



## Deringer 30/50 Bypass Testing Instructions USC Edition

**READ INSTRUCTIONS IN FULL BEFORE INSTALLATION.**  
**QUESTIONS? CALL 916-760-4524 M-F 8:00 AM – 4:30 PM PST**

At Backflow Direct we are committed to making our products as easy to install as possible. We design for most contingencies, but installation may be different based on your regional regulations or system design.

We are continually improving our products and instructions – please help us by providing recommendations as to how we can improve our products or instructions.

If you have any difficulties at all, please give us a call. Thank you for purchasing our product!

**IMPORTANT NOTE:** We use Stainless Steel Hardware where possible. Therefore, it is best to have Silver Anti-seize available to use on all non-wetted bolts—only a small amount is needed.

**WARRANTY INFORMATION:** Please visit our website for our official warranty [www.backflowdirectwarranty.com](http://www.backflowdirectwarranty.com)

# 2 1/2" - 4" Deringer 30/50 Bypass Testing Instructions



**Tools Required:** This list is the recommended tools for ease of installation. Other versions of the same tool can be used. For example, Allen Wrenches instead of Allen Drive Sockets.



#2 Flathead Screwdriver

Field Test Kit

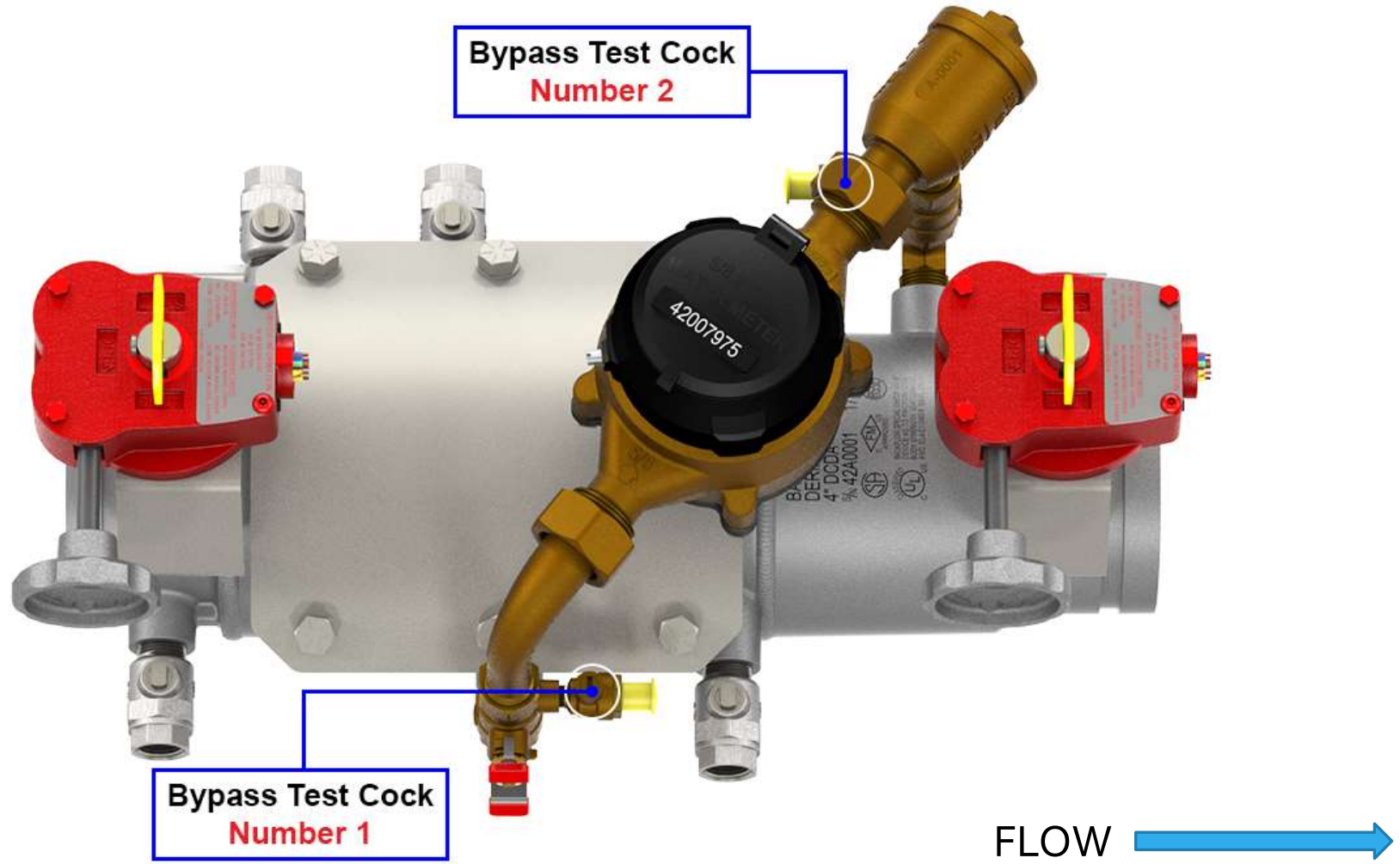


**QUESTIONS:** Please call us at 916-760-4524 M-F 8:00 AM – 4:30 PM PST or email us at [techhelp@backflowdirect.com](mailto:techhelp@backflowdirect.com)

# 2½”- 4” Deringer 30/50 Bypass Testing Instructions

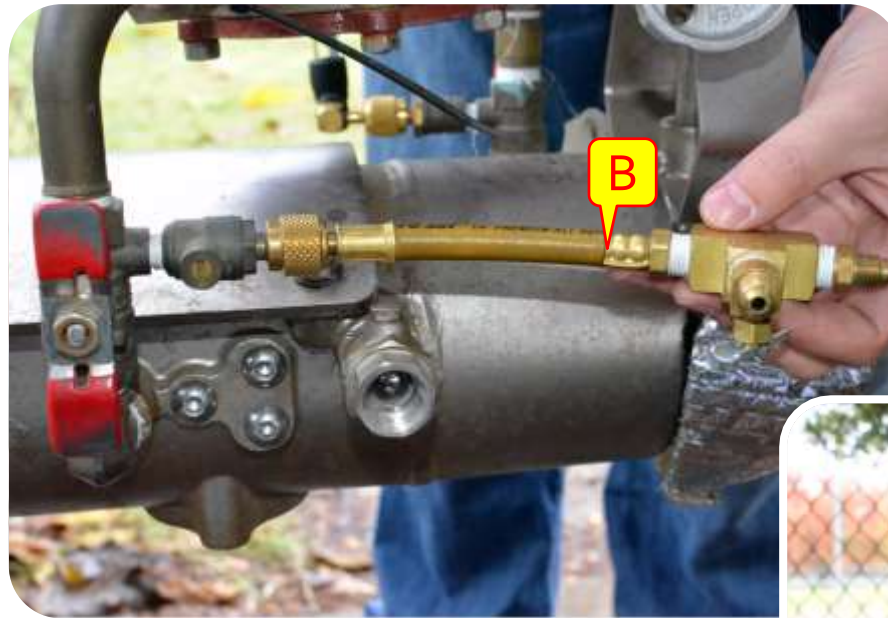
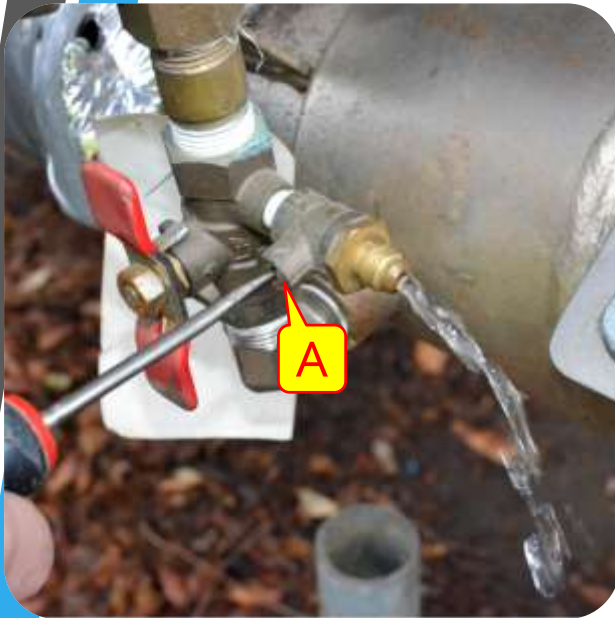


