

# Leica DM4000 to DM6000 Left-Hand Z-Drive Installation Procedure

The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Leica DM 4000 to DM6000 microscope.

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

1.5mm 1/16, 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 & Installing the brass coupler
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

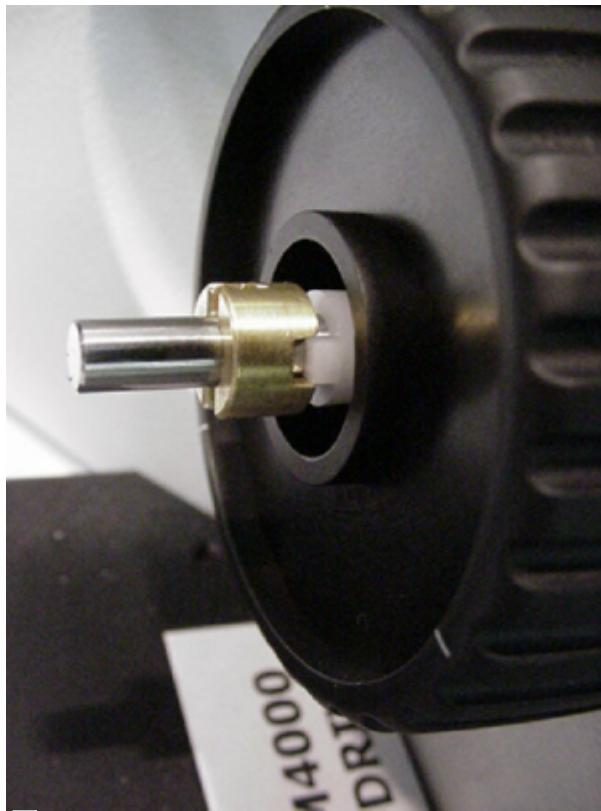


Figure 1: Use 1.5 mm Allen wrench to loosen setscrew to remove knob.



Figure 2: Pull knob straight off to expose shaft - Do not twist.

- a) Use 1.5 mm Allen wrench to loosen setscrew to remove knob.
- b) Pull knob straight off to expose shaft - Do not twist



Figures 3a



Figures 3b: Locate Brass coupler and install it over the white tab as shown. Use Allen wrench to tighten setscrew to secure brass coupler in place

- c) Locate Brass coupler and install it over the white tab as shown. Use Allen wrench to tighten setscrew to secure brass coupler in place. Please note that if white gear with tab slides away from the

inner gear that it engages then the stage will slip down. This will not harm the microscope. Simply slide the gear back on so that it fully engages the inner gear and install the brass coupler as shown.

## 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

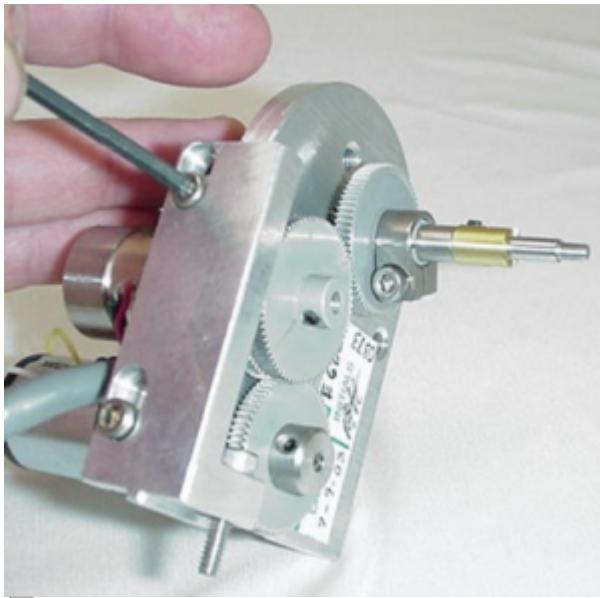


Figure 6: Location of vertical adjustment screws

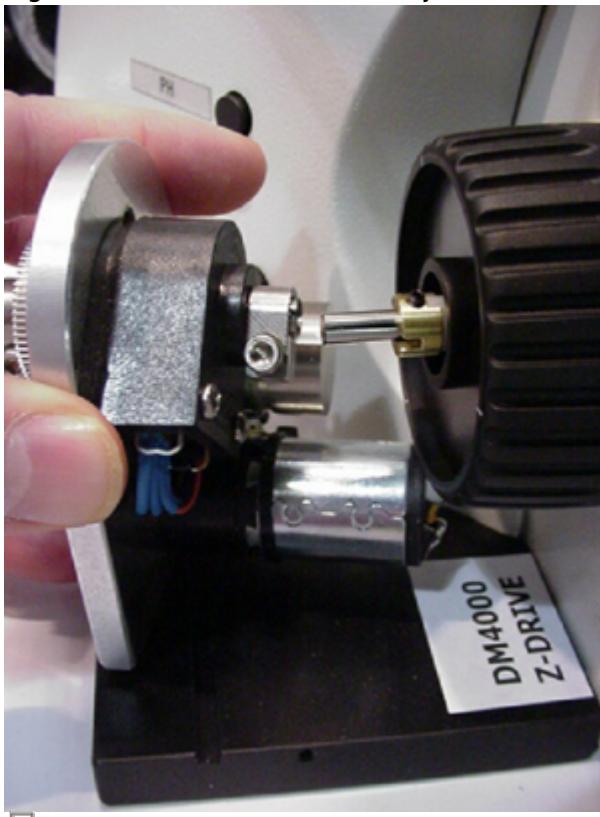


Figure 7: Installing the Z-drive.

