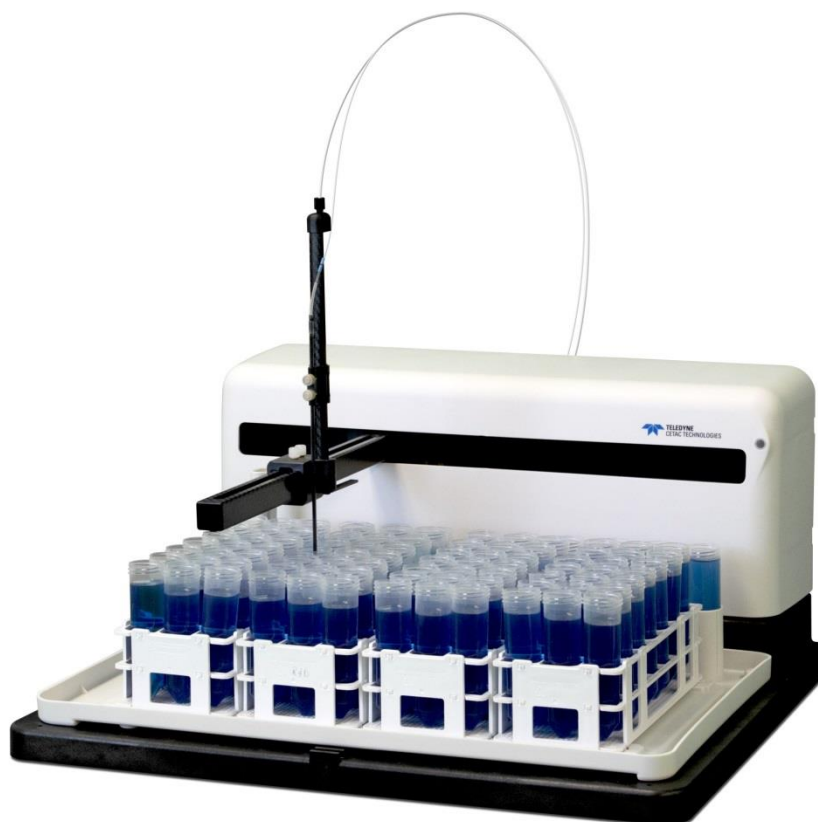




TELEDYNE
CETAC TECHNOLOGIES
Everywhereyoulook™

ASX-560 Autosampler
ASX-280 Autosampler



Alignment Guide

Manual Part Number **480221** DRAFT 3a

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Introduction

When to Align the Autosampler

Alignment is critical to the autosampler's ability to operate reliably.

Alignment should also be performed if you suspect that shipping or rough handling may have disturbed the autosampler's chassis, or when an autosampler component such as the Z-drive has been replaced.

Origin Alignment

Origin alignment sets the location of the home position so that the sample probe is centered in the rinse station. This alignment is done by setting offsets in the autosampler firmware. No mechanical adjustments are required.

Full Alignment

Full alignment sets the location of the sample vials and standards vials in relation to the rinse station. This alignment is done by setting offsets in the autosampler firmware. No mechanical adjustments are required.

Equipment Required

- ASX-560 or ASX-280 autosampler
- USB cable
- Sample probe
- Probe clamps
- Rinse station and spill tray
- Two 60- or 90-position racks
- Four empty sample vials
- Three standards vials, optionally with caps
- ASX Dashboard software
- Alignment files

Installing the ASX Dashboard Software

The alignment tool is part of the ASX Dashboard software, which is supplied on the autosampler CD or can be downloaded from the Teledyne CETAC website.

