

Zeiss Stemi 2000C Z-Axis & Zoom Drive Installation Procedure



The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Zeiss Stemi 2000C 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
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 knob



Figure 1b remove left fine focus knob



Figure 1c remove left fine focus knob

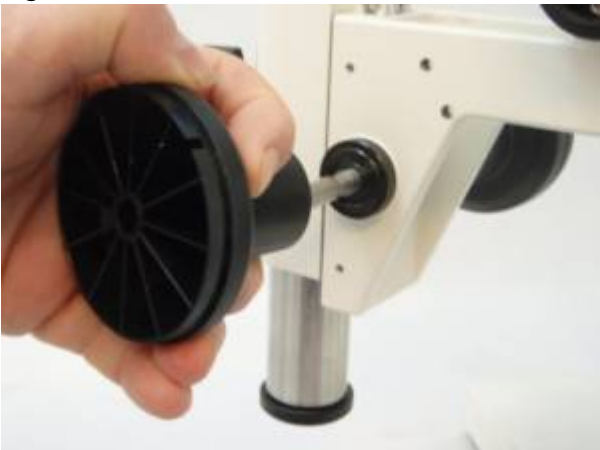




Figure 1d remove left fine focus knob

Use the supplied 3mm Allen wrench to remove the screw as shown in A. Then use a screw driver to pry apart the knob as shown in B so that you can see the splines as shown in C. Pull the knob straight off as shown in D; note twisting the knob will damage the splines on the plastic knob.

Removing the Left Zoom Knob



The zoom knob is more difficult to remove than the focus knob as it is secured to the shaft with red lock tight. If you have a heat gun, or hair dryer, to heat up the shaft side of the knob near the microscope body it will help loosen the lock tight. It will take quite a bite of force to pry the knob off as shown in the above photo if no heat is used to help loosen the lock tight.

The photo below shows the Zoom shaft with the knob removed.



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

Locate the drive items as shown in figure 2 & the Allen wrenches sent with the system.

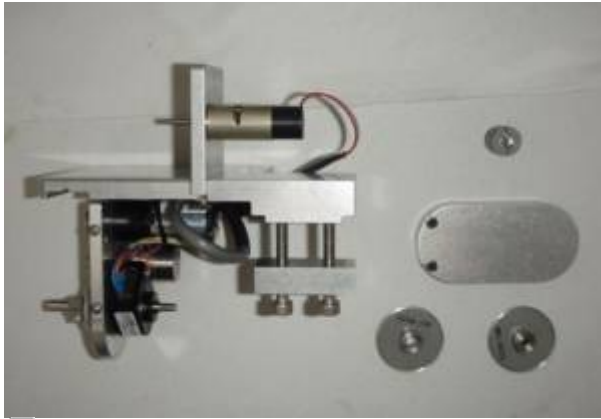


Figure 2. Z drive & Zoom components

It is easier to install the Z axis drive with the microscope removed from the carrier. Locate the 3mm Allen wrench and use it to loosen the set screw on the right hand of the carrier as shown in figure # 3 below. After loosening the screw the microscope can be lifted up & removed.



Locate the Helix coupler shown in figure 4 and use 5/64 Allen wrench to install the coupler as shown in figure #4. Insure that both set screws are securely tightened to prevent any slippage.



Figure 4a. Installing Helix coupler onto focus shaft.



Figure 4b. Installing Helix coupler onto focus shaft.



Figure 4c. Installing Helix coupler onto focus shaft.

Locate the Base plate & drive assembly and use the 7/64" Allen wrench to loosen the two vertical adjustment screws shown in figure 5. Remove the horizontal adjustment screw so that the Z drive can be removed from the base plate assembly as shown in figure 6.



