BAG-IN-BOX KIT INSTALLATION INSTRUCTIONS

WARNING

Lethal voltages are present inside the machine. Remove all electrical power from the machine to avoid personal injury or death.

NOTE

These instructions assume an 8-flavor machine. If your machine will have fewer than 8 flavors, disregard anything that refers to the extra flavors (such as syrup lines, pump wiring, etc). Some parts may be pre-assembled. Disregard assembly instructions pertaining to those parts.

LIST OF TOOLS REQUIRED TO PERFORM THIS INSTALLATION
Flat bladed screwdriver
1/4" nut driver
11/32" nut driver
Holding screwdriver
#1 short Phillips screwdriver
8" adjustable wrench
9/16" open end wrench
Hose clamp pliers
Plastic tube cutter
Anti-static wrist strap
Electric drill
5/32" (.159) drill bit
9/64" (.140) drill bit
3/16" (.187) drill bit
Pump removal tool (part number 3167023 included with kit)

1. Remove power from the machine.
2. Turn off and disconnect the CO_2 tank.
3. See figure 1. Remove the following parts:
   - CO_2 drum retainer assembly
   - Cup delivery compartment and chute assembly
   - Cup dispenser assembly
   - Icemaker assembly
   - Water pump and motor assembly
4. Lift the water feeder assembly lid and block the float assembly so that the water feeder does not call for water.

5. See figure 1. Remove all syrup tanks and place the ends of the syrup suction tubes in a bucket of hot water.
6. Restore power to the machine.
7. Prime the pumps, running hot water through the syrup suction tubes, pumps, and syrup discharge tubes until they are clean.
8. Remove power from the machine.
9. Remove all syrup discharge tubes and roll them up into the water bath to keep them out of the way.
10. Remove all syrup suction lines and syrup pumps.
11. See figure 2:
    a. Remove and discard the final rear screen assembly and rear screen gasket as shown.
    b. Tape the REAR SCREEN DRILLING TEMPLATE to the rear of the machine as shown.
    c. Drill four holes in the positions shown on the template.
    d. Remove and discard the template.
    e. Install the replacement screen to the back of the machine with the four screws provided.
12. Remove the water feeder assembly and hoses.
13. See figure 3:
    a. Tape the WATER FEEDER CUP DRILLING TEMPLATE to the upper right side of the inside of the machine as shown.
    b. Drill two holes in the positions shown on the template.
    c. Remove and discard the template.
14. See figure 4: Using the old water feeder mounting hardware, mount the water feeder to the new holes you drilled, as shown. Note that the spacer is now on the left side (toward the rear of the machine). Cut the tubing that runs from the feeder cup to the water pump to 3¼" in length.
15. See figure 5:
    a. Tape the BACKPLATE/PUMP ASSEMBLY DRILLING TEMPLATE to the right rear of the inside of the machine as shown.
    b. Drill four holes in the positions shown on the template.
    c. Remove and discard the template.
    d. Use 8/32" self-tapping screws to make threads in the holes, then remove the screws. (These holes will later be used to mount the backplate/pump assembly.)
16. See figure 6:
    a. Tape the SECONDARY REGULATOR DRILLING TEMPLATE to the left side channel as shown.
    b. Drill one hole in the position shown on the template.
    c. Remove and discard the template.
17. See figure 7:
    a. In the hole you just drilled, mount the secondary regulator with 8" line and 1/4" brass tee attached, using the 8/32" screw with a plastic clamp.
    b. Locate the original line that went from the carbonator to the CO_2 tank. Route the line along the back wall of the machine, and attach it to the 1/4" brass tee.
    c. Connect the long CO_2 line to the 1/4" brass tee. Tighten all CO_2 line connections firmly.
18. See figure 8:
    a. Remove the original CO_2 line from the carbonator.
    b. Place the plastic insert in the new tee, and install the new tee to the same carbonator fitting where you removed the CO_2 line. **MAKE SURE THE TEE IS ALIGNED AS SHOWN IN THE FIGURE**.
    c. Connect the original CO_2 line to one side of the new tee as shown, and the CO_2 sold out switch assembly line to the other side. Firmly tighten all lines.
    d. Mount the CO_2 switch line to one of the ice bank control mounting screws using a clamp.

WARNING

Lethal voltages are present inside the machine. Unplug the machine to avoid personal injury or death.

19. If you haven't already done so, unplug the machine.
20. See figure 9:
    a. Remove the three screws in the front panel of the final control box assembly. Let the panel swing down.
    b. Disconnect electrical connections from the left side of the control box.
    c. The ground (green) wire for the power cord is attached to the cabinet through a hole in the final control box. Remove the screw holding the ground wire to the cabinet.
    d. Remove the white and black wires.
    e. Remove the four screws that hold the control box assembly to the cabinet. Remove the control box assembly.
21. Mount the backplate/pump assembly to the holes you drilled in step 15. Secure with screws, and tighten firmly. Tie all hoses out of the way.
22. See figure 9: Remove the controller PCB assembly from the final control box.
23. Remove or cover all remaining components in the final control box to keep metal shavings from shorting electrical wiring.
24. If there is not a hole under the two electrical connectors on the left rear side of the box, drill a hole about 1/2" below the bottom connector large enough to accomodate the grommet.
25. Insert the grommet into the hole you just drilled.
26. See figure 10:
    a. Tape the TRANSFORMER DRILLING TEMPLATE to the lower right front corner of the final control box.
    b. Drill two holes in the positions shown on the template.
    c. Remove and discard the template.
27. Make sure the final control box is free of all metal shavings from drilling.
28. Mount the transformer in the final control box, in the holes you drilled in step 26. Secure with 8/32 x 3/8" screws and 8/32" nut.
29. See figure 11: Make electrical connections from the transformer to the terminal strip as shown.
30. Mount the final control box assembly to the cabinet. Reconnect the power cord ground wire.
31. Reconnect the two wiring harnesses to the connectors on the left side of the final control box.
32. Mount the CO_2 line from the backplate/pump assembly to the open fitting on the secondary regulator.
33. Route the wiring harness from the backplate/pump assembly into the hole in the left side of the final control box. Secure the harness on the rear wall of the cabinet with clamps, using the existing screw holes from pump #2 and #4.

CAUTION

Components are sensitive to electrostatic discharge damage. Be sure you are wearing a grounded wrist strap before performing the next step.

34. Install the new controller PCB assembly. See figure 11. Connect the harness from the back plate pump assembly to the controller and transformer as shown. Connect the rest of the wires to the controller board.

NOTE

The wiring harness that is left over was used to supply power to the syrup pumps. It is no longer used, and can be left inside the cabinet.

35. Tie the loose wiring harness out of the way.
36. See figure 12:
    a. Tape the BAG-IN-BOX SHELF DRILLING TEMPLATE to the left rear corner of the machine floor.
    b. Drill two holes in the positions shown on the template.
    c. Remove and discard the template.
    d. Mount a bag-in-box shelf on the bottom of the machine, using two self-tapping 10/32" screws.
37. Install the next three shelves, attaching them with 8/32" screws and nuts.
38. See figure 13. Place the spacer between the top shelf and the syrup hose bracket (first hole on left). Secure the shelf to the bracket using the bolt and nut as shown.
39. Route the suction line for selection numbers 38 and 68 to the right side of the bag-in-box shelves. Route all other suction lines to the left side of the cabinet.
40. See figure 14:
    a. Mount the top hole of the syrup line bracket in the hole for old syrup pump #1. Using the bottom hole of the syrup line bracket as a template, drill one 9/64" hole. Mount the bottom of the bracket with an 8/32" screw.
    b. Remove the top screw from the syrup line bracket. Straighten the suction lines along the back wall of the cabinet, and stack them in the bracket in the order shown. Replace the top bracket screw.
41. Route the discharge lines to the spigots. Trim the discharge lines to eliminate the excess.

NOTES

To aid in reassembly, mark the location of electrical connections before removing them.

Retain all attaching hardware for use in reassembly.

See figure 15:

42. Disconnect all the electrical connections from the following:
    - Door controller assembly
    - Keylock switch (if present)
    - Selection switch panel (keypad) and display circuit board
43. Remove the back panel assembly and acrylic display panel.
44. Remove the following from the back panel assembly and display panel and set aside:
    - Door controller assembly
    - Keylock switch (if present)
    - Selection switch panel (keypad) and display circuit board
45. Assemble the new back panel to the new acrylic display panel.
46. Mount the new back panel/display panel assembly to the door.