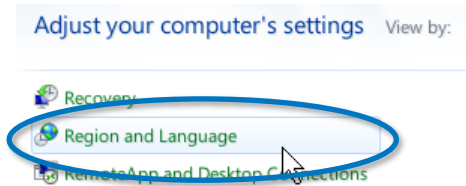
- 1** On the CD supplied with the autosampler, find the Dashboard Install folder, OR
Download the ASX Dashboard software from the Teledyne CETAC website at:
<http://www.teledynecetac.com/site-support/pages/Autosampler-Dashboard.aspx>.
- 2** Double-click ASX Dashboard-1.3.1.exe to install the software. (The version number may vary.)

Configuring the PC

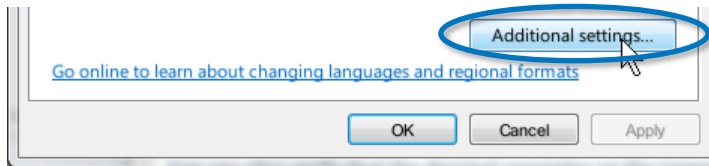
If you customarily use a period as the decimal symbol, skip to the next section.

The alignment software assumes that your PC is set up to use a period as the decimal symbol. If you customarily use a comma as the decimal symbol, then you need to change the Region settings on your PC. The procedure may be a little different depending on your version of Microsoft Windows.

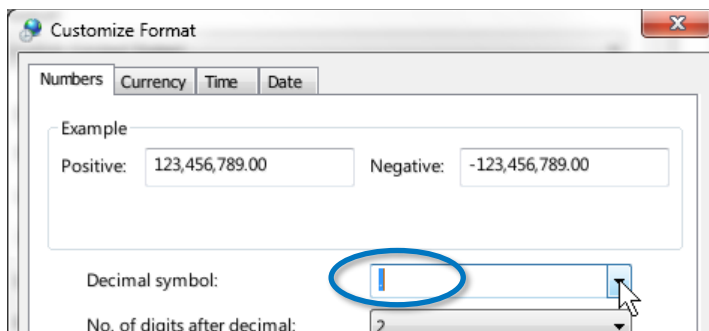
- 1 Open the Windows **Control Panel**.
- 2 Select **Region and Language**.



- 3 Click **Additional Settings**.



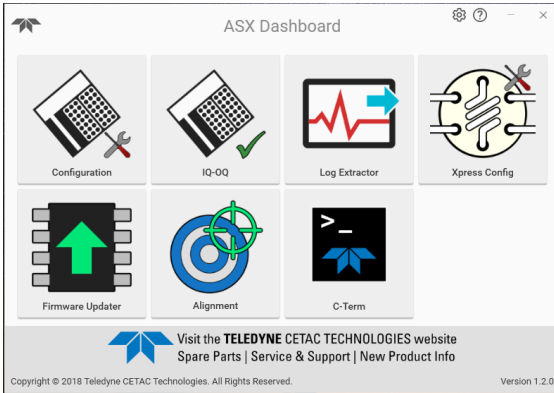
- 4 For the **Decimal** symbol, choose the period (').



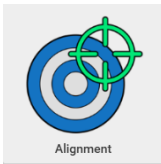
- 5 Click **OK**.

Starting the Alignment Utility

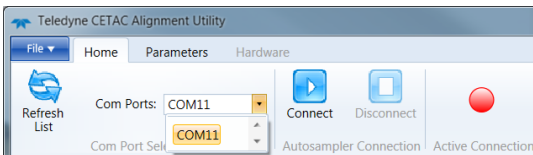
- 1 Connect the autosampler to the PC using a USB cable. (You can also use a direct serial connection, however do not use a USB-to-serial converter.)
- 2 Turn the autosampler on.
- 3 Run the ASX Dashboard software.



- 4 Select the Alignment Utility from the Dashboard.



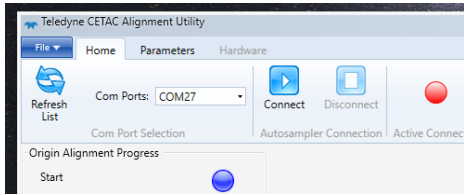
- 5 Select the appropriate COM port. Note that USB connections appear as COM ports.



