the first can is delivered. This will ensure that the vender is loaded and working properly.

**NOTE: TO INSURE PROPER AIR FLOW THROUGH THE EVAPORATOR, DO NOT PLACE CANS (OR OTHER FOREIGN OBJECTS) IN THE BOTTOM OF THE TANK.**

## **INSTALLING FLAVOR CARDS**

The flavor cards may be inserted one of two ways: 1.) in the select buttons, or 2.) in the flavor card carrier.

1.) **IN THE SELECT BUTTONS:**

Swing the coin changer mounting plate away from the outer door, exposing the back of the select buttons. The flavor cards are inserted in the back of the select buttons from either side.

2.) **IN THE FLAVOR CARD CARRIER:**

Swing the coin changer mounting plate away from the outer door, exposing the back of the select panel. Remove the flavor card carrier. Ensure the flavor cards are placed in the select button flavor card carrier position that corresponds to the column in which the product is loaded.

## **SIID HARDWARE CONFIGURATION**

The hardware configuration for the SIID Controller consists of a main control board and a display board. The select panel consists of low voltage switches. Sold-out indicators are eliminated in the SIID. The select switches interface directly to the main controller.

The motors used on the stack continue to be 115 VAC. The vend switches and sold-out switches are low voltage. There is only one vend switch per motor and one sold-out switch per column. The motors, vend switches, and sold-out switches directly interface to the main controller board. Each motor is independently controlled to provide the maximum flexibility for space to sales. The Main Controller supports up to 10 motors and 10 selections.

The Main Controller consists of one board. It consists of all the intelligence, memory, switch interfaces, stack interface (motors, vend switches, and sold-out switches), and peripheral interfaces which include coin changers, dollar bill validators, DEX interface and debit systems.

The DEX interface supports both an internal connection as well as an external connection. The interconnect is a 1/4" phono jack as specified and approved by NAMA. All electrical specifications, protocols, and baud rates are identified in the specification.

The door switch is included to determine door accesses. A service switch is located on the main controller board to access accounting data, programming features, and access diagnostic features through the front select panel.

A real time clock (RTC) with battery backed memory is provided so memory can be maintained during power failures. The life expectancy is 5 years shelf life and 10 years operational. The real time clock is displayed in military time (24 hour clock). The RTC is used for time stamping door closures, power outages, limited access, and selective discount pricing.

The intelligence of the Main Controller is an Intel 80C32 microprocessor. A minimum of 128k of EPROM and 8k of RAM (battery backed) is provided.

Early Display Boards will consist of four 7 segment LEDs to provide alpha-numeric characters. Future Display Boards will consist of four, fourteen segment LEDs to provide clearer alpha-numeric characters. Also, the exact change indicator consists of an LED.

## FEATURES

The following is a description of all the features of the SIID.

### - **DEX Compatible Hand-held Interface** -

The vending industry (NAMA) has established an audit data protocol which is defined by DEX (Direct Exchange Of Data) and UCS (Uniform Communications Standards). This interface is a direct connect as defined by the specification. The SIID has provisions for an internal and external connection. The external connection provides a limited amount of information.

The internal connection provides the full capability of DEX/UCS. These capabilities include full audit of interval and historical data, system programming, diagnostics, and limited access.

### - **10 Column Stack Compatible** -

The SIID Controller is capable of driving up to 10 stack motors independently. The motors will be 110 VAC. The vend switches and sold-out switches are low voltage, gold cross-point switches. The interface for the cam position and empty detection is located on the controller board.

### - **Low Voltage Select Panel** -

The select panel consists of gold cross-point switches. The interface circuitry is located on the controller board. The controller board supports up to 10 selections.

### - **Programmable Space To Sales** -

Programmable space to sales is a feature which allows columns to be assigned to select buttons. Columns are dispensed evenly when more than one column is assigned to a select button or group of select buttons.

### - **Select Panel Controller Programming** -

or

### - **Hand-held Controller Programming** -

The SIID vender has the capability to be programmed through the select panel. The SIID vender can also be programmed through the DEX port with the same hand-held used to access the accounting data.

### - **LED Display (Light Emitting Diodes)** -

#### **Optional LCD Display (Liquid Crystal Diodes)**

Early displays consist of 4 characters utilizing 7 segment LEDs for each character to provide a true alpha-numeric display. Future display boards will consist of four, fourteen segment LEDs to provide clearer alpha-numeric characters. The display is implemented on it's own printed circuit board.

### - **Sold Out Message/Selection** -

Each selection is supported by a sold-out message. When a given selection is sold-out and that selection is pressed, "SOLd Out" will scroll across the display.

### - **Price Displayed when Selection is pressed** -

The operation of the vender in the ready mode provides the customer the price of any selection when that particular select button is pressed. If all selections are set at the same price in primary set price and the same price in secondary set price, the vend price is displayed at all times on the display.

**- Single Price or Multi-Price via Select Panel or Hand-held -**

Prices for each selection are programmed either through the front select panel or through the DEX hand-held device. For single price configuration, each selection has to be programmed for the same price.

**- Accounting Data Provided -**

The accounting features are accessed through the front select panel. These include **(CASH)** historical cash data, which is not resettable, **(CLN)** resettable cash data, **(SALE)** historical vend data, and **(SLN)** resettable vend data.

- (CASH)** Historical Data:  
The total cash collected by the vender
- (CLN)** Resettable Data:  
The total cash collected for each selection.
- (SALE)** Historical Data:  
The total number of vends by the vender.
- (SLN)** Resettable Data:  
The total number of vends for each selection.

The types of data that can be retrieved via the DEX interface to a hand-held device is addressed in the SIID Audit Features section.

**- Limited Access on Selection (Time, Days, Price) -**

The limited access feature allows each selection to be inhibited with respect to time and selected days of the week. Also, prices of selections can be altered (Happy Hour) with respect to time and selected days of the week.

**- Multiple Coin Changer Interfaces -**

The SIID Controller supports the following coin changer interfaces.

- A) MDB Multi-Drop Specification (USA)

**- MDB Bill Validators -**

Coinco BA-30 Bill Validators interface to the SIID Controller. Also, validators which interface to the new MDB (Multi Drop Bus) specification should also be compatible, but have not been tested and approved as of this publication. If a bill acceptor is not factory installed, an interface harness will need to be ordered from Dixie-Narco, and/or the bill acceptor manufacturer.

**- Verifone/Debitek Card Compatible -**

The SIID is capable of interfacing to Debit Card and Data recording systems. At this time only a few such accessories have been tested by Dixie-Narco. If such accessories are to be used check with either Dixie-Narco or the accessory manufacturer about physical and electrical compatibility before attempting to interface such accessories to the SIID vender. The SIID supports any Debit Card/Data Recording manufacturer's systems that meet NAMA II protocol.

## **SIID AUDIT FEATURES**

The SIID provides two methods of accessing audit data. A limited amount of audit information is available in the system set-up/audit menu. More extensive audit information is accessible electronically.

### **SYSTEM SET-UP/AUDIT MENU**

Four types of audit data are available in the system set-up/audit menu. "CASH", which is the historical total cash counted for the vender; "CLN", which is the resettable cash counted for each selection for the vender; "SALE", which is the historical total number of vends for the vender; "SLN", which is the resettable total number of vends for each selection for the vender.

The audit data is accessed by pressing select button 4 when "CASH" or "SALE" is on the display. With "CASH" on the display, press select button 2 to scroll into "CLN". With "SALE" on the display, press select button 2 to scroll into "SLN".

### **ELECTRONIC ACCESS**

A much more extensive amount of audit information is accessible electronically. It is retrieved with a portable data collection device and typically loaded into a computer at a central location. The data can then be tracked with a data base, for preparing route stocking lists, tracking cash flow, doing inventory control and other tasks. Data collection devices are available from several sources including: Norand, Fujitsu, Panasonic, Telxon, Verifone and Mars. Dixie-Narco currently collects data with a PC program running on a portable notebook computer.

The SIID uses the DEX/UCS protocol as the method of exchanging data with the portable data collection device. DEX/UCS was formally adopted as the standard method of collecting audit data for the vending industry by the National Automatic Merchandising Association (NAMA) in April of 1991. DEX/UCS has been used in related industries since 1989. It was developed by the Arthur D. Little Company and is administered and maintained by the Uniform Code Council (UCC). The NAMA Vending Electronics Standardization Committee developed and published a comprehensive set of data records relevant to the vending industry. The SIID reports the portion of these related to this specific machine design. The current list of records and their usage by the SIID follows.

DEX stands for Direct EXchange of data, which means there is a hard-wired connection between the two systems exchanging data. This is done by inserting a ¼ inch phone plug on the portable data collection device in a jack mounted on the SIID. Inserting the plug automatically initiates the exchange of data, which takes several seconds. No other machine functions are available while the exchange is taking place. The operator is told that the exchange is taking place by the display of the message "DEX IN PROGRESS". Most of the data records are reported in both an interval and historical format. The historical values represent a total of the values since the machine shipped from the factory. The interval values are the data collected since the last time it was collected electronically.

The following types of audit data are accessible electronically:

- Machine Identity Information
- Date and Time of Interrogation
- Cash Sales Summary
- Cash Input and Output Summary
- Product Sales Information
- Machine Configuration
- Events:      Door Openings
- Interrogations
- Programmable Access Limits
- Time of Day Discounts

In addition to retrieving audit data, every machine configuration parameter that can be programmed in the service menu can be programmed electronically via the DEX port.

The following types of data can be configured electronically:

- Machine Identity
- Date and Time
- Price and Product Information
- Space to Sales
- Limited Access Control Parameters
- Time of Day Discounts Control Parameters
- Escrow Mode \*

\* Escrow mode cannot be transferred with the Norand Device.

**SAMPLE**

**SIID CONFIGURATION & ACCOUNTING  
REPORT**

**Vender Identification:**

Serial Number: 1234-6132BR  
Model Number: DNCB501T SIID  
Location: NAMA SHOW - CHICAGO, IL  
Asset Number: 362436  
# of Columns: 8  
# of Selections: 7

**Significant Events:**

	<u>RECENT</u>	<u>HISTORICAL</u>
Door Openings:	2	12
Power Outages:	1	2
Total Vends:	10	213
Total Sales:	\$7.50	\$159.75

**Vender Configuration:**

Coin Mechanism: MICRO MECH  
Escrow Mode: ESCROW TO SELECT / dollar bill escrow

<b>SELECTION</b>	<b>PRICE(\$)</b>	<b>HHPRICE(\$)</b>	<b>DESCRIPTION</b>
1	0.75	0.50	Cola
2	0.75	0.50	Cola
3	0.75	0.50	Cola
4	0.75	0.50	Apple Juice
5	0.75	0.50	Diet Cola
6	0.75	0.50	Diet Cola
7	0.75	0.60	Tea

**Space to Sales Configuration:**

**Selections:**

**Columns**

	1	2	3	4	5	6	7	8
1 Cola	X	X						
2 Cola			X					
3 Cola				X				
4 Apple Juice					X			
5 Diet Cola						X		
6 Diet Cola							X	
7 Tea								X

**Limited Access:**

Days:	S	M	T	W	Th	F	S
		X	X	X	X	X	

Times: 11:00 to 12:00 and 13:00 to 14:00

Selections:

- 1 Cola
- 2 Cola
- 3 Cola
- 5 Diet Cola
- 6 Diet Cola

**Happy Hour Times:**

Days:	S	M	T	W	TH	F	S
						X	

Time: 08:30 to 17:30

**Vender Accounting Summary:**

Selection	Vends	Sales(\$)	His. Vends	His. Sls.\$
1 Cola	0	0.00	65	48.75
2 Cola	5	3.75	43	32.25
3 Cola	0	0.00	7	5.25
4 Apple Juice	0	0.00	18	13.50
5 Diet Cola	1	0.75	20	15.00
6 Diet Cola	4	3.00	41	30.75
7 Tea	0	0.00	10	7.50
TOTAL	10	7.50	204	153.00

**HAPPY HOUR (hh) Accounting Summary:**

Selection	hhven	hhsal(\$)	hishhven	hishhsls
1 Cola	3	0.50	1	0.45
2 Cola	0	0.50	8	3.60
3 Cola	0	0.50	1	0.50
4 Apple Juice	0	0.50	0	0.00
5 Diet Cola	0	0.50	0	0.00
6 Diet Cola	0	0.50	5	2.50
7 Tea	<u>0</u>	<u>0.50</u>	<u>2</u>	<u>1.20</u>
TOTAL	3	1.00	17	8.50

**Vender Cash Accounting:**

<b>BILLS &amp; COIN IN</b>	<b>COIN PAID OUT</b>	<b>CASH OUT MANUALLY</b>
Recent Hist.	Recent Hist.	Recent Hist.
7.50 159.75	3.50 19.50	0.00 0.75
<b>COIN TO BOX</b>	<b>COIN TO TUBES</b>	<b>BILLS IN</b>
4.75 43.50	.75 8.25	2.00 108.00

