

VENT-O-MAT®

SERIES RGXII

SEWAGE AIR RELEASE & VACUUM BREAK VALVES

OWNER'S MANUAL

SERIES RGX "ANTI-SURGE" SEWAGE AIR VALVE OWNER'S MANUAL

INTRODUCTION

Thank you for your purchase of the Vent-O-Mat series RGX "Anti-Surge" sewage air valve. This air valve design is the culmination of years of intensive research, innovative design and leading edge technology.

The Vent-O-Mat series RGX sewage air valve has transcended the line of being a mere air valve or surge alleviation mechanism as it represents more than just the combination of these functions. In fact, it is best described as a cost effective pipeline management system incorporating the features of a double acting sewage air valve and surge alleviation device.

This manual is intended to provide the project engineer, contractor and end user with a useful guide on how best to install operate, maintain and maximise the performance of the Vent-O-Mat series RGX sewage air valve. Included are comments on sewage air valve sizing and positioning, Vent-O-Mat testing procedures and useful technical data.

Note this document is specifically directed at the use of Vent-O-Mat series RGX sewage air valves and is not intended as a comprehensive pipeline design guide or system engineering manual.

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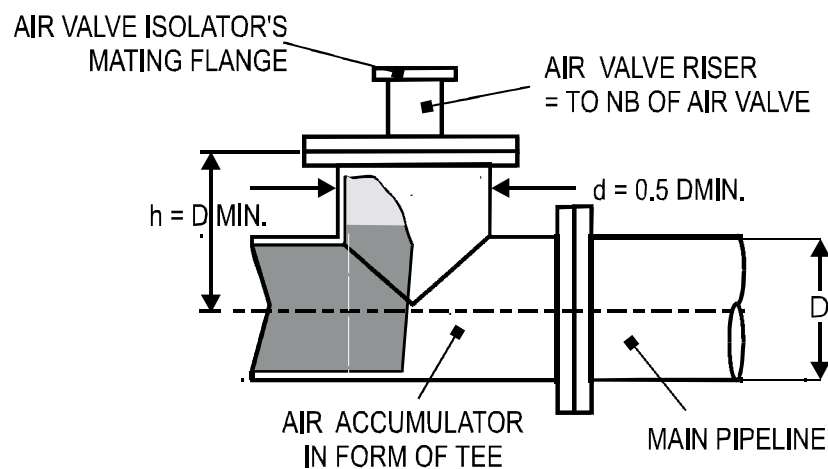
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RECOMMENDED INSTALLATION PROCEDURES

Air Accumulators

It is common practice amongst some design engineers to place an air valve on a riser welded directly onto the main pipeline. This method however leads to inefficient air valve operation and restrictions in the main pipeline as air that is taken in under vacuum conditions will be swept away when the pumps are restarted. It is good pipeline design practice, to provide an accumulator, as indicated below for every air valve, to facilitate efficient air valve operation.

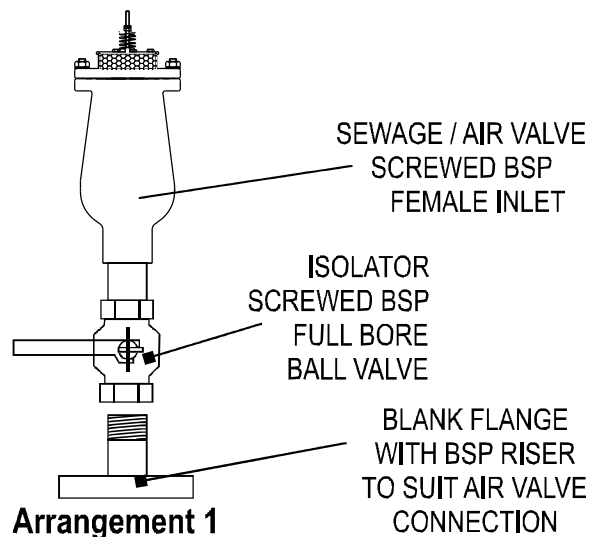


Isolator Arrangements

Every air valve installed, should have an isolator installed directly underneath it to allow the removal of the air valve in case of repairs. Indicated on the enclosed diagrams are Vent-O-Mat's recommended installation arrangements.

Arrangements 1

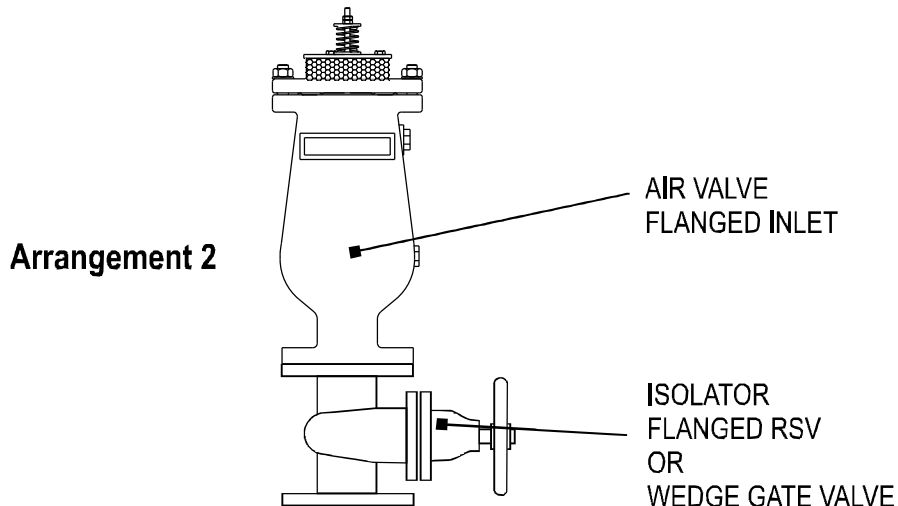
Specific to DN50 Vent-O-Mat Series RGXII screwed valves.



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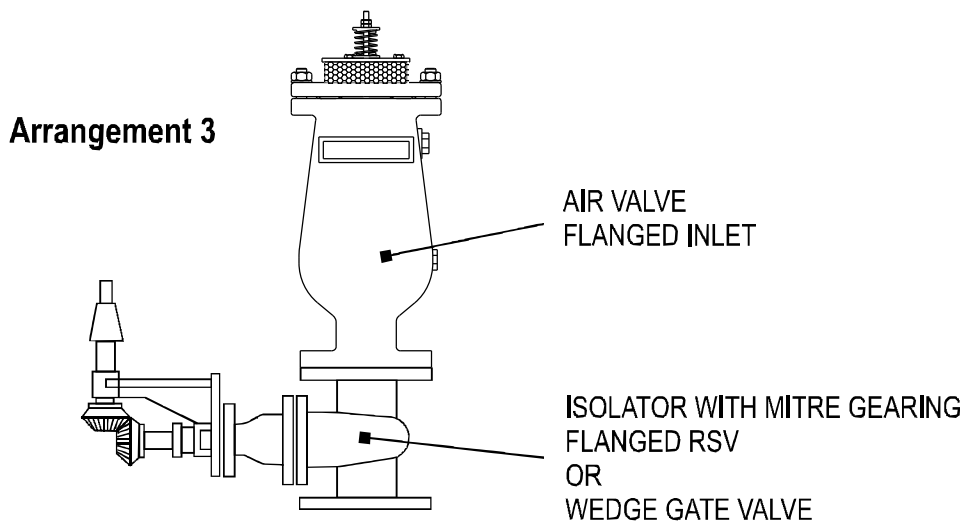
Arrangement 2

Specific to DN50(2"), DN80(3"), 100(4"), 150(6") and 200(8") valves - Recommended for valves where Height and access to the valve is not a problem. Either a Wedge Gate or a Resilient Seal Valve can be utilised.



