

# ZenithStar 61 User Manual

Version: 3

Date: 2020.08.19



# CONTENTS

Warning	<u>2</u>
SPECIFICATION	<u>3</u>
PACKAGE CONTENTS	<u>4</u>
DIAGRAM	<u>5 - 8</u>
ACCESSORIES MAP	<u>9</u>
BACKFOCUS	<u>10</u>
USER GUIDE	<u>11 -12</u>

# Warning

Never aim your telescope or finder scope 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 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.

# SPECIFICATION

Focal Length: 360mm

Diameter: 61mm

Aperture: f/5.9

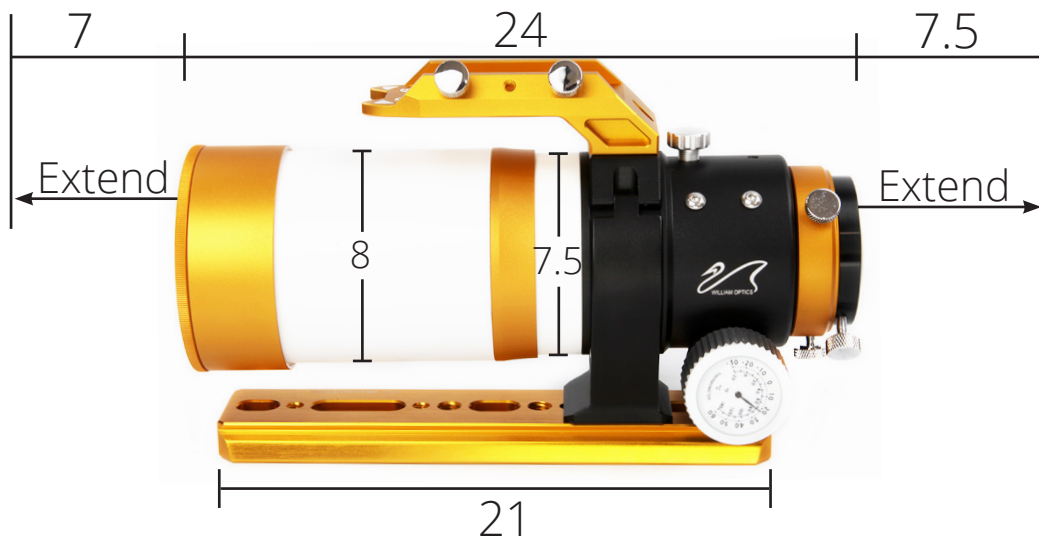
Camera Format: APS-C, Full Frame

Focuser: 2" R&P focuser

Image Circle: > Full Frame

Recommended Flattener: FLAT61A

Tube Weight: 2.2 kg  
(Accessories included)



