



MANUAL

3078 Series
ZOOM STEREO MICROSCOPE



MANUAL



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SAFETY NOTES

1. Open the shipping carton carefully to prevent any accessory, i.e. objectives or eyepieces, from dropping and being damaged.
2. Keep the instrument out of direct sunlight, high temperature or humidity, and dusty environments.
3. If any specimen solutions or other liquids splash onto the stage, objective or any other component, disconnect the power cord immediately and wipe up the spillage. Otherwise, the instrument may be damaged.
4.  **LAMP REPLACEMENT -- CAUTION:** the glass housing of the lamp may be extremely hot. DO NOT attempt to change the lamp before it is completely cooled or without wearing adequate skin protection.
5. All electrical connectors (power cord) should be inserted into an electrical surge protector to prevent damage due to voltage fluctuations.
6.  **FUSE REPLACEMENT --** For safety when replacing the fuse (ONLY replace with the same size, type and rating of original fuse), be sure the main switch is in the off position, disconnect the power cord from outlet, and replace the fuse. Reconnect the power cord and turn unit on.
7. Confirm that the input voltage indicated on your microscope corresponds to your line voltage. The use of a different input voltage other than indicated will cause severe damage to the microscope. NOTE: Always plug the microscope power cord into a suitable grounded electrical outlet. A grounded 3-wire cord is provided.

CARE AND MAINTENANCE

1. Do not attempt to disassemble any component including eyepieces, objectives or the focusing assembly.
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 bulb. If dirt remains on the optical surface, use a soft, lint free 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.
5. ACCU-SCOPE® microscopes are precision instruments which require periodic servicing to maintain proper performance and to compensate for normal wear. A regular schedule of preventative maintenance by qualified service personnel is highly recommended. Your authorized ACCU-SCOPE® distributor can arrange for this service.

