

Wunder-Bar™

MARK 4

POST-MIX BEVERAGE DISPENSER



**For 1 to 14 Button
Post-Mix
and
Juice Dispensers
Standard and Flow Regulator Manifold**

U. S. Patent Numbers and Pending:
D656,387, D647,785, D656,001, D648,420
D648,421, D648,826, D669,308, D643,708
D648,617, D656,388, D656,002, D658,486
8,272,536, 8,448,821, 8,459,505, 9,038,986
Canadian Patent Number: 2,772,405
Japanese Patent Number: 5758895

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PAGE NUMBER



Meets the Requirements
for NSF/ANSI 372

EXPLODED PARTS DRAWINGS FOR ALL MODELS OF WUNDER-BAR POST-MIX AND JUICE DISPENSERS CAN BE FOUND AT:
<http://www.wunderbar.com/dispensing/beverage-dispensing/soda-dispenser/soft-drink-soda-gun-pistol>

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SERVICE AND FACTORY ASSISTANCE:

Please record your Installer/Service Agent's name and phone number here for future reference:

SERVICE AGENT NAME: _____ DATE OF INSTALLATION: _____

SERVICE AGENT PHONE: _____ SERIAL NUMBER: _____

Or, call the Wunder-Bar Service Hotline 1-866-WUNDERBAR (1-866-986-3372) anytime or (707) 448-5151 Monday through Friday, 7:00 AM to 5:00 PM Pacific Time.

MARK 4 MANUAL 2000-504

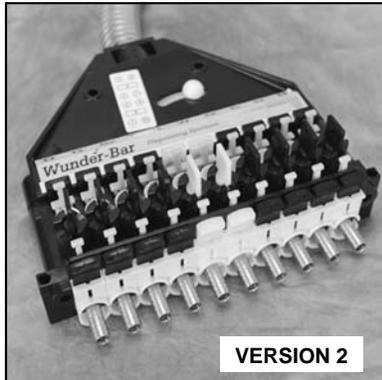
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INSTALLATION

When you begin to install your *Wunder-Bar*® Mechanical Flex Hose bar dispenser, you will notice that all necessary mounting hardware, a hose hanger, a drip cup, a drain tube, and the appropriate number of stainless steel input fittings are included with each dispenser (Fig.1).

The input fittings are installed in the product manifold of the dispenser. These input fittings are held in place by kwik klips. To remove input fittings, pull up on kwik klip until it stops to allow removal of the fittings (Fig.2a & 2b). The Kwik Klips are color coded: white for soda and water, black for the syrups.



1/4" straight Input Fittings are included with all new *Wunder-Bar*® Post-Mix Beverage and Juice Dispensers unless custom "Fitting Sets" are ordered. Input fittings are available in straight, 90 degree, and 45 degree configurations with either 1/4", 5/16", 3/8", or 1/2" barbed ends. 3/8" and 1/2" Input Fittings are available in two lengths: Short and Long (Fig.3a & 3b) to allow the two lengths to be installed staggered to accommodate braided tubing.

Secure the soda, water, and syrup tubes to the Input Fittings with ferules or clamps, install the Input Fittings into

their correct manifold positions, push the Kwik Klips down fully to lock the fittings into position. The letters and numbers on the manifold label correspond to the button positions on the dispensing handle.

Use four 2" stainless steel Phillips head screws, included in the mounting hardware package, to secure the tube collector and manifold assembly to the underside of the bar. Optional Kwik Mount Kits are available for easy installation and removal of the Manifold from the bar for service. (10 Brand Kwik Mount Kit = PM10-83, 12/14 Brand Kwik Mount Kit = PM12

SANITARY DRIP CUP (Fig.4) INSTALLATION INSTRUCTIONS:

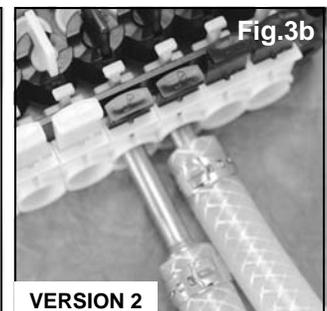
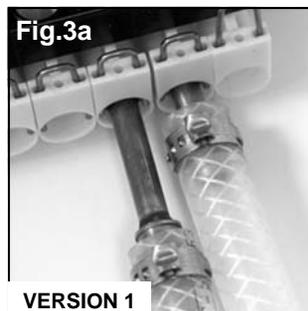
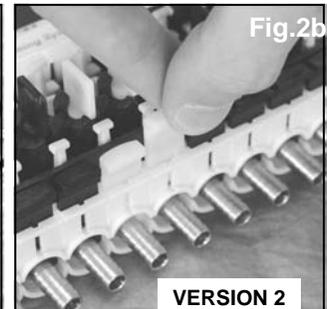
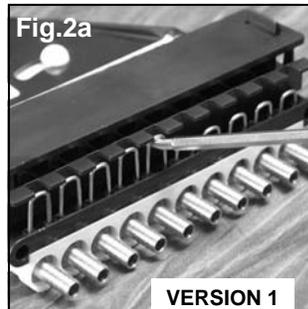
1. Position the PH10-121 (Drip Cup Holder) into the recess located under the PM10-40 (Hose Hanger) and align the three matching mounting screw holes.
2. Position the combined PH10-121 and PM10-40 under the countertop, in the desired mounting location, with the alignment line lined-up with the front edge of the countertop.
3. Install three PM10-65 (#10 x 3/4" Phillips, Pan Head Screws) through the three mounting holes and into the countertop, completely, until no screw threads are visible or exposed below the screw hole mounting bosses.
4. Install one end of the PH10-106 (6' Drain Tube) onto the PH10-121's (Drip Cup Holder) drain nipple, fully.
5. Extend the other end of the PH10-106 (6' Drain Tube) to the floor sink or drain. Do not install Drain Tube end into the ice bin or sink drain.
6. Install the PM10-76 (Grommet) into the PM10- 40 (Hose Hanger).
7. Install the PH10-122 (Drip Cup Insert) into the PH10-121 (Drip Cup Holder)

After all connection are made, turn on water supply, carbonator, CO2, and BIB pumps.

CHECK ALL DISPENSER AND SYSTEM FITTINGS CONNECTIONS FOR LEAKS IMMEDIATELY!

ATTENTION!

