IB103

Inline Breakaway

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.

Oasis recommends that all service technicians should watch the Product Servicing Video before attempting to service this part.

Servicing Video

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Instruction Manual

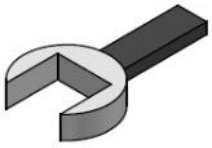
Warning!

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:

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

Tools Required



Spanner
(Wrench)
- 25mm (1")

Pick Tool
Part Number:
TOOL-PICK
(Sold separately)

Spray bottle
(Snoop or soapy water)

Silicone Grease

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

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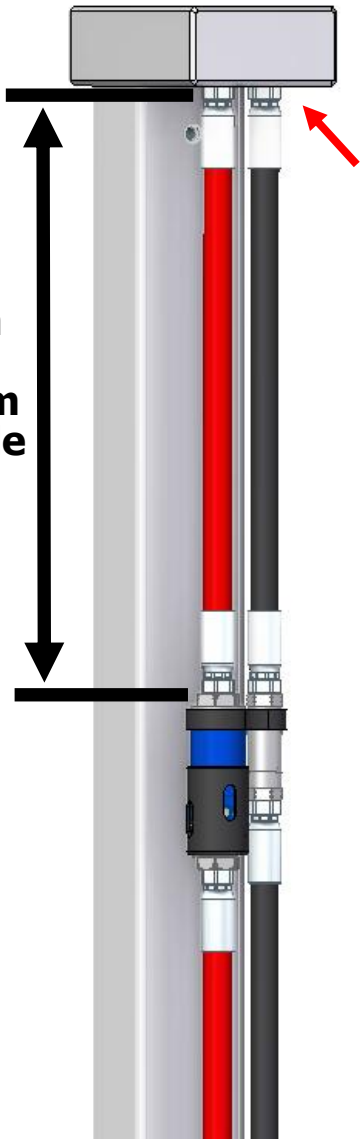
Recommended installation setup.



FORCE:
The post should be designed to accept the breakaways maximum separation force of 667N/150lb (as per CSA/ANSI NGV 4.4-2021 standard) in any direction in which a drive off may occur.

CAUTION:
For the hose breakaway to operate correctly, the gas supply hose and mounting connection must be sufficiently long and flexible to allow the breakaway to align itself in the direction of force in a drive away event.
The connection should be designed so that in the worst case scenario the breakaway is free to align itself in the direction of the force with no stress on the gas supply hose.

If the breakaway is installed on a dispenser hose retractor the breakaway should be installed between the hose retractor clamp and the nozzle.

Important:

This device complies with CSA/ANSI NGV 4.4-2021. The installation of this device shall conform with the requirements of the authorities having jurisdiction or, in the absence of requirements, to NFPA 52 Standards, Compressed Natural Gas (CNG) Vehicular Fuel Systems, or CAN/CSA-B108, NGV Fuelling Stations Installation Code, as applicable.

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IMPORTANT NOTES FOR INSTALLATION OF IB103 ALONGSIDE IB102

IB103-7SPSH-T and IB103-7SPSH-V are supplied as a package including IB102 vent breakaway as well as an IB103 pressure line breakaway.

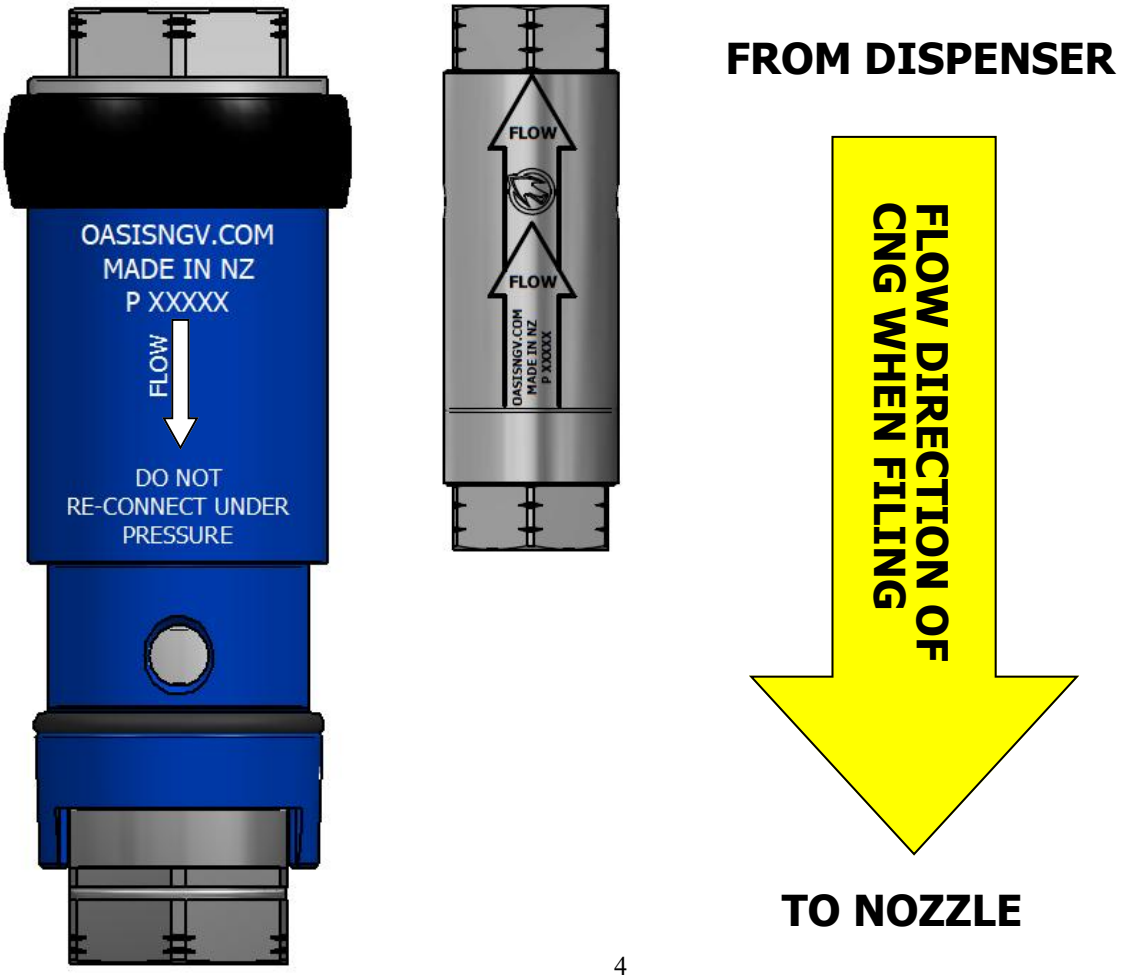
IB103-7SPSH-T also features a shock absorbing retainer, which attaches the Vent and Pressure breakaways to each other.

When installing the unit, the following steps must be undertaken.

For further information about the vent breakaway see the IB102 instruction manual.

1. Ensure that the flow direction markings of the main and vent breakaways **OPPOSE** each other.

   When installed, the flow direction of the IB103 (main breakaway) must align with the flow direction of CNG into the vehicle when filling.



