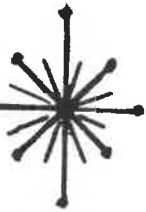


# DIXIE-NARCO SERVICE MANUAL



MODEL —

# OPM-3

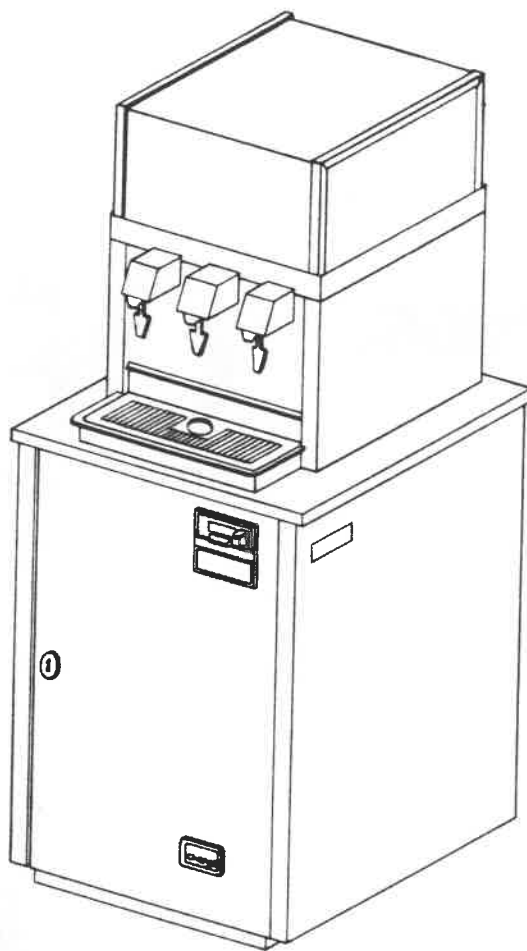
OFFICE

POST-MIX

DISPENSER

MANUFACTURED BY DIXIE-NARCO INC., RANSON, W. VA.

**TITLE PAGE**



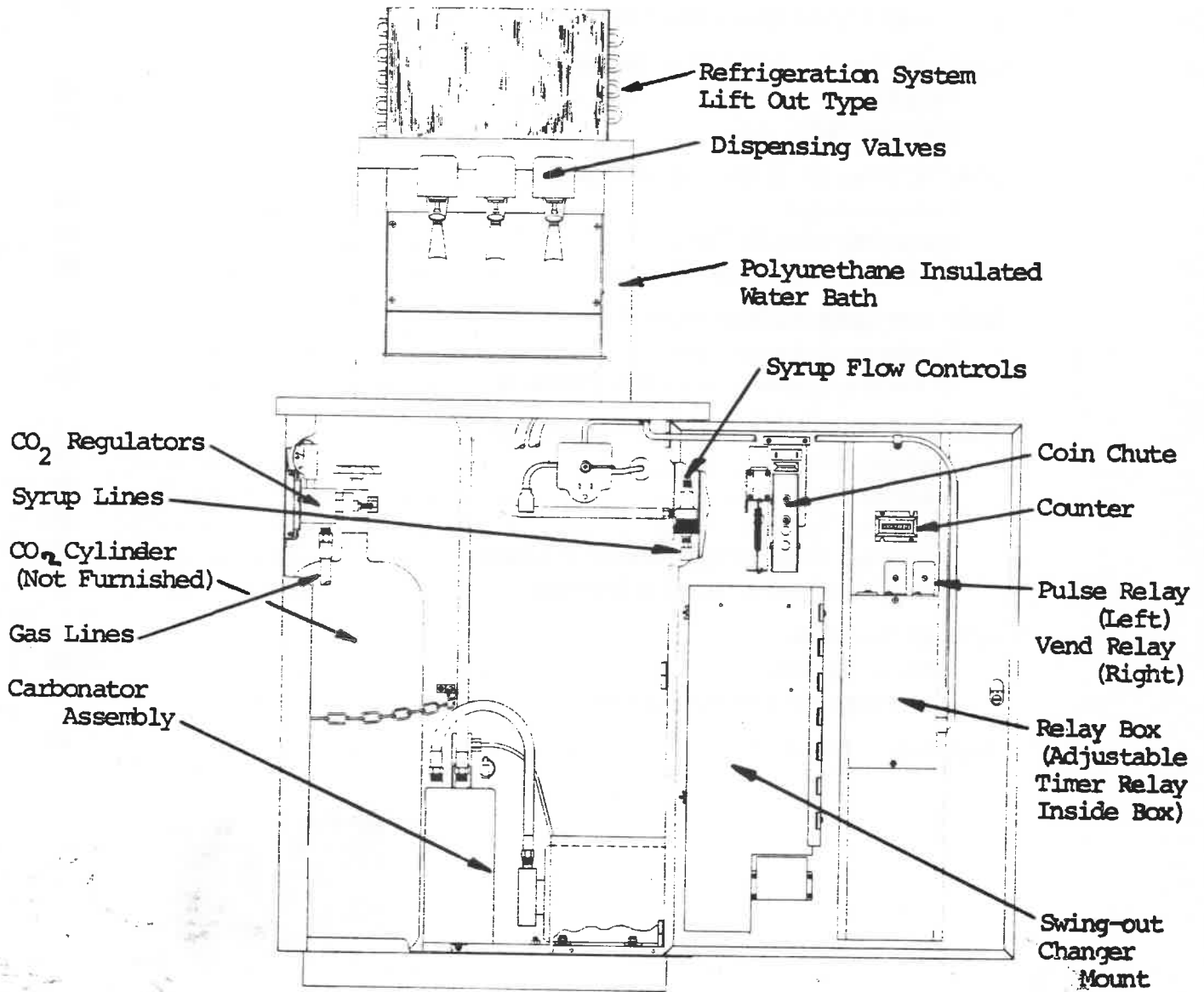
**OPM-3 (OFFICE POSTMIX DISPENSER)**  
**HEIGHT - 56 1/2"**  
**WIDTH - 25"**  
**DEPTH - 25"**  
**SHIPPING WEIGHT - 275 LBS.**

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OPM-3 MAJOR COMPONENTS

COOLER - DISPENSER

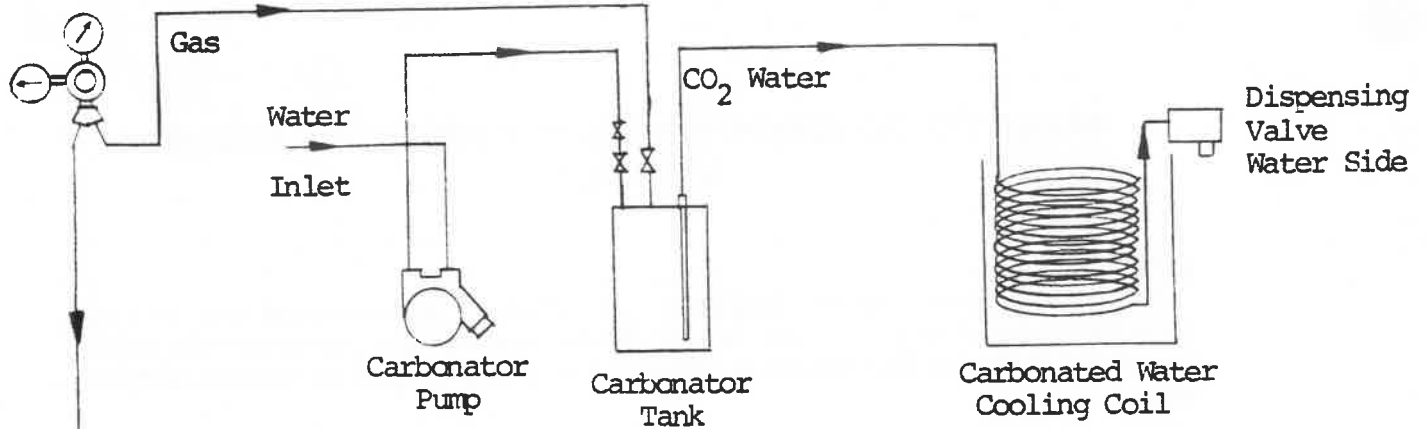


CABINET COMPONENTS

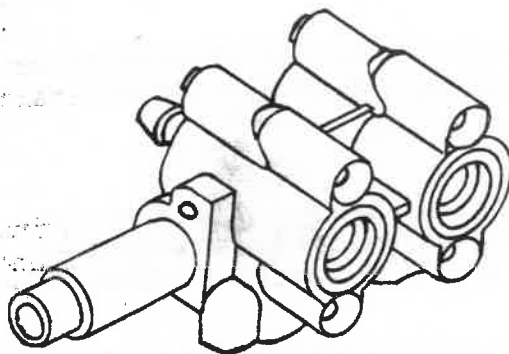
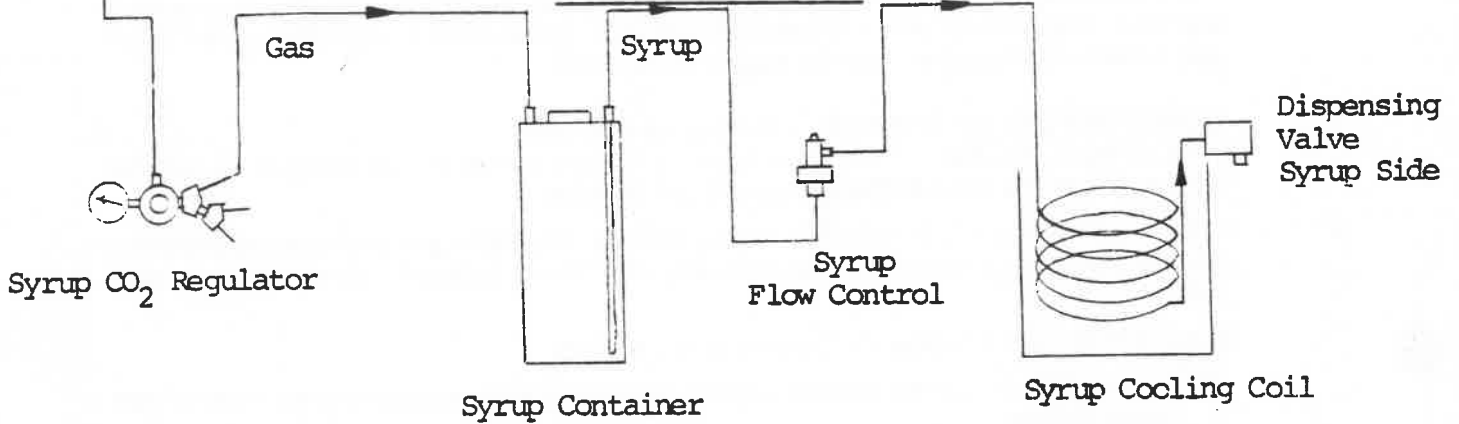
DIXIE-NARCO

Cylinder  
CO<sub>2</sub> Regulator

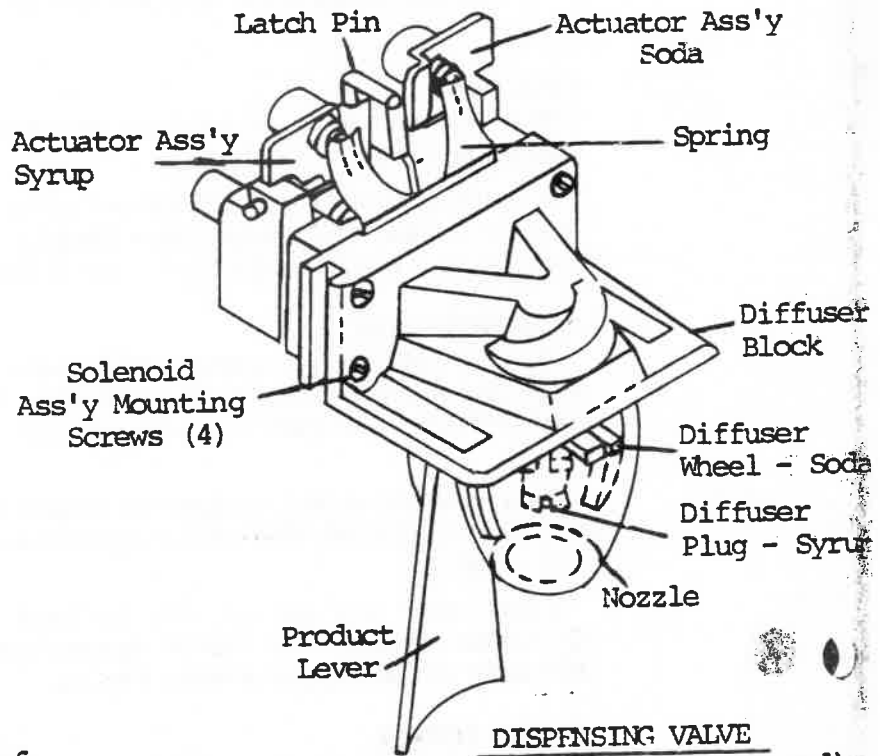
WATER FLOW DIAGRAM



SYRUP FLOW DIAGRAM



QUICK DISCONNECT  
MANIFOLD ASSEMBLY  
(Behind Panel)



DISPENSING VALVE  
(Solenoid Ass'y Removed)

For More Valve Details and Part Ref. Numbers, See Exploded View - Pg. 38

## WHAT TO DO WHEN YOU GET A NEW DISPENSER SET IT UP

### GENERAL

The OPM-3 Office Post-Mix Dispenser is a complete, self-contained unit with the coolerdispenser already mounted on the cabinet counter top. All carbonator pump, carbonator tank lines, CO<sup>2</sup> regulators and gas lines, and syrup lines are installed ready for use.

### POWER SUPPLY

A 115-volt 60HZ 1 phase 15 ampere line with grounded receptacle should be provided for this unit. The OPM-3 with refrigeration unit and carbonation pump running will draw approximately 9 amperes. Do not plug in at this time.

### COIN CHANGER OR CHANNEL - 24 Volts or 115 Volts

As shipped, the Relay-Timer Box is set up for use with a 24-volt Changer or channel assembly and the correct change lamp is for 24-volts.

Before plugging in a 24-volt coin device, remove relay box cover and make sure that the white 4-way plug is mated with the red 4-way cap. This is correct for 24-volt coin device & lamp.

If a 115-Volt Coin Changer or Channel is to be used:

1. Remove 24-volt correct change lamp by squeezing case and pushing out front of coin insert casting.
2. Insert lamp marked 125 V.A.C. in casting, attach leads.
3. Remove white 4-way plug from red 4-way cap in relay box, and plug it into the white 4-way cap. Relay box & lamp are now set up for 115-volt coin device.

### FREE VEND.

The free vend switch is mounted behind the coin insert casting and is operated by depressing the coin reject lever.

A jumper is furnished with the cabinet, which mates with the free vend switch on one end and with a 2-way AMP receptacle on the other end. (on the right side of the relay box) No coin device is needed when this jumper is installed.

### REFRIGERATION

Remove hood from dispenser and fill water bath. Remove splash panel from front of dispenser so that overflow tube can be seen. Water fill hole is on left side of refrigeration deck. Fill with clean water until water runs out of the overflow tube (approx. 7-½ gallons to fill).

Plug refrigeration lead into junction block at rear inside of cabinet. Make sure at this time that carbonator motor lead is not plugged into junction block, then plug cabinet supply into wall outlet.

Refrigeration unit will run until Ice Bank Control is satisfied, then Compressor & Condenser fan motors will shut off. Agitator motor runs continuously. Pulldown & ice bank formation will take approximately 3 hours.

### WATER SUPPLY

Potable water supply line should be at least ¾" OD copper tube or equivalent. Cabinet connection is flexible, braided tubing which extends through rear wall of cabinet and is furnished with a ¾ x ¾" male flare adapter fitting.

## WHAT TO DO WHEN YOU GET A NEW DISPENSER (cont.) SET IT UP (cont.)

If water supply pressure is above 70 PSI, a water pressure reducing valve should be used-set at 40-50 PSI.

Allow supply water to enter cabinet system. Pull up on carbonator tank relief valve (on top of carbonator tank) until water appears. Now, remove dispensing valve covers (lift straight up) and pull right side (facing valve) valve actuator forward until plain water appears. Do this to each valve. Check all water circuit connectors, lines and fittings for leaks.

### CO<sup>2</sup> GAS SUPPLY & REGULATORS

Provision is made at back left corner of cabinet for 20lb. CO<sup>2</sup> cylinder. Install cylinder and attach CO<sup>2</sup> regulator, which is provided with the cabinet. Secure safety chain. This regulator feeds the carbonator and the syrup CO<sup>2</sup> regulators which are mounted on the left wall of the cabinet towards the front.

