



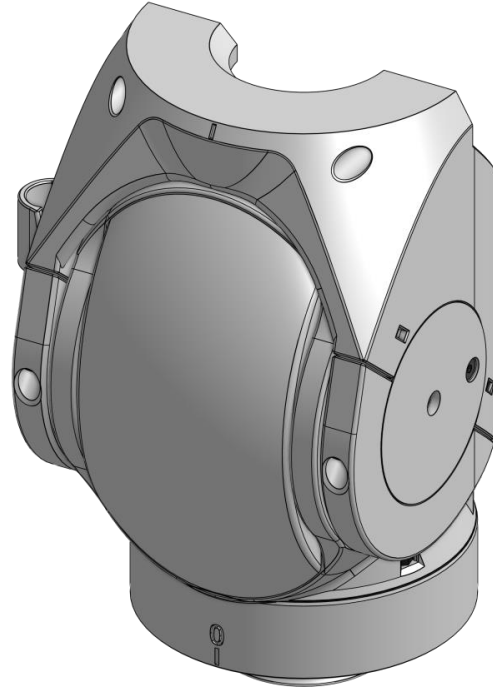
## How to build your robot

[www.pib.rocks/build](http://www.pib.rocks/build)

assembly instructions for:

### ELBOW

v2025



PRINT

BUILD

DEVELOP

YOUR OWN ROBOT

## Printable and pre-assembled parts

Pib's elbow consists of **12 printable parts** and is assembled in **14 steps**.

In order to construct the elbow, you will need to print the parts as seen in the table.

Please note: For better readability we use the abbreviations in the tutorial: C08 instead of C08-Central\_rotator\_bracket.

### Printable parts

**C15**-Central\_rotator\_motor\_connector

**C09**-Central\_rotator\_connector

### Printable parts

**C39**-Elbow\_upper\_shell

**C36**-Elbow\_lower\_shell

**C31**-Elbow\_shaft\_motor

**C35R**-Elbow\_clamp\_right

**C38**-Elbow\_cover

**C37**-Elbow\_rotator\_bracket

**C39**-Elbow\_upper\_shell\_lock

**C34**-Elbow\_motor\_connection

**C33**-Elbow\_motor\_flange

**C35L**-Elbow\_clamp\_left

**C32**-Elbow\_axis\_cable

**C74**-Wire\_holder

## Non-printable parts

You will also need the following non-printable parts from our pib.Box Master.

If you do not have it yet, you can buy in our shop

<https://shop.pib.rocks>.

### Non-printable parts

1 x **E07** MG996R Servo

1 x **E15** DS5180SSG Servo

1 x **M17** Motor\_clamp-18T

4 x **M16**-Servo\_screw\_adapter

1 x **M18** Metal-motor-Adapter-L

2 x **M03** medium sized ballbearings (10 x 19 x 7mm)

25 x **S01** M3 nuts

4 x **S02** M3 6 mm screws

2 x **S03** M3 8 mm screws

5 x **S05** M3 12 mm screws

6 x **S08** M3 20mm screws

4 x **S10** M3 25mm screws

5 x **S11** M3 30mm screws

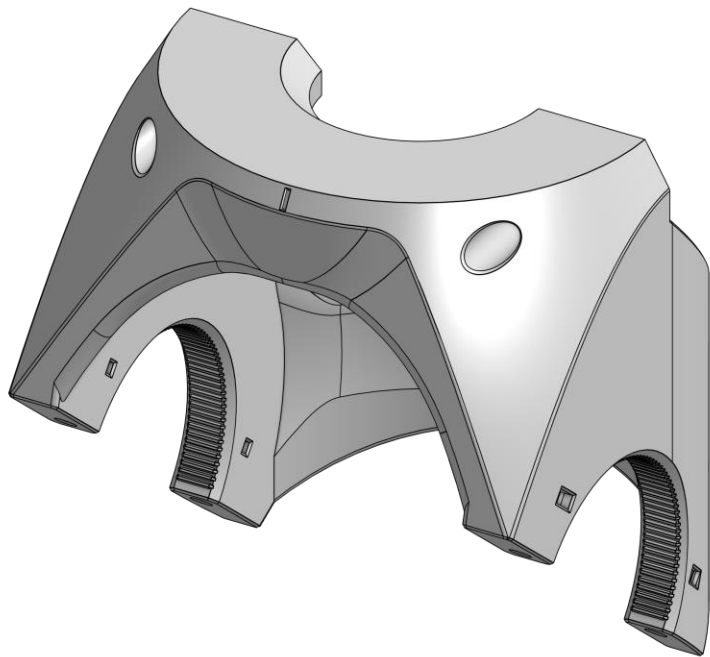
6 x **S13** M3 40mm screws

2 x **M06** Ballbearing\_Axial (70x50x3)

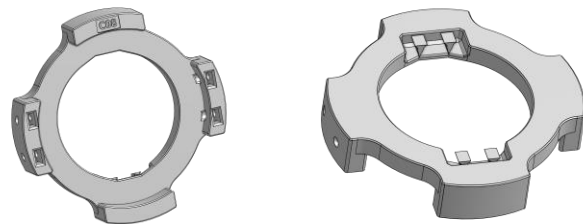
2 x **M07** Thrust\_Bearing (70x50x1)

