



How to build your robot

www.pib.rocks/build



assembly instructions for:

NECK

Version: Pro



You
Print
Build
Develop

your own robot!

Neck variations of pib



Pib's neck has 3 variations:

- Rookie: simple with 1 degree of freedom (left and right movement)
- **Pro: intermediate with 2 degrees of freedom (up and down + left and right movement)**
- and ultimate: advanced with 3 degrees of freedom.

The default one is pro, the intermediate with 2 degrees of freedom. This tutorial describes how to build it.



Printable and pre-assembled parts



Pib's neck consists of **12 printable parts** and is assembled in **19 steps**.

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

Please note: For better readability we use the abbreviations in the tutorial: A50 instead of A50-Neck_housing.

Printable parts

A50-Neck_housing

A51-Bearing_holder_neck

A52-Motor_bracket_neck

A53-Vertical_shaft_neck

A54-Vertical_motor_connector_neck

A55-Cap_neck

A56-Top_part

A57-Horizontal_motor_connector_neck

A58-Horizontal_shaft_neck

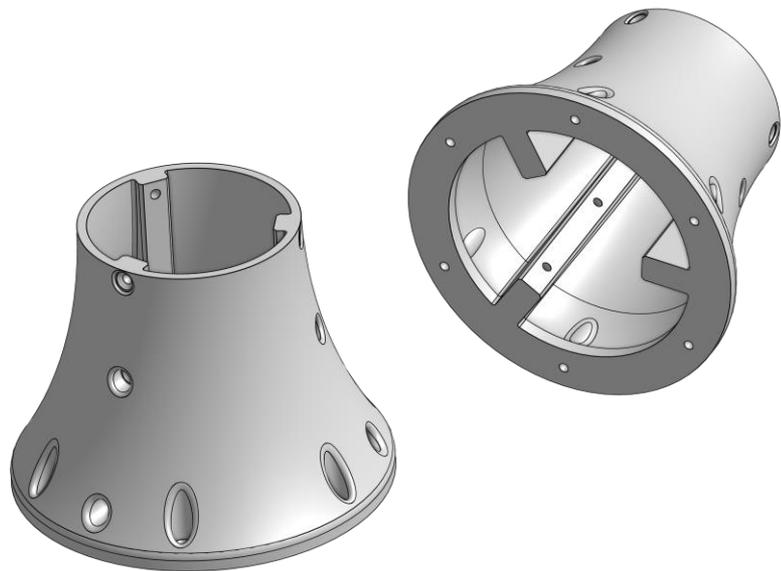
A59-L-Side_arm_neck_left

A59-R-Side_arm_neck_right

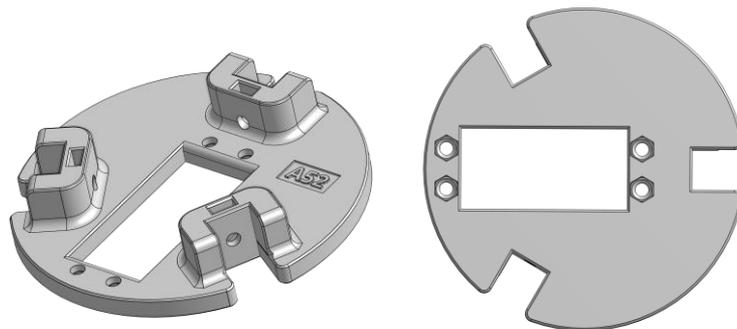
A60_Horizontal_shaft_short_neck

Printable parts - Overview

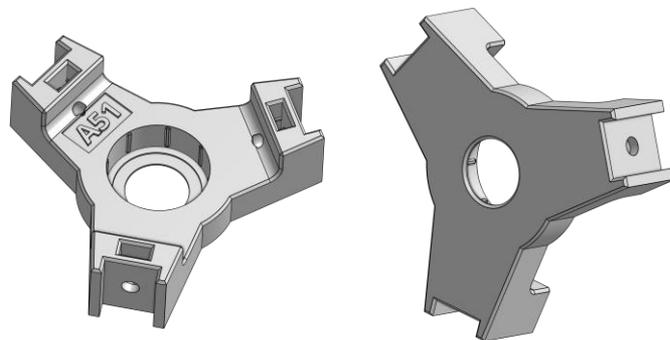