**Sold Out Activity:**

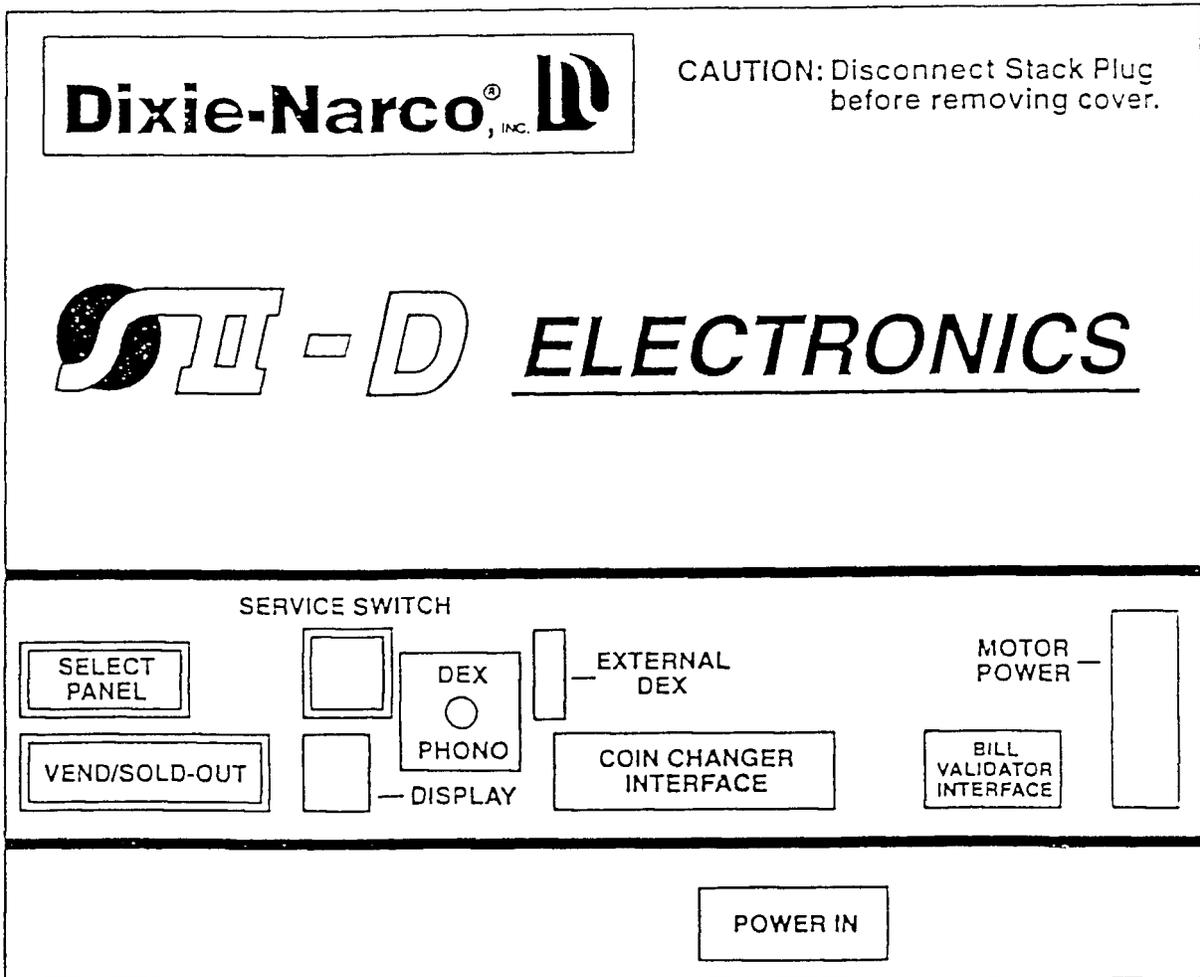
Selection	DATE	TIME	SELECTS ATTEMPTED
1 Cola	9-24-93	1:32pm	13
2 Cola	9-25-93	1:23pm	12
3 Cola	=====	=====	=====
4 Apple Juice	=====	=====	=====
5 Diet Cola	=====	=====	=====
6 Diet Cola	9-26-93	11:30am	5
7 Tea	=====	=====	=====

## PROGRAMMING THE SIID VENDER

To program the SIID Vender, it is necessary to enter the System Set-Up/Audit/Diagnostics Mode. Open the inner door and press the Service Switch on the control board. The display reads "ErOr". If the display reads 1.00 the door switch did not go to its center position or the switch is defective.

Note: The door switch has three positions. Fully in and fully out puts the vender in its normal mode. When the switch is in its center position the System Set-Up/Audit/Diagnostics Mode may be entered.

There is a time out for the service Mode. If no accounting or set-up functions are used for 2 minutes, the vender will return to its normal mode. After time out, the service switch on the control board has to be pressed to re-enter the System Set-Up/Audit Mode.



**COCA-COLA PROGRAMMING METHOD**  
**(SIID Controllers)**  
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The controller has two modes of operation:    NORMAL and SERVICE.

**NORMAL MODE:**

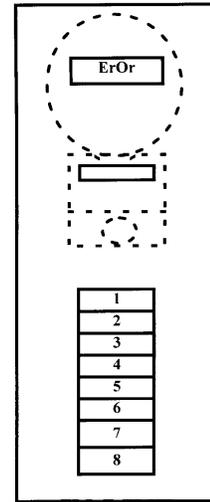
In normal mode, the display will show a decimal point. If two decimal points are displayed, the far right decimal point indicates column(s) is(are) sold-out. When money is inserted, the display indicates the total amount of the deposit. The select buttons are used to select the product.

**SERVICE MODE:**

If configuration switch 4 is set to "C4 0", when the door is opened, "nOnE" or a list of Error codes will show on the display. If configuration switch 4 is set to "C4 1", when the door is opened, "CASH - #####-####", "SALE - #####-####", "ErrOr" will show on the display. The service mode is entered when the door is open and the service switch is pressed. The operator can now use the first four select switches to move through the main routine menu.

The main routine menu is as follows:

ErOr - errors, CPO - coin payout mode, tuFL - tube fill mode, tESt - test mode, PASS - Password; the following will only be accessed after the password is entered: CASH - cash counters, SALE -vend counters, PrIC - price setting, StOS - space-to-sales setting routine, COn - machine configuration, and rtn - return to normal mode, door open state. The first four select button functions are as follows:



**IN-LINE**

- Select Button 1: Home (Will return you to normal mode, door open)
- Select Button 2: Scroll Forward
- Select Button 3: Scroll Backward
- Select Button 4: Enter/Save/Clear (Allows you to enter a specific routine, save command programmed, and to clear the error prompts)

*Important:        Machine configuration functions and the routines they affect are shown in italics. See the machine configuration "COn" programming portion for detailed information.*

Note:        Routines with \* are the only programs accessible coming from the factory. If other programs are desired, they need to be turned on in the machine configuration code routine.

**PROGRAMMING MENU**

**\* "ErOr" -        ERROR ROUTINE**

This function allows you to enter the error readout routine. If there have been no errors since the last reset, the display will read "nOnE". If one or more errors have occurred, the display will show the first error code that occurred.

The following are error codes that may be displayed and detailed information accessed:  
COLJ, uEnd, dOOOr, SELS, CHAr, ACCE, StS, and bUAL.

Press select button 2 or 3 to scroll through any error codes that are present.

Important:        If there is only one problem, that will be the only error code shown when you enter the error code sub-menus.

Press select button 1 to return to normal mode, door open.

With an error code showing on the display, press select button 4 to access detailed information.

\* **"COLJ" - COLUMN JAMS**

Press select button 4 and the display will show "CJXX", where "XX" indicates the first column that has been detected as being jammed, or "nOnE", indicating all columns are O.K.

With "CJXX" showing, press and hold select button 4 for 2 seconds, after making repair, and the error will be cleared and the jammed motor shown will be homed. The display will now show "nOnE" if all columns are O.K., or "CJXX" if another column is jammed.

Press select button 1 will return to "COLJ" if all column jams have not been cleared. If all column jams have been cleared the next error code will be displayed, or "nOnE" if there are no errors.

Press select button 1 will return to "ErOr".

\* **"VEnd" - VEND MECHANISM**

Press select button 4 and the display will show "HSXX", where "XX" indicates the first column that has been detected with a home sense error (low cam jam), or "nOnE" if all columns are O.K.

With "HSXX" showing, press and hold select button 4 for 2 seconds, after making repair, will clear the error.

Press select button 1 will return to "vEnd" if all home sense errors have not been cleared. If all are cleared, the next error code will be displayed or "nOnE" if there are no errors.

\* **"dOOr" - DOOR SWITCH**

Press select button 4 and the display will show "dS", indicating a door switch error (door opened or switch not recognized for more than one hour), or "nOnE", indicating no problems.

With "dS" showing, press and hold select button 4 for 2 seconds, after making repairs, will clear the error.

Press select button 1 will return to "dOOr" if door errors have not been cleared. If all are cleared, the next error code will be displayed or "nOnE" if there are no errors.

\* **"SELS" - SELECT SWITCH**

Press select button 4 and the display will show "SSXX", where "XX" indicates the first select switch that caused the error code, or "nOnE", indicating all selection switches are O.K.

With "SSXX" showing, press and hold select button 4 for 2 seconds, after making repairs, will clear the error.

Press select button 1 will return to "SELS" if all select switch errors have not been cleared. If all select switch errors are cleared, the next error code will be displayed or "nOnE" if there are no errors.

\* **"CHAr" - CHANGER ERRORS (Pay-out part of coin mechanism)**

Press select button 4 and the display will show one of the following:

- "CC", indicating a changer communication error
- "tS", indicating a tube sensor error
- "IC", indicating an inlet chute blocked error (no coins sensed in the acceptor)
- "tJ", indicating a tube jam error
- "CrCH", indicating a changer ROM check sum error
- "nOnE", indicating there are no errors

Press select button 2 or 3 to scroll through the error messages if more than one error exists.

With any error code showing, press and hold select button 4 for 2 seconds, after making repairs, will clear the error.

Press select button 1 will return to "CHAr" if all changer errors have not been cleared. If all changer errors have been cleared, the next error code will be displayed, or "nOnE" if there are no errors.

\* **"ACCE" - ACCEPTOR ERRORS (Separator or top of coin mechanism)**

Press select button 4 and the display will show one of the following:

- "EE", indicating excessive escrow attempts
- "nJ", indicating a coin jam (sensed and reported by the coin mechanism)
- "LA", indicating a low acceptance rate (ratio of read to accepted)
- "nOnE", indicating there are no errors

Press select button 2 or 3 to scroll through the error messages if more than one error exists.

With any error code showing, press and hold select button 4 for 2 seconds, will clear the error.

Press select button 1 will return to "ACCE" if all acceptor errors have not been cleared. If all acceptor errors have been cleared, the next error code will be displayed, or "nOnE" if there are no errors.

\* **"StS" - SPACE-TO-SALES ERRORS**

Press select button 4 and the display will show one of the following:

- "dAXX", where "XX" indicates a column with a double select button assignment
- "UAXX", where "XX" indicates a column that is not assigned a select button
- "nOnE", indicating there are no errors.

Press select button 2 or 3 to scroll through the error messages if more than one error messages exists.

With any error code showing, press and hold select button 4 for 2 seconds, after making repairs, will clear the error.

Press select button 1 will return to "StS" if all space-to-sales errors have not been cleared. If all space-to-sales errors have been cleared, the next error code will be displayed, or "nOnE", if there are no errors.

\* **"bUAL" - BILL VALIDATOR ERRORS**

Press select button 4 and the display will show one of the following:

- "bC", indicating a bill validator communication error
- "bFuL", indicating the bill stacker is full
- "bILL", indicating a defective motor in the validator
- "bJ", indicating a bill jam in the validator
- "brCH", indicating a check sum error
- "bOPn", indicating an open stacker
- "bS", indicating a bill validator sensor error
- "LA", indicating a low acceptance rate (ratio of read to accepted)
- "nOnE", indicating there are no errors

Press select button 2 or 3 to scroll through the error messages if more than one error exists.

With any error code showing, press and hold select button 4 for 2 seconds, after making repairs, will clear the error.

Press select button 1 will return to "bUAL" if all bill validator errors have not been cleared. If all bill validator errors have been cleared, the next error code will be displayed, or "nOnE" if there are no errors.

Press select button 1 will return to "ErOr".

Press select button 2 to scroll to the next routine.

\* **"CPO" - COIN PAYOUT MODE**

This function allows you to dump coins from the coin mechanism.

Press select button 4 to enter mode and the lowest coin value dispensable will show on the display.

Press select button 2 or 3 to scroll through the different coin values available.

Press and hold select button 4 to dump the coins whose value is shown on the display.

Press select button 1 will return to "CPO".

Press select button 2 to scroll to the next routine.

\* **"tUFL" - TUBE FILL MODE**

This function allows you to count the coins loaded in the top (separator) of the coin mech. The total value of the coins will be displayed and counted in the vender controller. The controller will inhibit the acceptance of any coin which does not go to a tube during this procedure. If a tube full status is detected, that coin type will be inhibited. When you finish loading all coins:

Press select button 1 to return to "tUFL".

Press select button 2 to scroll to the next routine.

\* **"tEST" - TEST ROUTINE**

This function allows you to diagnose different functions of the vender, depending on the setting of configuration code number 3.

Note: The modes listed in italic in this routine are only accessible if configuration number 3 is set to C3 1.

"tEST" mode features include:

*SE - SELECT SWITCH TEST*

*Press select button 4 and the display will show SE-0.*

*Press any select button and the display will indicate the number of the select button pressed.*

*Press and hold select button 1 will return to "SE".*

*Press select button 2 to scroll to the next test mode.*

*SP-- SOLD-OUT PADDLE TEST*

*Press select button 4 and the display will reflect any sold-out paddles that are pressed, indicating a column is full. The display will automatically scroll through the columns in which the sold-out paddles are pressed.*

*Press select button 1 will return to "SP-".*

*Press select button 2 to scroll to the next test mode.*

*Su-- SOLD OUT SWITCH TEST*

*Press select button 4 and the display will reflect any sold-out switches that are pressed, indicating a column is empty. The display will automatically scroll through the columns in which the sold-out switch is pressed.*

*Press select button 1 will return to "Su".*

*Press select button 2 to scroll to the next test mode.*

**\* CO- MOTOR TEST**

Press select button 4 and the display will show "CO-1".

Press select buttons 2 and 3 to scroll up and down the columns available to run in motor test.

Press select button 4 to run the motor of the column displayed.

Press select button 1 will return to "tEst", or "CO" if configuration Code 3 is turned on.

Press select button 2 to scroll to next test mode.

*Cn - COIN MECH TEST (mdb only)*

*Press select button 4 and the display will show "00".*

*Insert coins. The value of the coins will be reflected on the display.*

*Press select button 4 to return coins that have been inserted and return to "00".*

*Press select button 1 will return to "Cn".*

*Press select button 2 to scroll to the next test mode.*

*nA - NOTE ACCEPTOR TEST (mdb only)*

*Press select button 4 and the display will show "00".*

*Insert note. The value of the note will be reflected on the display.*

*Press select button 4 to stack the note or press select button 1 to return the note and the display will return to "nA".*

*Press select button 2 to scroll to the next test mode.*

*dSP - DISPLAY TEST*

*Press select button 4 and the display segments will illuminate in a scrolling manner, while blinking the exact change LED, and when finished will return to "dSP".*

*Press select button 2 to scroll to the next test mode.*

*uErS - VERSION NUMBER TEST*

*Press select button 4 and the display will scroll the software revision level in the control box and return to "uErS".  
(Example: ###.## represents the installed software revision.)*

*Press select button 1 to return to "tEst".*

*Press select button 2 to scroll to the next routine.*

**\* "PASS" - PASSWORD**

This function allows you to enter the following routines which are not accessible until the operator enters a password, which is set as 4-2-3-1. To enter password, press select button 4 until the display goes blank. Then press select button 2, then 3, then 1, and then 4, and "CASH" should appear on the display. If not entered properly, the display will return to "PASS". If entered correctly, the display will go to the next function "CASH". Also, you may enter "AUtO" (Auto Test) from the "PASS" prompt by entering the password, which is set at 1-2-3-4. To enter password, press select button 4 until the display goes blank. Then press select button 1, then 2, then 3, and then 4, and "AUtO" should appear on the display.

**\* "CASH" - CASH COUNTER ROUTINE**

This function will show the user the vender historical total cash counted and the resettable cash counted for each selection for the vender.

Press select button 4 and "CASH"/"XXXX"/"XXXX" will show on the display where the 8"X" characters are the historical total cash counters that have been recorded.

