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INSTALLATION AND SERVICE MANUAL

FOR

LANCER SERIES TD 1700

TEA DISPENSER

PART NUMBER

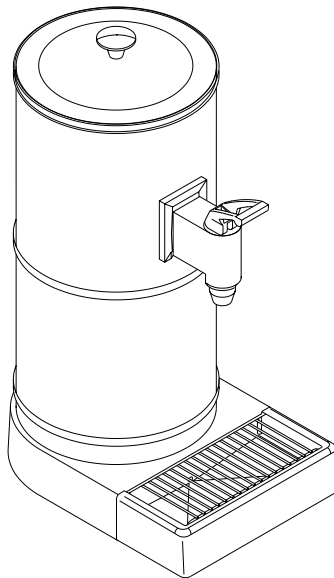
85-1711

85-1712

DESCRIPTION

TEA DISPENSER, 115V, 60Hz

TEA DISPENSER, 230V, 50HZ



This Manual supersedes Installation and Service Manual, 28-0199, dated 02/07/94



6655 LANCER BLVD. • SAN ANTONIO, TEXAS 78219 USA • (210) 310-7000

FAX SALES

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SPECIFICATIONS

DIMENSIONS

Width	10 inches (25.4 cm)
Depth	14 7/8 inches (37.78 cm)
Height	23 7/8 inches (60.64 cm)

WEIGHT

Shipping	20 lbs (9.1 kg)
Operating	12.5 lbs (5.68 kg)

ELECTRICAL RATING

0.5 AMP
24 VAC
60 HZ

NOTE

Power supplied to dispenser by a remote transformer which converts 115 VAC (for PN [85-1711](#)) or 230V (for PN [85-1712](#)) to 24 VAC.

SUPPLY CONNECTIONS

Water	3/8 inch (9.52 mm) barb
Syrup	3/8 inch (9.52 mm) barb

FEATURES

- Cup rest and drip pan are readily removable for cleaning.

NOTE

Drip pan drain is capped at the factory. Cap needs to be removed if connected to permanent drain.

- Nozzle extension assembly is readily removable for cleaning.
- Dispensing valve is readily accessible for inspection, cleaning and servicing.

1. INSTALLATION OF LANCER TEA DISPENSER

1.1 RECEIVING

Each unit is completely tested under operating conditions and thoroughly inspected before shipment. At the time of shipment, the carrier accepts the unit, and any claim for damage must be made with the carrier. Upon receiving unit(s) from the delivering carrier, carefully inspect carton(s) for visible indication(s) of damage. If damage exists, have carrier note the same on the bill of lading and file a claim with the carrier.

1.2 UNPACKING

- A. The Lancer Tea Dispenser is shipped in a corrugated shipping carton.
- B. Carefully remove the corrugated shipping carton.
- C. Check to see that the following items are included:
 - Tea Dispenser
 - Remote Transformer
 - Installation Kit
- D. Inspect items for concealed damage. If evident, notify delivering carrier and file a claim against same.

1.3 SELECTING A COUNTER LOCATION

- A. Select a counter location which is close to a properly grounded electrical outlet, and a water supply that meets the requirements specified in Section 1.4 below.

1.4 WATER SUPPLY

- A. The dispenser requires a minimum water flowing pressure of 40 PSI.
- B. Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to federal, state and local laws.

1.5 ELECTRICAL SUPPLY

WARNING

THE POWER SUPPLY MUST BE PROPERLY ELECTRICALLY GROUNDED TO AVOID POSSIBLE ELECTRICAL SHOCK OR SERIOUS INJURY TO THE OPERATOR. THE POWER CORD IS PROVIDED WITH A THREE PRONG GROUNDED PLUG. IF A THREE-HOLE GROUNDED ELECTRICAL OUTLET IS NOT AVAILABLE, USE AN APPROVED METHOD TO GROUND THE UNIT.

- A. The dispenser requires connection to a properly grounded electrical source: 115V, 60HZ (for PN [85-1711](#)) or 230V, 50HZ (for PN [85-1712](#)).

NOTE

In the event more than one dispenser is installed, each dispenser should be on a separate 15 amp fused circuit.

- B. Power is supplied to each dispenser by the remote transformer (included in Installation Kit) which converts 115V (for PN [85-1711](#)) or 230V (for PN [85-1712](#)) to 24 VAC.

1.6 INSTALLATION

- A. Place Tea Dispenser on counter top. Lay Tea Dispenser on its side to expose product supply and electrical connections.
- B. Identify supply connections in channel on underside of base. The water connection is a 3/8" barb fitting, and the syrup connection is a 3/8" barb fitting.
- C. Thoroughly flush all incoming lines before connecting (see Section 3.3, Cleaning and Sanitizing Procedure). Avoid putting excessive strain on the lines to the unit; use sufficient line lengths.
- D. Identify electrical connector in channel on underside of base.
- E. Connect dispenser connector to output of remote transformer.
- F. Connect input cord on remote transformer to properly grounded electrical source.
- G. Turn Tea Dispenser upright and place in desired location.

