

After purchasing a MicroStar 110 I decided to purchase two heads on eBay at a low price as a source of possible replacement parts; also to take a look of the internal optics first before opening the one on my scope.

In the past working on vintage BL microscopes the internal head optics usually appeared contaminated with some type residue; like a light grayish resesidue. Although an image could be seen it seemed to me that the residue was scattering the light. In the past I have removed surface contamination either partially and/or some components squeeky clean. Never was able to get 100% but very satisfying results.

I noticed that some of the early AO biocular heads appeared to be some what sealed from the outside enviroment; glass window between the internal optics and eye piece; the same for the later BL Dynoptic (zoom and flat-field). Even sealed residue was observed on the internal optical surfaces; I assumed was caused by improper storage baking heating the internal components causing outgassing with particles.

Including the above extra heads;, the 110 head for my microscope did not have a enviromental protection window in front of the eye piece. All sold to me on eBay were not protected from the enviroment; hence some level of cleaning seemed appropriate. It seems to me that internal residue can cause unwanted optical scattering making image contrast difficult at the higher powers.

Looking directly through the head (without eyepiece) ; directly on the optical center axis is difficult for me especially a higher intensities and how my eye focuses.

Looking off axis to me really shows optical scattering (see below



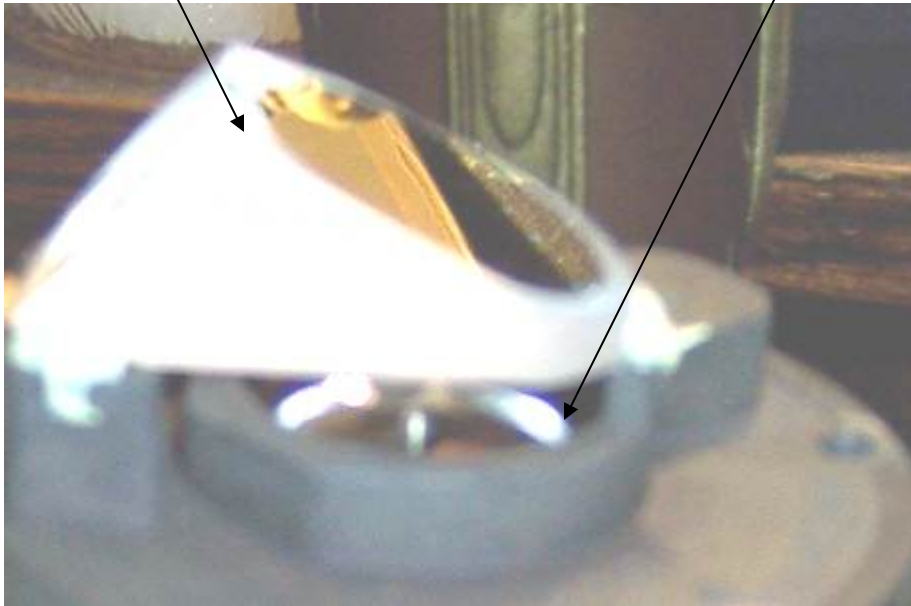
Bottom View

Remove screws



Input optics lens

prism



Can replace spare parts optics

label



Label removed

Remove screws
then plate



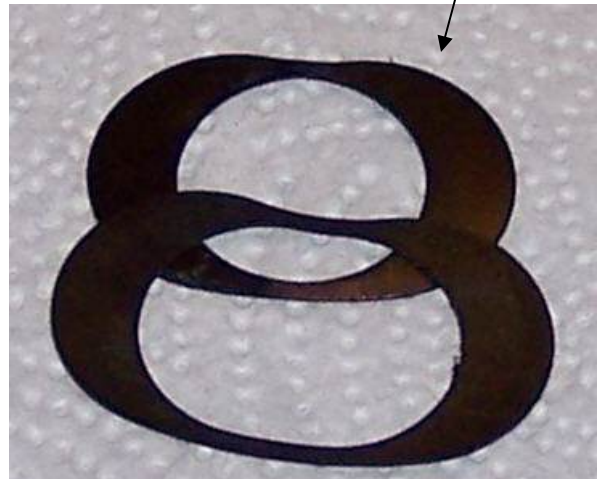
Plate Removed



Sliding gaskets

Remove screws to remove optics

Optics mounted on frame



Biocular optics



←—————→
separation

I believe this is the beam splitter 50/50



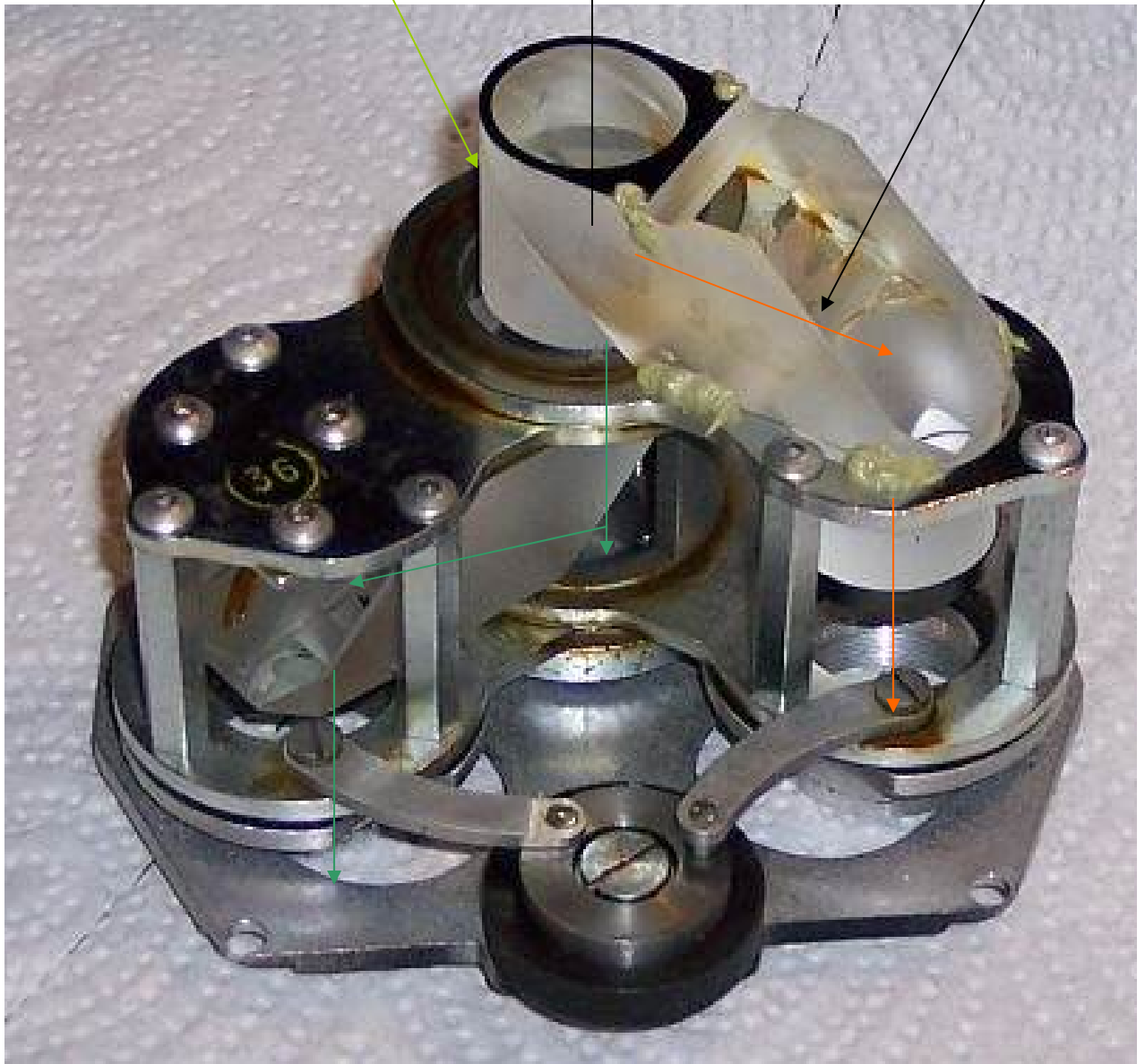
← separation →

separation

Input optical center

Beam splitter

Left eye (I think)



If I wanted to replace this optical train for a better one then reinstall using reverse order