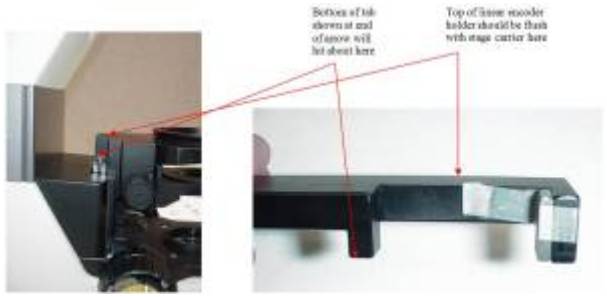
Nikon 80i and 90i Z-axis linear encoder installation

The linear encoder holder goes over the linear encoder stop. The hole in the holder should be centered over the metal stop plate.

The linear encoder holder mounts onto the microscope body using the two existing tapped holes shown. Remove the two original screws and use the screws supplied to mount the linear encoder holder. As shown below

The linear encoder stop, shown in the photo below, clamps across the rear of the stage carrier at the point shown at the point in the above photo.



Install the linear encoder as shown & outlined below

Figure 3

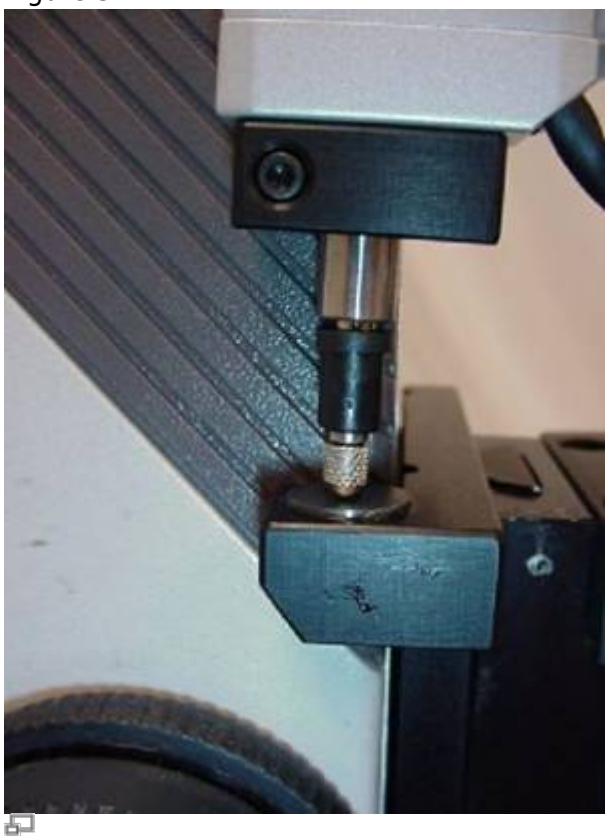


Figure 4

Bring the stage up to the correct focal position for the common objectives used. Position the encoder into the encoder clamp, as shown in figure # 3, so that the ball on the end of the encoder's plunger mates with the triangular carbide plunger stop. Slide the encoder down until there is about 1 to 2 millimeters worth of upward travel left on the encoder's plunger as shown in Figure # 4. Hold the encoder in position and use the 3/32" Allen wrench to tighten the screw to secure the encoder within the encoder clamp assembly as shown in figure #3.

After correctly installing and aligning the encoder move the stage up towards the objective so that the encoder's plunger is fully depressed. Then tighten the microscope's clamp adjustment as outlined in the microscopes manual to insure that the microscope stage can not be moved past the upward travel limit of the encoder.

Please note that the encoder has a total travel of 12mm and that it should be positioned to allow the most convenient travel distance for the stage. In most instances the upward movement of the stage/focus will only be a few millimeters from the focal plane. In these applications the above installation procedure will provide the optimal downward travel range. However, this may vary slightly depending on the application and objectives used. To allow for the maximum upward linear encoder movement the stage can be moved to its upward mechanical stop and the encoder installed with the plunger fully retracted.

WARNING Please do not move the stage outside of the linear encoder's range without first disengaging the drive, selecting the rotary encoder, or removing power from the controller. Failure to do so could result in a runaway condition. There is a firmware safety feature within the MS-2000 that will limit the runaway time to 0.5 seconds. After this period the drive will attempt to return to the last known encoder position. If the position to the encoder is small the drive may find the encoder. However, if the position to the encoder is large, or movement commands away from the encoder are still being given the limited runaway condition can occur.

This completes the installation and alignment of the ASI linear encoder onto the Nikon Optiphot 2 microscope.

nikon, 80i, 90i, zdrive, linear encoder