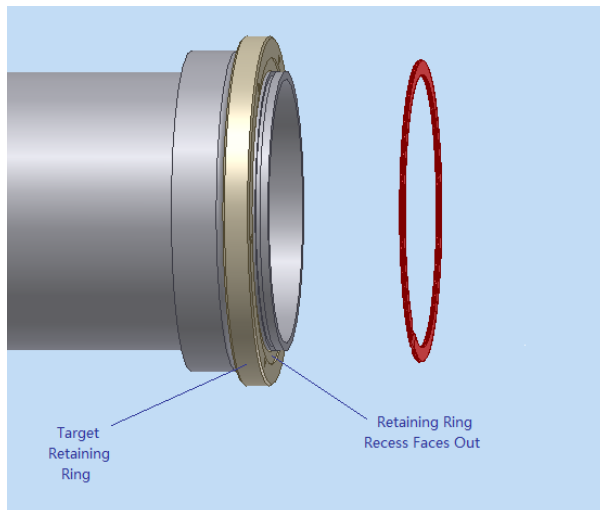


## **Non-Bonded Cylindrical ITO – Target Assembly Instructions:**

*To reduce the risk of target damage, please read and understand these assembly instructions prior to assembling the ITO target. All questions and concerns will be immediately addressed.*

The following procedure will show the general assembly instructions for the non-bonded cylindrical ITO target. The user should follow standard cleanliness procedures for this operation, wearing clean gloves for handling all parts and using approved cleaning solutions.

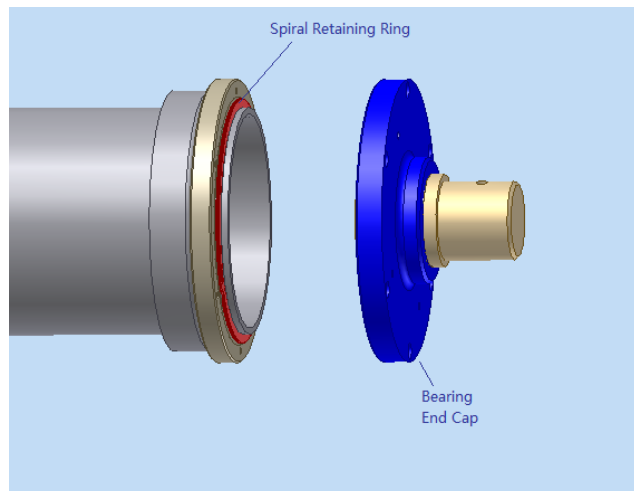
Prior to handling the ITO targets, the backing tube should be partially assembled. The ITO is a somewhat fragile ceramic and thus handling should be minimized.



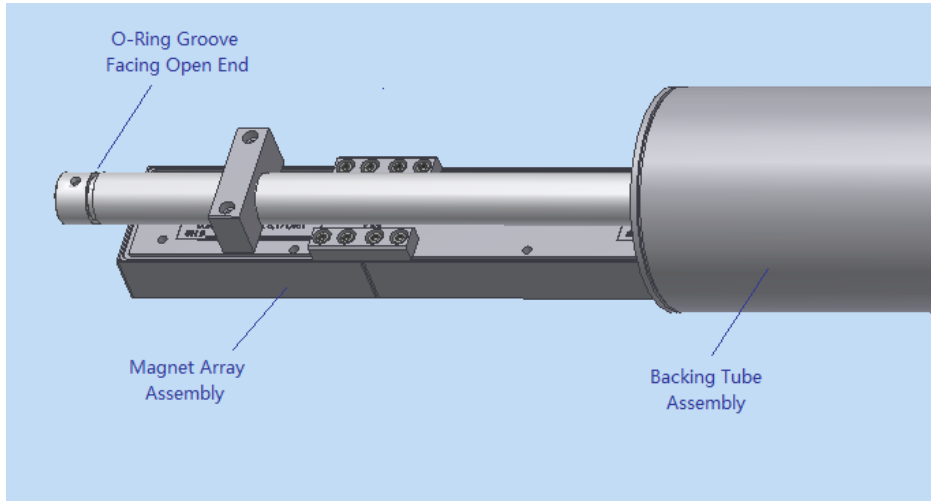
Slip the Target Retaining Ring over the end of the backing tube. Make sure this is the “Stop” end of the backing tube. Note that the recess in the retaining ring faces out, or, faces the groove in the target backing tube.

