



# TH104

## Cylinder Valves

### Instruction Manual

#### **▲ WARNING**

Failure to follow these instructions or to properly install and maintain this equipment could result in gas leakage, fire or explosion causing property damage and personal injury or death.

Oasis products must be installed, operated and maintained by trained and competent personnel in accordance with all applicable local codes, rules and regulations in addition to the Oasis Instructions.

Oasis Engineering Ltd. will not be held liable in such circumstances where installation, operation and maintenance procedures were performed by incompetent personnel resulting in improper assembly, unsafe operation, equipment damage or personal injury.

The Oasis 100 series Cylinder Head Valve models TH104 have been designed and manufactured in accordance with sound engineering practice (SEP) and comply with the SEP requirements of the EU Pressure Equipment Directive 2014/68/EU. Technical documents required by the Directive are held by the Manufacturer.

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## Warning!

**High pressure gas and gas equipment can cause serious harm to both infrastructure and personnel if safety precautions are not followed.**

**Oasis recommends considering the use of the following PPE when working with high pressure along with any other site specific health and safety requirements:**



Foot Protection



Hearing Protection



Safety Helmets



Hand Protection



Safety Glasses



**Ensure the system is clean of debris, vented and isolated before any installation or servicing work is carried out.**

## Tools Required



**Anaerobic Thread Sealant with PTFE (Optional)**  
 - Loctite 567  
 - Swagelok SWAK  
 - Herson Dripstop 940  
 - Gasoila FasSeal-ATS  
 - Or Similar



**Spanner & Crows foot Wrench**  
 -42mm  
 -26mm



**Anti Seize Grease**  
 - Swagelok Silver Goop  
 - Omega 99  
 - or similar



**Torque Wrench**  
 (With 1/4" Hex)



**Yellow, Gas Rated, PTFE Thread Tape**  
 - AW TITASEAL  
 - McMaster-Carr High-Density Thread Sealant Tape  
 - Blue-Monster gas-guard  
 - Or Similar



**Spray bottle**  
 (Snoop or soapy water)



**Silicone Grease**  
 -Rocol MX22  
 - Or similar  
 For all O-rings

## **Important note for use in the European Union**

The 100 series Cylinder Valve is not to be installed in a pressure system as the sole means of isolation of the contents of an item of pressure equipment from the atmosphere or from downstream equipment which is not designed to withstand upstream pressure.

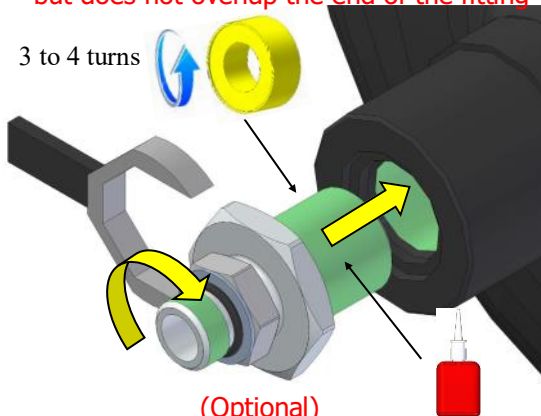
Compliance with the UN ADRs is mandatory for pressure systems when this device is fitted to pressure systems for transportable pressure vessels and used for the carriage of dangerous goods by road.

## For non-adjustable adaptor installation, see page 5

### 1. a) NPT Adaptor:

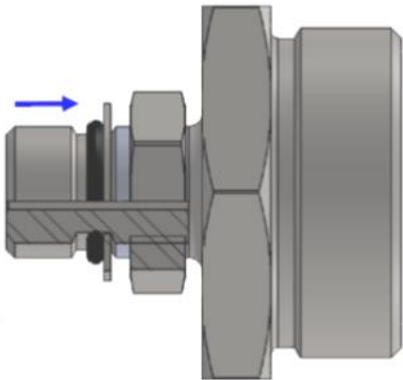
Apply thread tape and thread sealant.  
Tighten connection hand tight before apply  
two full turns with wrench.

Please ensure that the tape covers all threads,  
but does not overlap the end of the fitting



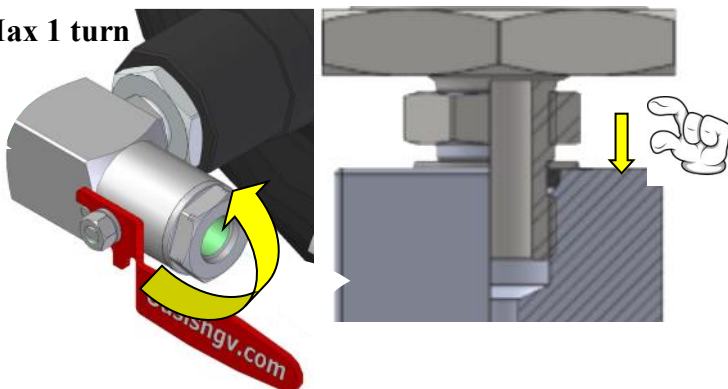
(Optional)  
If galling is a concern or unable to cover all  
threads, apply a light coating over thread  
tape and uncovered threads.

2. Wind nut towards the cylinder far as possi-  
ble. Push back up washer and O-ring towards  
the cylinder far as possible.



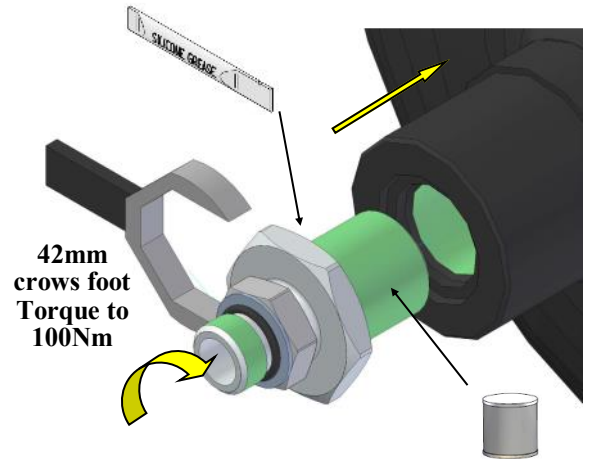
4. Align valve by unwinding no more than  
one turn. Screw adjustable nut out until it  
contacts washer.

Max 1 turn

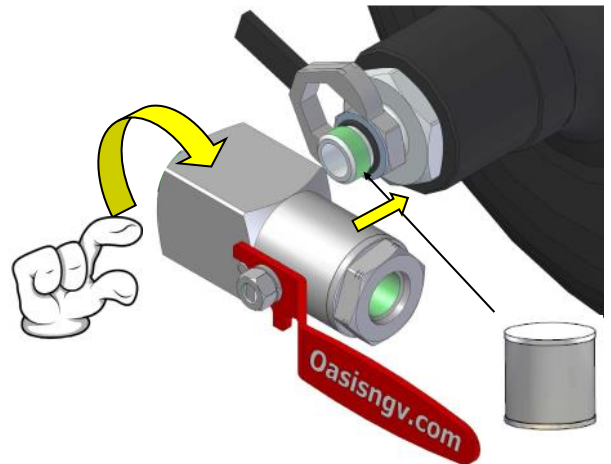


### 1. b) UN Adaptor:

Apply silicone grease to adaptor O-ring.  
Apply anti-seize grease to adaptor thread  
and attach to cylinder.

