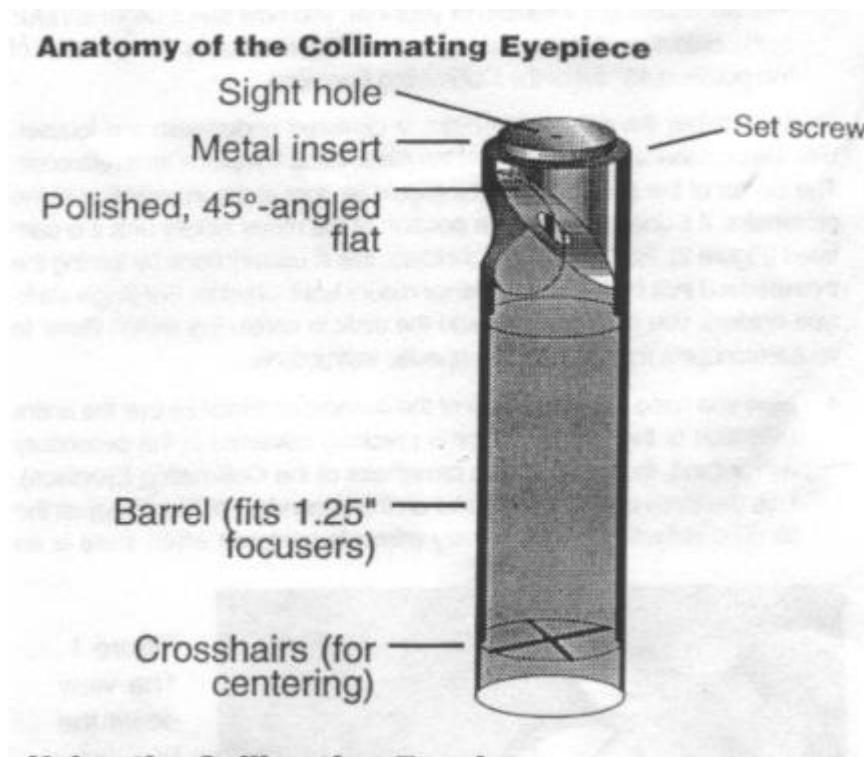


# Collimation

My only criticism of my telescope is that it was supplied with the main mirror lacking a centre spot. Moving house in 2000 resulted in it needing to be collimated. I had been lucky that it had been delivered with reasonable collimation and up until then I hadn't needed to learn how to do it. It is often said that poor collimation is one of the main reasons that reflectors fall into disuse, but I was determined not to waste the money I had invested in it.

The manual gave a method which involved simply looking down the empty focus mount. Beware ! This lacks sufficient precision and I struggled for a couple of months to get it to work. I am sure it will not surprise many people to learn that it was wholly unsuccessful.

After a lot of reading (mostly on the internet, the URLs I found useful are listed at the end), I decided to jump in at the deep end, add a centre spot to the primary mirror and buy a collimation tool. I was very unhappy at having to remove the mirror cell in order to add the centre spot but I can reassure any nervous readers that it was not a difficult task to complete. I purchased an Orion Collimating Eyepiece from SCS-Astro (whose service was extremely good) and the optics were collimated inside half an hour. Now I have gained some experience with the tool, the process only takes minutes to complete.



This is how the collimating eyepiece looks in section. The angled flat projects an illuminated disk onto the mirror and the crosshairs allow you to centre the focuser axis on the mirror's centre spot.

The whole operation takes only minutes to complete and I have found it yields perfectly collimated images when star-testing.

I added a centre spot to the mirror by making a paper mask of the same dimensions, finding

the middle and then mounting it on the mirror. I then used a permanent marker pen to make a spot on the mirror centre, removed the mask and surrounded the mark with a white paper hole reinforcer.

The URLs I found useful to learn about collimation are :

- <http://perso.club-internet.fr/legault/collim.html>
- <http://www.amateurastronomy.com/collimate.html>
- <http://www.efn.org/~mbartels/tm/collimat.html>
- <http://zebu.uoregon.edu/~mbartels/kolli/kolli.html>
- <http://www.weertman.com/bruce/atm/collimate/>