A50-Neck_housing



A52-Motor_bracket_neck

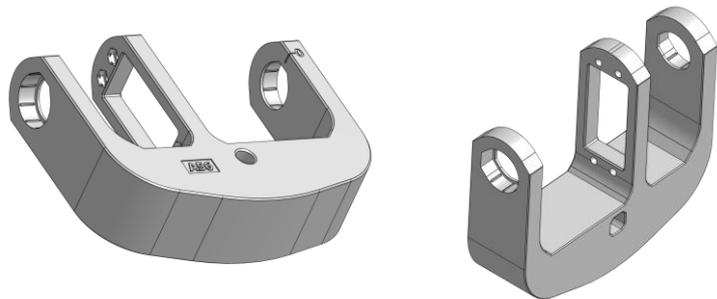


A51-Bearing_holder_neck

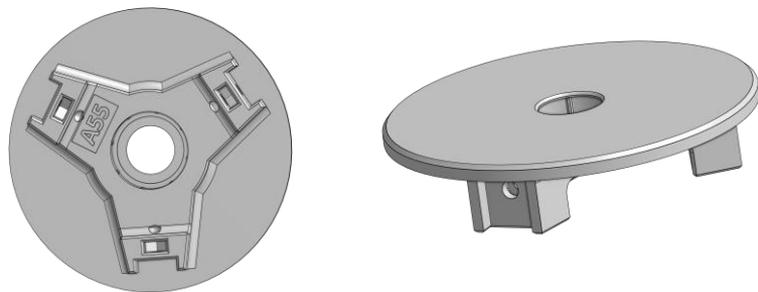


Printable parts - Overview

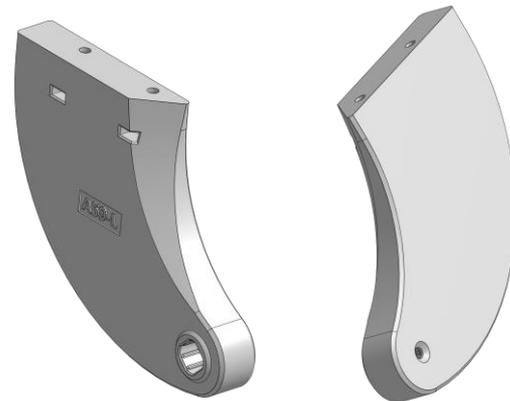
A56-Top_part



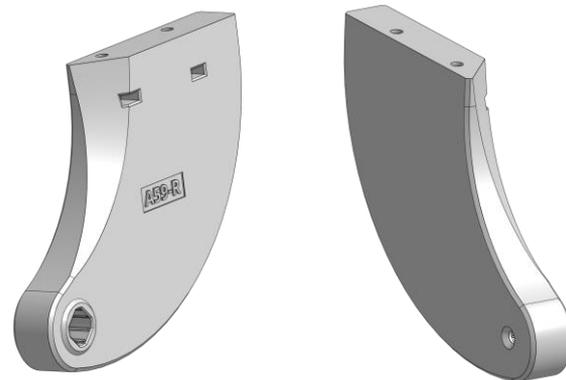
A55-Cap_neck



A59-L-Side_arm_neck_left

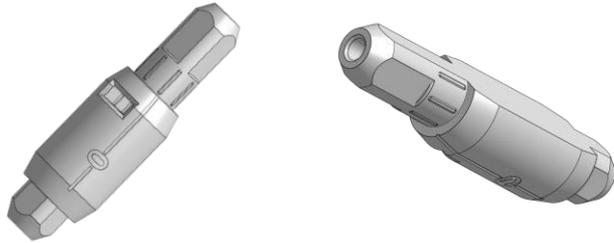


A59-R-Side_arm_neck_right

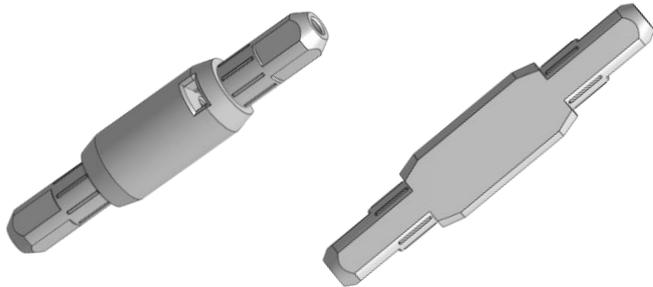


Printable parts - Overview

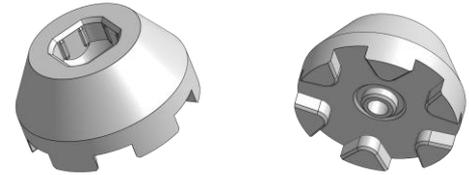
A58-Horizontal_shaft_neck



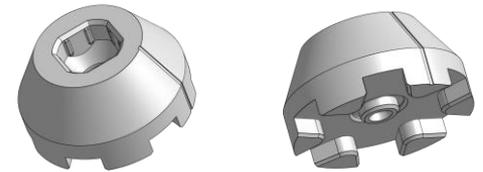
A53-Vertical_shaft_neck



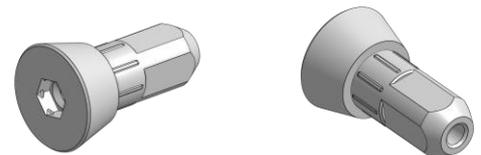
A54-Vertical_motor_connector_neck



A57-Horizontal_motor_connector_neck



A60_Horizontal_shaft_short_neck



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

24 x **S01** M3 nuts

8 x **S04** M3 10 mm screws

11 x **S05** M3 12 mm screws

2 x **S11** M3 30 mm screws

1 x **S13** M3 40 mm screws

4 x **M03** Ballbearings

2 x **E07** MG996R servo

2 x **M15** Nylon motor connector

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

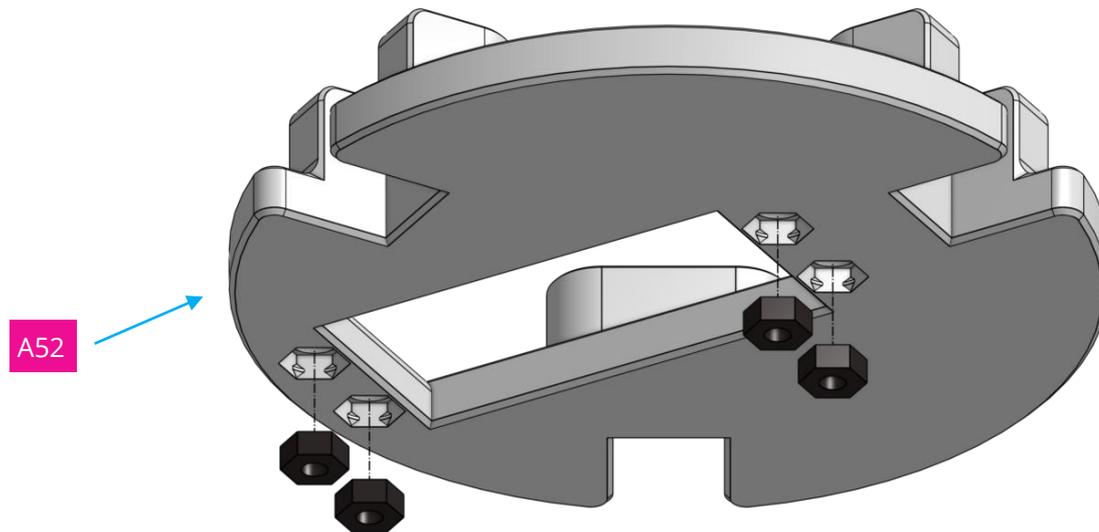
We have categorized each step according to its **difficulty** - from **1-5** (1 being the easiest, 5 the hardest)