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained in accordance with federal, state, and local codes. The Post-Mix Dispenser's water supply line must be connected **to the potable water supply with adequate backflow prevention to comply with federal, state, and local codes.**



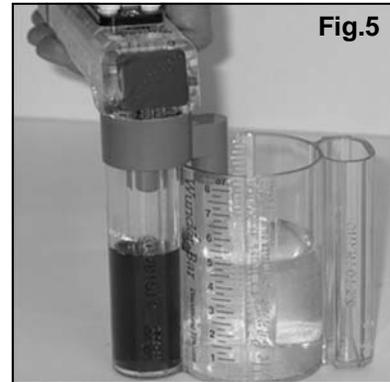
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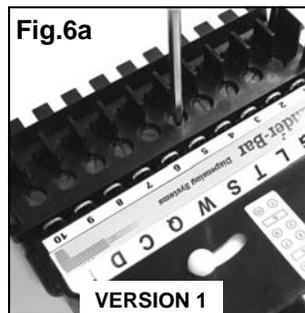
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It will be necessary to brx your *Wunder-Bar*® Mechanical Flex Hose bar dispenser before use. Either a *Wunder-Bar*® Syrup separator and Brix Cup (Fig.5) or a refractometer may be used. Diet products do not contain sugar and therefore diet products' ratio may only be measured using a Brix Cup.



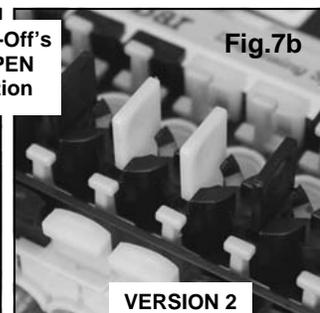
Brix ratio is the ratio of syrup concentrate to soda or water. A syrup separator (p/n PH10-83) is designed to separate the syrup/concentrate from the soda or plain water, allowing for proper measurement of products. A Brix Cup (p/n PH10-35) allows the user to visually compare and confirm the ratios of soda-to-syrup and water-to-syrup. A refractometer (Not available from Wunder-Bar) is a hand-held optical device used to measure the amount of sugar in solution in beverages containing sugar.

In order for accurate Brix measurements or readings to be made, it will be necessary to "ice down" the cold plate, by covering the cold plate located in the bottom of the ice bin with a minimum of 4" to 6" of ice. If a mechanically refrigerated beverage chilling system is to be used, instead of a cold plate, turn ON the refrigerated, re-circulating beverage unit and allow it to "chill down" to normal operating temperature before attempting to take Brix readings or measurements. Once the cold plate or refrigerated unit have reached temperature, dispense approximately 10 to 12 ounces of each beverage just before attempting to "read" each products' brix.



SETTING THE SODA AND WATER FLOW RATES

Set the flow rate to your specifications or to the nominal flow rate of 5 oz of soda in 3 seconds. Dispense soda into the large chamber of the Brix Cup or into a measuring cup. Turn the brix screw (Fig.6a, 6b) labeled "S" counter-clockwise or "out" to increase the soda flow rate or clockwise or "in" to decrease the soda flow rate. The brix screws are the "slot head" screws on the product manifold. Do not turn the "Shut-Offs" to adjust the brix ratio. The shut-offs are closest to the input fitting side of the manifold and are open when the Shut-Off tabs are in line with the flow of product through the manifold (see Fig.7a & 7b). Repeat the adjustment process to set the water flow rate to 5 oz. of water in 3 seconds.

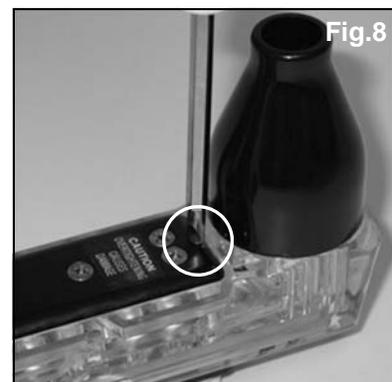


ADJUSTING THE BRX RATIOS

Now that the soda and water flow rates are set, product brx-ing may begin. The "L" button corresponds to the "L" position on the product label at the manifold. The "C" button corresponds with the "C" position on the manifold, "T" for "T", etc. The syrup brix screws are adjusted in the same manner as Soda and Water Brix Screws; counter-clockwise or "out" increases flow rates, clockwise or "in" decreases flow rates. The most common ratio for Post-mix beverages is 5:1 (5 parts soda or water to 1 part syrup). However, some specialty beverages have 5.5:1 or higher ratios. Some juices and mixers have ratios as low as 1:1 to 2:1. Always read the BIB (Bag-In-Box) syrup container label for ratio specifications before starting. The small chamber (syrup side) of brix cup should fill to 1 oz. in the same amount of time it takes to fill the large chamber 5 oz. of soda or water—confirming a 5:1 brix ratio (Fig.5). If the product was 4:1 ratio, the small chamber would fill to the same 1 oz. mark, but the soda or water would fill to 4 oz. Repeat until all products are properly brix ratio'd.

SECONDARY WATER BRX SCREW (Fig.8)

All *Wunder-Bar*® Post-Mix and Juice dispensers have a "Secondary Water Adjustment Screw" to enable juices and beverages with 2:1 and 1:1 ratios to be dispensed through buttons located under the lower right Butterfly Plate. The Secondary Water Brix Screw is factory set to the "open" position. Use a small bladed screwdriver to turn the screw Clockwise or "in" to decrease water flow to achieve 2:1 to 1:1 ratios for products like tomato juice and Bloody Mary Mix.



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FLOW
REGULATOR
MANIFOLDS

FLOW REGULATOR OVERVIEW

The purpose of the flow regulator is to provide a more precise brix ratio between soda and syrup during pressure fluctuations. Flow regulators compensate for pressure variances by automatically reducing the amount of product that passes through when pressure rises, and increasing amounts when pressure falls. Liquid flow regulators manufactured for post-mix beverage dispensers use a "piston" moving up or down within a "cylinder". Typically, a small opening at one end of the piston is where the liquid enters. Located within the hollow piston is an adjustable tension spring which provides resistance against the path of liquid flow.

HOW IT WORKS

Incoming liquid, under pressure, forces the piston upward against the adjusted tension spring. As the piston moves, the regulating process begins. It partially or fully closes the outlet holes located around the top of the cylinder wall. As pressure varies, the piston will move in a direction to open (if the supply pressure drops) or close (if the supply pressure increases) the outlet holes to maintain the preset flow rate.

FACTORY GUIDELINES

The flow control regulator is not a "fix-all" for varying pressures over a wide range. Flow regulators compensate for supply pressure variation within a minimum operating pressure and a maximum operating pressure range. This range is determined by the "Finished Product" flow rate. When you lower the "Finished Product" flow rate, you increase the operating range. Therefore, a slower finished product flow rate is generally better because lower pressures can be applied to the syrups and this increases the regulator's accuracy and consistency. To maintain a proper flow and desired "Finished Product", flow rate must first be established. The following instructions will assist you in adjusting for a flow rate of 1.5 ounces per second of finished product.

