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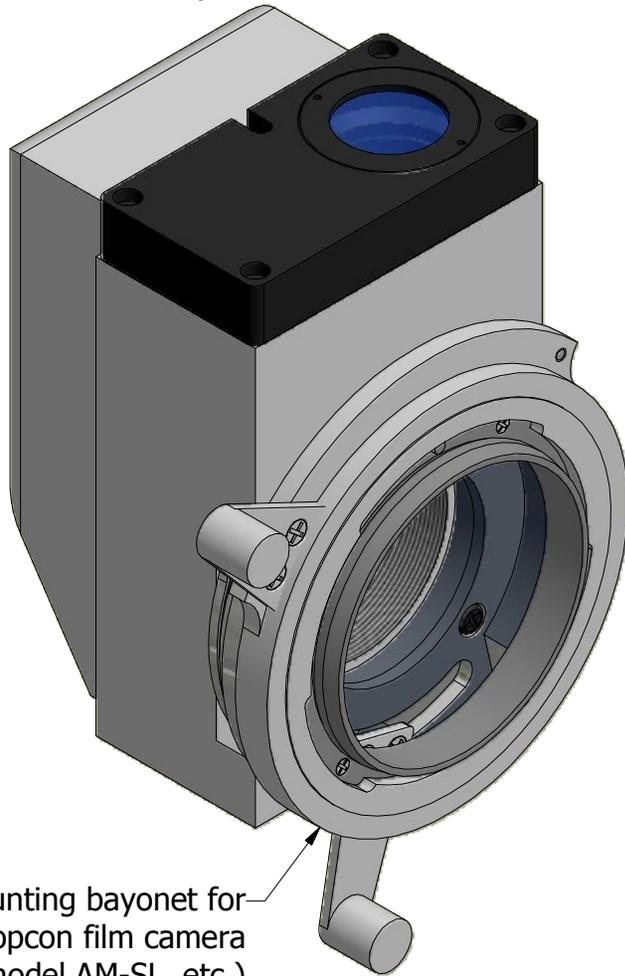
# Topcon SL-5d (6e) Slit Lamp Digital Camera Upgrade

## Product Illustration

To purchase this item, see:  
<http://www.truetex.com/range.htm>

### BEFORE DIGITAL UPGRADE

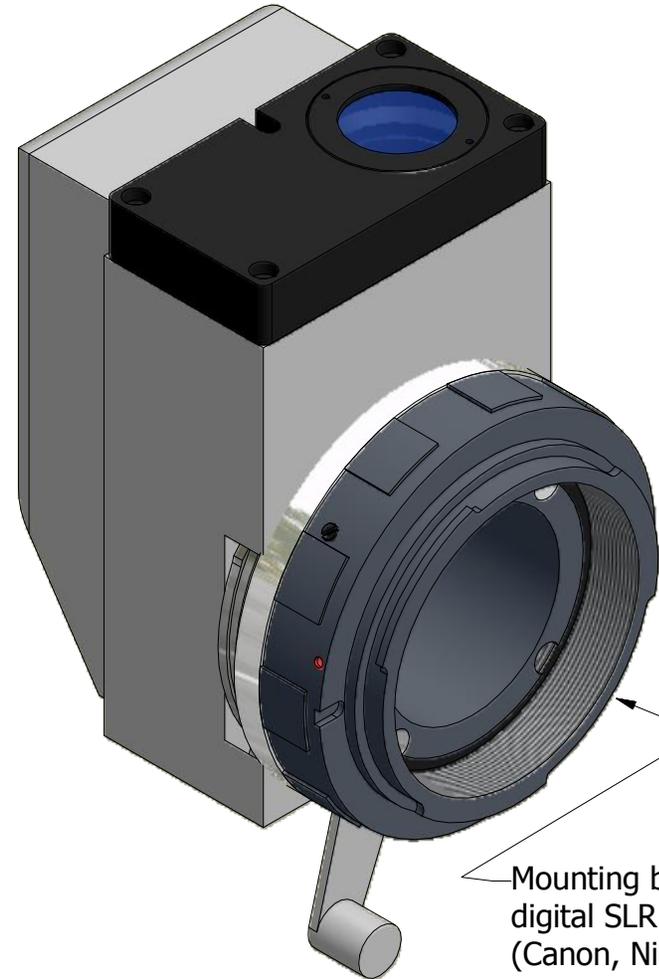
(COMPLETE ORIGINAL 35mm FILM  
CAMERA COUPLER ASSEMBLY)



Mounting bayonet for  
original Topcon film camera  
(Topcon camera model AM-SL, etc.)

### AFTER DIGITAL UPGRADE

(COMPLETE DIGITAL  
CAMERA COUPLER ASSEMBLY)



Mounting bayonet for  
digital SLR camera  
(Canon, Nikon, etc.)