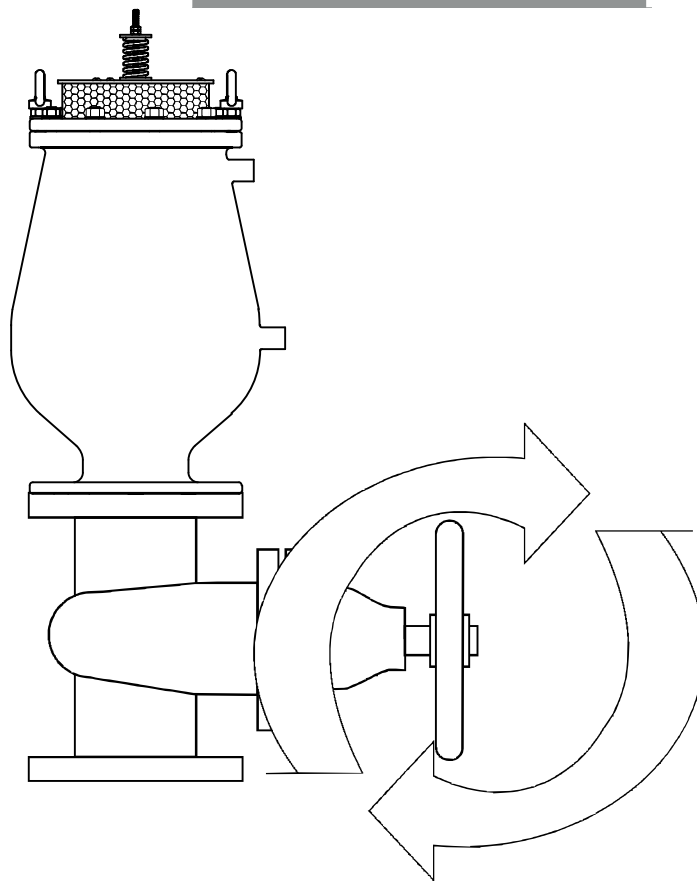
Arrangement 3

Specific to DN50(2"), DN80(3"), 100(4"), 150(6") and 200(8") valves - Recommended for valves installed inside a valve chamber, to be operated by a tee key.



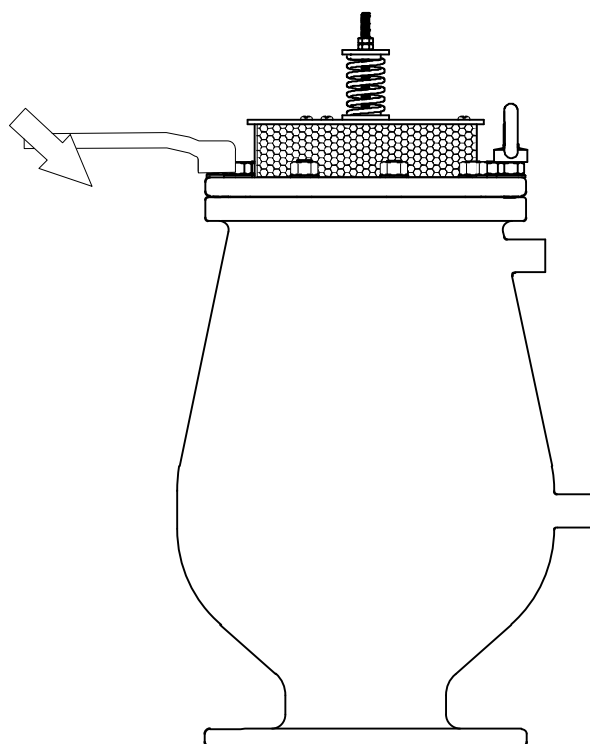
Air Valve Chamber Design

A well designed air valve chamber is important and should be designed with easy access to the valve for installation and subsequent maintenance. Good support is required in the case of chamber settling. It is a common practice to place a layer of stone underneath the pipe for drainage purposes. Two vents should also be installed, in the manner indicated on the opposite page to allow free and constant air circulation.



Step 1 Isolate Air Valve

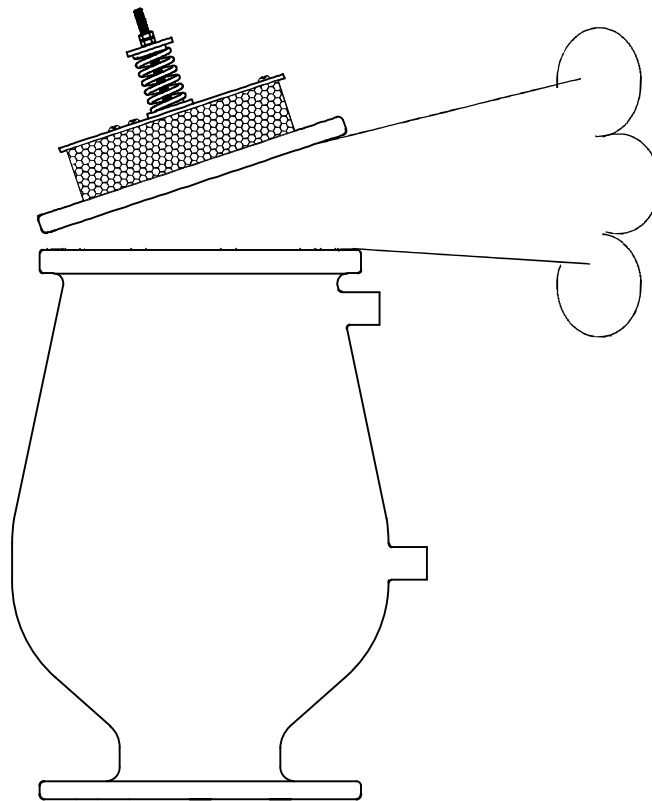
Before doing any maintenance on any air valve make sure it's properly isolated from the pipeline



Step 2 Loosen bolts

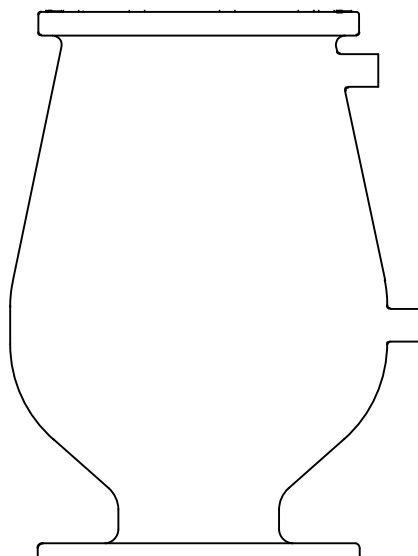
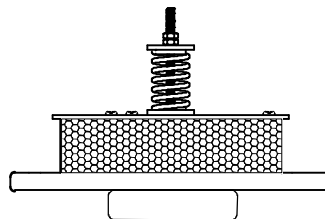
loosen bolts on top flange

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Step 3 release any residual pressure

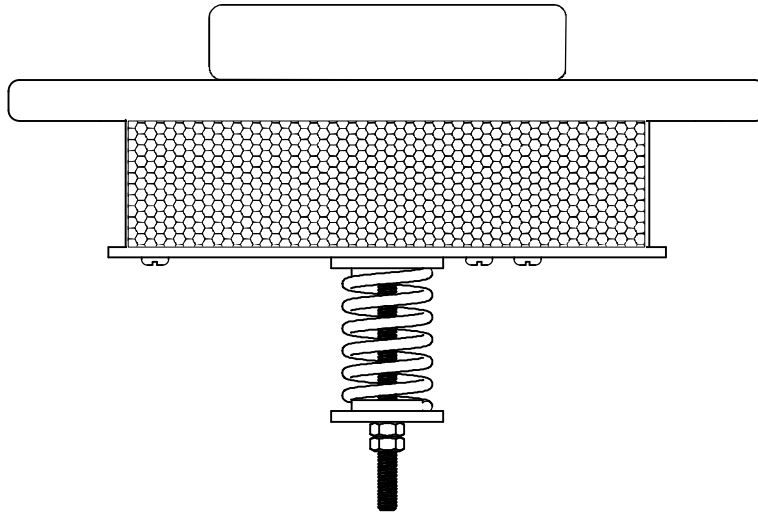
When opening the valve tilt up the flange facing away from any personnel to release any residual trapped pressure that may be in the body of the valve.