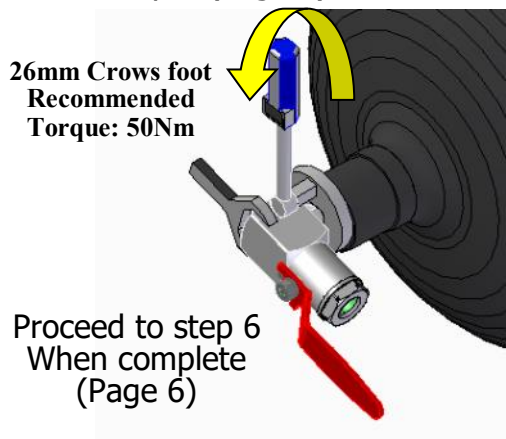


3. Screw body fully onto adaptor by hand.



5. Tighten adjustable nut to body  
and torque to spec.  
Proceed to step 6 (Page 6)

26mm Crows foot  
Recommended  
Torque: 50Nm

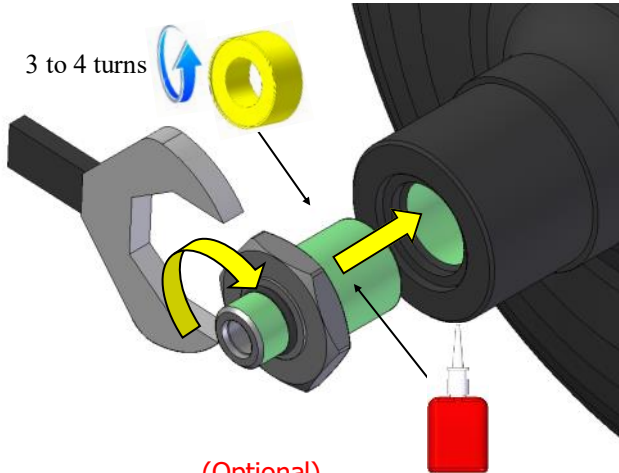


Proceed to step 6  
When complete  
(Page 6)

**1. a) NPT Adaptor:**

Apply thread tape and thread sealant.  
Tighten connection hand tight before apply  
two full turns with wrench.

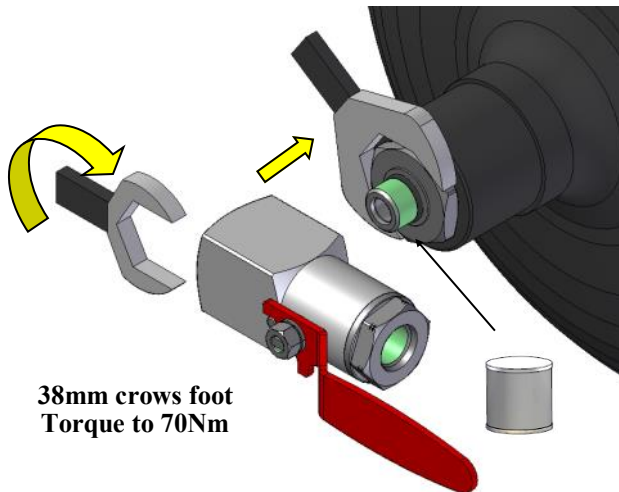
Please ensure that the tape covers all threads,  
but does not overlap the end of the fitting



(Optional)

If galling is a concern or unable to cover all  
threads, apply a light coating over thread  
tape and uncovered threads.

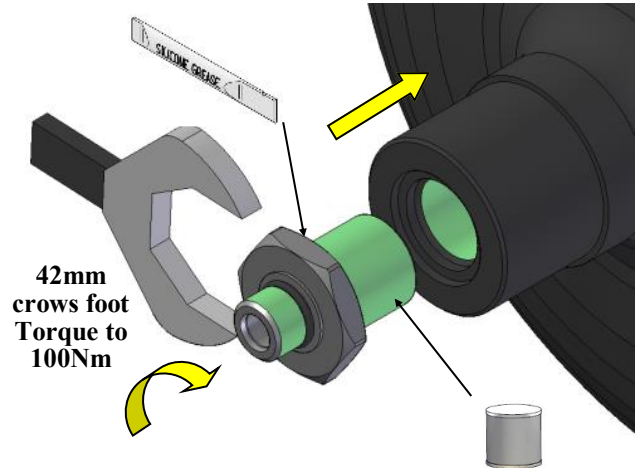
2. Apply anti-seize to threads and screw  
body fully onto adaptor. Torque to spec.



38mm crows foot  
Torque to 70Nm

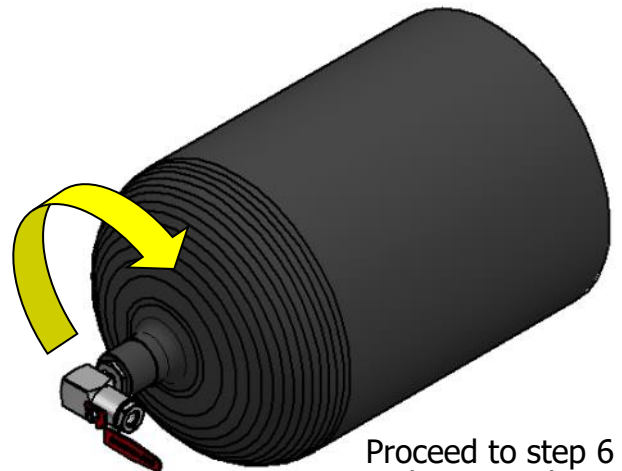
**1. b) UN Adaptor:**

Apply silicone grease to adaptor O-ring.  
Apply anti-seize grease to adaptor thread  
and attach to cylinder.



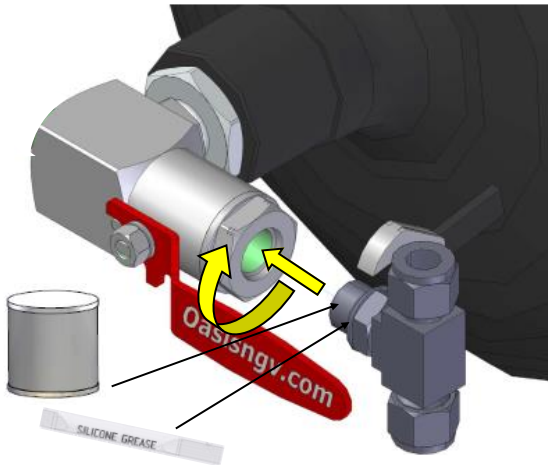
42mm  
crows foot  
Torque to  
100Nm

3. Rotate cylinder to align valve

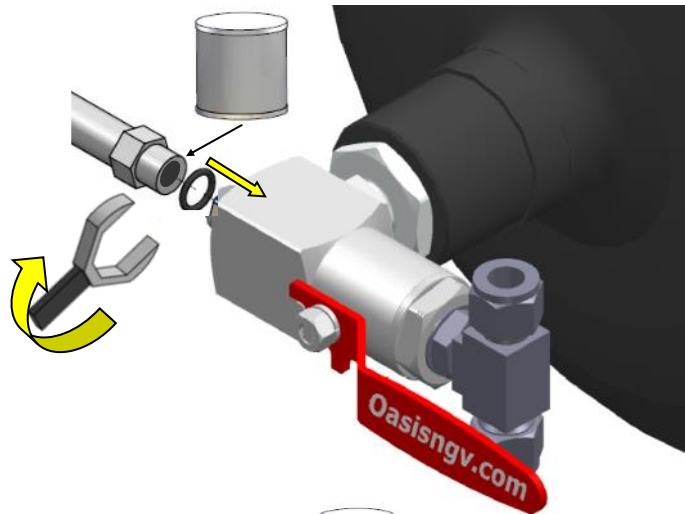


Proceed to step 6  
When complete  
(Page 6)

