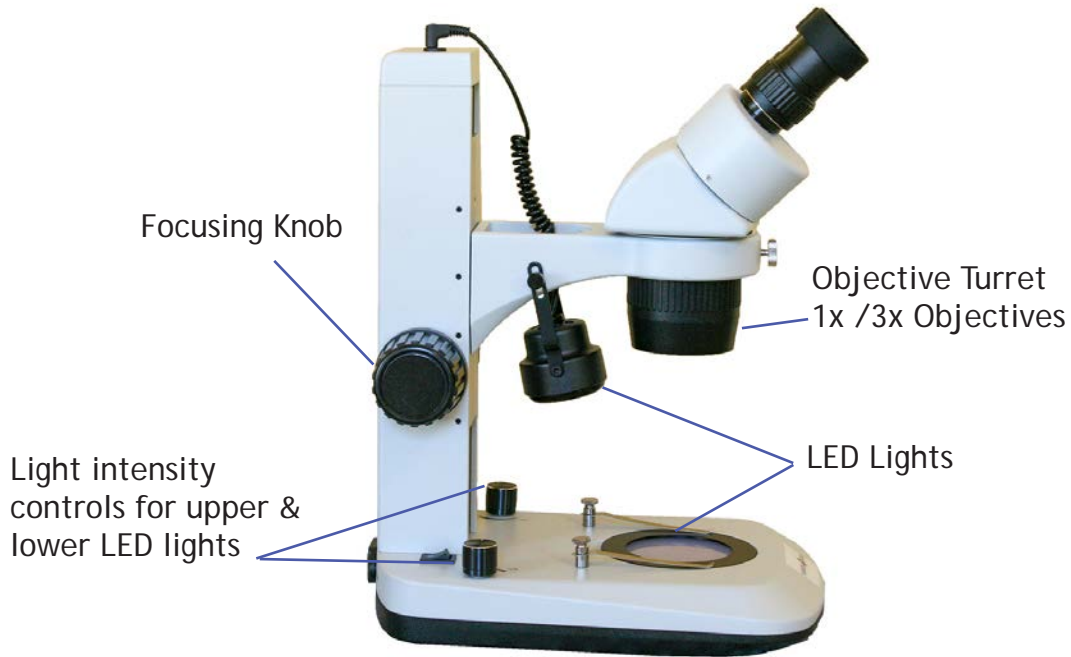
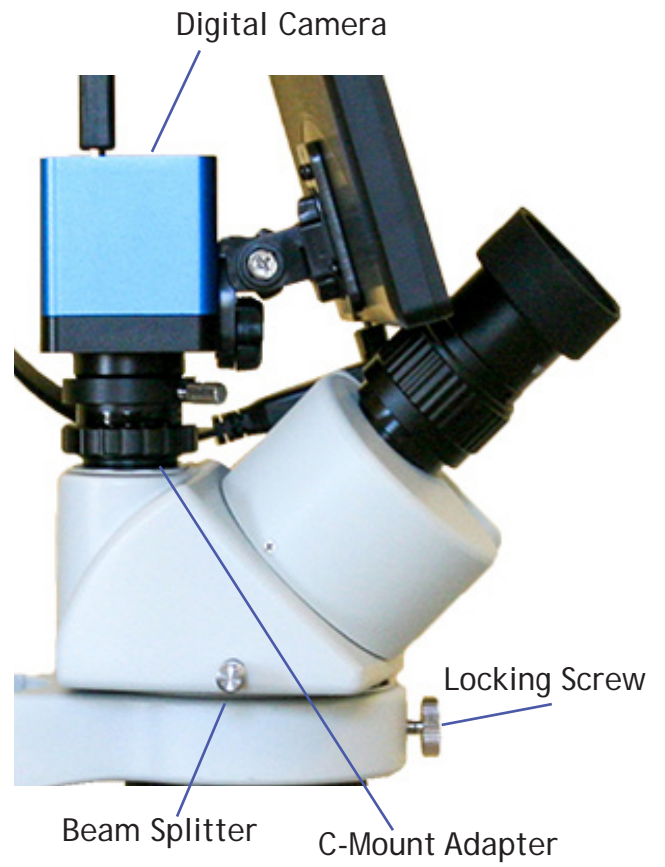
