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## Emarth EMARTH

# Emarth 70mm Astronomical Telescope User Manual

Model: EMARTH F360-70

## 1. INTRODUCTION

Thank you for choosing the Emarth 70mm Astronomical Telescope. This manual provides comprehensive instructions for assembling, operating, and maintaining your new telescope. Designed for both children and beginners, this portable telescope offers a clear view of celestial objects, making it an ideal tool for exploring the wonders of the night sky.

Please read this manual carefully before using the telescope to ensure proper setup and safe operation. Keep this manual for future reference.



Image 1.1: The Emarth 70mm Astronomical Telescope with its main components, including the telescope tube, tripod, phone adapter, and eyepieces.

## 2. PRODUCT COMPONENTS

Before assembly, ensure all components listed below are present in your package. Refer to the diagram for visual identification of each part.

- Telescope Optical Tube (with Objective Lens and Focus Knob)
- Adjustable Aluminum Tripod
- Finderscope (5x24) with Mounting Bracket
- Diagonal Prism (Image Erector)
- Eyepieces: K10mm and K25mm
- 3x Barlow Lens

- Phone Adapter
- Accessory Tray



Image 2.1: Detailed view of the telescope's key components, including the HD Objective lens, Finderscope, Eyepiece, Adjustable Knob, and Anti-skip Mat on the tripod leg.

### 3. SETUP AND ASSEMBLY

Follow these steps to assemble your telescope:

1. **Set up the Tripod:** Spread the tripod legs outwards until they are fully extended. Adjust the height of the legs to your desired viewing position. The tripod height can be adjusted from 16 inches to 47.2 inches. Ensure the tripod is stable on a flat surface.
2. **Attach the Telescope Tube:** Locate the mounting screw on the tripod head. Align the telescope optical tube with the mounting hole on the tripod head and secure it tightly with the screw.

3. **Install the Finderscope:** Slide the finderscope into its mounting bracket on the telescope tube. Secure it with the small screw on the bracket. The finderscope helps in locating objects before viewing them through the main telescope.
4. **Insert the Diagonal Prism:** Remove the dust cap from the focus tube. Insert the diagonal prism into the focus tube and secure it with the small screw on the side of the focus tube.
5. **Attach an Eyepiece:** Insert your chosen eyepiece (K10mm or K25mm) into the diagonal prism. Secure it with the small screw on the diagonal prism.
6. **(Optional) Use the Barlow Lens:** For increased magnification, insert the 3x Barlow lens into the diagonal prism first, then insert an eyepiece into the Barlow lens.

