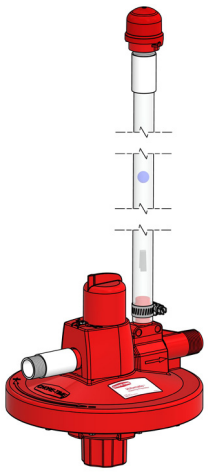
Installation and Operators Manual

Volumatic™ Water Regulator

For Cage Systems-PDS™ and Manual Adjustment: Part Number 55476-5



Introduction

The Chore-Time VOLUMATIC™ Regulator is designed to regulate water pressure for Chore-Time Layer and Brood Grow Nipple Watering Systems. There is a model for manual adjustment of the Regulator and two (2) models for PDS™ Controller adjustment.

Installation Guidelines

Each water pressure Regulator is capable of supplying one tier (two lines) up to 600’ [182.8 m]. Systems over 600’ [182.8 m] require two regulators per tier (one per line).

Additionally, in MMB™ (Modular Manure Belt) Brood Grow installations using air drying tubes; two (2) regulators per tier must be used regardless of the cage row length. The air drying system components prevent water line connection from one side of the cage row to the other.

The regulator assemblies should be mounted on the side of the cage row. This location should be easily reachable from the aisle for adjustment purposes and should not interfere with other equipment (DBS system, manure belts, egg belts, belt take ups, feeding system etc.). The Regulator assemblies should also be located so they are protected from damage, Installation of the Regulator assemblies should not be attempted until the location of all other equipment is established.

The height of the stand tube/air breathers must also be taken into consideration when positioning the Regulator assemblies. It is important to be able to maintain this height so the full operating range of the Regulator can be utilized.

It is important to install the Regulator in a way that will allow the assembly to be turned off the nipple pipe line. If removal is necessary the stand tube/air breather will need to be removed before turning the Regulator off the nipple pipe line.

The Regulator assemblies may be located in a variety of locations depending on the installation, operation and location of other equipment. Additional plumbing components may be required.

It is recommended to install the Regulator assembly equal to or slightly higher than the nipple water line. Installing the Regulator with this recommendation will aid in removal of unwanted air in the system.

Single Regulator installations (feeding two lines per tier) should be plumbed so the output from the Regulator flows through the same number of restrictions (ells) to feed both lines. The same number of restrictions will assure equal volume of water to both lines. Equal volume of water is especially important in brood grow installations so the flush times (from one line to another) are close to the same.

In layer systems the connection between the Regulator and the water supply inlet is made with a 3/4" [1.91 cm] flexible hose assembly. This hose connects between the Regulator and the water supply. The hose and connectors must be of high quality and rated for the incoming water pressure.

In brood grow systems use the provided 5/8" x 36" [1.59 x 91.4 cm] Regulator inlet supply hose. This hose connects between the Regulator and the water supply.

Regulator Assembly

- **Do not overtighten fittings when assembling threaded connections!**
- **Do not allow excess glue to run into the Regulator!**
- **Apply thread sealant tape or thread sealing compound to all threaded connections (except hose threads) before installation.**

NOTICE **Use only thread sealant tape or compound approved for ABS plastics on the Regulator fittings.**

