# Replacing the Carriage Ballscrew Home-side Bearing

## Product

Magnus VLF

## Background

Some earlier bearing were packed with grease that is too thick. Replacing the bearing assembly with one that uses a thinner grease puts less friction on the ballscrew and carriage movement. The thinner grease also allows faster movement of the carriage with the new carriage amplifier board.

Also, if the bearing fails or ceases on the ballscrew, then the bearing assembly must be replaced.

## Solution

Replace the home-side carriage ballscrew bearing assembly.

**Note:** Do not add grease to the bearing.

**Time required** 20 minutes

**Parts required**

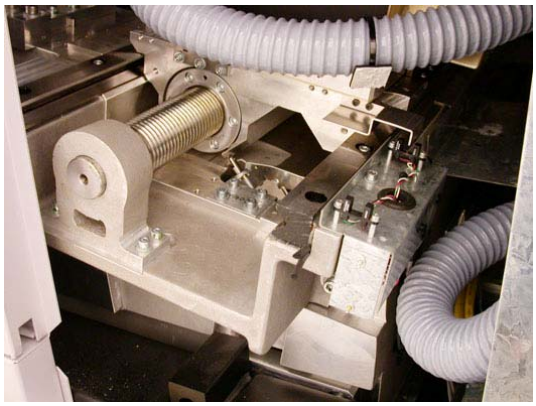
| Part Number | Part Name | Quantity |
|---|---|---|
| 500-00027A | Bearing assembly | 1 |

**Tools required**

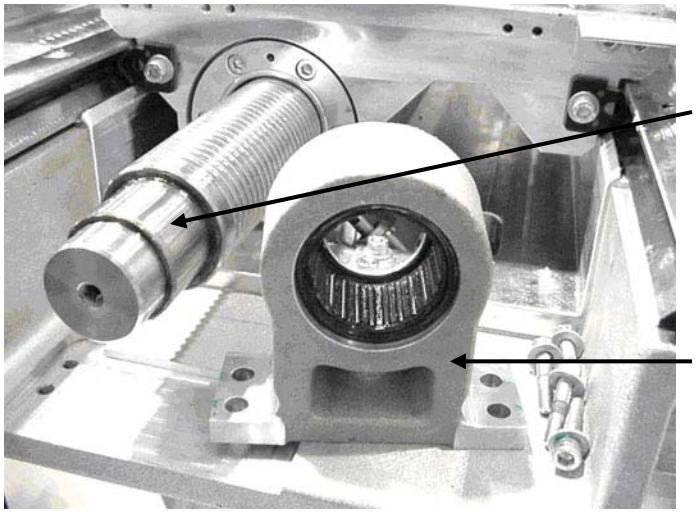
- Isopropyl alcohol and lint free cloth
- Propane torch
- Torque wrench capable of 10 Nm
- Hex wrench/drive set

## Procedure

1. Type `>>carriage moveto 0` to move the carriage to the home position on the ballscrew.
2. If the device has an ejector bridge on the home-side, raise the cover and table for easier access to the home-side of the device.
   If the device has a slipsheet removal system on the home-side, remove the slipsheet bin and lower the service access panel for access to the device.
3. Open the Magnus VLFs home-side side panels to get access to the ballscrew bearing assembly.



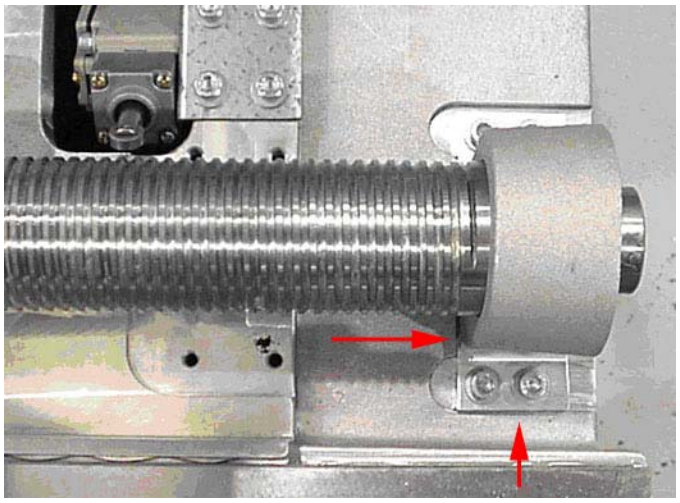
4. Remove the four M6 screws holding the ballscrew bearing assembly to the chassis.
5. Pull the bearing off the end of the ballscrew—you should be able to do this without any mechanical aid.




6. Clean the grease from the end of the ballscrew with a cloth and isopropyl alcohol.
7. Inspect the bearing's inner race for any signs of damage that may be caused by the bearing ceasing. If the inner race needs to be replaced, continue to the next step. If the inner race does not need replacing, then proceed to step 13.
8. Using a propane torch, heat the inner race until it can be pulled off the ballscrew.
9. Clean the ballscrew bearing seating area. Check that the seating area is not damaged from the old bearing seizing.
10. Remove the inner race from the new bearing assembly and wipe off any oil or grease on it.
11. Heat the inner race with a propane torch or hot plate and quickly push the inner race onto the ballscrew until it seats against the step on the ballscrew.

    **Note:** Be careful not to overheat the inner race to the point that it changes color.

12. Allow the assembly to cool down and check that the inner race is tight on the ballscrew.
13. Push the new bearing assembly onto the end of the ballscrew. You may need to lift the ballscrew slightly with one hand while pushing the bearing on with the other.
14. Insert the four M6 screws holding the bearing assembly to the chassis but do not tighten them yet.
15. Push the bearing assembly towards the carriage and towards the drum so that it is against the two machined surfaces as shown below. Tighten the M6 screws to 10 Nm with the bearing assembly in this position. Check that there are still no gaps between the bearing assembly and the engine casting.



Machined surfaces to align to

16. Install all panels and components that were removed.
17. Move the carriage up and down the ballscrew to ensure that it moves smoothly.

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| **See also** | 500-00306A – Frame/track assembly drawing<br>FCO CA06530 – Carriage amplifier replacement upgrade |
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