

CNT240 Maintenance Procedure

1. Purpose of Maintenance

To ensure normal equipment operation, meet operational requirements, maintain the equipment in good condition, and achieve standards of cleanliness and safety.

2. Scope of Application

CNT 240

3. Maintenance Requirements

Based on an 8-hour daily operation cycle, full annual maintenance is recommended. For higher-frequency usage, semi-annual maintenance is advised. This maintenance involves disassembly of the equipment housing and carries high operational difficulty; it must be performed by operators together with experienced maintenance personnel.

4. Precautions

4.1 Rubber gloves must be worn during cleaning.

4.2 All full-unit maintenance work shall be carried out with the power disconnected.

4.3 To wipe off oily or greasy stains (immersion oil, fingerprints), use cotton swabs or lint-free cleanroom wipers together with dedicated optical cleaning solvent (e.g., anhydrous ethanol).

5 Maintenance Content

5.1 Slide Racks

1) Inspect all slide racks for overall deformation.



Deformed condition



Normal condition

2) Check if the shrapnel still has elasticity; replacement every six months is recommended.

Judgment method: Manually toggle the shrapnel to see if it fails to spring back.

3) Check whether the white marking paper is warped, damaged or fallen off (required for old versions).



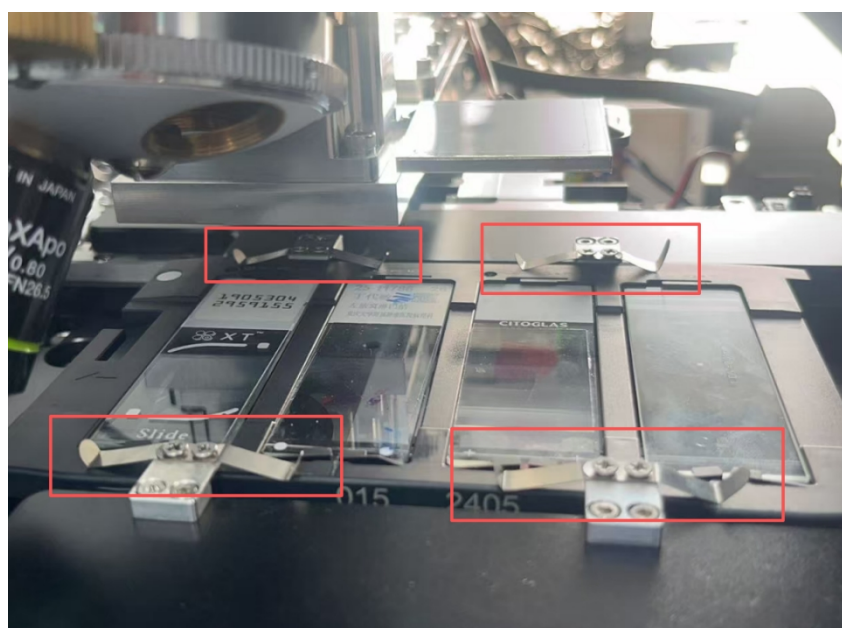
4) Check for severe wear on all surfaces. If the wear depth of the two side faces exceeds 0.5 mm, scrap the slide holder directly.

5.2 Housing Components

- 1) Disassemble and clean the housing.
- 2) Check the two acrylic covers for damage or cracks

5.3 Hardware Inspection

1) Check whether the stage slide pressing pieces are deformed. The shrapnels under normal condition are shown in the figure below: each pressing piece can make contact with the slide rack.



2) Check the elasticity of slide loading jack screws.

Judgment method: Resistance from jack screws on both sides can be felt when pushing the slide rack manually.



3) Check whether there is any abnormal condition when pushing the stage forward and backward.

