

Leica DM3000 Microscope Z-Drive Installation

Depending upon your specific order your Z drive may have shipped with a flex coupler that is designed to allow some flexibility between the ASI Z drive & the fine focus shaft of your microscope. The microscope shown in the installation photos shown here is an Olympus IX71, however the installation of the flex coupler is the same for the Leica DMI3000 & all inverted microscopes. The flex coupler mounts to the microscope as shown below, and the ASI Z-drive is attached as shown. Please refer to this document, as well as, the specific Z-drive installation instructions for your specific model of microscope when installing an ASI flex drive. If you have any questions at all concerning the installation please feel free to contact ASI at (800) 706-2284 between 9am & 6 pm PST.



Figure 1. Coupler accepts about 4mm of ASI drive shaft. Couplers come in various sizes to accommodate most microscopes.



Figure 2. When installing coupler make certain that the right fine focus knob of the microscope is

pushed all the way in towards the microscope body. After installing the coupler, as shown in figure #3, insure that there is no play in the focus shaft by pushing & pulling the focus knob; no movement should be evident.



Figure 3. When installing the coupler insure that it is pressed all the way against the brass part of the microscope without pushing the right focus knob out at all. Check for any play in the focus shaft by pushing & pulling the focus knob as shown in figure #2. No movement should be evident.



Figure 4. Remove the Z-drive assembly from the base plate by using the 7/64" Allen wrench to remove the horizontal adjustment screw.

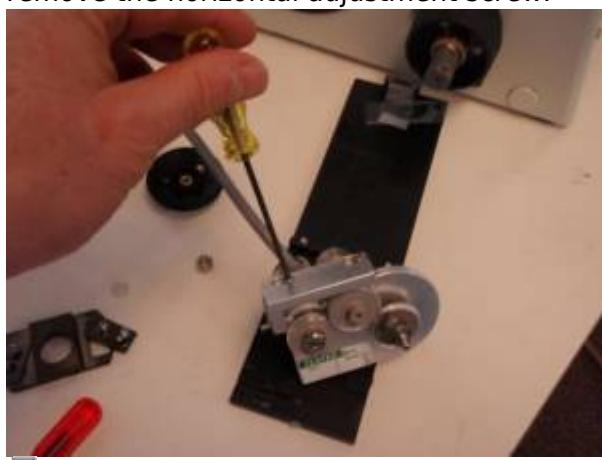


Figure 5. Use the 7/64" Allen wrench to loosen the two vertical adjustment screws.



Figure 6. Slide the base plate assembly under the microscope as shown.



Figure 7a.

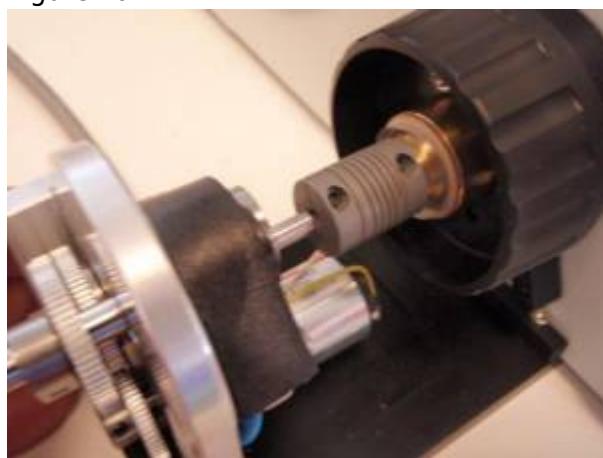


Figure 7b.





Figure 7c.



Figure 7d. As shown in the above photos install the Z-drive onto the base plate by sliding the drive shaft into the flex coupler, and installing the horizontal adjustment screw that was removed in figure # 4. Use the 7/64" Allen wrench to lightly tighten this screw. Please note that the base plate may need to be moved slightly to align everything correctly. Use the 5/64" Allen wrench to tighten the base plate clamp on the right side of the microscope as shown.



Figure 8. Use the 5/64" or 2 mm Allen wrench to securely tighten the flex coupler onto the ASI Z drive shaft. Please note that this screw must be securely tightened to prevent slippage.



Figure 9. Use the 7/64" Allen wrench to loosely tighten the two vertical adjustment screws that were loosened in figure # 5.

After tightening the flex clamp as shown in figure 8, and the vertical and horizontal adjustment screws tightened as shown in figures 7 and 9 the alignment of the drive should be checked. Check the alignment by noting the drag while rotating the right-hand fine focus knob. No noticeable drag should

be felt for the full 360° rotation of the fine focus knob. If any drag is felt other than the slight drag of the gears, loosen the vertical and horizontal adjustment screws with the 7/64 " Allen wrench and move the drive in the X, Y, and Z axes to a point where no drag is felt. Then tighten the vertical and horizontal adjustment screws.



Note: there should be no point throughout the 360° rotation of the fine focus knob where an increase in drag is felt. If drag is felt, repeat the above steps.

Installing the motor drive cover plate and fine focus knob



1.) Locate the motor drive cover. Position it over the motor drive assembly and secure in place as shown in figure 11, using the two small 4/40screws and 1/16" Allen wrench provided.

2.) Screw the microscope fine focus knob onto the shaft extension as shown in figure12. Check to insure the left fine focus knob does not rub against the cover. If it does move the cover and then secure the cover in place by tightening the screws that secure it.



3.) Reinstall the large knob that was removed in Part one, Step one, as shown in figure 13. Replace the rubber boot onto the end of the left fine focus knob.

This completes the procedure for installing the ASI Z-axis motor drive.

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