ED175 FLAVOR SHOT KIT

Installation Manual

Release Date: May 07, 2016

Publication Number: 629097554INS

Revision: B

Revision Date: October 03, 2016

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The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

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Contact Information:

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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Printed in U.S.A.

TABLE OF CONTENTS

Publication Number: 629097554INS

Publication Number: 629097554INS

SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

Safety Overview

- Read and follow **ALL SAFETY INSTRUCTIONS** in this manual and any warning/caution labels on the unit (decals, labels or laminated cards).
- Read and understand ALL applicable OSHA (Occupational Safety and Health Administration) safety regulations before operating this unit.

Recognition

Recognize Safety Alerts
 *This is the safety alert symbol. When you see it in this manual or on the unit, be alert to the potential of personal injury or damage to the unit.*

DIFFERENT TYPES OF ALERTS

DANGER:
Indicates an immediate hazardous situation, which if not avoided, **WILL** result in serious injury, death or equipment damage.

WARNING:
Indicates a potentially hazardous situation, which if not avoided, **COULD** result in serious injury, death, or equipment damage.

CAUTION:
Indicates a potentially hazardous situation, which if not avoided, **MAY** result in minor or moderate injury or equipment damage.

SAFETY TIPS

- Carefully read and follow all safety messages in this manual and safety signs on the unit.
- Keep safety signs in good condition and replace missing or damaged items.
- Learn how to operate the unit and how to use the controls properly.
- **Do not** let anyone operate the unit without proper training. This appliance is **not** intended for use by very young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep your unit in proper working condition and do not allow unauthorized modifications to the unit.

QUALIFIED SERVICE PERSONNEL

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. **ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.**

Publication Number: 629097554INS

Safety Precautions

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:

WARNING:
Disconnect power to the unit before servicing following all lock out/tag out procedures established by the user. Verify all of the power is off to the unit before any work is performed.

Failure to disconnect the power could result in serious injury, death or equipment damage.

CAUTION:
Always be sure to keep area around the unit clean and free of clutter. Failure to keep this area clean may result in injury or equipment damage.

Shipping And Storage

CAUTION:
Before shipping, storing, or relocating the unit, the unit must be sanitized and all sanitizing solution must be drained from the system. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the unit to freeze resulting in damage to internal components.

CO_2 (CO_2 Carbon Dioxide) Warning

DANGER:
CO_2 displaces oxygen. Strict attention **MUST** be observed in the prevention of CO_2 gas leaks in the entire CO_2 and soft drink system. If a CO_2 gas leak is suspected, particularly in a small area, **IMMEDIATELY** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentrations of CO_2 gas experience tremors which are followed rapidly by loss of consciousness and **DEATH.**

INSTRUCTIONS

Disconnect Electrical power and turn off primary regulator on CO_2 tank in Back-Room Package (or where applicable, if located in other area).

LOOSE SHIPPED PARTS

- Keypad housing and associated fixing components
- Valve solenoid assemblies (Flow controls)
- Control board and inner nozzle
- Labels
- Brackets
- Harnesses
  - Jumpers to control board
  - Solenoid harness

Items not included in this kit:

- BIB pump for each flavor syrup
- Beverage tubing and miscellaneous fittings
- Regulator (adjustable to 30 psig)
- Merchandiser
- Hardware
- Structural fabrication assembly
- Drip tray assembly
- Power supply
- Light engine assembly

TOOLS REQUIRED

- Drill w/.141 drill bit (#28) or equivalent
- #2 Phillips screwdrivers (stubby, standard and long)
- Pop rivet gun or equivalent for 1/8 rivets
- Pliers – adjustable, Wire cutters
- Tape measure
- 7/16" Socket driver/wrench
- Standard flat screwdriver
- Sharp pointed tool

Publication Number: 629097554INS

INSTALLATION

NOTE: This KIT needs to be used along with ED175 Renew KIT in order to complete the assembly process.

1. Remove the merchandiser and light bulb.
2. Remove clear 'CAUTION' label from front of electrical box cover and discard (new label will be reinstalled in See "Electrical Hook-ups" on page 6. Step 1).
3. Remove lower splash panel.
4. Remove drip tray.
5. Remove upper and lower portion of ice chute cover (use 7/16" socket driver).

   NOTE: Do not loose washers secured behind the nuts.
6. Locate center of white aluminum electrical box cover and mark center (center for unit is 9 1/4" - See Figure 1). Draw vertical line approximately 1" long, starting from bottom of electrical box cover.

