



G-Force

by: TASK FORCE TIPS 

G903-KIT: G-Force Valve Plug Service Procedure

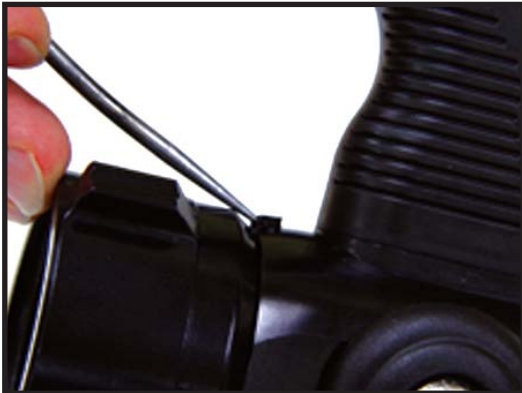
Tools Required

Pointed Pick, 3/16" and 7/32" Allen Wrenches, and Needle Nose Pliers

Parts Required

G903-KIT G-Force Valve Plug Kit
Kit Contents: Valve Plug Assy., #222 O-Rings (3), #134 O-Ring, Dow 112 Grease, Blue Loctite® Mini Dispenser and Red Loctite® Mini Dispenser

Step 1) Using a pointed pick remove the rubber Port Plug that retains the ball bearings in the coupling. The port plug is located on the bottom center of the valve adjacent to the coupling. Press the pick into the plug and pry out.



Step 2) Holding the nozzle over a container with the port plug hole facing down rotate the coupling until all the ball bearings fall out. 33 balls retain the coupling. Once all the ball bearings have been removed pull off the coupling, debris screen, and o-ring.

Step 3) Using the 7/32" Allen wrench remove the two button head screws that retain the bail handle to the valve. These are retained with red Loctite®; some force will be required for removal.

Step 4) Once the screws have been removed from the handle, using needle nose pliers remove the cam pin from each side of the bail handle. These will simply pull out.



Step 5) Holding your thumbs over the detent balls and springs on the bail handle pull the handle upward and off using your thumbs to capture the balls and springs when the handle is removed.



Step 6) Use your finger to pull out the stainless steel slide valve. Two or three o-rings seal the slide valve, there will be some resistance when it is pulled out.



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Step 7) Inspect the tapered leading edge of the slider. This is the edge that seals against the plug. If this edge is damaged replace the slider. (Part # G605)



Step 8) Once the slider has been removed the two valve discs will come out. (Discs indicated in photo by the red arrow. Remove them and set aside. Using the pointed pick remove two o-rings (VO-222) that seal the slide valve. (Indicated in photo by the red circle) Early versions utilized two o-rings one; front and one rear. Later versions used three; one front and two rear. Replace with the appropriate number of o-rings.



Step 9) Using the 3/16" Allen wrench, un-thread the valve plug from the valve. The green aluminum center will accept an Allen wrench.

Step 10) If the old valve plug has a black centering ring, remove the black ring from the old plug and remove the white ring from the new plug, place the black ring on to the new plug. Otherwise, the valve plug can be used as provided. Using the grease provided in the kit apply a light coat of grease to the threads of the valve plug.



Step 11) Apply Blue Loctite to the valve plug. Thread the new valve plug into the valve body until snug. DO NOT tighten.

Step 12) Lightly grease the o-rings (VO-222) that are provided in the kit. Install the o-rings in the valve body in the grooves where they were removed in Step 8.

Step 13) Place one valve disc in each side of the valve body from the inside of the valve. Orient the discs as indicated in the photo.



Step 14) Lightly grease the outside circumference of the slider with the grease provided in the kit. Install the slider with the chamfered edge facing the valve plug. Use caution when installing the slider that it does not pull the valve discs out of place. Push the slider in until it contacts the valve plug then pull back about 3/8".



Step 15) Align the cam pin hole in the valve disc with the groove in the slider. Insure that the cam pin hole is facing up nearest the valve detent arc.



Step 16) Install the detent springs and balls back into the bail handle. Using the same method as when the handle was removed retain the springs and balls in the handle with your thumbs. Install the handle over the valve snapping it into place. Insure that the valve handle is oriented as indicated in the photo. The cam pin hole should be forward toward the exit of the nozzle.



Step 17) Install a cam pin in each cam pin hole. Insure it seats in the groove in the slider. The cam pin face should be flush with the surrounding handle when properly installed. Apply red Loctite® to the threads of the button head screws that retain the handle. Install one on each side of the handle until hand tight.



Step 18) With the valve handle held in the closed position, using the 3/16" Allen wrench back the valve plug out (unscrew) unit it makes firm contact with the slider. Once contact is made with the slider, open the valve handle part way and unscrew the valve plug 10 degrees. This will set the proper tension between the valve plug and slider.



Step 19) Included with the kit is a new o-ring (VO-222) to seal the coupling to valve body connection. Lightly grease this o-ring. Install this o-ring on the valve body as shown. Also, lightly grease the ball ring groove on the valve body.



Step 20) Install the debris screen over the valve body so the concave portion faces down over the valve body. Next, lightly and evenly press the coupling down onto the valve body. Pay close attention that the o-ring does not get pushed out of place or pinched.

Step 21) Install the 33 ball bearings that were removed from the coupling through the port on the bottom side of the valve.

Step 22) Lightly grease the port plug then press back into the valve body. If you have difficulty installing the port plug a ball bearing may be obstructing the path of the port plug. Using your pointed pick insure the balls are pushed to either side of the port plug path. Insure the port plug is fully seated and flush with the valve body.



Step 23) With the valve in the closed position pour a cup of water into the valve. Check to insure no water leaks through. If it does the valve plug likely needs to be backed out a little further.