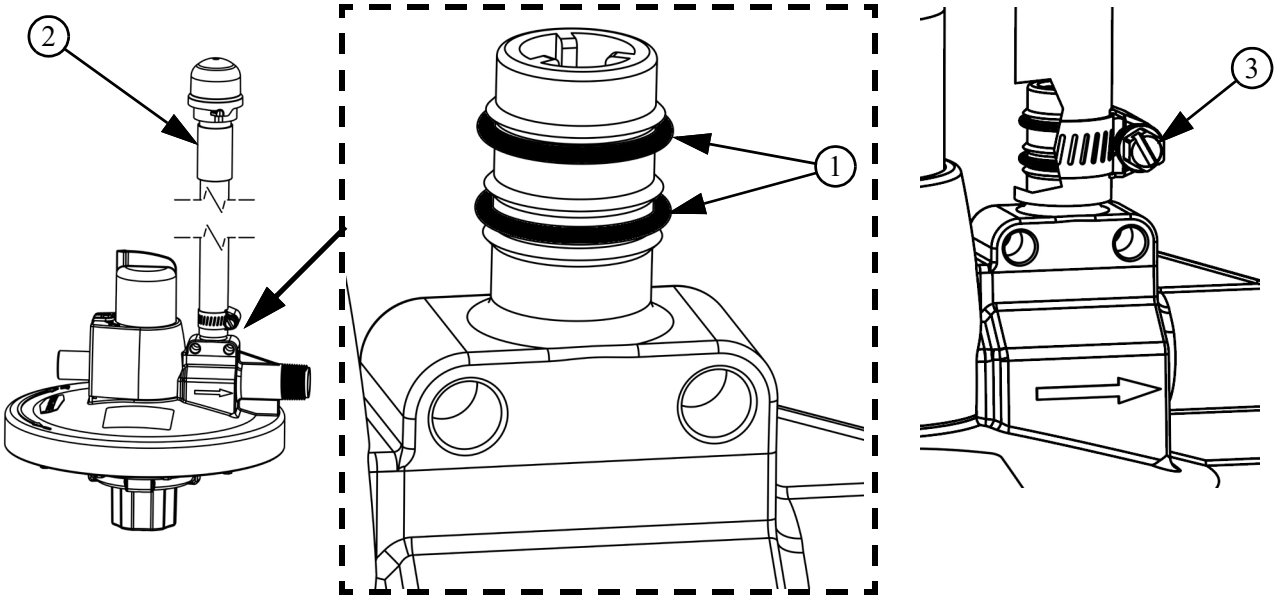
Failure to do so could result in damage to the Regulator and will void the warranty.

Line Connection Components Installation

1. See System manuals for specific Line Components Installation.

Stand Tube assembly and installation

1. Place one O-ring **(Item 1)** below the top barb and one between the lower two barbs. **(See Figure 1.)**
2. Lubricate O-rings with water or soapy water. **DO NOT USE PETROLEUM BASED LUBRICANTS!**
3. Push the Stand Tube Assembly **(Item 2)** over the lubricated O-rings until it hits the top of the Regulator. Make sure the O-rings are positioned properly.
4. Locate the Tube Clamp **(Item 3)** over both O-rings and tighten. **DO NOT locate the clamp below the o-rings!** Make sure the stand tube is secure but do not over-tighten the clamp.



Item	Description	Part Number
1	O-Ring	--
2	Stand Tube Assembly	--
3	Tube Clamp	

Figure 1.Stand Tube Installation

Water Supply Connection

See the System Manual for specific Water Supply Connection.

Regulator Operation

Controls

The VOLUMATIC™ water Regulator can be shut off by turning the selector knob **clockwise** until it stops. To turn on the Regulator (normal operation) turn the selector to the center position. To put the Regulator in flush mode, turn the selector knob counter-clockwise until it stops. To adjust the water column turn the adjustment knob on the bottom of the Regulator clockwise (+) to increase the pressure and counter-clockwise (-) to decrease the pressure.

Caution: When using a hose end flush arrangement be sure the outlet valve at the end of the nipple line is open before flushing the Regulator. Excessive back pressure can damage the Regulator and other water line components.

Caution: When increasing the water column, as soon as resistance is noted, stop turning the manual adjustment knob or damage to the Regulator will occur.