- H Secure Tea Dispenser to counter top with the four (4) #10 Mounting Screws and Wingnuts included in the Installation Kit.

NOTE

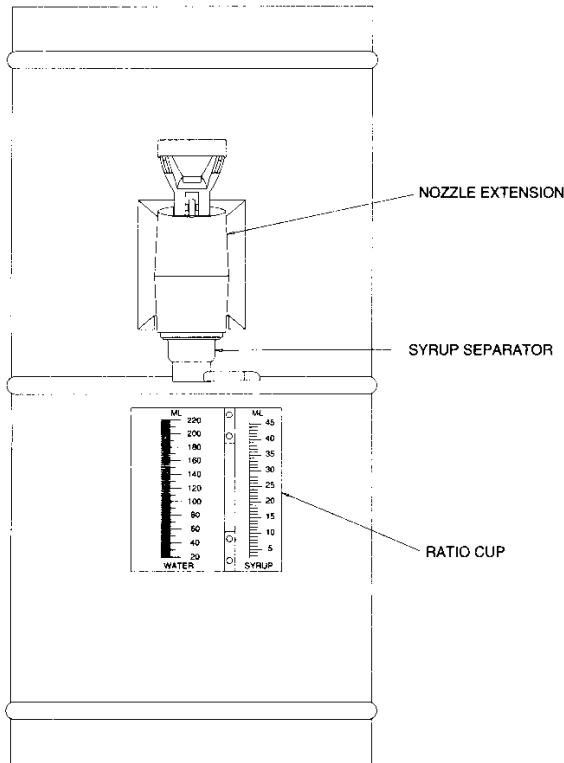
The Lancer Tea Dispenser Template (PN 28-0346) is included in the Installation Kit.

- I. Remove lid from dispenser by unscrewing the knob.
- J. Turn on water and syrup supplies. Check for leaks.

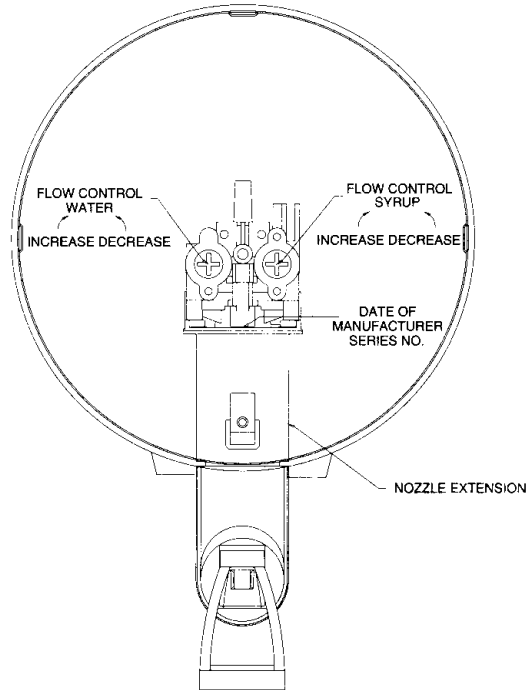
NOTE

When using Figal Syrup Supply Tanks, pressurize with clean air or Nitrogen (not CO₂).

- K. Check operation of unit by activating the handle on the nozzle extension portion of unit.
- L. Check dispensing valve for proper flow ratio (see Section 2).
- M. Replace lid and secure with knob.



**Front View, Syrup Separator and Ratio Cup
Figure 1**



**View Looking Down, Valve Adjustment
Figure 2**

2. SYRUP AND WATER RATIO ADJUSTMENT

2.1 PREPARING DISPENSER FOR ADJUSTMENT

- A. Remove nozzle from nozzle extension by twisting it to the left and pulling downward. Remove diffuser by pulling downward.
- B. Replace the nozzle and diffuser with the syrup separator (see Figure 1). Push the syrup separator upward and twist it to the right.

2.2 ADJUSTMENT PROCEDURE

- A. Hold ratio cup under the syrup separator (see Figure 1). Hold small chamber marked "4.50 to 1" under the syrup spout.
- B. Actuate the valve until approximately five (5) ounces (148 ml) of water fills the main chamber.
 - 1. Set the ratio cup on a level surface, and note whether the syrup level is above or below the water level.

