

Correct adjustment of the friction drive bars is essential for satisfactory operation of the stage.

Y-Axis Drive Bar Adjusting Procedure:

The Y-axis drive bar is mounted on the stage bottom plate between the two retaining blocks (19-3021) and spaced from the bottom plate by spacers (#19-3023.10 and 19-3023.20).

- 1) **Axial Adjustment:** The axial play of the drive bar is adjusted by the spacing of the retaining blocks. There should not be noticeable axial play; however, the bar must be able to move in and out under the retaining block (approximately .040 in or 1.0 mm). Axial play can be adjusted by loosening the 4-40 x 3/8 SHC screws and bringing the blocks closer together. Fasten screws tightly after adjustment.
- 2) **Friction Adjustment:** For the adjustment for the proper drive friction, first turn the friction adjustment 4-40 x 3/16 set screws in the side of the retaining block counter-clockwise until all tension is released and the stage moves freely.
 - a) Move the stage toward one side so that the large drive wheel is opposite the retaining block (about 1/2 inch from the end stop), and turn the set screw clockwise while simultaneously turning the large control knob, testing for engagement.
 - b) When the engagement is felt to be sufficient, repeat at the opposite retaining block as in (a).
 - c) The final test is to restrain the stage by hand while turning the large control knob at various spots along the length of the drive bar. Equal drive force should be felt at all test points.
 - d) It is best to adjust the tension of the drive bar to the minimum force required for moving the stage reliably. Over-tightening can cause failure of the drive wheel.

X-Axis Drive Bar Adjusting Procedure

The X-axis drive bar is mounted in a recess in the underside of the stage top plate.

- 1) **Friction Adjustment:** Turn the friction adjustment set screws in the edge of the top plate (4-40 x 3/16) counter-clockwise until all pressure is released and the turning of the small control knob does not move the top plate.
 - a) Move the top plate to within ½ inch of one end stop and turn the set screw clockwise while testing the small knob for engagement, until adequate friction is felt.
 - b) Repeat the same at the opposite end.
 - c) When the initial adjustment is completed, manually restrain the stage at various spots along its travel while turning the small control knob. If there is not an equal drive force at all test points along the entire travel, re-adjust as required.
 - d) The adjustment should always result in the minimum drive force required to move the stage reliably. Avoid over-tightening as it can result in damage to the drive wheel.