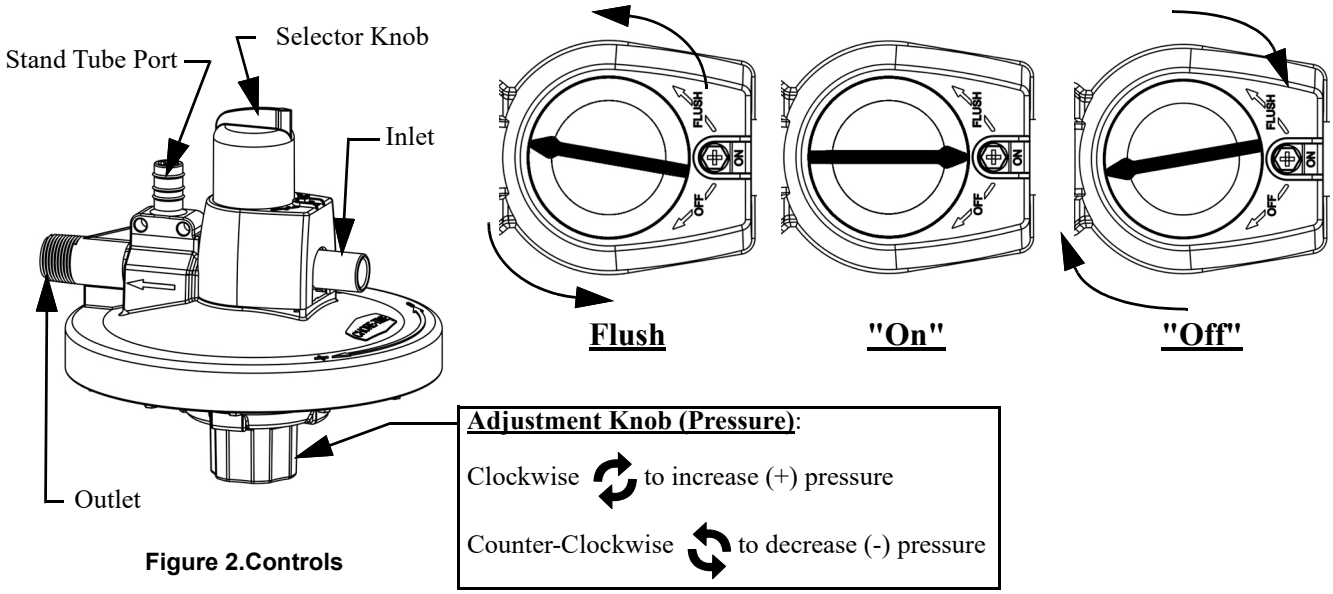


Figure 2.Controls

Operating Pressure

Optimum incoming pressure is 25 - 35 PSI *[172 - 241 kPa]*. Operation of the VOLUMATIC™ water Regulator at higher pressures can shorten the life of the Regulator components. For pressures higher than the recommended range a water pressure reducing valve must be installed on the inlet water supply.

PDS™ - Pneumatic Drinking System Regulators

CAUTION! DO NOT FLUSH DRINKER LINES WITH PDS™ CONTROL UNLESS drinker lines are pressurized with water! Product damage may occur if this caution is not followed.

When flushing the system make sure the outlet line is clear of restrictions. Excessive back pressure can damage the Regulator.

