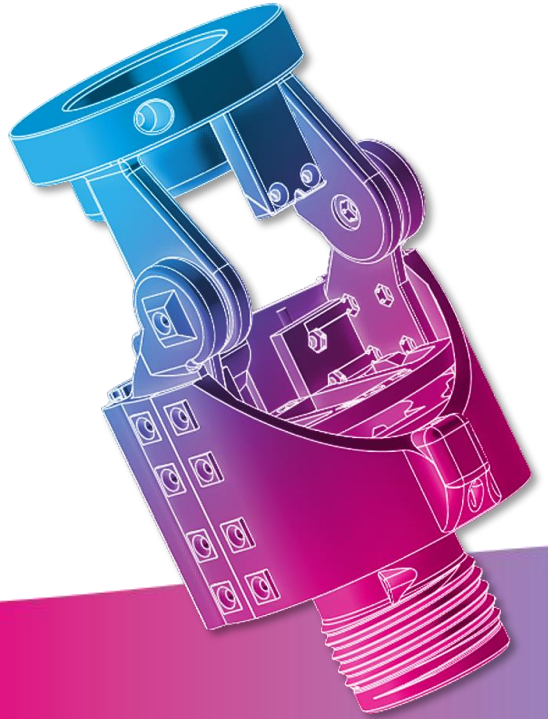
How to build your robot

www.pib.rocks/build

assembly instructions for:

ELBOW



You
Print
Build
Develop

your own robot!

Printable parts

Pib´s elbow consists of **13 printable parts** and is assembled in **12 steps.**

In order to construct the elbow, you will need to print the elbow 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
2 x **C08**-Central_rotator_bracket
C09-Central_rotator_connector
C10-Elbow
C11-Elbow_servo_scaffold
C13-Elbow_shell_lower_dorsal
C14-Elbow_shell_lower_medial
C15-Central_rotator_motor_connector
C16-Elbow_joint_connector
2 x **C25**-Tube_cover
2 x **C31**-Wire_cover_upper_arm

Non-printable parts

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

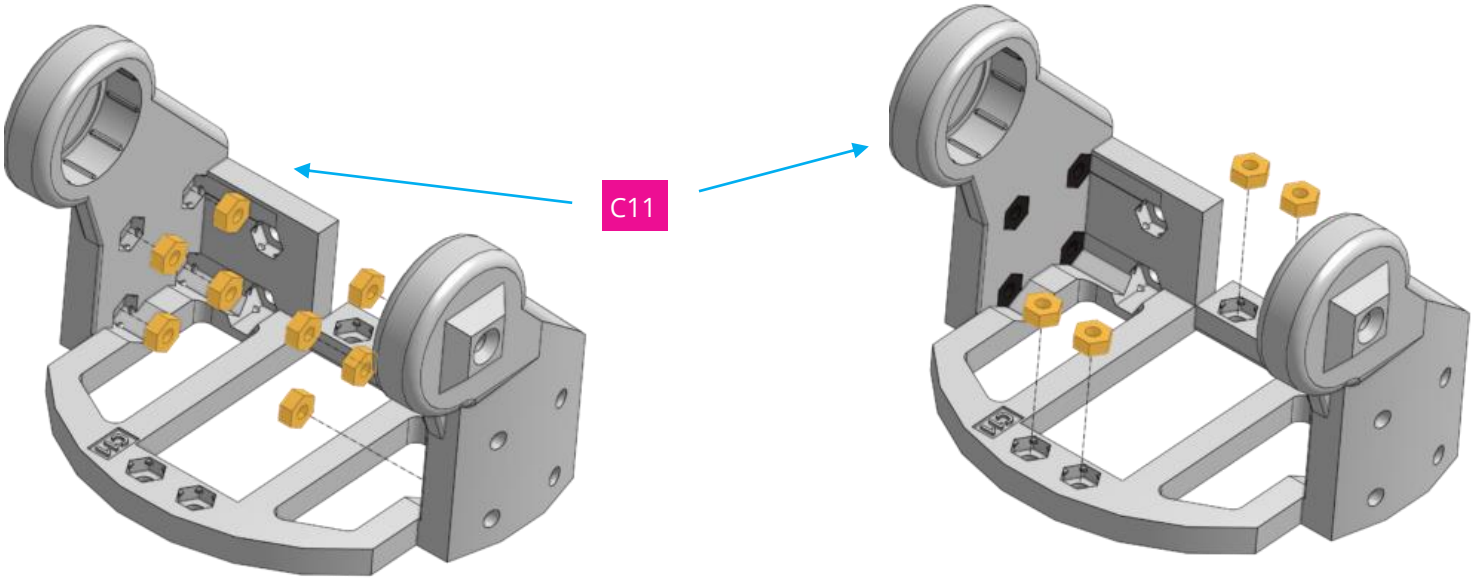
If you do not have it yet, you can buy in our shop https://shop.pib.rocks.