Before opening the CO<sup>2</sup> cylinder valve, check the syrup CO<sup>2</sup> regulators and gas lines to see if they are set up correctly for your products.

Gas lines are marked 1, 2, & 3. These will feed syrup containers for valve #1 on right facing unit, 2 in center & 3 on left. **As shipped**, all three gas lines are attached to the normal pressure syrup gas regulator for sugar type syrups. If all three syrups are this type - no changes need be made.

Sugar free syrups - If a sugar free syrup is to be dispensed, the low pressure regulator, which is capped off as shipped, should be used. Remove the cap, transfer the gas line to be used for the sugar free syrup from the normal regulator to the low pressure regulator and cap off the normal regulator outlet from which you have just removed the gas line.

Open CO<sup>2</sup> cylinder valve. Crack valve open slowly, then open all the way.

Set cylinder regulator for 100 PSI.

Set normal syrup regulator for 40 PSI.

Set sugar free regulator for 9-10 PSI.

#### CHECK FOR GAS LEAKS:

1. Large leaks will be obvious-listen for hissing noise.
2. Shut off cylinder valve and observe syrup & cylinder regulator gauges for several minutes for any drop-off in pressure (this would indicate a leak).
3. To locate hard to find gas leaks, use a bubble type leak detector liquid, such as "D-Tekt" (available at refrigeration supply houses.) Apply with brush at connections. Bubble will form if there is a leak. Make sure CO<sup>2</sup> cylinder valve is open while using the "D-Tekt".

### CARBONATED WATER

Before plugging in carbonator motor, pull right hand valve actuators forward one at a time until gas appears at each valve.

Now, plug carbonator motor lead into outlet provided at cabinet junction block. Carbonator motor & pump should run and shut-off when carbonator tank has been filled to proper level.

Draw from dispensing valves by pulling forward on right hand valve actuator until carbonated water is flowing out valves.

### FILL WITH SYRUPS

One five gallon and two 2-½ gallon s.s. syrup containers are provided with unit. To add syrup do this:

## WHAT TO DO WHEN YOU GET A NEW DISPENSER (cont.) SET IT UP (cont.)

1. If CO<sup>2</sup> gas line is connected to syrup container, disconnect it from the container gas plug.
2. Lift up on the safety valve (in center of container lid) and bleed off any gas pressure.
3. Pull up on wire form lid locking handle and rotate over to unlocked position.
4. Push down on one end of oval lid, breaking seal. Lift lid out.
5. Fill with syrup - replace lid - rotate lid locking handle over to locked position.
6. Pressurize the container using the proper numbered gas line for the container - make sure that safety valve tab is in closed position (over to one side).

On initial fill, snap the #1, 2 and 3 syrup lines to the container outlets. Using the left hand actuator on each valve, pull actuator forward until a steady flow of syrup appears at valve.

When refilling containers, there is no need to disconnect the syrup lines from the containers. Only the gas lines need be disconnected.

### TIME & BRIX THE DRINKS

The carbonated water side of each dispensing valve has a flow control washer which give a water flow rate of 1.25 oz/sec. This is fixed and therefore, water flow adjustments are made by adjusting the timer-relay (in the relay box).

Syrup flow is controlled by the syrup flow controls which are mounted in a bracket on the right wall of the cabinet.

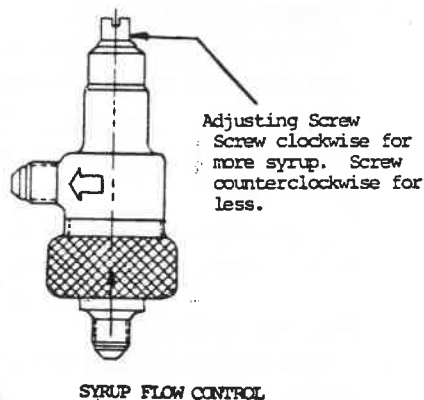
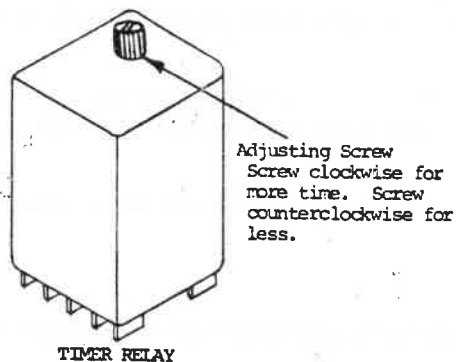
The timer and syrup flow controls are checked out at the factory for a 6 oz. mixed drink (5 oz. water and 1 oz. syrup). As shipped, the timer is set at approx. 4 seconds.

### TIMER & BRIX THE DRINKS - ADJUSTMENTS

If adjustments for drink size or brix are required, do this:

1. Adjust the water volume first by changing the time. The timer relay inside the relay box has a time adjusting screw on top.  
..... Turn clockwise for more time & water or counterclockwise for less time & water. One-half turn gives a change of approximately ¼ sec. 2 full turns = 1 second. As stated before, 1 second of flow = 1.25 oz. of water.
2. After correct amount of water is obtained, adjust the syrup flow control if necessary. The flow controls will come off the bracket for adjusting, but always put them back in the vertical position for testing.

Turning the screw clockwise will give more syrup. Counterclockwise will give less. At the 4 second time, ½ turn of the flow control adjusting screw will give a change of approximately 5 ml. of syrup.





## INSTRUCTIONS OPM-3

### DISPENSING VALVE BRIX & CLEANING KIT B/M 225, 010,100.04

### FLOMATIC BEVERAGE BELLE VALVES

Kit Consists Of:

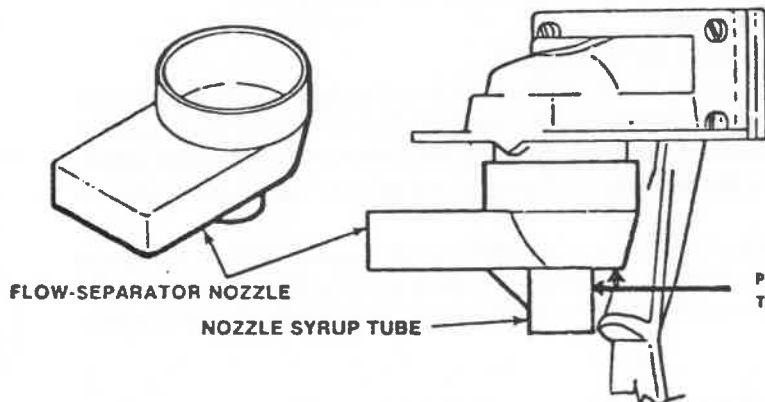
- 1 Valve Wrench/Tool Part #30 (Reference 48)
- 1 Flow Separator Nozzle Part #90
- 1 Proportion Measuring Cup Part #91
- 1 Nozzle Cleaning Brush Part #31 (Reference 49)

#### BRIX INSTRUCTIONS

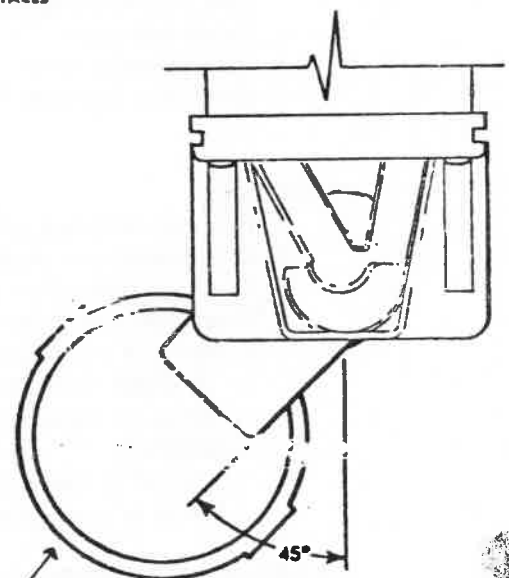
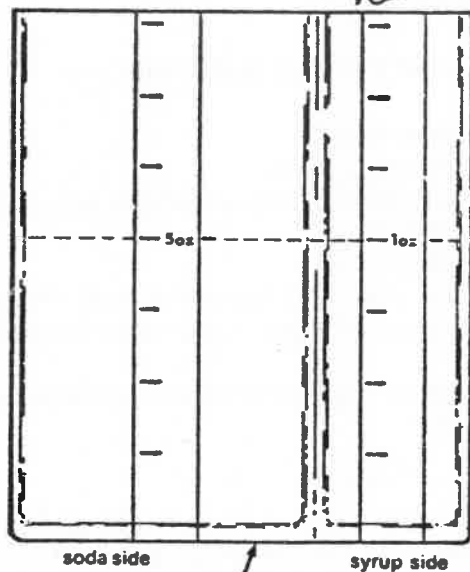
##### USE OF FLOW-SEPARATOR NOZZLE & PROPORTIONING MEASURING CUP

1. Remove Nozzle (Ref. #1) with tool (P/N 30) and replace with Flow-Separator Nozzle (P/N 90). Press firmly and straight into place with soda opening at about 45° angle from center.
2. Place small syrup side of measuring cup (P/N 91) under round center syrup outlet with the tube against the inside of cup wall. Position large soda side of the cup under the rectangular soda outlet.

##### ILLUSTRATION OF FLOW-SEPARATOR NOZZLE AND PROPORTION MEASURING CUP USE.



3. Press cup straight up firmly against bottom of Flow-Separator nozzle making a good seal between the nozzle syrup tube and the small shoulder of the soda diffuser wheel.
4. Coin dispenser, press valve lever and draw drink to check water/syrup ratio. If adjustments are required, see "Time & Brix The Drinks" section in the front of the service manual.



PROPORTION MEASURING CUP

## CLEANING AND SANITIZING PROCEDURES

### DIS-ASSEMBLY FOR CLEANING DISPENSING VALVES

**CAUTION:** *The electric solenoid unit on the valves **Must not be Immersed in water and should be removed prior to thorough cleaning as follows:***

1. Lift off cover, lift up latch pin (Ref. #26) and separate valve from panel. Pull the 3-wire connectors through panel and disconnect.
2. Loosen the four (4) #4-40 machine screws (Ref. #5) one turn. Remove solenoid assembly by lifting up and then back, taking care to retain the plungers (Ref. #56 & 57) which are free and many be removed for inspection, if desired.
3. The valves can now be cleaned.
4. After cleaning valves, re-assemble in reverse order, making sure the plunger hooks are engaged over and on the back side of the actuators (Ref. #21 & 22), the guide slots are over the guide bars on the case and the case bracket is properly engaged and snapped down behind the #4-40 screws. (Ref. #5). Re-tighten screws evenly but **NOT EXCESSIVELY**.
5. Complete re-assembly and proceed to next valve.

**NOTE:** The above procedure should be followed whenever cleaning of the valves is mentioned in the following cleaning and sanitizing procedure.

### CLEANING & SANITIZING PROCEDURE

#### DAILY PROCEDURE

1. Remove valve - cover (lift straight up) and remove soda add-a-lever (Ref. #25) if used.
2. Remove nozzle (Ref. #1); a 1/8 turn with large spanner end of nozzle tool releases nozzle and it can then be removed with fingers. Soak and clean in commercial cleaning/sanitizing solution such as Pennsan or Diversol mixed with water per container instructions.
3. Use brush and soft cloth in same solution to clean top and under side of valve and panel face; pour some down through lever slot to clean off any possible syrup residue. Rinse thoroughly with warm water. Remove excess water with paper towel or clean soft cloth.
4. Re-assemble valve.
5. Draw 2 or 3 drinks to taste for flavor.

#### MONTHLY PROCEDURE

##### FLUSHING:

1. Fill a clean syrup tank with clean water.
2. Disconnect all syrup lines from syrup tanks.
3. Connect tank of water to syrup line and pressurize tank with CO<sup>2</sup>.
4. Flush syrup from all lines as follows:
  - a. Remove valve cover (lift straight up)
  - b. Pull left hand valve actuator (Ref. #21) forward 1/8" with finger just enough for syrup to flow from syrup tube of valve. **CAUTION: DO NOT OVER-BEND SPRING.** (Ref. #11). Catch waste in a rectangular pan held against panel face. Flush until all syrup is completely removed.

##### CLEANING & SANITIZING:

5. Mix a 90° F solution of commercial cleaner/sanitizer such as Pennsan or Diversol with water per container instructions. Fill a clean syrup tank and flush all syrup lines until solution appears.
  - a. Release actuator and let solution stand in each system for seven minutes.

## **CLEANING & SANITIZING PROCEDURE (cont.)**

- b. Replace with more solution and allow to remain in each syrup system for 2 minutes.
- c. If second solution is not clear, repeat step b. until solution is clear.
- d. During "let stand" period, remove nozzle (Ref #1) using large end of spanner tool, syrup diffuser plug (Ref. #2) and soda diffuser wheel (Ref. #4), using soft cloth over fingers with a twist-pull action. Clean all parts in same solution. Rinse thoroughly in warm water.
- e. Thoroughly clean panel face and top and bottom of valves with soft cloth and brush. Pour some solution down through lever slot to wash away any accumulated syrup. Rinse thoroughly with clean, warm water.
- f. Re-assemble valve.

### **RINSING:**

6. Fill tank with clean water and rinse syrup system to remove sanitizing solution.

### **CLEAR ALL SYRUP LINES:**

7. Connect a clean, empty syrup tank which has CO<sup>2</sup> pressure to it and blow all excess water from each syrup system.
8. Connect proper syrup flavor tank to proper syrup line and fill system with syrup.
9. Draw 2 or 3 drinks and taste for flavor.

## HOW THE DISPENSING CYCLE WORKS -VEND CYCLE-

WHAT DOES IT	WHAT HAPPENS
Coins in Changer	Causes Coin Vend Switch to work
The N.O. Contact of the coin vend switch.	Closes and completes the pulse relay coil circuit.
The pulse relay coil	Closes the N.O. contact of pulse relay switch 1 in the vend relay coil circuit, and at the same time, closes the N.O. contact of pulse relay switch 2 in the timer circuit to wipe out any time which may have been left in timer.
The Vend Relay Coil	Closes the N.O. contact of vend relay switch 1 in the vend relay coil circuit to hold the vend relay coil "on" and at the same time, Closes the N.O. contact of vend relay switch 2 in the timer circuit, the valve solenoid circuit and the drink relay coil circuit.
A spring (in the coin vend switch)	Opens the N.O. contact of the coin vend switch, which turns the pulse relay coil "off".
The customer	Presses a cup on the dispensing valve lever.
The dispensing valve lever	Closes the N.O. contact of the dispensing valve switch in the dispensing valve solenoid circuit and at the same time, opens the N.C. contact in the drink relay coil circuit.
The drink relay coil	Turns "off" and opens the drink relay switch in the timer circuit which starts the timer.
The dispensing valve solenoids.	Open the dispensing valve to pour the drink.
The timer	Finishes the set time period and opens the N.C. contact of the time delay relay switch, which opens and breaks the vend relay coil circuit.
The N.O. contact of vend relay switch #1	Opens the Vend Relay Coil circuit.
The N.O. contact of vend relay switch #2	Opens in the timer, dispensing valve solenoid and drink relay coil circuits, stopping the drink flow and resetting the cycle.

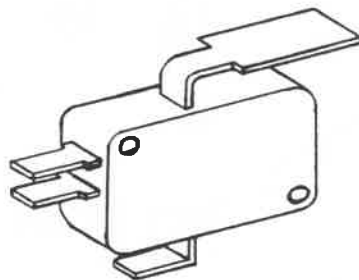
## HOW THE DISPENSING CYCLE WORKS -ELECTRICAL PARTS-

### COIN VEND SWITCH (Coin Changer or Channel)

The coin vend switch is located in the changer or channel assembly and it will be activated when enough coins are accepted to reach the sale price.

The N.O. contact of the coin vend switch is in the pulse relay coil circuit. This N.O. contact closes and completes the pulse relay coil circuit momentarily.

### FREE VEND SWITCH

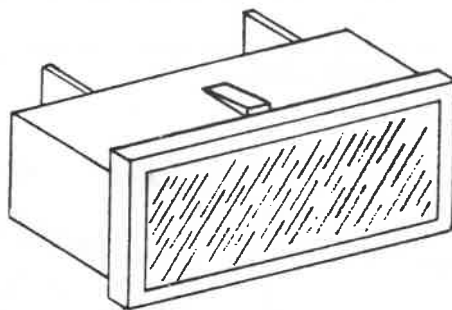


**Part No. A804,100,300.11  
Free Vend Switch**

The free vend switch is mounted on a bracket behind the coin insert casting and is activated when the coin return lever is pushed down.