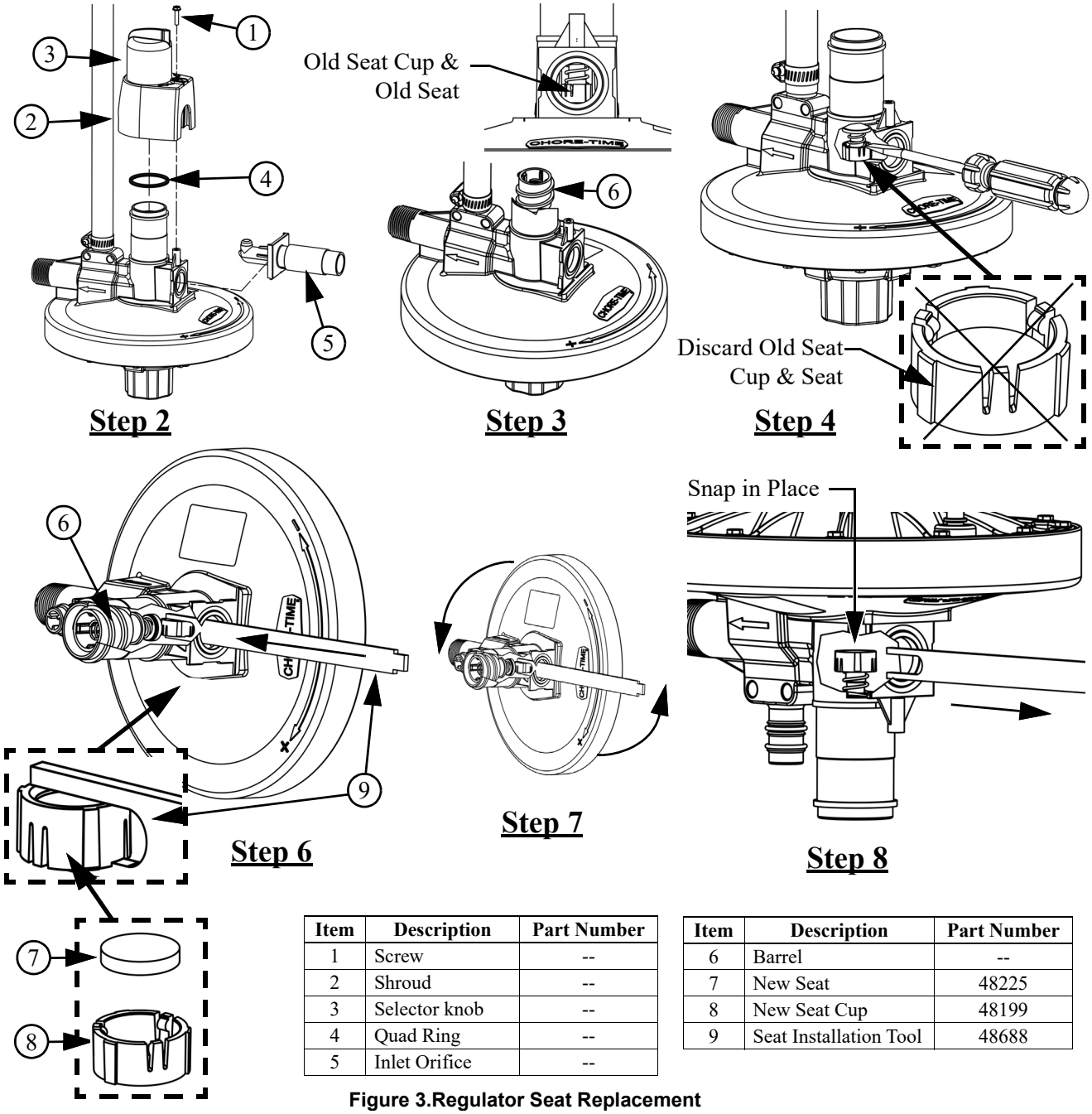
If using the PDS system and a control failure or for any reason air pressure is lost to the Water Regulator, manually adjust the Water Column height to the desired height using the Regulator adjustment knob.

For more information on the PDS system, installation or operation, refer to the "12-32 Station PDS™ Control Manual (MW1812)."

Regulator Seat Replacement

Follow the procedures below to replace the Regulator seat.

1. Shut off water to the Regulator and remove it from the nipple line.
2. Remove the screw **(Item 1)** holding the Shroud **(Item 2)**. Remove the Shroud, Selector Knob **(Item 3)**, Quad Ring **(Item 4)**, and Inlet Orifice **(Item 5)**.
3. Turn the Barrel **(Item 6)** Clockwise to see more of the Seat Cup and old Seat.
4. Pry off the old Seat and Seat Cup and discard.
5. Insert the new Seat **(Item 7)** in the new Seat Cup **(Item 8)**. Seat face direction does not matter.
6. Turn the Barrel Counter-Clockwise to move the Seat Cup out of the way. Orient the Regulator **as shown**. Put the new Seat Cup in the Seat installation tool **(Item 9) and insert it into the Regulator until it is lined up with the Seat Holder.**
7. Rotate the Regulator 90° while keeping the Installation Tool and Seat Cup in place and Snap the new Seat Cup onto the Seat Holder. Make sure the seat assembly is properly seated onto the seat holder.



