Elements of a Preventative Maintenance Servicing

Meets or exceeds all College of American Pathology (CAP)™ preventative maintenance service requirements. ("WORD™" version downloadable at MicroscopyUSA.com.)

- ☐ **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.

- ☐ **Calibrate Ocular Micrometer** – **only if requested by the clinical laboratory** – Use NIST* Stage Micrometer (*National Institute of Standardization of Technology)

- ☐ **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

- ☐ **Calibrate Ocular Micrometer if Requested by Laboratory Staff**

- ☐ **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. **Total Time: ~ 35 minutes with experience.**