



DIXIE-NARCO VENDERS TROUBLESHOOTING GUIDE

Includes:

**PRE-SERIES 90 SINGLE PRICE
REFRIGERATION TROUBLESHOOTING**

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Dixie-Narco

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GENERAL INFORMATION

VENDER SAFETY PRECAUTIONS

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

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

**IF THE VENDER TROUBLESHOOTING PROCEDURES COVERED IN THIS MANUAL FAIL,
CONSULT THE DIXIE-NARCO FACTORY SERVICE DEPARTMENT AT
(800) 688-9090.**

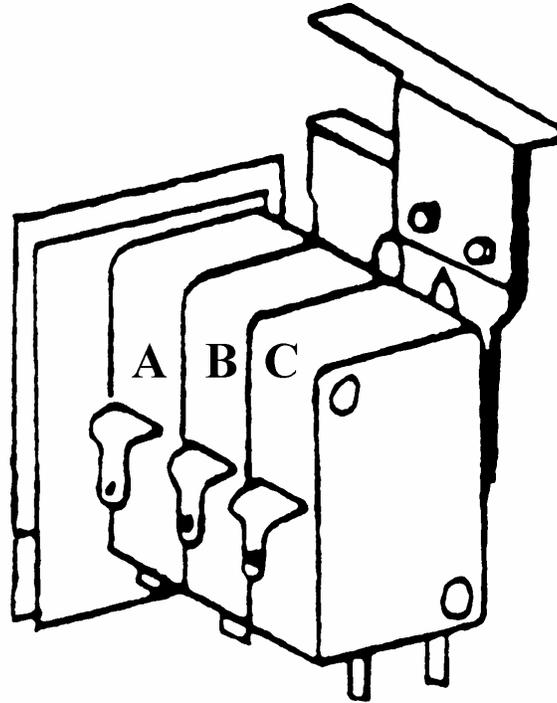
Note: Have the vender model number and serial number available.

Example:

Model# 368-8 SIID

Serial# 0001-6414BV.

PRE-SERIES 90 SINGLE PRICE VENDERS
TROUBLESHOOTING



Vend/Cam-Hold/By-Pass Switch

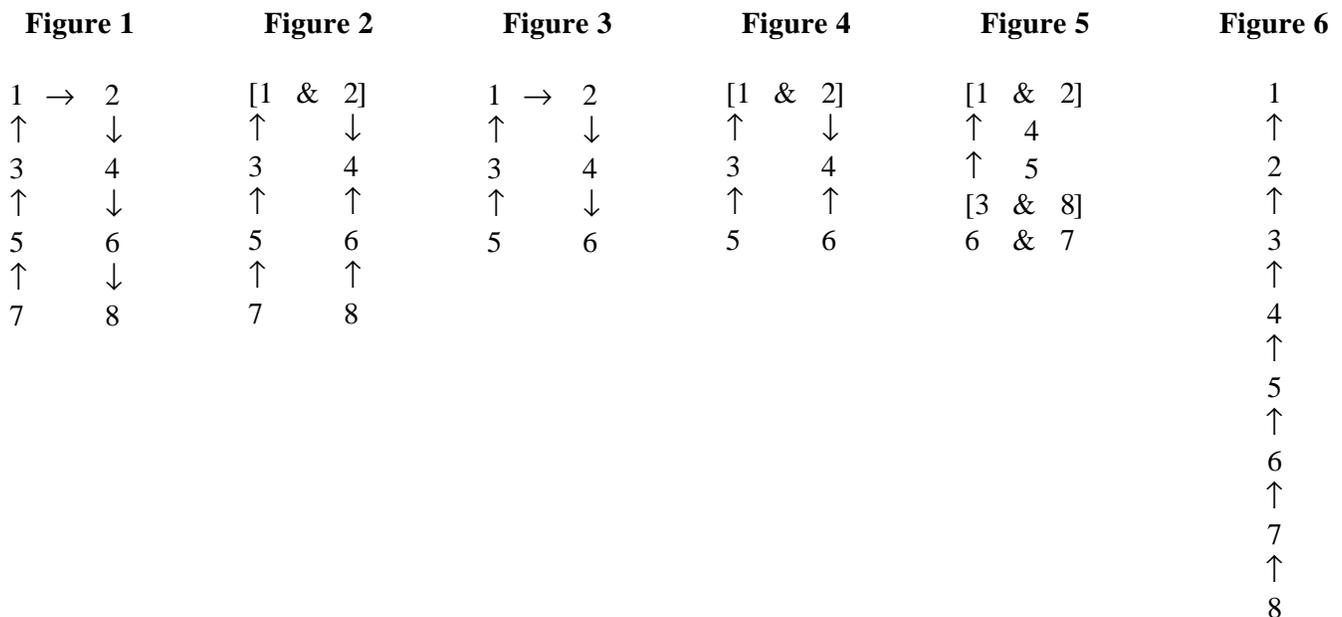
Prior to 0001-3162AO
(Includes Production Runs 3164AO, 3166DN, and 3167AO)
(Except 3161AO-1954 to 2003 and 2656 to 2705)
Prior to 1st Quarter 1990

