



AC100 and AC50 Autocollimator User's Manual



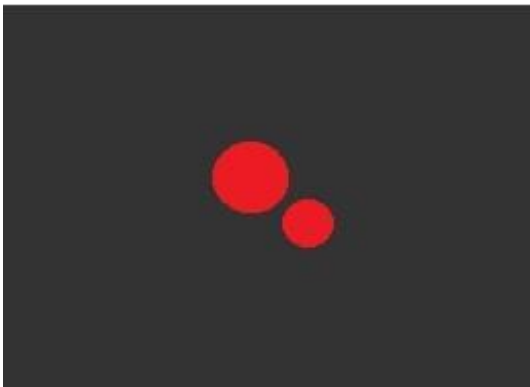
Step 0: **WARNING!!!** Make sure to turn off the laser before setting up or looking through the autocollimator.

Step 1: Begin by plugging in your autocollimator using the provided cord. This will power the internal LED and allow you to see your optical surface reflections.

Step 2: For the AC100, Spin the wheel on the left side of the rear end of the autocollimator to increase the brightness to your personal preference. For the AC50, spin the wheel on the external power supply that comes with the autocollimator.

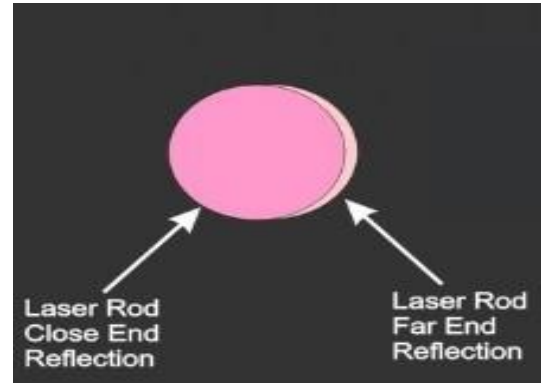
Step 3: Mount the autocollimator so it is pointing toward your laser rod. At this point, all other optical components should be removed from the rail including mirrors and Q-switches. The setup should look similar to the image below.

Step 4: Look through the eye piece of the autocollimator and adjust the mount until you can see two dots in your field of view.

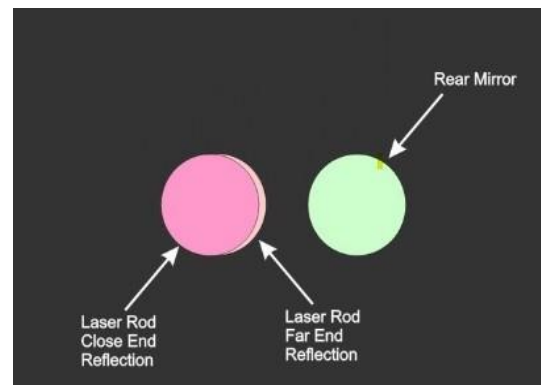


Step 5: Once you have both dots in your field of view, adjust the focus of the eyepiece by spinning the eye piece up or down. You should be able to adjust the focus until you see two sharply focused dots.

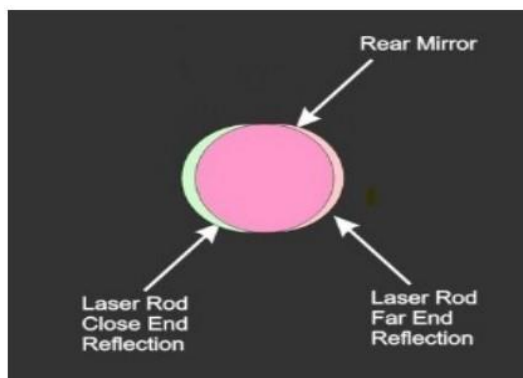
Step 6: At this point, you should see the two dots offset from one another. While looking through the eyepiece, adjust the collimation screws on your laser rod to begin moving the dots. You may have to go back and forth, adjusting the collimation screws for the front face of the rod, then the back, then the front again...etc. Continue this step until the two dots are essentially overlapping completely.



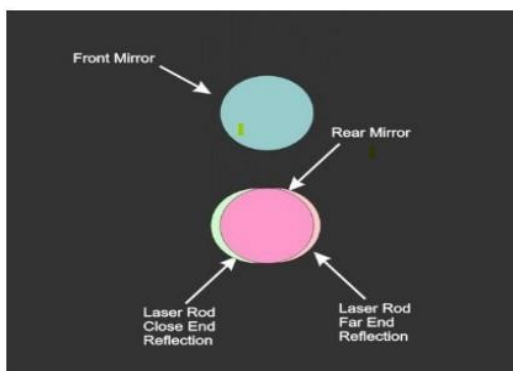
Step 7: Once the rod is collimated, install an end mirror onto the laser rail. Look through the autocollimator again, and you should now see a third dot that again is not overlapping with the dots from the rod ends.



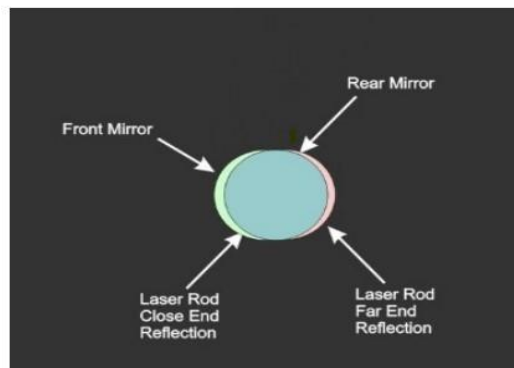
Step 8: While looking through the autocollimator, adjust the steering screws on the mirror until the third dot is now overlapping with the dots from the rod ends.



Step 9: Once the rod and first end mirror are collimated, add the output coupler to the rail. Looking through the autocollimator again, you should now see a fourth dot that is not in collimation with the other three.



Step 10: While looking through the autocollimator, adjust the steering screws on the output coupler until the fourth dot is overlapping with the other three.



Step 11: If you have other optical components on your rail, continue adding each component to the rail, one at a time, and using the autocollimator each time so you can align each component to the line of the rod.

Step 12: IMPORTANT!!!! Remove the autocollimator from the mount before turning on the laser. Extreme damage will occur if you pass high power laser light through these optics.

***Note:** When turning on a laser that has been newly collimated, it should now operate, however it may not be optimized. Often, autocollimators help you to reach a reasonable starting point, but you may still need to adjust mirrors and other optical components for optimal operation.