

Section A: Control Head Trouble Shooting Guide

Please refer to these part names when ordering parts. If you ever have service issues with your control head, this addendum will be very helpful in deciding on which o-rings that may need replacing.

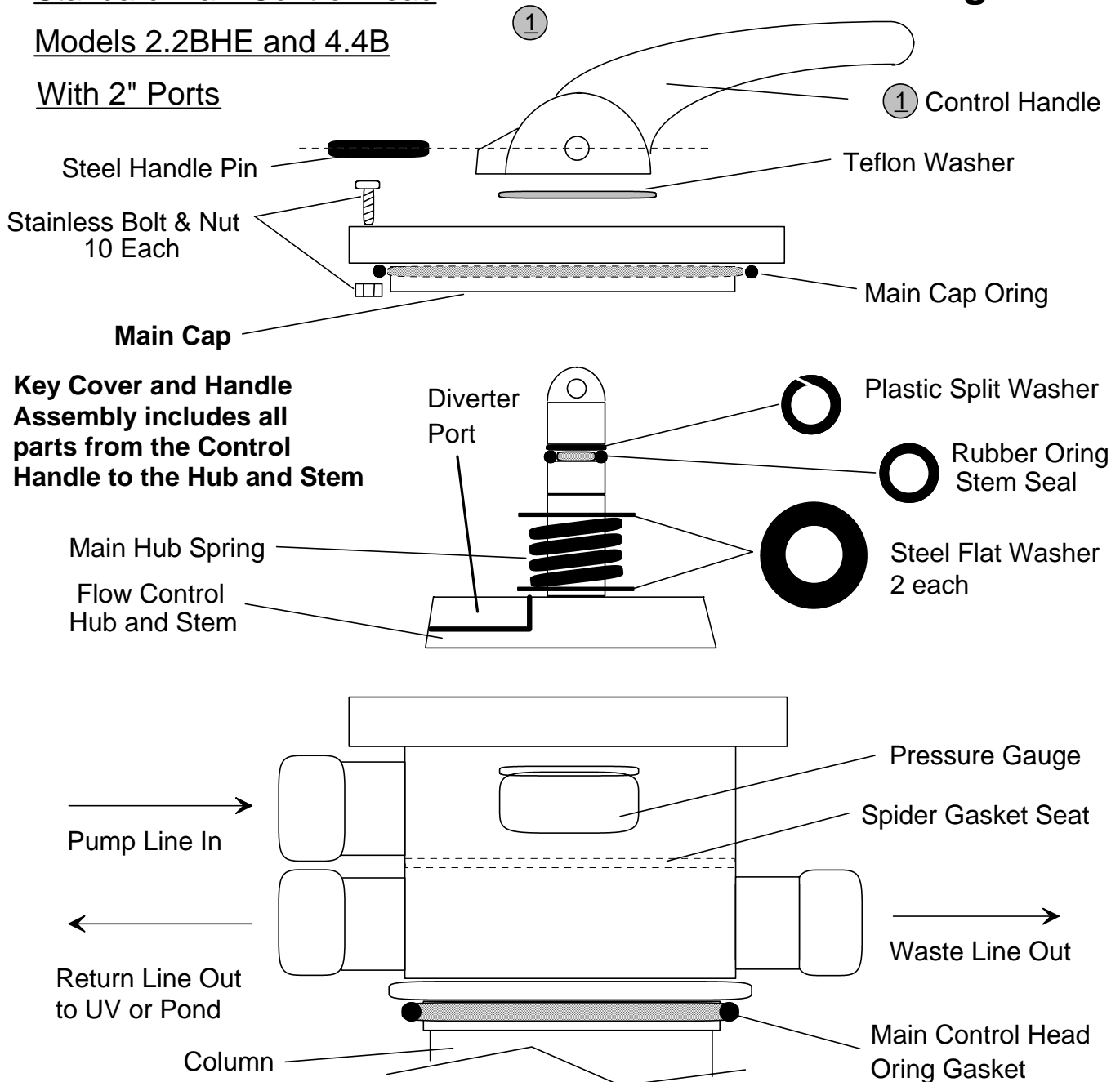
As with any product, there are parts that will need to be replaced due to normal wear. Below you will find a complete diagrams for the 2" ported control heads for the Model 2.2BHE and the Model 4.4C Aquadyne filtration systems.