- 6 Click **Connect**.
- 7 A splash screen will appear while the devices are being detected.

Load the Alignment File

- 1 Select the File Tab at the top of the Screen.



- 2 Select Load Alignment File and choose the alignment file needed for your rack and tray size. You will need to browse for the alignment files which are located on the CD in the Alignment Documents folder, then in the Alignment Files folder, or they can also be download from the Teledyne CETAC website at: <http://www.teledynecetac.com/site-support/pages/ASX-560-280-Alignment-Utility.aspx>.

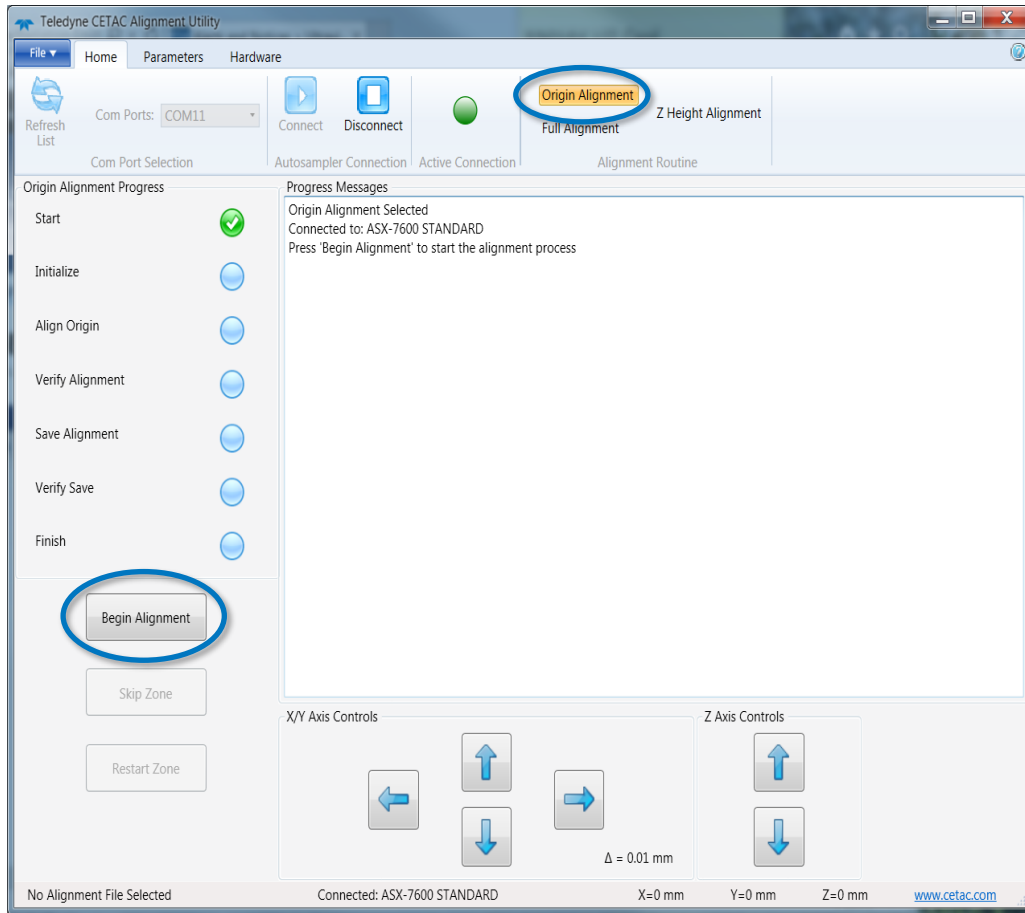
Name	Date modified	Type	Size
Alignment Documents	6/18/2019 1:44 PM	File folder	
Dashboard Install	6/18/2019 1:45 PM	File folder	
Rack Files	2/5/2018 11:25 AM	File folder	
USB Driver	9/9/2015 9:34 PM	File folder	
ASX-560 ASX-280 Operators Manual	10/1/2015 5:12 PM	Adobe Acrobat D...	6,529 KB
ASX-560 ASX-280 Quick Installation Guide	9/21/2015 2:34 PM	Adobe Acrobat D...	3,952 KB
ASX-560 Series Autosamplers Safety Manual	3/23/2015 11:21 AM	Adobe Acrobat D...	4,043 KB
Waste Electrical and Electronic Equipment	1/9/2006 2:31 PM	Adobe Acrobat D...	4 KB

