

User Manual

Industrial Inspection Microscope

Model M516

MicroscopeNet.com

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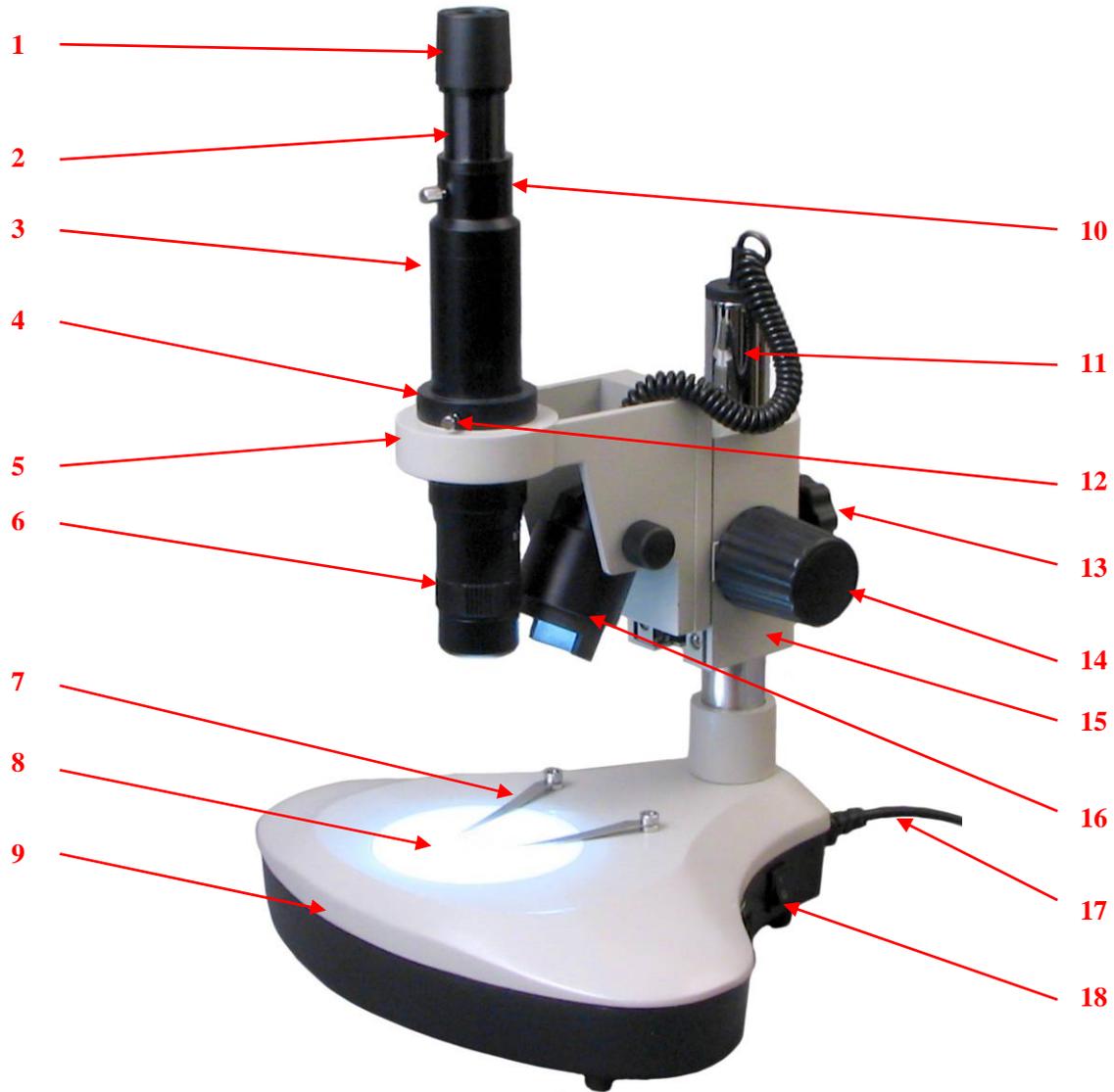
i. Caution

1. Do not discard the microscope container. The container should be retained should the microscope ever requires reshipment.
2. 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.
3. If any specimen solutions or other liquids splash onto the stage, wipe up the spillage immediately. Otherwise, the instrument may be damaged.
4. **Important:** the lamp, lamp housing and adjacent parts will become very hot. Do not touch these parts until they have completely cooled. Never attempt to handle a hot halogen bulb.
5. All electrical connectors (power cord) should be inserted into an electrical surge suppressor to prevent damage due to voltage fluctuations.
6. For safety when replacing the halogen lamp or fuse, be sure the main switch is off, unplug the power cord, and only replace the halogen bulb after the bulb and the lamp house has completely cooled.
7. Confirm that the input voltage indicated on your microscope corresponds to your line voltage. The use of a different input voltage other than that as indicated will cause severe damage to the microscope.