When this switch is connected to the relay box using the jumper provided, it will take the place of the coin vend switch and perform the same function as stated above.

### CORRECT CHANGE LAMP



**24 Volt Part No. 804,700,220.01  
115 Volt Part No. 904,700,180.01**

**Correct Change Lamp**

The correct change lamp is mounted in the coin insert casting and is retained by projections top and bottom.

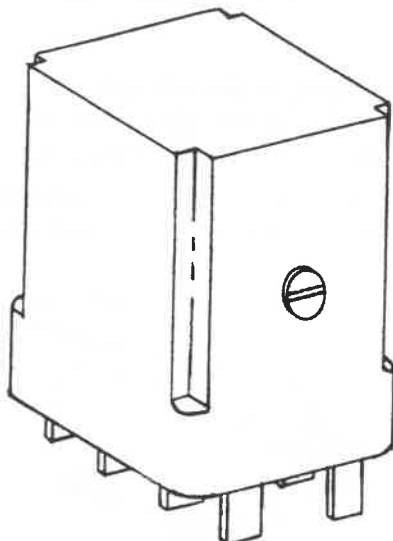
The lamp is in the coin tube switch circuit of a changer and is "ON" when there are not enough coins in the tube to make change.

Two correct change lamps are furnished. The 24 volt lamp **must** be used when a 24 volt changer is used and the lamp marked 125 V.A.C. must be used when a 115 volt changer is used.

## HOW THE DISPENSING CYCLE WORKS (cont.)

### -ELECTRICAL PARTS-

#### PULSE RELAY



**Pulse Relay**  
**Part No. 804,200,180.01**

The Pulse Relay is a 24-volt, plug-in relay, located on top of the relay box nearest the coin changer socket.

The Pulse Relay is turned "on" when the N.O. contact of the coin vend switch or the free vend switch closes and completes the pulse relay coil circuit. The Pulse Relay is turned "off" when the N.O. contact of the coin vend switch or the free vend switch opens. This is momentary action.

#### Pulse Relay Switch No. 1

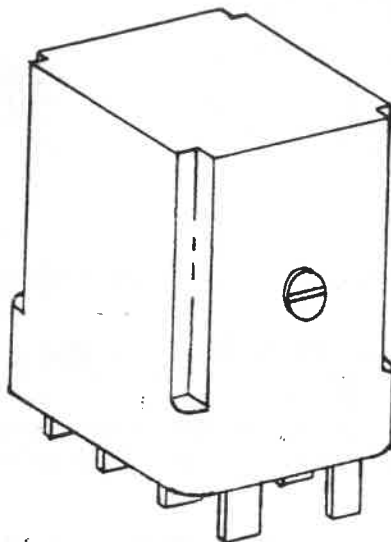
The N.O. contact of Pulse Relay Switch #1 is in the Vend Relay Coil Circuit. The N.O. contact closes and completes the Vend Relay Coil circuit.

#### Pulse Relay Switch No. 2

The N.O. contact of Pulse Relay Switch #2 is across Terminal A and 8 of the Timer Relay package.

The N.O. contact closes and wipes out any time which may have been left on the timer due to a previous customer not drawing a complete drink.

#### VEND RELAY



**Vend Relay**  
**Part No. 804,200,180.01**

The Vend Relay is a 24-volt, plug-in relay located on top of the relay box to the right of the pulse relay.

## HOW THE DISPENSING CYCLE WORKS (cont.) -ELECTRICAL PARTS-(cont.)

### (Vend Relay, cont.)

The Vend Relay is turned "on" when the N.O. contact of pulse relay switch #1 closes and completes the vend relay coil circuit. The vend relay is turned "off" when the N.O. contact of Vend Relay Switch #1 opens and breaks the Vend Relay Coil Circuit. This is due to the Timer relay N.C. Switch contacts opening.

### Vend Relay Switch No. 1

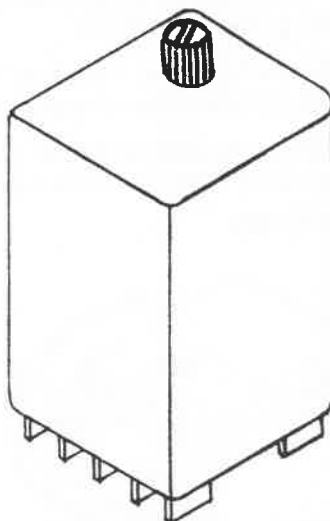
The N.O. contacts of Vend Relay Switch # 1 is in the Vend Relay Coil Circuit. The N.O. contact closes in and keeps the Vend Relay Coil circuit completed.

### Vend Relay Switch No. 2

The N.O. contacts of Vend Relay Switch #2 is in the Timer Relay circuit, the Dispensing Valve Solenoid circuits and the Drink Relay Circuit.

The N.O. contact closes and sets up these circuits so that drinks can be drawn and timed.

### TIMER & DRINK RELAY



**Timer & Drink Relay  
Part No. 804,200,160.01**

The Timer & Drink Relay is located inside the relay box and is a 24-volt, plug-in relay package, which incorporates a solid state timing circuit, time delay relay and a drink relay, all in the same case. The timer is adjustable from 2 to 10 seconds.

The timing circuit and the drink relay coil are turned on when Vend Relay switch #2 N.O. contacts close. Timing does not start until the Drink Relay Coil is turned off due to a Dispensing Valve switch being activated. (N.C. contacts open)

### Time Delay Relay Switch

The N.C. contact of the Time Delay Relay switch is in the Vend Relay coil circuit. The N.C. contact opens after time is used up and turns "off" the vend relay.

### Drink Relay Switch

The N.O. contact of the drink relay switch is in the timer circuit. They are closed immediately when the timer circuit and drink relay coil get power from Vend Relay switch #2.

The N.O. contacts of the drink relay switch open and timing begins when a dispensing valve switch is activated.

### Note: Time-Hold Characteristic

If a customer for some reason pulls the cup away from the valve lever before the time (and drink) is completed, the timer will "hold" and mark time. The customer can push the lever

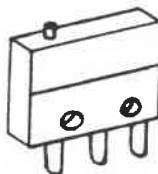
## HOW THE DISPENSING CYCLE WORKS (cont.)

### -ELECTRICAL PARTS- (cont.)

again and complete the time (and drink).

If a customer for some reason pulls the cup away from the valve lever before completing the time (and drink) and goes away, the timer will hold the remaining time until another coin is inserted (or the free vend switch is activated). This will reset the timer for full time (and drink).

#### DISPENSING VALVE SWITCH



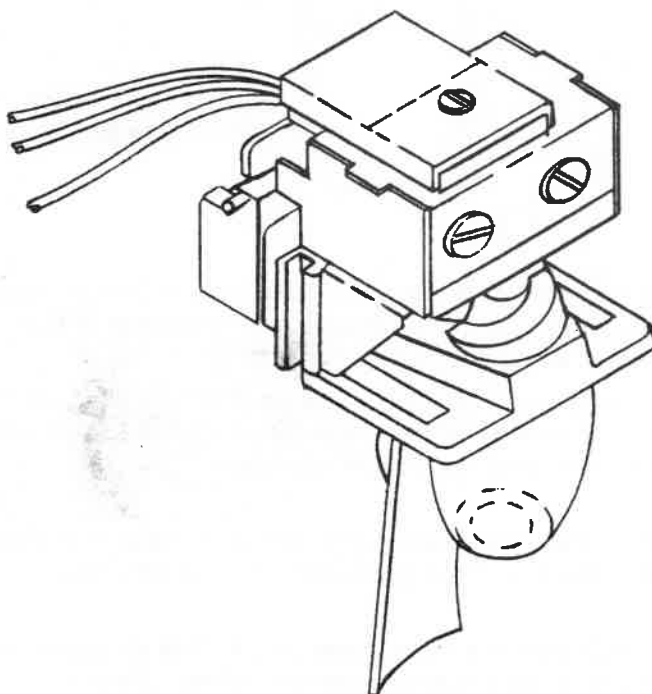
Dispensing Valve Switch - Part No. 63

The dispensing valve switch is a single pole, double-throw switch located under the plastic cover on top of the dispensing valve solenoids.

The N.O. contact of the Dispensing Valve Switch is in the valve solenoid circuit. The N.O. contacts close and complete the circuit to water & syrup solenoids.

The N.C. contact of the dispensing valve switch is in the Drink Relay Coil Circuit. The N.C. contact opens and turns "off" the drink relay coil.

#### DISPENSING VALVE SOLENOIDS



Dispensing Valve Solenoid  
Part No. 60A

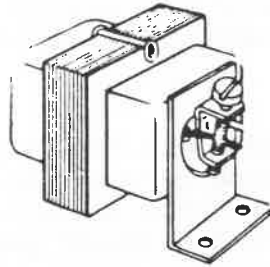
The Dispensing Valve 24-volt Solenoids are located on top of the Dispensing Valves. When the solenoids are turned "on" the right hand solenoid pulls the carbonated water actuator and the left hand solenoid pulls the syrup actuator to dispense a mixed drink.

When the valve lever is pushed the N.O. contact of the Dispensing Valve Switch close to complete the solenoid circuits, provided the vend relay switch #2 N.O. contact is closed.



## HOW THE DISPENSING CYCLE WORKS (cont.) -ELECTRICAL PARTS- (cont.)

### TRANSFORMERS 115 VOLT TO 24 VOLT



**115/24 Volt Transformers**  
**55 VA Part No. 804,400,110.01**  
**20 VA Part No. 804,400,120.01**

**The transformers are located inside the relay box at the bottom. The transformers are used to transform the 115 volt AC line voltage down to 24 volt AC.**

When the relay box is set up for use with a 24 volt changer, the larger transformer (55 V.A.) is being used to provide 24 volts for the changer, correct change lamp, pulse relay, vend relay, timer relay, drink relay and dispensing valve solenoids, and optional counter.

When the relay box is set up for use with a 115 volt changer, the changer and correct change lamp get 115 volt line voltage. The smaller transformer (20 V.A.) is used to take the 115 volt pulse from the coin vend switch and transform it to 24 volts for the pulse relay coil and optional counter. The larger transformer is still being used for the vend relay, timer relay, drink relay and dispensing valve solenoids.

## HOW TO TAKE CARE OF THE DISPENSER

### THINGS TO ADJUST

#### SYRUP FLOW CONTROLS

To obtain more syrup flow, turn the slotted adjusting screw clockwise.

To obtain less syrup flow, turn the slotted adjusting screw counter-clockwise.

At the 4 second timing (6 oz. drink) adjusting the screw  $\frac{1}{2}$  turn will give a change of 5 ml. of syrup.

#### NOTES

1. The dispensing valve metering screws (Ref. #19) located at the bottom-back of the valves, are cut-off (shortened) and **do not** function as metering screw for water and syrup. See "set it up" instructions at front of manual.
2. The Refrigeration Control is and "Ice Bank Control" and does not require any adjustments for altitude.

#### SOLID STATE TIMER (Adjustable from 2-10 Seconds)

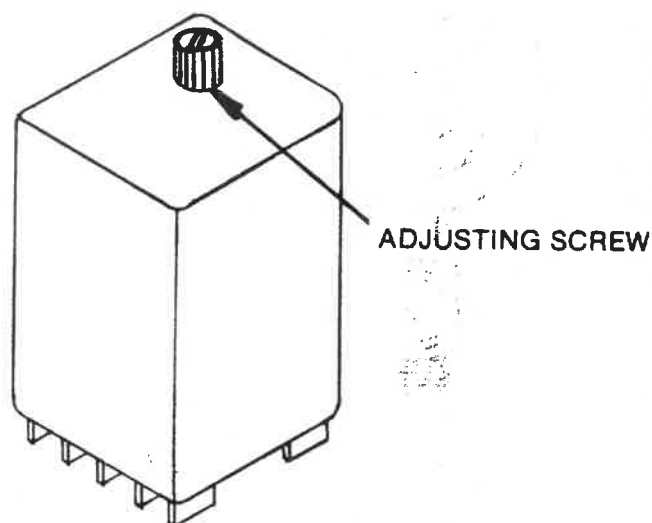
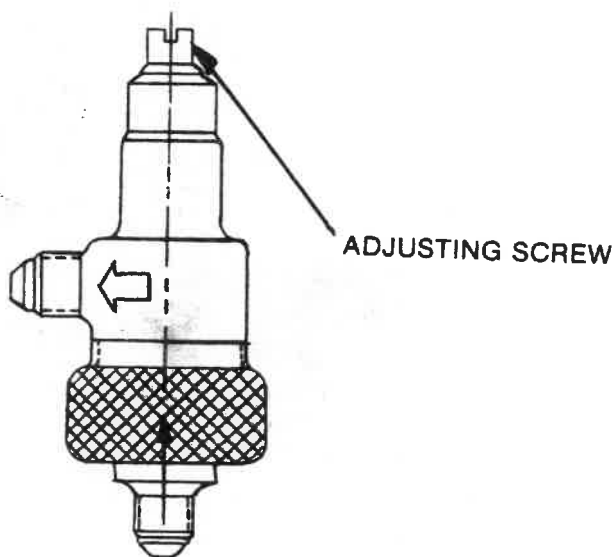
The time adjusting screw is at the top of the timer - drink relay package.

Screw clockwise for more time

Screw counterclockwise for less time

$\frac{1}{2}$  full turns =  $\frac{1}{4}$  second

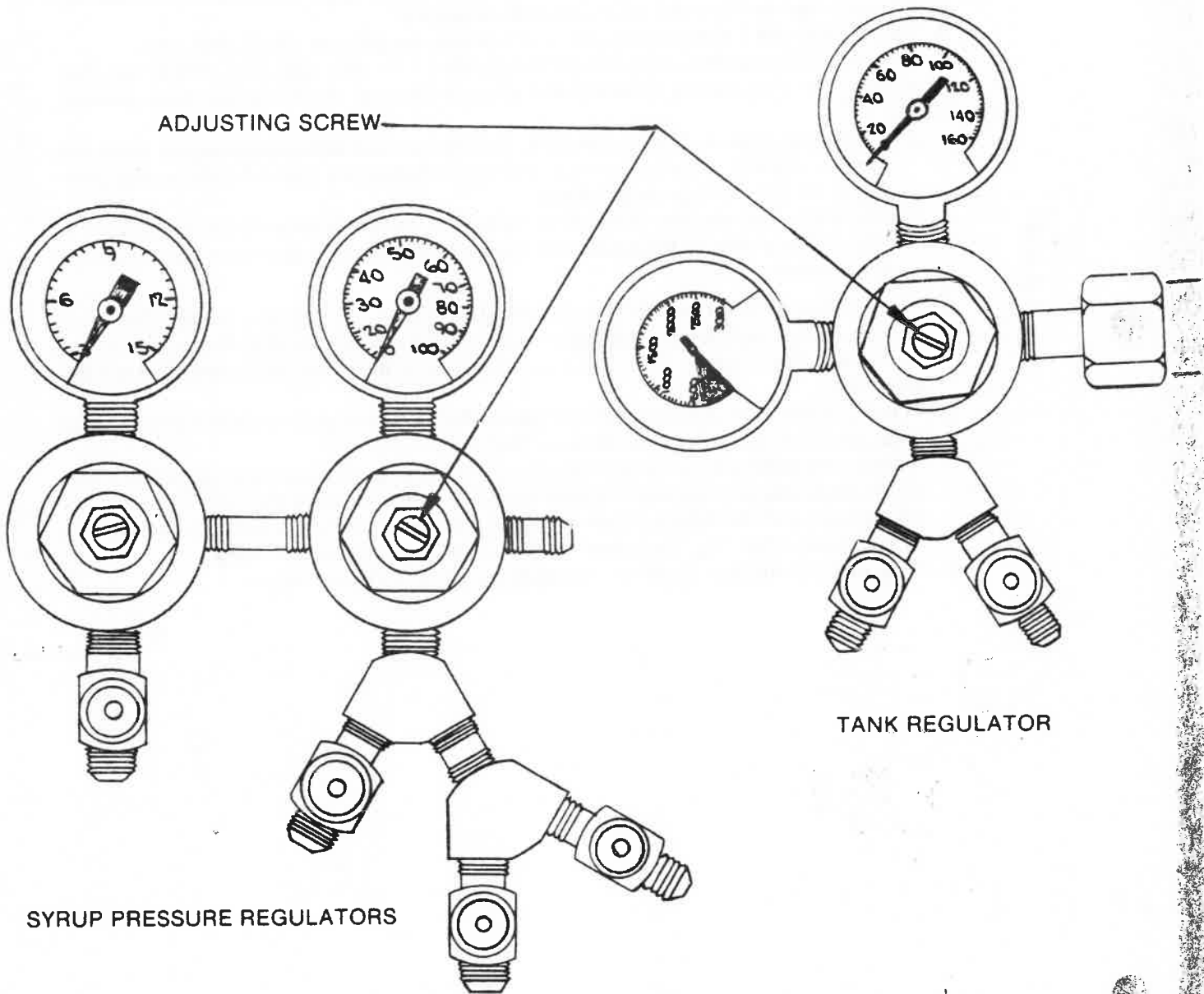
2 full turns = 1 second



## HOW TO TAKE CARE OF THE DISPENSER THINGS TO ADJUST

### CO<sup>2</sup> REGULATORS

To get more gauge pressure on a regulator, turn the slotted adjusting screw of the regulator in a clockwise direction. To get less gauge pressure, turn the slotted adjusting screw in a counter-clockwise direction. At the same time, work the relief valve to bleed off the excess gas. This must be done to compensate for the screw adjustment just made.