- 3 Find the alignment file that matches the number of rack positions and tray standards positions for your autosampler, then double-click the file to open it.

Name	Date modified	Type	Size
670110-008 ASX-280 Cust-Rack60-Std10 Alignment	11/3/2016 4:17 PM	XML Document	6 KB
670110-009 ASX-280 Cust-Rack90-Std10 Alignment	11/3/2016 4:20 PM	XML Document	6 KB
670110-010 ASX-560 Cust-Rack60-Std5 Alignment	11/3/2016 4:24 PM	XML Document	6 KB
670110-011 ASX-560 Cust-Rack60-Std10 Alignment	11/3/2016 4:25 PM	XML Document	6 KB
670110-012 ASX-560 Cust-Rack90-Std5 Alignment	11/3/2016 4:30 PM	XML Document	6 KB
670110-013 ASX-560 Cust-Rack90-Std10 Alignment	11/3/2016 4:32 PM	XML Document	6 KB

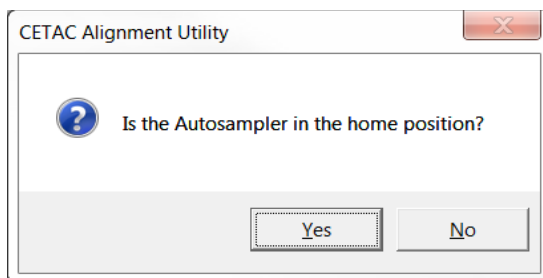
Aligning the Origin/Rinse Station

1 Select Origin Alignment.



2 Click **Begin Alignment**.

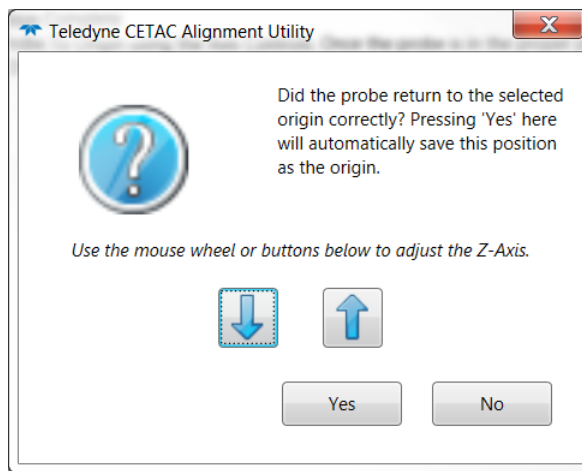
3 Ensure that the autosampler is in the home position before proceeding. If the autosampler is not in the home position, cycle power then reestablish communications with the alignment software.



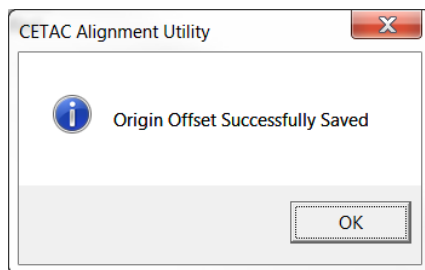
4 Right click to select appropriate step size for fine tuning. Use the alignment controls (X/Y Axis Controls and Z Axis Controls) to center the probe tip in the rinse station. Position the probe so that the tip is approximately 1 cm into the rinse station (Z-axis) and the edges are equally spaced from the walls of the rinse station (X and Y axes).



- 5 Click **Set Alignment**.
- 6 The autosampler will recheck the rinse position and ask if it looks correct.