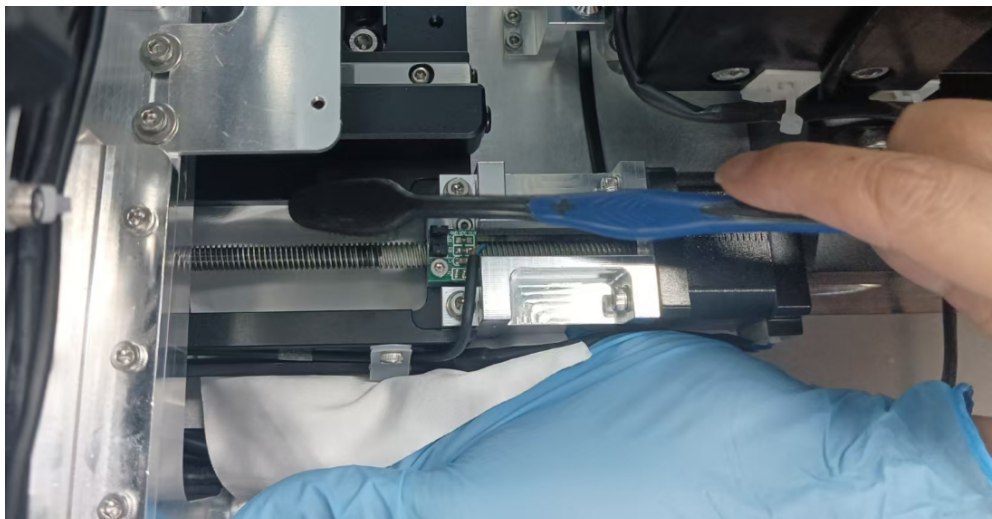
Inspection method: Push the stage manually after power cut; no stalling shall occur.



5.4 Lead Screw Cleaning

Use a toothbrush to clean the surface of the lead screw. Rotate the lead screw back and forth manually to clean its entire outer surface; a small amount of ethanol can be used for cleaning.

1) Clean the Y-axis lead screw



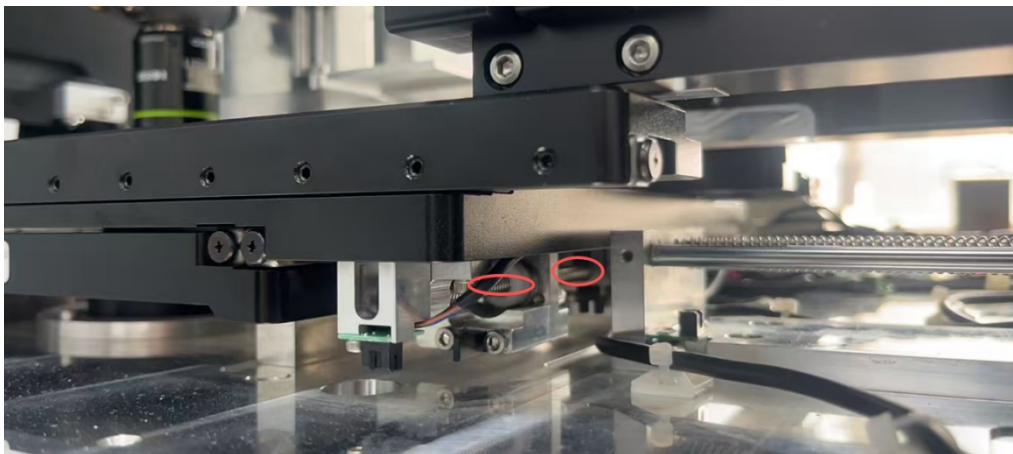
2) Clean the L-axis lead screw



3) Clean the U-axis lead screw



4) Clean the X-axis lead screw; only brush it from the outer side.