## HOW TO TAKE CARE OF THE DISPENSER -DISPENSING VALVE SERVICING-

The valves can be completely dis-assembled. They can be removed from the valve panel and disassembled at a sink or bench as follows:

1. Lift off cover, lift up latch pin (Ref. #26) and separate valve from panel. Pull the 3-wire connectors through panel and disconnect.
2. Loosen the four #4-40 machine screws (Ref. #5) one turn. Remove solenoid assembly by lifting up and then back, taking care to retain the plungers (Ref. #56 & 57) which are free and may be removed for inspection, if desired.
3. Then remove the 4 screws (Ref. #5) and remove the diffuser block (Ref. #7).
4. Remove 4 screws (Ref. #10), lift off spring (Ref. #11) and caps (Ref. #12 & 13), then pallets (Ref. #14) can be removed and all parts cleaned, inspected and reassembled.

**NOTE:**

- a. The pallets (Ref. #14) are reversible. Should one seat become damaged, the pallet can be reversed. If pallet damage is evident, inspect the seat area of the caps (Ref. #12 & 13) for damage or deformity.
  - b. The water flow washer (Ref. #8) is located in the water side of the diffuser block (Ref. #7) and should always be installed with the concave surface toward the front of the block.
5. Reassemble pallets (Ref. #14) and caps (Ref. #12 & 13), replace spring (Ref. #11) making certain center leg of spring is centered on the lever cap (Ref. #18) and does not interfere with actuators (Ref. #21 & 22). Tighten screws (Ref. #10) evenly **but not excessively**.
  6. Place O-rings (Ref. #9) into diffuser block (Ref. #7), wet and press firmly into valve base, start but do not tighten screws. (Ref. #5)
  7. Replace the solenoid assembly making sure the plunger hooks are engaged over and on the back side of the actuators (Ref. #21 & 22), the guide slots are over the guide bars on the case and the case bracket is properly engaged and snapped down behind the #4-40 screws (Ref. #5). Re-tighten screws evenly **but not excessively**.
  8. Plug wire connectors together, remount on panel & replace cover.

## HOW TO TAKE CARE OF THE DISPENSER CORRECTING DISPENSING TROUBLES

When the dispenser is not working right, get the trouble, then go to the table called "Correcting Common Dispensing Troubles". See what the possible causes are, and try the tests (in the center column); they will let you know when you have the true cause of the trouble. When you have found the cause of the trouble, either make the adjustments, repair the part, or put a new part in, whatever the table indicates.

### TROUBLE

1. The Dispensing Valve will not dispense product.
2. The Dispensing Valve will not dispense a proper ratio finished drink.

### HOW TO CORRECT COMMON DISPENSING TROUBLES THE DISPENSING VALVE WILL NOT DISPENSE PRODUCT

A Possible Cause	To Make Sure	This Is What To Do
1. No electrical power to Solenoids.	Remove cover, remove valve from panel and check connector. If it is not mated properly,	Push the 3-way cap & plug firmly together.
2. Faulty or improperly located valve switch	Look at it. See if switch is being operated by valve lever	Locate switch in cover correctly or change switch
3. Faulty Solenoids	Plug them into a valve location that is working. If they don't work,	Change solenoid ass'y.
4. No power to any of the valves	Check the other valves. If they don't work,	Check harness plug at relay box. Plug in new Vend Relay.
5. Valve is not tight against panel	Remove cover and look. If it is not,	Push valve against panel and locate latch pin in proper hole.
6. Solenoids not mounted on valve correctly	Check page on "Dispensing Valve Servicing", Step 7	Correct

## HOW TO CORRECT COMMON DISPENSING TROUBLES

THE DISPENSING VALVE WILL NOT DISPENSE A PROPER RATIO FINISHED DRINK

A Possible Cause	To Make Sure	This Is What To Do
1. Low CO <sup>2</sup> Pressure or no CO <sup>2</sup> Pressure	Check cylinder CO <sup>2</sup> gauge and and syrup CO <sup>2</sup> gauge	Adjust pressures or add a full CO <sup>2</sup> cylinder.
2. Syrup Gas or Product Jumper not connected	Look, and if it isn't,	Connect it.
3. Restriction in Syrup Jumper or at fittings	Check them, if restricted,	Remove restriction.
4. Restriction in Syrup Flow Control	Loosen knurled nut on Flow Control and check. If orifice is restricted,	Remove restriction.
5. Restriction in water line from Carbonator to cooling coil	Look at it, if restricted,	Remove restriction.
6. Solenoids not mounted on valve correctly	Check page on "Dispensing Valve Servicing", Step 7.	Correct so that Solenoids pull both actuators correctly.
7. Restriction in Water Flow Washer	Check page on "Dispensing Valve Servicing" and check flow washer orifice.	Remove restriction.
8. Syrup flow control out of adjustment.	Check the syrup flow. If incorrect,	Adjust flow control.
9. Loose fittings or leaks	Check fittings for tightness. Check all points for leaks.	Repair or replace.

## HOW THE CARBONATOR WORKS

The carbonator is mounted on a base plate located along the back wall of the OPM-3 Cabinet, toward the right side.

**CARBONATOR MOTOR** ¼ HP 115 Volt 60 CY with close couple type shaft. The motor drives the carbonator pump.

**CARBONATOR PUMP** Procon type close coupled to motor. Pump has built-in strainer. Pump drives the supply water at a high pressure, sufficiently high to overcome the 100 PSI gas pressure in the carbonator tank. The pump is rated at 100 GPH.

**CARBONATOR TANK** The carbonator tank is furnished with a check valve at the gas inlet, a double check valve at the water inlet, a dip tube connected to the carbonated water outlet fitting and a float to control the water level in the tank. The plain water is rammed into the carbonator tank, broken up and mixed with the co<sup>2</sup> gas in an efficient manner so as to become carbonated water.

**MAGNETIC SWITCH** This switch controls the pump motor operation. It is mounted on a post on top of the carbonator tank. The float in the tank rides on a shaft, which is attached to an armature. The armature is free to ride within the tube at the top of the tank. When the float reaches the determined low level of the water, it pulls the armature out of the magnetic field of the switch, which turns the motor "on" to pump water into the tank. When the water level and float rises to the predetermined level, the armature comes into the magnetic field of the switch, working the switch, which stops the motor.

## HOW TO CORRECT COMMON CARBONATOR PROBLEMS

### LOW CARBONATION

A Possible Cause	To Make Sure	This Is What To Do
1. Low CO <sup>2</sup> Pressure	Check cylinder regulator. If pressure is not 100 PSI,	Adjust to 100 PSI. If pressure will not rise to 100 PSI, replace CO <sup>2</sup> Tank.
2. High Water Pressure	Check to see if water pressure is higher than gas pressure in Carbonator. If so, it will fill tank with plain water. If it is,	Install water pressure reducing valve on supply line. Reduce incoming line pressure to maximum of 50 P.S.I.
3. High Incoming Water Temperature, deters proper absorption of gas	Check inlet temperature	Should be a maximum of 75°F if possible. See if water line is running close to heat source & correct, if possible.
4. Carbonator Air Bound	Purge carbonator by,	Pulling safety pop-up valve ring.
5. Pump Not Running	Check electrical supply and connections, and magnetic switch.	Plug it in or replace magnetic switch.

### PUMP RUNNING EXCESSIVELY

A Possible Cause	To Make Sure	This Is What To Do
1. Restriction in water line	Check inlet water strainer at pump, if dirty, Check water filter cartridge if used	Clean the Strainer. Change cartridge.
2. Excessive CO <sup>2</sup> Pressure	Check regulator at CO <sup>2</sup> tank. If above 110 PSI,	Reset regulator.
3. Open inlet Water Check Valve	Dismantle and inspect check valves. If dirty,	Clean parts & reassemble. If needed, change O-ring.
4. Worn Pump	Inspect	Replace if necessary.

### NOISY PUMP

A Possible Cause	To Make Sure	This Is What To Do
1. Insufficient Water Supply	Check size of supply line. Should be 3/4" or larger. Check pump strainer. If dirty,	Run larger line if needed. Clean Strainer.
2. Loose Pump Clamp	Inspect. If loose,	Tighten Clamp.
3. Leak in Inlet fittings or line or line.	Check all fittings.	Tighten or repair.

## HOW THE REFRIGERATION SYSTEM WORKS MECHANICAL PARTS

### COMPRESSOR MOTOR

The compressor motor (sealed in the compressor housing) drives the compressor with a shaft that is shared by both parts.

### COMPRESSOR

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

### CONDENSER

The condenser, located on the refrigeration component base, 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 changed into a liquid because it is still under high pressure.

### CONDENSER FAN

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

### MOLECULAR STRAINER DRYER

The molecular strainer dryer is in the liquid line between the condenser and the capillary tube. This dryer traps and holds water molecules but lets oil molecules and freon molecules go through into the capillary tube.

### CAPILLARY TUBE

The capillary tube (between the condenser and the evaporator in the refrigerant line) has a very small inside diameter, so the flow of the liquid freon from the condenser into the evaporator is slow, but steady, even with the pressure the compressor builds up in the condenser. This helps to keep pressure in the evaporator low.

### EVAPORATOR

The evaporator (inside the cooling coil tank) takes heat from the cooling tank water and gives up this heat to the liquid refrigerant. The liquid refrigerant is evaporated (boiled off) as a gas, and the gas is pulled out by the compressor and so the pressure is kept low. An Ice Bank of a predetermined size is formed on the evaporator before the compressor shuts off.

### WATER IMPELLER

The water impeller agitates the cooling water bath, driving the water down, over the evaporator ice bank and up through the cooling coils. This removes heat from the syrup & water coils. This action warms the bath water slightly and it is cooled again as it passes over the ice bank again.



## HOW THE REFRIGERATION SYSTEM WORKS ELECTRICAL PARTS

### **STARTING RELAY**

The starting relay (in the terminal box on the side of the compressor shell) is electromagnetic relay whose contacts are closed by the magnetic field of the relay coil, and are opened by gravity. It is made up of a relay coil and one set of contacts. The relay coil is in the running circuit of the compressor motor. The relay contacts are in the compressor motor's starting circuit and can complete or break only that circuit. When the compressor motor and the condenser fan motor first start, the starting relay closes and completes the compressor motor starting winding circuit. After the compressor motor gets up the speed, the starting relay is opened by the force of gravity and the starting winding circuit is broken.

### **COMPRESSOR MOTOR**

The compressor motor (sealed in the compressor housing) runs the compressor. It is started by the ice bank control switch, the starting relay and the thermal overload switch. It is stopped by the ice bank control switch, and, if it gets overloaded, by the thermal overload switch.

### **THERMAL OVERLOAD ASSEMBLY**

The thermal overload assembly (in the terminal box on the side of the compressor shell) is the name of a part that is made up of a switch (the thermal overload switch) and a heating wire. The heating wire is in the compressor motor's running and starting circuits. The thermal overload switch can complete or break the compressor motor's starting circuit and running circuit. If the compressor motor gets too warm, or draws too much current (which will make the heating wire get hot) the heat makes the thermal overload switch open in the running and starting circuit of the compressor and break those circuits. When the thermal overload assembly, the motor and the compressor shell have all cooled enough to run safely, the thermal overload switch closes in these circuits and completes them.

### **CONDENSER FAN MOTOR**

The condenser fan motor (between the condenser and the motor compressor) runs a small fan that pulls air through the condenser coils. It starts when the ice bank control switch closes and it stops when the ice bank control switch opens.

### **AGITATOR MOTOR**

The agitator motor is located towards the center of the refrigeration deck in a vertical position. It has a 9" shaft that extends down into the cooling tank water bath. The water impeller is mounted at the end of the shaft and is driven by the agitator motor. The agitator motor runs continuously when the refrigeration unit is plugged in.

## HOW TO TAKE CARE OF THE REFRIGERATION SYSTEM CORRECTING TROUBLES

When the refrigeration system is not working right, go to the table called "Correcting Common Refrigeration Troubles" on the next pages. Find your trouble, see what the possible causes are, and try the tests (in the center column); they will let you know when you have the true cause of the trouble. When you have found the cause of the trouble, either make the adjustments, repair the part or put a new part in, whatever the table says to do. This table does not list all of the possible causes of any of the troubles -- but it does have all of the common causes. If your vender has a trouble that is not shown on the chart, or the trouble is not the result of one of the causes shown on the chart, study the section on "How The Refrigeration System Works" and you will be able to find out what is wrong, and fix it.

### TROUBLE

The Compressor Will Not Run At All .....	28
The Compressor Starts But Will Not Keep Running .....	29 & 30
The Compressor Runs, But The Product Is NOT Cold Enough .....	31 & 32
The Product is TOO Cold .....	32
The Refrigeration Unit Is Noisy .....	32
The Compressor Motor Never Stops Running .....	32

## HOW TO CORRECT COMMON REFRIGERATION TROUBLES THE COMPRESSOR WILL NOT RUN AT ALL

A Possible Cause	To Make Sure	This Is What To Do
1. The dispenser is not plugged in.	Look, and if it isn't,	Plug the dispenser in.
2. The power is off.	Plug a 110 volt lamp into the outlet. If it doesn't light,	Have someone who knows how to, get power to the outlet.
3. Voltage.	Look at the nameplate on the dispenser to find out what voltage and cycle is required. Ask the local power company for assistance if necessary.	Correct voltage to meet requirements of dispenser.
4. A wire in the supply control cord is broken.	Put the prods of 110 volt test lamp on terminal 3 of the overload protector and L of the starting relay. Make sure ice bank control switch is closed, (look to see). If it doesn't light,	Put a new supply - control cord on.
5. The thermal overload switch is stuck open.	Unplug the dispenser for at least 15 minutes. Then plug the dispenser in, and put the prods of a 110 volt test lamp on thermal overload assembly terminal 1 & on terminal L of the starting relay. If the lamp doesn't light,	Put a new Thermal Overload assembly in.
6. The ice bank control bellows	Check the ice bank control switch. If there is no ice over the control bulb, and the switch is not closed,	Put a new ice bank control in.
7. The ice bank control switch contacts need cleaning.	Clean them and see if it helps.	Polish the faces of the contacts with fine paper. Clean with "Cobehn" cleaner.

