LABOMED

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CZM6 Stereo Zoom Microscope

User Manual

To ensure proper use of this instrument as well as to avoid injury while operating instrument, understanding this manual completely before use is highly recommended.

www.laboamerica.com

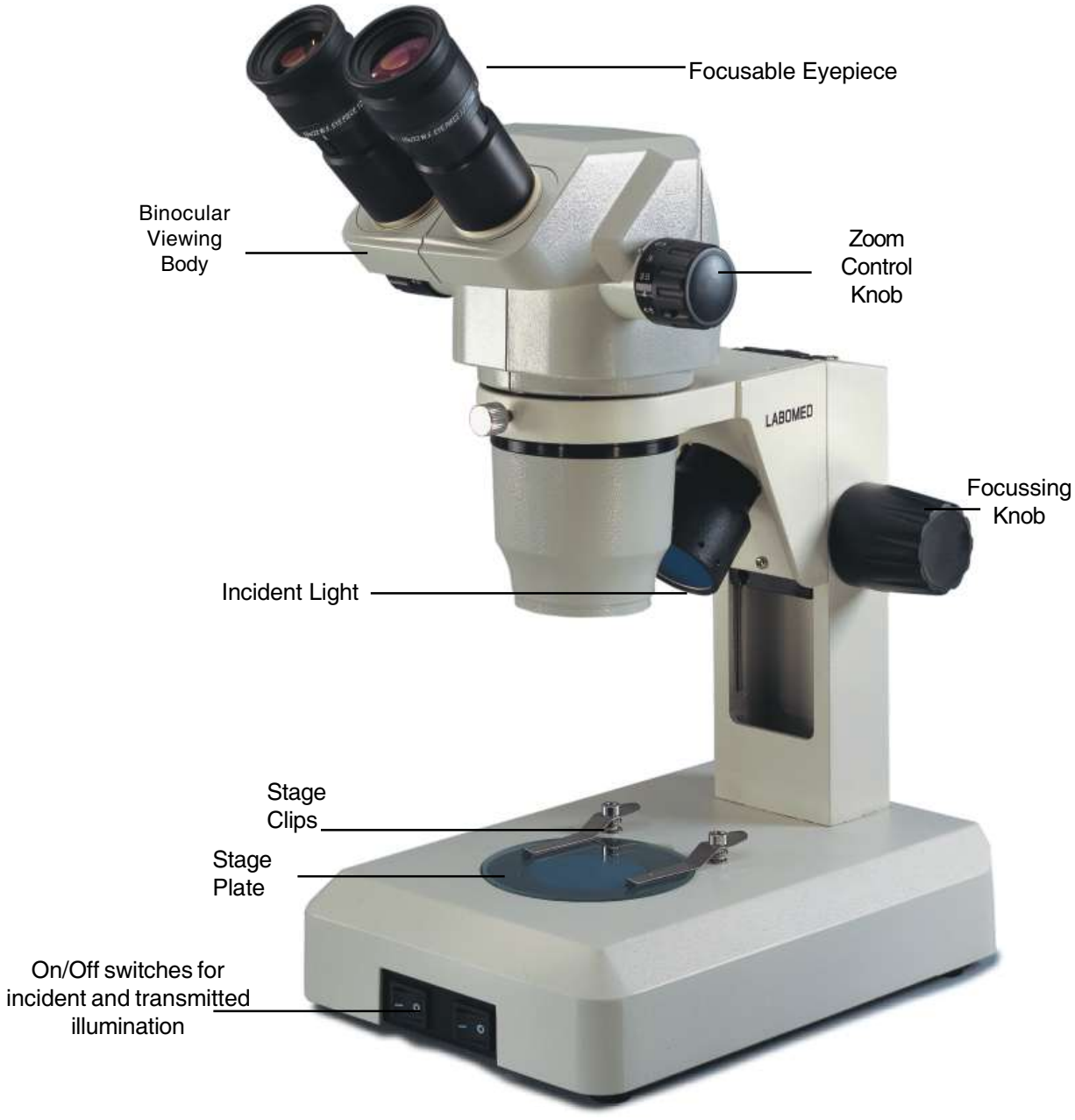
INSTRUCTION MANUAL

1 Introduction

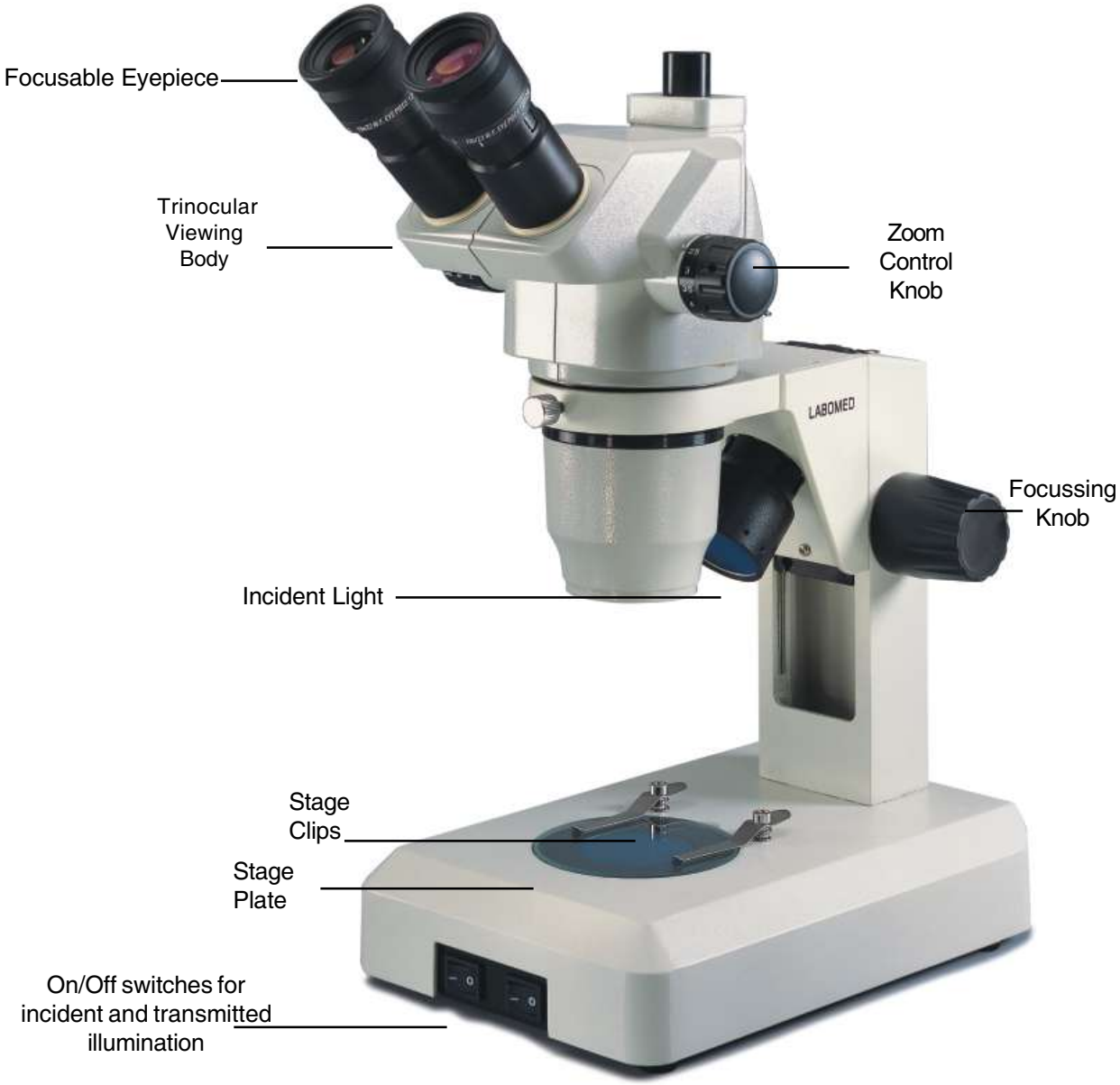
The CZM6 Microscope is a professional grade imaging system with a modern design that incorporates both the latest in optical and mechanical advancements in stereo microscopy. The CZM6 microscope is a versatile system which offers various configurations, each tailored for disparate applications. A keen attention to user convenience has been incorporated in both the mechanical and optical systems of this precision instrument. Superior levels of clarity and contrast are provided through the 45° horizontally inclined binocular body, with both incident (12V-20W) and transmitted (12V-10W) Halogen illumination systems. To address the requirements of advanced applications, accessories such as our Dark-Field attachment and Polarising kit are offered as optional upgrades.