- 7 When complete, the software will indicate successful origin alignment with a pop-up window. Close the software when complete. The autosampler will home itself.

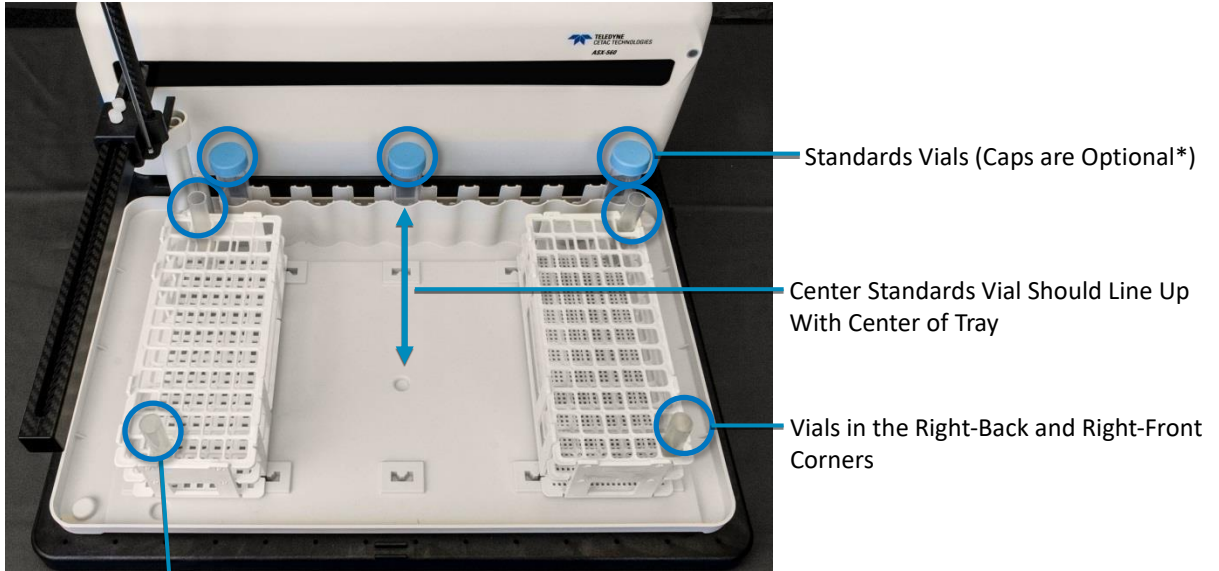


Aligning the Rack and Standards Vial Positions

You will need three standards vials with caps*, two 60- or 90-position racks, and four empty sample vials.

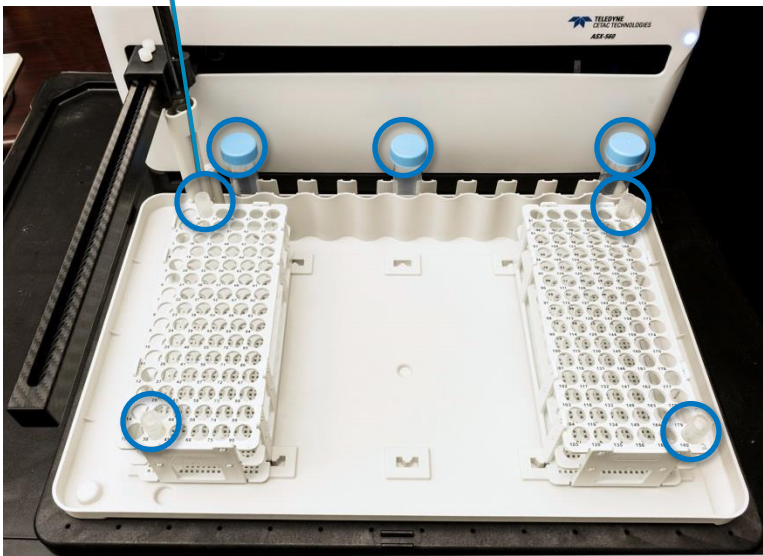
* You can leave the caps on the standards vials. Most caps have a small dot (left by injection molding) in the very center, which helps visualize the alignment.