Diagram 1

Standard Main Control Head

Models 2.2BHE and 4.4B

With 2" Ports



A-1 Water Leaking From Waste Line

If you have water leaking from the waste line of a 2" control head with the pump running, a part of the spider gasket has come loose on one or both sides of the waste port segment of the gasket. To repair, turn the pump off and set the control head handle in the winter position. Then follow the instructions below to effect the repair.

1. Use a phillips screwdriver to remove the 10 stainless bolts from the control head cover and pull up on the handle to remove the cover.
2. Inspect the segmented spider gasket that is glued inside the control head that runs around all the segmented sections. If it is damaged it must be replaced. Most waste line leaks occur in a 2" control head because of a detachment of the gasket on either side of the waste line port seal. To determine if the seal is detached using your thumb or forefinger try to roll the gasket out of its track. If the gasket is detached it will readily roll and snap back into place when released.
3. To repair this detachment, sponge out most of the water from the interior of the control head. Roll the detached gasket to the side of its resting tray and dry underneath where the gasket normally rests. This is easily done with a hair dryer set at low heat. Do not apply excessive heat as the gasket will swell with the heat and not go back into its track. Using any super glue (cyanoacrylate), glue the gasket back into its track with just enough glue to cover the bottom of the track with a thin film and hold in place for a few minutes until it is set. Allow to air dry for at least 30 minutes before reassembly. You can put the head back into service immediately after drying. Be careful not to glue yourself to the gasket. **Do not lubricate this gasket.**

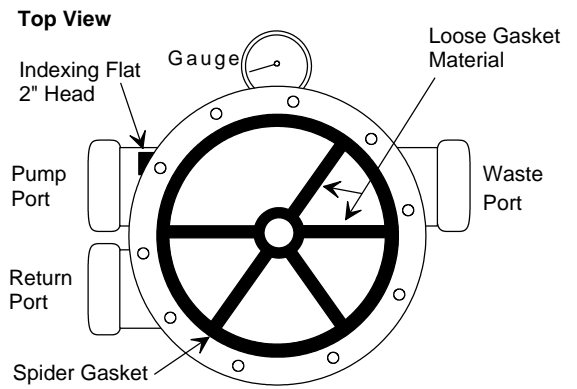


Diagram 2

A-2 Water Leaking From Under Control Head Cap

1. Place the control handle in the Winter position.
 2. Remove 10 bolts from main cap.
 3. Remove Cover O-ring. Clean the O-ring and O-ring groove. Lubricate and Reinstall.
- ⊗ Do not over tighten the screws. Tighten wrist tight only. If leaking persists, replace O-ring.

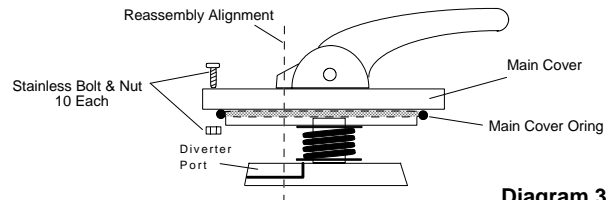


Diagram 3

A-3 Flow Control Hub Removal and Shaft Seal O-ring Replacement

Please refer to the Standard Main Control Head **Diagram 1** while following these directions.

1. Using a pin driver or screw driver, drive out the steel handle pin from one side and remove the control handle and teflon washer.
2. Next remove the 10 stainless bolts from the cover. Loosen the screws in a circular pattern using 2 revolutions per screw until the screws can be removed. This method allows the gradual release of the spring tension from the main hub spring.
3. Remove the cover and flow control hub from the control head. Twist the flow control hub back and forth and remove it from the center of the main cover. This will expose the shaft seal o-ring and split washer on the flow control hub.
4. Clean and lubricate or replace diverter hub O-ring. Lubricate the O-ring and surrounding shaft as well as the hole in the cover liberally with an O-ring lubricant or silicone grease. **Do not use Vaseline on any rubber components or damage may result.**

