

CDK17 Lens Cell Notes

The mirror of a CDK17 is mounted to a component called the “primary mirror cell”. The mirror cell is in turn attached to the backplate of the telescope.

The CDK17 lens group is installed inside the primary mirror cell. It slips in from the front of the mirror cell until the lens group is resting on a ledge inside the mirror cell.

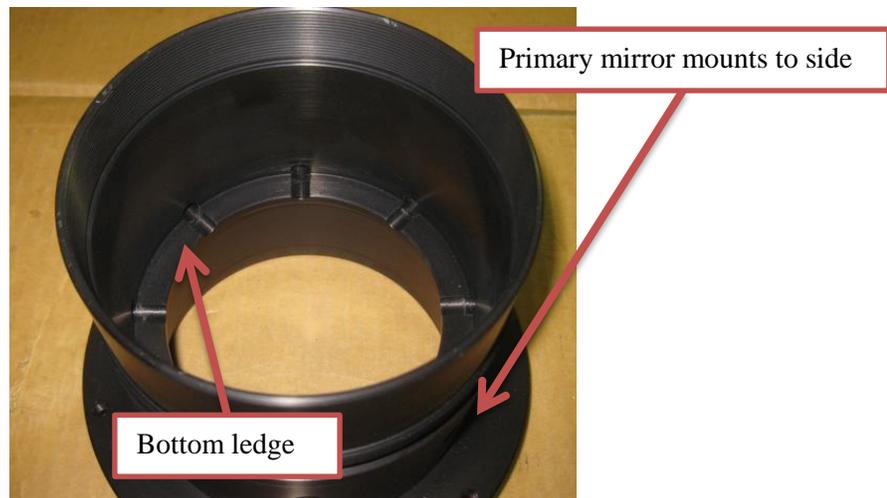


Figure 1: Primary mirror cell with lens group removed

The primary baffle threads into the front of the mirror cell, and when fully tightened down the lens group is sandwiched securely between the bottom ledge of the mirror cell and the bottom surface of the baffle tube assembly.

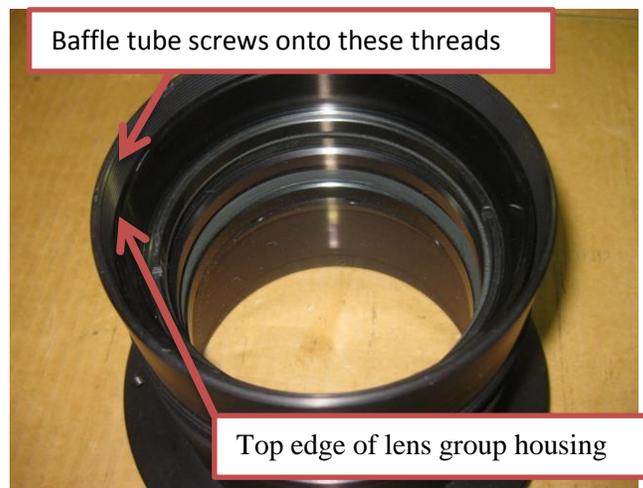


Figure 2: Primary mirror cell with lens group installed

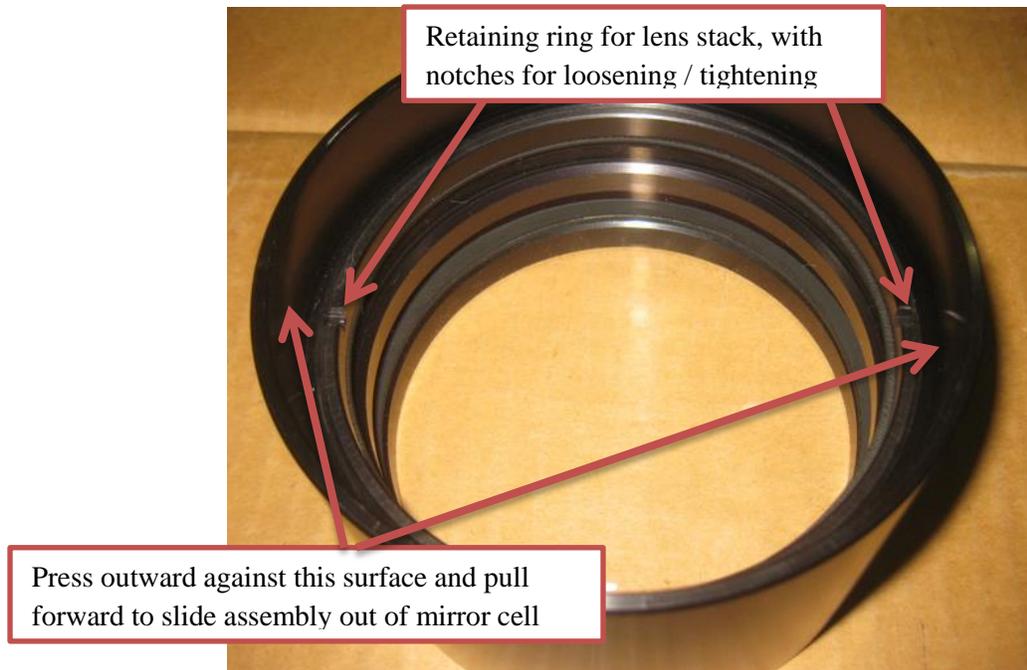


Figure 3: Lens cell (upward facing surface)



Figure 4: Lens cell (rear surface). Insert this side first when re-installing into mirror cell.

