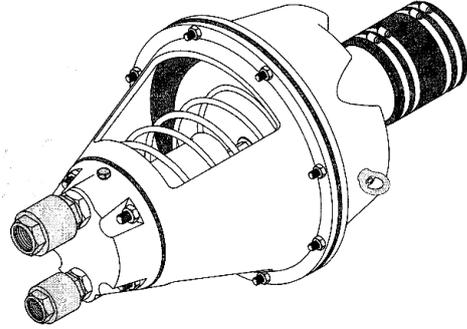


GLOCKEMANN PUMP

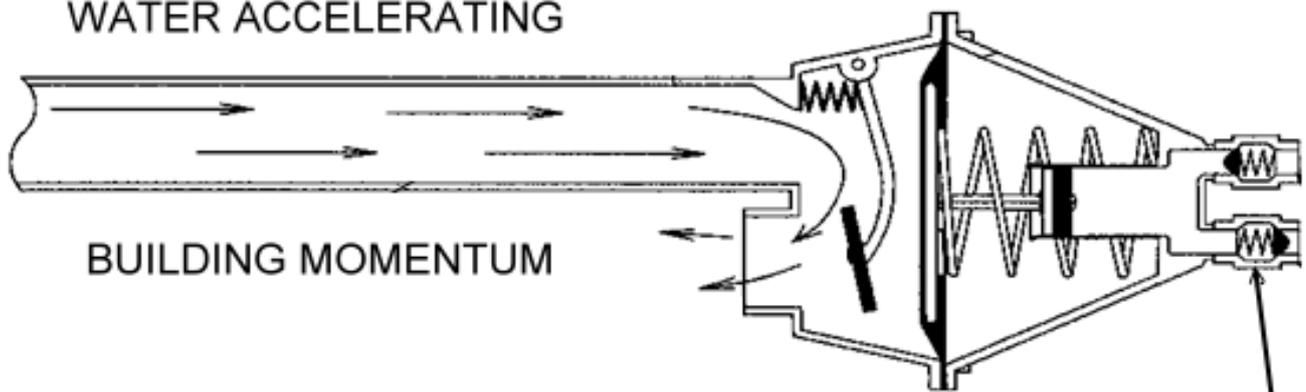


User Manual

- 1. How the Pump Works**
- 2. Operating the Pump**
- 3. Parts Description**

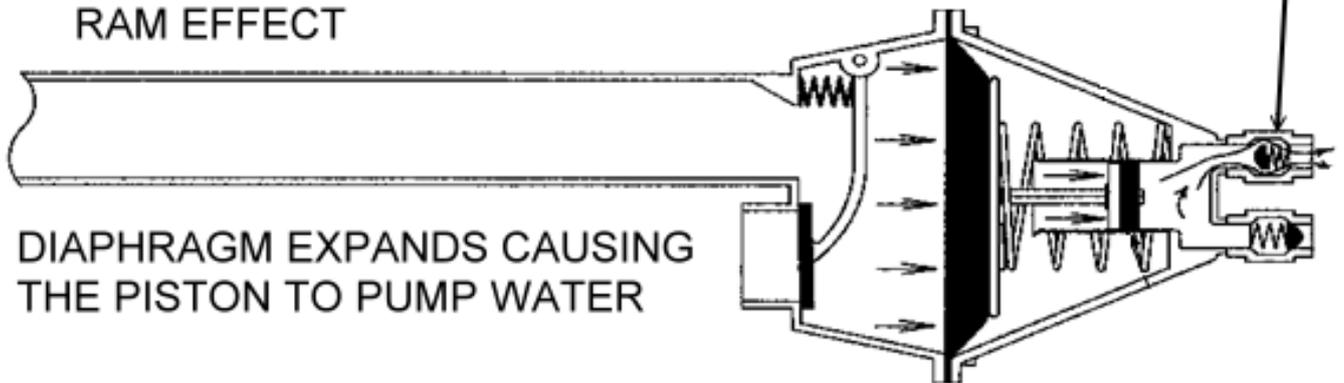
1. How the Pump Works

WATER ACCELERATING



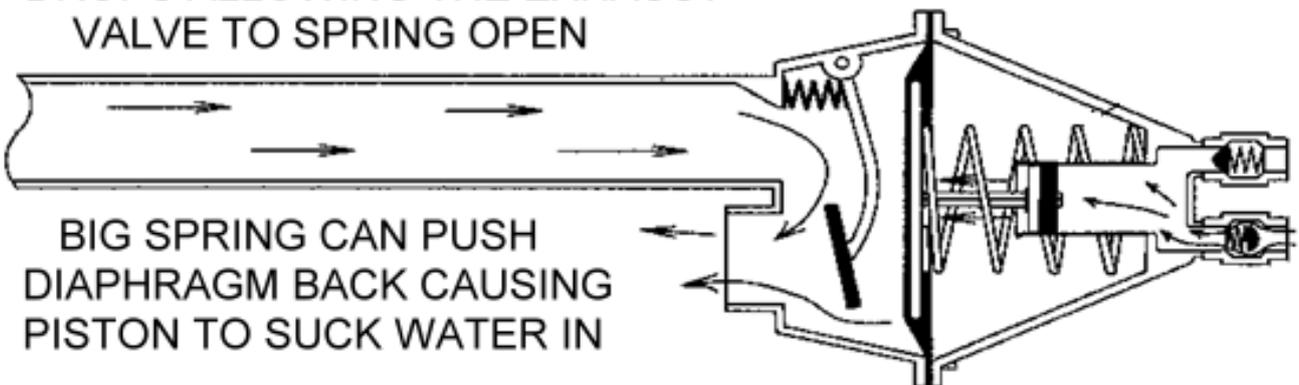
BUILDING MOMENTUM

EXHAUST VALVE SLAMS SHUT
RESULTING IN A BATTERING
RAM EFFECT



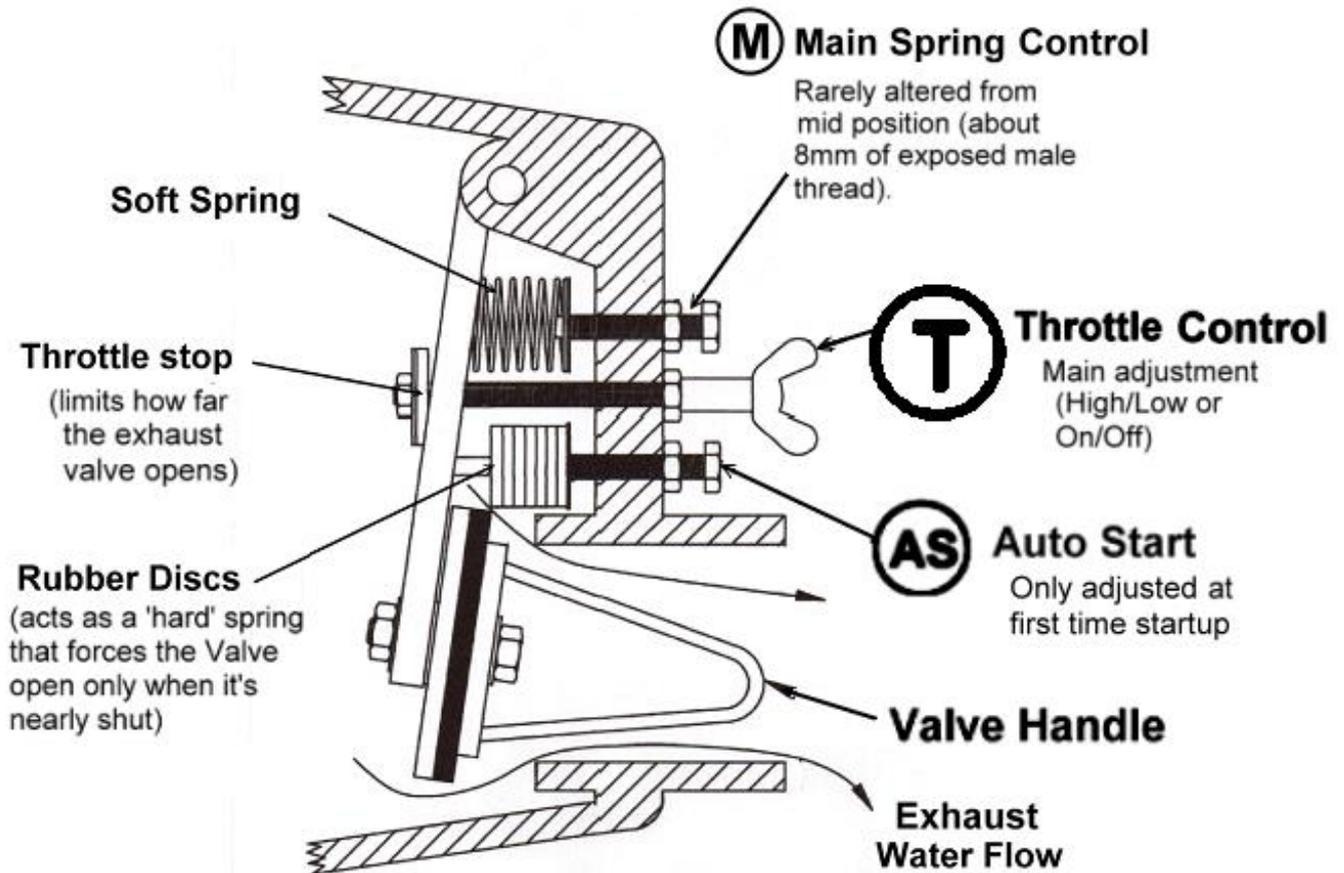
DIAPHRAGM EXPANDS CAUSING
THE PISTON TO PUMP WATER

RAMMING ENDS SO PRESSURE
DROPS ALLOWING THE EXHAUST
VALVE TO SPRING OPEN



BIG SPRING CAN PUSH
DIAPHRAGM BACK CAUSING
PISTON TO SUCK WATER IN

320 Oasis Exhaust Valve



Note: The upper control 'M' is rarely altered which leaves only the lower two controls 'T' & 'AS' to focus on.

Before Installing the Pump

Hold the Exhaust Valve handle & 'Feel' what the valve is doing while going through the following steps while referring to the above diagram.

1. Screw **AS** out (anti clockwise); this stops the rubber discs from pushing on the Ex. Valve.
2. Screw **T** in (clockwise) so the Ex. Valve is open like in the picture.
3. Pull on handle & feel the way it shuts. You will notice that only the soft spring is acting & the valve fully opens & shuts with little resistance.
4. Screw **T** in & out & notice the change in how far the valve opens.
5. Start winding in the auto start while opening & shutting the valve & notice the resistance when the valve is near shut.

Leave **M** in its mid position as shown in the picture, this adjustment is uncritical & only changed with very low drops (screwed out) & very high drops or short drive pipe ratios (screwed in).

Why the Exhaust Valve behaves this way

Throttle

The valve works like a door being slammed shut in the wind. If the door is wide open it can take more wind to catch it before slamming shut. This is what the throttle does, more open more power.

Auto Start

Picture a plug in a full sink of water. When you pull the plug out you will feel that it's hard to pull on until it's slightly out then it is easy to pull the rest of the way. The stiff or hard spring effect of the rubber discs perform this function leaving the soft spring to fully open the valve after its 'Cracked' open by the auto start.

