

Cycloidal Drive Assembly Instructions

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Before starting

- Assembly steps are generally the same between both version (3DP and CNC), when there is a discrepancy, it will be noted in the corresponding step.
- It is recommended to use some type of thread locker to avoid threads getting loose over time. Consider using Loctite 425 or Vibra-Tite VC-3, or similar thread lockers that are safe around plastic.
- Highly recommended to lubricate the cycloidal drive before operation. Consider using SUPER LUBE Multipurpose Synthetic Grease, or similar.

Step 1

- Install Nema17 stepper motor on the base plate
- Screws: 4x M3 x 6mm

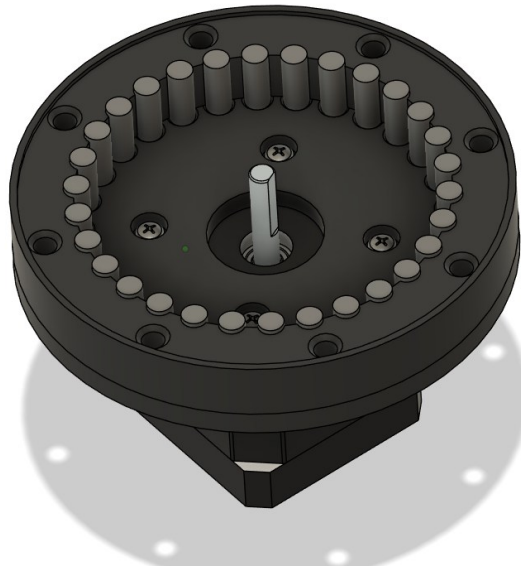


Figure 1. CNC Version

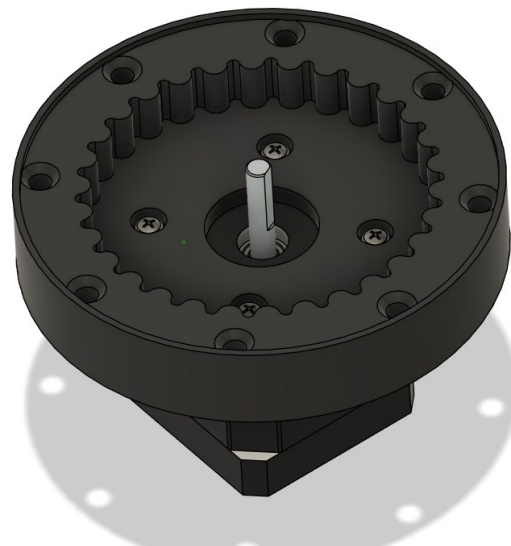
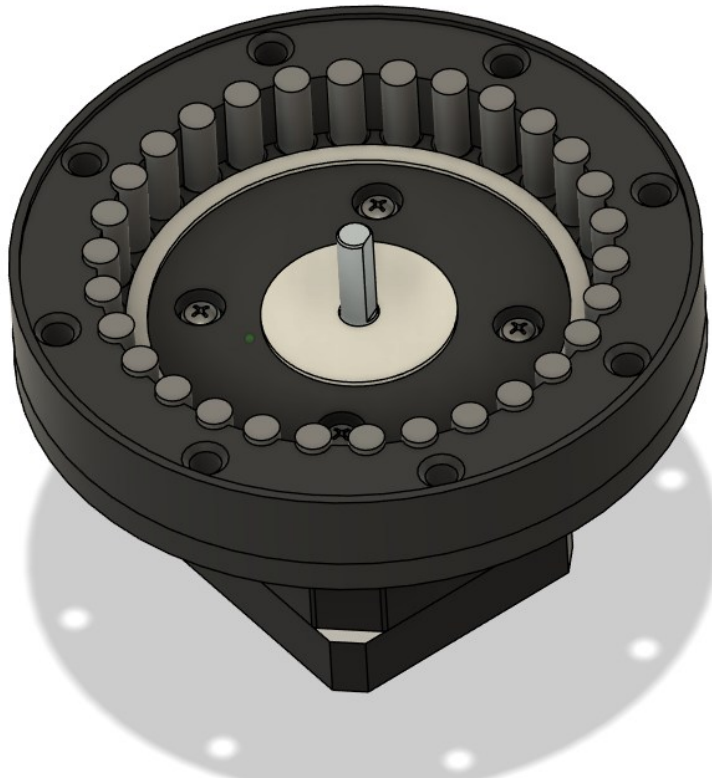


