User Manual

Trinocular Stereo Microscope

Model XV434B54P02

MicroscopeNet.com

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i. Caution

1. Find the “UP” sign and place the Styrofoam container on your table or bench so that the arrow is pointing upward. Open the shipping carton carefully to prevent any accessory, like eyepieces, from dropping and being damaged.

2. Do not discard the molded Styrofoam container. The container should be retained should the microscope ever requires reshipment.

3. Keep the instrument out of direct sunlight, high temperature or humidity, and dusty environments. Ensure that the microscope is located on a smooth, level and firm surface.

ii. Care and Maintenance

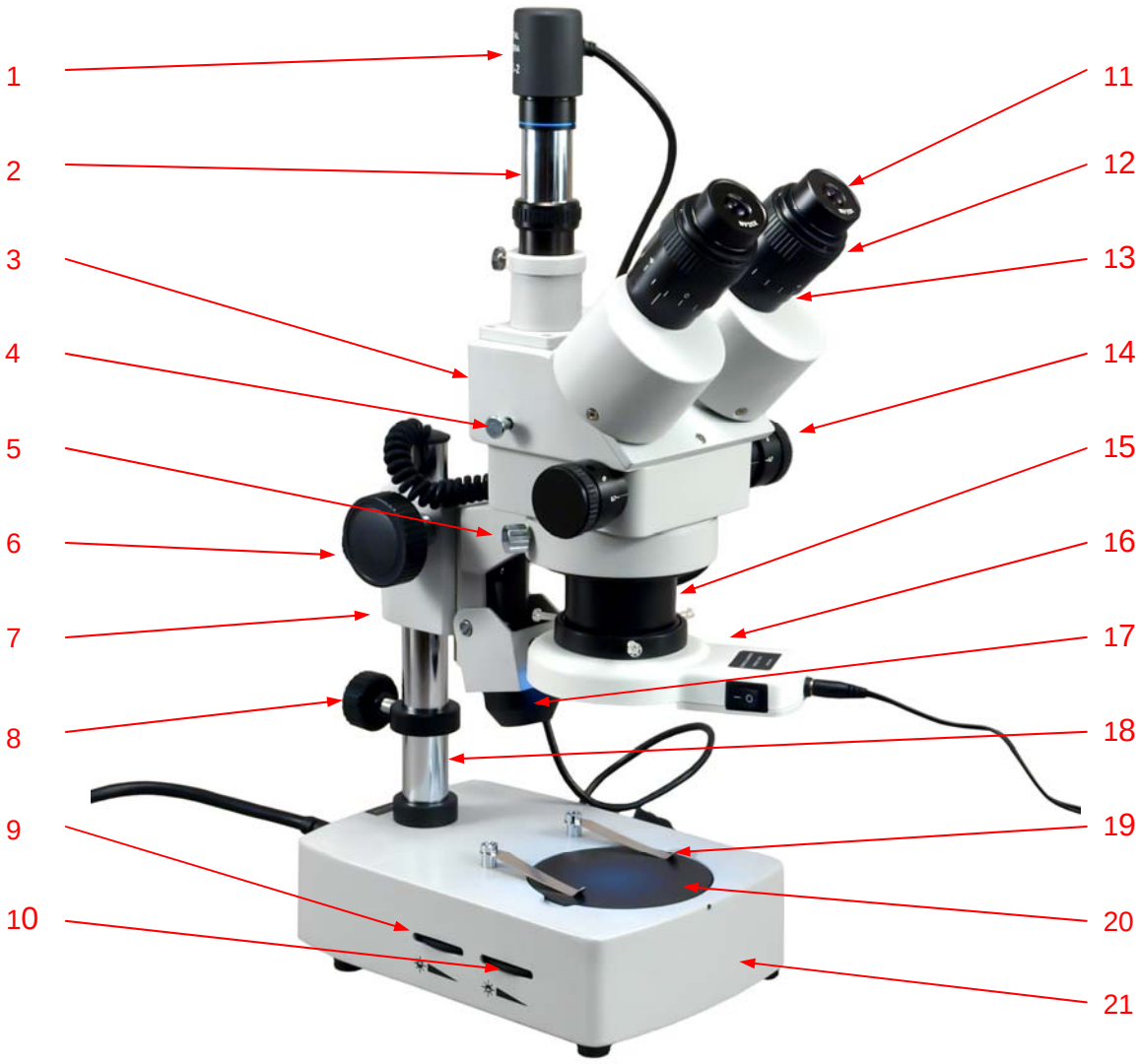
1. Do not attempt to disassemble any component including eyepieces, objectives or focusing mechanism.