6. Attach fitting to end cap.

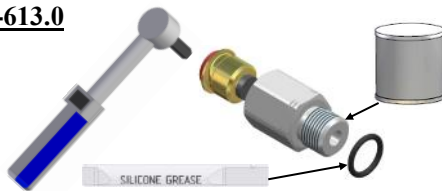


7. a) Tighten end connection to PRD system.  
Note: If using PRD adaptor, refer to 7. b).

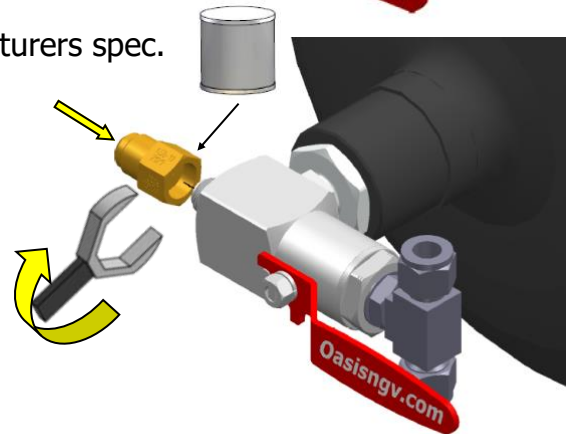


7. b) Install PRD to adaptor and torque to manufacturers spec.

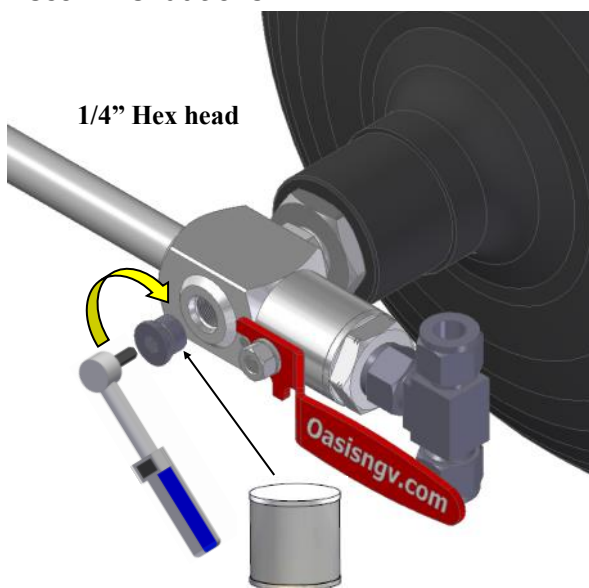
**For VTI PRD K905-613.0**



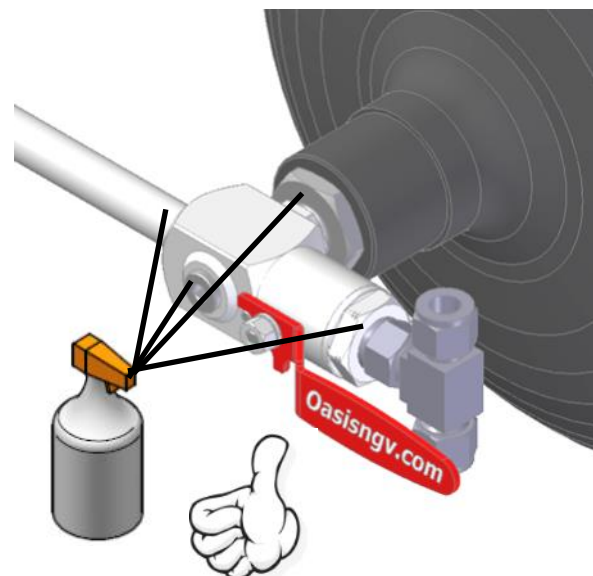
- Ensure burst disc is in place before installing PRD.
- Carefully remove plastic cap.
- Install PRD into Oasis adaptor.
- Torque PRD to 18<sup>+3</sup> Nm.** Use 6mm Hex head.
- Replace plastic cap on PRD.
- Install adaptor with o-ring into valve. **Torque to 30Nm.**



8. If valve has a top port, insert blank plug into port and tighten to fitting suppliers recommendations.

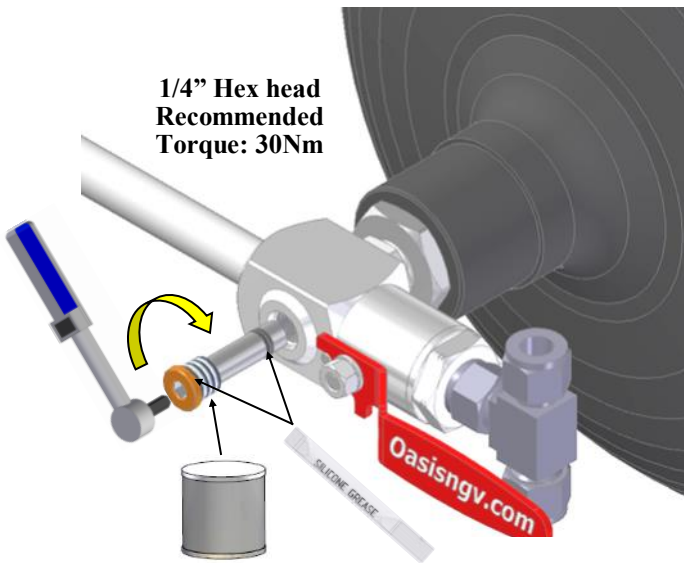


9. Installation complete, leak test on first use with snoop or soapy water.

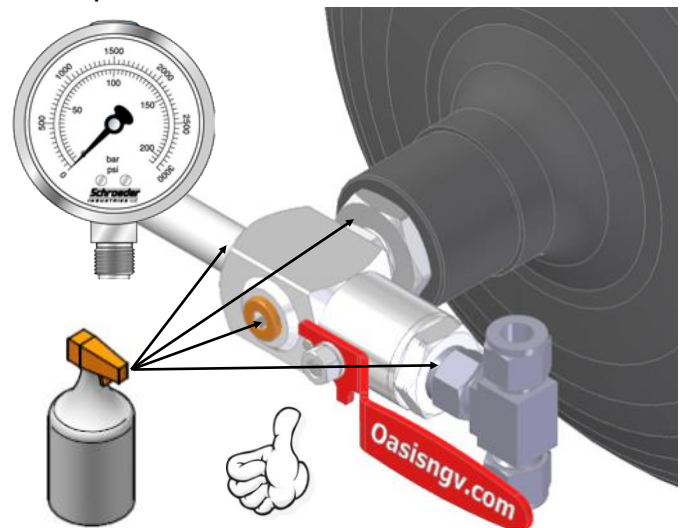


For valves that have a commissioning port on the top face, a special plug (part # XTH104-73, sold separately) can be used to seal off the cylinder when commissioning to save time and removes the need to fill the cylinder.