Press select button 2 or 3 to display "CLN"/"XXXX"/"XXXX" where the character "N" is a selection number and the 8"X" characters are the resettable cash counters for that selection. Pressing select button 2 or 3 at this time will scroll through the available selection cash counters. Press select button 1 to return to "CASH"/"XXXX"/"XXXX". Press select button 1 to return to "CASH".

Press select button 2 to scroll to the next routine.

**\* "SALE" - SALES COUNTER ROUTINE**

This function will show the user the vender historical total number of vends and the resettable vends counted for each selection for the vender.

Press select button 4 and "SALE"/"XXXX"/"XXXX" will show on the display where the 8"X" characters are the historical total vend counters that have been recorded. Press select button 2 or 3 to display "SLN"/"XXXX"/"XXXX", where the "N" character is a selection number and the 8"X" characters are the resettable vend counters for that selection. Pressing select button 2 or 3 at this time will scroll through the available selection vend counters. Pressing select button 1 will return to "SALE"/"XXXX"/"XXXX". Press select button 1 to return to "SALE".

Press select button 2 to scroll to the next routine.

**\* "PrIC" - PRICE SETTING ROUTINE**

This function allows the user to set pricing for each selection when Configuration Code 1 is programmed to "C1 1", multi-pricing.

Press select button 4 and "PR1" will show on the display.

Press select button 4 to set the price on select button 1.

Press select button 2 or 3 to change the price setting for 1 selection.

Press select button 4 to enter the price selected and the display will return to "PR1".

Press select button 2 to scroll to the next selection and "PR2" will show on the display. Enter Set Price, set the price and enter the price. Repeat these steps for each select button until all prices are set.

*If Configuration Code 1 is programmed to "C1 0", single price, set the vend price for select 1 as described above. The price entered for selection 1 will be set for all selections.*

Press select button 1 to return to "PrIC".

Press select button 2 to scroll to the next routine.

**\* "StOS" - SPACE-TO-SALES ROUTINE**

This function allows you to change the space-to-sales settings.

Press select button 4 and "OPtX" will show on the display, where the "X" indicates the current space-to-sales options. For 7 options available, see the list below.

Press select button 2 or 3 to scroll through the options.

Press select button 4, with the desired option showing on the display, to save that option and return to "StOS".

## Space-to-Sales Options:

- \* 1 - 1 to 1: Columns are assigned to selections with the same number.
- \* 2 - 1,2 to 1: Columns 1 & 2 are assigned to selection 1, with all other columns assigned respectively.
- \* 3 - Selections 1 & 2: Selections 1 and 2 are tied together with all associated columns.
- \* 4 - Selections 2 & 3: Selections 2 and 3 are tied together with all associated columns.
- \* 5 - Selections 1,2 & 3: Selections 1, 2, and 3 are tied together with all associated columns.
- \* 6 - Selections 1,2,3 & 4,5: Selections 1, 2, and 3 are tied together with all associated columns, and selections 4 and 5 are tied together with all associated columns.

*Option 7 is only available if configuration code 2 is set at "C2 1".*

*7 - Custom: Allows you to assign columns to select buttons.*

*With "OPT7" showing, press select button 4 and "bt1" will show on the display. "1" stands for the select button number. Press select button 2 or 3 to scroll through the select numbers. When the desired select button number is reached, press select button 4 and "dISP" will show on the display. Press select button 2 or 3 to scroll through "dISP", "Add", and "dEL". Press select button 4 with any one of these on the display, and it will allow you to do the following with the selection:*

*"dISP": Allows you to view the columns assigned to the select button in the form of "X-A.B.C." where "X" is the select button and A.B.C. are the columns assigned to it.*

*"Add": Allows you to add columns to the select button.  
To add: With "Add" on the display, press select button 4 and "AddX" will show on display, where "X" is the next column number that can be added to the select button. Press select button 4 and this will be saved and the display will show "AddX" again with the next column number, if you wish to scroll to a different column number press and hold select button 2 until the desired column to "Add" is shown on the display, press select button 4 and this will be saved and the display will show "Add", where X is the next column that can be added. If you do not want to save, press select button 1 and return to "Add"; from here you can scroll to "dEL" or "dISP", or press select button 1 to return to "bt 1". Press select button 2 to scroll to the next select button to program or press select button 1 to return to "StOS".*

*"dEL": Allows you to delete columns from the select button.  
To delete: With "dEL" on the display, press select button 4 and "dELX" will show on display, where "X" is the next column number that can be deleted from the select button. Press select button 4 and this will be saved and the display will show "dELX" again with the next column number, if you wish to scroll to a different column number press and hold select button 2 until the desired column to "dEL" is shown on the display, press select button 4 and this will be saved and the display will show "dELX" where X is the next column that can be added. If you do not want to save, press select button 1 and return to "dEL"; from here you can scroll to "Add" or "dISP", or press select button 1 to return to "bt1". Press select button 2 to scroll to the next select button to program or press select button 1 to return to "StOS".  
Press select button 2 to scroll to the next routine.*

## \* "CO" - MACHINE CONFIGURATION

This function allows the user to access and change the programming of the following machine configuration settings or to lock the user out of this portion of the programming to prevent accidental changes. If you press select button 4 and the display shows "LOC", this means configuration setting changes will not be allowed. If "C1" is displayed, then configuration setting changes will be allowed. "LOC" can only be enabled or disabled through DEX interrogation. If "C1" is displayed, the following settings are available:

### C1 - Configuration Code 1 - Single Price / Multi-Price Setting Mode

This code is used to enable the single price mode "C1 0" or multi-price mode "C1 1".

Press select buttons 2 and 3 to scroll between "C1 0" and "C1 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C1".

Press select button 2 to scroll to "C2".

### C2 - Configuration Code 2 - Dixie-Narco Menu Options Enable

This code is used to enable Dixie-Narco programming options: space to sale option 7, "LAOS", "LAOd", "PEr1", "PEr2", "S-P2", "Pr2P", "Pr2d", "tInE", "dAtE", "Pron", and "LAn6". To enable this programming option enter "C2 1", to disable or skip these programming options enter "C2 0".

Press select buttons 2 and 3 to scroll between "C2 0" and "C2 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C2".

Press select button 2 to scroll to "C3".

### C3 - Configuration Code 3 - Full Test Enable

This code is used to enable the full test menu options:

SE, SP, Su, Cn, nA, dSP, and uErS. To enable these programming options enter "C3 1", to disable or skip these programming options enter "C3 0".

Press select buttons 2 and 3 to scroll between "C3 0" and "C3 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C3".

Press select button 2 to scroll to "C4".

### C4 - Configuration Code 4 - Automatic Viewing of Historical Sales and Cash Data and Error Codes

This code is used to enable viewing of historical total sales, total cash and current errors automatically when the door is opened. To enable automatic viewing option enter "C4 1"; to disable enter "C4 0".

Press select button 2 and 3 to scroll between "C4 0" and "C4 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C4".

Press select button 2 to scroll to "C5".

### C5 - Configuration Code 5 - Door Switch Reset Status

This code is used to reset all resettable data when the door switch is cycled and at least one data register is read via the credit display when set at "C5 1" or to reset all resettable data only when the "rESEt" command is received when set at "C5 0".

Press select buttons 2 and 3 to scroll between "C5 0" and "C5 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C5".

Press select button 2 to scroll to "C6".

Important: "C6" and "C7" are correct change rule settings and work in conjunction - that is if "C6" is on, "C7" is off or vice versa. "C6" is the default code for correct change rule setting.

\* C6 - Configuration Code 6 - Correct Change Rule No. 1

This code is used in regards to turning off the exact change light as follows: there must be nickels and dimes covering the low level sensors of the coin mech, or there must be nickels and quarters covering the low level sensors of the coin mech. Press select button 4; if the display shows "C6 1", Code 6 is on and "C6 0" means Code 6 is off. Press select buttons 2 and 3 to scroll between "C6 0" and "C6 1". Press select button 4 with the display showing the setting you wish to use. Press select button 1 to return to "C6". Press select button 2 to scroll to "C7".

C7 - Configuration Code 7 - Correct Change Rule No. 2

This code is used in regards to bill and coin acceptance as follows: user will be allowed to insert bills and coins, and receive product regardless of the tube level status of the coin mech. Press select button 4; if the display shows "C7 1", Code 7 is on and "C7 0" means Code 7 is off. Note: If code 7 is turned on, Code 6 is automatically turned off. Press select buttons 2 and 3 to scroll between "C7 0" and "C7 1". Press select button 4 with the display showing the setting you wish to use. Press select button 1 to return to "C7". Press select button 2 to scroll to "C8".

Important: "C8", "C9", "C10", and "C11" are Escrow Rule settings and work in conjunction, that is if one of the four is on, the other three are automatically turned off. "C8" is the default code for Escrow Rule setting.

\* C8 - Configuration Code 8 - Escrow Rule No. 1 Enable

This code is used for "escrow to price" condition. All dollar bills will be stacked. No cancel sale is allowed once the minimum vend price is met or exceeded. Press select button 4; if the display shows "C8 1", Code 8 is turned on, and "C8 0" means Code 8 is turned off. Press select buttons 2 and 3 to scroll between "C8 0" and "C8 1". Press select button 4 with the display showing the setting you wish to use. Press select button 1 to return to "C8". Press select button 2 to scroll to "C9".

C9 - Configuration Code 9 - Escrow Rule No. 2 Enable

This code is used for "escrow to select" condition with dollar bills being stacked. Dollar bills are always stacked and a cancel sale will return deposit from the coin mech (i.e. 4 quarters). Press select button 4; if the display shows "C9 1", Code 9 is turned on, and "C9 0" means Code 9 is turned off. Press select buttons 2 and 3 to scroll between "C9 0" and "C9 1". Press select button 4 with the display showing the setting you wish to use. Press select button 1 to return to "C9". Press select button 2 to scroll to "C10".

C10 - Configuration Code 10 - Escrow Rule No. 3 Enable

This code is used for "escrow to select" condition with the last dollar bill that meets or exceeds maximum vend price being held in escrow in the validator. Cancel sale will return the held bill and any amount over \$1 will be returned from the coin changer. Press select button 4; if the display shows "C10 1", Code 10 is turned on, and "C10 0" means Code 10 is turned off. Press select buttons 2 and 3 to scroll between "C10 0" and "C10 1". Press select button 4 with the display showing the setting you wish to use. Press select button 1 to return to "C10". Press select button 2 to scroll the "C11".

C11 - Configuration Code 11 - Escrow Rule No. 4

This code is used for "escrow no cancel" condition with all bills stacked and no cancel sale allowed unless the vender is in exact change and the maximum vend price is exceeded.

Note: Any money entered below vend price cannot be returned.

Press select button 4; if the display shows "C11 1", Code 11 is turned on, and "C11 0" means Code 11 is turned off. Press select buttons 2 and 3 to scroll between "C11 0" and "C11 1".

Press select button 4 with the display showing the setting you wish to use.

Press select button 1 to return to "C11".

Press select button 1 to return to "CO".

Press select button 2 to scroll to "LAOS".

If Configuration Code 2 is programmed to "C2 1", the following routines will be enabled:

LAOS - LIMITED ACCESS ON SELECTION

This function is used to set selection(s) which will be limited during certain periods of the day.

Press select button 4 and the display will show "L1", where "1" represents a select button number.

Press select button 2 or 3 to scroll through select button numbers.

Press select button 4 with "L1" showing to view "LAOS" settings for that selection.

"L#0" or "L#1" will show on display. Press select button 2 or 3 to scroll to desired setting. "L#1" means the selection is set for limited access and "L#0" means it is not set for limited access.

Press select button 4 when the desired setting is showing on the display and then the display will return to "L#".

Press select button 1 to return to "LAOS".

Press select button 2 to scroll to "LAOd".

LAOd - LIMITED ACCESS ON DAYS

This function is used to set the days of the week for limited access.

Sunday = d1

Wednesday = d4

Saturday = d7

Monday = d2

Thursday = d5

Tuesday = d3

Friday = d6

Press select button 4 and the display will show "d1", where "1" represents a day.

Press select button 2 or 3 to scroll through days.

Press select button 4 with "d#" showing to view "LAOd" settings for that day.

"d#0" or "d#1" will show on the display.

Press select button 2 or 3 to scroll to the desired setting. "d#1" means the day is set for limited access and "d#0" means the day is not set for limited access.

Press select button 4 when the desired setting is showing on the display and then the display will return to "d#".

Press select button 1 to return to "LAOd".

Press select button 2 to scroll to "PEr1".

PEr1 - PERIOD 1 FOR ENGAGING AND DISENGAGING LIMITED ACCESS

This function is used to set the times to start and end limited access.

Press select button 4 and "Strt" will show on the display.

Press select button 4 to enter "Strt" (start) and the display will show a time (24 hour clock).

Press select button 2 or 3 to increment or decrement the time. With the time you wish to activate showing on the display, press select button 4. The display will return to "Strt". Press select button 2 to scroll to "End".

Set the time the same as start.

Note: Start time has to be less than end time. You must set an on and off time.

Press select button 4 to save the end time and the display will return to "End".

Press select button 1 to return to "PEr1".

Press select button 2 to scroll to "PEr2".

**PER2 - PERIOD 2 FOR ENGAGING AND DISENGAGING LIMITED ACCESS**  
This function is used to set a second time to start and end limited access. Set the start time and end time the same way as in "Per1". Period 2 must be greater than Period 1.  
Press select button 1 to return to "PER2".  
Press select button 2 to scroll to "Pr2P".

**S-P2 - SECONDARY SET PRICE**  
This function is used to set a second price for each selection. Set this using the instructions for "PrIc". (See page 25).  
Press select button 1 to return to "S-P2".  
Press select button 2 to scroll to "Pr2P".

**Pr2P - PERIOD FOR ENGAGING AND DISENGAGING SECONDARY PRICES**  
This function is used to set the time to start and end secondary prices. Set this using the instructions for "PER1".  
Press select button 1 to return to "Pr2P".  
Press select button 2 to scroll to "Pr2d".

**Pr2d - SECONDARY PRICING ON DAYS**  
This function is used to set the days of the week for secondary pricing. Set this using the instructions for "LAOd". (See page 29).  
Press select button 1 to return to "Pr2d".  
Press select button 2 to scroll to "tInE".

**"tInE" - TIME**  
This function is used to set the time. The time will be displayed in military time (24 hour clock).  
Press select button 4 and the time will be displayed.  
Press select button 2 or 3 to increment or decrement the time.  
With the time you wish to set showing on the display, press select button 4 and the display will show "tInE".  
Press select button 2 to scroll to "dAtE".