NOTE

Use self-tapping mounting screws to make threads at all mounting locations. This is easier than trying to make threads while holding the controller assembly up to the back of the door.

47. Mount the following items on the new back panel assembly:
    - Cable protector plate
    - Door controller assembly
    - Keylock switch (if present)
    - Selection switch panel (keypad) and display circuit board
48. Reconnect all electrical connections.
49. Place prices and selections on the menu card, then slide the card into the slot on the backplate assembly. Secure with two screws.
50. Insert labels as desired, and install the label plate.
51. Remove the door controller cover.

CAUTION

Components are sensitive to electrostatic discharge damage. Be sure you are wearing a grounded wrist strap before performing the next step.

52. See figure 16:
    a. Remove EPROMS U2 and U3 from the PCB assembly and replace with new EPROMS U2 and U3.
    b. Remove the backup channel cover and replace it with the sold-out board. Make harness connections as shown. Replace the door controller cover.
53. See figure 17: Route the harness from the door controller along the right side wall of the cabinet to the back plate pump assembly as shown. Secure the harness to the cabinet. Connect the harness to the pump assembly and CO_2 sold out switch as shown. See figure 18 for a schematic diagram of all new harnesses.
54. See figure 1: Replace the following parts:
    CO_2 drum retainer assembly
    Water pump and motor assembly
    Icemaker assembly
    Cup delivery compartment and chute assembly
    Cup dispenser assembly
    CO_2 tank
55. Remove the block from the water feeder float.
56. Restore power to the machine.
57. Turn on the machine and let the water feeder fill. All of the red sold out lights should be on. Try to vend all selections; the display should show SOLD OUT, MAKE ANOTHER SELECTION.
58. Remove power from the machine.
59. Place all the bag-in-box containers in their respective locations on the shelves and make connections.
60. Restore power to the machine.
61. Prime the pumps:
    a. Press the **MACH CONF** key on the door controller switch panel. The display shows MACH CONF XXX (XXX is the current configuration setting). Set the configuration to 802.
    b. Press the **#** key on the selection switch panel. The display shows: CPSIZE XXOZ (XX is the current cup size setting. Using the number keys on the selection switch panel, set the cup size to 18oz (if not already set).

c. Turn on the CO_2 tank. The pumps will start pulsing and pull up syrup.
d. Press the **SYRUP** key on the door controller switch panel. The display shows: SYRUP.
e. Press the **#** key on the selection switch panel. The display shows: SYRUP 1.
f. Press the **TEST THROW** key on the door controller switch panel. The pump will pulse and some syrup may come out of the discharge tube.
g. Repeat step f. 3 to 5 times, or until syrup is dispensed in a steady flow.
h. Press the **#** key on the selection switch panel. The display shows: SYRUP 2. Repeat steps e. through g. for all the selections in the machine. After each pump is primed, its corresponding sold out light will go out.

NOTE

Refer to the setup manual for instructions on setting syrup throws, adjusting valves, etc.