Figure 5a Loosen, but do not remove vertical adjustment screws



Figure 5b Loosen, but do not remove vertical adjustment screws

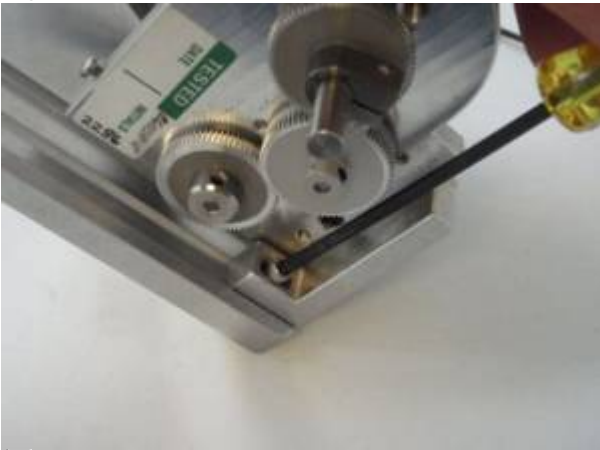


Figure 6. Remove the horizontal adjustment screw so that the Z drive can be removed from the base plate assembly

If attached to the base plate remove the clamp assembly as shown in figure 7 A. Install the base plate onto the microscope as shown in figure 7 B. Use the two 6x 40 mm socket head cap screws to secure the baseplate to the microscope with the clamp as shown in figure 7 C. Leave the screws loose until after the Z drive is installed as outlined in the next section



Figure 7a Mounting the base plate.

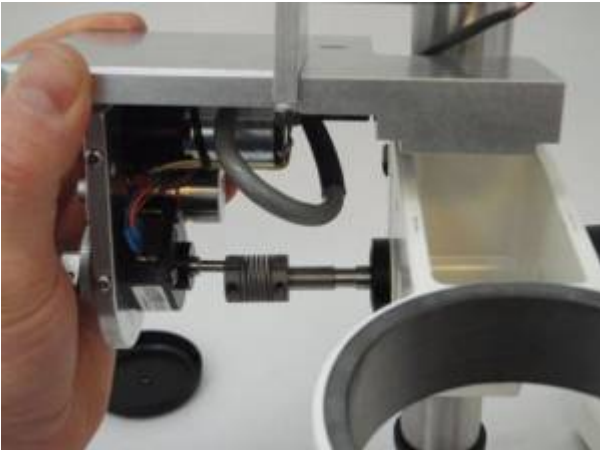


Figure 7b Mounting the base plate.

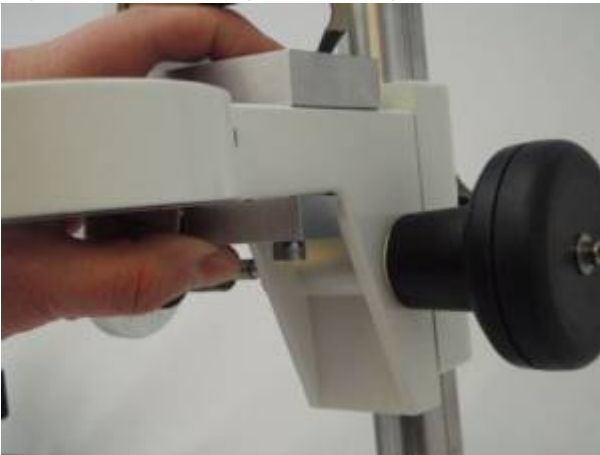


Figure 7c Mounting the base plate.





Figure 7d Mounting the base plate.

Install the Z drive into the helix coupler & base plate as shown below in figure 8 A & B.

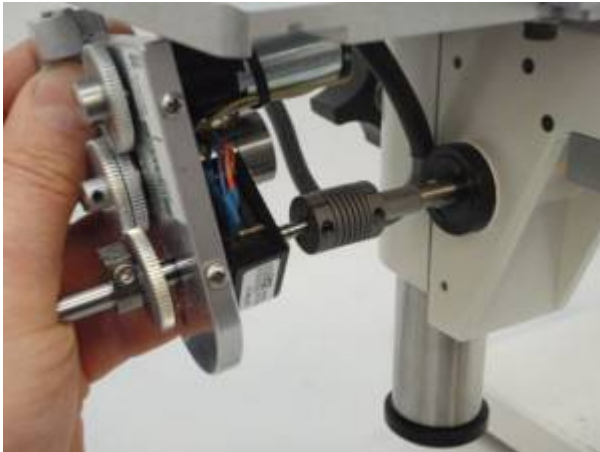


Figure 8a. Installing the Z drive.