CAUTION: Before you begin to set flow rates, make certain that all air has been removed from the soda, water, and syrup lines. Air will cause varying flow. Also, be sure to chill the soda, water, and syrups to their normal operating temperatures to assure proper settings.

GENERAL OPERATING INSTRUCTIONS FOR FLOW REGULATORS

Your Flow Regulator Manifold was factory pre-set and tested to the following pressures and flow rates:

Achieving Finished Product Flow Rate of 1.5 Ounces Per Second

1. Set High CO2 pressure to 90 PSI (flow) from the Carbonator
2. Set Low CO2 pressure to 60 PSI (flow) for BIB pumps for Sugar-based syrups.
3. Set Diet CO2 pressure to 40 PSI (flow) for BIB pumps for Diet syrups.
4. Set the Soda flow rate to 6–1/4 ounces in 5 seconds (*See Flow Regulator Adjustment below*)
5. Set Syrup to Soda ratio to 5:1 for most carbonated products. Ratios other than 5:1 will be noted on the BIB container's label. Some un-carbonated juices and mixers have ratios as low as 1:1 to 2:1. Always read the syrup container label for ratio specifications before starting. The small chamber (syrup side) of brix cup should fill to 1 oz. in the same amount of time it takes to fill the large chamber 5 oz. with soda or water—confirming a 5:1 brix ratio (**Fig.5**).

At 1.5 ounces per second finished product flow rate, controllable pressure "throw" ranges are:

SODA: 40 to 110 PSI

SUGAR BASED SYRUPS: 20 TO 80 PSI

DIET & HIGH YIELD SYRUPS: 10 TO 70 PSI

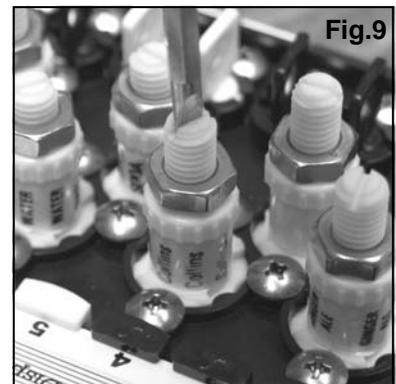
HIGH YIELD DIET: High Yield DIET manifold positions have light green Kwik Clips and have small-hole piston (FR-60C) and cylinder (FR-61C) and both are marked with the letter "D". High Yield Diet positions will regulate Diet and High Yield Diet syrup ratios between 5:1 and 8:1.

FLOW REGULATOR ADJUSTMENT

Loosen the lock nuts first, before attempting adjustments. To decrease the amount: Turn the adjustment screw counter-clockwise (**Fig.9**). To increase the amount: Turn the adjustment screw clockwise. Once the Soda and Water flow rates have been set, only adjust the syrup flow regulator adjustment screws if the ratio is not correct (**Fig.9**). Tighten Lock Nut Screws after all adjustments are completed.

Always make adjustments in 1/4 to 1/2 turn increments.

NOTE: Many juices/mixers contain pulp or particulate that will plug



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CONFIGURATION AND MAINTENANCE

Wunder-Bar® Mechanical Post-Mix Dispensers can be configured for many combinations of carbonated or non-carbonated post-mix beverages or non-carbonated premix beverages—up to a total of 14 products total (requires 14 Button Dispenser), including soda and plain water. All these combinations are field convertible without shutting off the dispenser. *Wunder-Bar®* Post-Mix Juice Dispensers are permanently factory-configured to dispense non-carbonated juices, mixes, and beverages, only.

BUTTONS AND BUTTERFLY PLATES

The buttons and button plate can be removed while dispenser is under pressure (Fig.10). After the button plate has been removed, the buttons and the configuration of the dispenser can be changed so that any combination of carbonated and non-carbonated buttons can be achieved. Simply remove the butterfly retainer screws (Fig.11) and then lift out and replace the butterfly plates (stainless steel plates with small ball bearings attached) to create various standard configurations and endless special configurations. The butterfly plate's balls fit into recesses in the o-ring retainer plates. The half moon cutout area of the butterfly plates are where the retainer and retainer screws are located when attaching the plates to the handle. When replacing the butterfly plates, be careful not to over-tighten the retainer screws. This may cause the plates to bind.

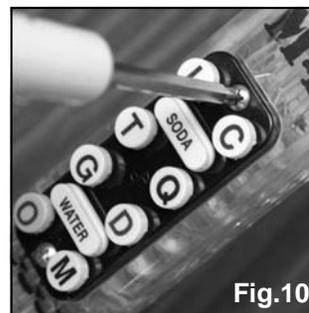


Fig.10

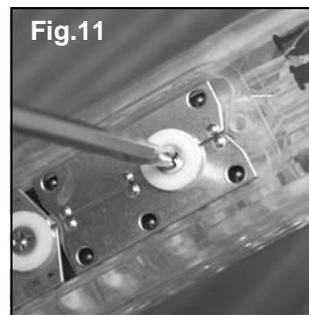


Fig.11

SHUT-OFFS

If it becomes necessary to work on the internal components of the dispenser, you must turn off syrups, water, or the carbonated water position you need to service. The manifold is equipped with black shut-offs for all syrups and white shut-off's for the soda, and the water (Fig.12a & 12b).

The shut-offs work like a gate valve. There is a hole through the shut-off that is aligned in the same direction as the shut-off's tab handle. This allows each beverage dispenser on the system to be shut off, individually, at each dispenser's brix manifold, without affecting the other dispensers on the system.

Turn the shut-offs 90 degrees clockwise to shut off the flow of the product you are servicing at the dispenser's manifold (Fig.13a & 13b).



Fig.12a

Shut-Off's
OPEN

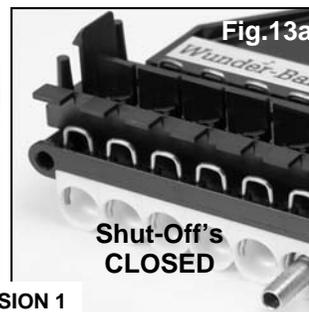


Fig.13a

Shut-Off's
CLOSED

VERSION 1

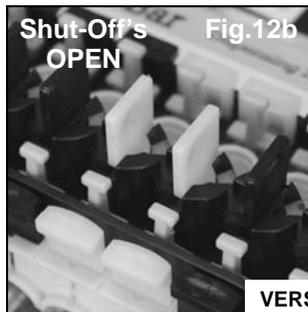


Fig.12b

Shut-Off's
OPEN

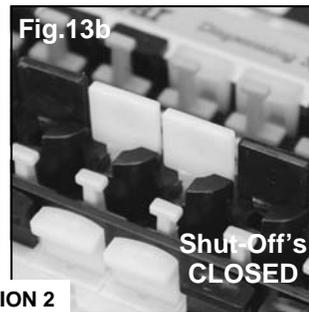


Fig.13b

Shut-Off's
CLOSED

VERSION 2

DISCONNECTING BRIX MANIFOLD

After all shut-offs are turned 90° to the OFF position (Fig.13a & 13b), depress all buttons on the dispensing handle to release pressure between the manifold and handle. Pull up on all of the kwik klips located between the tube collector and manifold (Fig.14a & 14b). These are called the Interconnect kwik klips. Push the cam knob sideways while pulling the manifold away from the tube collector to separate the manifold from the tube collector (Fig.15).