Unit: cm

# PACKAGE CONTENTS



1. Bahtinov Mask

2. OTA

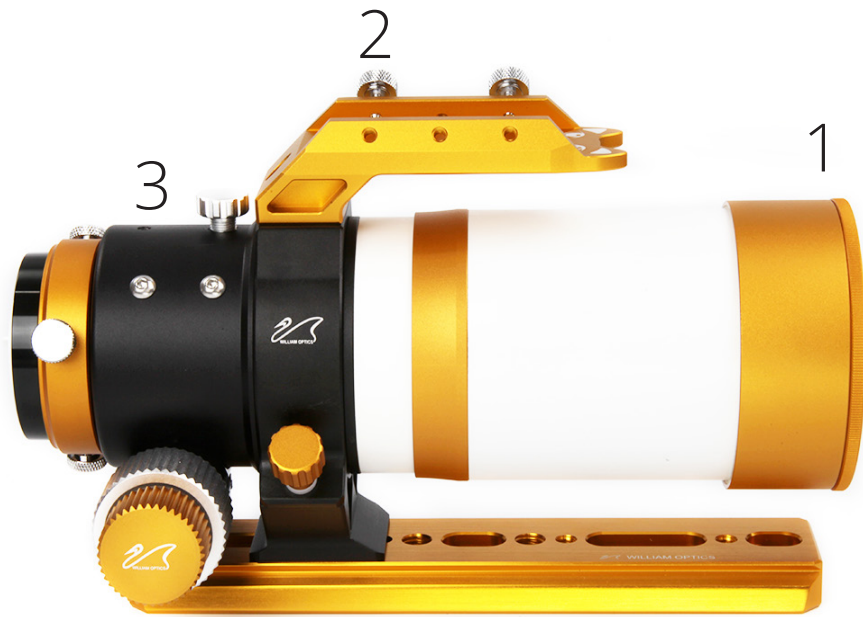
3. CAT saddle handle bar

4. M54 to 2 inch and 2 inch to  
1.25 inch adapters

5. 210 mm dovetail plate

Soft carry case is included in the  
standard package

# DIAGRAM



1. Bahtinov Mask and dew shield
2. CAT saddle handle bar, mounting ring and dovetail plate
3. 2 inch dual-speed 10:1 R&P focuser.

Tools you may need:  
1.5 mm Hex Wrench  
2 mm Hex Wrench  
2.5 mm Hex Wrench  
3mm Hex Wrench  
5mm Hex Wrench

# DIAGRAM



A. W.O. patented diffraction spikes Bahtinov focusing mask. Three times brighter than the traditional type.

B. Retractable dew shield



# DIAGRAM



CNC made accessories which are included in the standard package.

A. CAT handle bar and Vixen finder type which is suitable for W.O. uniguide.

B. CNC made stable and reliable Mounting Ring.

C. 210 mm dual side dovetail plate which is suitable for Vixen and Arca Swiss type saddle plate



A. M4 thumb screws for attaching the guiding scope

B. M4 screws for attaching the handle bar (use the 3mm Hex Wrench)

C. M6 thread



A. M6 screws for attaching the mounting ring

B. 1/4 threads

C. 3/8 threads

D. Suitable for 1/4 or M6 screws.



# DIAGRAM



A: tension screws for the focuser which can be adjusted by the 2mm Hex Wrench.

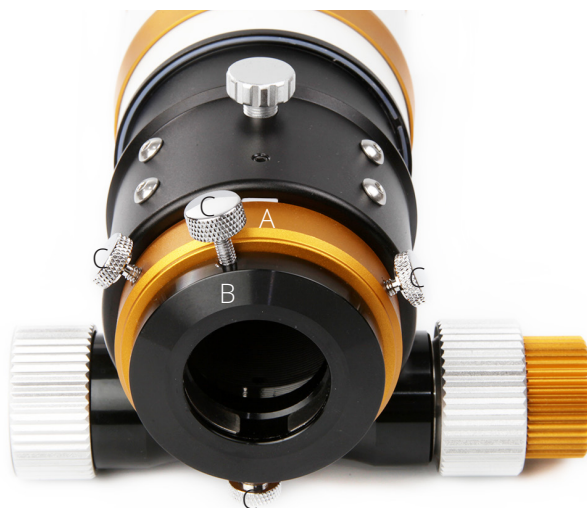
B: thumb screw for fixing the focuser.

C: M4 screws for attaching the finder / guider scope base which can be removed by 2.5 mm Hex Wrench.

A: M54 to 2" eyepiece adapter.

B: 2" to 1.25" eyepiece adapter.

C: M4 thumb screws for fixing the adapter and eyepiece.



A: M4 screws for attaching the focuser retrofit.  
**NOTE: DO NOT** adjust it before asking W.O.

B: the screws for the focuser tension which can be adjusted by the screw driver.