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

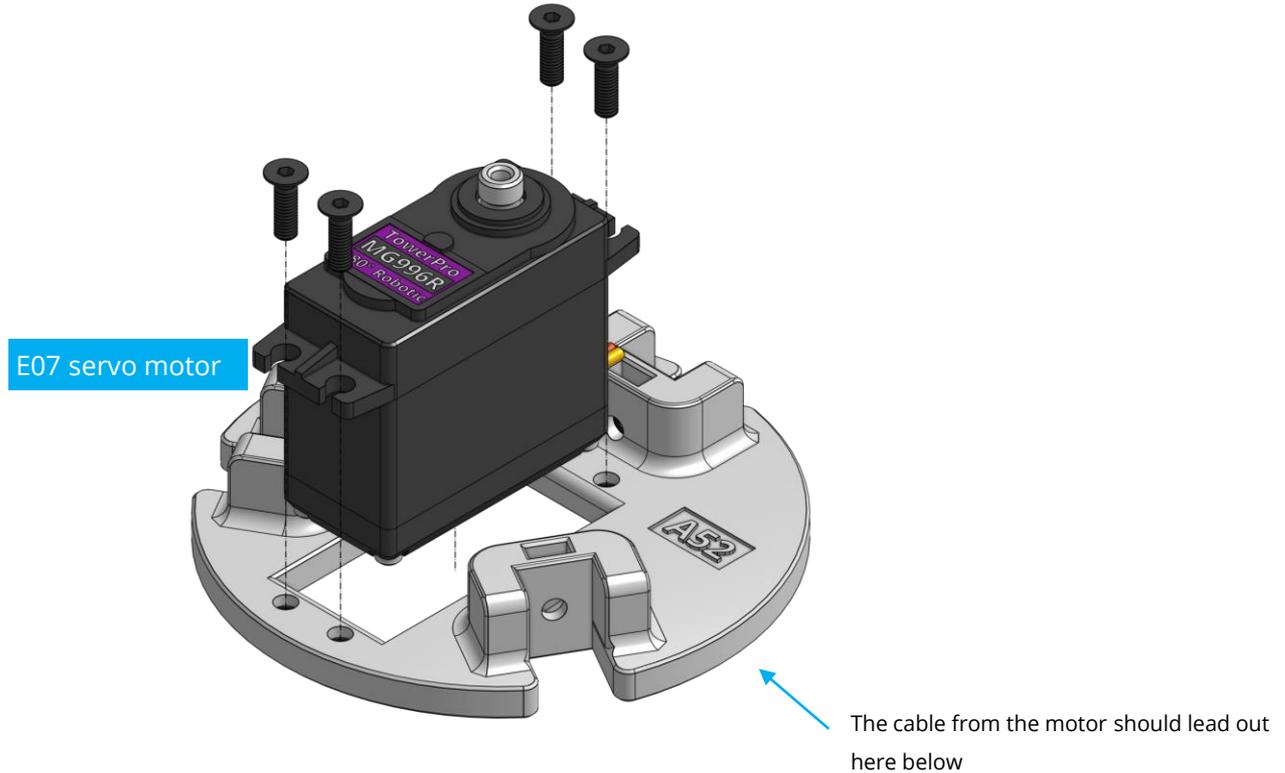
Step 1

Insert **4 x nuts** in **A52** in the shown spots.



Step 2

Place **1 x E07** (MG996R) motor in **A52** and use **4 x 10mm screws** to fix it.



Step 3

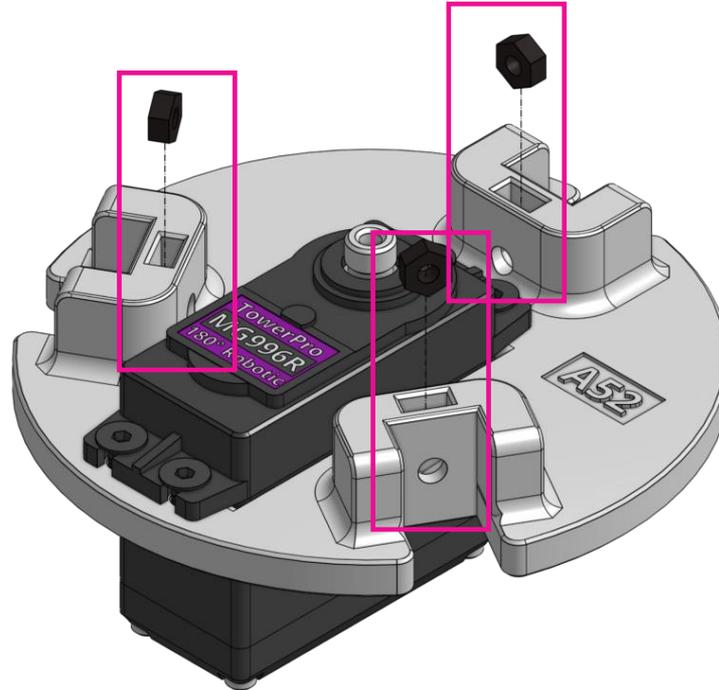