## HOW TO CORRECT COMMON REFRIGERATION TROUBLES THE COMPRESSOR START BUT WILL NOT KEEP RUNNING

A Possible Cause Is	To Make Sure	This Is What To Do
1. The thermal overload switch opens every time, or almost every time the compressor motor starts.	Wait till the compressor motor stops, then unplug the dispenser and open the ice bank control box to see if the ice bank control switch is closed. If it is,	Check the "Possible Causes" in the next 4 steps. If it is not, skip the next 4 steps and go to step 6 of this section.
2. The refrigerant tube from the compressor to the condenser is kinked or bent sharply.	Look, if it is,  If this does not help and no other cause can be found for the trouble,	Try to get the kink out.  Change out the system.
3. The capillary tube is kinked or bent sharply.	Look, if it is,  If this does not help and no other cause can be found for the trouble,	Try to get the kink out.  Change out the system.
4. The starting relay contacts are sticking closed.	Try a new relay.	
5. The voltage at the cooler is either too high or too low.	<p>1. <b>When an extension is not used on the supply control cord:</b> While the compressor is running, put one prod of a volt meter on terminal 3 of the thermal overload switch and other prod on terminal L of the starting relay. If the voltage is not between 105 volt and 126 volt,</p> <p>2. <b>When an extension is used on the supply-control cord:</b> Put a double socket on both ends of the extension and plug it into the outlet. While the compressor and pump motor are running, put the prods of a volt meter into one of the double socket, first at one end of the extension and then at the other end. If voltage is not between 105 volt and 126 volt, at the outlet ends,</p>	<p>Have the person in charge of the dispenser tell the power company or electrician so they can take care of it.</p> <p>Have the person in charge of the dispenser tell the power company or electrician so they can take care of it.</p>

## HOW TO CORRECT COMMON REFRIGERATION TROUBLES

### THE COMPRESSOR STARTS BUT WILL NOT KEEP RUNNING (cont.)

A Possible Cause	To Make Sure	This is What To Do
	2. (cont'd.) <b>When an extension is used on the supply-control cord:</b> If the voltage is not between 105 volt and 126 volt at the supply plug end you may be getting voltage drop across extension if it is #18 or smaller wire, or a long run of # 14 wire. If so,	Tell the person in charge of the vender that the vender will not work right with that extension.
6. The thermal overload switch opens after the compressor has been running a short time, but before the ice bank control switch cuts the motor off.	Wait until the compressor motor stops, then unplug the vender and open the ice bank control box, to see if the ice bank control switch is closed. If it is,	Check the "Possible Causes" in the next 3.
7. Not enough air getting to the condenser.	See if there is anything around the outside of the cooler. If there is,	Take it away.
8. The condenser is dirty.	Look. Also feel the tubes from the compressor to the condenser. If the tube is very hot, or if you see dirt on the condenser.	Clean the condenser with either a vacuum cleaner, a brush or compressed air.
9. The condenser fan motor is burned out.	With the condenser fan motor leads correctly connected to the compressor motor terminals (See wiring diagram) See if the condenser fan runs when the compressor does. If it doesn't	Put a new condenser fan motor in.

## HOW TO CORRECT COMMON REFRIGERATION TROUBLES THE COMPRESSOR RUNS BUT THE PRODUCT IS NOT COLD ENOUGH

A Possible Cause Is	To Make Sure	This Is What To Do
1. Agitator Motor is not running.	Check to see. If it is not running, but is connected properly.	Put a new motor in.
2. Not enough water in the cooling coil tank.	Check water level tube.	Fill the tank to the overflow tube with water.
3. The refrigerant tubing is kinked or bent sharply.	Look. If it is,  If this does not help, and no other cause can be found for the trouble,	Try to get the kink out.  Change out the system.
4. There isn't enough refrigerant in the refrigeration system or the capillary tube is partly plugged.	Let the cooler run at least one (1) hour. If the product is warm,	Change out the system.
5. The condenser isn't getting enough air.	See if there is anything around the outside of the cooler to keep the air out. If there is,	Take it away.
6. The condenser is dirty.	Look. Also, feel the tube from the compressor to the condenser. If the tube is very hot, or if you see dirt,	Clean the condenser with either a vacuum cleaner, a brush or compressed air.
7. The condenser fan motor is burned out.	With the condenser fan motor leads directly connected to the compressor terminal, see if the condenser fan runs when the compressor does. If it doesn't,	Put a new condenser fan motor in.
8. The terminal overload switch is starting and stopping the compressor.	Unplug the vender for at least 15 minutes, then plug it in again. Be sure the ice bank control switch is closed. If the compressor motor cuts off, then on, then off, while the ice bank control switch stays closed.	Check the "Possible Causes" in steps 9 & 10.
9. The voltage at the cooler is either too high or too low.	1. <b>When an extension is not used on the supply-control cord:</b> While the compressor running, put one prod of a volt meter on terminal 3 of the Thermal Overload and other prod on terminal L of starting relay. If the voltage is not between 105 volt and 126 volt.	Have the person in charge of the vender tell the power company or an electrician so they can take care of it.
	2. <b>When an extension is used on the supply control cord:</b> Put a double socket on both ends of the extension and plug it into the outlet. While the compressor and carbonator motor is running, put the prods of a volt meter into one of the other sides of the double socket.	Have the person in charge of the vender tell the power company or an electrician so they can take care of it.

## HOW TO CORRECT COMMON REFRIGERATION TROUBLES

### THE COMPRESSOR RUNS BUT THE PRODUCT IS NOT COLD ENOUGH (cont.)

A Possible Cause Is	To Make Sure	This Is What To Do
	first at one end of the extension and then at the other. If voltage is not between 105 volts and 126 volts,	
10. The starting relay contacts are sticking closed.	Try to "jar" the relay. If this works,	Put a new starting relay in.

### THE PRODUCT IS TOO COLD

A Possible Cause Is	To Make Sure	This Is What To Do
1. The ice bank control bulb is not in the bulb clamp on the evaporator.	Look and see. If it isn't,	Put the bulb in its clamp.
2. The ice bank control switch is stuck closed.	See if ice is over the ice bank control bulb. If it is, but the switch is closed.	Put a new ice bank control in.

### THE REFRIGERATION UNIT IS NOISY

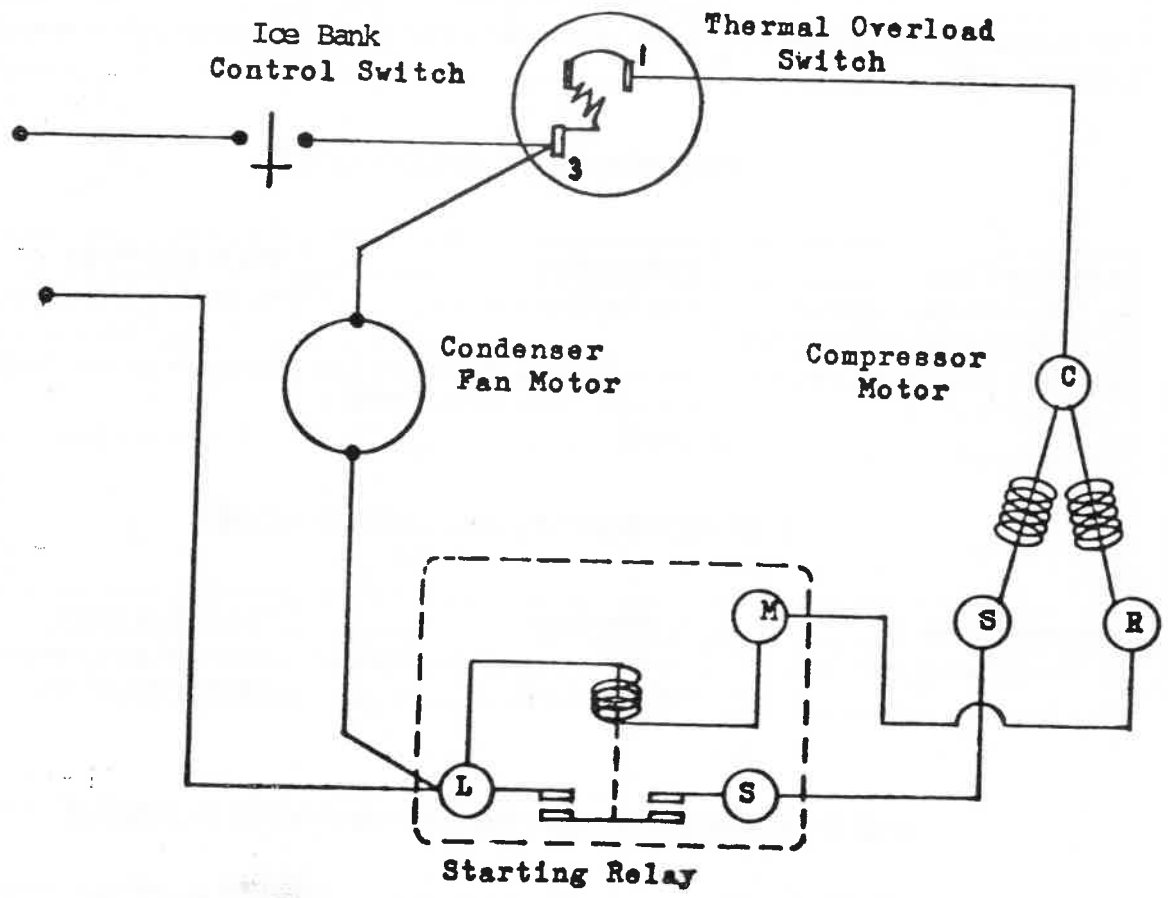
A Possible Cause Is	To Make Sure	This Is What To Do
1. The refrigerant lines rattle.	Hold them between your fingers. If the rattle stops,	Bend them gently away from whatever they are hitting.

### THE COMPRESSOR MOTOR NEVER STOPS RUNNING

A Possible Cause Is	To Make Sure	This Is What To Do
1. The ice bank control switch is	See if ice is over the ice bank control bulb, if it is but the switch is closed,	Put a new ice bank control in.
2. The compressor has a broken valve or there is no refrigerant in the refrigeration system.	The tube from the compressor to the condenser is not warm and the evaporator is not cold.	Change out the system.

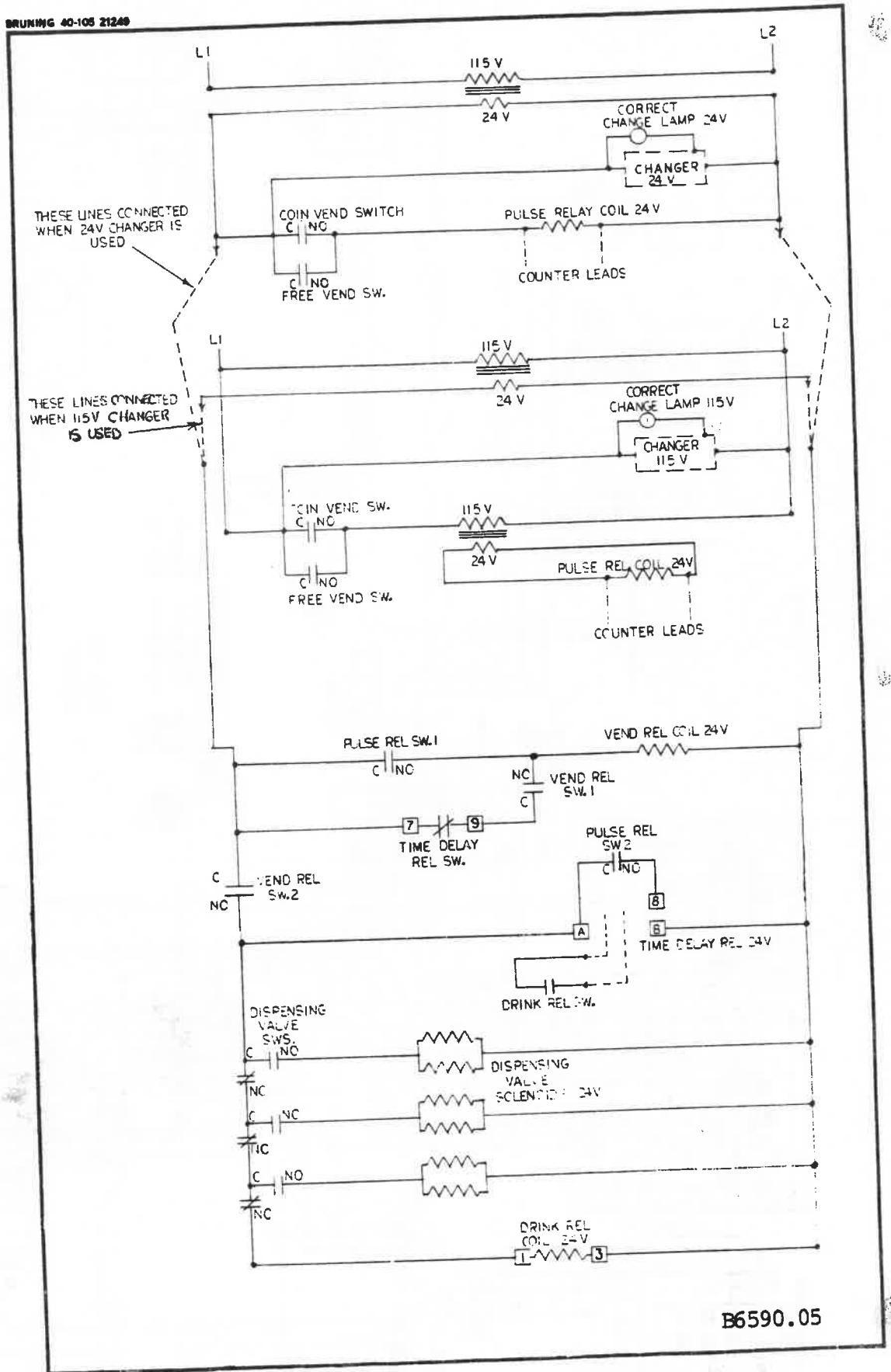
COMPRESSOR RELAY & OVERLOAD

WIRING DIAGRAM





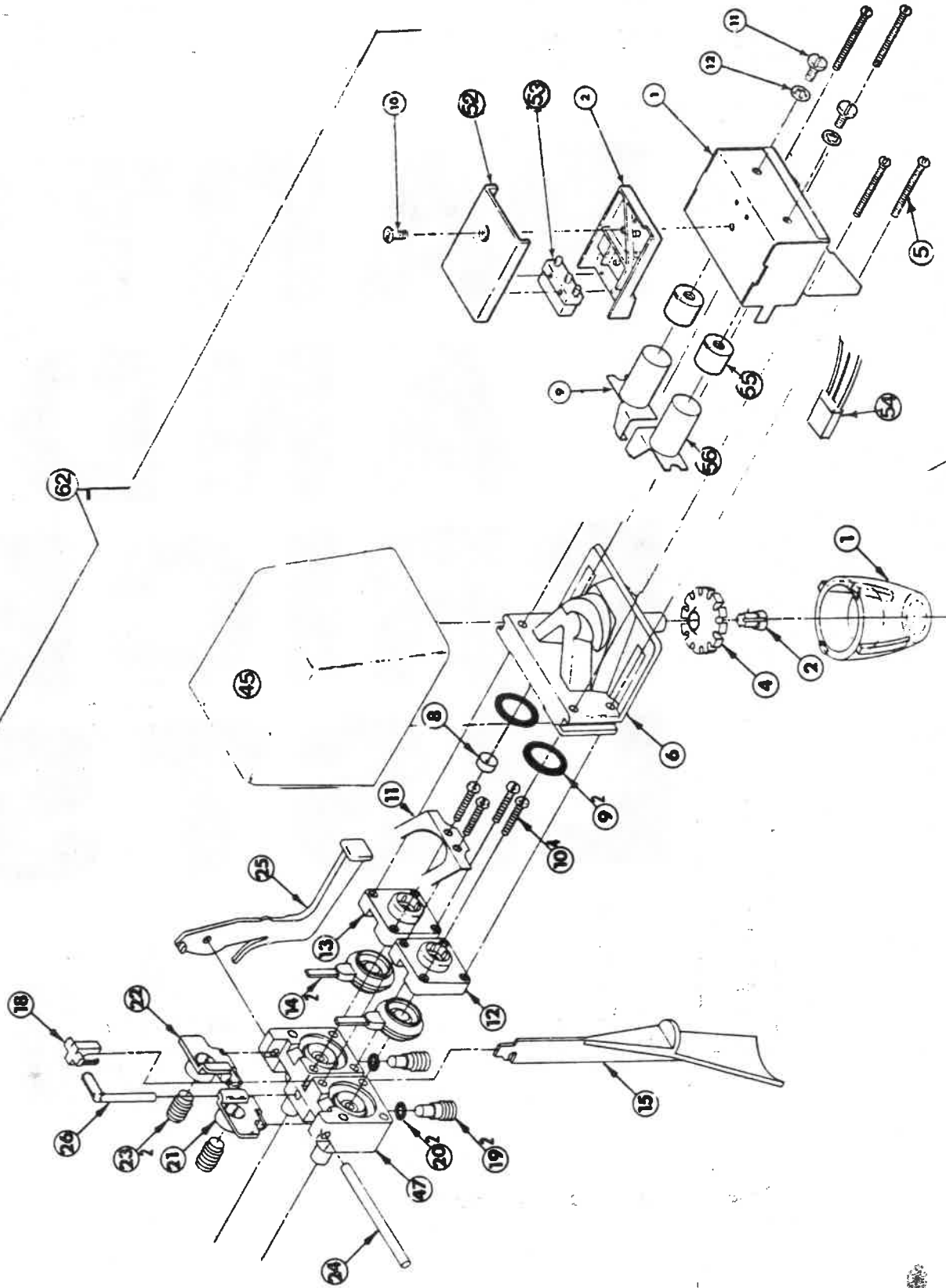
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# PARTS AND PRICE LISTS

