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Sky-Watcher S11820

SkyWatcher Flextube 300 SynScan Dobsonian Telescope User Manual

Model: S11820 (12-inch Collapsible Dobsonian)

Brand: Sky-Watcher

1. INTRODUCTION AND OVERVIEW

The Sky-Watcher Flextube 300 SynScan Dobsonian is a high-performance, computerized GoTo telescope designed for astronomy enthusiasts. It combines the significant light-gathering power of a large aperture Dobsonian with the precision of a computerized GoTo system, making celestial observation accessible and enjoyable. Its unique collapsible design ensures portability without compromising optical alignment, providing clear and detailed views of celestial objects.



Figure 1.1: Fully assembled Sky-Watcher Flextube 300 SynScan Dobsonian Telescope.

2. UNPACKING AND ASSEMBLY (SETUP)

Carefully unpack all components and verify against the packing list. Assembly typically involves two main parts: the optical tube and the Dobsonian base. Ensure all screws and fasteners are securely tightened during assembly.

2.1. Components Overview

- **Optical Tube Assembly:** Contains the primary and secondary mirrors, focuser, and collapsible struts.
- **Dobsonian Base:** Provides stable support and houses the GoTo motors and electronics.
- **SynScan Hand Controller:** For computerized control and object selection.
- **Eyepieces:** 10mm and 25mm (1.25-inch).
- **Finder Scope:** 9x50 straight-through for initial targeting.
- **Accessories:** 2-inch Crayford-style focuser with 1.25-inch adapter.

2. **Attach the Optical Tube:** Carefully lift the optical tube and align it with the mounting points on the Dobsonian base. Secure it using the designated fasteners.
3. **Install the Focuser and Eyepieces:** Insert the 2-inch Crayford-style focuser into its receptacle. Use the 1.25-inch adapter if using the smaller eyepieces. Insert either the 10mm or 25mm eyepiece into the focuser.
4. **Mount the Finder Scope:** Attach the 9x50 straight-through finder scope to its bracket on the optical tube.
5. **Connect the SynScan Hand Controller:** Plug the hand controller cable into the designated port on the Dobsonian base.
6. **Extend the Optical Tube:** The Flextube design allows the optical tube to collapse for transport. To prepare for observation, gently extend the upper section of the optical tube until it locks into its fully extended position.



Figure 2.2: The telescope in its collapsed configuration, demonstrating its portability.



Figure 2.3: The telescope with its optical tube fully extended for observation.

3. OPERATION

3.1. Powering On

Connect the telescope to a suitable 12V DC power source using the provided adapter. The SynScan hand controller display will illuminate, indicating the system is ready.

3.2. Alignment Procedures

Accurate alignment is crucial for the GoTo system's performance. The SynScan hand controller offers two primary alignment methods:

- **Bright Star Alignment:** Selects bright stars for alignment. The system will prompt you to center specific stars in the eyepiece.
- **Two-Star Alignment:** Requires centering two known stars. This method provides higher accuracy.

Follow the on-screen prompts on the SynScan hand controller to complete the chosen alignment procedure.

3.3. Using the SynScan Hand Controller

The SynScan hand controller provides access to a database of over 42,000 celestial objects. Use the directional buttons to navigate menus and the ENTER button to confirm selections.



Figure 3.1: The SynScan Hand Controller, used for navigating the object database and controlling the telescope's movement.

To find an object:

1. Navigate to the "Object Catalog" or similar menu.
2. Select the desired category (e.g., Messier, NGC, IC, Planets).

3. Choose the specific object from the list.
4. Press the "GO TO" button. The telescope will automatically slew to the object's coordinates.

3.4. Using Built-in WiFi

The telescope features built-in WiFi, allowing control via a smartphone or tablet using a compatible Sky-Watcher application. Refer to the application's instructions for connection and usage details.

3.5. Focusing

Adjust the focuser knob to achieve a sharp image. For fine adjustments, use the smaller knob on the Crayford-style focuser. Always focus on a bright star or planet first to ensure optimal clarity.



Figure 3.2: Included 10mm and 25mm eyepieces, along with the 9x50 straight-through finder scope.

4. MAINTENANCE AND CARE

Proper maintenance ensures the longevity and performance of your telescope.

- **Optics Cleaning:** Dust on the mirrors can reduce image quality. Use a soft brush or compressed air to remove loose dust. For stubborn spots, use specialized optical cleaning fluid and lens tissue. Avoid touching the mirror surfaces directly.
- **Storage:** When not in use, collapse the optical tube and store the telescope in a dry, dust-free environment. Use dust caps for the focuser and optical tube ends.
- **Collimation:** While the Flextube design is engineered to maintain collimation, occasional checks and adjustments may be necessary, especially after transport. Refer to advanced astronomy resources for detailed collimation procedures.
- **Electronics:** Keep the SynScan hand controller and base electronics dry. Avoid exposing them to extreme temperatures.

5. TROUBLESHOOTING

Problem	Possible Cause	Solution
No power to hand controller	Power cable disconnected; faulty power source.	Check all power connections. Ensure 12V DC power source is functioning.
Blurry images	Out of focus; poor seeing conditions; optics dirty; collimation off.	Adjust focuser. Wait for stable atmospheric conditions. Clean optics. Check collimation.
GoTo accuracy issues	Incorrect alignment; unbalanced telescope; loose connections.	Perform alignment again carefully. Ensure telescope is balanced on its mount. Check all physical connections.
Telescope not tracking	Tracking mode not enabled; power interruption; motor issue.	Verify tracking is enabled in the hand controller. Check power. Contact support if motors are unresponsive.

6. SPECIFICATIONS

Feature	Detail
Model Name	Sky-Watcher GoTo Collapsible Dobsonian 12" (305 mm)
Objective Lens Diameter	12 Inches (305 mm)
Optical Tube Length	70 Millimeters (collapsed)
Telescope Mount Description	Altazimuth Mount with GoTo
Focus Type	Auto Focus (Crayford-style focuser)
Eyepiece Lens Description	Plossl (10mm, 25mm included)
Finderscope	9x50 Straight-Through Reflex

Feature	Detail
Power Source	Adapter (12V DC)
Object Database	42,000+ objects via SynScan Hand Controller
Product Dimensions (Extended)	42"D x 28"W x 21"H (approximate)
Item Weight (Assembled)	99.2 pounds (46 lb tube, 53 lb base)

7. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation included with your purchase or visit the official Sky-Watcher website. Sky-Watcher offers various protection plans for their products. For technical support, service, or parts, please contact Sky-Watcher customer service directly.

Sky-Watcher Official Website: www.skywatcherusa.com