Richard J Kinch, PhD -- Palm Beach County, Florida USA -- [http://www.truetex.com/topcon\\_sl-5d,6e-Tmount.idw](http://www.truetex.com/topcon_sl-5d,6e-Tmount.idw)

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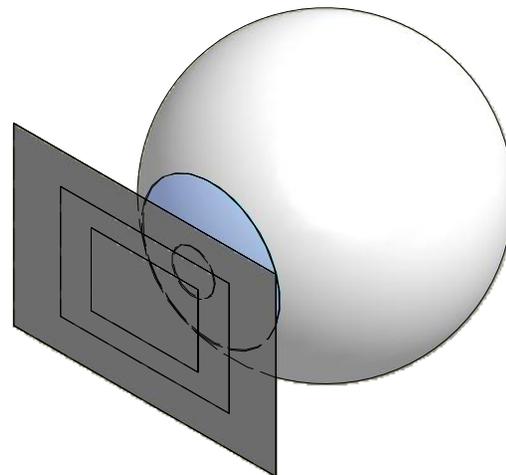
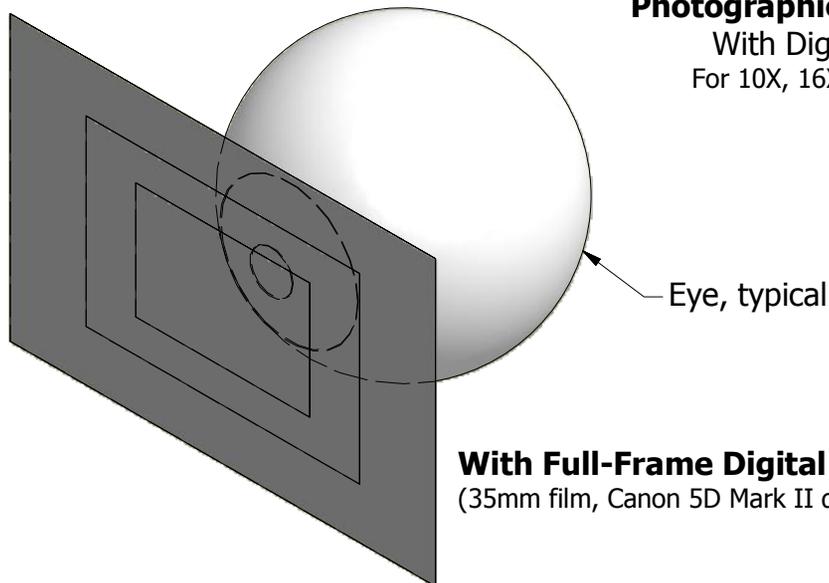
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### Topcon SL-5D,6E Photo Slit Lamps Photographic Field of View Dimensions

With Digital Upgrade Kit Installed  
For 10X, 16X, 25.6X Magnification Settings



**With Full-Frame Digital SLR Cameras**  
(35mm film, Canon 5D Mark II digital, etc)

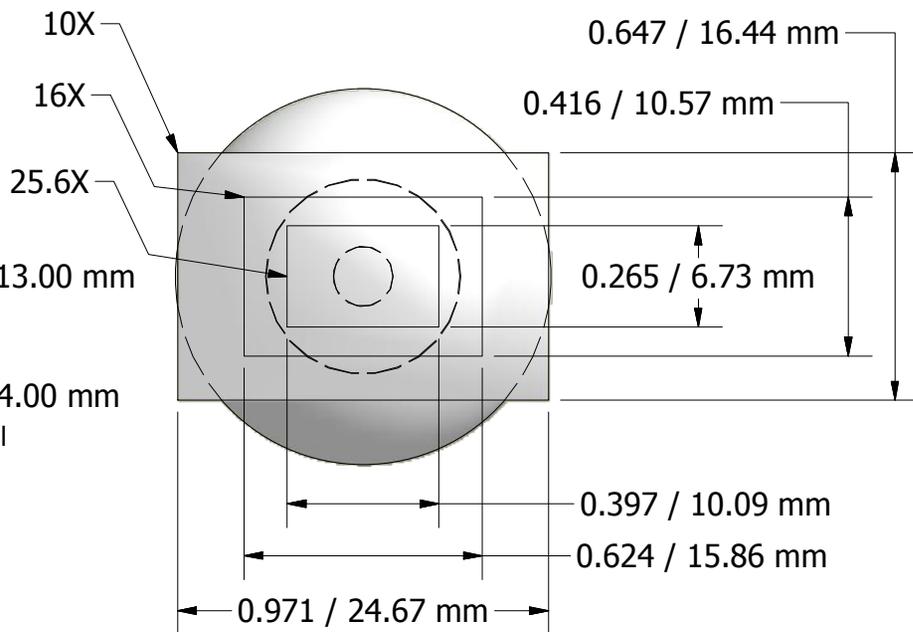
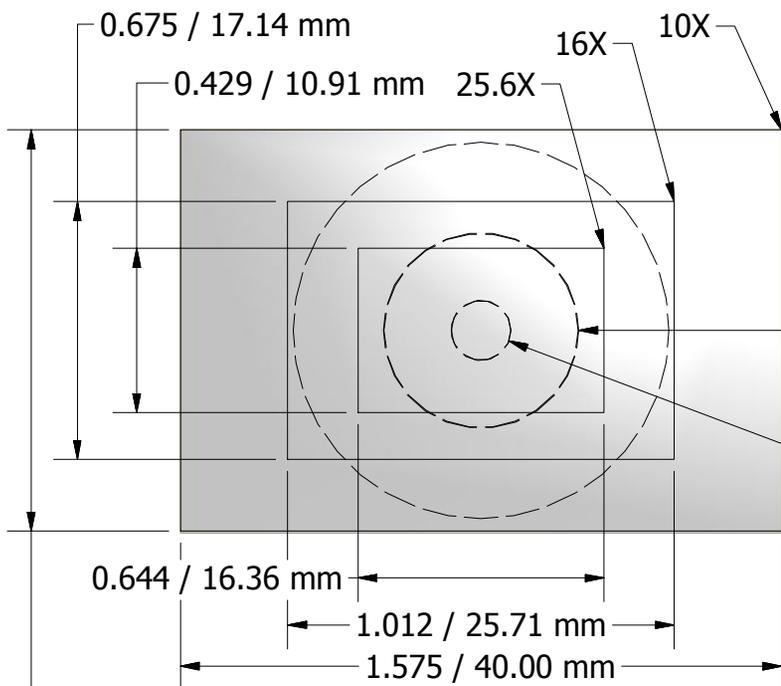
**With 0.6X Frame Digital SLR Cameras**  
(Canon Digital Rebel, Canon 60D, 7D, etc)

