
CETAC

Z-Drive Assembly

Installation Guide

Manual Part Number **61054** rev 2a, © 2010 CETAC Technologies, Printed in USA

Overview

This guide describes the necessary steps to replace the Z-drive assembly.

These instructions apply to many CETAC autosamplers, including (but not limited to) the ASX-260, ASX-520 and EXR-8.

The Z-drive is driven by a length of cable (line) which can be made of PEEK tubing or solid nylon line.

Tools Required

You will need the following tools:

- Wire cutters, for trimming the black positioning flag.

You can remove thumbscrews with tools if necessary, but do not tighten them with anything other than your fingers.

CAUTION

Do not allow the cable to bend sharply. Avoid pushing up on the slider or pushing on the Z-drive cable. Doing so can kink the cable, in which case the cable must be replaced.

Replacing the Z-Drive Assembly

WARNING

Ensure the power cord is disconnected before proceeding with installation.

- 1 Place the autosampler on a flat surface (Figure 1-1) and turn the unit off.

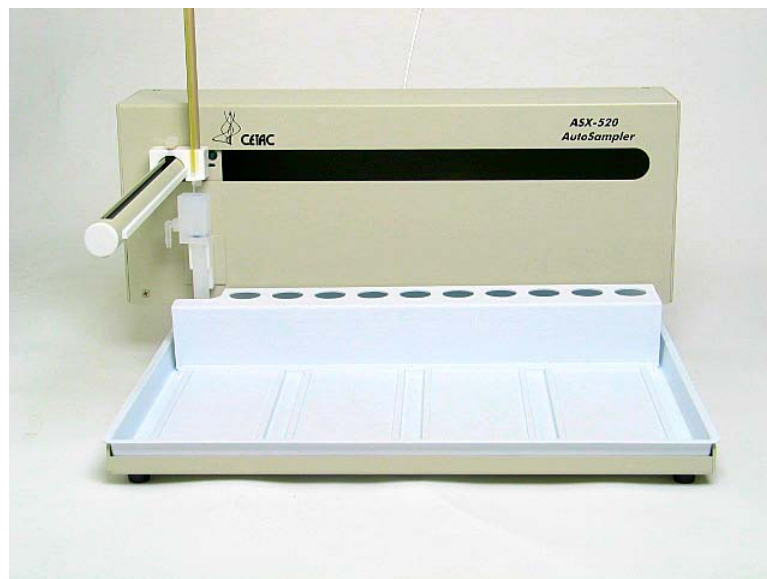


Figure 1-1. Front view of ASX-520 autosampler.

- 2 Remove the two Kynar thumb screws from the Y-axis home block (Figure 1-2).

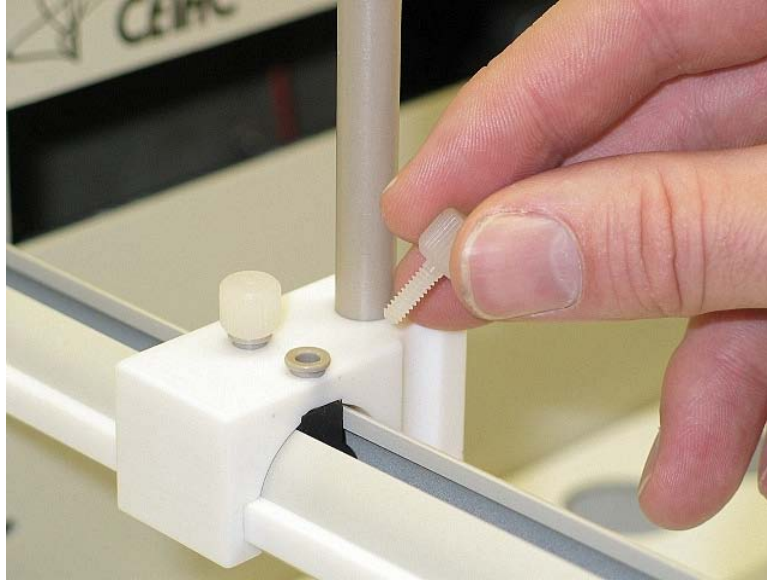


Figure 1-2. View of Y-axis home block with Kynar thumbscrews.



Figure 1-3. Z-drive removed from arm assembly.

- 3 Remove the PEEK or nylon line from the rotor by loosening thumbscrew on rotor (Figure 1-8) and also removing 2 thumbscrews from mounting block (Figure 1-6). Remove the old Z-drive assembly from the arm by pulling the whole Z-drive assembly forward and off the autosampler arm (Figure 1-3).
- 4 Remove Z-drive assembly from the bag.

If the new Z-drive uses PEEK tubing: Make sure PEEK tubing has been curled. If the PEEK tubing is straight, curl the last 8 inches by placing the PEEK tubing between your thumb and metal shaft of screwdriver and pull out while applying firm pressure to the PEEK tubing (Figure 1-4).

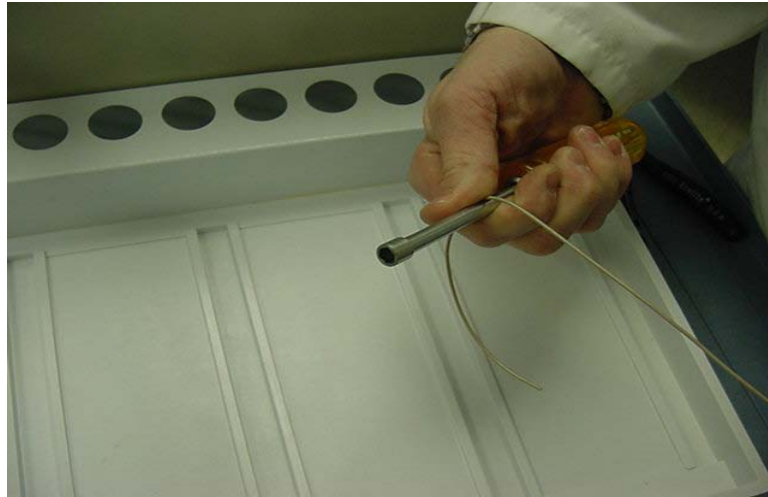


Figure 1-4. Curling of PEEK tubing.

