

# Nikon 80i and 90i Left-Hand Z-Drive Installation Procedure

The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Nikon 80i microscope.

To perform the following steps, you will need the following tools:

Medium flat blade screwdriver 5/64 and 7/64 inch Allen hex wrenches The Allen hex wrenches are provided by ASI

**The procedure has three parts:**

1. Removing the left fine focus knob
2. Installing the baseplate.
3. Installing and aligning the motor drive assembly.
4. Installing the motor drive cover plate and fine focus knob.

## Part 1 - Removing the Left Fine Focus Knob

Remove the left fine focus knob from the microscope as follows:



Figure 1: Pull off rubber boot





Figure 2: Use screwdriver to remove nut



Figure 3: Pull knob straight off to expose shaft – Do not twist.

1. Pull off the black rubber boot covering the fine focus knob.
2. Remove the round slotted nut from the end of the knob using the medium slotted screwdriver.
3. Remove the fine focus knob by grasping it firmly and pulling it straight off. Do not turn the knob to work it off, as this will damage the plastic alignment key molded into the knob.

## Part 2 - Installing the Baseplate



Figure 4: Remove screw

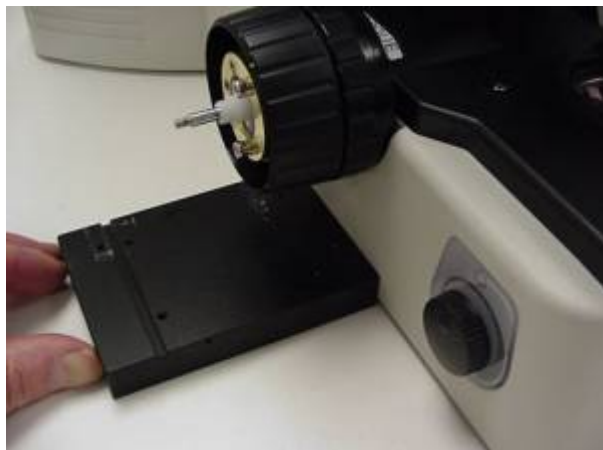


Figure 5: Center plate under focus knob

Locate the base plate, and if the Z-drive is attached to it as shown in figure 4, use the 7/64" Allen wrench to remove the horizontal adjustment screw that secures it to the base plate. Lift the front of the microscope up and slide the baseplate under the microscope so that the unit is centered under the left focus knob as shown in figure 5.

### Part-3 - Installing and Aligning the Motor Drive

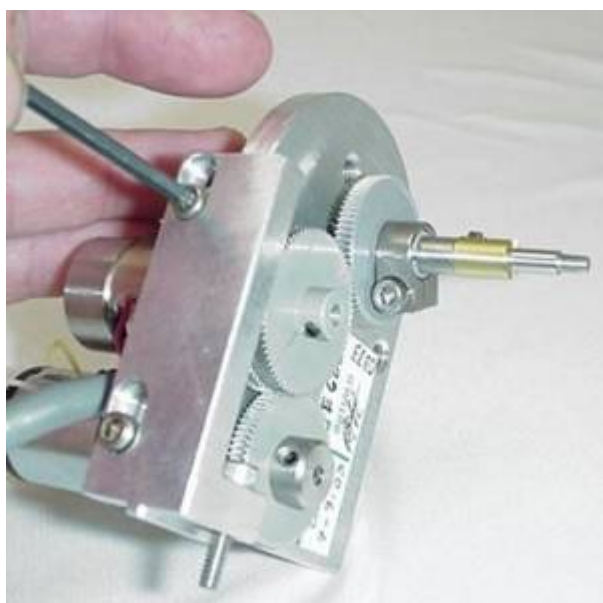


Figure 6: Location of vertical adjustment screws

a) Locate the ASI fine focus motor drive and loosen the two vertical adjustment screws that secure the drive to the adjustment bar. (See figure 6 for location of the two vertical adjustment screws.) Using the 7/64" hex wrench, loosen the screws just enough so that the drive can slide easily in the groove in the adjustment bar.



Figure 7: Installing Z-drive. Note tab on clamp slides into notch on plastic gear



Figure 8: Tightening drive shaft clamp

b) Locate the ASI fine focus motor drive and vertical adjustment screw (M4x12 hex-head screw removed when the base plate was installed). Loosen the screw that is on the clamp on the end of the drive shaft. Align the drive shaft on the ASI drive with the microscope fine focus shaft, and slide the motor drive over the fine focus shaft as shown in figure 7. Insure that tab on the end of the clamp goes into the slot on the brass piece or white gear. Hold the clamp firmly against the white gear, and use the 7/64" Allen wrench to tighten the clamp as shown in figure 8.

c) Rotate the drive so that the tab on the bottom of the adjustment bar fits into the groove on the baseplate. Install, but do not completely tighten, the vertical adjustment screw (figure 9) to hold the drive in place. Please Note: the baseplate may need to be moved to properly align the adjustment bar.

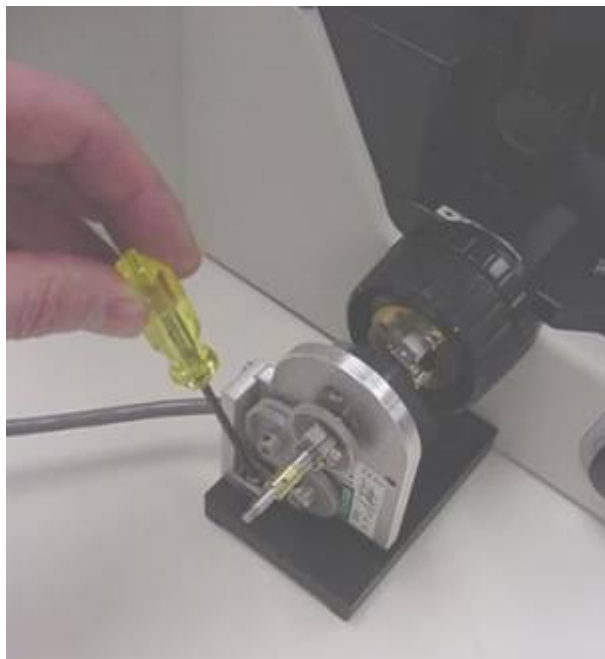


Figure 9: Horizontal Adjustment screw



Figure 10: Vertical Adjustment screws

d) Slide the motor drive up and down, forward and backward slightly while turning the right fine focus knob until it is in the position where minimum drag is felt on the right focus knob. Secure the motor drive into position by tightening the horizontal and vertical adjustment screws.



Figure 11: Tighten Baseplate set screw

e) Tighten the baseplate set screw as shown in figure 11. Recheck the alignment in step d, above, by

noting the drag on the right fine focus knob. No noticeable drag should be felt. Repeat the above steps, if necessary.

## Part 4 - Installing the Motor Drive Cover Plate and Fine Focus Knob



Figure 12: Installing cover and focus knob



Figure 13: Installing cover and focus knob



Figure 14: Installing cover and focus knob

a) Locate the motor drive cover. Remove the 4/40 button head screws from the baseplate with the 1/16" Allen wrench. Position the motor drive cover over the motor drive assembly and secure in place using the 4/40 button head screws.

b) Slide the microscope fine focus knob over the shaft extension and press it all the way on so that the plastic tabs on the knob mate with the slots on the ASI drive shaft. Install the small round nut in

the end of the fine focus knob and tighten it with the medium slotted screwdriver. Slide the black rubber boot over the fine focus knob.

This completes the procedure for installing the ASI focus drive on to the Nikon 80i microscope.

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