



# How to Repair a Bleed Down Valve Assembly II

## #12981

These instructions will demonstrate how to assemble a Bleed Down Valve Assembly II Using kit #12981

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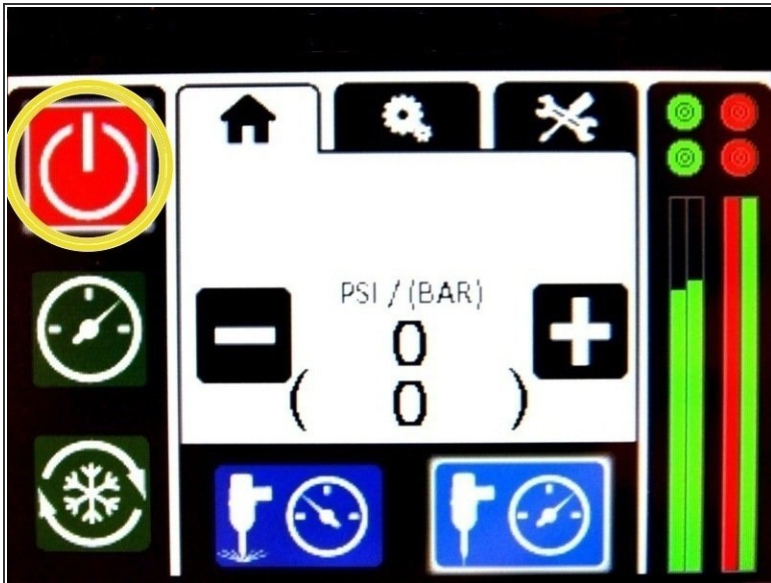
 **TOOLS:**

- 1-1/4" wrench (1)
- 1-1/16" wrench (1)
- 1" wrench (1)
- 7/8" wrench (1)
- 13/16" wrench (1)
- 5/8" wrench (1)
- 5/16" Socket Wrench (1)

 **PARTS:**

- Bleed Down Valve Body II #12943 (1)
- Bleed Down Valve Needle II #12942 (1)
- Bleed Down Valve High-Pressure Seal #11321 (1)
- Bleed Down Valve Seal Hoop #11323 (1)
- Bleed Down Valve Stem Bushing #11324 (1)
- Poppet Seat #11141 (1)
- Seal Back-up Screw #12945 (1)
- Outlet Adapter #12944 (1)
- Flow Reducer #11743 (1)
- Bleed Down Valve Housing Body #11779 (1)
- Bleed Down Valve Hydraulic Piston #11778 (1)
- Back-up O-ring #11680-114 (1)
- Male to Female Hydraulic Adapter #11796 (1)
- O-ring SAE #12880-912 (1)
- O-ring Lube #13969 (1)
- High Vacuum Grease #11447 (1)
- Blue Goop #11111 (1)
- Isopropyl Alcohol (1)

## Step 1 — How to Repair a Bleed Down Valve Assembly II #12981



**⚠** Always make sure all high-pressure water has been removed from the valve by following the machine manufacturers' safety instructions. Failure to do so can cause severe injury or death.

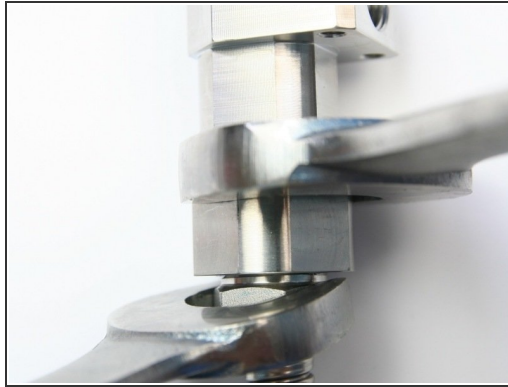
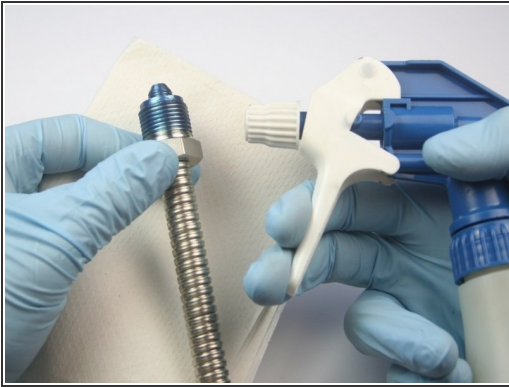
- Turn OFF all hydraulic and water pressure to the bleed-down valve.
- Loosen the hydraulic hose from the hydraulic fitting using 7/8" and 3/4" wrench.