Figure 8b. Installing the Z drive.

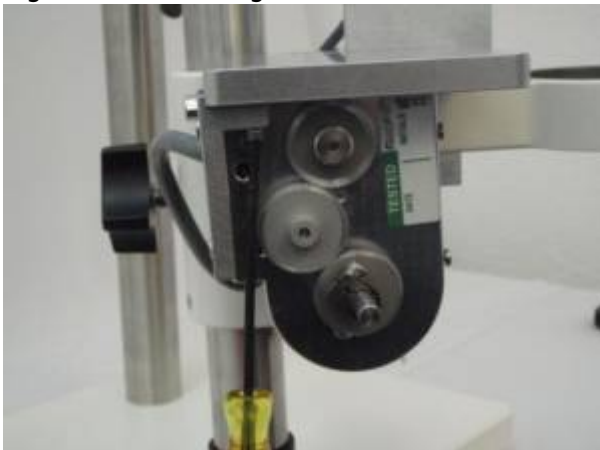


Figure 8c. Installing the Z drive.



Figure 8d. Installing the Z drive.

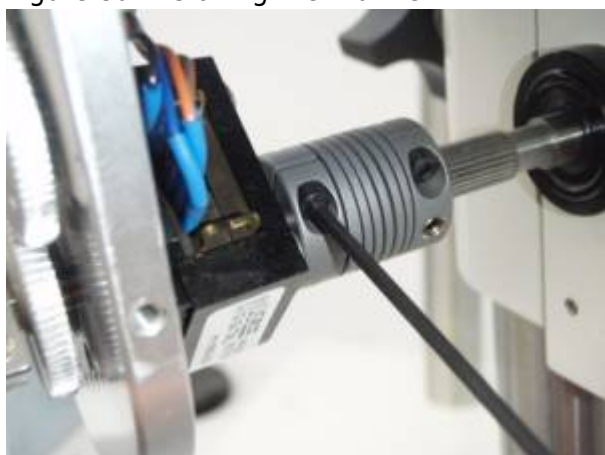


Figure 8e. Installing the Z drive.



Figure 8f. Installing the Z drive.

Use the 7/64" Allen wrench to install, but do not tighten, the horizontal adjustment screw that was removed in figure 6, as shown in figure 8 C above. Once the drive is held in place at the approximat position shown in figure 8 D & F above. Use the 5/64 Allen wrench to securely tighten the coupler as shown in figure 8 E; insure the screw is securely tightened to prevent any slippage.

After securely tightening the helix coupler tighten the base plate clamp screws as shown in figure 7 D, and also tighten the horizontal and vertical adjustment screws as shown in figure # 9 below.

