

Zeiss Axiovert 200 Linear Encoder Installation

The procedure outlines the steps necessary to install and align the ASI Heidenhain linear encoder onto the Zeiss Axiovert 200 series microscopes. The linear encoder mounts to the rear of the microscope's objective turret mechanism via an encoder clamp. The linear encoder has a plunger that depresses into the encoder as the focusing position is moved. The plunger tip will either mate with a plunger stop on an ASI automated XY stage or the microscope's original stage. The linear encoder installation has two parts:

1. Installing the encoder clamp
2. Installing and aligning the encoder

The procedure requires the following Allen wrenches that are supplied with the unit

3/32" & 5/64"



Figure 1. Linear encoder mounted on Axiovert



Figure 2. Set screw to tighten to secure encoder clamp

Step # 1 Installing the encoder clamp

Locate the encoder clamp and position it across the objective turret mechanism of the microscope as shown in figure 1. The large slotted hole in the encoder clamp should go on the left side of the

microscope and the silver press bar should go on the right side as shown. On manual microscopes position the holder as shown. On motorized stands position the encoder clamp so that the screw near the objective turret mechanism mates with the “notch” on the encoder clamp. Press the encoder clamp against the objective turret mechanism and use the 5/64 inch Allen wrench to tighten the set screw located on the opposite side of the silver press bar (see figure # 2). This will cause the silver press bar to press against the microscope and will hold the encoder clamp securely in place.



Figure 3.



Figure 4.

Step # 2 Installing & Aligning the Linear Encoder

Locate the Heidenhain encoder and the 3/32 inch allen wrench. Use the Allen wrench to insure that the screw on the side of the encoder clamp is loose. Bring the objective up to the upper most position. Slide the encoder into the large hole on the encoder clamp and position it so that the ball on the end of the encoder’s plunger mates with the bottom of the existing stage as shown in figure 3. Rotate the encoder so that it follows the contour of the left rear side of the microscope as shown in figure 4. Slide the encoder up until there is about 1 to 2 millimeters worth of upward travel left on the encoder’s plunger as shown in figure # 4. Secure the encoder in place by tightening the clamp screw with the 3/32 inch Allen wrench.

Please note that the encoder has a total travel of 12 mm and that it should be positioned to allow the most convenient travel distance for the stage. In most instances the downward movement of the objective has the longest travel distance. In these applications the above installation procedure will provide the optimal travel range. However, this may vary slightly depending on the application and objectives use. Since the Axiovert only has about 10 mm worth of object travel, the above procedure

should work in nearly every application.



WARNING! Please do not move the stage outside of the linear encoder's range without first disengaging the drive, selecting the rotary encoder, or removing power from the controller. Failure to do so could result in a runaway condition. There is a firmware safety feature within the MS-2000 that will limit the runaway time to 0.5 seconds. After this period the drive will attempt to return to the last known encoder position. If the position to the encoder is small the drive may find the encoder. However, if the position to the encoder is large, or movement commands away from the encoder are still being given the limited runaway condition can occur. Since the Axiovert only has about 10 mm worth of object travel this is usually not a problem.

[zeiss](#), [av200](#), [linear encoder](#), [zdrive](#)

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