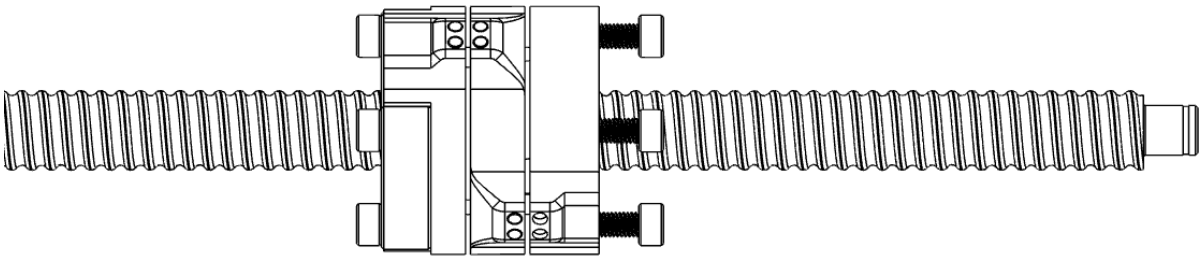
BRS-Raise3D Oldham manual

Suivi des évolutions

Indice	Date	Description de l'évolution	Auteur
0.0	03/10/2024	Création	FBR

Decoupling mechanism developed to overcome wobble on the Z axis for Raise3D Pro/Pro2/Pro3* machines



1 Machine preparation

The Oldham need to be installed bellow the retaining plate of the heated bed

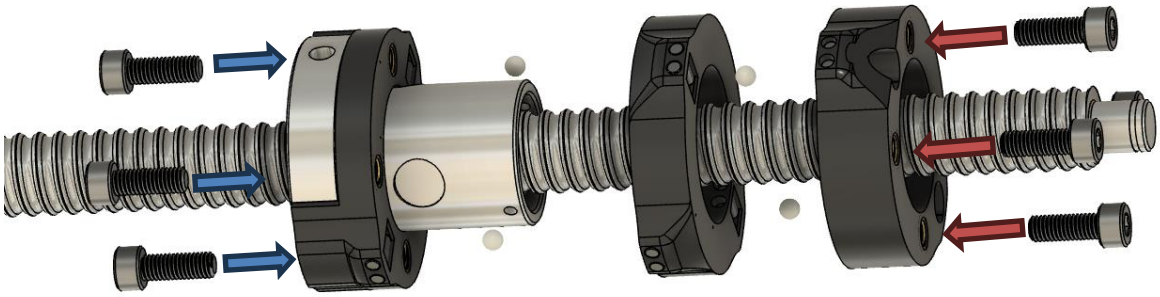
You will need tto be able to slide the rings on both 2005 ballscrew nuts

So either you rewove the heated plate + the bed underbed frame

(https://support.raise3d.com/Pro2-Series/how-to-install-the-build-plate-4-264.html)

Or you remove only the 2005 ballscrews, as you prefer

2 Preassembly



Bottom

Up

Here the order of assembly:

The Bottom ring (flanged), need to be secured to the 2005 nut with four M5x14mm screws, be careful to use short version, we don't want the screws tips to go inside the disc effect area

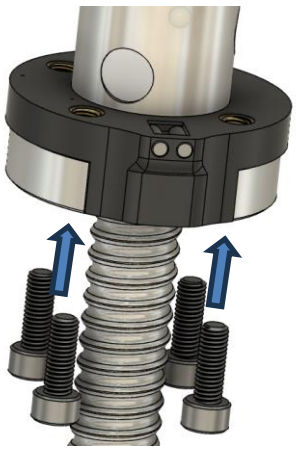
The Upper ring need to be secured through the underframe structure

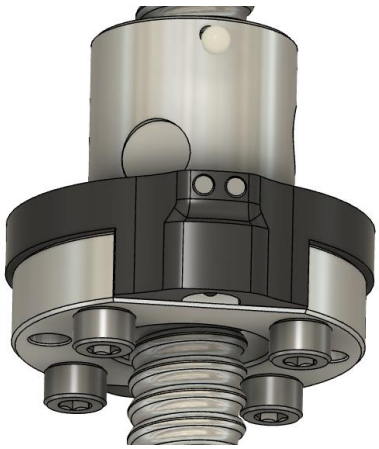
Be careful to insert all discs before closing this section

3 Assembly

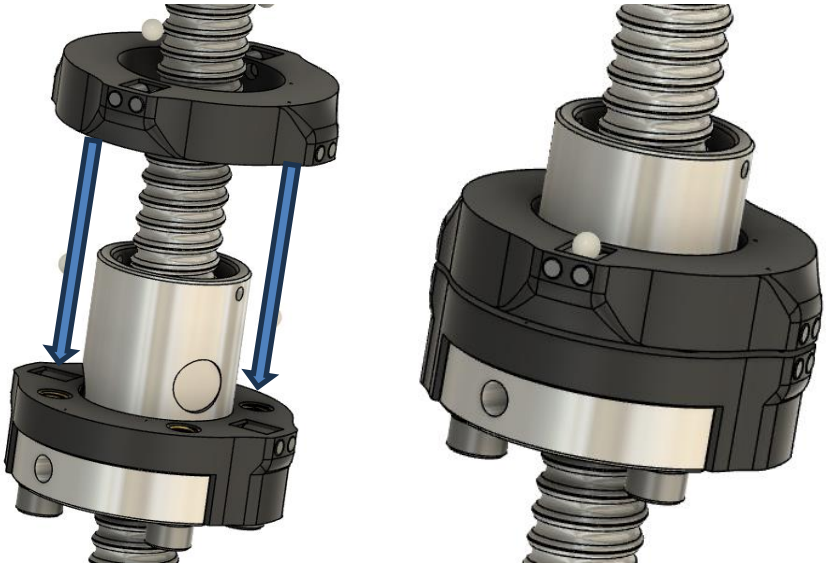
Once the 2005 ballscrew tip is free, you can slide the first ring, the one with 2 longer flanges