Step 4 Remove top flange

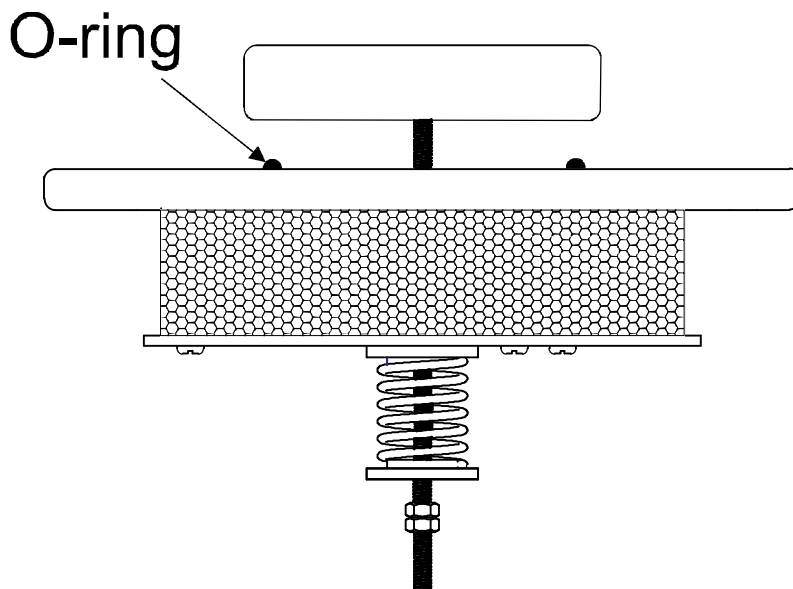
Lift the top flange assembly from the valve

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Step 5: Flip top flange Assembly

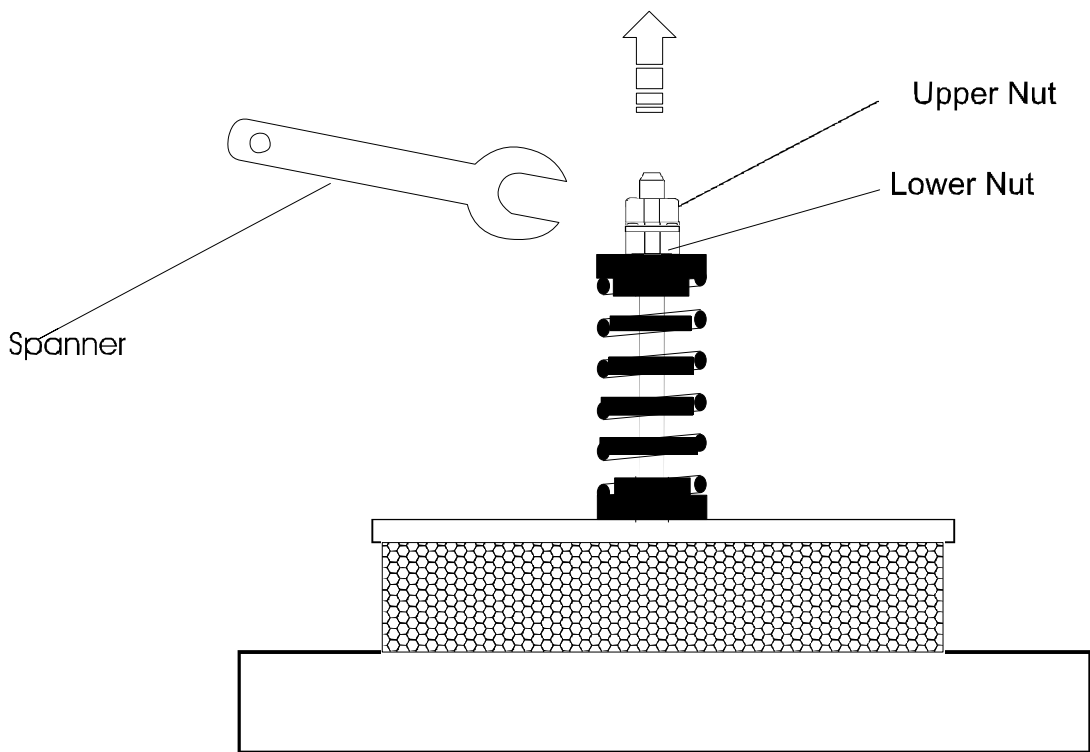
Take the top flange off and flip it so the "Anti shock is visible and examine the surface of the "Anti-Shock" floor for damage.



Step 6: Check "Anti-Shock Float o-Ring"

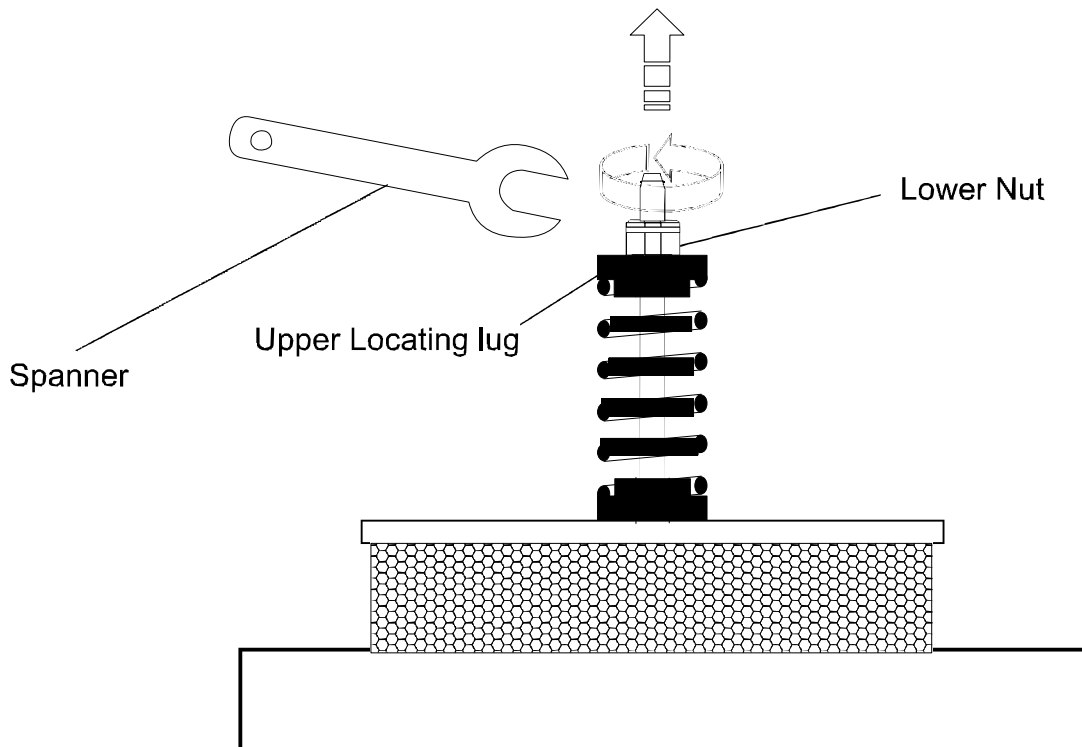
Compress spring carefully and check the integrity of the O-ring in the top flange. If the o-ring is damaged then follow steps 7 to 15 if O-ring is fine skip these steps and resume at step 16