## Printable parts - Overview

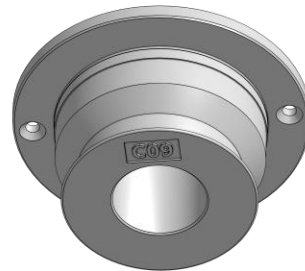
C39-Elbow\_upper\_shell



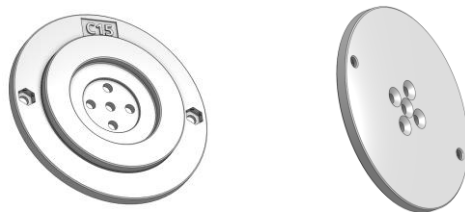
C08-Central\_rotator\_bracket



C09-Central\_rotator\_connector



C15-Central\_rotator\_motor\_connector



## Printable parts - Overview

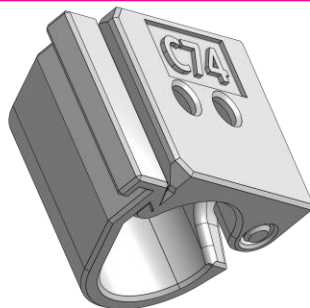
C36-Elbow\_lower\_shell



C31-Elbow\_shaft\_motor



C74-Wire\_holder

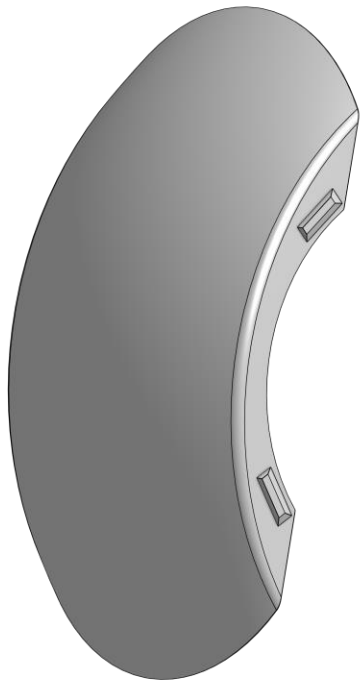


C35R-L-Elbow\_clamp\_right-left

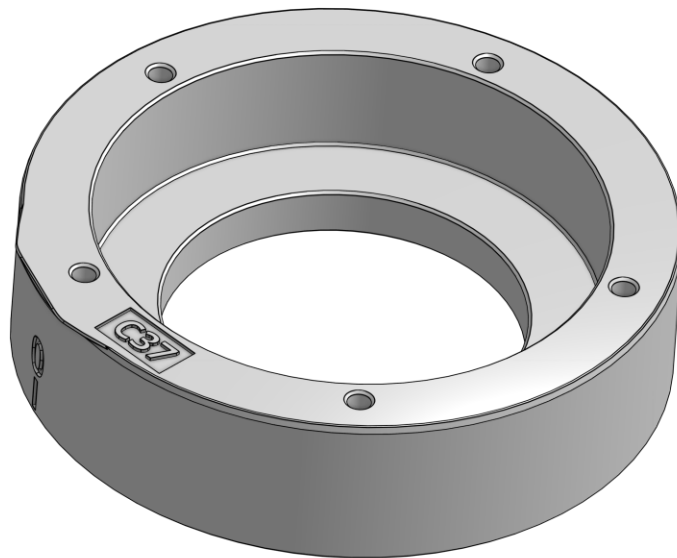


## Printable parts - Overview

C38-Elbow\_cover



C37-Elbow\_rotator\_bracket



## Build it better: our suggestion for assembling pib



We recommend **tools** for each step. These are a suggestion, you can of course also use other tools.



1-5

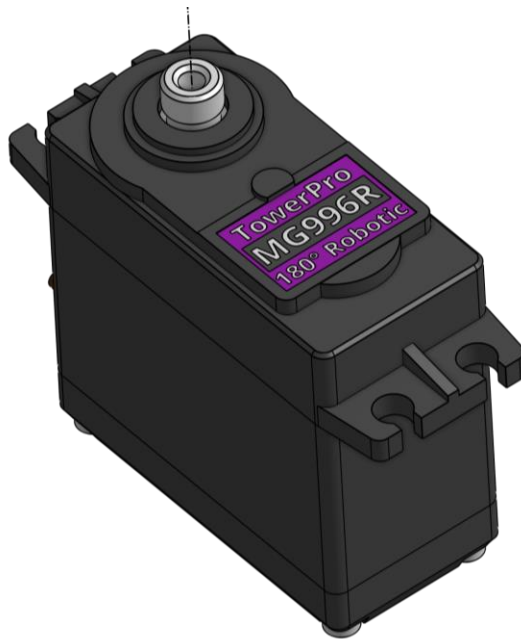
We have categorized each step according to its **difficulty** - from **1-5** (1 being the easiest, 5 the hardest)



We also show you which **non-printable parts** you need for each step

## Step 0

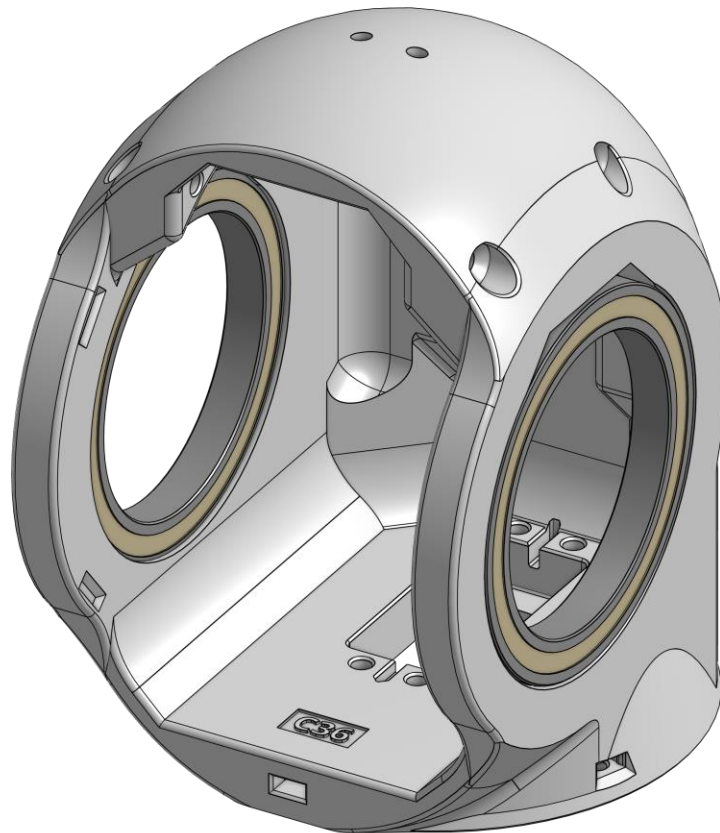
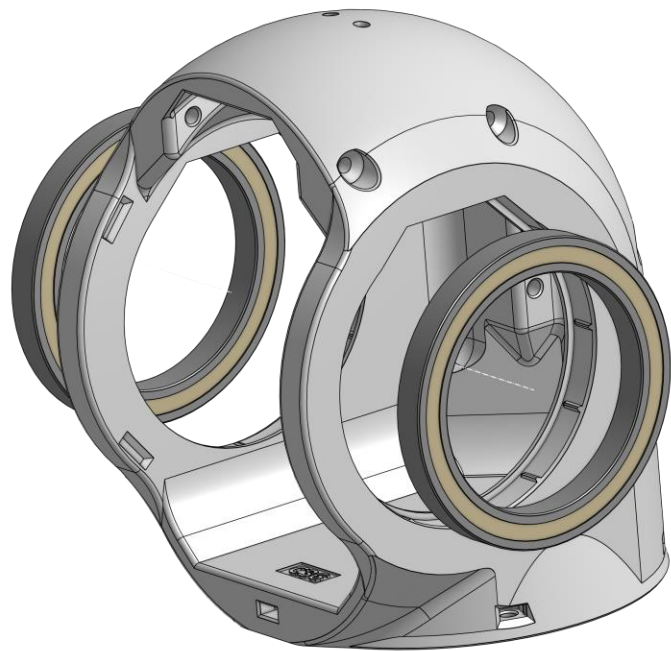
Make sure all motors in this tutorial are calibrated according to tutorial "**step 1c motor calibration**"





## Step 1a

Place 2 **M20** in the shown spots in **C36**.



