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William Optics Corp.



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WILLIAM OPTICS

Crafting the World's Finest Astronomical Instruments

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FLT-132 APO F/7.0

INSTRUCTION MANUAL



Crafting the World's Finest Astronomical Instruments

Thank you for choosing a William Optics FLT-132 APO F/7.0, William Optics flagship refractor.

This simple step-by-step instruction manual is designed to provide FLT-132 APO F/7.0 owners with a better understanding of how to operate their new telescope by providing precise, updated information. These instructions will also guide you through how to properly maintain the FLT-132 APO F/7.0, and how to operate it at its maximum capabilities.

Please carefully familiarize yourself with your telescope's parts and functions before operating it for the first time.

WARNING!

DO NOT USE THIS TELESCOPE UNDER ANY CIRCUMSTANCES TO DIRECTLY VIEW THE SUN.

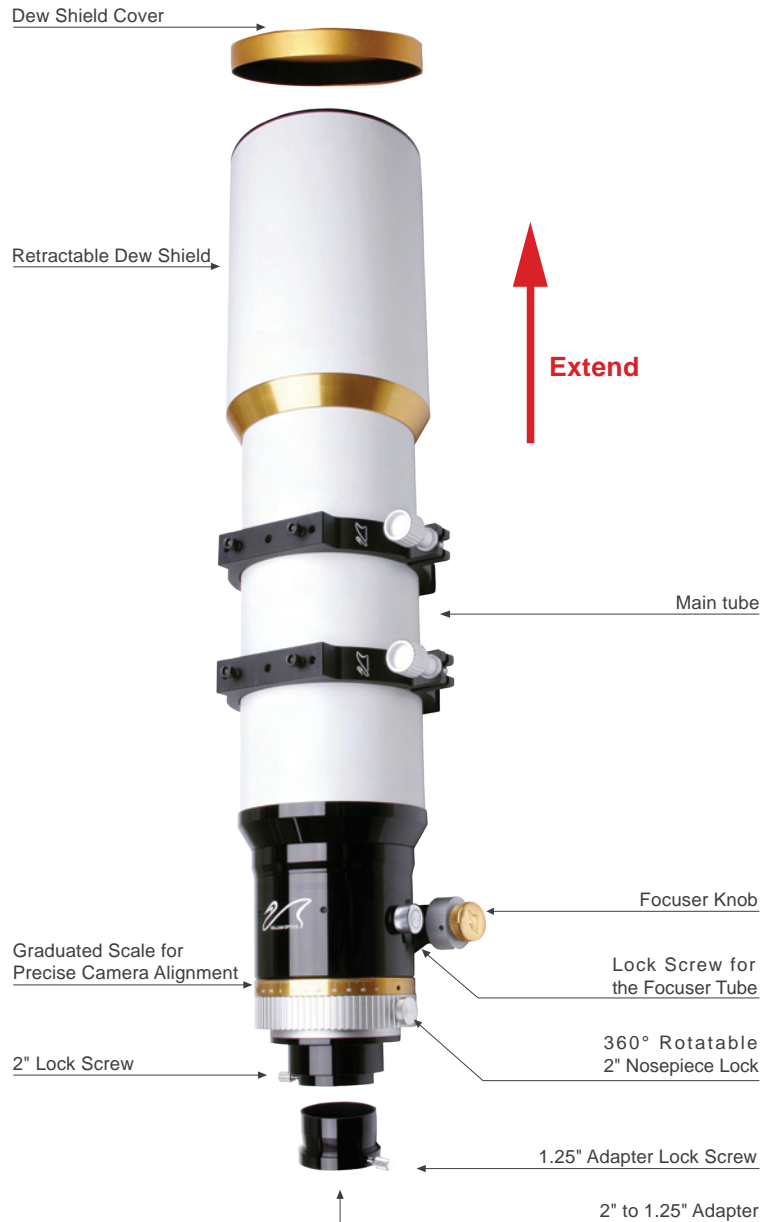
It could easily cause instant blindness or serious damage to your eyes. To view the sun, use only appropriately designed solar filters that will reject 99.96% of the sun light and heat. Educate your family on how to use this telescope properly during day and night time observations. For further information please contact your local dealer.