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Step 7: Remove upper nut

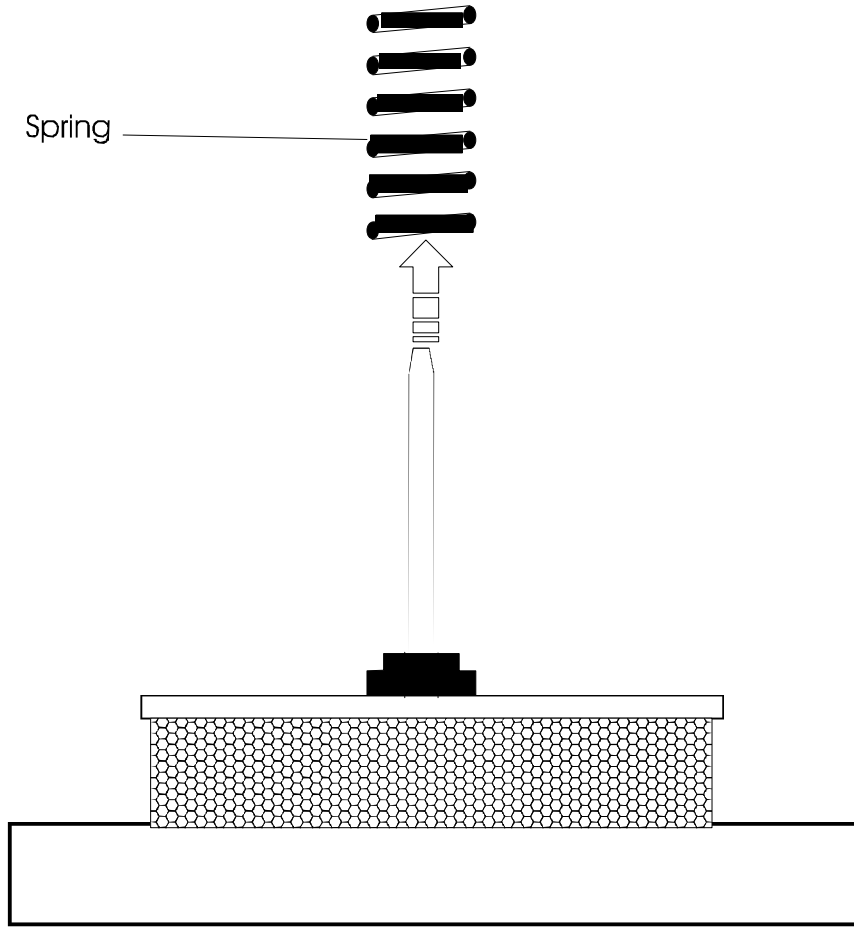
Remove the upper nut using a spanner



Step 8: Remove lower nut and upper locating lug

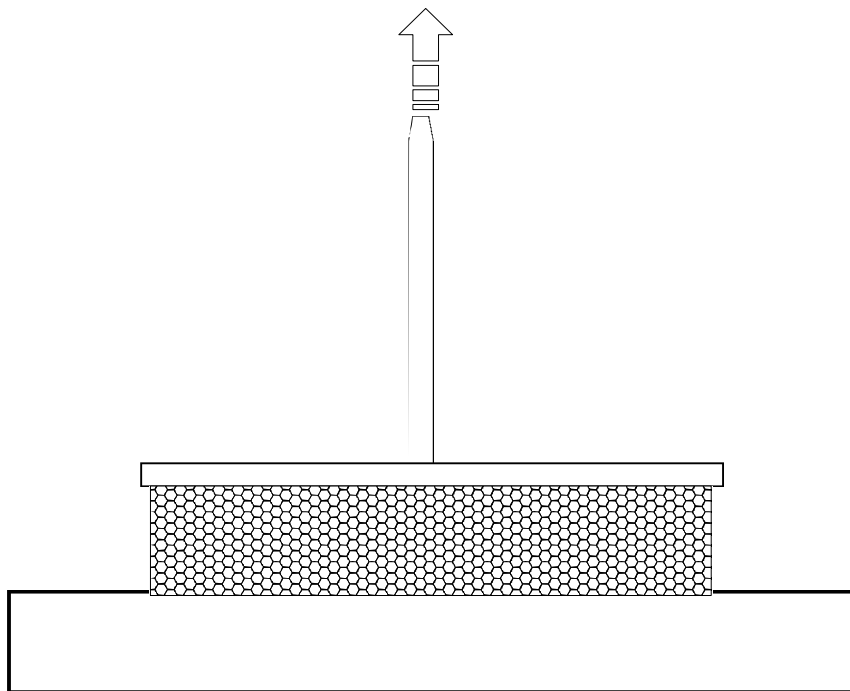
Using a spanner remove the lower nut and then remove the locating lug

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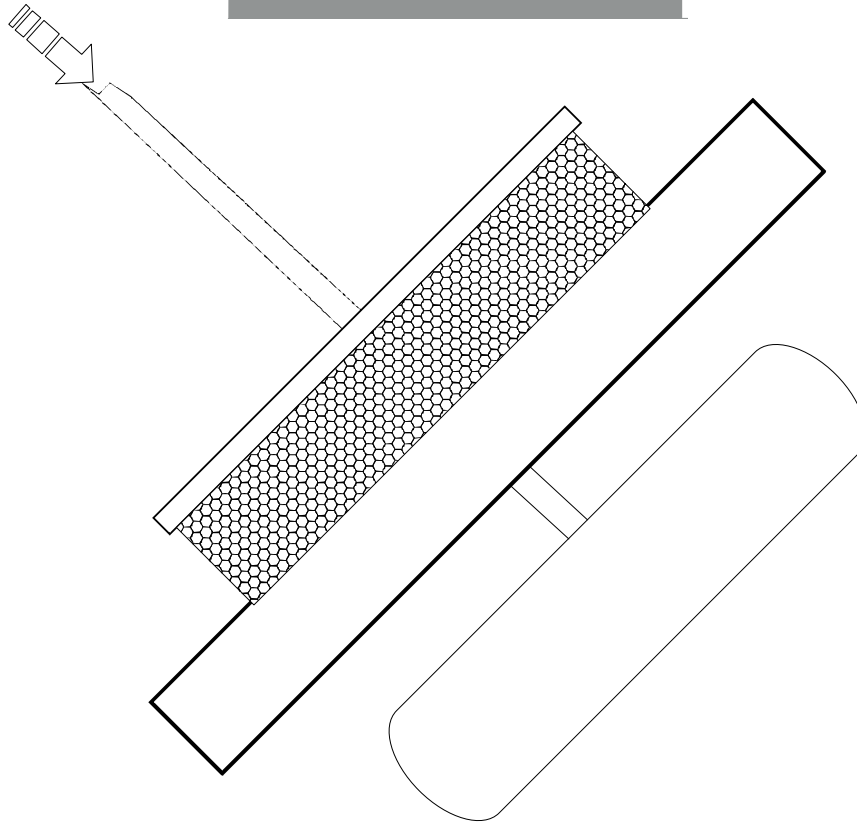
Step 9: Remove Spring

Lower Locating Lug



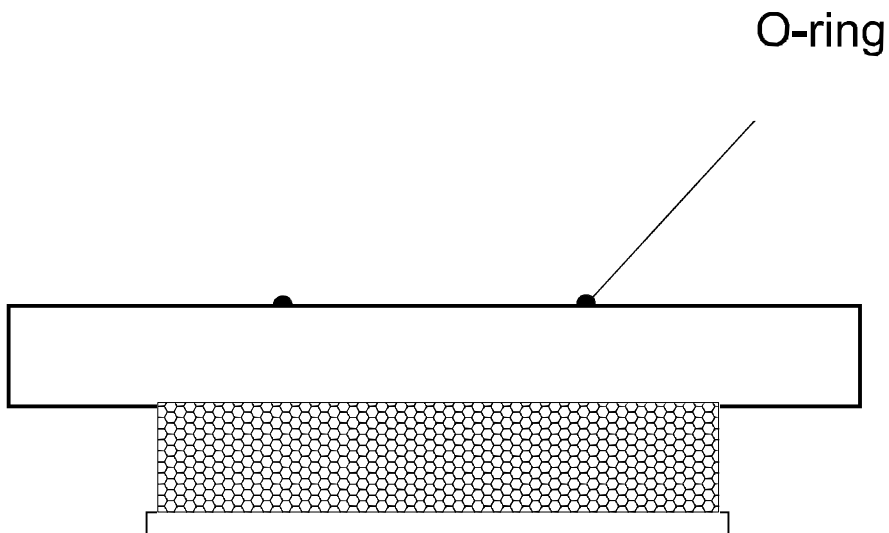
Step 10: Remove lower locating lug

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Step 11: Remove “Anti-Shock” Float Assembly

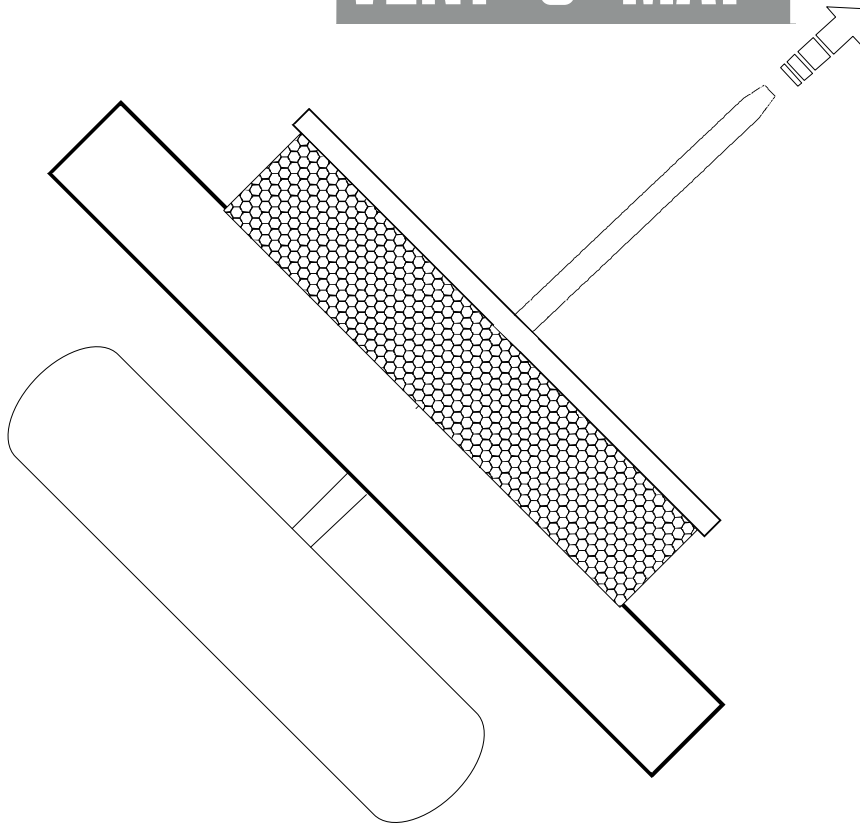
Remove “Anti-Shock” Float Assembly by removing rod from top cap