A-4 Flow Control Hub Re-assembly Instructions

1. Replace steel flat washers and hub spring on the diverter shaft as illustrated in Diagram 1.
2. Insert the stem of the diverter hub into the bottom side of the main cover and press together as far as possible. Rotate the diverter hub until it's port is under the filter position on the cap label. See Diagram 3 for reassembly alignment of pointer and hub port.
3. Replace the cap and diverter assembly into the control head body, assuring that the flat indexing divot in the main cover and the indexing flat on the body are aligned. (The indexing flat on the body is just off center of the pump input port.
4. Replace the 10 stainless machine screws in the cap and re-tighten them in a circular pattern about 2 revolutions per screw until the cover is secured. This allows for the recompression of the main hub spring.
5. Replace the teflon washer and handle over the stem with the handle pointer facing towards the filter position.
6. Re-drive the steel handle pin into the handle and through the hub stem. Hint: (Insert the pin smooth end first for easier driving.)

Some o-rings may need replacing every 2 or 3 years. Others may last much longer.

Only lubricate with potable water O-ring lubricant. ie: silicone grease or other lubricant for o-rings.

Do not use Vaseline or petroleum grease on any rubber O-ring components or damage may result.

Additional Important Information

- ❖ **GFCI Breaker** Always use a GFCI (Ground Fault Circuit Interrupter) breaker on your electrical pond equipment to avoid the hazard of electrical shock. As with any electrical product, electricity can cause severe injury or even death.

- ❖ **Sticky Or Hard To Move Control Handle** This condition often arises from a drying of the lubricant inside the the cover where the stem of the diverter hub passes through the cover, and also from ambient dirt and dust particles settling onto the cover and washing into the stem area over many seasons of weather and rain. A quick fix is to spray some light general purpose silicone lubricant into the area just around the handle and depress and rotate the handle while the silicone is still wet and flowing. This will allow it to run down the stem and lubricate the hole under the handle where the stickiness is occurring. If this does not resolve the issue, go to instruction A-4 on page 2 of this guide. It is advisable to inspect and lubricate the rubber O-rings in the control head every 2 to 3 years to assure their condition and proper operation.

- ❖ **Dynamax Blower Is Leaning Over On The Riser** This condition is caused because the blower has gotten too hot and has melted the housing and caused it to deform. There are 3 possible causes for this condition. As with any motor, air must circulate through the motor to keep it cool. 1. If the ball valve under the blower is not open, air cannot circulate. Heat will build up and the plastic housing will soften and deform. 2. If the water pump and the blower are run at the same time, the water pump overpowers the blower and the safety check valve cannot open and the air cannot circulate, causing the same damage. 3. If the waste line from the control head is obstructed, sufficient air cannot pass through the system to keep the blower cool, and damage to the blower can result. It is very easy to repair a leaning blower housing. Step 1,

SPECIAL NOTE: Do not reduce the discharge diameter of the waste line to less than its original diameter. Doing so will cause damage and inefficient operation of the entire system. Reducing the diameter of the waste line can cause the following: Overheating and damage to the blower. Poor air-wash and backwash performance. Premature filter loading, requiring frequent backwash. Dirty water discharge into pond after backwash.

- ❖ **Water Runs Out Of Blower Housing** This condition results from a blockage of the blower riser safety check valve. In order for this to occur, both the ball valve would have to be left open and the safety check valve would have to fail at the same time. If this extremely rare event does occur, unplug and remove the blower power head. Remove the threaded reducer from the bottom of the blower. Shake moisture out of housing. Also remove the switch cover and dry the switch mechanism if it got wet. If you have an air compressor, blow a large volume of compressed air into the bottom of the blower. This should dry out the windings of the blower enough to restart the unit. An equally effective method of drying is to place a shop vac hose over or into the discharge of the blower and run the shop vac for about 15 minutes. This will move enough air through the blower to dry the windings also. After one of these two procedures, reconnect the blower to an outlet and turn on the power switch. When the blower starts, allow it to run for 15 minutes in the open air to completely dry out the inner parts of the blower. If the blower will not restart or trips the breaker after the drying procedure, the blower will need to be replaced. Always use a GFCI (Ground Fault Circuit Interrupter) breaker on your electrical pond equipment to avoid the hazard of electrical shock. As with any electrical product, electricity can cause severe injury or even death. A wet blower must be dried as soon as possible for it to function again. Typically, if a blower is left wet for more than a few hours, corrosion will cause irreparable damage of the electrical components as well as bearings. Assure that the check valve on the blower riser is not leaking with the pump turned on and the ball valve open before reinstalling the blower. To repair or clean the check valve or ball valve see the Blower Riser Diagram for disassembly and reassembly instructions.

