

PLA-80 PERIPROBE ADAPTER
PLA2-80 PRO2BE ADAPTER
PZA-80 PROBE ZOOM ADAPTER

Setup, Use, and Care Guide

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This manual and current revision is available in 8.5 x 11 size and full color at

<http://www.gateshousings.com>

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1: About Probe Lens Adapter (PLA)

This document provides details on setup, use and care of three Probe Lens Adapters:

- PLA-80 for the Laowa Periprobe Lens
- PLA2-80 for the Laowa Pro2be Lens
- PZA-80 for the Laowa Probe Zoom Lens

The setup of all three is nearly identical, so use this as general guidance.

Warranty Disclaimer

Probe Lens Adapters are a tool that, like any tool, requires knowledge and understanding to be effective.

It is the user's responsibility to learn the proper setup, use and care of the PLA system. Because we can only provide you with the information necessary to do so, Gates does not warrant the contents of your housing (e.g. your camera and lenses) under any circumstance. For the same reasons, Gates does not warrant optical performance or image quality.

We warrant the PLA as an image acquisition tool for a period of 2 years. The Laowa Probe lenses are warranted by the original manufacturer, Venus Optics. Refer to their website for warranty details.

If you have any questions about the setup, use and care of the PLA, contact Gates directly.

Unpacking the PLA

After you remove the PLA from its shipping container, carefully inspect it for missing parts or damage that may have occurred during shipment. If any discrepancies are discovered, please contact your Gates dealer immediately for assistance.

Standard Configuration

The PLA comes with the following standard items:

- Adapter Cone assembly
 - Adapter cone base
 - Half retaining rings x 4
 - Threaded external locking collar
 - Internal bayonet locking collar
- Spare o-rings
 - Adapter cone o-ring
 - Barrel Seal o-ring
 - Internal locking collar o-ring
- Flex gear ring adapter x 2 or x 3 (depending on model)
- O-ring removal tool
- Spare half retaining rings x 2

Additional kit items:

In addition to the standard items, PLA kits may include the following items depending on the specific model and compatible housing.

The large kit is configured for housings such as the Deep Weapon that require a guide bar for their lens gear drives.

The large kit (for housings like PRO RAPTOR) may contain the following additional items:

- Extended Guide Bars 4.5 and / or 6 inch length
- Extended Acetyl Drive Shaft 4.0 and / or 6.0 in length

The small kit is configured for housings such as the Pro Action and Deep Komodo that mount a lens gear directly onto a drive shaft.

The small kit (for housings like DEEP KOMODO-X) may contain the following additional items:

- Extended Stainless Steel Drive Shaft 4.0" and / or 5.0"
- 60-80 Series Port Expander

Required items:

These following items were included in the housing toolkit and are NOT included in the PLA kit:

- 7/64" Ball Driver Tool (for Flex Gears and Lens Gear Drive)
- 3/32" Ball Driver Tool (for Lens Gear Drive)
- Tube of silicone lubricant

Housing specific configurations:

Additional required items vary based upon Probe Lens, Gates housing model, and configuration.

For example, Stackable Port Rings will be required to position the Adapter Cone in the optimal position for each type of Probe Lens. See section below for details.

2: Cautions

- ▶ **TRANSPORT.** NEVER ship or transport your Laowa lens and / or camera inside a housing.

- ▶ **USER RESPONSIBILITY.** This Setup, Use and Care guide contains important detailed procedures for setup and use of the PLA. It is the user's responsibility to read, understand and employ these procedures. Failure to do so can result in poor or non-operation of the PLA and may void your warranty.

Contact Gates if you have questions about this manual or using the PLA.

- ▶ **DEPTH RATING.** All PLA versions are depth rated to 100ft / 30m.

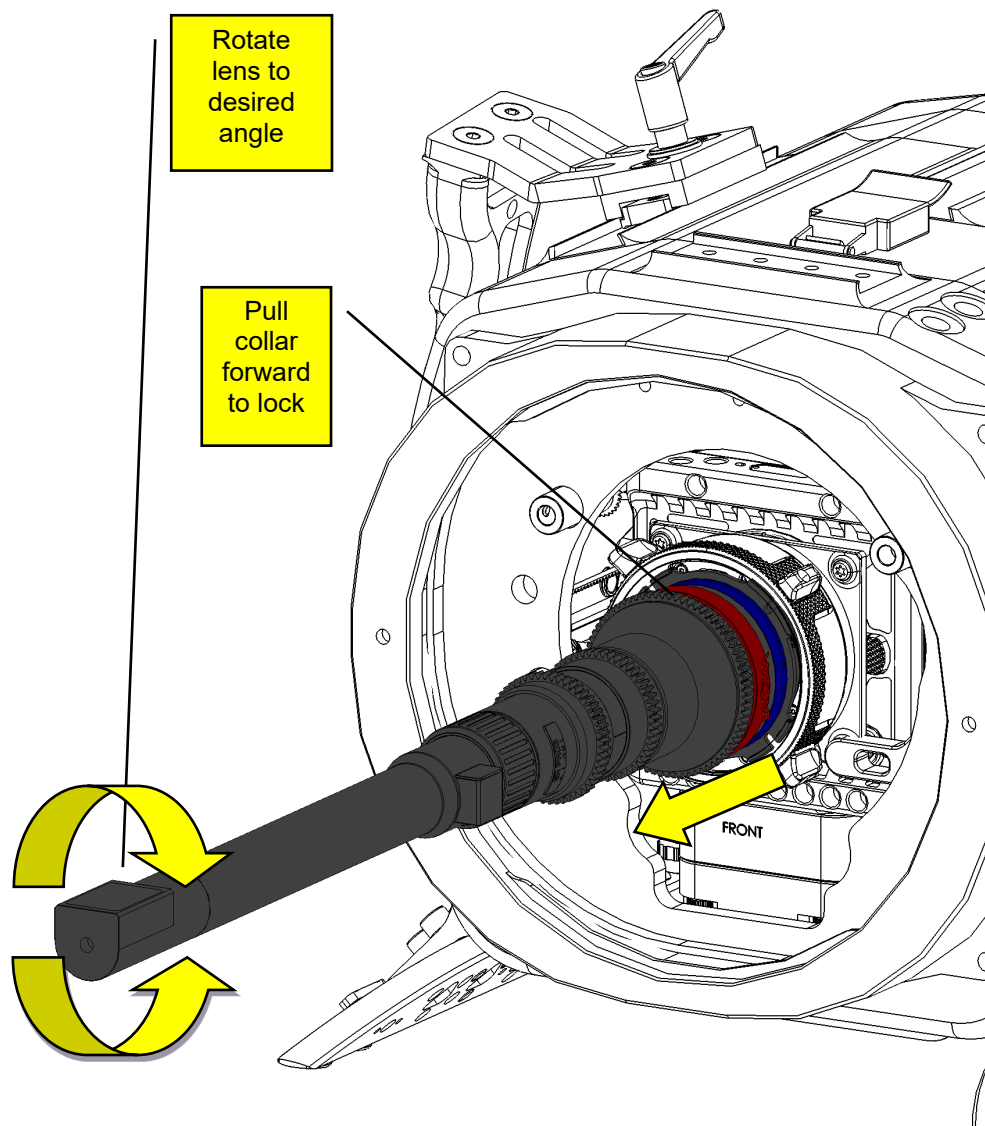
3: PLA Assembly

The following instructions use the Gates DEEP WEAPON-RAPTOR and PRO RAPTOR housings as a model. The mounting process is the nearly identical for other PLAs and Gates Housings.