## Step 1b

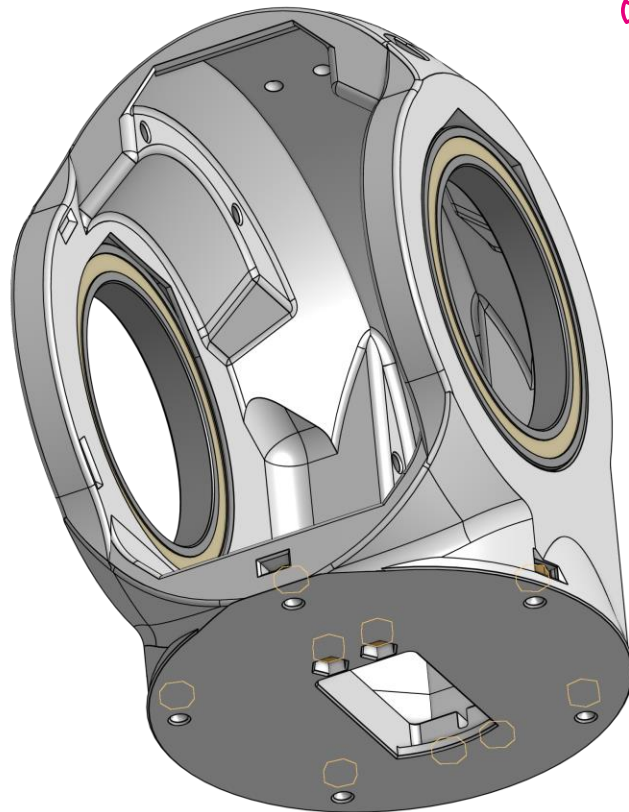
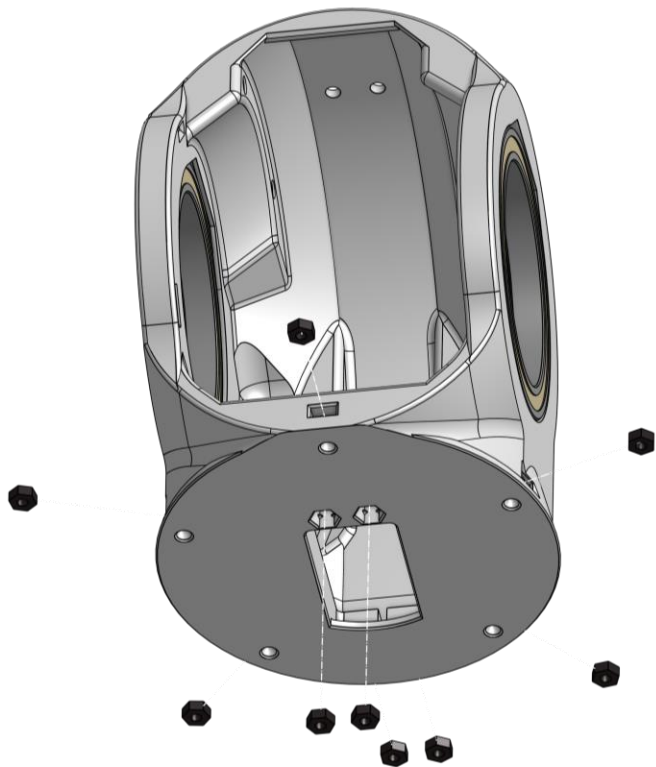
Place **9 x M3 nuts** in the shown spots in **C36**.



1

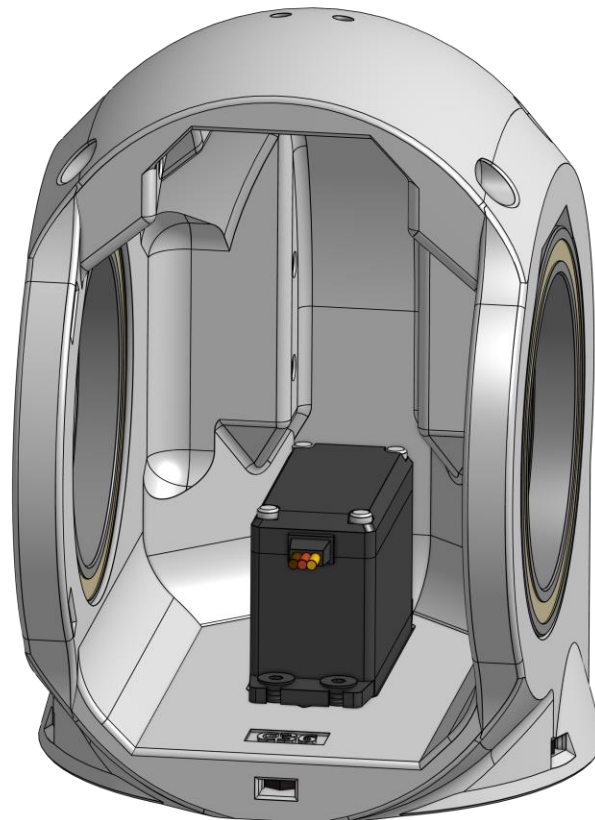


9x



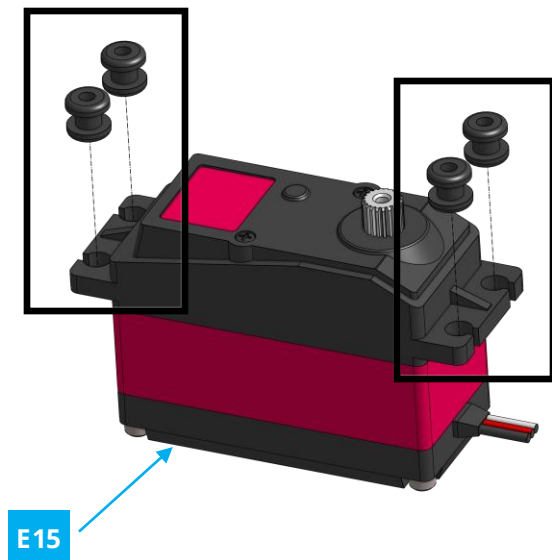
## Step 1c

Attach **E07** to **C36** using **4 x M3 12mm** screws



## Step 1d

Place **4 x M16** in the shown spots in **E15**.



*Please revert to step 0 and calibrate the motor if it was not calibrated, this motor should be calibrated at 5500 and the elbow joint being stretched while assembled*

## Step 1e

Connect **E15** to **C33** and **C34** using **4 x M3 nuts** and **2 x M3 25mm screws**. Add **2 x M3 nuts** in **C34**