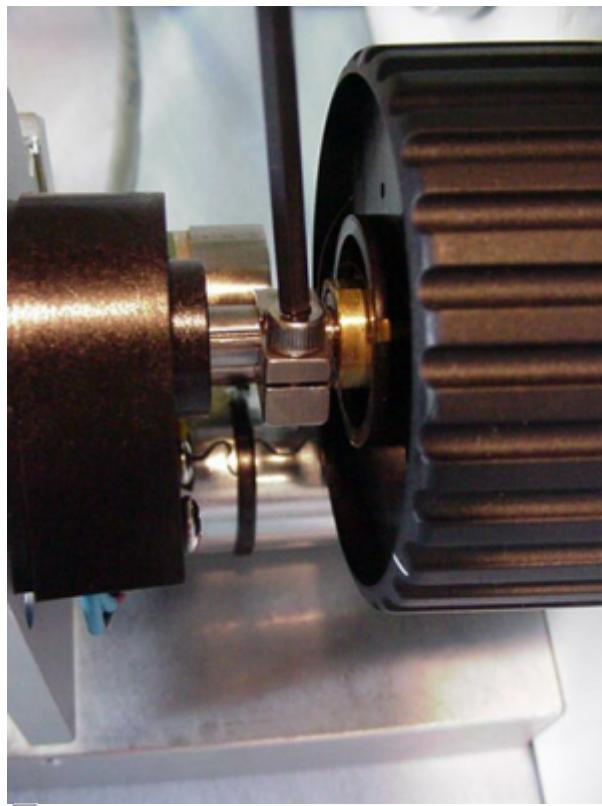


Figure 8: Tightening the Z-drive clamp

- 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.
- b) Locate the ASI fine focus motor drive and vertical adjustment screw (screw removed to remove the Z-drive 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. 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.

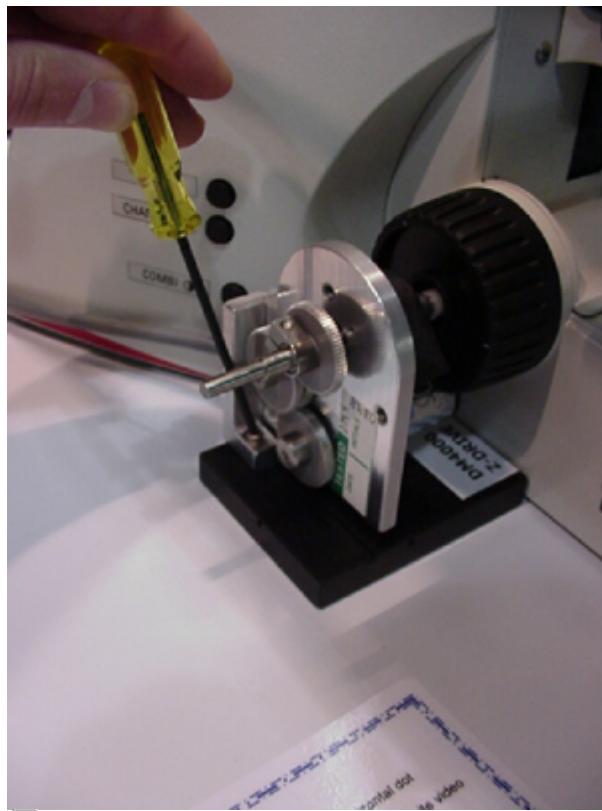


Figure 9: Horizontal Adjustment screw

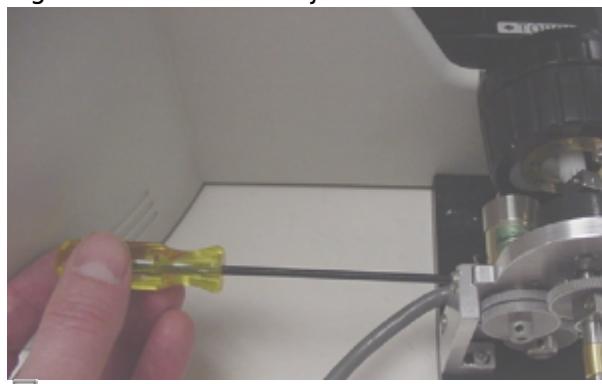


Figure 10: Vertical Adjustment screws

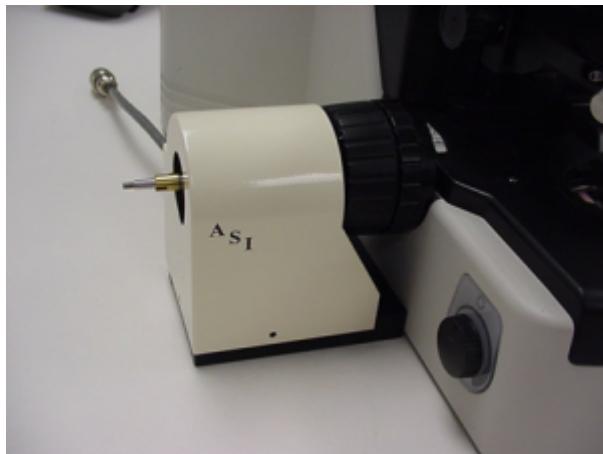
d) Slide the motor drive up and down, forward and backward slightly while turning the right fine focus knob until it is in the position where minimum drag is felt on the right focus knob. Secure the motor drive into position by tightening the horizontal and vertical adjustment screws.



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



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 secure it in place by tightening the setscrew loosened in figure 1.

This completes the procedure for installing the ASI focus drive on to the Leica DM 4000 to DM6000 microscope.

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