## Bypass Test Cock Locations



# 2½”- 4” Deringer 30/50 Bypass Testing Instructions

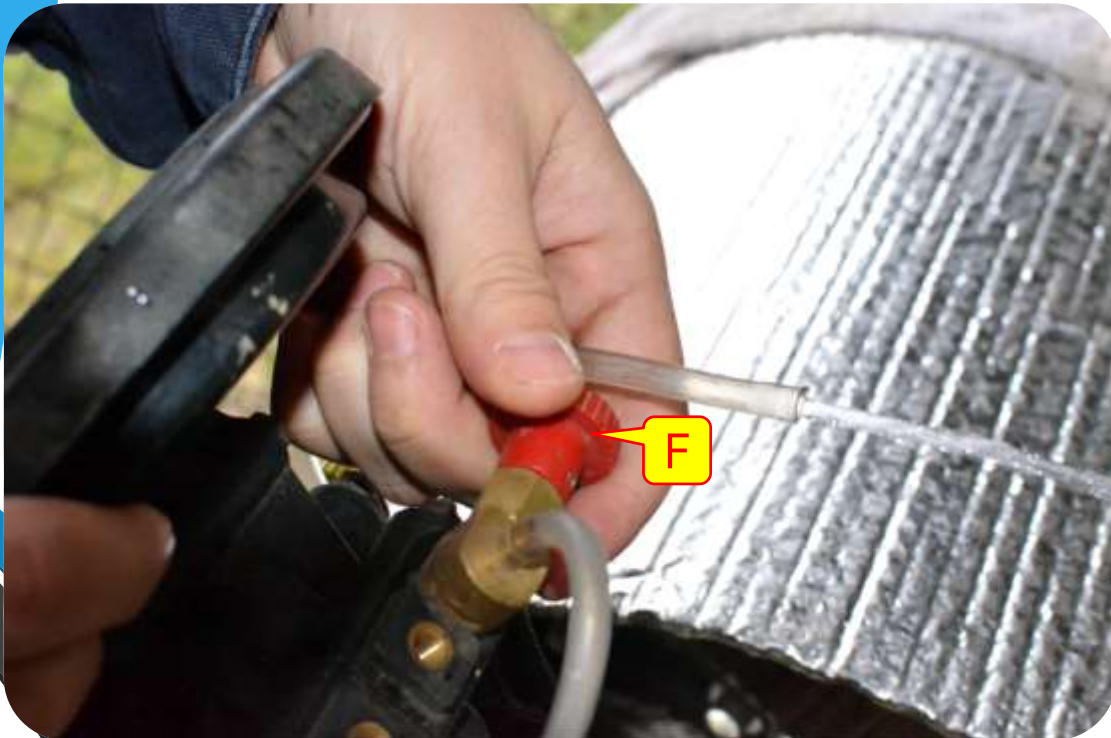
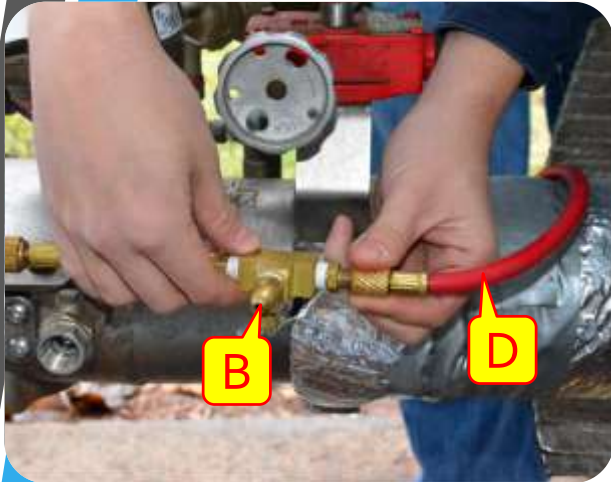
## Opening Bypass Test Cocks and Bleeding Before Testing