1. Screw commissioning plug into valve port. Make sure O-rings are clean and not damaged before installing.

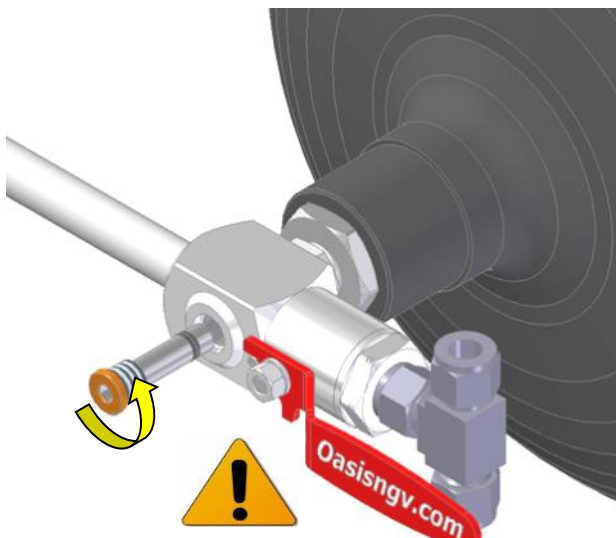


2. Leak test system before commissioning. Make sure all valves are open. Ensure pressure is vented from system when complete.



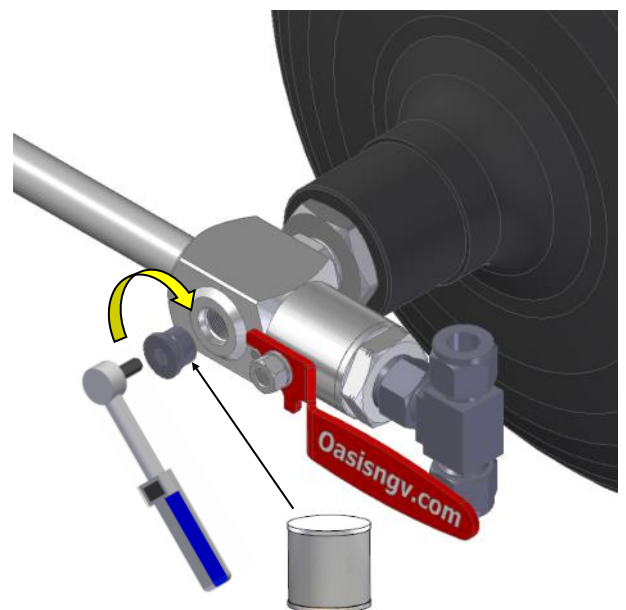
Internal leaking will come through the vent hole in the center of the commissioning plug.

3. Remove commissioning plug from valve.

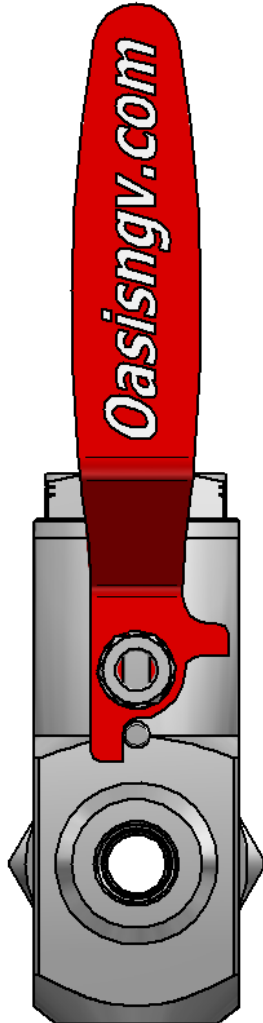


**DO NOT LEAVE  
COMMISSIONING PLUG IN  
VALVE, THE CYLINDER WILL  
NOT BE ABLE TO BE FILLED.**

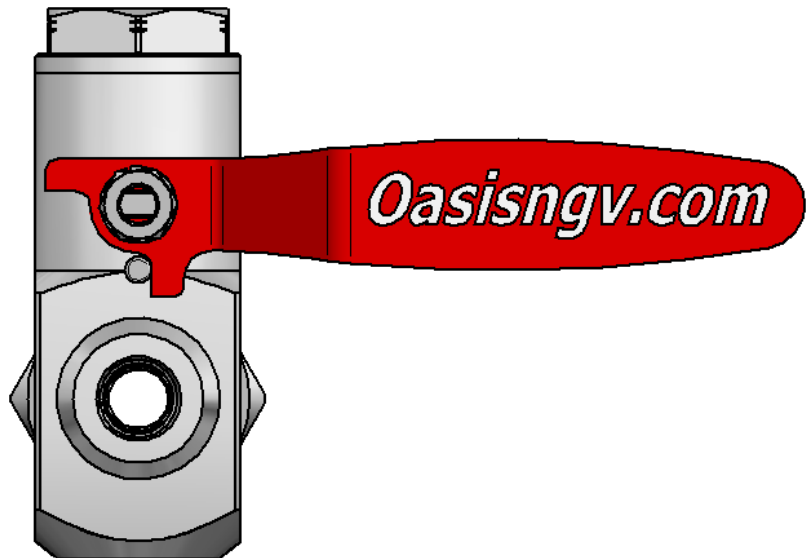
4. Insert blank plug into port and tighten to fitting suppliers recommendations and leak test.



1. Open



2. Closed



**Important:** Actuate valve 4 times before use to ensure initial sealing.



## Service Kit Parts

2 x Seats



1 x Stem



1 x Ball\*



1 x Gland



1 x Silicone grease



2 x Seat O-rings



1 x Small Adaptor O-ring



(908 Nitrile 90)

1 x Large Adaptor O-ring\*\*



(216 Nitrile 90)

3 x SAE Port O-rings\*\*\*



(1x 906 Nitrile 90)  
(2x 908 Nitrile 90)

1 x Cap O-ring



\*It is normal for the service kit to include a ball with a small hole in the bottom  
 \*\*Large adaptor O-ring is only used for UN threaded cylinders  
 \*\*\*The spare 908 O-ring is only used for TH104 Valves with a commissioning port.