Non-printable parts
1 x **E07** MG996R Servo
2 x **M06** Ballbearing_Axial 70x50x3
2 x **M07** Thrust_bearing 70x50x1

Non-printable parts
28 x **S01** M3 nuts
2 x **S03** M3 8 mm screws
15 x **S04** M3 10 mm screws
8 x **S05** M3 12 mm screws
2 x **S08** M3 20 mm screws
2 x **M08** 20 mm metal rods
2 x **M03** medium sized ballbearings **(**10 x 19 x 7mm)
40 cm Teflon tube
60 cm Fluorocarbon string
1 x **M12** T700 Spring

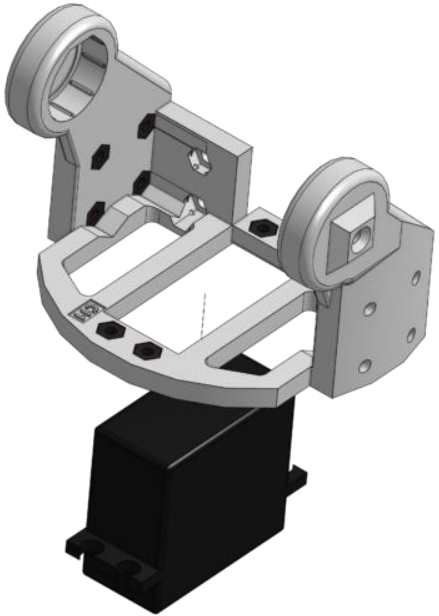
Step 1

Place 12 x nuts in the shown spots in C11.

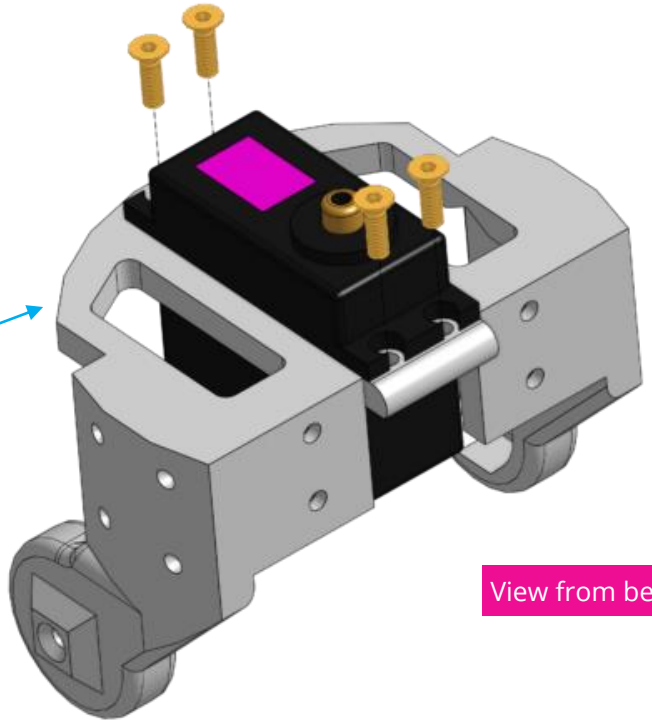


Step 2

Place E07 inside C11 and use 4 x 10mm screws to hold it.