B

B

A

A



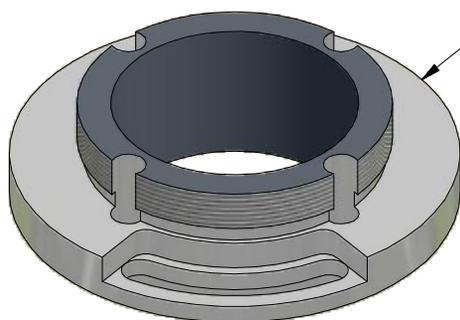
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## Topcon SL-5d (6e) Slit Lamp Digital Camera Upgrade

### Kit Contents



**CUSTOM ADAPTER:** Provides T-mount thread to attach various camera lens bayonet adapters.



**STOCK T-MOUNT ADAPTER (CANON EOS TYPE SHOWN):** Provides lens mount and rotational alignment features.

### **TOPCON COUPLER BLOCK REQUIRED:**

This kit upgrades the Topcon coupler block used with the original Topcon film camera, as shown on the following pages.

This coupler block is a component of the original slit lamp instrument and not supplied with this kit. While all Topcon SL-5d and SL-6e slit lamps are ready to accept this coupler, not all of them were equipped with this removable, optional item. If you do not already have the coupler, you will have to obtain it separately. We occasionally have them available.

### **OPTIONAL JOYSTICK CONNECTION AND FLASH SYNCHRONIZATION:**

If your Topcon slit lamp includes a Topcon FD-10 flash power supply for a 35mm film camera body with film winder, you may send us the old body with 5-pin cable for retrofit into a flash synchronization cable for your new digital camera. This retrofitted cable connects your digital SLR camera to the Topcon joystick for triggering the shutter, and to the Topcon flash for synchronizing the flash to the digital exposure.

Digital cameras have sufficient ISO speed to use the steady illumination of the instrument for photography at low magnifications with broad illumination. Narrow slit illumination or high magnification requires a flash to avoid blurring from motion of the subject eye.

You do not need to connect the Topcon joystick button to your digital camera to take photographs without the flash. You can operate the digital camera using its normal shutter button, although this may not be as convenient as using the joystick.