**The Complete Oasis Seal Kit must be used**

## Tools Required



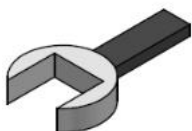
Cleaner  
(Warm Soapy  
Water or Similar)



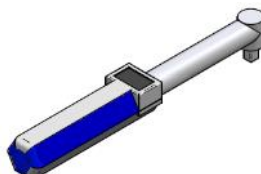
Pick Tool  
Part # TOOL-PICK  
(Sold separately)



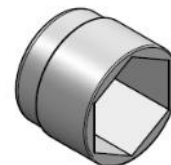
Anti Seize Grease  
(Loctite 771 or  
Similar)  
For All Threads



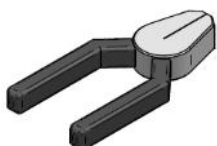
Spanner  
(Wrenches)  
-42mm  
-34mm  
-26mm  
-13mm



Torque Wrench



Sockets  
-34mm  
-13mm

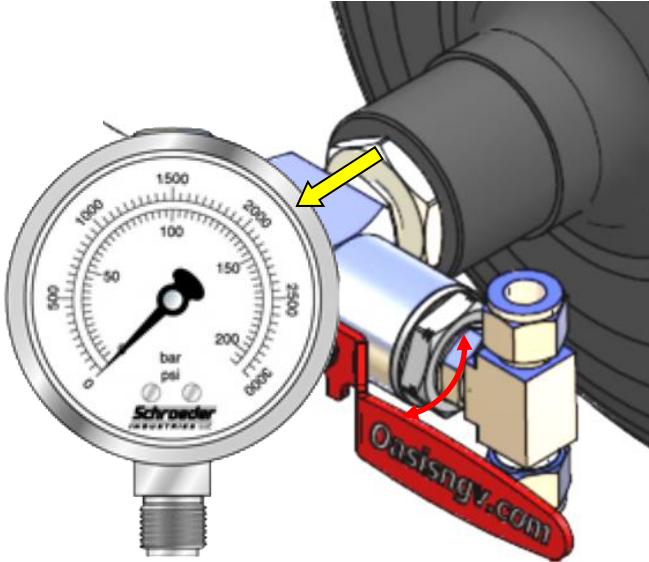


Pliers



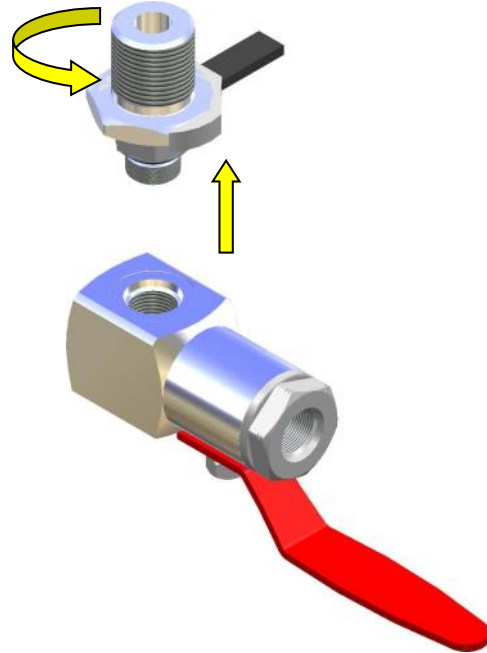
Oasis Plastic Tool  
Part Number:  
TOOL-BVASSY  
(Sold separately)  
or Similar

1. Vent pressure from system and remove valve.

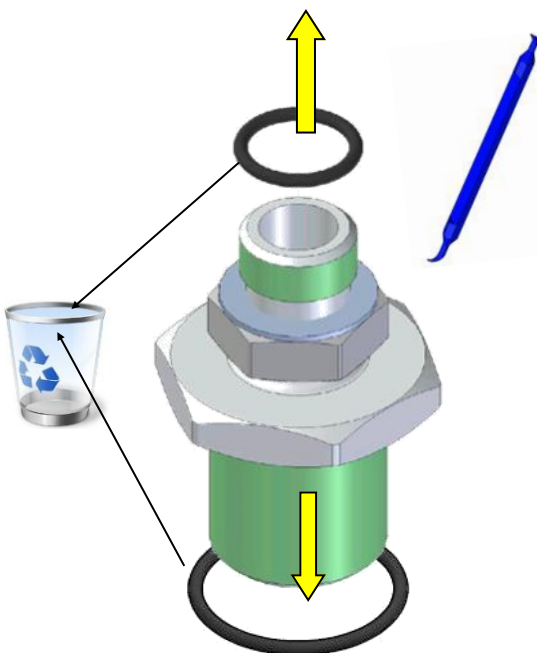


Open and close valve to ensure all trapped gas is released

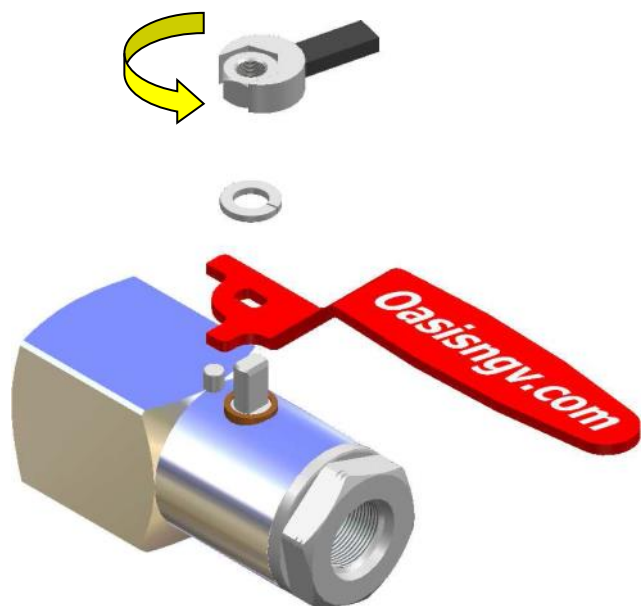
2. Remove adaptor.



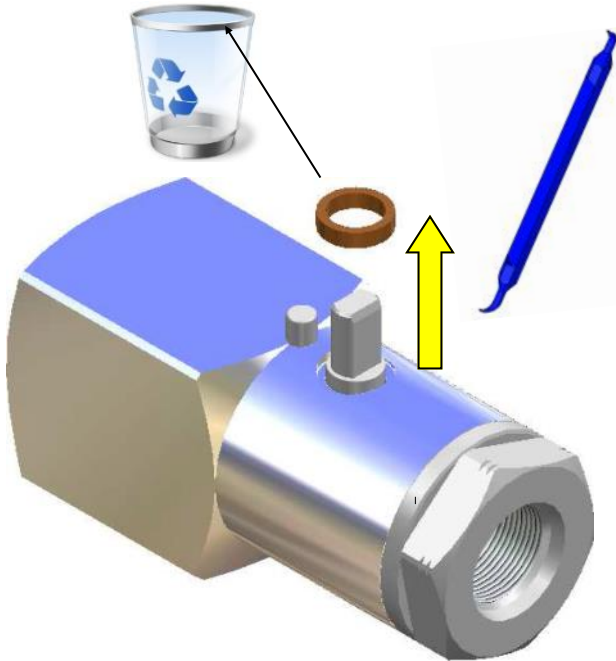
3. Discard adaptor O-rings.



