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SVBONY MK90

SVBONY MK90 Maksutov Cassegrain Spotting Scope Instruction Manual

Model: MK90 (FF9382B) | Brand: SVBONY

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1. INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of your SVBONY MK90 Maksutov Cassegrain Spotting Scope. The MK90 is a compact and lightweight optical instrument designed for both terrestrial and astronomical observations, offering enhanced contrast and sharp visuals. Please read this manual thoroughly before using your spotting scope to ensure optimal performance and longevity.



Figure 1: SVBONY MK90 Maksutov Cassegrain Spotting Scope.

2. WHAT'S IN THE BOX

Verify that all components listed below are included in your package:

- 1X M90 Maksutov-Cassegrain OTA (Optical Tube Assembly)
- 1X Versatile Dovetail Mounting Base
- 1X Vixen Style Dovetail Plate-70mm
- 1X Objective Lens Cover
- 1X 1.25-inch Dust Plug



Figure 2: Included components of the SVBONY MK90 package.

3. PRODUCT OVERVIEW

The SVBONY MK90 is a Maksutov Cassegrain telescope designed for versatility and ease of use. Its optical system provides clear and high-contrast images for both terrestrial and celestial viewing.

3.1 Key Features

- **Professional Optics, Enhanced Contrast:** Features Maksutov Cassegrain design with a meniscus corrector lens, providing sharper planetary visuals and higher contrast. No collimation is needed.
- **Precision-Calibrated & Instant Use:** Factory-aligned optical axis with a triple-screw fixation system allows for immediate use without complex setup.
- **Ultra-Portable:** Weighing 1.3kg and measuring 290mm, it is compact and suitable for travel and outdoor activities.
- **Versatile Astrophotography Ready:** 1.25" T-thread compatibility enables connection to DSLR/mirrorless cameras and various astronomy accessories for detailed imaging.
- **Internal Focus & Crystal Clarity:** Advanced internal focus system allows for rapid, shake-free adjustments, minimizing aberrations for edge-to-edge sharpness.

3.2 Product Structure and Dimensions



Figure 3: Key structural components and dimensions of the MK90 telescope.

The main components include the Objective Lens (90mm), OTA Main Tube (290mm length), 1.25-inch Eyepiece Interface, Focus Wheel, Dovetail Slot, Dovetail Plate, and Objective Lens Cap.

Portable and Lightweight

Easily fits into a backpack, convenient for carrying around

Weight: 1.3kg

Length: 290mm



Figure 4: The compact and lightweight design of the MK90, with a weight of 1.3kg and length of 290mm.

Innovative Design

Primary mirror:

coated with a precision aluminum layer featuring multi-layer deposition



Secondary mirror:

coated with a precision aluminum layer featuring multi-layer deposition, augmented by an additional multi-layer coating

Figure 5: The innovative optical design, highlighting the coated primary and secondary mirrors for enhanced contrast.

4. SETUP

The SVBONY MK90 is designed for quick and easy setup. Follow these steps to prepare your spotting scope for observation.

4.1 Attaching the Dovetail Plate and Mounting Base

1. Locate the Vixen Style Dovetail Plate and the Versatile Dovetail Mounting Base from your package.
2. Attach the Dovetail Plate to the bottom of the MK90 OTA using the provided screws.
3. Secure the Dovetail Mounting Base to a compatible tripod or mount.
4. Slide the Dovetail Plate (attached to the OTA) into the Dovetail Mounting Base and tighten the locking mechanism.

Ready to Use

Without the need for additional manual alignment of the optical axis

3 Screws for fixation

3 Pairs of calibration screws



Figure 6: The factory-aligned optical axis with triple-screw fixation system ensures the scope is ready for immediate use.

4.2 Installing Eyepieces and Accessories

1. Remove the 1.25-inch dust plug from the eyepiece interface.
2. Insert your desired 1.25-inch eyepiece into the eyepiece interface.
3. Tighten the thumbscrew on the eyepiece holder to secure the eyepiece.
4. If using a diagonal, insert the diagonal first, then the eyepiece into the diagonal.
5. For astrophotography, attach a compatible T-adaptor and T-ring to the 1.25-inch eyepiece interface, then mount your DSLR/mirrorless camera.

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Video 1: This video demonstrates the assembly process of the MK90 telescope and its accessories, including mounting the scope and attaching eyepieces.

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Video 2: This short video illustrates the correct mounting position for accessories on the MK90 telescope.

