



O-Ring Face Seal (ORFS) & Compression Fitting Installation Recommendations

October 14, 2016

O-Ring Face Seal (ORFS) Male & Female Ends

The ORFS connection consists of the male end with the o-ring properly seated in the machined trepan (groove) and the end-formed mating surface and nut on the female end.



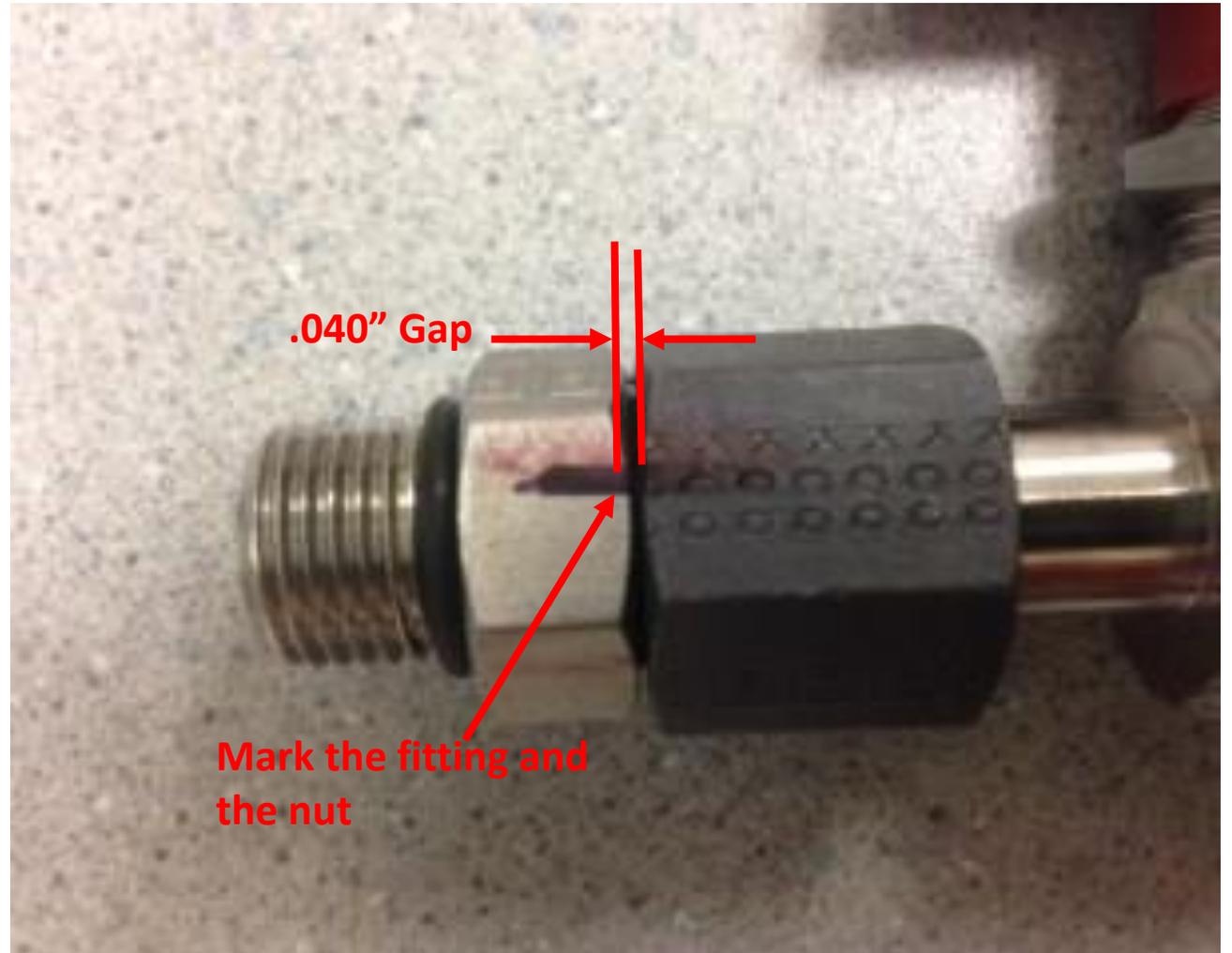
Step 1-ORFS Connection

Hand tighten the fitting.

Important: You must make sure the male ORFS fitting or component is held firmly and the female ORFS nut is rotated.

Once you feel the torque start to increase, you are beginning to compress the o-ring in the male end to the sealing surface on the female end. At this point there should be approximately .040" gap between the hex shoulder on the male end and the female end nut.

Note: These instructions apply to SSP stainless steel fittings. Other manufacturers should be consulted on their recommendations.