Place **3 x nuts** in the shown spots in **A52**.



3x

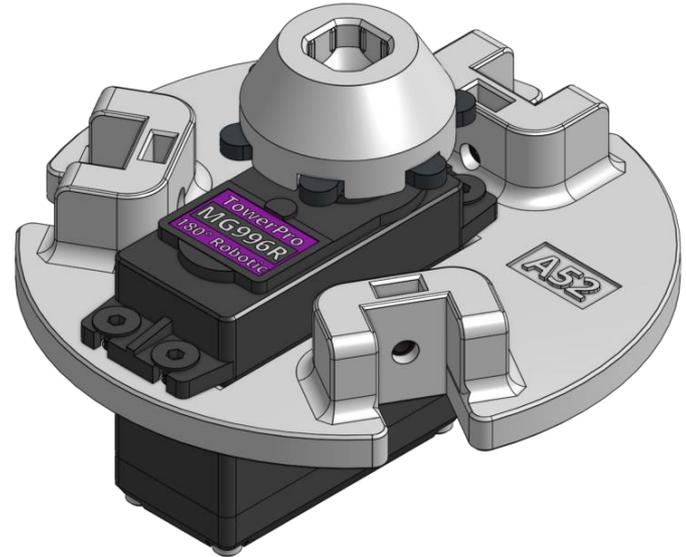
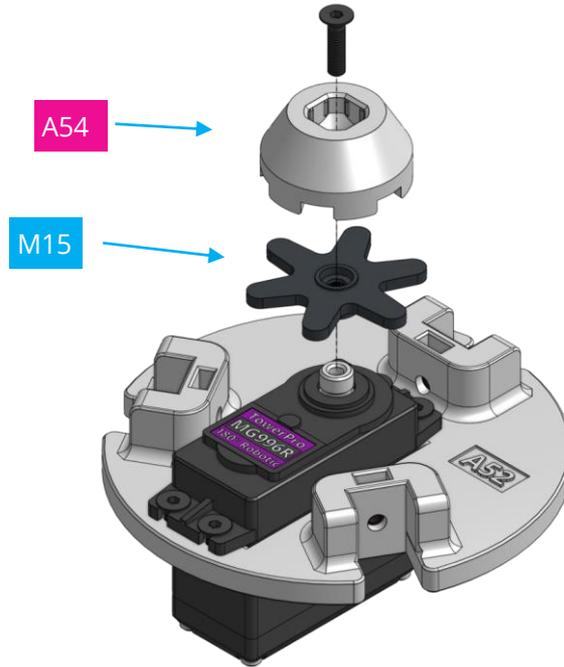


Our tip: use a small screwdriver or a precision tool to put the nuts into the holes and hit it gently with a hammer to place it correctly.



