Digikröm Series Monochromator to Spectrograph Conversion Instruction

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Spectral Products
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I. Contents

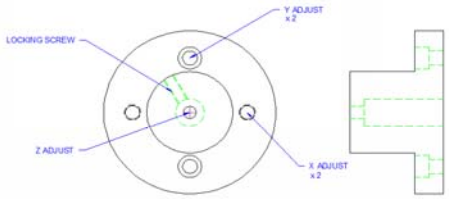
1. Spectrograph exit plate
2. Exit plate cover
3. Exit flange
4. 40mm^2 exit turning mirror
5. Spectrograph focusing mirror

II. Tools Required

1. 3/32” hex wrench
2. 5/32” hex wrench
3. 3/16” hex wrench
4. 5/16” open end wrench

III. Procedure

1. Remove the monochromator cover and the light baffle in front of the grating table.
2. Apply power to the monochromator and allow the power up reset to complete.
3. Open the slits to ~1mm and shine a visible laser into the monochromator.
4. Instruct the grating to *GOTO* 0nm. You should now observe the laser beam exiting the monochromator. Mark this beam on a solid surface and take care to not move this mark as it will be used for optical alignment. Remove power from the monochromator.
5. Refer to the figure below for reference. Remove the monochromator focusing mirror (spherical mirror located closest to the exit slit). Loosen the locking set screw located on the mirror block with the 3/32” hex wrench. Then remove the cap screw (Z adjustment) on the back of the block with 5/32” hex wrench. Because the mirror is spring loaded, hold the mirror before completely removing the cap screw to prevent damage to the mirror.



6. Install the spectrograph focusing mirror. Adjust the Z axis to position the mirror to approximately the same location as the monochromator mirror. Tighten the locking set screw and adjust the X and Y axis to place the laser beam on the spot marked in step 4 above.
7. Remove the monochromator exit turning mirror and install the spectrograph turning mirror using a 3/16" hex wrench. Again, adjust the mirror base (X adjust) and top hex nuts (Y adjust) with 5/16" open end wrench to place the laser beam on the spot marked in step 4.
8. Disconnect the signal cable and power lines to the exit slit motor driver PC board, and then remove the exit slit using the 5/32" hex wrench. Install the spectrograph exit port assembly.
9. Replace the grating baffle (see note below) and spectrograph cover.

IV. Notes

1. Course focus adjustment is made using the Z cap screw on the back of the focusing mirror block. Fine adjustment is made by loosening the set screws on the exit port flange, and sliding the port in or out.
2. When powering on the spectrograph, there will be a delay at the point where the monochromator would be resetting the exit slit. This is normal.
3. If converting a DK480 monochromator, it may be necessary to open the grating baffle exit port to prevent light loss.

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