2. *If the syrup and water are at the same level, the ratio is properly adjusted.* If the syrup and water are not at the same level, continue with the valve adjustment procedure below.
- C. Remove the lid from the dispenser by unscrewing the knob.
- D. Locate the two flow control adjustment screws on the front of the valve (see Figure 2). The water side flow control adjustment screw is on the left. The syrup side flow control adjustment screw is on the right.

NOTE

The water side flow control is factory preset to dispense 2 1/2 fluid ounces per second (74 ml/sec) and should require no adjustment.

- E. Increase or decrease the syrup flow to cause the two liquid levels to become even in the ratio cup. To increase syrup flow, turn the adjustment screw in (clockwise); to decrease flow, turn the screw out (counter clockwise).
- F. Rinse out the ratio cup with water.
- G. Repeat steps E and F until syrup and water levels are even.
- H. Remove the syrup separator, replace the diffuser and nozzle, and reinstall the lid on the dispenser.

3. CLEANING AND MAINTENANCE

NOTE:

The dispenser must be cleaned and sanitized after installation is complete and, thereafter as required by state and local authorities, or every six months, minimum.

3.1 CLEANING INFORMATION

- A. Clean external surfaces with mild soap and warm water. Rinse with clean water.
- B. Remove four (4) Wingnuts and Mounting Screws securing Tea Dispenser to counter. Clean under unit as required.
- C. Do **NOT** use strong bleaches or detergents. They tend to discolor and corrode various materials.
- D. Do **NOT** use steel wool, scouring pads, abrasives, etc., on the dispenser.
- E. Do **NOT** use hot water exceeding a temperature of 140°F (60°C). This may damage certain materials.
- F. Continuous maintenance is a basic requirement for proper operation and sanitation of this unit.
- G. Daily routine cleaning should be performed. This should consist of washing the cup rest and drip pan in cleaning solution. Then rinse with tap water. Wipe all splash areas clean, using a damp cloth soaked in cleaning solution.
- B. Reinstall Tea Dispenser to counter location. Secure with four Mounting Screws and Wingnuts removed in Step A above.

3.2 REQUIRED CLEANING EQUIPMENT

- A. Prepare a **cleaning solution** consisting of two (2) ounces of CHECK-MARK DDS-164 (NCH Corp./Kernite) per gallon of tap water (200 ppm Quaternaries) at 75°F. An equivalent cleaning solution may be used if prepared in accordance with the manufacturer's instructions. Approximately 3 1/2 gallons should be prepared.
- B. Prepare a **sanitizing solution** consisting of one (1) ounce of CHECK-MARK DDS-185 (NCH Corp./Kernite) per four (4) gallons of tap water (200 ppm Quaternaries) at 75°F. An equivalent sanitizing solution may be used if prepared in accordance with the manufacturer's instructions. Approximately 3 1/2 gallons should be prepared.
- C. Two pressure tanks are required. Use one tank for the cleaning solution, and one for the sanitizing solution.
- D. Other:
 - Clean cloth towels
 - Bucket
 - Small brush (PN [22-0017](#), included with installation kit)
 - Extra nozzle

3.3 CLEANING AND SANITIZING PROCEDURE

NOTE

Routine cleaning should be performed prior to cleaning and sanitizing.

Cleaning and sanitizing are not required for potable water circuits. The potable water lines should remain connected during the cleaning and sanitizing procedures for the syrup circuits to avoid contamination.

- A. Neutralize pressure and disconnect syrup container from valve product line. Remove product from the line by purging with carbon dioxide (CO₂). Purge completion is evident by sputtering from the valve.
- B. Clean the line and fitting with cleaning solution (prepared IAW Section 3.2), and rinse with clean, room temperature water to remove all traces of residual product.
- C. Attach valve product line to the pressure tank containing the cleaning solution. Pressurize and fill the syrup line by activating the valve. Make sure the line is full by running at least three (3) gallons (11 liters) through the valve and allow to stand pressurized for at least 10 minutes.
- D. Flush the cleaning solution from the line with clean water. Continue flushing until testing with phenolphthalein shows the rinse water to be free of residual detergent.
- E. Attach the valve line to the pressure tank containing the sanitizing solution (prepared IAW Section 3.2). Pressurize and fill the lines with sanitizing solution. Make sure the lines are completely filled by running at least three (3) gallons (11 liters) through the valve and allow to stand pressurized for at least 10 minutes.

NOTE

A sufficient amount of sanitizing solution should be placed in a separate container for the purpose of cleaning and sanitizing the nozzle and diffuser.

- F. Twist off the mixing nozzle and remove the diffuser from under the nozzle extension. Wearing sanitary gloves, clean and sanitize these items, allowing them to remain in the sanitizing solution for at least 10 minutes. Then, reinstall the nozzle and diffuser without rinsing them.