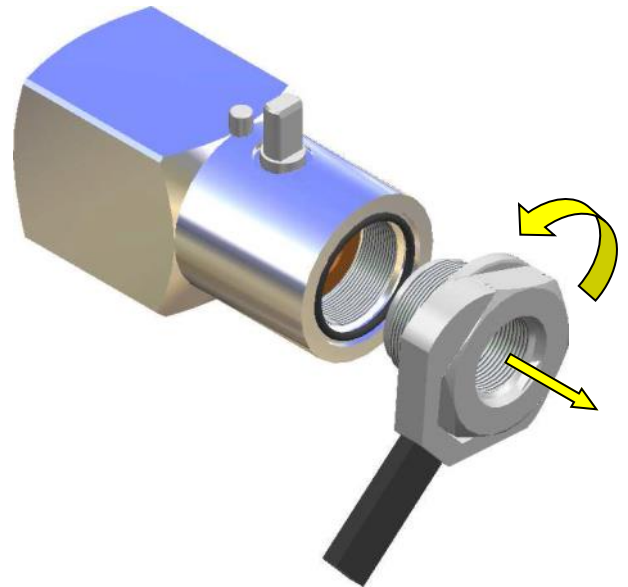
4. Remove handle.  
13mm Spanner needed.



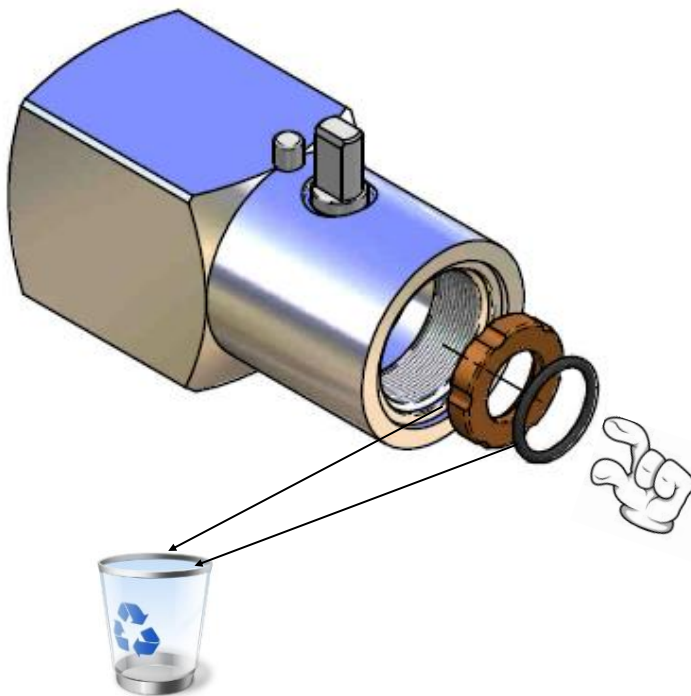
5. Discard gland.



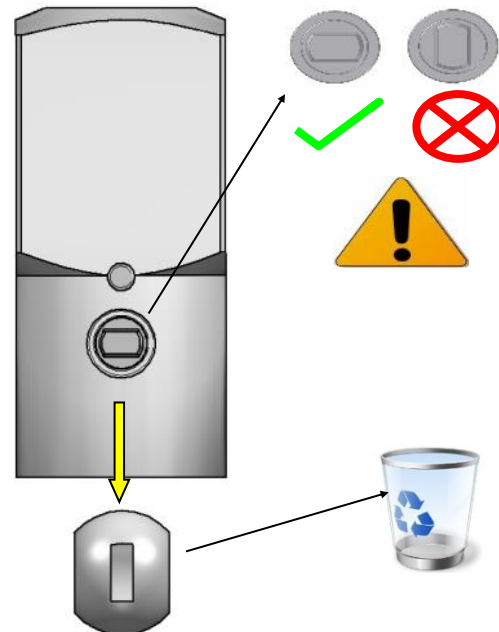
6. Remove end cap.  
34mm Spanner needed.



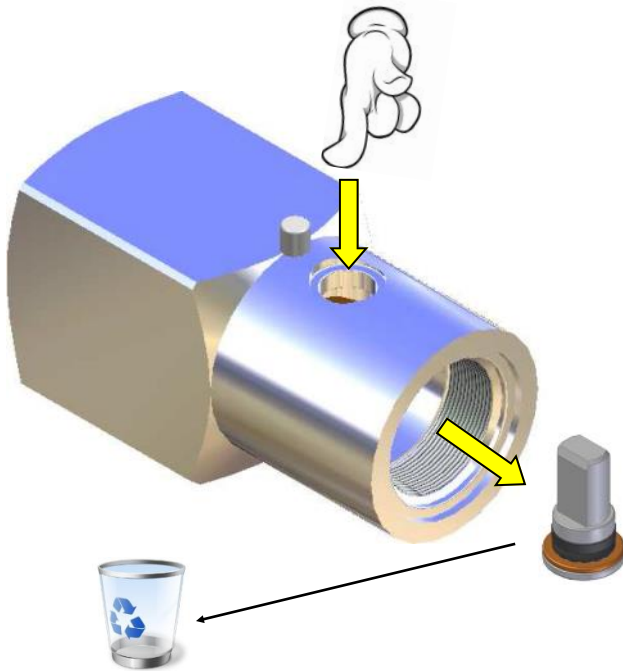
7. Discard the seat and the  
O-ring in the cap.



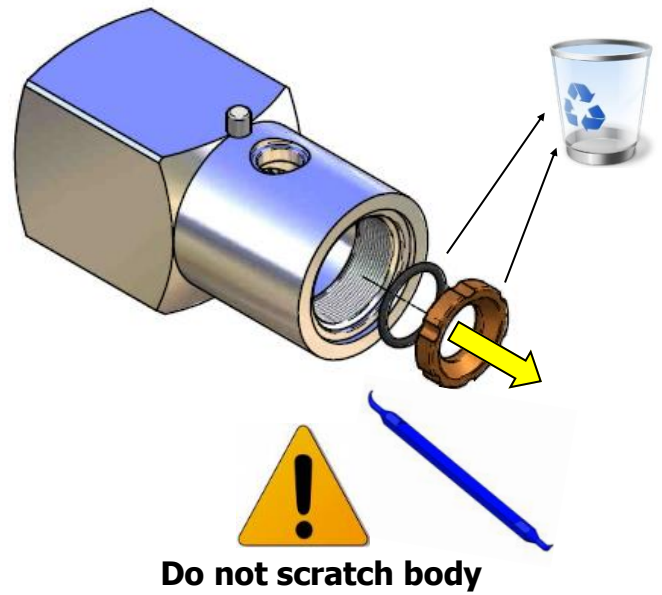
8. Discard the ball.



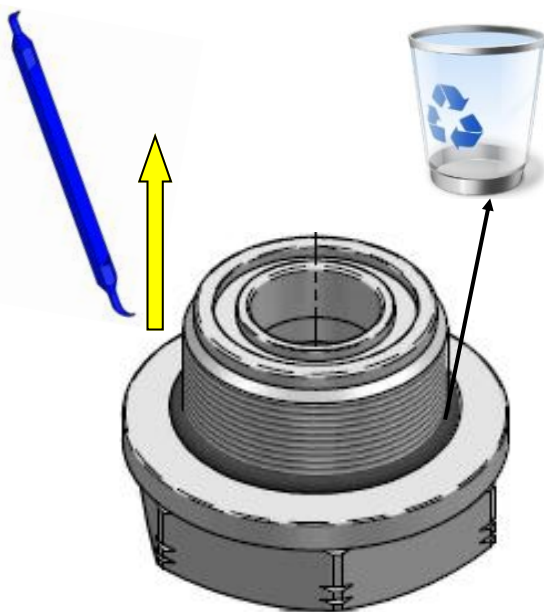
9. Discard the stem.  
Push Stem firmly down into body.