**"dAtE" - Date**  
This function is used to set the day of the month, the month, the day of week, and the year.  
Press select button 4 and the display will show "d-n" (day of month).  
Press select button 4 and the display will show "XX.YY" where "YY" characters indicate the day of the month.  
Press select buttons 2 and 3 to increment or decrement the days of the month. With the day of month you wish to save showing on the display, press select button 4.  
The display will return to "d-n".  
Press select button 2 to scroll to "nntH" (Month).  
Press select button 4 and the display will show "XX.YY", where "XX" characters indicate the month of the year.  
Press select button 2 and 3 to increment or decrement the months of the year. With the month of year you wish to save showing on the display, press select button 4.  
The display will return to "nntH".  
Press select button 2 and scroll to "d-u" (day of week).  
Press select button 4 and display will show "XX", where "XX" characters indicate the day of week:  
01 = Sunday                      04 = Wednesday                      07 = Saturday  
02 = Monday                      05 = Thursday  
03 = Tuesday                      06 = Friday  
Press select button 2 or 3 to increment or decrement the days of the week. With the day of the week you wish to save showing on the display, press select button 4.  
The display will return to "du".  
Press select button 2 and scroll to "YEAr" (year).  
Press select button 4 and the display will show "XXXX", where the X characters indicate the year.  
Press select buttons 2 and 3 to increment or decrement the year. With the year you wish to save showing on the display, press select button 4.  
The display will return to "YEAr".  
Press select button 1 to return to "dAtE".  
Press select button 2 to scroll to "PrOn".

## **"PrOn" - PROMOTIONAL SALES**

This function is used to initiate a promotional sale.

Press select button 4 and the display will show "un" (the number of vends required to initiate the promotional sale), "Fr" (the number of free beverages delivered), or "SELXXX" ("XXX" are the characters representing the selection numbers enabled for the promotion).

Press select button 2 or 3 to scroll through "un" "Fr", and "SELXXX". With the prompt you wish to enter showing on the display, press select button 4.

Enter "un" and "un-#" will show on the display, where # will be zero to 25.

Press select button 2 or 3 to increment or decrement the number of vends required to initiate promotional sales. With the number you wish to save showing, press select button 4 to save.

Note: If "un-0" is displayed, the promotion is disabled.

Enter "Fr" and "Fr-#" will show on the display, where # will be zero to 25.

Press select button 2 or 3 to increment or decrement the number of free beverages to be delivered. With the number you wish to save showing, press select button 4 to save.

Note: If "FR-0" is displayed, the promotion is disabled.

Enter "SEL#" and "Add" or "dEL" will show on the display. With the function you wish to enter showing on the display, press select button 4.

Enter "Add" and "Add#" will show on the display, where # is the character that represents the selection to be enabled for the promotional sale to occur. Press select button 2 to scroll to next button to "Add". Press select button 4 to save the selection.

Enter "dEL" and "dEL#" will show on the display, where # is the character that represents the selection to be disabled for the promotional sale to occur. Press select button 2 to scroll to next button to "dEL". Press select button 4 to save the selection.

Important: Promotional sales, when enabled, will be set at all times of the day.

Press select button 1 to return to "PrOn".

Press select button 2 to scroll to "LAn6".

## **"LAn6" - LANGUAGE**

This function is used to set the language that will be used for display messages.

Press select button 4 and the display will show the language currently set in the controller. Press select button 2 or 3 to scroll through the languages available:

En6L - English	SPn - Spanish
6Ern - German	Frn - French
ItA - Italian	

With the language you wish to enter showing on the display, press select button 4. The display will return to "LAn6".

Press select button 1. Vender will return to normal mode, door open.

## **"AUtO" - Auto Test**

This function is used in Dixie-Narco's manufacturing process and is not intended for use in the field. Its purpose is a self-test routine to check the vender's system. This function is not accessible until the operator enters a password, which is pressed when the display is at the "PASS" prompt. To enter password, press select button 4 until the display goes blank. Then press select button 1, then 2, then 3, and then 4, and "AUtO" should appear on the display. If not entered correctly, the display will return to "PASS". For further details on "AUtO" test, contact Dixie-Narco Factory Service.

**COCA-COLA PROGRAMMING METHOD  
QUICK REFERENCE MENU PROMPTS**

Select Button 1: Home (will return to previous menu prompt or to normal door open mode)

Select Button 2: Scroll Up (forward in menu)

Select Button 3: Scroll Down (backward in menu)

Select Button 4: Enter/Save/Clear (allows you to enter a specific prompt, save what you have programmed, or clear the error prompts)

**\*\*ErOr** - Error Readout Routine

**\*\*COLJ** - Column Jams

**CJ#** - column detected jammed

**\*\*VEnd** - Vend Mechanism

**HS#** - low cam jam detected

**\*\*dOOr** - Door Switch

**dS** - door switch error

**\*\*SELS** - Select Switch

**SS#** - select switch error

**\*\*CHAR** - Changer Errors

**CC** - changer communication error

**tS** - tube sensor error

**IC** - inlet chute blocked

**tJ** - tube jam

**CrCH** - changer ROM check sum error

**\*\*ACCE** - Acceptor Errors

**EE** - excessive escrow attempts

**nJ** - coin jam

**LA** - low acceptance rate

**\*\*StS** - Space-to-Sales Errors

**dA#** - column assigned to 2 buttons

**uA#** - column not assigned to a button

**\*\*bUAL** - Bill Validator Errors

**bC** - bill validator communication error

**bFUL** - full bill stacker

**bILL** - defective validator motor

**bJ** - bill jam

**brCH** - check sum error

**bOPn** - open stacker

**bS** - bill validator sensor error

**\*\*CPO** - Coin Payout Mode

**\*\*tuFL** - Tube Fill Mode

**\*\*tEst** - Test Routine

**SE** - Select Switch Test

**SP** - Sold-Out Paddle Test

**Su** - Sold-Out Switch Test

**\*\*CO** - Motor Test

**Cn** - Coin Mech Test

**nA** - Note Acceptor Test

**dSP** - Display Test

**uErS** - Version Number Test

**\*\*PASS** - Password

**\*\*CASH** - Cash Counter Routine

**CASH/#####** - historical cash counter/vender

**CL/#####** - resettable cash counter/select

**\*\*SALE** - Sales Counter Routine

**SALE/#####** - historical vend counter/vender

**SL/#####** - resettable vend counter/select

**PASS** (Continued)

**\*\*PrIC** - Price Setting Routine

**Pr#** - price for each selection

**\*\*StOS** - Space-to-Sales Routine

**Opt#** (# = 1 thru 7)

**bt#** (Opt 7 Only)

**dISP** (Opt 7 Only)

**Add** (Opt 7 Only)

**dEL** (Opt 7 Only)

**\*\*COn** - Machine Configuration

**C#** (# = 1 thru 11)

(see below)

**C#0** (off)

**C#1** (on)

**LAOS** - Limited Access on Selection

**L#** (# = Select button #)

**L#0** (off)

**L#1** (on)

**LAOd** - Limited Access on Days

**d#** (# = 1 thru 7)

**d#0** (off)

**d#1** (on)

**PEr1** - Period 1 for Engaging & Disengaging Limited Access

**Strt** - Start

**End**

**PEr2** - Period 2 for Engaging & Disengaging Limited Access

**Strt** - Start

**End**

**S-P2** - Secondary Set Price

**Pr#** - price for each selection involved

**Pr2P** - Period for Engaging & Disengaging Secondary Prices

**Strt** - Start

**End**

**Pr2d** - Secondary Pricing on Days

**d#** (# = 1 thru 7)

**d#0** (off)

**d#1** (on)

**tInE** -

##### - 24 hour clock

**dAte** -

**d-n** - day of month

**mntH** - month

**d-u** - day of week

**YEAr**

**PrOn** - Promotional Sales

**un** - number of vends to initiate PrOn

**Fr** - number of free beverages to be delivered

**SEL#** - selection enabled for the promotion

**LAN6**

**\*\*rtn**

**\*\*AUtO** - Auto Test

\*\* Prompts listed with asterisks are the only programs accessible coming from the factory. If other programs are desired, they need to be turned on in the machine configuration code programs. Note: To enter "AUtO", at the "PASS" prompt enter the correct password to enter Auto Test.

**COn:** Machine Configuration

**C1** - single price/multi-price

**C2** - D-N menu options

**C3** - full test (diagnostics)

**C4** - auto viewing of historical sales, cash & error codes

**C5** - door switch reset of data

**C6** - quarter/nickel or dime/nickel cover low sensor turn off cc light

**C7** - cc lite stays off regardless of tube status

**C8** - escrow to price

**C9** - escrow to select (ES-4) all bills stacked

**C10** - escrow to select (ES-1) last bill escrowed

**C11** - escrow no cancel

# ELECTRICAL PARTS AND FUNCTIONS

## **CORRECT CHANGE LAMP**

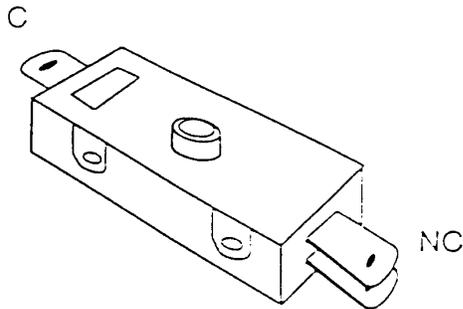


Correct Change Lamp

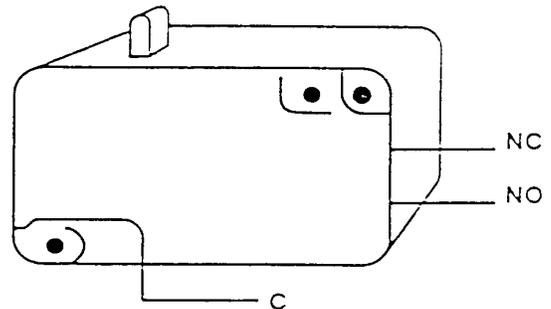
The Correct Change Lamp is mounted in the Coin Insert Casting.

The Correct Change Lamp is controlled by the SIID Controller board and is "OFF" when coins are in the tubes of the Coin Changer.

## **SELECT SWITCH**



**OR**



Select Switch

The Select Switch is located in the Select Panel behind the Select Button and is secured with two (2) screws.

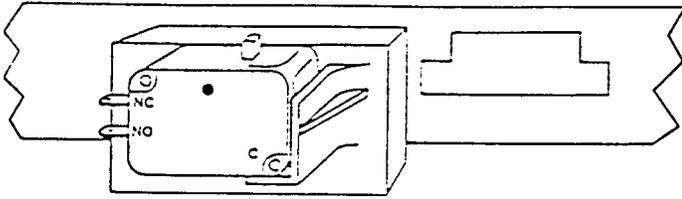
The normally closed contact of the Select Switch is in the SIID Control Board and Vend Motor Coil Circuits. This normally closed contact opens and the SIID Control Board Circuit completes the Vend Motor Coil circuit.

The normally open contact of the Select Switch has no function.

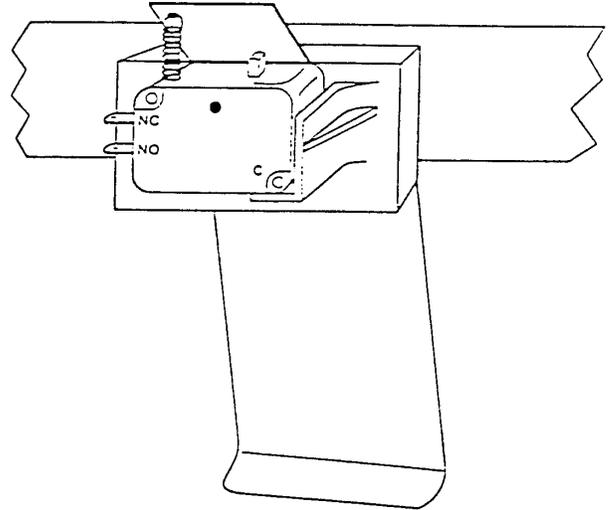
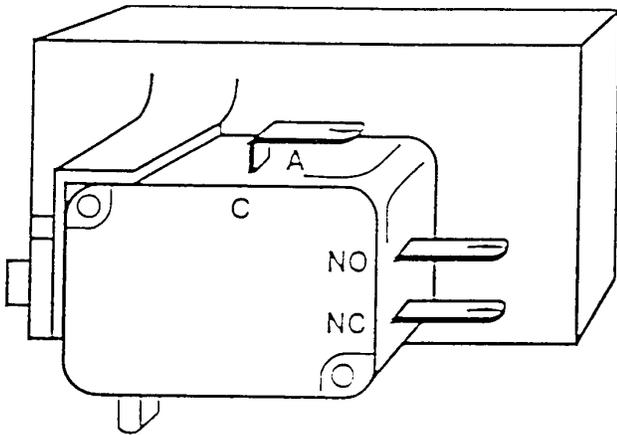
## SOLD OUT SWITCHES

The Sold Out Switch is located on the Front Mechanism Plate under the Vend Motor Cover.

The Sold Out Switch is the "snap in" type. To install, place the switch in position over the opening in the Front Mechanism Plate, push in and at the same time, slide to the right.



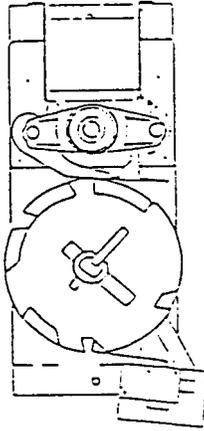
SOLD OUT SWITCH PACK



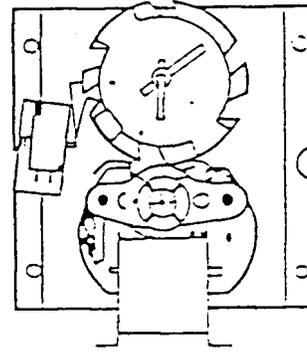
## Vend Sold Out Switch

The normally closed contact of the Sold Out Switch has no function. The normally open contact of the Sold Out Switch is in the Sold Out Circuit (kept open by a can or bottle). When not kept open by a can or bottle, the normally open contact closes and completes the Sold Out Message Circuit via the SIID Controller Board.

## VEND MOTOR



For Narrow Column



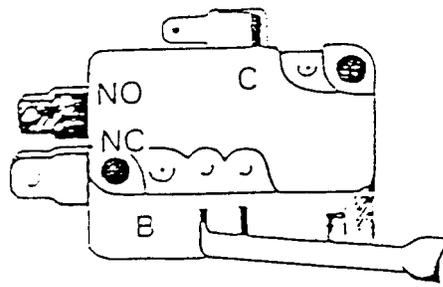
For Wide Column

The Vend Motor (one for each vending stack) is mounted on a bracket at the front of the Front Mechanism Plate.

The Vend Motor is in the Vend Motor Coil Circuit. The Vend Motor runs when a normally closed contact of the Select Switch pushed, opens and signals the SIID Controller Board to run the Motor.

