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### SWIFT EF12021 (SW350T)

# SWIFT SW350T Trinocular Compound Lab Microscope Instruction Manual

Model: EF12021 (SW350T) | Brand: SWIFT

## 1. INTRODUCTION

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Welcome to the instruction manual for your new SWIFT SW350T Trinocular Compound Lab Microscope. This powerful and versatile instrument is designed for detailed observation of specimen slides, making it ideal for clinical instruction, scientific research, and educational purposes. With its advanced features, including a Siedentopf head, wide-field eyepieces, and camera compatibility, the SW350T provides exceptional clarity and performance. Please read this manual thoroughly to ensure proper setup, operation, and maintenance of your microscope.



Figure 1: The SWIFT SW350T Trinocular Compound Lab Microscope, showcasing its robust design and key optical components.

## 2. PRODUCT OVERVIEW AND COMPONENTS

Familiarize yourself with the various parts of your SWIFT SW350T microscope. Understanding each component's function is crucial for effective operation.

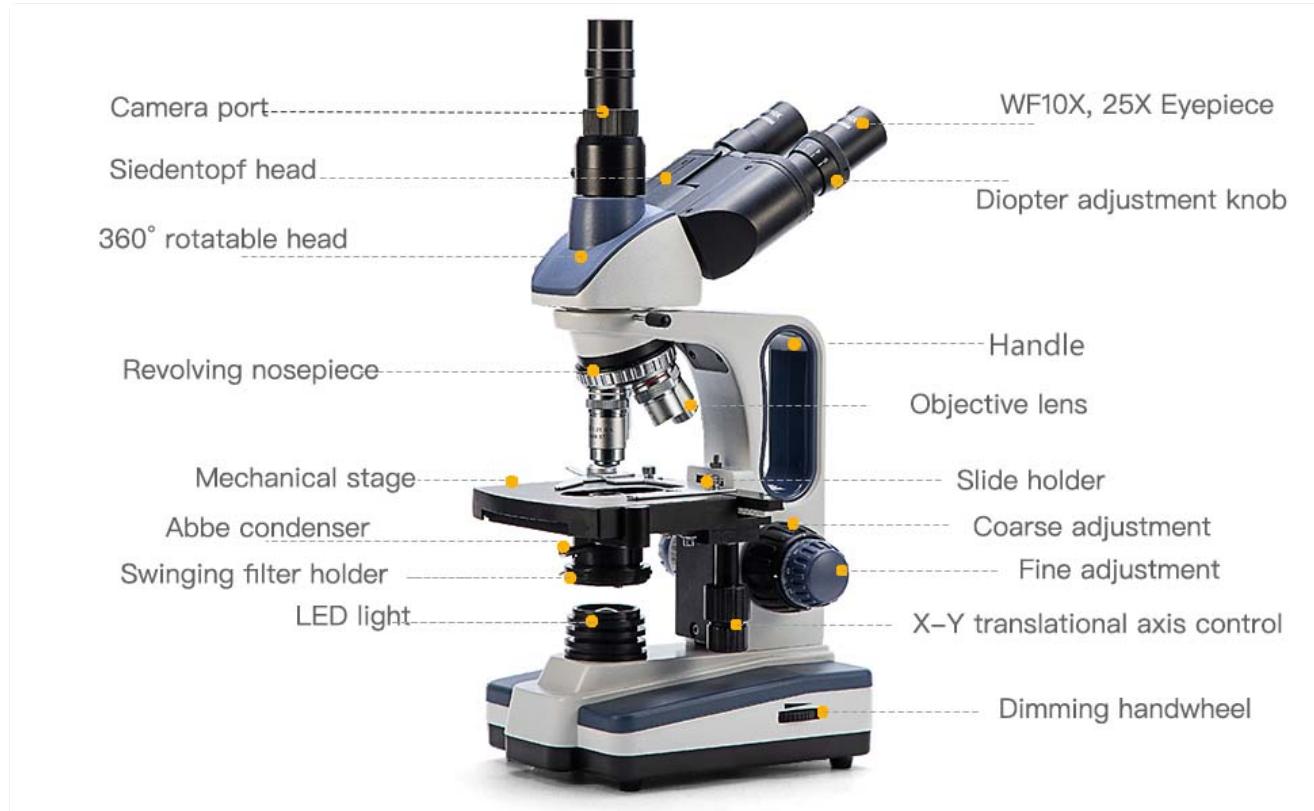


Figure 2: Detailed diagram illustrating the main components of the SWIFT SW350T microscope.