PRE-SERIES 90 SINGLE PRICE TROUBLESHOOTING

HOW TO CORRECT COMMON VENDING TROUBLES

Note: When one or more circuits become inoperative on a Dixie-Narco Single Price vender that has been operating satisfactorily, it is usually one component that has failed and it is with this in mind that the following troubleshooting schematic is presented.

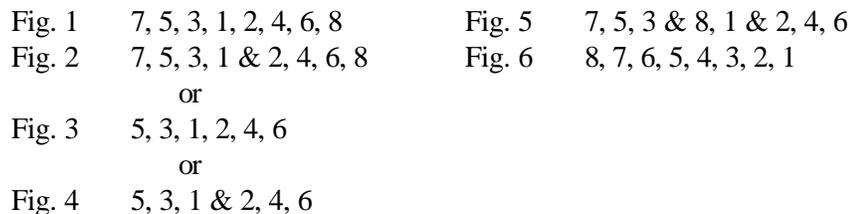
Control panel
Electrical Feed
Through Normally Closed of Each Select Switch



(CONTROL PANEL: Select Button / Select Switch Location)

The control panels shown above represent some of the panels used on Dixie-Narco venders.

IMPORTANT: Keep in mind the feed of electrical current through the select switches. The electrical feed always begins with the largest odd number and proceeds as:



On the inside of the control panel, the select buttons and switches are numbered to assist in identifying them. If not numbered, then push button arrangements are as shown in one of the foregoing diagrams (i.e. figure 1, 2, 3, 4, 5, or 6).

Fig. 5 represents a control panel in actual use on a production model vender. (There are other control panels similar to it.) The control panel is shown to emphasize the need to know the actual location of the various push button select switches so that the electrical feed can be followed from select switch to select switch as already outlined.

ACCEPTS COINS WILL NOT VEND FROM ONE OR MORE COLUMNS

Although all circuit problems are not necessarily found to be one or more inoperative select switches, the examples listed below are typical of select switch problems occurring in the control panel.

Refer to figure 1, page 31.

1. Problem: Selections 7 and 5 work.
Selections 3, 1, 2, 4, 6, and 8 do not work.
Troubleshooting: Recall the feed of electrical current at 7, 5, 3, 1, 2, 4, 6, and 8.
 - A) Check the normally closed and common of select switch 5.
 - B) Check the normally open and common of select switch 3.

2. Problem: Selection 7 works.
Selections 5, 3, 1, 2, 4, 6, and 8 do not work.
Troubleshooting: Recall the feed of the electrical current.
 - A) Check the normally closed and common of select switch 7.
 - B) Check the normally open and common of select switch 5.

3. Problem: Selections 7, 5, 3, 1, 2, 4, and 6 work.
Selection 8 does not work.
Troubleshooting: Recall the feed of the electrical current.
 - A) Check the normally closed and common of select switch 6.
 - B) Check the normally open and common of select switch 8.

Refer to figure 2, page 31.

4. Problem: Selection 7 works.
Selections 5, 3, 1, 2, 4, 6, and 8 do not work.
Troubleshooting: Recall the feed of the electrical current.
 - A) Check the normally closed and common of select switch 7.
 - B) Check the normally open and common of select switch 5.

5. Problem: Selections 7, 5, 3, [1 & 2] work.
Selections 4, 6, and 8 do not work.
Troubleshooting: Recall the feed of the electrical current.
 - A) Check the normally closed and common of select switch [1 & 2].
The symbol [] (i.e. [1 & 2]) indicates that one select switch serves two circuits.
 - B) Check the normally open and common of select switch 4.

Refer to figure 3, page 31.