### Notification:

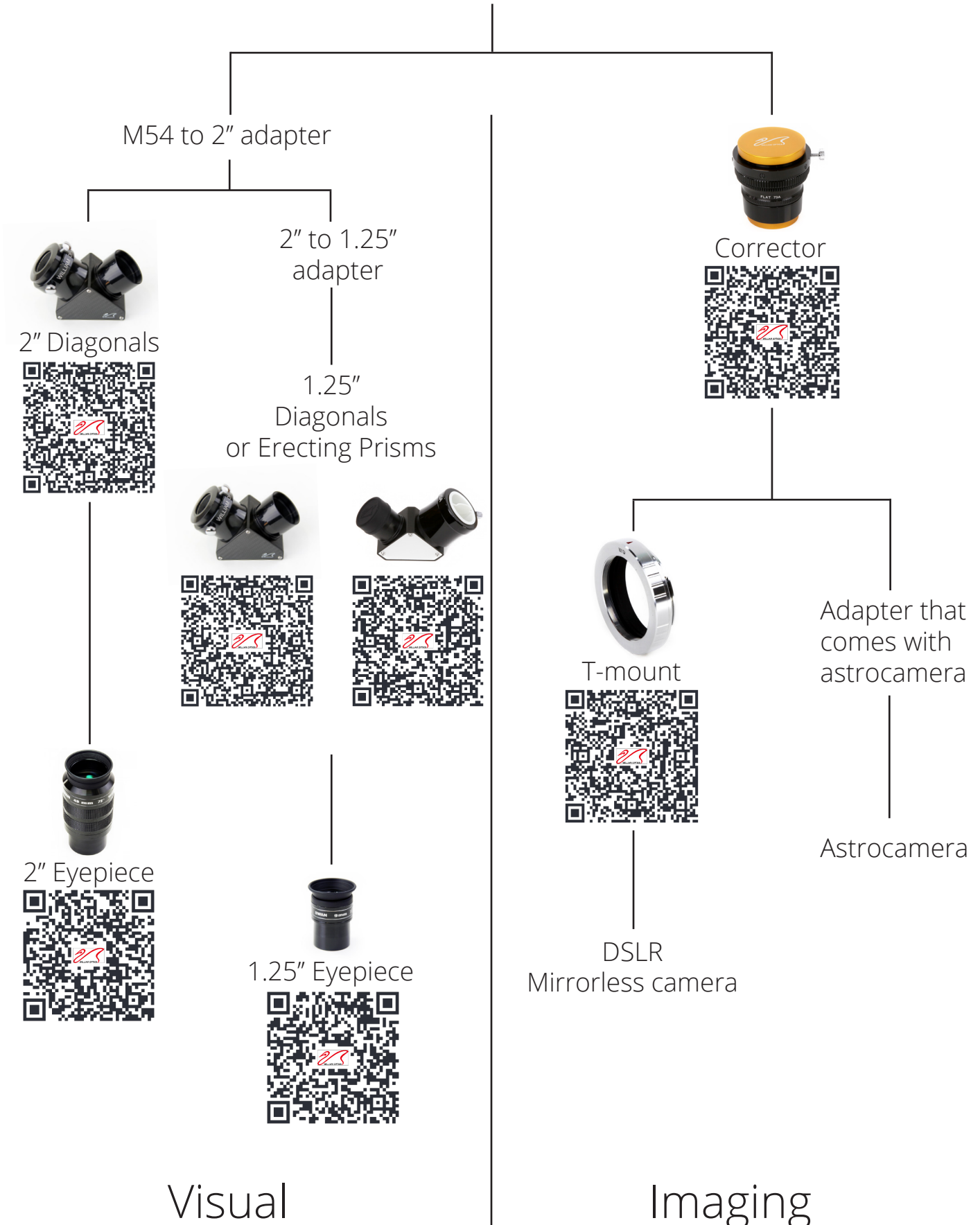
Please **DO NOT** adjust any screws which are not marked in the diagram (especially for the focuser retrofit) before contacting W.O. staff.