The Vend Motor continues to run via the SIID Controller Board while the Vend Motor Switch is on high side of Cam. The Vend Motor stops when the Vend Motor Switch Arm drops off the high side of the Vend Motor Cam, and the normally closed contact of the Vend Motor Switch closes signaling the SIID Controller Board to stop power to the Vend Motor Coil Circuit.

## VEND MOTOR SWITCH



All Columns

### A. VEND MOTOR SWITCH

The **Vend Motor Switch**, one (1) for each circuit, is located on the Vend Motor Assembly and secured by two (2) screws.

The normally closed contact of the Vend Motor Switch is in the Vend Motor Coil Circuit. This normally closed contact opens in the Vend Motor Coil Circuit to keep the Vend Motor running, via the SIID Controller Board, until the Arm of the Vend Motor Switch drops in the Cam notch and the Vend Motor stops.

The normally open contact of the Vend Motor Switch has no function.

## VEND MOTOR WIDE COLUMN

Mounted on the Vender with the Vend Switch on the left side (See Fig. 3). The Linkage and Drive Arm assembly is used to connect the Vend Motor to the Oscillator. (See Fig. 4)

Vend Motor Switch  
804,100,730.01

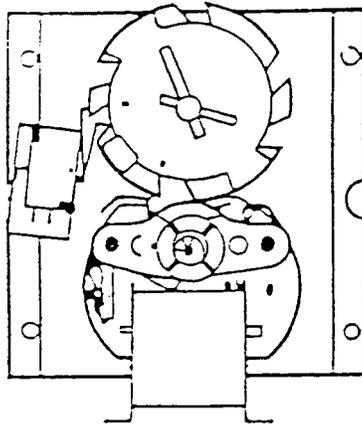


Fig. 3

Vend Motor - Wide Column  
572,070,100.03 - 1¼"  
565,070,200.03 - T-Models

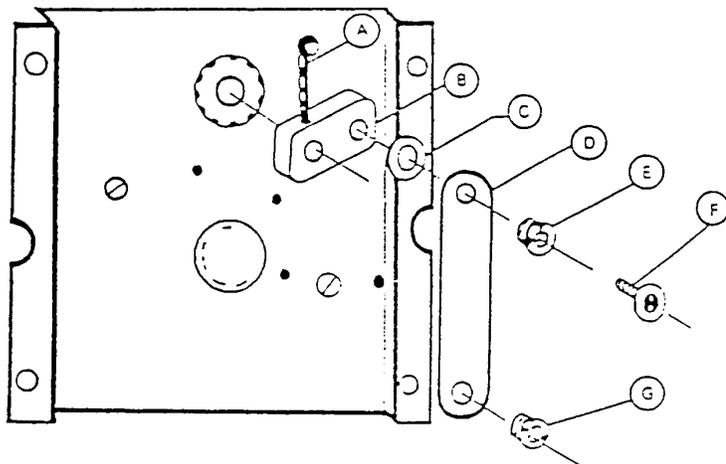


Fig. 4

### OLD STYLE

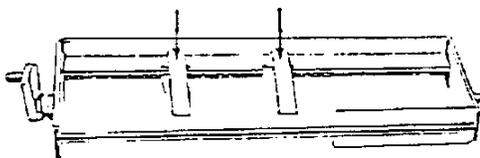
A. Drive Pin	900,901,940.01
B. Drive Arm	801,200,950.81
C. Washer	900,700,600.01
D. Linkage Arm	801,201,030.01
E. Nyliner (Top)	901,803,160.01
F. Sems Screw	900,301,640.01
G. Nyliner (Bottom)	901,804,770.01

### NEW PLASTIC STYLE

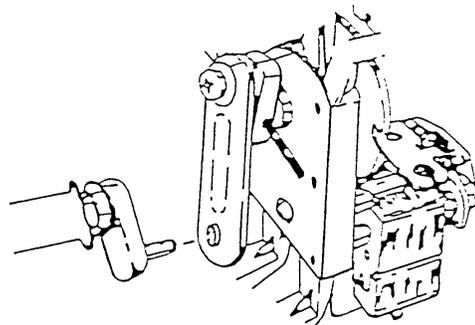
B. Drive Arm (Plastic)	801,806,160.21
D. Linkage Arm (Plastic)	801,806,170.01

  
Nyliner (Rear Stack)  
801,803,170.01

Can Retainer  
801,807,870.21



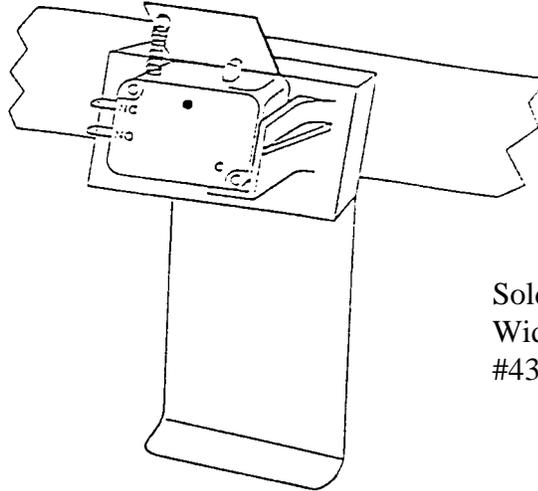
Oscillator Assembly  
491,070,900.03 - 1¼"  
497,071,000.03 - T-Models



  
Nyliner (Front Stack)  
901,804,230.01

Sold Out Spring  
#901,700,740.01

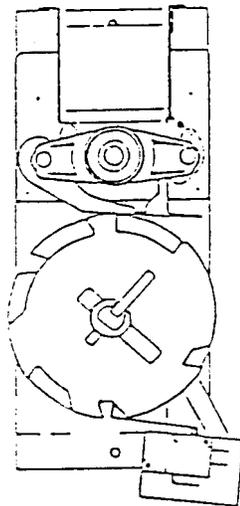
Sold-Out Switch Assy. Snap In  
#804,100,750.01  
(Insulator and Switch are one piece)



Sold-Out Paddle  
Wide and Narrow  
#432,070,190.13

### VEND MOTOR NARROW COLUMN

Mounted on the Vender with the Vend Motor Switch on the underside (See Fig. 1). The shaft of the Vend Motor slides into a slot in the Vend Rotor (See Fig. 2).



Vend Motor - Narrow Column  
#572,070,000.03 - 1 1/4"  
#565,070,100.03 - T-Models

Vend Motor Switch  
#804,100,730.01

Fig. 1

Vend Rotor  
#801,201,211.61 - 1 1/4"  
#801,201,220.01 - T Models, Wide  
#801,201,230.01 - T Models, Narrow

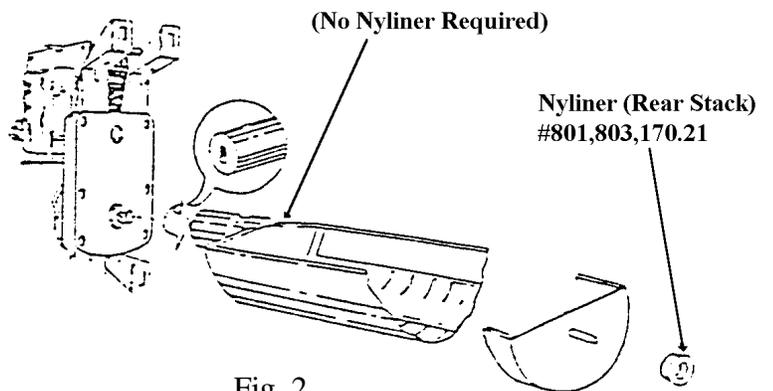


Fig. 2

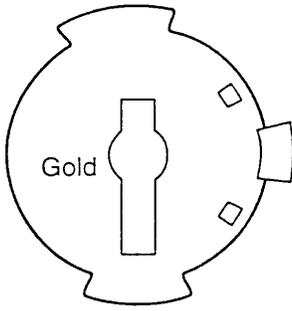
# **PRODUCT SHIMMING**

Refer to the appropriate technical bulletin for proper set-up and vending procedures. Listed are a few of the more widely used Technical Bulletins relating to shimming.

- TB 450      Miscellaneous Worldwide Can Shimming, Shimless Stack Series 90**
- TB 451      Miscellaneous Worldwide Plastic Bottle Shimming, T-Models**
- TB 452      Miscellaneous Worldwide Non-Returnable Bottle Shimming, T-Models**
- TB 453      Miscellaneous Worldwide Plastic Bottle Shimming, Shimless Stack Series 90**
- TB 454      Miscellaneous Worldwide Non-Returnable Bottle Shimming, Shimless Stack Series 90**
- TB 455      Miscellaneous Worldwide Can Shimming, T-Models**
- TB 456      Miscellaneous Worldwide Returnable Bottle Shimming, Shimless Stack Series 90**
- TB 457      Miscellaneous Worldwide Returnable Bottle Shimming, Wide Stack Series 90**
- TB 473      Miscellaneous Worldwide Non-Returnable Bottle Shimming, Wide Stack Series 90**
- TB 474      Miscellaneous Worldwide Plastic Bottle Shimming, Wide Stack Series 90**
- TB 475      Miscellaneous Worldwide Can Shimming, Wide Stack Series 90**
- TB 476      Miscellaneous Worldwide Returnable Bottle Shimming, T-Models**

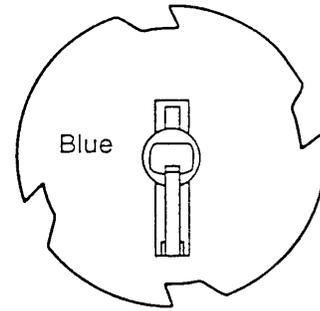
**For shimming of venders or products not listed in the above Technical Bulletins, call the Dixie-Narco Service Department or contact your Dixie-Narco Representative.**

# CAMS FOR VEND MOTORS



## 1. Adjustable Cam For:

- a. DNCB 1¼" deeper wide column.
- b. DNCB T-models single, double, or triple depth wide column.
- c. Color of Cam is Gold.
- d. Part #801,806,400.11



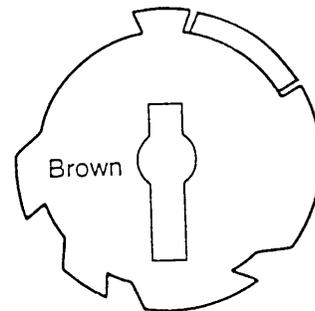
## 2. Vending Cam For:

- a. DNCB 1¼" deeper single double depth wide column.
- b. DNCB T-models single depth wide column.
- c. Color of Cam is Blue.
- d. Part #801,806,390.41



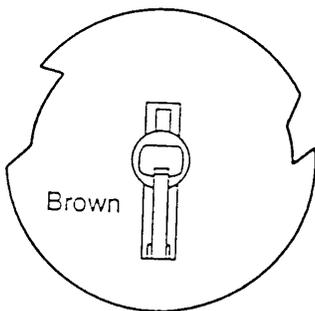
## 3. Vending Cam For:

- a. DNCB T-models double or triple depth wide column.
- b. Color of Cam is Green.
- c. Part #801,806,410.41



## 4. Adjustable Cam For:

- a. DNCB 1¼" deeper narrow column.
- b. DNCB T-models single, double, or triple depth narrow column.
- c. Color of Cam is Brown.
- d. Part #801,806,610.21



## 5. Vending Cam For:

- a. DNCB 1¼" deeper narrow column.
- b. DNCB T-models single, double, or triple depth narrow column.
- c. Color of Cam is Brown.
- d. Part #801,806,180.21

# CAM INSTALLATION AND REMOVAL

## **TO INSTALL A VENDING CAM:**

1. Select the Vending Cam required (See page 39).
2. Locate the Hub at the center of the Cam (See Fig. 6).
3. With the Hub facing you, slowly slide the Cam on the front shaft of the Vend Motor while depressing the Lock Tab. (See fig. 6).

NOTE: Reference below for timing of the Motors.

4. A distinct click will be heard, when the tab has locked into the locator hole of the motor shaft.

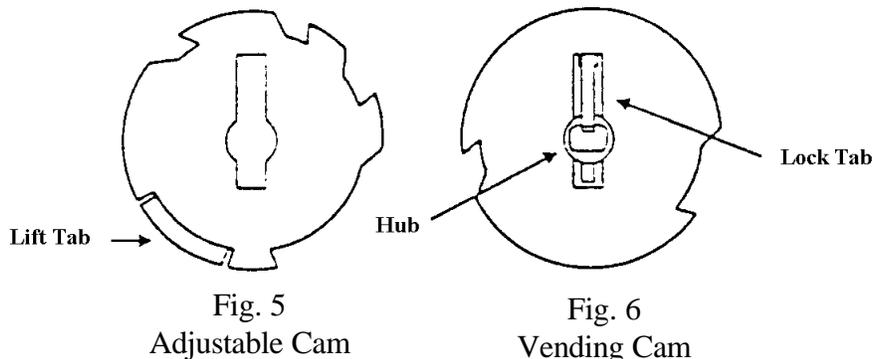
**CAUTION:** Depress the Switch Arm when installing the Cam to prevent possible damage to the Switch Arm.

## **TO INSTALL AN ADJUSTABLE CAM:**

1. Select the Adjustable Cam required. (See page 39).
2. Locate the Lift Tab on the outer edge of the Cam. (See fig. 5).
3. With the Lift Tab facing you, align the slot of the Adjustable Cam with the Locking Tab of the Vending Cam.
4. Place the Adjustable Cam on the Vending Cam.

**CAUTION:** Depress the Switch Arm when installing the Cam to prevent possible damage to the Switch Arm.

5. Lift the Lock Tab of the Vending Cam, at the same time lift the Lift Tab of the Adjustable Cam and rotate the Adjustable Cam clockwise to the desired setting.



## **TO REMOVE AN ADJUSTABLE CAM:**

1. Lift the Lift Tab and rotate the Adjustable Cam clockwise until the Vending Cam Lock Tab is aligned with the slot of the Adjustable Cam.
2. Remove the Adjustable Cam from the shaft of the Motor.

## **TO REMOVE THE VENDING CAM:**

1. Depress (push in) the Lock Tab firmly to disengage it from the Motor shaft.
2. At the same time pull the Vending Cam towards you until it is removed from the Motor shaft.

## TIMING

### TO SET THE TIMING OF A NARROW COLUMN VEND MOTOR:

1. Make sure the hole through the rear shaft is in a horizontal plane. (If a pin were inserted in the hole, the pin would be horizontal.) See Fig. 8.
2. The Vend Rotor must be in the loading position when the Motor shaft is inserted in the end of the Rotor. See Fig. 8.
3. Insert the Motor shaft in the Rotor and secure the Motor.
4. Install the Vending Cam on the front shaft of the Motor making sure the Lock Tab is at the 9 o'clock position. See Fig 7.
5. Install the Adjustable Cam per the instructions given on the previous page.

