

[Manuals.plus](#) /

› [ESSLNB](#) /

› ESSLNB 700mm Astronomical Telescope User Manual

ESSLNB 883945

ESSLNB 700mm Astronomical Telescope User Manual

Model: 883945

INTRODUCTION

Thank you for choosing the ESSLNB 700mm Astronomical Telescope. This manual provides detailed instructions for the assembly, operation, and maintenance of your new telescope. Designed for both adults and children, this refractor telescope offers a focal length of 700mm and an objective lens diameter of 60mm, making it suitable for observing celestial objects like the Moon, planets, and brighter deep-sky objects. Please read this manual thoroughly before use to ensure proper and safe operation.

IMPORTANT SAFETY WARNINGS

WARNING! Never point your telescope at the sun or near the sun! Looking at the sun, even for a moment, can cause immediate and irreversible eye damage, including blindness. Always ensure the sun is not in or near the telescope's field of view. Do not use the finder scope to locate the sun. Supervise children closely when using the telescope.

Do not leave the telescope unattended, especially when children or inexperienced adults are present.

PRODUCT COMPONENTS

Your ESSLNB Astronomical Telescope package includes the following components:



Image: All components included in the ESSLNB telescope package, showing the tripod, telescope tube, diagonal lens, phone adapter, finder scope, eyepieces, Barlow lens, moon filter, tray, and constellation diagram.

1. **Aluminum Alloy Tripod:** Provides a stable base for the telescope.
2. **Telescope Tube:** The main optical tube of the refractor telescope.
3. **Diagonal Lens (45° Erect Image):** Redirects the light path for comfortable viewing and provides an upright, non-inverted image.
4. **Phone Adapter:** Allows you to attach a smartphone to the eyepiece for astrophotography.
5. **5X24 Finder Scope:** A small telescope with a wide field of view, used to locate objects before viewing them through the main telescope.
6. **K6mm Eyepiece:** Provides higher magnification (117X with 700mm focal length).
7. **K25mm Eyepiece:** Provides lower magnification (28X with 700mm focal length).
8. **3X Barlow Lens:** Triples the magnification of any eyepiece it is used with.
9. **Moon Filter:** Reduces the brightness of the Moon for more comfortable and detailed viewing.
10. **Accessory Tray:** Attaches to the tripod for holding eyepieces and accessories.

11. **Constellation Diagram:** A guide to help identify constellations in the night sky.

SETUP INSTRUCTIONS

The ESSLNB telescope is designed for easy assembly without the need for special tools. Follow these steps to set up your telescope:

1. Set up the Tripod:

Unfold the aluminum alloy tripod legs. Adjust the height of the tripod legs to your desired viewing level. The tripod can be adjusted from approximately 70 cm (27.6 inches) to 116 cm (45.7 inches). Ensure the legs are fully extended and locked securely for stability. Attach the accessory tray to the center brace of the tripod.



Image: The adjustable aluminum alloy tripod, showing its minimum height of 27.6 inches and maximum height of 45.7 inches, with the accessory tray attached.

2. Attach the Telescope Tube:

Locate the mounting bracket on the telescope tube. Align it with the mounting screw on the tripod head. Securely fasten the telescope tube to the tripod using the provided screw or knob. Ensure it is tight and stable.