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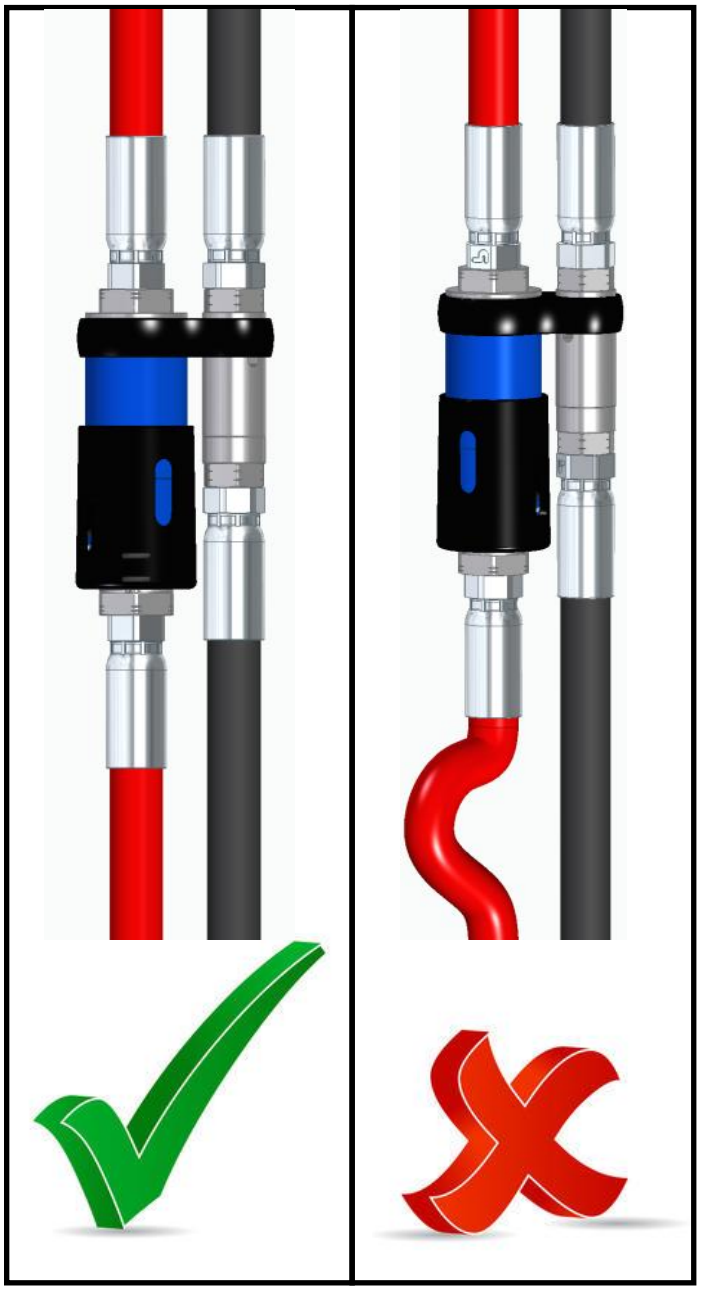
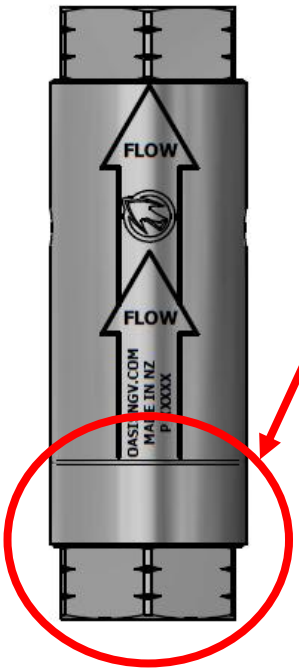
2. When installing, ensure that the main and vent lines are offset sufficiently that the hose does not kink due to the difference in length between the breakaways.



3. When installing the IB103-7SPSH-T, the IB102 vent breakaway can be slid up or down within the retaining bump stop to aid alignment with the hose offset.

NOTE:
When moving the IB102 upward, ensure that the male part of the breakaway is outside of the mount so that it is free to separate in a drive off event.



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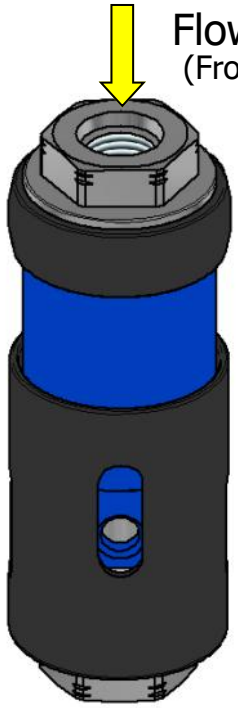
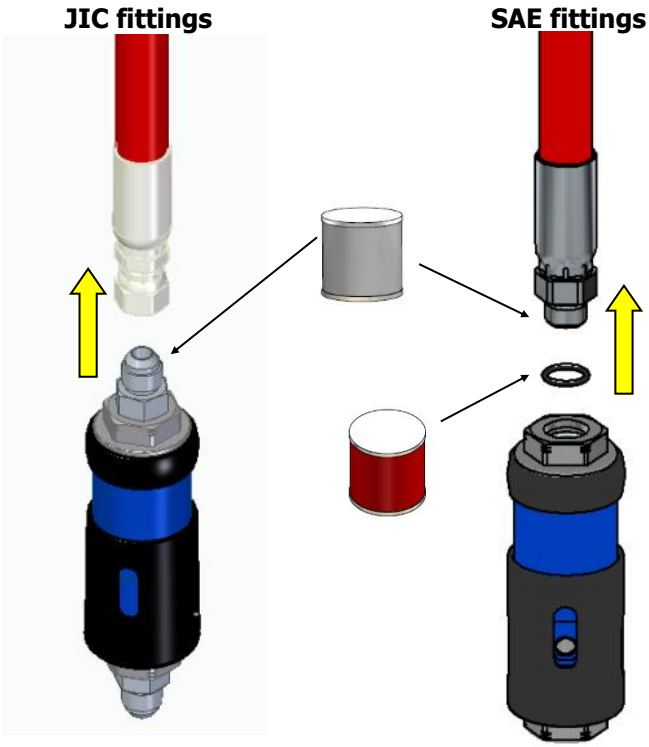
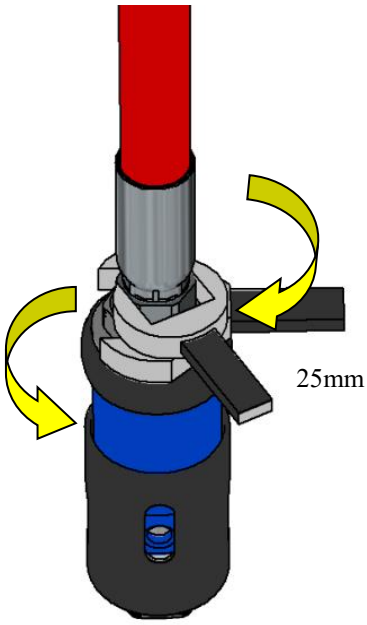
1. Note the flow direction of the breakaway.



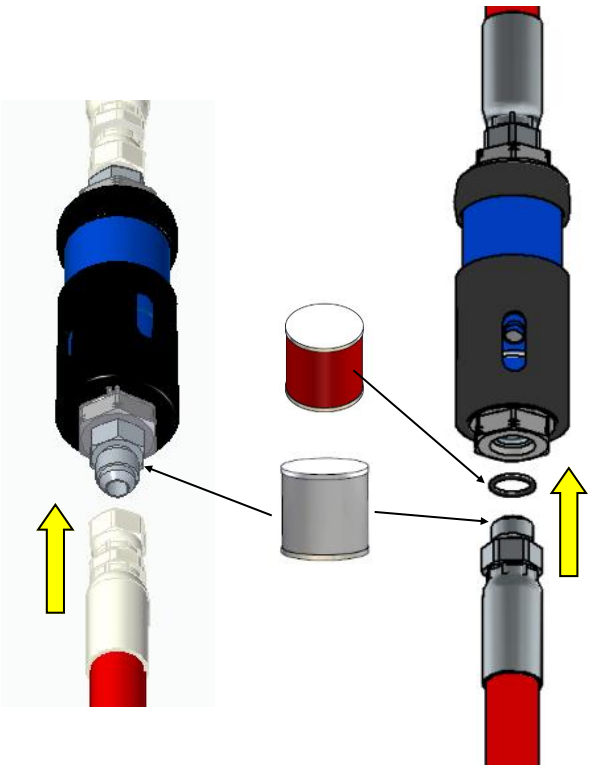
2. Apply anti seize to threads.
*For SAE fittings grease the O-ring with silicone grease and install the O-ring if not pre-installed.