6. Problem: Selection 5 works.
Selections 3, 1, 2, 4, and 6 do not work.
Troubleshooting: Recall the feed of the electrical current.
 - A) Check the normally closed and common of select switch 5.
 - B) Check the normally open and common of select switch 3.

7. Problem: Selections 5, 3, and 1 work.
Selections 2, 4, and 6 do not work.

Troubleshooting: Recall the feed of the electrical current.

- A) Check the normally closed and common of select switch 1.
- B) Check the normally open and common of select switch 2.

Refer to figure 5, page 31.

8. Problem: Selections 7 and 5 work.
Selections [3 & 8], [1 & 2], 4, and 6 do not work.

Troubleshooting: Recall the feed of the electrical current.

- A) Check the normally closed and common of select switch 5.
- B) Check the normally open and common of select switch [3 & 8].
The symbol [] (i.e. [1 & 2] and/or [3 & 8]) indicates that one select switch serves two circuits.

9. Problem: Selections 7, 5, [3 & 8], [1 & 2] work.
Selections 4 and 6 do not work.

Troubleshooting: Recall the feed of the electrical current.

- A) Check the normally closed and common of select switch 1 & 2.
The symbol [] (i.e. [1 & 2] and or [3 & 8]) indicates that one select switch serves two circuits.
- B) Check the normally open and common of select switch 4.

Refer to figure 4, page 31.

10. Problem: Selections 5 and 3 work.
Selections [1 & 2], 4, and 6 do not work.

Troubleshooting: Recall the feed of the electrical current.

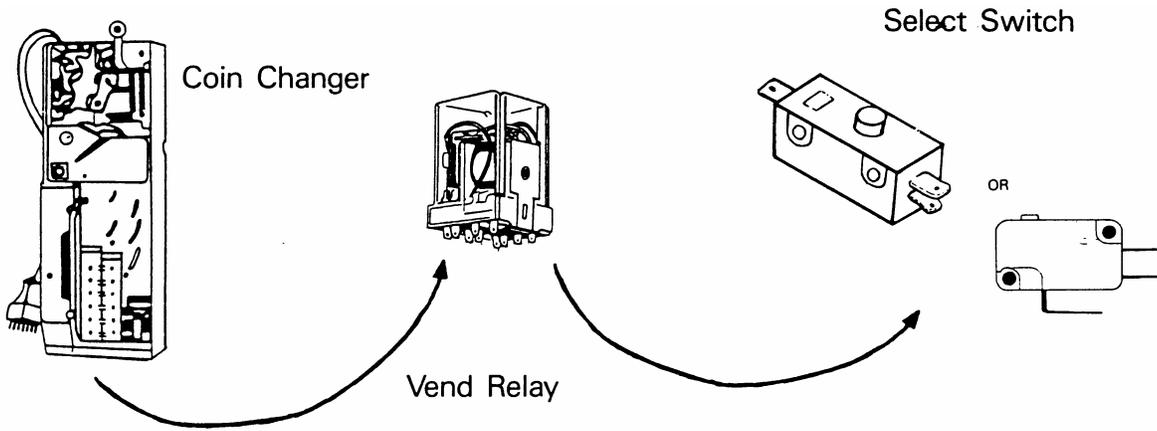
- A) Check normally closed and common of select switch 3.
- B) Check the normally open and common of select switch [1 & 2].
The symbol [] (i.e. [1 & 2]) indicates that one select switch serves two circuits.

**ACCEPTS COINS
WILL NOT VEND**

1. Problem: All selections do not work.

Troubleshooting: Recall the feed of the electrical current.