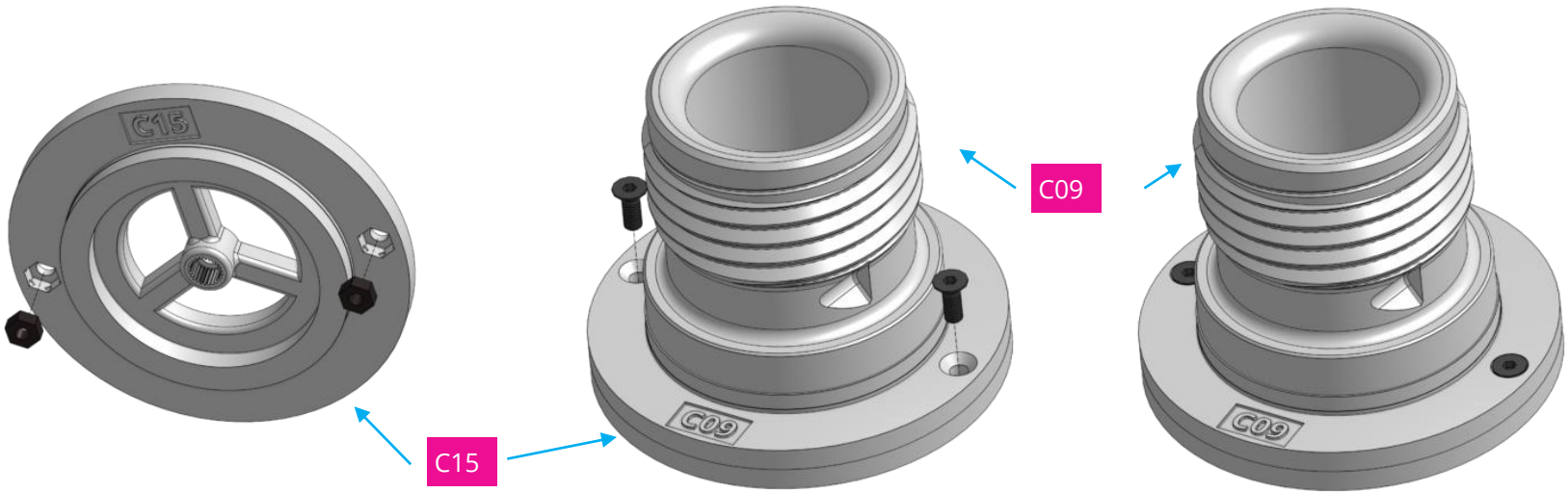
C11



View from below

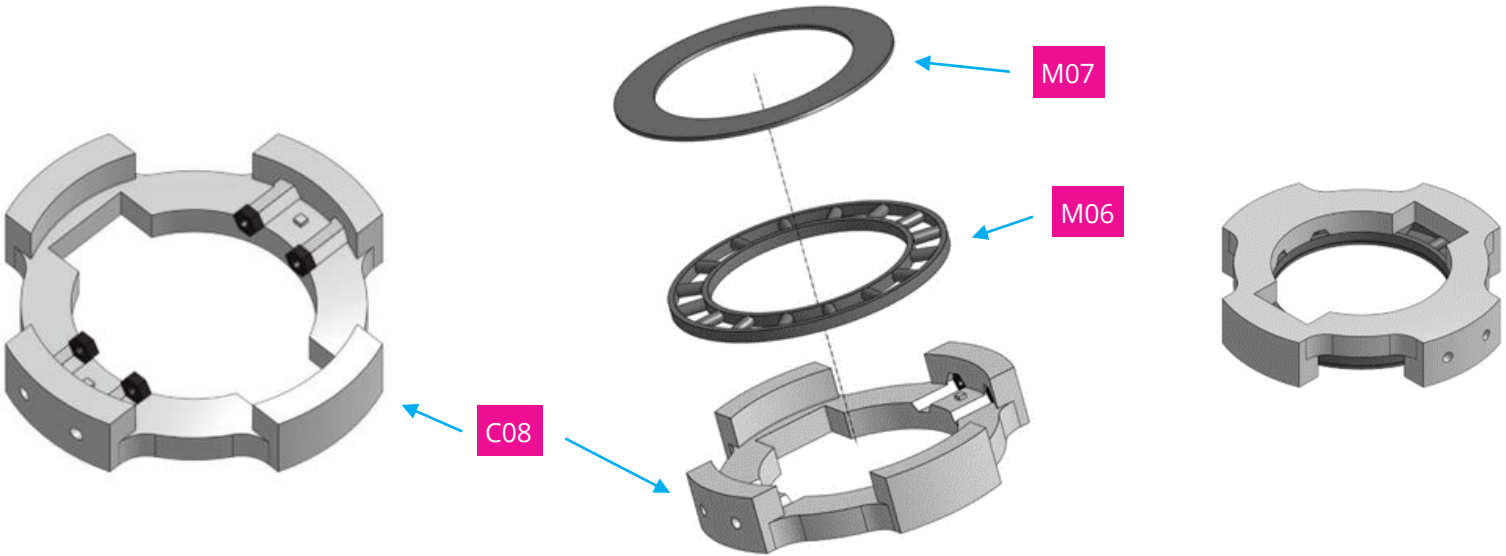
Step 3

Place 2 x nuts in the shown places in C15, then use 2 x 8mm screws to connect C15 to C09.