62. You may now reset the configuration and the cup size as appropriate for your machine.

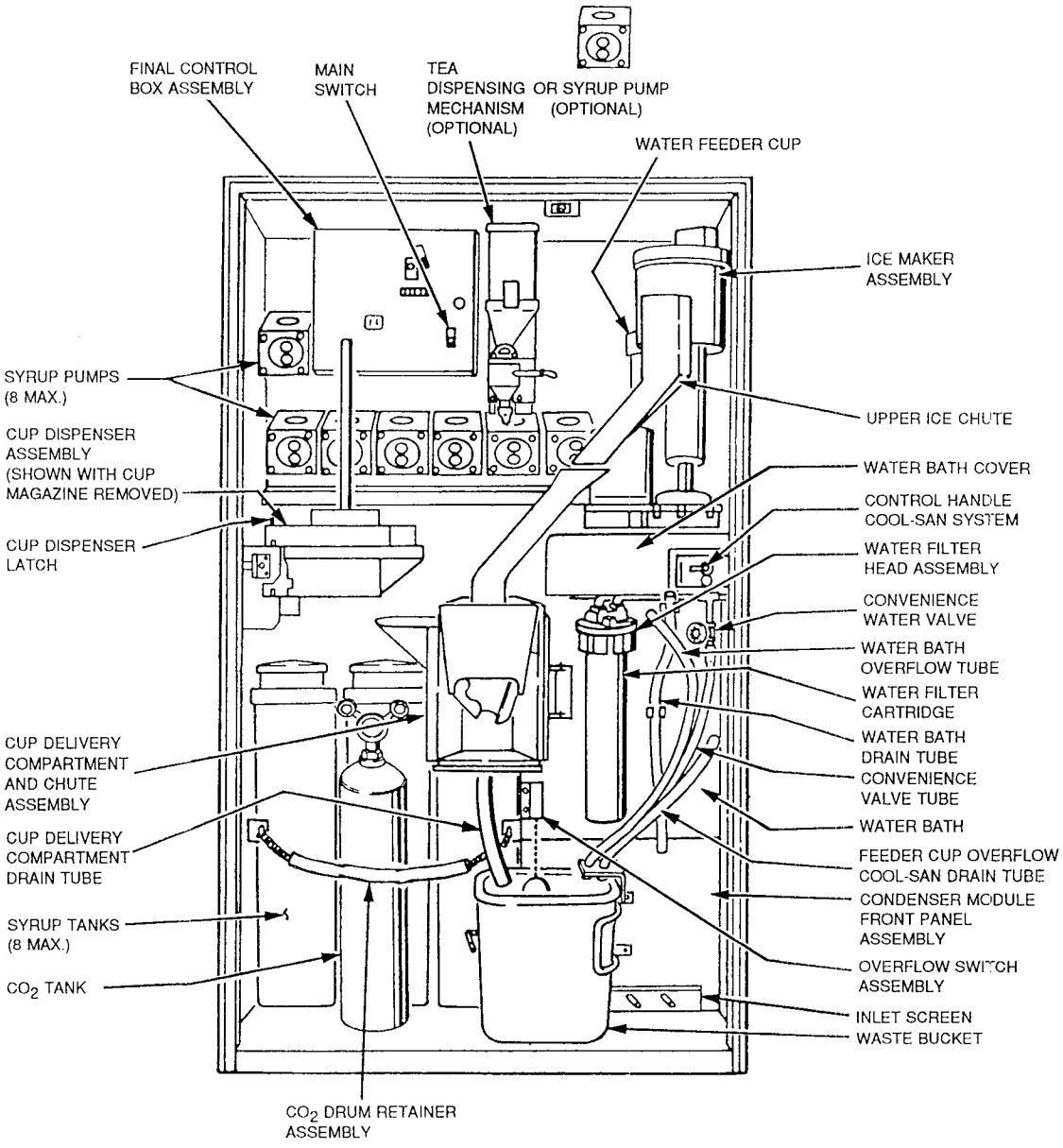

Figure 1. Component Locations

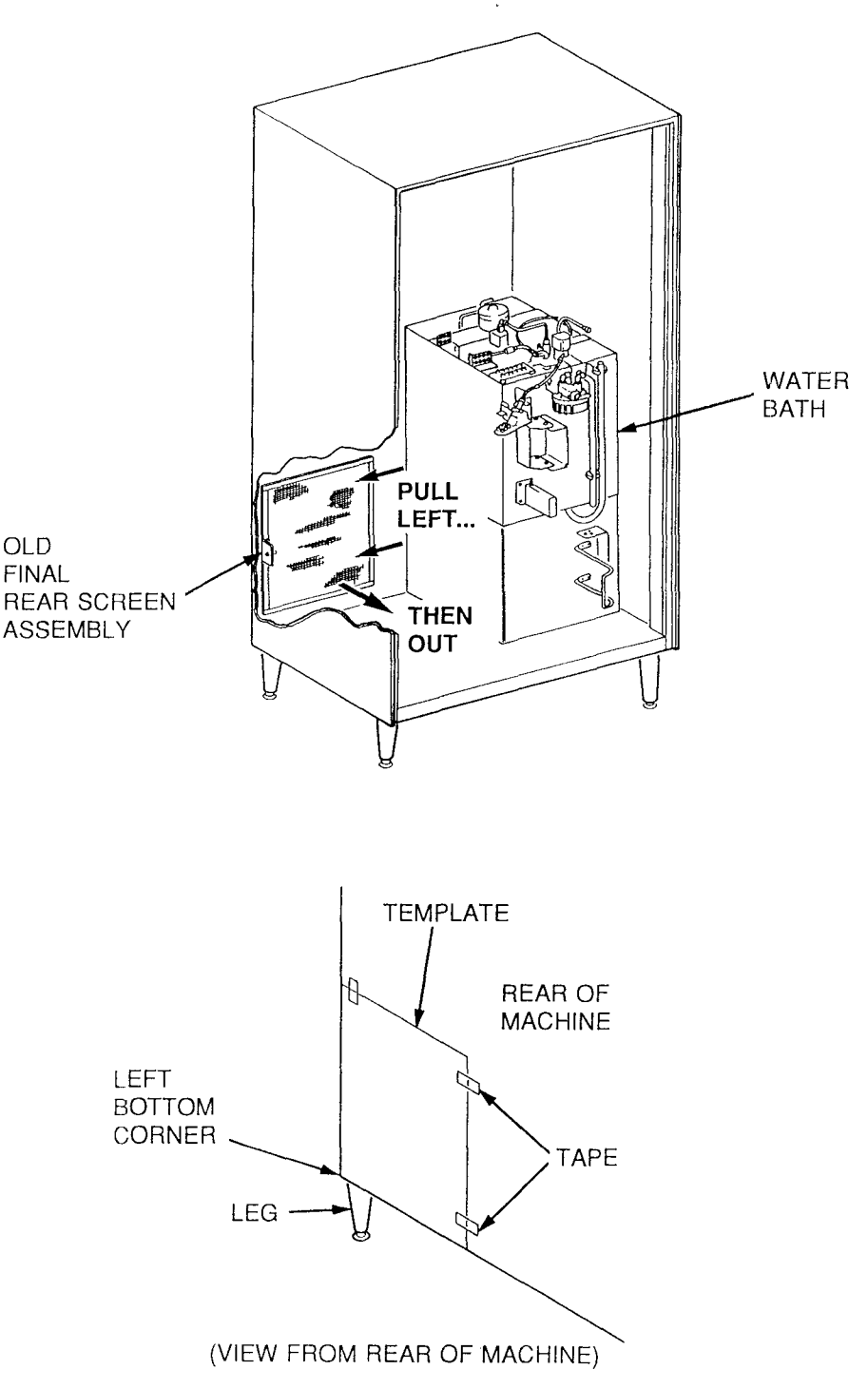

Figure 2. Rear Screen Assembly Replacement

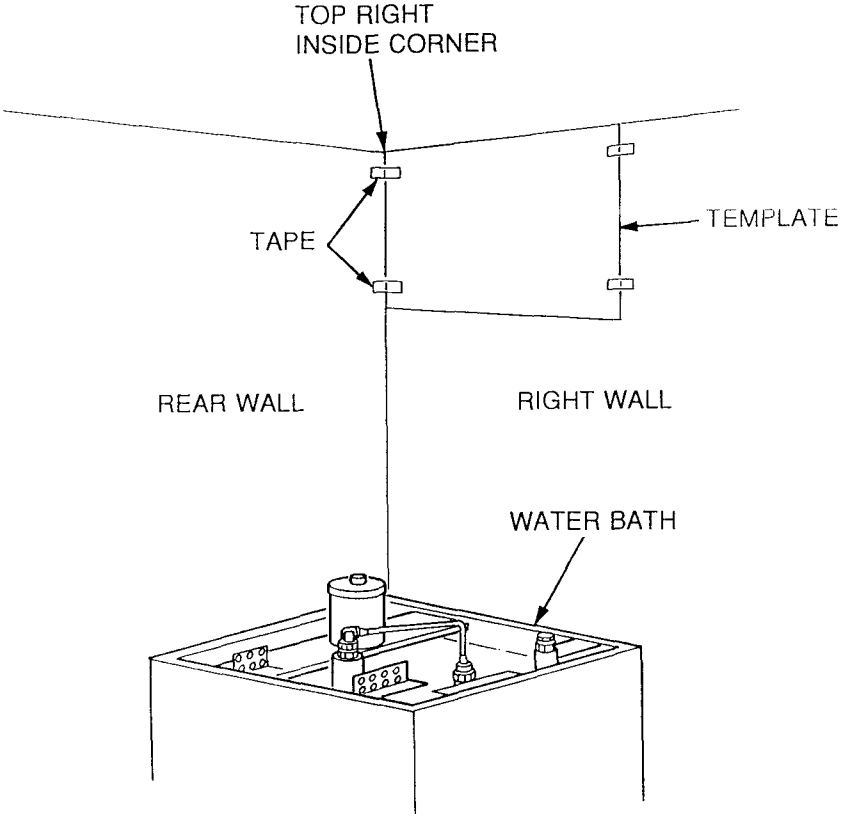