Figure 2. 3DP Version

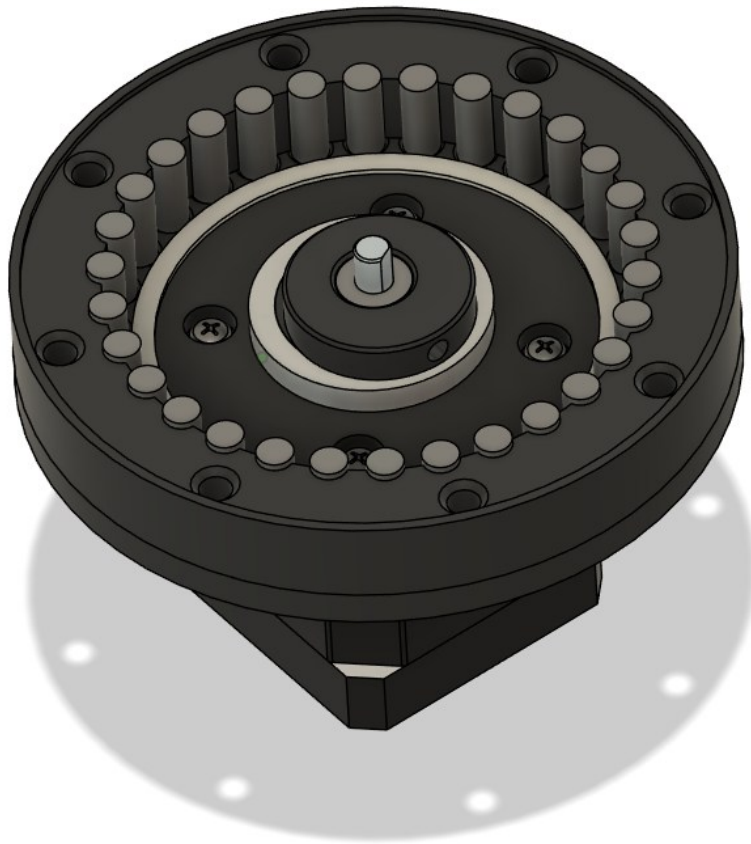
Step 2

- Install bottom spacers
- Now it would be a good time to add grease if desired. Add freely around the pins and bottom surface



Step 3

- Install eccentric cam, push it down until it contacts the spacer
- Ensure to align the set screw with the flat side of the shaft
- Bottom bearing should already be installed
- Use a small 1.5mm allen wrench to tighten the set screw



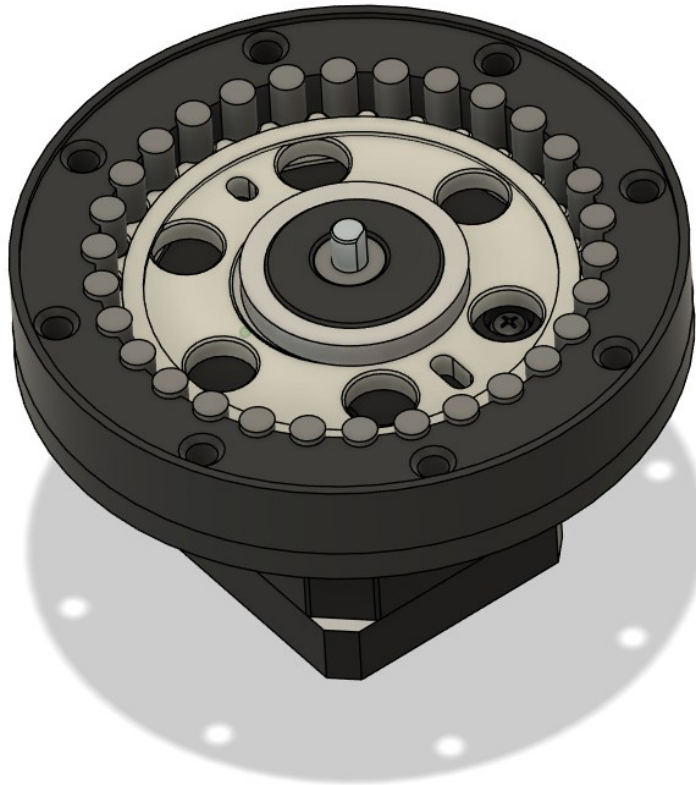
Step 4

- Install the first cycloidal disc. Ensure it is pushed all the way down
- Note the 'UP' mark, this should be facing up