NOTE

Please note that a fresh water rinse cannot follow sanitization of equipment being actively operated. Purge only with CO₂ or the end use product. *This is an NSF requirement.*

- G. Purge the sanitizer from the syrup line with carbon dioxide.
- H. Reconnect the syrup container to the valve line and ready the dispenser for operation.

WARNING

FLUSH SANITIZING SOLUTION FROM SYRUP SYSTEMS AS INSTRUCTED. RESIDUAL SANITIZING SOLUTION LEFT IN SYSTEM COULD CREATE HEALTH HAZARD.

- I. Draw drinks to refill the line and flush the sanitizing solution (chlorine solution) from the dispenser. Taste the beverage to verify that there is no off-taste.

4. REMOVING DISPENSER FROM SERVICE

4.1 If it becomes necessary to remove a dispenser from service, complete the following procedure.

- A. Neutralize pressure on water and syrup supply lines. Disconnect water and syrup lines from the dispenser.
- B. Connect suitable pressure tank containing sanitizing solution (prepared IAW Section 3.2) to CO₂ supply and syrup inlet line. Then flush sanitizing solution through system. When chlorine solution appears, disconnect tank and allow to stand five (5) minutes.

CAUTION

INSURE ALL SANITIZING SOLUTION IS DRAINED OR BLOWN OUT OF SYSTEM. ALL PRODUCT TUBES MUST BE FREE OF SANITIZING SOLUTION AND OR WATER BEFORE SHIPPING OR STORING UNIT. RESIDUAL WATER IN DISPENSER (STORED IN A FREEZING ENVIRONMENT) CAN CAUSE INTERNAL DAMAGE TO THE UNIT.

- C. Connect clean potable water to syrup inlet line. Then, flush system thoroughly to remove all traces of chlorine.

- D. Connect CO2 supply to syrup inlet line and force all water out of syrup line with CO2 pressure.
- E. Connect CO2 supply to water inlet line and force all water out of water line with CO2 pressure.
- F. Place a disposable plastic bag over dispensing valve nozzle (or entire dispenser), and syrup and water line fittings. Secure in place with tape.

5. SERVICE AND TROUBLESHOOTING

- 5.1** Problems found in the operation of the dispenser can be solved by using the procedures listed below, the Troubleshooting guide, or by calling Lancer Customer Service or the Coca-Cola Company at the numbers listed below.
- 5.2** Before seeking repair assistance, check the following.
- A. Does the syrup container contain syrup?
 - B. Is the syrup line properly connected to the syrup tank or bag?
 - C. Is the syrup outlet line properly connected to the pump stand fitting (BIB only)?
 - D. Is the CO2 outlet line properly connected to the pump stand fitting (BIB only)?
 - E. Is the dispenser unplugged?
 - F. Do the CO2 cylinders contain adequate CO2 supply?
 - G. Are the CO2 regulators properly set?
 - H. Are the circuit breakers in the "OFF" position, or electrical fuses blown?
 - I. Service for dispensing systems can be obtained by calling the following:
 - 1. The Coca-Cola Company at 1-800-241-COKE (2693)
 - 2. Lancer at 1-800-729-1565
Monday through Friday, 7:30 a.m. - 5:30 p.m., CST.

6. DISPENSER TROUBLESHOOTING GUIDE

The following chart is designed to aid in correcting Tea Dispenser problems. Indicated corrective actions should be made by qualified dispensing service personnel only.

PROBLEM	CAUSE	CORRECTIVE ACTION
1. No product dispensed from valve.	<ul style="list-style-type: none"> A. No electricity to dispenser. B. No gas pressure on system. C. Transformer not connected, or defective transformer. D. Loose or defective connections. 	<ul style="list-style-type: none"> A. Check fuse or circuit breaker and replace or reset as applicable. *If circuit opens again, locate short in electrical system and correct. B. Check gas pressure(s) on CO2 tank(s) - valve open? C. *Check output transformer. Should be 24 VAC. Replace if defective. D. *Check all connections between transformer and dispensing valve. Tighten if loose. If defective, Replace.
2. Only water dispensed - no syrup.	<ul style="list-style-type: none"> A. Syrup tank is empty (usually accompanied by hissing and sputtering). B. Gas or liquid syrup tank disconnects not secure. C. Syrup or gas lines to tank are kinked. D. Syrup mounting block shutoff valve closed. E. Lack of pressure to syrup tanks. 	<ul style="list-style-type: none"> A. *Replace or fill syrup tank. B. Check that both disconnects are locked in position. C. Adjust lines or replace. D. Open valve. E. Check secondary regulator. Adjust to 60 PSIG (414 KPA) if sugar based. Adjust to 15 PSIG (103 KPA) if sugar free. For BIB, adjust to 60 PSIG for all pumps. <p>*Servicing must be performed by qualified service personnel.</p>