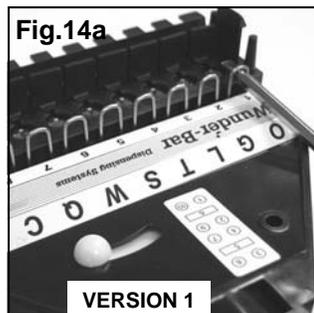


Fig.14a

VERSION 1



Fig.14b

VERSION 2



Fig.15

A replacement flex-hose assembly can now be attached to the brix manifold or repairs can be made in a properly equipped and adequately lighted area, out of the bartender's way. Once the replacement or repaired flex-hose assembly is reinstalled

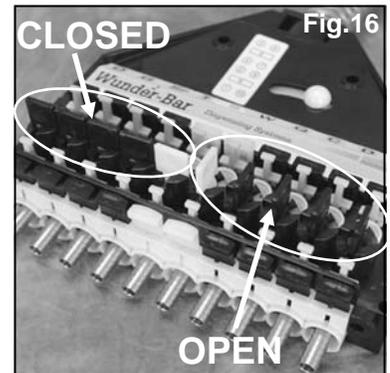
onto the manifold, push all of the interconnect kwik klips downward, fully, and turn the shut off's 90 degrees counter clockwise to the open position. Re-brixing should not be required.

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REPAIR

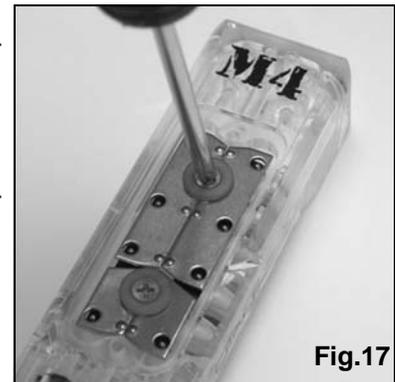
REPLACING A STEM O-RING (due to leak under the button plate)

If syrup, soda, or water leaks from under the button plate, when dispensing, the Stem O-ring for that syrup, or the soda, or the water must be removed and replaced. The Mark 4 dispenser **allows for replacement of the stem O-ring from the top of the handle without depressurizing the dispenser.**



REMOVAL OF STEM O-RING

Remove the button plate screws and the button plate. Remove all of the butterfly plates (Fig.17). Lift up and remove the stem o-ring retainer "H" plate and set it aside (Fig.18). Use the "spring" end of the Stem O-ring Removal Tool (p/n: PH10-112) to stab and then remove the defective Stem O-ring from the O-ring cavity (Fig.19). Turn the spring end counterclockwise while pushing down to pierce the defective O-ring. Remove and discard the defective O-ring. **Do not re-use leaking or defective O-rings.**



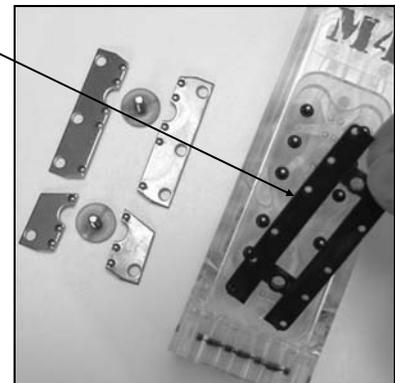
Stem O-ring Retainer Plate

REPLACING THE STEM O-RING

Position the replacement stem o-ring onto the valve stem. Use the opposite end of the stem o-ring removal tool, (the end with no spring), to push the stem o-ring into the o-ring recess, fully (Fig.20).

Position the stem o-ring retainer "H" plate so that all of the valve stems protrude through the retainer "H" plate as shown in Fig.21. Push all four corners of the plate down, fully, to completely seat the retainer plate. Re-install the Butterfly plates, butterfly retainer, and screw (Fig.17). **DO NOT OVERTIGHTEN THE RETAINER SCREWS!**

Re-install the button plate and screws. **DO NOT OVERTIGHTEN THE BUTTON PLATE SCREWS!**



O-ring Removal Tool

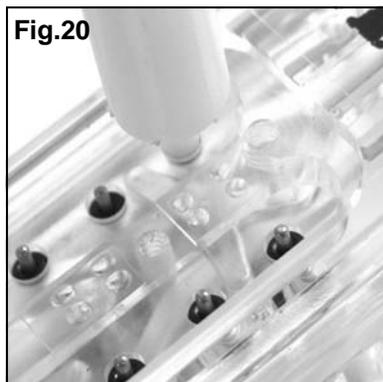


Fig.20



Fig.21

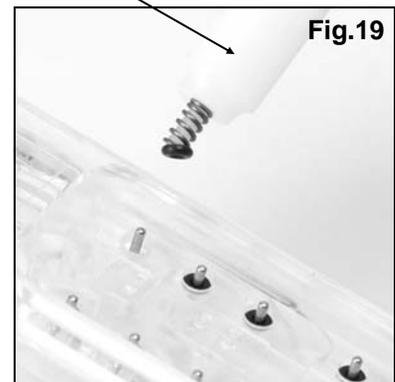


Fig.19

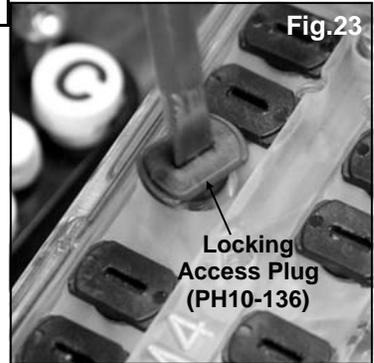
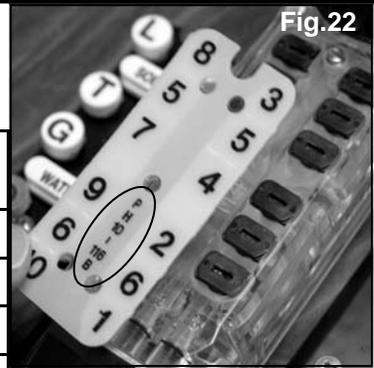
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REPAIR