## Step 2



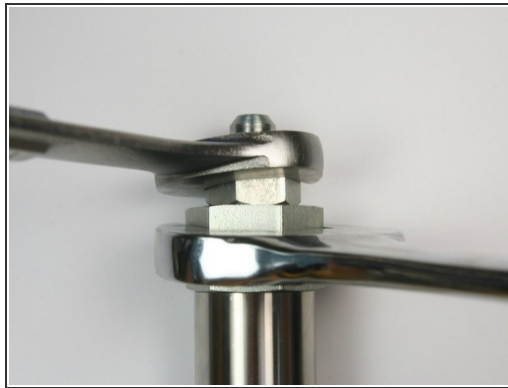
- Unthread the hydraulic hose from the hydraulic fitting.
- Loosen the 1/4" gland nut from the side inlet of the valve body.
- Unthread the 1/4" gland nut from the side inlet of the valve body.

### Step 3



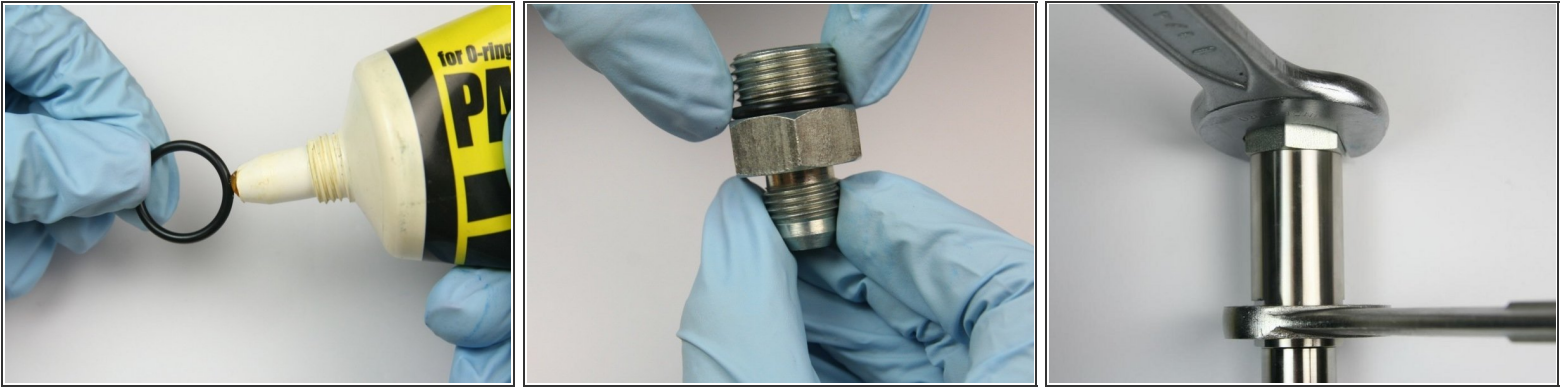
- Clean the 3/8" gland nut of all Blue Goop with isopropyl alcohol.
- Loosen the 3/8" high-pressure gland from the outlet adapter using 13/16" and 1" wrench.
- Unthread the 3/8" high-pressure gland from the outlet adapter.

### Step 4



- Clean the 3/8" gland nut of all Blue Goop with isopropyl alcohol.
- Loosen the hydraulic fitting from the adapter fitting using 1-1/4" and 7/8" wrench.
- Unthread the hydraulic fitting from the adapter fitting.