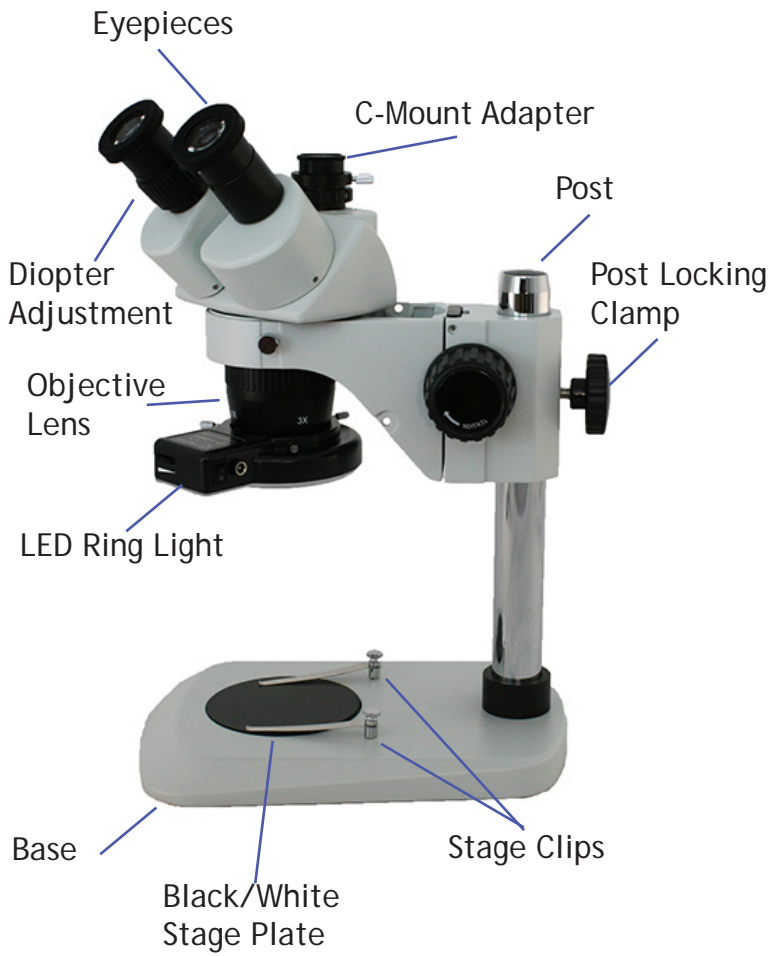




