

GS G-STICK Regulator REBUILD INSTRUCTIONS

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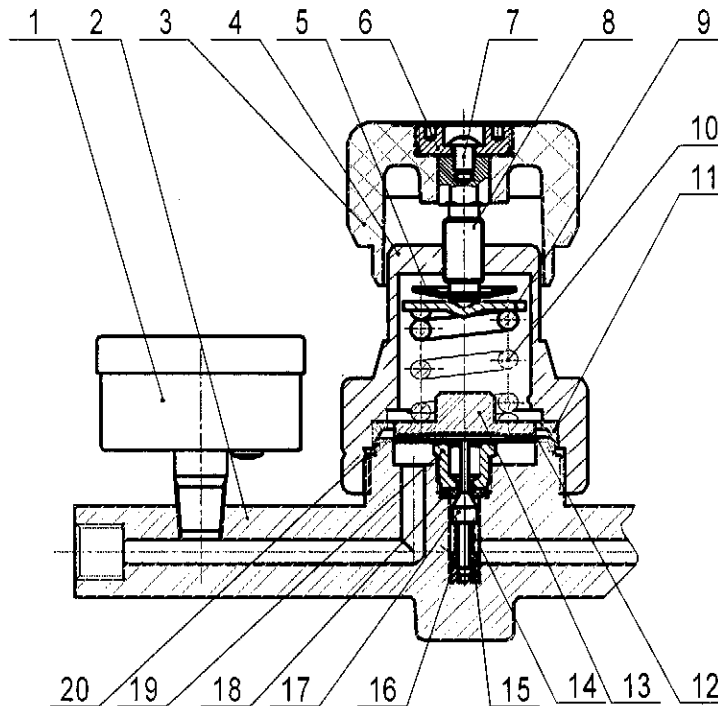
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Purpose: To define disassembly and re-assembly of G-STICK Regulator

G-STICK Regulator Disassembly

1. The assembly drawing of G-STICK regulator



1 LP Gauge: 2 Body: 3 Control Knob: 4 Housing Cap: 5 Quick Nut: 6 Nut: 7 Bolt: 8 Adjusting Screw: 9 Spring Button: 10 Spring: 11 Gasket: 12 Diaphragm: 13 Diaphragm Button: 14 Spring: 15 Washer: 16 Friction Washer: 17 Valve Stem: 18 Seat: 19 Nozzle: 20 Gasket

2. Put on clean latex or vinyl gloves. *Change gloves when visible dirt, oil or debris is present.
3. Remove the control knob cover, loosen the Bolt(7), remove the bolt, the control knob (3) from the regulator body.
4. Loosen the housing cap (4) with a wrench (requires some force), insure the G-Stick is securely clamped, then screw off the housing cap, and turn the adjusting screw (8) counterclockwise until it bottoms out in the housing cap.
5. Remove the spring button (9), spring (10), diaphragm button (13), gasket (11) Diaphragm (12) and the Gasket (20).



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	<p>6. Loosen the nozzle (19) with a tee type socket wrench, then slowly remove the seat assembly including nozzle (19), seat (18), valve stem (17), spring (14), Washer(15) and the Friction Washer(16). (Note: Debris, like metal shavings could fall from the Teflon seat when being removed)</p>
<p><u>G-Stick Regulator Inspection</u></p>	<ol style="list-style-type: none"> 1. Put on clean latex or vinyl gloves. *Change gloves when visible dirt, oil or debris is present. 2. Perform a visual inspection of the G-STICK regulator components, ensuring that the diaphragm is not damaged or deformed and the seating areas are free of debris or foreign materials. 3. Replace components with a G-Stick regulator rebuild kit. 4. If non-repairable defects are found: <ol style="list-style-type: none"> a. Stage rejected materials in "non-Conformance Material" staging area. b. Place a red "Rejected Material" label on the component. c. Complete a rejected Materials" form and notify materials coordinator that the regulator is not repairable.
<p><u>G-STICK Regulator Reassembly</u></p>	<ol style="list-style-type: none"> 1. Using new rebuild kit parts (SS-GS-100), consisting of the following parts diaphragm (12) seat (18) and the gasket (20). 2. <i>Seat assembly:</i> install the seat (18) into the nozzle (19), install the friction washer into the gland (15). Then in order, place the spring (14), friction washer(16)and the washer (15) onto the valve stem (17). 3. Place the seat assembly into the body (2), by continually tightening the nozzle in slow increments, using a T-style socket and torque wrench, torque to 6.5 ~ 8.5 ft/lbs. 4. Use your latex gloved index finger, lubricate with only a small amount of Krytox or O2 compatible lube onto the thread of the adjusting screw (8). Place the gasket (20) on the body, then cover the gasket (20) with the diaphragm (12) . 5. In the following order place the diaphragm button (13), gasket (11), spring (10), spring button (9)(Note: the concave of the spring button is placed up and lubricated with a small amount of lube) on the diaphragm, then cover them with the housing cap assembly. And continue to tighten the housing cap in increments, using a crows foot torque wrench, to a torque setting of 44~48 ft/lbs.



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The ball valve leakage test:

6. Close the ball valve and cap the outlet of the G-Stick. Set the inlet pressure to 500 PSI (the rated inlet pressure), turn the adjusting screw (8) clockwise to open the regulator valve, the indicator on LP gauge shouldn't move.

The regulator leakage test:

7. *The internal leakage test:* At first keep the regulator opened, and open the ball valve then close the outlet of the regulator. Then set the inlet pressure to 500 PSIG, the indicator on LP gauge shouldn't move if the regulator valve isn't opened.
8. *The external leakage test:* open the ball valve and close the outlet of the regulator. Then set the inlet pressure at 500 PSIG (the rated inlet pressure), adjust the regulator to pressurize the outlet pressure to 150 PSIG (the rated outlet pressure). Conduct pressure decay test.
9. Then decrease the outlet pressure from 150 PSIG to 50 PSIG, and keep this pressure for 15 min, the variation of the outlet pressure should be within ± 2 PSIG.

Flow test:

10. Open the ball valve and the outlet of the regulator, set the inlet pressure to 500 PSI, then adjust the regulator to increase the outlet pressure from 0 PSI to 150 PSI. During the pressure increase, the indicator on the LP gauge should move steadily higher and the regulator should not whistle.
11. Open the ball valve and close the outlet of the regulator. Adjust the adjusting screw (8) of the regulator to increase the outlet pressure from 0 PSI to 150 PSI, then install the control knob (3), the nut (6), the bolt(7) on the adjusting screw. Install the control knob cover (5).
12. Helium leak test or Pressure snoop test Regulator.

Reviewed and approved

Revision History

Rev	Description of Changes	Author & date
0	Original issue -	GBP 09/10/06