1. Open both bypass test cocks to bleed any air left in the valve [A], and to release any debris that may have collected inside the test cocks.
2. Install the bleed off valve arrangement on bypass test cock number 1 (*upstream*) [B].
3. Install the sight tube onto bypass text cock number 2 (*downstream*) [C].

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## Connecting the Bypass Gauge



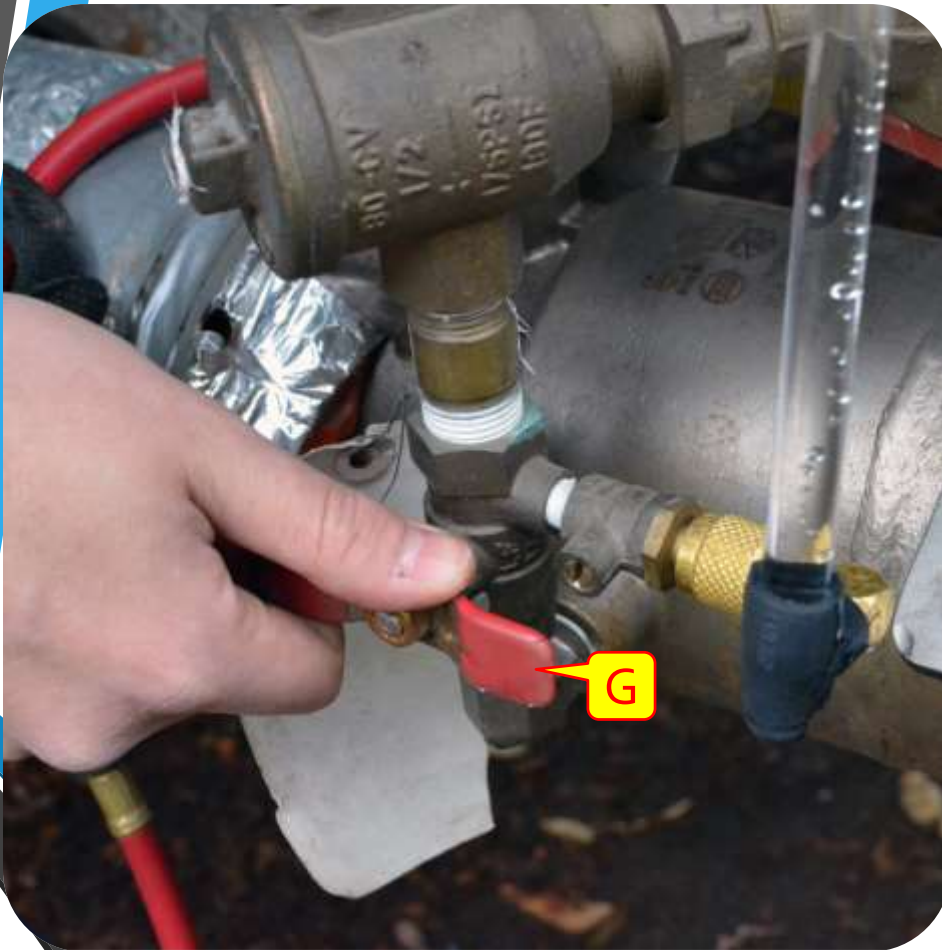
4. Connect the differential gauge to the bypass assembly by connecting the high pressure hose [D] to the bleed off valve arrangement on bypass test cock number 1 [B].
5. Pressurize the gauge by opening the number 1 test cock [E].
6. Bleed all air from the gauge by opening the high bleed needle valve [F]. Once the air has been cleared from the gauge close the high bleed needle valve [F].
7. Fill sight tube with water by opening bypass test cock number 2 [C]



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## Testing the Bypass

8. Turn the number 2 ball valve (*downstream*) [G] to the closed position.
9. Turn the number 1 ball valve (*upstream*) [H] to the closed position.