2. Operating the Pump

Before Starting the Pump

- a. With plastic bag over drive pipe strainer attach & anchor the pump with the exhaust valve slightly open.
- b. Prime cylinder bore by removing brass priming plug then fill till overflowing then replace plug.
- b. 'M' control in mid position.
- c. Install a one way valve in the delivery pipe above the stream's flood level & preferably have the pipe filled with water.

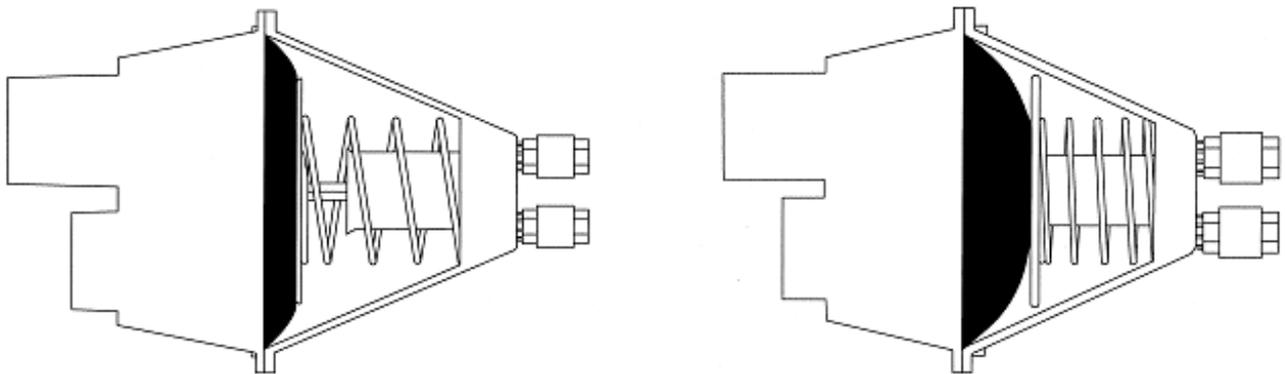
Adjusting Procedure (for first time start up only.)

- a. Remove plastic bag & hold exhaust valve shut via its handle for about 15secs so that air can bubble out the drive pipe.
- b. Push open the exhaust valve. (On high drop sites this force will be high).
- c. Let the valve shut then push it open again. Do this a number of times to gain a feel of the valve action. If you do this with the right rhythm you'll notice that it won't take so much effort.
- d. While doing this screw the 'AS' in until the valve opens & shuts automatically. For high drop sites you can screw the 'AS' in a little to start with to lessen the force required to push the valve open.
- e. You may need to adjust 'T' a little more to achieve a fast cycling action of about ½ a second.
- f. Adjust 'AS' so that after you pull on the handle to stop the pump going it only takes a small force to start the pump going again. (For low drop sites the pump can start automatically).

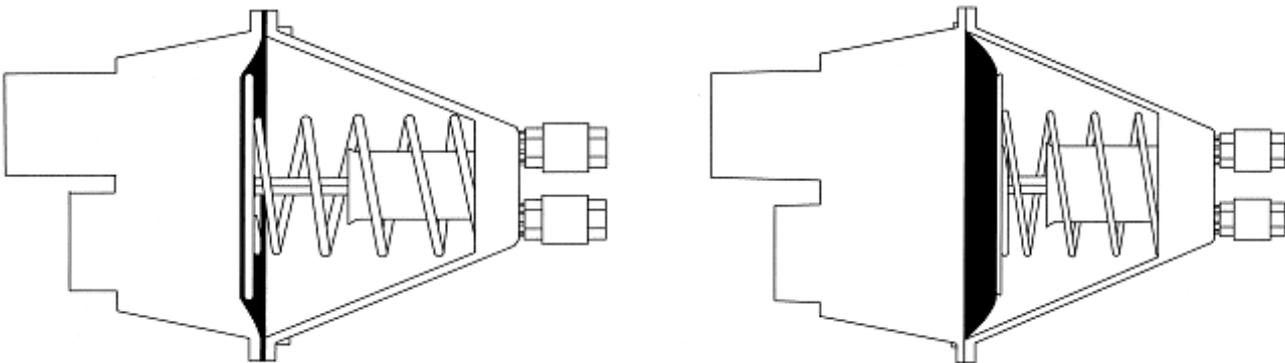
At this stage the pump will be operating on low throttle meaning quick low energy rams.

g. When pumping into an empty delivery pipe the diaphragm will balloon, that is it will be stretching & it is important to limit this using a low throttle setting.

