

# Nikon UM-2 Right Hand Z-Drive Installation Procedure

The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Nikon Um-2 microscope.

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

- Medium flat blade screwdriver
- 5/64 and 7/64 inch & 1.5 & 3 mm Allen hex wrenches

The Allen hex wrenches are provided by ASI

**The procedure has four parts:**

1. Removing the right 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 Right Fine Focus Knob



Figure 1: Use 1.5 mm Allen to loosen set screw

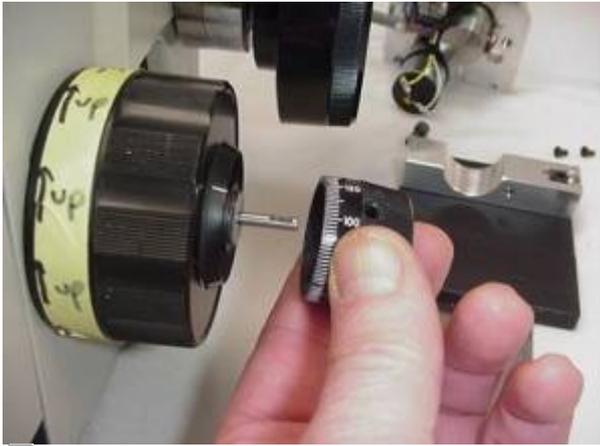


Figure 2: Pull knob straight off to expose shaft.

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

1. Use the 1.5 mm Allen wrench to loosen the set screw.
2. Remove the fine focus knob by grasping it firmly and pulling it straight off.

## Part 2 - Installing the Baseplate



Figure 3: If necessary, remove screw to remove drive from baseplate.

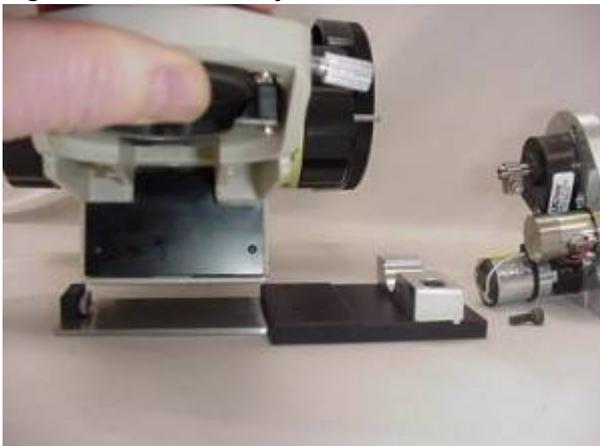


Figure 4: Center plate under focus knob

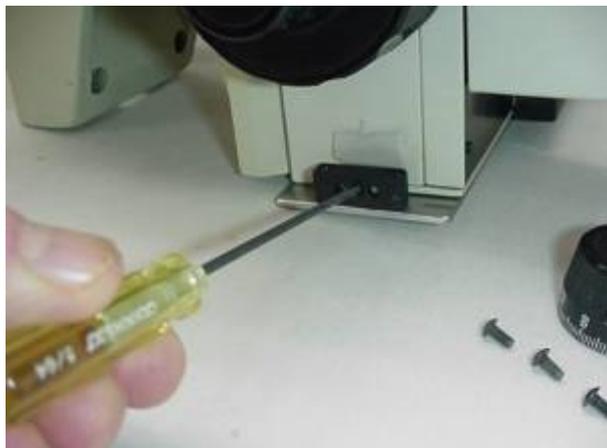


Figure 5. Use 5/64" Allen to tighten setscrew to secure clamp

Locate the base plate, and if the Z-drive is attached to it as shown in figure 3, use the 3mm 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 4. Use the 5/64" Allen to tighten set screw to secure clamp as shown in figure 5.