2 Photographic View

CZM 6 - BINOCULAR



CZM 6 - TRINOCULAR



3 Contents

Remove the microscope components from the Styrofoam box and verify all the components of the microscope as per product code are present, as ordered:

STAND

- HL Stand, inclined light with reflector bulb 12V20W Halogen, bottom Light 12V10W Halogen
- CFL Stand, inclined light 5W CFL with black and white stage plate
- Boom Stand with bonder Arm
- Pole Stand

OBSERVATION HEAD

- Binocular Zoom Pod 1:6.9
- Trinocular Zoom Pod 1:6.9 (Optional)

EYEPIECES

- 10x WF FN20 Fixed type
- 10x WF FN20 Focusable type
- 10x WF FN22 Fixed type
- 10x WF FN22 Focusable type (Standard)
- 16x WF FN16 Fixed type
- 16x WF FN16 Focusable type
- 20x WF FN12 Fixed type
- 20x WF FN12 Focusable type

AUXILIARY OBJECTIVES (Optional)

- Auxiliary Objective 0.5x
- Auxiliary Objective 1.5x
- Auxiliary Objective 0.75x
- Auxiliary Objective 2.0x

ACCESSORIES (Optional)

- Filar Micrometer
- Adaptor for CCD Camera
- Adaptor for Digital Camera
- Darkfield attachment
- Ring Light with adapter
- Fiber Optic Illumination
- Polarizing Kit (4121037 Polarizer & 4121035 Analyzer)

4 Initial Setup

Observation Head

Remove observation head from Styrofoam box and follow the following steps:

(i) Loosen the Head Locking screw provided in microscope pod.

(ii) Place the Observation Head on the pod and secure by tightening the Head Locking screw.

Eyepieces - Insert both eyepieces into the ocular tubes provided in the Observation Head and confirm the fitting is secure.

Install Glass Stage or Black and White Plate on the base cavity and hold plate down with stage clips provided.

5 Operating Procedure

This procedure explains how to use CZM 6 Microscope, it does not include information on general techniques of stereo zoom microscopy.

- Place the specimen to be observed in the center of the glass plate (or Black & White Plate)
- Verify that all exposed optical surfaces are free of any particulate debris. Plug the male end of the provided power cord into a grounded outlet and the female end into the microscope base. Turn ON the main power supply by toggling the ON/OFF switch provided at the back of microscope base. Switch on the incident and/or base lamps as required toggling the corresponding ON/OFF switches provided on the front panel of the microscope base.
- Rotate the zoom control knob until the low magnification is achieved.
- Adjust the interpupillary distance by adjusting the two ocular tubes inwards/outwards until both eyes are able to fixate on one common circular field while looking through the eyepiece.
- While looking through the eyepieces, adjust the microscope focus position along the vertical axis by adjusting the focus knob(s) provided on either side of the stands arm.
- When a feature / region of interest needs augmentation, rotate the zoom control knob to adjust the magnification.

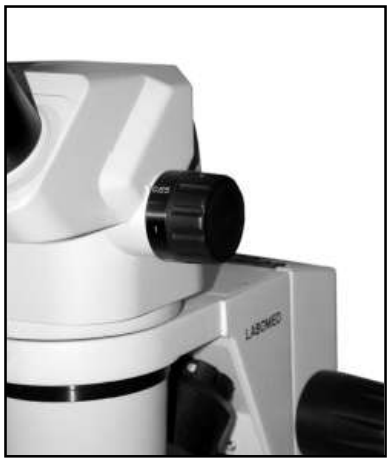
6 Fine Adjustment of Observation Head

Rotate the Observation Head to bring it to a convenient position. Normally it is kept aligned and not rotated.