# ACCESSORIES MAP

Visit W.O. webpage for details by Clicking the pictures of the products

## Focuser

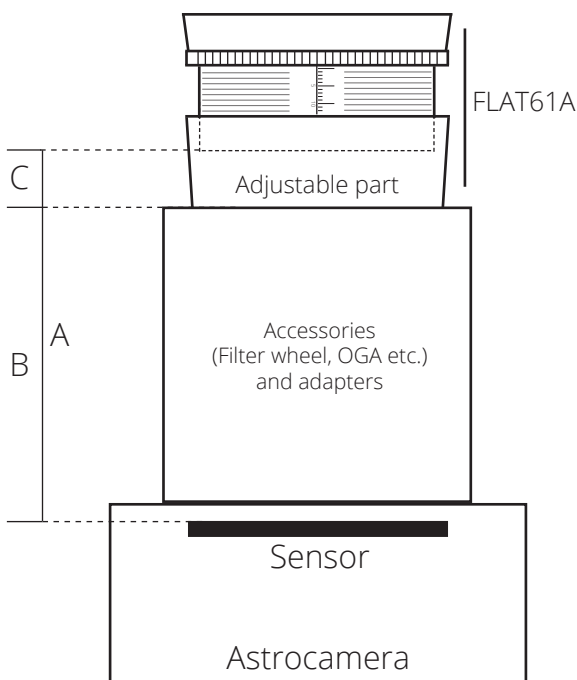


# BACKFOCUS

## What is backfocus?

Backfocus is a critical distance from the end of field flattener to the camera sensor. The field flattener can provide the best image quality if a backfocus set correctly.

We recommend you to chose our adjustable field flattener which is designed for W.O. scope.

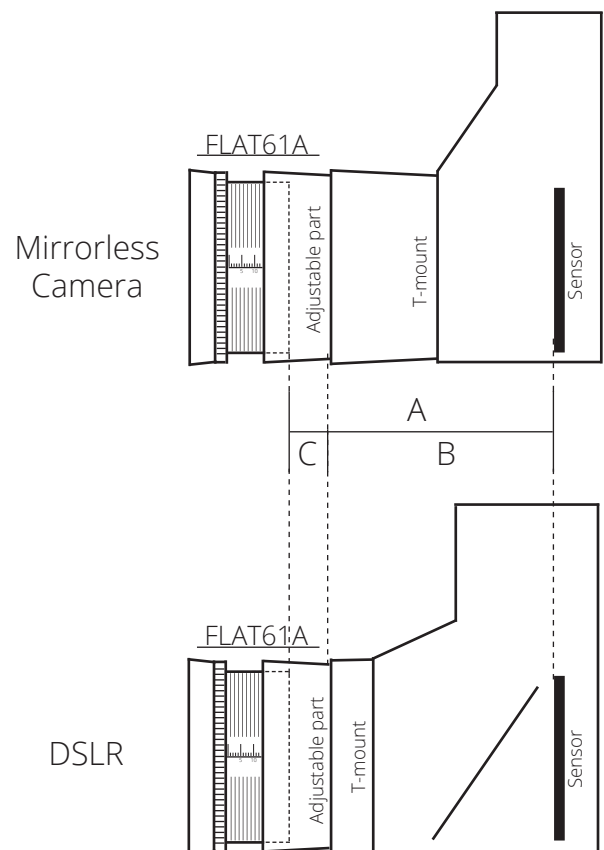


For the **Astrocamera** user:

A - the backfocus, The distance from the end of the flattener to the sensor is **67.9 mm**.

B - the distance from the sensor to the end of the accessories (OGA, Filter wheel etc.) and adapters. The distance depends on the Astrocamera and the accessories you plan to use.

C - the distance which needs to be adjusted according to the combination of Scope-Flattener and the Astrocamera system for the best image quality.  $C = A (67.9 \text{ mm}) - B$



For the **DSLR and Mirrorless Camera** user:

A - the backfocus, The distance from the end of the flattener to the sensor is **67.9 mm**.

B - the distance from the T-mount to the sensor. The distance is **55 mm**.

C - the distance which needs to be adjusted according to the combination of Scope-Flattener and the Astrocamera system for the best image quality. In this case, C is **12.9mm**.  
 $C (12.9 \text{ mm}) = A (67.9 \text{ mm}) - B (55 \text{ mm})$

# User Guide



How to connect the filter



Step 1.  
Remove the part A.



Step 2.  
Connect the M48 filter at the  
end of the flattener.



Step 3.  
Connect the part A back to  
the flattener.

# User Guide



How to connect the flattener?



Step 1.  
Remove the adapter by twisting.

Note: Don't retract the focuser drawtube all the way in, it could damage the lens.



Step 2.  
Connect the flattener to M54 telescope thread.