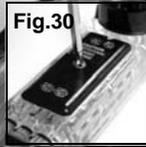
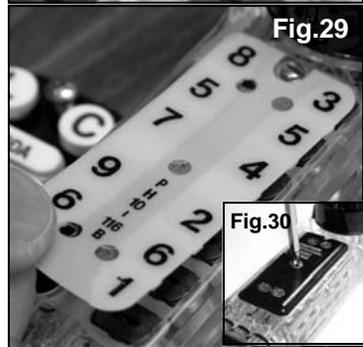
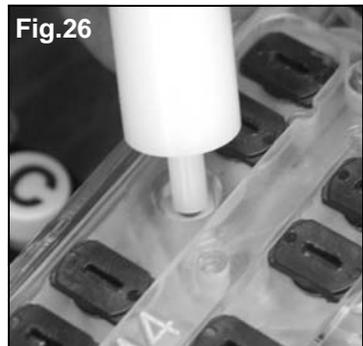
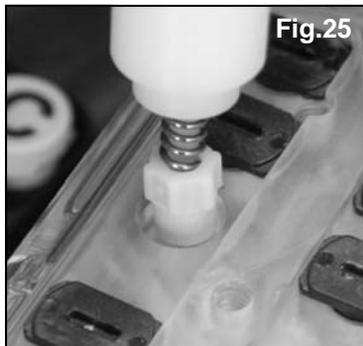
REPLACING VALVE PLUNGER ASSEMBLY (product leaks through the nozzle)

IMPORTANT: Confirm that shut-offs for the position you are servicing are OFF or inclosed position (Fig.16, page 6) before replacing a Valve Plunger. Press the buttons for all positions to be serviced, to relieve pressure between the manifold and handle.

Dispenser Type	Old Plug	New Plug	Old Plate	New Plate	Old Btm Plate	New Btm Plate	Effective Date
4-6 Button	PH10-125	PH10-136	PH16-116	PH16-116B	N/A	N/A	*
7-10 Button	PH10-125	PH10-136	PH10-116	PH10-116B	N/A	N/A	9/1/11
12 Button	PH10-125	PH10-136	PH12-116	PH12-116B	PH12-47	PH12-47-M4	11/1/11
14 Button	PH10-125	PH10-136	PH14-116	PH14-116B	PH14-27	PH14-27-M4	12/1/11



Remove all of the bottom plate screws and the bottom plate. NOTE: Refer to the numbers printed on the locking hat plate (Fig.22) to locate the valve plungers to be replaced. Remove the yellow locking hat plate and set it aside. Use the locking access plug tool (p/n PH10-126) for PH10-125 locking access plugs or a small flat blade screwdriver for PH10-136 locking access plugs, to turn the desired locking access plug 90 degrees to the un-locked position (Fig.23). 7-10 button dispensers built after 9/1/11, 12 button dispensers built after 11/1/11, and 14 button dispensers built after 12/1/11 are engraved with M4 (Fig.24). Remove the locking access plug with O-ring and spring for every valve plunger to be replaced (Fig.23). Remove the Valve Plunger(s) using the spring-hook end of the stem O-ring insert and removal tool (p/n PH10-112) to hook and extract the Valve Plunger from the valve cavity (Figs.25). Install a replacement Valve Plunger (p/n PH10-89) into the valve cavity (Fig.26), all the way, up through the stem O-ring using the the stem O-ring insert and removal tool (p/n PH10-112) or a screwdriver. Position the locking access plug, with spring and O-ring into the valve cavity (Fig.27). The spring should be positioned into the hole in the bottom of the rubber valve stem. TIP (Dispensers built before 9/1/11 only): The o-ring can be seated easier by rotating the locking access plug back and forth, 1/8th turn, as the locking access plug is being inserted into the valve cavity with the PH10-126 tool. Lightly push the locking access plug, with o-ring, into the valve cavity and then turn the locking access plug 90° to the locked position (Fig.28). Repeat this process for all valve stems to be replaced. Replace the locking hat plate so that the numbers are readable while holding the handle with the nozzle away from you (Fig.29). ATTENTION: DO NOT RE-ASSEMBLE OR OPERATE THE DISPENSER WITH THE LOCKING HAT PLATE MISSING OR DISPENSER DAMAGE MAY RESULT. Install the bottom plate and screws (Fig.30). 12 and 14 brand dispensers produced after the change dates have Bottom Plates with radius'd ends, but are otherwise the same. Do not over-tighten the bottom plate screws. Open any shut-offs that were "OFF" to the "ON" position.



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REPAIR

TUBE COLLECTOR

When the tube collector is separated from the brix manifold, the tube collector cover plate can be removed to expose the product tubing (Fig.31). On a 8 to 10 button dispenser, the syrup tubes in positions 1, 3, 8, and 10 (see Fig.31) are standard syrup tubes. The yellow tubes in positions 2, 4, 7, and 9 (see Fig.31) are syrup barrier tubes which should be used for energy drinks and pungent syrups such as root beer and punch. The blue tubes in positions 5 and 6 are Soda and Water. NOTE: All positions with barrier tubes are indicated by yellow highlighted numbers on the manifold label located on top of the tube collector.

All syrup positions have "B" interconnect fittings and red "B" lock rings. The Soda and Water positions have "A" interconnect fittings and red "B" lock rings. The letter B is molded into the side of the "B" interconnect fittings and the letter A is molded into the "A" interconnect fittings (Fig.32).

12 button dispensers have barrier tubes in syrup positions 4, 5, 10 and 11.

14 button dispensers have barrier tubes in syrup positions 4, 5, 10, and 11.

REPLACING VERSION 2 MARK 4 METERING SCREW INPUT MODULES

With the standard manifold (Metering Screw Manifold) disconnected from the Tube Collector, remove both black or white Kwik Klips from both the Inlet and Outlet sides of the Input Module. Then grasp and pull both orange Module Clips (PM10-139-M4) out of the Input Module's white retainer flanges. (Fig.33) With both Module Clips removed, squeeze the white retainer flanges together, push the Module down and away from the Frame. To install an Input Module, align both pair of retainer flanges with the underside of the Manifold Frame and then push the Module up onto the Frame until both pair of Flanges snap into place. Re-install both orange Module Clips fully into the gap between both pair of Retainer Flanges until they snap into place (Fig.34).

