KIT PART NUMBER 3630069
INSTRUCTIONS FOR INSTALLING A NEW DIAPHRAGM BODY INTO A TWIN DRINK CENTER CARBONATOR PUMP

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. IF ANY PARTS ARE MISSING, CONTACT THE NATIONAL VENDORS PARTS DEPARTMENT IMMEDIATELY.

Read these instructions carefully before installing the kit.
Keep these instructions for part numbers and for future reference.

THIS KIT CONTAINS THE FOLLOWING :

PART NUMBER	DESCRIPTION	QUANTITY
3630070	DIAPHRAGM/DRIVE KIT - 2.0	1
	SCREWS	3
3636010	IC ASSEMBLY - VERSION 363.07	1
3630071	INSTRUCTIONS	1

Part I. Prepare for installation:

1. Turn off water at the filter.
2. Turn off the CO_2 supply.
3. Press 

, then 
until the display shows *PURGE TEST*. Press 

until carbonated water stops dispensing. Press 

to dispense all still water.
4. Turn off electrical power.

Part II. Gain access to the carbonator:

1. Remove the brewer, and syrup and water containers.
2. Remove the cold plate front cover and side cover.
3. Open the pressure relief valve to relieve all pressure in the carbonator tank.
4. Disconnect the water lines on the center tee of the carbonator tank.
5. Disconnect the CO_2 supply line to the syrup pump CO_2 regulator at the tee on the carbonator.
6. Remove the wire harness from the carbonator tank.
7. Remove the tank retaining strap.
8. Remove the carbonator tank.
9. Remove the tank retaining bracket.
10. Disconnect the recirculating valve wire harness.

Part III. Remove and modify the pump:

1. Remove the pump outlet water line at the cold plate (figure 1).
2. Remove the three inner diameter screws from the front of the pump as shown (figure 1), and pull the pump housing away from the motor.
3. Remove the water supply line from the pump (figure 1).
4. Hold the housing so it will not separate while removing the three outer diameter screws.
5. Remove the three outer diameter screws as shown (figure 2). Discard the screws.
6. Remove the housing as shown in figure 2 and remove the casting from the top of the pump assembly. Take care not to lose the 3 springs and white plastic check valves.
7. Set the valve assembly down so the check valves and springs will not fall out of their locations (figure 2).
8. Remove the inner cover from the old casting. Discard the casting (figure 2).
9. Carefully insert the inner cover into the pump housing. The three white plastic check valves must seat into the holes in the inner cover. Hold the parts together to keep the parts in alignment.
10. Place the new diaphragm drive kit (3630070) onto the housing and inner cover assembly. Hold these parts together and carefully turn over the entire assembly.
11. Install the three screws supplied with the kit.

Part IV. Install the pump:

1. Mate the pump to the motor, being sure to align the flat spot on the motor shaft with the flat spot in the pump housing.
2. Align the three bosses on the motor with the bosses on the pump housing. Secure the pump to the motor with the three screws you removed previously.

Part V. Complete the installation:

1. Reinstall and connect all parts in the reverse order of disassembly.

Part VI. Install the new EPROM:

1. Follow the steps outlined in the instructions for replacing an EPROM, starting on page 7.

Part VII. Return the machine to service:

1. Turn on power, water and CO_2.

2. Load new default times (for still water) by following the "***SET UP CUP SIZES***" procedure in the programming section of your operator's guide. If you have customized your times, manually load these times for still water as listed in the table below.