## Step 5



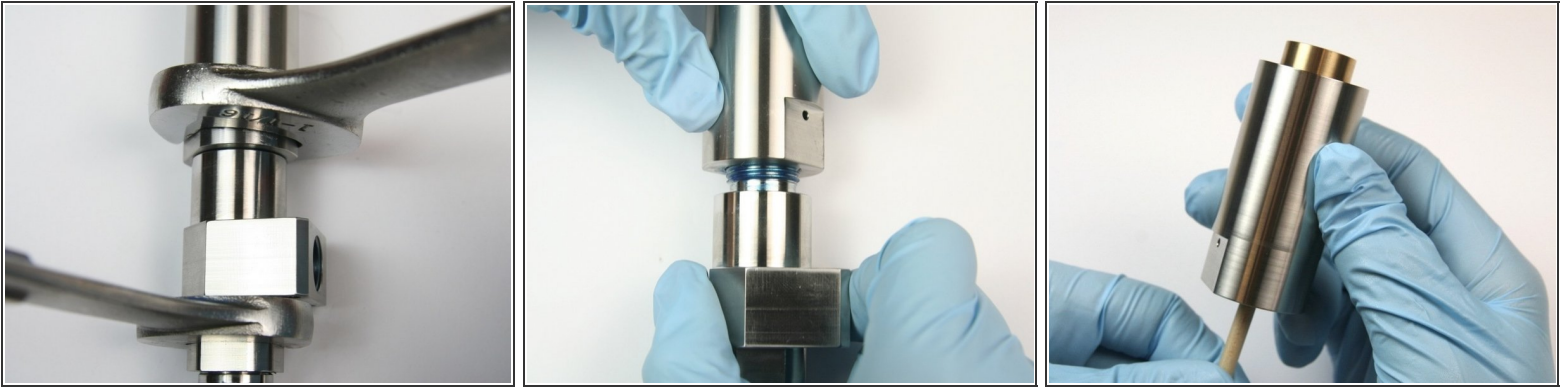
- Apply an O-ring lubricant to the O-ring from the kit for the hydraulic fitting.
- Replace the O-ring on the hydraulic fitting with the O-ring from the kit (smallest O-ring in kit).
- Loosen the adapter fitting from the actuator housing using 1-1/4" and 1-1/16" wrench.

## Step 6



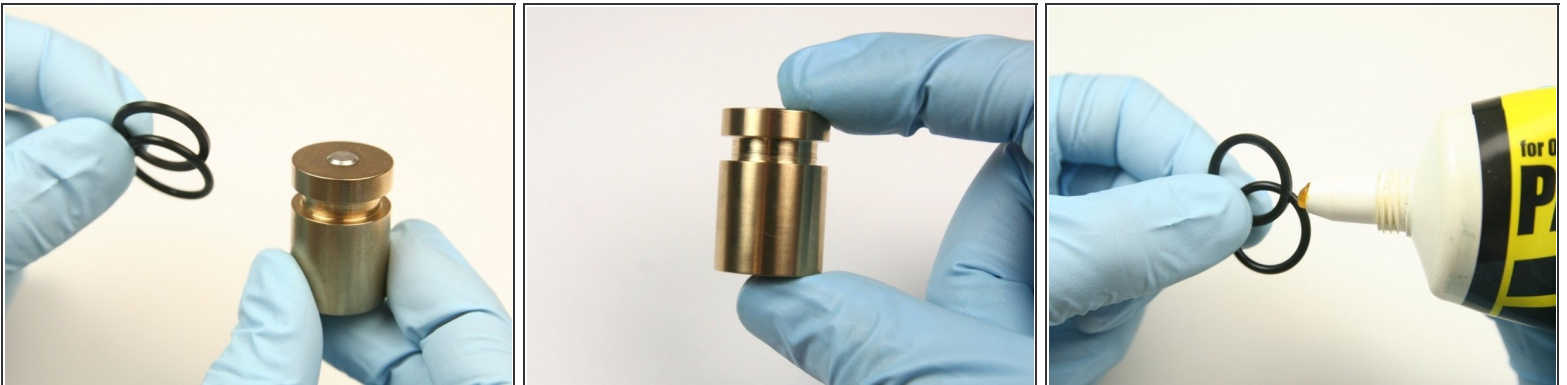
- Unthread the adapter fitting from the actuator housing.
- Apply an O-ring lubricant to the largest O-ring from the kit.
- Replace the O-ring on the adapter fitting with the largest O-ring from the kit.

## Step 7



- Loosen the actuator housing from the valve body using 1-1/16" and 7/8" wrench.
- Unthread the actuator housing from the valve body.
- Push the piston out of the actuator housing through the oil port using the included dowel.

## Step 8



- Discard the O-ring and back-up ring from the piston.
- Inspect the piston, if damage is visible, replace.
- Apply an O-ring lubricant to the O-ring and back-up ring.