Step 12: Check and replace O-ring


Reevaluate that the o-ring does need replacing and then replace

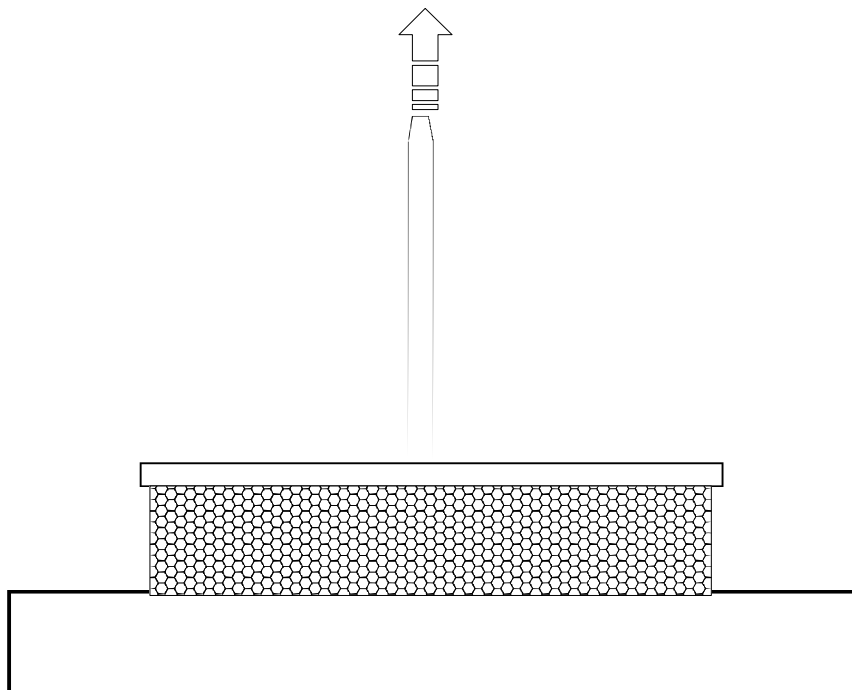
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Step 13: Replace “Anti-Shock” Float Assembly

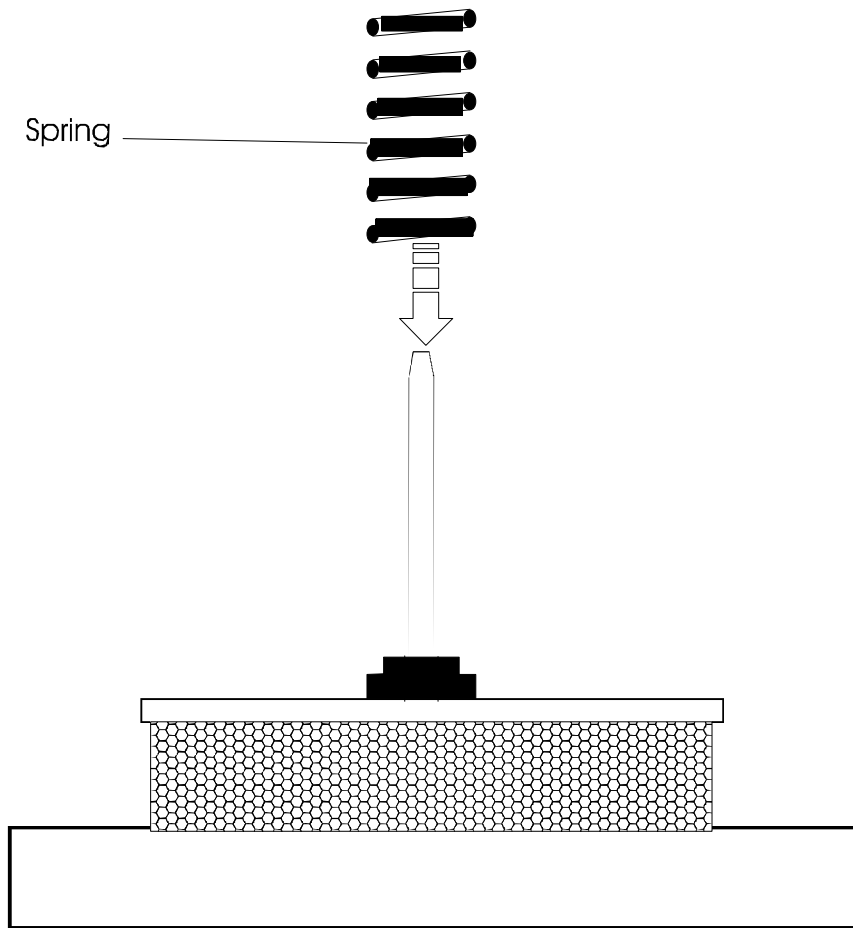
Replace “Anti-Shock” Float Assembly by sliding rod from through hole in top cap