Item	Description	Part Number
1	Screw	--
2	Shroud	--
3	Selector knob	--
4	Quad Ring	--
5	Inlet Orifice	--

Item	Description	Part Number
6	Barrel	--
7	New Seat	48225
8	New Seat Cup	48199
9	Seat Installation Tool	48688

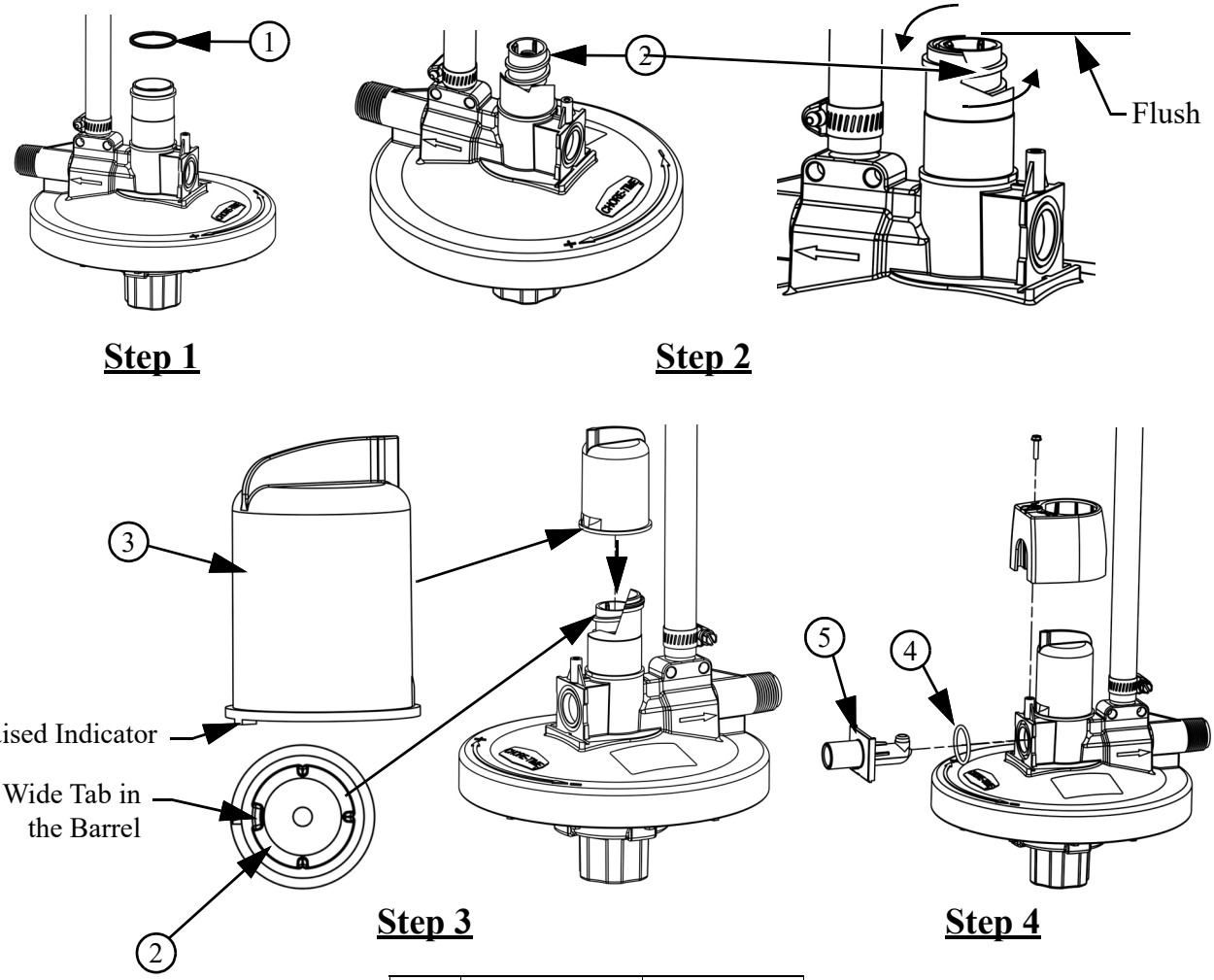
Figure 3.Regulator Seat Replacement

Re-assembling the Regulator

1. Install Quad Ring **(Item 1)** on the housing shoulder.
2. Turn the Barrel **(Item 2)** Counter-Clockwise until it is flush with the top of the Housing.

