

Rebuilding the OMAX® Dual On/off Valve

Use this document to rebuild a faulty Dual On/off Valve.

Tools and Materials Needed

Dual On/off Valve Repair Kit (P/N 301927)



Removing the Dual On/off Valve

The figure below illustrates an **OMAX Dual On/off Valve** connected to a **OMAX MAXJET® 5 Nozzle Assembly**:

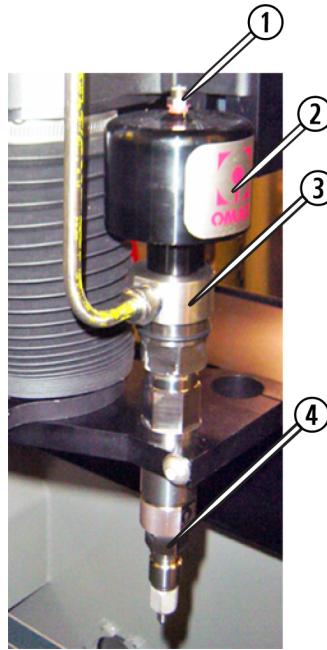


Figure 1

- ① Air line fitting
- ② Air actuator assembly
- ③ Dual on/off valve assembly
- ④ MAXJET 5 nozzle assembly

To remove the Dual On/Off Valve Assembly:

1. Switch **Off** the AC power for both the **pump** and **table**. Disconnect their main AC power breaker and attach an "Out of Service" tag. Observe all applicable electrical safety procedures.
2. Remove the **air line** from the **air line fitting** on top of the **air actuator assembly** (Figure 1) and move it out of the way.



WARNING!

Before removing the air line, you must first power Off the pump! Once the air line controlling the on/off valve is removed, the nozzle becomes active.

3. Remove the **air actuator assembly** ① from the **valve body** ②.

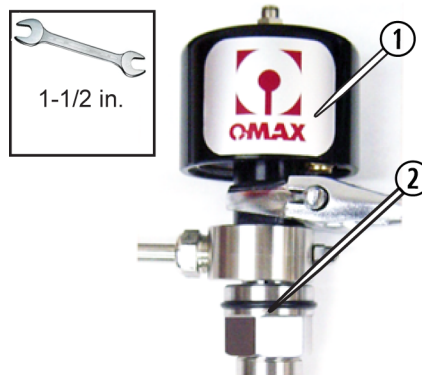


Figure 2

4. Remove the **retaining screw** ② from the **valve body** ①.

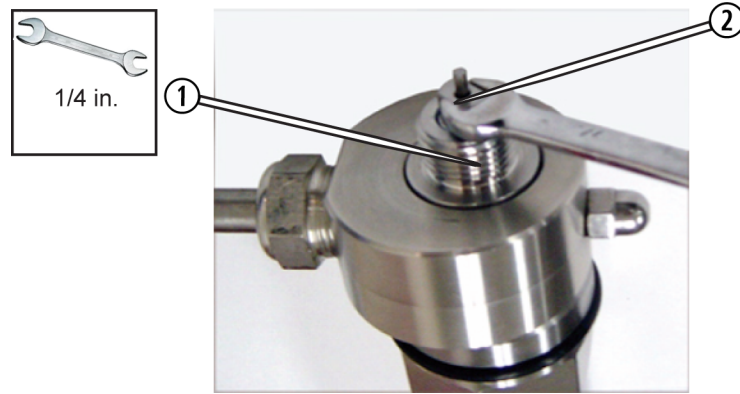


Figure 3

5. If possible, leave the **UHP tube** ① tightened in the **fitting ring** ③ until the **valve gland nut** ② is loosened. After that, remove the **UHP tubing** from the **fitting ring**.



CAUTION!
Always use two wrenches when removing a gland nut!

