

Tube Assembly Layout

FS-102NSV

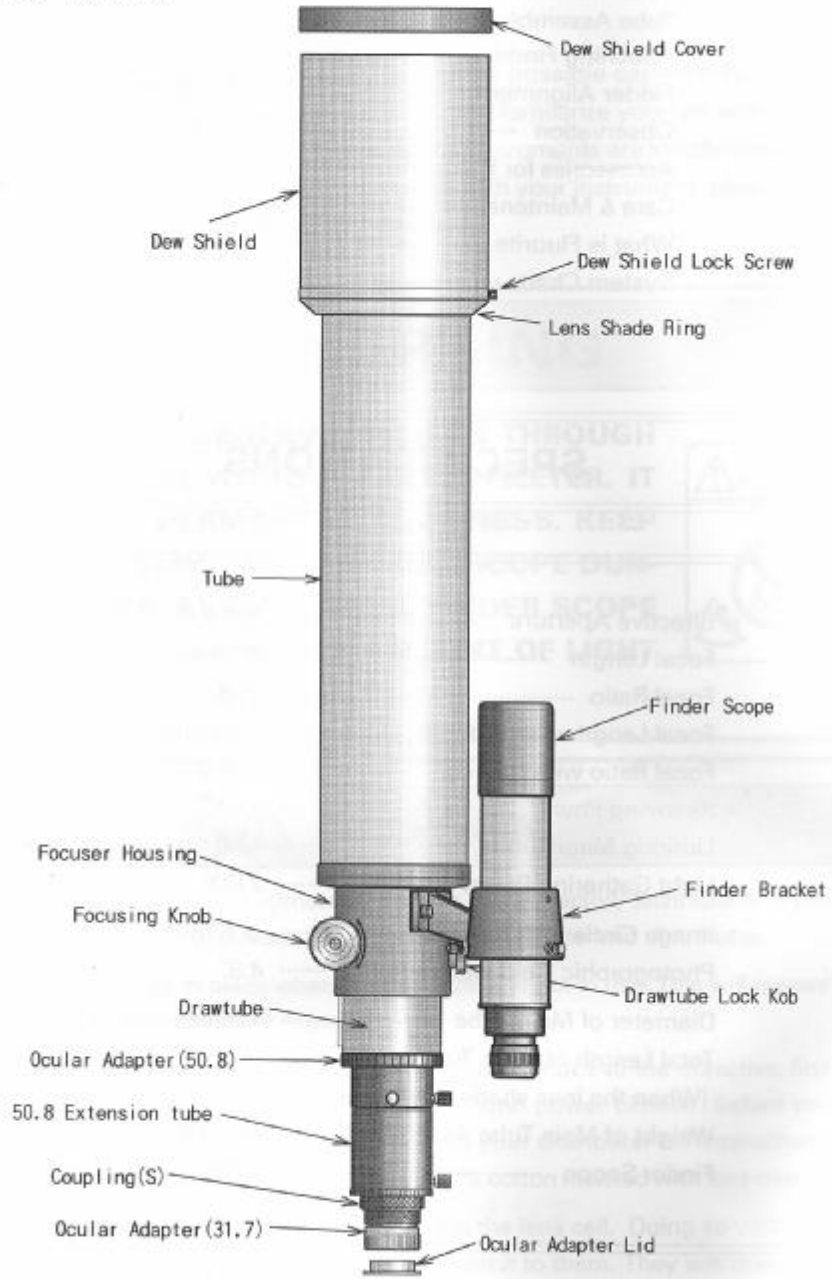


Fig.1

Attaching The Finder And Tube Assembly

Your telescope is shipped with the finder unattached. Use the following instruction to assemble and align the finder.

■ Attaching The Finder Scope

Place the finder holder leg on the finder base on the tube assembly and lock it firmly with two cap-bolts provided. Set the finder as parallel to the tube as possible. Failure to do so will make alignment difficult.

The cap screw covers the threaded hole for the reticle illuminator, which provides for easier centering of objects in the main telescope. Refer to the Fig.2,3.

■ Setting the main tube assembly onto the equatorial mount

Set the tube holder onto the head of the mount with two cap-bolts as in the Fig.4 and lock the tube with a lock nut after balancing the tube. The tube holder can be used with all Takahashi mounts. If astrophotography is one of uses, the heavier duty the mount, the better.