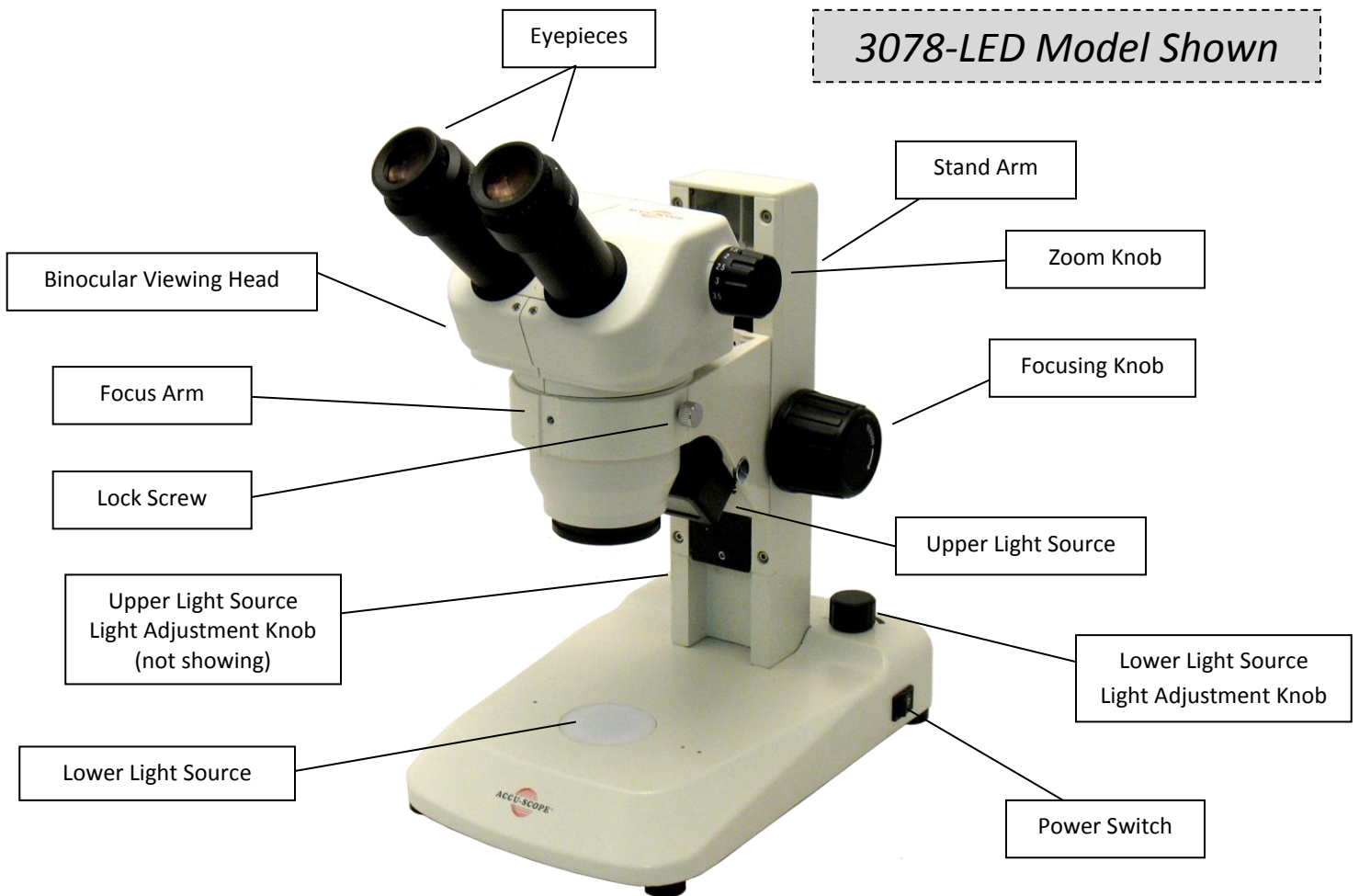
INTRODUCTION

Congratulations on the purchase of your new ACCU-SCOPE® microscope. ACCU-SCOPE® microscopes are engineered and manufactured to the highest quality standards. Your microscope will last a lifetime if used and maintained properly. ACCU-SCOPE® microscopes are carefully assembled, inspected and tested by our staff of trained technicians in our New York facility. Careful quality control procedures ensure each microscope is of the highest quality prior to shipment.