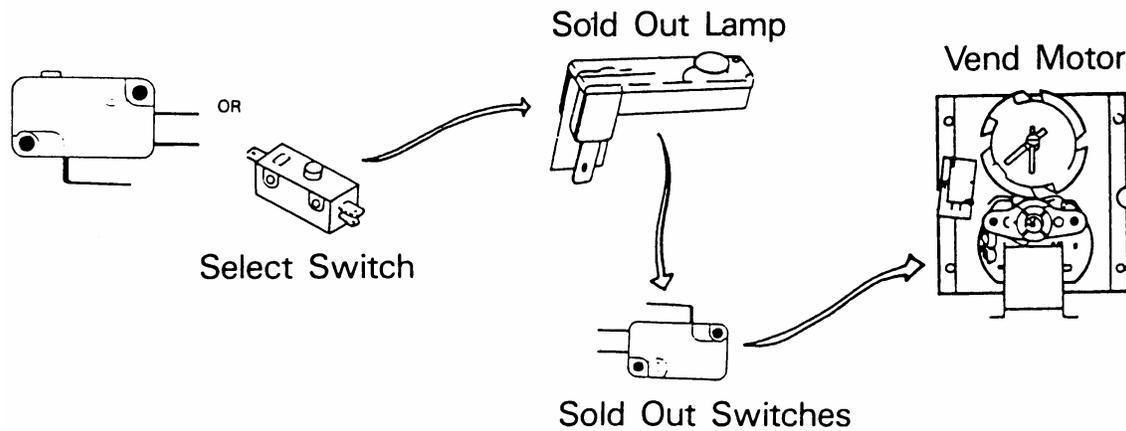
- A) Check the coin changer.
- B) Check the vend relay.
- C) Check the select switch that gets power first.



ACCEPTS COINS WILL NOT VEND FROM ONE COLUMN

1. Problem: Accepts coins but will not vend from one column. (Ex. Select #3 will not vend).

- Troubleshooting:
- A) Check the normally open of select switch 3.
(Note: If the sold-out lamp comes on when the button is pushed, the select switch is O.K.)
 - B) Check the sold-out switch in the vending circuit.
 - C) Check the vend motor.
(Note: If the vend motor runs by depressing the vend switch, the vend motor is O.K.)



REJECTS ALL GOOD COINS

1. Problem: The coin changer will not accept coins.

Troubleshooting: A) Make sure there is product in each column. The sold-out lamps are off.

B) Follow the arrows from left to right.

C)

1. Push vend motor switch (motor F) - vend motor cycles.

2. Push vend motor switch (motor E) - vend motor cycles.

3. Push vend motor switch (motor D) - vend motor cycles.

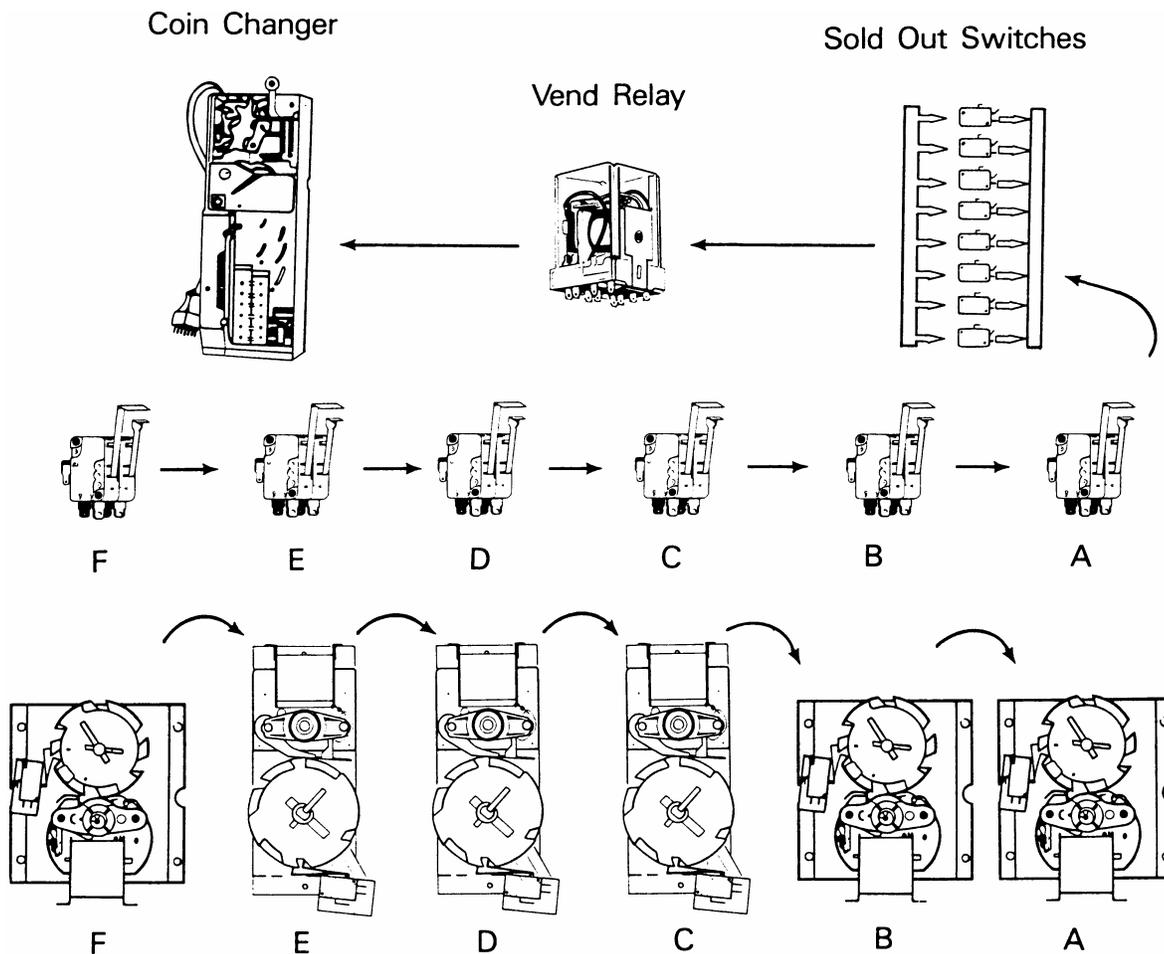
4. Push vend motor switch (motor C) - vend motor does not cycle.