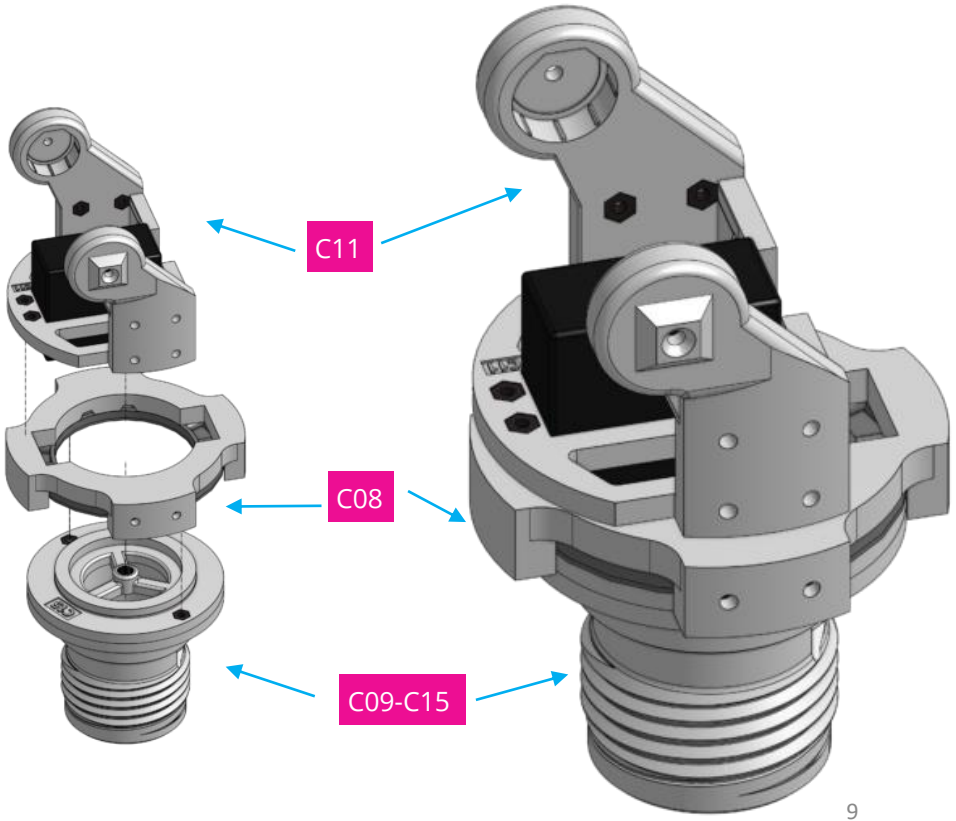
Step 4

Place 4 x nuts inside C08, then place M06 and M07 into C08 with shown orientation. Repeat this step to have this assembly twice.



Step 5a

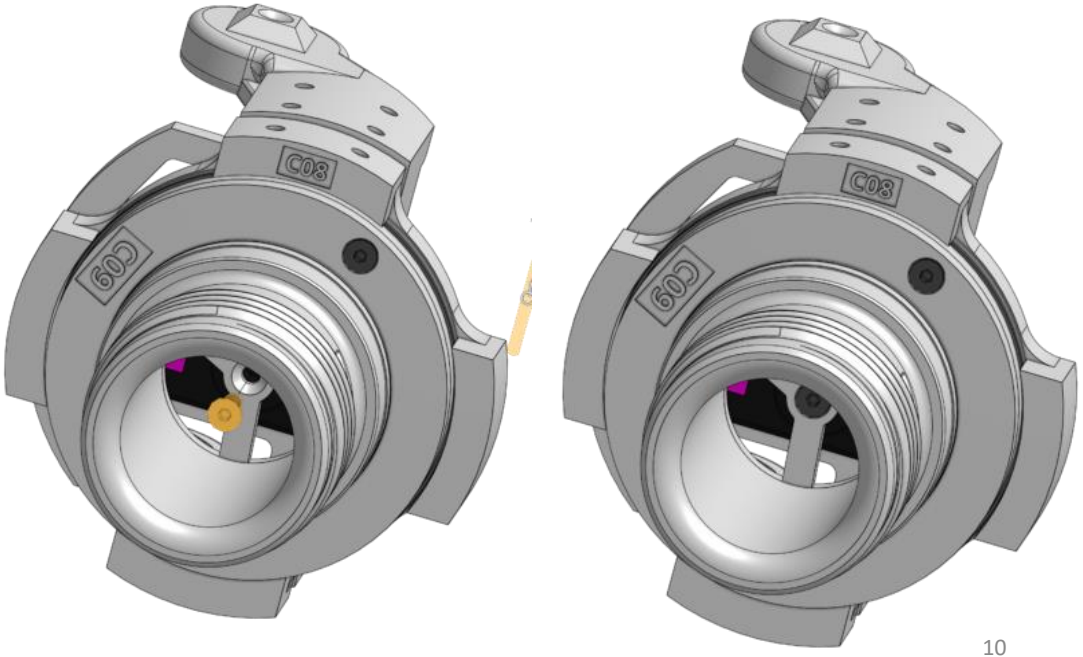
Now, connect the assembled parts from the previous steps in the shown orientation.



Step 5b

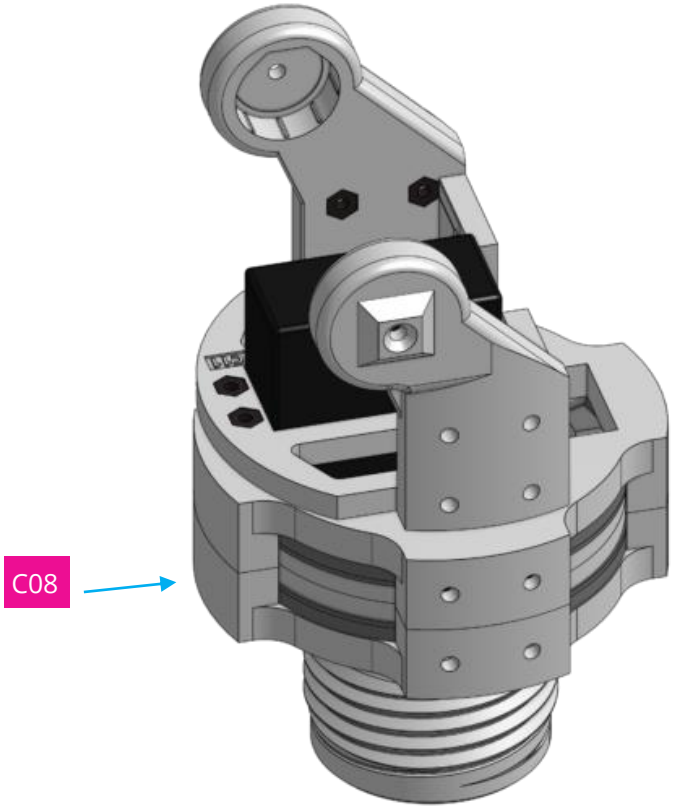
Now, connect the assembled parts from the previous steps in the shown orientation.

