

Nikon LV-300 Left-Hand Z-Drive Installation Procedure

The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Nikon LV-300 microscope.

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

- Small cross blade screwdriver
- 1/16, 5/64, 7/64 inch & 1.5 mm Allen hex wrenches
- The Allen hex wrenches are provided by ASI

The procedure has three parts

1. Removing the left 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 Left Fine Focus Knob

Remove the left fine focus knob from the microscope as follows: a) Remove the screw securing the knob using the screwdriver & remove the knob b) Install the flex coupler as shown



Figure 1: Use screwdriver to remove screw, and pull knob straight off. Do not twist

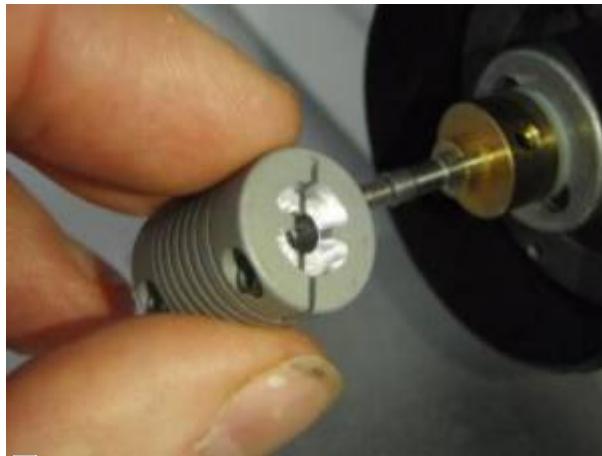


Figure 2a: Locate flex adapter & mount so that tabs cut into flex coupler mate with the notches on the brass piece



Figure 2b: Locate flex adapter & mount so that tabs cut into flex coupler mate with the notches on the brass piece

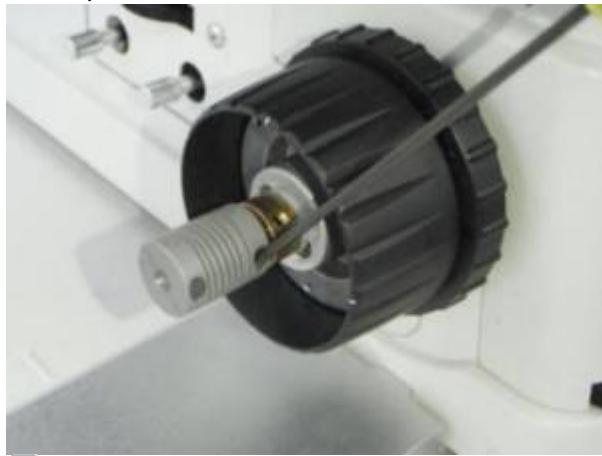


Figure 3: Use Allen wrench to secure flex adapter on microscope fine focus shaft.

Part 2 - Installing the Baseplate



Figure 4: Remove screw

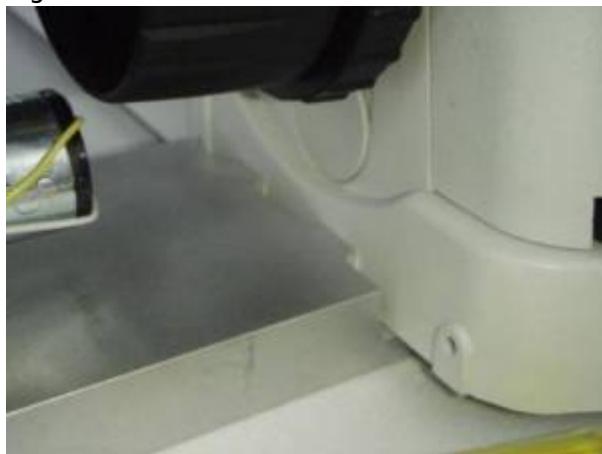


Figure 5: Center plate under focus knob

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

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.



Figure 6: Location of vertical adjustment screws

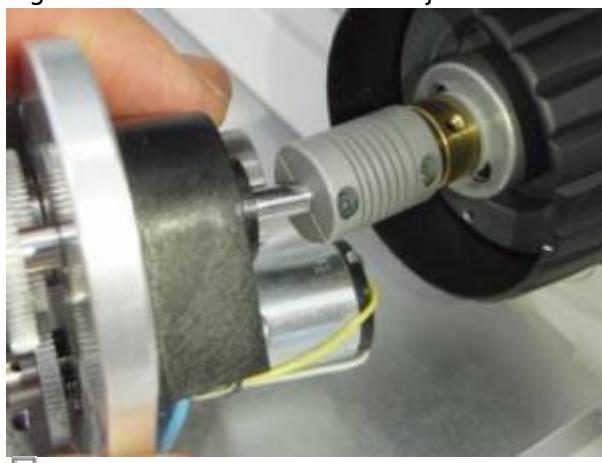


Figure 7a: Installing Z-drive. Note tab on adjustment bar slides into notch on base plate.



Figure 7b: Installing Z-drive. Note tab on adjustment bar slides into notch on base plate.

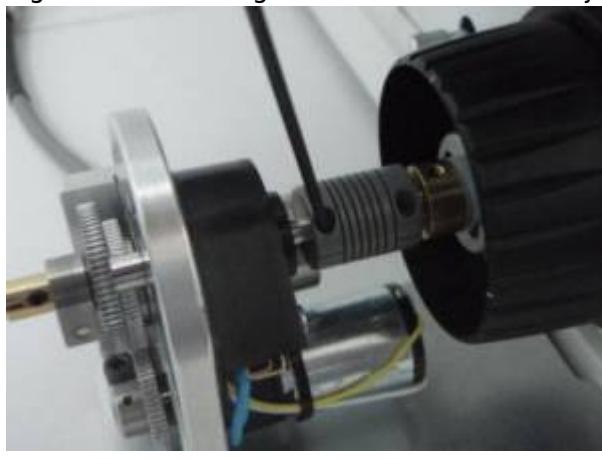




Figure 8: Tightening drive shaft clamp

b) Locate the ASI fine focus motor drive and vertical adjustment screw (M4x12 hex-head screw removed when the base plate was installed). Loosen the screw that is on the drive side of the flex coupler. Align the drive shaft on the ASI drive with the flex coupler, and slide the motor drive shaft into the flex coupler as shown in figure 7. Seat the tab on the adjustment bar into the tab on the base plate as shown. Use the Allen wrench to tighten the flex coupler as shown in figure 8. Install, but do not completely tighten, the vertical adjustment screw (figure 4) to hold the drive in place. Please Note: the baseplate may need to be moved to properly align the adjustment bar.

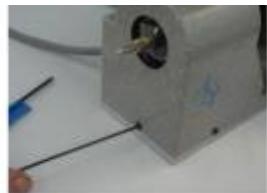
c) Slide the motor drive up and down, forward and backward slightly while turning the left fine focus knob until it is in the position where minimum drag is felt on the right focus knob. Secure the motor drive into position by tightening the horizontal and vertical adjustment screws (Figures 4 & 6).



Figure 9: Tighten Baseplate set screw

d) Tighten the baseplate set screw as shown in figure 9. 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



Figures 11-14: Installing cover and focus knob

1. 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.

2. Install the brass the knob that was remove Figure #1

[nikon, LV300, zdrive](#)

From:

<http://asiimaging.com/docs/> - **Applied Scientific Instrumentation**



Permanent link:

http://asiimaging.com/docs/nikon_lv300_left_hand_zdrive_install

Last update: **2021/09/23 17:15**