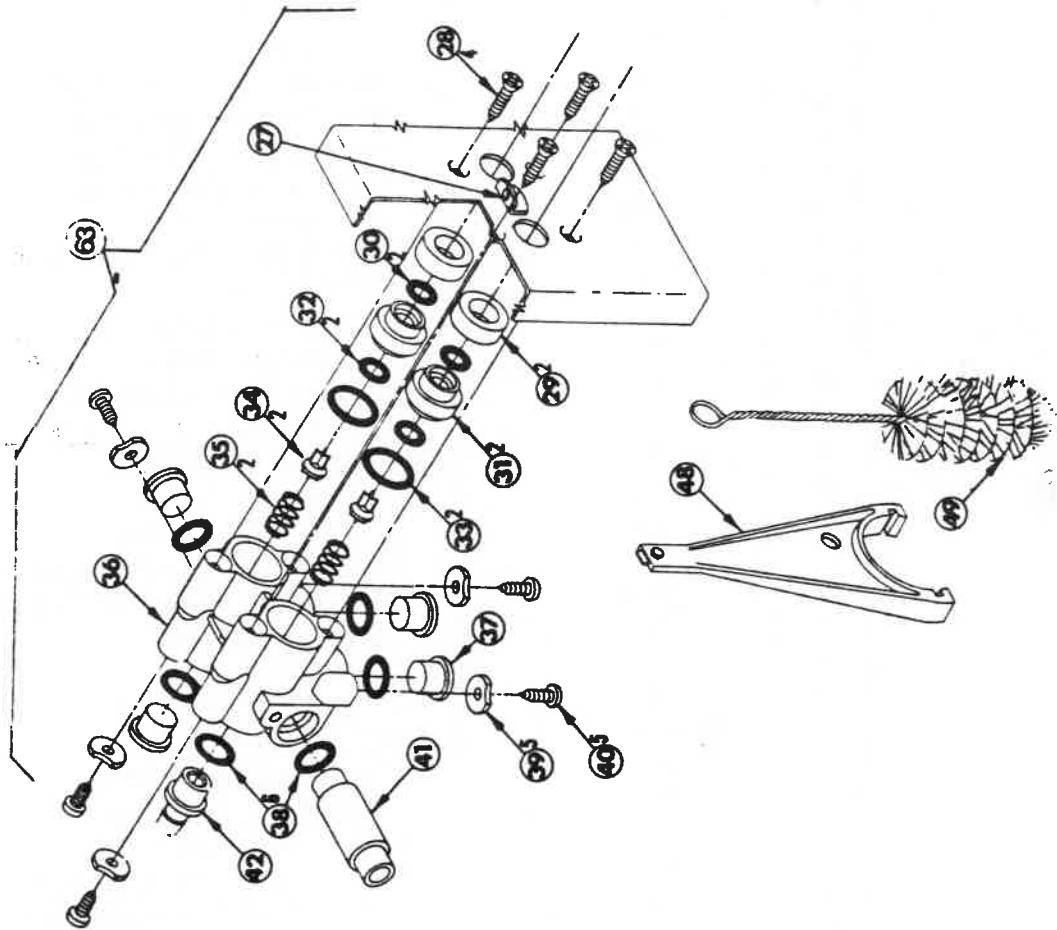


DISPENSING VALVE

## DISPENSING VALVE

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	1	Nozzle 2-R	.92
2	2	Diffuser Plug, Syrup	.20
4	4	Diffuser Wheel, Soda	.22
5	5	1" x 4-40 RH SS MS Screw (4)	.12
7	7E	Diffuser Block (E)	4.20
8	8DK	Flow Control Washer DK or GC	1.20
9	9	O-Ring 1/2" (2 Req'd)	.16
10	10	5/8" x 4-40 RH SS MS Screw	.12
11	11	Spring 3 Leg	.70
12	12	Valve Cap, Syrup .125 Orifice	.56
13	13	Valve Cap, Soda .060 Orifice	.56
14	15	Valve Pallet, Double Seat (2)	1.06
15	16AW	Product Lever (Delrin) White	.70
18	17EL	Cap, Product Lever (EL)	.16
19	18S	Metering Screw, Short, Cut-off	.56
20	19	O-Ring 1/4" (2)	.16
21	21	Actuator Ass'y, Syrup	.56
22	22	Actuator Ass'y, Soda	.56
23	23	Adjusting Screw, Actuator (2)	.20
24	24	Pivot Rod (SS)	.30
25	26	Add-a-Lever (Delrin) Soda	.56
26	38EL	Latch Pin	.32
45	CEW	Cover For E Block, White	1.20
47	39A	Valve Base Ass'y with P/N 18S & 19	5.41
50	60 3 Wire	Solenoid Case Incl. P/N 64, 68 & 69	14.88
51	61	Switch Housing Base	.52
52	62	Switch Housing Cover	.52
53	63	Switch, 3 Terminal 5 AMP	1.20
54	904,600,480.01	AMP LOK 3-Way Cap	.20
55	64	Shading Polls - Solenoid (2)	1.00
56	65	Plunger/Plate - Syrup Side	.80
57	66	Plunger/Plate - Soda Side	.80
58	67	Flat HD Mach. Screw 4-40 x 5/16	.08
59	68	Binding HD Mach. Screw 8-32 x 1/4	.20
60	69	Lock Washer #8	.08
61	60A 3 Wire	Solenoid Ass'y Plus AMP LOK Cap	20.13
62	B225,050,400.13	Dispensing Valve Ass'y	40.22

Prices subject to change without notice.

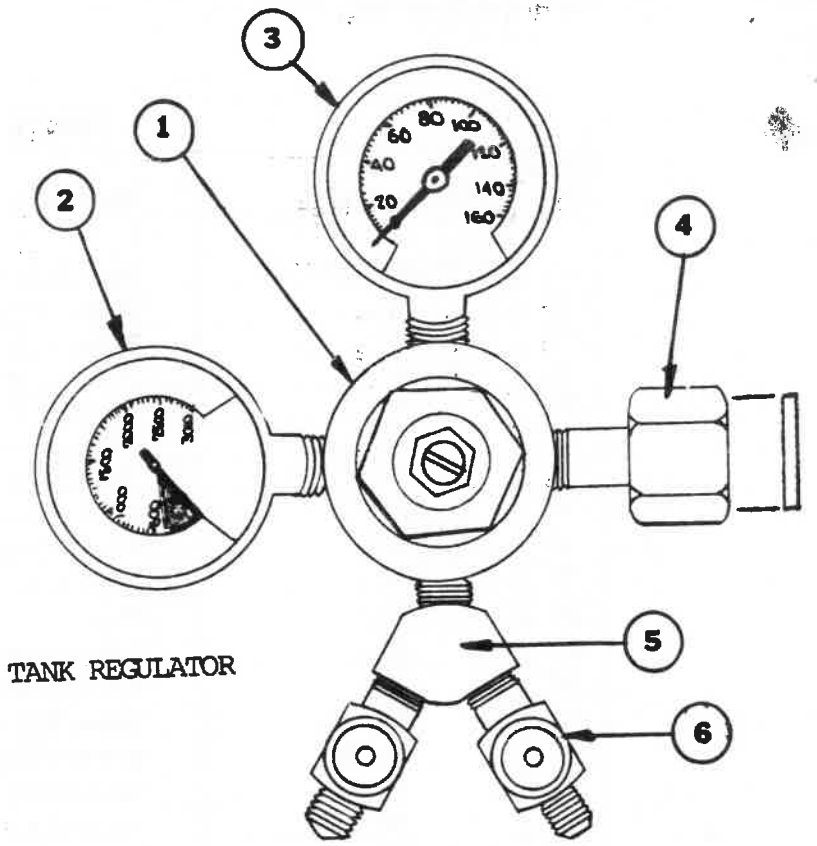


VALVE MANIFOLD

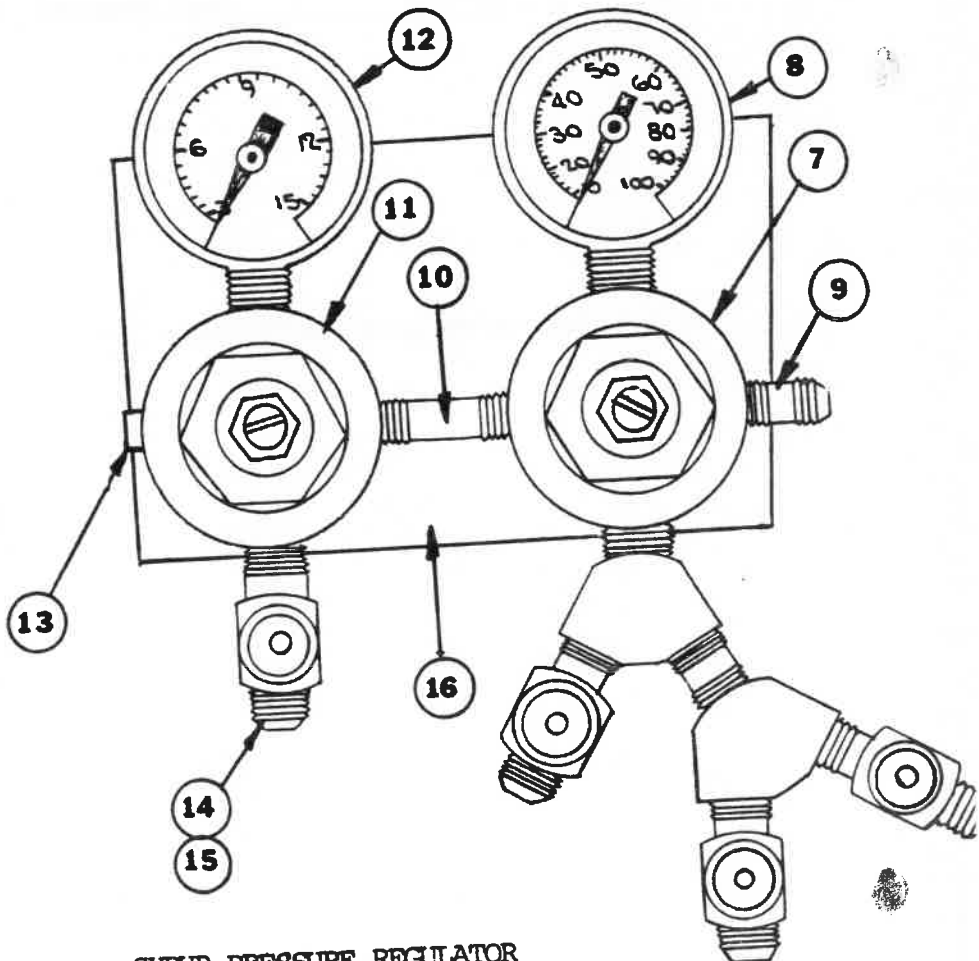
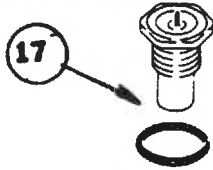
## VALVE MANIFOLD

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
27	A255,050,020.03	Clip, Valve Panel	.40
28	41	Screw, 5/8" x No. 6 (4)	.16
29	42	Retainer Ring (2)	.24
30	43	O-Ring Stem Seal (2)	.20
31	44	Gland, O-Ring ass'y (2)	.50
32	45	O-Ring, Check Valve Seat (2)	.20
33	46	O-Ring, Body Seal (2)	.20
34	47	Check Valve (2)	.28
35	48	Spring, Check Valve (2)	.16
36	49	Body, Quick Disconnect	2.42
37	50	Plug	.30
38	51	O-Ring Plug	.20
39	52	Washer, Notched	.18
40	53	Screw, 3/8" x No. 6 RH SS Phillips	.20
41	54-3 3/8	Manifold Tube	.24
42	---	Weld Pitting on Cooling Line	
48	30	Actuator Adjusting Tool/Wrench	.30
49	31	Nozzle Cleaning Brush	.60
63	805,202,010.01	Quick Disconnect Manifold Ass'y	8.93

Prices subject to change without notice.



TANK REGULATOR



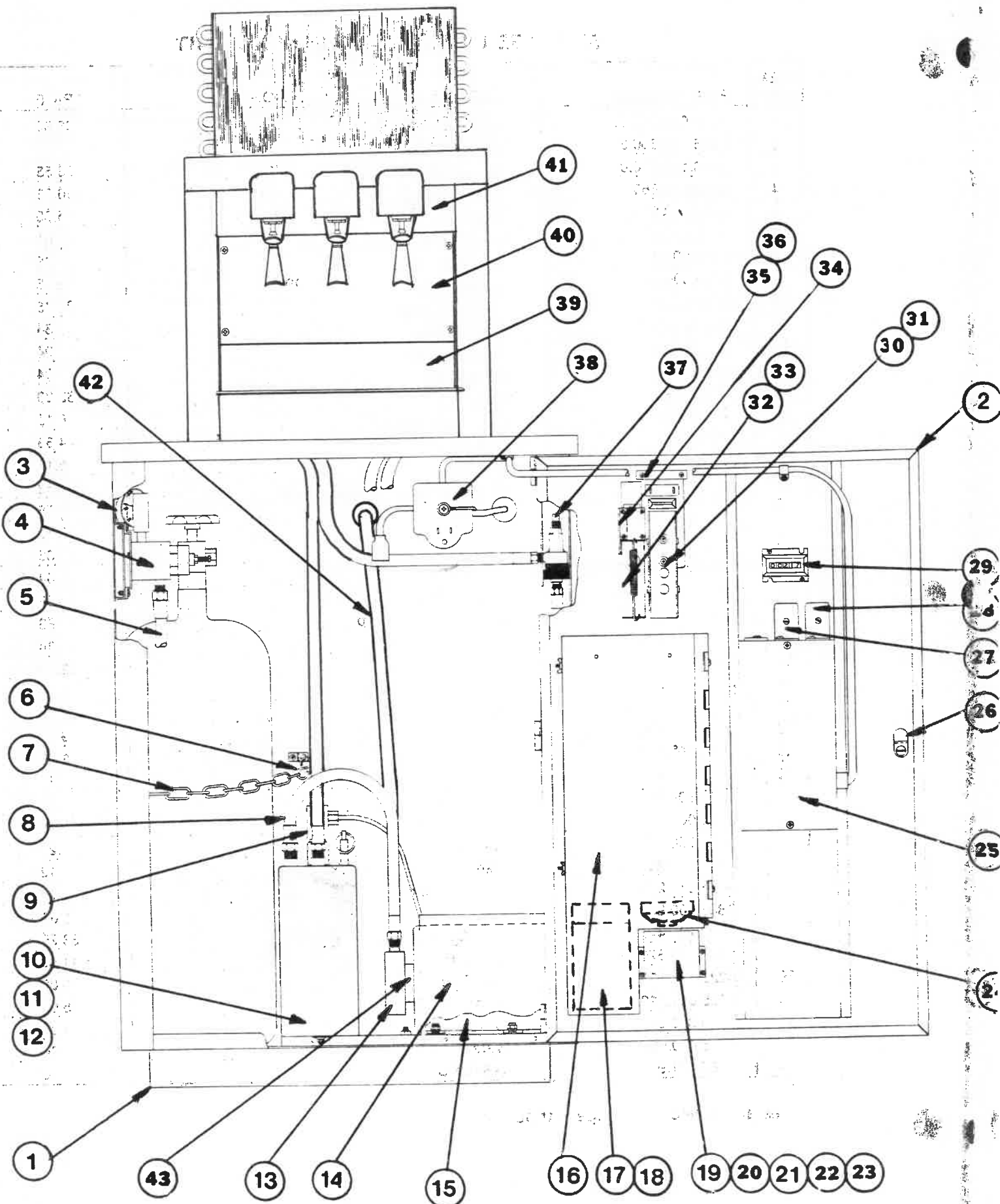
SYRUP PRESSURE REGULATOR



## REGULATORS

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	11-010-084	Regulator 175#	11.52
2	18-013-087	Gauge 3000#	5.56
3	18-013-085	Gauge 160#	3.32
4	18-008-002	Connector-cyl	2.20
5	18-006-016	Wye	1.60
6	16-006-107	Valve - check & relief - 130#	4.62
7	11-010-082	Regulator 100#	11.52
8	18-013-084	Gauge 100#	3.32
9	18-006-027	Adapter - hose	.60
10	18-006-007	Nipple - hex	.60
11	11-010-083	Regulator 50#	11.52
12	18-013-082	Gauge 15#	3.32
13	2891-97	Plug	.27
14	3302-01	Cap - tube fitting	.50
15	720-01	O-Ring	.21
16	2432-04	Bracket	1.90
17	702-03	Cartridge Valve (with seal ring)	5.10