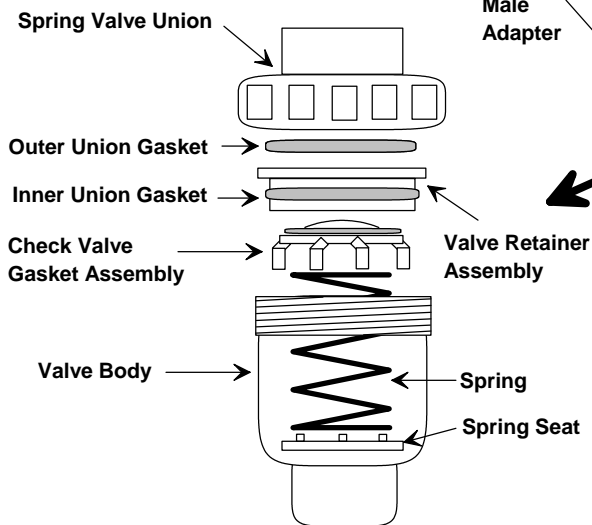
Section B: Servicing the Dyna-Max Blower Riser

Please refer to these part names when ordering parts. If you ever have service issues with your blower riser this addendum will be very helpful in deciding which part may be replacing. As with any product, there are parts that will need to be replaced due to normal wear. Below you will find a complete diagram of the blower riser assembly and part names. The riser shown in the diagrams is for Models 2.2B, 4.4C and 8.8C. Although the 1.1B and 8.8C configuration is different with the check valve in the inside of the tank, the valve parts are identical.

Diagram 4

Dyna-Max Blower Riser Assembly Breakdown

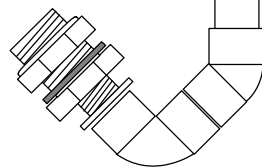
2" Spring Check Valve Assembly



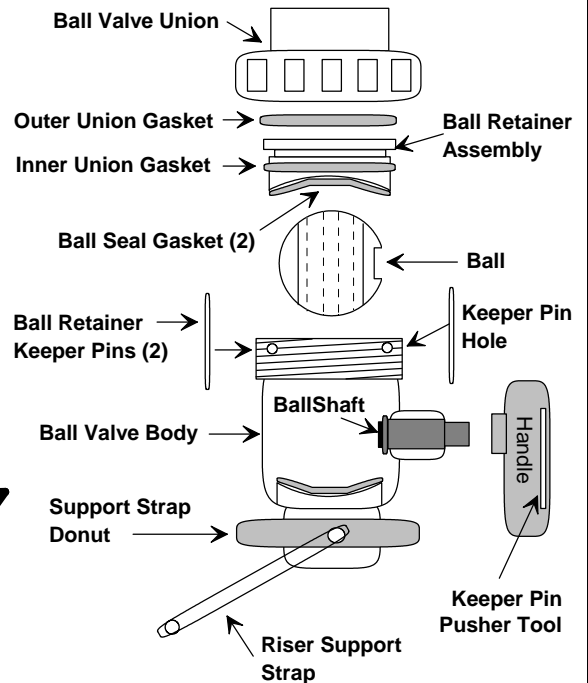
Note: Model 1.1B and 8.8C spring check valves are 1.5" and do not have a spring seat.

