User Guide: SW380T

Welcome to your Swift SW380T microscope! Whether you are a seasoned professional or a beginner hobbyist, Swift has the perfect microscope for you.

This quick-start guide will introduce you to the components of your new microscope and help you begin to use it. For more information about our microscopes or customer service requests, click here.

Table of Contents

I. Specifications

Model	SW380T
Head	360° rotatable Trinocular Siedentopf
Inclination	30°
Eyepieces	Wide-field 10X and 25X pairs
Interpupillary distance	48-75mm
Diopter adjustment	On left tube, +/-5dp
Nosepiece	Quadruple revolving
Objectives	Achromatic 4X, NA 0.1, working distance 37.5mm 10X, NA 0.25, working distance 6.54mm 40X(Spring), NA 0.65, working distance 0.63mm 100X (Spring, Oil), NA 1.25, working distance 0.195mm
Magnifications	40X, 100X, 250X, 400X, 1000X and 2500X
Stage	Double-layered mechanical stage with slide holder
Stage size	130mmx130mm
Stage X-Y range	70mmx30mm
Upper limit stop	Rack stop preset but adjustable
Condenser	NA 1.25 with iris diaphragm
Focusing	Coaxial coarse and ultra-fine focusing system
Fine focus precision	0.002mm increments
Illumination	Built-in 1W LED transmitted illumination with intensity control
Power	110-240V, built-in transformer

II. Parts of the microscope

III. Assembly and set up

Carefully remove the microscope body from the box and set it on a sturdy, flat surface. Remove the microscope head from the box and secure it to the body with the head locking screw, using care not to overtighten.

Remove the plastic covers from the eyepiece holders on the microscope's head, then place eyepieces into the holders. You may choose at this time to insert the eyepiece adapter into the trinocular camera port on the top of the microscope and place either a third eyepiece into it or mount an eyepiece camera (not included). Locate the power adapter and attach it to the microscope, then plug it in. Turn the microscope on by pressing the power button on the back of the base.

IV. Using the microscope

Turn the microscope on and use the illumination intensity control wheel to set the lamp on the lowest brightness setting.

Clip a slide into the slide holder on the stage. Use the X-Y translational control knobs on the right side of the stage to move the stage front to back or the slide holder left to right to center the specimen over the bulb.

Move the binocular eyepieces closer together or further apart until you see one image when you look through them. Adjust the bulb brightness to a comfortable intensity with the dimmer wheel. Note that another user can view the image simultaneously through using an eyepiece with the trinocular port.

Always start with the lowest power objective lens, in this case the 4X objective, centered over the stage. Look through the eyepieces and bring the image into focus by slowly turning the larger coarse adjustment focus knob to bring the stage closer to the objective. Once an image forms, switch to the blue fine adjustment focus knob to fine-tune for clarity or to see the various layers of the specimen you are examining. You may also use the diopter adjustment control on the eyepiece holder at this time to further fine-tune image clarity. Look at other parts of the slide by using the X-Y translational control knobs to move the slide holder once the specimen is in focus.

Increase magnification by rotating the nosepiece clockwise to a higher magnification objective, taking care not to strike the slide with the objective as doing so may damage the glass on the slide, the objective, or both. If you cannot move the objective into place without making contact with the slide, use the coarse focus knob to move the stage down and away to make room before changing magnification.

Adjust the focusing ring on the iris aperture diaphragm to change the resolution of the image. The condenser can be manually moved closer to or farther from the stage by rotating the metal knob.

For best results with the 100X objective, use the included immersion oil. Rotate the nosepiece so that the 100X objective is near, but not on the specimen slide. Then place a drop of the included immersion oil onto the cover slip. Slowly rotate the 100X objective into place so that it comes into contact with the immersion oil. Adjust focus until your specimen comes clearly into view. (Note: Immediately after use, always gently wipe the oil off of the objective lens and the cover slip with lens paper moistened with a small amount of ethyl or isopropyl alcohol. Do not use immersion oil with the 4X, 10X, or 40X objectives.)

V. Mounting a camera attachment

Place the eyepiece adapter into the trinocular camera port on the top of the microscope and mount an eyepiece camera (not included) directly on it. If you would like to use a C-mount camera (not included), unscrew the top ring from the eyepiece adapter. You can then use it as a 1X C-mount for the camera.