Use 1 x 10mm screw to connect the servo to the assembly.



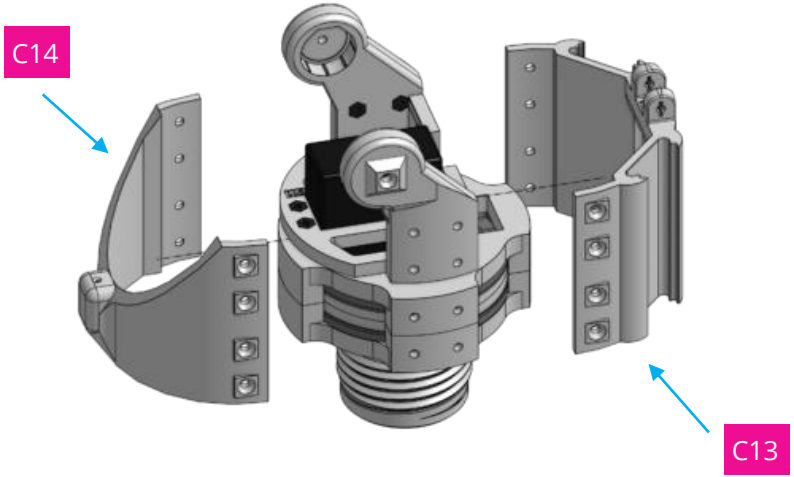
Step 6

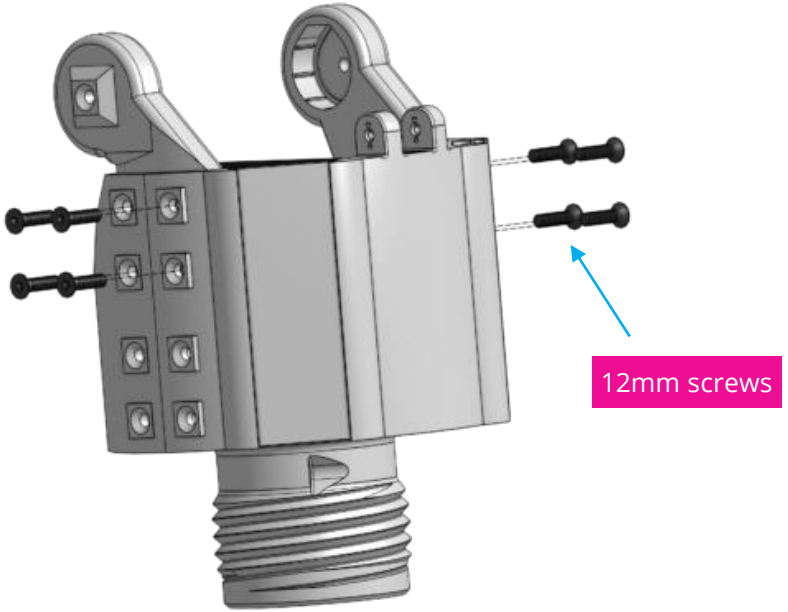
Place the second C08-assembly in the shown orientation.



Step 7a

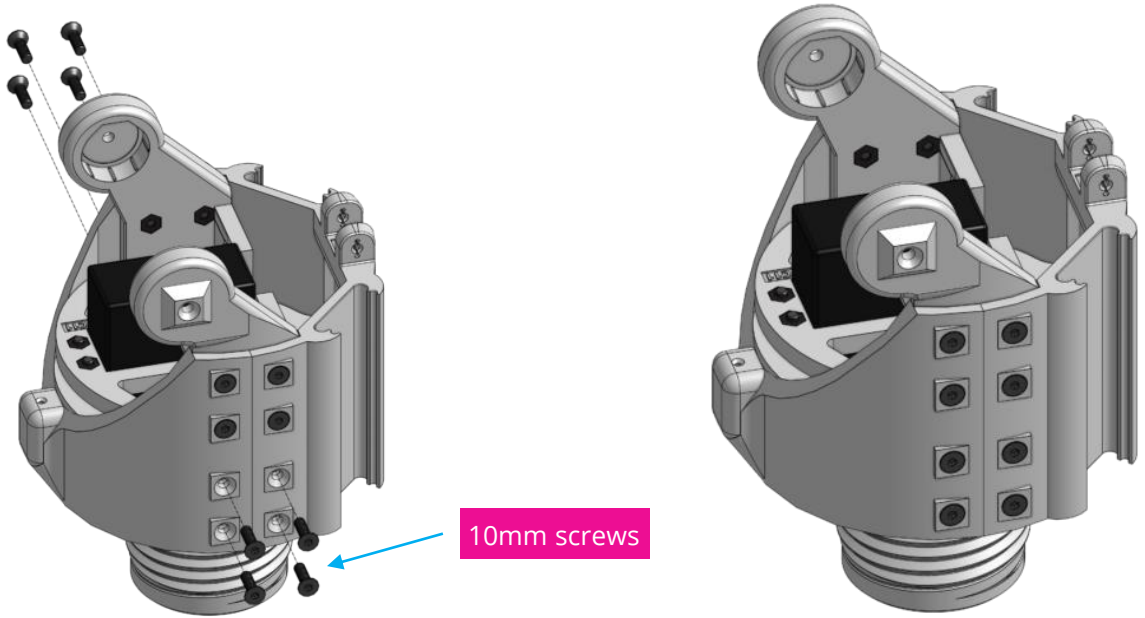
Connect C13 and C14 to the assembled parts. Use 8 x 10mm screws for the lower holes and 8 x 12mm screws for the upper holes to connect it.