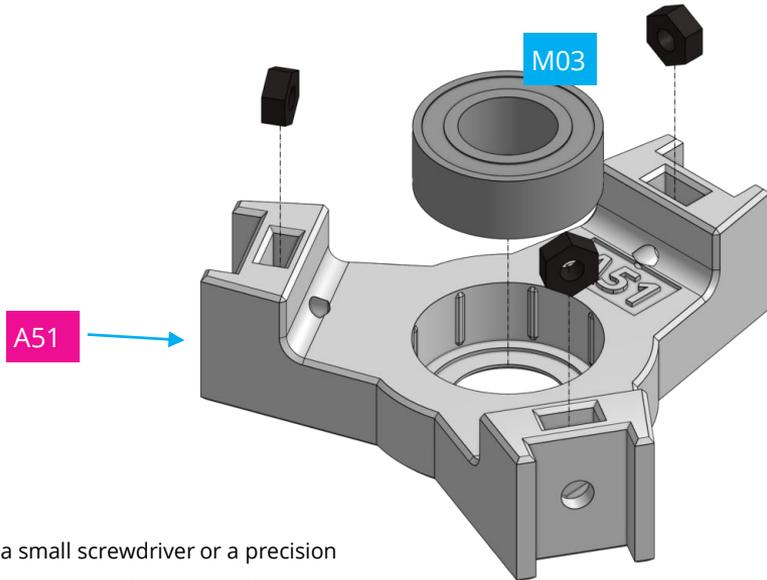
Step 4

Attach **1 x M15** to the motor, then place **A54** on top and use **1 x 12mm screw** to fix everything together.

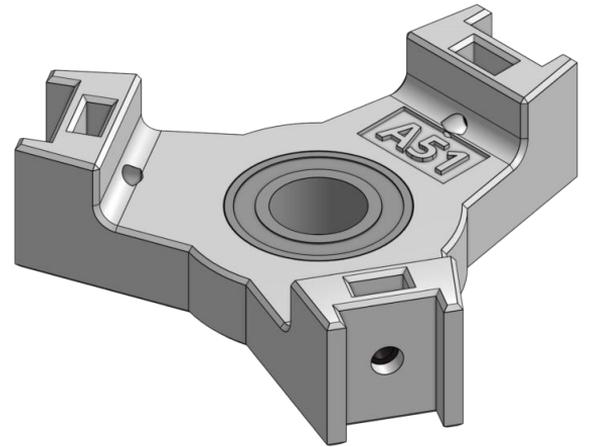


Step 5

Place **1 x M03 ballbearing** and **3 x nuts** in the shown spots of **A51**.

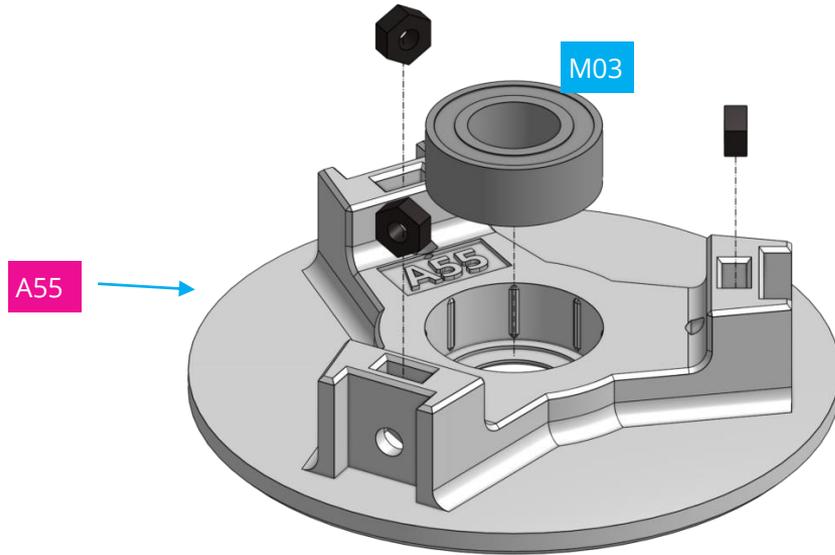


Our tip: use a small screwdriver or a precision tool to put the nuts into the holes and hit it gently with a hammer to place it correctly.