Step 1: Mount the Lens

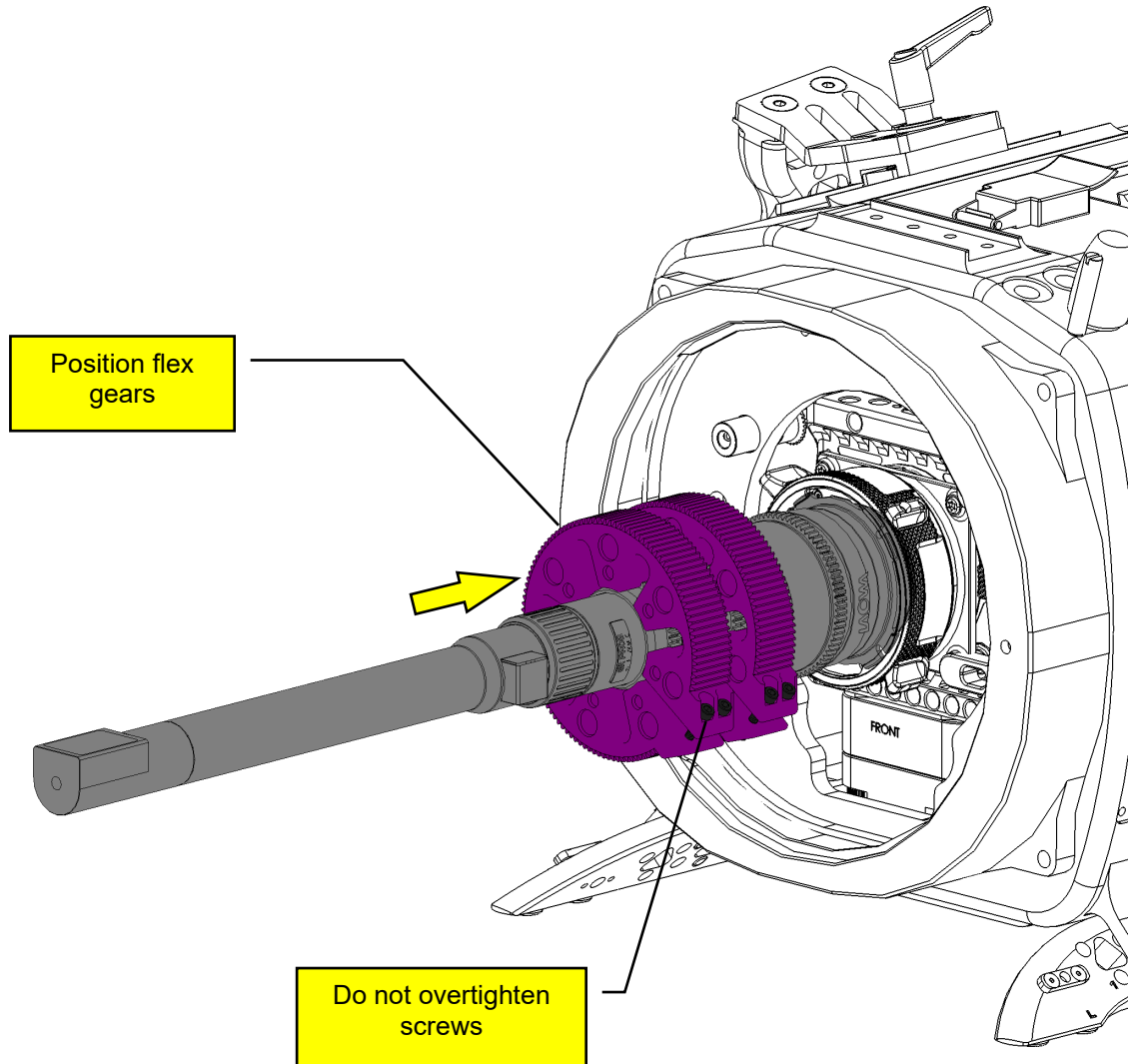
Attach the lens to the camera.

Before continuing, it is necessary to fix the rotation of the Probe Lens to the desired angle. Each Probe Lens is different in this regard. Consult the Laowa Probe Lens manual for specifics.



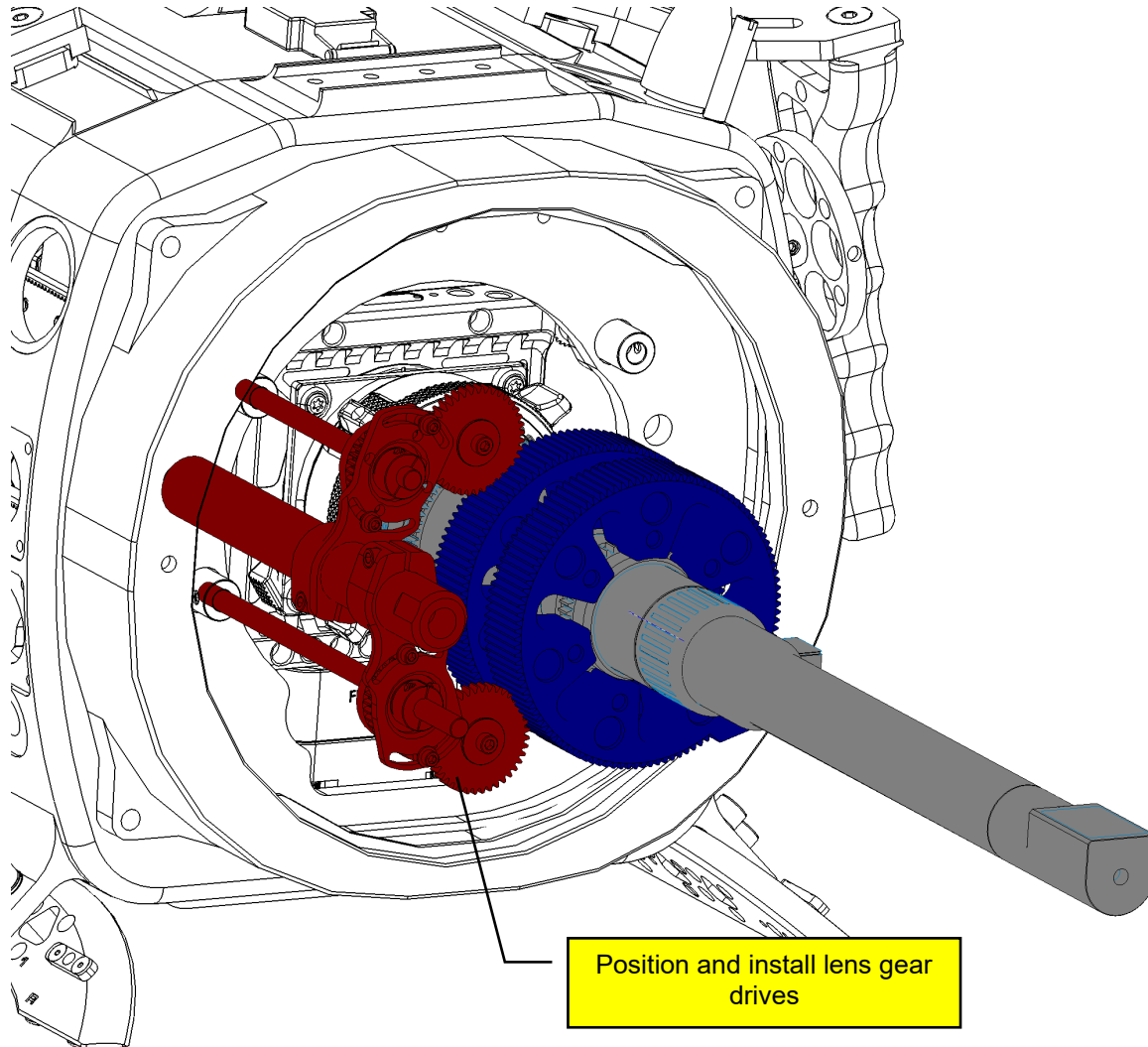
Step 2: Install Flex Gears

Position the Flex Gears on the focus and iris rings of the Laowa lens. Tighten screws with the 7/64" ball driver tool, and only enough to be secure. **Do not overtighten.**