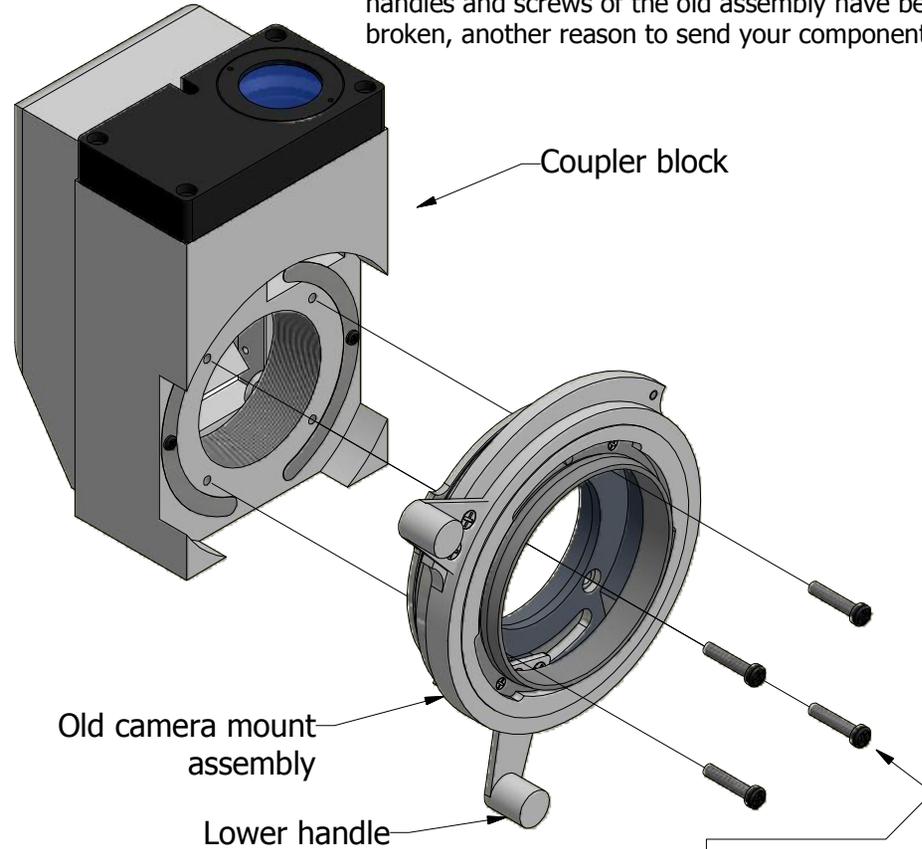
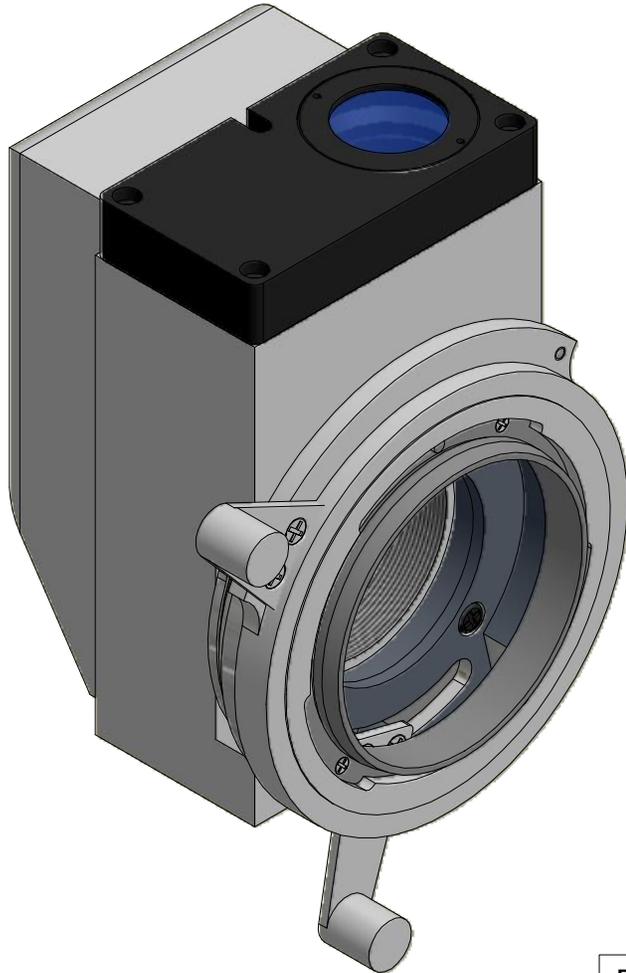
### **THREAD LOCKING:**

We recommend you obtain a removable thread locker, such as **LOCTITE THREAD LOCKER BLUE 242 REMOVABLE**, and apply a minimal amount to the threads of all screws inserted during the assembly of the upgrade. While not mandatory, this will reduce the chance of an inaccessible screw later becoming loose. We do not recommend you apply any permanent thread locker, as this will likely make any future disassembly of the small screws impossible.

**Topcon SL-5d (6e) Slit Lamp  
Digital Camera Upgrade  
Installation Instructions**

**CAUTION:** The original Topcon screws are extremely tight and glued in place with a threadlocker compound. Removing these screws without damage requires proper tools and a firm hand. If you have any doubt or difficulty in performing this disassembly, we recommend you send your components to us for installation. While we can fix things like stripped screw heads in our facility, this tends to be an expensive repair. On some instruments, the handles and screws of the old assembly have become loose or broken, another reason to send your components to us for upgrade.

COMPLETE ORIGINAL  
CAMERA COUPLER ASSEMBLY



**STEP 1:** Use the lower handle to remove the coupler block from the rest of the instrument. Remove 4 screws holding old camera mount to coupler block. Use a good-quality, close-fitting Philips screwdriver and firm pressure, because the screws should be thread-locked into the assembly. Separate the mount assembly from the coupler block.