# 2½”- 4” Deringer 30/50 Bypass Testing Instructions

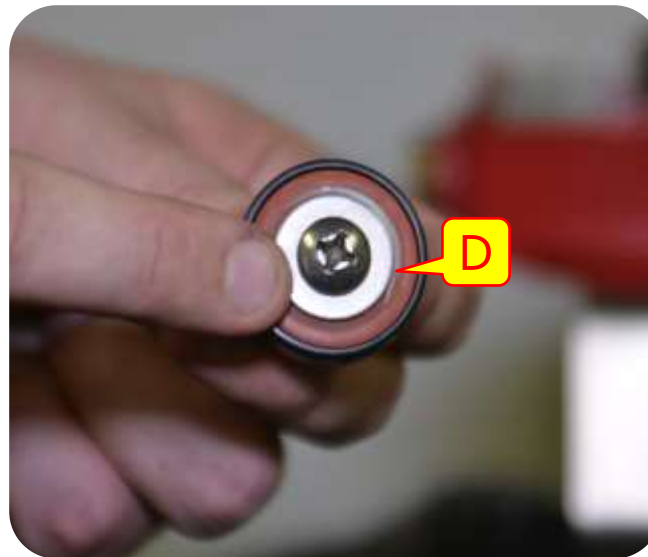
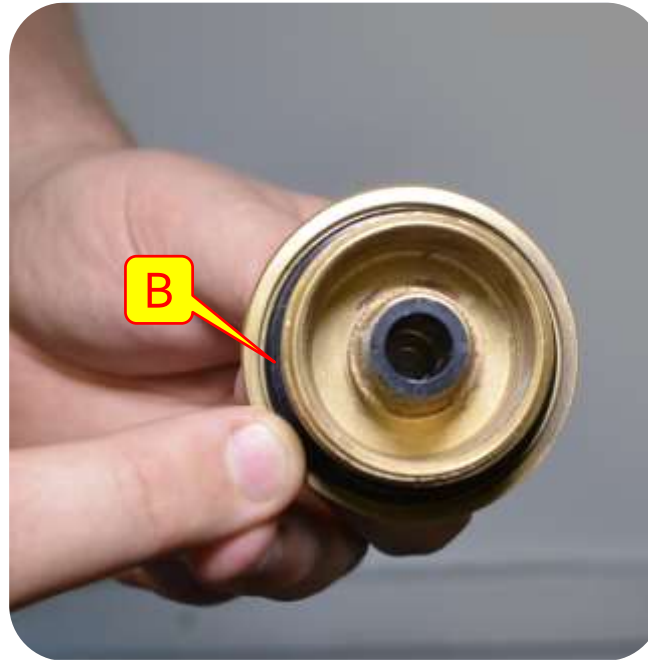
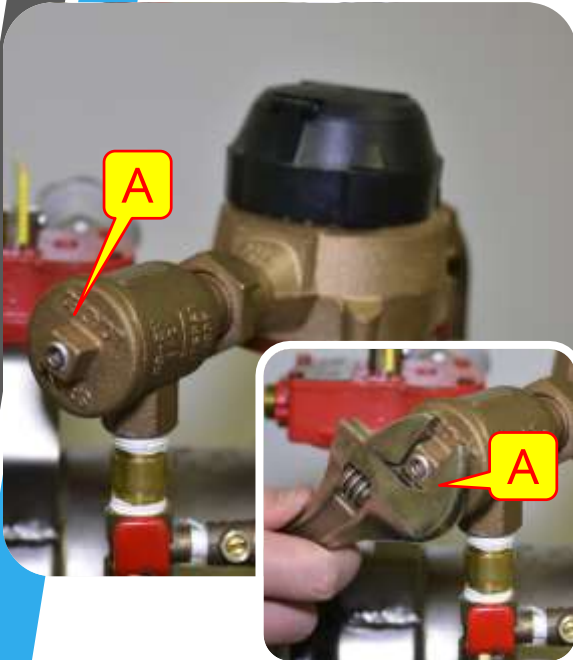
## Testing the Bypass