3. Screw the fitting into the body and torque to the fitting suppliers recommended tightening torque.



4. Install the second hose using the same method.



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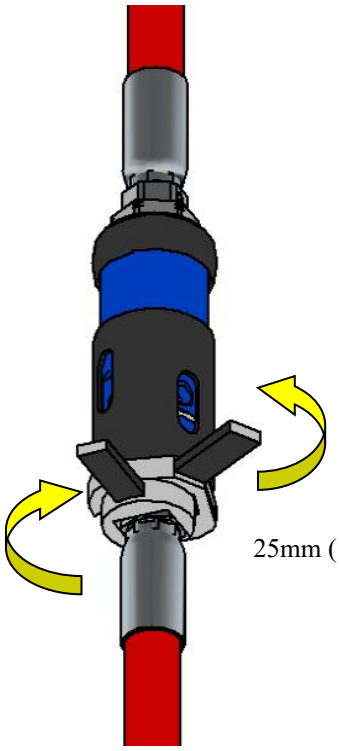
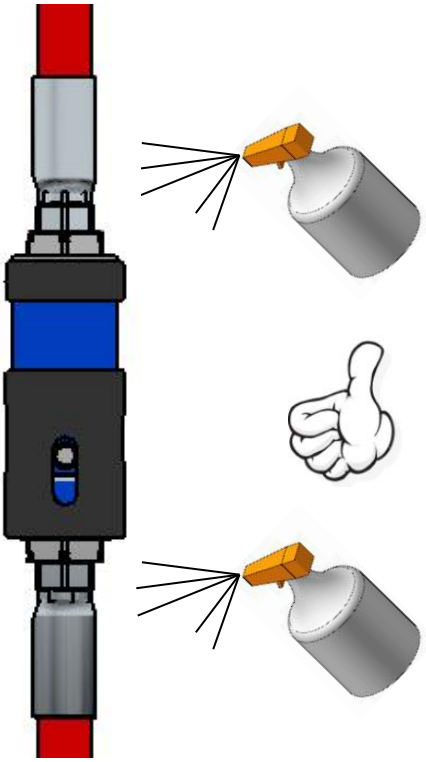
5. Screw the fitting into the body and torque to the fitting suppliers recommended tightening torque.



6. Test the device for leaks at the connections, and the installation is complete.

CAUTION:
Pressurise system gradually while checking for leaks.



7. Included with the breakaway are spare O-rings and grease. These may be required if the breakaway is activated. Follow the operation instructions to replace these.

SPARE O-RINGS AND GREASE ARE INCLUDED WITH YOUR BREAKAWAY

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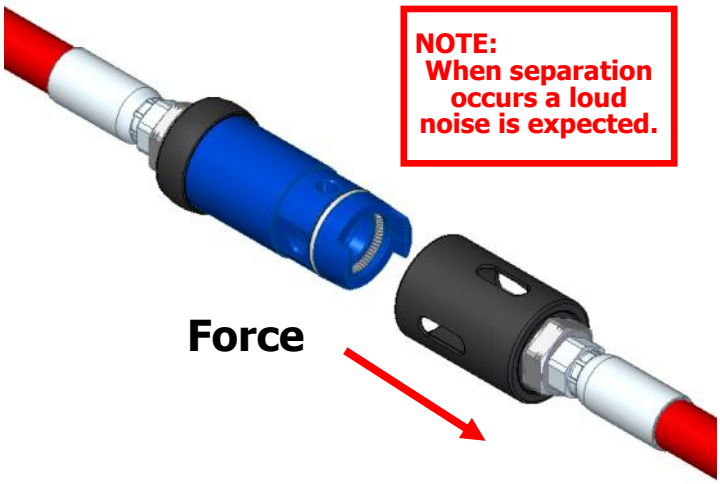
1. Breakaway will activate when a pull force is applied to the hose.

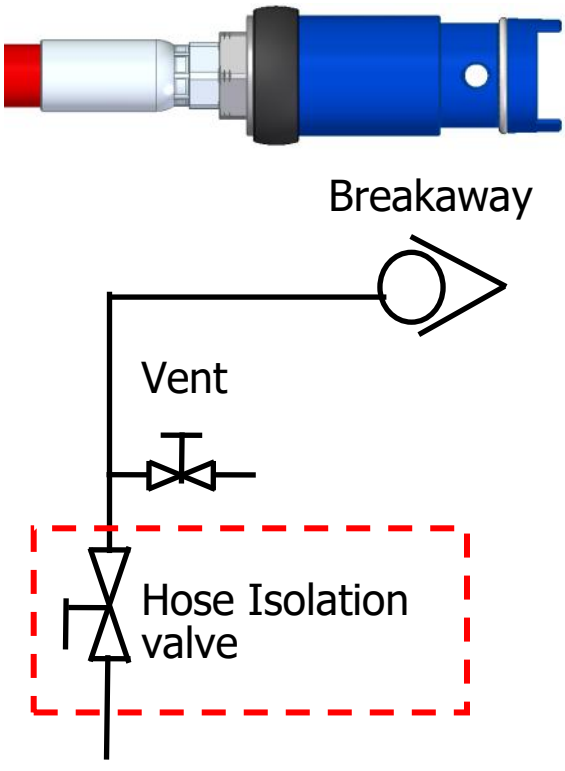


NOTE:
When separation occurs a loud noise is expected.

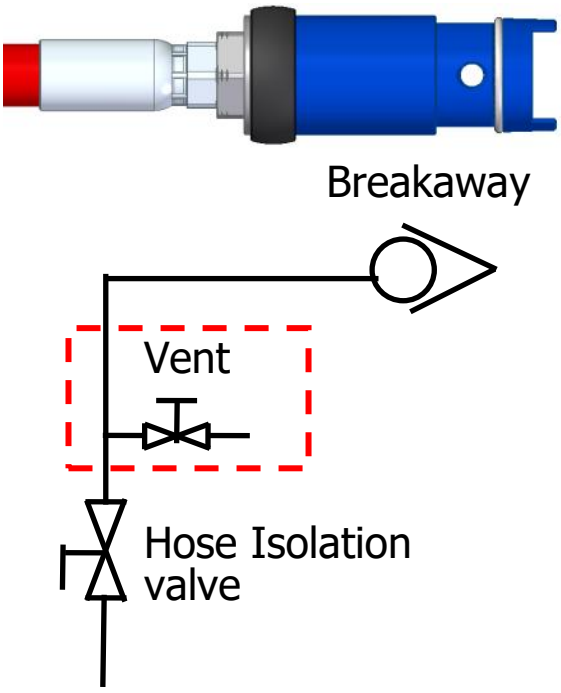
CAUTION:
In an a event of separation the hoses will stretch and whip around from the breakaway housing. This may result in causing injury to near by personnel.

2. The flow of gas will stop.

3. Isolate the pressurized hose. (Dispenser side).



4. Vent the pressurized hose. (Dispenser side).



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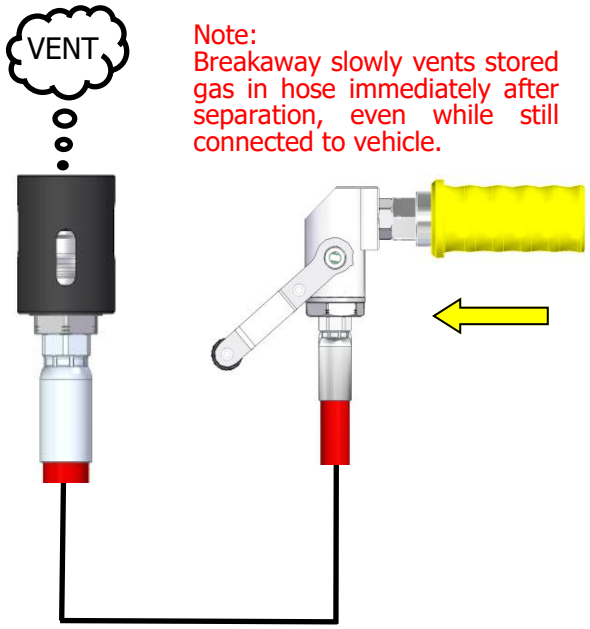
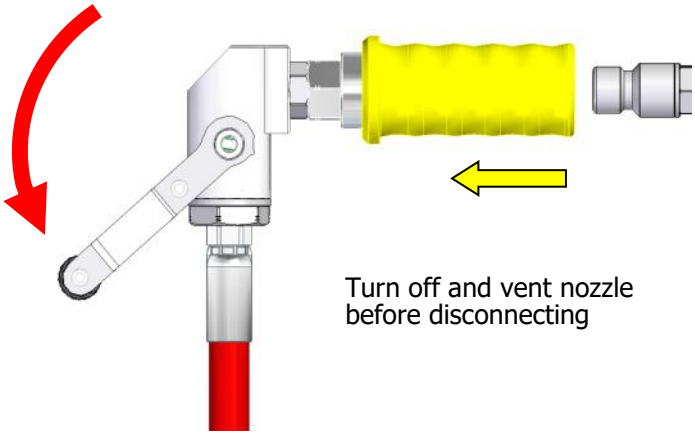
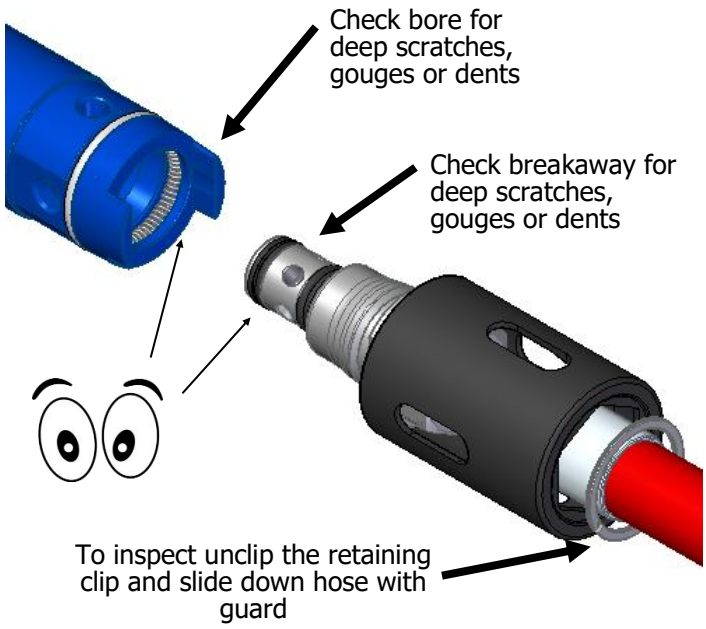
5. No need to isolate the pressurized hose as breakaway vents line. (Down stream side).