Richter Optica

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Instructions for Models:
S2 Dual Power Stereo Microscopes



Thank you for your purchase of a Richter Optica microscope. The information in this manual is provided to answer most questions that can arise when operating your microscope and to help you avoid unnecessary maintenance expenses in the future.

Please carefully read instructions before operating microscope. Nomenclature used to describe components and controls are identified on opposite page.

UNPACKING

Do not discard styrofoam container or packing materials until you are sure shipment is complete and undamaged (retain styrofoam shipping container to store your microscope when it is not in use). Remove all tape and packing material used to protect microscope during shipment. Make certain lens surfaces do not come in contact with dirt, fingerprints, or oil. Damage of lens surfaces occur when they come in contact with such contaminants, and image quality is reduced.

ASSEMBLY & ORIENTATION

1. Slide focus holder onto the silver, vertical post on the microscope stand and secure firmly into place by tightening the large, black focusing screw on the back of the focusing holder.
2. Place the head of the microscope into the circular focusing holder and tighten the two silver locking screws to secure.
3. Slide eyepieces into the eyetubes.
4. Install rubber eyeshields over the tops of the eyepieces. These will help block undesired light reflection and position your eyes at the appropriate level above your eyepieces.
5. For models furnished with a black and white stage plate, choose which side to use depending on whichever provides the best contrast for the specimen you are viewing. Some models come furnished with a black and white stage plate, as well as a frosted glass stage plate. The frosted glass stage plate is used when viewing transparent specimen slides or for viewing specimens that are thin enough for light to pass through (insect wings, plant leaves, etc.). To switch plates you will need to loosen the stage plate locking screw. Once plates have been changed, tighten locking screw back into place.
6. Make certain that the main voltage of your microscope corresponds to the voltage in your power outlet. Only insert the microscope plug if the power outlet matches.
7. Adjust the interpupillary distance between eyepieces to match that of your own eyes. Looking through the microscope with both eyes, grasp both sides of microscope head and gently push eyepiece tubes together or pull apart until you see the images blend into one.

8. Turn objective turret until smaller number (lowest magnification) is facing towards you (away from silver post), making certain that the turret “clicks” into indexed position.

Magnification is determined by multiplying the number on the eyepieces by the number on the objective turret. For example, if your microscope is equipped with 10x eyepieces and the turret is positioned so that the 3x is indexed at the front of the microscope, the resulting total magnification is 30x.

9. Place the object to be viewed on the center of the stage plate.
10. With the objective turret placed at 1x, turn the focusing knobs until object being viewed is in focus.
11. Looking through the right side of the microscope with your right eye, adjust image sharpness by turning the focusing knobs.
12. Looking through the left eyepiece of the microscope with your left eye, turn the knurled diopter adjustment collar until the left image is sharp.

You have now adjusted the microscope for your personal vision. When viewing other objects of various sizes, you should not have to make further adjustment of the diopter, and will only need to adjust the focus knobs. If other users change the diopter setting for their vision, you will need to re-adjust your diopter settings.

13. For optimum sharpness of your image in the entire field of view, it is important to position your eyes at the correct point above the eyepieces. Looking through both eyepieces, slowly move your eyes towards the eyepieces to a level where clarity of the entire field of view is achieved. After a brief period of viewing, you will easily find the best point for your vision.

MAINTENANCE

WARNING: For your own safety, turn any switches off and remove plug from power source before maintaining your microscope. If a power cord is worn, cut or damaged in any way, have it replaced immediately to avoid shock or fire hazard.

1. Optical Maintenance
 - a. Do not attempt to disassemble any lens components. Consult a microscope service technician when any repairs not covered by instructions are needed.

- b. Prior to cleaning any lens surface, brush dust or lint off lens surface using a camel hair brush. You can also use an ear syringe or canned compressed air, such as that sold by most computer stores.
- c. To clean eyepiece lenses, do not remove from eyepiece tube. Clean only the outer lens surface. Breathe on lens to dampen surface then wipe with lens paper or tissue or use a cotton swab moistened with distilled water. Wipe lenses with a circular motion, applying as little pressure as possible. Avoid wiping dry lens surface as lenses are scratched easily. If excessive dirt or grease gets on lens surfaces, a small amount of Windex can be used on a cotton swab or lens tissue. To clean objective lenses, do not remove objectives from microscope. Clean front lens element only, follow same procedure.

TROUBLESHOOTING: Optical

PROBLEM	POSSIBLE CAUSE
Dust or dirt in field of view.	Dust or dirt on objective, illuminator or eyepiece.
Double Image	Interpupillary distance is not set correctly.
	Diopter adjustment not set on eyepieces.
	Two different eyepieces are being used.
Sample blurs when magnification changes.	Diopter adjustment is not set properly on eyepieces.
	Specimen is not properly in focus.
Focusing is loose or too tight.	Adjust tension adjustment knob on the side of the microscope next to the focusing knob.

TROUBLESHOOTING: Electrical

PROBLEM	POSSIBLE CAUSE
Lamp does not turn on and light up.	Power cord not plugged in, or batteries are not charged.
	Light is burned out.
Inadequate brightness.	Rheostat knob needs adjustment.
Lamp blows out immediately.	Incorrect bulb being used.
Lamp flickers.	Connector wires are not secured.
	Lamp near end of life.
	Lamp not securely plugged into socket.