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Getting to know your telescope



FLT-132 APO F/7.0 Triplet APO Specifications

Clear Aperture	132mm
Focal Ratio	F/7.0
Focal Length	925mm
Objective Type	3 elements, Air- spaced, FPL-53
Resolving Power	0.86"
Limiting Magnitude	14.5
Lens Shade	Retractable (O.D. 168mm)
Focuser	4" 360° Rotating Camera- angle Adjuster 1.25" Adapter Included
1.25" Adapter	Brass Compression Rings
Tube Diameter	141mm
Tube Length	104cm (fully extended) 78cm (fully retracted)
Tube Weight	9kg
Case	High Quality Aluminum Case with wheels
Case Dimensions	W99cm x H34cm x D30cm (W3.9" x H13.4" x D11.8 ")
Case Weight	Case Weight 13.5kg

FluoroStar Accessories Chart



Above diagram is only for future connectivity purposes.
Please contact our Authorized Dealers for accessories purchase.

Connection Instructions

(Mounting Rings)

Step-1



Safely secure the 141mm mounting rings to the WO dovetail.

Step-2



Fully extend the dewshield cover before placing the OTA in the rings.

Step-3

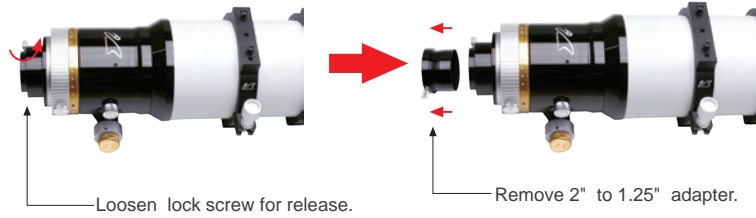


Remember to insure that the mounting rings knobs are tight before operations.

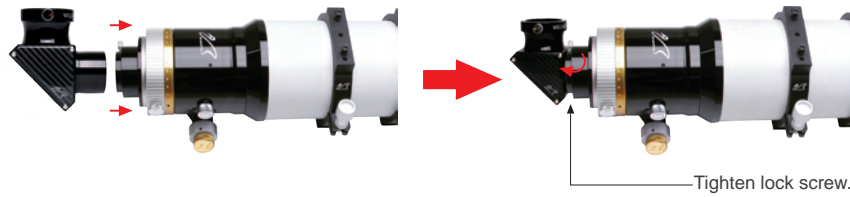
Connection Instructions

(2" Diagonal Mirror)

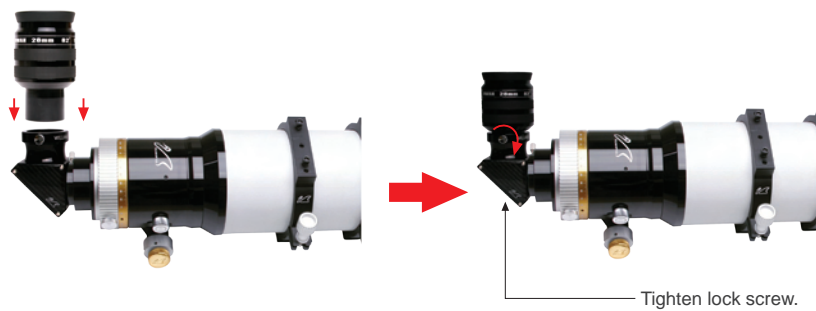
Step-1



Step-2



Step-3



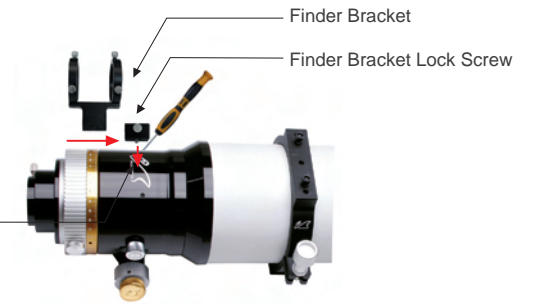
Connection Instructions

(Finderscope)