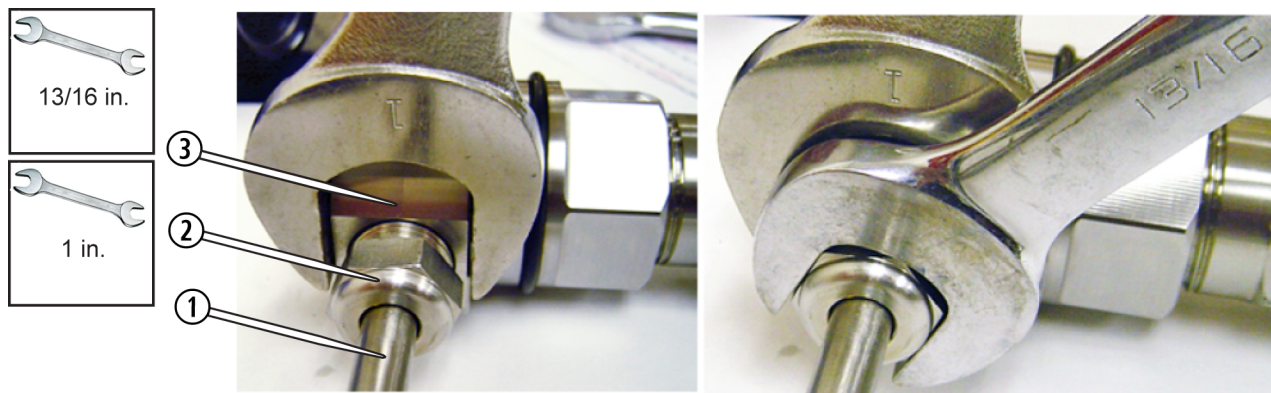


Figure 4

6. Loosen the **valve gland nut** ② from the **inlet body** ①.

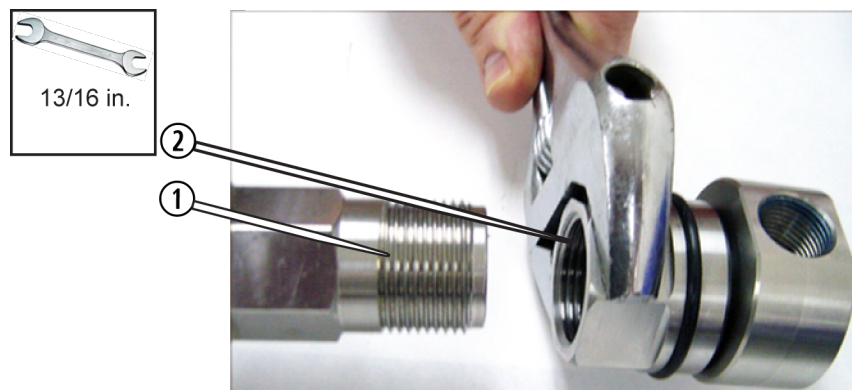


Figure 5

7. Rotate the **on/off valve assembly** away from the **high pressure nipple** and remove the **valve gland nut**.

8. Remove the **valve gland nut** from the **fitting ring** (Figure 4 ③) and carry the **Dual On/off Valve Assembly** to a clean work area for rebuilding.



CAUTION!

The on/off seat is not secured in the valve body at this point and may fall out when carried.

Disassembling the Dual On/off Valve



CAUTION!

The swivel assembly and the rebuild location must be thoroughly cleaned prior to rebuilding.