- Adjust interpupillary distance by bringing the eyepiece tubes closer or apart till you see one fused image.
- If the image from both oculars has any loss in sharpness, you can adjust the dioptric in the eyepieces to compensate for any refractive error in the eye.
  - Set diopter on both eyepieces / oculars to zero.
  - Focus the specimen with focusing knobs.
  - After best possible focus is achieved, adjust the circular dioptric rings provided on eyepieces for finer focus.
  - For this initial setup of parfocality, please make sure you are using a flat specimen.

7 Changing Magnification

Rotate the zoom control knob provided on either side of the observation head.



8 Changing bulb for incident & Transmitted Lamp

1 Use any 12V-20W Halogen with reflector dia 35mm for incident light (GE, OSRAM bulbs suggested).

2 Turn the microscope OFF. Unplug the Microscope by removing the power cord. Verify once again that the main power switch is in OFF position.

3 Open the outer cover of the incident light housing by anti-clockwise rotation.

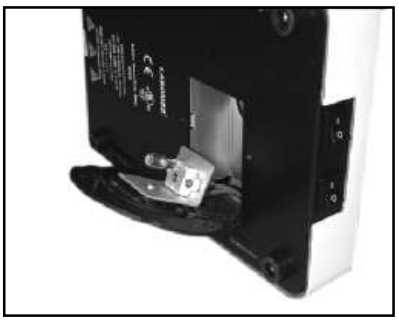
4 Using tissue paper, replace the old bulb and insert new bulb in bulb cavity.

⚠ CAUTION: *To avoid any injury, please make sure microscope has been off for at least 15 minutes before removing old bulb.*

9 Changing bulb for Transmitted illumination

- Use any 12V - 10W Halogen Bulb for transmitted light (GE, OSRAM bulbs suggested)
- Repeat step 2 as mentioned above.
- Remove observation head and turn microscope upside down in order to access bulb housing through the base plate. Pull on locking knob to open the lamp door.
- Repeat step 4 above.

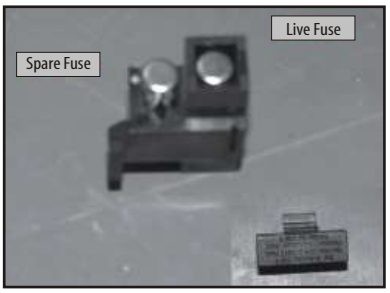
⚠ CAUTION: *To avoid any injury, please make sure microscope has been off fro at least 15 minutes before removing old bulb.*



10 Fuse Replacement

The AC inlet socket on the back panel has an inbuilt fuse compartment which houses two fuses. One fuse is live and one fuse is a spare unit and can be replaced. Please follow the following steps when replacing a fuse.

- Remove power plug from microscope before doing any replacement of fuse.
- Use a flat Head Screwdriver to rotate and remove the fuse holder from the AC inlet socket.
- The walled fuse is the live fuse and other one is a spare fuse.
- Change the blown fuse with the new fuse and replace the fuse holder in the AC inlet socket.



11 Environmental Conditions

- Designed for indoor use
- Installation Category II
- Pollution degree 2
- Indoor use
- Altitude : 2000 mtrs.
- Temp. : 5° C - 40°
- Relative Humidity : Maximum 80% at temp. upto 31° C
- Supply voltage shall not exceed 10% of the rated input voltage

Caution : High Voltage
Fuse Replacement

Warning : High Voltage
Power Inlet

Earth

Warning : High Temp.
Bulb Replacement

12 Accessories - Stand

4122047
Pole Stand

Size: L 245 x W 175 x H 320mm

Size: L 245 x W 175 x H 260mm

412085-000
HL Stand

4122042
Boom stand with
Bonder Arm

Size: L 245 x W 250 x H 385mm

Size: L 245 x W 175 x H 270mm

4122086-000
Dual Light
Stand

Size: L 245 x W 175 x H 235mm

412088-000
SB Stand w/o
Top light

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