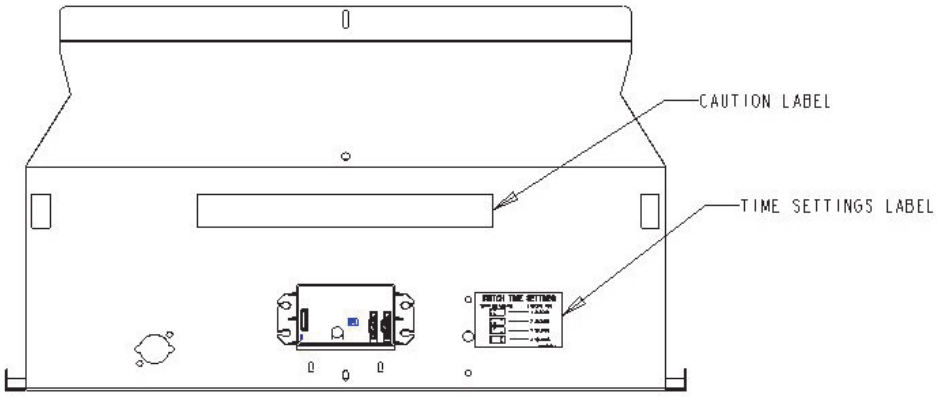

Figure 1. ED175 Layout

7. Use control board as template, line up bottom left of the control board middle hole in bracket with center line drawn in Step 6 and line up the bottom edge of the control board 1" higher from the bottom of the electric box. Mark location for bottom left and top right holes and drill 0.141 holes into electrical box cover.

   NOTE: Take care to only drill about ½" past surface of electrical box and not to damage control board.

   Open electrical box cover and remove debris from drilling operation. Close and secure electrical box cover. Install control board with #8 sheet metal screws.
8. Remove the ballast, white wire (right side) and black wire (left side) from the electrical box using a sharp pointed tool and discard (See Figure 2A & Figure 2B).Remove the starter and discard.

⚠ CAUTION:
Install the plug button in the starter's location.

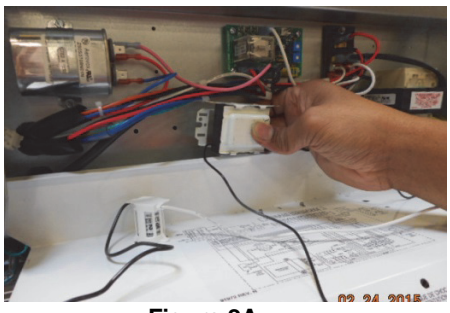

Figure 2A.

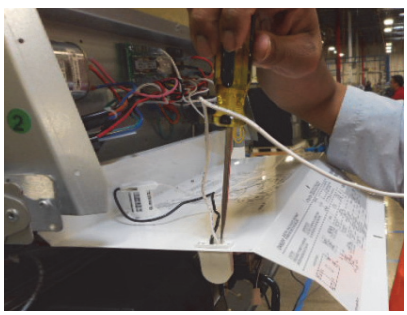

Figure 2B.

9. Install the power supply in the same location as ballast (See Figure 2C), this involves drilling two holes. Mark one hole 0.375" above the existing ballast hole and mark the other hole location using power supply as a template. Drill 0.128 holes (use # 30drill bit). Remove debris from the drilling operation.

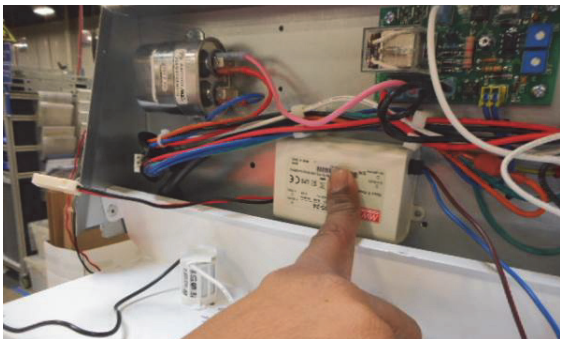

Figure 2C.

10. Secure power supply using the same screws in the same orientation as shown in Figure 2B.
11. Add the 24V extender harness to the power supply and route out of the electrical box through the grommet on the right side, as shown in Figure 2D.

Figure 2D.

