

User Manual

Binocular Stereo Microscope with Dual-bar Boom Stand

Model XG324NH



MicroscopeNet.com

Table of Contents

i. Caution.....	1
ii. Care and Maintenance.....	1
1. Component Illustration.....	2
2. Installation	2
3. Operation.....	3
4. Specifications.....	4
5. Troubleshooting Guide.....	5

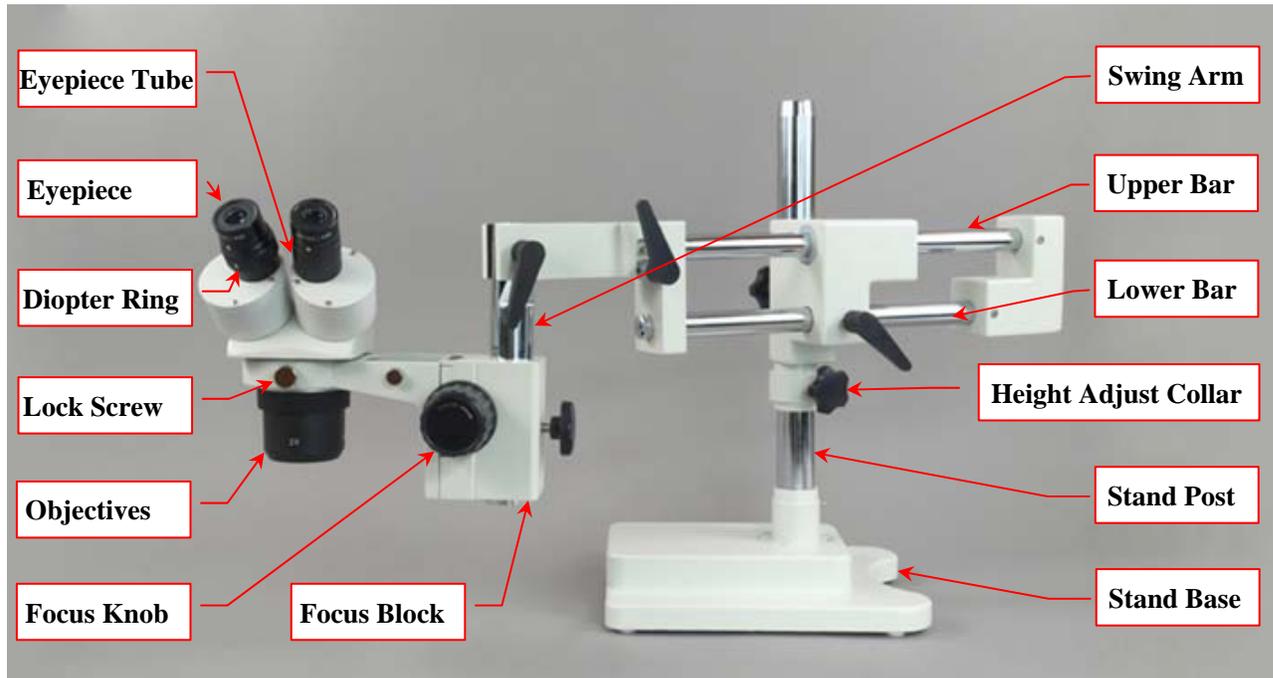
i. Caution

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 items (i.e. objectives or 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 the microscope is located on a smooth, level and firm surface.
4. The boom stand is heavy. Put it on a sturdy and level surface. And be careful when moving it.

ii. Care and Maintenance

1. Do not attempt to disassemble any component including eyepieces, objectives or 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 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. Oil immersion objectives should be cleaned immediately after use by removing the oil with lens tissue or a clean, soft cloth.
4. Store the instrument in a cool, dry environment. Cover the microscope with the dust cover when not in use.

1 Components Illustration



2 Installation

2.1 Installing the Boom Stand

Please refer to the Stand Assembly Instruction.

2.2 Installing the Microscope Body

- 1) Loosen the Lock Screw on the Focus Block holding ring.
- 2) Insert the microscope rotating objectives in to the holding ring, tighten the lock screw.

2.3 Change the Eyepieces

- 1) Loosen the set screws on each eyepiece tube.
- 2) Take off the eyepieces.
- 3) Insert the eyepieces you want to use into the eyepiece tube. Tighten the set screws on each eyepiece tube.

3 Operation

3.1 Adjusting the position of the microscope body

- 1) Adjust the height adjust collar on the stand post to the desired height then tighten the knob on it. (The height is proper when the distance between the objectives and specimen is around 80mm.)
- 2) Adjust the dual bar to the desired angle in the horizontal plan, then tighten the knob on the bar block.
- 3) Adjust the cantilever length by sliding the bar, then tighten the handle on the bar block (at the rear of the bar block, not showed in the picture).
- 4) Adjust the Swing Arm to the desired angle in the vertical plan, and then lock the handle on swing arm.
- 5) Move the microscope body to the desired direction that is convenient for observation by turning it in the holding ring and then tighten the lock screw on the holding ring.

3.2 Focusing

- 1) Put the specimen under the objectives.
- 2) Turn the rotating objectives to put the desired the objectives (2X or 4X) in the light path.
- 3) Turn the focus knob until the specimen is in focus.
- 4) If auxiliary lens is applied, the working distance changed significantly and the dual-bar has to be moved up or down accordingly.

3.3 Adjusting Interpupillary Distance

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

3.4 Adjusting Eyepiece Diopter

- 1) Using your right eye only, observe your specimen through the eyepiece and bring it into focus by adjusting the focus knob.
- 2) 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.

4 Specifications

General	
Viewing Head	Binocular, inclined 45°, swiveling 360°, interpupillary distance 55-75mm, adjustable diopter on left eyepiece tube
Eyepieces	Wide field WF10X/20, WF20X/10
Objectives	Rotating 2X and 4X
Working distance	80 mm (3-1/8")
Boom Stand	Dual-bar, w/ focusing head

Eyepieces		
Designation	Magnification	Field of View
Wide Field	10X	20mm
Wide Field	20X	10mm

Magnifications				
Eyepiece	10X	20X	10X	20X
Objective	2X		4X	
Magnification	20X	40X	40X	80X

5 Troubleshooting Guide

OPTICAL PROBLEMS		
Problem	Cause	Solution
Totally dark in the view field	The cover of objectives is still on	Take off the cover of objectives
Darkness at the periphery or uneven brightness in the field of view	Rotating objectives are not in click stop position	Turn the objectives to click-stop position
Dirt or dust on the view	Dirt or dust on the lens eyepiece, condenser, objective, collector lens or specimen	Clean the lens with a camera cleaning kit
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 dual-bar so that the distance between the objectives and specimen is about 80mm.

IMAGE PROBLEMS		
Problem	Cause	Solution
Image moves while focusing	Specimen rises from stage surface	Secure the specimen
	Rotating objectives are not in the click-stop position	Turn the objectives to the click-stop position
Image is too bright	Lamp intensity is too high	Adjust the illumination system
Insufficient brightness	Lamp intensity is too low	Adjust the illumination system

MECHANICAL PROBLEMS		
Problem	Cause	Solution
Slippage of focus when using the coarse focusing knob Fine focus is ineffective	Locking knobs and handles of the stand are not tightened	Check the knobs and handles of the boom stand, tighten them as required