

# Leica / Leitz LABORLUX S Microscope Motor Drive Installation

The procedure below outlines the steps necessary to install the ASI Microscope Focus Controller Drive onto the Leitz LABORLUX S microscope.

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

Small flat blade screw driver 1.5mm, 2mm, 2.5mm, 7/64 inch hex wrenches The 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 & fine focus knob.

## Part 1 - Removing the Left Fine Focus Knob

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



Figure 1a



Figure 1b



Figure 1c

1. Locate small hole on knob.
2. Use 1.5mm Allen Wrench to loosen the knob set screw.
3. Carefully use small flathead screwdriver to remove fine focus knob.



**Warning!** Be careful not to pull the coarse focus forward or fine focus post backwards as this will release internal gearing which can be problematic to re-align.

## Part 2 - Installing the Baseplate

- a) Locate the two parts baseplate and adjustment bar and connect them using two M4 x 10mm Low Head Socket Cap screws as seen in figure 2a.
- b) Place the baseplate assembly and put it on the back of the microscope as show in 2b.

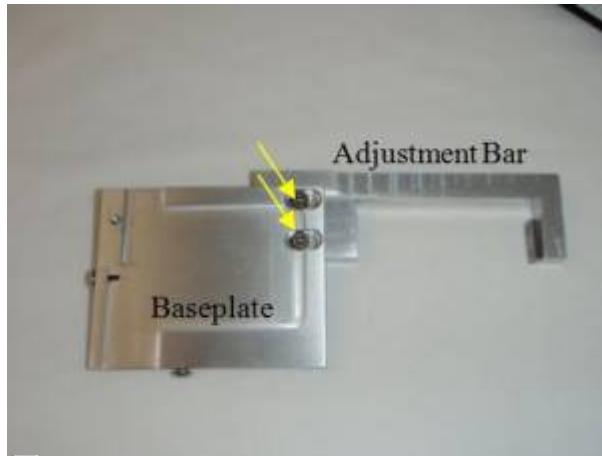


Figure 2a: Uninstalled baseplate and adjustment bar

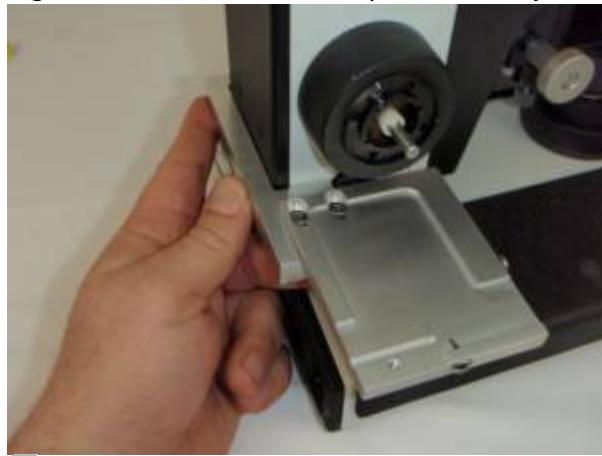


Figure 2b: Baseplate assembly attaches to back of scope

- c) Using a 1.5mm Allen wrench lightly tighten the adjustment bar set screw so that it holds onto the microscope but can still be moved around to adjust position for proper alignment.
- d) Slightly loosen two baseplate screws to allow for aligning Z-Drive unit.

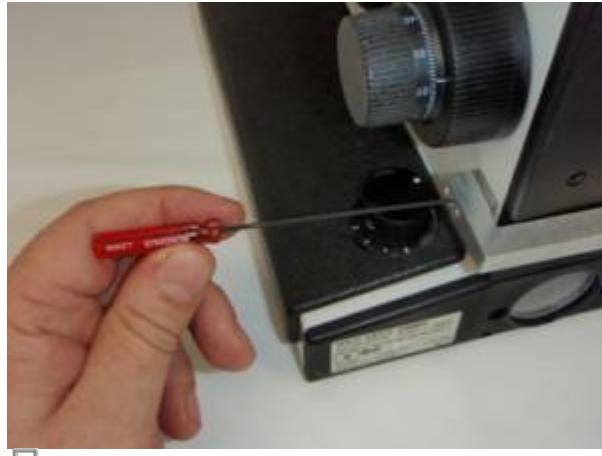


Figure 2c: Use 1.5mm Allen to tighten adjustment bar



Figure 2d: Use 2mm Allen to loosen baseplate screws

## Part-3 Installing & Aligning the Motor Drive



**Warning!** It is important to hold the fine focus knob when sliding the flex coupler over the fine focus shaft, as the shaft will push in – mis-aligning gears inside the microscope which can be problematic to re-align.



**Note:** When installing the Flex Shaft Coupler, it is important to line up the tab on the microscopes plastic coupler with the notch on the flex shaft!

Tab and Notch must line up!

