

# Clinical Microscope Preventative Maintenance Procedure

(Meets or exceeds all College of American Pathology (CAP)™ preventative maintenance service requirements.)

☐ **Evaluation**

Complete a performance check of all optical and mechanical functions; notify the laboratory staff of major concerns prior to servicing.

☐ **Tear Down and Cleaning**

Carefully remove the oculars, head assembly, objectives (maintain sequence), slide holder, mechanical stage (if practical), condenser, blue / interference / neutral density or polarizing filters, field opening bracket with iris (if removable), and other accessories. Clean all optical surfaces using proper technique. Clean all non-optical solid surfaces including the body of the microscope using proper technique.

☐ **Lubrication**

If needed, apply appropriate lubrication to all moving parts ... mechanical stage bearing track and rack and pinion gears, slide holder, focus mechanism, rotating nosepiece, condenser rack and pinion gears.

☐ **Re-assemble**

☐ **Kohler Alignment**

Complete Kohler Alignment using settings for the condenser alignment screws and the condenser and field iris diaphragms.

☐ **Centration Error Check**

Check and record the specific values for Centration Error ... both horizontal and vertical.

☐ **Full Function Check**

- Parfocality, Parcentration and Resolution of all Objectives
- Confirm that all ocular surfaces are clean by rotating oculars under high magnification.
- Check the function of the Inter-Pupillary Distance (IPD) mechanism.
- Check the function of focusing oculars and / or focusing eye-tubes.
- Confirm stage collimation by focus stability during slide movement.
- Check mechanical stage motion and control knob tension adjustments.
- Check bulb socket alignment and condition.
- Confirm proper fusing.
- Check all accessories for proper function and alignment: phase contrast alignment, polarization and red compensator function, UV bulb alignment, micrometer calibration and documentation, dual-view system alignments, pointer bulbs, camera / CCD function.
- Electrical Safety Check

☐ **Notification of Concerns to Staff**

☐ **Written Documentation to Lab Manager** ... conforming to CAP inspection requirements

☐ **End-of-Day Verification** – a walk around of all lab departments to confirm that all microscopes are working well and that any adjustments are acceptable.

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