 Lower Locating Lug



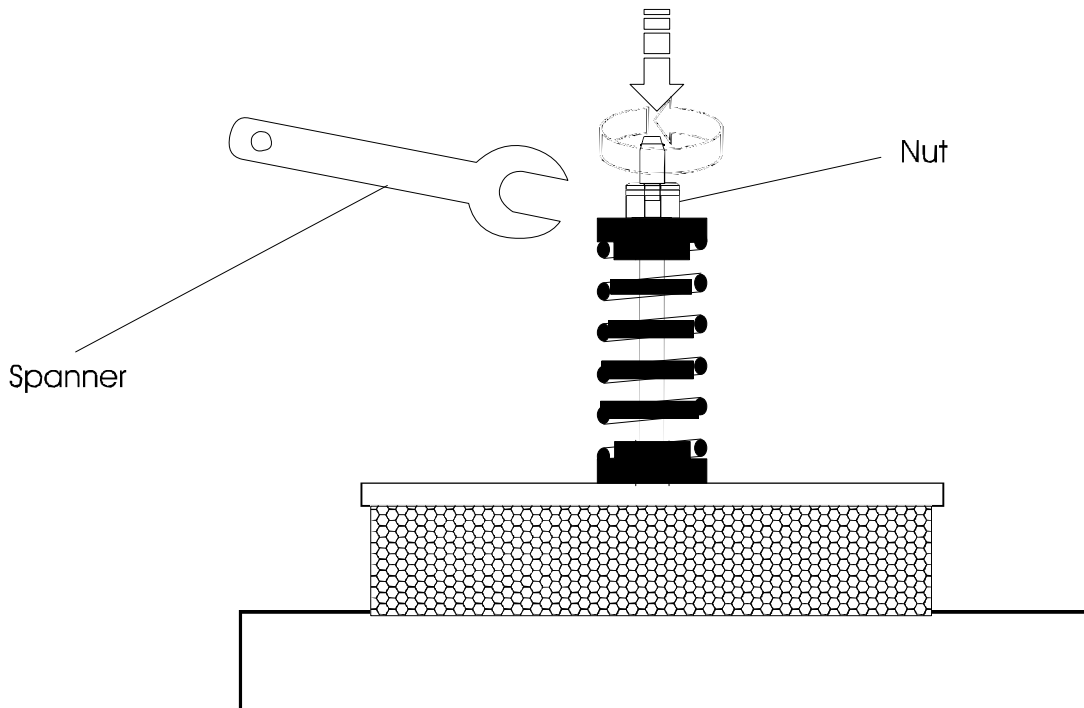
Step 14: Replace Lower Locating Lug

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Step 15: Replace Spring

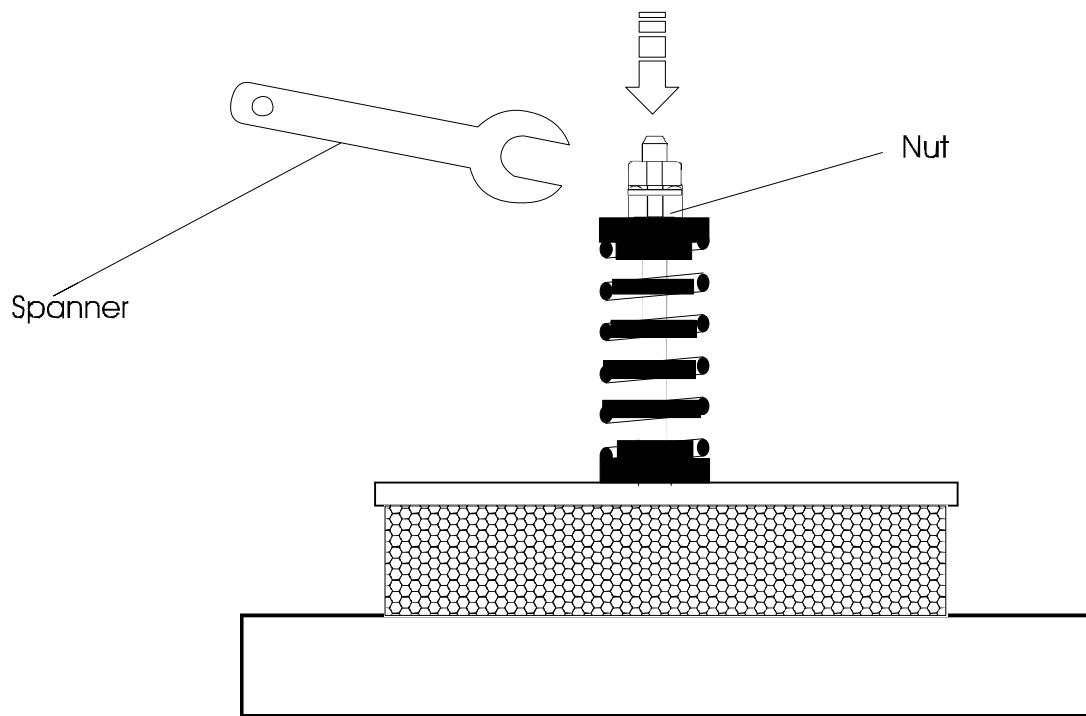
Replace spring making sure that the spring sits securely into the lower locating lug



Step 16: Replace Upper Locating Lug and Lower nut

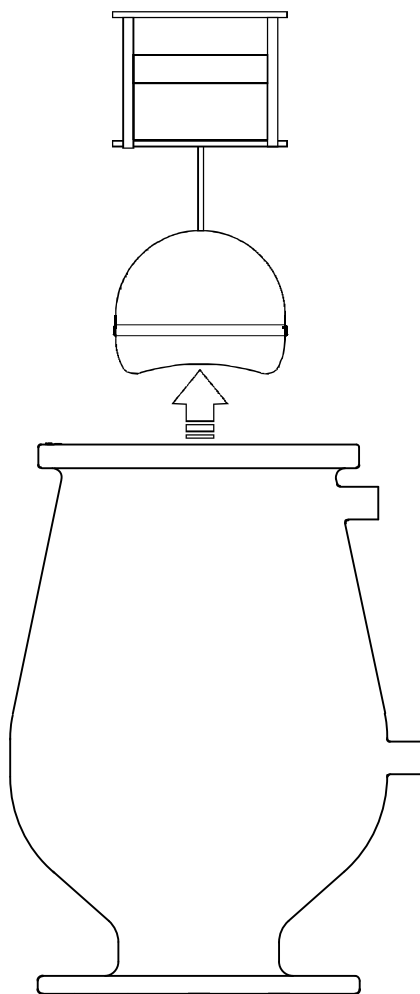
Replace the upper locating lug and lower nut tensioning it so that it holds the “anti-shock” float up without compressing the spring.

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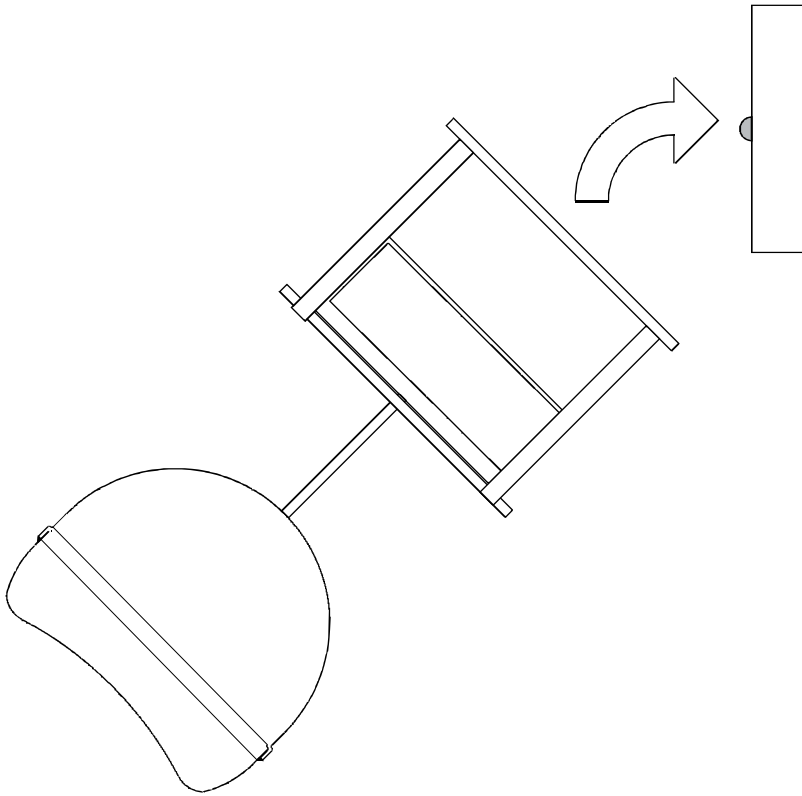
Step 15: Replace the upper nut

replace the upper nut to lock the lower nut in place



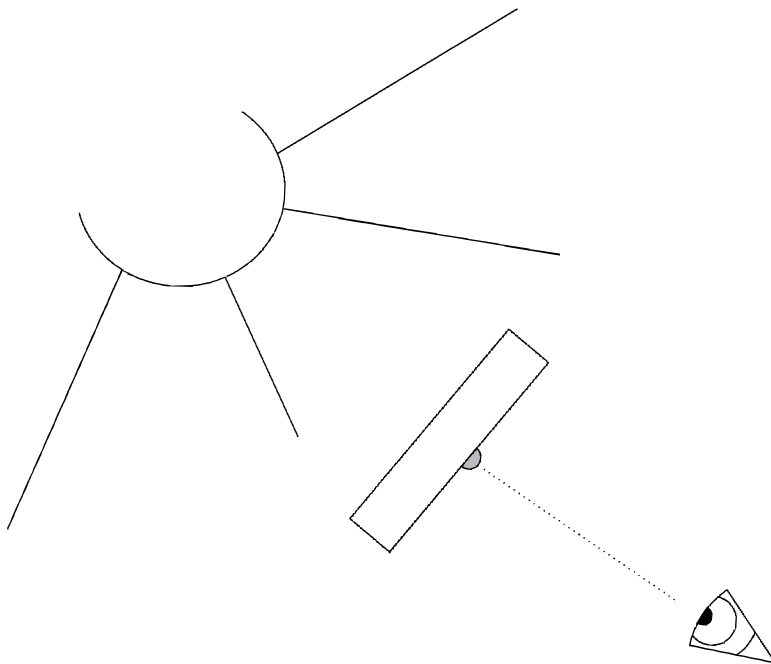
Step 16: Remove Cage with float assembly