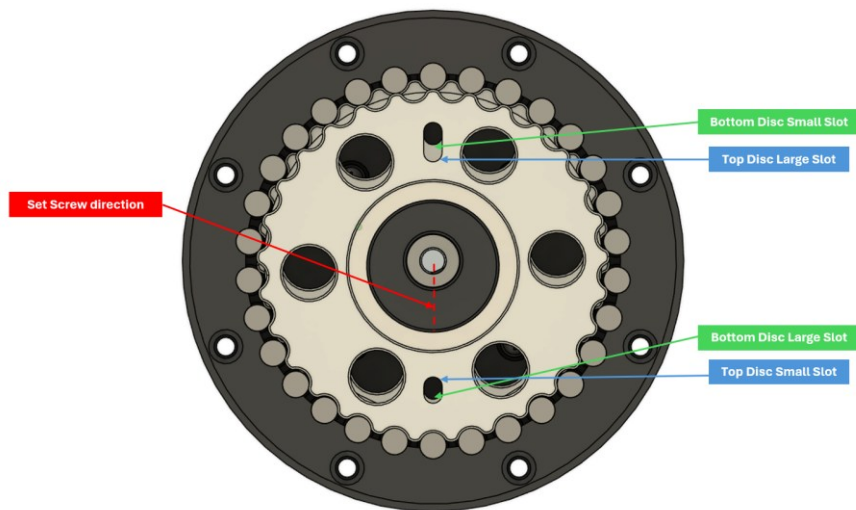
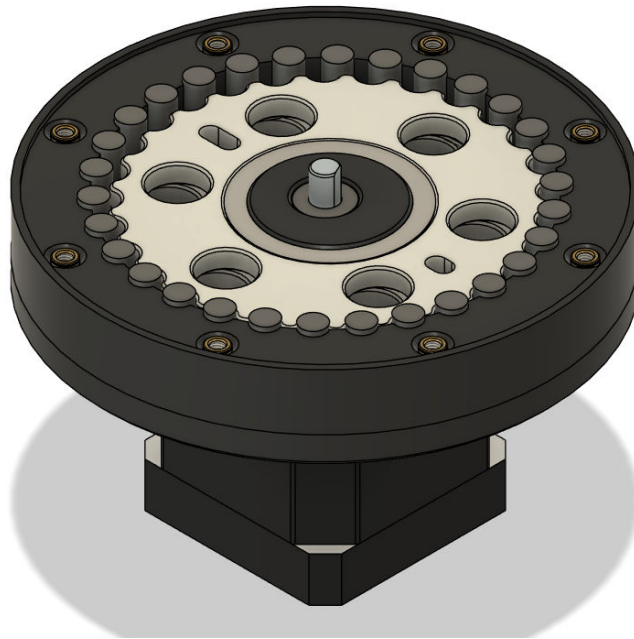
Step 5

- Install the last spacer
- Install second bearing on the eccentric cam. Ensure it is pushed all the way down



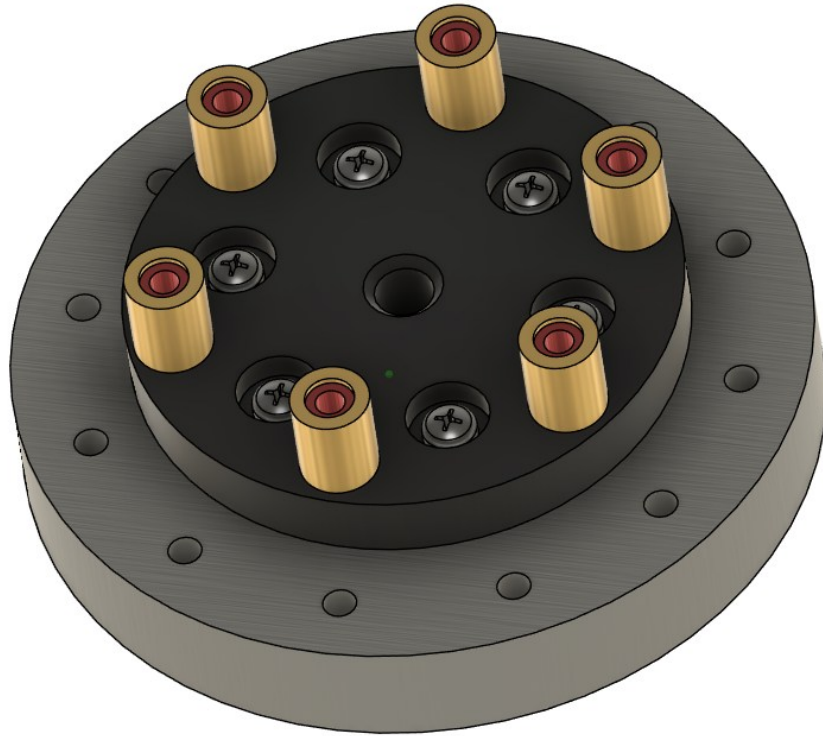
Step 6

- Install the second cycloidal disc. Ensure 'UP' mark is facing up
- Second cycloidal disc must be 180 degrees offset from the first cycloidal disc
 - Note alignment picture. Bottom disc small slot should overlap with top disc large slot