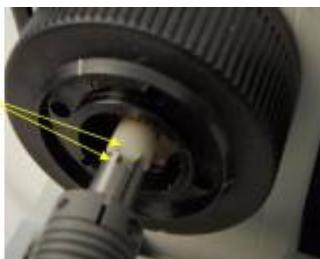


Figure 3





Figure 3a: Loosen Slide ASI drive flex shaft coupler on



Figure 3b: Baseplate must be against scope



Figure 3c

- a) Loosen the two vertical adjust screws. Use the 7/64" hex wrench. Loosen the screw just enough so that the adjustment bar can slide easily.
- b) Holding the fine knob on the left side of the microscope, carefully slide the flex shaft coupler over the fine focus knob, aligning the notch and tab.
- c) Attach the Z-Drive adjustment bar to the baseplate using the horizontal adjustment screw with the 7/64" hex wrench. The adjustment bar tab should fit in the baseplate slot. The horizontal screw should be tightened till the adjustment bar tab will easily slide in the groove in the baseplate.
- d) You may have to loosen and tighten the baseplate adjustment bar set screw enough to be able to move the baseplate up and down to align the Z-Drive flex shaft with the fine microscope's fine focus shaft.

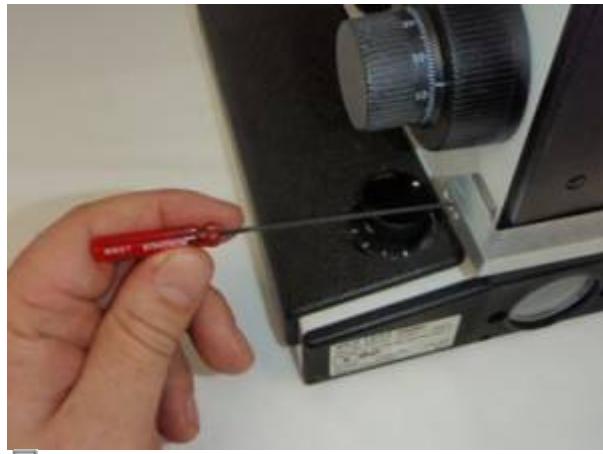


Figure 3d

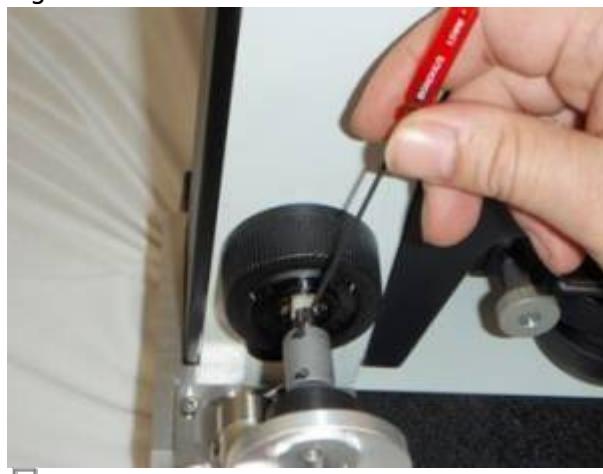


Figure 3e



Figure 3f

e) 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(figures 3a & 3c). Slide the tab that protrudes from the ASI drive shaft clamp into one of the slots on the white plastic gear on the microscope focus shaft, as shown in figure 3. This clamp is located on the drive shaft between the black encoder and the microscope. Tighten the drive shaft clamp, as shown in figure 3e above using a 2mm hex wrench.

f) Recheck the alignment by noting the drag on the right fine focus knob. No noticeable drag should be felt. Repeat the steps above if necessary. Double check and ensure that all alignment screws are tightened (figures: 3a,c,d, &f).

## Part 4-Installing the motor drive cover plate & fine focus knob.



Figure 4a



Figure 4b

- Locate the motor drive cover. Remove the 3mm button head screws from the drive with the 2.5 (or 2)mm Allen wrench. Position the motor drive cover over the motor drive assembly and secure in place using the 3mm button head screws.
- Slide the microscope fine focus knob over the Z-Drive shaft extension and press it on all the way so that the plastic tabs on the knob mate with the slots on the ASI drive shaft.
- Locate the small hole on the knob and use a 1.5mm screwdriver to tighten the knob set screw.



Figure 4c

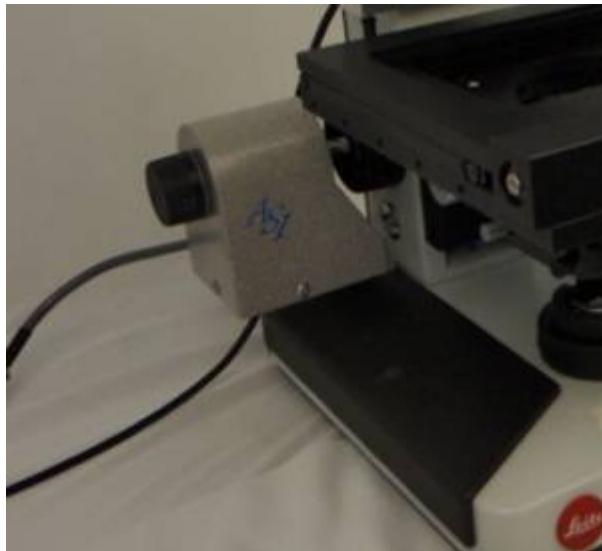


Figure 4d

This completes the procedure for installing the ASI motor drive on to the Leitz LABORLUX S Microscope.

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