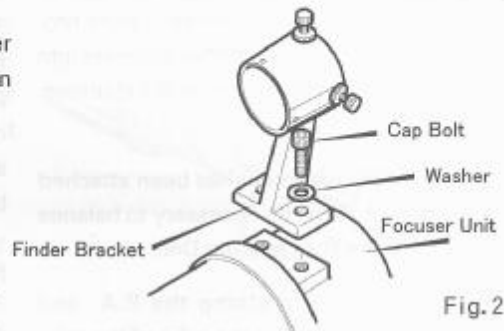


Fig. 2

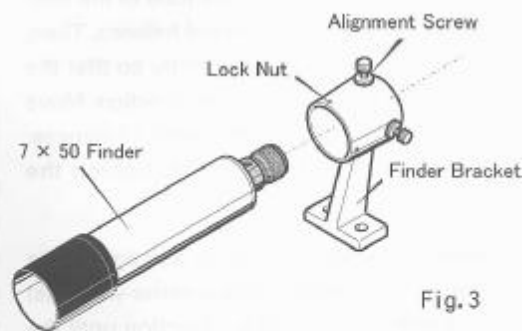


Fig. 3

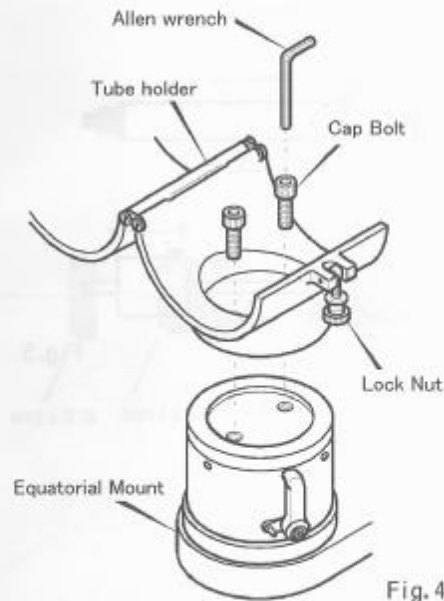


Fig. 4

The correct way to attach the tube holder to the mount is to use the two cap bolts provided. After an optical tube has been set into the tube holder, the next step is balancing. Refer to Fig.5.

Now that the instrument has been attached to the mount, it will be necessary to balance the load in the R.A. and the Dec.

The first step is to clamp the R.A. and unclamp the Dec. Hold the tube of the telescope in the event it is out of balance. Then, loosen the tube clamp slightly so that the tube can be moved in either direction. Move the tube in either direction until it balances. When the tube is balanced, tighten the clamp.

Next, loosen the R.A. clamp, and tighten the Dec. clamp. Unclamp the counter-weight(s) and slide them in either direction until the package is balanced.

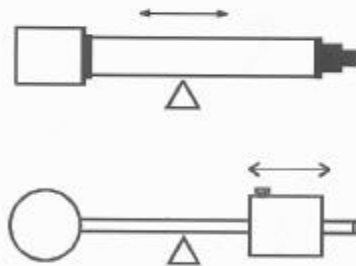


Fig.5

● How To Retract The Lens Shade

The Lens Shade of the FS-102NS is retractable. When the FS-102NS is to be transported, retract the lens shade until it rests on the satin chrome ring installed in the tube assembly for that purpose. The shade can be extended when the FS-102NS is used.

1. Remove the cap of the dew shield.
2. Loosen the two lock screws.
3. Extend the dew shield.
4. Turn the locking screws until they make contact.

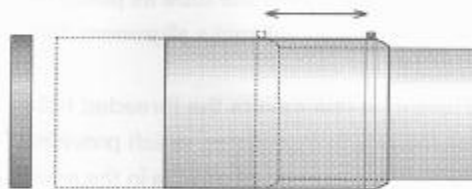


Fig.6

[Caution]

Remove the lens shade cap before moving the Lens shade. The fit is tight enough to blow the lens shade cap off of the Lens shade and it allows the lens shade to move easier.

■ Compression Ring

Remove the ocular adapter cover after the locking ring has been loosened by turning it counter clockwise. Then, insert the desired ocular or 31.7 diagonal into the adapter and tighten the ocular ring by turning it clockwise.

