Sky-Watcher Skywatcher Skyhawk-114

Skywatcher Skyhawk-114 Catadioptric Newtonian Telescope User Manual

Model: **Skywatcher Skyhawk-114** | Brand: **Sky-Watcher**

1. Product Overview

The Sky-Watcher Skyhawk-114 is a 114mm f/1000 catadioptric Newtonian reflector telescope, designed for both convenience and portability. It offers a larger aperture and enhanced performance, making it an excellent choice for astronomy beginners and enthusiasts alike. This telescope is engineered to provide clear and bright views of celestial objects.

Figure 1.1: The Skywatcher Skyhawk-114 Catadioptric Newtonian Telescope. This image displays the telescope tube, the EQ1 equatorial mount, and the aluminum tripod, ready for observation.

2. Included Components

Your Skywatcher Skyhawk-114 telescope package includes the following items:

- 114mm f/1000 Catadioptric Newtonian Telescope Tube
- EQ1 Equatorial Mount
- Aluminum Tripod with Accessory Tray
- 10mm Eyepiece (1.25")
- 25mm Eyepiece (1.25")
- 2x Barlow Lens

- Red Dot Finder

3. Assembly and Setup

Follow these steps to assemble your telescope:

3.1. Unpacking

Carefully remove all components from their packaging. Keep the original packaging for future storage or transport.

3.2. Attaching the Tripod and Mount

1. Extend the legs of the aluminum tripod to a stable height.
2. Attach the EQ1 equatorial mount to the top of the tripod using the provided bolt. Ensure it is securely tightened.
3. Install the accessory tray onto the tripod's spreader bars. This tray provides stability and a convenient place for eyepieces.

3.3. Mounting the Telescope Tube

1. Locate the mounting rings on the telescope tube.
2. Open the mounting rings and place the telescope tube inside, ensuring the focuser is easily accessible.
3. Close and tighten the mounting rings securely onto the EQ1 mount.

3.4. Installing Eyepieces and Accessories

1. Insert the desired eyepiece (e.g., 25mm for lowest magnification) into the focuser. Tighten the thumbscrew to secure it.
2. To use the 2x Barlow lens, insert it into the focuser first, then insert an eyepiece into the Barlow lens. This doubles the magnification of the eyepiece.
3. Attach the Red Dot Finder to its designated bracket on the telescope tube.

3.5. Balancing the Telescope

Proper balancing is crucial for smooth tracking. Adjust the counterweight on the declination shaft until the telescope is balanced and does not drift when the clutches are disengaged.

4. Operating Instructions

4.1. Aligning the Red Dot Finder

The Red Dot Finder helps you quickly locate objects. During daylight, point the main telescope at a distant, easily identifiable object (e.g., a tree top). Look through the Red Dot Finder and adjust its alignment screws until the red dot is centered on the same object that is in the center of your telescope's view.

4.2. Focusing

Once an object is in view, turn the focuser knobs slowly until the image appears sharp and clear. For fine adjustments, use small, precise movements.

4.3. Changing Magnification

Magnification is determined by the focal length of the telescope divided by the focal length of the eyepiece. Your telescope has a focal length of 1000mm.

- With 25mm eyepiece: 1000mm / 25mm = 40x magnification.
- With 10mm eyepiece: 1000mm / 10mm = 100x magnification.
- With 25mm eyepiece + 2x Barlow: (1000mm / 25mm) * 2 = 80x magnification.
- With 10mm eyepiece + 2x Barlow: (1000mm / 10mm) * 2 = 200x magnification.

Start with the lowest magnification (25mm eyepiece) to locate objects, then switch to higher magnifications for more detailed views.

4.4. Observing Celestial Objects

Use the equatorial mount's slow-motion controls to track celestial objects as they move across the sky due to Earth's rotation. This allows for extended viewing without constant manual repositioning.

5. Care and Maintenance

5.1. Cleaning Optics

Dust on the primary mirror or eyepieces can degrade image quality. Use a soft brush or compressed air to remove loose dust. For stubborn smudges, use a specialized optical cleaning solution and a microfiber cloth designed for optics. **Never touch the optical surfaces with your fingers.**

5.2. Storage

When not in use, store your telescope in a dry, dust-free environment. Keep the dust caps on the telescope tube and eyepieces to protect the optics. Avoid extreme temperature fluctuations.

6. Troubleshooting Guide

- **Problem:** Image is blurry or out of focus.

  Solution: Adjust the focuser knobs slowly until the image becomes sharp. Ensure the telescope has acclimated to the ambient temperature.

- **Problem:** Difficulty finding objects.

  Solution: Ensure your Red Dot Finder is properly aligned with the main telescope. Start with the lowest magnification eyepiece (25mm) to get a wider field of view.

- **Problem:** Objects drift out of view quickly.

  Solution: Ensure the equatorial mount is properly aligned to the celestial pole. Use the slow-motion controls to track objects. Check that the mount's clutches are engaged.

- **Problem:** Image appears dim.

  Solution: Ensure you are observing from a dark location away from light pollution. Use lower magnification eyepieces for brighter views of extended objects.

7. Technical Specifications

Feature	Specification
Brand	Sky-Watcher
Model	Skywatcher Skyhawk-114

Optical Design	Catadioptric Newtonian Reflector
Primary Mirror Diameter	114 mm
Focal Length	1000 mm
Focal Ratio	f/8.77
Eyepieces Provided	10mm and 25mm (1.25")
Barlow Lens	2x
Finderscope	Red Dot Finder
Mount Type	EQ1 Equatorial Mount
Tripod	Aluminum
Product Dimensions (L x W x H)	82 x 38 x 25 cm (approx.)
Item Weight	9 kg (approx.)

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Sky-Watcher directly through their official website.

Manufacturer: Sky-Watcher