* The problem is the vend motor switch and by-pass switch on motor C and/or motor D.

5. If the problem is not found, continue this procedure through motors B and A.

6. If the problem is not found, check the vend relay.

7. If the problem is not found, the last component to check would be the coin changer.



DRIFTING MOTOR AND JACK POTTING PROBLEM

1. Problem: The vend motor drifts, both switch arms drop into the cam notch and the vend motor keeps running.

- Troubleshooting:
- A) Check Vend Motor Switch on problem Vend Motor; replace if faulty.
 - B) Check Vend Motor Switch arm relationship to the cam of the Vend Motor. Reform arm if needed or replace Vend Motor Switch.
 - C) Check the Pawl for looseness. If it is tight, replace Pawl or Vend Motor.
 - D) Check the Pawl Spring. If it is off, elongated, or broken, replace the Pawl Spring.
 - E) Check Actuator. If Actuator sticks to stator due to syrup, clean stator. If Actuator is tight, clean actuator at pivot or replace the Vend Motor.
 - F) Check the brake clutch -2 projections on the clutch. If broken, replace the Vend Motor.

2. Problem: Two cans are delivered in a given cycle and the next cycle is a dry vend.

- Troubleshooting:
- A) Check for proper shimming and set-up of package being vended.
 - B) Check for proper cam setting for package being vended.

3. Problem: Two cans are delivered in each cycle.

- Troubleshooting:
- A) Check for proper shimming and set-up of package being vended.
 - B) Check for proper cam setting for package being vended.
 - C) Follow troubleshooting procedure for problem 1.

4. Problem: Pre-Select (i.e. set-up a credit, press no Select Button and product is vended)

- Troubleshooting:
- A) Check Select Switch, sticking, wired incorrectly, or faulty. Repair or replace as needed.

ACCEPTS COINS AND WILL VEND THEN, REJECTS COINS BUT WILL CONTINUE TO FREE VEND

1. Problem: Set-up a credit, press a Select Button and it vends; Press same Select Button and it vends again; try to insert coins and coins are rejected; press selection and it vends again.

- Troubleshooting:
- A) Check By-pass Switch on problem column. Check for sticking plunger, wired incorrectly, or faulty. Repair or replace as needed.