10. Make sure the gauge [ I ] is placed at the appropriate elevation (*level with the valve*) next to the valve to be certain the readings on the gauge are correct.
11. Open the number 2 bypass test cock [ C ], as water begins to flow out of the test cock the needle in the gauge will begin to drop.
12. Once the gauge needle settles [ J ] and the water flowing from the top of the sight tube is down to a slight drip or stops, record the reading. If the reading is below 1.0 psi the valve will have to be opened to look for damage or debris on the check valve components (*see page 8 for bypass and check valve maintenance*).
13. Record the reading on the backflow test report, disconnect the gauge, and close the bypass test cocks.
14. Open the number 1 ball valve and then open the number 2 ball valve to restore water to the backflow device and to the application it is feeding.



# 2½"- 4" Deringer 30/50 Bypass Testing Instructions

## Disassembly and Maintenance of Bypass Check Valve

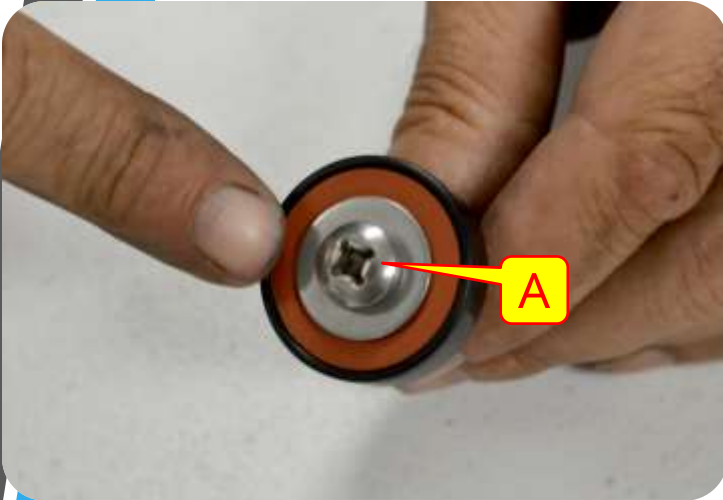


1. Use an adjustable wrench to rotate Check Cover (A) counterclockwise to remove.
2. Examine Cover Plate O-ring (B) for damage or fouling.
3. Remove Spring (C).
4. Remove Check Poppet Assembly (D) and examine for damage or fouling.
5. Examine seat cage for damage or fouling to the Sealing Seat. Do not remove unless the seat cage is being replaced.
6. Reverse the order of above instructions to reassemble By-Pass Check Valve.