### Key Components:

- **Siedentopf Head:** Fully rotatable for shared viewing, equipped with trinocular port for camera attachments.
- **Eyepieces:** Interchangeable wide-field 10X and 25X glass eyepieces, ergonomically tilted at 30 degrees.
- **Revolving Nosepiece:** Holds 4 DIN Achromatic objective lenses (4X, 10X, 40X, 100X Oil).
- **Objective Lenses:** Provide magnification levels of 40X, 100X, 250X, 400X, 1000X, 2500X.
- **Mechanical Stage:** Double-layered with a secure slide holder for precise specimen positioning.
- **Abbe Condenser:** Illuminates slide specimens from below, with adjustable brightness.
- **Coarse and Fine Adjustment Knobs:** For precise focusing.
- **LED Light Source:** Brilliant and adjustable illumination.
- **Camera Port:** Dedicated port for connecting microscope cameras (not included).

## 3. SETUP INSTRUCTIONS

Follow these steps to set up your microscope for the first time.

1. **Unpacking:** Carefully remove all components from the packaging. Retain the original packaging for future storage or transport.
2. **Placement:** Place the microscope on a stable, level surface away from direct sunlight, excessive dust, and vibrations.
3. **Head Installation:** Gently attach the Siedentopf head to the microscope body. Secure it with the set screw,

ensuring it is firmly in place but not overtightened.

4. **Eyepiece Insertion:** Insert the desired wide-field eyepieces (10X or 25X) into the eyepiece tubes on the Siedentopf head.
5. **Objective Lens Installation:** Ensure the objective lenses are securely screwed into the revolving nosepiece. The 4X objective should be aligned with the light path for initial setup.
6. **Power Connection:** Connect the power cord to the microscope's power input and then to a standard electrical outlet (110 Volts AC).



Figure 3: The SWIFT SW350T microscope along with its power cord, additional eyepieces, and other accessories, ready for setup.

#### 4. OPERATING YOUR MICROSCOPE

#### 4.1 Powering On and Illumination

Locate the power switch on the base of the microscope and turn it on. Adjust the brightness of the LED illumination using the dimming handwheel to achieve optimal viewing conditions for your specimen.





Figure 4: Rear view of the microscope, highlighting the power input and switch for operation.

#### 4.2 Placing a Specimen Slide

Place your prepared specimen slide onto the mechanical stage. Use the slide holder clips to secure the slide in place.



Figure 5: A close-up view of the mechanical stage, showing the slide holder and X-Y translational axis controls.

#### 4.3 Adjusting Magnification

Rotate the revolving nosepiece to select the desired objective lens. Start with the lowest magnification (4X or 10X) for initial viewing and then gradually increase as needed. The total magnification is calculated by multiplying the eyepiece magnification by the objective lens magnification.



Figure 6: A detailed view of the objective lenses mounted on the revolving nosepiece.

#### 4.4 Focusing

Use the coarse adjustment knob for large focus changes, typically with lower magnification objectives. Once the image is roughly in focus, use the fine adjustment knob for precise focusing, especially at higher magnifications.

#### 4.5 Using the Abbe Condenser

The Abbe condenser, located beneath the stage, helps to concentrate and direct light through the specimen. Adjust its height and the iris diaphragm to control contrast and resolution. For optimal viewing, the condenser should be raised close to the stage for higher magnifications and lowered for lower magnifications.