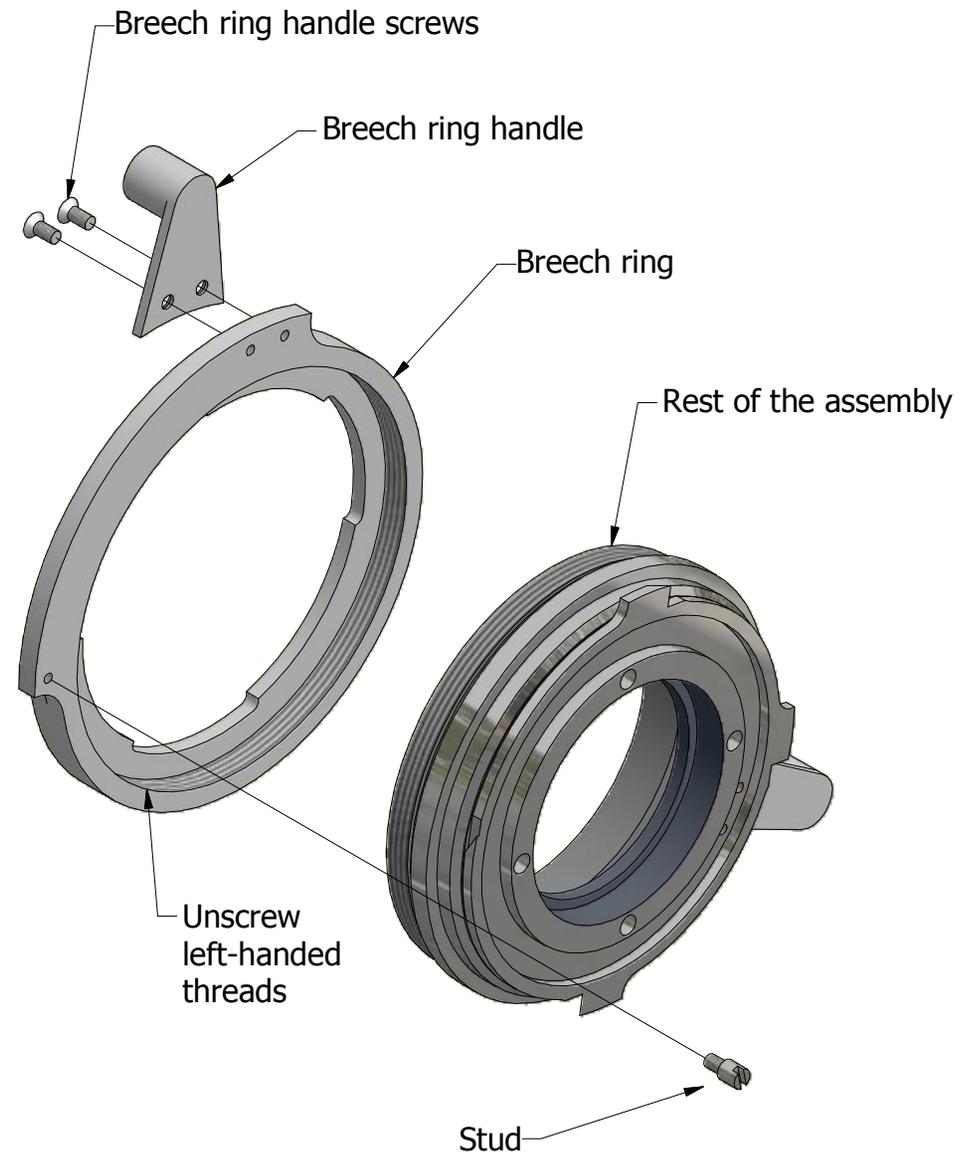
**STEP 2:** On the back of the old camera mount assembly, remove the stud, using a flat-bladed screwdriver. Again, use care and firm pressure, because the parts should be thread-locked.