Then secure it to the nut with 4x m5x14 (-3mm +-)

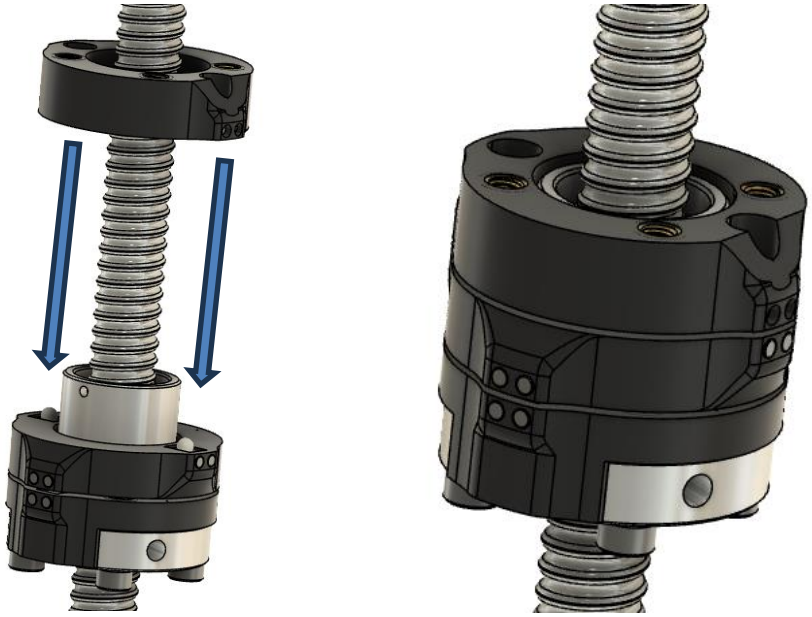




Then Slide the central ring



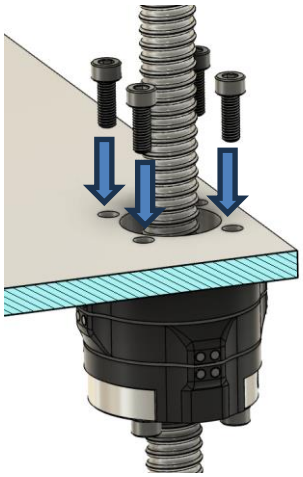
Then the upper one

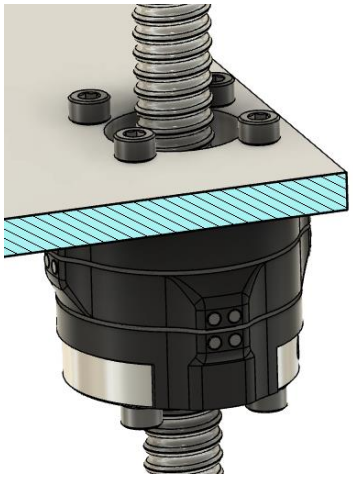


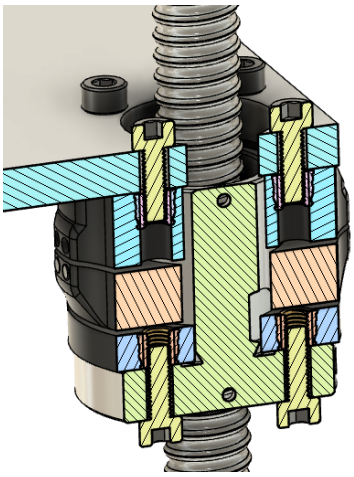
Then repeat the same actions on both ballscrews

Once done, reinstall the underbed frame, or re-slide the ballscrew if you chose to do so

Secure the top ring to the frame with 4x m5x14mm







Position the 4x 4mm balls

4 Check / Disclaimer

This product is still in BETA mode

As the mechanism is thicker than the stock solution, be careful of the Z dimension of the object you want to print, which will be reduced.

The machine can't know this fact, and you will have to reduce the max Z by 35mm

Exemple: If the printer allows 300m of Z, the max height of the part you will be able to print without collision will be 265mm

This doesnt take into consideration the eventual margin of clearance Raise 3D have placed on the machine.

I strongly advise that you make a manual check with the Bed height as a dry run to see where the real limit is

As the BETA status is still active ALL feedbacks are welcome to perfectionate the assembly and the development. ATM this mod has been tested successfully, and give a good balance between the procedure and the solution to wobble.