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

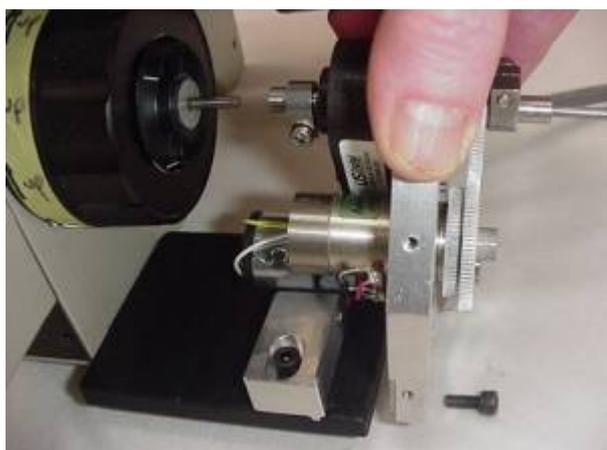


Figure 6. Installing ASI drive



Figure 7. Installing vertical adjustment screw

a) Locate the ASI fine focus motor drive and use the 7/64 " Allen wrench to loosen the clamp at the

end of the drive shaft. Install the drive as shown in figure 5, sliding the ASI drive shaft over the microscope's fine focus shaft. Slide the drive all of the way on so that the grooves in the bottom of the drive plate mate with the adjustment bar. Install the vertical adjustment screw as shown in figure 7 to hold the drive in place.

b) Please Note: That the horizontal adjustment screw that holds the adjustment bar to the base plate should be loose when installing the drive & the baseplate itself may need to be moved to properly center the adjustment bar and drive. Once the drive, base plate, and adjustment bar have been centered use the 7/64" Allen wrench to tighten the drive clamp as shown below in figure 8. Please note that the drive clamp should be pressed up against the microscope as shown & that it must be securely tightened to prevent slippage.

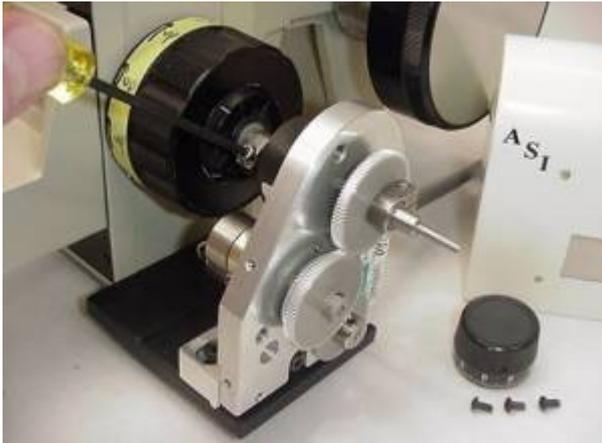


Figure 8. Tightening the drive clamp

c) After securely tightening the drive clamp & with the vertical & horizontal adjustment screws loose. Slide the motor drive up and down, forward and backward slightly while turning the left fine focus knob until it is in the position where minimum drag is felt on the left focus knob. Secure the motor drive into position by tightening the horizontal and vertical adjustment screws as shown below in figures 9 & 10 .



Figure 9: Horizontal Adjustment screw



Figure 10: Vertical Adjustment screws

d) Tighten the baseplate set screw as shown below 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.

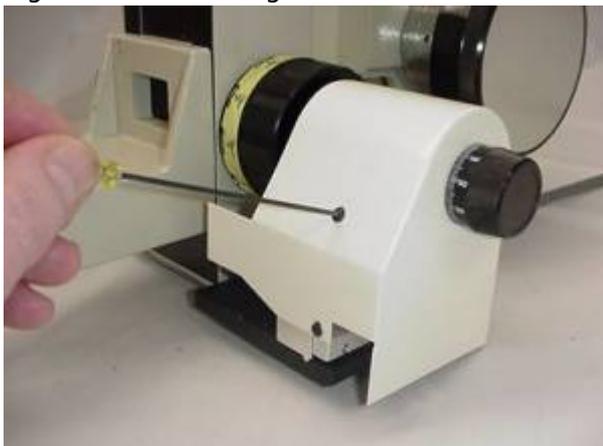


Figure 11: Tighten Baseplate set screw

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



Figures 12: Installing cover and focus knob



Figures 13: 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 setscrew in the knob mates with the flat on the ASI drive shaft.

This completes the procedure for installing the ASI focus drive on to the Nikon UM-2 microscope.

[nikon](#), [um2](#), [zdrive](#)

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