Figure 3. Water Feeder Cup Drilling Template Location

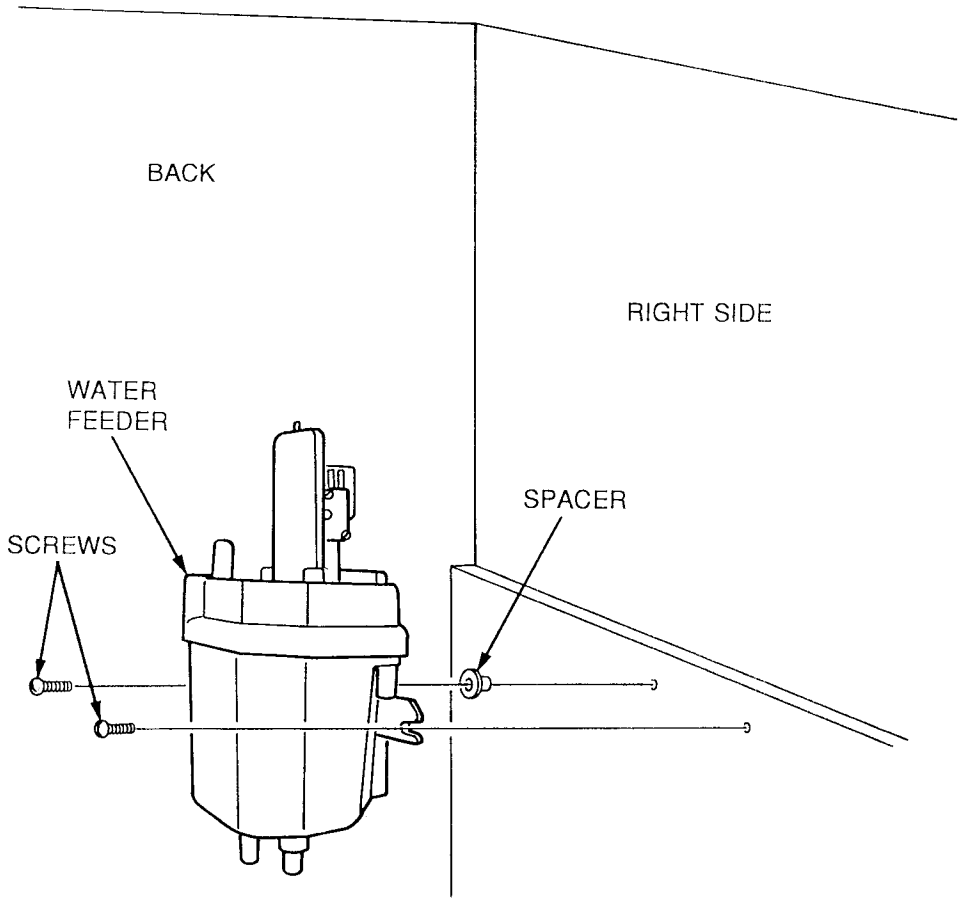

Figure 4. New Water Feeder Mounting Location

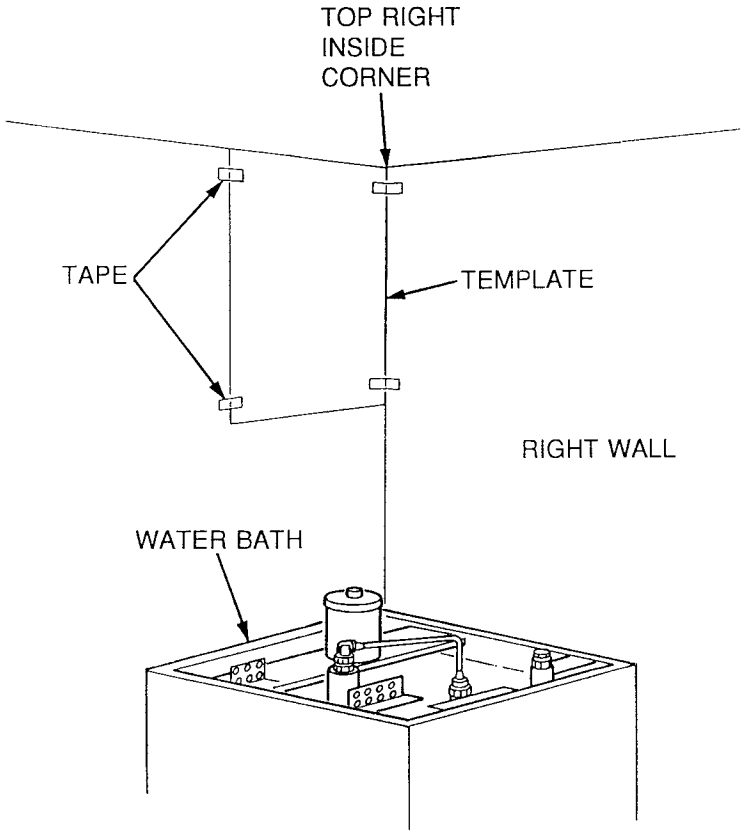

Figure 5. Backplate/Pump Assembly Drilling Template Location