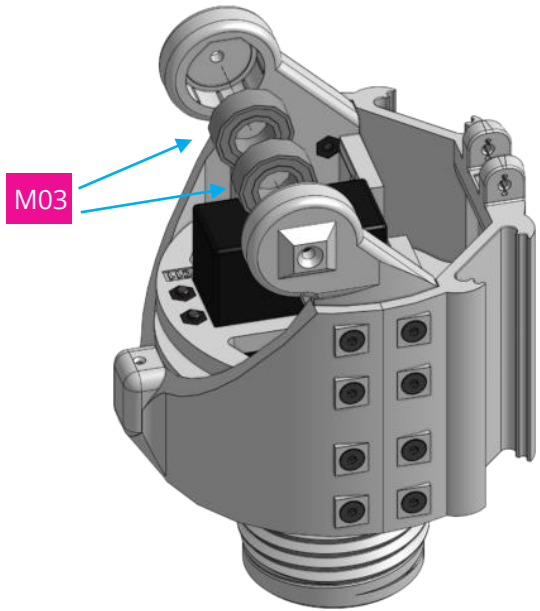
Step 7b

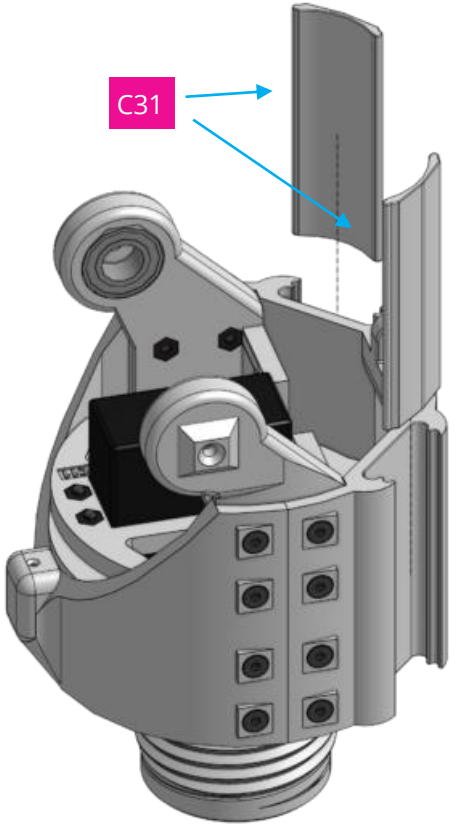
Connect C13 and C14 to the assembled parts. Use 8 x 10mm screws for the lower holes and 8 x 12mm screws for the upper holes to connect it.



Step 8

Place 2 x M03 in C11 and add 2 x C31 to the assembly.