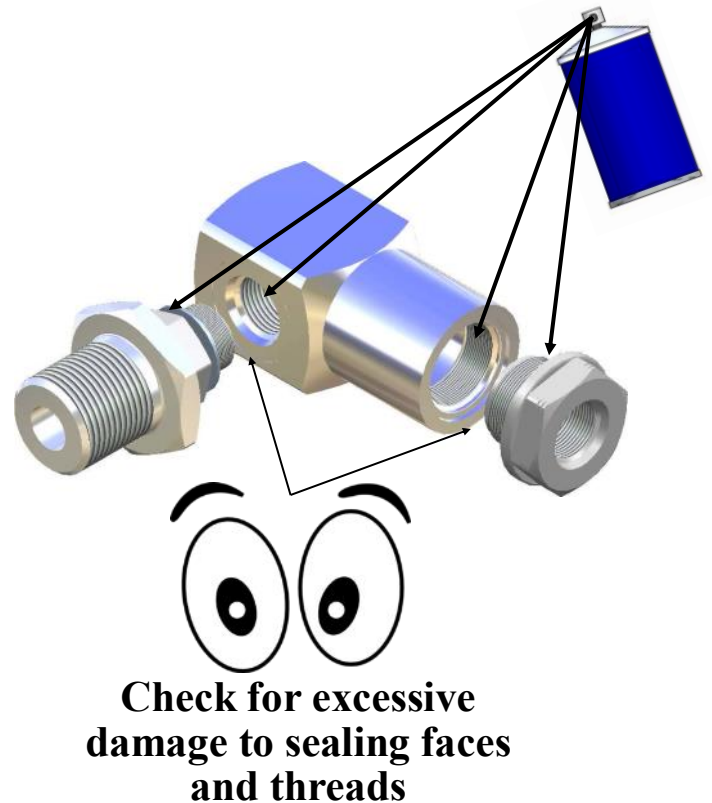
10. Discard the seat and O-ring.



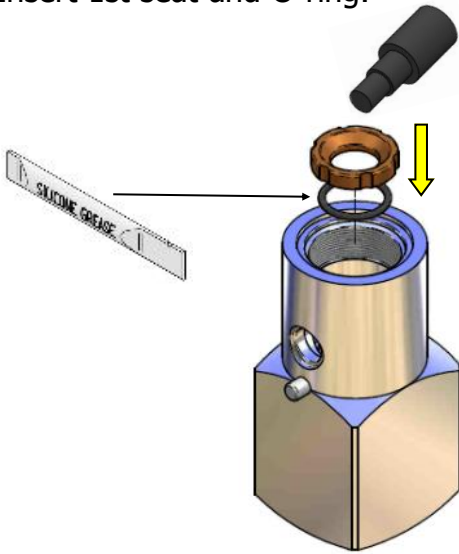
11. Discard the cap O-ring.



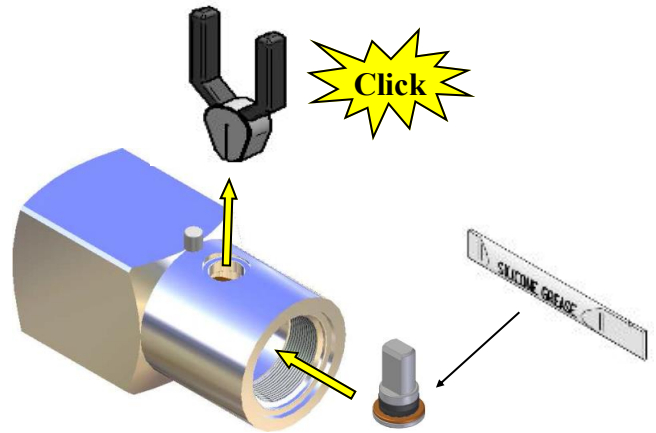
12. Clean the components and inspect for damage.



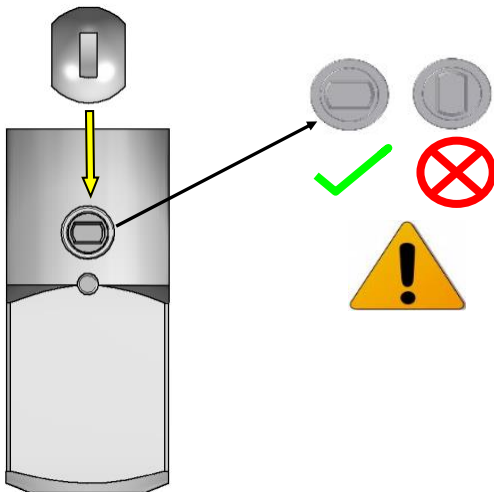
1. Insert 1st seat and O-ring.



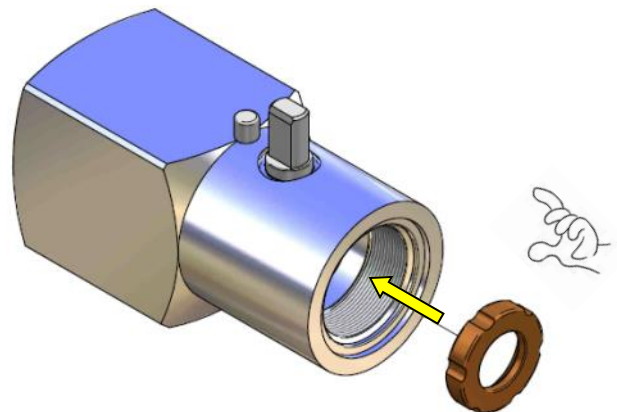
2. Insert stem assembly.



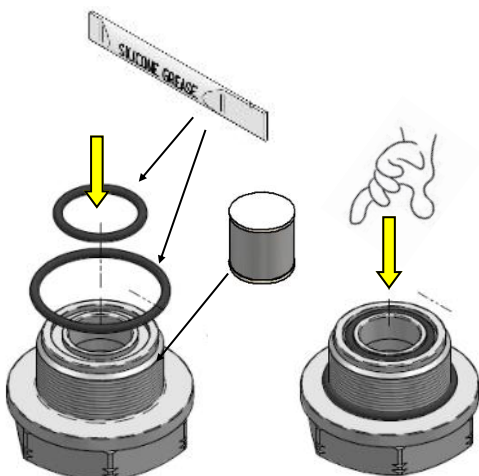
3. Insert ball.



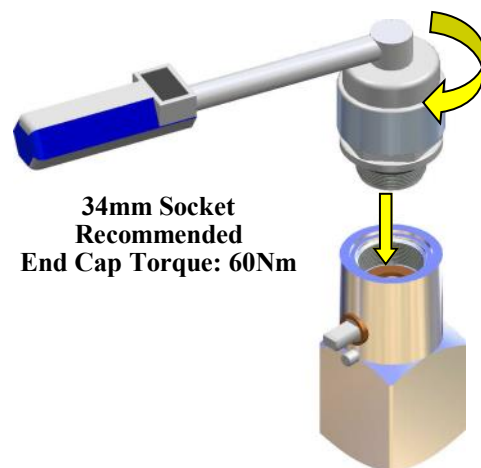
4. Insert 2nd seat.