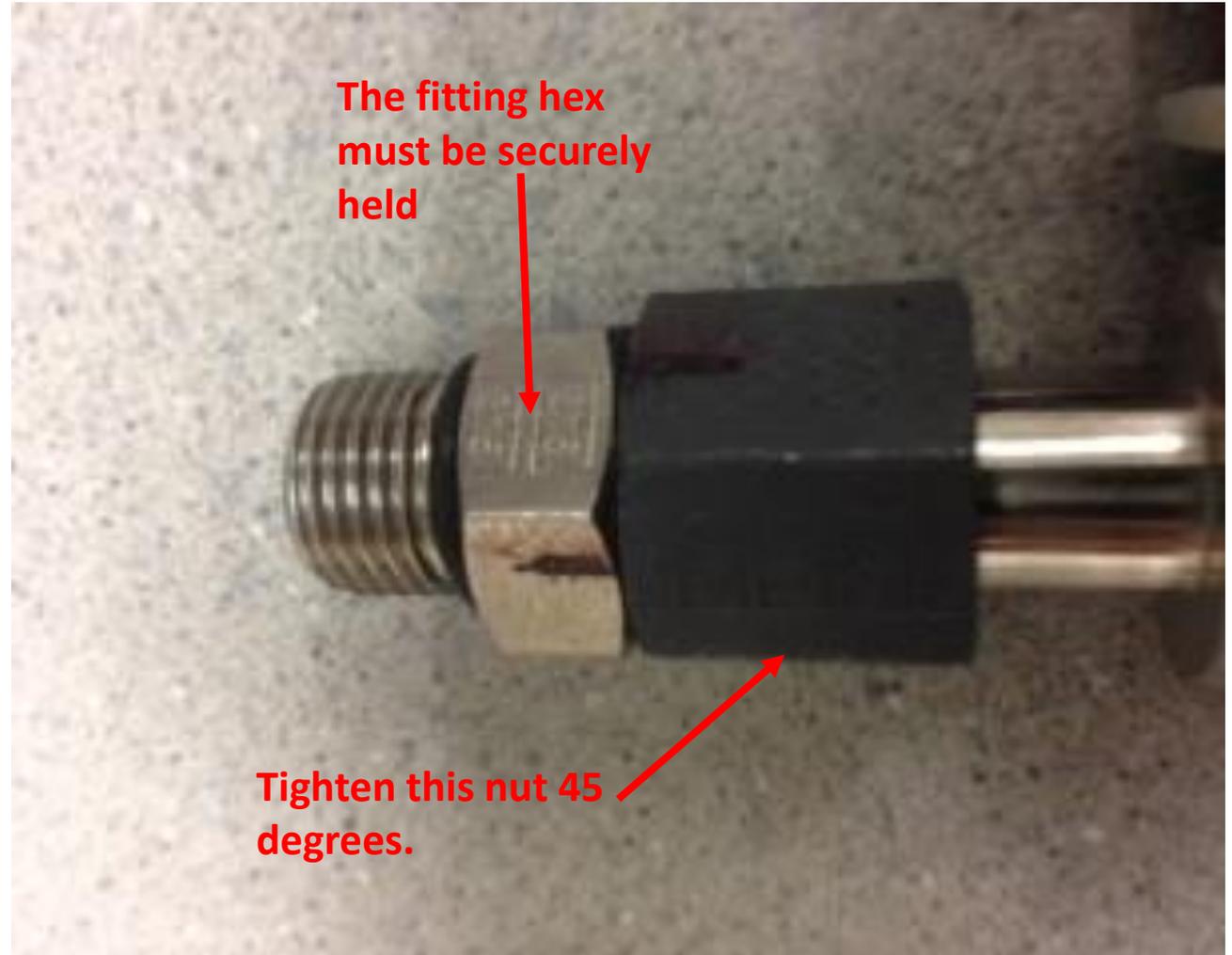


Step 2-ORFS Connection

Rotate the nut approximately 30-45 degrees. The male end must be held securely in place and the torque applied to the female nut.

At this point, there should be approximately .020" gap between the fitting and the nut. This will provide about .020" compression of the o-ring. This actual gap may vary based on the variation of component parts, the hand tightening operation, the accuracy of the 30-45 degree torque and other operator influenced inputs.

A drop of torque seal may be applied to the joint to ensure integrity of the seal is maintained through any further assembly processes.