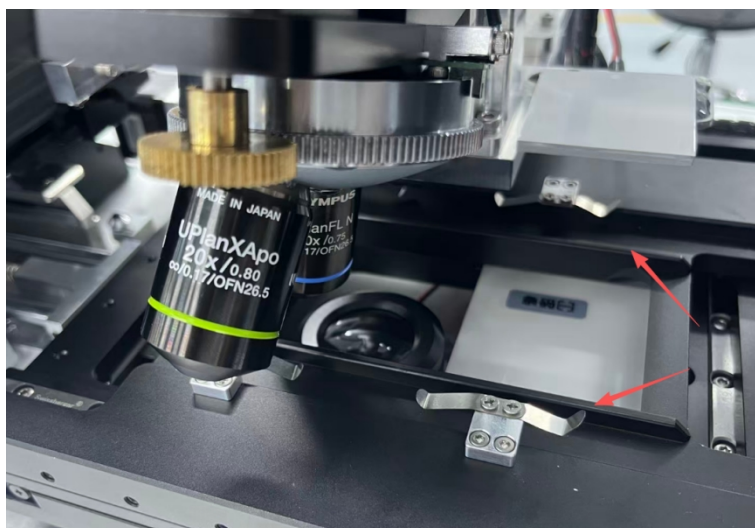
5) After the first round of cleaning, power on and run cyclic movement for X, Y, L and U axes respectively for 5 minutes. Then clean the lead screws again. Note: XY axes and LU axes must be operated separately to avoid mechanical interference.

6) After final cleaning, apply a thin layer of dedicated lead screw grease.

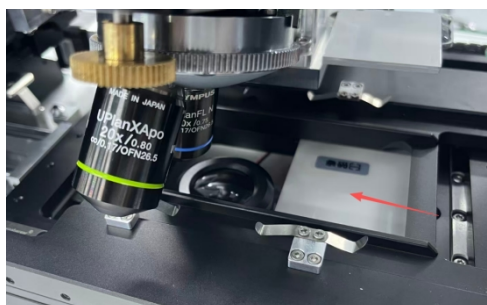
5.5 Internal Cleaning

1) Remove slide fragments Clear residual slide fragments and glue visible on the stage surface; take care to avoid hand cuts.