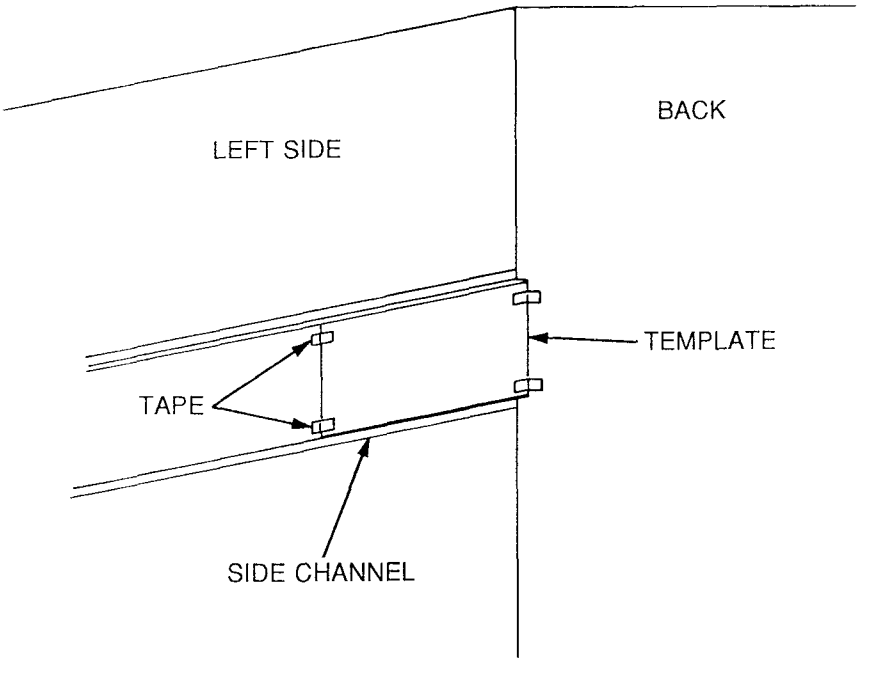

Figure 6. Secondary Regulator Drilling Template Location

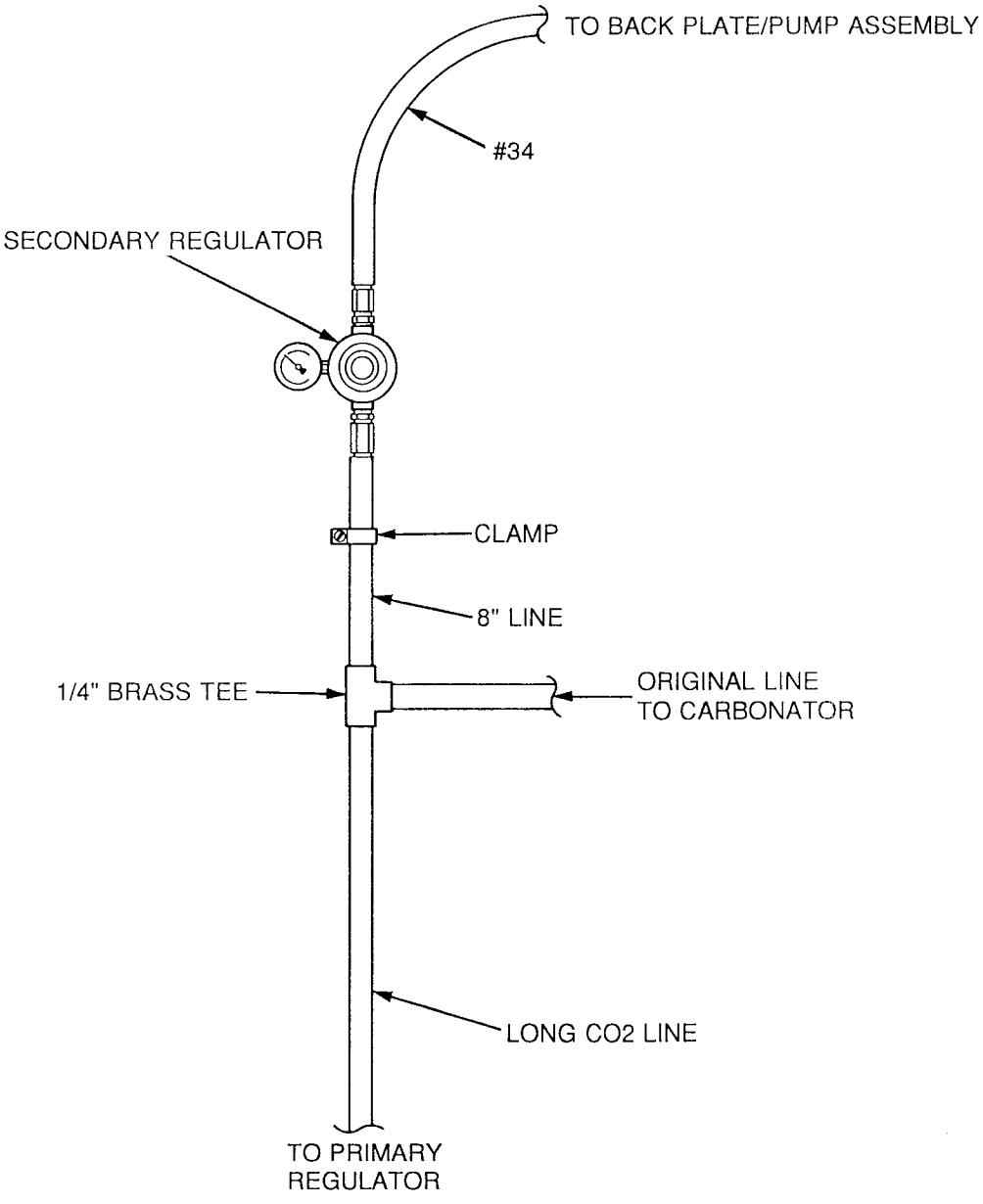

Figure 7. Secondary Regulator Connections

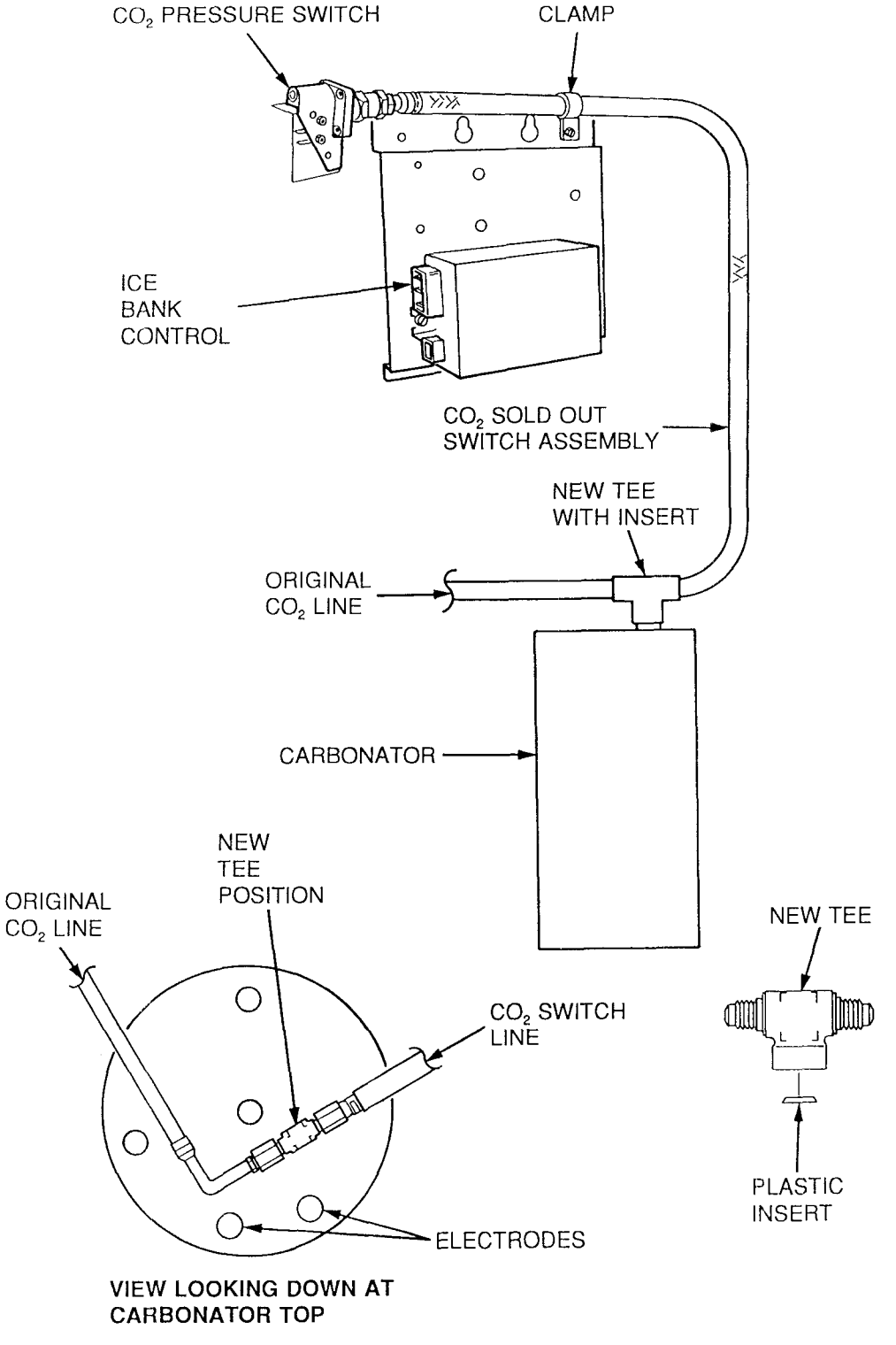

Figure 8. CO_2 Pressure Switch Installation

