



SUPERIOR

# Buckner Model VB

## Disassembly Instructions and Troubleshooting



# Index

Repair Kits (12)

Solenoid Disassembly Instructions (2,3)

Troubleshooting

- Valve will not close (6,7)

- Valve will not open (8)

- Water leaks out around internal bleed lever 10

- Water leaks out around manual bleed screw (11)

Valve Disassembly Instructions (4,5)

Water weeps past valve (7)

# Solenoid Disassembly Instructions

1. Disconnect solenoid lead wires. Next, using your hand, unscrew solenoid from top of valve.



2. Take care as you remove the solenoid as the solenoid plunger will drop out of plunger tube.



# Solenoid Disassembly Instructions

3. Photo shows solenoid cavity. There is a plastic seat that can be removed by pulling the black plastic lever out of the bonnet while the lever is in the down position. The lever is used to open the valve manually. When the lever is raised to the up position, the valve opens. When placed in the down position, the valve closes. Lever kit #LA510841KIT includes ten each of the lever, lever o-rings, and plastic seat.



# Valve Disassembly Instructions

1. Remove top bolts.



2. Lift bonnet assembly off of valve body.



# Valve Disassembly Instructions

3. Remove spring and diaphragm assembly from valve body.



# Troubleshooting

PROBLEM: Valve will not close

## CAUSE #1:

Opening in diaphragm that allows water to enter upper diaphragm chamber is clogged.

## SOLUTION:

The opening, shown in red circle, needs to be cleaned. If clog is due to nylon fibers, then the opening will need to be punched with a sharp object, but care must be taken not to increase the size of the opening as this may prevent the valve from opening.



## CAUSE #2:

Stuck solenoid plunger or debris in solenoid cavity that prevents plunger from sealing exhaust port.

## SOLUTION:

Remove solenoid. If plunger does not move freely up and down in plunger tube, clean plunger tube and plunger or replace if necessary. If there is debris in the solenoid cavity, remove it.



# Troubleshooting

**PROBLEM:**

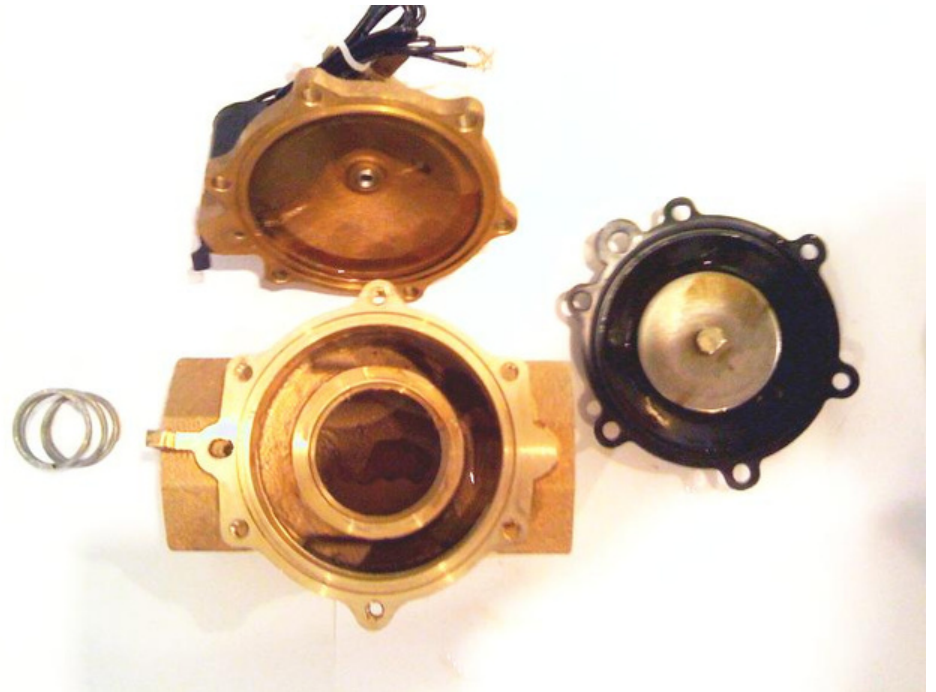
Valve will not close or closes but water weeps past valve.