6. Disconnect the nozzle from receptacle.

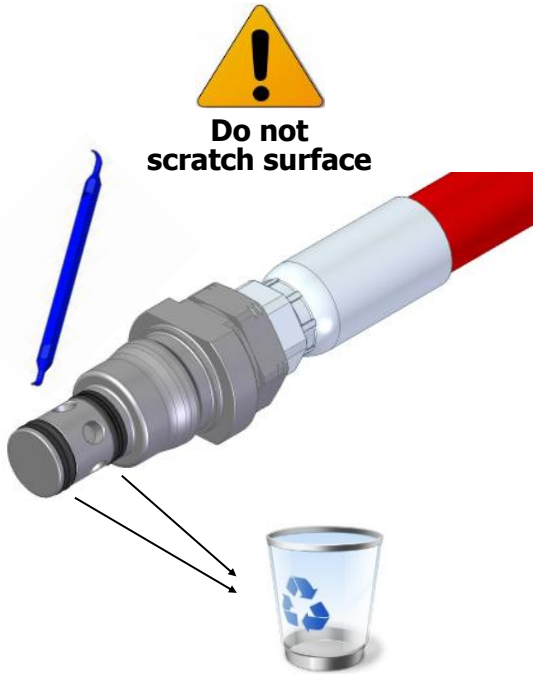


7. Check the breakaway and hose for damage.



If the male part has been damaged there is a spare part readily available, Part No. IB103-7SPSH-M.

8. Remove any damaged O-rings.



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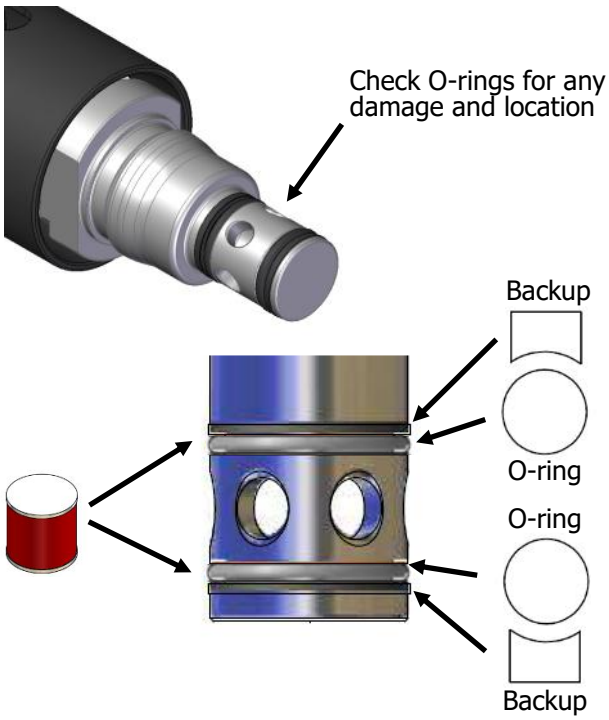
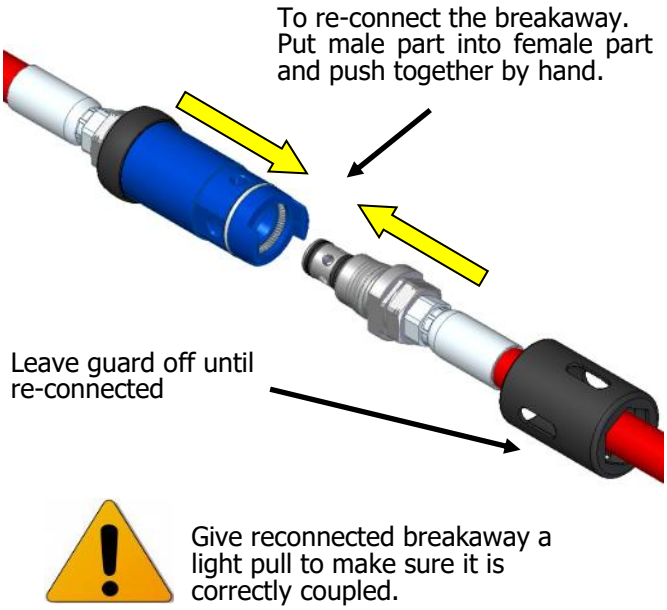
9. Apply silicone grease to the O-rings and reposition or replace (Oasis provides spare O-rings with each new breakaway, see page 7).

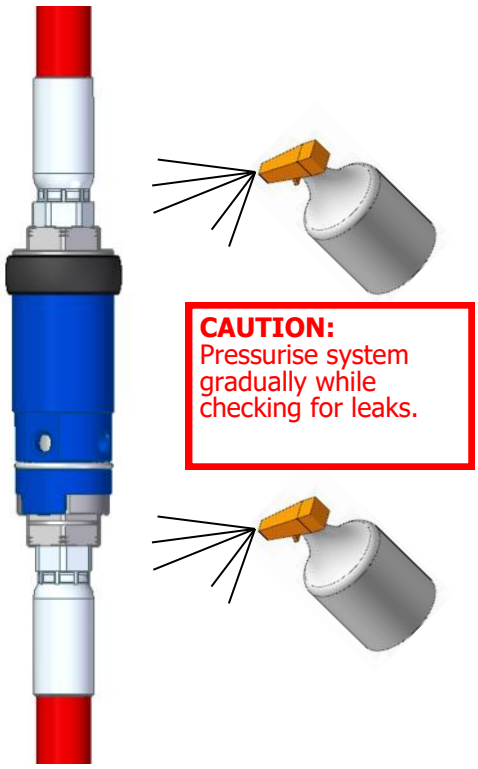


10. Re-assemble breakaway.



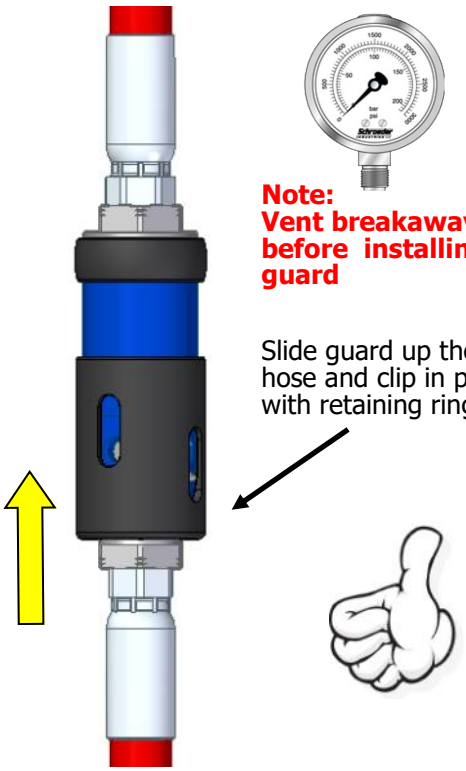
Give reconnected breakaway a light pull to make sure it is correctly coupled.

