

Olympus SZX12 Z-Axis & Zoom Drive Installation Procedure



The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Olympus SZX 12 microscope.

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

1.5mm, 4mm, 1/16 and 7/64 inch hex wrenches The hex wrenches are provided by ASI.

The procedure has 6 parts:

1. Removing the left fine focus knob & the zoom knob adapter
2. Installing the baseplate
3. Installing and aligning the Z motor drive assembly & Clutch plate
4. Installing and aligning the Zoom motor drive assembly
5. Installing the motor drive cover plate & fine focus knob
6. Connecting the cables to the controller

Part 1 - Removing the Left Fine Focus Knob

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



Figure 1a remove left fine focus & zoom knobs



Figure 1b remove left fine focus & zoom knobs

Pull the rubber boot of the end of the left fine focus knob, and remove the tab that covers the screw.

Use the supplied Allen wrench to loosen the screw as shown & pull the knob straight off.

Installing the Zoom Knob Adapter

Part 2 & 3 - Installing the Baseplate & the Z-axis drive

Locate the baseplate. If the motor drive is attached to the base plate use the 7/64 "mm Allen wrench to remove the horizontal adjustment screw to remove the drive from the base plate. Use the 7/64 "mm Allen wrench to loosen the two vertical adjustment screws as shown in figure 2.



Figure 2. Z drive removed and vertical adjustment screws being loosened

Install the base plate onto the microscope as shown in figure 4. Use the two 5x 10 mm socket head cap screws to secure the baseplate to the microscope as shown in figure 5 and tighten securely with the 4mm Allen wrench.

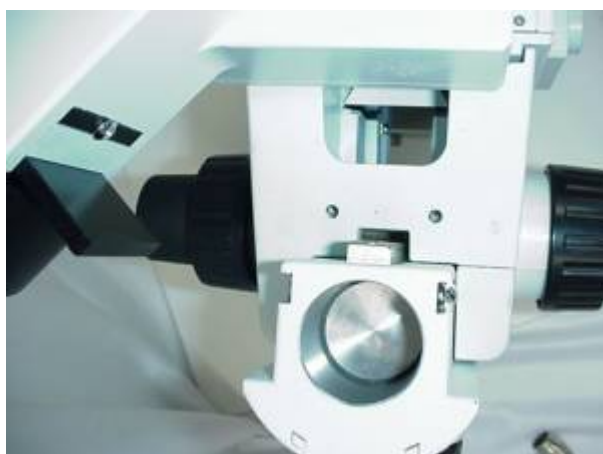


Figure 3 Use existing holes on microscope to mount base plate as shown



Figure 4 Use existing holes on microscope to mount base plate as shown



Figure 5. Use the two 5x 10 mm socket head cap screws to secure the baseplate to the microscope



Figure 6a. Clutch plate



Figure 6b. Install clutch plate as shown

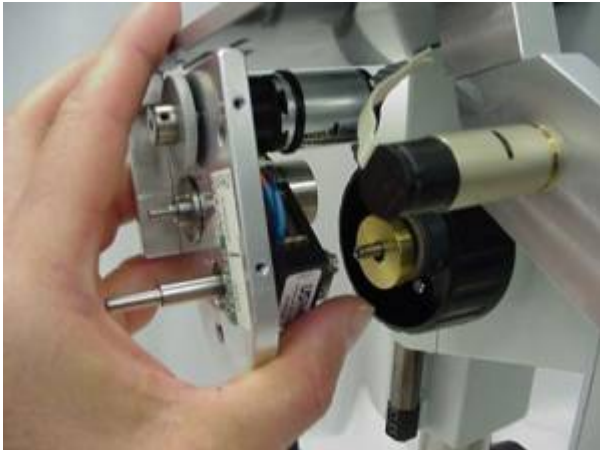


Figure 7. Install Z-drive over fine focus shaft.



Figure 8. Align drive and install horizontal adjustment screw



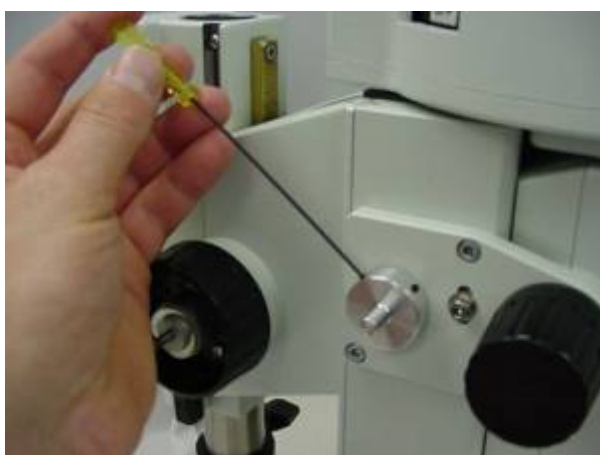
Figure 9. Use a screwdriver to push the drive clamp up against clutch plate & tighten