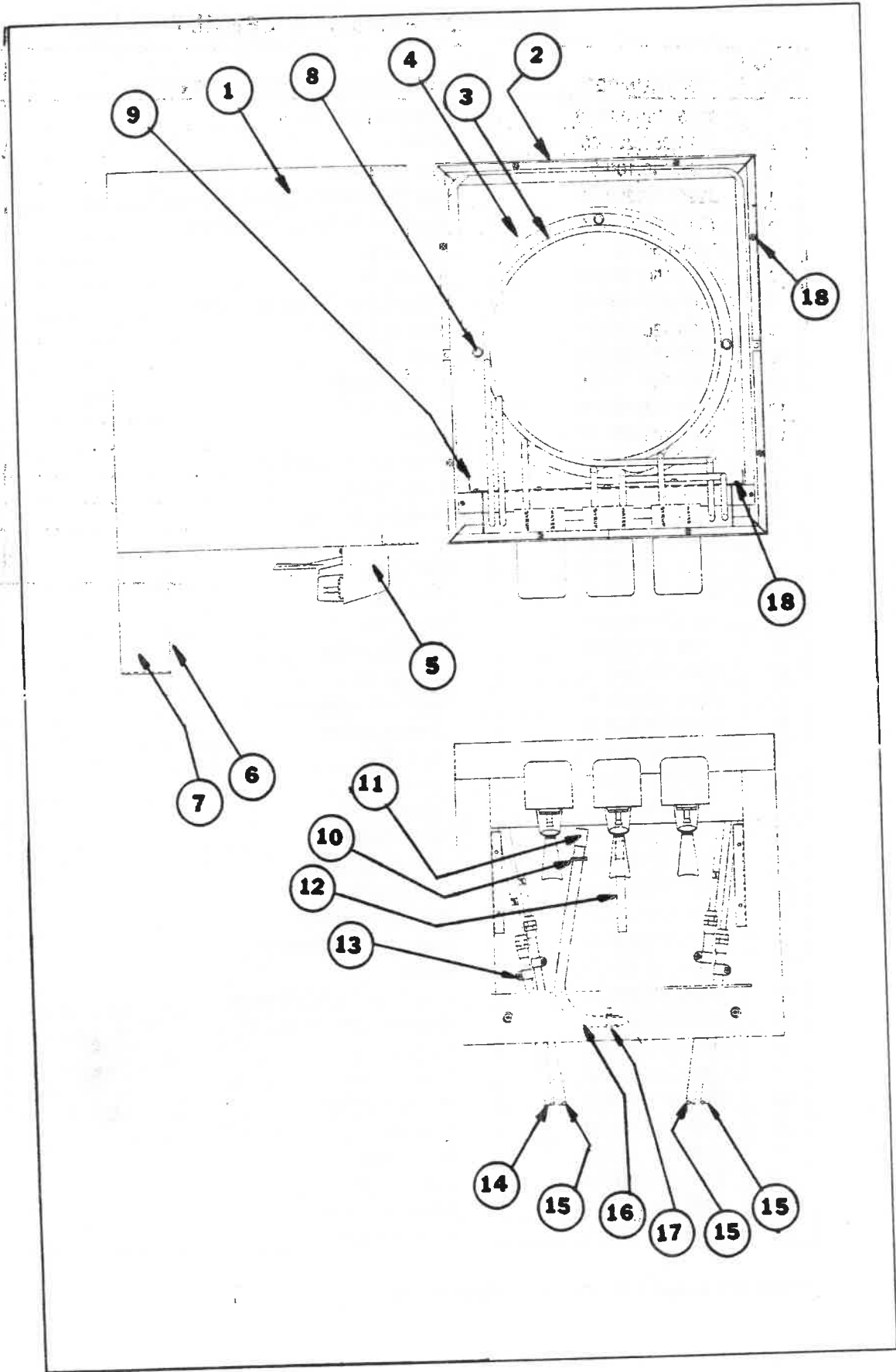
Prices are subject to change without notice.



## STORAGE CABINET &amp; DISPENSNG UNIT

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	D225,060,100.03	Storage Cabinet	38.50
2	D255,060,500.23	Door	
3	800,100,870.01	CO <sup>2</sup> Regulator - (Tank Regulator)	33.55
4	800,100,860.01	CO <sup>2</sup> Regulator - (Syrup Pressure)	56.02
5	A225,000,010.13	Gas Line to Syrup Containers	5.00
6	901,220.01	"S" Hooks	.04
7	801,501,990.01	Chain	.28
8	A225,000,060.03	Water Line - Pump tp Carbonator	6.13
9	805,201,990.01	Magnetic Switch	22.75
10	805,201,980.01	Carbonator	50.84
11	900,700,710.01	Dome Washer	.04
12	900,900,480.02	1/4 - 20 Nut	.04
13	805,201,960.01	Pump	62.20
14	C225,060,290.03	Shelf Syrup Container	6.13
15	804,500,230.01	Pump Motor	44.63
16	C225,060,700.03	Changer Box	6.13
17	B801,303,260.21	Hanger Cash Box	1.52
18	B225,070,100.03	Cash Box	4.75
19	B208,051,400.13	Coin Cup	3.73
20	A900,501,820.01	Hinge Pin	.08
21	900,900,900.01	Retaining Ring	.04
22	B801,803,930.11	Change Door	.62
23	B801,303,490.51	Bezel - Change Cup	.83
24	B801,803,690.41	Change Hopper	.34
25	C225,060,800.03	Relay Box	132.80
26	A255,060,240.03	Cam Lock	.12
27	804,200,180.01	Pulse Relay	9.78
28	804,200,180.01	Vend Relay	9.78
29	804,901,580.01	Counter 24 Volt	13.83
30	C801,803,620.61	Coin Chute	.30
31	B801,803,630.31	Coin Chute Cover	.30
32	B225,060,270.03	Plunger - Coin Return	1.70
33	A901,700,630.01	Spring	.22
34	A225,060,260.13	Free Vend Switch Bracket	.12
35	A143,051,220.73	Retainer Coin Insert	.27
36	D801,200,920.01	Coin Insert	5.00
37	802,201,440.01	Flow Control	33.25
38	C804,901,570.01	Wiring Harness	11.62
39	B225,050,150.33	Cup Grid	6.00
40	B225,020,110.03	Front Plate	5.00
41	C225,050,010.13	Valve Panel	4.00
42	A225,000,050.03	Water Inlet Line	7.00
43	805,201,970.01	V-Band Clamp	.50

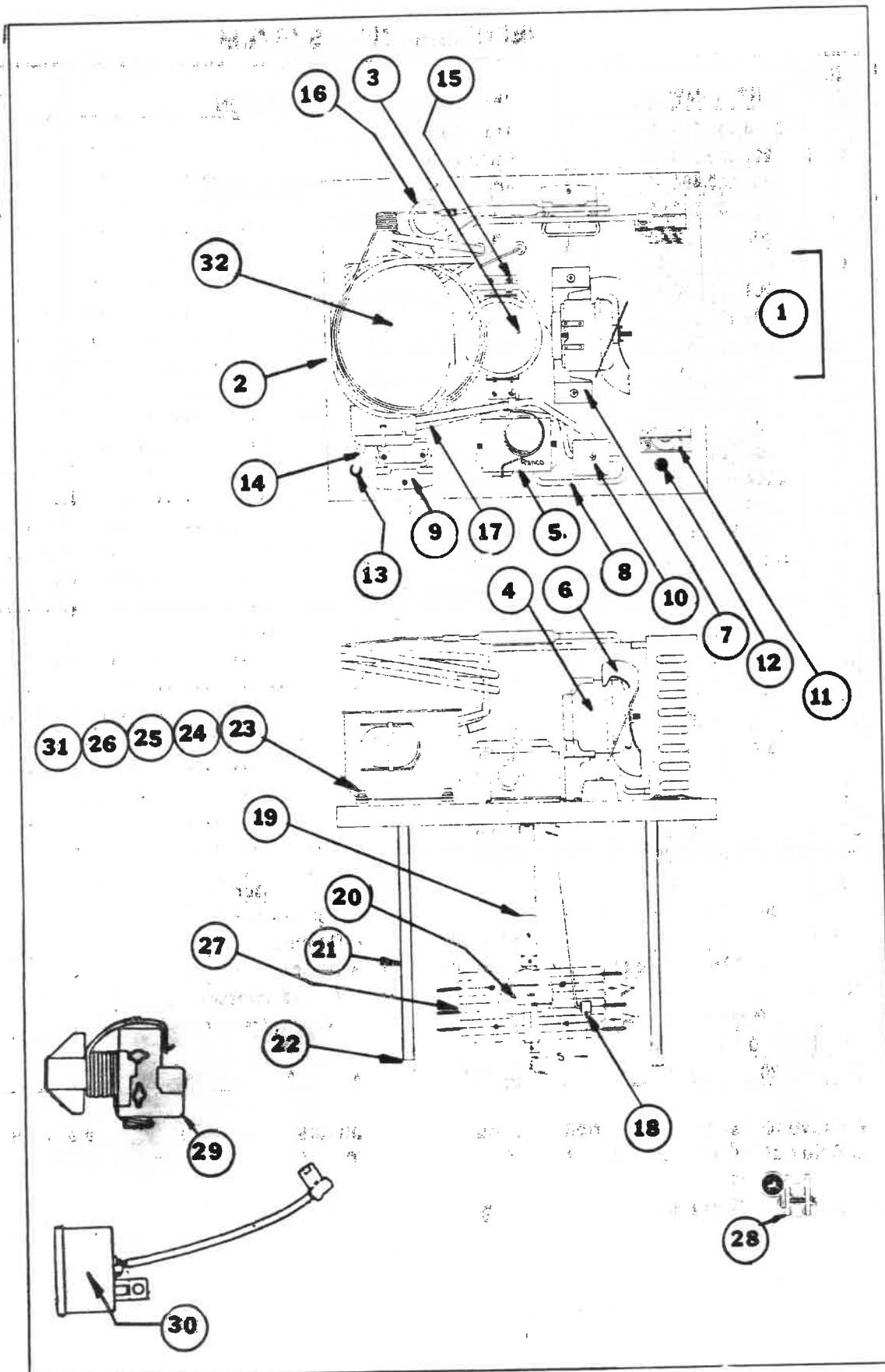
Prices are subject to change without notice.



## DISPENSER ASSEMBLY

ITEM NO.	PART NUMBER	PART NAME & DESCRIPTION	PRICE
1	D225,020,300.03	Foam Assembly Shell	52.50
2	C225,050,200.03	Trim Shell	3.00
3	D225,040,100.03	Assembly #1, #2, #3 Product Coils	70.00
4	D225,040,200.03	Assembly Water Coil	17.50
5	B225,050,400.13	Valve Assembly	40.22
6	D225,050,140.03	Drain Tray	6.00
7	B225,050,160.13	Bracket Drip Tray	3.00
8	901,901,380.01	Spacer	.18
9	A225,020,120.03	Water Restrictor	4.00
10	900,901,930.01	Tinnerman Clamp	.08
11	900,901,910.01	Cap	.04
12	903,100,110.01	Drain Hose 4 3/4"	.12 /ft.
13	900,901,800.01	Clamp	.04
14	A225,000,070.23	Carbonated Water Line	6.13
15	A225,000,030.13	Syrup Lines	5.00
16	903,100,110.01	Water Level Hose 12"	.20
17	901,501,850.01	Clamp	.34
18	900,300,030.01	Sheet Metal Screw	.04

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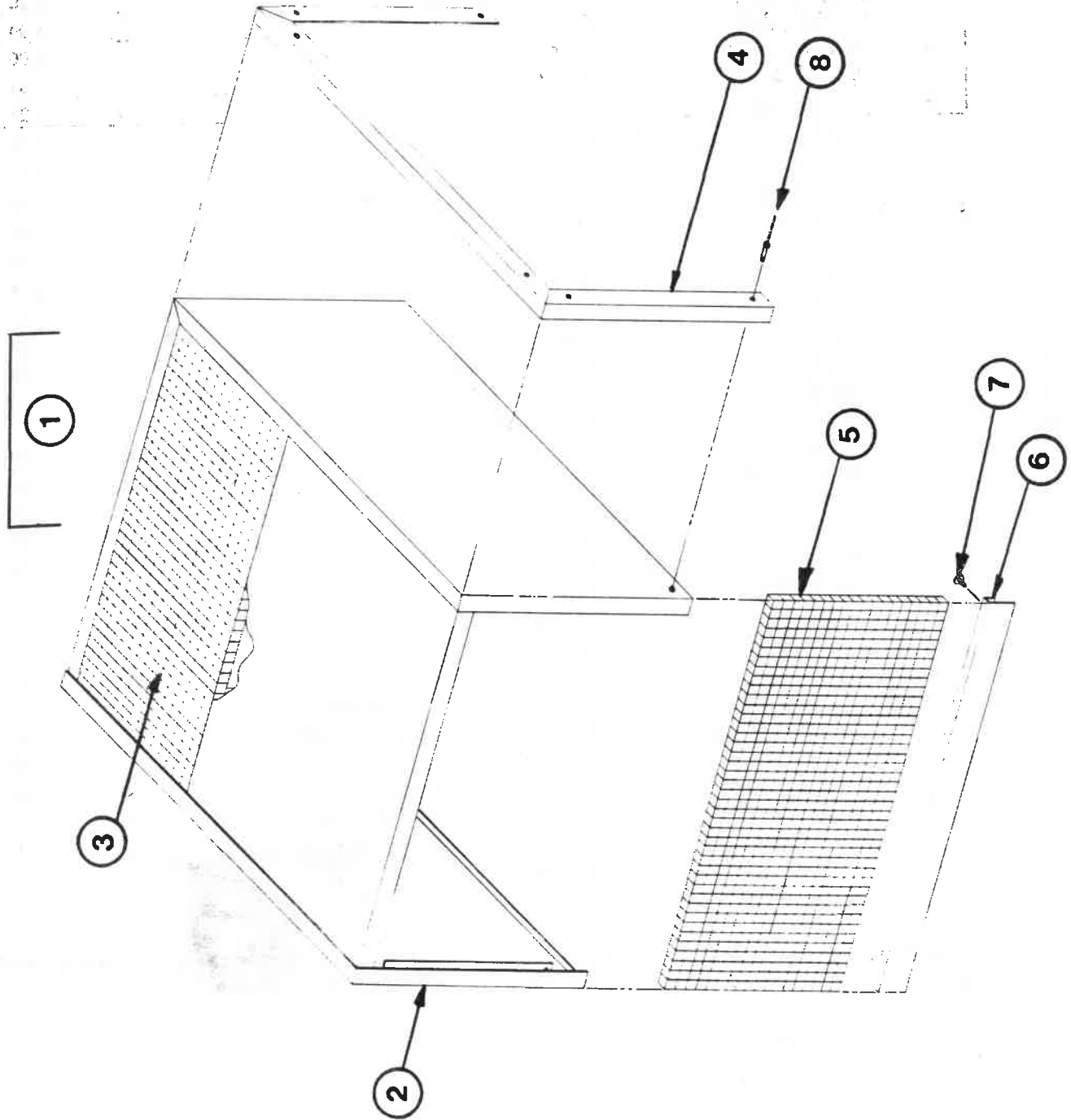


## REFRIGERATION SYSTEM

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	D225,040,000.03	Ass'y Refrigeration System	124.50
2	C225,020,600.03	Foam Assembly Lid	8.75
3	804,500,450.01	Agitator Motor	23.73
4	804,500,240.01	Condenser Fan Motor	10.48
5	802,800,360.01	Ice Bank Control	24.61
6	801,303,570.01	Fan Blade	1.02
7	901,301,750.01	Condenser Fan Bracket	.58
8	A804,901,590.01	S/A Control Lead	1.20
9	801,501,960.01	Handles	1.78
10	904,901,520.01	Junction Block	1.20
11	A904,030,190.33	Retainer Bracket (Condenser)	.08
12	901,901,440.01	Hole Plug	.08
13	904,000,740.01	Strain Relief	.16
14	C804,901,510.01	Wiring Harness	2.14
15	900,901,900.01	Water Fill Plug	.16
16	900,901,800.01	Cable Clamp	.04
17	A804,901,600.01	Compressor Lead	1.24
18	900,901,800.01	Cable Clamp	.04
19	B225,040,010.23	Evaporator Support	
20	B801,804,100.01	Impellor	1.80
21	800,502,170.01	Leg	2.58
22	900,901,910.01	Cap	.04
23	902,000,430.01	Grommet	.16
24	905,300,040.01	Steel Sleeve	.04
25	900,902,060.02	Cap Screw	.12
26	903,000,460.02	Lockwasher	.04
27	A225,040,080.23	Quills Evaporator	.40
28	A255,040,140.03	Spacers	.80
29A	82636	Relay for AE3417 A Compressor	3.58
	*(SP-9660-040-155)	Relay for AE3417 A Compressor	3.58
29B	82428	Relay for AE3417 A Compressor	3.58
	*(GE-3ARR-12-PB24)	Relay for AE3417 A Compressor	3.18
30	83601	Overload For AE3417 A Compressor	3.18
	*(SP-MRP-36GL-34)	Overload for AE3417 A Compressor	3.18
31	900,700,080.01	Flatwasher	.04
32	802,500,080.01	Compressor Tec. AE3417A	57.73

\* Relative to Relays and Overload, the number that appears in parenthesis ( ) are always stamped on the Relay and Overload. Either number can be used for ordering purposes.