## Step 9



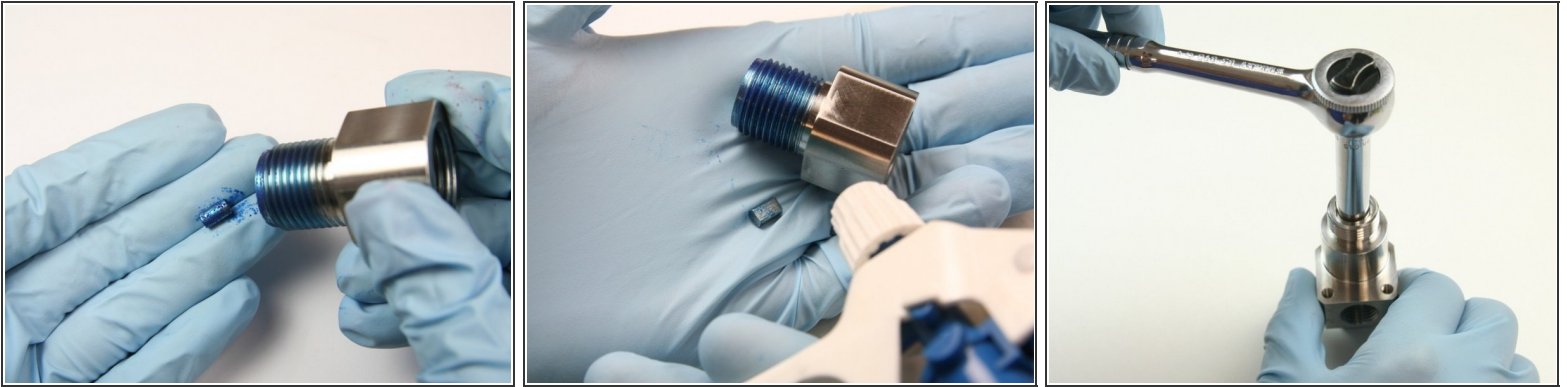
- Slide the new back-up ring (flat) into the groove of the piston.
- ⓘ Make sure the concave side of the back-up ring is towards the O-ring.
- Slide the new O-ring (rounded) into the groove of the piston.
- Put the piston assembly into the actuator housing and push with the included dowel.

## Step 10



- Loosen the outlet fitting from the bleed down valve body using 7/8" and 13/16" wrench.
- Unthread the outlet fitting from the bleed down valve body.
- Remove the high-pressure seat from the bleed down valve body and discard.

## Step 11



- Remove the [flow reducer](#) from the outlet adapter.
- Clean the outlet adapter and the flow reducer of all Blue Goop with isopropyl alcohol.
- Loosen the back-up screw from the top of the bleed down valve body using a 5/16" socket wrench.

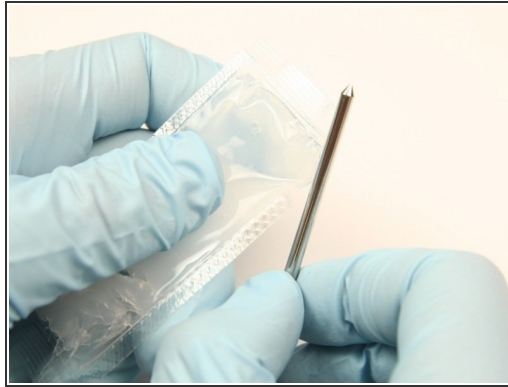
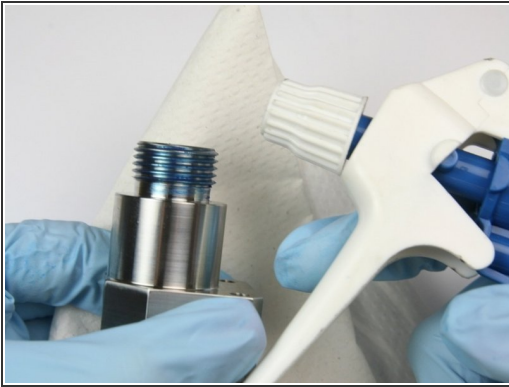
## Step 12



- Unthread the [seal back-up screw](#) from the top of the bleed down valve body.
- Clean the seal back-up screw with isopropyl alcohol.
- Push the components through the bleed down valve body with the included dowel.