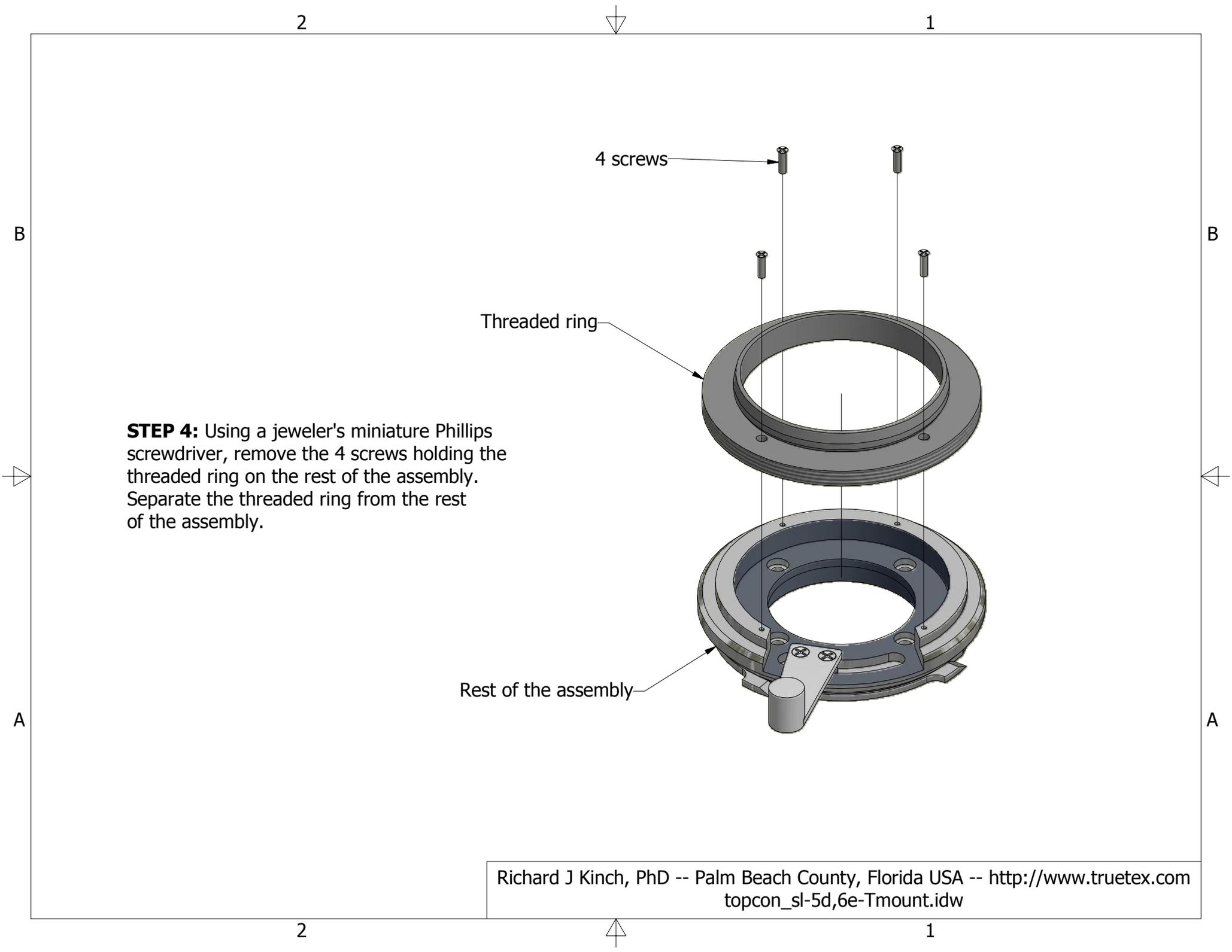
**STEP 2.5:** Remove the breech ring handle from the breech ring by removing the breech ring handle screws. This is another thread-locked part; use care.

**STEP 3:** After removing the stud and breech ring handle, separate the breech ring from the rest of the assembly by unscrewing it \*clockwise\* (the threads are LEFT HANDED, reversed from the usual direction).

**STANDARD MOUNT INTERCHANGEABILITY:**

Contact us for inexpensive T-mount adapters for various digital SLR camera makes (Canon, Nikon, Olympus, etc.). Your upgraded slit lamp provides a standard T-mount thread, which maintains parfocality when changing camera lens mount types.





**STEP 4:** Using a jeweler's miniature Phillips screwdriver, remove the 4 screws holding the threaded ring on the rest of the assembly. Separate the threaded ring from the rest of the assembly.

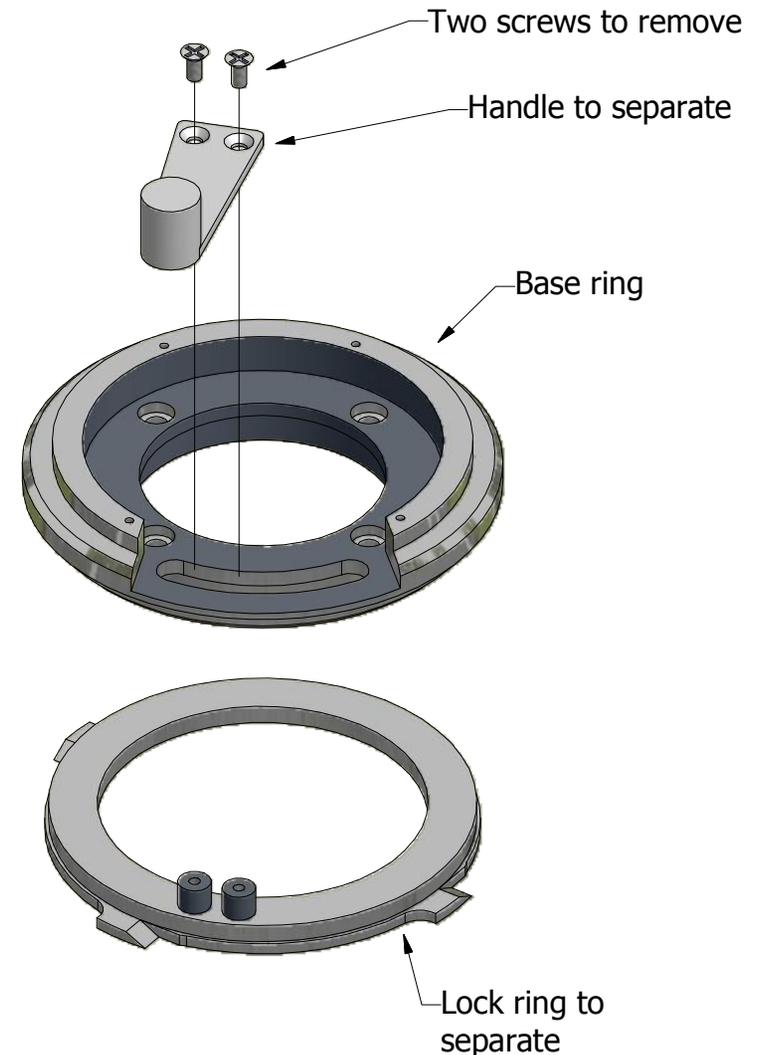
**STEP 5:** From remaining assembly, remove two screws holding handle onto lock ring, and separate the handle and the lock ring from the base ring. Use care as these screws should be thread-locked.

