



## Global Scuba Manufacturing of Texas LLC

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# OPERATION AND MAINTENANCE GSMoT 46115 Air Control Regulator

## GENERAL

The 46115 is a piston type, hand/spring loaded regulator with an outlet pressure range of 5000 PSI. Other available outlet pressure ranges are 6000 (PN 46114), 1500, and 400 PSI. It uses an unbalanced poppet design for ruggedness and simplicity. There is a small variation of control pressure with changing inlet pressure as noted in the specifications. A 30 micron filter in the poppet cartridge helps prevent damage by contaminants.

## SPECIFICATIONS

Max Inlet Pressure	6000 PSI
Outlet Pressure	50 to 6000 PSI
Body Ports	1/4" NPT inlet & outlet, inlet & outlet gauge ports at 60-degree spacing
Flow Coefficient (Cv)	.06 (equals .07" orifice)
Outlet Rise Pressure with	70/1000: 5000, 6000
Inlet Drop Pressure in PSI	22/1000: 1500
(outlet rise / inlet drop)	6 /1000: 400
Materials	Anodized Aluminum Body, Brass & Stainless Interiors, Viton & KEL-F Seals
Brass Version	Brass Wetted Surfaces (see note 6)

## ASSEMBLY PROCEDURE

Refer to the drawing cross section and assemble in a clean dry area. Blow all parts clean. Inspect sealing area of vent seat (item# 3) with 10X magnification and remove any particles. Install O-ring (#13) on piston (#4). Completely pack area between piston housing (#5) and piston (#4) with Christolube MCG 121 or 111 or equivalent. Sufficient grease should be used so it takes pressure to extrude grease out as piston is inserted into housing. Wipe off excess. Install O-ring (#14) with Christolube 121 or 111 grease and install vent seat (#3).

Apply Slick 50 or equivalent EP grease to bearing plates (#10), thrust bearing (#11), adjusting screw (#8), and threads in cap (#7). Install spring guide (#6), bearing plates (#10), thrust bearing (#11), and spring (#12) as shown. Install preassembled poppet cartridge (#2), preassembled piston housing (#5) and O-ring (#15) as shown. Lubricate O-rings and threads with Christolube 121 or 111 grease or equivalent. Holding the cap downward, assemble the cap (#7) and body (#1). Torque to 20 - 30 ft./lbs. Install

adjusting screw (#8) and knob (#9) with Slick 50 grease on threads.

## INSTALLATION

Use a suitable pipe thread sealant such as Teflon tape on inlet and outlet threads. Avoid over torquing pipe thread. Normal torque applied with a 6 or 8 inch long wrench is ample. Use ample Teflon tape; 3 or 4 turns, not 1 or 2 turns. The inlet is on the left when facing the adjusting knob with the two gage ports upward. An optional panel mounting ring is available (PN 46116). The ring clamps to the cap portion of the regulator at any desired location and orientation. The ring has two threaded holes parallel to the regulator spaced 2.8" apart. The regulator is NOT shipped oxygen clean and should NOT be used for oxygen service as provided. Consult GSMoT for details on oxygen service. **AS WITH ANY REGULATOR, A RELIEF VALVE SET SLIGHTLY ABOVE THE MAXIMUM DESIRED CONTROL PRESSURE SHOULD BE INSTALLED ON THE OUTLET SIDE.**

## MAINTENANCE & REPAIR

**CAUTION:** As with any regulator or valve, particulates or moisture can plug or freeze the internal filter or valve seat. This can occur when up-stream dryers are not changed or remain unused for long periods allowing corrosion materials to accumulate. In critical applications where it is important not to lose flow, a larger particulate filter should be used upstream. An orifice should be used downstream. This reduces the tendency to freeze when moisture is present. Consult GSMoT for details. The user should establish time intervals for changing the valve cartridge, filter and upstream dryers based on experience and service conditions. No representation is made herein concerning such time intervals as each use is unique. Back-up systems should be used in very critical applications since field maintenance is hard to insure. The poppet cartridge is a factory assembled item and should be replaced if required and not disassembled unless absolutely necessary. Spare cartridges are available at a nominal cost and should be kept on hand if rapid repairs are required. **IN ALL CASES, THE UNIT CAN BE RETURNED TO GSMoT FOR REPAIR UNDER WARRANTY IF APPLICABLE OR AT A NOMINAL CHARGE.** Maintenance or repairs should only be done by qualified personnel in a clean environment by following the drawings herein.