11. Re-pressurize the hose slowly and test for leakages.



CAUTION:
Pressurise system gradually while checking for leaks.

12. Connect guard and the breakaway can be used again.



Note:
Vent breakaway before installing guard

Slide guard up the hose and clip in place with retaining ring

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Service Kit Parts

5x Backup O-rings*
2 of these Backup O-rings are spares

5 x O-rings*
2 of these O-rings are spares

1 x Body O-ring

1 x Body Backup O-ring

2 x SAE Adaptor O-rings
(906 Nitrile 90)

1x Main Poppet Spring

1 x Big Guard Clip

1 x External Bump O-ring

1x Silicone Grease
(Rocol MX22 or similar for all O-Rings)

1x Main Poppet with O-ring

1 x Locking Spring

* Two extra Backup O-rings and O-rings are supplied as spare for when a separation occurs.

Routine Checks & Service:
Hose breakaways should be inspected for damage or leaks by a trained personnel every 6 months and/or as part of the end-user's preventative maintenance program. This procedure should follow step 6 of the installation instructions (Page 5).

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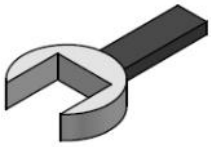
Tools Required

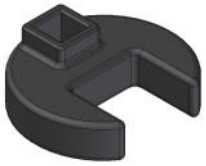
Cleaner (Warm Soapy Water or Similar)

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



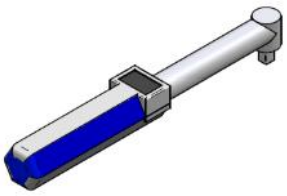
Spanner (Wrenches) - 25mm (1")

Spray Bottle (Snoop or soapy water)



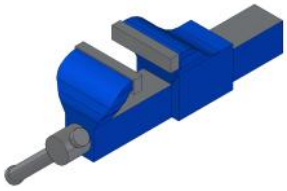
Crows Foot - 30mm

Large Screw driver (Flat head drive)



Torque Wrench

Pick Tool
Part Number:
TOOL-PICK
(Sold separately)



Vise

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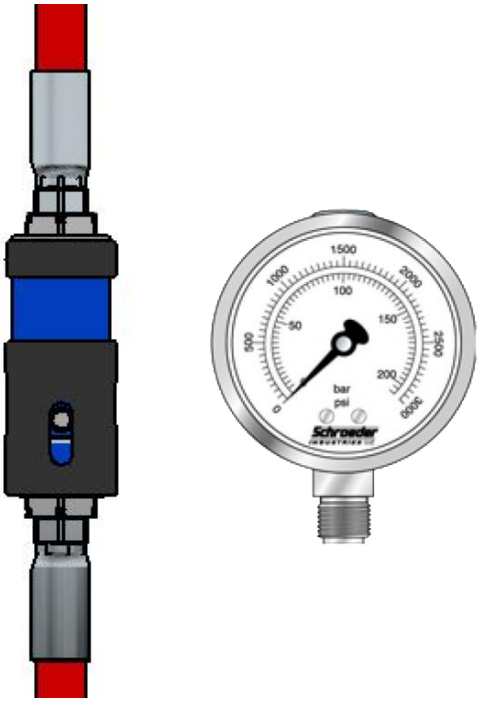
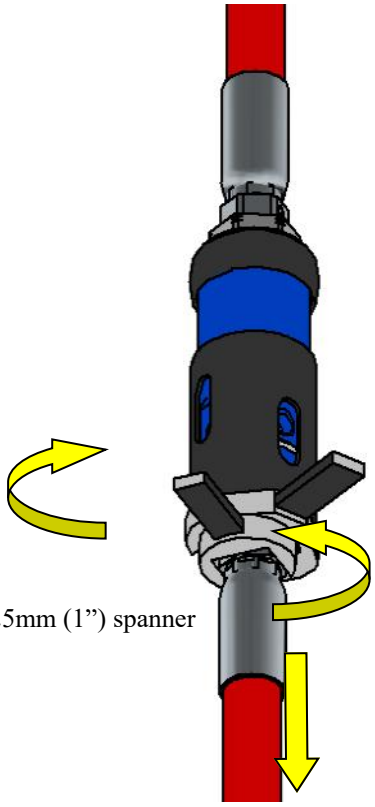
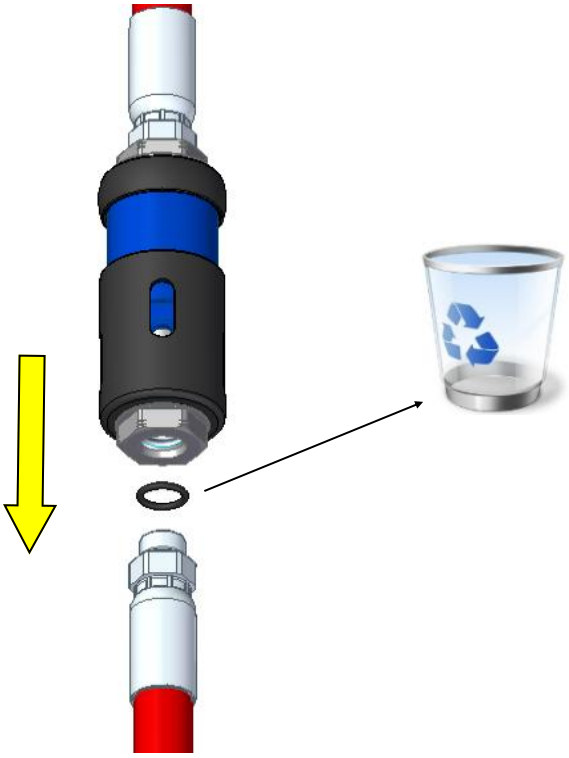
1. Isolate the breakaway and vent all pressure from hose.



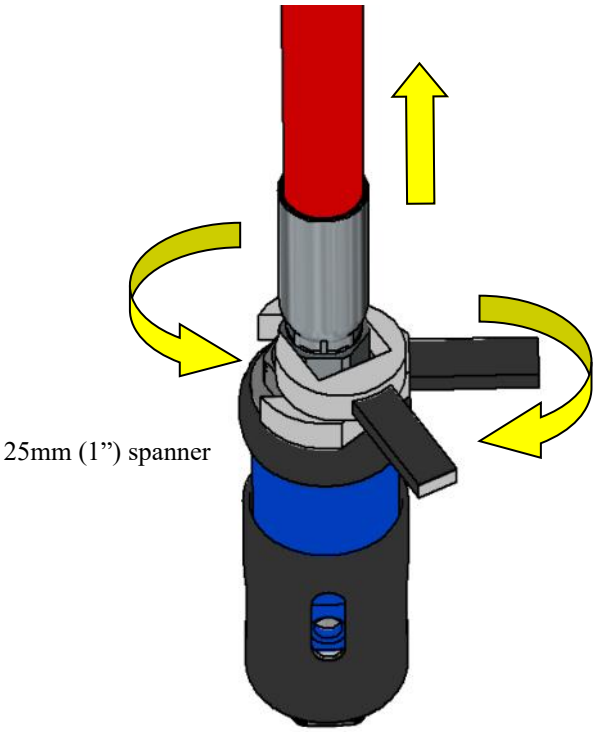
2. Loosen hose from breakaway.