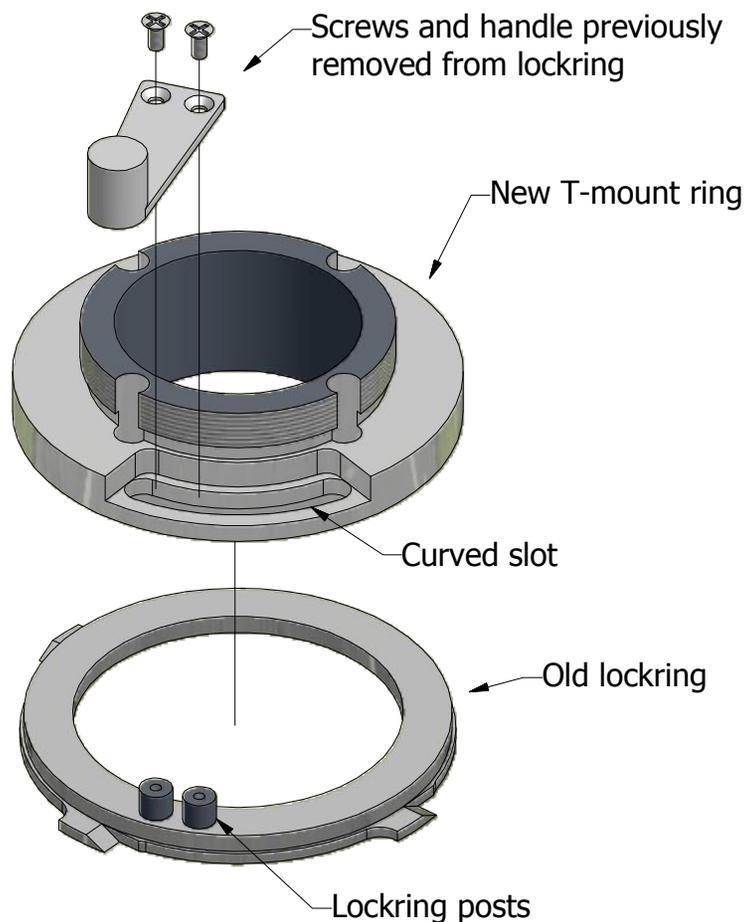
This completes the disassembly.

We will now proceed to use the lock ring, handle, and two screws (all shown at the right) to install the new camera mount fitting.

The base ring and the other parts removed in the previous steps from the old camera mount will not be needed for the new mount. You may want to retain the unused old parts, together with these instructions, in the event you should ever want to revert the camera mount back to its original configuration.

Continue with the instructions on the following page to assemble the new camera mount and attach it to the coupler block.



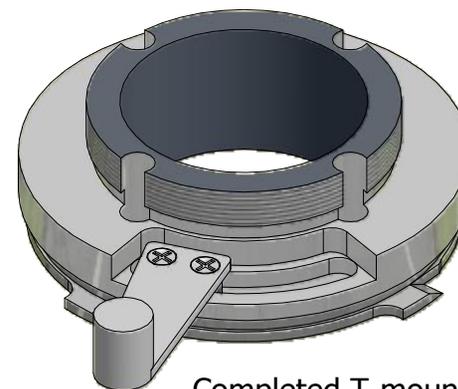


**STEP 6:** Assemble the old locking onto the back of the new T-mount ring. This is a close, nesting fit, so use care when assembling. The two posts on the locking where the handle attaches must fit into the curved slot in the T-mount ring.

**USING NEW THREADLOCKER:** Use a small dab of fresh removable threadlocker, if available, to the threads of each screw before insertion. Take special care not to contaminate any optical surface (lens or mirror) with the threadlocker compound. Clean any stray threadlocker carefully from the assembly.