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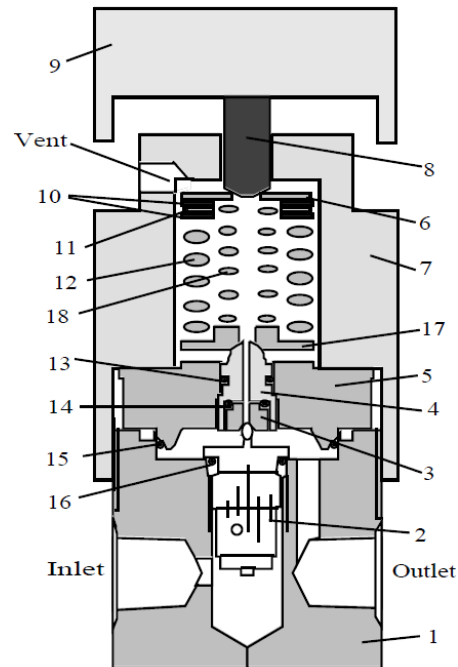
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### ASSEMBLY & DISASSEMBLY

Assembly and disassembly can be done using the following drawings and parts list.

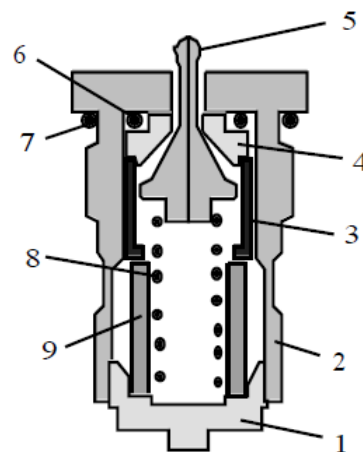
#### PARTS LIST - REGULATOR

ITEM#	QTY	DESCRIPTION
1	1	Body
2	1	Poppet cartridge
3	1	Vent seat
4	1	Piston
5	1	Piston housing
6	1	Spring guide (see note 1)
7	1	Cap
8	1	Adjusting screw
9	1	Knob
10	2	Bearing plate
11	1	Thrust bearing
12	1	Spring, 1"x1" HD
13	1	O-ring, piston
14	1	O-ring, piston to vent seat
15	1	O-ring, cartridge to housing
16	1	O-ring ref
17	1	Spring guide, lower
18	1	Spring, 1/2"x1" EHD



#### PARTS LIST - POPPET CARTRIDGE

ITEM#	QTY	DESCRIPTION
1	1	Retainer nut
2	1	Poppet housing
3	1	Sleeve
4	1	Seat
5	1	Poppet
6	1	O-ring
7	1	O-ring
8	1	Spring
9	1	Filter



#### NOTES

1. Mount spring guide (#6) with bevel side toward adjusting screw (#8).
2. Item #18 is only used for the 6000 PSI outlet version.
3. Repair kit (PN 46117) for 46115 includes (1 each): poppet cartridge (#2), 49010OX O-ring (#14), 49026OX O-ring (#15), vent seat (#3), piston O-ring (#13), and piston housing (#5).
4. Optional non-venting seat (#3) available.
5. For 400 PSI version: Mount piston housing (#5) with smoother side downward against seal.
6. For brass versions: Items #1, #4, & #5 are brass.
7. For non-adjustable versions: Replace items #8 and #9 with 3/8-24 x 1/4" lg hex head plated bolt and jam nut.