HOW THE CLUSTER OF SWITCHES WORKS

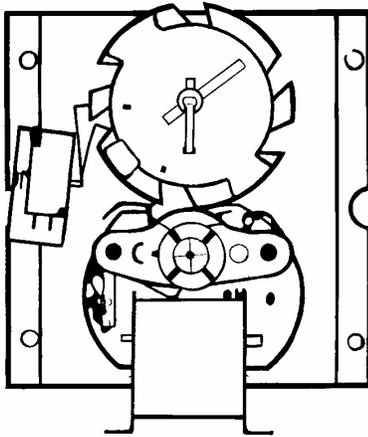


FIGURE 1
VIEW OF VEND MOTOR

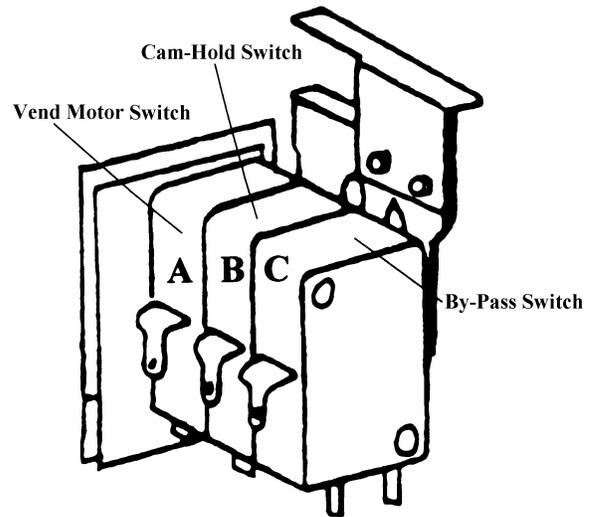
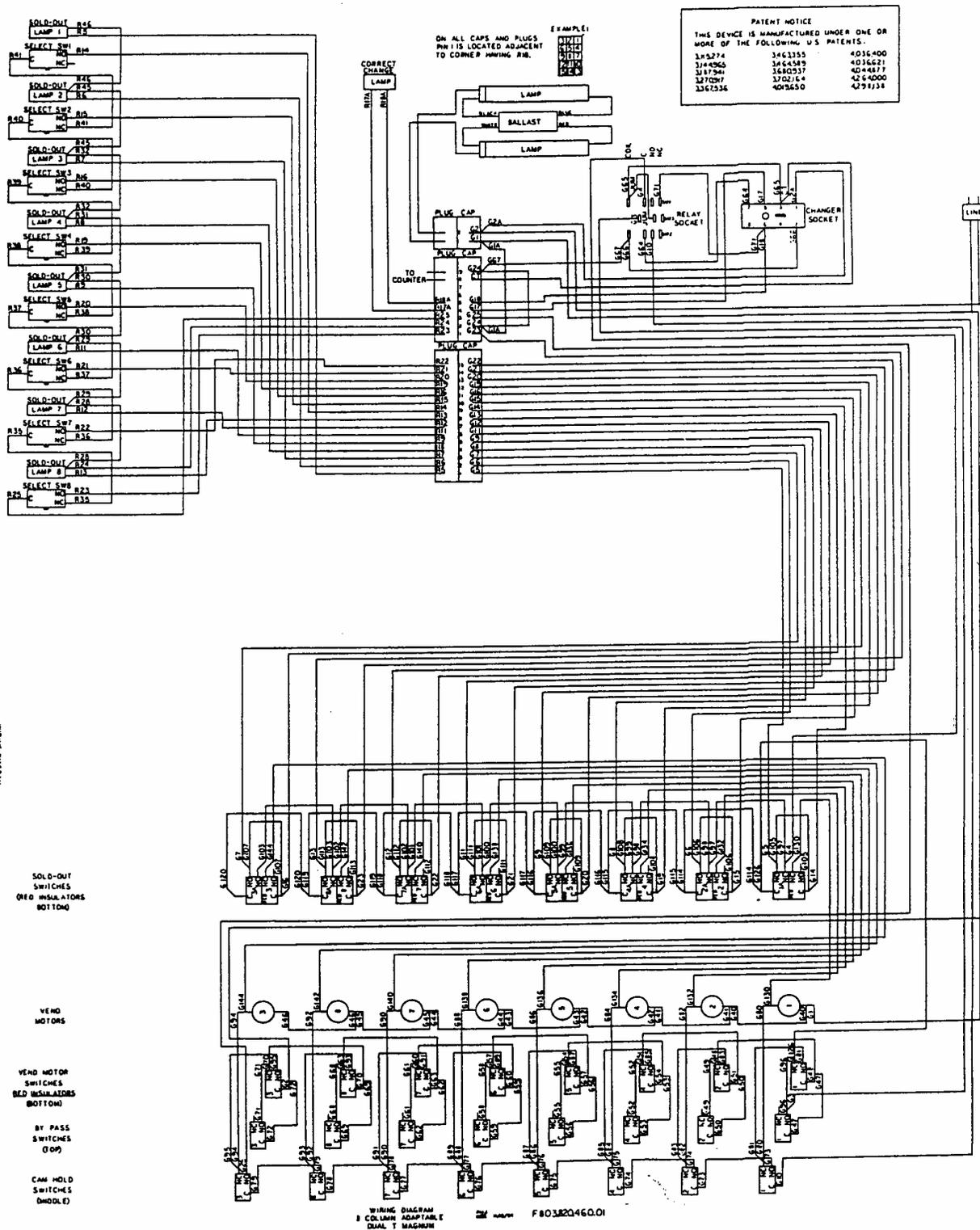