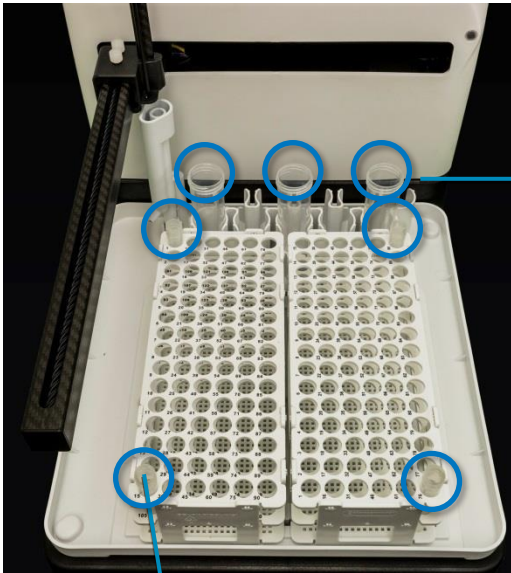
- 1 Place the four sample vials and three standards vials as shown:



60-Position Racks: Vials in Second Column from Left, Front and Back Positions

90-Position Racks, ASX-560: Vials in Second Column from Left, Front and Back Positions

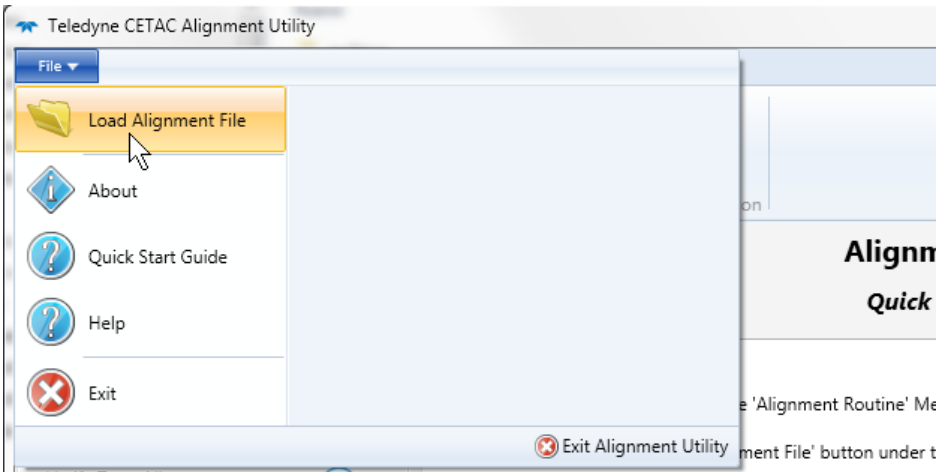




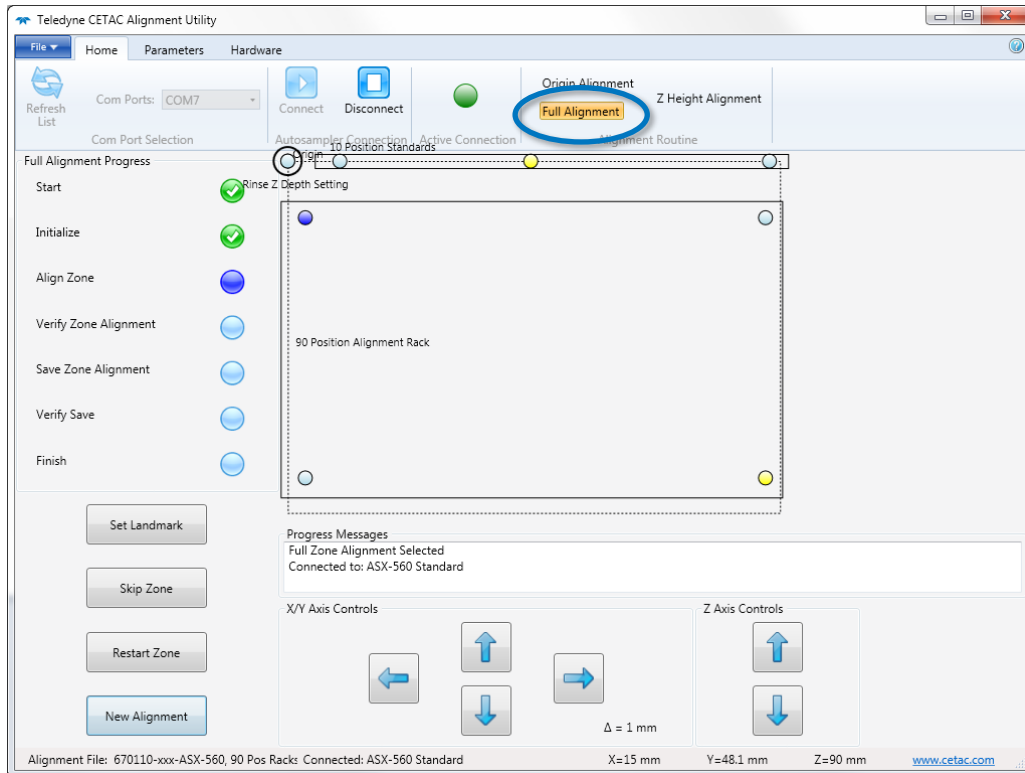
For the ASX-280, All Three Standards Vials Are in the Front Row

90-Position Racks, ASX-280: Vials in Leftmost Column, Front and Back Positions

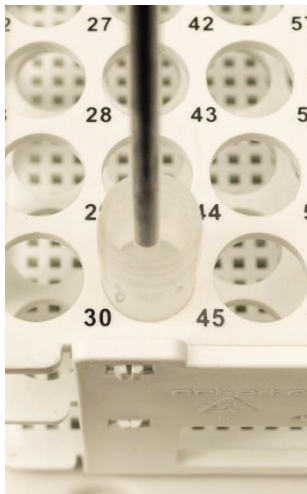