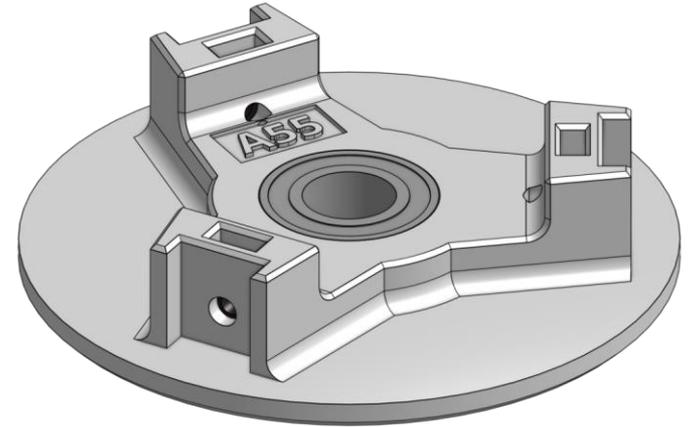


Step 6

Place **1 x M03** ballbearing and **3 x nuts** in the shown spots of **A55**.

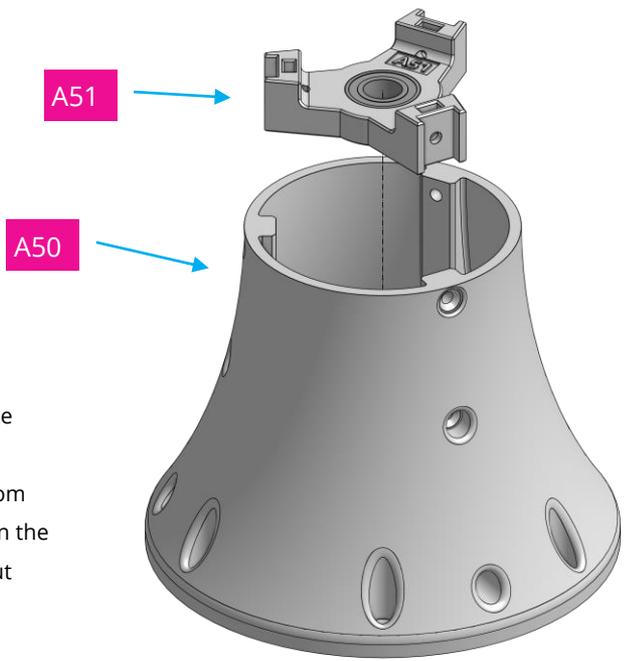


Step 6 is almost the same as step 5, just the printable part is a different one.

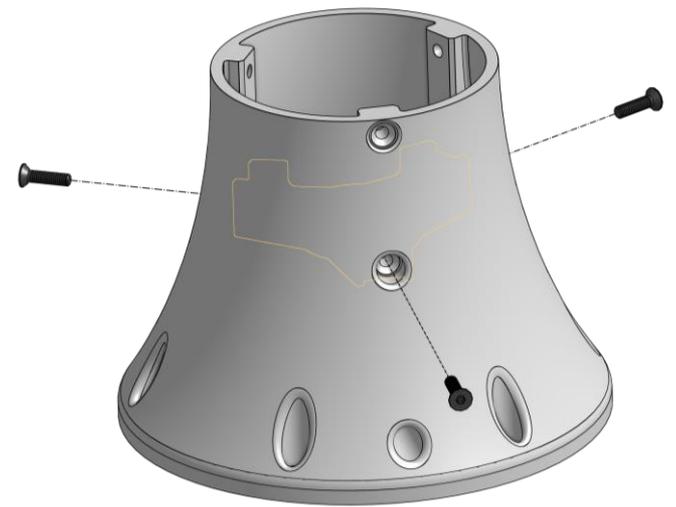


Step 7

Slide the **assembly from step 5** into **A50** from the top till it reaches the middle, then fix it with **3 x 12mm screws**.

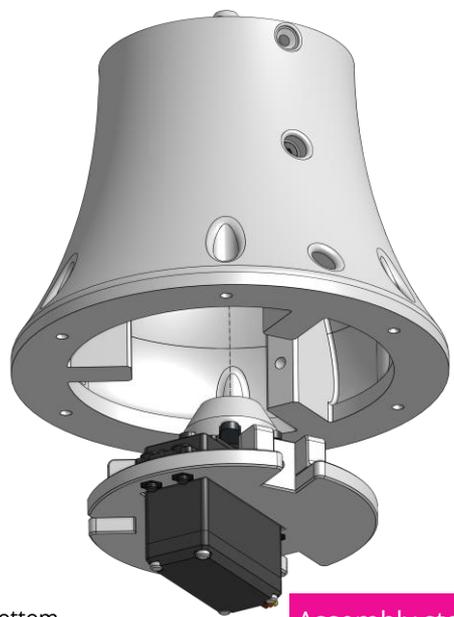


Use a hammer to gently put A51 into the the middle of A50.
You can use the small holes to check from the outside, if the nuts inside A51 are on the same level with the holes before you put the screws in.