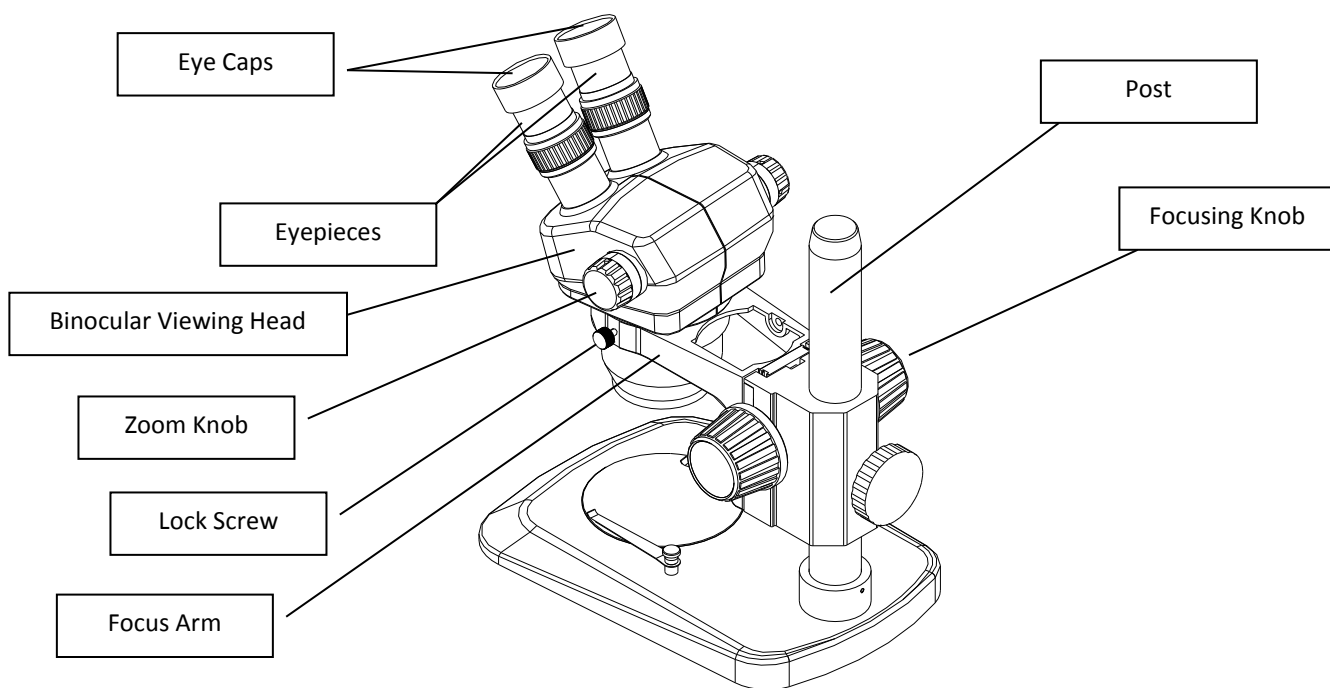
UNPACKING AND COMPONENTS

Your microscope arrived packed in a molded shipping carton. ***Do not discard the carton:*** the shipping carton should be retained for reshipment of your microscope if needed. Avoid placing the microscope in dusty surroundings or in high temperature or humid areas as mold and mildew can form. Carefully remove the microscope from the shipping carton and place the microscope on a flat, vibration-free surface.

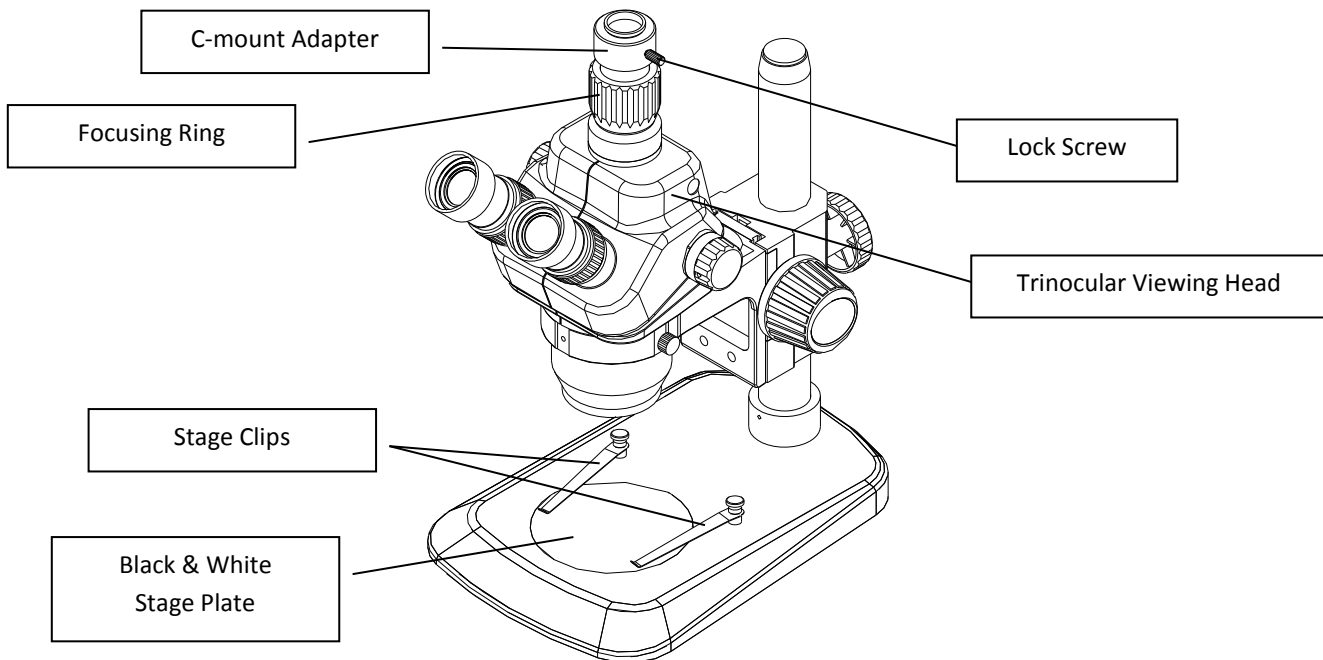
COMPONENT DIAGRAMS



COMPONENT DIAGRAMS (continued)