12. Connect line voltage of the power supply to the terminal board in locations, as shown in Figure 2E.

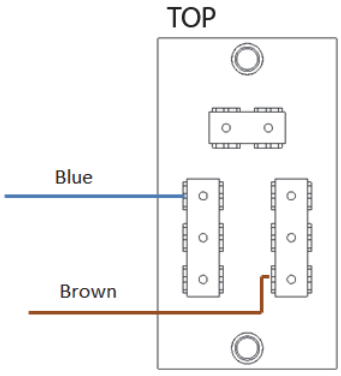

Figure 2E.

13. Apply service call number label to the inside of the electrical box cover.Apply new wiring label over the existing one.Close and secure electrical box cover.
14. Apply ‘Switch time settings’ label to the right of control board and new caution label (See Figure 1).
15. Optional Step -Remove the fifth valve from left to install water lever onto the valve body. Snap the tab off (See Figure 3A). Install the water lever onto the mounting boss and secure with #6 screw (See Figure 3B).

Publication Number: 629097554INS

Figure 3A.

Figure 3B.

ELECTRICAL HOOK-UPS

1. Remove baffles and metal covers from above and behind the valve area (See Figure 4).

   NOTE: This is not easy due to space constraints but can be accomplished using a short stubby #2 phillips screwdriver or by rotating entire electrical box forward enabling use of standard #2 phillips screwdriver.

   The plastic grommets on each baffle must be completely removed from each baffle to allow for replacement of each baffle where applicable.

Figure 4.

2. Locate key switch on left side of unit. To allow better access behind beverage panel it may be necessary to loosen screws attaching left side of beverage panel (See Figure 5).

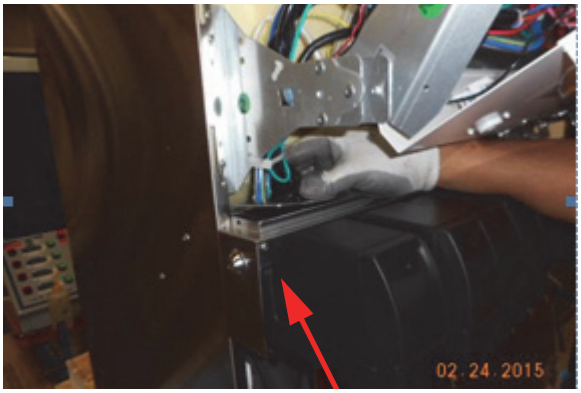

Figure 5.

NOTE: For units with 1 transformer, located yellow wire connected at key switch which will be wire nutted at other end to bundle of black wires. You may need to cut cable tie to verify black wires connected to yellow wire (See Figure 6).

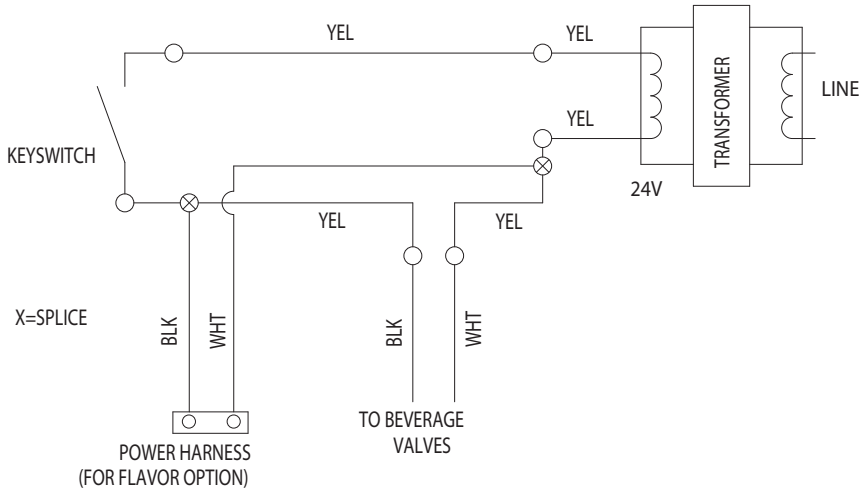

Figure 6. Wiring Schematic (1 Transformer) for Steps 2-3

For units with 2 transformers, locate black wire connected at key switch.

NOTE: The cable tie may need to be cut to allow enough slack to splice into this wire (See Figure 7).