COLD WATER AND SYRUP THROW DEFAULT TIMES AND VOLUMES

CUP SIZE		SYRUP THROW			WATER THROW (NO ICE)				ICE THROW		
		VOLUME		TIME (SEC)	VOLUME		TIME (SEC)		VOLUME		TIME (SEC)
OZ.	ML.	OZ.	ML.		OZ.	ML.	CARB.	STILL	GR.	OZ.	
5	148	0.7	21	3.4	3.6	107	5.1	6.85	42.5	1.5	1.85
7	210	1.0	30	4.8	5.0	150	7.2	9.60	42.5	1.5	1.85
8	237	1.1	33	5.3	5.7	169	8.1	10.80	42.5	1.5	1.85
9	270	1.4	40	6.4	6.7	200	9.6	12.80	42.5	1.5	1.85
10	295	1.5	45	7.2	7.5	222	10.7	14.20	42.5	1.5	1.85
12	355	1.7	50	8.0	8.4	250	12.0	16.00	56.7	2.0	2.50
16	473	2.3	69	11.0	11.7	345	16.6	22.00	85	3.0	3.50
18	532	2.7	79	12.6	13.3	395	19.0	25.30	85	3.0	3.50

COLD WATER AND ICE VOLUME AND THROW TIME FACTORY DEFAULT SETTINGS

SELECTION		WEIGHT (IN OZ) PER SIZE CUP THROW TIMES (IN SECONDS) PER SIZE CUP			
		12 OZ		16/18 OZ	
		COLD WATER	ICE	COLD WATER	ICE
X	ICED COFFEE - FRESH BREW	60 3.85	4.75 5.50	180 11.50	5.00 6.00
X	ICED COFFEE - FREEZE DRY	50 3.20	5.00 6.00	190 12.15	5.00 6.00
Y	ICED CAPPUCCINO - FRESH BREW		4.55 5.30		7.75 9.00
Y	ICED CAPPUCCINO - FREEZE DRY		4.55 5.30		7.75 9.00
Z	ICED TEA - FREEZE DRY	50 3.20	5.00 6.00	165 10.60	5.00 6.00
Z	ICED TEA - FRESH BREW	60 3.85	4.75 5.50	180 11.50	5.00 6.00

STILL WATER DRINKS

CUP SIZE		TIME (SEC)
OZ.	ML.	
5	148	8.20
7	210	11.50
8	237	12.95
9	270	15.35
10	295	18.10
12	355	19.20
16	473	26.50
18	532	30.35