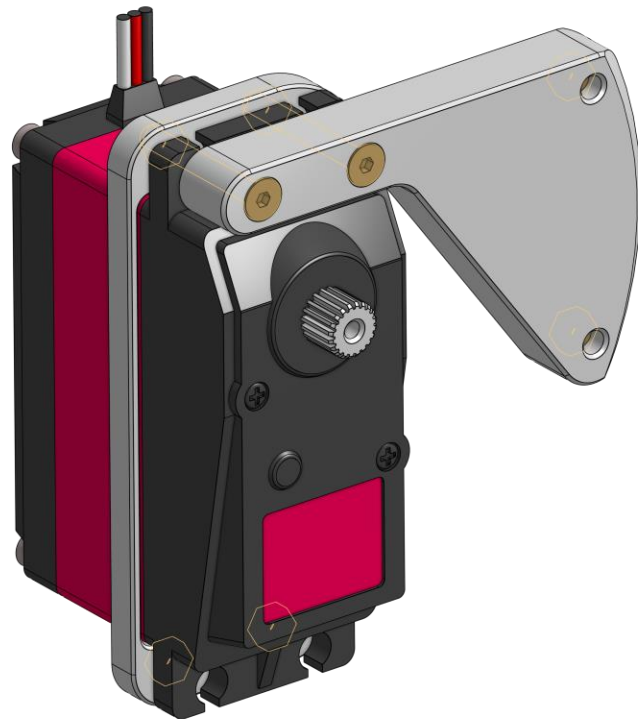
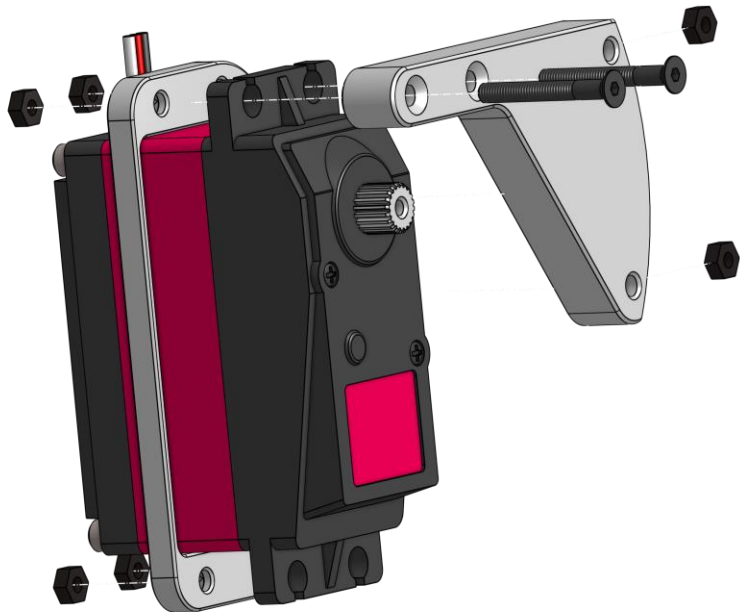
1



6x

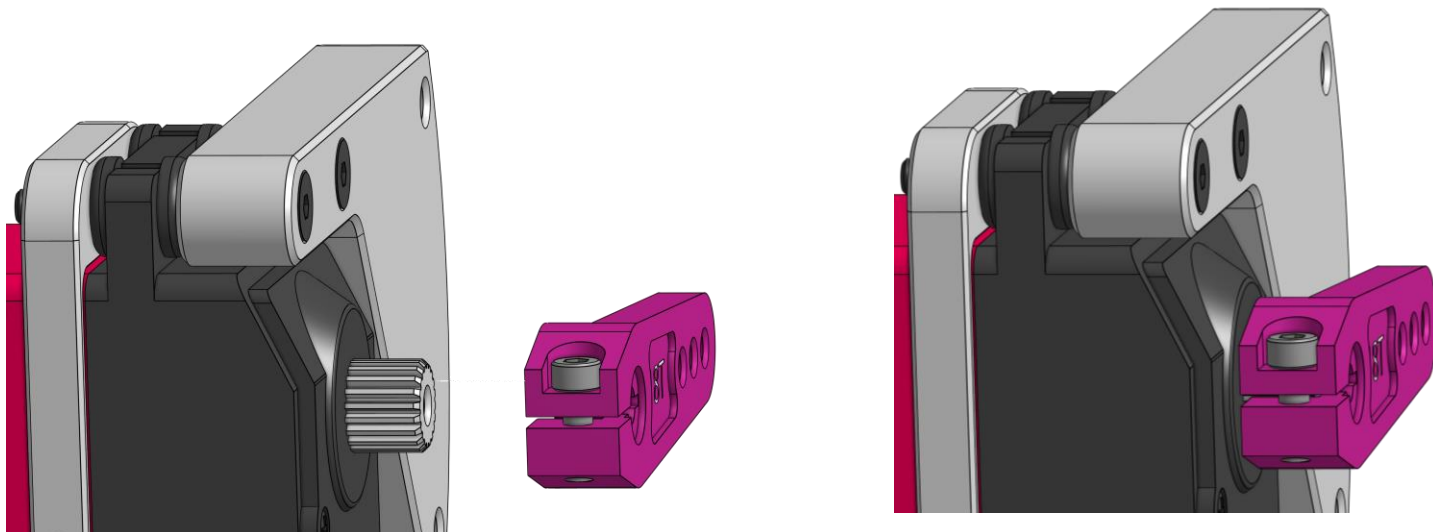


2x



## Step 1f

Insert **M17** to **E15** and tighten the small screw



## Step 2

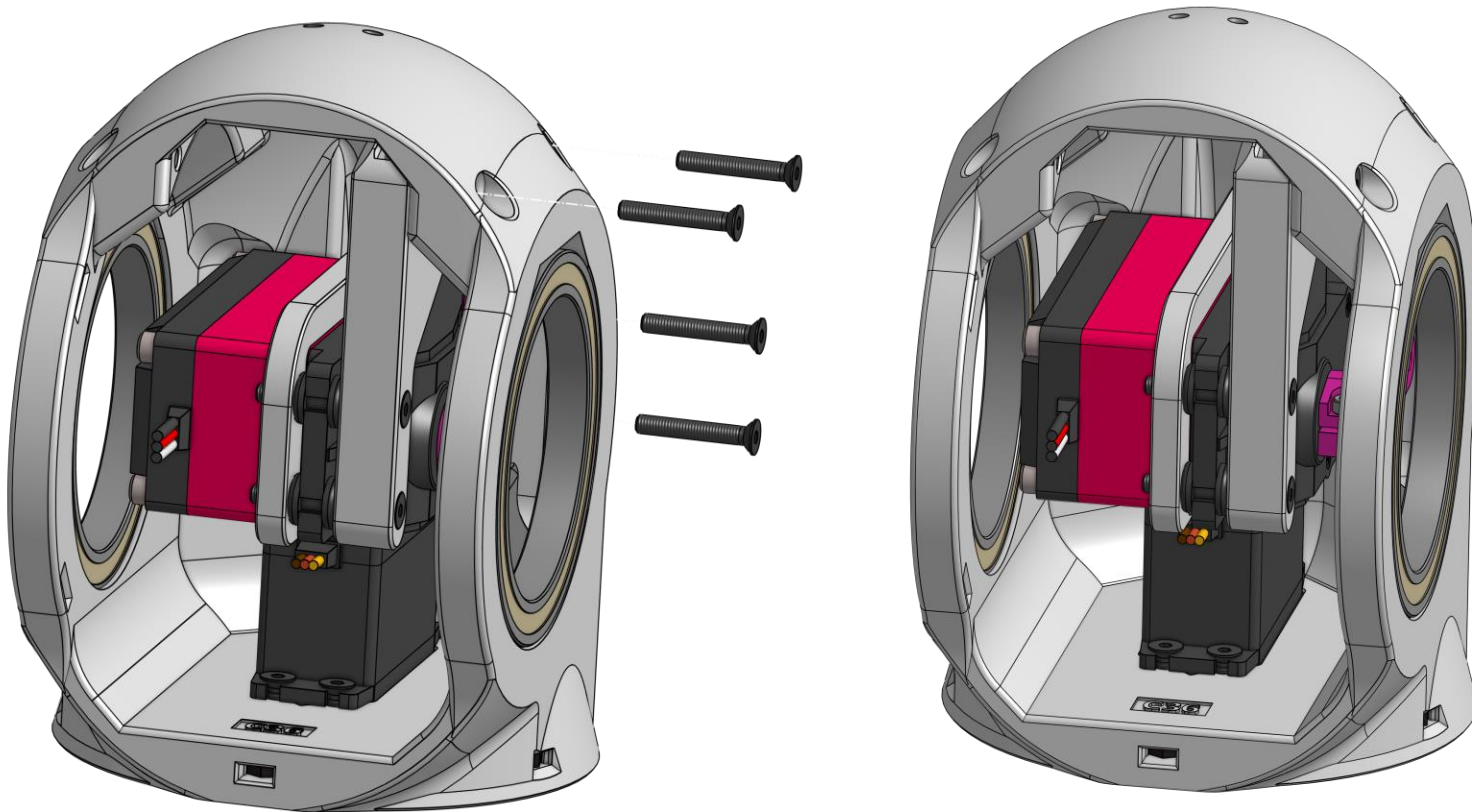
Connect assembly to **C36** using **4 x m3 20mm** screws