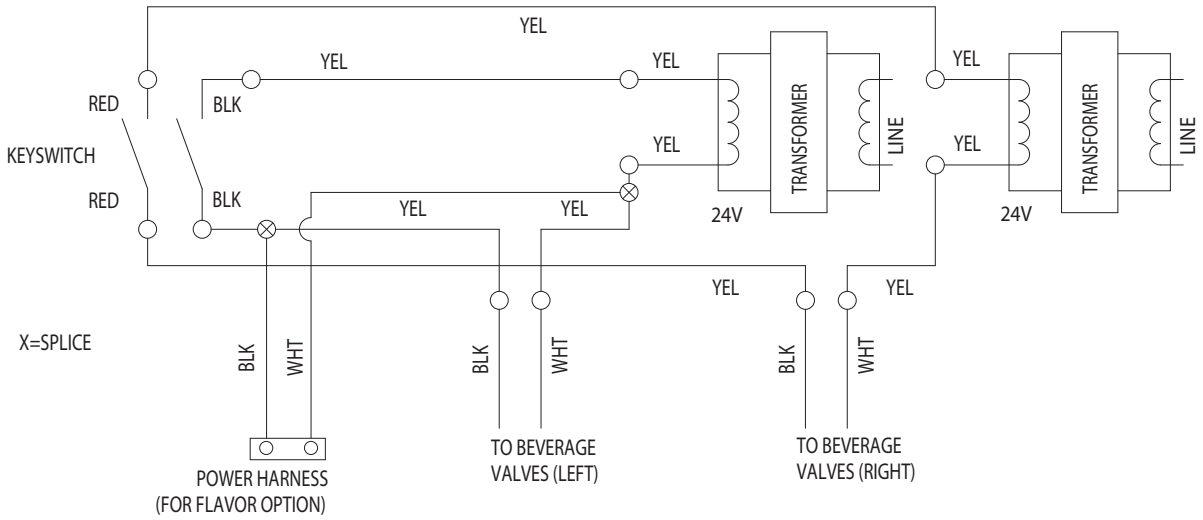

Figure 7. Wiring Schematic (2 Transformers) for Steps 2-3

Feed black wire from 'new' 2-pin power harness through top of plastic grommet. Splice this wire into the yellow wire identified above from key switch using 'red' scotch splice.

3. Locate the yellow wire that is spliced with the white wire, 3" away from the existing wire nut, cut & splice the yellow wire with the white wire of the power harness, as shown in Figure 8.
4. Locate the yellow wire that is spliced with the black wire, 3" away from the existing wire nut, cut & splice the yellow wire with the black wire of the power harness, as shown in Figure 8.

NOTE: Connect 2-pin connector on power harness to 2-pin connector on control board.Tie the wires using cable ties and tuck back in away from the sharp metal edges, see Figure 8.

Publication Number: 629097554INS

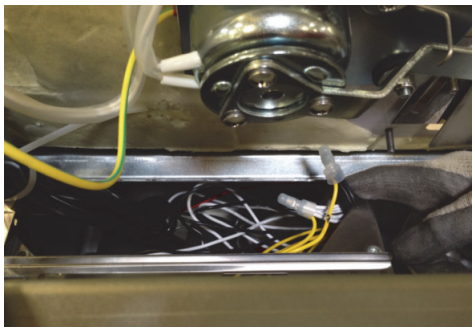

Figure 8.

5. Connect solenoid harness to the solenoid valves prior to installing solenoid valve assemblies onto machine (See Figure 17). Proceed with installing solenoid assemblies in area where baffles were removed (See Figure 10).

   NOTE: The plastic grommets on both sides must be re-installed into base plate of each assembly.

   Once Solenoid assemblies are in place install Nozzle bracket and use the same screws that secured the baffles, removed in Step 2, to secure/install Nozzle bracket & solenoid assemblies (See Figure 11). Connect 6-pin connector on solenoid harness to control board. Route solenoid harness under electrical box and secure to bottom of electrical box with cable tie mount and cable ties.

6. Connect the 30" jumpers to the control board and connect one end of the jumper to the keypad to test the keypad & valve functioning.Temporarily connect power to the unit.

   NOTE: Agitation will occur.

   Test flavor keypad for valve solenoid operation, check soda valves for normal operation as well.

   NOTE: Disconnect power once the keypad operation has been successfully tested. Install guide clip to the bottom side of electrical box to secure jumper slack. Secure any remaining harnesses under electrical box with cable ties, as shown in Figure 9.