Step 3: Install Lens Gear Drives

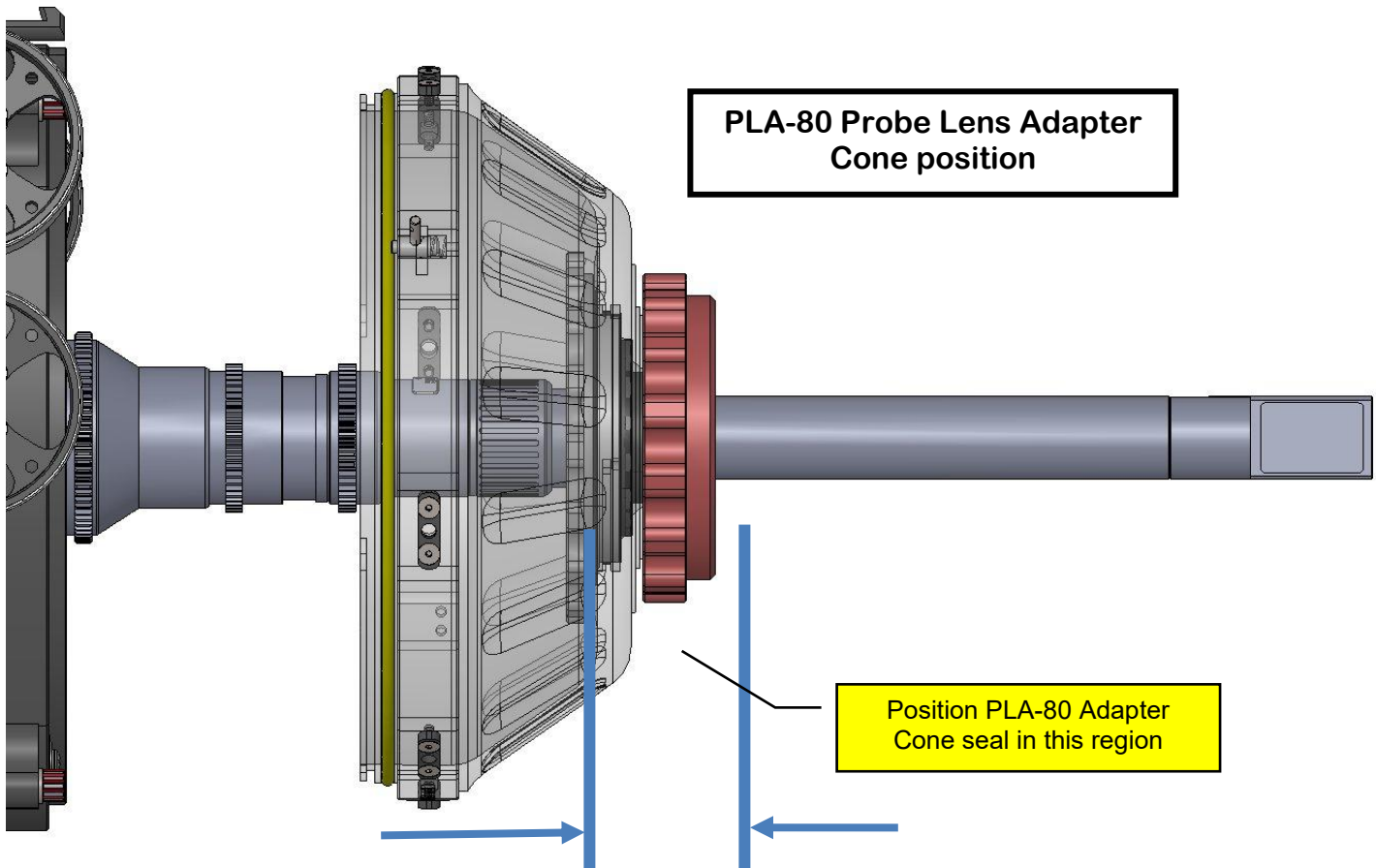
Install Lens Gear Drives per instructions in the housing's SU&C Guide. Verify smooth operation.

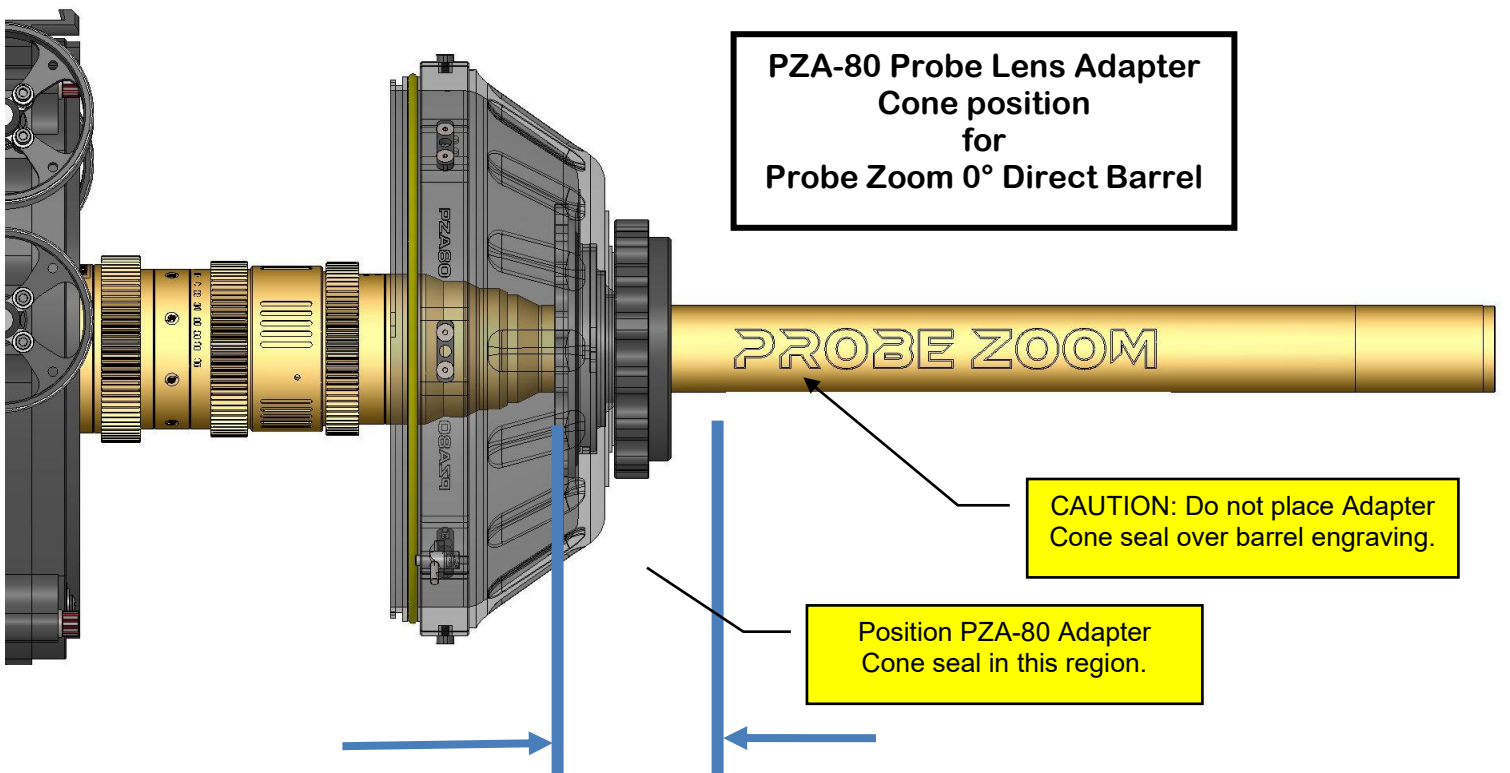
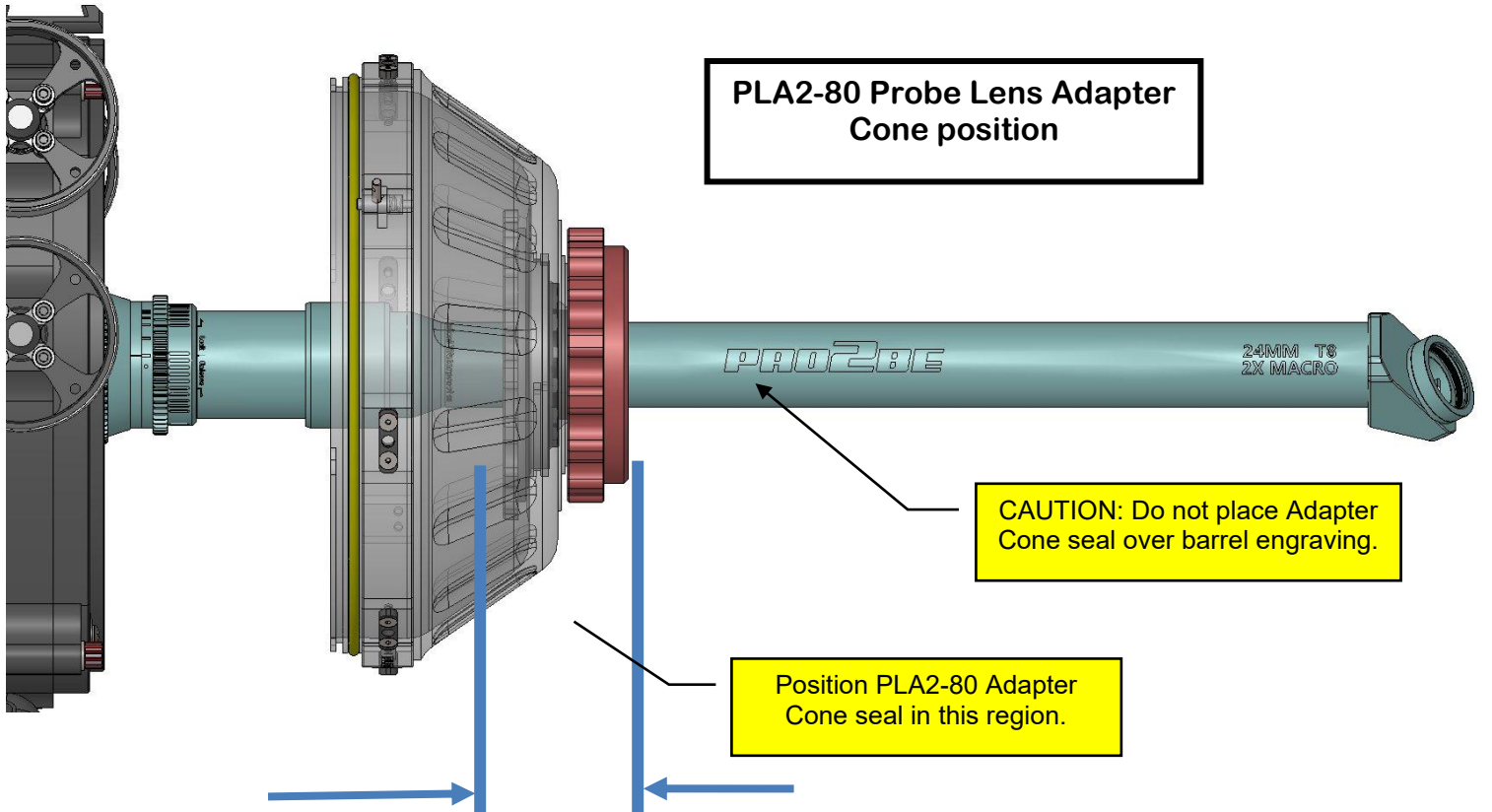