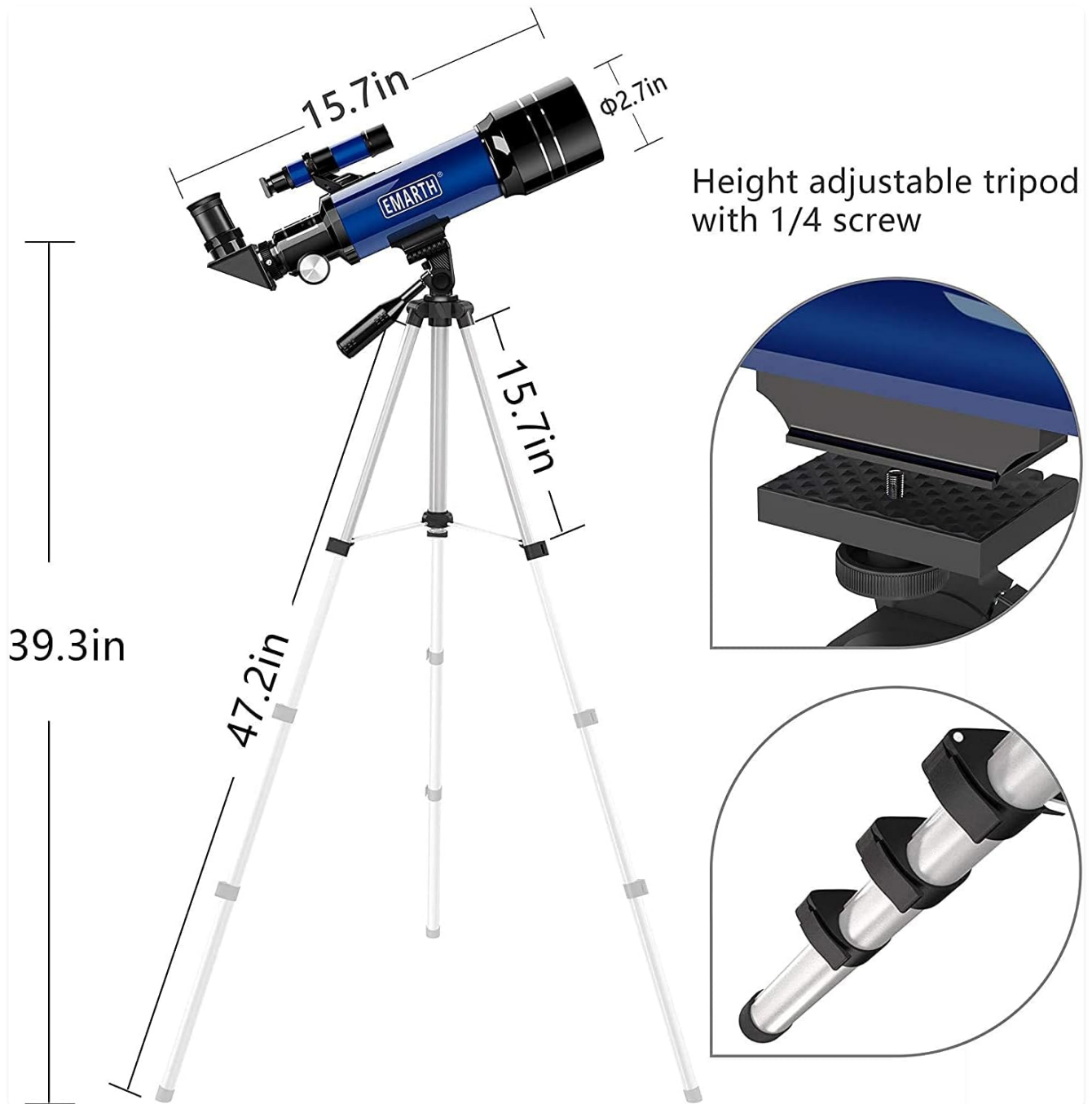


Image 3.1: The telescope's dimensions and adjustable tripod, illustrating its compact and extendable nature.



# THE VIEWS OF TWO DIFFERENT MAGNIFICATION EYEPIECE



Image 3.2: The adjustable tripod features a 1/4 inch screw for secure mounting and robust leg locks for stability.

## 4. OPERATING THE TELESCOPE

### 4.1. Using the Finderscope

The finderscope has a wider field of view than the main telescope, making it easier to locate objects. Look through the finderscope and center the desired object in its crosshairs. Once centered, the object should be visible in the main telescope's eyepiece.

### 4.2. Choosing Eyepieces and Magnification

The telescope comes with two eyepieces: K10mm and K25mm. The smaller the millimeter (mm) number, the higher the magnification. The 3x Barlow lens further triples the magnification of any eyepiece it is used with.

- **K25mm Eyepiece:** Provides lower magnification and a wider field of view, ideal for initial object location and viewing larger celestial bodies like the Moon.
- **K10mm Eyepiece:** Offers higher magnification for more detailed views of objects once located.

- **3x Barlow Lens:** Use with either eyepiece to achieve even higher magnification. For example, the K25mm with the 3x Barlow will provide 3 times the magnification of the K25mm alone.



Image 4.1: Illustrates the difference in magnification and field of view between the K10mm and K25mm eyepieces when observing the Moon.

### 4.3. Focusing

Once an object is centered in your view, slowly turn the focus knob located on the side of the telescope tube until the image appears sharp and clear. Adjust the focus as needed for different objects or if your eye tires.

### 4.4. Observing Celestial Objects

Start with the lowest magnification (K25mm eyepiece) to locate and center objects. Once centered, you can switch to a higher magnification eyepiece (K10mm) or add the Barlow lens for more detailed observation. The telescope is excellent for viewing the Moon, bright planets, and some star clusters.





Image 4.2: The telescope can be used to observe and record various moon phases, with the phone adapter allowing for easy capture of celestial views.



Image 4.3: The Emarth telescope is suitable for shared viewing experiences, encouraging exploration of the night sky.

## 5. MAINTENANCE AND CARE

Proper care will extend the life and performance of your telescope:

- **Cleaning Lenses:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe the objective lens and eyepieces. Avoid touching the optical surfaces with your fingers. For stubborn dust, use a can of compressed air or a soft brush.
- **Storage:** When not in use, store the telescope in a dry, dust-free environment. Keep all dust caps on the objective lens, finderscope, and eyepieces to prevent dust accumulation.
- **Handling:** Always handle the telescope with care. Avoid sudden impacts or dropping the unit.
- **Environmental Conditions:** Do not expose the telescope to extreme temperatures or high humidity. Avoid using the telescope in heavy rain or snow.

## 6. TROUBLESHOOTING

If you encounter issues with your telescope, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Image is blurry or out of focus.	Improper focus; dirty lens; atmospheric conditions.	Adjust the focus knob slowly. Clean the objective lens and eyepiece. Wait for stable atmospheric conditions.
Cannot find objects.	Finderscope not aligned; using too high magnification.	Align the finderscope with the main telescope. Start with the lowest magnification eyepiece (K25mm).
Image is dim or dark.	Light pollution; wrong eyepiece for conditions.	Observe from a dark location. Use a lower magnification eyepiece.
Telescope is wobbly.	Tripod not fully extended or tightened; unstable surface.	Ensure tripod legs are fully extended and all locks are tightened. Place on a firm, level surface.

## 7. PRODUCT SPECIFICATIONS

Feature	Specification
Brand	Emarth
Model Name	EMARTH F360-70
Objective Lens Diameter	70 mm
Focal Length	360 mm (f/5.1)



Feature	Specification
Eyepieces	K10mm, K25mm
Barlow Lens	3x
Finderscope	5x24
Telescope Mount Type	Altazimuth Mount
Tripod Material	Aluminum
Adjustable Tripod Height	16 inches to 47.2 inches
Product Dimensions (L x W x H)	44 x 18 x 15 cm
Item Weight	1.3 Kilograms

## 8. WARRANTY AND SUPPORT

Specific warranty details for this product may vary. Please refer to the product packaging or the retailer's website for the most accurate and up-to-date warranty information.

For technical support, troubleshooting assistance, or inquiries regarding replacement parts, please contact Emarth customer service through the contact information provided on the product packaging or the official Emarth website.