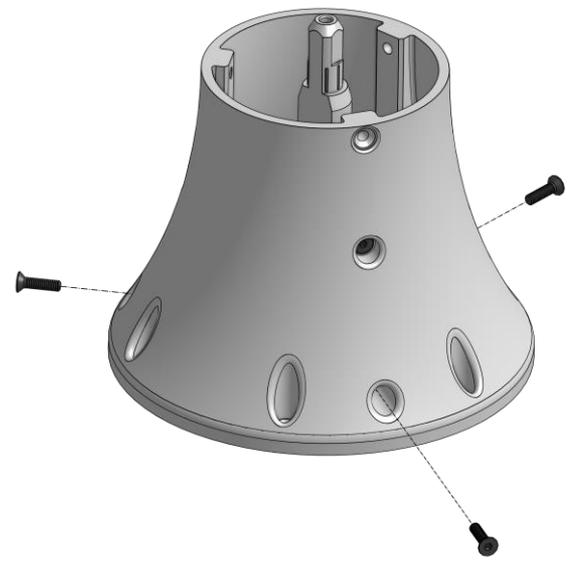
Step 8

Insert **the assembly from step 4** through **A51** and fasten it using **3 x 12mm screws**.



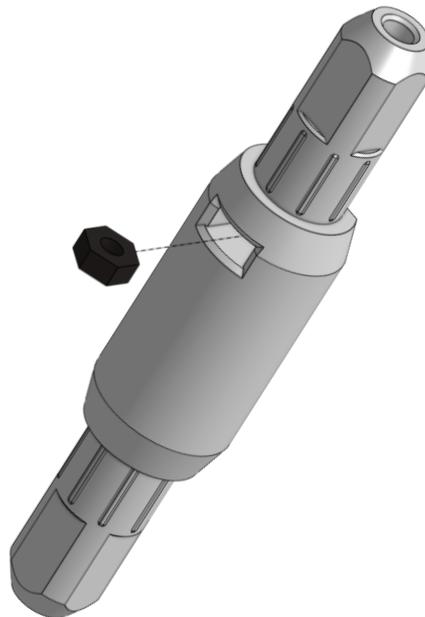
The motor cable should hang out at the bottom.

Assembly step 4



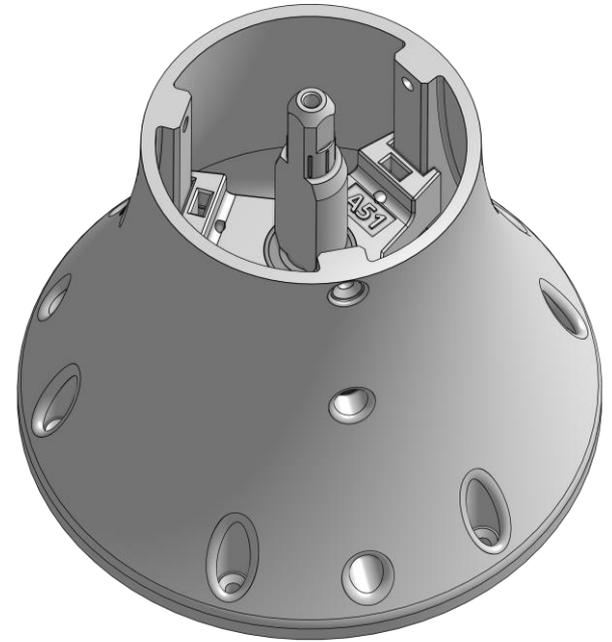
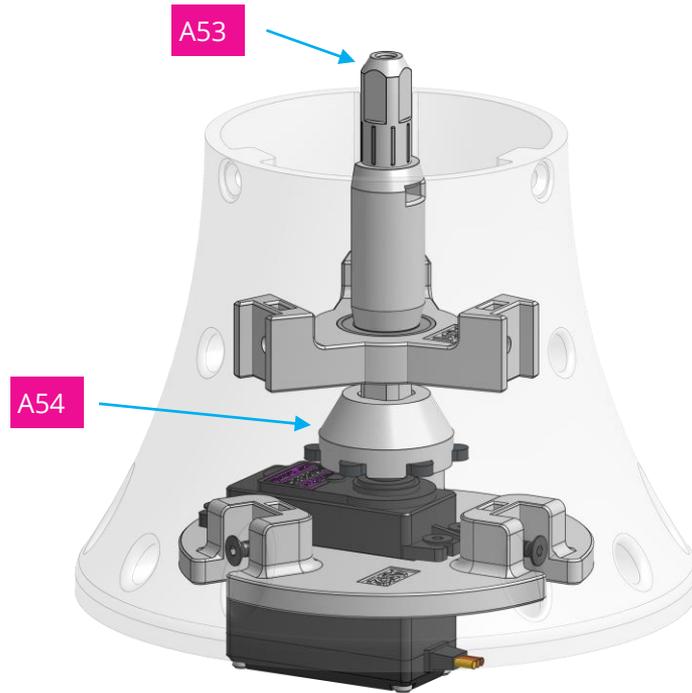
Step 9a

Insert **1 x nut** into **A53**.