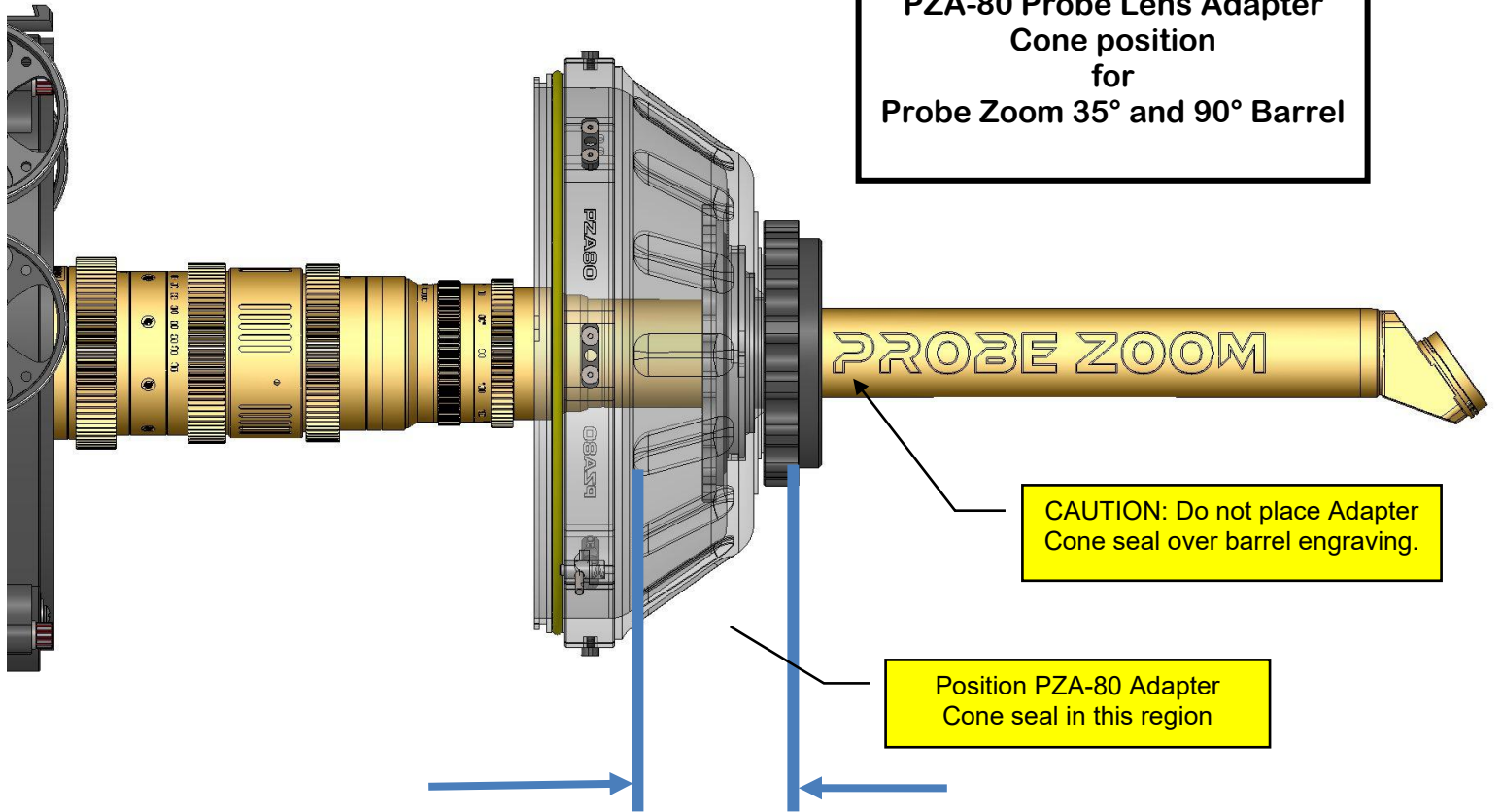
Step 4: Adapter Cone positioning

Depending on the specific PLA version and housing, different Stackable Port Ring combinations will be required to optimally position the Adapter Cone on the Probe Lens barrel. The optimal position will a) provide the maximum Probe Lens barrel extension in front of the Adapter Cone, and assure a seal by avoiding compromising features (such as engraving on the Probe Lens barrel).

Here are examples of each type of Probe Lens Adapter, and the optimal position for each.