Install the spiral retaining ring over the end of the target. Be sure the ring is fully seated into the groove of the backing tube.

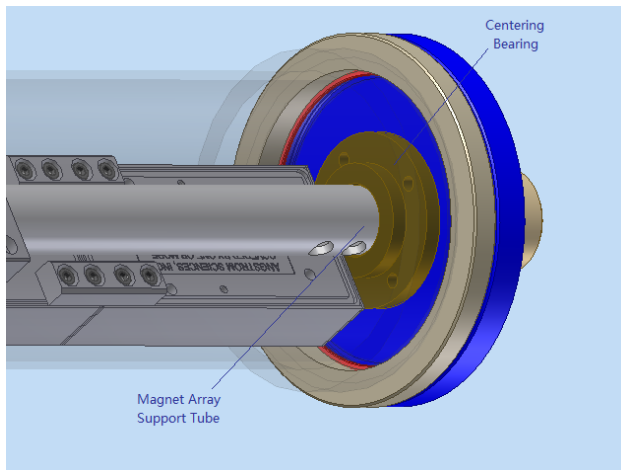
Install the o-ring into Bearing End Cap Assembly and use six (6) of the 8-32 SHCS supplied to secure the Bearing End Cap to the Target Retaining ring. Initially, the screws should be only finger-tight. Continue to tighten each screw, 1/2 turn each, in a “star” pattern so the the force



applied is even around the entire assembly.

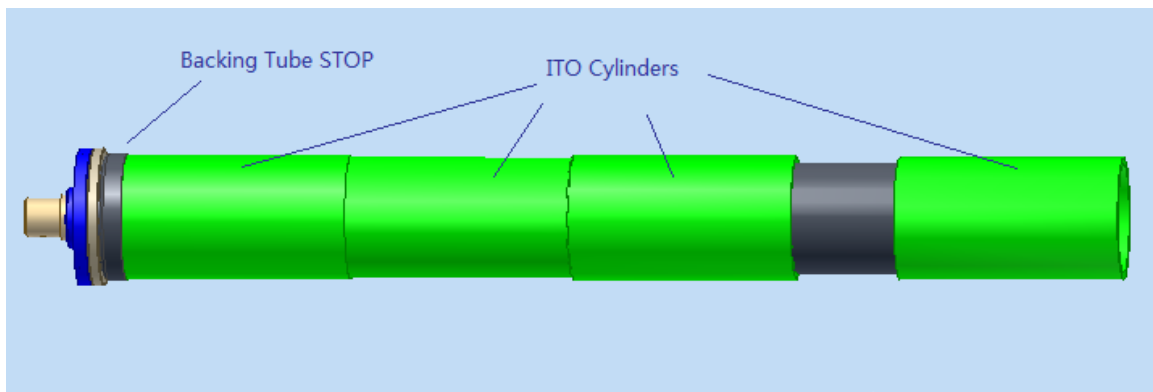
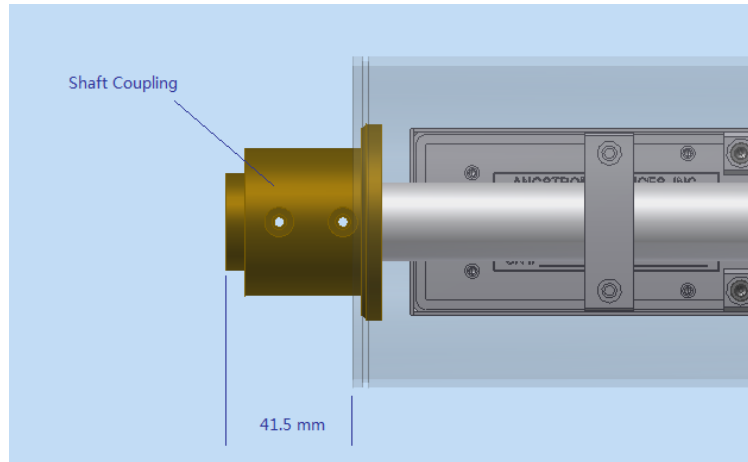