Step-1

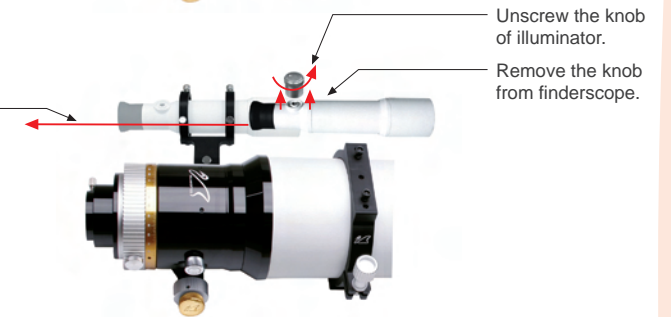
Extract the black plastic screw and place the finder bracket on FluoriteStar 132 focuser and attach with lock screw.

Connection point for finderscope bracket.



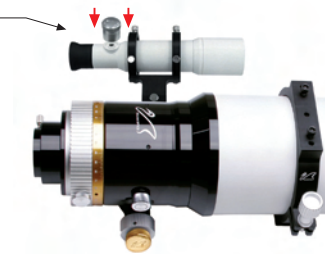
Step-2

Insert finderscope into finder bracket.



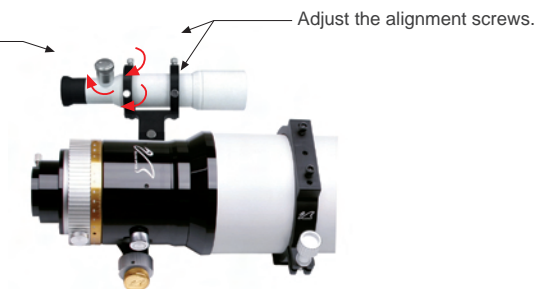
Step-3

Insert illuminator into finderscope.



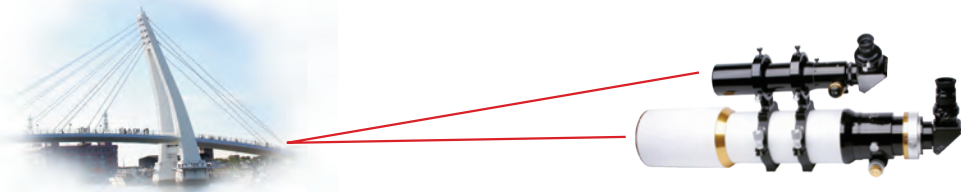
Step-4

Tighten the knob on finderscope.



Connection Instructions

(Aligning Finderscope)



Align the finderscope pointing at the same object as the telescope.



Step-1

Find a distant object in the telescope with a low power eyepiece.

Step-2

Align the finderscope by pointing at the same object, then loosen or tighten the alignment screws.

Step-3

Use a high power eyepiece and repeat this procedure.

Usage

The Fluorostar 132 is designed to work with both 1 1/4 inch and 2 inch diameter eyepieces in various focal lengths, for both daytime and nighttime viewing. Because the Fluorostar 132 is well suited to viewing nebulae, clusters, large galaxies and comets, we recommend the use of high quality wide angle eyepieces. The WO SWAN (72°) and UWAN (82°) series eyepieces are available in a variety of focal lengths. Viewing the moon and planets is also impressive at magnifications of 140X when seeing conditions permit.

This telescope is also well suited for higher power observations with planetary eyepieces. To calculate the magnification of your telescope and eyepiece combination, divide the telescope focal length in mm by the eyepiece focal length in mm.

Keep in mind that the atmosphere plays an important role in seeing conditions, and only the best seeing conditions will support high power viewing. Additional power under less than ideal seeing conditions will not result in an increase in viewable details, and lower powered eyepieces should there be used under those conditions. It's easiest to locate objects using low power eyepieces (20X magnification) and then zoom in by switching to higher powered eyepieces. The largest field of view will be seen using a 12X low power-wide field of view eyepiece. Also remember to let the telescope reach thermal stability for optimal results. A triplet lens takes longer than a doublet to cool down. German Equatorial mounts are recommended for optimal viewing, which are designed for astronomical use and include precise tracking of celestial objects.