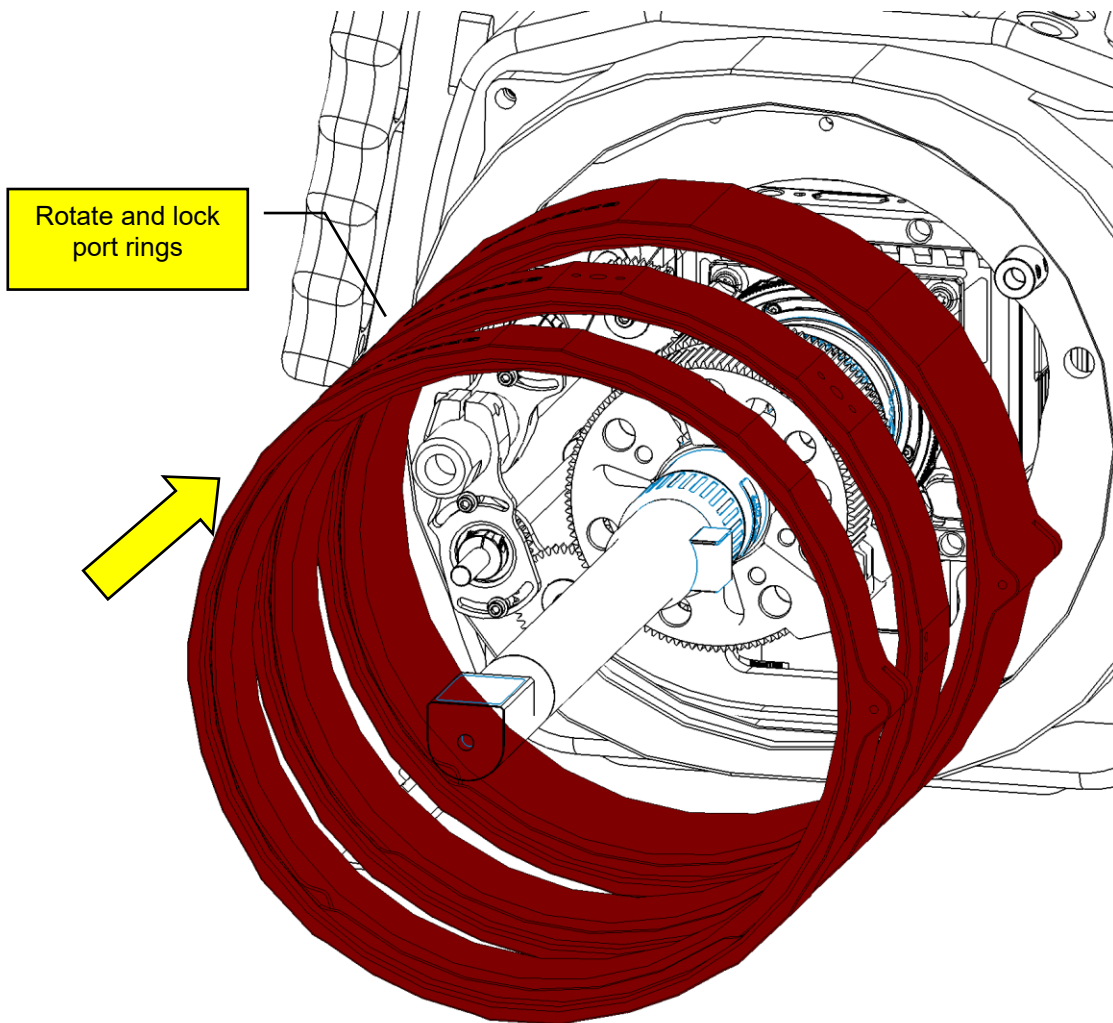


Step 4: Install Port Rings

Rotate and Lock the port rings into position. More detailed instructions can be found in the SU&C guide for your housing.

The required port ring stack varies based on the Probe Lens type and Gates housing model. Refer to previous section for guidance.

In this example, a Gates Deep Weapon-Raptor housing with a PE160 requires a stack of SPR80-200, SPR80-126, and SPR80-100 port rings.

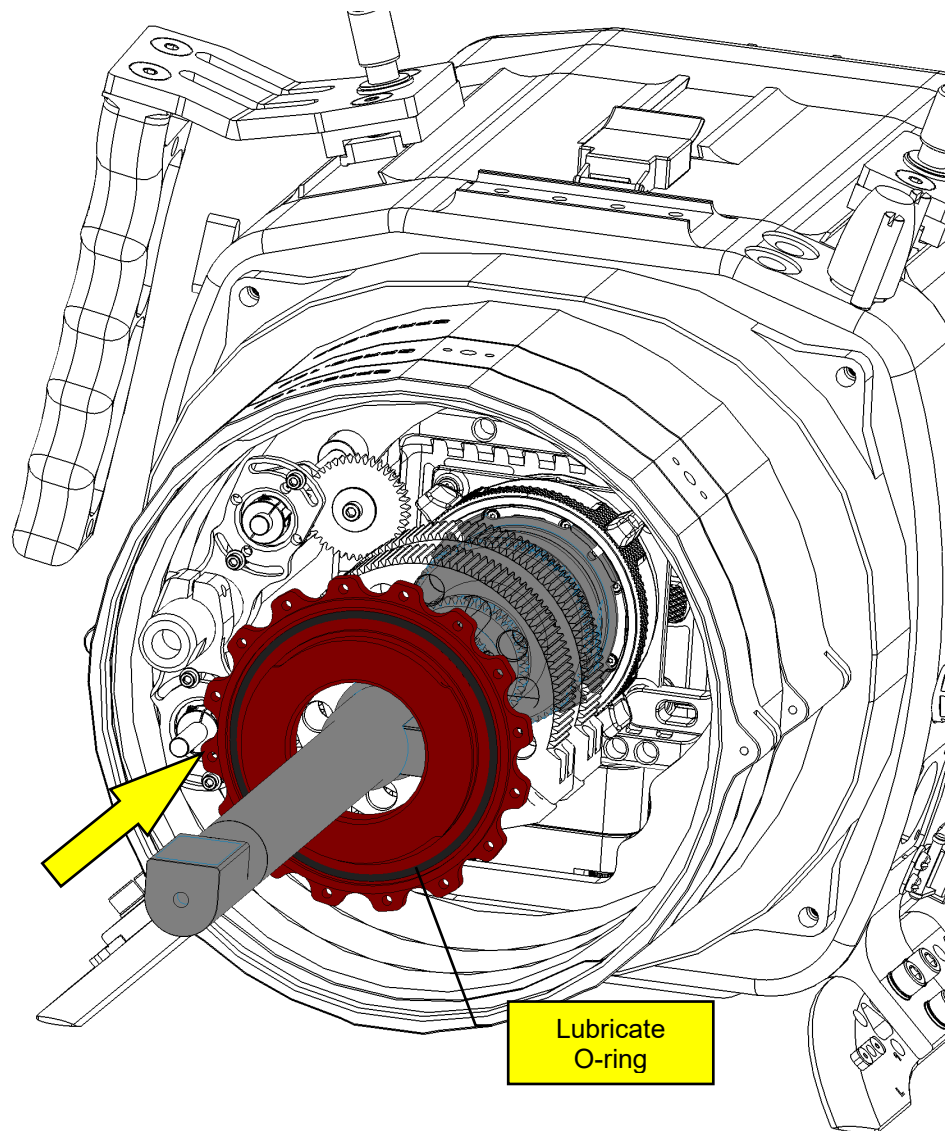


Step 5: Position the Internal Lock Collar

Use silicone lubricant to lightly grease the surface of the o-ring on the lock collar.

Position the collar with the o-ring facing out and then slide it as far back as possible onto the lens, taking care not to scratch the optical surface.

Leave the collar hanging in position while completing the next few steps.



Step 6: Prepare Half Rings and PLA Adapter Cone

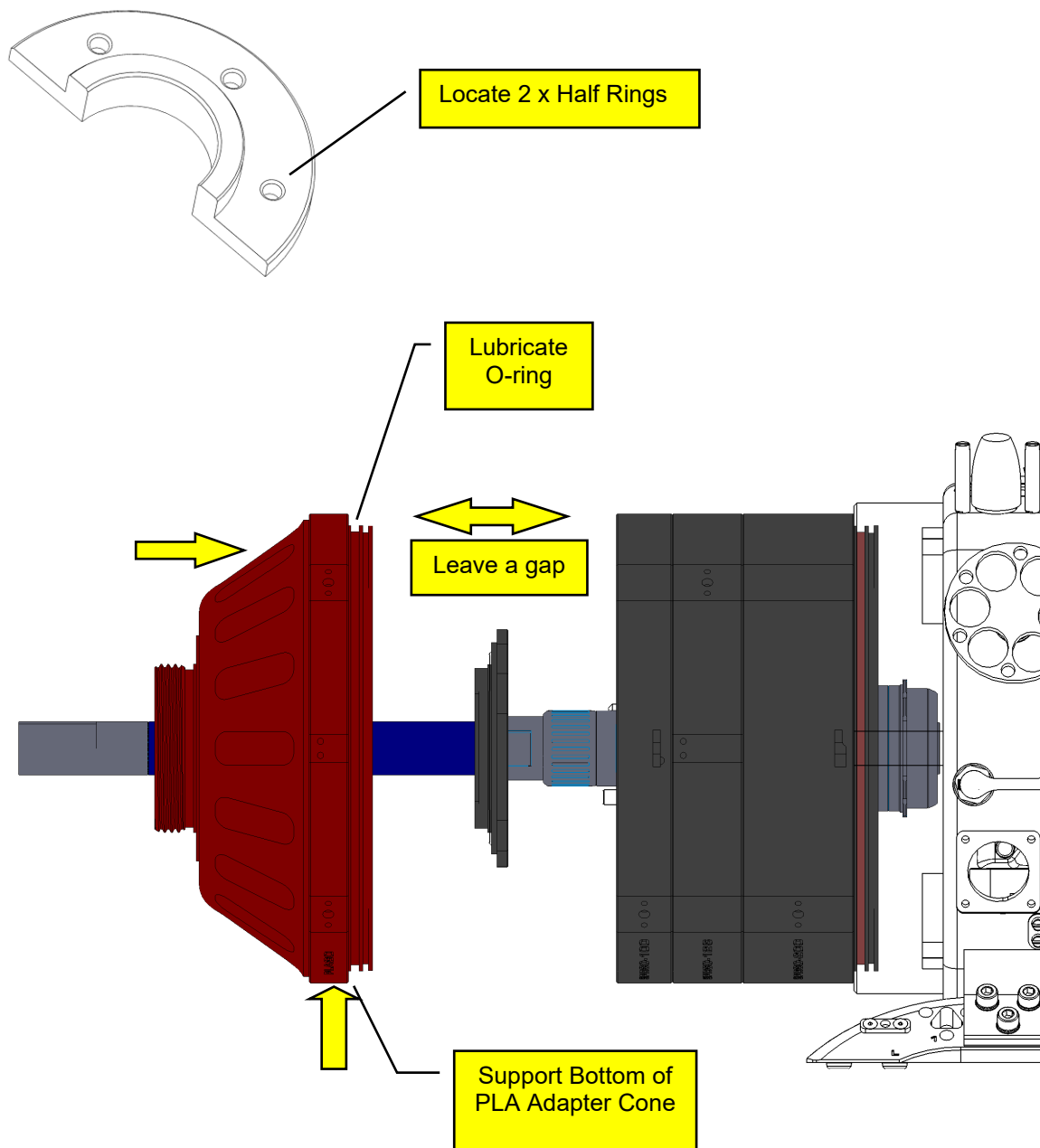
Locate 2 half ring sections and place them in an easily accessible place near the front of the housing.