Slide the Magnet Array Assembly into the backing tube assembly. Be sure the O-Ring on the magnet array support tube is NOT inserted first into the backing tube. Note, the shaft coupling should be assembled onto the magnet array support tube but is not seen here for clarity.



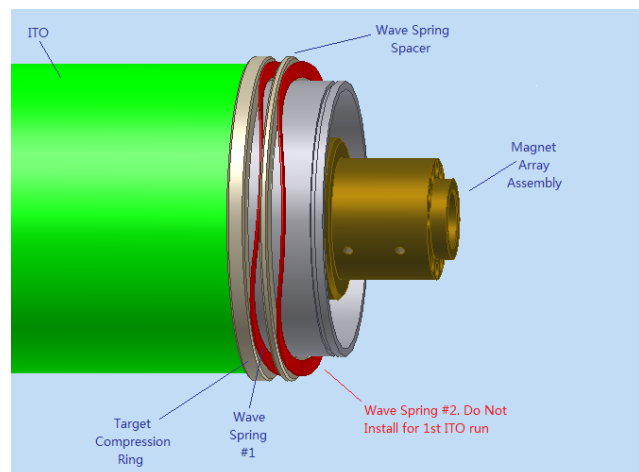
When inserting the magnet array into the backing tube, be sure the magnet array support tube is fully seated and centered into the centering bearing of the target end cap assembly. If this step is troublesome, remove the bearing end cap, insert the magnet array, then reinstall the end cap assuring the support tube is properly positioned in the bearing.

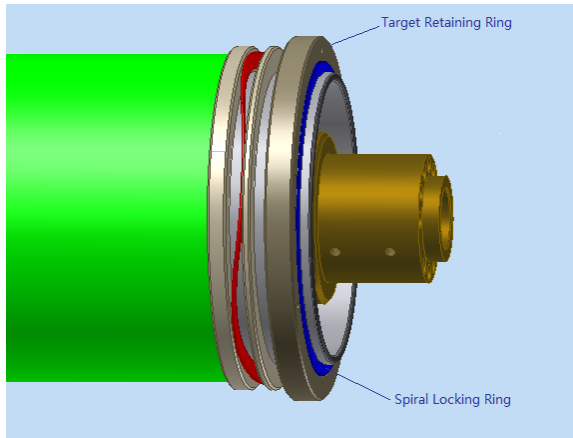
When properly inserted, the Shaft coupling will extend out from the end of the backing tube ~ 41.5 mm



Carefully slide each of the ITO cylinders onto the backing tube until they come to the stop or are positioned against the neighboring cylinder. The total length of ITO target material should be ~ 873 +/- 2mm. Do not rest the weight of the target and backing tube assembly on the ITO cylinders. This procedure should be performed vertically.

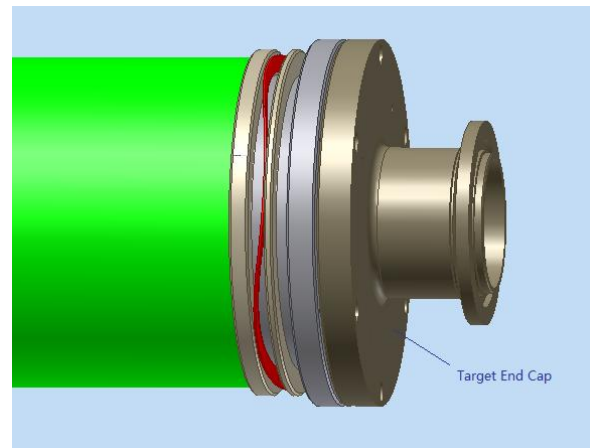
With the ITO cylinders already on the backing tube, slide on the Target Compression Ring, Wave Spring #1, and the Wave Spring Spacer. Do not install Wave Spring #2 at this time. This wave spring is optional and may not be needed depending on the amount of expansion the ITO cylinders undergo. If it is put in, initially, and the ITO expands more than expected this could lead to target breakage.