Prolonged, unchecked ballooning can lead to diaphragm failure.



As the delivery pipe fills the diaphragm looks more like this:

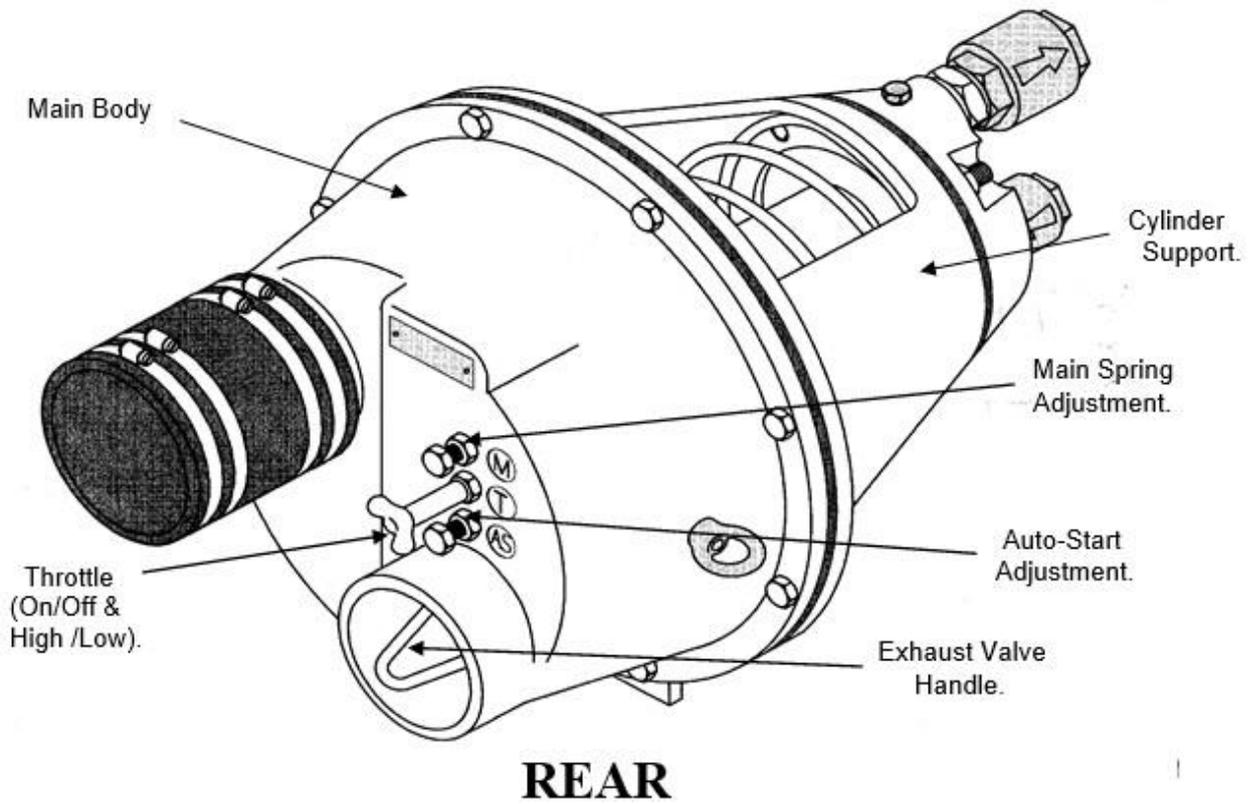