Nylon line cannot be curled this way; it springs back to its original shape.

- 5** Slide the new Z-drive assembly onto the autosampler arm and secure by tightening the thumbscrews (Figure 1-5).



Figure 1-5. Securing z-drive assembly onto autosampler arm.

- 6** Turn the rotor clockwise as far as it will go.
- 7** Slide the cable onto the rotor on the back of the autosampler.
- 8** Secure the guide block to the back of the autosampler with 2 black-capped thumbscrews (Figure 1-6). Note that it is important to install the mounting block in the correct orientation



Figure 1-6. Securing block to back of autosampler.

- 9 Gently move the Z-slider until the gap between the slider and cap is approximately 2mm (Figure 1-7).

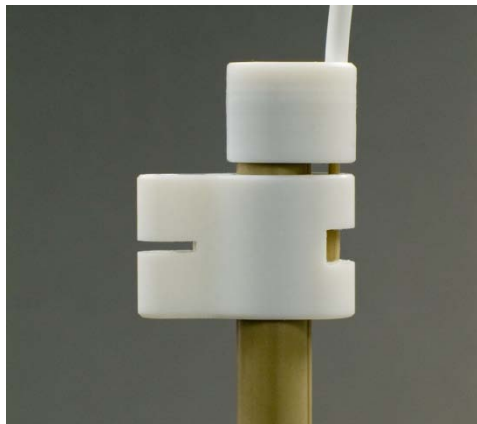


Figure 1-7a. View of gap between probe bracket and cap (standard Z-drive).

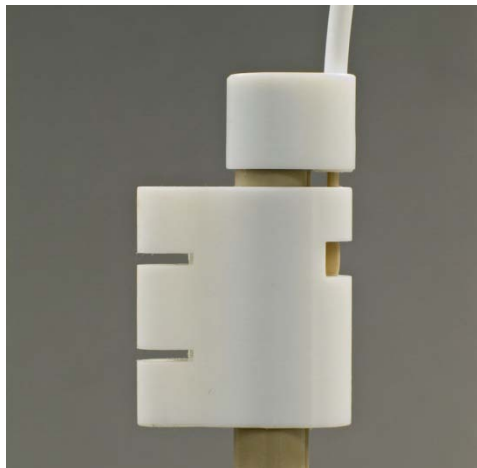


Figure 1-7b. View of gap between probe bracket and cap (carbon fiber style Z-drive assembly).

- 10** Hold the cable flat against the rotor and secure the cable by tightening thumbscrew on the rotor (Figure 1-8 and 1-9). The thumbscrew should be as tight as you can get it using just your fingers.

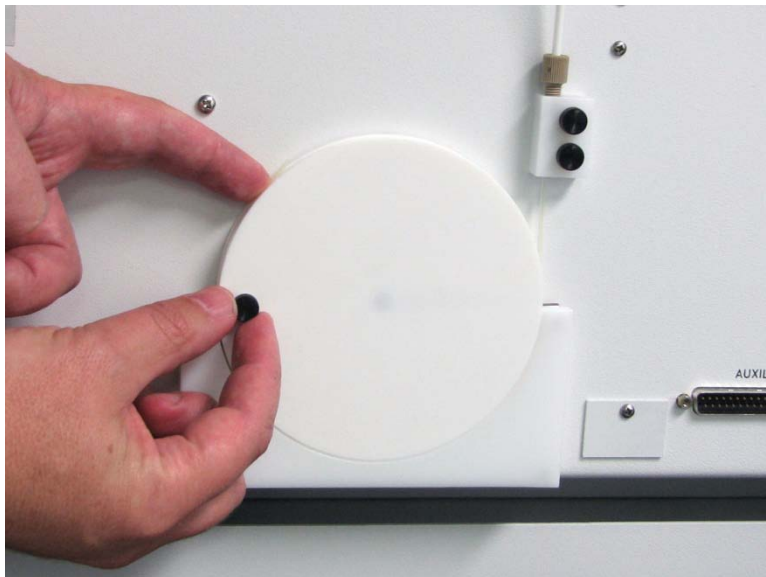


Figure 1-8. Securing cable to rotor (nylon cable).



Figure 1-9. Securing cable to rotor (PEEK cable).

- 11** Rotate the rotor back and forth to ensure that it moves freely. If there is excessive friction, check that the full width of the cable is under the clamp.
- 12** Install a sample probe.
- 13** Turn the autosampler on, wait for it to initialize and move the probe to the "home" position, then turn the autosampler off.

- 14** Check that the probe is centered over the tube of the rinse station. Manually lower the probe by gently turning the rotor on the back of the autosampler. The probe should be centered in the tube of the rinse station.

If the probe is not centered, move the Z-drive assembly to a convenient position and use wire cutters to trim off a narrow strip of the black positioning flag (Figure 1-10). If you trim off too much, replace the flag (extra flags are supplied with the Z-drive assembly).

Repeat steps 13 and 14 until the probe is centered precisely over the rinse station.



Figure 1-10. View of flag adjustment.

- 15** Turn on power and use your instrument control software to move the probe to several rack positions to make sure the probe is hitting positions correctly.