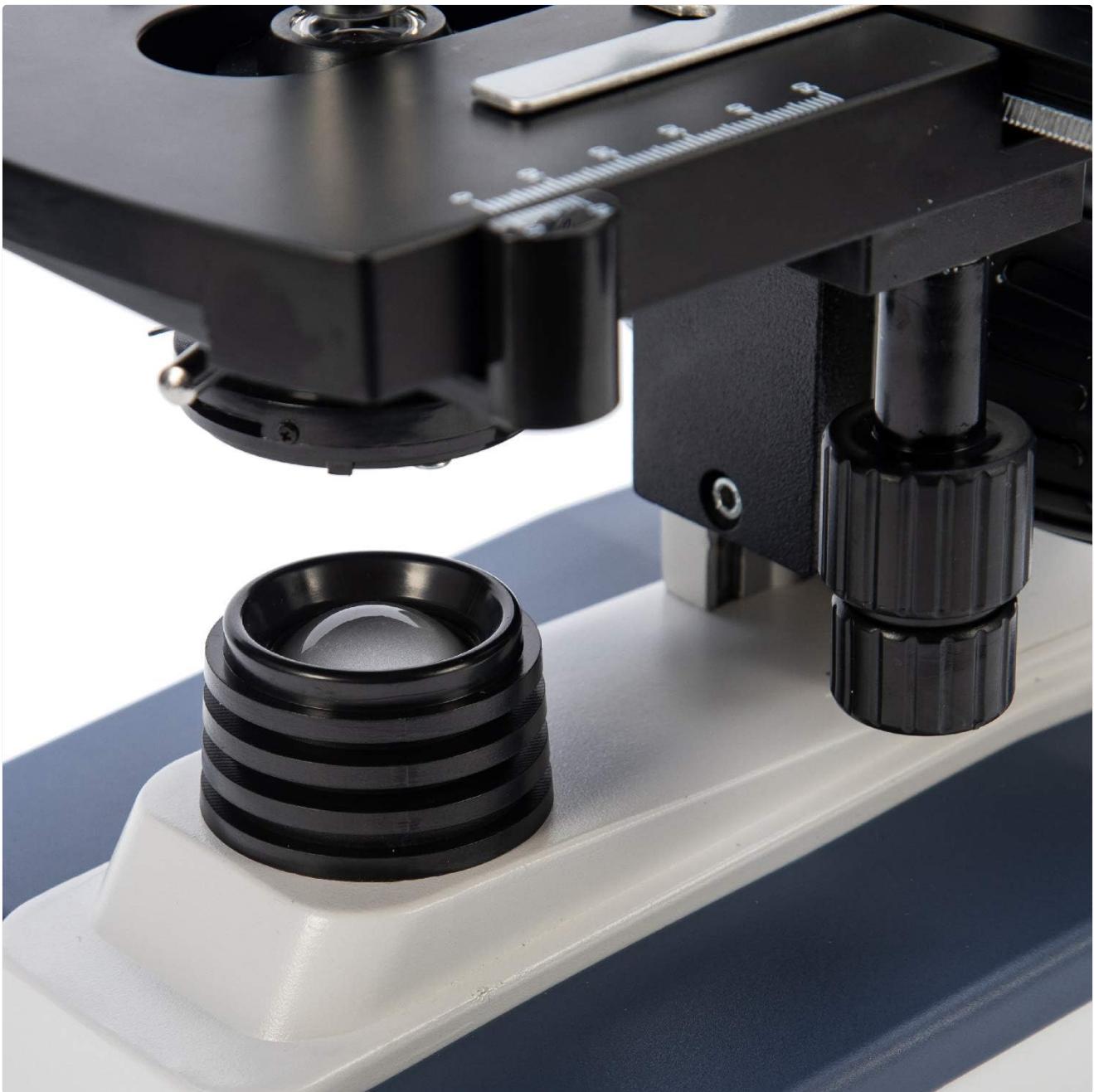


Figure 7: Close-up of the Abbe condenser and the light source beneath the mechanical stage.

#### 4.6 Using the Trinocular Port (Camera Compatibility)

The SW350T features a dedicated trinocular port for attaching microscope cameras (sold separately). This allows for digital imaging, live streaming, and recording of your observations. To use, simply insert your compatible microscope camera into the trinocular port and follow the camera's specific instructions for setup and software installation.



Figure 8: A close-up view of the trinocular head, showing the dedicated camera port for digital imaging.

## 5. MAINTENANCE AND CARE

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Proper maintenance will extend the life and performance of your microscope.

- **Cleaning Optics:** Use only specialized lens cleaning paper and optical cleaning solution for objective lenses and eyepieces. Gently wipe in a circular motion from the center outwards. Avoid touching optical surfaces with bare hands.
- **Cleaning Body:** Wipe the microscope body with a soft, damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** When not in use, cover the microscope with the provided dust cover to protect it from dust and debris. Store in a cool, dry place.
- **Handling:** Always carry the microscope by its arm and base. Avoid sudden movements or impacts.
- **Oil Immersion (100X Objective):** If using the 100X oil immersion objective, ensure to clean off immersion oil immediately after use to prevent damage to the lens.