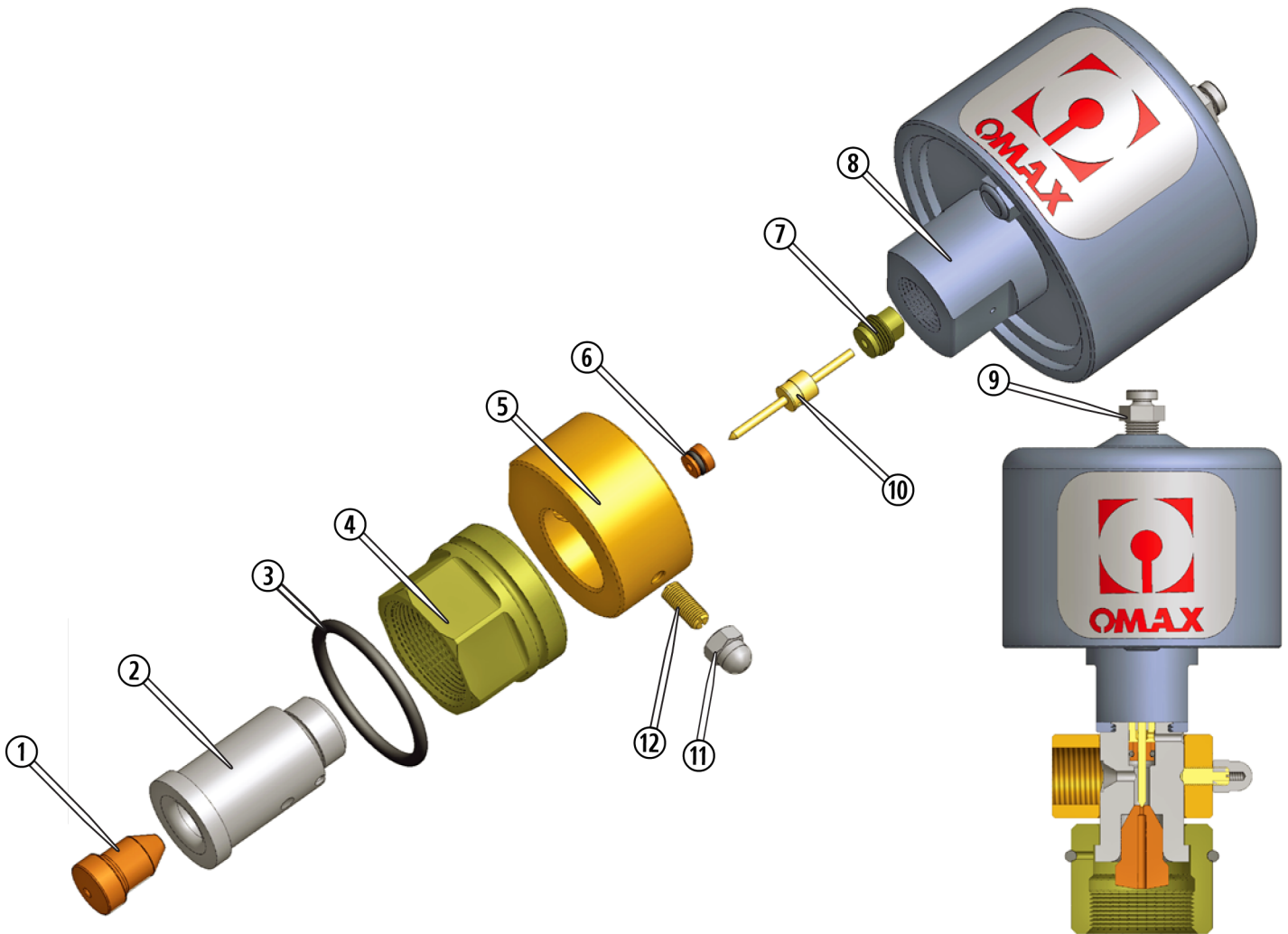


Figure 6

- | | | |
|-------------------|-------------------------|-----------------------------|
| ① On/off seat | ② Valve body | ③ O-ring |
| ④ Valve gland nut | ⑤ Fitting ring | ⑥ Seal assembly with O-ring |
| ⑦ Retaining screw | ⑧ Air actuator assembly | ⑨ Air line fitting |
| ⑩ Stem assembly | ⑪ Acorn nut | ⑫ Set screw |