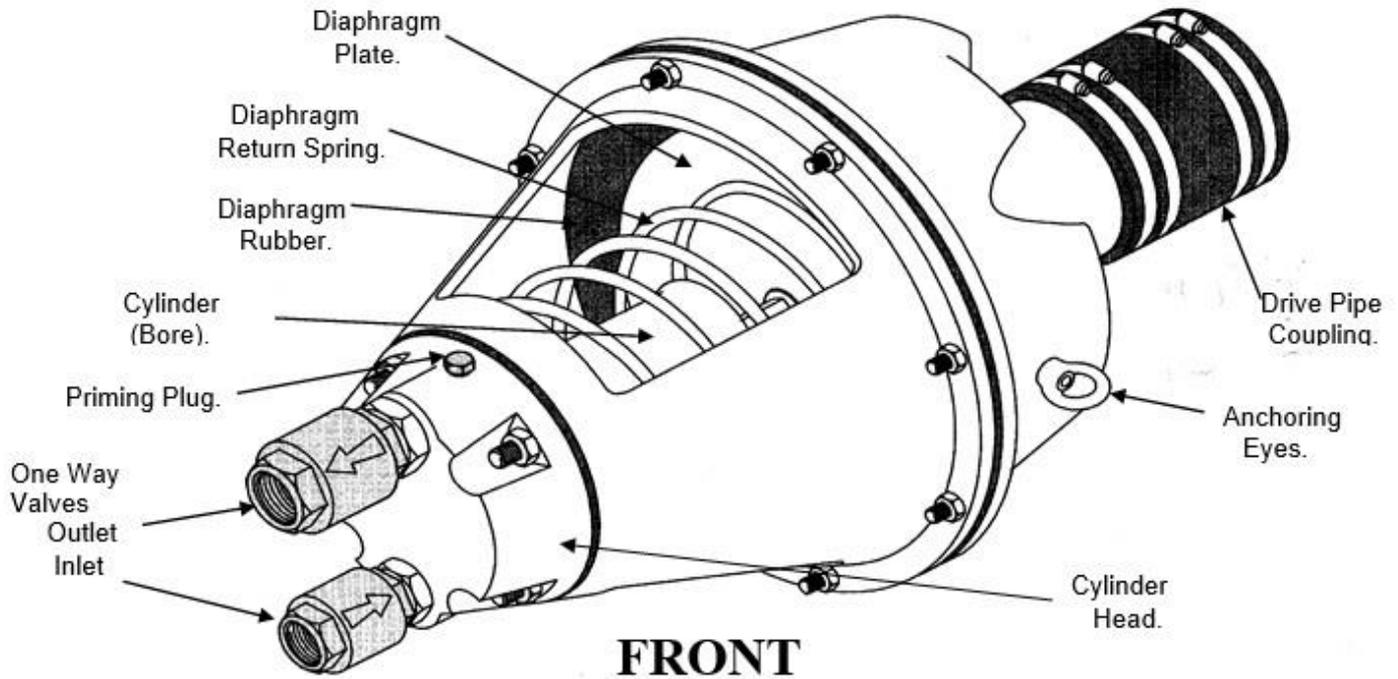


This shows that the pump is now pumping against the full delivery head pressure & it's time to readjust the throttle for max output.

