



SCUBA Air Cylinder Refilling Procedure

- Refer to drawing 7701 for part numbers and details.

Recommended Tools and Supplies:

1. 5/32" or 4mm hex wrench
2. Plastic tweezers
3. Dow Corning High Vacuum Grease
4. Cotton rag or paper towel
5. Loctite 242 Threadlocker or any equivalent blue loctite
6. SCUBA to paintball nipple fill adaptor

O-ring Replacement Procedure:

1. Use a 5/32" or 4mm hex wrench and remove the two Socket Head Cap Screws located on top of the Cylinder Head.
2. While pulling back on the Trigger Pin remove the Trigger Housing, shown in figure 1. Neglecting to pull back on the Trigger Pin may cause damage to the Valve Stem.

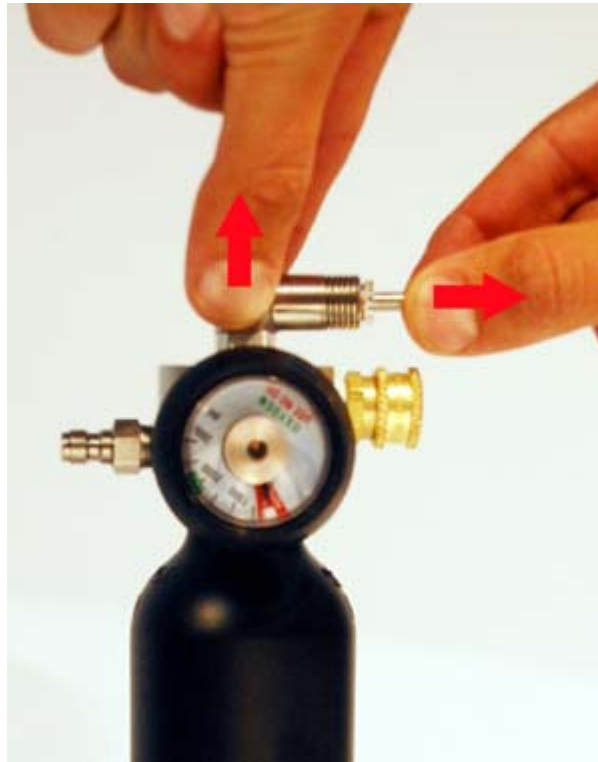


Figure 1, removing the Trigger Housing.

3. Pull the Valve Stem out of the Cylinder Head.
4. Inspect the Valve Stem. If Valve Stem is bent or damaged it must be replaced.

5. Remove the smallest o-ring on the Valve Stem. It will either be located in the o-ring groove or at the end of the tapered portion of the stem, show below in figure 2. It is recommended that the o-ring be removed with plastic tweezers or any other appropriate non metallic tool. Avoid scratching the surface of the Valve Stem when removing.