Lubricate the o-ring on the PLA port adapter cone.

Position the adapter cone over and past the lens' opening and onto the barrel.

Note: do not secure the adapter cone onto the port ring yet.

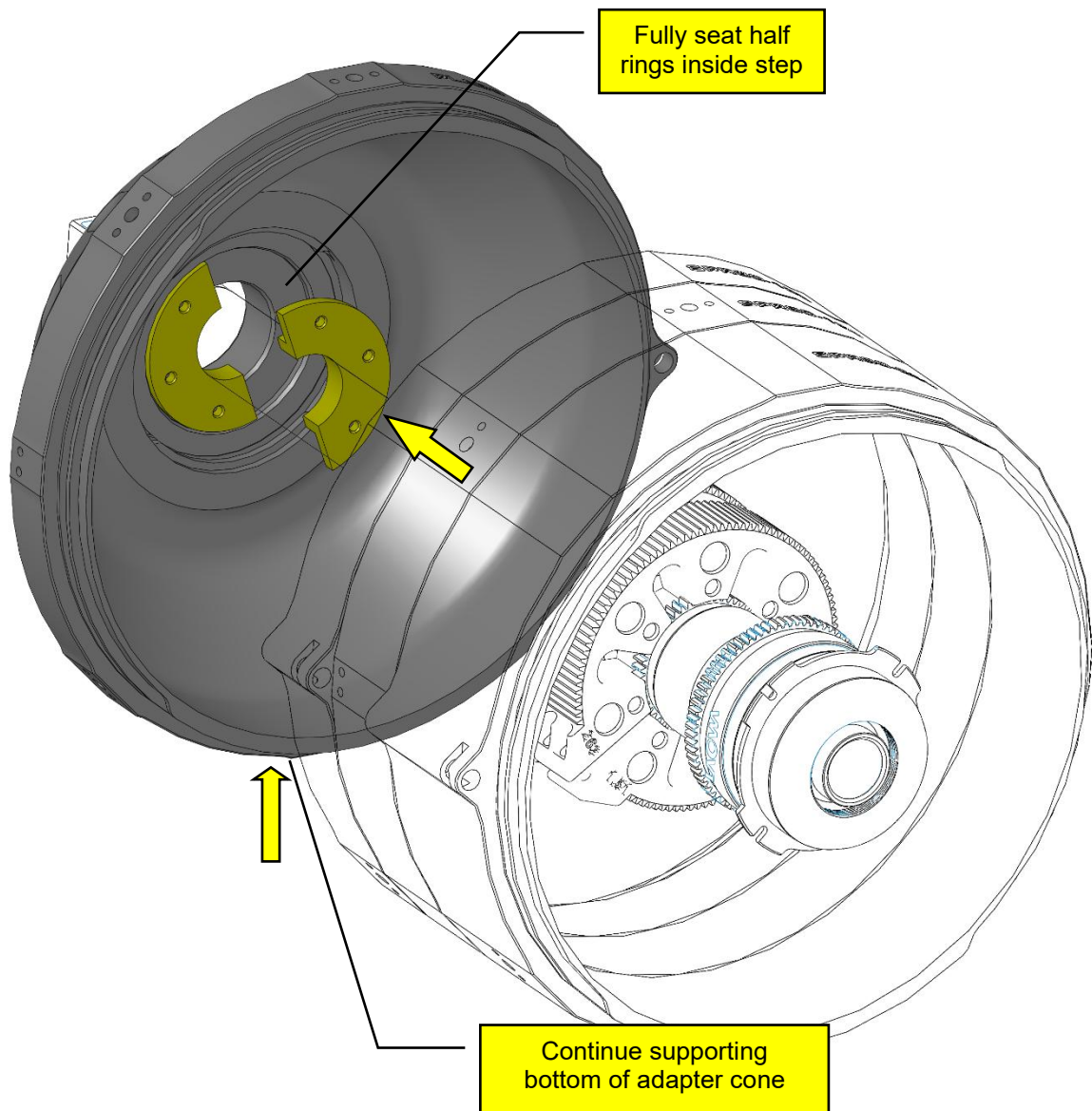
Support the adapter cone with one hand while completing the next steps.



Step 7: Install Internal Half Rings

Continue supporting the weight of the adapter cone with one hand.

Place both half ring sections over the lens tube and then slide them into the recessed step inside the adapter cone.

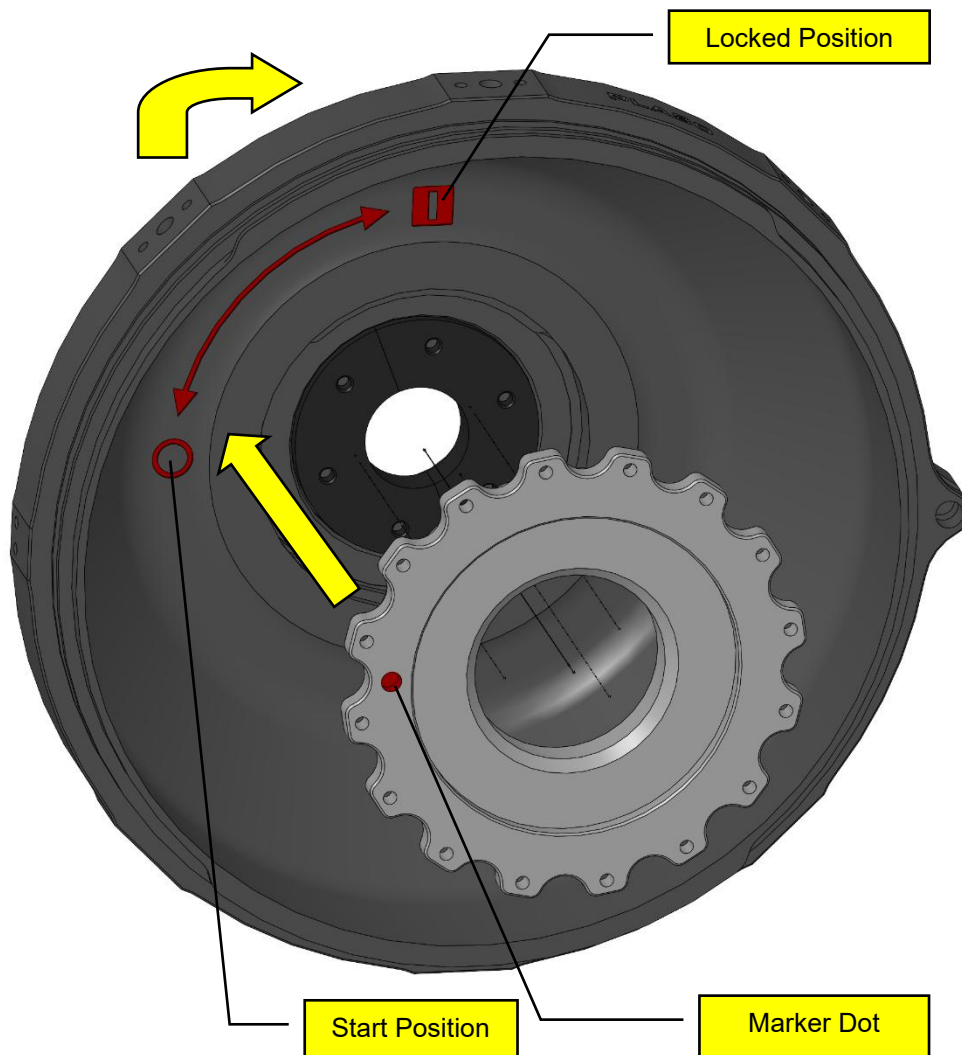


Step 8: Secure Internal Lock Collar

Continue supporting the weight of the adapter cone with one hand.