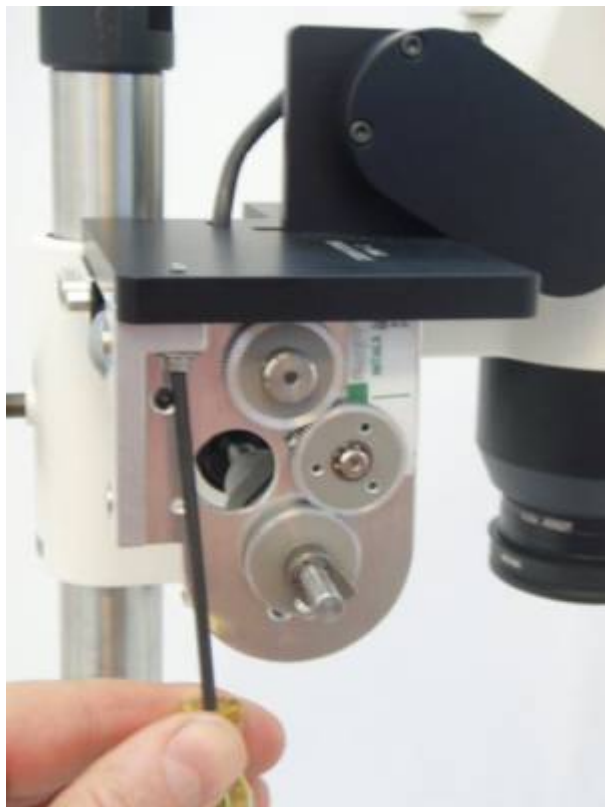


Figure 9a. Tightening the horizontal and vertical adjustment screws

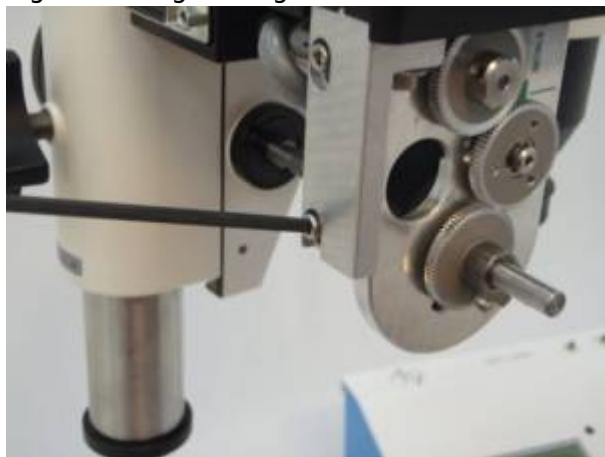


Figure 9b. Tightening the horizontal and vertical adjustment screws

Part 4 Installing and aligning the Zoom motor drive assembly

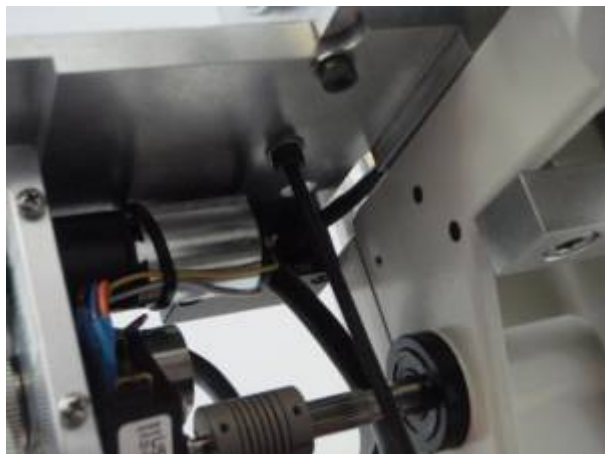


Figure 10a. Installing the Zoom assembly.

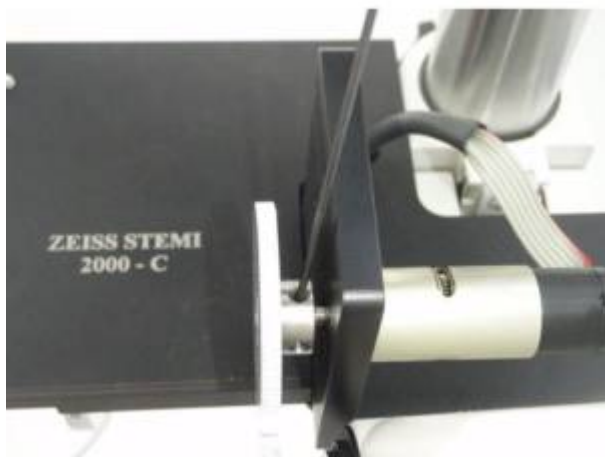


Figure 10b. Installing the Zoom assembly.

Use the 2.5 mm Allen wrench to loosen the two zoom drive positioning screws shown above in figure 10 A. Install the zoom gear onto the zoom motor as shown above in figure 10 B. Please note that there is a flat spot on the zoom motor shaft that the set screw should mate with-

Please also note that there are two set screws on each of the zoom gears & both of these screws must be securely tightened.

