

## Askar Askar 80ED

# Askar 80ED Telescope Instruction Manual

Model: Askar 80ED

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## 1. INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of your Askar 80ED Telescope. The Askar 80ED is an 80mm F7 refractor telescope with a 560mm focal length, featuring Extra Low Dispersion (ED) achromatic glass and a dual-speed focuser, designed for both astrophotography and astronomical observation.

Please read this manual thoroughly before using your telescope to ensure proper handling and optimal performance.

## 2. WHAT'S IN THE BOX

Upon opening the Askar 80ED box, you will find the following components:

- Askar 80ED Optical Tube Assembly (OTA)
- User Manual
- Warranty Card
- Quality Inspection Certificate
- Tube Rings with Handle Bar
- Vixen-style Dovetail Plate
- Dust Caps for Objective and Focuser

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**Video 1: Unboxing and Initial Setup of the Askar 80ED Telescope.** This video demonstrates how to open the packaging, remove the telescope, and prepare it for use, including attaching the dovetail bar and removing protective covers (relevant segments: 0:06-0:29 for unboxing, 0:43-0:56 for tube ring and dovetail, 0:59-1:13 for dew shield).

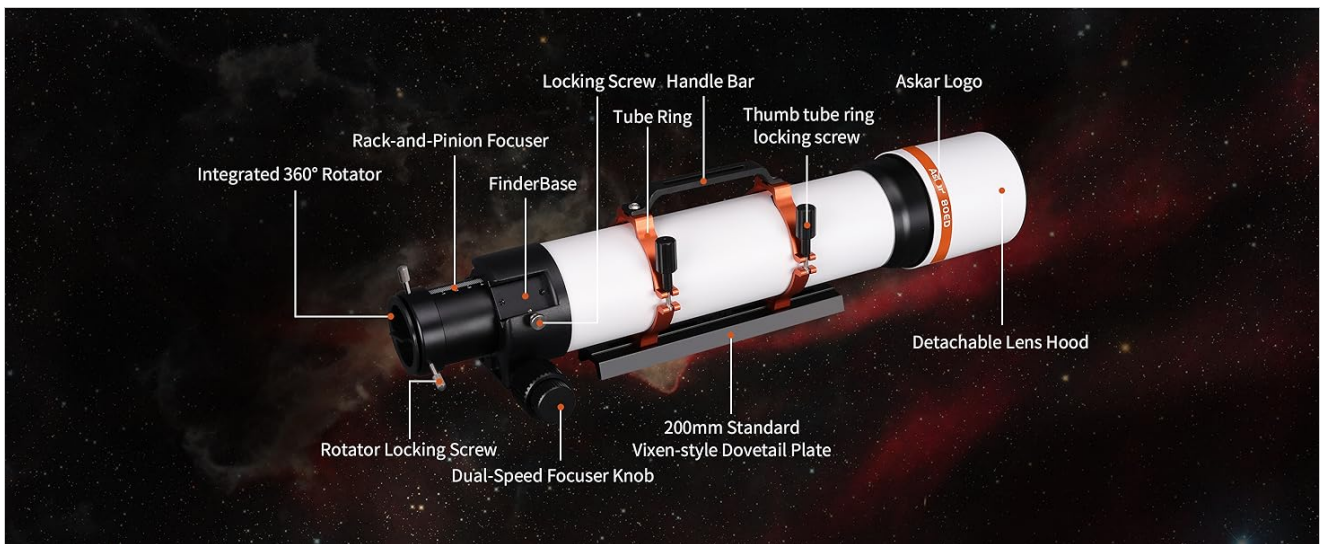
### 3. PRODUCT OVERVIEW

The Askar 80ED telescope is engineered for high-quality imaging and observation. Key features include:

- **80mm ED Glass Objective Lens:** Minimizes chromatic aberration, improving resolution, contrast, and color fidelity.
- **Retractable Lens Hood:** Can be reversed and screwed in to reduce overall size for transport or extended to minimize stray light during use.
- **Dual-Speed Rack-and-Pinion 2-inch Focuser:** Provides both coarse and fine focusing adjustments for precise control. The focuser has a travel length of 7cm and includes an enlarged locking screw for stability.
- **Dual Finder Bases:** Located on both sides of the lens tube, offering versatile mounting options for finder scopes and other accessories.
- **2-inch Adapter:** Equipped with an internal copper-plated lining to protect connected devices.
- **200mm Standard Vixen-Style Dovetail Plate:** Compatible with most equatorial mounts.
- **Slotted Top Handle:** Allows for mounting additional astronomical equipment.



**Figure 1: Askar 80ED Telescope.** This image shows the overall design of the telescope with its white optical tube, orange tube rings, and black focuser assembly.