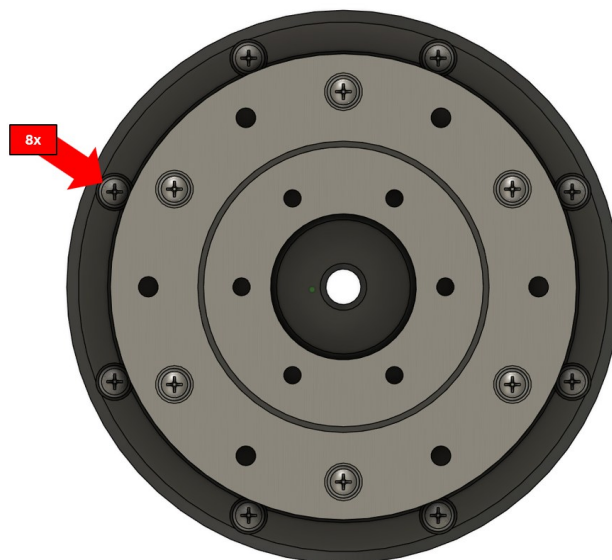
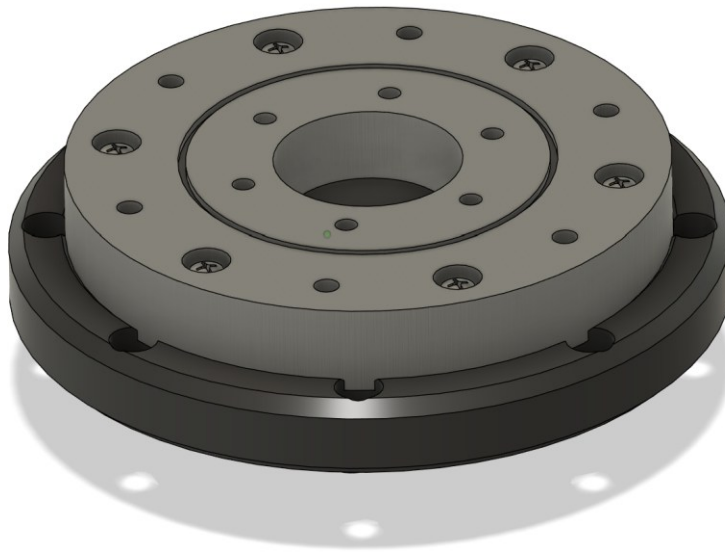
Step 7

- Install output plate on the bearing
- Screws: 8x M3 x 10mm



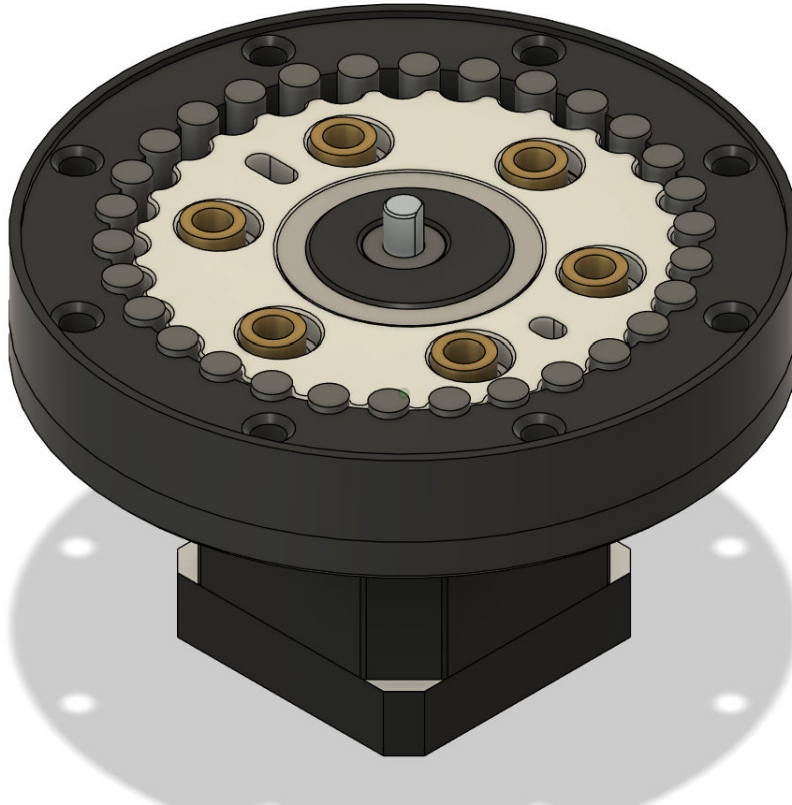
Step 8

- Install the bearing on the top plate
- Screws: 8x M3 x 12mm
- Note: 8x screws need to be pre-placed on the top plate before installing the bearing, otherwise they won't fit later. See second image
 - Screws: 8x M3 x 10mm



Step 9

- Insert bushings into the cycloidal disc holes
- If bushings don't go in, check discs alignment from Step 6



Step 10

- Install the bearing assembly
- Align standoffs with bushings and push it all the way down



Step 11

- Tighten top plate screws
- These should have been pre-installed in Step 8