The parfocality between the eyepieces and the trinocular port has been preset before shipment and should not need adjustment. If necessary, however, you can rotate the parfocal ring in the eyepiece adapter to adjust the adapter height position and resulting parfocality.

VI. Caring for your microscope

As with any quality instrument, your microscope should be stored in a cool, dry place. Use the dust cover to protect the microscope when not in use. If necessary, clean the lenses with a soft brush or compressed air to gently remove dust.

Avoid touching the optical surfaces directly and never disassemble the optical components of the microscope. When not using eyepieces, use the plastic covers to protect the eyepiece lens holders and ocular lens.

V. Troubleshooting

If you have a problem, you may be able to correct it yourself. Here are some common issues and easy solutions you can try before calling customer support for service.

*Caution: Never disassemble the electrical, mechanical, or optical components. This servicing should only be done by a Swift technician.

Issue	Possible cause	Solution
Visual field is uneven, or image is dark at the edges	Nosepiece is not locked in place to center the objective lens	Turn nosepiece until you hear a click to center the objective lens
	Slide is not centered over the bulb, leaving part of the specimen unilluminated	Center the slide over the bulb with the X-Y translational control knobs
	Dirty objective or eyepiece lens	Clean with compressed air or soft brush
	Iris aperture is closed too far	Open the iris aperture wider
Visual field is blurry or dirty	Dirty objective or eyepiece lens	Clean with compressed air or soft brush
	The slide is dirty	Clean the slide with glass cleaner
	Eyepiece or objective lens not fully screwed into place	Tighten eyepiece or objective lenses
Poor image quality	No cover slip on the specimen	Place glass cover slip over the specimen
	Slide is too thick or too thin	Use a lab-quality slide
	Slide is placed upside down on the stage	Flip the slide over so that the cover slip is facing up
	Oil on objective lens	Wipe the lens off with soft cloth and glass cleaner
	Iris aperture is too narrow or too wide	Adjust the iris aperture
Image moves while adjusting focus	Slide is shifting on the stage	Reposition slide more securely in the slide holder

Light is too dim	Iris aperture is closed too far	Open the iris aperture wider
	Bulb setting is too low	Increase intensity on the control wheel
	Condenser lens is dirty	Wipe the condenser lens off with a soft cloth
	Voltage is too low	Use the supplied power adapter
Image won't come into focus when using a higher-powered objective	Slide is upside down	Flip the slide over so the cover slip is facing up
Slide is not moving when using the X-Y translational control knob	Slide has come unclipped from the holder	Reposition slide in the holder and secure with clip
Lamp does not turn on	No power source	Check that the adapter is fully connected or that batteries are installed
	Bulb has burned out	Replace the bulb
Lamp flickers while on	Bulb is not inserted into the socket correctly	Check to make sure the bulb is fully screwed into the socket
	Power adapter is not fully plugged in	Check to make sure that the adapter is fully connected to wall socket and to the microscope

VI. Warranty information and customer support

Our microscopes are manufactured to meet ISO 9001 standards. Swift warranties are as follows:

- Five (5) Year Warranty for Microscopes: Microscopes come with a five (5) year warranty against manufacturing defects. Does not cover normal wear, routine maintenance, add-on accessories, damage resulting from repair by unauthorized parties, accident, alteration, shipping, misuse or abuse is not covered.

- One (1) Year Warranty for Electrical and Video components. Does not cover light bulbs, batteries, fuses, or electrical cords.

All warranties start from the original date of purchase. Swift provides the repair or replacement of warrantied parts for free, including labor, during the warranty period. Proof of original purchase is required. Buyers are responsible for shipping to and from our warehouse for warranty services. The warranty does not cover damages resulting from normal wear and tear, abuse, or unauthorized repairs. Warranty service is provided by Swift Optical Instruments, Inc.'s authorized technicians. Determination of warranty is at the technician's discretion.

*For customers living outside the United States, Swift Optical Instruments, Inc. will provide standard warranty service. Both inbound and outbound shipping costs (including duties and taxes) is the responsibility of the consumer.

For more information or to submit a repair request, please contact our Customer Support department:
Tel: 877-967-9438, option 1
Email: customersupport@swiftoptical.com

Disclaimer: We are constantly working to improve our instruments and to adapt them in response to customer feedback. These improvements occasionally involve small modifications to the mechanical structure and optical design of our microscopes. Therefore, some descriptions, illustrations, and specifications in this instruction manual may vary slightly from the microscope you receive.