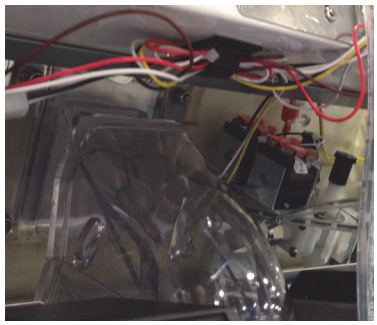

Figure 9.

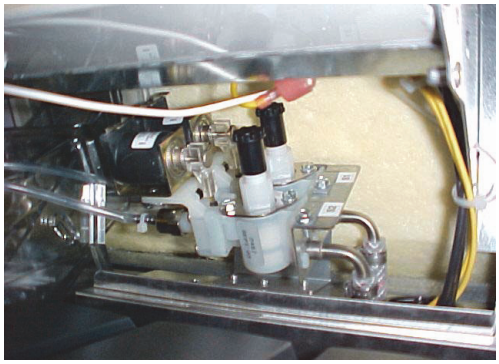

Figure 10. ED175 Solenoids (Right Side Shown)

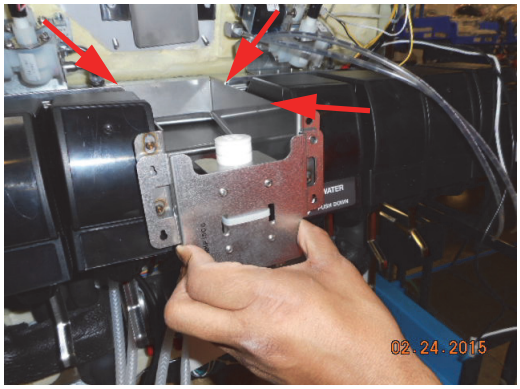

Figure 11.

7. Beverage tubing (1/4 I.D.) should be routed from back of valve panel to center area where soda valve hook-ups from coldplate are located.
8. Install lower and upper portion of Ice chute cover using the washers and nuts removed in step 5 under “Installation on Page 4”.

   NOTE: Make sure the gasket is in place before installing the lower portion of the ice chute cover.
9. Install Flavor shot Nozzle assembly, as shown in Figure 12A.
10. Slide the nozzle down on the bosses, as shown in Figure 12B.Secure Nozzle in position with 2 thumb screws.
11. Install nyloc nuts on the back of the thumb screw.Once the nyloc is secured, hand tighten the thumbscrew, as shown in Figure 12C.

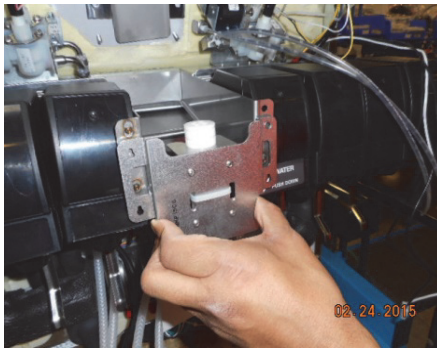

Figure 12A.

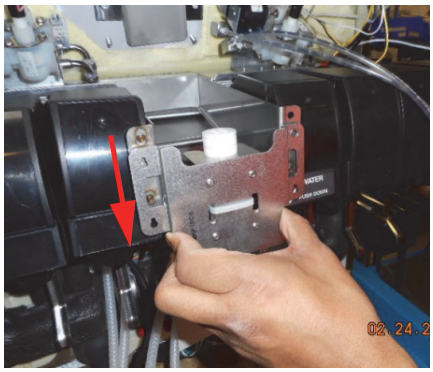

Figure 12B.

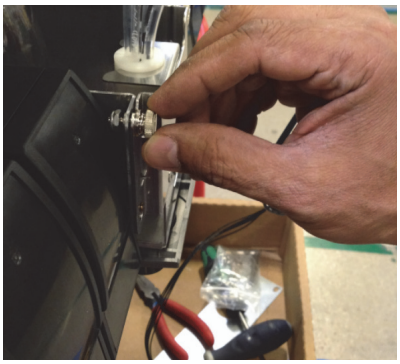

Figure 12C.

12. Install flavor shot vertical support bracket. Slide the bracket down the inserts, as shown in Figure 13.
13. Cut the ends of the flavor shot hoses at a 45° angle and insert into the nozzle in the position, as shown in Figure 14.