Important! The barrel **must be flush** with the top before replacing the selector knob or the Regulator will not function properly.

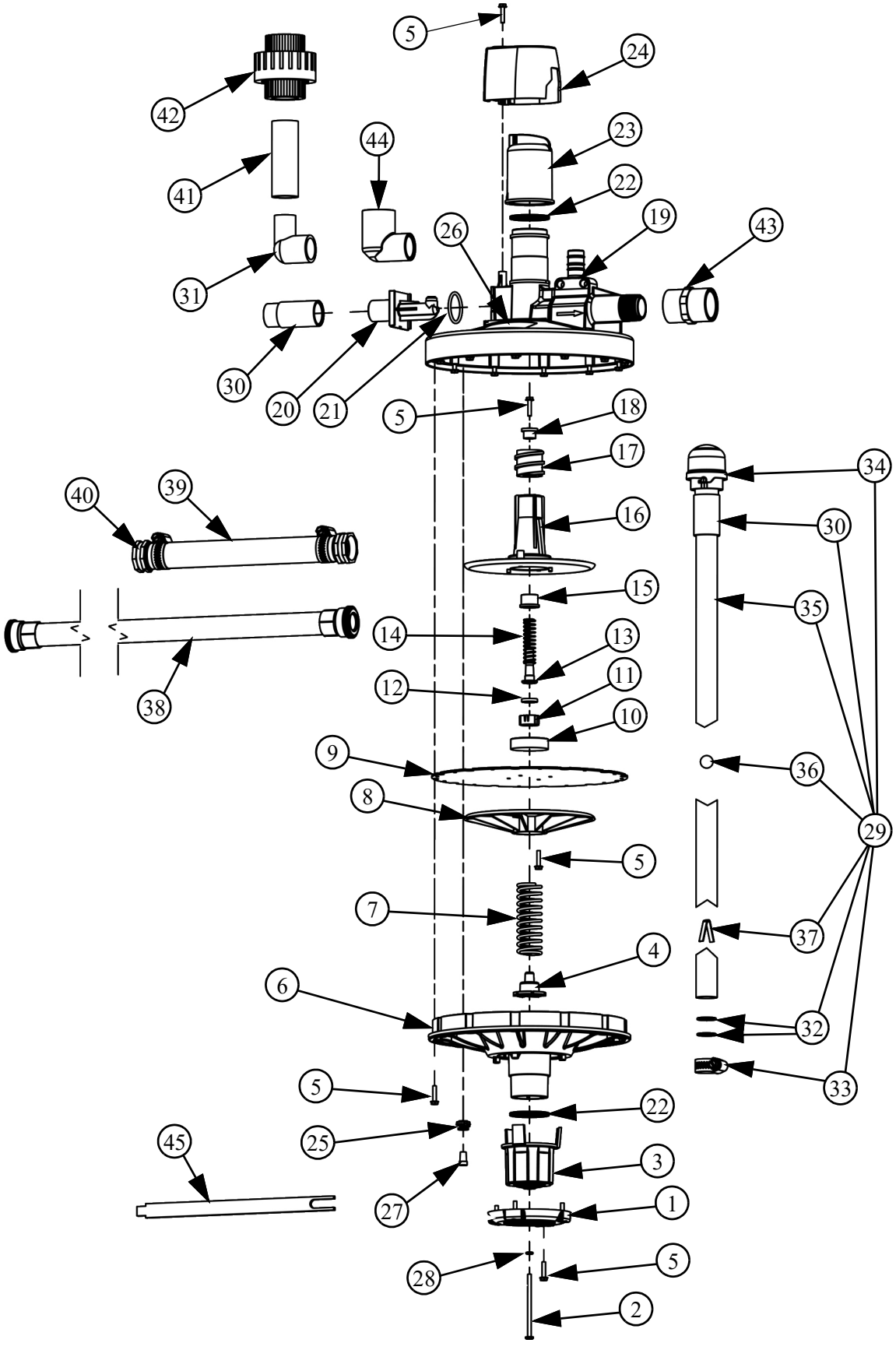
3. Replace the selector knob **(Item 3)** by lining up the wide tab in the barrel with the wide Raised Indicator on the selector knob.
4. Make sure the O-ring **(Item 4)** is in place and reinstall the inlet Orifice **(Item 5)** into the Regulator housing. Replace the Shroud **(Item 6)** and Shroud Screw **(Item 7)**. The Regulator is now ready to be put back into service.