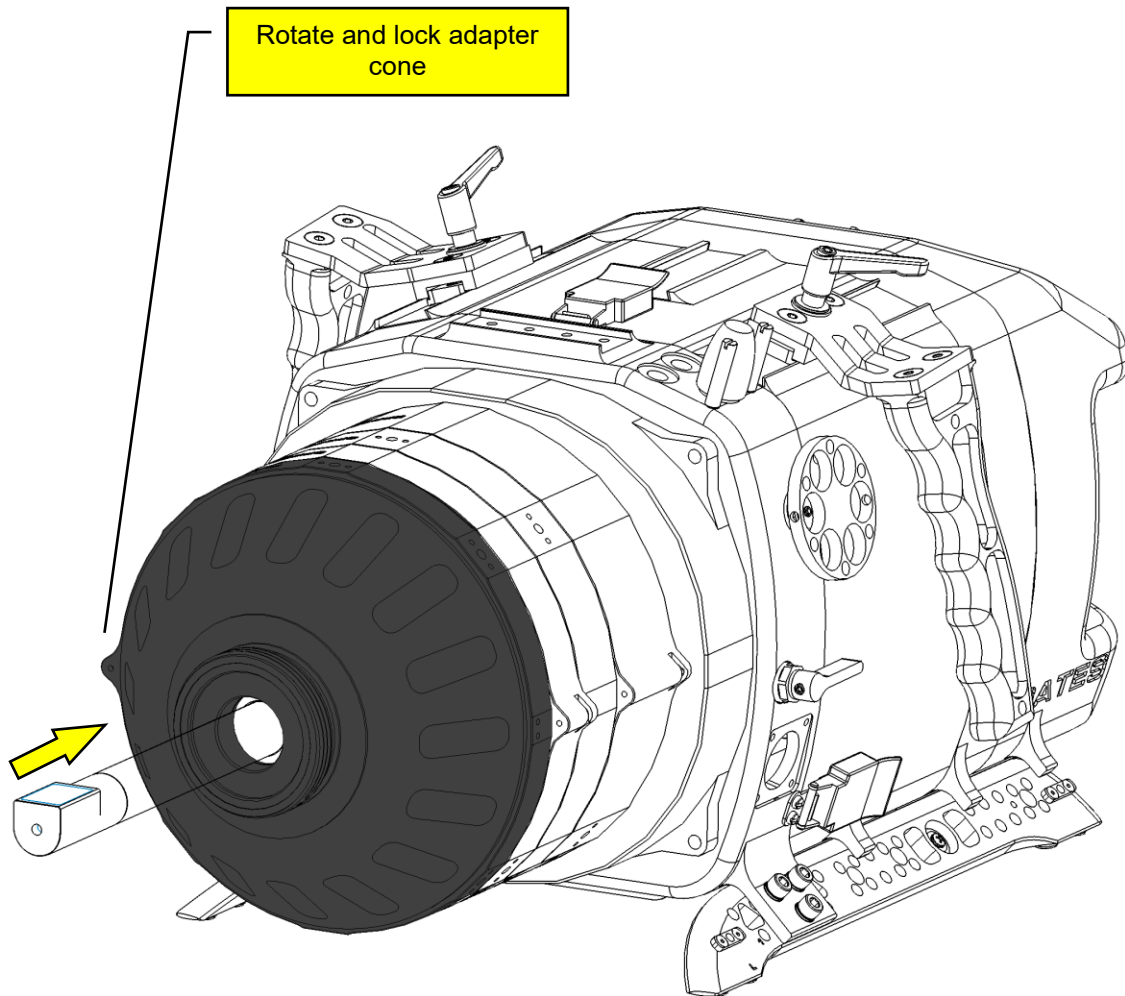
Align the marker dot on the lock collar with the start position markings on the inside of the probe cone.

Firmly press lock collar in to compress o-ring and then rotate it until the marker dot is aligned with the locked position.



Step 9: Secure the Adapter Cone

Rotate and lock the adapter cone onto the port ring stack, in the same manner as a stackable port ring.

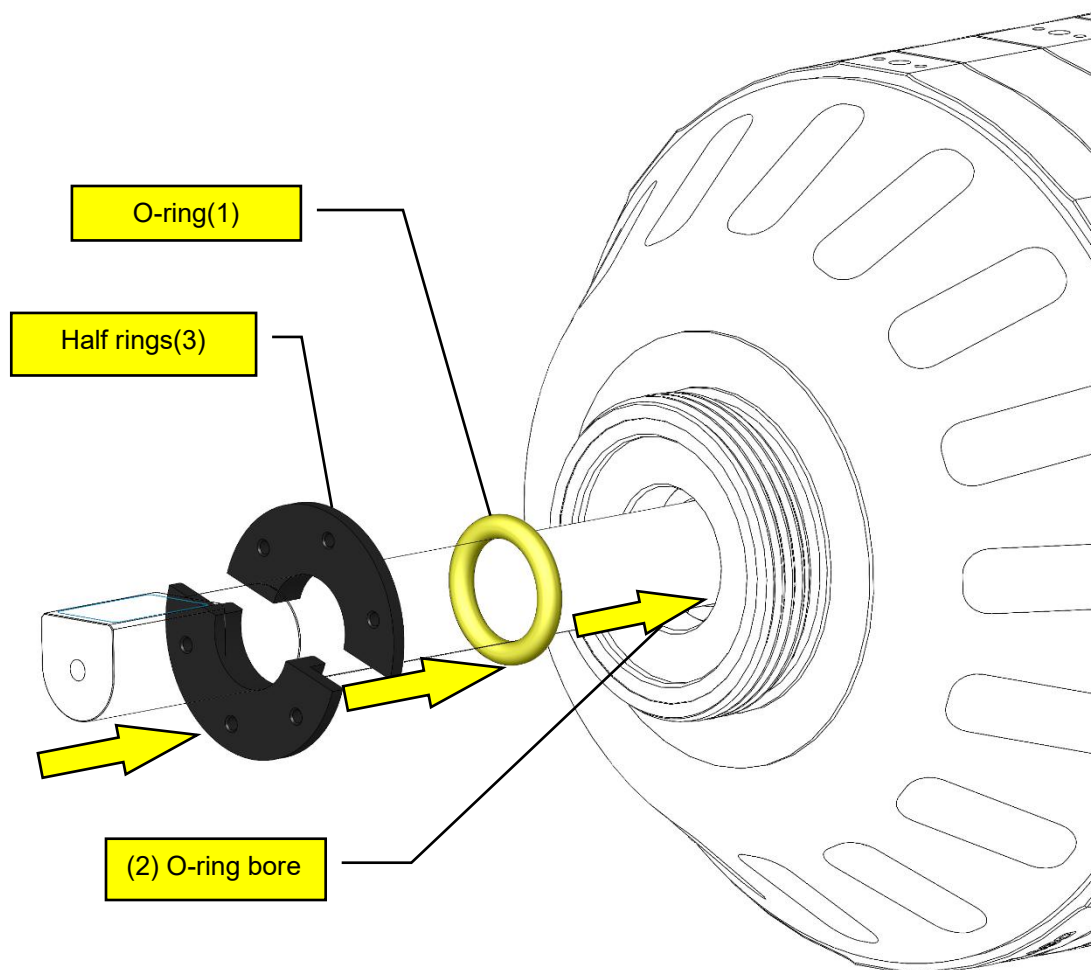


Step 10: Install Bore Seal O-ring

Lubricate the yellow o-ring (1) and gently stretch it over the end of the lens.