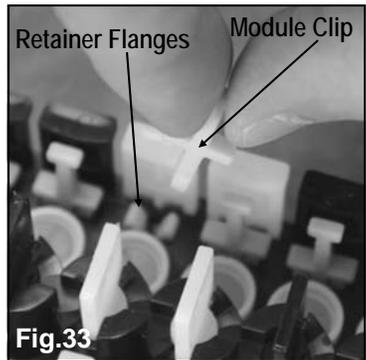
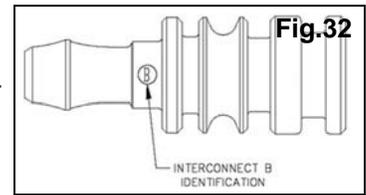
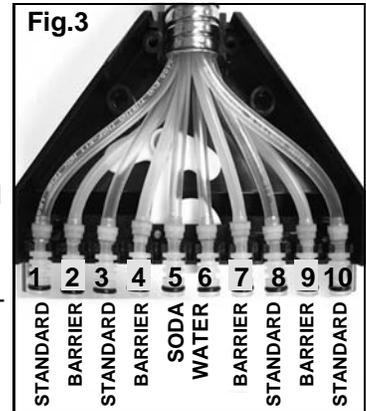
HANDLE REMOVAL

After the dispenser has been depressurized: Remove the four slot screws in the rear of handle heel. Slide the heel back and away from the handle (Fig.35). The split heel may be separated (Fig.35) and removed from the sheathing for replacement. Loosen and remove the two retainer posts from the rear of the handle, using a 5/16" hex driver, a 5/16" or small adjustable wrench. The top center of the retainer plate is marked with a stamped number "10". Pull the retainer plate and tubing (with ferrules and caps) away from the handle. This allows for removal and replacement of the tube seal o-rings, ferrule caps, and ferrules.

REPLACING A PRODUCT TUBE

Disconnect the handle and sheathing assembly from the manifold. Remove the Tube Collector Cover screws to gain access to the tube-ends and interconnect fittings. Lift up on the desired tube's interconnect fitting to separate it from the tube collector. The Individual tube can now be replaced in the field. Remove the four screws from the handle heel and slide the heel and sheathing away from the handle. Loosen and remove the two retainer posts, using a hex driver, wrench, or pliers, from the rear of the handle. NOTE: The number "10" is stamped into the retainer plate at the top to aid proper tubing to handle orientation during re-assembly. Pull the retainer plate and tubing (with ferrules and caps) away from the handle.

A new tube assembly, with an interconnect fitting and lock ring installed, should be ordered from the factory. Cut the old interconnect fitting off of the old tube. Tape the new tube's end to the end of the old tube. Slowly pull the tube through the sheathing all the way to the back of the retainer plate. Un-tape the tubes and discard the old tube. Insert the new tube's end through the open hole in the retainer plate about 1 to 1-1/2". Dip the tube end in hot water for 3 seconds and then install the ferrule into the tube end. Install the ferrule cap onto the tube end with ferrule installed. Push all of the tubes' back to the retainer plate surface. Align the mark to the top of the handle while inserting all ten tube ends with ferrules and caps back into their o-rings in the back of the handle. Once all ten are properly inserted, re-install the two retainer posts while visually confirming that all ten ferrule caps are centered in their respective tube seal O-rings. Do not over-tighten the retainer posts. Reinstall the heel and all four heel screws. Do not over-tighten the screws.



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C O N F I G U R A T I O N A N D M O D E L N U M B E R S

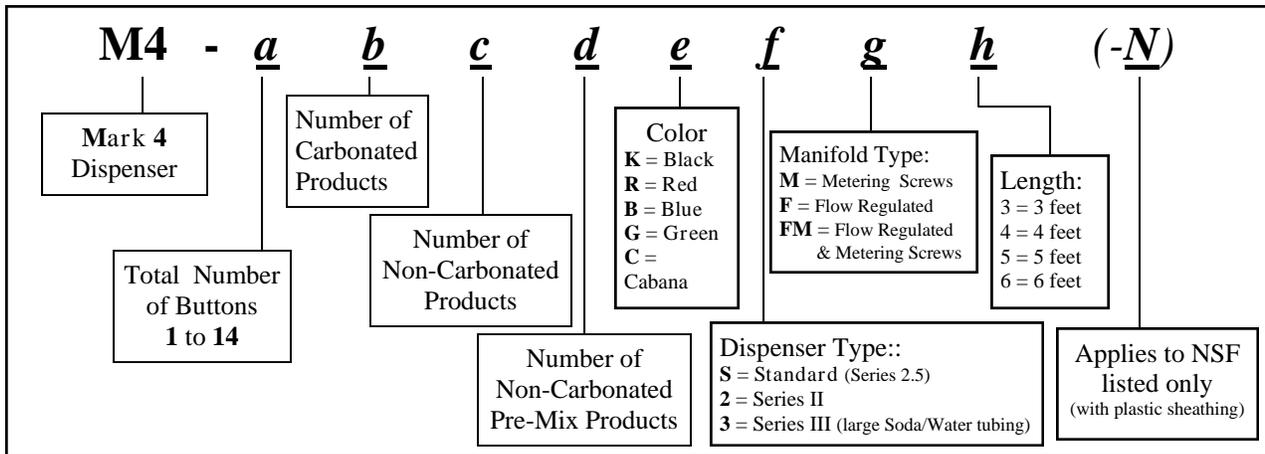
The Wunder Bar Mechanical Flex Hose bar dispenser is available in 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, and 14 button models. All models can be configured for many combinations of carbonated, non-carbonated, non-carbonated premix and energy drink products at any time. All of these combinations are field-convertible and can be modified without shutting off the dispenser. All seven, eight, and nine button dispensers have all the necessary valves and product tubes already installed into the dispenser, making the upgrade to up to ten buttons as easy as adding buttons to the handle and input modules and input fittings to the manifold.