3078-PS Model Shown

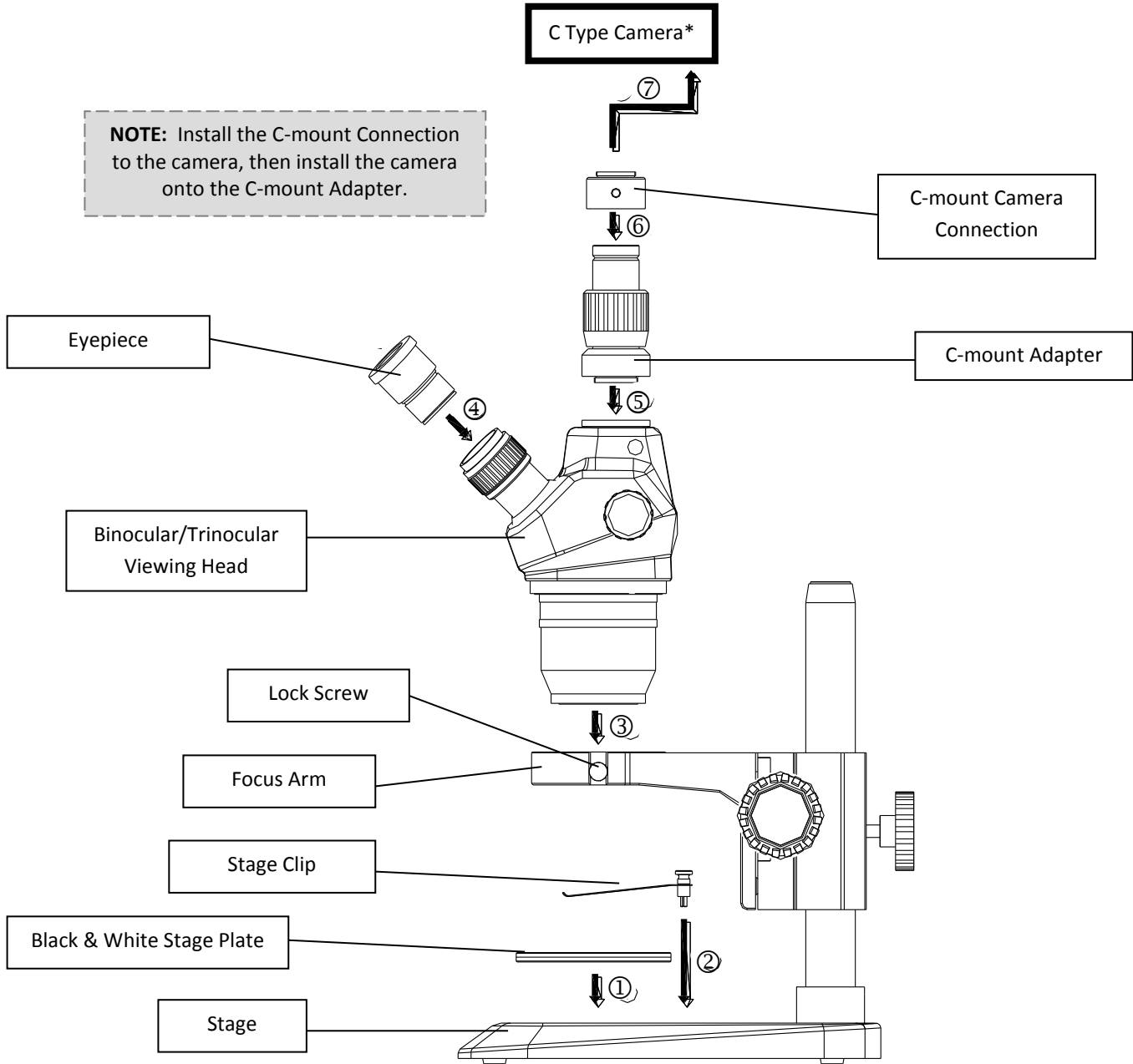


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ASSEMBLY

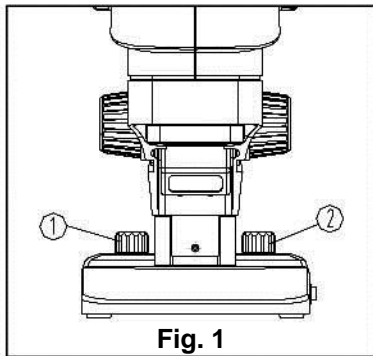
The diagram below shows how to assemble the various components. The numbers indicate the order of assembly.