IMPORTANT:
Firmly press the hoses into the nozzle as far as possible.

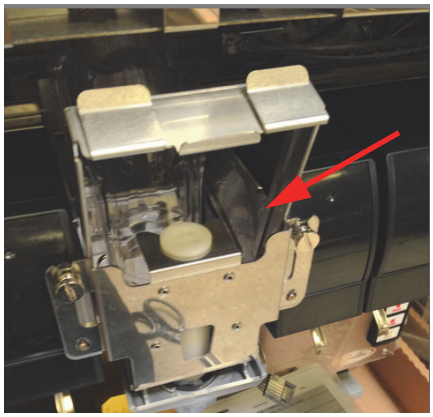

Figure 13.

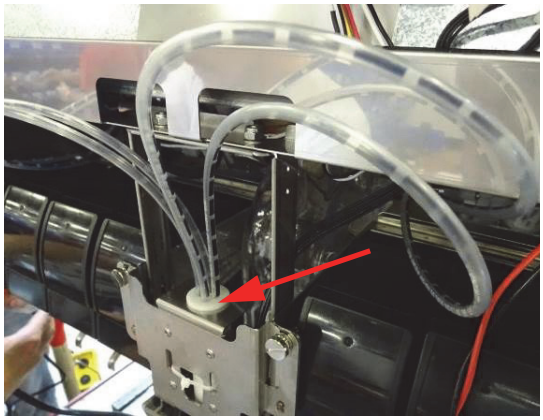

Figure 14.

Publication Number: 629097554INS

14. Install support structure. Remove 2 screws, where the wrapper attaches to the hopper (See Figure 15A).
15. Insert the frame assembly into the slots in the wrapper and slide downward (See Figure 15B).
16. Replace 2 screws through the frame and wrap into the hopper (See Figure 15C).

IMPORTANT:
Torque screw to 12 in-lb.

17. Snap the nozzle vertical support bracket over the cross member (See Figure 15D).

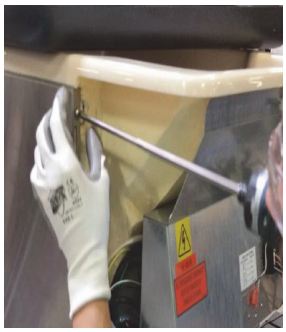

Figure 15A.

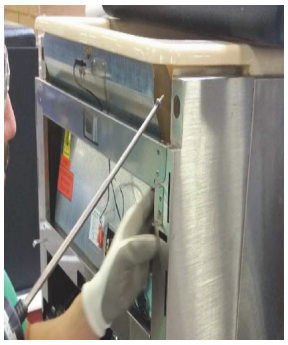

Figure 15B.

Figure 15C.

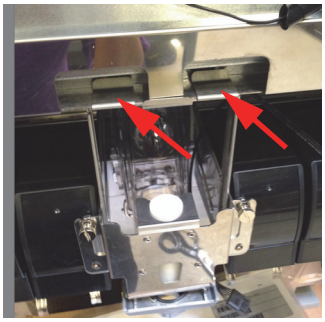

Figure 15D.

18. Insert 4 bushing into the LED backlight hinges (See Figure 16A).
19. Install LED backlight assembly into hinges with 2 hinge pins and insert cotter pins (See Figure 16B).
20. Connect LED backlight harness to the extender cable on the right side of the electrical box (See Figure 16C).

IMPORTANT:
Make sure harnesses are properly routed.

21. Latch LED backlight in position, as shown in Figure 16D.

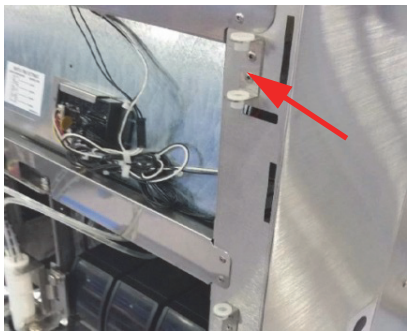

Figure 16A.

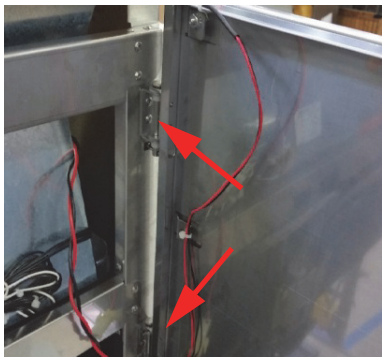

Figure 16B.