2. Keep the instrument clean; remove dirt and debris regularly. Accumulated dirt on metal surfaces should be cleaned with a damp cloth. More persistent dirt should be removed using a mild soap solution. **Do not use organic solvents for cleansing.**

3. The outer surface of the optics should be inspected and cleaned periodically using an air stream from an air bulb. If dirt remains on the optical surface, use a soft cloth or cotton swab dampened with a lens cleaning solution (available at camera stores). All optical lenses should be swabbed using a circular motion. A small amount of absorbent cotton wound on the end of a tapered stick makes a useful tool for cleaning recessed optical surfaces. Avoid using an excessive amount of solvents as this may cause problems with optical coatings or cemented optics or the flowing solvent may pick up grease making cleaning more difficult.

4. Store the instrument in a cool, dry environment. Cover the microscope with the dust cover when not in use.

1 Components Illustration



1	Camera	8	Post Collar	15	Objective Housing
2	Photo Tube	9	Incident Light Intensity Dial	16	Ring Light
3	Trinocular Body	10	Transmitted Light Intensity Dial	17	Incident Light
4	Eyepiece/Photo Switch	11	Eyepiece	18	Stand Post
5	Thumb Screw	12	Diopter Ring	19	Stage Clip
6	Focus Knob	13	Eyepiece Tube	20	Stage Plate
7	Focus Block	14	Zoom Knob	21	Base

2 Installation

2.1 Install the microscope body

2.1.1 Loosen the thumb screw on the body holding ring.
2.1.2 Sit the body into the holding ring firmly.
2.1.3 Tighten the thumb screw.

2.2 Install the eyepieces

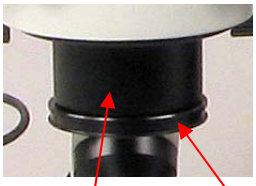
2.2.1 Take off the plastic covers on the eyepiece tubes.
2.2.2 Insert the eyepieces into the eyepiece tubes.

2.3 Install the camera

2.3.1 Take off the plastic cover on the phototube.
2.3.2 Insert the camera into the phototube, and then connect the camera to a computer by a USB cable.
2.3.3 Refer to the manual in the Camera CD to installation the driver and software.

2.4 Install the ring light

2.4.1 Screw off the plastic cover on the bottom of objective housing.
2.4.2 Screw on the ring light adapter onto the objective housing.
2.4.3 Put the ring light on to the ring light adapter. Tighten the 3 screws. Make sure the end of the screws stick into the groove of the adapter.



2.5 Install the 0.5X auxiliary lens

2.5.1 Screw off the plastic cover on the bottom of objective housing.
2.5.2 Screw on the auxiliary lens onto the objective housing.
Note: the working distance will increase from 95mm to 150mm, after the 0.5X auxiliary lens installed.

2.6 Adjust the focus block

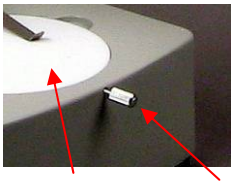
2.6.1 Loosen the knob on the focus block.
2.6.2 Slide the focus block up or down on the stand post so that the distance between the bottom of the objective housing and the stage plate is about 95mm (with no auxiliary lens) or 150mm (with 0.5X auxiliary lens on). And then tighten the knob.
2.6.3 Slide the post collar to against the focus block as showed in the figure, and then tighten its knob.

2.7 Replace the fuse

2.7.1 Pry out the fuse holder with a screw driver.
2.7.2 Install / replace the fuse.

3 Operation

3.1 Change the stage plate



Stage Plate Thumb Screw

3.1.1 Loosen the stage lock screw at the front of base.
3.1.2 Take off the glass plate and put on the white/black plate (or vice versa).
3.1.3 Tighten the set screw.