3. Remove hose fitting from breakaway and discard O-ring if required.



4. Loosen the second hose fitting.



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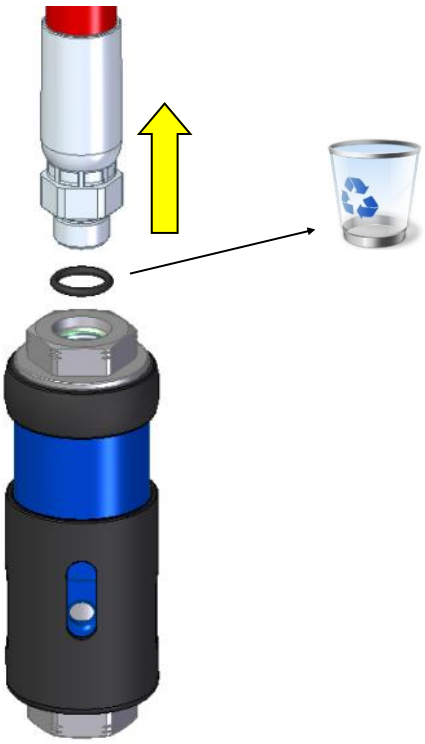
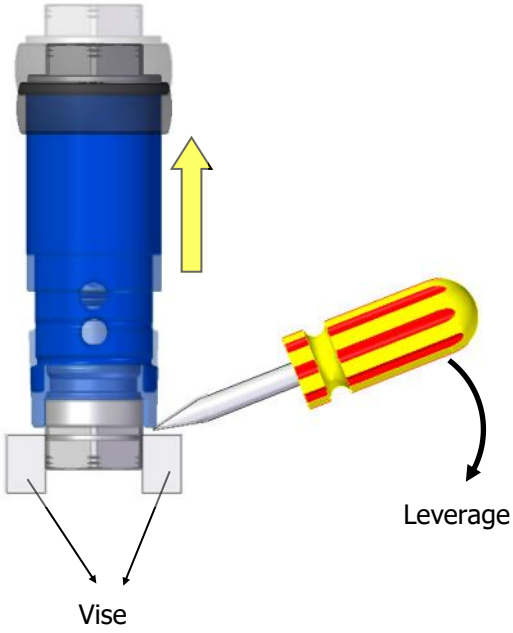
5. Remove the second hose fitting and discard O-ring if required.

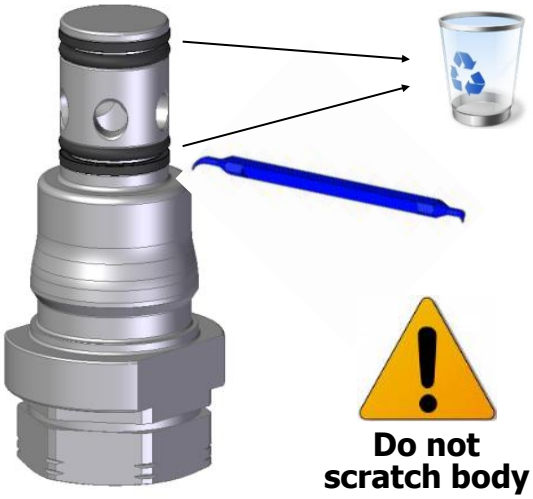


6. Remove retaining clip and slide guard and O-ring off end.

7. Put end cap in vise and pry body off with a large flat head screw driver using vise as leverage point.



8. Remove O-rings from male part and discard.



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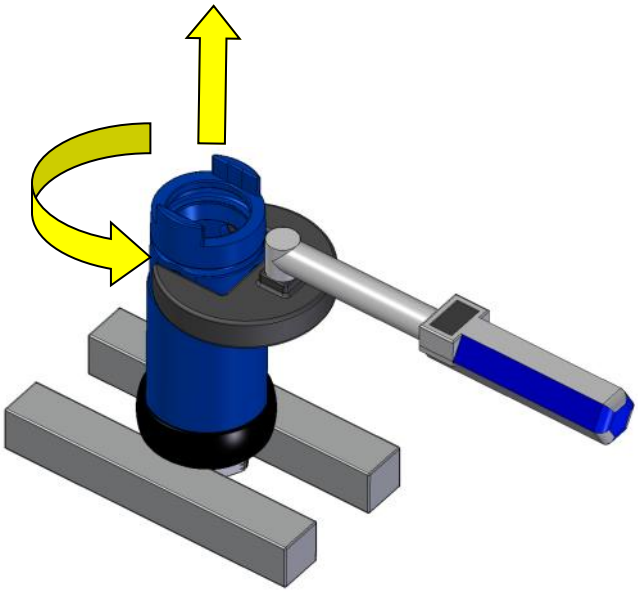
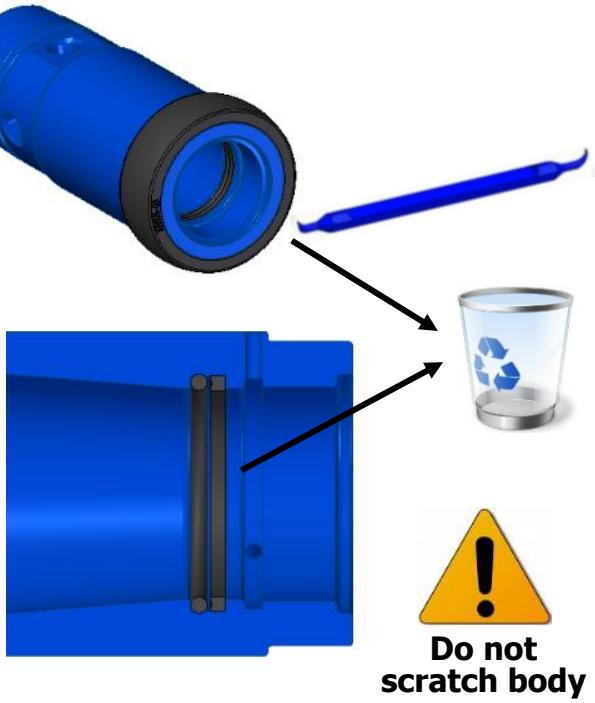
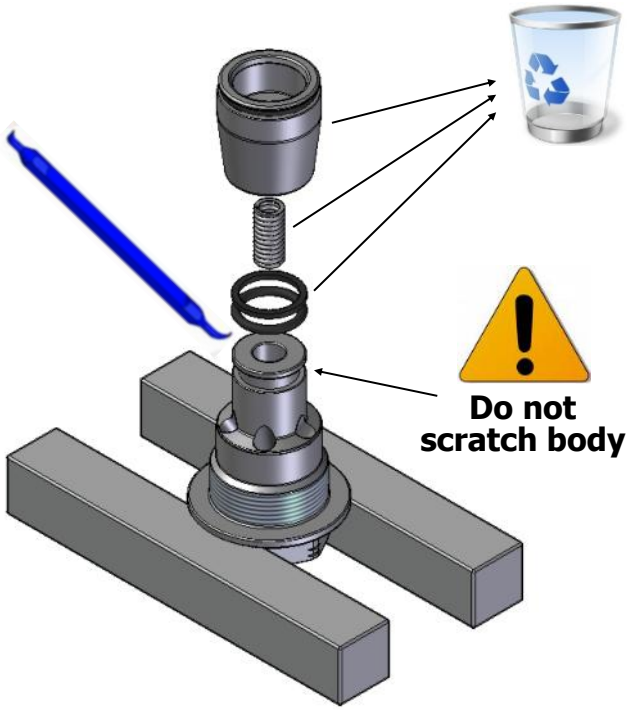
9. Remove the breakaway end cap from the body.



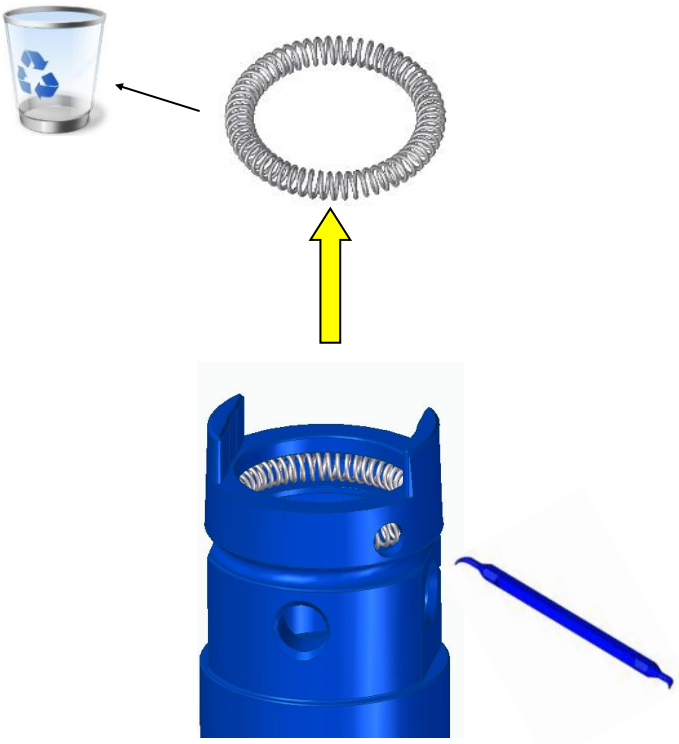
10. Pick out the two O-rings from inside the body.