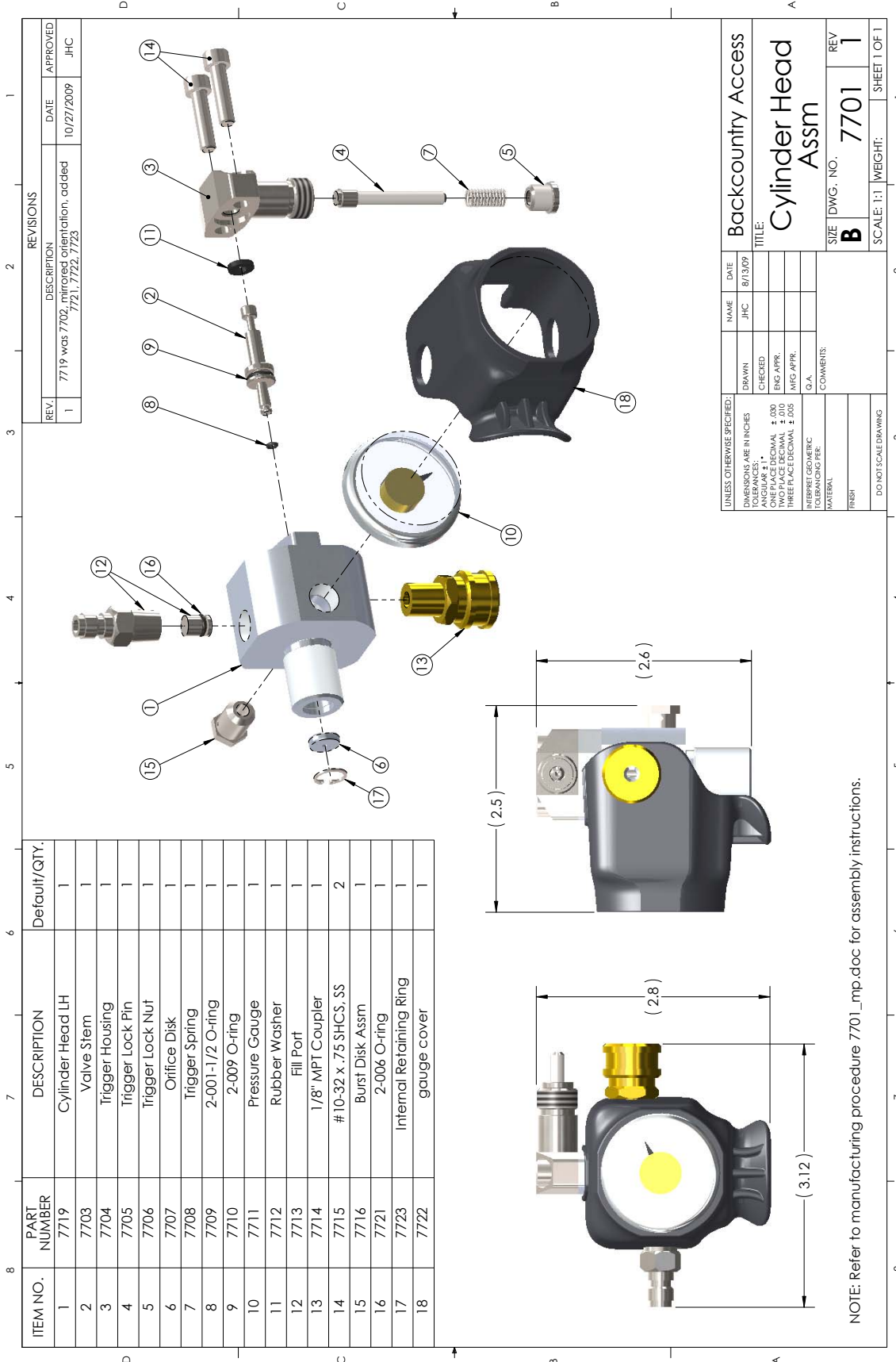


Figure 2, the arrow shows one possible location for BCA 7718 o-ring.

6. Inspect the larger o-ring and the rubber washer. If they are damaged, replace.
7. Gently wipe old grease from the valve stem with a cotton rag or paper towel.
8. Apply Dow Corning High Vacuum Grease to a new BCA 7718 o-ring and install onto o-ring groove. Only use BCA approved o-rings and grease. Failure to do so may result in improper function of valve.
9. Apply vacuum grease to the outside of both o-rings and the rubber washer.
10. Install Valve Stem back into the Cylinder Head.
11. Install Trigger Housing back onto the cylinder head by pulling the Trigger Lock Pin outwards and sliding the housing onto the Valve Stem. The Trigger Lock Pin needs to point in the same direction as brass Quick Disconnect. The Valve Stem should lie flush with the top of the Trigger Housing. If it does not the Valve Stem has not been fully seated.
12. Inspect the threads of the two Socket Head Cap Screws. Replace if damaged. If blue loctite appears to be worn off apply a drop to the thread of each screw. Install the screws into the top of the Trigger Housing. Take care not to over tighten the screws.

Refilling Instructions:

- Use a SCUBA to paintball fill adaptor to fill the Air Cylinder to 2700-psi at 70°F (21°C).
- Fill the cylinder slowly to avoid heating. It is recommended to fill the cylinder while submerged in water to reduce heat. The pressure gauge must read 2700-psi once the bottle has cooled back down to room temperature.
- Do not tamper with any of the threaded fittings. If it is suspected that a fitting is leaking, return the Air Cylinder to BCA for service.



ITEM NO.	PART NUMBER	DESCRIPTION	Default/Qty.
1	7719	Cylinder Head LH	1
2	7703	Valve Stem	1
3	7704	Trigger Housing	1
4	7705	Trigger Lock Pin	1
5	7706	Trigger Lock Nut	1
6	7707	Orifice Disk	1
7	7708	Trigger Spring	1
8	7709	2-001-1/2 O-ring	1
9	7710	2-009 O-ring	1
10	7711	Pressure Gauge	1
11	7712	Rubber Washer	1
12	7713	Fill Port	1
13	7714	1/8" MPT Coupler	1
14	7715	#10-32 x .75 SHCS, SS	2
15	7716	Burst Disk Assm	1
16	7721	2-006 O-ring	1
17	7723	Internal Retaining Ring	1
18	7722	gauge cover	1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	7719 was 7702 - mirror orientation, added 7721, 7722, 7723	10/27/2009	JHC

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: ANGULAR ± 1° HOLE DIA. ± .010 TWO PLACE DECIMAL ± .010 THREE PLACE DECIMAL ± .005 FINISH		NAME JHC	DATE 8/13/09
DRAWN		CHECKED	ENG APPR.
MATERIAL		COMMENTS	
INTERPRET GEOMETRIC TOLERANCING PER:		G.A.	
TITLE: Cylinder Head Assm		SIZE DWG. NO. 7701 REV 1	
SCALE: 1:1		WEIGHT: SHEET 1 OF 1	

NOTE: Refer to manufacturing procedure 7701_mp.doc for assembly instructions.