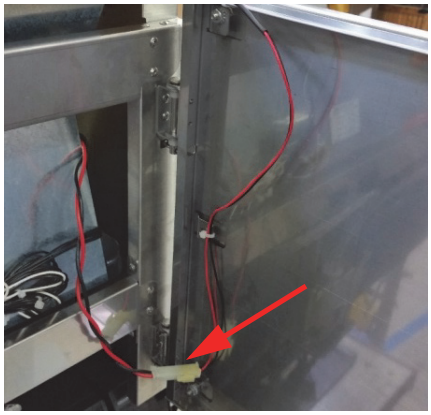

Figure 16C.

Figure 16D.

22. Apply plumbing label provided in the kit to the inside of the splash panel.

Publication Number: 629097554INS

ELECTRICAL TESTING

1. Set-up syrup flavors in Back-Room Package area as shown in BRP set-up.

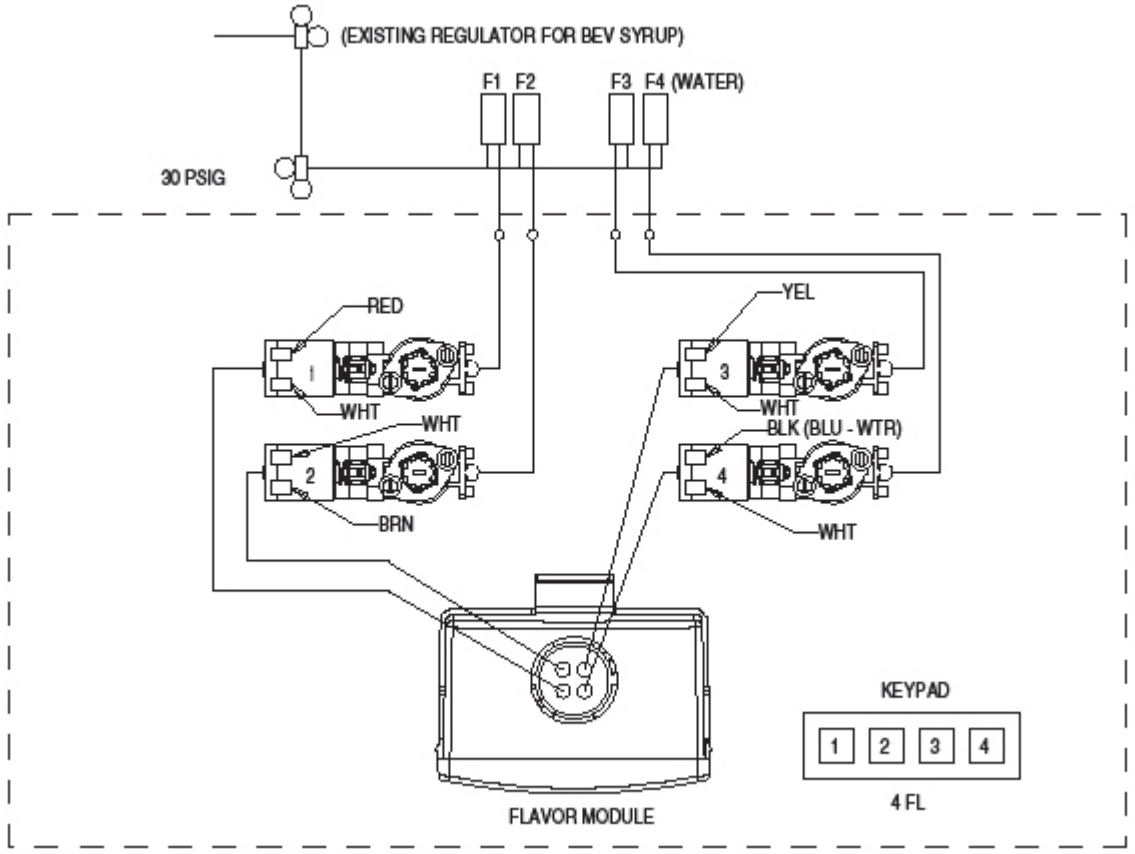

Figure 17. ED175 Plumbing/Electrical Connections

2. Connections to dispenser can proceed once the Back-Room Package items have been installed and tubing from BRP have been run to dispenser. Make note of which flavors are hook-ups 1, 2, 3, and 4.
3. Make connections from 'ambient' syrup lines to valve solenoid lines at front of machine (See "Electrical Hook-ups" on page 6. Step 6).
4. Apply appropriate flavor decals to correspond to FlavorBlast™ syrup hook-ups.