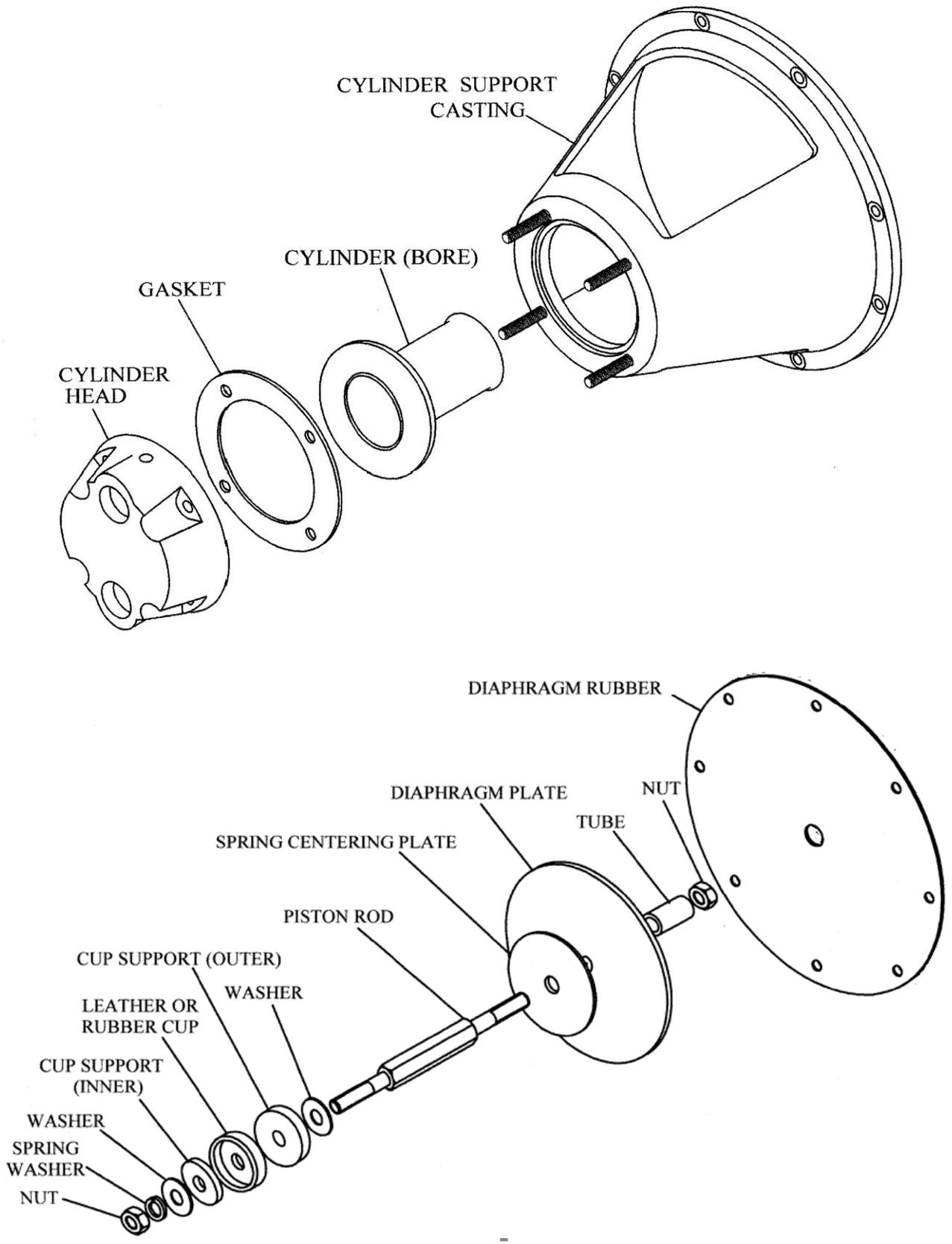
h. Screw the throttle in until you see the longest stroke then out until you start to see the stroke getting shorter, this will be near max output. Then tighten control lock nuts.

A final check is to hold the valve in different positions & see a sure re starting action when letting go of the exhaust valve.