3. Test the machine for proper operation.

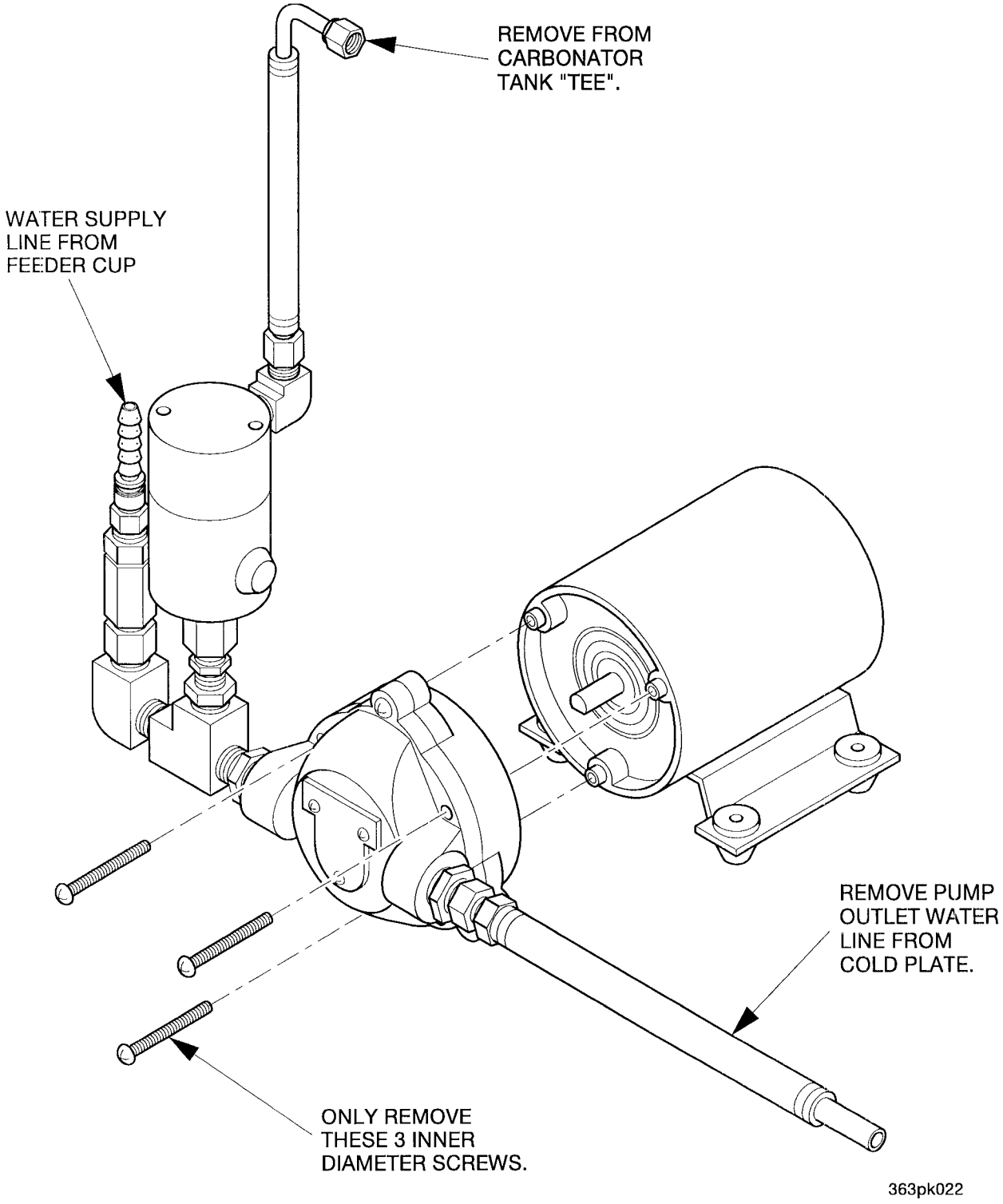

REMOVE FROM
CARBONATOR
TANK "TEE".
WATER SUPPLY
LINE FROM
FEEDER CUP
REMOVE PUMP
OUTLET WATER
LINE FROM
COLD PLATE.
ONLY REMOVE
THESE 3 INNER
DIAMETER SCREWS.
363pk022

