Discovery Spark Travel 60

Discovery Spark Travel 60 Portable Telescope Instruction Manual

Model: Spark Travel 60

1. Introduction

The Discovery Spark Travel 60 is a portable refractor telescope designed for both celestial and terrestrial observations. This manual provides essential information for the proper assembly, operation, and maintenance of your telescope, ensuring a clear and enjoyable viewing experience.
This kit includes a telescope, a sturdy tripod, various accessories for enhanced viewing, and an astronomy knowledge book to enrich your understanding of the universe.

2. Package Contents

Carefully unpack all components and verify that all items listed below are present. If any parts are missing or damaged, please contact your retailer.

- Telescope Optical Tube (60mm objective diameter, 700mm focal length)
- Alt-azimuth Mount
- Collapsible Aluminum Tripod
- 5x24 Finderscope
- Eyepieces: H20mm, H12.5mm, SR4mm
- 3x Barlow Lens
- Diagonal Mirror
- Erect Image Eyepiece
- Accessory Tray
- Astronomy Knowledge Book (Polish Edition)
- Carrying Case

Image 2.1: All components of the Discovery Spark Travel 60 telescope kit, neatly arranged within the protective carrying case.

Image 2.2: A detailed view of the included accessories: various eyepieces, a Barlow lens, a diagonal mirror, and the astronomy knowledge book.

3. Assembly Instructions

Follow these steps to assemble your Discovery Spark Travel 60 telescope:

1. **Set up the Tripod:** Extend the tripod legs to a stable height. Secure the accessory tray to the center brace of the tripod.
2. **Attach the Mount:** Place the alt-azimuth mount onto the tripod head and secure it with the provided screw.
3. **Mount the Optical Tube:** Attach the telescope optical tube to the alt-azimuth mount using the mounting rings or screws. Ensure it is securely fastened.
4. **Install the Finderscope:** Slide the 5x24 finderscope into its bracket on the optical tube and tighten the retaining screws.
5. **Insert the Diagonal Mirror:** Remove the dust cap from the focuser tube. Insert the diagonal mirror into the focuser and secure it with the small thumbscrew. The diagonal mirror provides a more comfortable viewing angle.
6. **Insert an Eyepiece:** Choose an eyepiece (e.g., H20mm for lowest magnification) and insert it into the diagonal mirror. Secure it with the thumbscrew.
7. **Optional: Use the Barlow Lens:** For increased magnification, insert the 3x Barlow lens into the diagonal mirror first, then insert an eyepiece into the Barlow lens.

Image 3.1: The Discovery Spark Travel 60 telescope fully assembled and ready for use, showing the optical tube, mount, and tripod.

Image 3.2: A detailed view of the focuser mechanism, illustrating how an eyepiece is inserted into the diagonal mirror for viewing.

Image 3.3: The accessory tray attached to the tripod, providing convenient storage for eyepieces during observation.

4. Operating Instructions

4.1 Aligning the Finderscope

The finderscope helps locate objects before viewing them through the main telescope. It must be aligned with the main telescope during daylight hours.

1. Point the main telescope at a distant, easily identifiable object (e.g., a tree top or a street light).
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.

4.2 Focusing

Once an object is located, turn the focuser knob slowly until the image appears sharp and clear. Fine-tune the focus for optimal clarity.

4.3 Changing Magnification

The magnification of your telescope is determined by the focal length of the telescope divided by the focal length of the eyepiece. Lower focal length eyepieces provide higher magnification.

- **Low Magnification (H20mm):** Use this eyepiece for initial object location and wide-field views.
- **Medium Magnification (H12.5mm):** Provides a closer view of objects.
- **High Magnification (SR4mm):** Best for detailed observations of the Moon and planets, but requires stable atmospheric conditions.
- **Barlow Lens:** The 3x Barlow lens triples the magnification of any eyepiece it is used with. Insert it between the diagonal mirror and the eyepiece.

4.4 Terrestrial and Celestial Observation

The Discovery Spark Travel 60 is suitable for both daytime terrestrial viewing and nighttime celestial observation. For terrestrial viewing, the erect image eyepiece can be used to provide a correctly oriented image.

5. Maintenance

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

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Breathe lightly on the lens surface before gently wiping. Avoid touching optical surfaces with your fingers.
- **Storage:** Always store the telescope and its accessories in the provided carrying case in a dry, dust-free environment. Replace all dust caps when not in use.
- **Handling:** Avoid sudden impacts or rough handling, which can misalign optical components.

6. Troubleshooting

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

- **Image is blurry:** Adjust the focuser knob slowly until the image is sharp. Ensure the eyepiece is fully inserted and secured. Check for condensation on the lenses.
- **Cannot find objects:** Ensure the finderscope is properly aligned with the main telescope (refer to Section 4.1). Start with the lowest magnification eyepiece (H20mm) for a wider field of view.

- **Image is dim:** This can occur with very high magnifications or in light-polluted areas. Try a lower magnification eyepiece.
- **Image is upside down or reversed:** This is normal for astronomical telescopes. For terrestrial viewing, use the erect image eyepiece.

7. Specifications

Feature	Specification
Brand	Discovery
Model Name	79318 (Spark Travel 60)
Optical Tube Length	700 Millimeters
Objective Diameter	60 Millimeters
Eyepiece Description	Barlow (also H20mm, H12.5mm, SR4mm)
Telescope Mount Description	Alt-azimuth Mount
Product Dimensions	78P x 18l x 39H Centimeters
Focus Type	Manual Focus
Item Weight	6.1 Kilograms
Manufacturer	Produced by Levenhuk. Approved by Discovery

8. Safety Information

- **NEVER** look directly at the sun through your telescope or its finderscope without a professionally manufactured solar filter. Permanent and irreversible eye damage, including blindness, can result.
- Supervise children when using the telescope to ensure safe operation.
- Do not leave the telescope unattended in direct sunlight, as it can concentrate sunlight and pose a fire hazard.
- Keep small accessories out of reach of young children to prevent choking hazards.

9. Warranty and Support

For warranty information and customer support, please refer to the documentation provided with your purchase or contact your retailer. Discovery is committed to product quality and customer satisfaction.