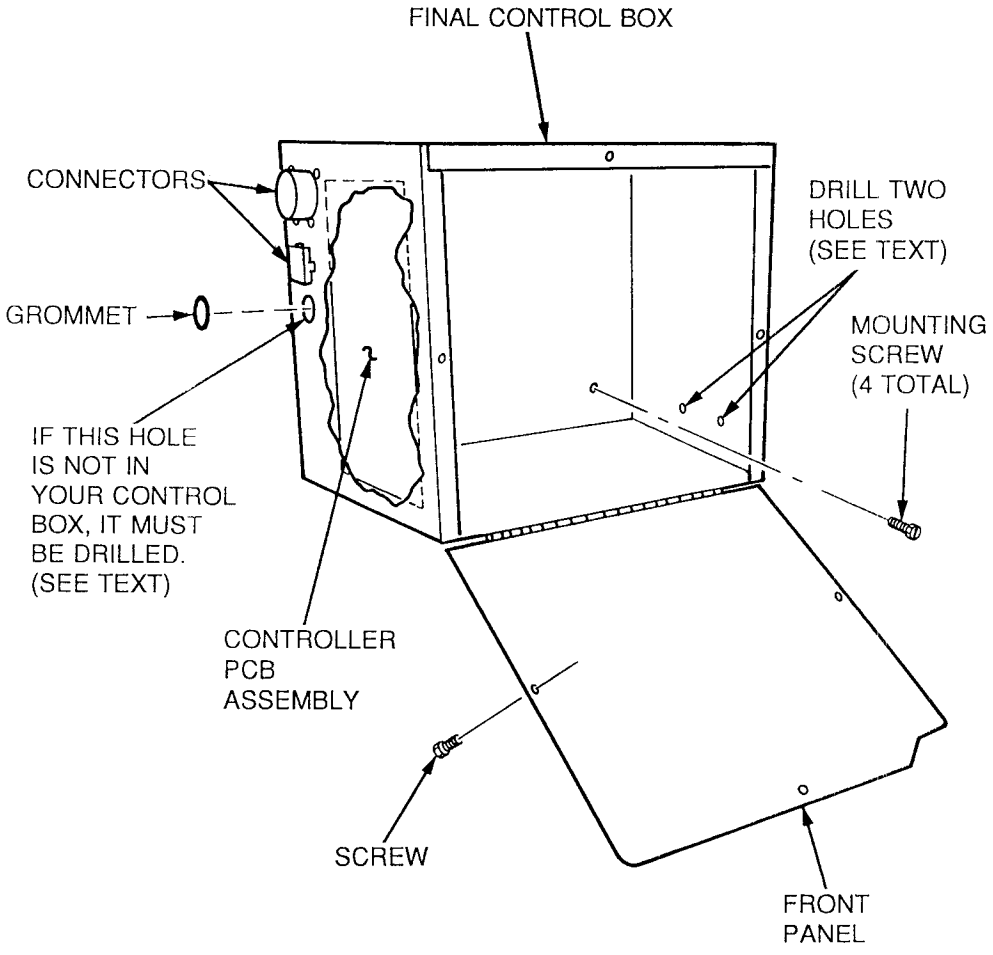

Figure 9. Final Control Box Parts Location

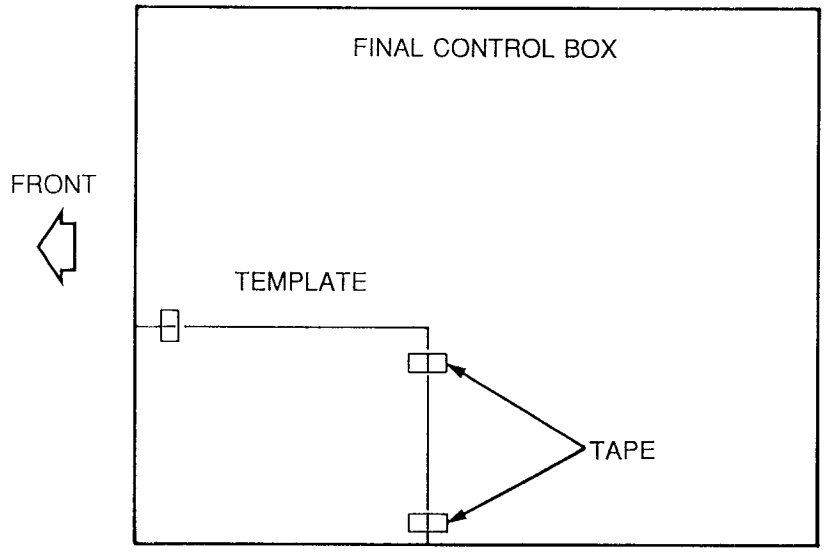

Figure 10. Transformer Drilling Template Location

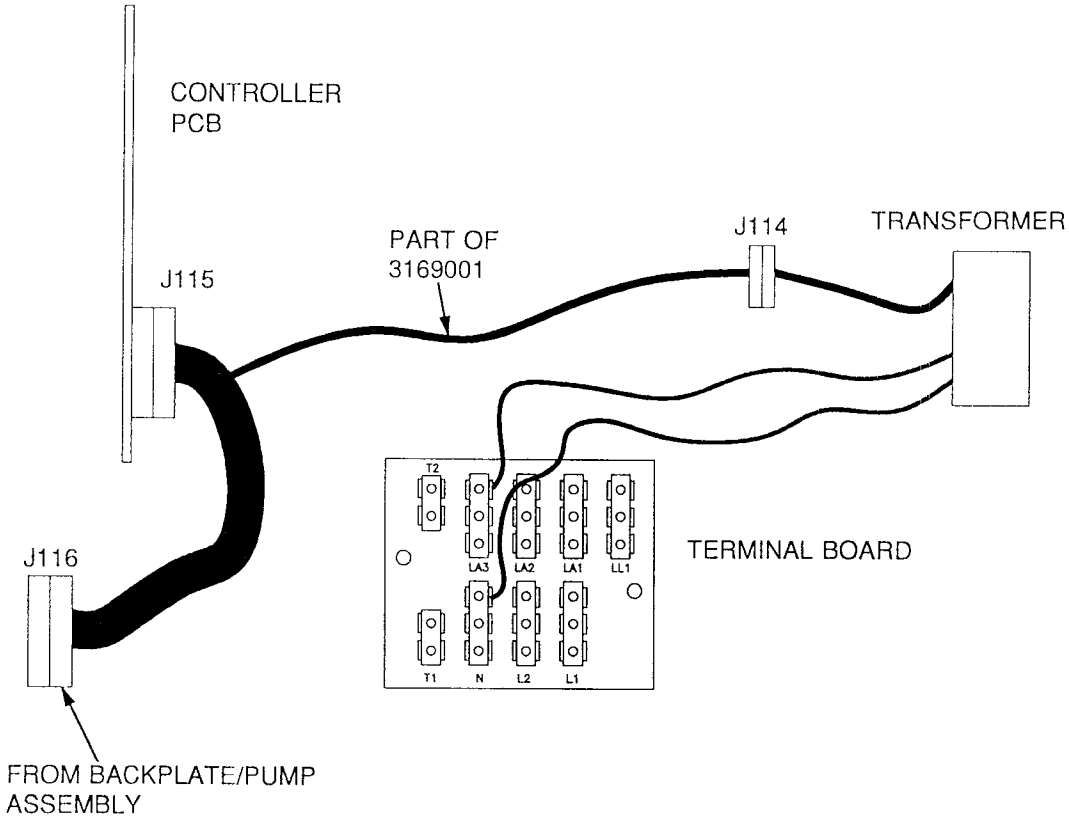

Figure 11. Final Control Box Electrical Connections

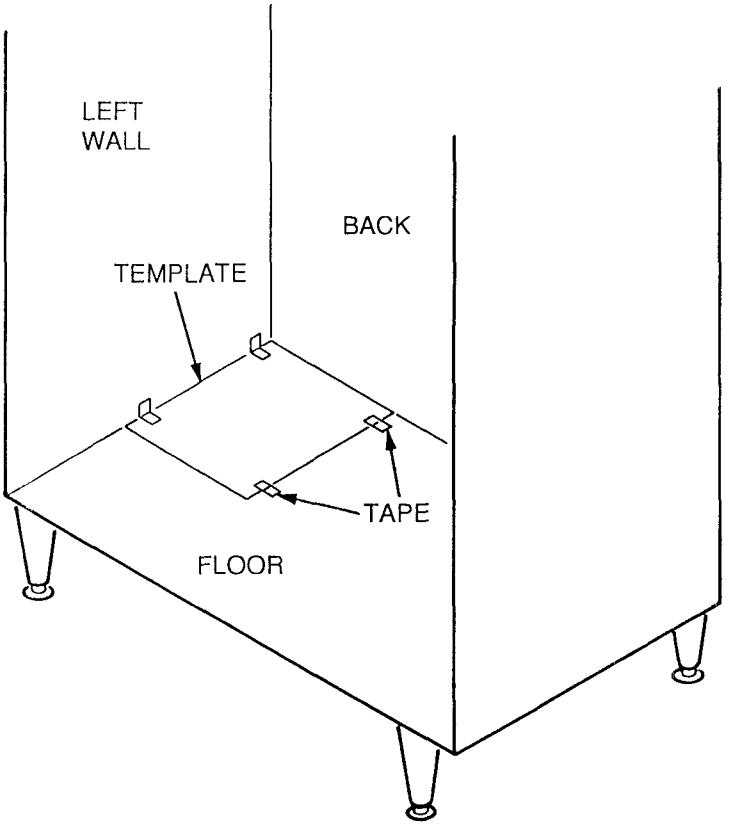