1. Ensure that your working area for rebuilding this assembly is clean with all required tools and materials available.

2. Pull the **fitting ring** ② and **valve gland nut** ① from the **valve body** ③.

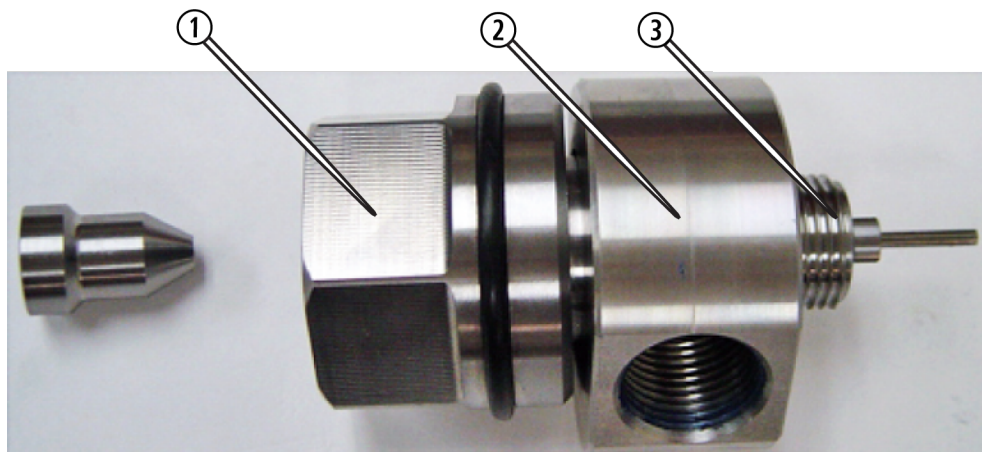


Figure 7

3. Remove the **stem assembly** ② from the **valve body** ①.

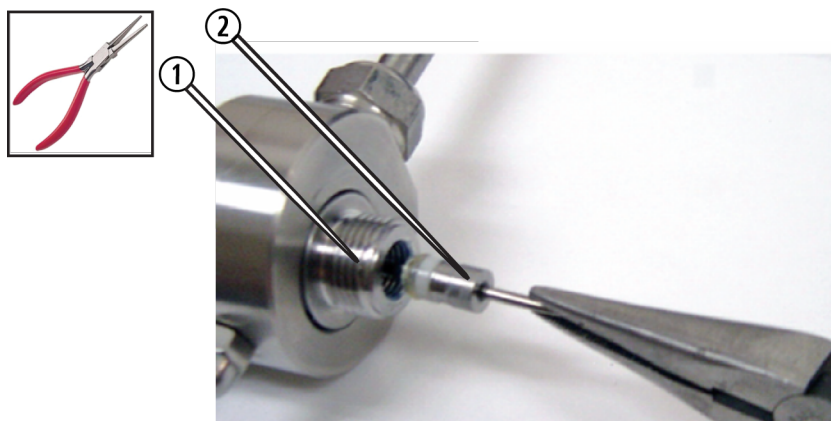


Figure 8

4. If the **seal assembly** ② remains in the **valve body** ①, use the end of an Allen wrench (or other long tool approximately 3 mm in diameter) to push the **seal assembly** out of the **valve body**.

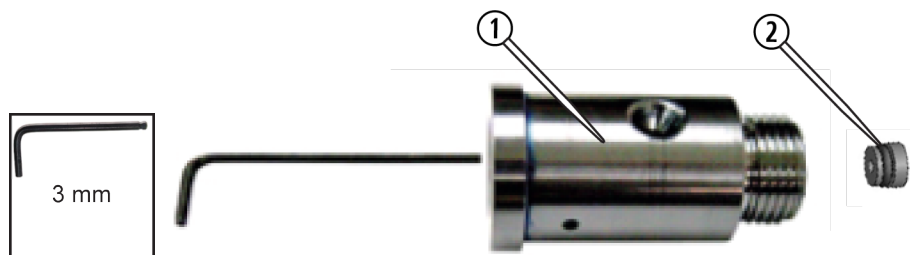


Figure 9

5. Clean all parts not being replaced in the repair kit. Discard the used **on/off seat** ①, **seal assembly** ② with **O-ring** and **stem assembly** ③.

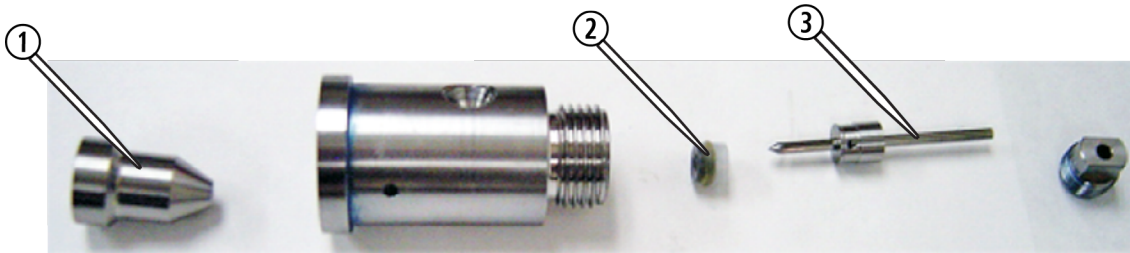


Figure 10



Note:

All items included in the Dual On/off Valve Repair Kit (P/N 301927) must be used. Do not reuse any parts that are provided in the repair kit. Reusing these parts will decrease the life of your rebuilt on/off valve assembly.

- Carefully inspect the **valve body** for cracks and other defects. Cracked and damaged parts must always be replaced.

Reassembling the Dual On/off Valve

- From the Dual On/off Valve Repair Kit, locate the **on/off seat**, the **seal assembly with O-ring**, and the **stem assembly**.
- Slide the **seal assembly** onto the **stem assembly shaft** with the **O-ring** facing towards the **valve body** (Figure 11). Ensure that the **seal assembly** slips over the pointed end of the **stem assembly**.
- Install the **seal assembly** ① onto the **stem assembly** ② with the **O-ring** side facing away from the **stem assembly center** (see below). Coat both the **seal assembly O-ring** and the **stem assembly** with Lubriplate grease:

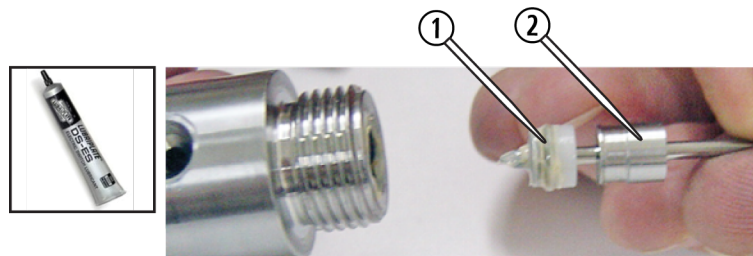


Figure 11

- Lightly coat inside the **valve body bore** ① down past the threads to the internal lip with Lubriplate grease:

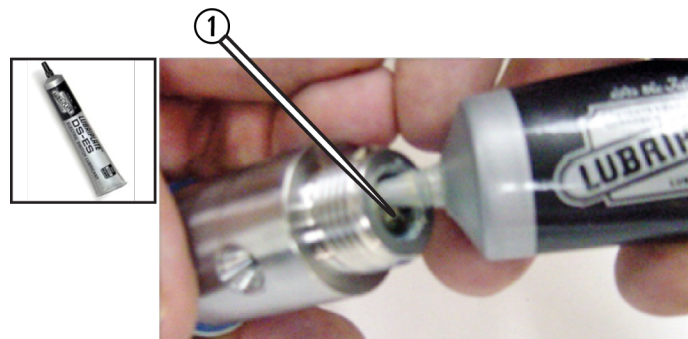


Figure 12

5. Tightly grasp the **stem assembly** ③ with the **seal assembly** installed and gently push them down into the lubricated **valve body** ① **bore** ②:

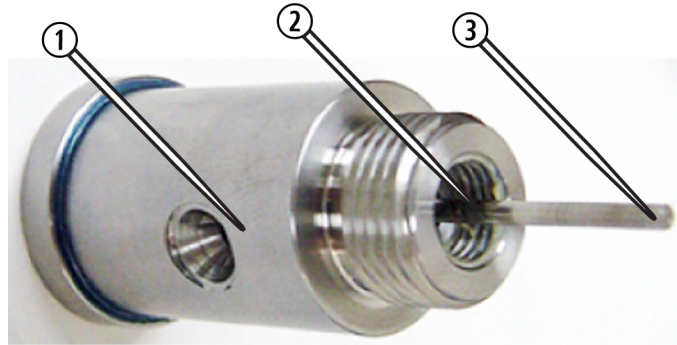


Figure 13



Note:

If the stem assembly body resists insertion into the valve body because of the seal assembly O-ring, push the stem assembly body in using the end of an Allen wrench (or equivalent long tool) until the internal threads of the valve body are exposed.