5. OPERATING INSTRUCTIONS

5.1 Focusing

To achieve a clear image, adjust the focus wheel located on the side of the telescope body. Turn the wheel slowly until the image appears sharp. The internal focus system minimizes vibrations during adjustment.



Figure 7: The internal focusing mount system simplifies operation and enhances observation efficiency.

5.2 Magnification

The magnification depends on the eyepiece used. To change magnification, swap eyepieces with different focal lengths. Higher focal length eyepieces provide lower magnification, and vice-versa.

5.3 Observation and Photography

The MK90 is suitable for observing various targets, from terrestrial landscapes to celestial bodies like the Moon, Saturn, and Jupiter.

Embrace the Heaven and Earth

Observe celestial bodies, explore scenic beauty, and capture every brilliant moment.



Figure 8: The MK90 can be used for observing the Moon, planets like Saturn and Jupiter, and terrestrial scenery. For photography, attach your camera as described in the setup section. The 1.25" T-thread compatibility allows for capturing detailed images of distant objects.

Various Combinations

Observation combination

MK90/SV221/SV182/SV135/SA402

Pair with a guide scope and eyepiece for easy observation of celestial bodies.



Photographic combination

MK90/SV182/SV705C/SA402

Pair with a planetary camera, eyepiece, and filters for clear photography of landscapes and celestial bodies



Figure 9: Examples of observation and photographic setups using the MK90 with various accessories.

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Video 3: This short video demonstrates the SVBONY MK90 telescope in use for making detailed observations.

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Video 4: This short video showcases various application scenarios for the MK90 telescope.

6. MAINTENANCE

Proper maintenance ensures the longevity and performance of your SVBONY MK90 spotting scope.

- **Cleaning Optics:** Use a soft, lint-free cloth specifically designed for optical lenses. Gently wipe away dust or smudges. For stubborn marks, use a small amount of optical cleaning fluid on the cloth, not directly on the lens.
- **Storage:** Always replace the objective lens cover and 1.25-inch dust plug when not in use. Store the scope in a dry, dust-free environment, preferably in its original packaging or a padded case.
- **Handling:** Avoid touching optical surfaces with bare hands. Handle the scope carefully to prevent impacts or drops that could affect optical alignment.
- **Environmental Protection:** While the scope is robust, avoid prolonged exposure to extreme temperatures, direct sunlight, or high humidity.

7. TROUBLESHOOTING

If you encounter issues with your SVBONY MK90, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Blurred Image	Incorrect focus; dirty optics; atmospheric conditions.	Adjust the focus wheel slowly. Clean the objective lens and eyepiece. Wait for stable atmospheric conditions.
No Image Visible	Lens caps still on; eyepiece not properly inserted; wrong target.	Remove all lens caps. Ensure eyepiece is fully inserted and secured. Re-aim at a known object.
Unstable View	Loose mounting; unstable tripod.	Ensure the dovetail plate and mounting base are securely tightened. Use a stable, level surface for the tripod.
Chromatic Aberration (Color Fringing)	Inherent in some optical designs; extreme contrast.	The Maksutov Cassegrain design minimizes this, but some fringing may occur in very high contrast situations. This is generally normal.

8. SPECIFICATIONS

Below are the technical specifications for the SVBONY MK90 Maksutov Cassegrain Spotting Scope:

Feature	Detail
Brand	SVBONY
Model Name	MK90
Optical Tube Length	290 Millimeters
Objective Lens Diameter	90 Millimeters
Eye Piece Lens Description	Plössl (Note: This refers to the type of eyepiece often used, specific eyepiece not included in "MK90 only" package.)
Telescope Mount Description	Altazimuth Mount (Note: Refers to compatible mount type, mount not included in "MK90 only" package.)
Focus Type	Manual Focus (Internal)
Finderscope	NO (for "MK90 only" variant)
Item Weight	1.3 kg (2.87 lbs) / 1780 Grams (3.92 lbs) (Note: Discrepancy in source data, 1.3kg is from feature bullets, 1780g/3.92lbs from specifications. Using both for clarity.)
Product Dimensions	14.17 x 6.69 x 6.69 inches

Feature	Detail
ASIN	B0DKTHPDTH
Item Model Number	FF9382B

9. WARRANTY & SUPPORT

For warranty information, technical support, or service inquiries, please refer to the official SVBONY website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

You can visit the official SVBONY store for more products and information: [SVBONY Store](#)