2) Clean the stage support plate

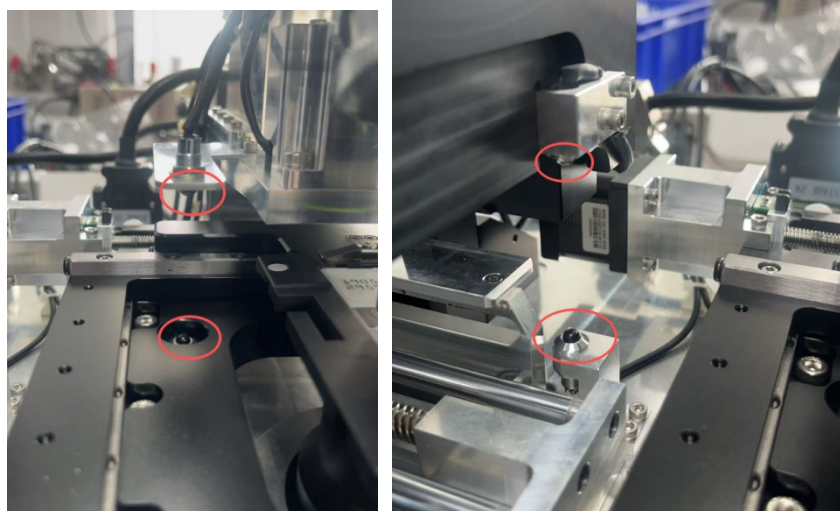


3)Clean the bottom preview light board

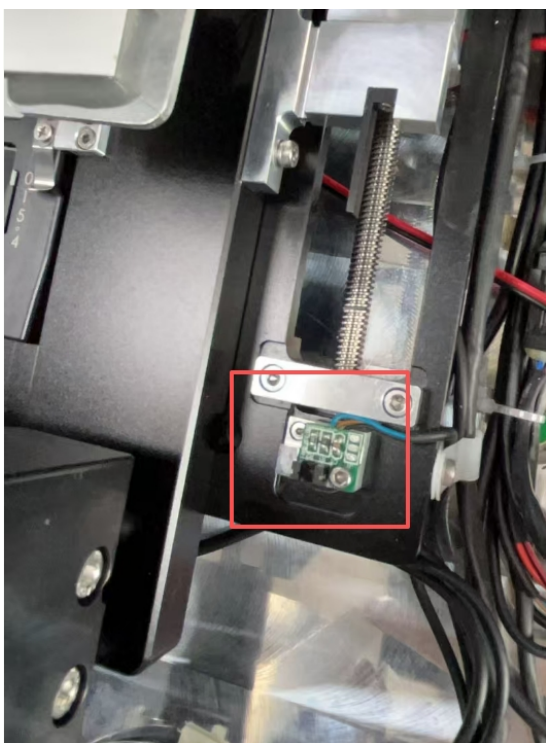


4)Clean the through-beam sensors

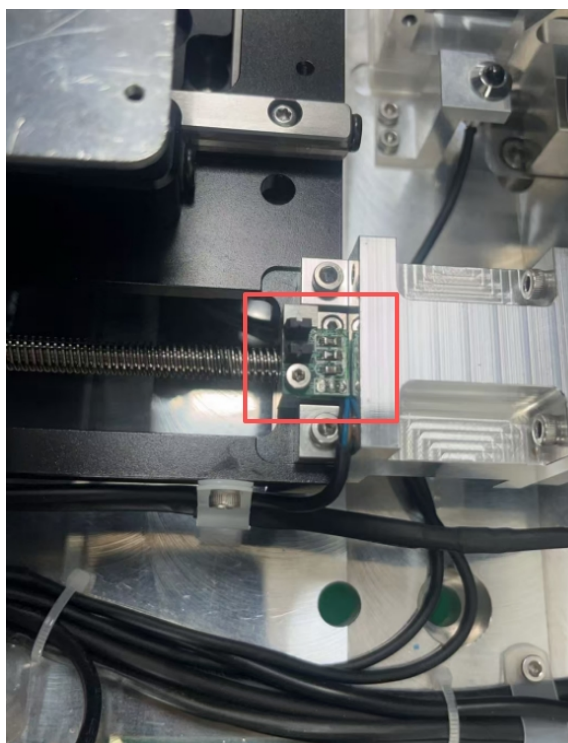
Wipe the sensors with lint-free cloth.



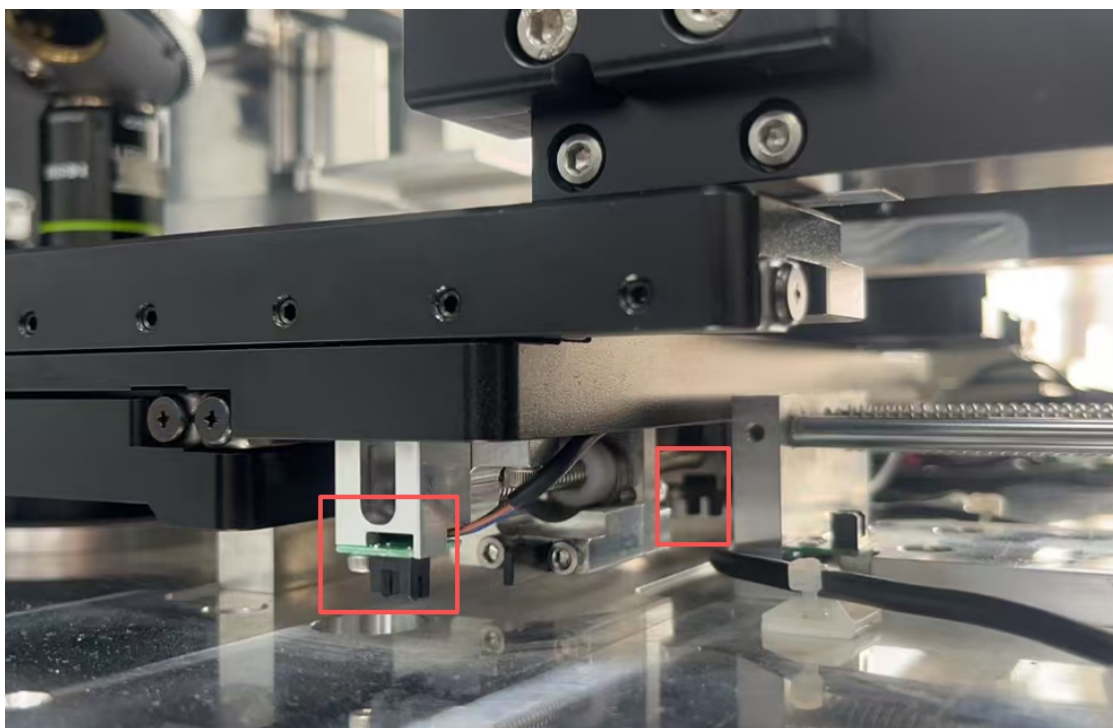
5)Clean photoelectric switches Clean with an air blower, air gun or vacuum cleaner.