3.2 Adjust the light

Power Switch

3.2.1 Plug in the power cord to a power outlet.
3.2.2 Turn the switch to the “I” position to turn on the power.
3.2.3 Turn the switch to the “O” position to turn off the power.
3.2.4 Turn the incident light intensity dial to turn the incident light on and adjust the intensity.
3.2.5 Turn the transmitted light intensity dial to turn the transmitted light on and adjust the intensity.

3.3 Adjust the ring light

3.3.1 Install the ring light, and connect the AC adapter to the power outlet.
3.3.2 Turn the power button on the ring light.
3.3.3 Adjust the intensity dial.

3.4 Place the specimen

3.4.1 Put the specimen in the center of the stage plate.
3.4.2 Hold the specimen with the stage clips if necessary.

3.5 Focusing

3.5.1 Turn the zoom knob at 0.7.
3.5.2 Turn the focus knob until the specimen is in focus.
3.5.3 Move the interesting spot of specimen into the center of field of view.
3.5.4 Turn the zoom knob for the desired magnification.
3.5.5 Adjust the focus knob slightly to get clear image.

3.6 Adjusting interpupillary distance

While observing with both eyes, hold the left and right eyepiece tubes and swing inwards or outwards. The interpupillary distance is correct when the left and right fields of view converge completely into one image.

3.7 Adjusting eyepiece diopter

3.7.1 Turn the diopter rings on both eyepiece tubes at 0 positions.
3.7.2 Using your right eye only, observe your specimen through the right eyepiece and bring it into focus by adjusting the focus knob.
3.7.3 Then observe the specimen with your left eye only through the left eyepiece. If the specimen is not in focus, rotate the diopter ring until a sharp image is obtained.

3.8 Camera

3.8.1 Install the camera following the procedures in **2.3**.

3.8.2 Focus the microscope following the procedures in **3.5**.

3.8.3 Pull out the switch bar.

3.8.4 Open the software of the camera and launch the live view window.

3.8.5 If the live view image is not in focus, loosen the thumb screw showed in the right figure, turn the plastic part of the photo tube to adjust the photo tube height till the image is in focus, then tighten the thumb screw.

3.8.6 You can observe image, snap picture, and capture video in the software.

Note: Please refer to the User Manual in the Camera CD for the software operation.

4 Specifications

Model	XV434B54P02
Total Magnification	Zoom 3.5X ~ 90X
Microscope body	Trinocular, 45º inclined, 360º swiveling. Adjustable Interpupillary distance 55 ~ 75mm (2-3/16” ~ 2-15/16”) Adjustable diopter on both eyepiece tube ±5dp
Eyepieces	1 pair of WF10X, 1 pair of WF20X
Objectives	Zoom 0.7x ~ 4.5x, ratio 6.5:1 Auxiliary lens 0.5X
Focusing Mechanism	Rack and pinion, focusing knobs on both sides
Working Distance	95 mm (3-3/4”) with no auxiliary lens 152 mm (6”) with 0.5X auxiliary lens on
Stage Plate	Frosted glass plate: 95mm (3-3/4”) in diameter White/black plastic plate: 95mm (3-3/4”) in diameter
Illumination	Incident (upper): 12V/10W halogen light Transmitted (lower): 12V/10W halogen light 54 LED ring light With switch and intensity dials separately
Power Supply	Microscope: AC 110V – 240V, 50/60Hz
Camera	Resolution 640x480 0.45x reduction lens included Compatible with MS Windows 2000/XP/Vista/7 (32/64bit)
Dimension	23cm x 16cm x 44cm (9” x 6” x 17-1/2”)
Net weight	6 kg (13 lb)

5 Troubleshooting Guide

Symptom	Cause	Remedy
Totally dark in the view field	The cover of objectives is still on	Take off the cover of objectives
Stains or dust on the field of view	Stains or dust on the eyepieces or objectives	Clean the lens with a camera cleaning kit
	Stains or dust on the specimen	Clean the specimen
Can not focus	The focus block/objectives is too far away or too close to the specimen and out of the range of focus stroke	Adjust the height of the focusing mechanism so that the distance between the objectives and specimen is about 95mm (with no auxiliary lens) or 152mm (with 0.5X auxiliary lens on).
Image moves while focusing	Specimen rises from stage surface	Secure the specimen
Lamp does not light when switched on	No electrical power	Check power cord connection
	Lamp bulb burnt out	Replace bulb
	Fuse blown out	Replace fuse