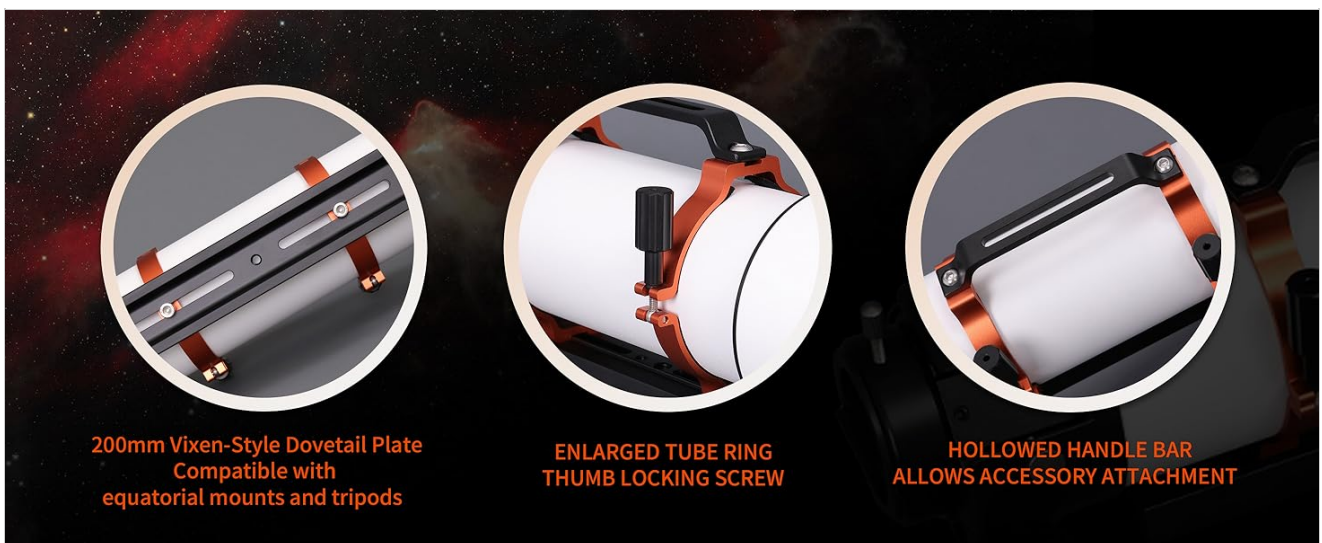


**Figure 2: Labeled Components.** A detailed diagram highlighting the various parts of the Askar 80ED, including the focuser, tube rings, dovetail plate, and lens hood.

## 4. SETUP

### 4.1 Mounting the Telescope

1. **Unpack the Telescope:** Carefully remove the telescope from its packaging. Ensure all protective materials are removed.
2. **Attach to Mount:** The Askar 80ED comes with a Vixen-style dovetail plate. Attach this plate to a compatible equatorial mount or tripod. Secure it firmly using the mounting screws. The dovetail bar also features a 1/4 threaded hole for attaching a tripod quick release plate.
3. **Adjust Tube Rings:** Loosen the thumb screws on the tube rings to adjust the telescope's balance on the mount. Once balanced, tighten the screws to secure the telescope.
4. **Extend Lens Hood:** Extend the retractable lens hood to its full length to prevent stray light from entering the optical path and to protect the objective lens from dew.



**Figure 3: Dovetail Plate and Tube Rings.** This image illustrates the 200mm Vixen-style dovetail plate, enlarged tube ring thumb locking screw, and hollowed handle bar for accessory attachment.



Figure 4: Retractable Lens Hood. Demonstrates the retractable design of the lens hood, which can be extended for use or reversed for compact storage.

## 5. OPERATING MODES

### 5.1 Visual Observation Mode

1. **Remove Dust Plug:** Remove the dust plug from the 2-inch focuser adapter.
2. **Attach 1.25-inch Adapter:** If using 1.25-inch eyepieces, insert the provided 1.25-inch adapter into the 2-inch focuser. Secure it with the thumbscrew.
3. **Insert Diagonal and Eyepiece:** Insert a 1.25-inch erecting prism diagonal into the 1.25-inch adapter, then insert your desired 1.25-inch eyepiece into the diagonal. Secure both with their respective thumbscrews.
4. **Focus:** Use the dual-speed focuser knobs to achieve a sharp image. The larger knob provides coarse adjustment, while the smaller knob offers fine adjustment for precise focusing.

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**Video 2: Visual Observation Setup.** This segment demonstrates how to set up the telescope for visual observation, including attaching the 1.25-inch adapter, diagonal, and eyepiece (relevant segments: 1:32-1:50).

### 5.2 Astrophotography Mode

For astrophotography, you will typically use dedicated imaging accessories such as reducers or flatteners, and an astronomical camera.