11. Remove and discard all internal parts. Poppet, spring and all O-rings.



12. Push locking spring out of the groove through the side hole and discard.



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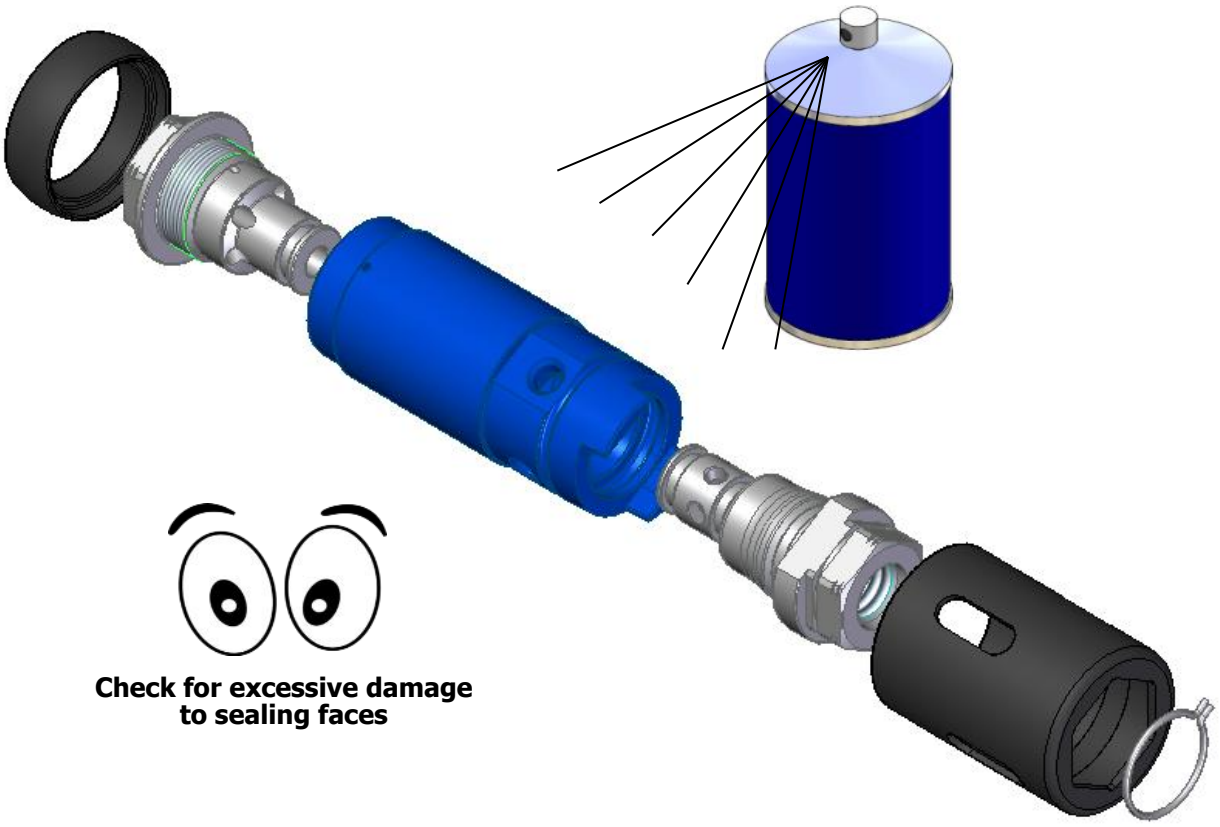
13. Clean all of the components and inspect for damage.



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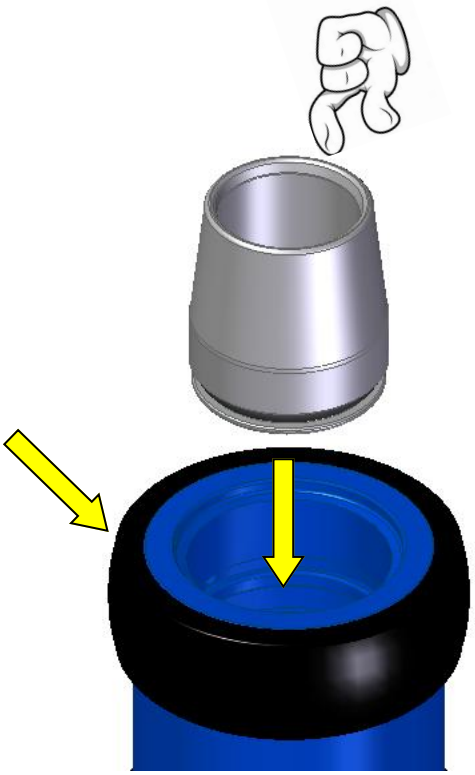
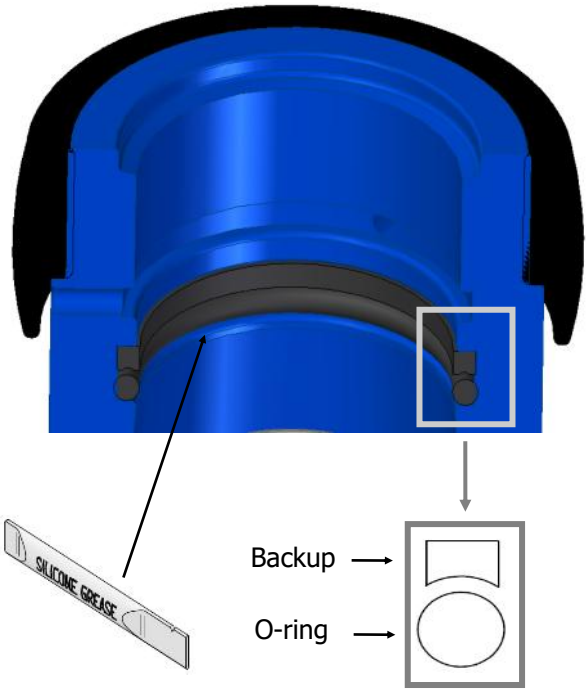
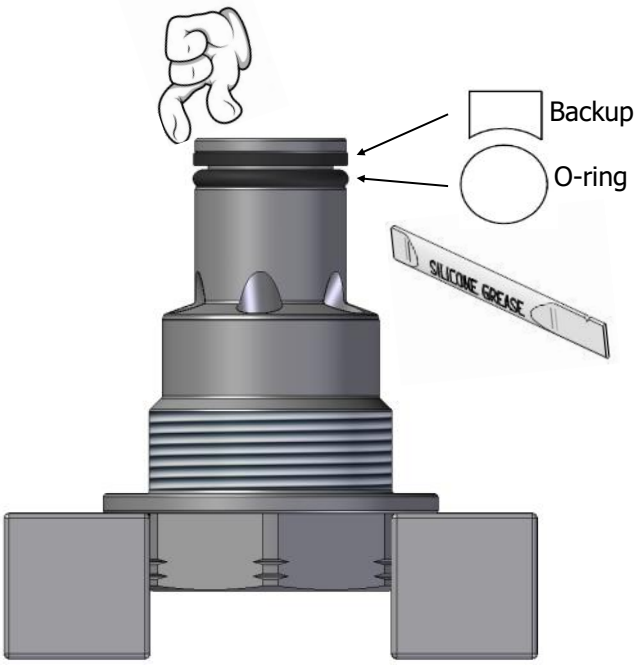
1. Insert main poppet into the body and put the black rubber stop back on the body.