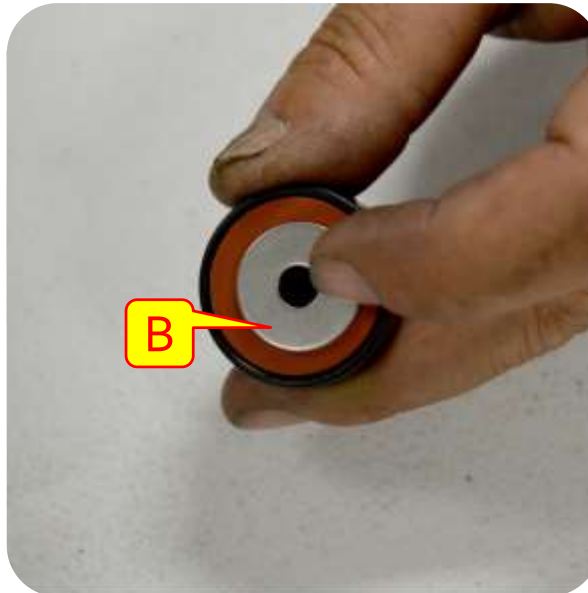
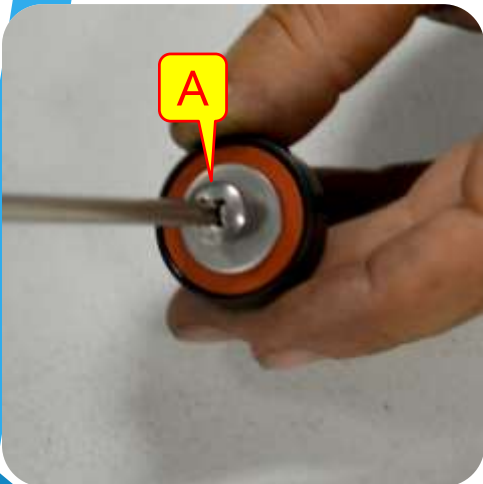


# 2½”- 4” Deringer 30/50 Bypass Testing Instructions

## Disassembly and Maintenance of By-Pass Check Valve (continued)

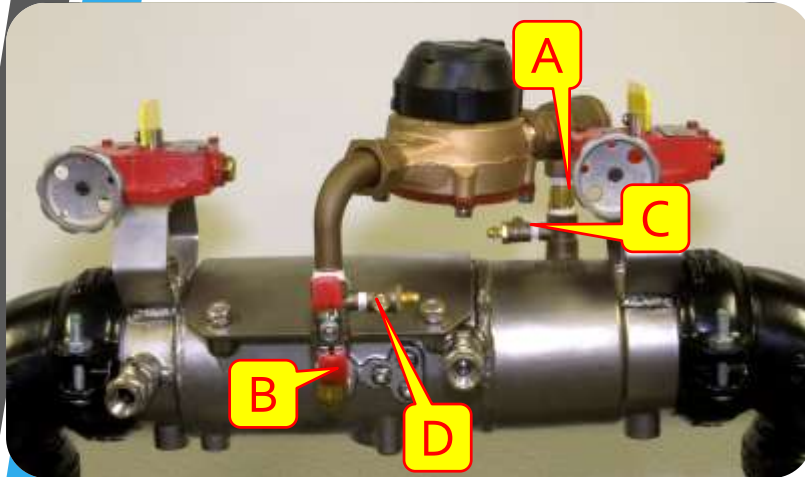


1. To replace a damaged Red Silicone Poppet Disk, use a #2 Philips Head Screwdriver to remove the Disk Retaining Screw (A).
2. Remove Disk Retaining Washer (B).
3. Use a Flathead Screwdriver to remove the gasket from Poppet Cavity (C).
4. Install new Red Silicone Poppet Disk (D).
5. Reverse the order of the above instructions to reassemble Check Poppet Assembly.
6. Reverse the order of the instructions on the previous page to reassemble Bypass Check Assembly.



# 2½”- 4” Deringer 30/50 Bypass Testing Instructions

## Removing Bypass Meter



FLOW →

1. Using the Ball Valve Handles close the #2 Bypass Ball Valve (A) and then #1 Bypass Ball Valve (B). (Ball Valve is closed when “T” handle is perpendicular to water flow through Ball Valve).
2. Using a #2 Flat Head Screw Driver open Bypass Test Cock #2 (C) and then open Bypass Test Cock #1 (D). (Test Cock is open when screw driver slot is parallel to water flow through Test Cock).
3. Using a large adjustable pliers or wrench unscrew and retract Bypass Meter Coupling Nuts (E) . Remove the Gaskets (F) on both sides of Bypass Meter.
4. Gently remove Bypass Meter (G) from line. It is OK if the bypass fittings move slightly during the removal process.
5. Reverse order of above instructions to reinstall Bypass Meter. Remember install Gaskets (F) before threading Meter Coupling Nuts into place.