Y-axis negative limit



Y-axis positive limit



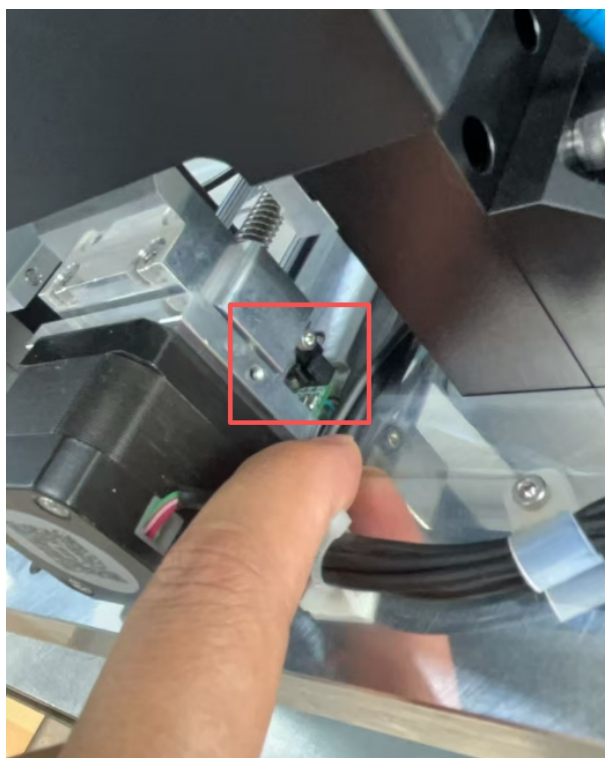
X-axis limit



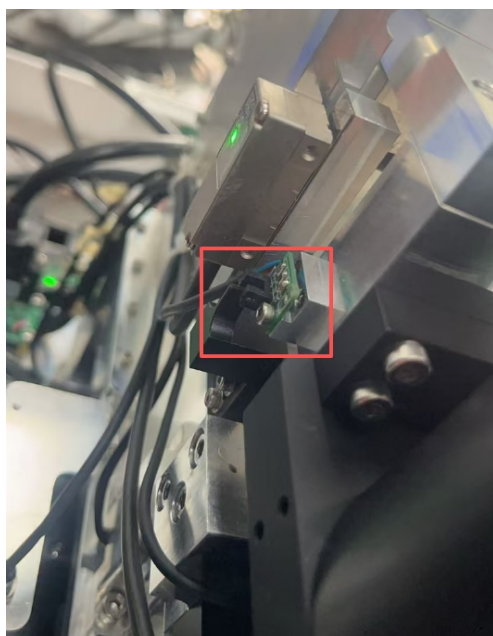
U-axis limit



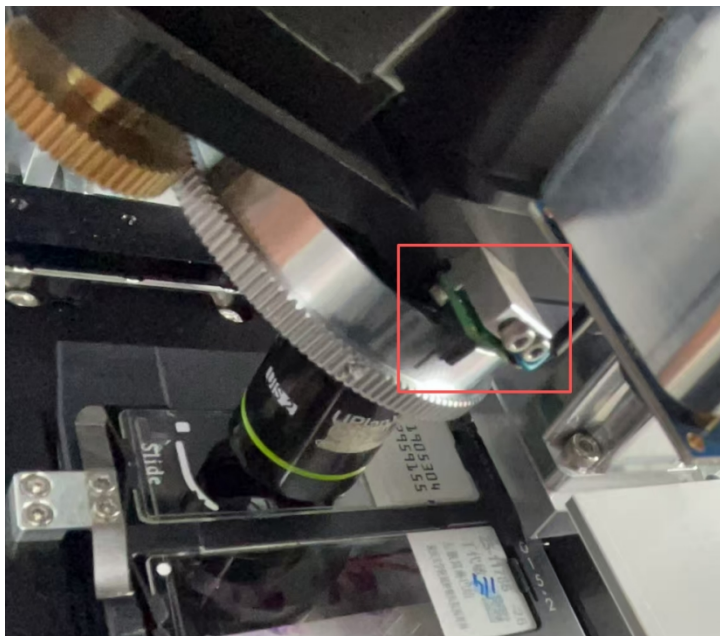
L-axis negative limit



L-axis positive limit



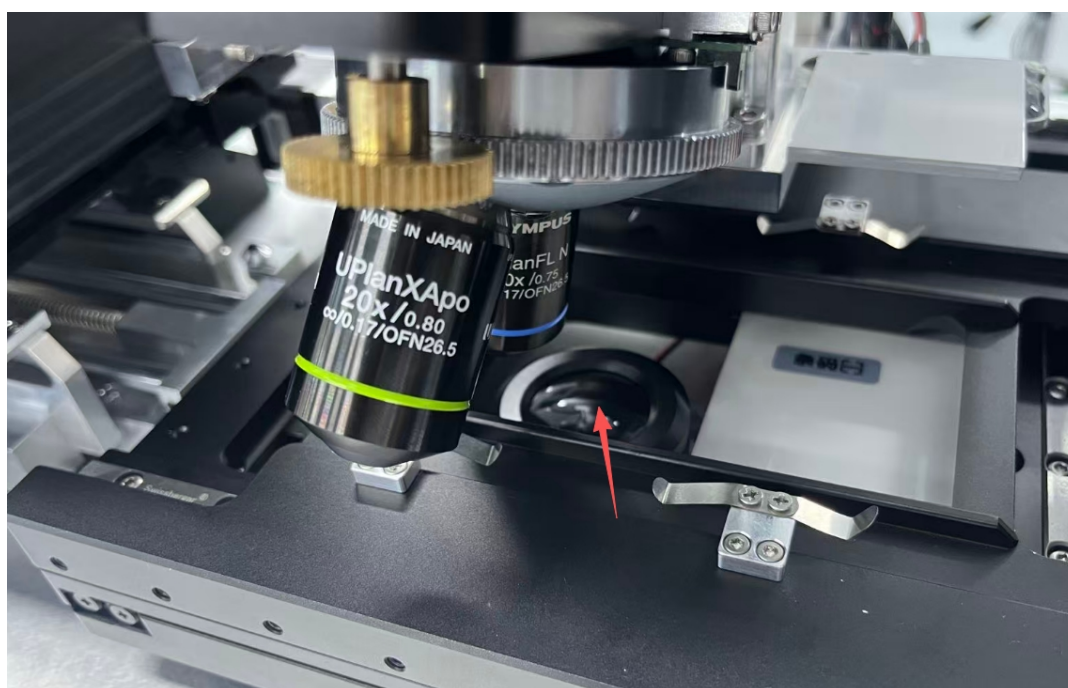
Z-axis negative limit



R-axis zero position

6) Clean condenser lens

Wipe with special anhydrous ethanol or diethyl ether, lens paper or lint-free cloth. Wipe from the center outward to the edge in a circular motion. Do not press too hard.



7) Objective lens cleaning (when necessary)

No regular cleaning is required unless obvious stains appear on the image caused by the lens. Wipe

with dedicated anhydrous ethanol or diethyl ether, lens paper or lint-free cloth. Wipe outward from the center to the edge in a circular motion without excessive pressing force.