

<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 1 of 6</b>
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## Purpose

This document provides the steps required to replace the drive pulley bearings in the Z-axis of the Sci-Print VX2/VXL or RETROS instruments. This procedure works for Rev. C and Rev. D model Z-axes which require different sized bearings.

## Required Material and Equipment

- 2 x Drive Pulley Bearings (PN 2000-023 for Rev. C and PN 2000-494 for Rev. D)
- 2, 2.5 and 3 mm allen wrenches

## Intended Audience

Field Service Representative from Scinomix or approved vendors.

## Prerequisites

N/A

## Procedure

1. Detach the grounding strap inside the instrument (back left corner of the lid)



Figure 1. (SNs < 0100 and instruments with the updated plastic lid will not have this grounding strap)

<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 2 of 6</b>
----------------	--	--	---------------------------------------	--------------------

2. Remove the 4 x Lid screws and pull up to remove the lid (keep it level).

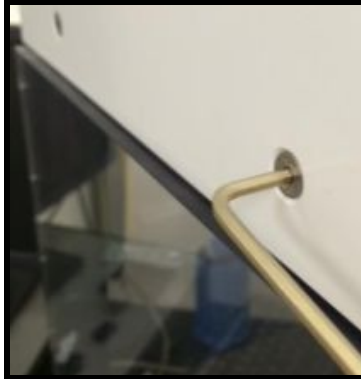


Figure 2.

3. Find and adjust the belt-tensioning screw on top of the z-arm until there's slack in the belt (this is important because you'll need to remove the brass colored pulley to change the bearings).

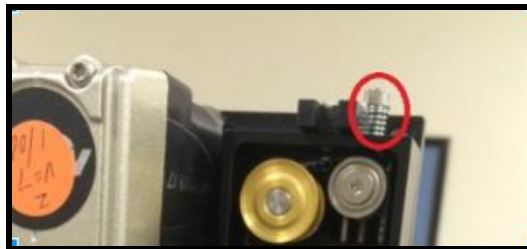


Figure 3.

4. Loosen the 3 or 4 x Z-motor mounting screws on the other side of the Z-axis and slide the motor towards the large pulley to remove tension on the power belt.

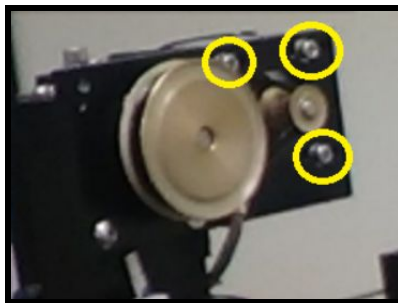


Figure 4.

<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 3 of 6</b>
----------------	--	--	---------------------------------------	--------------------

5. Find and loosen the 1 set screw on the collar of the large pulley, then remove the pulley from the shaft it's mounted to.

**Note:** You may need to hold the small pulley on the opposite side and twist the large pulley while pulling out. There should be a thin washer on the back side of this pulley. Save that washer for when you reinstall it.



Figure 5.

6. The bearing on the large pulley side should now be exposed.

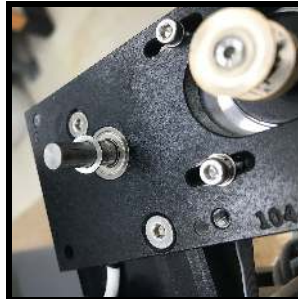


Figure 6.

<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 4 of 6</b>
----------------	--	--	---------------------------------------	--------------------

7. Push or tap the shaft through the bearing (the small pulley on the other side and shaft will come out together. There may also be another shim washer on the small pulley side.)

**Note:** When these bearings fail, sometimes the shaft gets stuck and it's hard to remove. You might need to use a hammer and a punch or screwdriver to tap the shaft through the bearings.



Figure 7.

8. The bearing on the small pulley side should now be exposed.



Figure 8.

9. Remove the bearings from both sides of the Z-axis.
10. Insert the new bearings on both sides, making sure they're mounted flush.

<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 5 of 6</b>
----------------	--	--	---------------------------------------	--------------------

11. Replace the small pulley and shaft into the bearings (with shim washer if present) and seat the belt on the pulley.
12. Replace the shim washer on the large pulley side and remount the large pulley to the shaft.

**Note:** There should be a flat on the shaft. You may want to mark the end of the shaft to denote the direction/orientation of the flat so it's easier to find and tighten the set screw onto the flat.



Figure 9.

13. Seat the power belt onto the large pulley.
14. Push the Z-motor away from the large pulley to add some tension to the belt and tighten the 3 x Z-motor mounting screws.  
**Note:** The belt just needs to be taut. Applying too much tension can cause the belt to fail.
15. Test for function before replacing the lid.
16. *If you need additional assistance, please call our service department at 314-298-9800 or email [service@scinomix.com](mailto:service@scinomix.com).*

## Definitions

N/A

## Revision History

<b>Version:</b>	<b>Change:</b>	<b>Effective Date:</b>	<b>Approved by:</b>
A	NEW	MAY-05-2020	B. Petty



<b>TS-1052</b>	<b>Replacement of Z-axis Drive Pulley Bearings</b>	<b>Document Owner:</b> Service Department	<b>Effective Date:</b> May-05-2020	<b>Page 6 of 6</b>
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