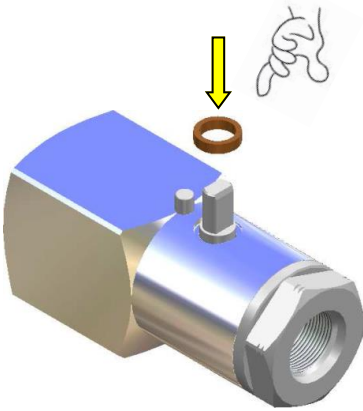
5. Fit cap O-rings.



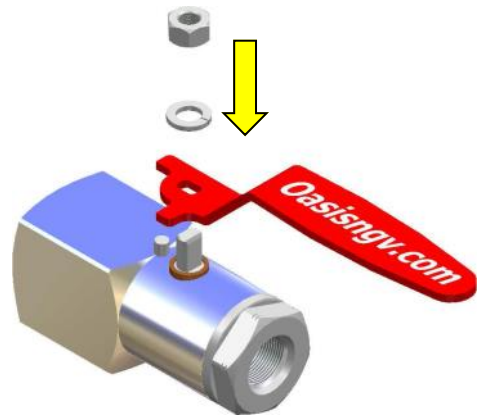
6. Tighten end cap.



7. Insert gland.



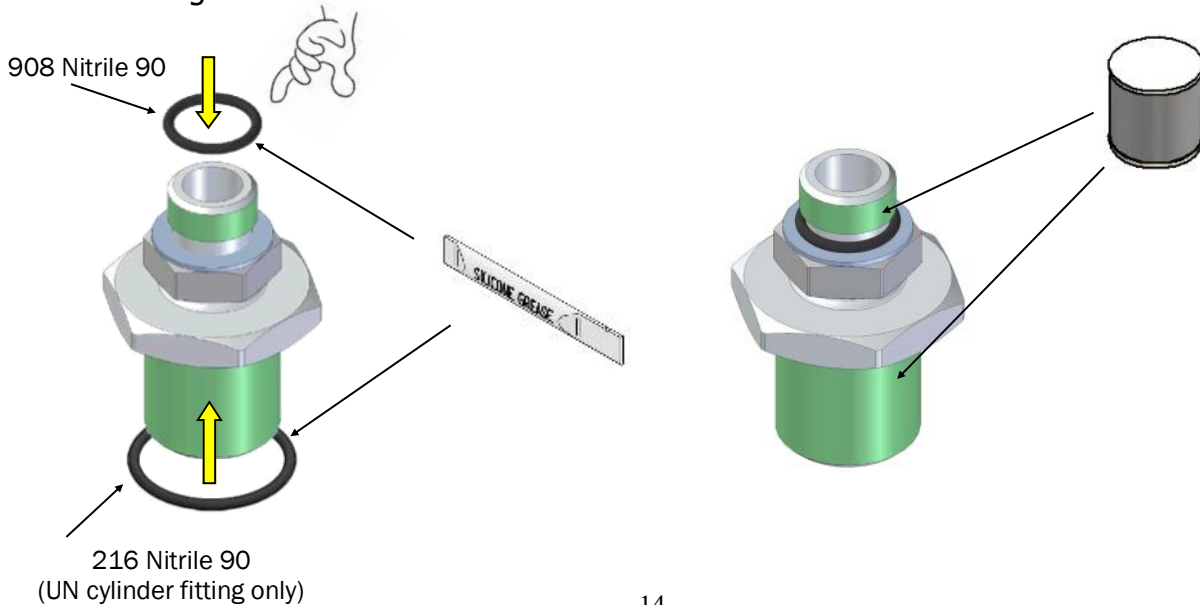
8. Assemble handle components.



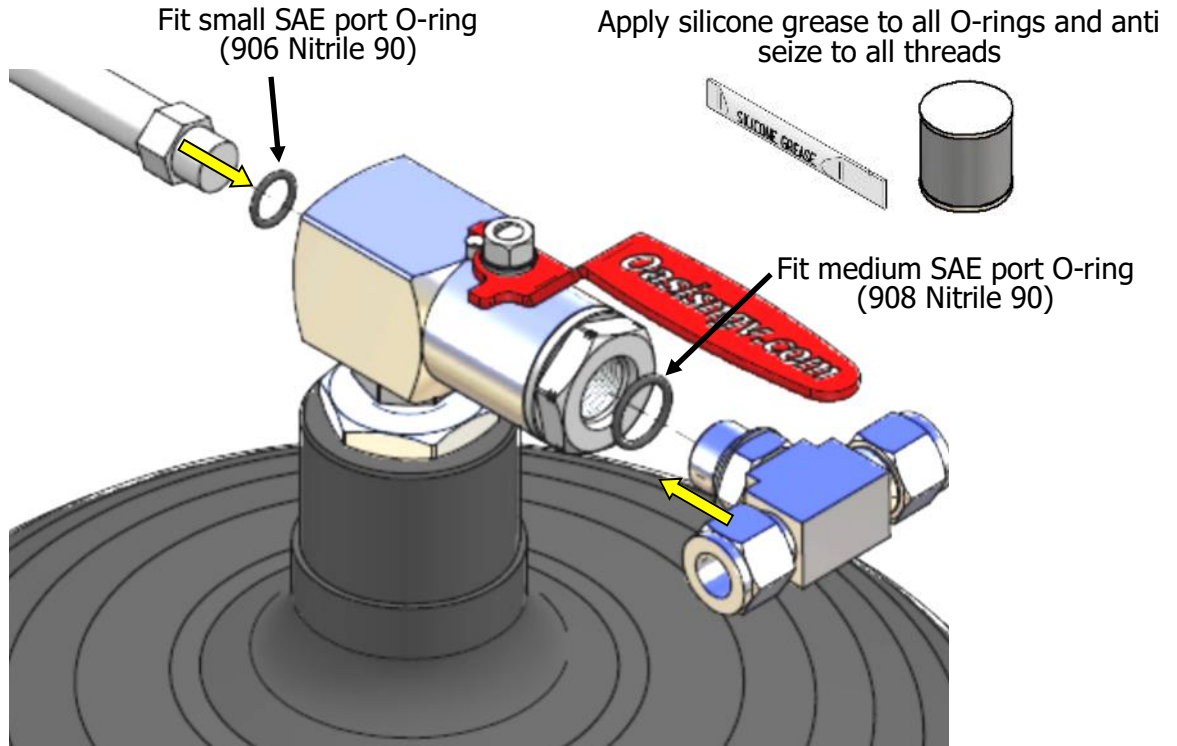
9. Tighten handle nut.



10. Insert O-rings.



11a. Follow installation instructions on page 3 of this manual for re-fitment of valve. Replace SAE port O-rings with those supplied in service kit. Use TH104-SK2 and discard extra 908 O-Ring.



11b. Follow installation instructions on page 3 of this manual for re-fitment of valve. Replace SAE port O-rings with those supplied in service kit TH104-SK2 and discard extra 906 O-Ring.