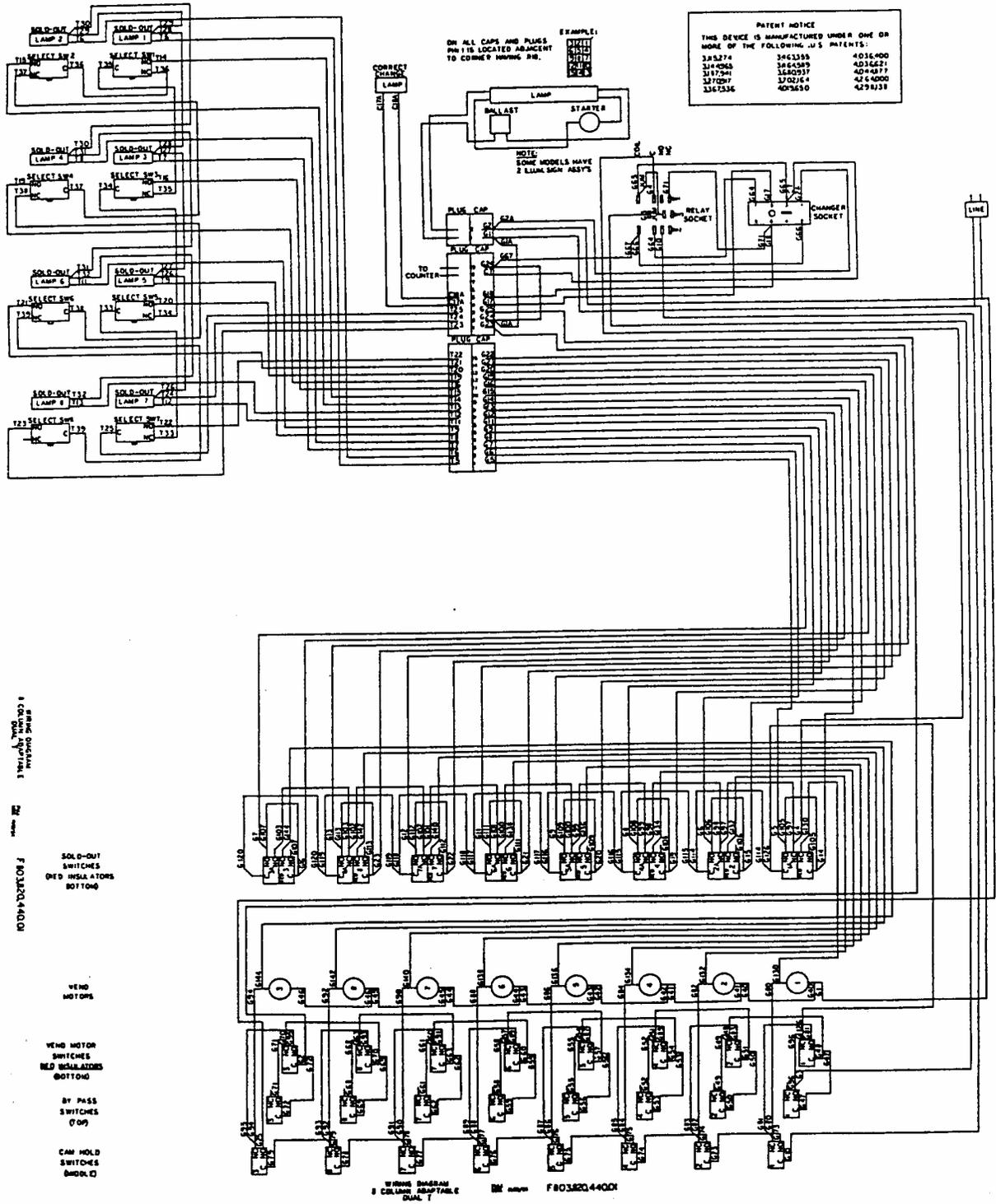
FIGURE 2
VIEW OF SWITCHES

1. See Vend Motor and cluster switches in stand-by position Figures 1 and 2.
 - Arm of Vend Motor Switch A is in cam notch - Figure 2.
 - Arm of Cam-Hold Switch B is on top of cam - Figure 2.
 - Arm of By-Pass Switch C is on top of cam - Figure 2.