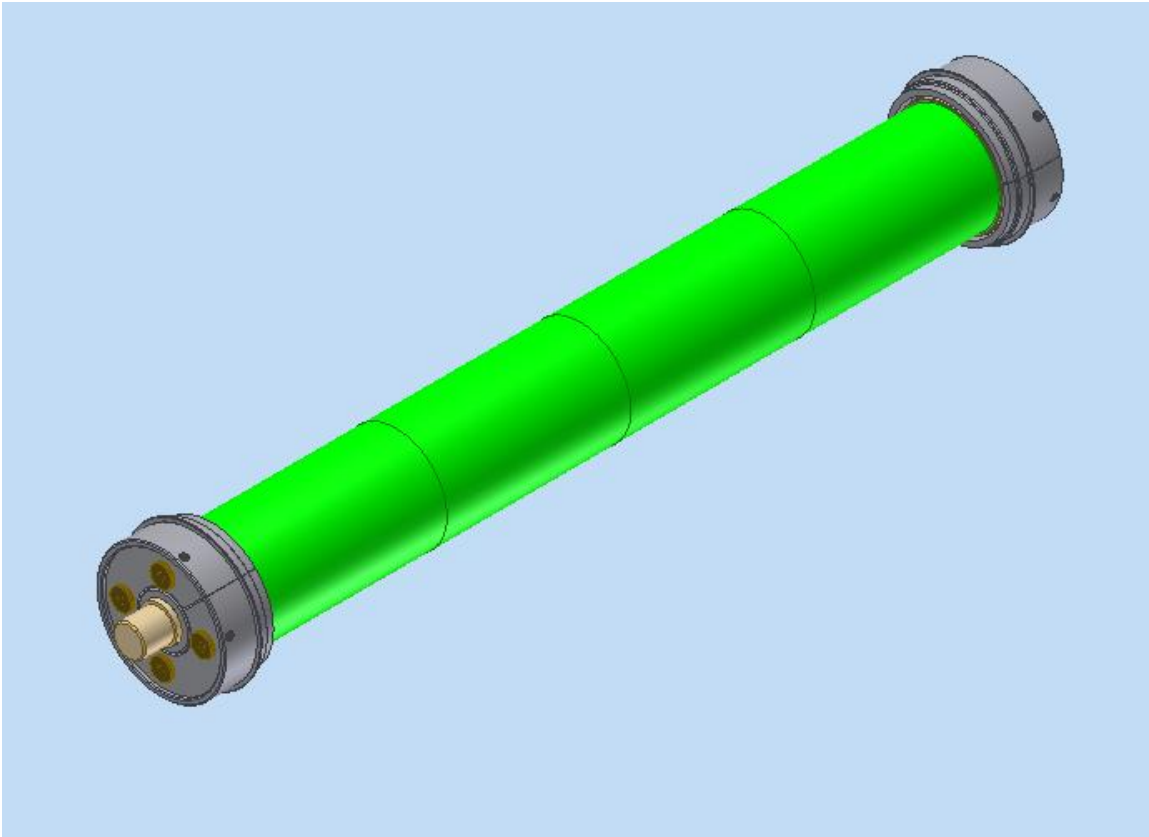




Continue the assembly as with the other end of the backing tube by installing the Target Retaining Ring and the spiral locking ring.

The backing tube assembly can now be completed, installing the Target End Cap as described in the 1<sup>st</sup> end above. The rest of the procedure for assembling the Debris Shields can be followed per the standard target assembly manual.





Non-bonded ITO target assembly.

It is advised to only carry or move this target assembly by the debris shields and use at least 2 people when lifting or moving the assembly.