Figure 12. Bag-In-Box Shelf Drilling Template Location

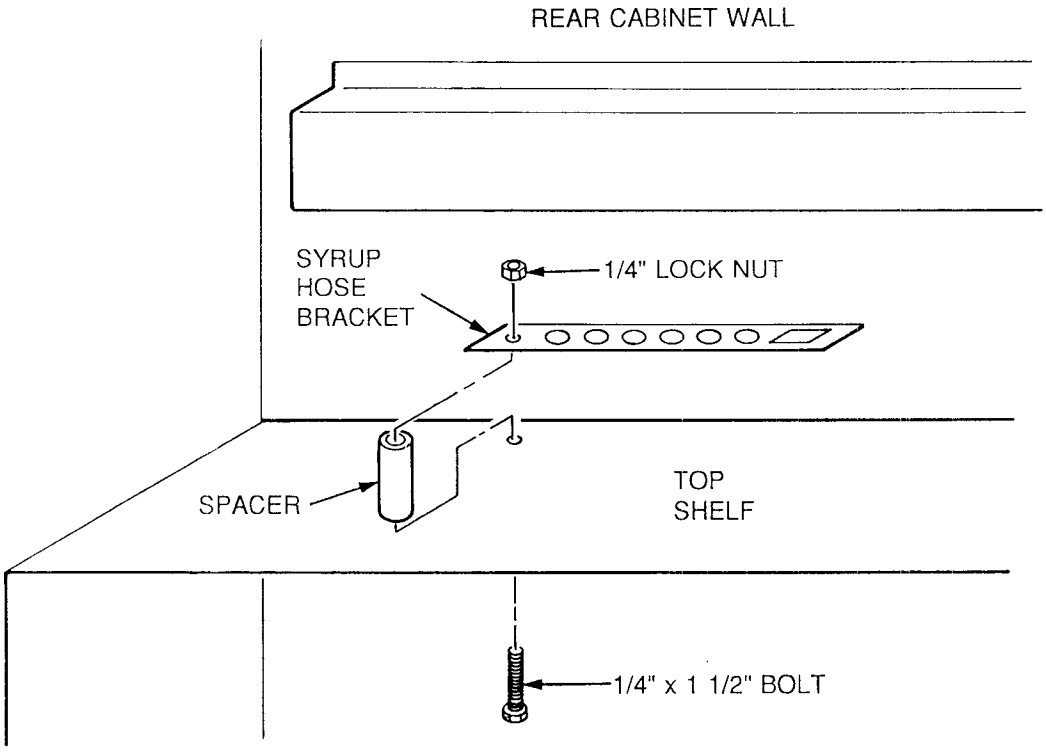

Figure 13. Top Bag-In-Box Shelf Mounting Location

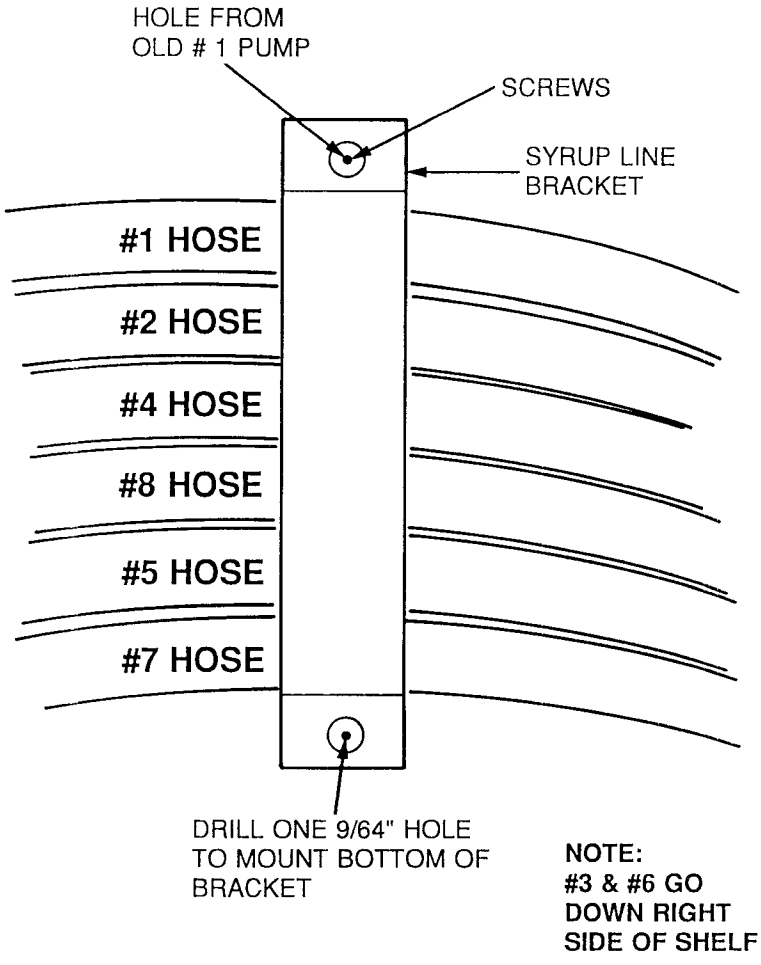

Figure 14. Pump Line Bracket Mounting

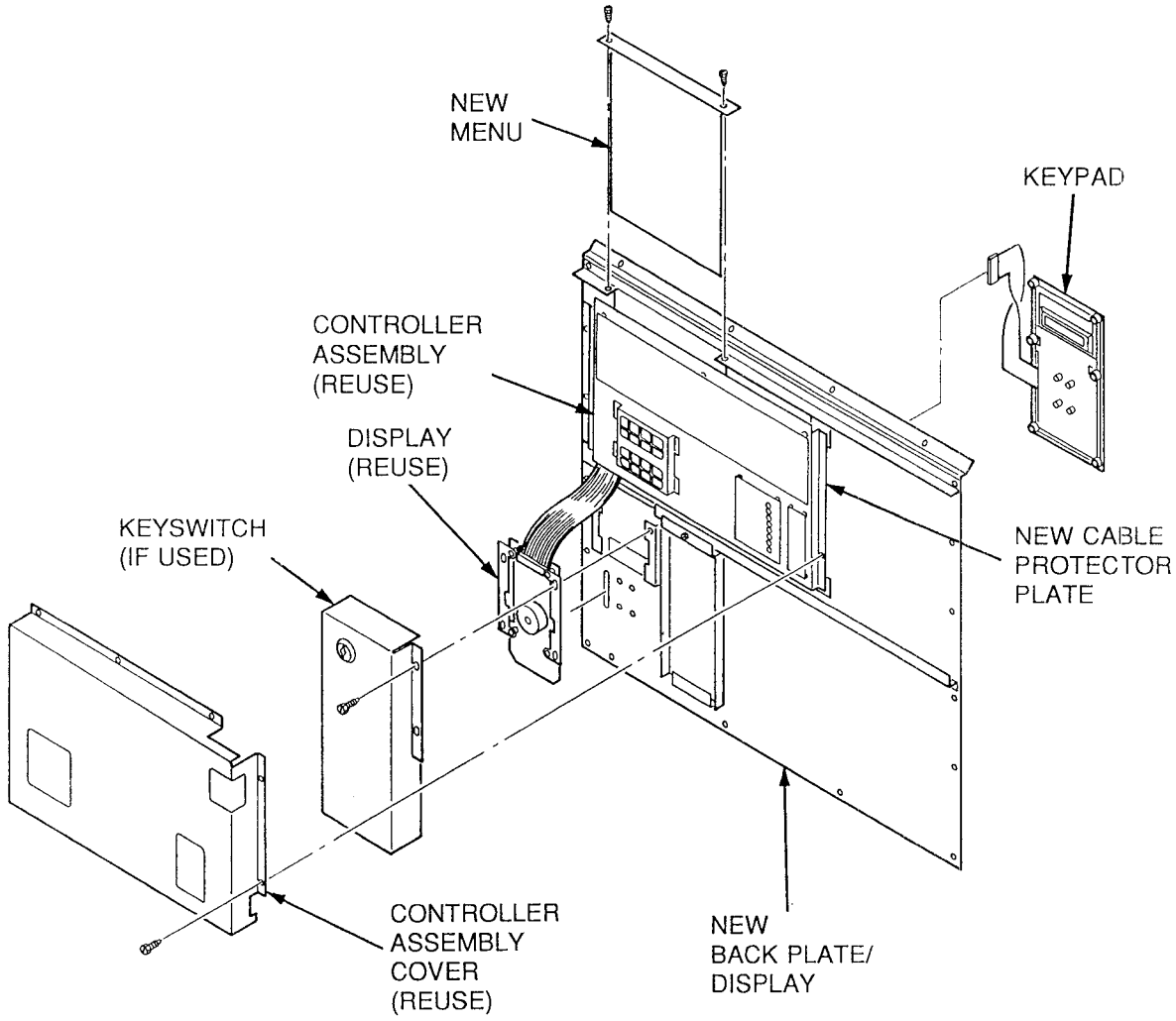