   NOTE: The top left button corresponds to hook-up 1 and follows right to left down for 2,3 & 4 (See Figure 18).

   Use blank decals if your particular flavor decal is not enclosed in the kit.

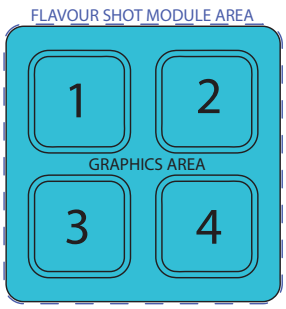

Figure 18.

START-UP

1. Reconnect power to dispenser and turn on primary regulator on CO_2 tank in Back-Room Package.
2. Actuate keypad to purge syrup through beverage tubing and through inner nozzle. Initial purging can also be accomplished by removing the merchandiser with the harness still connected to control board. Manually pushing the plungers on each solenoid valve will purge the syrup through the inner nozzle. Keep keypad housing and connections clear of drip tray area when purging in this manner.
3. Check connections in the following areas for possible leaks: in front of the unit at syrup connections, elbow fittings at flow controls and connections at inner nozzle.
4. With keypad jumper connected to control board, proceed with installation of the new merchandiser (with assembled components) onto unit. Wind up and tuck slack from jumper and keypad, onto U-clip mounted to right side of control board label.
5. Install drip tray with “L” pins.
6. Install front splash panel with ADA keypad fitted and plugged into the control module.
7. Sanitize before operation, see Sanitizing Procedure on Page 14.

Unit should now be ready for normal soda operation with ED175 SHOTS option added.

TROUBLESHOOTING

FLAVOR SYRUPS DO NOT DISPENSE	• No 24 volt power to PC board. • No CO_2 pressure. • Empty syrup tank. • Kinked tubing. • Clogged inner nozzle. • Defective PC board. • Defective harness from keypad. • Defective Flow control. • Defective solenoid harness. • Defective keypad or ADA harness incorrectly plugged in.
FLAVOR DISPENSES FOR MORE THAN 1 SEC	• Dip switch settings on control board incorrect. • PC board defective. • Defective flow control.
FLAVOR DISPENSES MORE THAN .5 OZ	• Dip switch settings on control board incorrect. • Flow control incorrectly set. • PC board defective. • Defective flow control.

Publication Number: 629097554INS

SANITIZING PROCEDURE

NOTE: Disconnect Power Before Cleaning!

- Soap solution – Use a mixture of mild detergent and warm (100°F) potable water.
- Sanitizing solution – Use ½ ounce of household bleach in 1 gallon of potable water. Preparing the sanitizing solution to this ratio, the required solution of 200 PPM will be obtained.
- Cleaning tank – Fill clean, empty tank with a mixture of mild detergent and five (5) gallons of warm potable water (120°F).

Sanitize Flavor Syrup Lines - B-I-B System

1. Remove all the quick disconnects from all the B-I-B containers.
2. Fill a suitable pail or bucket with soap solution.
3. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. Do not use a wire brush. Rinse with clean water.
4. Using a plastic pail, prepare approximately five (5) gallons of sanitizing solution.
5. Rinse the B-I-B disconnects in the sanitizing solution.
6. Sanitizing fittings must be attached to each B-I-B disconnect. If these fittings are not available, the fittings from the empty B-I-B bags can be cut from the bags and used. These fittings open the disconnect so the sanitizing solution can be drawn through the disconnect.
7. Place all the B-I-B disconnects into the pail of sanitizing solution. ‘Purge’ all the flavor valves until the sanitizing solution is flowing from inner nozzle. This can easily be accomplished by holding down each keypad button for at least 15 seconds. After 15 seconds the valve will go into ‘purge’ mode and continuously dispense for the next 60 seconds. Allow sanitizer to remain in lines for at least thirty (30) minutes.
8. Remove nozzle cover (outer nozzle) from flavor module housing. Clean in a soap solution and rinse with clean water.
9. Remove the sanitizing fittings from the B-I-B disconnects and connect the disconnects to the appropriate B-I-B container. Operate the flavor valves until all sanitizer has been flushed from the system and flavor syrup is flowing freely.

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