Figure 1

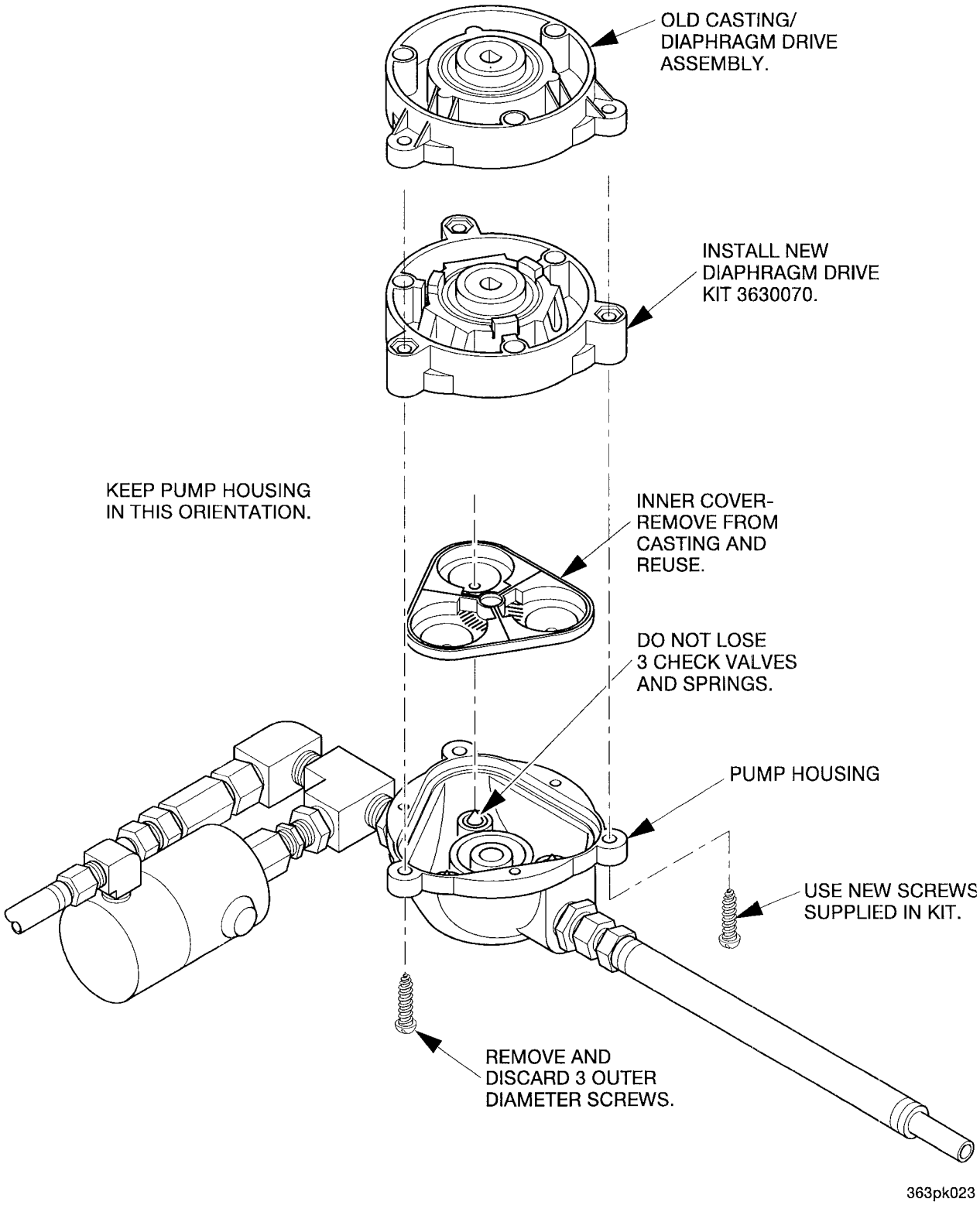
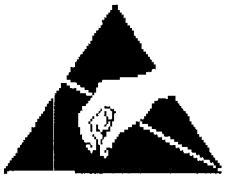
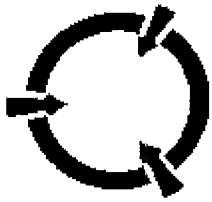

OLD CASTING/
DIAPHRAGM DRIVE
ASSEMBLY.
INSTALL NEW
DIAPHRAGM DRIVE
KIT 3630070.
KEEP PUMP HOUSING
IN THIS ORIENTATION.
INNER COVER-
REMOVE FROM
CASTING AND
REUSE.
DO NOT LOSE
3 CHECK VALVES
AND SPRINGS.
PUMP HOUSING
USE NEW SCREWS
SUPPLIED IN KIT.
REMOVE AND
DISCARD 3 OUTER
DIAMETER SCREWS.
363pk023

Figure 2



CAUTION



PREVENTING CIRCUIT DAMAGE FROM ELECTROSTATIC DISCHARGE

Electronic printed circuit board assemblies are susceptible to physical damage, for example, broken components due to rough handling. In addition, printed circuit board assemblies (and their components, such as EPROMs) are subject to damage by various types of static electricity. Damage of this type is called **ELECTROSTATIC DISCHARGE (ESD)**. ESD can cause immediate damage to components on a circuit board assembly, or it can weaken them to the point where the damage will show up days, weeks, or months later.

PRECAUTIONS TO TAKE WHEN HANDLING PCB ASSEMBLIES

1. The PCB assembly is usually shipped in a cardboard shipping carton to prevent physical damage. Inside the carton, the PCB was placed in 1 of 3 types of closed protective bags: black translucent, smoked gray transparent, or pink transparent.

