HOROX 70400

Horox 70mm Refractor Telescope User Manual

Model: 70400

Introduction

Thank you for choosing the Horox 70mm Refractor Telescope. This telescope is designed for astronomy beginners and offers a clear and wide field of view for observing celestial objects like the Moon, as well as terrestrial landscapes. With its fully multi-coated optics and stable tripod, it provides an excellent entry point into the wonders of the universe. This manual will guide you through the setup, operation, maintenance, and troubleshooting of your new telescope.

Package Contents

Please verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.

- Telescope Optical Tube (70mm Aperture, 400mm Focal Length)
- Professional Aluminum Tripod (Adjustable height: 50.8 cm to 137.2 cm)
- K20mm Eyepiece (20x Magnification)
- K9mm Eyepiece (44x Magnification)
- 5x24 Finderscope with Reticle
- Smartphone Adapter
- Portable Telescope Backpack
- User Manual

Figure 1: All components of the Horox 70mm Refractor Telescope package, including the optical tube, tripod, eyepieces, finderscope, smartphone adapter, and carrying backpack.

Setup Guide

Follow these steps to assemble your telescope. It is recommended to perform the initial setup indoors.

1. Setting Up the Tripod

1. Unfold the tripod legs and extend them to your desired height. The tripod is adjustable between 50.8 cm and 137.2 cm.
2. Secure the leg locks to ensure stability.
3. Ensure the tripod head is level.

Figure 2: The professional aluminum tripod, highlighting its stable design and adjustable height.

2. Attaching the Telescope Optical Tube

1. Locate the mounting bracket on the telescope optical tube.
2. Align the bracket with the mounting plate on the tripod head.
3. Securely fasten the telescope to the tripod using the provided screws or quick-release mechanism.

3. Installing the Finderscope

1. Slide the 5x24 finderscope into its mounting bracket on the main telescope tube.
2. Tighten the small screws on the bracket to hold the finderscope firmly in place.
3. The finderscope image will appear inverted, which is normal and does not affect its function for locating objects.

4. Inserting Eyepieces

1. Unscrew the dust cap from the focuser tube at the back of the telescope.

2. Insert the desired eyepiece (K20mm for lower magnification, K9mm for higher magnification) into the focuser.
3. Tighten the small thumbscrew on the focuser to secure the eyepiece.

Figure 3: The telescope optical tube, showing the 70mm objective lens and the attached 5x24 finderscope.

5. Attaching the Smartphone Adapter

1. Attach the smartphone adapter to the eyepiece you wish to use. Ensure it is securely clamped.
2. Place your smartphone into the adapter, aligning the phone's camera lens with the eyepiece.
3. Use your phone's camera app to view and capture images or videos through the telescope.