When assembling the microscope, make sure that all parts are free of dust and dirt, and avoid scratching any parts or touching glass surfaces.



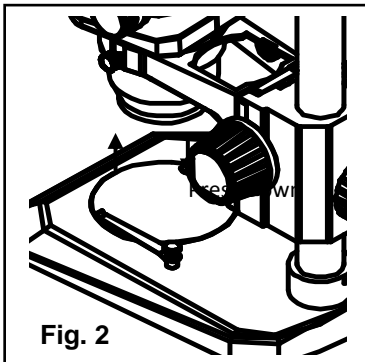
3078-PS Model Shown

OPERATION



Setting Illumination For LED Models (Fig. 1)

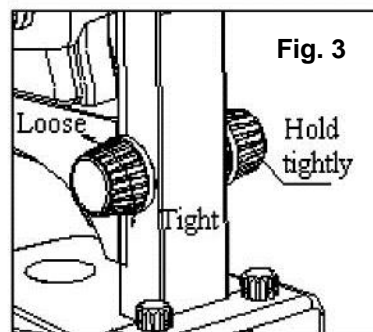
Turn the light adjustment knobs ① and ② as shown on the base in Fig. 3: turn clockwise to increase brightness; counterclockwise to decrease brightness.



Using the Black & White Stage Plate (Fig. 2)

For instruments supplied with a Plain Focusing Stand or Pole Stand, the user can use either side of the Black & White Stage Plate. For samples that are white or other bright colors, the black surface is typically facing up to help increase contrast of the image. For other darker colored samples, the white surface is recommended.

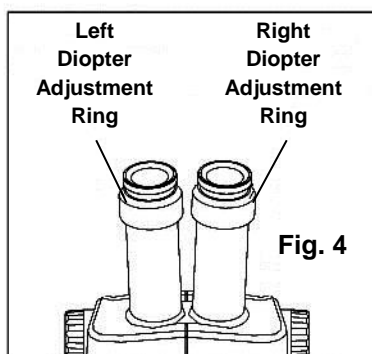
To remove the plate or reverse it, press down on the supporting point (Fig 2) so the other side of the plate lifts up for removal/reversing.



Adjusting the Rotation Tension of the Focus Adjustment Knob (Fig. 3)

To adjust tension, hold both left and right focus adjustment knobs with both hands, hold the left knob (to prevent it from turning), and rotate the right knob clockwise to increase (tighten) or counterclockwise to decrease (loosen) the focus knob tension.

After tension adjustment has been completed, always rotate both adjustment knobs in the same direction



Adjusting Diopter Ring (Fig. 4)

Set the diopter rings of both eyepieces to "0" position. (Do this when users change, because different users will have different diopter settings.)

Place an easy-to-observe specimen on the stage plate.

Rotate the zoom knob to the highest magnification, then turn the focusing knob to focus the specimen.

Rotate the zoom knob to the lowest magnification, looking only into the left eyepiece, adjust the diopter ring on left eyepiece to focus the specimen. Then repeat procedure for the right eyepiece.

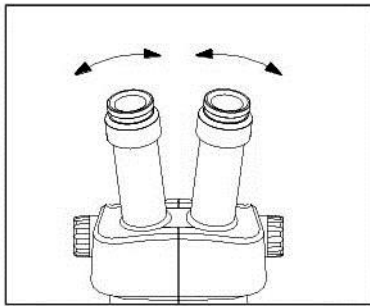


Fig. 5

Adjusting Interpupillary Distance (Fig. 5)

Different users have different interpupillary distances (this distance is between the centers of the pupils of each eye). When the operator changes, it will be necessary to adjust the interpupillary distance.

While looking through the eyepieces, hold the left and right eyetubes of the viewing head and adjust the eyetubes by opening or closing them until the left and right fields of view coincide completely and you are able to see a complete circle.