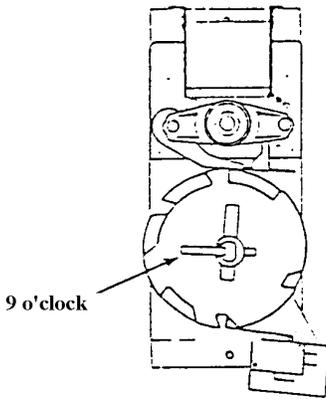


Fig. 7

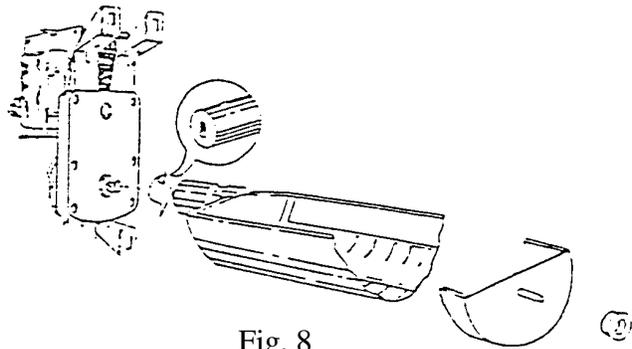


Fig. 8

### TO SET THE TIMING OF A WIDE COLUMN VEND MOTOR.

1. Make sure the hole through the rear shaft is in a horizontal plane. (If a pin were inserted in the hole, the pin would be horizontal). See Fig. 10.
2. Slide the Drive Arm (with linkage attached) on the rear shaft as shown. See Fig. 10.
3. Secure by installing the Groove Pin.
4. With the Oscillator in position, align the hole in the Linkage Arm with the pin of the Oscillator.
5. Slide the Linkage on the pin.
6. Install the Vending Cam on the front shaft of the Motor making sure that the Lock Tab is at 6 o'clock as shown. See Fig. 11.

**NOTE:** When the screw holding the Linkage Arm to the Drive Arm is at the 12 o'clock position (See Fig. 10), the Lock Tab will be at the 6 o'clock position (See Fig. 11).

7. Install the Adjustable Cam per the instructions on page 40.

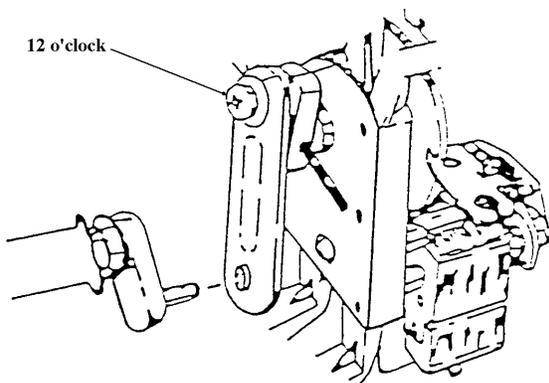


Fig. 10

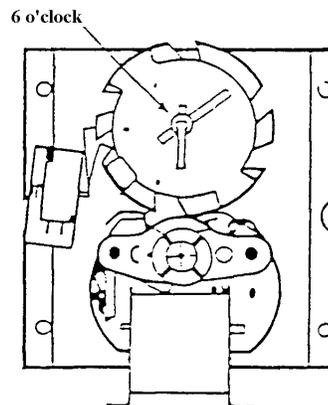


Fig. 11





**CLEANING THE VENDER**  
**DO NOT USE A WATER JET OR NOZZLE TO CLEAN THE VENDER.**

**WHAT TO CLEAN**

**SIGN FACE**

The polycarbonate sign face requires proper cleaning to prolong the service life of this item. It is recommended that you periodically clean the sign face as follows:

1. Rinse the sign with a soft cloth or sponge soaked in warm water.
2. If necessary, use a mild soap to loosen any dirt or grime. To prevent damage, **DO NOT SCRUB** or use a brush or squeegee, as some signs have a clear ultraviolet resistant coating to prevent yellowing.
3. Repeat the above steps as necessary, then dry using a soft cloth to prevent spotting.

**CABINET**

1. Wash the cabinet with a good detergent or soap mixed in warm water.
2. Wax the vender often with a good grade of automobile wax.
3. Any corrosion inside the vender should be removed with fine steel wool and the area should be painted with aluminum paint.
4. Repair any scratches on painted surfaces to prevent corrosion.

**WARNING: THE COMPRESSOR ELECTRICAL CIRCUIT IS ALWAYS LIVE WHEN THE PLUG IS CONNECTED TO AN ELECTRICAL OUTLET.**



**REFRIGERATION CONDENSER**

1. Check the condenser periodically for dirt or lint build up.
2. Remove the build up with a brush or vacuum, or blow the dirt out of the condenser with compressed air and approved safety nozzle.
3. Ensure nothing obstructs air intake at the bottom of the main door.
4. Ensure nothing obstructs air exhaust at the rear of the cabinet.

**COIN ACCEPTOR**

Follow the Coin Acceptor Manufacturer's instructions.

**LUBRICATING THE VENDER**

The vender refrigeration system does not require any field lubrication. The hermetic refrigeration system and fan motors are manufactured with lifetime lubrication.

<i>TIME</i>	<i>COMPONENT</i>	<i>LUBRICANT EXAMPLE</i>
<b>Every 6 Months</b> (or as needed)	<b>Main Door</b> 1. Lock Bolt & Nut Retainer 2. Hinge Pivot Points	Mechanics Friend
	<b>Inner Door</b> 1. Hinge Pivot Points	Mechanics Friend
<b>Every Year</b> (or as needed)	<b>Inner Door</b> 1. Door Gasket	Petroleum Jelly

## Temperature Control Adjustments

### Adjustment #1 - Temperature Adjustment

Turn the adjustment clockwise for colder product and counter-clockwise for warmer product. This will change the cut-out temperature only, the cut-in temperature remains constant.

### Adjustment #2 - Altitude Adjustment

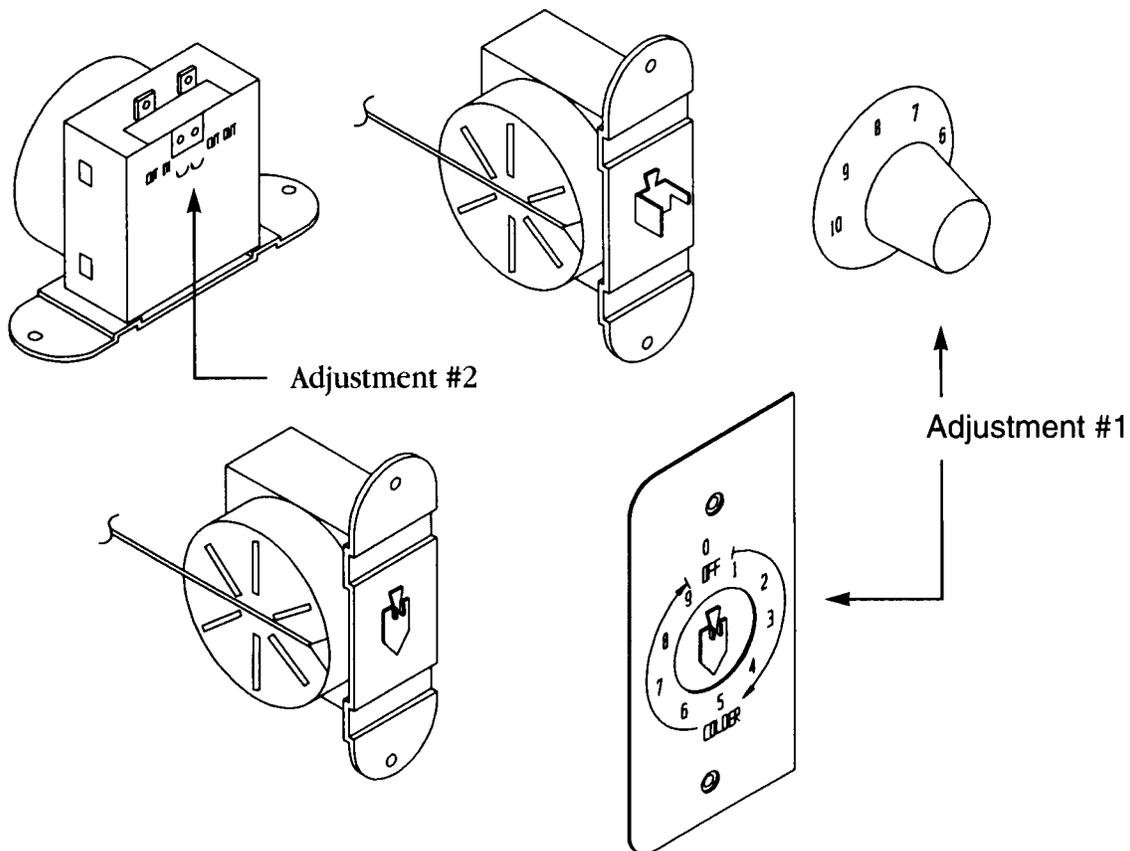


### WARNING:

**DISCONNECT POWER TO THE VENDING MACHINE BEFORE PROCEEDING WITH THIS ADJUSTMENT.**

The control is factory set for an altitude of 152 M (500 ft.). For higher altitudes, adjust the inside range screws to prevent freeze-up of the product. Adjust the inside range screws as follows.

ALTITUDE		CUTLER-HAMMER 9531N272
Meters	Feet	Turn both screws counter clockwise
610	2,000	1/8 Turn
1219	4,000	1/4 Turn
1829	6,000	1/2 Turn
2438	8,000	5/8 Turn



## SIID VENDING

1. Problem: Free vend on one column.  
Troubleshooting:
  - A) Check selection price.
  - B) Check for bad connections or broken, backed out, or crossed wires from vend motor to control board.
  - C) Check for sticking select button.
  - D) Check control board.
  
2. Problem: One motor continues to home with door closed, shows "COLJ" when "ErOr" routine is entered.  
Troubleshooting:
  - A) If using Mars Validator, ensure correct interface harness is used.
  - B) Check for bad connections or broken, backed out, or crossed wires from vend motor to control board. (Note: Check wires on left side of vend motor cover.)
  - C) Check vend switch.
  - D) Check control board.
  
3. Problem: One column sold out, but still vends.  
Troubleshooting:
  - A) Check sold-out switch.
  - B) Check for bad connections or broken, backed out, or crossed wires from sold-out switch to control board. (Note: Check wires on left side of vend motor cover.)
  
4. Problem: Vender will not sequence (Coca-Cola only).  
Troubleshooting:
  - A) Ensure wire #24 is in select panel harness and is in correct pin location.
  - B) Check for bad connection or broken wire #24 in select panel harness.
  - C) Make sure wire #24 is in correct location.
  - D) Check control board.
  
5. Problem: Free vend on one or more columns.  
Troubleshooting:
  - A) Check secondary pricing program.
  - B) Check for bad connections or broken, backed out, or crossed wires from vend motor to control board.
  - C) Check for sticking select button.
  - D) Check for bad vend motor switch.
  - E) Check control board.
  
6. Problem: Column Jackpots.  
Troubleshooting:
  - A) Check problem column(s) in motor test.
  - B) Check motor for:
    1. Syrup on brake.
    2. Locate/check brake spring.
    3. Check motor switch.
  - C) Check wiring from/to motor switch of problem column.
  - D) Check wiring at mate-n-lock on cabinet harness and cabinet extension harness.
  - E) Check motor.
  - F) Check control board.
  
7. Problem: Column will not vend.  
Troubleshooting:
  - A) Go to diagnostics and test.
  - B) Check for bad connection or broken, backed out, or crossed wires.  
(Also check ballast wires.)
  
8. Problem: Motor stops on high cam.  
Troubleshooting:
  - A) Change vend switch.
  - B) Install current software.  
-5 or 380.11 or greater two-button programming.  
-3.16 or 390.11 or greater four button programming.

## SIID VENDING

9. Problem: No motors work.

- Troubleshooting:
- A) Check F2 motor power fuse (6 Amp).
  - B) Check lamp and lamp wiring for broken, backed out, or crossed wires.
  - C) Check ballast and ballast wiring for broken, backed out, or crossed wires.

10. Problem: F2 motor power fuse continuously blows.

- Troubleshooting:
- A) Check if 6 Amp fuse is used.
  - B) Check that capacitor instead of MOV used at CR1 location.
  - C) Check ohms of each motor in off state
    - unplug wires to coil of motor.
    - ohms should be 6.5, if less coil of motor has a short.
  - D) Check motor harness.
  - E) Check motor extension harness.
  - F) Check for bad bulb in lighting system.

## SIID COIN / CURRENCY

1. Problem: Will not accept coins or bills.  
Troubleshooting:
  - A) Check coin return lever is not pressed.
  - B) Check F3 peripheral (1.0 Amp) fuse.
  - C) Go to diagnostics and test.
    1. Will not take coins, replace coin mech.
    2. Still will not take coins, check connections and mech harness.
  - D) Check for bad connections or broken, backed out, or crossed wires from validator/changer to control board.
  - E) With Mars 6510 Mdb mechs, serialized 176xxxxxxx that do not have a red dot on the coin mech, check the coin mech.
  - F) Check control board.
2. Problem: Validator sometimes sets up credit and then steals bill.  
Troubleshooting:
  - A) Check for proper interface harness.
  - B) Check for bad connections or broken, backed out, or crossed wires from vend/sold-out harness.
  - C) Check validator.
  - D) Check control board.
3. Problem: Accepts coins and displays, but will not vend.  
Troubleshooting:
  - A) Check coin mech.
  - B) Check for bad connections or broken, backed out, or crossed wires from validator/changer to control board.
  - C) Check voltage supply (110-115AC) at outlet.
  - D) Check control board.
4. Problem: Incorrect change paid back, use correct change lamp stays on.  
Troubleshooting:
  - A) Check control board.
5. Problem: Cannot dump coins when in "CPO" mode.  
Troubleshooting:
  - A) Check for bad connections or broken, backed out, or crossed wires from changer to control board.
  - B) Check select switches and wiring.
  - C) Check coin mech.
  - D) Ensure you are not using Mars International Executive or NRI Simplex changers.
  - E) Check voltage supply (110-115AC) at outlet.
  - F) Check control board.
6. Problem: BA30 stealing bills.  
Troubleshooting:
  - A) Check door switch.
  - B) Check validator.
  - C) Check interface harness.
7. Problem: Want to install a debit card system.  
Troubleshooting:
  - A) Need to contact card system supplier for details.
8. Problem: \$1 and \$5 Bill Acceptance (Black label box 2 button programming)  
Troubleshooting:
  - A) Works with
    1. BA-30
    2. VFM-3 Low Level
    3. DBA -2 or 3
9. Problem: \$1 and \$5 Bill Acceptance (Red label box 4 button programming)  
Troubleshooting:
  - A) Works with
    1. BA-30 Mdb
    2. Mars VN 2500 Series Mdb

## SIID COIN / CURRENCY

10. Problem: Install bill, unplug vender, plug in vender, gives \$1 credit and bill back.  
Troubleshooting: A) Set Escrow to "Pr" or "ES-4"  
B) Install current software.  
-5 or 380.11 or greater two-button programming.  
-3.16 or 390.11 or greater four-button programming.
11. Problem: Install Debitek card, unplug vender, plug in vender, jackpots changer.  
Troubleshooting: A) Install current software (Eprom).  
-5 or 380.11 or greater two-button programming.  
-3.16 or 390.11 or greater four-button programming.
12. Problem: After a few vends, the Mars 6510 Mdb disables itself (i.e. stops taking coins).  
Troubleshooting: A) Install current software (Eprom)  
- 804,911,380.41 or greater two-button programming.  
- 804,911,390.21 or greater four-button programming.
13. Problem: New 4-tube changer will not pay out dollar coin.  
Troubleshooting: A) Install current software (Eprom).  
- 380.51 or greater two-button programming.  
- 390.11 or greater four-button programming.
14. Problem: Software does not work with free vend note token in BA30.  
Troubleshooting: A) Install current software.  
- 380.51A or greater two-button programming.  
- 390.31 or greater four-button programming.
15. Problem: Coinco 9302GX changer dispenses all nickels first, then correct change lights come on (sample price this occurs .60¢).  
Troubleshooting: A) Load the nickels in coin fill (CD) mode. Note: This is a Coinco 9302GX problem.

