

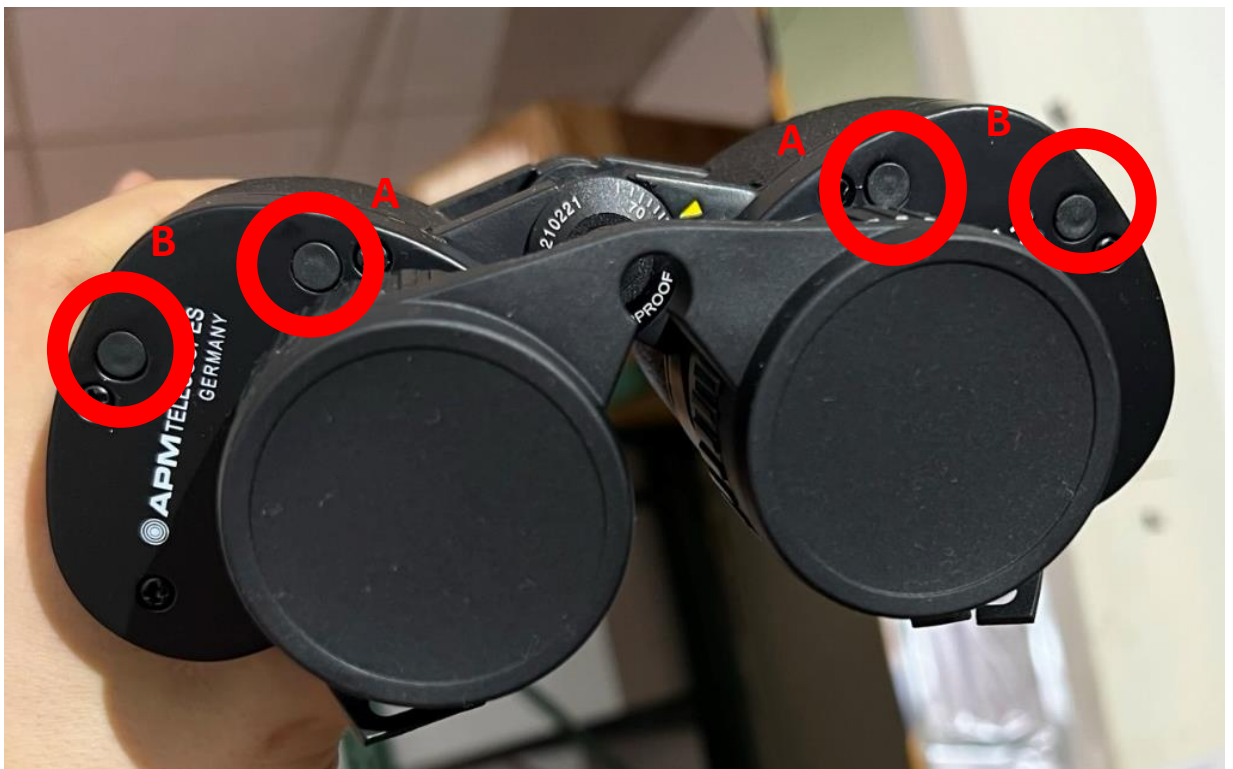
APM collimation guide for 50mm and 70mm MS-Series Binoculars