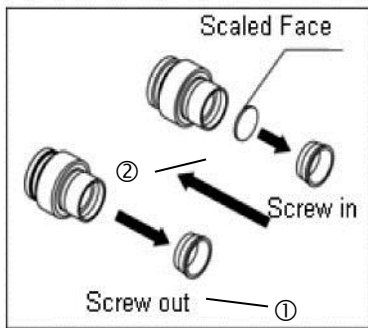


Fig. 6

Installing or Removing the Reticle (Fig. 6)

Unscrew the reticle retaining ring ① from the eyepiece (see Fig. 6).

NOTE: be sure to clean the reticle with a soft, lint free cloth or cotton swab dampened with a lens cleaning solution (available at camera stores – see p. 3, Care & Maintenance).

Insert the clean reticle into the eyepiece ②, then screw the reticle retaining ring back onto the eyepiece.

To remove the reticle, unscrew the reticle retaining ring from the eyepiece, carefully remove the reticle, and store the reticle in lint-free paper. Screw the reticle retaining ring back onto the eyepiece.

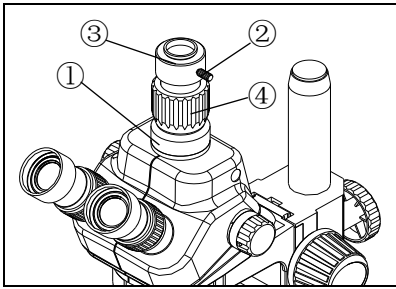


Fig. 7

To the C-mount (Fig. 7)

1. Screw the C-mount adapter ① into opening at the top of the trinocular viewing head.
2. Loosen the Lock Screw ② on the C-mount adapter and take off the C-mount connector from the C-mount adapter.
3. Screw the C-mount connector ③ onto the camera.
4. Mount the camera with the C-mount connector onto the C-mount adapter and tighten the lock screw ②.
5. Connect your camera to a computer or monitor via a USB or HDMI cable.
6. Rotate the Zoom Knob to maximum magnification, observe image on the monitor and adjust the Focusing Knob until the image is clear/focused.
7. Rotate the Zoom Knob to minimum magnification, adjust the focusing ring ④ on the C-mount adapter until the image is clear/focused.
8. Rotate the Zoom Knob to maximum magnification to observe whether or not the image is clear/focused. If not, repeat #6 and #7 above until image is clear/focused.

Replacing the Fuse (LED Models) (Fig. 8)

Before replacing the fuse, turn the power switch to "O" (Off), and unplug the power cord from the outlet and the microscope.

Pull out the fuse base ① from the fuse socket. Remove the fuse from the fuse base and replace with a new one. Reinstall the fuse base into the fuse socket.

Plug the power cord into the base of the microscope and then into a wall outlet. Turn the power switch to "--" (On).

The LED base uses a 3.15 amp fuse.

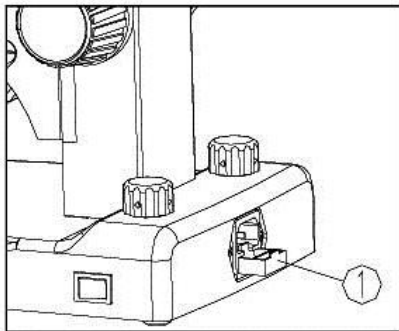


Fig. 8

Assembling the Camera

Technical Specifications

Zoom Magnification	Working Distance (mm)	Eyepiece					
		WF10X/20		WF15X/15		WF20X/10	
		Total Magnification	Visual Field (mm)	Total Magnification	Visual Field (mm)	Total Magnification	Visual Field (mm)
0.8X	95	8X	25.0	12X	18.7	16X	12.5
1X		10X	10.0	15X	15.0	20X	10.0
1.25X		12.5X	16.0	18.7X	12.0	25X	8.0
1.5X		15X	13.3	22.5X	10.0	30X	6.7
2X		20X	10.0	30X	7.5	40X	5.0
2.5X		25X	8.0	37.5X	6.0	45X	4.0
3X		30X	6.7	45X	5.0	60X	3.3
3.5X		35X	5.7	52.5X	4.3	70X	2.8

Auxiliary Objectives Optical Data *(optional)*

CAT #	Magnification	Working Distance (mm)
78-3336	0.5X	187
78-3337	0.7X	115

TROUBLESHOOTING

Under certain conditions, performance of this unit may be adversely affected by factors other than defects. If a problem occurs, please review the following list and take remedial action as needed. If you cannot solve the problem after checking the entire list, please contact your local dealer for assistance.