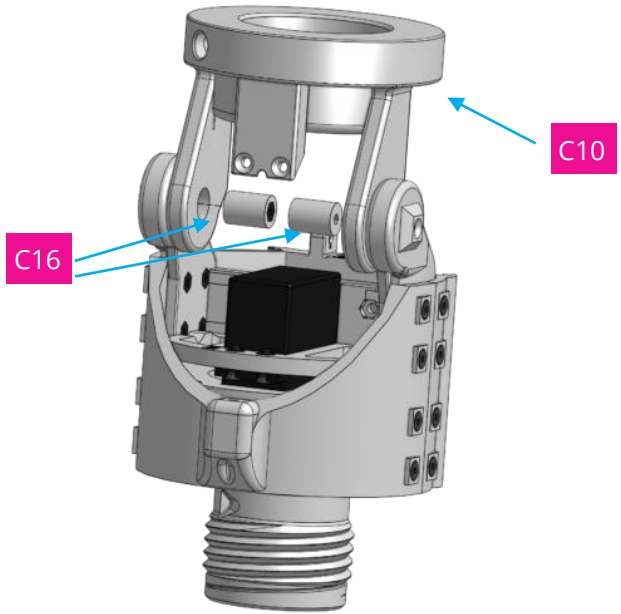


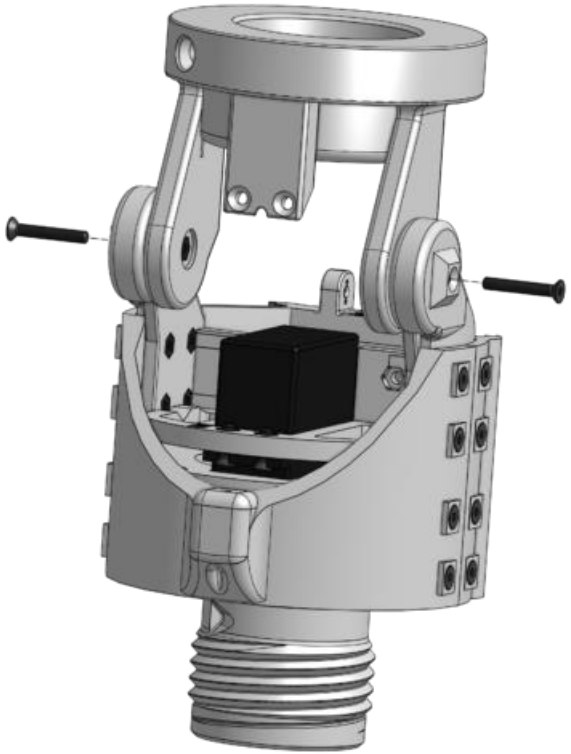
Step 9

Place 1 x nut in C16. Repeat this step to have it twice.

Step 10

Use both C16 and 2 x 20mm screws to connect C10 to the assembly from before.

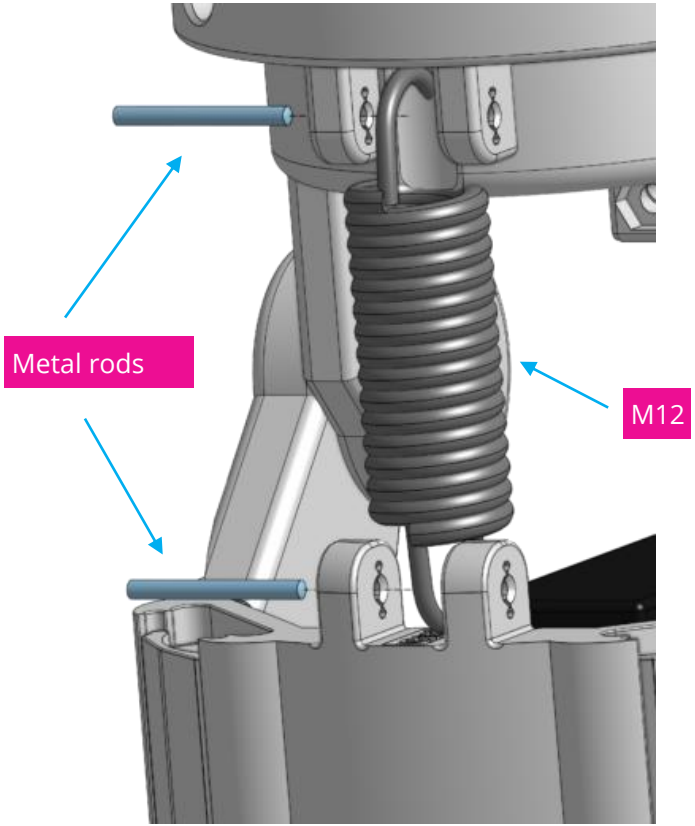




Step 11

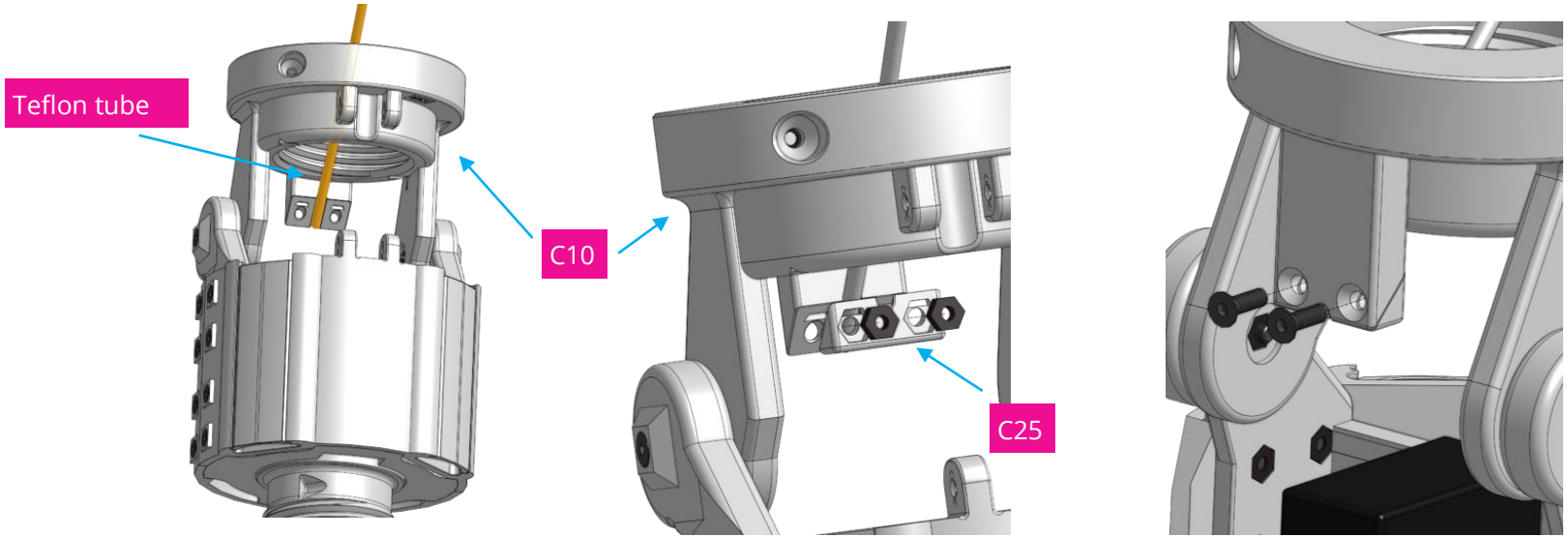
Insert 2 x metal rods into the shown holes till center point. Then, place the hooks of the tension spring into the shown spots and push the metal rods till the end to secure the spring.