1



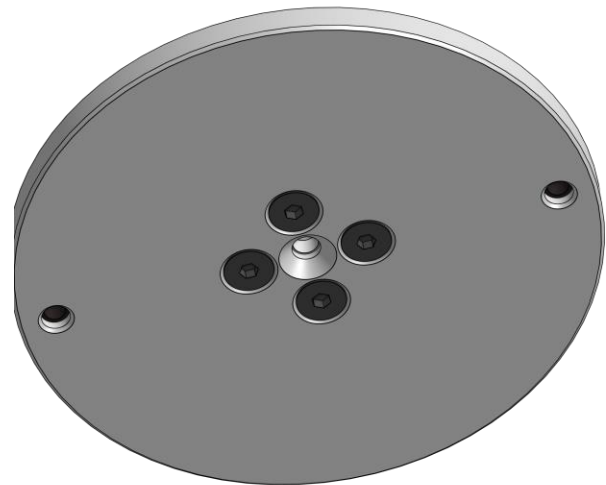
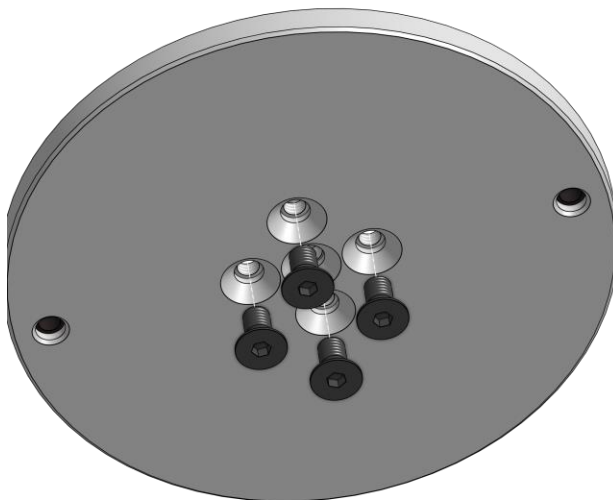
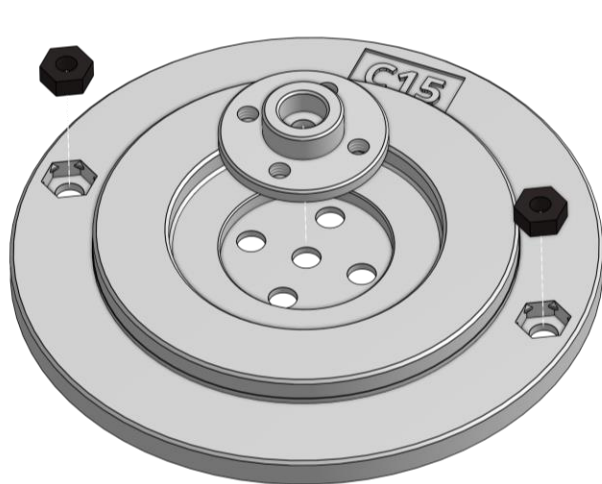
4x





### Step 3a

Insert **2 x M3 nuts** and **M18** in **C15**, then connect **M18** using **4 x M3 6mm** screws





### Step 3b

Place **M06** and **M07** on top of **C15**, then connect the assembly to **E07** using **1 M3 12mm** screw



## Step 3c

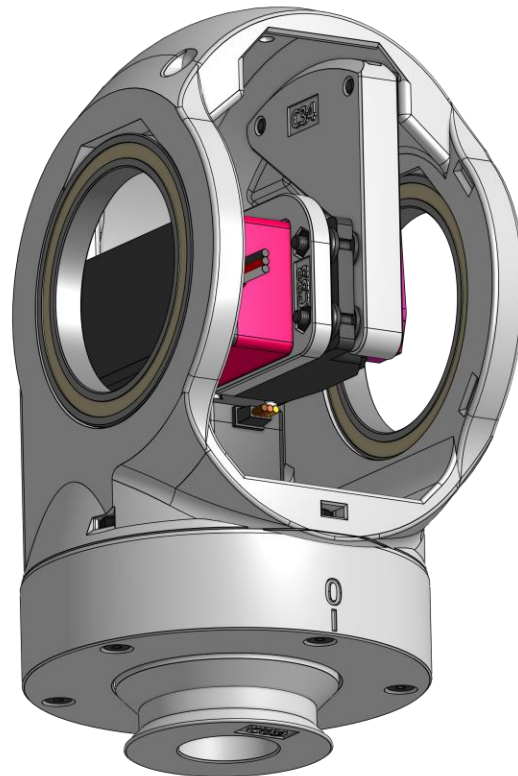
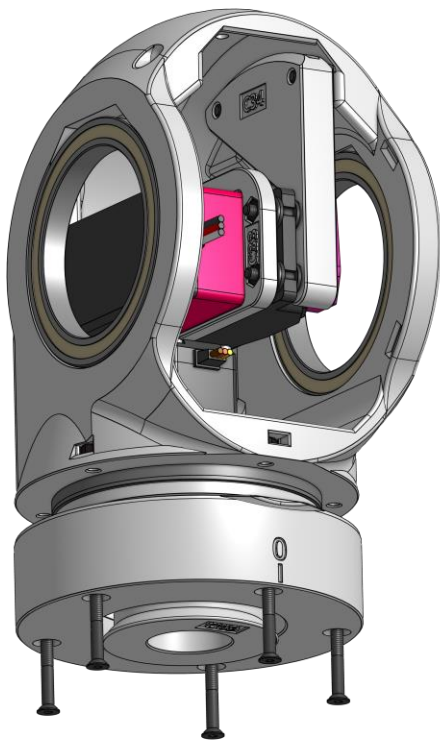
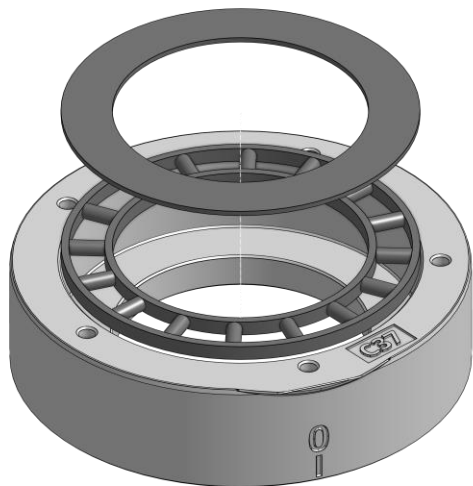
Place **M06** and **M07** in **C37**, then connect **C37** to elbow using **2 x M3 30mm** screws