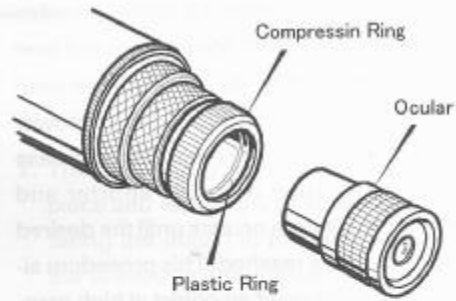


Fig.7

■ Connection the System Parts

The adapters and the rings are provided on the visual back to connect various system parts. Carefully study the system chart in this book before connecting any system parts. Connection of the incorrect parts may prevent the telescope from coming to a sharp focus or any focus at all. Refer to the Fig. 8,9 for a standard connection.

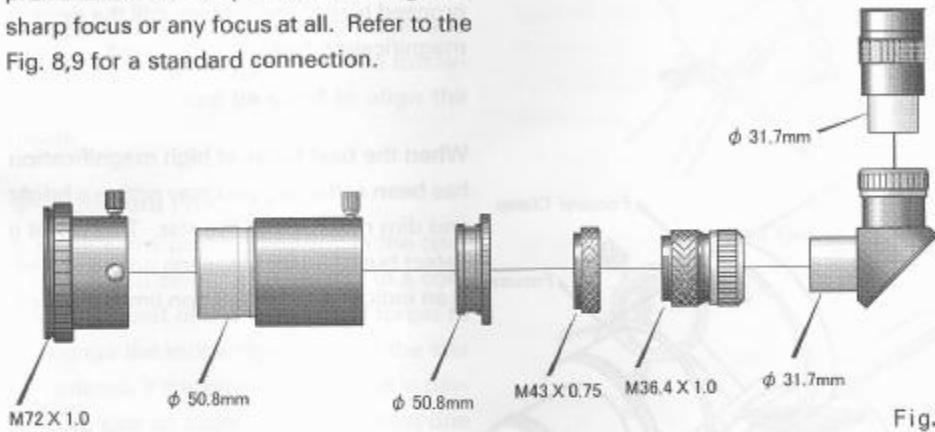
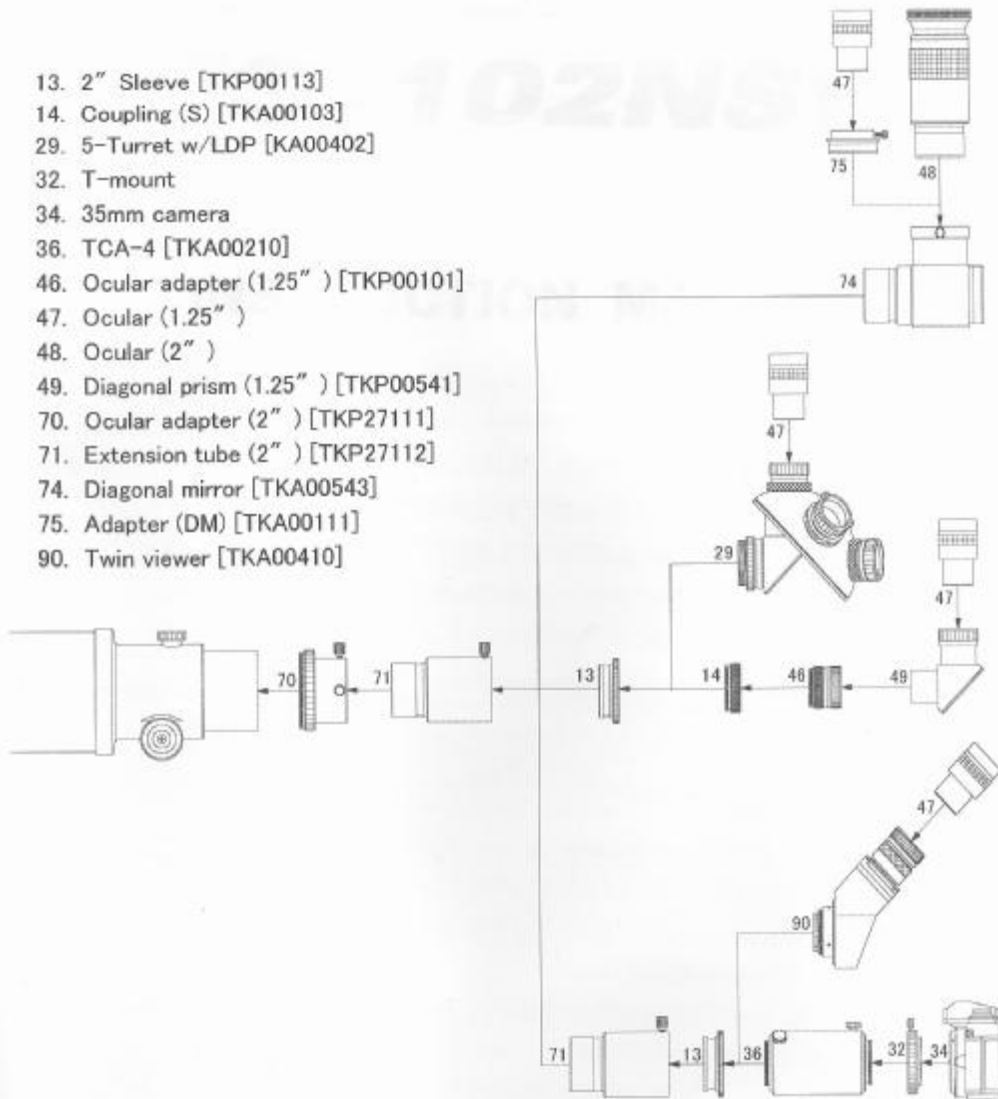