APM
TELESCOPES

1) Preparation before adjustment

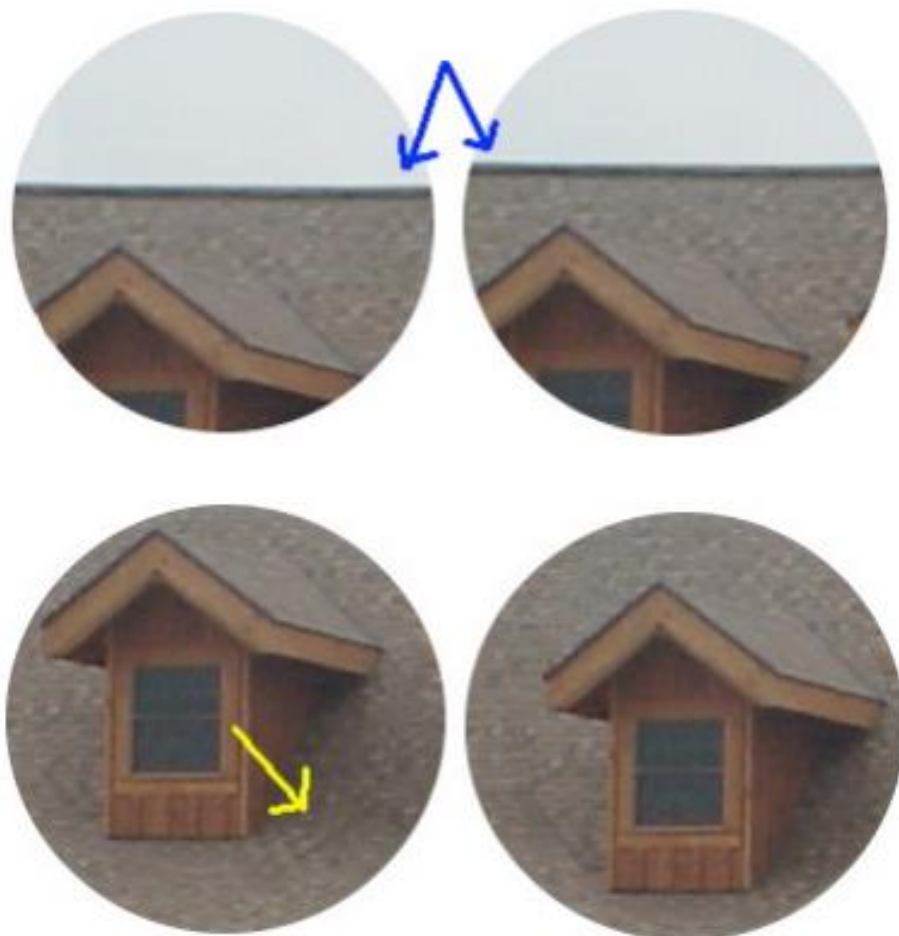
- As shown in the picture, there are decorative rubber plugs in the 4 calibration holes.
- Please remove those plugs using a sharp tool, for example a screwdriver
- The screws marked with an A are used for adjusting low and high collimation, screws marked with a B are used for collimation divergence and convergence.
- After correcting the optical axis, put the rubber plugs back in the holes applying an appropriate amount of glue.



2) Adjustment

Adjustment during Daytime:

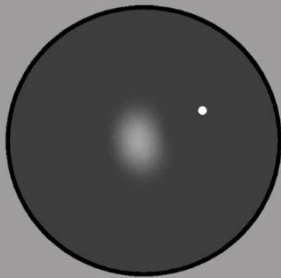
Place the binoculars on a stable tripod, set your eye relief precisely, aim for an object that is as far away as possible (several hundred meters if possible). It should have sharp edges and ideally even a reflection from the sun (like a star). To check the collimation, slowly move your eyes away from the eyepieces about 10cm without losing sight of the object. Now look at the image on the eyepieces. If the binocular is misaligned, this is now clearly recognizable. Looking in tired or from a wrong angle falsifies the result.



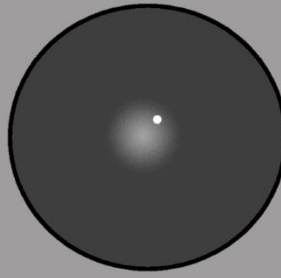
2) Adjustment

Adjusting in the night sky:

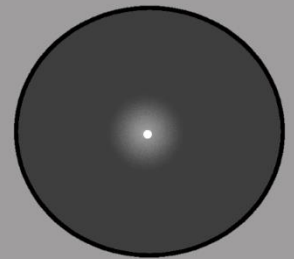
Also place the binoculars on a stable tripod and set your interpupillary distance precisely. Look for a bright star such as Polaris, as it does not move so in order to prohibit uncomfortable viewing. Stand or sit behind the binoculars in a comfortable position with a very pleasant view. Looking in tired or from a wrong angle falsifies the result.



Bad



Usable



Good

2) Adjustment

Start the adjustment with a suitable Philips screwdriver on the screws A that are now visible. Start with one side with the external screw B, the one farther away from the eyepiece. It is often sufficient to turn a screw slightly. If this is not enough, use the external screw B on the other tube. With this method you will be successful in 99% of all cases. If this does not lead to a successful result either, use the inner A screws.

When adjusting and looking through the binoculars, please consider the fact that your eyes accommodate very quickly. It is best to look over the binoculars from time to time in order to relax your eyes. If you think everything fits now, move your eyes about 3 to 4cm away from the binocular eyepiece. This increases the detectability of an adjustment or misalignment considerably, since your eyes hardly accumulate.



4) After successful adjustment you now have several options:

- 1) You can use the Binocular without plugging the screws again
- 2) Or you put the rubber plugs back in and seal the hole with some silicone, thus restoring the water tightness. But you only need this for permanent wet use, e.g. on a ship or in a rain forest.