1

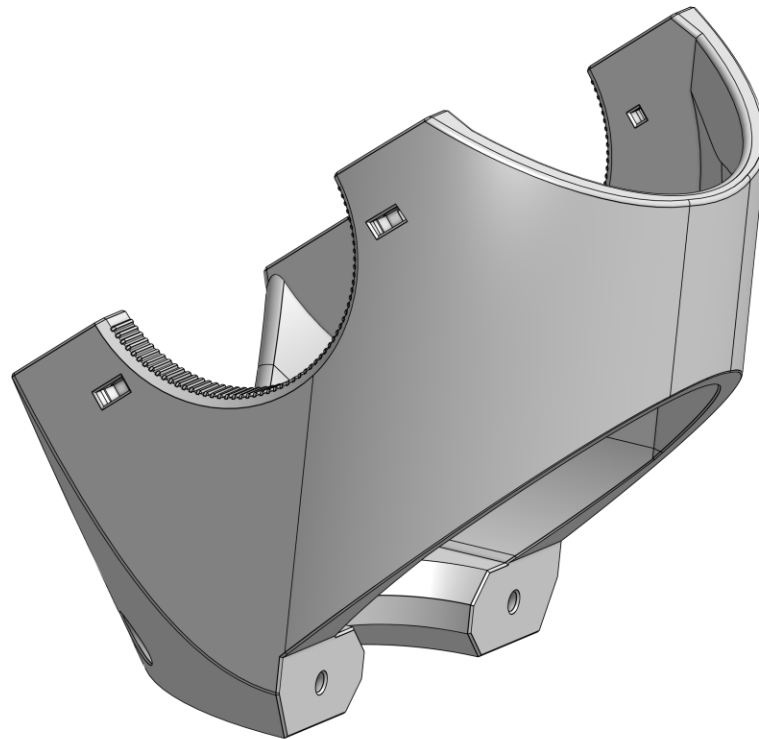
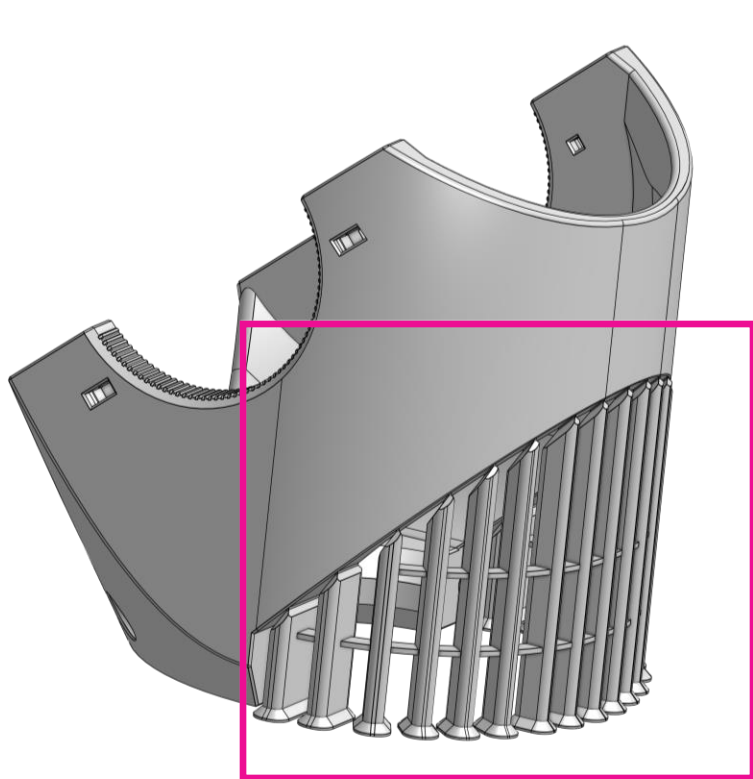


5x



## Step 4

Remove print helpers gently from **C39**.