2. For storage, the best protection for the assembly is to leave it in its shipping carton. If it is removed from the carton, leave the assembly in its ***CLOSED storage bag while transporting, or until it is ready to be installed in a machine.***

3. Before handling the PCB assembly, be sure you are wearing a conductive wrist strap or other suitable ESD protective device. The conductive wrist strap should be connected to ground in the machine. This can be any ***PLATED exposed metal part. DO NOT CONNECT YOUR WRIST STRAP TO A PAINTED PART.***

4. Remove the new PCB assembly from its bag. Set the PCB assembly on top of the bag on a flat surface while you remove the old PCB assembly from the machine.

5. Pick up the new PCB assembly and set the old one down on the protective bag. Install the new PCB assembly in the machine.

6. Insert the old PCB assembly into the protective bag. Seal the bag.

7. If the old PCB assembly is to be returned to National Vendors, it is best to ship it in the same shipping carton you received with the new PCB assembly.

INSTRUCTIONS FOR REPLACING AN EPROM

Read these instructions carefully before installing the EPROM.

Proceed as follows:

CAUTION

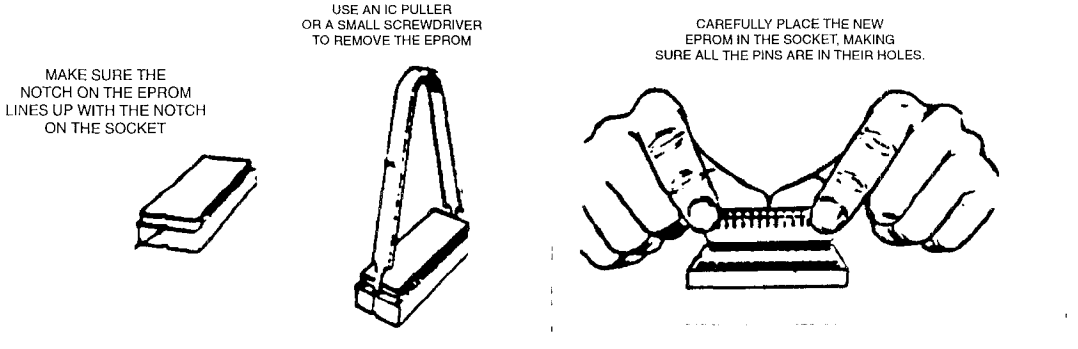
Do not remove the new EPROM from its shipping carton until you are ready to use it.

1. Turn the machine power switch OFF.
2. The controller cover is located behind the monetary door near the top of the machine. Remove the controller cover:
   a. Loosen the hex head screws securing the controller cover to the machine.
   b. Move the controller cover out of your way.

CAUTION

Observe electrostatic discharge precautions to protect the electronics from damage while they are being handled. Wear a grounded wrist strap connected to any unpainted metal part of the machine. If a wrist strap is not available, remove any electrostatic charge (static electricity) from yourself by touching any unpainted metal part of the machine before handling any electronic component. Do this often during the removal and installation process.

3. On figure 3, see the shaded area representing EPROM U4. These devices have various means of showing how they are to be oriented on the circuit board. Some EPROMs will have a small notch which matches the notch printed on the controller board. Other EPROMs may have a small dimple as shown, others may have a painted stripe. Take note of where the locating mark is on the EPROM currently mounted on the controller board. Your new EPROM will be placed in that same orientation. The shaded area on the figure is where the new EPROM will go.
4. Carefully remove the old EPROM from the controller board. Use an EPROM removal tool or a thin tool such as a small screwdriver or knife blade to gently rock the EPROM from its socket.
5. Carefully insert the new EPROM in the controller board. **MAKE SURE THE LOCATING MARK (NOTCH, DIMPLE, STRIPE) ON THE EPROM IS FACING THE SAME WAY AS ON THE OLD EPROM! Make sure each of the pins is in its respective hole in the socket before pushing the EPROM into place.**
6. Carefully seat the EPROM into place using uniform pressure all around.
7. Replace the controller cover and tighten both screws.
8. Restore power to the machine.