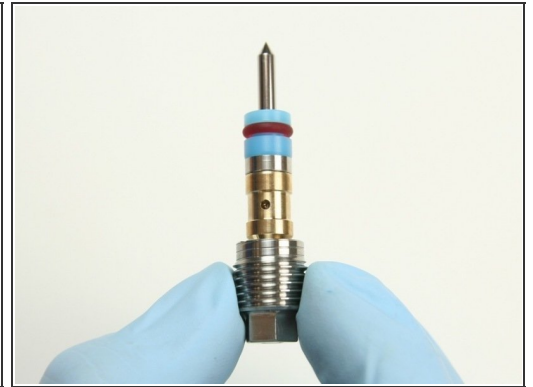
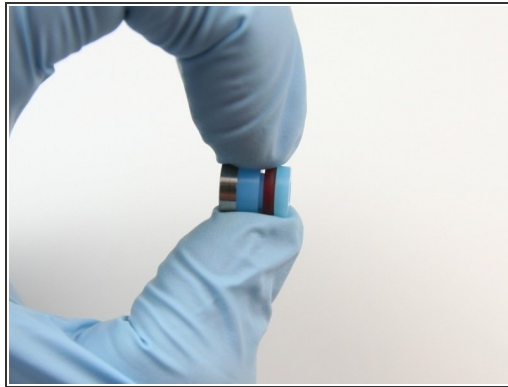


## Step 13

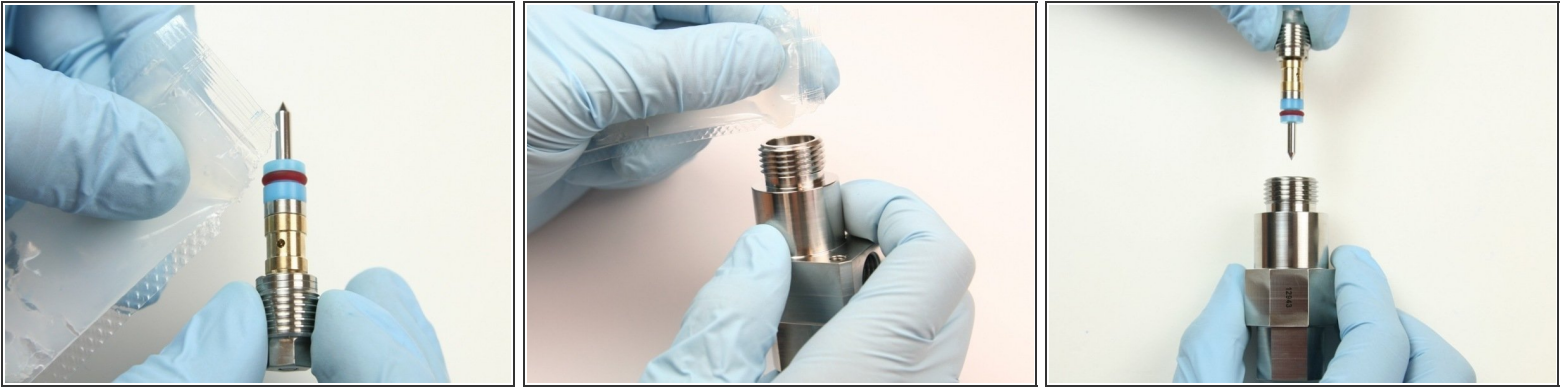


- Clean the bleed down valve body with isopropyl alcohol or a similar cleaning agent.
- Apply [high vacuum grease](#) to the needle.
- Slide the back-up screw on to the needle so the flat end of the needle is flush with the non threaded part of the back-up screw.

## Step 14



- Slide the bushing onto the point of the needle with the chamfered end towards the back-up screw.
- Put the hoop onto the high-pressure seal with the tapered end towards the high-pressure seal and opposite from the O-ring.
- Put the high-pressure seal assembly onto the point of the needle with the hoop, first.

**Step 15**

- Apply a high vacuum grease to the exterior of the high-pressure seal, hoop, and bushing.
- Apply a high vacuum grease to the internal threads of the bleed down valve body.
- Put the high-pressure needle assembly into the top of the bleed down valve body with the point first.