- 2 Select **File->Load Alignment File** and load either the 60- or 90- position rack file.



- 3 Select **Full Alignment**. The autosampler will immediately move the probe into the back left vial.



- 4 Right click to select appropriate step size for fine tuning.
- 5 Use the alignment controls (X/Y Axis Controls) to center the probe tip in the back left vial. If necessary, adjust the Z axis position so you can better see the position of the probe.

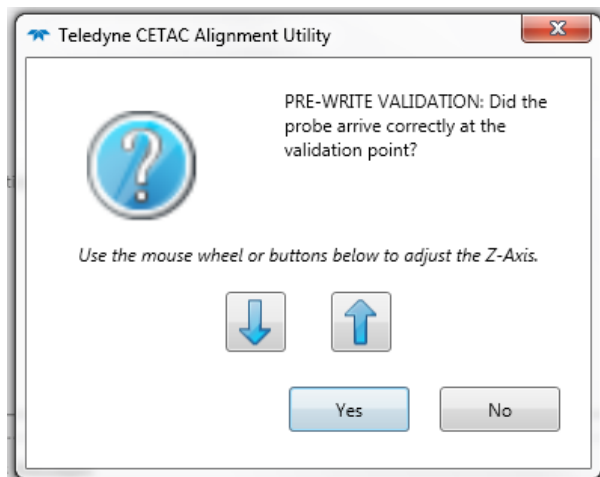


NOTE

If the probe doesn't seem to move, right click and choose a larger step size.