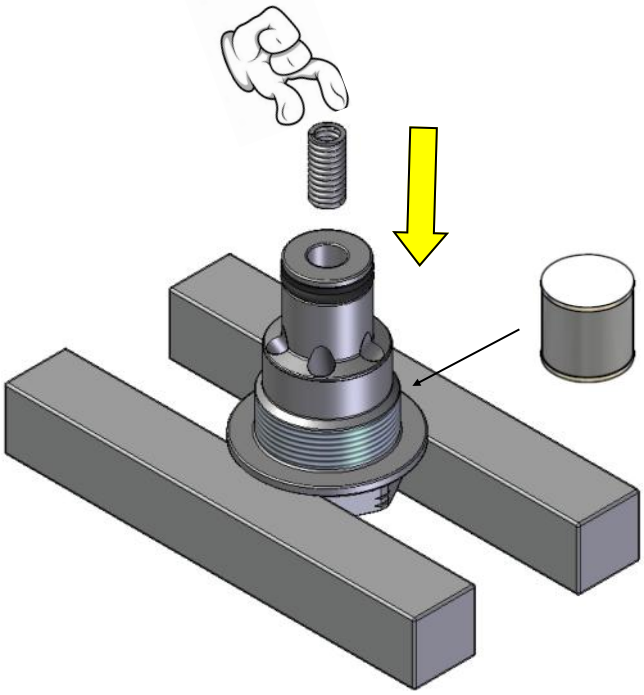
2. Grease Body O-rings and install into body groove. Make sure the O-ring & Backup O-ring are the right way around.



3. Place the end cap in a vise. Grease O-rings and install onto end. Make sure the O-ring & Backup O-ring are the right way around.



4. Install poppet spring into the end cap top hole and apply Anti Seize to the thread.



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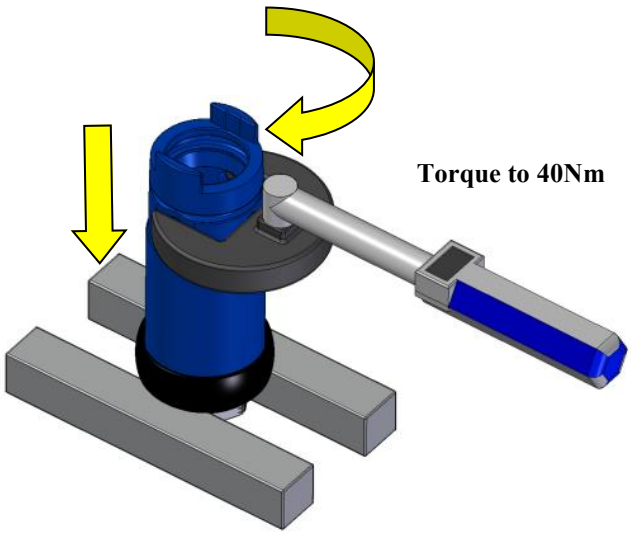
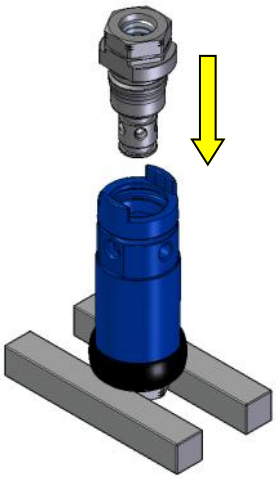
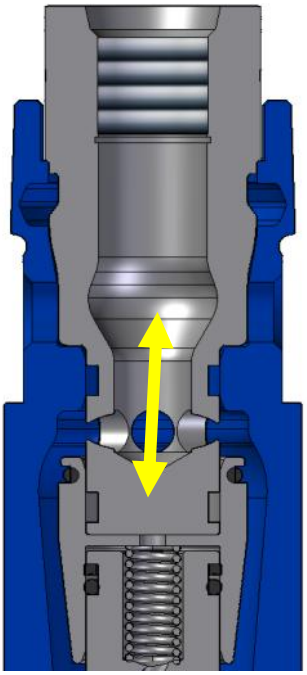
5. Install and tighten body onto the end cap.



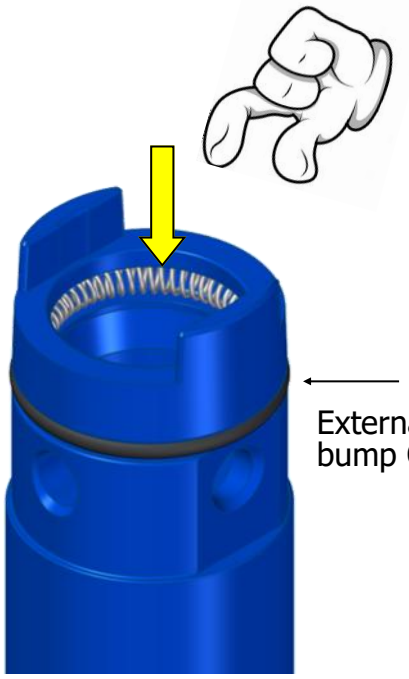
6. Check poppet is working freely with the male end.



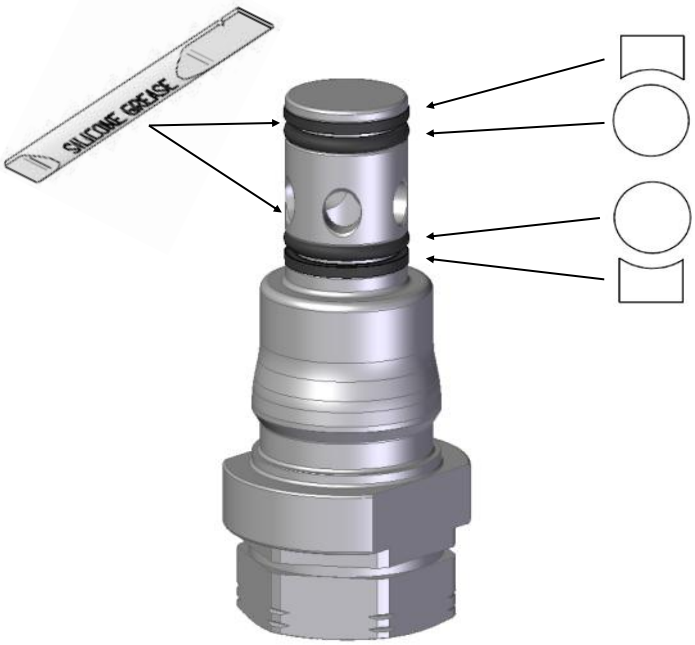


Note:
Poppet should slide freely back and forwards when pushing down with the male part.

7. Install locking spring and external bump O-ring.



8. Grease O-rings and install. Make sure the O-rings are the right way around.



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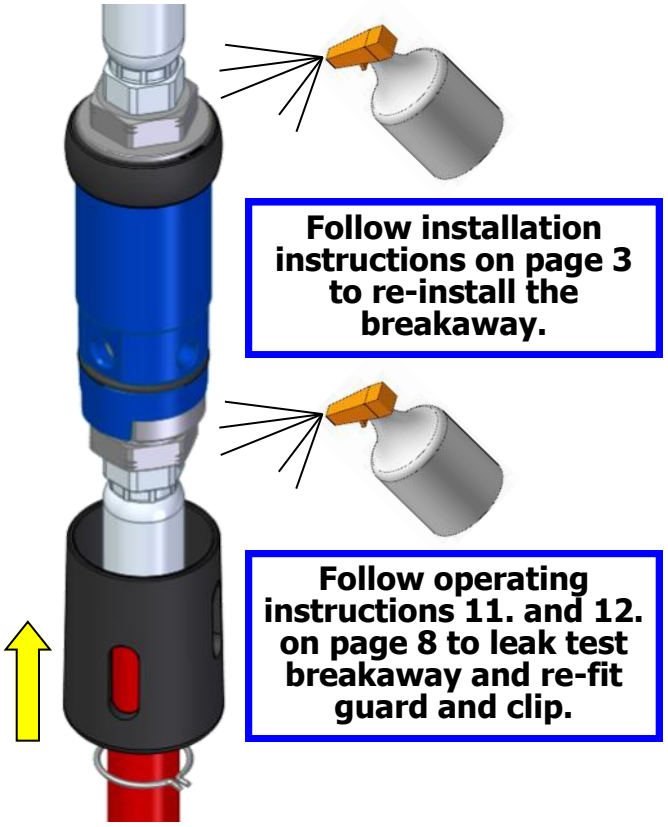
9. Line up and push male part into female part until it clicks.

10. Re-install breakaway with guard slid down the hose and leak test. Reposition guard after testing with retaining clip and servicing is complete.



Follow installation instructions on page 3 to re-install the breakaway.

Follow operating instructions 11. and 12. on page 8 to leak test breakaway and re-fit guard and clip.

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