**Step 16**

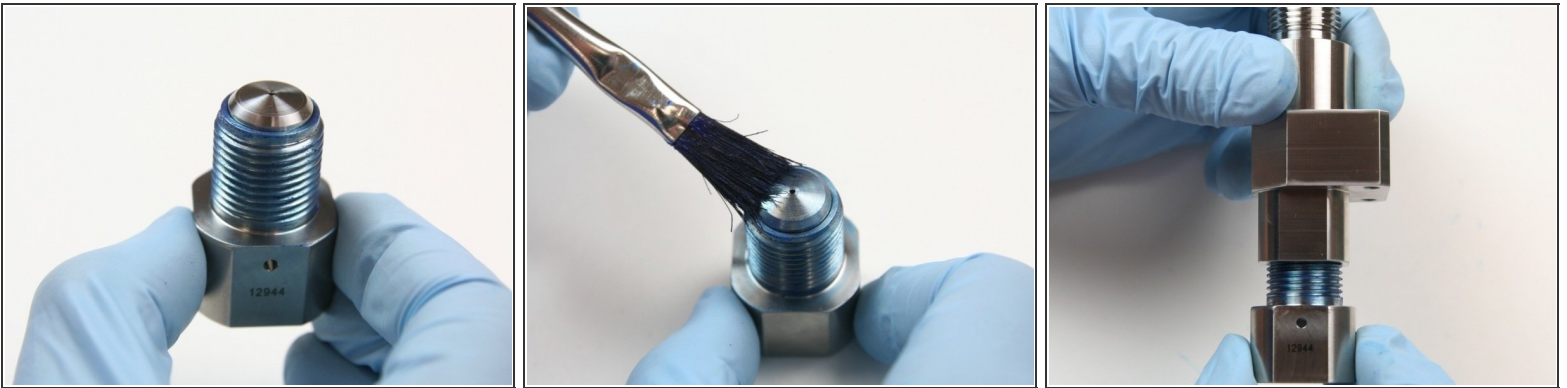
- Push the seal back-up screw inside of the valve body until it bottoms out.
- Take the seal back-up screw out of the body and apply a layer of Blue Goop to the threads.
- Thread in the back-up screw into the top of the bleed down valve body.

## Step 17

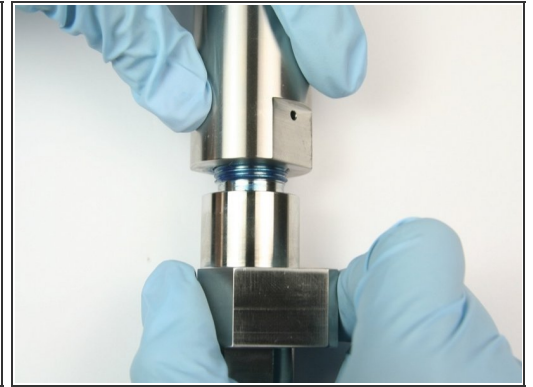
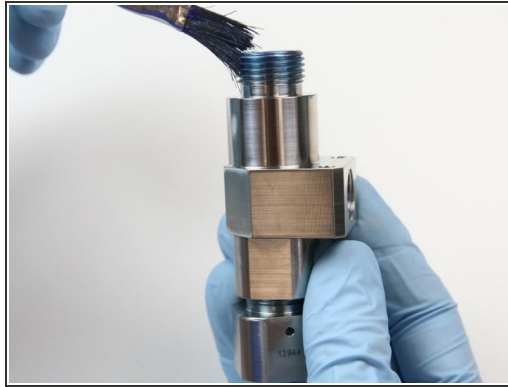


- Tighten the back-up screw to the top of the bleed down valve body using a 5/16" socket wrench.
- Put the flow reducer into the hole beneath the seat cavity in the outlet adapter.
- Apply a layer of Blue Goop to the external threads and the seat cavity of the outlet adapter.

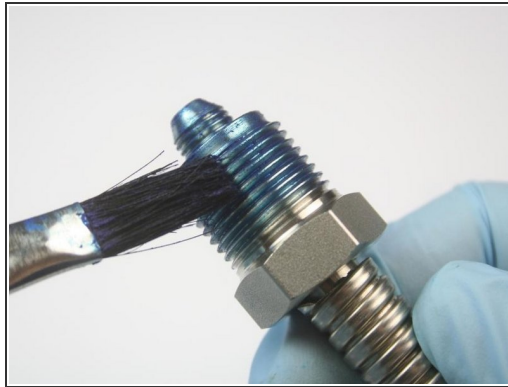
## Step 18



- Put the poppet seat into the seat cavity of the outlet adapter.
- Apply a layer of Blue Goop to the top of the poppet seat that is sitting in the outlet adapter.
- Thread the outlet adapter into the valve body.