## Step 5

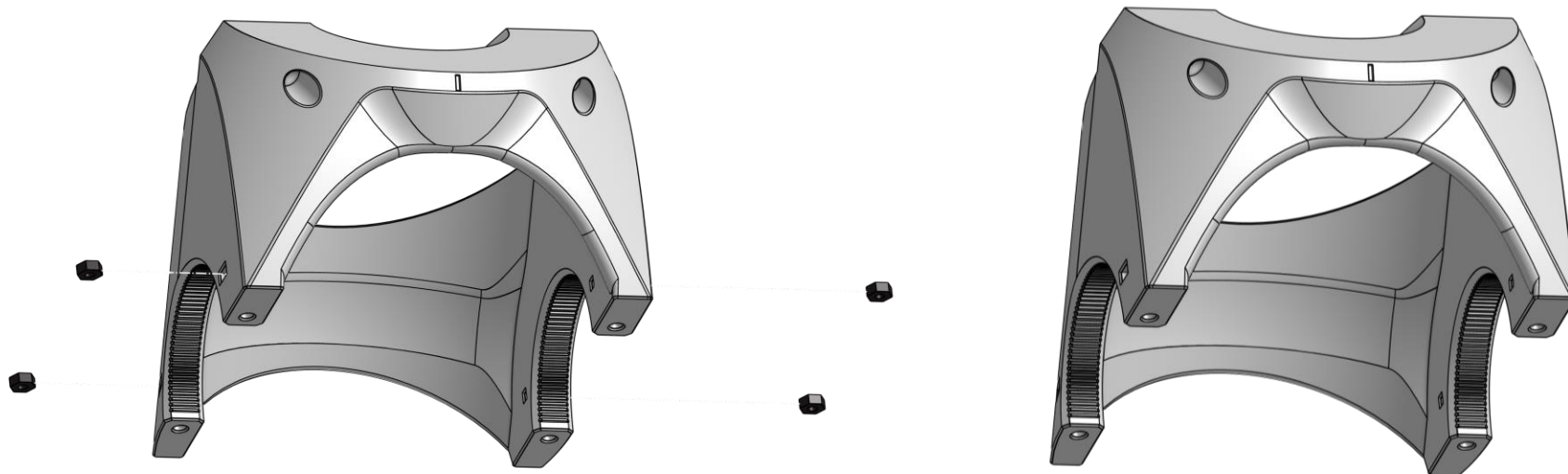
Place **4 x M3 nuts** in **C39**



1



4x



## Step 6

Connect **C74** to **C32** using **2 x M3 nuts** and **2 x M3 20mm** screws



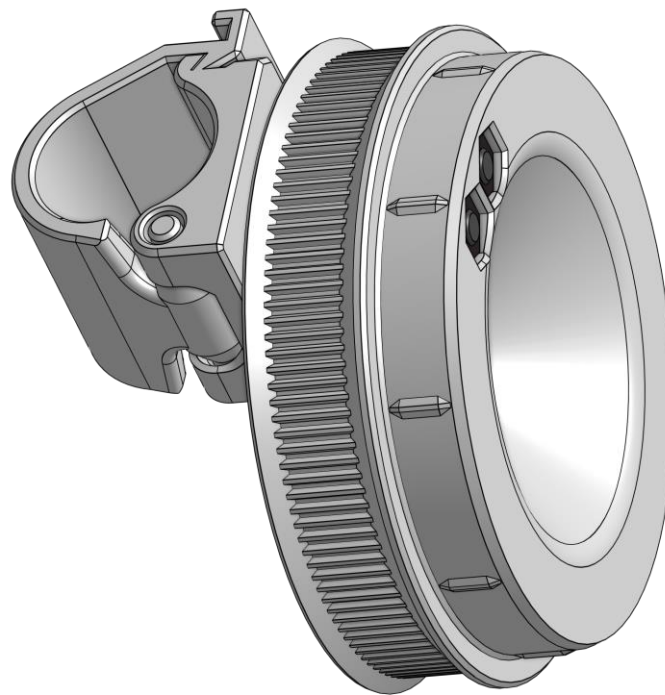
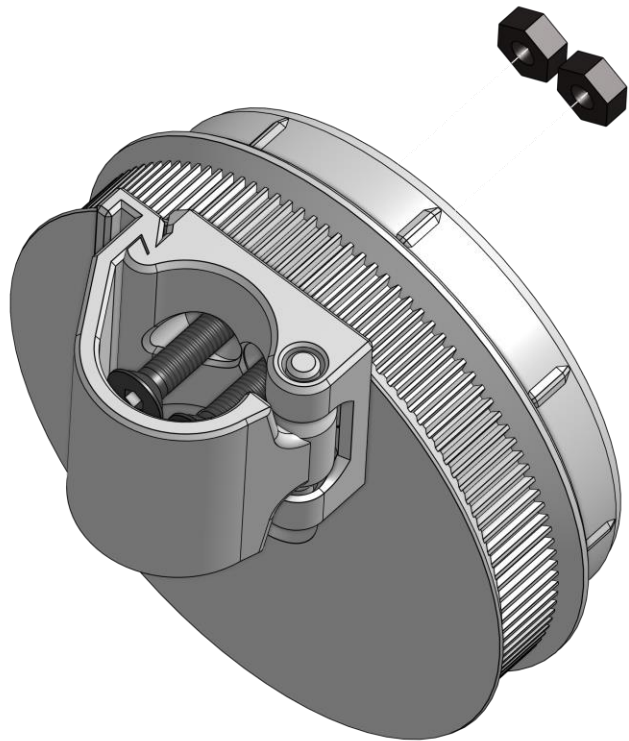
2



2x



2x



## Step 7

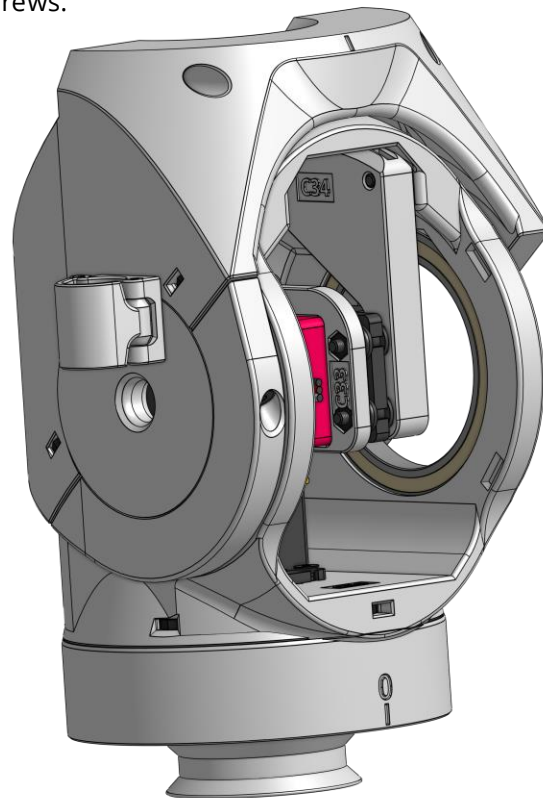
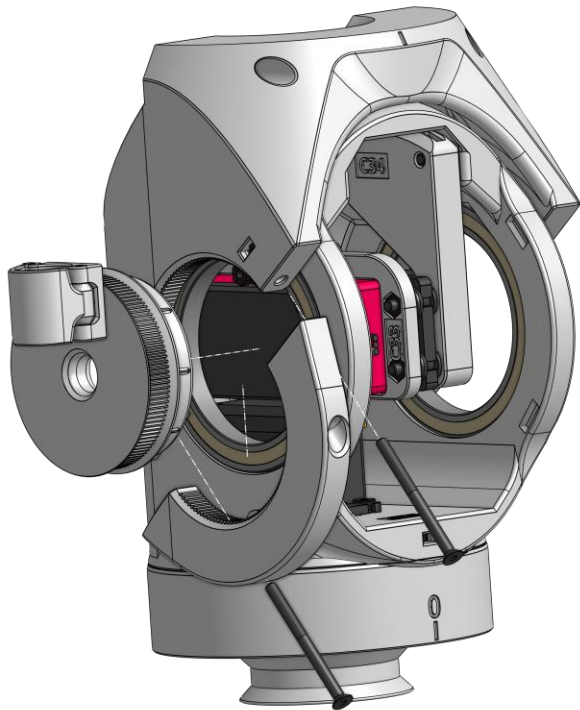
Connect upper elbow to lower elbow using **C32** , **C35-L** and **2 x M3 40mm** screws.