ORFS Remake instructions

To remake an ORFS connection follow the previously detailed instructions and be sure to **always**:

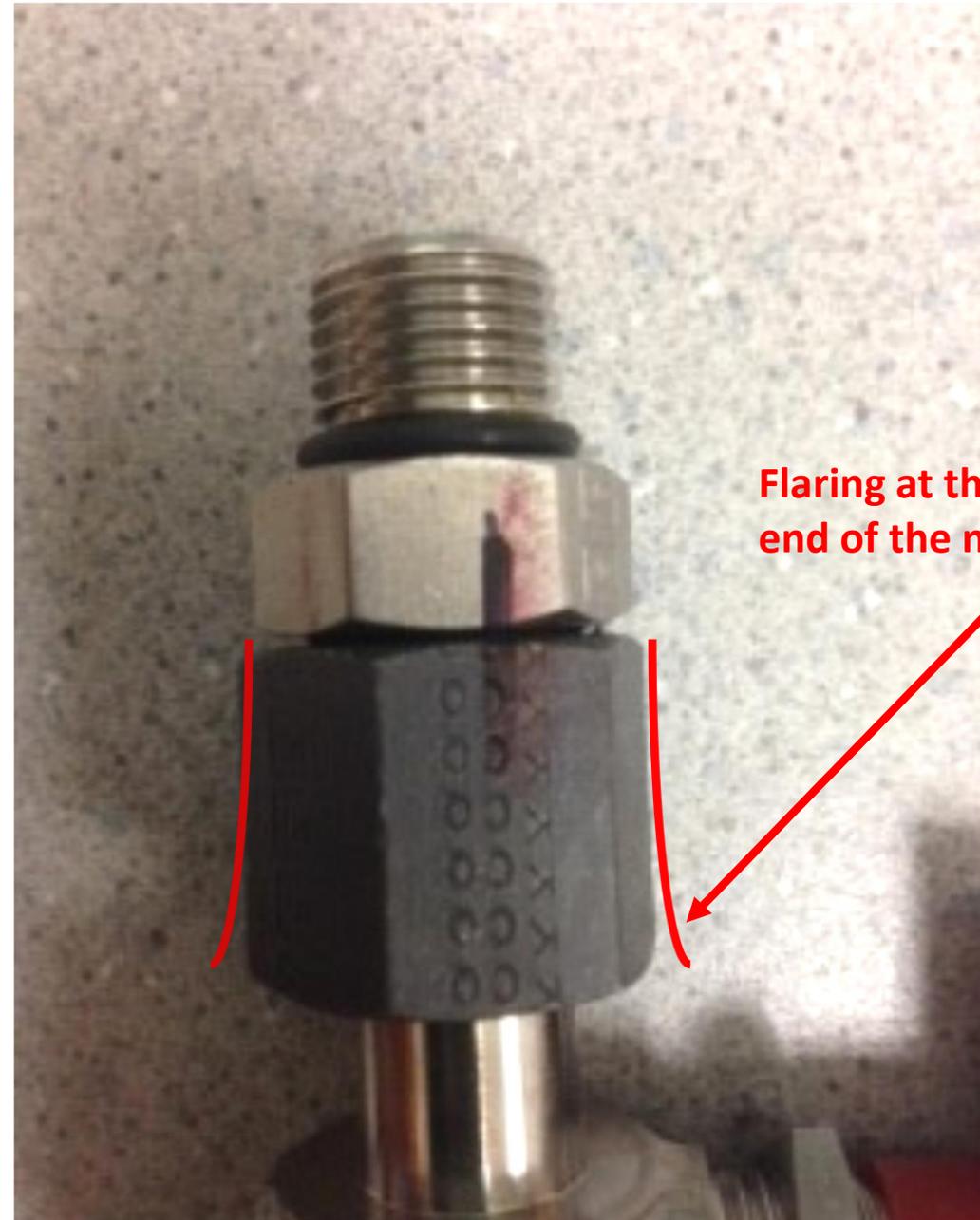
- You should always replace the o-ring.
- The new o-ring should be properly lubricated and installed.



ORFS Over-Torque Indication

Excessive torque may be visible as a flaring of the ORFS nut as it is tightened to the point where the sleeve set on the tube behind the end-form is being pulled through the back of the nut.

No gap being present between the male ORFS shoulder and the female nut is also an indication of over-torque however, if the nut is not visibly flared out and the compressed o-ring connection is performing leak free, the connection should be adequate.



Step 1-Installing an SSP Duolok Compression Fitting

Insert the mating tube into the fitting with the ferrules properly positioned. Bring the nut down to a hand tight position.

Note: When tightening the nut, the fitting must be securely held with a wrench.

Mark the fitting and the nut as shown in the picture.



Step 2-Installing an SSP Duolok Compression Fitting

Initial make up: While holding the fitting hex secure, tighten the nut $1 \frac{1}{4}$ turns from hand tight. Do not overtighten.

Pre-swage or remake: If the tube assembly is supplied in a “pre-swage” condition, or if this is a remake of a previously assembled connection, tighten the nut $\frac{1}{4}$ turn from hand tight while holding the fitting hex secure.