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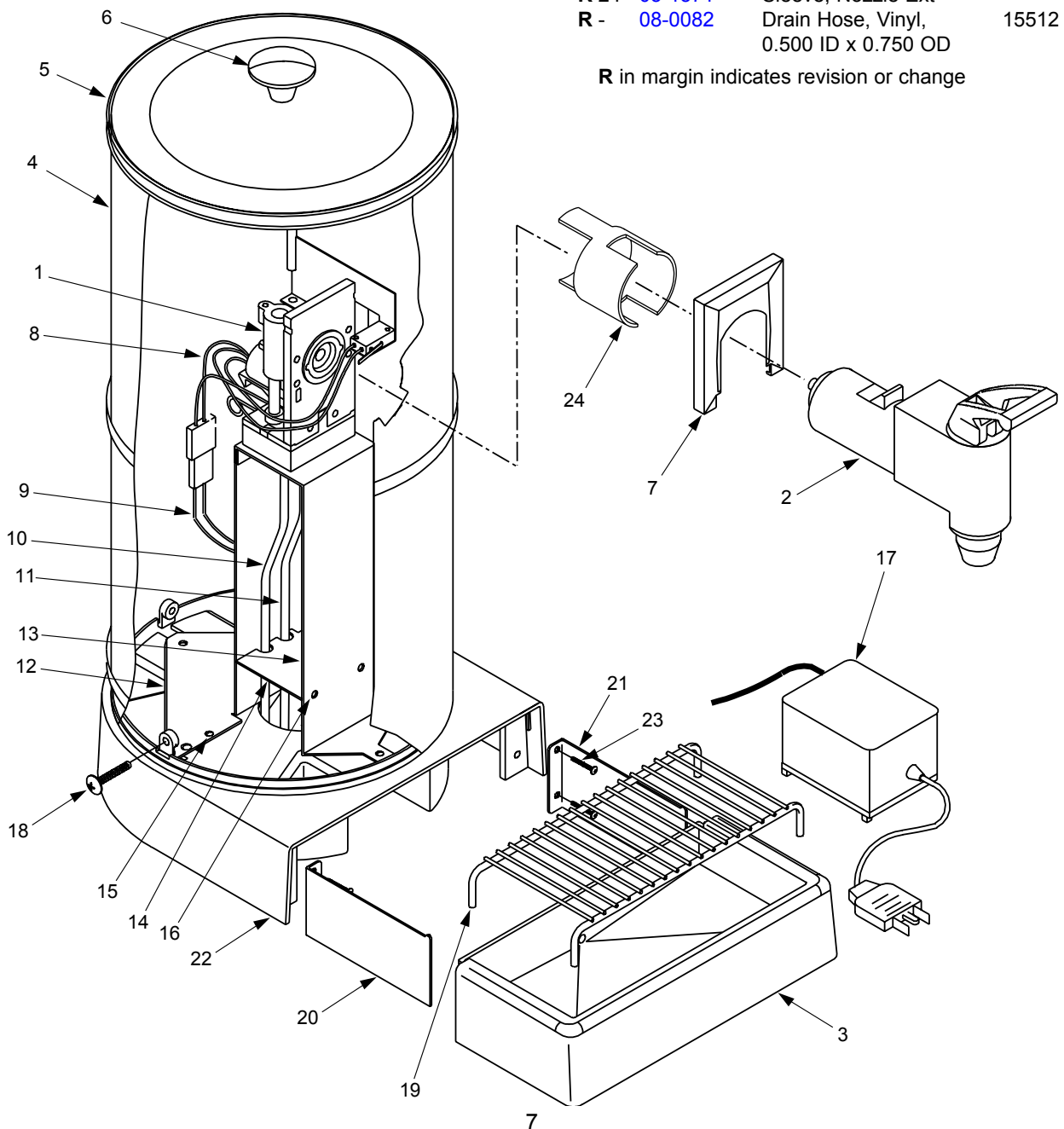
<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTIVE ACTION</u>
<i>(Continued from previous page)</i>	F. Dip tube in syrup tank blocked.	F. Remove both quick disconnects from syrup container. Depressurize tank through relief valve. Remove syrup and wash tank. Interchange quick disconnects and pressurize to the syrup out connection to remove debris from dip tube. Clean tank again. Upon completion, restore disconnects to their original locations.
	G. Dispensing valve port blocked.	G. Back-flush system.
3. Only syrup dispensed, no water.	A. Water mounting block shutoff valve closed. B. Water supply off. C. Inadequate water supply pressure.	A. Open valve. B. Open water supply valve. C. Check pressure. Consider installation of water pressure booster kit.
4. Ratio cannot be set.	A. Inadequate water supply pressure. B. Product lines not installed properly.	A. Turn water flow control (left side) to full open (CW). Measure flow rate. If greater than 2.5 oz/sec (74 ml/sec), adjust water to 2.5 oz/sec., then adjust syrup. If less than 2.5 oz/sec with flow control at maximum setting, adjust syrup to proper ratio with water at maximum setting. B. Ensure water supply is connected to water inlet and syrup supply is connected to syrup inlet.
5. Bad taste or odor.	A. Dirty valve. B. Foreign substance in water. C. Contaminated ice. D. Contaminated syrup. E. Impure CO ₂ gas. F. Plumber's pipe compound. G. Improper sealing of conduit and floor chases.	A. Clean nozzle and diffuser thoroughly. B. If water is free of impurities, it is tasteless and odorless. Clean and flush the system, and service the water filter. (If the system does not have a water filter, consider installing one.) C. Same conditions may exist in ice as in plain water. Check with ice machine service personnel to have filter installed. Clean ice bin or chest. D. Clean and sanitize lids, lid gaskets, tanks and syrup/CO ₂ couplers per tank manufacturers or maintenance instructions. E. Carbon dioxide gas is odorless, colorless and tasteless. If CO ₂ gas should contain any oil or sludge from filling tanks, a bad taste could result. Use only beverage grade CO ₂ . Welding grade CO ₂ can be contaminated. F. Some of these compounds impart a taste to the water. Remove piping and clean joints. *Replace piping, using only teflon tape. G. *Be sure conduit and chases are properly caulked and sealed with approved materials. *Servicing must be performed by qualified service personnel.