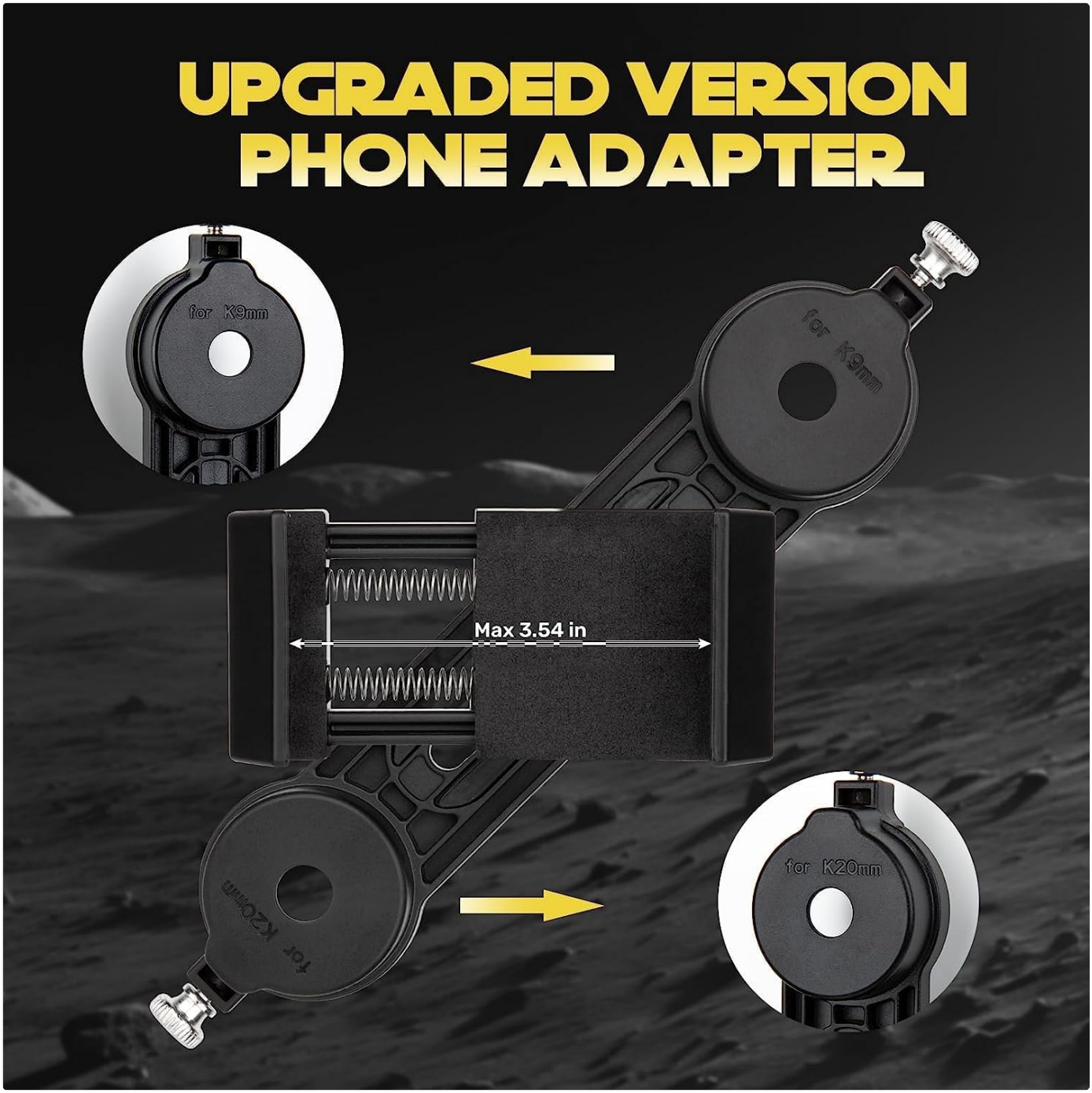

Figure 4: Detailed view of the smartphone adapter, designed to securely hold your phone and align its camera with the telescope eyepiece for photography.

Operating the Telescope

1. Aligning the Finderscope

Before observing, align the finderscope with the main telescope.

1. Choose a distant, stationary object during daylight (e.g., a tree top or building).
2. Center the object in the main telescope's eyepiece.
3. Look through the finderscope and adjust its alignment screws until the same object is centered in the finderscope's crosshairs.

2. Observing with Eyepieces

Your telescope comes with two Kellner eyepieces: K20mm and K9mm.

- **K20mm Eyepiece:** Provides 20x magnification. Ideal for wider field views and locating objects.
- **K9mm Eyepiece:** Provides 44x magnification. Use for more detailed observations once an object is located.

To change magnification, simply swap the eyepieces in the focuser. Always start with the lower magnification (K20mm) to locate your target, then switch to the higher magnification (K9mm) for a closer look.

Figure 5: Visual comparison of the magnification provided by the 20mm eyepiece (20x) and the 9mm eyepiece (44x), demonstrating the difference in field of view and detail.

3. Focusing

Once an object is in view, slowly turn the focus knob located on the side of the focuser until the image appears sharp and clear.

4. Tracking Objects

Due to Earth's rotation, celestial objects will appear to drift across the field of view. Use the slow-motion controls on the tripod mount to smoothly track objects and keep them centered. The tripod head allows for 360° horizontal and 90° vertical movement.

Maintenance

Proper care and maintenance will ensure the longevity and optimal performance of your telescope.

- **Cleaning Lenses:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe the lens surface. For stubborn smudges, use a small amount of optical cleaning fluid. Avoid touching the lens surfaces with your fingers.
- **Dust Caps:** Always keep the dust caps on the objective lens and eyepieces when the telescope is not in use to prevent dust accumulation.
- **Storage:** Store the telescope in a cool, dry place, away from direct sunlight and extreme temperatures. The included backpack is ideal for storage and transport.
- **Handling:** Handle the telescope and its components with care to avoid accidental drops or impacts.

Troubleshooting

If you encounter any issues while using your telescope, refer to the common problems and solutions below.

Problem	Possible Cause	Solution
Image is blurry or out of focus.	Improper focusing; atmospheric conditions.	Adjust the focus knob slowly. Wait for stable atmospheric conditions if observing at night.
Cannot find objects easily.	Finderscope is not aligned; using too high magnification.	Align the finderscope with the main telescope. Start with the K20mm eyepiece (lower magnification) to locate objects.
Image is dim or dark.	Light pollution; incorrect eyepiece for conditions.	Observe from a location with minimal light pollution. Use the K20mm eyepiece for brighter, wider views.
Image appears upside down in finderscope.	Normal operation for a finderscope.	This is normal and does not affect the functionality for locating objects. The main telescope will show a corrected image.

Specifications

Feature	Detail
Brand	HOROX
Model Number	70400
Optical Design	Refractor
Aperture	70 mm
Focal Length	400 mm
Objective Lens Diameter	70 Millimeters
Eyepieces Included	K20mm (20x), K9mm (44x)

Feature	Detail
Finderscope	5x24
Tripod Material	Aluminum Alloy
Tripod Adjustable Height	50.8 cm to 137.2 cm (20 to 54 inches)
Compatible Devices	Smartphone (via adapter)
Product Dimensions (L x W x H)	2 x 2 x 2 cm (approximate, from product data)
Item Weight	2.6 Kilograms
UPC	710280941497

Warranty and Support

HOROX stands by the quality of its products. Your telescope comes with a **2-year warranty** from the date of purchase. This warranty covers manufacturing defects and ensures your astronomical journey is supported.
For technical assistance, warranty claims, or any questions regarding your Horox telescope, please contact our customer support team. Refer to the product packaging or our official website for contact details. Our team of technical experts is dedicated to providing exceptional service and support.