## SIID SOLD-OUT MESSAGE

1. Problem: Sold-out message stays on.  
Troubleshooting:
  - A) Check limited access program.
  - B) Check for crossed wires in cabinet harness and cabinet extension harness or loose wire harness connection.
  - C) Check for motors rubbing motor cover (on early SIID venders).
  
2. Problem: Sold-out message comes on with product in column.  
Troubleshooting:
  - A) Check programming and ensure limited access is not on.
  - B) Check for bad connections or broken, backed out, or crossed wires from select switch to control board.  
(Note: Check wires on left side of motor cover.)
  - C) Check for motor rubbing motor cover (on early SIID venders).
  
3. Problem: Sold-out switches work the incorrect column.  
Troubleshooting:
  - A) Ensure correct cabinet harness and select harness are being used.
  - B) Check for crossed wires in cabinet harness or cabinet extension harness.

## SIID SELECT PANEL / DISPLAY

1. Problem: Plug in vender and displays a blank or "rrrr" appears on the display; vender will not function.  
Troubleshooting:
  - A) Press a select button to change message on display; this should clear "RRRR"s.
  - B) Remove power to vender for one minute, then power vender back up.
  - C) Check main power plug for loose connection.
  - D) Check for bad connections or broken wires from display to control board.
  - E) Check display board.
  - F) Check control board.
2. Problem: Display will not function.  
Troubleshooting:
  - A) Check for bad connections or broken wires from display to control board.
  - B) Check F1 motor power fuse (1.6 Amp).
  - C) Check display board.
  - D) Check transformer.
  - E) Check control board.
3. Problem: Display shows \$1 and then increases in dollar increments.  
Troubleshooting:
  - A) Check coin mech.
  - B) Check validator.
  - C) Check control board.
4. Problem: Cannot set price on a given selection.  
Troubleshooting:
  - A) Check configuration 1 is set to C1 1 (multi-pricing).
  - B) Check for bad connections or broken wires from select switch to control board.
  - C) Check select switches.
  - D) Check control board.
5. Problem: Vender changes a set vend price to .10¢ on selections on its own. (domestic only - .10¢ could be any given price.)  
Troubleshooting:
  - A) Check secondary pricing program.
  - B) Check for bad connections or broken wires from select switch to control board.
  - C) Check control board. (Possible cold solder joints.)
6. Problem: Control board loses its memory when power is shut off to vender.  
Troubleshooting:
  - A) Check battery (see problem 16 on next page).
  - B) Check control board.
7. Problem: Space to sales does not work properly when adding and deleting columns.  
Troubleshooting:
  - A) Check for bad connections or broken wires from select switch to control board.
  - B) Check control board.
8. Problem: F2 motor power fuse (6 Amp) blows when a given motor runs.  
Troubleshooting:
  - A) Check motor for short.
  - B) Check motor switch and motor wires for short.
  - C) Check motor.
  - D) Check the ballast, lamps, and lamp harnessing for broken, backed out, or crossed wires.
9. Problem: Board power fuse blows when supplying power.  
Troubleshooting:
  - A) Check changer and interface harness.
  - B) Check validator and interface harness.
10. Problem: Flashing decimal point.  
Troubleshooting:
  - A) Go to diagnostics.
    - All columns shown to be jammed.
    - Check 6 Amp motor fuse (F2).
    - Select problem.
    - Enable problem (check board).
    - Pb problem (check board).

## SIID SELECT PANEL / DISPLAY

11. Problem: Plug in vender and "1-1-1-1" scrolls across display.  
Troubleshooting: A) Remove power to vender for one minute, then power vender back up.  
B) Check for bad connections or broken, backed out, or crossed wires in select panel harness.  
C) Check top of door weld assembly for seal.  
D) Check control board.
12. Problem: Display shows "LOC".  
Troubleshooting: A) Can only be accessed via DEX or hand-held.  
B) Check control board.
13. Problem: Will not show vend price on display.  
Troubleshooting: A) All vend prices on primary price have to be the same price, and all prices on secondary price have to be the same price.
14. Problem: When programming, the display takes 30 to 45 seconds to go from one program to another.  
Troubleshooting: A) Unplug the coin mech and then program the SIID control box.
15. Problem: Display goes blank when you press a given select button.  
Troubleshooting: A) Check for bad vend motor on selection pressed. (Wire broken at coil or possible spade pulled out)
16. Problem: Set price, unplug vender, plug in vender and price changes to 99.95.  
Troubleshooting: A) Check battery. Follow steps to check.  
1. Unplug vender.  
2. On Ardac boards, locate component LH5168D-10L at U6 on board.  
On DeAmertek boards, locate component LH5168D-10L at U2 on board.  
3. Set volt meter to test DC voltage.  
4. Put one test lead on pin 14.  
5. Put other test lead on pin 28.  
6. Volt meter should read minimum 2 VDC.  
7. If bad battery (under 2 VDC), replace the board.
17. Problem: All segments stay illuminated on display.  
Troubleshooting: A) Toggle to proper setting (14 segment versus 7 segment).  
B) Connector harness loose at display board.  
C) Check for bad connection or broken, backed out, or crossed wires is display harness.
18. Problem: Plug in vender and "1-1-1-1" scrolls across the display. Press the service switch and "EN#" is displayed.  
Troubleshooting: A) Check control board.

# **REFRIGERATION PARTS AND FUNCTIONS**

## **- MECHANICAL PARTS -**

### **COMPRESSOR MOTOR**

The compressor motor (sealed in the compressor housing) drives the compressor with a shaft that is shared by both parts. It is started by the temperature control switch and the starting relay. It is stopped by the temperature control switch, and, if it gets overloaded, by the thermal overload switch.

### **COMPRESSOR**

The compressor (sealed in the compressor housing) draws cold, low pressure refrigerant gas from the evaporator and pumps hot, high pressure refrigerant gas out to the condenser.

### **CONDENSER**

The condenser, located in the base of the vender, at the front, takes heat out of the hot, high pressure gas that comes from the compressor. The gas loses heat as it goes through the condenser coils, and changes into a liquid because it is still under pressure.

### **CONDENSER FAN**

The condenser fan (between the condenser and the compressor motor), first draws air from the outside of the vender through the condenser. This air takes heat from the condenser first and then is blown over the compressor housing from which it also takes heat before going back outside of the vender. The condenser fan runs when the compressor motor runs.

### **FILTER/DRYER**

The filter/dryer is in the liquid line between the condenser and the capillary tube. This dryer filters out any foreign particulate matter and also contains a desiccant to absorb any moisture that may be present in the system.

### **CAPILLARY TUBE**

The capillary tube (between the condenser and the evaporator in the refrigerant line) has a very small inside diameter, and serves to control the refrigerant flow from the condenser into the evaporator.

### **EVAPORATOR**

The evaporator (in the vender cabinet) takes heat from the air in the vender cabinet and gives this heat to the liquid refrigerant. The liquid refrigerant is evaporated (boiled off) as a gas, and the gas is drawn out by the compressor.

### **EVAPORATOR FAN**

The evaporator fan draws warm air from around the cans or bottles in the cooling compartment and blows it across the evaporator. As the air goes across the evaporator, it gives up heat to the evaporator, then goes back to the cans or bottles, and takes heat from them. This fan runs continuously when the vender is plugged in.

## **CONDENSATE PAN**

The condensate pan (located in the compressor compartment) collects the water which runs from the evaporator. The water is evaporated into the surrounding air by means of soakers. The soakers extend down into the pan to absorb the water. Exposure to the surrounding air evaporates the water in the soakers.

## **- ELECTRICAL PARTS -**

### **TEMPERATURE CONTROL**

The temperature control is the part that is made up of a control bulb connected by a small metal tube to a bellows. The control bulb is in a slot in the evaporator fan housing. The bellows and a switch known as the temperature control switch, are in the temperature control box which is fastened to the right side inside the venter.

The control bulb and the bellows have a vapor in them. When the temperature of the vapor in the bulb rises, it builds up pressure in the bellows tube. This pushes the bellows out. When the control bulb is cool, the vapor shrinks back, and the bellows pulls in. These movements, of the bellows, work the switch - called the temperature control switch - closing it when the bulb is heated and opening it when the bulb is cooled.

The contacts of the temperature control switch are in the compressor motor's running and starting circuits. They are also in the condenser fan motor circuit.

When the cabinet temperature gets up to the cut-in setting, the temperature control switch closes in the compressor motor's starting and running circuits and in the condenser fan circuit. When the cabinet temperature gets down to the cut-out setting, the temperature control switch opens in these circuits.

**CAUTION:** To adjust the temperature control see page 44.

### **THERMAL OVERLOAD ASSEMBLY**

The thermal overload is a temperature activated switch that interrupts power to the compressor when excessive temperatures occur. This switch protects the compressor from the damage that will occur if the compressor continues to operate under adverse conditions. The overload also opens under abnormally high amp draws, protecting the motor windings from damage. Frequent overload trips may lead to warm product and be the first indication of a dirty condenser or other refrigeration related problems that require attention.

### **STARTING RELAY**

The starting relay is a device that connects the start winding of the compressor during start up. The additional winding (start) helps the compressor motor come up to speed. Once it reaches speed the starting relay disconnects the start winding from the circuit.

## - ELECTRICAL OPERATION -

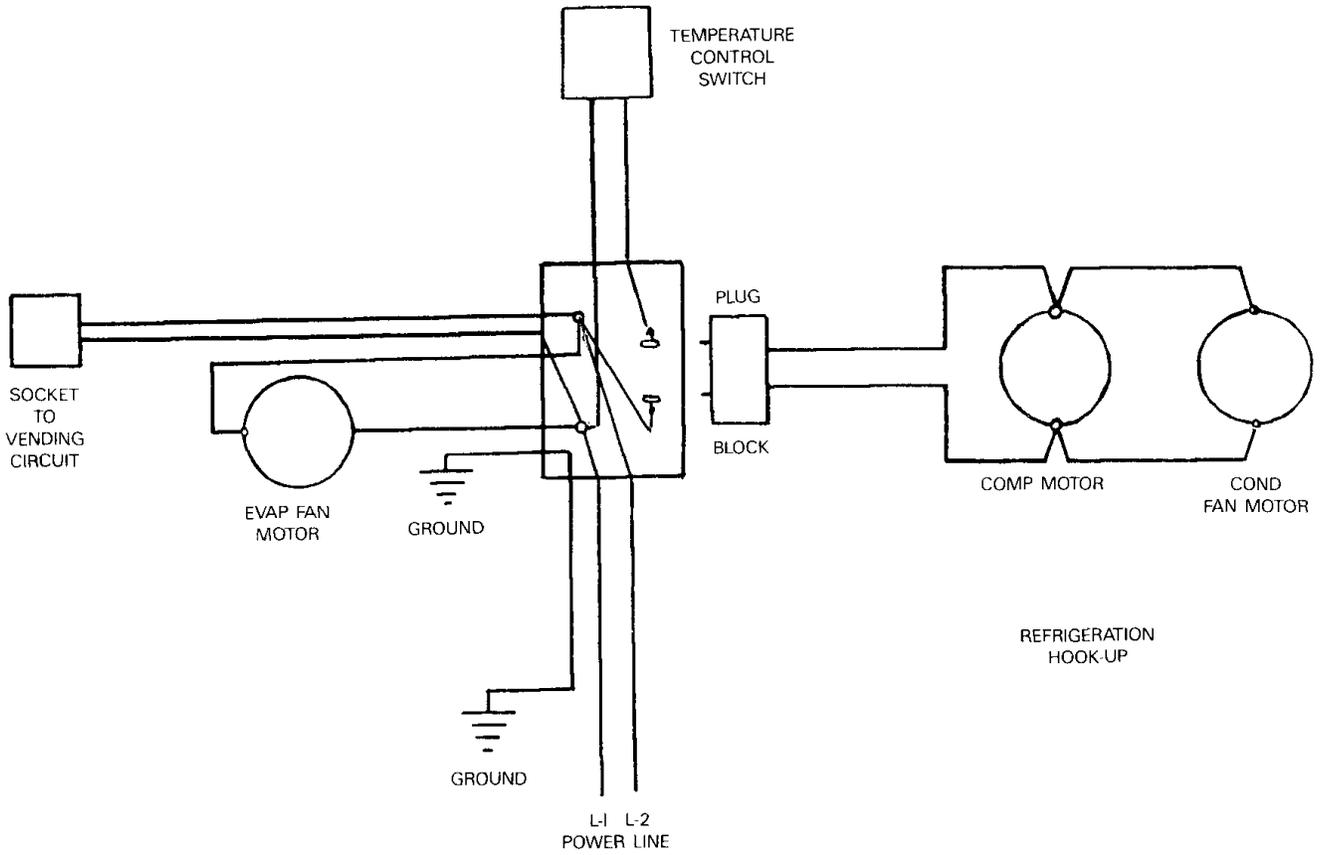
WHAT DOES IT	WHAT HAPPENS
<b>WHEN THE VENDER TEMPERATURE GETS UP TO THE CUT-IN SETTING:</b>	
The temperature control switch	closes the run winding circuit of the compressor motor. closes the start relay coil circuit. closes in the condenser fan motor circuit.
<b>THE HEAVY CURRENT, DRAWN BY THE RUN WINDING, ALSO FLOWS IN THE START RELAY COIL, AND:</b>	
The start relay coil	closes the start relay contacts and completes the start winding circuit of the compressor motor.
<b>WHEN THE COMPRESSOR MOTOR GETS UP TO SPEED</b>	
The spring in the relay	pushes the start relay contacts apart because
The start relay coil	no longer gets enough current to hold the contacts closed,
The start relay contacts	open in the start winding circuit of the compressor motor.
<b>IF THE COMPRESSOR MOTOR DRAWS TOO MUCH CURRENT AND CAUSES THE THERMAL OVERLOAD ASSEMBLY TO GET TOO WARM</b>	
The thermal overload switch	Opens the run winding circuit and disconnects the compressor motor.
<b>WHEN THE THERMAL OVERLOAD ASSEMBLY COOLS DOWN AGAIN</b>	
The thermal overload switch	Closes the run winding circuit and the start relay coil circuit of the compressor motor.
<b>WHEN THE VENDER TEMPERATURE GETS DOWN TO THE CUT-OUT SETTING</b>	
The temperature control switch	Opens in the run winding circuit of compressor motor. Opens in the starting relay coil circuit.

