

INSTRUCTION MANUAL

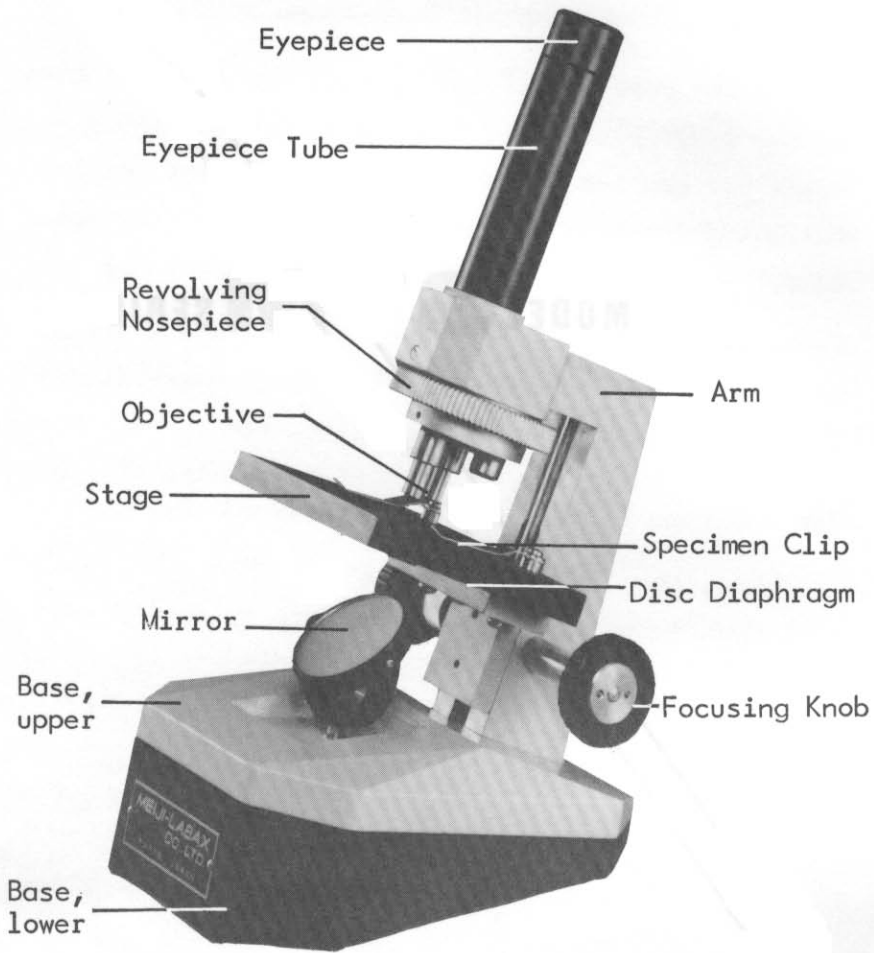
MODEL **STM** SERIES

STUDENT MICROSCOPE

MEIJI LABAX CO., LTD.

TOKYO





INSTRUCTION MANUAL

For STM Student Microscope

The STM Student Microscope is a quality instrument made available to science student at a cost within the reach of the modest budget.

Unpacking

Once opened, remove the microscope, being careful not to touch the optical surfaces with your fingers. If you should accidentally touch the lenses, refer to the Chapter entitled "Cleaning".

Before attempting to use your microscope, it is important to familiarize yourself with the terminology of the microscopy.

Components of the Microscope

- BASE foot of the microscope that support other components.
- ARM the frame that support stage, nosepiece and eyepiece tube.
- STAGE the table of the microscope on which the slide or specimen is placed. The stage has locked on specimen clips to hold the slide or specimen securely.

NOSEPIECE .. the revolver that carries the objectives.
OBJECTIVE .. the optical system that does the initial magnifying to focus the primary image of specimen.

DISC DIAPHRAGM .. the disc attached to the underside of the stage. The disc has five apertures and is used to increase or decrease contrast in the image of the specimen.

FOCUS KNOBS .. these are located on both sides of the Arm. By rotating either or both knobs the stage is raised or lowered to bring the specimen into focus.

HOW TO USE STM MICROSCOPE

The upper Base can be rotated so as to give the instrument either an upright or inclined configuration

1. Place the slide on the stage and secure it under the clips. Be sure the specimen is directly over the opening in the stage.
2. Rotate the disc diaphragm to position its largest aperture with the opening in the stage.
3. Adjust the mirror to direct the light into the optical path.
4. Rotate the nosepiece to place the 4X objective in position over the specimen. Be sure the objective "click" into its position.

5. While observing through the eyepiece, rotate the focusing knobs to bring the specimen into focus. Move the slide to place the specimen directly into the center of the field of view.
6. If the image contrast appears weak, rotate the disc diaphragm to align the next smaller aperture with the opening in the stage. Each successively smaller aperture will increase contrast in the image of specimen.
7. Rotate the nosepiece to the 20X/40X objective. A slight turn of the focusing knob may be necessary to bring the image of the specimen into sharp focus, and once this is done the image will be in sharp focus with 20X/40X, 10X and 4X objectives.

The STM Student Microscope is equipped with a built-in slip clutch on the focusing knobs to protect the precision gears of the rack and pinion mechanism from damage. This is activated at both upper and lower limits of travel and once either limit is reached the knobs will slip if turned further.

TROUBLESHOOTING

1. Trouble the contrast of the image is weak.
Correction ... 1) Rotate the disc diaphragm to a smaller aperture. 2) Clean the objective according to the instruction under "Cleaning".

2. Trouble Unable to bring specimen into focus with any of the objectives.

Correction ... The eyelens of the eyepiece is partial unscrewed. Loosen the set-screw in the eyepiece tube, take out the eyepiece, screw the upper element tightly to the eyepiece and reinstall.

3. Trouble Image of the specimen goes out of focus all by itself.

Correction ... Tighten the collar found on the spindle of the focus controls by loosening a set screw on the collar and turning the collar by fingers.

If the focusing knobs turn hard even with tension collar loosen, the microscope should be disassembled by qualified, authorized technician for cleaning and lubrication.

CLEANING

The lenses should never be wiped while dry as this will surely scratch or otherwise mar the surface of the glass. The surfaces of the lenses should first be brushed by a soft camel hair or blown off by air from a rubber syringe to remove dust particles. In most cases the lens may be cleaned by blowing on the lens to moisten it, then wiping with lens tissue folded several times.

If the surface of the lens remains soiled, remove the contaminant by the tissue folded several times and moistened with Xylene.

Painted surface should be cleaned with a soft cloth and mild detergent. Repairing or internal cleaning should be done only by qualified, authorized technicians.

HOW TO ATTACH SUBSTAGE ILLUMINATOR IN PLACE OF MIRROR

1. Rotate the Base a half way so that you can see holes on the lower black Base and through one of those holes you can see a set screw which is used for fastening the mirror from the underside of the upper Base.
2. Remove the mirror by loosening the set screw and replace it with the Substage Illuminator and fasten it with the set screw as the mirror was.

The Substage Illuminator is an optional accessory.

Cat. No. STM300/30/100 is for 115V.

Cat. No. STM300/30/200 is for 220V/240V.