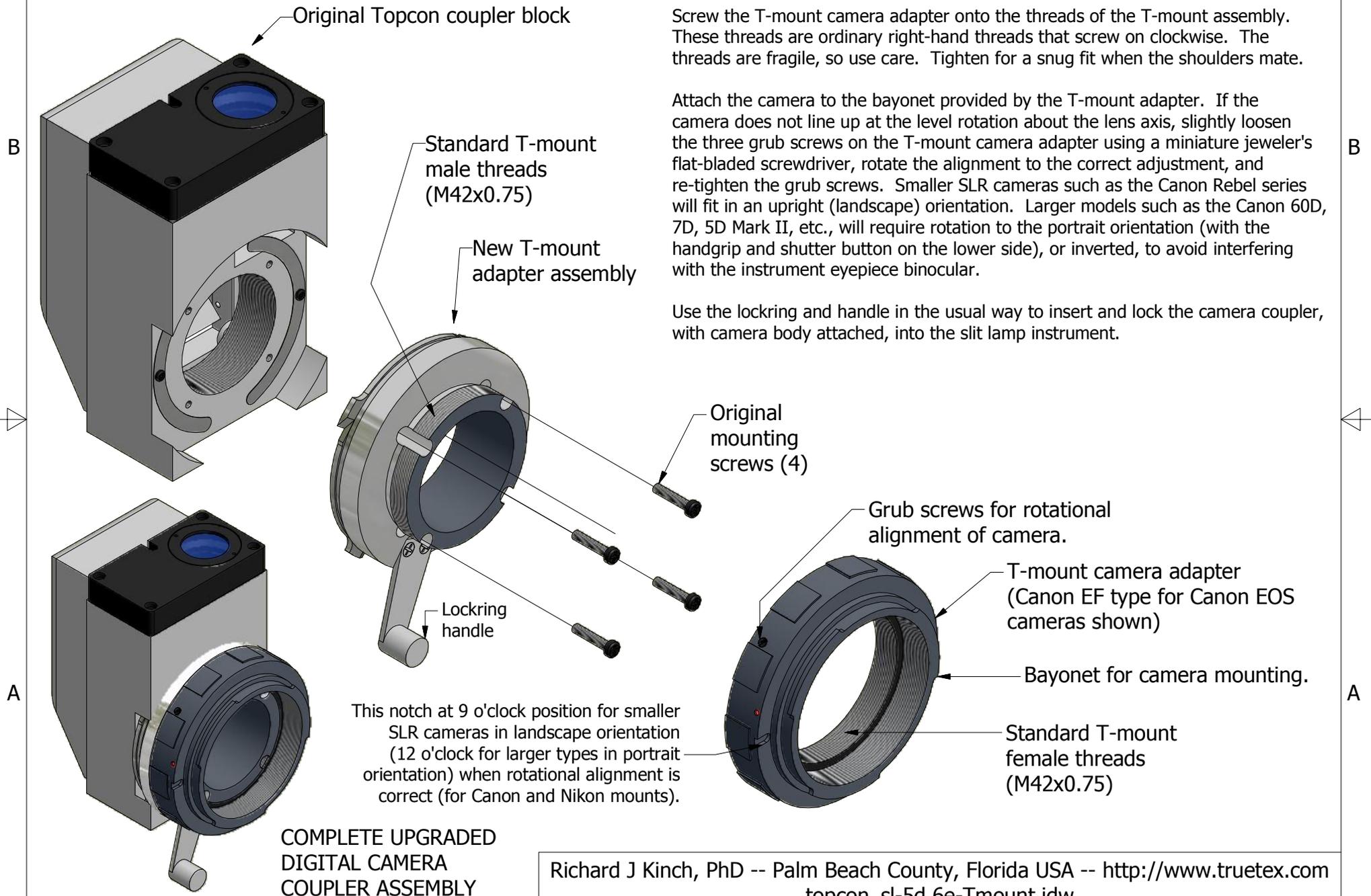
Replace the two screws and handle previously removed from the locking back onto the locking. This handle is the longer of the two handles you have already removed from the old assembly.

After attaching the locking handle, verify that the handle and locking rotate the locking smoothly on the new T-mount ring, with the locking posts swiveling along the curved slot.



Completed T-mount assembly.





**STEP 7:** Assemble the T-mount assembly to the coupler block with the 4 screws previously removed.

Screw the T-mount camera adapter onto the threads of the T-mount assembly. These threads are ordinary right-hand threads that screw on clockwise. The threads are fragile, so use care. Tighten for a snug fit when the shoulders mate.

Attach the camera to the bayonet provided by the T-mount adapter. If the camera does not line up at the level rotation about the lens axis, slightly loosen the three grub screws on the T-mount camera adapter using a miniature jeweler's flat-bladed screwdriver, rotate the alignment to the correct adjustment, and re-tighten the grub screws. Smaller SLR cameras such as the Canon Rebel series will fit in an upright (landscape) orientation. Larger models such as the Canon 60D, 7D, 5D Mark II, etc., will require rotation to the portrait orientation (with the handgrip and shutter button on the lower side), or inverted, to avoid interfering with the instrument eyepiece binocular.

Use the locking and handle in the usual way to insert and lock the camera coupler, with camera body attached, into the slit lamp instrument.