## COMPRESSOR MOTOR RUN WINDING CIRCUIT

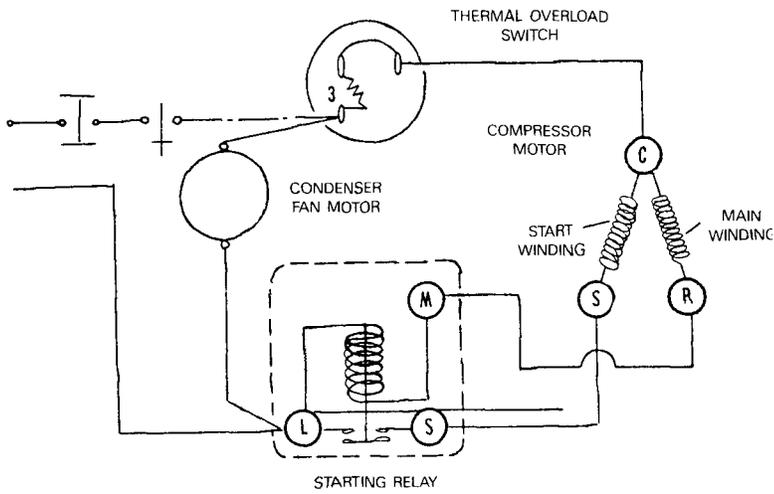
SWITCHES IN THE WIRING	WHAT THE SWITCHES DO	WHAT MAKES THE SWITCHES WORK
1. Temperature control switch	1. Turns the compressor and condenser fan motor on and off.	1. The temperature in the vender has come up to the cut-in point (or gotten down to the cut-out point) set on the temperature control switch.
2. Start Relay	2. Turns the start windings on & off.	2. The presence or absence of heavy current switches the relay which energizes or de-energizes the start windings.
3. Thermal Overload Switch	3. Protects the windings of the compressor.	3. Current drawn by the motor or heat from the compressor can raise the temperature of the thermal overload switch cut-out, which removes power from the compressor.

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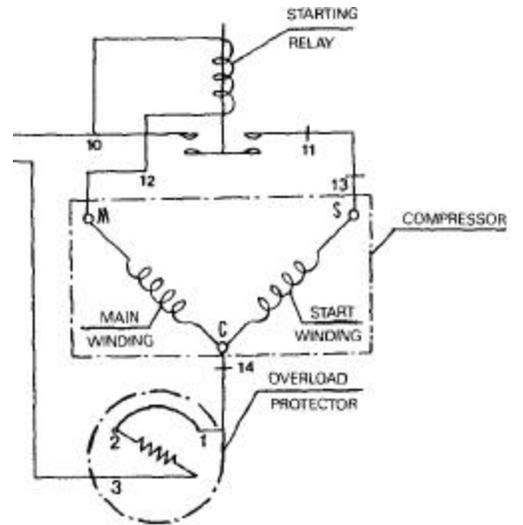
# REFRIGERATION CIRCUIT DIAGRAMS



Tecumseh



Embraco



# REFRIGERATION CYCLE

WHAT DOES IT	WHAT HAPPENS
The rising temperature in the vender	Warms the temperature control bulb & the charge in it.
The charge in the control bulb	Expands in the control tube and stretches the temperature control bellows.
The bellows	Activates the temperature control switch.
The temperature control switch	Turns the compressor motor on. Turns the condenser fan motor on.
The compressor motor	Drives the compressor.
The condenser fan motor	Drives the condenser fan. Draws air through the condenser, cooling it and pushes air over the compressor cooling it.
The compressor	Draws low pressure refrigerant gas from the evaporator, compresses the gas, and pumps it to the condenser.
The condenser	Takes the heat out of the high pressure refrigerant gas.
More hot gas coming from the compressor	Pushes the liquid refrigerant into the capillary tube.
The capillary tube	Controls the flow of liquid refrigerant into the evaporator.
The evaporator	(Where the pressure is kept low by the suction of the compressor) Transfers heat from the air to liquid refrigerant.
The liquid refrigerant	Changes into gas at low pressure and is drawn into the compressor.
The falling temperature in the vender	Cools the temperature control bulb and the charge in it to a pre-determined temperature.
The charge in the control bulb	Shrinks & lets the temperature control bellows pull back
The bellows	Move and open the temperature control switch.
The temperature control switch	Turns the compressor motor off. Turns the condenser fan motor off.
The compressor	Stops.
The condenser fan motor	Stops.
(With the vender "Plugged In" the evaporator fan motor runs constantly)	

Symptom: **PRODUCT HOT**

Possible Cause: **Compressor will not run.**

WHAT TO CHECK	SOLUTION
1. Is the vender plugged in? <b>YES</b>	<b>1. NO</b> , plug it in.
2. Is the compressor power cord plugged in? <b>YES</b>	<b>2. NO</b> , plug it in.
3. Is the temperature control on? <b>YES</b>	<b>3. NO</b> , turn it on.
4. Is there power at the wall outlet? <b>YES</b>	<b>4. NO</b> , consult an electrician.
5. Is the circuit breaker or fuse correct? <b>YES</b>	<b>5. NO</b> , replace or reset.
6. Is the vender power cord good? <b>YES</b>	<b>6. NO</b> , replace.
7. Is the compressor power cord good? <b>YES</b>	<b>7. NO</b> , replace.
8. Is the temperature control bulb located properly? <b>YES</b>	<b>8. NO</b> , correct.
9. Is the temperature control operational? <b>YES</b>	<b>9. NO</b> , replace.
10. Is the thermal overload operational? <b>YES</b>	<b>10. NO</b> , replace.
11. Is the start relay operational? <b>YES</b>	<b>11. NO</b> , replace.
12. Is the compressor operational? <b>YES</b>	<b>12. NO</b> , replace.
13. Consult the Dixie-Narco Factory Service 1-800-688-9090 or your Dixie-Narco Representative. NOTE: Have the vender Model & Serial number available.	

Symptom: **PRODUCT HOT**

Possible Cause: **Compressor starts, but will not keep running.**

WHAT TO CHECK	SOLUTION
1. Is the temperature control knob set on its highest setting? <b>YES</b>	<b>1. NO</b> , adjust the knob to a higher setting.
2. Domestically, is the voltage supply between +/- 10% of rating on the serial plate? <b>YES</b>	<b>2. NO</b> , consult the power company.
3. Is the condenser clear of obstructions? <b>YES</b>	<b>3. NO</b> , clear or clean.
4. Is the condenser fan blade turning? <b>YES</b>	<b>4. NO</b> , free the obstruction or replace the blade if needed.
5. Is the condenser fan motor operational? <b>YES</b>	<b>5. NO</b> , replace.
6. Is the temperature control operational? <b>YES</b>	<b>6. NO</b> , replace.
7. Is the tube from the compressor to condenser free of kinks? <b>YES</b>	<b>7. NO</b> , repair or replace.
8. Is the capillary tube free of kinks? <b>YES</b>	<b>8. NO</b> , replace.
9. Is the thermal overload operational? <b>YES</b>	<b>9. NO</b> , replace.
10. Is the start relay operational? <b>YES</b>	<b>10. NO</b> , replace.
11. Consult the Dixie-Narco Factory Service at 1-800-688-9090 or your Dixie-Narco Representative. NOTE: Have the vender Model & Serial number available.	<b>11. NO</b> , replace.

Symptom: **PRODUCT HOT**

Possible Cause: **Miscellaneous.**

WHAT TO CHECK	SOLUTION
<p>1. Is the evaporator fan motor working? <b>YES</b></p> <p>2. Has the refrigeration system lost its charge? <b>No</b></p> <p>3. Consult the Dixie-Narco Factory Service at 1-800-688-9090. or your Dixie-Narco Representative.</p> <p>NOTE: Have the vender Model &amp; Serial number available.</p>	<p><b>1. NO,</b> replace motor.</p> <p><b>2. YES,</b> replace the refrigeration system.</p>

Symptom: **PRODUCT COLD BUT NOT COLD ENOUGH**

Possible Cause: **Compressor runs, but won't cool product.**

WHAT TO CHECK	SOLUTION
1. Is the temperature control knob set properly? <b>YES</b>	1. <b>NO</b> , set properly.
2. Domestically, is the voltage supply between 103V and 127V? <b>YES</b>	2. <b>NO</b> , consult the power company.
3. Is the temperature control probe located properly? <b>YES</b>	3. <b>NO</b> , correct.
4. Is the condenser clear of obstruction? <b>YES</b>	4. <b>NO</b> , clear, clean, or space the vender properly.
5. Is the evaporator fan free of obstruction? <b>YES</b>	5. <b>NO</b> , free any obstruction or replace.
6. Is the condenser fan free of obstruction? <b>YES</b>	6. <b>NO</b> , free any obstruction or replace.
7. Is the evaporator free of ice? <b>YES</b>	7. <b>NO</b> , defrost & check the following: gasket seal, port door seal, refrigerant charge.
8. Is the temperature control operational? <b>YES</b>	8. <b>NO</b> , replace.
9. Is the evaporator fan operational? <b>YES</b>	9. <b>NO</b> , replace.
10. Is the condenser fan motor operational? <b>YES</b>	10. <b>NO</b> , replace.
11. Is the refrigerant tubing free of kinks? <b>YES</b>	11. <b>NO</b> , repair or replace.
12. Is the overload operational? <b>YES</b>	12. <b>NO</b> , replace.
13. Is the start relay operational? <b>YES</b>	13. <b>NO</b> , replace.
14. Is there refrigerant in the system? <b>YES</b>	14. <b>NO</b> , charge system and check for leaks.
15. Consult Dixie-Narco Factory Service 1-800-688-9090 or your DN Representative. NOTE: Have vender Model & Serial number available.	

Symptom: **PRODUCT TOO COLD OR FROZEN**

Possible Cause: **Compressor runs too long or continuously**

WHAT TO CHECK	SOLUTION
1. Is the temperature control knob set properly? <b>YES</b>	<b>1. NO</b> , set properly.
2. Is the temperature control bulb located properly? <b>YES</b>	<b>2. NO</b> , correct.
3. Is the temperature control operational? <b>YES</b>	<b>3. NO</b> , replace.
4. Does the evaporator frost over completely while the system is running? <b>YES</b>	<b>4. NO</b> , check for leaks or low charge.
5. Consult the Dixie-Narco Factory Service at 1-800-688-9090 or your Dixie-Narco Representative. NOTE: Have the vender Model & Serial number available.	

Symptom: **NOISY REFRIGERATION UNIT**

POSSIBLE CAUSES	SOLUTION
1. Are refrigerant lines free of contact with surfaces? <b>YES</b>	<b>1. NO</b> , correct.
2. Is the condenser fan blade obstructed or damaged? <b>NO</b>	<b>2. YES</b> , free any obstructions or replace the blade if needed.
3. Is the evaporator fan blade obstructed or damaged? <b>NO</b>	<b>3. YES</b> , free any obstructions or replace the blade if needed.
4. Is compressor noisy? <b>NO</b>	<b>4. YES</b> , replace.
5. Consult the Dixie-Narco Factory Service at 1-800-688-9090 or your Dixie-Narco Representative. NOTE: Have the vender Model & Serial number available.	

Symptom: **EXCESSIVE CONDENSATE**

POSSIBLE CAUSES	SOLUTION
1. Is the door sealed properly? (This can be checked by inserting a piece of paper, thin plastic or paper currency between the cabinet and the door seal when the main door is open. When the door is closed properly, the paper should exert some resistance as it is pulled out.)	<p><b>1. YES,</b> see step 4.  <b>NO,</b> Ensure the door is closed tightly. If door still does not seal properly, see step 2.</p>
2. Is the motor cover interfering with the inner door?	<p><b>2. YES,</b> reinstall motor cover properly.  <b>NO,</b> see step 3.</p>
3. Has the machine been vandalized?	<p><b>3. YES,</b> replace necessary components.  <b>NO,</b> see step 4.</p>
4. Are soakers positioned properly?	<p><b>4. YES,</b> see step 5.  <b>NO,</b> place soakers upright in pan so that air will flow over &amp; through the soakers.</p>
5. Are there 14 fiberglass soakers in the pan?	<p><b>5. YES,</b> see step 6.  <b>NO,</b> place 14 fiberglass soakers in the condensate pan.</p>
6. Are the condenser & evaporator free from obstruction?	<p><b>6. YES,</b> see step 7.  <b>NO,</b> remove all debris and/or cans from the area around the evaporator and condenser. Clean the evaporator &amp; condenser coils with a stiff brush or compressed air.</p>
7. Is the delivery door misaligned?	<p><b>7. YES,</b>  A. Level the vender properly.  B. Align the inner &amp; outer doors so that the delivery door does not stick open  <b>NO,</b> see step 8.</p>
8. If all above steps fail...	<p><b>8.</b> Consult the Dixie-Narco Factory Service at 1-800-688-9090.  NOTE: Have the vender model &amp; serial number available.</p>

# GLOSSARY

1.     **DEX**                    Direct Exchange of Data
  
2.     **"Dixie Bus"**         Dixie-Narco Serial Communication Specification to allow Dixie-Narco to add extra features without affecting current vender designs.
  
3.     **IR**                    Infrared
  
4.     **LCD**                  Liquid Cystal Diodes
  
5.     **LED**                  Light Emitting Diodes
  
6.     **MDB**                  Multi-Drop Bus     Coca-Cola Serial Communication Specifications. Used in all Dixie SIID can venders.
  
7.     **NAMA**                 National Automatic Merchandising Association
  
8.     **UCS**                  Uniform Communications Standards
  
9.     **UCC**                  Uniform Code Council