- 6 Click **Set Landmark**. The autosampler will move the probe to the front left vial.
- 7 Align to the front left vial and click **Set Landmark**.
- 8 Align to the back right vial and click **Set Landmark**.

- 9 To verify the alignment, the probe will move to the front right vial and the software will ask if the position is correct.



- 10 Click **Write Zone**.

NOTE

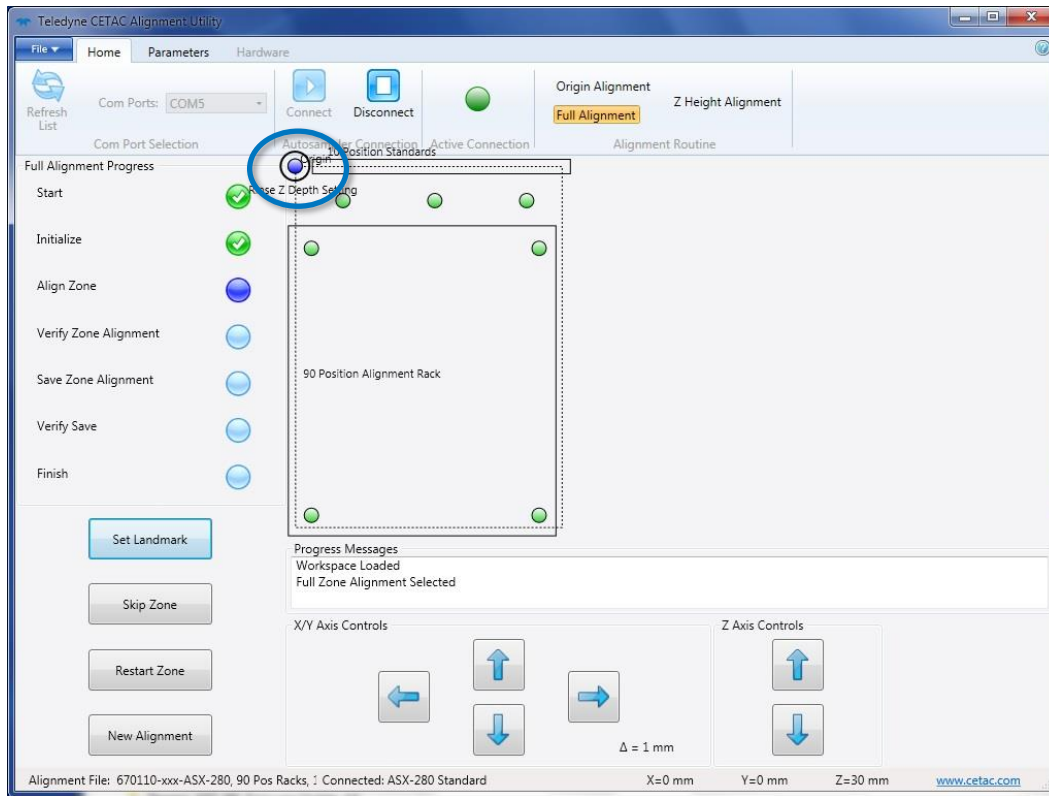
If you don't click Write Zone, the alignment information will not be saved.

- 11 The probe will move to the front right vial again to verify that the new alignment information was saved correctly. Click **Yes** to continue.
- 12 The software will now begin aligning the "10 Position Standards" zone. Click OK to continue.
- 13 Align the X and Y position for the first standards vial.



- 14 Click **Set Landmark**.
- 15 Align the X and Y position for the last vial.
- 16 Click **Set Landmark**.
- 17 Verify the position for the center vial and click **Yes** to continue.
- 18 Click **Write Zone**.
- 19 Verify the position of the center vial again and click **Yes** to continue.

20 The software will now begin setting the Z position in the rinse station. Click **OK**.



21 The tip of the probe will move into the rinse station. No additional action is required except to click **Set Landmark**, then click through the prompts (**Yes**, **Write Zone**, and **Yes**) to save the alignment.