Removing the lens group

Grab the primary baffle tube and gently twist counter-clockwise (looking down onto the primary mirror) until the entire tube starts to turn. Try to grab the tube down near the surface of the primary mirror (without touching the mirror!) to minimize torsion on the tube. The baffle tube is made of plastic, and excessive force could cause it to crack.

The baffle tube assembly should start to un-thread from the mirror cell, and after several turns it can be removed and set aside. Once the tube is removed, the lens group should slide out freely. There are two options for doing this. One option is to push outward on the interior surface of the lens group assembly (without touching a lens) and pulling the assembly out far enough until you are able to grab the exterior surface and pull it out the rest of the way. The other option is to push the assembly forward from the back by touching the lens slightly with a lint-free cloth.

Once the lens assembly has been removed, you can see that there is a stack of lenses, spacers, and bafflet rings sitting inside the lens cell. This stack is held in place with a threaded retaining ring. The ring includes two notches, which can be used in conjunction with a flat-edge screwdriver to loosen or tighten the ring. Use extra caution when working close to the lens!

If the lens stack is to be removed, be sure to note the order and direction in which things were installed, and re-install everything in the same order and orientation.

Reinstalling the lens group

Assuming all lenses, bafflets, and spacers have been installed in the lens cell in the proper order and orientation, and the retaining ring has been tightened down, the lens group assembly can simply slide back into the primary mirror cell until it is resting on the lower ledge. Once it is in, try spinning the lens assembly slightly to make sure it is really resting on the lower ledge rather than being wedged in at an angle and stuck. Then, screw the primary baffle back into place until it is firm against the top surface of the lens assembly. Once again, grab and twist the baffle tube at the lowest point possible to avoid cracking the plastic tube.

Primary mirror cell attachment

For additional context, the following picture shows how the primary mirror cell attaches to the backplate. A mirror cell (shown in the left half of the image, without an attached primary mirror or a lens set installed) slips into the backplate from the front, and is held in place with three screws that thread in from the back. If these screws were loose, everything attached to the mirror cell (i.e. the primary mirror, the lens group, and the primary baffle) could move, so it is important for these screws to be tight.

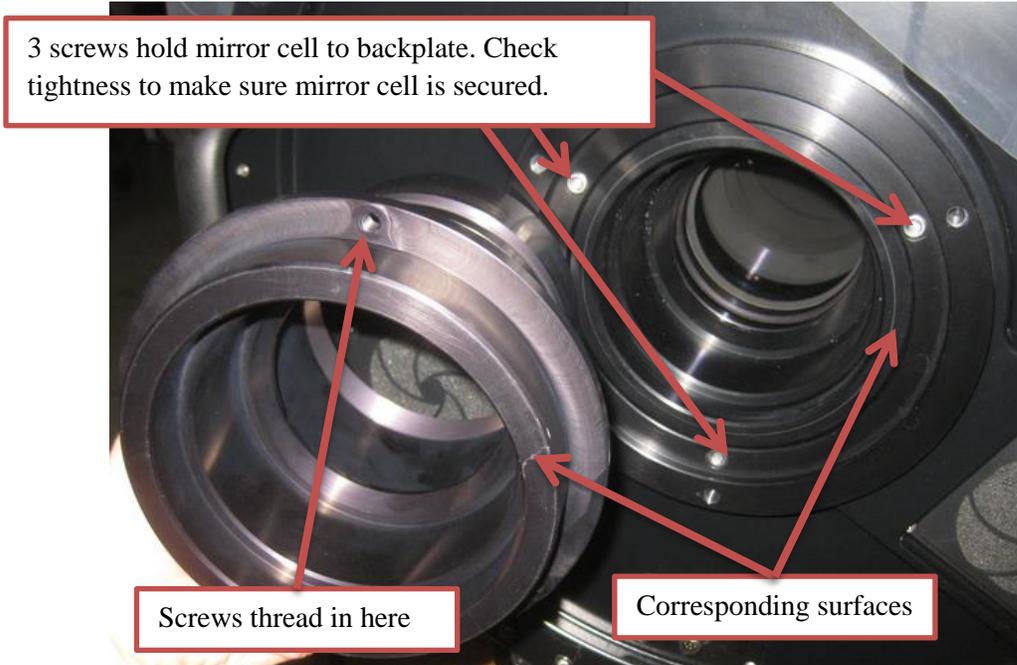


Figure 5: Mirror cell, and corresponding view from back of telescope