**CAUSE #3:**

Debris in valve body and/or debris embedded in rubber seat.

**SOLUTION:**

Disassemble valve and remove debris. If seat is damaged, replace diaphragm/seat assembly.





# Troubleshooting

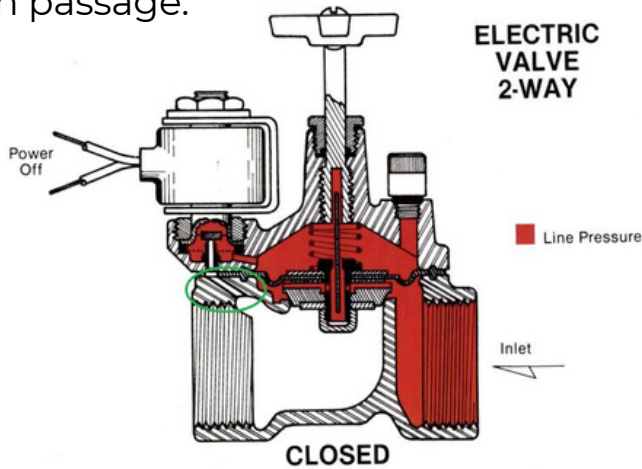
PROBLEM: Valve will not close

## CAUSE #1:

Exhaust path of water leaving upper diaphragm chamber is impeded.

## SOLUTION:

Remove solenoid and check passage-way between diaphragm chamber and solenoid chamber. Clean if necessary. If passage is clear, then remove bonnet assembly and check solenoid exhaust passage in body by running a wire down it to see if it is clear. If blocked, attempt to clean with the wire, or use a portable drill to clean passage.



## CAUSE #2:

Torn diaphragm. The VB model is a reverse flow valve. If the diaphragm tears, the valve closes.

## SOLUTION:

Replace diaphragm/seat assembly.



# Troubleshooting

## **PROBLEM:**

Valve will not open

## **CAUSE #3:**

Solenoid not receiving power. This could be do to one of three things: 1) No power output from controller, 2) bad solenoid coil, or 3) broken or disconnected wire.

## **SOLUTION:**

Disconnect solenoid leads from valve wires and remove solenoid from valve. Go to controller with solenoid in hand and connect one solenoid lead to common and the other to the station that the valve is connected to. Energize the station manually and see if solenoid plunger gets sucked up into plunger tube. If it does, the problem is a broken or disconnected wire between the controller and valve. If the plunger does not lift, then connect the lead to a station that you know is OK. Energize the station. If plunger does not lift into plunger tube, then solenoid is defective and needs to be replaced.



# Troubleshooting

**PROBLEM:**

Water leaks out around manual bleed lever.

**CAUSE:**

Damaged lever o-rings.

**SOLUTION:**

Remove bonnet from valve body. Rotate lever to down position and pull lever out of bonnet. Replace with new lever from lever o-ring kit (kit #LA510841KIT).



# Troubleshooting

**PROBLEM:**

Water leaks out around manual bleed screw.

**CAUSE:**

Damaged o-ring on bleed screw.

**SOLUTION:**

Replace manual bleed screw



# Repair Kits

Solenoid Kit (complete coil and post assembly): VBPRASKIT

Bonnet Repair Kit (includes all bonnet assembly parts except for solenoid coil and post assembly):

$\frac{3}{4}$ " & 1"-VB0710BKIT, 1  $\frac{1}{4}$ "-VB12BKIT, 1  $\frac{1}{2}$ "-VB15BKIT, 2"-VB20BKIT, 2  $\frac{1}{2}$ " & 3"-VB2530BKIT

Diaphragm Repair Kit (includes diaphragm assembly and spring):  $\frac{3}{4}$ " & 1"-VBPR0710DKIT, 1  $\frac{1}{4}$ "-VBPR12DKIT, 1  $\frac{1}{2}$ "-VBPR15DKIT, 2"-VBPR20DKIT, 2  $\frac{1}{2}$ " & 3"-VBPR2530DKIT

Lever O-ring Kit (includes lever, o-rings, and plastic solenoid seat—10 sets per kit): LA510841KIT

Manual Bleed Kit:

VBBPKIT