6. Apply some Blue Goop onto the **retaining screw threads** ① and install it in the **valve body** ②.

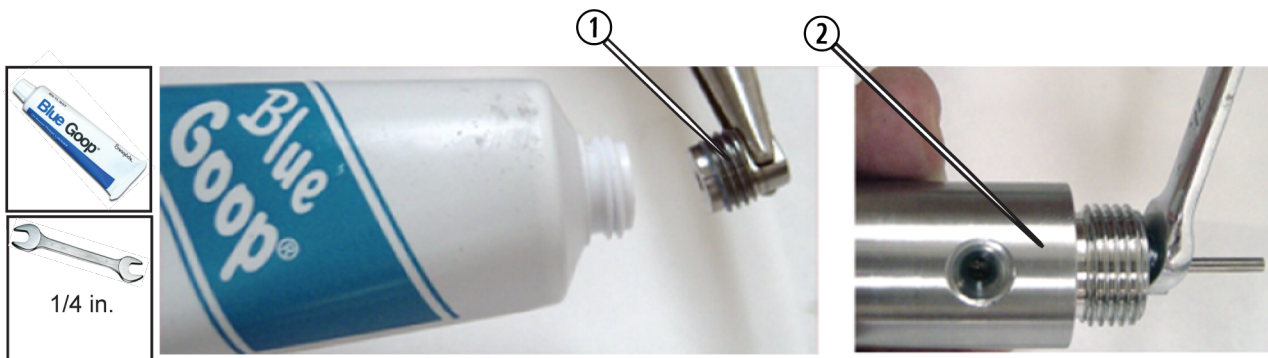


Figure 14

7. Apply Blue Goop to each end of the **on/off seat** ① where it will contact the **valve body** ② and also where it will contact its mating surface at its opposite end. Insert it into the **valve body**.

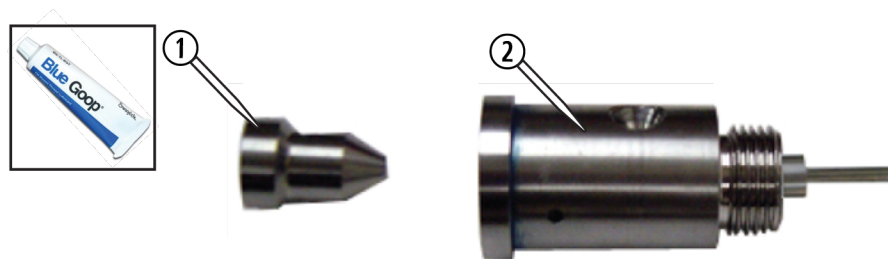


Figure 15

8. Slide the **valve gland nut** ① and **fitting ring** ② onto the **valve body** ③.

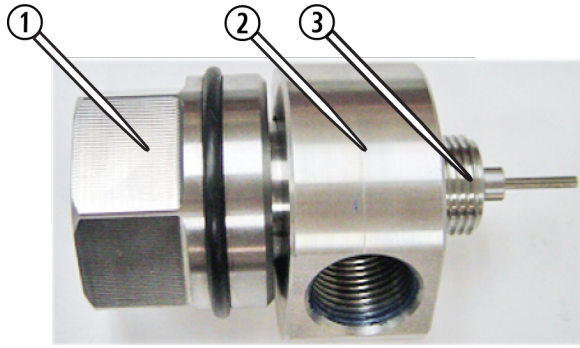


Figure 16

9. Repair of the **Dual On/off Valve** is complete.

Installing the Dual On/off Valve

1. Verify that the **on/off seat** remains in the **valve body** ③. Hand tighten the **valve gland nut** ① onto the **nozzle inlet** after rotating the **valve body** so that the **UHP line** ④ is in alignment with the opening in the **fitting ring** ②:

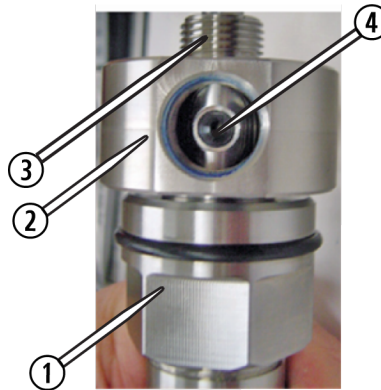


Figure 17

2. Insert the **UHP input line** ② into the **fitting ring**. Ensure that all **threads** ①③ have been coated with Blue Goop and that **three threads** ③ on the **high-pressure line** are showing:

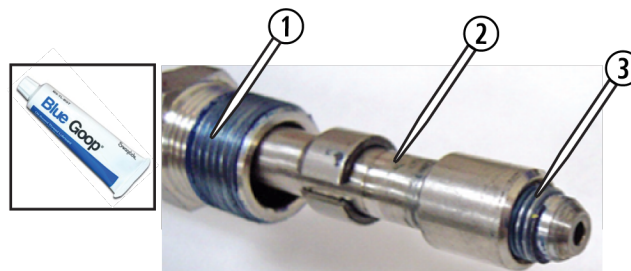
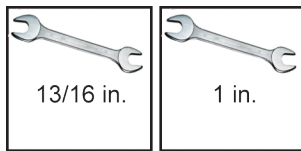


Figure 18

3. Tighten the **UHP input line** to approximately 50 ft-lb.



Note:

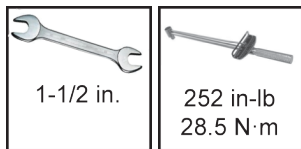
When tightening the gland nut, ensure that the on/off valve remains square to the UHP line to eliminate stress on the UHP line.

4. Apply a small amount of Blue Loctite to the **threads** of the **valve body** ①.



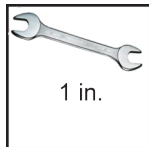
Figure 19

5. Reinstall the **air actuator assembly** to the **valve body**. Torque it to 252 in-lb (28.5 N·m).



6. Re-attach the **air line** to the **air line fitting** on top of the air actuator assembly.

7. Prior to use, remove the nozzle body with jewel.



8. Flush the system for at least 5 minutes using the **Test button** ③ in **Make**. Select **High pump pressure** ①, with **Water only** ②.

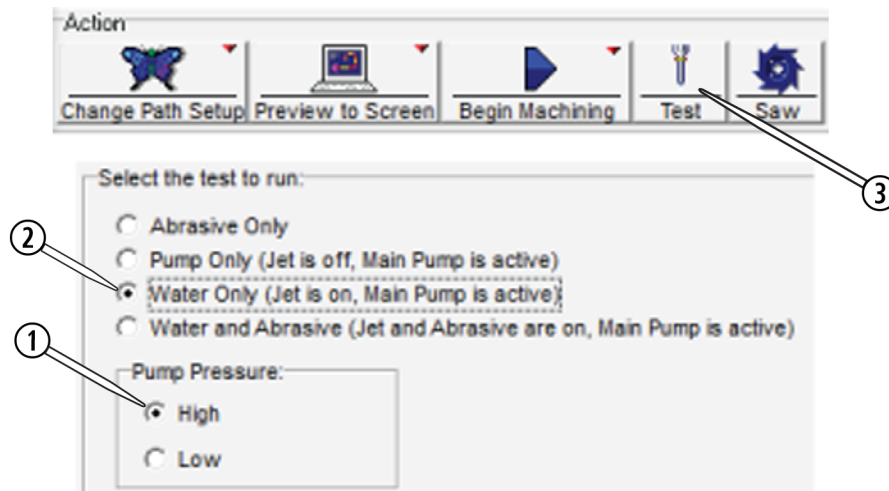
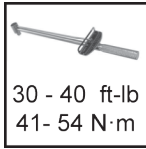


Figure 20

9. After five minutes of flushing, re-install the **nozzle body** with **jewel**. Torque the **Dual On/off Assembly** to the nozzle body.



10. Following installation, test nozzle operation using **high-pressure water only**.



Note:

During a high pressure condition, check for visible leaking from the weep holes. If water leaking is present, the sealing is not complete between UHP fittings.

Customer Support

For assistance, contact the OMAX Customer Support website at omax.com.