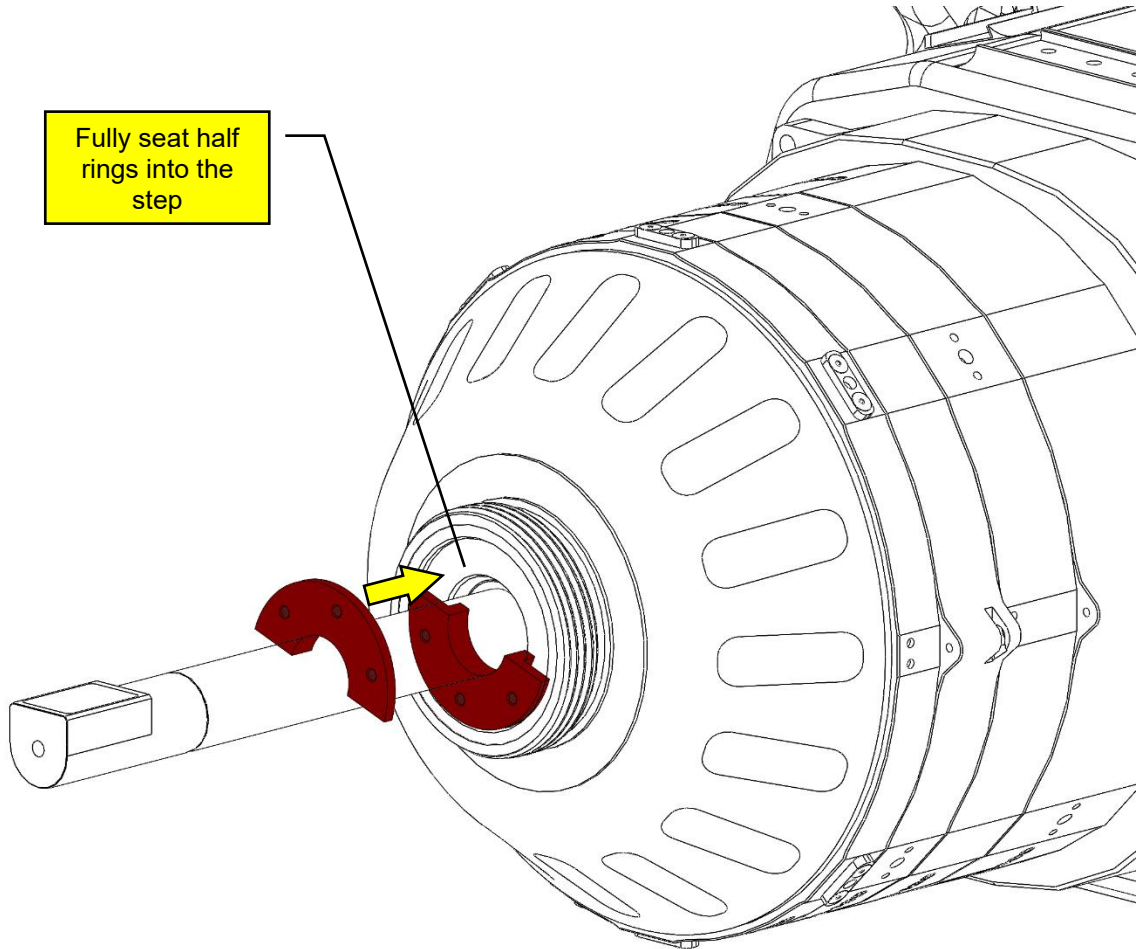
The lens cover must be removed for this step. A small plastic bag may be used as a cover to prevent grease from being deposited on the glass lens face.

Slide the o-ring up to the adapter cone's inside bore (2) and then use the 2 half rings (3) as a tool to press it inside.



Step 11: Seat Half Rings

Fully seat the half rings inside the recessed step.



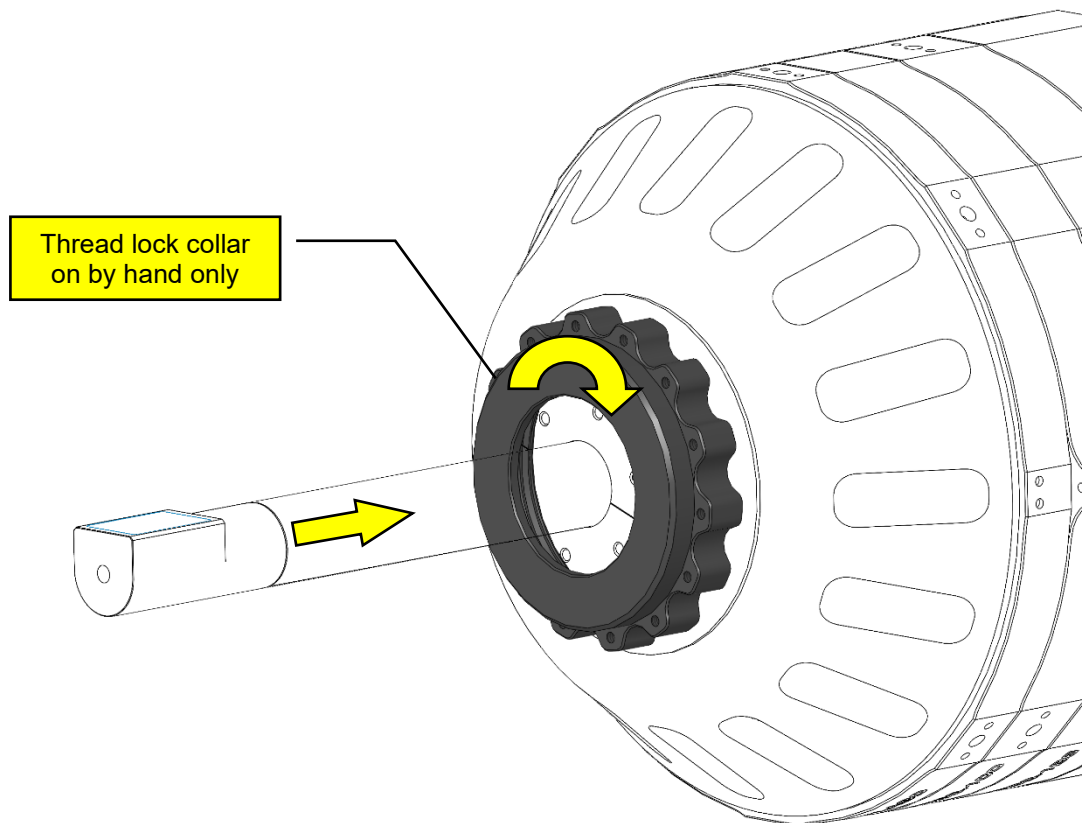
Step 12: Secure External Lock Collar and Complete

Thread the external lock collar onto the adapter cone by hand. Do not use tools to tighten.

Inspect the glass lens face for excess o-ring grease and clean as necessary. The lens cap may now be reinstalled if the housing is not to be immediately used.

Continue housing setup per the Housing SU&C Guide.

Perform a functional check and vacuum test using the Gates Seal Check unit before diving.



4: **PLA Disassembly**

To remove the PLA reverse the assembly steps.

The only difference is the yellow barrel seal o-ring will not be removed until the adapter cone is rotated free of the port ring stack.

5: Additional Information

PLA Care and Maintenance

Proper care of your PLA is important to provide you reliable operation and long life. You'll find all the guidelines in the "Housing Care and Maintenance" document included with your Gates housing. You can also find it on Gates web site at www.GatesHousings.com.

O-Ring Care and Maintenance

Your PLA has two serviceable O-rings. One is the Port Adapter mate O-ring (yellow) and the lens barrel seal O-ring (yellow).

Servicing the o-rings is easy and covered in the "Housing Care and Maintenance" document in this package. It can also be found on the Gates website at www.gateshousings.com.

▶ **CAUTION:** Never use metal tools or objects for removing o-rings!

6: Customer Support

Should you have any questions about the PLA and its operation, please contact Gates at the numbers below.

Email: Customer.srvc@GatesHousings.com

Web: www.GatesHousings.com

Phone: 858.391.0052