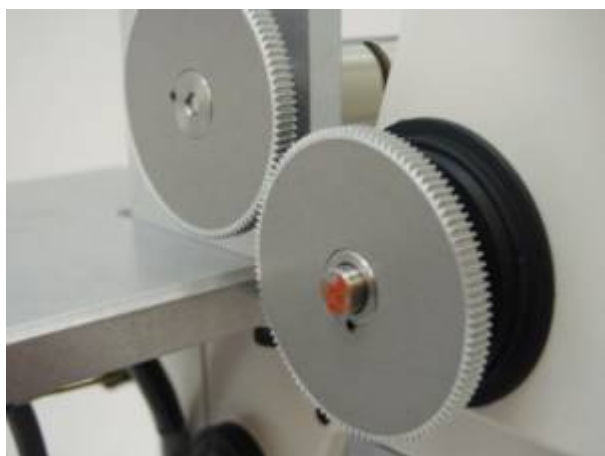


Figure 11a. Align gears as shown



Figure 11b. Align gears as shown

Install the microscope back onto the focus carrier, and install the zoom gear as shown above in figure 11 A & B. Rotate the microscope and position the zoom gears so that they mate as shown in figure 10 A. Secure the microscope in place by tightening the screw loosened in figure 3. Securely tighten the two set screws as shown in figure 10 B.

After installing the zoom assembly check the limits of the zoom range as shown below in figure 11.



After installing the zoom assembly use the 2.5 mm Allen wrench to install the zoom cover as shown in figure 12 below.



Figure 12a. Installing the zoom drive cover

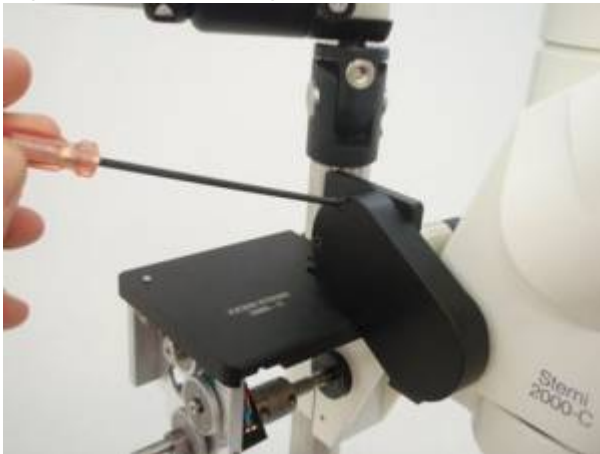


Figure 12b. Installing the zoom drive cover



Figure 12c. Installing the zoom drive cover

Install the Z drive cover as shown in figure 13 below.



Figure 13a. Install Z drive cover with two screws provided



Figure 13b. Install Z drive cover with two screws provided

Install the left hand focus knob as shown in figure 14. Please note that knob has two set screws & one of these needs to mate with the flat on the focus shaft as shown. Use the 0.05" Allen wrench to secure both set screws.



figure 14a

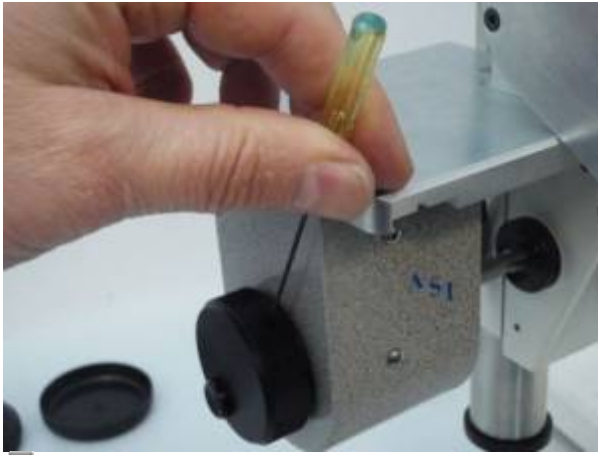


figure 14b

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