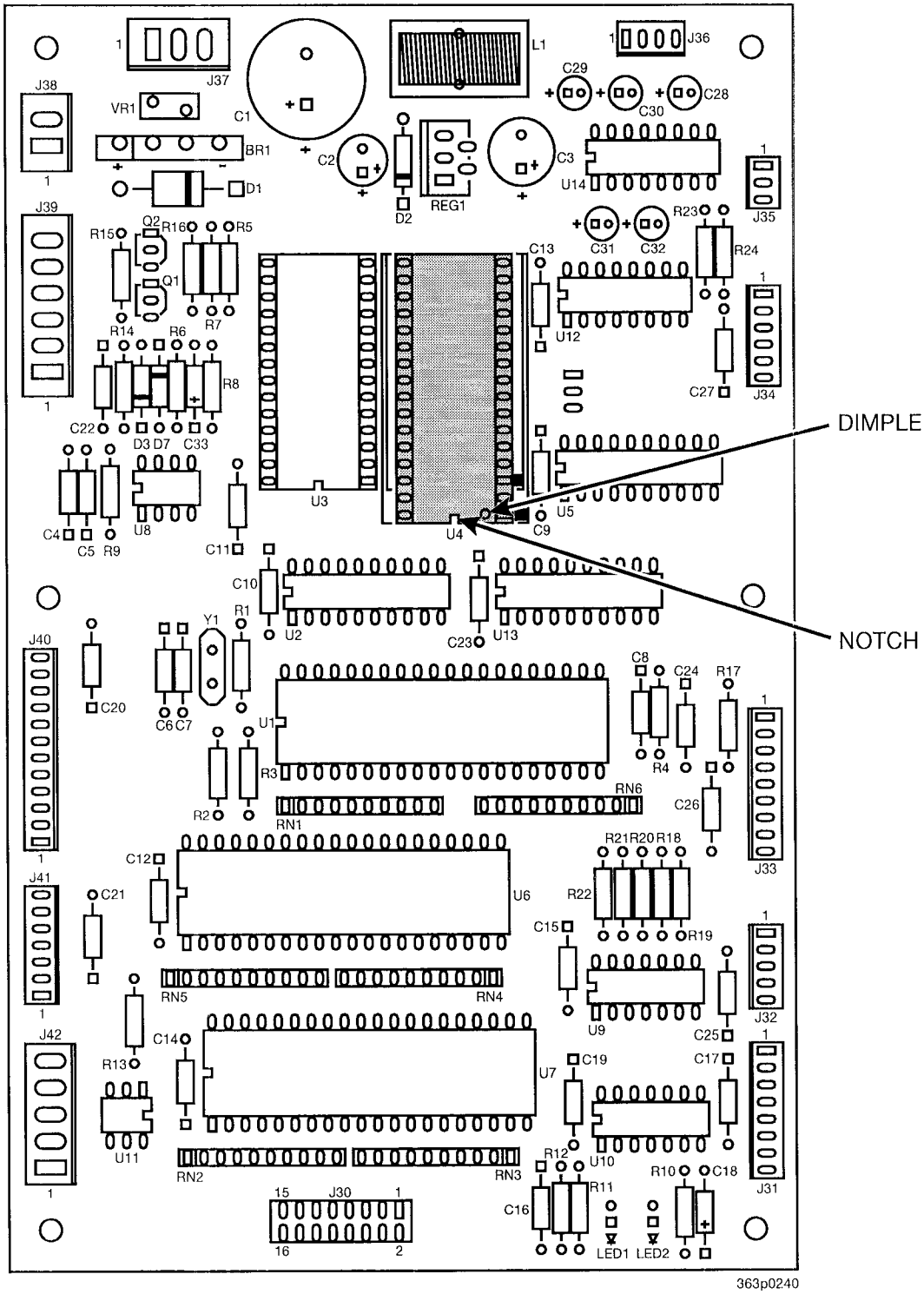


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Figure 3