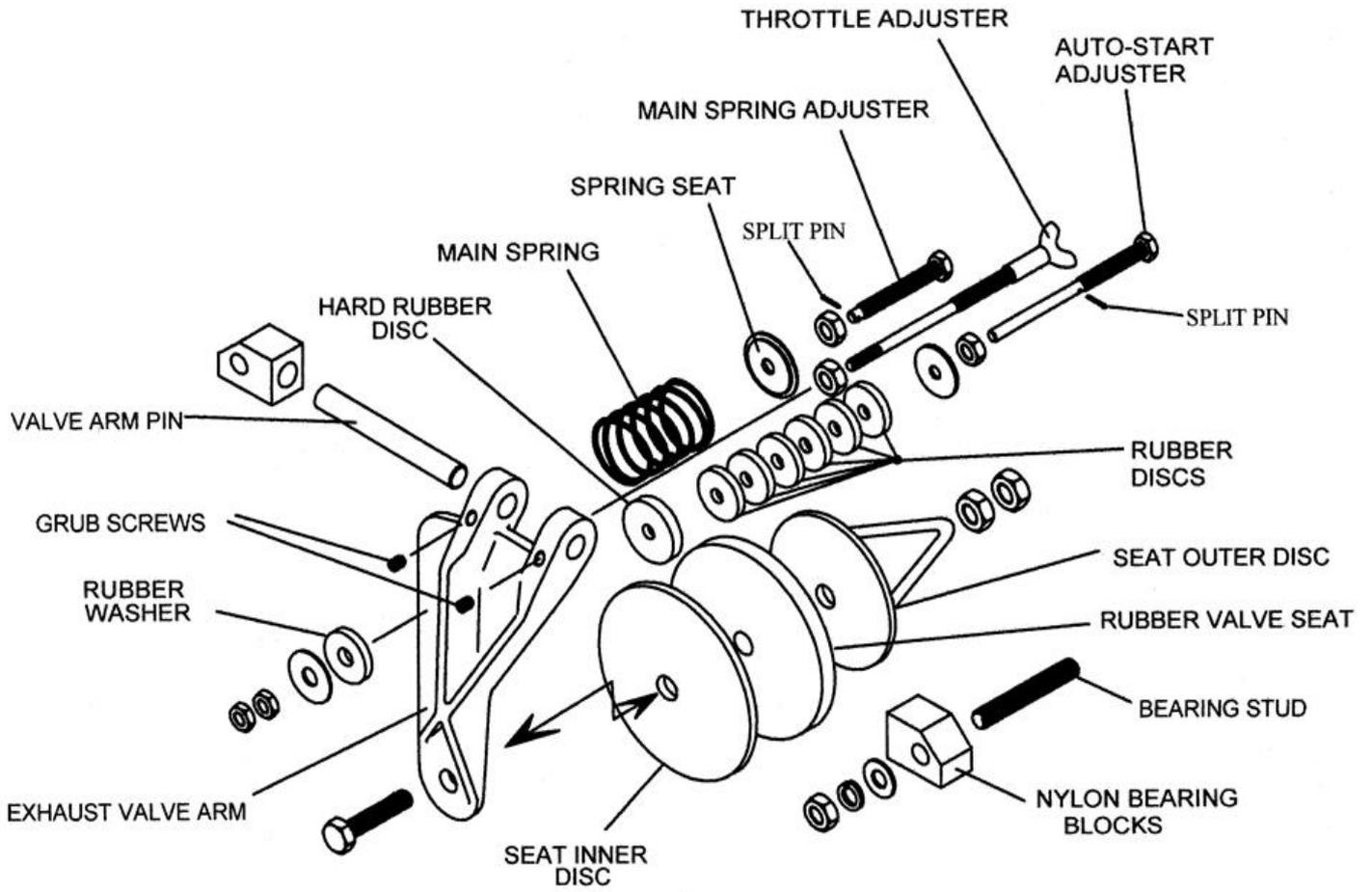
3. Parts Description



3. Parts Description



3. Parts Description



www.glockemannwaterpumps.com

**30 Herberton Street, Mareeba 4880
Queensland, Australia**

Tel.: 61 07 4092 3592