7. ILLUSTRATIONS AND AND PARTS LISTINGS

7.1 LANCER TEA DISPENSER ASSEMBLY

<u>Item</u>	<u>Lancer Part No.</u>	<u>Description</u>	<u>CCUSA Part No.</u>	<u>Item</u>	<u>Lancer Part No.</u>	<u>Description</u>	<u>CCUSA Part No.</u>
1	19-0137	Valve Assy	22330	R 12	30-5871	Rear Bracket	
2	54-0132	Nozzle Extension Assy	22331	R 13	30-5870	Front Bracket	
3	05-0881	Drip Tray, Tea Urn	23055	14	30-5459	Tube Spacer	22343
R 4	30-5455/01	Wrapper, Tea Urn		15	04-0310	Screw (#8-16 x .600)	18630
5	30-5478	Lid	22334	16	04-0148	Screw (#10-32 x 1/4)	22346
6	05-0805	Knob	22335	17	25-0049	Transformer Assy	22347
7	05-0808	Retainer	22336	18	04-0494	Screw (#10-32 x 0.625)	22348
8	52-1194	Harness, Valve Wiring	22337	19	23-0924	Cup Rest, Wire	23053
R 9	52-1186/01	Wire Harness	22338	20	30-5750	Bracket, Left, Drip Tray	23052
10	48-0725	Water Supply Tube	22339	21	30-5813	Bracket, Right, Drip Tray	23051
R 11	48-0725	Syrup Supply Tube	22339	22	54-0151	Base Assembly	23054
				23	04-0372	Screw (#8-32 X.500)	
				R 24	05-1571	Sleeve, Nozzle Ext	
				R -	08-0082	Drain Hose, Vinyl, 0.500 ID x 0.750 OD	15512