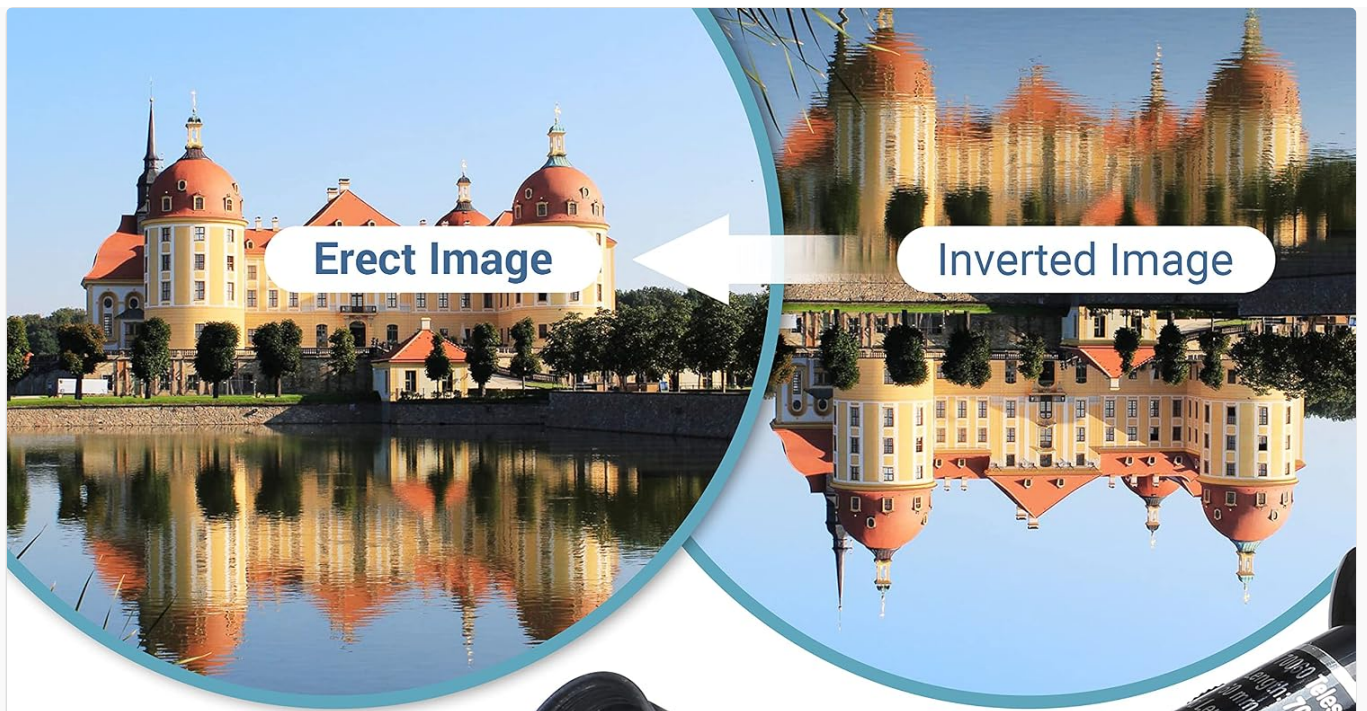
Image: The ESSLNB telescope fully assembled on its tripod, with the phone adapter and moon filter visible, against a backdrop of the moon and stars.

3. Install the Finder Scope:

Slide the 5X24 finder scope into its mounting bracket on the side of the main telescope tube. Tighten the small screws on the bracket to hold the finder scope firmly in place. The finder scope provides a 5x magnification and a 24mm objective lens, offering a wider field of view to help locate objects.

4. Insert the Diagonal Lens:

Remove the dust cap from the focuser tube at the back of the telescope. Insert the 45° erect image diagonal lens into the focuser. Tighten the small thumbscrew on the focuser to secure the diagonal. This diagonal provides an upright image, which is beneficial for terrestrial viewing and more intuitive for astronomical observation.



45° Erect Prism Diagonal

45° Erect Prism achieves erect image, comfortable for observing.



Image: A visual comparison showing how a standard telescope might produce an inverted image, while the 45° Erect Prism Diagonal corrects it to an upright image for comfortable viewing.

5. Choose and Insert an Eyepiece:

Select either the K25mm (lower magnification) or K6mm (higher magnification) eyepiece. Insert the chosen eyepiece into the diagonal lens. Secure it by tightening the thumbscrew on the diagonal. Always start with the K25mm eyepiece for a wider field of view, which makes locating objects easier.

6. Optional: Attach the 3X Barlow Lens:

To triple the magnification of your chosen eyepiece, insert the 3X Barlow lens into the diagonal first, then insert the eyepiece into the Barlow lens. Secure both with their respective thumbscrews.

Triple the magnification of each eyepiece with 3X Barlow Lens



Image: A diagram illustrating how the 3X Barlow lens triples the magnification of an eyepiece. For example, a K25mm eyepiece provides 28x magnification, which becomes 84x with the Barlow, and a K6mm eyepiece provides 117x, becoming 351x with the Barlow.

7. Optional: Attach the Moon Filter:

If observing the Moon, gently screw the Moon Filter onto the threaded end of your chosen eyepiece before inserting it into the diagonal or Barlow lens. The Moon filter reduces glare and enhances contrast for clearer lunar observations.

Moon Filter

A moon filter can reduce glare and increase contrast of the moon, making users see its surface more clearly.



Image: A visual representation of the Moon's appearance before and after using the Moon filter, demonstrating how the filter reduces glare and increases contrast for better detail.