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 solvent 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 and dry environment. Cover the microscope with the dust cover when not in use.

1. Components Illustration



- | | | |
|---------------------|-------------------|---------------------|
| 1. Eyepiece | 7. Stage Clip | 13. Tightening Knob |
| 2. Eyepiece Adapter | 8. Stage Plate | 14. Focus Knob |
| 3. Microscope Body | 9. Base | 15. Focusing Block |
| 4. Holder Adapter | 10. Eyepiece Tube | 16. Incident Light |
| 5. Holder | 11. Stand Post | 17. Power Cord |
| 6. Zoom Ring | 12. Thumb Screw | 18. Power Switch |

2. Installation

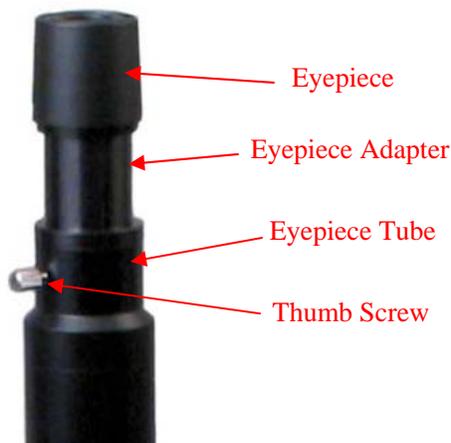
2.1 Installation of the microscope body

- 1) Loosen the thumbscrew on the microscope holder.
- 2) Insert the microscope body into the holder. Be certain that the scale of the zoom ring is facing toward you.
- 3) Tighten the thumb scale on the holder.



2.2 Installation of the eyepiece

- 1) Loosen the thumbscrew on the eyepiece tube.
- 2) If the C-mount adapter is installed, remove it from the eyepiece tube.
- 3) Insert the eyepiece adapter into the eyepiece tube, and then tighten the thumbscrew.
- 4) Insert the eyepiece into the eyepiece tube.



C-mount Adapter



Eyepiece Adapter

3. Operation

3.1 Place the stage plate

Swing the stage clips aside and put the stage plate on. When observing with transmitted illumination, the glass stage plate should be put on.

3.2 Adjusting the illumination

- 1) Plug the power cord into a power outlet.
- 2) Press the power switch to turn the lights on.
- 3) Turn the intensity dial to adjust the brightness of light.
- 4) Press the light-choosing switch to choose incident or transmitted light.



Intensity Dial Power Switch



Light-choosing Switch

3.3 Place the specimen

- 1) Put the specimen in the center of the stage plate, and hold the specimen with the stage clips if necessary.
- 2) Press light-choosing switch to choose appropriate light source.
- 3) Adjust the intensity dial as necessary.

3.4 Focusing

- 1) Loosen the tightening knob on the focusing block and move the block up or down so that the distance between the objective and base surface is around 90mm. Then tighten the knob.
- 2) Turn the zoom ring to its lowest position (0.7x).
- 3) Adjust the focus knob until the specimen is in focus. Then move the specimen slightly and carefully so that the observing area is in the field of view.
- 4) Adjust the zoom ring to zoom the viewing in or out.
- 5) Adjust the focus knob if necessary.

3.5 Tension Adjustment

The focus tension can be adjusted by holding the two focus knobs with your two hands at the same time and turning them in opposite direction.



Tighten



Loosen

4. Specifications

Model	M516
Total Magnification	Zoom 7X ~ 90X
Eyepiece	1 pair of WF10X/18 and 1 pair of WF20X
Objectives	Zoom 0.7X ~ 4.5X Zoom ratio 1:6.5
Working Distance	90mm (3-1/2")
Field of View	4mm ~ 25mm
Focusing Mechanism	Focusing knobs on both sides Rack and pinion adjustment, stroke 54 mm
Stage Plate	Clear glass plate: 95mm (3-3/4") in diameter White/black plastic plate: 95mm (3-3/4") in diameter
Illumination	Incident (upper): 6V 15W halogen with reflector Transmitted (lower): 6V 20W halogen Main power switch Light-choosing switch Intensity dial
Power Supply	110V 60Hz
Dimension	32cm x 27cm x 46cm (12-1/2" x 10-1/2" x 18")
Net weight	4.7 kg (10 lb 6 oz)

5. Troubleshooting Guide

Symptom	Cause	Remedy
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
Cannot 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 viewing head so that the distance between the objectives and specimen is about 90mm.
Image moves while focusing	Specimen rises from stage surface	Secure the specimen
Lamp does not light when switched on	No electrical power	Check power outlet Check power cord connection
	Fuse blown out	Replace fuse
	The light bulb is burnt out	Replace the light bulb