## 6. TROUBLESHOOTING GUIDE

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Refer to the table below for common issues and their solutions.

Problem	Possible Cause	Solution
No illumination	Power switch off, power cord disconnected, brightness knob set to minimum.	Turn on power switch, check power cord connection, increase brightness.
Image blurry or out of focus	Incorrect focus adjustment, slide upside down, objective lens not fully engaged.	Adjust coarse and fine focus, ensure slide is correctly oriented, rotate nosepiece until objective clicks into place.
Dark or uneven field of view	Condenser not adjusted correctly, iris diaphragm closed too much, objective lens dirty.	Adjust condenser height, open iris diaphragm, clean objective lens.
Dust or spots visible in image	Dust on eyepiece, objective, or slide.	Clean eyepieces, objectives, and slide using appropriate cleaning methods.

## 7. TECHNICAL SPECIFICATIONS

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Detailed specifications for the SWIFT SW350T microscope.

Feature	Specification
Brand	SWIFT
Model Number	EF12021
Magnification Maximum	2500X
Eyepieces	Wide-Field 10X and 25X
Objective Lenses	4 DIN Achromatic (4X, 10X, 40X, 100X Oil)
Head Type	Siedentopf Trinocular, 30-degree inclined, 360-degree rotatable
Stage	Double-layered Mechanical Stage
Condenser	Abbe Condenser with Iris Diaphragm
Light Source Type	LED, adjustable brightness
Power Supply	110 Volts (AC)
Material	Metal
Color	Black, Silver, White
Item Weight	7.81 pounds (3.55 Kilograms)
Package Dimensions	18.35 x 12.8 x 9.09 inches

Feature	Specification
Compatible Devices	Laptop, Personal Computer (via camera port)
Date First Available	January 29, 2019
Manufacturer	NJEDU

## 8. WARRANTY AND SUPPORT

### 8.1 Warranty Information

Your SWIFT SW350T microscope is covered by a manufacturer's warranty. Please refer to the official SWIFT website or the included warranty card for specific terms and conditions regarding coverage and duration.

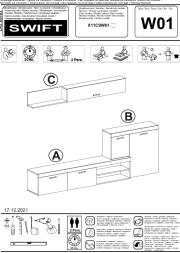
### 8.2 Further Support

For more detailed information, advanced techniques, or specific inquiries, please consult the comprehensive User Guide PDF available online: [SWIFT SW350T User Guide \(PDF\)](#). You may also visit the official SWIFT store on Amazon for additional resources and product information.

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## Related Documents - EF12021 (SW350T)

 <b>SWIFT Gamma Electric Hoverboard: User Manual and Safety Guide</b> Comprehensive user manual for the SWIFT Gamma Electric Hoverboard. Includes setup, operation, safety precautions, maintenance, and troubleshooting information. Learn how to ride safely and care for your hoverboard.
 <b>Swift 500 Series Caravan Cooker Service Instructions</b> Comprehensive service instructions for Swift 500 Series Caravan Cookers, covering disassembly, component replacement, adjustments, and fault finding.
 <b>Swift EB918D 40V Cordless Pole Hedge Trimmer Operations Manual</b> Comprehensive operations manual for the Swift EB918D 40V Lithium-Ion Cordless Pole Hedge Trimmer, covering safety instructions, assembly, operation, maintenance, and specifications.

	<p><b><u>SWIFT W01 TV Stand Assembly Instructions</u></b></p> <p>Comprehensive assembly guide for the SWIFT W01 TV stand, including parts list, safety precautions, and step-by-step assembly guidance.</p>
	<p><b><u>Manual do Proprietário Swift Enduravox: Guia Completo para sua Bicicleta</u></b></p> <p>Explore o Manual do Proprietário da Swift Enduravox. Descubra guias de utilização segura, manutenção, especificações técnicas e dicas essenciais para ciclistas.</p>
	<p><b><u>Swift Hot Water Installation and Operating Instructions</u></b></p> <p>Comprehensive installation, operating, safety, and maintenance instructions for Swift Hot Water systems, including GHW, EHW, and GEHW models. Covers gas and electric heating, technical specifications, and customer information for RV and dwelling use.</p>