Dynamax Powerhead

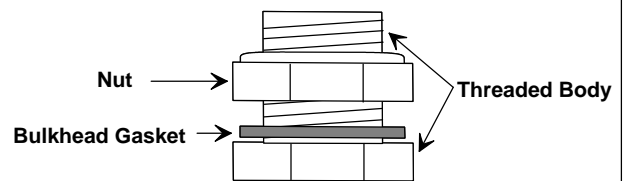
Custom Male Adapter



1.5" Ball Valve Assembly



1.5" Blower Riser Tank Bulkhead



Servicing The Blower Riser Components (Visual Reference Diagram 4)

- ❖ ***B-1 Ball Valve Trouble Shooting and Repair*** Praher valves are of the highest quality servicable valves available. These valves are used in the Aquadyne products to give the end user the ability to dis-assemble and repair the valves on-site without delay so that equipment can be repaired and put back into service avoiding long periods of downtime.
 1. Remove the ball valve union from the top of the ball valve.
 2. Remove the keeper pin pusher tool from the back of the red handle.
 3. Insert the tool into each keeper pin hole located in the threaded section of the valve body. Push the tool in far enough to remove the keeper pins from the opposite side of the valve body. Remove both keeper pins and the tool.
 4. With a thin flat blade screwdriver, gently pry out the ball retainer assembly. This will allow you to remove the ball and interior pieces of the valve for service or repair.
 5. Lubricate the valve O-rings and re-assemble the valve. Be sure to re-insert the keeper pins before re-attaching the union nut.

- ❖ ***B-2 Spring Check Valve Trouble Shooting and Repair***
 1. Remove the spring check union nut from the top of the spring check valve.
 2. Insert two index fingers into the top of the valve retainer assembly, while simultaneously depressing the gasket assembly. Pull upwards with your index fingers with force and the valve retainer assembly will slip out of the valve body.
 3. Remove all internal parts and inspect the check valve gasket assembly to assure that it is not damaged and clear the inside of the valve of any debris. These internal components rarely fail and thus usually never require replacing. If there is an accumulation of bead media in the riser and valve body, it can easily be cleared by either pouring water into the valve body allowing it to overflow. The floating media will wash out with the overflowing water. You can also insert a garden hose with running water into the valve body and riser pipe. This will make short work of clearing the assembly.
 4. Once clean, re-assemble the components in the order removed and according to Diagram 4. Lubricate the O-rings with silicone grease. **Do not lubricate the check valve gasket assembly. Lubricant will cause the gasket to stick.**

- ❖ ***B-3 Sludge Drain Assembly - Trouble Shooting and Repair***

If the sludge drain becomes obstructed and water will not discharge when the valve is opened there is likely a sedimentation blockage in the elbow or inside the tank itself just above the bulkhead. This blockage can occur when the sludge drain is not used on a regular basis and the sludge is not drained from the tank with at least every other backwash. There are 3 ways to clear a sludge drain blockage.

1. The easiest way to clear a sludge drain blockage is to acquire a green flexible hedge branch and strip the leaves off. Open the sludge valve and insert the branch into the drain pipe. The green flexible branch can easily turn the corner at the bulkhead and enter the tank, clearing debris as it is agitated.
2. If the drain cannot be cleared as above, another solution is to connect a garden hose to the 1" ball valve. This will require a female garden hose adapter that has a 1" male pipe thread on the opposing end. This adapter can be made from 2 fittings easily available at any hardware store. This fitting can be attached to the end of the ball valve and left permanently if you wish. It will not impede the normal function of the sludge drain. **Caution: You must set your control head to the Backwash or Rinse position before turning on the water, otherwise damage may result. Most household water pressures are between 60-80 psi. This is too much pressure for the filter tank. The Backwash or Rinse position will vent all of the hose pressure to the waste line which will cause no harm at all.**
3. The third and most assured way to free a sludge drain blockage is to remove the control head and column from the tank. Reach inside to the bottom of the tank and check the inside of the bulkhead for the blockage. If you cannot reach the bottom of the tank with your fingers on the larger models, use a stick or other dowel rod type device to probe for the bulkhead to check the inside of the bulkhead for blockage. The typical blockage will be nothing more than sedimented dirt or debris that has settled into the bulkhead opening. A bit of somewhat blind probing inside the bulkhead opening will disturb the debris and allow it to wash out through the ball valve. There is nothing in the bottom of the tank that is likely to be damaged by aggressive probing.