**Step 19**

- Using a 1" wrench on the outlet adapter and a 7/8" wrench on the valve body, tighten together securely.
- Apply a layer of Blue Goop to the external threads of the valve body.
- Thread the actuator housing onto the valve body.

**Step 20**

- Tighten the actuator housing to the valve body using a 1-1/16" and 7/8" wrench.
- Apply Blue Goop to the 3/8" gland nut threads.
- Thread the 3/8" gland nut with the high-pressure tubing into the bleed down valve adapter.

## Step 21



- Tighten the gland nut into the bleed down valve adapter using 13/16" and 5/8" wrench.
- Apply Blue Goop to the 1/4" gland nut threads.
- Thread the 1/4" gland nut into the side of the bleed down valve body.

## Step 22



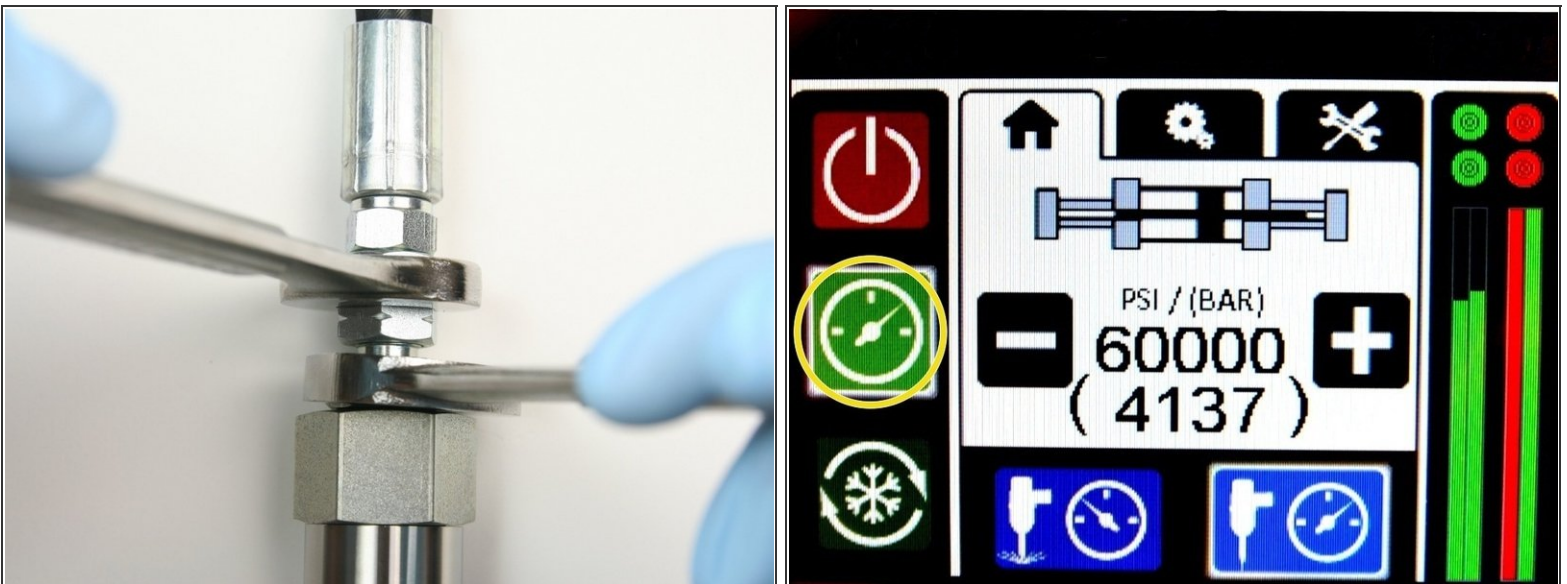
- Tighten the gland nut to the side of the bleed down valve body using 3/4" and 5/8" wrench
- Thread the adapter fitting into the actuator housing.
- Tighten the adapter fitting into the actuator housing using 1-1/4" and 1-1/16" wrench.

## Step 23



- Thread the hydraulic fitting into the hydraulic adapter.
- Tighten the hydraulic fitting into the hydraulic adapter.
- Thread the hydraulic hose onto the hydraulic fitting.

## Step 24



- Tighten the hydraulic hose to the hydraulic fitting using 7/8" and 3/4" wrench.
- Turn the pump ON and continue the cutting process.