Fig.8

System Chart

■ Photo/Visual System Chart

- 13. 2" Sleeve [TKP00113]
- 14. Coupling (S) [TKA00103]
- 29. 5-Turret w/LDP [KA00402]
- 32. T-mount
- 34. 35mm camera
- 36. TCA-4 [TKA00210]
- 46. Ocular adapter (1.25") [TKP00101]
- 47. Ocular (1.25")
- 48. Ocular (2")
- 49. Diagonal prism (1.25") [TKP00541]
- 70. Ocular adapter (2") [TKP27111]
- 71. Extension tube (2") [TKP27112]
- 74. Diagonal mirror [TKA00543]
- 75. Adapter (DM) [TKA00111]
- 90. Twin viewer [TKA00410]



What is Fluorite?

Calcium fluoride (CaF₂) is a naturally occurring crystal. Its very low refractive index makes it the best of materials to use in the manufacture of apochromatic telescopes. Unfortunately, the natural crystal contains impurities and as a result, displays some properties that make it unsuited for use in a telescope.

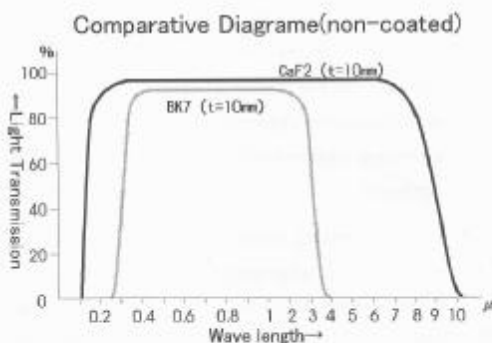


Fig. 22

Now thanks to modern technology, fluorite crystals are grown in an oven. This process produces a totally pure mono crystal structure that does not display any of the unsuitable properties of the natural crystal and has the same very low refractive index. Now, calcium fluoride crystal can be hard multi-coated for maximum light transmission and durability.

As the diagram shows, the band pass of fluorite of 1000 to over 100,000 angstroms eclipses by many magnitudes that of any optical glass. Additionally, the use of multicoatings further increases light trans-

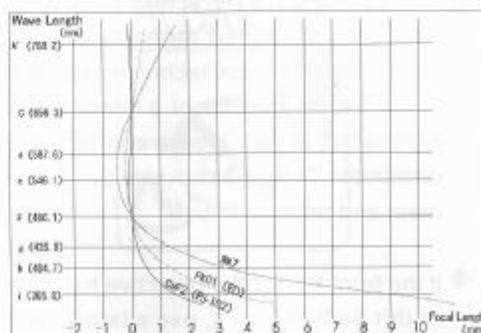


Fig. 23

mission over any ED glass. These features make the fluorite objective the premier photo/visual instruments for deep sky or lunar and planetary applications in their size class.

When the fluorite instrument is taken out for an observing session, it will take about 30 minutes for the objective to temperature equalize for maximum performance. This fact is also true for any optical system used.

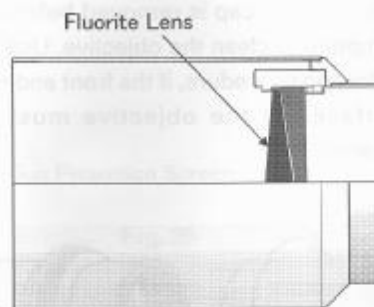


Fig. 24