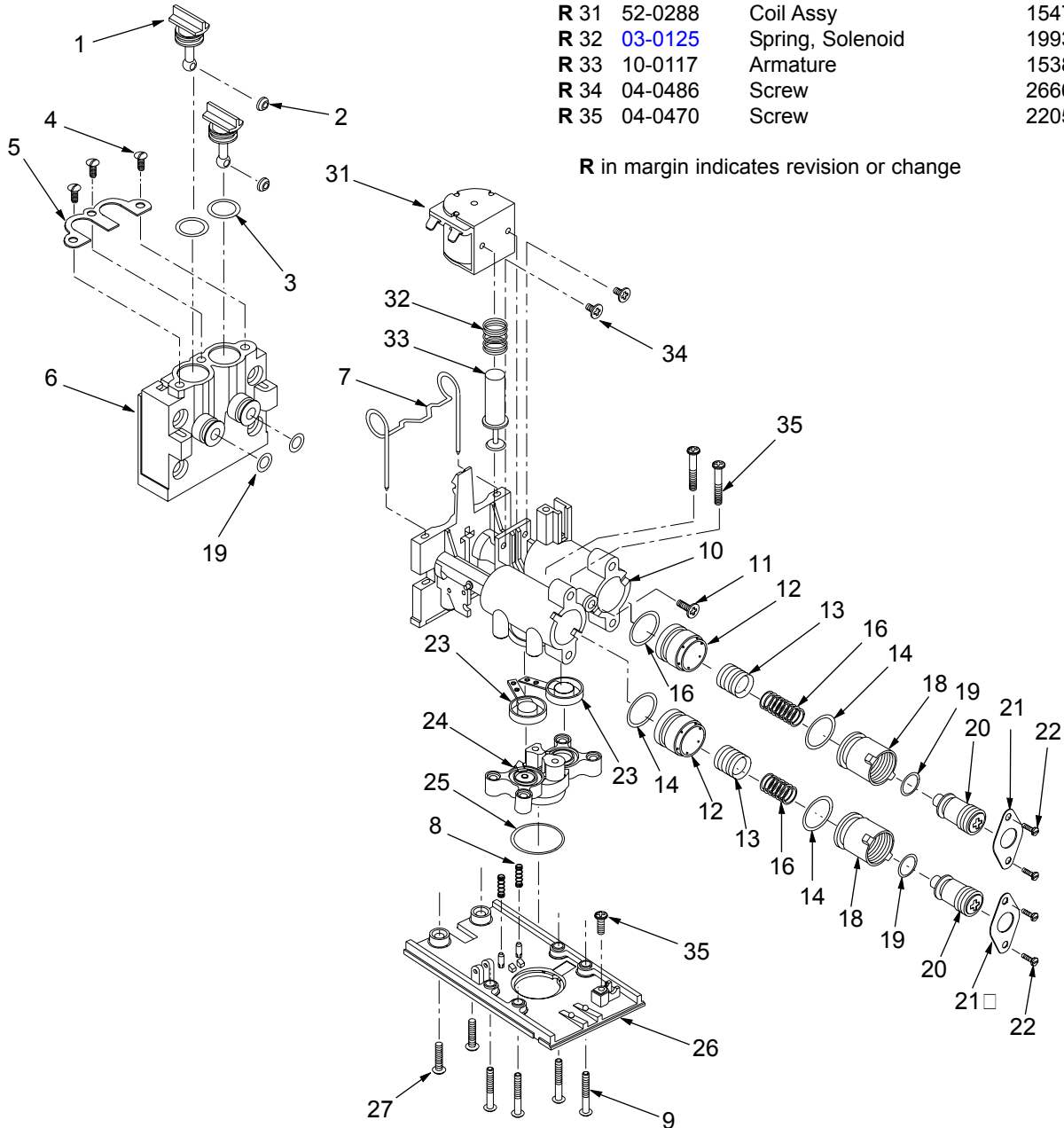
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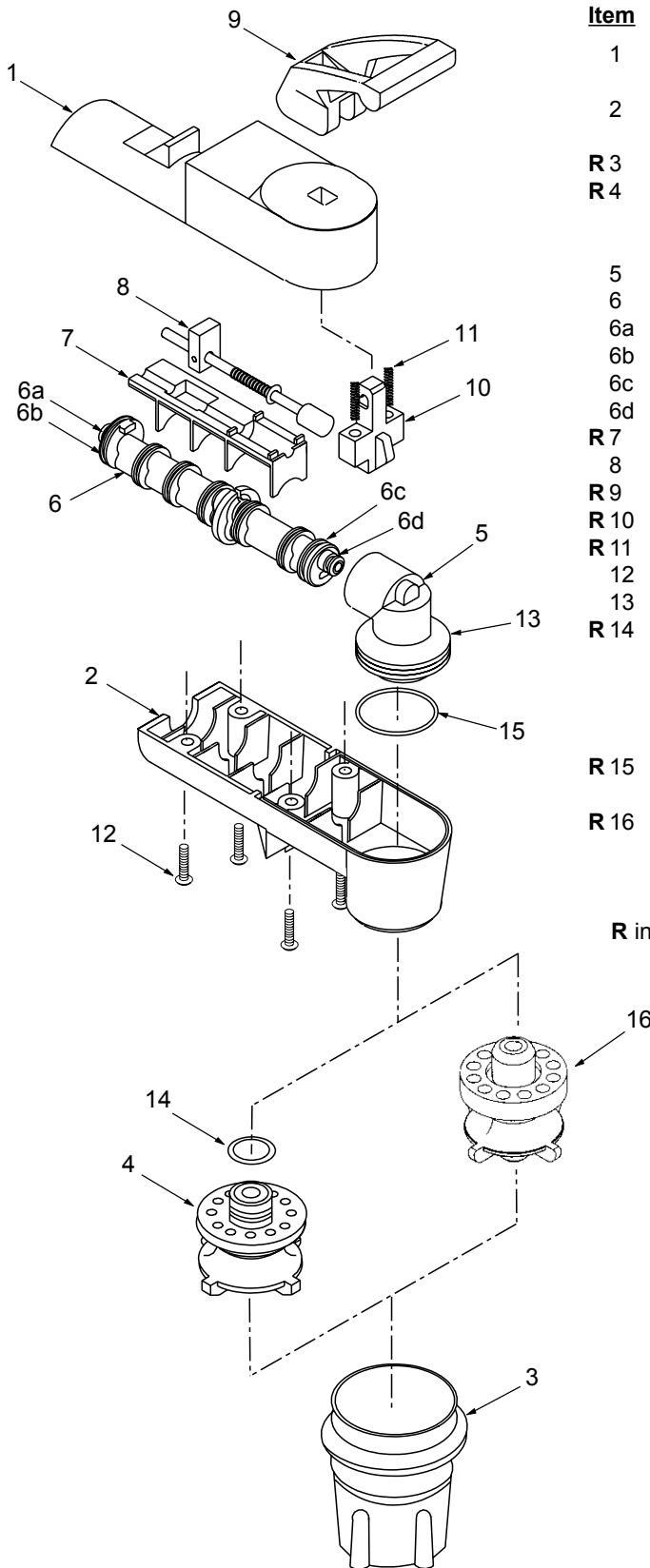
7.2 LANCER TEA DISPENSER - VALVE ASSEMBLY (PN 19-0137)