Reevaluate that the o-ring does need replacing and then replace



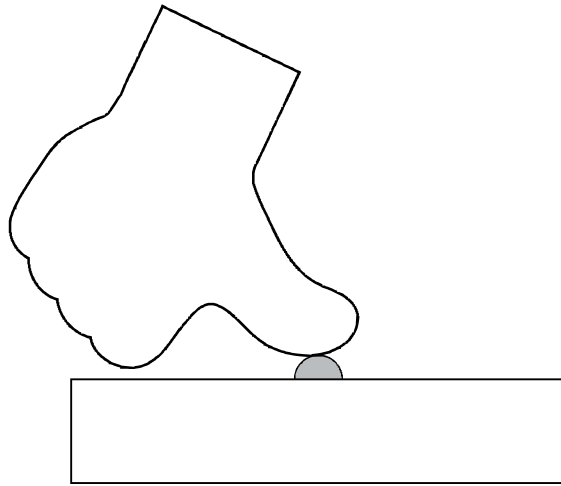
Step 17: Remove the upper float (nozzle float)

Remove the upper float



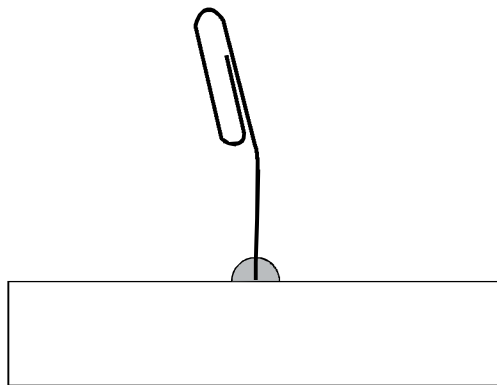
Step 16: Check the nozzle for blockages

Holding the float up to the light check for blockages, if light is visible through the nozzle no blockage is present if light is not visible the nozzle needs to be cleared.



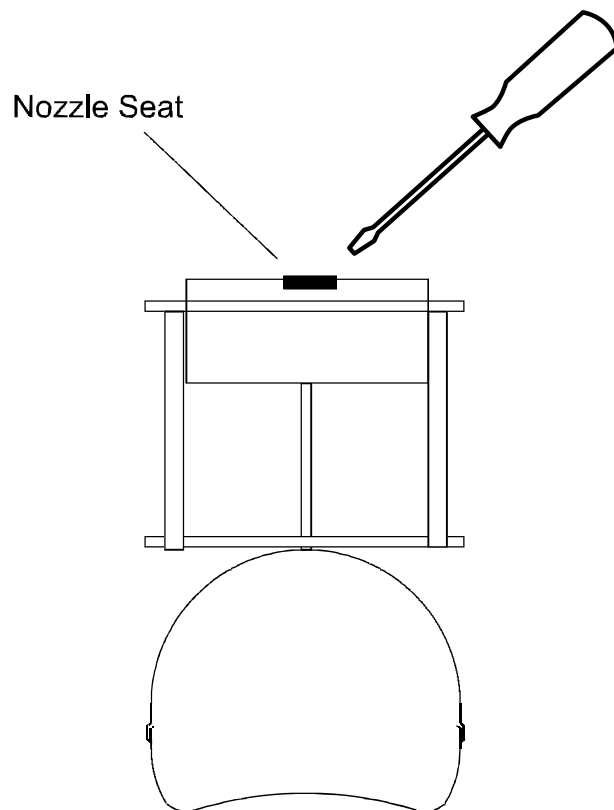
Step 18: Check the nozzle for surface damage

Check the nozzle for sharp edges dents or burs that may damage the seat, if any are evident replace the nozzle



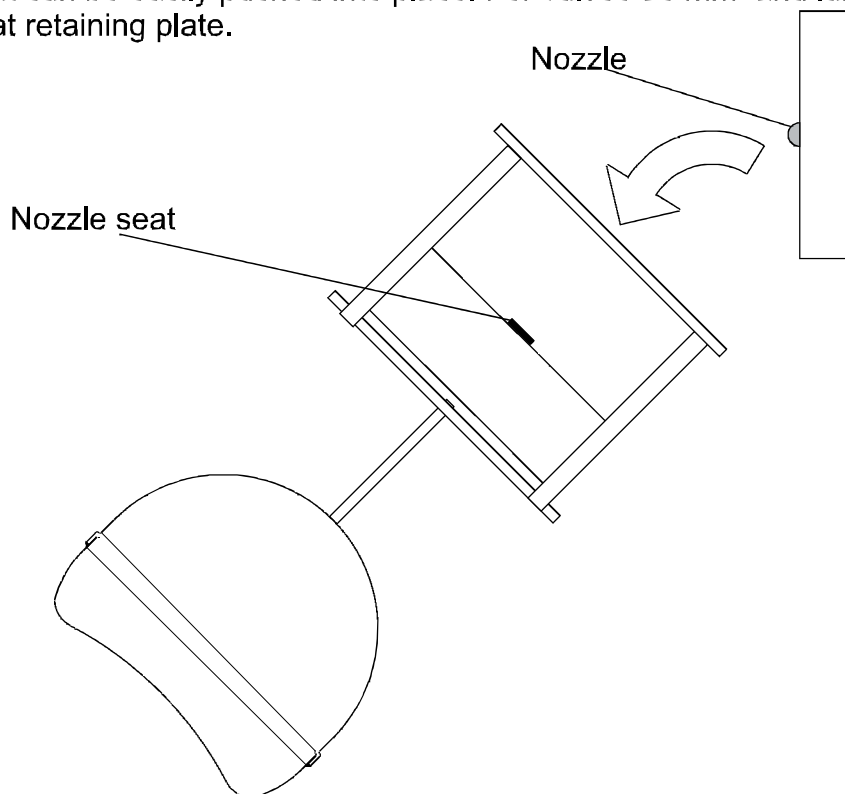
Step 19: Clear blockages from nozzle

Clear blockages from the nozzle using a thin item such as a paper clip push it through the nozzle clearing any dirt or debris from the nozzle.



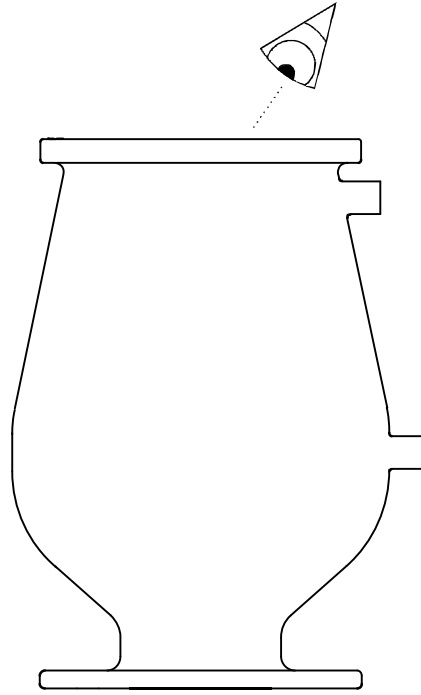
Step 20: Check the Nozzle seat

Place the lower float on a flat surface and let the cage drop, check the nozzle seat for damage any permanent wear marks or tears may warrant changing of the seat. To change the seat, use a screwdriver to pry the seat loose. In valves larger than 80 mm the seat will be held in place with a seat retaining plate. Which will require a flat screwdriver to remove. The replacement seat can be easily pushed into place. For valves 80 mm and larger remember to replace the seat retaining plate.



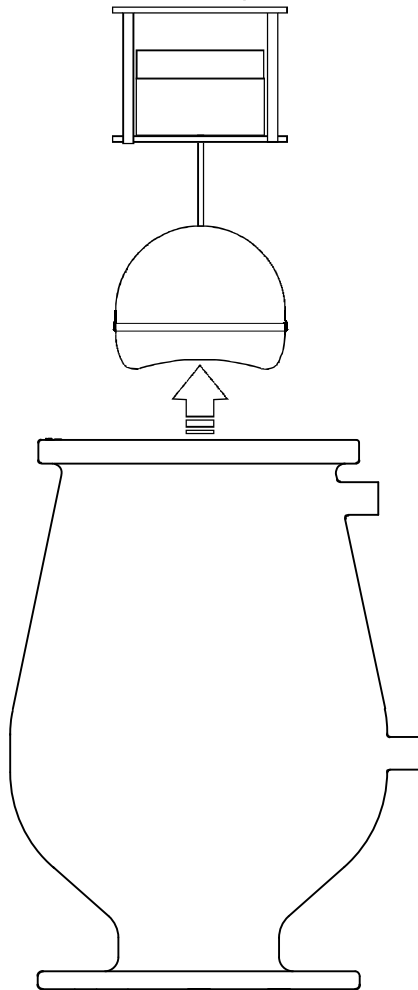
Step 21: Replace upper float (Nozzle float)

replace the nozzle seat making sure that the nozzle touches the nozzle seat.



