

EQUIPMENT

Microscope Preventative Maintenance

Preventative Maintenance

Complete every six months.

- Clean machine with air brush or air blower, lint free cloth with lens cleaner. Start cleaning objective lens from center and spiral out with cotton swab or cloth. If lens cleaner is not available, ethyl ether, xylene, petrol can be used. However, alcohol, acetones or any other ketones should not be used, as they may dissolve the sealants around the lens.
- Check for and remove any present fungal growth.
- Ensure a specimen can be viewed clearly through all objectives. Do not scratch or damage the lens. Oil lens - X100 needs a drop of oil to confirm clear image. Clean all objectives and eyepieces first, and then check for image clarity.
- Check optical alignment.
- Lubricate adjustments.
- Ensure light source is working properly.
- Inspect for signs of damage, scratches, or dirt.
- Examine switches and controls for proper function.
- Replace uncooked rice before storage to prevent fungal growth.

Kohler Illumination: It is a method of illumination which involves optimizing a microscope's optical train to produce homogeneously bright light free from artifacts and glare. In Kohler illumination, four separate planes combine to form conjugate planes in both the illumination and image-forming light pathways. The lamp filament, aperture diaphragm, back focal plane of the objective lens, and the eye point which is approximately one centimeter above the top lens of the ocular, form the illumination conjugate plane. The conjugate planes of the imaging light path are the field diaphragm, specimen, the fixed diaphragm of the ocular, and the retinal plane of the viewer. In Kohler illumination the collector lens or field diaphragm collects light from the illumination source and focuses it at the front focal plane of the sub-stage condenser's aperture diaphragm which, in essence, projects an image of the lamp filament onto the lens.