1. **Remove 2-inch Adapter:** Unscrew and remove the 2-inch focuser adapter.
2. **Install Imaging Accessory:** Attach your chosen imaging accessory (e.g., 1.0x flattener, 0.85x reducer, or 0.7x reducer) to the focuser. Ensure it is securely threaded. These accessories feature a built-in 360° rotator for convenient framing.
3. **Attach Camera:** Connect your astronomical camera to the imaging accessory. The required backfocus distance for proper focusing is typically 55mm from the M48 thread of the accessory. For cameras with a backfocus of 17.5mm, an appropriate extension ring may be needed.
4. **Electronic Focuser Installation (Optional):**
  - a. Loosen the focuser locking screw.
  - b. Unscrew the coarse adjustment knob using a 2mm hex wrench.
  - c. Install the appropriate flexible coupling onto the focuser shaft.

- d. Attach the Electronic Automatic Focuser (EAF) bracket to the focuser body.
- e. Mount the EAF onto the bracket and connect it to the coupling.

# THREE OPTIONAL ACCESSORIES



The figure displays three optional imaging accessories for the Askar 80ED telescope, arranged vertically. Each accessory is shown with its corresponding focal length and aperture, and a circular inset image showing the resulting star field.

- With 0.7x Reducer**  
Focal Length 392mm (f/4.9)
- With 0.85x Reducer**  
Focal Length 476mm (f/5.9)
- With 1.0x Flattener**  
Focal Length 560mm (f/7)

**Figure 5: Optional Imaging Accessories.** Shows the 0.7x reducer (392mm focal length, f/4.9), 0.85x reducer (476mm focal length, f/5.9), and 1.0x flattener (560mm focal length, f/7) for the Askar 80ED.

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**Video 3: Astrophotography Setup and Electronic Focuser Installation.** This video demonstrates how to attach imaging accessories, connect a camera, and install an optional electronic focuser for precise astrophotography (relevant segments: 1:51-2:40 for shooting mode setup, 2:41-3:28 for EAF installation).

## 6. MAINTENANCE

- **Cleaning Optics:** Use a soft brush or compressed air to remove loose dust from the objective lens. For smudges or fingerprints, use a specialized optical cleaning solution and a microfiber cloth. Avoid touching optical surfaces directly.
- **Storage:** When not in use, store the telescope in a dry, dust-free environment. Keep the dust caps on the objective lens and focuser to protect the optics.

- **Dew Prevention:** The retractable lens hood helps prevent dew formation. For prolonged use in humid conditions, consider using a dew heater.
- **Mechanical Parts:** Periodically check all screws and connections for tightness. Do not overtighten.

## 7. SPECIFICATIONS

Feature	Detail
<b>Brand</b>	Askar
<b>Model Name</b>	Askar 80ED
<b>Objective Lens Diameter</b>	80mm
<b>Focal Length</b>	560mm
<b>Focal Ratio</b>	F7
<b>Optical Design</b>	Extra Low Dispersion (ED) Achromatic Refractor
<b>Focuser Type</b>	Dual-Speed Rack-and-Pinion 2-inch Focuser
<b>Focuser Travel Length</b>	7cm
<b>Telescope Mount Description</b>	Equatorial Mount (compatible with Vixen-style dovetail)
<b>Finderscope</b>	Dual finder bases for various accessories
<b>Compatible Devices</b>	Camera, Mount
<b>Product Dimensions</b>	18"D x 8"W x 7"H (approx. 45.7cm D x 20.3cm W x 17.8cm H)
<b>Net Weight</b>	1.7kg (approx.)
<b>Additional Features</b>	Retractable lens hood, dual-speed focuser, dual finder bases, compatible with optional imaging accessories (0.85x reducer, 0.7x reducer, 1x flattener)



**Figure 6: Askar 80ED Dimensions.** This image shows the telescope's length with the dew shield extended (575mm/22.64 inches) and retracted (405mm/15.94 inches).

## 8. TROUBLESHOOTING

### • Fuzzy Images:

- Ensure the focuser is properly adjusted. Use the fine adjustment knob for precise focus.
- Check for dew on the objective lens. Extend the dew shield or use a dew heater.
- Verify that all optical accessories (diagonal, eyepiece, reducers/flatteners) are clean and correctly installed.
- For astrophotography, confirm the correct backfocus distance is achieved with all accessories.

### • No Image Visible:

- Ensure all dust caps are removed from both ends of the telescope and any installed accessories.
- Check that the eyepiece or camera is securely inserted and focused.
- Verify that the telescope is pointed at a celestial object and not obstructed.

- **Telescope Movement Issues:**

- Ensure the tube rings are tightened sufficiently to prevent slippage.
- Check that the dovetail plate is securely attached to your mount.

## 9. WARRANTY AND SUPPORT

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The Askar 80ED Telescope comes with a **1-year warranty** from the date of purchase. This warranty covers manufacturing defects and ensures the product is free from defects in materials and workmanship under normal use.

For warranty claims, technical support, or any inquiries regarding your Askar 80ED Telescope, please contact Askar customer service or visit the official Askar website for further assistance.

**Manufacturer:** Askar