All parts and prices are subject to change without notice.



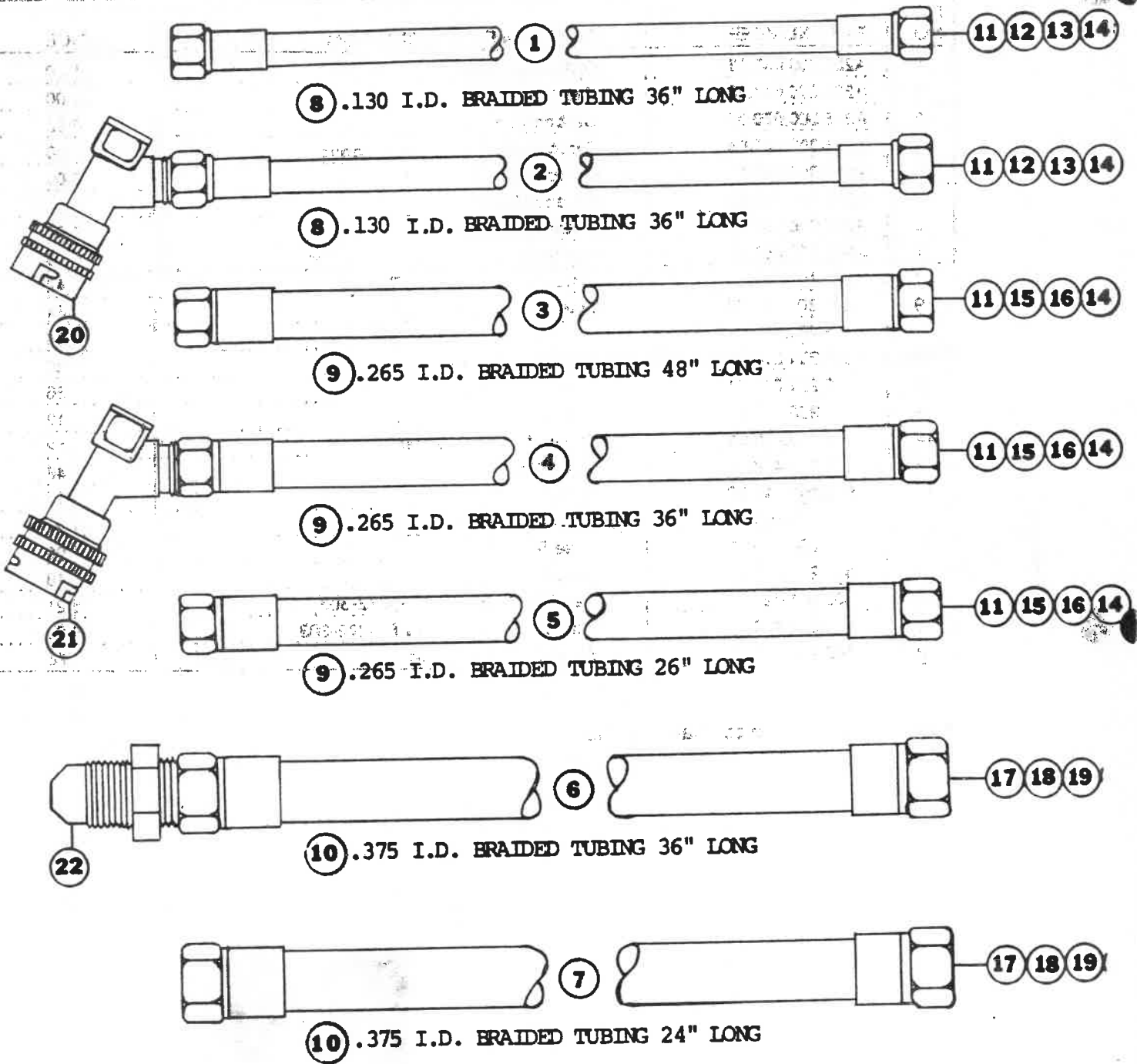
HOOD ASSEMBLY



## HOOD ASSEMBLY

ITEM NO.	PART NUMBER	PART NAME & DESCRIPTION	PRICE
1	D225,050,000.03	Assembly Hood	35.00
2	D225,050,100.03	W/A Hood	17.50
3	A801,804,120.01	Top Grille	1.94
4	B225,050,130.13	Trim Hood	3.00
5	A801,804,120.01	Front Grille	1.94
6	A225,050,070.23	Front Member	2.00
7	900,300,030.01	Sheet Metal Screw	.04
8	901,100,460.01	Pop Rivet	.24

Prices are subject to change without notice.

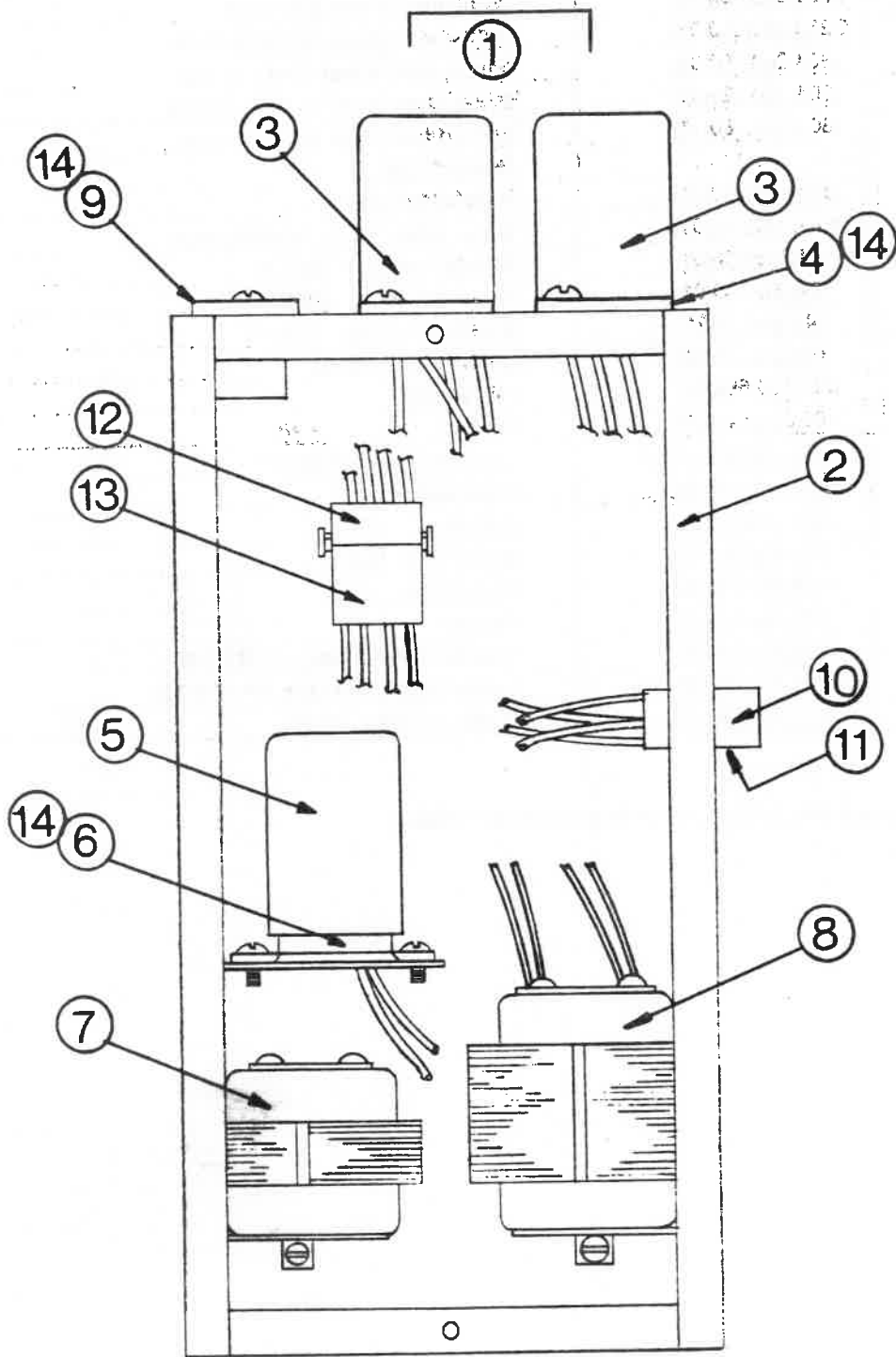


PRODUCT AND WATER LINES

## PRODUCT &amp; WATER LINES

ITEM NO.	PART NUMBER	PART NAME & DESCRIPTION	PRICE
1	A225,000,040.13	Gas Lines - From CO <sup>2</sup> tank	5.00
2	A225,000,040.13	Gas lines - gauge to Syrup tank	5.00
3	A225,000,070.23	Carbonated Water Line - to coil	6.13
4	A225,000,020.03	Syrup Line - tank to flow control	6.00
5	A225,000,030.13	Syrup Line - flow control to s.s.	5.00
		<b>Product Coil</b>	
6	A225,000,050.03	Water Inlet Line	7.00
7	A255,000,060.03	Water Line - pump to carbonator	6.13
8	903,100,050.01	Braided tubing - 130 I.D.	.42
9	800,301,520.02	Braided Tubing - .265 I.D.	.34
10	802,200,820.01	Braided Tubing - .375 I.D.	.46
11	802,201,370.01	Swivel Nut 7/16-20	.26
12	802,201,380.01	Hose Stem	.56
13	902,200,100.01	Ferrule	.12
14	902,200,670.01	Tapered Nylon Washer	.12
15	802,201,400.01	Hose Stem	.48
16	908,101,010.02	Ferrule	.12
17	802,200,800.01	Swivel Nut - 3/8	1.00
18	802,200,790.01	Hose Stem	1.08
19	802,200,810.01	Ferrule	.18
20	802,201,420.01	Gas Socket Hanson FP-372-303	6.21
21	802,201,430.01	Liquid Socket Hanson FP-373-303	6.21
22	802,401,180.01	Brass 3/8 Flare Union	.86

All prices are subject to change without notice.

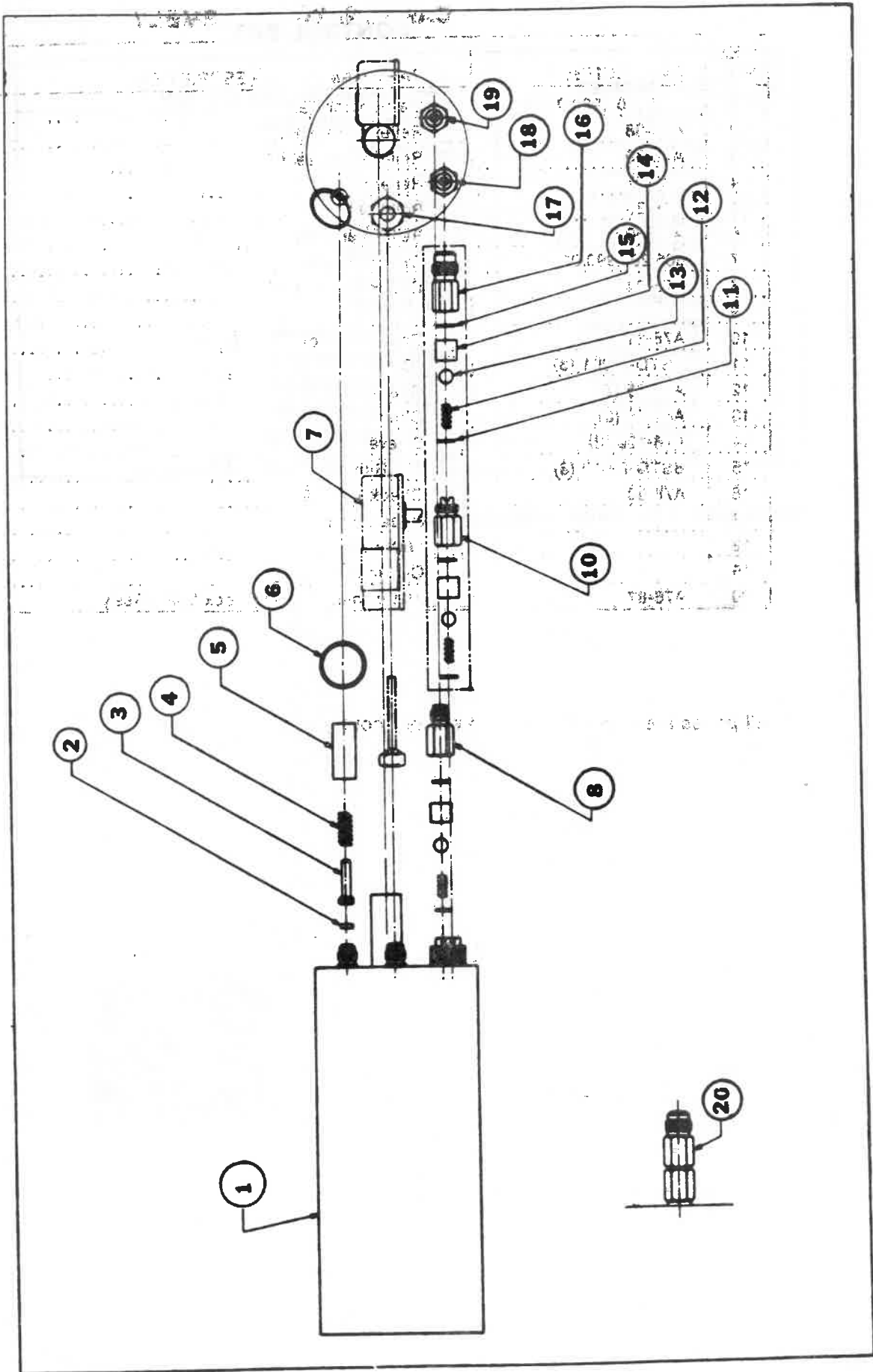


CONTROL BOX

## CONTROL BOX

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	C225,060,800.03	Assembly Control Box	132.80
2	C255,060,210.03	Control Box	4.00
3	804,200,180.01	Relay	9.78
4	904,600,620.01	Relay Socket	.36
5	804,200,160.01	Timer Relay	52.94
6	804,200,130.01	Relay Socket	.80
7	804,400,120.01	Transformer	15.56
8	804,400,110.01	Transformer	22.77
9	904,600,600.01	Coin Changer Socket	.60
10	904,600,660.01	9-Way cap mate-n-lok	.27
11	904,600,700.01	2-Way cap mate-n-lok	.18
12	904,600,680.01	4-Way cap mate-n-lok	.28
13	904,600,690.01	4-Way plug mate-n-lok	.28
14	900,301,540.01	Sheet Metal Screw - #6 x 3/8	.04

Prices subject to change without notice.



## CARBONATOR ASSEMBLY

ITEM NO.	PART NUMBER	PART NAME AND DESCRIPTION	PRICE
1	805.201.980.01	Carbonator Tank	96.78
2	A76-38	Relief Valve Seat	.60
3	A76-39	Relief Valve Seat Retainer	1.80
4	A76-37	Relief Valve Spring	.70
5	A76-36	Relief Valve Shell	2.40
6	A77-60	Relief Valve Ring	.34
7	805.201.990.01	Switch Assembly	22.75
8	A76-84	Check Valve Body	4.70
9			
10	A76-81	Double Check Valve Body	4.70
11	BSTD-2-001 (3)	"O" Ring	.70
12	A76-85 (3)	Check Valve Spring	.70
13	A59-76 (3)	Check Valve Ball	.70
14	A76-103 (3)	Sleeve	2.30
15	BSTD-2-010 (3)	"O" Ring	.70
16	A76-80	Check Valve Body	4.70
17		Soda Water Outlet	
18		Water Inlet	
19		CO <sup>2</sup> Inlet	
20	A76-87	Water Inlet Double Check Valve Ass'y	12.08

All prices are subject to change without notice.

CARBONATOR ASSEMBLY

ITEM NO.	DESCRIPTION	QTY	PRICE
1	Carbonator Assembly	1	80.00
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