BUTTONS AND BUTTERFLY PLATES

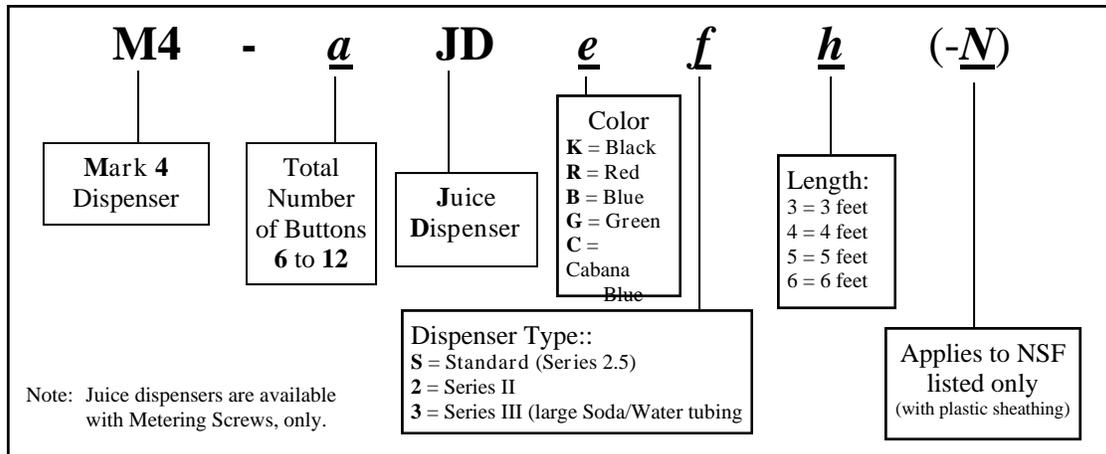
The buttons and button plate can be removed while dispenser is under pressure. After the button plate has been removed, buttons can be changed as can the configuration of the dispenser. By removing the butterfly retainer and screws, and lifting out the butterfly plates, various standard configurations and endless special configurations can be created. The butterfly plates' balls fit into indentations in the o-ring retainers located in the handle recess. The half moon cut out area of the butterfly plates are where the retainer and retainer screws are located when attaching the plates to the handle. When replacing butterfly plates, be careful not to over-tighten the retainer screws. Over-tightening the retainer screws can cause the butterfly plates to bind.

EXPLANATION OF MODEL NUMBERS

POST-MIX AND ENERGY DRINK DISPENSERS



POST-MIX JUICE DISPENSERS



Wunder-Bar™

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EQUIPMENT AND SUPPLIES NECESSARY

- Clean 5 gallon bucket (1)
- Clean cloth towel (1)
- Safety goggles and rubber gloves
- **CLEANING SOLUTION**

B-T-F Chloromelamine sanitizer is approved for use as a manual type cleaner or for use as a chlorinating sanitizer under EPA 40 CFR 180.90 and B-T-F is available in .42 oz. packets. Two packets of B-T-F sanitizer mixed with 5 gallons of warm water (100 °F), will deliver the required 100 PPM sanitizing concentration.

PREPARATION:

Prepare sanitizing solution by adding two, packets of B-T-F Chloromelamine sanitizer powder to 5 gallons of warm potable water (100°F) in a clean 5 gallon bucket. This produces a 100 PPM available chlorine solution. Stir to ensure B-T-F powder becomes completely dissolved.

CAUTION: Chlorinated detergents are corrosive. Wear rubber gloves and safety goggles while performing all cleaning and sanitation procedures.

Note: If a chlorinated sanitizer/cleaner other than B-T-F is used, follow the manufacturer's instructions for proper dilution to produce 100 PPM Sanitizer/Cleaner solution.

DO NOT USE BLEACH. Bleach is abrasive and harsh on the numerous plastic components in our dispensing systems. We have confirmed that using a buffered chlorinated sanitizer and following the prescribed procedures ensures optimum sanitation and maintenance of the dispensing equipment. This will limit sanitizer odor/off-taste carryover that could be perceived as a hazard

CLEANING THE SHEATHING

Materials Required:

Cleaning Solution (see CLEANING SOLUTION, above)
Flexible soft plastic bristle brush
Clean, dry Bar Towel

1. Immerse the Brush in Cleaning Solution as shown in **Fig.1**.
2. Wrap the brush around the sheathing at the Heel end (**Fig.2**). Move the brush up and down the entire length of the Sheathing, from Heel to Manifold (**Fig.3**), a minimum of 6 times.
3. Immerse the Brush in the Cleaning Solution. Rotate the Sheathing Brush 1/2 turn. Move the Brush up and down the entire length of the Sheathing 6 more times.
4. Immerse the Sheathing Brush in the Cleaning Solution. Rotate the Sheathing Brush an other 1/2 turn. Move the Sheathing Brush up and down the entire length of the Sheathing a minimum of 6 more times. Dry the entire length of the Sheathing with a clean bar towel.

CLEANING THE NOZZLE

Material Required:

Cup of Cleaning Solution (see *CLEANING SOLUTION* above)

- 1a. **SERIES II NOZZLE REMOVAL: (Compression Fit, two O-rings) (Fig.4)**
Grasp the nozzle and twist back and forth while pulling the nozzle away from the handle. If the nozzle is difficult to remove, immerse nozzle end of the handle in a cup of carbonated water for five minutes before attempting removal again.
- 1b. **SERIES 2.5 and SERIES III: (Twist-Lock, one O-ring) (Fig.5)**
Grasp and twist the nozzle counterclockwise to unscrew the nozzle from the Handle. If the nozzle is difficult to remove, immerse nozzle end of the handle in a cup of carbonated water for five minutes before attempting removal again.
2. Remove nozzle and place in cup of cleaning solution (see CLEANING SOLUTION above) for 2 minutes. Immerse a clean brush in the sanitizer solution. Scrub nozzle and diffuser with a clean brush until any and all buildup is removed.
3. Remove nozzle from sanitizer solution. Allow nozzle and diffuser to air dry.
4. Reinstall nozzle onto diffuser.

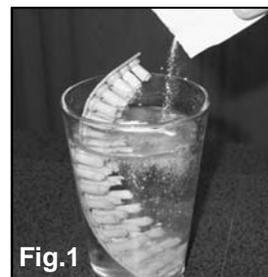


Fig.1



Fig.2



Fig.3



Fig.4



Fig.5

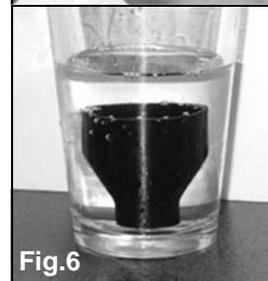


Fig.6

Wunder-Bar™

C L E A N I N G A N D S A N I T I Z I N G I N S T R U C T I O N S

The Wunder Bar Mechanical Flex Hose bar dispenser is a NON -ELECTRIC dispenser. Rather than opening electrical solenoids by activating a switch in the handle, the button actually pushes down on tiny valves to allow water, soda and syrup to flow out. No electricity is generally an advantage in a wet bar environment. This means our dispenser can be soaked in lukewarm or cold water, which we recommend to be done when necessary, without being damaged. The dispenser is not intended to be used as an ice pick and should never be utilized to crack or chip ice. Under normal conditions this Wunder Bar dispenser should last for many years of trouble free service.