Item	Description	Part Number
1	Quad Ring	--
2	Barrel	--
3	Selector knob	--
4	O-Ring	--
5	Inlet Orifice	--
6	Shroud	--
7	Shroud Screw	--

Figure 4.Regulator Seat Replacement continued

Parts Listing 55476-5



Item	Description	Part No.
1	CTWR Knob Retainer	55477
2	#8-18 x 2-1/2 Inch Screw	42387
3	Knob Assembly	55478
4	Follower	42183
5	#6-20 x 5/8 Hex Washer Head Screw	44946
6	Bottom Regulator Half Assembly	55479
7	.78 ID x 2.8 x .105	42393
8	Diaphragm Plate	42177
9	Diaphragm	42181
10	Diaphragm Center Support	42186
11	Seat Cup	48199
12	Seat	48225
13	Seat Holder	42189
14	.375 ID x 1.75 Inch Spring	42392
15	Seat Holder Sleeve	42187
16	Top Diaphragm Plate	42182
17	Barrel	42172
18	Seat Holder Cap	42176
19	Top Threaded Regulator Housing	57065-1
20	Inlet Orifice	42190
21	1.255 OD x 1.049 ID x .103 O-Ring	29118
22	1.362 ID x .103W Quad O-Ring	42389
23	CTWR Selector Knob	42178
24	CTWR Shroud	42390
25	1/8-27 NPT x 1/4 OD Tube Connector	50820-1
26	Regulator Decal	2529-813
27	1/4" Tubing Connector Plug	57285
28	-007 Buna-N O-Ring	56172
29	Rigid Stand Tube Assembly	54517-4
30[1,2]	NH 3/4 Inch Male Adapter Fitting	25098
31[1]	.50 Street S x S Elbow	33895
32[1,2]	O-Ring	48325-1
33[1,2]	Hose Clamp	7187
34[2]	Breather Cap Assembly	54606
35[2]	Clear PVC 1/2 x 19 Inch Pipe	38250-4
36[2]	Blue Ball	37142
37[2]	Rigid Ball Stop	54817
38[3]	5/8 x 36 Inch Supply Hose	50800-2
*39[3]	3/4 Inch Supply Hose	47820-0
40[3]	3/4 Inch Female Fitting	50401
41[3]	3/4 Inch PVC SDR Pipe	8083-10
42[3]	3/4 Inch PVC S x S Union	8137
43[3]	3/4 Inch Female PVC S x FT Adapter	8160
44[3]	3/4 x 1/2 Inch S x S Elbow	8074
45[3]	Seat Installation Tool	48688

[1]Included in 57379-4 Regulator Hardware Package.

[2]Included in 54517-4 **(Item 29)** Rigid Stand Tube Assembly.

[3]Items must be ordered Separately.

*Item available in the following lengths; 47820-50 (50 Ft), 47820-100 (100 Ft), 47820-200 (200 Ft).

MADE TO WORK.
BUILT TO LAST.®

Revisions to this Manual

Page No.	Description of Change	ECO
	42400 series Regulators are now 55476-5 Regulator	40158
Various	Updated to new Manual format. Several image updates.	

For additional parts and information, contact your nearest Chore-Time distributor or representative.
Find your nearest distributor at: www.choretime.com/contacts

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