NARISHIGE WEB NEWS

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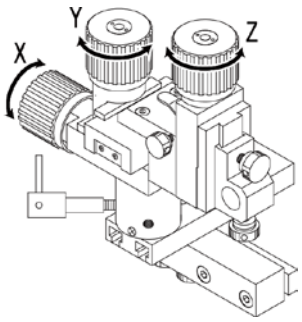
Recommended Maintenance Procedure For Your Micromanipulator

To ensure trouble-free operation and long life, we recommend that you **operate your Narishige manipulator in its full working range particularly before proceeding with the initial setup, allowing the grease to spread evenly while checking for proper operation.**
The drive unit and the control knobs of a Narishige manipulator incorporate high precision screws which come pre-greased in order to maintain a proper degree of tension and reduce wear and abrasion.
If you operate your manipulator in the same working range all the time, grease in the not frequently used range may coagulate into a glue where dried, thereby causing the drive unit to stop moving or the control knobs to get stiff or hard to turn when operated in the range less frequently used.
To prevent coagulation of grease, it is strongly recommended that you **periodically operate your manipulators in their full working range at least once every three months.** This will help your manipulators to withstand long use.

Manual Coarse Manipulator

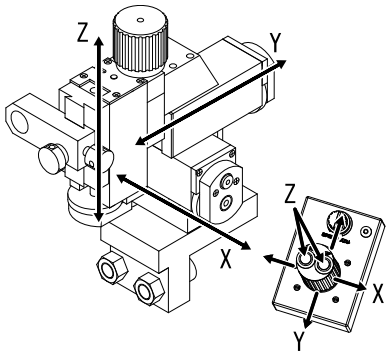


◎Turn each X-, Y-, and Z-axis control knob fully clockwise and counterclockwise.

※Do not force each knob past its limit.
Turning the knob past its limit can cause the lead screw to fail to engage thereby causing the knob to spin around and the manipulator to malfunction.

※Coarse manipulators are movable in the wide working range. Exercise care to keep the coarse manipulator and/or connected hydraulic micromanipulator from coming into contact with the microscope or its stage to avoid the failure of the equipment.
If unable to move the coarse manipulator in its full working range due to setup constraints, move the manipulator in each axis to the extent feasible or remove it from the mounting adaptor or disconnect the hydraulic micromanipulator.

Motorized Coarse Manipulator

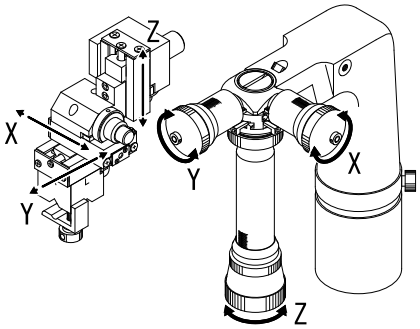


◎Operate the joystick to move the drive unit in X-, Y-, and Z-axis from one end to the other respectively.

※Do not keep tilting the joystick in one direction to move the drive unit beyond its working range.
Motorized manipulators incorporate a limiter to keep the drive unit within the limits of travel to ensure safety. However, if they are forced beyond its limits, the gears will fail to engage thereby causing the manipulator to malfunction or even the failure of the equipment.

※Coarse manipulators are movable in the wide working range. Exercise care to keep the coarse manipulator and/or connected hydraulic micromanipulator from coming into contact with the microscope or its stage to avoid the failure of the equipment.
If unable to move the coarse manipulator in its full working range due to setup constraints, move the manipulator in each axis to the extent feasible or remove it from the mounting adaptor or disconnect the hydraulic micromanipulator.

Hydraulic Micromanipulator (for Fine Movement)



◎Turn each X-, Y-, and Z-axis control knob fully within the range of scale.

※With the joystick pointing straight down, turn each X-, Y-, and Z-axis control knob clockwise and counterclockwise within the range of scale.
Doing this with the joystick NOT pointing straight down may overload the hydraulic cartridge (diaphragm) causing damage to it.

※Do not turn each knob beyond the graduated scale.
Turning the knob beyond the scale can cause damage to the oil hydraulic cartridge (diaphragm).
A broken cartridge (diaphragm) will cause leakage of oil and the manipulator to malfunction.

※Please be aware that brand-new hydraulic cartridges are filled with extra amount of oil. Be extremely careful not to turn each knob beyond the scale.

∗ After operating your manipulator in its full working range for maintenance purpose, always return each control knob to the midpoint of the working range for normal use.

If you have any questions or need further information, please contact us.

Narishige Group Website

URL: http://narishige-group.com