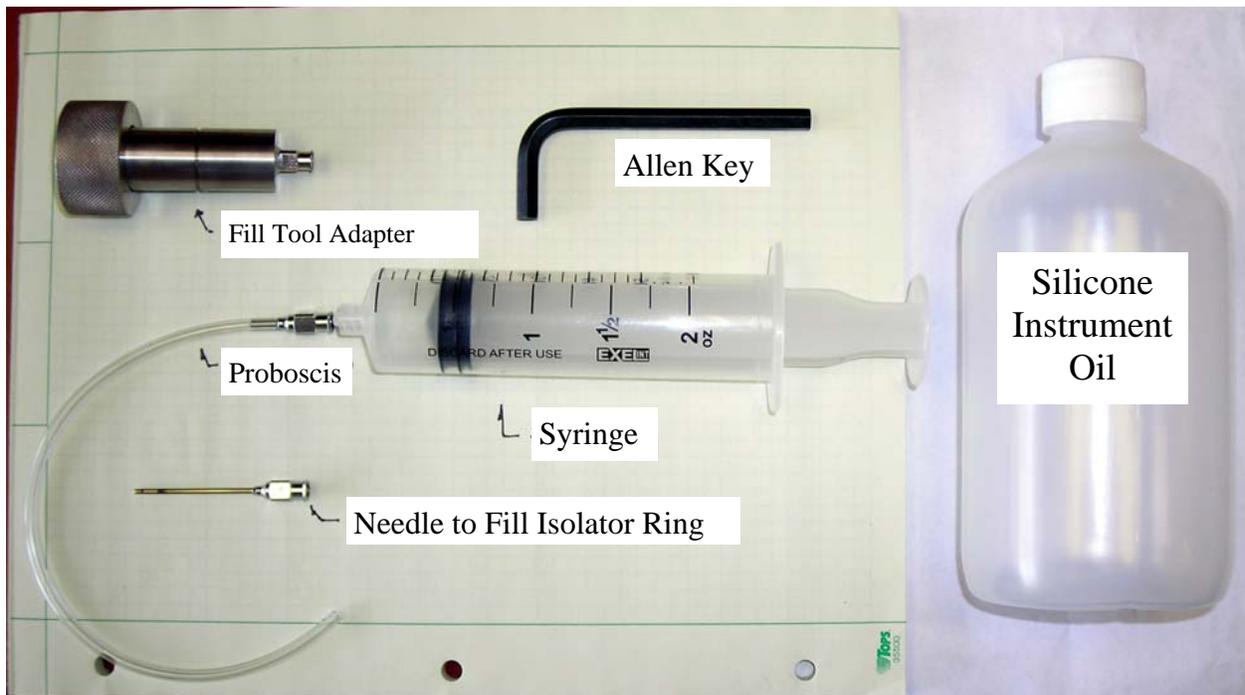


# Using the Onyx Syringe Fill Kit



## Step-1: Fill the Syringe



Attach the Proboscis fitting to the syringe.

Push the Plunger all the way down into the Syringe.

Insert the Proboscis into the Silicone Oil Bottle.

Pull back on the plunger until you have 35 to 40 ml of oil in the syringe. Do not completely fill the Syringe.

## Step-2: Preparing Instruments for Connection to the Isolator Ring



1. Attach a Stinger Fitting to the gauge or other pressure sensing instrument.
2. Attach the Fill Tool Adapter to the Syringe as shown.
3. Push the Fill Tool Adapter onto the needle of the stinger fitting. Secure in place by hand tightening the knurled lock ring.
4. Pull up on the plunger of the Syringe until it reaches the 60 ml mark. Do not pull further. You should observe bubbles emerging from the gauge into the Syringe while drawing out the plunger.
5. Push down on the plunger until you see a little deflection on the gauge reading.
6. Repeat steps 5 and 6, alternately pulling and pushing the plunger until all the air is extracted from the gauge (no more bubbles appear).
7. Adjust the plunger position so that the gauge just reads zero.
8. Remove the Filling assembly from the gauge and temporarily install a tip protector on the stinger fitting needle.

### Step-3: To Refill the Isolator Ring:



**Caution:** Do **NOT** attempt to fill an Isolator Ring installed in a pipe under pressure. The line pressure will propagate through the needle into the syringe. This will transform the plunger into a projectile, which will erupt from the Syringe with startling (and potentially dangerous) velocity. Attempting to forcibly hold the plunger in the syringe under these circumstances will simply cause the Syringe to explode. Filling the Isolator Ring **MUST** be performed under “zero pressure” conditions.



1. Attach the Needle to the Syringe.
2. Fill the Syringe with 35 to 40 ml of silicone instrument oil
3. Push the needle through the diaphragm in the module seal.
4. Retract the plunger until it reaches the 60 ml mark. Do not pull further. You should observe bubbles emerging from the Isolator Ring into the Syringe while drawing out the plunger.
5. Push down on the plunger until you see *a little* deflection on the inside of the rubber sleeve.
6. Repeat steps 4 and 5, alternately pulling out air and pushing in oil until all the air is extracted from the Isolator Ring (no more bubbles appear).
7. Adjust the plunger position so that the rubber sleeve bulges into the pipe by just 2mm.
8. Remove the Filling assembly from the Isolator Ring. The Isolator Ring is now ready to have a gauge or other pressure sensing instrument attached.

## If you notice fill fluid weeping from the module seal:

Occasionally the module seal will weep a few drops of the fill fluid.

If this happens, temporarily remove the gauge assembly from the isolator ring. Insert a ¼" Allen hex key into the module seal as shown in the picture on the right and turn 1/8 of a turn clockwise to tighten the seal.

Then replace the gauge.



If the module seal is too tight to insert the stinger fitting, loosen the adjustment a little bit by rotating the hex key anti-clockwise. Just a few degrees of rotation with the hex key should be sufficient to reinsert the stinger.