Trouble	Cause	Remedy
Double images	Interpupillary distance is not correct	Readjust it
	Diopter adjustment is not correct	Readjust it
Dirt appears in the view field	Dirt on the specimen	Clean specimen
	Dirt on the surfaces of eyepieces	Clean eyepieces
	Dirt on surface of objective	Clean objective
	Dirt on stage	Clean stage
Image is not clear	Dirt on the surface of objectives	Clear objectives
Image is not clear while focusing	Diopter adjustment is not correct	Readjust diopter
	Focusing is not correct	Readjust it
The focusing knob is not smooth	The focusing knob is too tight	Loosen it to a suitable position
The image is obscure because of the head slipping down during observation	The focusing knob is too loose	Tighten it to a suitable position
Lamp does not work	Wrong setting of bulb	Set the bulb correctly
	Bulb has burned out	Replace the bulb
	Fuse has burned out	Replace the fuse
	Dirt on the stage obstructed the path of light	Clean the stage
Lamp burns out frequently	Voltage from power supply is too high	Use a transformer to decrease the voltage
	The bulb is not standard	Use the recommended bulb
Fuse burns out frequently	Voltage from power supply is too high	Use a transformer to decrease the voltage
Light flickers	Bulb needs replacement	Replace bulb
	The wires are not connected correctly	Correctly connect the wires

MAINTENANCE

Please remember to **never** leave the microscope with any of the eyepieces removed and always protect the microscope with the dust cover when not in use.

SERVICE

ACCU-SCOPE® microscopes are precision instruments which require periodic servicing to keep them performing properly and to compensate for normal wear. A regular schedule of preventative maintenance by qualified personnel is highly recommended. Your authorized ACCU-SCOPE® distributor can arrange for this service. Should unexpected problems be experienced with your instrument, proceed as follows:

1. Contact the ACCU-SCOPE® distributor from whom you purchased the microscope. Some problems can be resolved simply over the telephone.
2. If it is determined that the microscope should be returned to your ACCU-SCOPE® distributor or to ACCU-SCOPE® for warranty repair, pack the instrument in its original Styrofoam shipping carton. If you no longer have this carton, pack the microscope in a crush-resistant carton with a minimum of three inches of a shock absorbing material surrounding it to prevent in-transit damage. The microscope should be wrapped in a plastic bag to prevent Styrofoam dust from damaging the microscope. Always ship the microscope in an upright position; **NEVER SHIP A MICROSCOPE ON ITS SIDE**. The microscope or component should be shipped prepaid and insured.

LIMITED MICROSCOPE WARRANTY

This microscope and its electronic components are warranted to be free from defects in material and workmanship for a period of five years from the date of invoice to the original (end user) purchaser. The LED lamp is warranted for a period of one year from the date of invoice to the original (end user) purchaser. This warranty does not cover damage caused in-transit, misuse, neglect, abuse or damage resulting from improper servicing or modification by other than ACCU-SCOPE approved service personnel. This warranty does not cover any routine maintenance work or any other work, which is reasonably expected to be performed by the purchaser. Normal wear is excluded from this warranty. No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of ACCU-SCOPE INC. This warranty expressly excludes any liability by ACCU-SCOPE INC. for consequential loss or damage on any grounds, such as (but not limited to) the non-availability to the End User of the product(s) under warranty or the need to repair work processes. Should any defect in material, workmanship or electronic component occur under this warranty contact your ACCU-SCOPE distributor or ACCU-SCOPE at (631) 864-1000. This warranty is limited to the continental United States of America. All items returned for warranty repair must be sent freight prepaid and insured to ACCU-SCOPE INC., 73 Mall Drive, Commack, NY 11725 – USA. All warranty repairs will be returned freight prepaid to any destination within the continental United States of America, for all foreign warranty repairs return freight charges are the responsibility of the individual/company who returned the merchandise for repair.

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