Figure 15. Back Panel/Display Installation

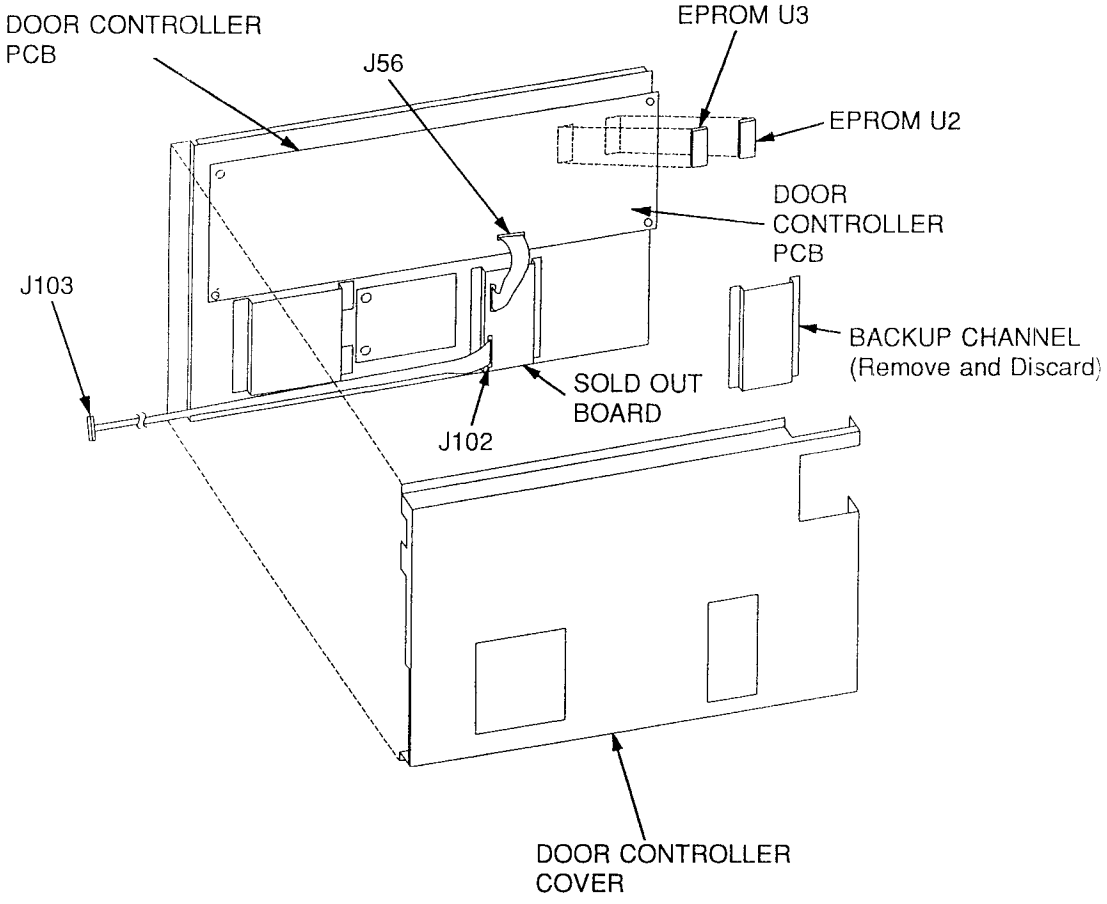

Figure 16. Controller Changes

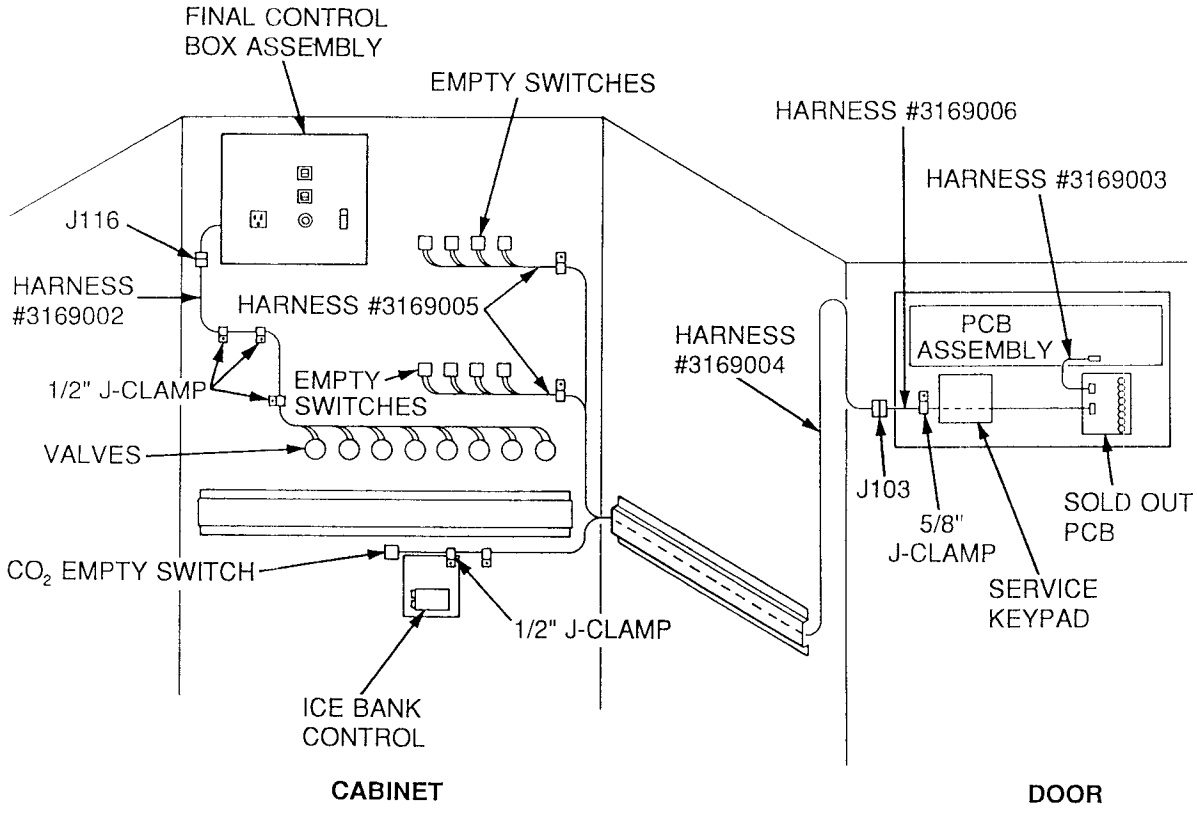

Figure 17. Harness Routing

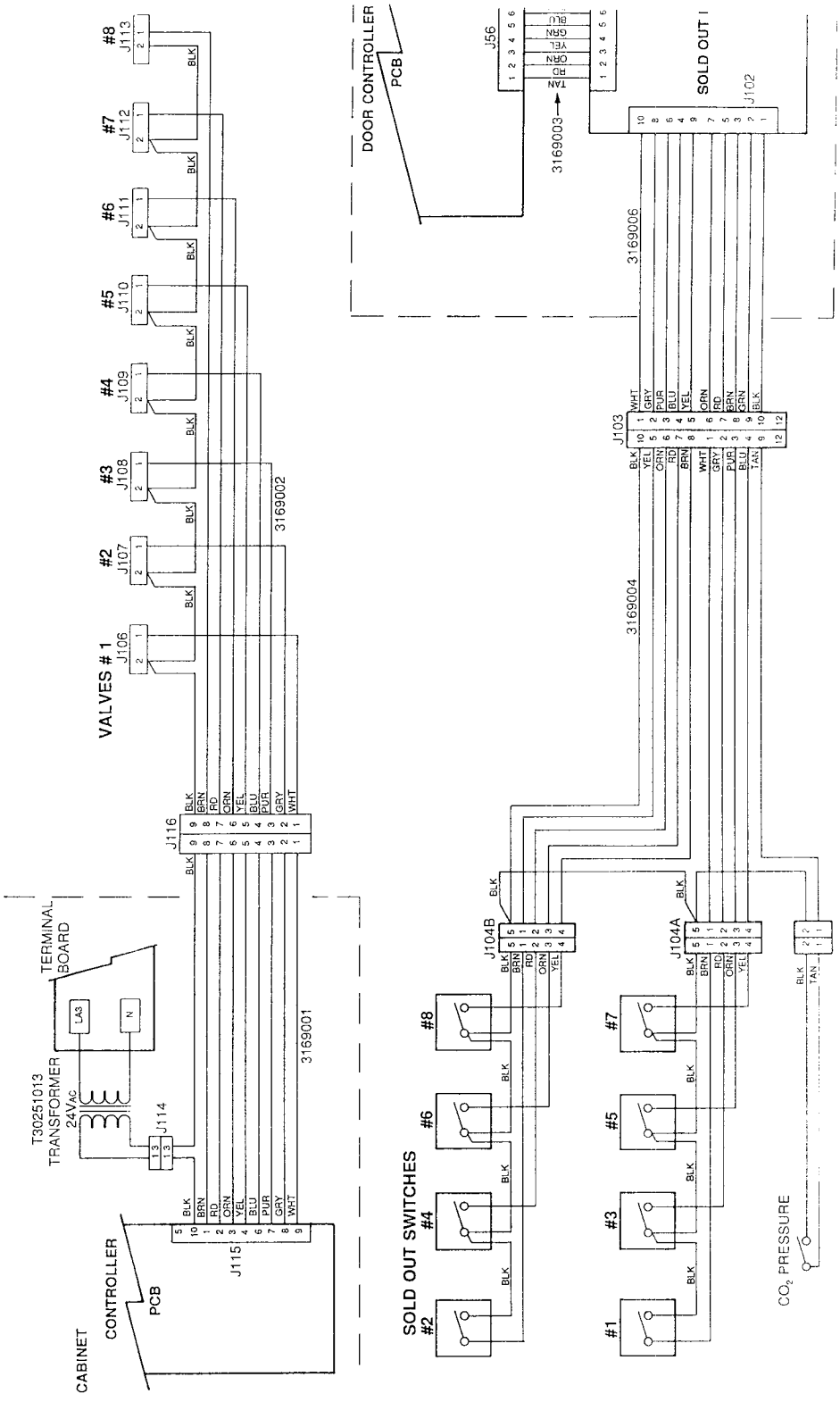

Figure 18. Retrofit Wiring Schematic