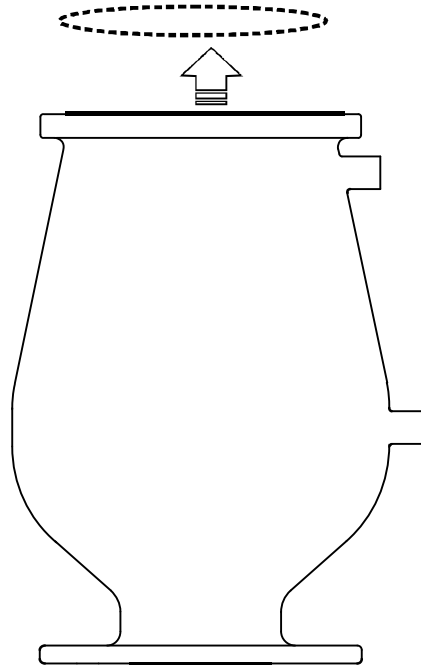
Step 22: Check body for debris

Make sure the body is clear of any debris and buildup



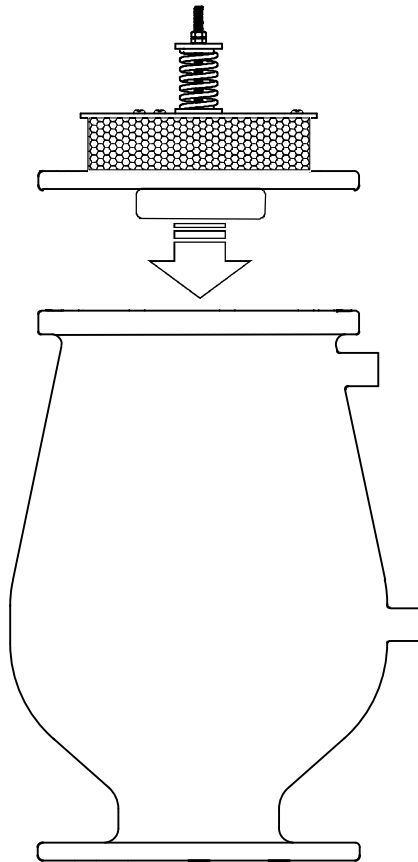
Step 23: Replace Cage with float assembly

Replace the cage and float assembly into the body



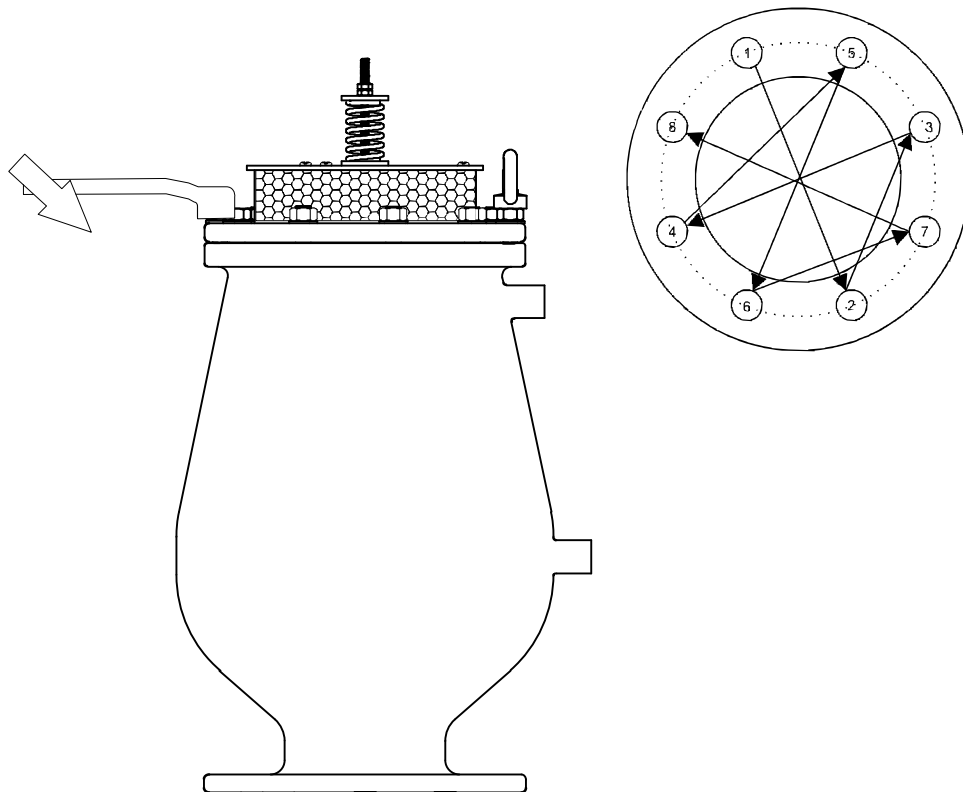
Step 24: Check body o-ring seal

Check if the o-ring in the top flange is in good condition and if necessary replace



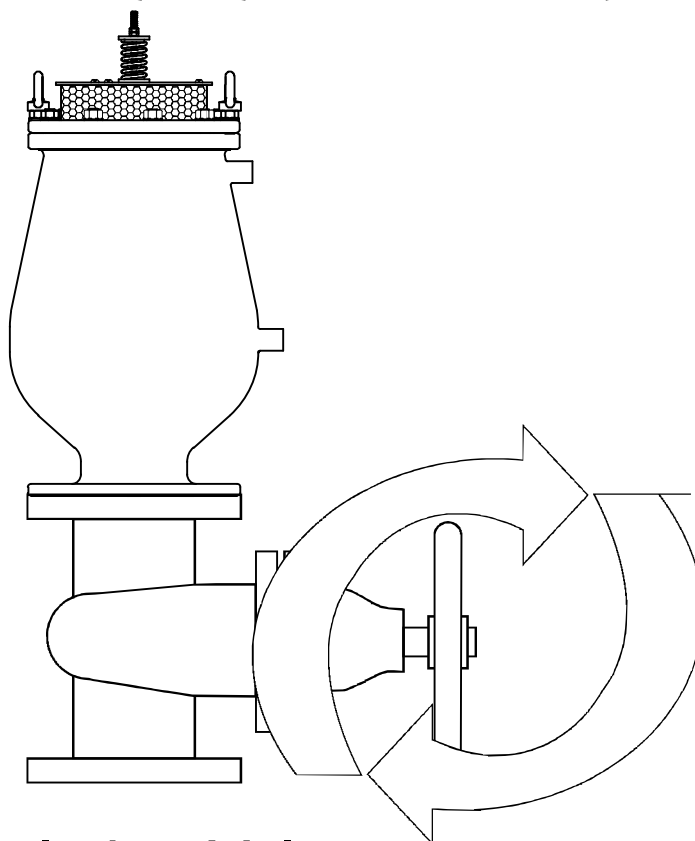
Step 25: Replace top flange assembly

Carefully drop the top flange assembly into place making sure to line up holes and not disturb the o-ring seal.



Step 26: Tighten Bolts

Tighten Bolts remember to follow a cross tightening pattern to ensure equally distributed pressure



Step: 27 Open Isolating Valve

once you have verified that all f the isolating valve

ly tightened slowly open

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Vent-O-Mat Identity Labels

Each Vent-O-Mat valve sold has an identity label attached to the barrel, providing pertinent information on the valve. A sample of the label is provided below. For maintenance and technical assistance, kindly contact the agent that services your area (see page 13 for Vent-O-Mat's agent list), or the manufacturer (details on label), quoting the information on the label.

1. SEQ. No: Refers to sequential number of batch valves for specific orders/ contracts.
2. MODEL: Refer to page 14 for explanation of Model Numbers.
3. MAX WORKING PRESSURE: Indicates the valve's designed working pressure in kPa.
4. REF. No: Serial number that refers to Vent-O-Mat's internal paperwork, including test compliance that can be crossed referenced to any test carried out on valve.

VENT-O-MAT®
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SEQ. No.

MODEL REF. No.

MAX. WORKING PRESSURE kPa