The Fluorostar 132 has been specifically designed for astrophotography; it will produce excellent results when used with the proper equipment. Being this a high-end astrophotography telescope, it should be mounted on a good mount. Please see our website for examples of photos taken with these telescopes. The Accessories Chart on page 3 provides additional details on photographic accessories for various CCD, digital and film cameras.

Optional accessories from WO include mounting rings and plates, super high-quality 2" Quartz star diagonals, and 2" Erecting Prisms (45° and 90°), all of which provide for superior viewing and high quality images.

Never aim your telescope or finderscope at the Sun without proper Solar filters installed on the front of the telescope. Doing so for even a moment may permanently damage your vision. Proper Solar filters consist of a filters made by reputable manufacturers, designed to fit tightly over the front of the dew shield. Solar eyepiece filters are not considered safe, and should not be used. With proper front mounted Solar filters, the telescope will not be harmed by viewing the Sun. Contact your Authorized WO Dealer for further information on the brands, sizes, and prices of proper solar filters.

Storage and Cleaning

▶ We suggest placing all accessories inside an airtight container with desiccative control.

Secondly, remember to store the telescope in a non-humid environment, never leave it in a hot heated environment. If not properly stored, it may develop mildew growth and other preventable build up.

Be particularly careful after a night observation that the lens has no dew on it before storing the telescope away.

▶ In case the lens surface becomes dusty, smeared, or gets fingerprints or fungus build-up on it, first of all, remove any surface particle by using an air blower, then carefully proceed to wiping the lens gently with a lint-free proper soft cloth. Use a lens liquid cleaner to get the best cleaning result. Make sure you change your cloth to a new one from time to time. The above-mentioned indications are not necessary if you carefully protect your telescope.

▶ The multi-layer paint white finish of your Fluorostar 132 is easy to ruin. Please take care of the exterior body tube by wiping it down with a slightly damp soft cloth from time to time. Water should be enough to do the job. Please do not use any organic solvent on your telescope, for example alcohol, benzene and other hazardous chemical as this might ruin it.

Caution for Safety

▶ **Caution! Never directly view the Sun with your telescope!**

Do not aim your telescope at the Sun without a front mounted high quality professionally manufactured solar filter. Viewing the Sun without the proper protection may result in permanent severe damage to your eyes, and even cause blindness. Contact your Authorized WO Dealer if you are interested in purchasing a compatible and proper solar filter.

▶ Always place the telescope on a flat surface, to prevent it from falling and injuring yourself or others.

▶ Never use the telescope in the rain or in conditions where it may get wet. The telescope is not designed to be waterproof. If the telescope accidentally gets caught in the rain, immediately wipe off all water using a clean dry soft cloth. If the telescope gets totally soaked in water, immediately contact your Authorized WO Dealer for service instructions.

▶ Do not disassemble or attempt to repair your telescope without a written authorization from William Optics Corp., as this violates the warranty terms under the limited product warranty, and negates any guarantee.

Bundle Equipment

1. Aluminum case with wheels.
2. Gold plated dew shield cover.
3. 141mm mounting rings.
4. 2" to 1.25" adapter.
5. Various accessories depending on the package.

Optional Equipment

German Equatorial mount (which is design for astronomical use and include precise tracking of celestial objects).

A mirror diagonal or erecting prism (The 2" WO Dielectric model is strongly recommended for high quality astronomical viewing. A top quality Dielectric Quartz model is now also available from WO).

At least one or two high quality eyepieces (9mm to 40mm wide-field recommended) depending on the application.

For astrophotography, a photo adapter plus a T-Mount connection are necessary.

William Optics offers a TMB-designed reducer / field flattener optimized for the FLT110 and FLT132.

Also available from WO:

- WO 2" Star Mirror Diagonals.
- WO 2" and 1.25" 45° Erecting prisms.
- 2.5x Apochromatic Barlow lens.
- TMB Field Flattener for FLT.
- Super wide angle SWAN / UWAN Eyepieces, 1.25" or 2" versions.
- DCL 52, 28, 4337 series "Digital Camera adapter Lens for Digital Cameras and Digital Video".
- Digiscoping adapter: universal adapter for any type of digital camera.
- WO 2" VR-1 filter improves seeing on bright objects like the Moon.
- WO 141mm mounting rings, saddle plate, dovetail plate combo for equatorial mounting.
- WO 2" Extension Tube for FLT series.