CLEANING A POST-MIX SYSTEM

WASH INSTRUCTIONS:

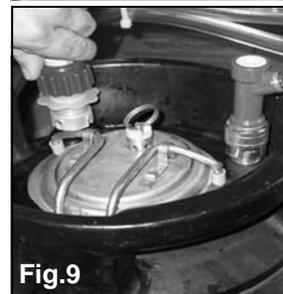
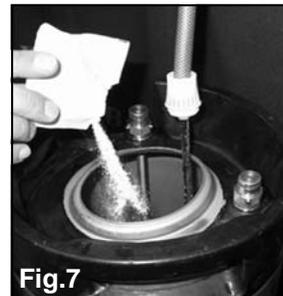
1. Fill the Sanitizer Tank (**Fig.7**) or Bucket (**Fig.8**) with Cleaning Solution (see *CLEANING SOLUTION* section on page 11). Label all BIB connectors to prevent mix-up. Disconnect all connectors from the Bag-In-Box Syrup Containers.
- 2a. **SANITIZING TANK:** Attach the BIB connector to the Sanitizing Tank outlet (**Fig.9**) to WASH one syrup circuit at a time, or to the tank manifold (if so equipped) to WASH multiple lines. Pressurize the tank to 30 to 40 PSI.
- 2b. **BUCKET:** Attach the BIB connector(s) to the appropriate cleaning adapter(s). Place the connector (s), with the adapter(s) installed, into the bucket of cleaning solution (**Fig.10**) so that they resting in the bottom, fully submerged.
3. Press and hold, one flavor button (exceptions are WATER and SODA) at a time, (**Fig.11**) until cleaning solution with no syrup present is dispensed from the nozzle. Repeat this process for all flavor buttons.
4. Allow the cleaning solution to remain in the system for a minimum of two minutes. Then proceed to step 5, RINSE INSTRUCTIONS.

RINSE INSTRUCTIONS:

5. Rinse and fill the Sanitizing Tank or Bucket with clean warm water (100° F / 38° C).
- 6a. **SANITIZING TANK:** Attach the BIB connector to the Sanitizing Tank outlet(s) (**Fig.2**). to RINSE one syrup circuit at a time, or to a tank manifold (if so equipped) to RINSE multiple lines Pressurize the tank to 30 to 40 PSI.
- 6b. **BUCKET:** Attach the BIB connector(s) to the cleaning adapter(s). Place the connector(s), with the adapter(s) installed, into the bucket of water (**Fig.10**) so that they resting in the bottom, fully submerged.
7. Press and hold, one flavor button (exceptions are WATER and SODA) at a time, (**Fig.11**) until pure water with no cleaning solution present is dispensed from the nozzle. Repeat this process for all flavor buttons
8. Proceed to step 9, SANITIZE INSTRUCTIONS.

SANITIZE INSTRUCTIONS

9. Fill the Sanitizer Tank (**Fig.7**) or Bucket (**Fig.8**) with Cleaning Solution (see *CLEANING SOLUTION* section on page 11). Disconnect all connectors from the Bag-In-Box Syrup Containers.
- 10a. **SANITIZING TANK:** Attach the BIB connector to the Sanitizing Tank outlet(s) (**Fig.2**) to RINSE one syrup circuit at a time, or to a tank manifold (if so equipped) to RINSE multiple lines Pressurize the tank to 30 to 40 PSI.
- 10b. **BUCKET:** Attach the BIB connector(s) to the appropriate cleaning adapter(s). Place the connector (s), with the adapter(s) installed, into the bucket of cleaning solution (**Fig.10**) so that they resting in the bottom, fully submerged.



Wunder-Bar™

PROBLEM: Push product button and no syrup is dispensed.

POSSIBLE SOLUTION: *Check to make sure there is product in Syrup tank or BIB containers. *Check product connection at BIB container's outlet fitting and the pump. *Check CO2 supply to syrup tank or BIB pump. * Is product or pump inlet line kinked or crimped? *Is shut off screw in closed position? Open shut off screw. * Is brix screwed in too far? Open brix screw.

PROBLEM: Push soda button and no soda is dispensed.

POSSIBLE SOLUTION: * Is carbonator plugged in? Check power supply. * Is water supply to carbonator on? Check water supply. * Check CO2 supply to carbonator. * Is line kinked or crimped? *Is shut off screw in closed position? Open shut off screw (page 3). * Is brix screw screwed in too far? Open brix screw (page 3). * Is proper butterfly configuration being used?

PROBLEM: Push water button and no water is dispensed.

POSSIBLE SOLUTION: * Check water supply. *Is line kinked or crimped. *Is shut off screw in closed position? Open shut off screw. *Is brix screw screwed in too far? Open brix screw. * Is proper butterfly configuration being used?

PROBLEM: Push product button, dispenses wrong product.

POSSIBLE SOLUTION: *Is correct BIB container connected to proper BIB pump? Check BIB product container and pump. * Is correct product tubing connected to proper position on manifold? Check connection at brix manifold.

PROBLEM: Product(s) taste "weak" or watered down.

POSSIBLE SOLUTION: Was dispenser brixed at proper operating temperature? Make sure cold plate is iced down correctly. * Is CO2 supply to containers or pumps set properly? Check CO2 supply and regulators, adjust to correct settings. Check CO2 supply to carbonator, set high pressure regulator between (95-105 PSI). Check brix screw on soda and/or water positions. Check brix screws on product. Check to be certain shut off screw slots are in proper position. (Flow runs in same direction as slot.) **Rebrix the dispenser.**

PROBLEM: Product(s) taste "strong" or syrupy.

POSSIBLE SOLUTION: Was dispenser brixed at proper operating temperature? Make sure cold plate is iced down correctly. * Is CO2 supply to containers or pumps set properly? Check CO2 supply and regulators, adjust to correct settings. Check CO2 supply to carbonator, set high pressure regulator between (95-105 psi). Check brix screw on soda and/or water positions. Check brix screws on product. Check to be certain shut off screw slots are in proper position. (Flow runs in same direction as slot.) **Re-brix dispenser.**

PROBLEM: Push button and release, product keeps dispensing.

POSSIBLE SOLUTION: * Butterfly plates are too tight. Remove button plate and loosen butterfly retainers, these only need to be snug. **Do not over tighten!** * Debris caught in cork o- ring. Hold hand over nozzle, depress all buttons at once, back flushing dispenser. This may dislodge particle enough to pass through dispenser. Change cork o-ring.

PROBLEM: When button is depressed, product oozes from under button plate.

POSSIBLE SOLUTION: * Stem o-ring defective. Replace stem o-ring (p/n PH10-20).

PROBLEM: Product leaks or drips out of nozzle.

POSSIBLE SOLUTION: * Cork o-ring (older models) or molded valve is defective. Replace cork o-ring or replace entire valve with new molded valve stem (p/n PH10-89).

PROBLEM: Product leaking around bottom plate.

POSSIBLE SOLUTION: * Hat o-ring has failed. Replace hat o-ring (p/n PH10-26).