<u>Item</u>	<u>Lancer Part No.</u>	<u>Description</u>	<u>CCUSA Part No.</u>	<u>Item</u>	<u>Lancer Part No.</u>	<u>Description</u>	<u>CCUSA Part No.</u>
R 1	05-0266	Valve Stem	12270	R 14	02-0132	O-Ring	10708
R 2	05-0267	Washer	12286	R 15	81-0275	Spool Ceramic (Soda)	22423
R 3	02-0047	O-Ring	15175	R 16	03-0169	Spring (Syrup)	11144
R 4	04-0269	Screw	19894	17	03-0171	Spring (Soda)	
R 5	03-0087	Retainer	12263	R 18	05-0262	Bonnet Flow Control	15023
R 6	05-0265	Mounting Block	12189	R 19	02-0126	O-Ring	10706
R 7	03-0233	Retainer, Valve	24231	R 20	05-0645	Plug, Adjustment	26659
8	03-0143	Spring, Pin		R 21	03-0088	Retainer, Flow Control	23777
R 9	04-0270	Screw	18635	R 22	04-0267	Screw	23779
R 10	54-0189	Body, Upper Assy	25729	R 23	82-0190	Paddle Arm Assy	18722
R 11	04-0302	Screw	21691	R 24	54-0046	Body, Lower Assy	19781
R 12	81-0274	Sleeve, Ceramic	22421	25	02-0127	O-Ring	
R 13	81-0273	Spool, Ceramic (Syrup)	22422	R 26	05-0232	Plate, Bottom	15457
				R 27	04-0310	Screw	18630
				R 31	52-0288	Coil Assy	15479
				R 32	03-0125	Spring, Solenoid	19933
				R 33	10-0117	Armature	15382
				R 34	04-0486	Screw	26660
				R 35	04-0470	Screw	22059

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7.3 LANCER TEA DISPENSER - NOZZLE EXTENSION ASSEMBLY (PN 54-0132)



<u>Item</u>	<u>Lancer Part No.</u>	<u>Description</u>	<u>CCUSA Part No.</u>
1	05-0792	Upper Housing, Nozzle Ext.	22349
2	05-0793	Lower Housing, Nozzle Ext.	22350
R 3	05-0233/01	Nozzle	22351
R 4	54-0028/01	Diffuser Assy (Used in production models through October 1998)	17124
5	05-0799	Nozzle Interface	22353
6	54-0136	Product Tube Assy	22354
6a	02-0221	O-Ring	22363
6b	02-0133	O-Ring	17411
6c	02-0219	O-Ring	22364
6d	02-0133	O-Ring	17411
R 7	05-0795	Support Mechanism	
8	54-0134	Switch Actuator Assy	22357
R 9	05-0806/02	Handle, 2 Way	22358
R 10	05-0807/02	Handle Ext., 2 Way	22359
R 11	03-0197/01	Spring Handle Ext.	22360
12	04-0397	Screw, 8 - 16 x 0.500	22361
13	02-0231	O-Ring (2-029)	22362
R 14	02-0133	O-Ring (2-009) (Used in production models with Item 4 through October 1998)	17411
R 15	02-0127	O-Ring (2-022)	
R 16	05-1593	Diffuser Assy (Used in production models beginning October 1998)	

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NOTES

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