2.
 - A) Set-up credit.
 - B) Push a selection. (Pushing of a select switch causes the vend motor to run and the arm of the cam-hold switch to drop into the cam notch). Then...
 - C) the cam-hold switch runs the Vend Motor through the notch and
 - D) the arm of the Vend Motor switch reaches the top side of the cam and breaks the circuit to the vend relay (cancels credit) and causes the vend motor to continue to run.
 - E) A fraction of a second later, the bypass switch arm reaches the top side of the cam and forms a bypass around the vend motor switch. If a jam occurs, all other circuits work.
 - F) The vend motor continues to run to stand-by position..



SAMPLE DIAGRAM



SAMPLE DIAGRAM

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

WHAT TO CHECK	SOLUTION
1. Is the temperature control knob set on its highest setting? YES	1. NO , adjust the knob to a higher setting.
2. Domestically, is the voltage supply between +/- 10% of rating on the serial plate? YES	2. NO , consult the power company.
3. Is the condenser clear of obstructions? YES	3. NO , clear or clean.
4. Is the condenser fan blade turning? YES	4. NO , free the obstruction or check the blade if needed.
5. Is the condenser fan motor operational? YES	5. NO , check.
6. Is the temperature control operational? YES	6. NO , check.
7. Is the tube from the compressor to condenser free of kinks? YES	7. NO , repair or check.
8. Is the capillary tube free of kinks? YES	8. NO , check.
9. Is the thermal overload operational? YES	9. NO , check.
10. Is the start relay operational? YES	10. NO , check.
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.	11. NO , check.

PRODUCT HOTPossible Cause: **Miscellaneous.**

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

PRODUCT COLD BUT NOT COLD ENOUGHPossible Cause: **Compressor runs, but won't cool product.**

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

NOTE: Have vender Model & Serial number available.

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PRODUCT TOO COLD OR FROZEN

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

WHAT TO CHECK	SOLUTION
1. Is the temperature control the correct one for the equipment being used? YES	1. NO , install correct control
2. Is the temperature control set properly? YES	2. NO , adjust to desired setting.
3. Is the temperature control bulb located properly? YES	3. NO , correct its position.
4. Is the temperature control operational? YES	4. NO , check.
5. Does the evaporator frost over completely while the system is running? YES	5. NO , check for leaks or low charge.
6. Consult the Dixie-Narco Factory Service at 1-800-688-9090 or your Dixie-Narco Representative. NOTE: Have the vender Model & Serial number available.	

NOISY REFRIGERATION UNIT

POSSIBLE CAUSES	SOLUTION
1. Are refrigerant lines free of contact with surfaces? YES	1. NO , reposition tubing.
2. Is the condenser fan blade obstructed or damaged? NO	2. YES , free any obstructions or check the blade if needed.
3. Is the evaporator fan blade obstructed or damaged? NO	3. YES , free any obstructions or check the blade if needed.
4. Is compressor noisy? NO	4. YES , check.
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.	

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>1. YES, see step 4. NO, Ensure the door is closed tightly. If door still does not seal properly, see step 2.</p>
2. Is the vend motor cover interfering with the inner door?	<p>2. YES, reinstall motor cover properly. NO, see step 3.</p>
3. Has the machine been vandalized?	<p>3. YES, check necessary components.</p>
4. Are soakers positioned properly?	<p>NO, see step 4.</p>
5. Is the drain hose positioned properly?	<p>4. YES, see step 5. NO, place soakers upright in pan so that air will flow over & through the soakers.</p>
6. Are there 14 fiberglass soakers in the pan?	<p>5. YES, see step 6. NO, place the drain hose in the drain pan along side of the soakers. Ensure the drain hose is not clogged.</p>
7. Are the condenser & evaporator free from obstruction?	<p>6. YES, see step 7. NO, place 14 fiberglass soakers in the condensate pan.</p>
8. Is the delivery door misaligned?	<p>7. YES, see step 8. NO, remove all debris and/or cans from the area around the evaporator and condenser. Clean the evaporator & condenser coils with a stiff brush or compressed air.</p>
9. If all above steps fail...	<p>8. YES, A. Level the vender properly. B. Align the inner & outer doors so that the delivery door does not stick open NO, see step 9.</p>

9. Consult the Dixie-Narco Factory Service at 1-800-688-9090.

NOTE: Have the vender model & serial number available.