Recommended for this Scope

Diagonal Mirrors



TMB Field Flattener

This high-quality flattener has been engineered and CNC machined for usage with our FLT-110 & FLT-132 APO refractors. Designed by leading designer Thomas Back for our FLT line, it will yield amazing results!

It's a must-have item for avid astroimagers.



2" Extension tube for FLT series

Practical 2" extension for FLT 110 and FLT 132: very useful if you use a CCD or need more drawtube extension but still expect to flexure in your train.

Fully anodized, and compatible with other similar telescopes. Male & female thread. It can accept our TMB field flattener for FLT.



2" Quartz Dielectric Diagonal

High-quality dielectric coating (99% reflectivity), precision-polished quartz flat in our much-admired, patented mechanics.

Our 2" Diagonals are what you need for your best observing sessions. Only from William Optics.



2" Dielectric Carbon Fiber Diagonal

99% reflectivity with 1/10 lambda high-precision mirror surface, with elegant exterior design, with 1.25" adapter.

SWAN Eyepieces



1.25" Eyepieces

Super Wide Angle (72°).
9mm, 15mm, 20mm focal lengths.
5 elements in 4 groups, fully multi coated.
Parfocal.



2" Eyepieces

Super Wide Angle (72°).
25mm, 33mm, 40mm focal lengths, FMC.
Generous eye-relief.

UWAN Eyepieces



Ultra Wide Angle (82°),
28mm (2"), 16mm (1.25"),
7mm (1.25"), 4mm (1.25").

Binoviewer



Enjoy the pleasures of Bak4 quality binoviewers with compression rings in your refractor, SCT or Newtonian. The value package includes 2 eyepieces (1.25" WA 66 20 mm) and 1.6x corrector Barlow! You can reach focus using WO 1.25 diagonal and a 1.6x barlow nosepiece.

New Style 50mm Finder Bracket

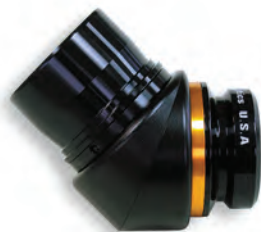


This excellent new quick-release 50mm finderscope bracket is easy to use, very convenient and great value. It's a perfect addition to your telescope: no need to waste time mounting the bracket and finderscope every night! Both suitable for 6x30 and 7x50 Erecting Finder Scope.

45° Erecting Prisms



2" 45°



1.25" 45°
with 2" Barrel



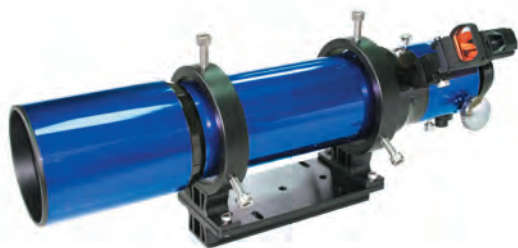
1.25" 45°

2" 90° Erecting Prism



Perfect both for astronomical and terrestrial observations. Revolutionary and sophisticated design, extra-smooth feel. High quality prism, coating and finish, for good correct-image views of celestial objects. Perfect in daylight too.

ZenithStar 80 II ED Doublet APO



The newest ZenithStar II generation Doublet APO is a 80mm ED refractor ideal for everyone who needs an excellent back-up scope / guiding scope at an excellent price, or a great first APO refractor, which you can use for planetary work, wide-field imaging, and crisp, high power observations.

Photo Adapter



Anodized 2" camera adapter for prime focus photography. Standard T ring thread.

EAZY-Touch Alt-Az Mount



EAZY TOUCH ALT-AZ Mount

What is that you prize the most for your wide-field refractor? It's ease of use: EAZY TOUCH is the mount you need, without sacrificing stability, looks and portability. Made in Switzerland by our partner company AOK, this mount allows you to be ready to go in 5 minutes even with a 4" telescope!