Please note: you may need to apply gentle force to push the rods into the holes.



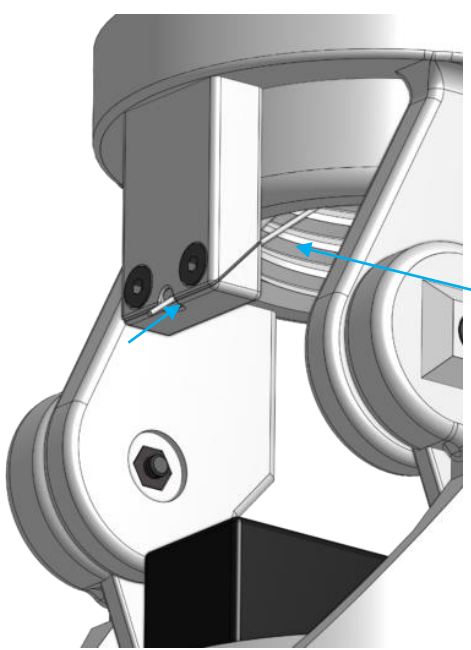
Step 12a

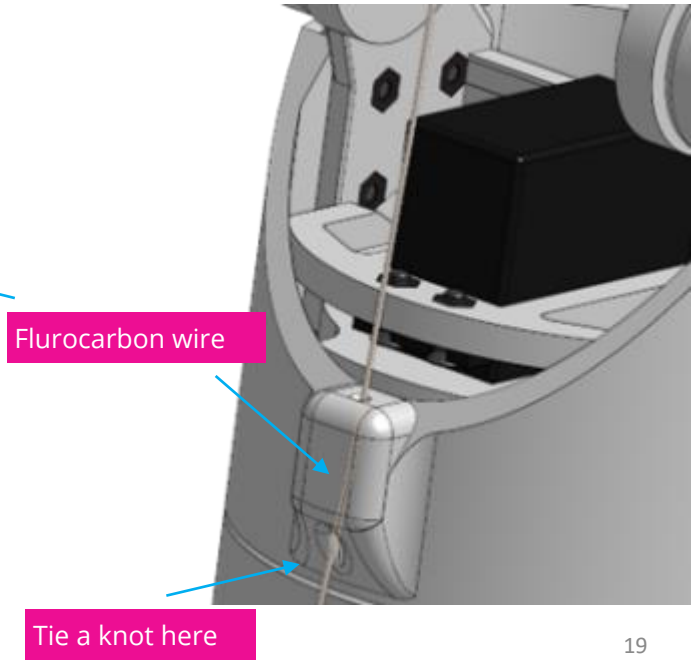
Finally, to enable motion of the elbow you need to insert a piece of 40 cm teflon tube inside C10 and lock it with C25. Use 2 x nuts and 2 x 10 mm screw to attach C25 to C10.



Step 12b

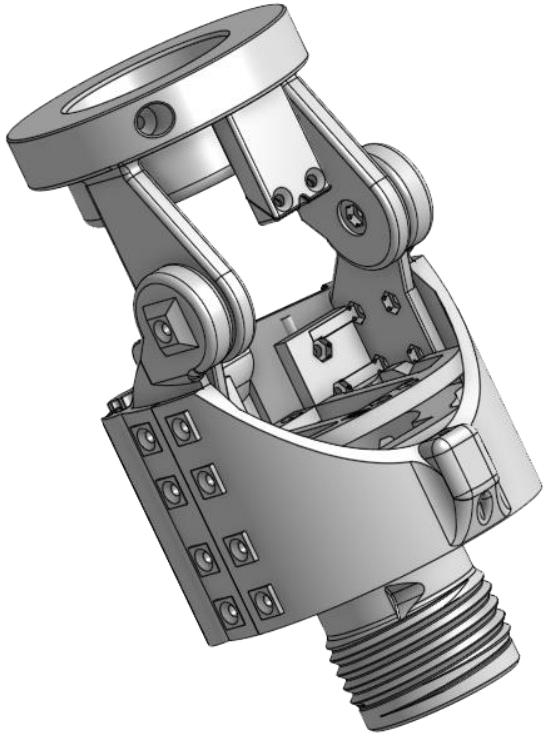
Last, enter 60 cm of fluorocarbon string into the teflon tube and tighten it by tying a knot.





Congratulations

You did a great job, the elbow is assembled!



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?

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