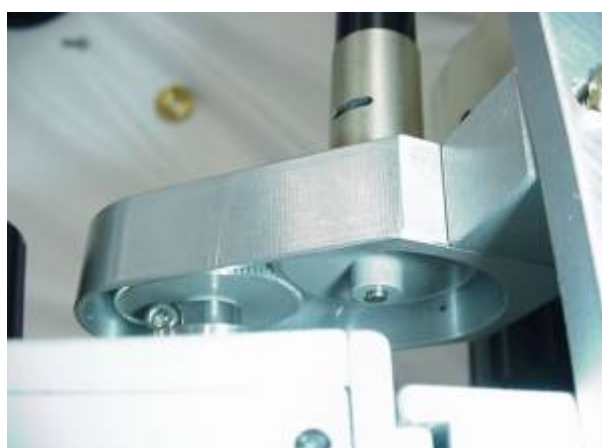
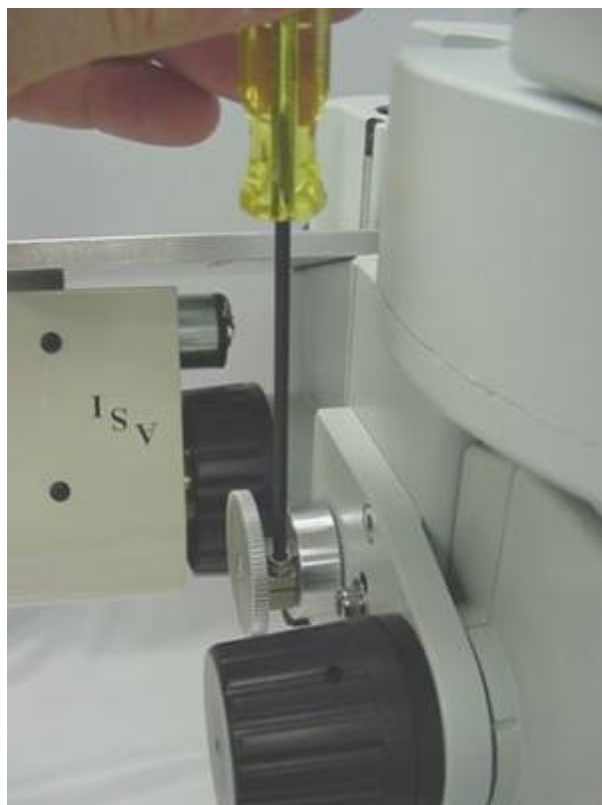
Install the clutch plate & Z drive as shown in figures 6 & 7. Please note that there is a groove on the baseplate that the tab on the adjustment bar slides into. Secure the drive to the base plate with the horizontal adjustment screw as shown in figure 8. Use a screwdriver to push drive clamp up against the clutch plate & tighten as shown in figure 9. Please note that this clamp must be securely tightened to prevent any slippage.

Part 3 - Aligning the Motor Drive

Check the alignment by noting the drag while turning the right fine focus knob. No noticeable drag should be felt at any point with in the full 360 degrees of rotation. If any noticeable drag is felt loosen the Vertical & Horizontal adjustment screws and reposition the drive to a point where no drag is felt. Then hold the drive in place and tighten Vertical & Horizontal adjustment screws.









Part 4 - Installing and aligning the Zoom motor drive assembly

Align and secure the gears in place as shown in figures 13 through 16. Then install the cover as shown in figure 17. Please note that the zoom assembly of the microscope may need to be turned in the stand slightly as described in figure 14 to get the gears to mate properly.

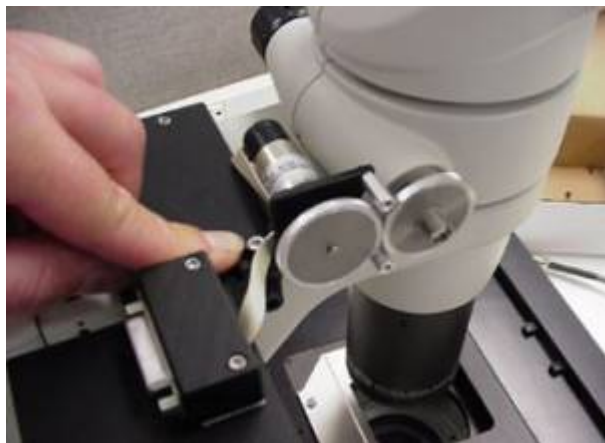


Figure 13. Loosen the screw that secures the zoom motor and press against the adjustment bar as shown so that the gears mate as shown in figure 14.



Figure 14. Gears properly aligned. . If the gears do not mate as shown loosen the thumbscrew that secures the zoom assembly to the stand, and turn the zoom assembly until the gears mate as shown. Retighten the thumbscrew when complete.



Figure 15. When gears are properly aligned use the 7/64" Allen wrench to tighten the screw that secures the zoom motor.



Figure 16. Install the clamp onto the zoom gear and use the 7/64" Allen wrench to tighten clamp / gear in place. Please note: clamp must be securely tightened to prevent any slippage



Figure 17. Check the alignment by noting the drag while turning the right zoom knob. No noticeable drag should be felt at any point with in the full 360 degrees of rotation. If any noticeable drag is felt loosen the Zoom assembly and realign it. If alignment is correct use the 1/16" Allen wrench to install the cover as shown .

Part 5-Installing the motor drive cover plate & fine focus knob.



Install the cover and secure in place with the button head screws and the 1/16" Allen wrench. Install the original fine focus knob as shown and secure in place with the 1.5mm Allen wrench. Please Note: that the setscrew in the fine focus knob should mate with the flat that is on the shaft.

This completes the procedure for installing the ASI motor drive on to the Nikon SMZ 800/1000 stereo zoom microscope

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