8. Optional: Attach the Phone Adapter:

To capture images or videos, attach the phone adapter to your chosen eyepiece. Secure your smartphone in the adapter, aligning its camera lens with the eyepiece. This allows you to share your observations on social media.

Easy to capture and record beautiful pictures of the moon



Image: The ESSLNB telescope with a smartphone attached via the phone adapter, displaying an image of the moon on the phone's screen, illustrating the ease of capturing celestial photos.

OPERATING THE TELESCOPE

1. Aligning the Finder Scope

Before observing, you must align the finder scope with the main telescope. This is best done during the day:

1. Point the main telescope at a distant, stationary object (e.g., a tree top or a street light) at least a quarter-mile away.
2. Look through the K25mm eyepiece and center the object in the main telescope's field of view.
3. Now, look through the finder scope. Use the adjustment screws on the finder scope bracket to move the finder scope until the same object is centered in its crosshairs.
4. Once aligned, the finder scope will help you quickly locate objects in the night sky.

2. Observing Celestial Objects

1. **Locate the Object:** Use the aligned finder scope to locate the desired celestial object. Once it's in the finder scope's

- crosshairs, it should be visible in the main telescope's eyepiece.
2. **Start with Low Magnification:** Always begin with the K25mm eyepiece (lowest magnification). This provides the widest field of view, making it easier to find and center objects.
 3. **Focus:** Slowly turn the focus knob until the image is sharp and clear.
 4. **Increase Magnification (Optional):** Once the object is clearly focused and centered with the K25mm eyepiece, you can switch to the K6mm eyepiece for higher magnification. Re-focus as needed. For even higher magnification, insert the 3X Barlow lens before the eyepiece.
 5. **Tracking:** As the Earth rotates, celestial objects will appear to drift out of view. Gently adjust the telescope using the slow-motion control rod (if applicable) or by manually moving the telescope to keep the object in the field of view.

3. Using the Constellation Diagram

The included constellation diagram is a useful tool for beginners. It helps you identify major constellations and locate specific stars or deep-sky objects. Use it in conjunction with a red-light flashlight to preserve your night vision.

MAINTENANCE

- **Cleaning Lenses:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe the lens surfaces. For stubborn smudges, use a small amount of optical cleaning fluid on the cloth, not directly on the lens. Avoid touching the lens surfaces with your fingers.
- **Dust Caps:** Always replace all dust caps on the objective lens, focuser, and eyepieces when the telescope is not in use. This prevents dust and debris from accumulating on optical surfaces.
- **Storage:** Store the telescope in a cool, dry place, away from direct sunlight and extreme temperatures. If possible, store it in its original packaging or a padded case to protect it from impacts.
- **Tripod Care:** Keep the tripod legs clean and free of dirt. Periodically check and tighten any screws or knobs to ensure stability.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Image is blurry or out of focus.	Incorrect focus; atmospheric conditions; dirty lens.	Adjust the focus knob slowly. Wait for stable atmospheric conditions. Clean the objective lens and eyepiece.
Cannot find objects.	Finder scope not aligned; starting with too high magnification.	Align the finder scope during the day. Always start with the K25mm eyepiece.
Image is inverted or reversed.	This is normal for astronomical telescopes without an erect image diagonal.	Your telescope includes a 45° erect image diagonal, which should provide an upright image. Ensure it is correctly installed.
Image is dim or dark.	Too high magnification for the object; light pollution; cloudy skies.	Use a lower magnification eyepiece. Move to a darker observation site. Wait for clear skies.
Telescope is unstable.	Tripod legs not fully extended or locked; loose mounting screws.	Ensure tripod legs are fully extended and locked. Tighten all mounting screws and knobs.

SPECIFICATIONS

Product Type	Refractor Telescope
Objective Lens Diameter	60 mm
Focal Length	700 mm
Eyepieces	K6mm, K25mm (1.25 inch Kellner eyepieces)
Finder Scope	5x24 Erect Image Finder Scope
Diagonal Mirror	45° Erect Image Zenith Mirror
Barlow Lens	3X
Tripod	Adjustable Aluminum Alloy Tripod (70cm - 116cm)
Mount Type	Azimuthal Mount
Focus Type	Manual Focus
Product Dimensions (L x W x H)	6 x 70 x 120 cm (assembled)
Item Weight	2.08 kg (4.59 lbs)
Model Number	883945

WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the contact details provided with your purchase or visit the official ESSLN website. Please retain your proof of purchase for any warranty claims.

© 2024 ESSLN. All rights reserved.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question