3

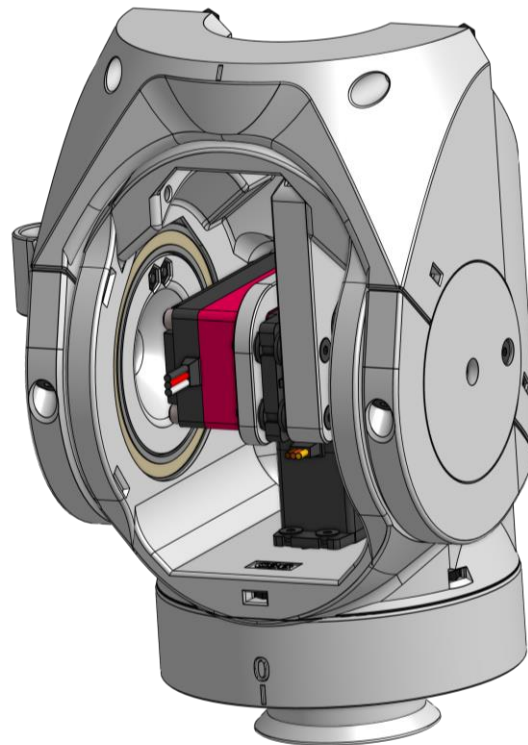
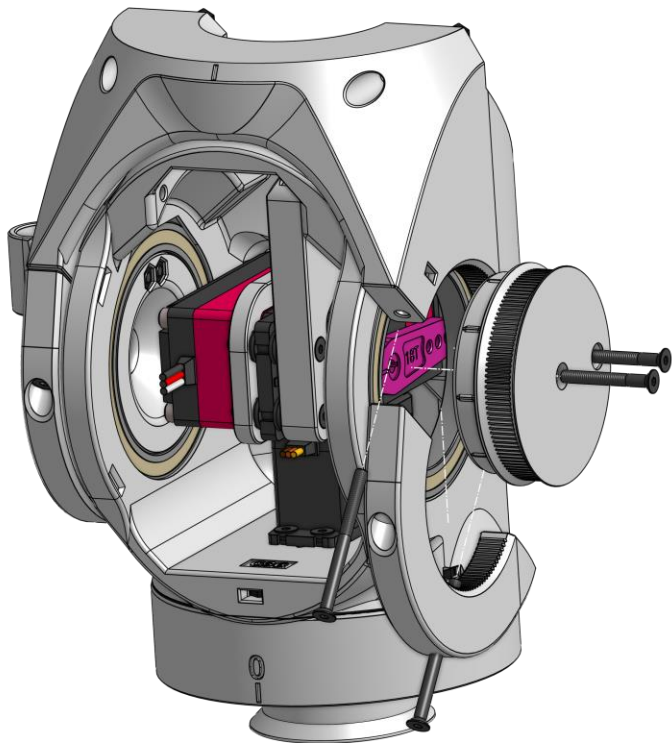


2x



## Step 8

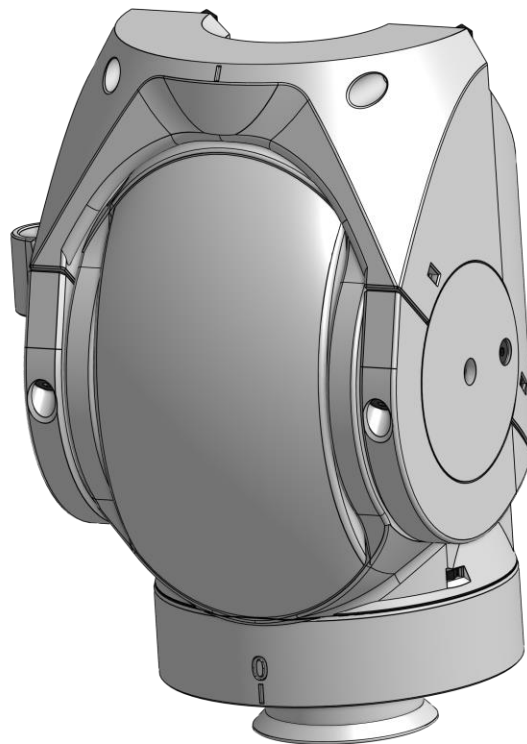
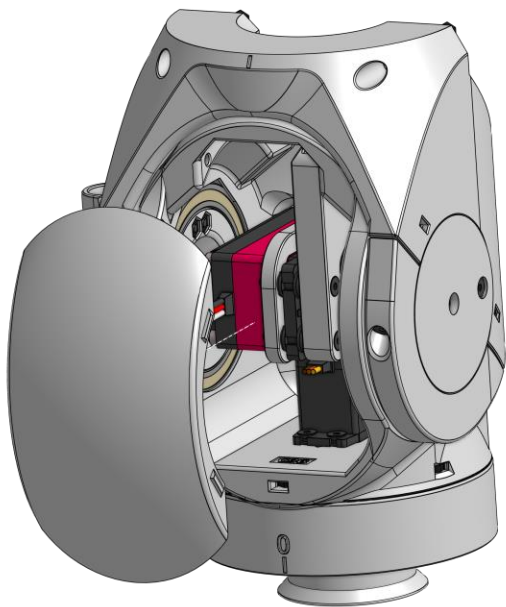
Connect **C31** and **C35-R** to elbow using **2 x M3 40mm band** and **2 x M3 25mm screw**.





## Step 9

Attach **C38** to assembly.

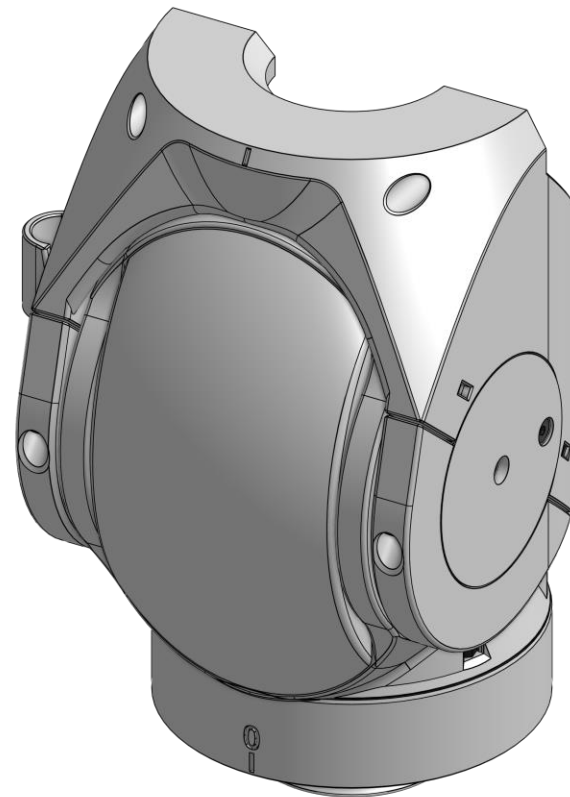
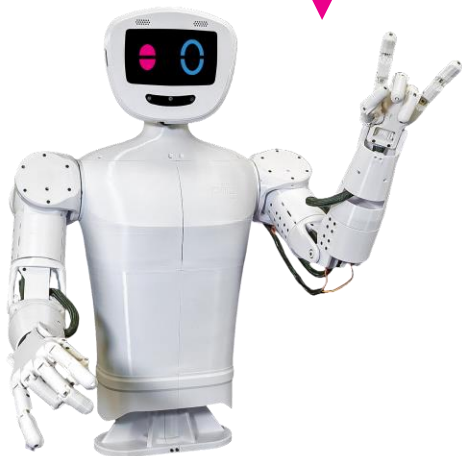




## Congratulations

You did a great job, pib's elbow is assembled!

Well done!



## Do you need support?

Or do you need our pib.Box with all non-printable parts?

Or maybe you have some new ideas and improvements?

Please contact us.



**team@pib.rocks**

Send us an email.



**discord.com/invite/GRdpyeDu7P**

Join us on Discord.



**shop.pib.rocks**

Order non-printable parts for pib.