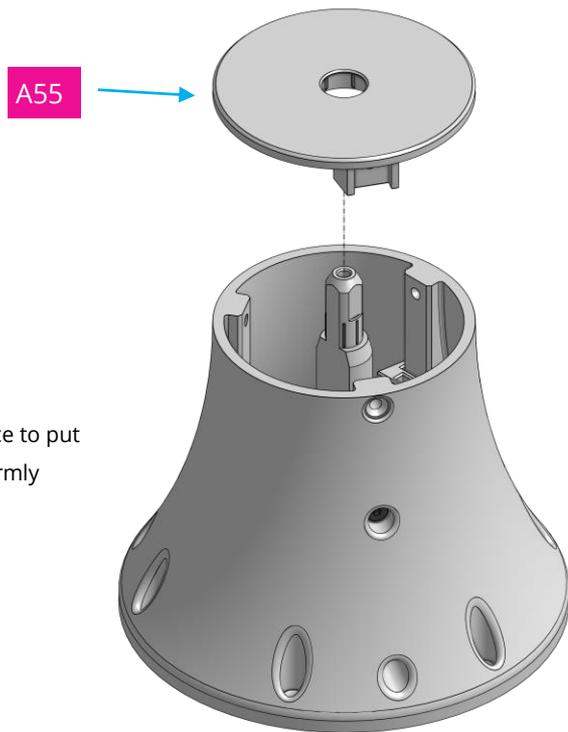
Step 9b

Insert **A53** into **A54** (through **A51**).

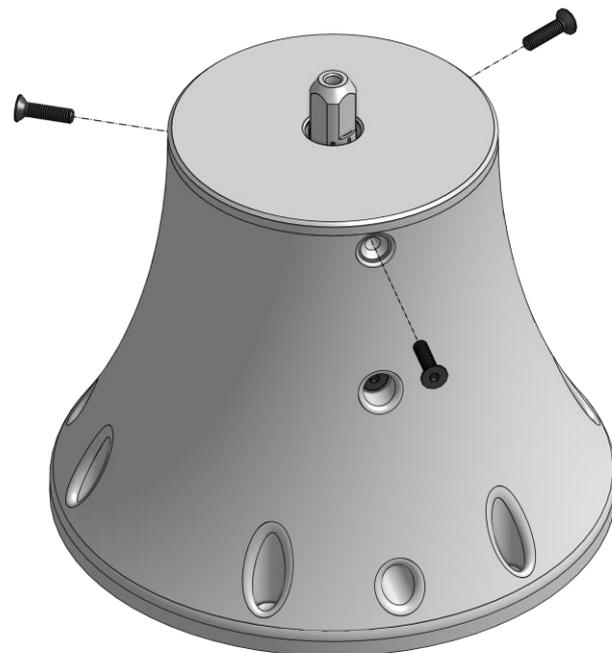


Step 10

Insert **A55** into **A50** and connect it with **3 x 12mm screws**.



You may apply some gently force to put A55 on top of A50 and hold it firmly while putting the screws in.

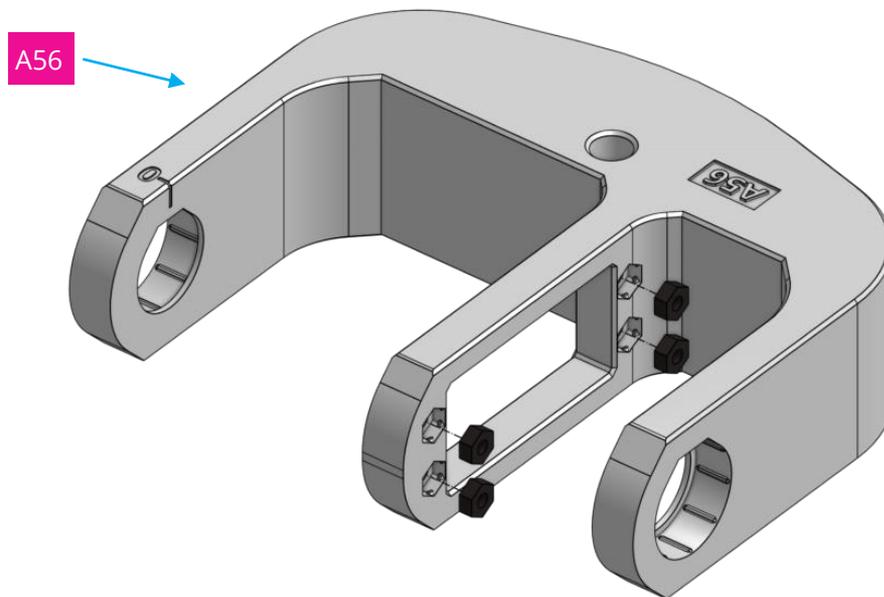


Step 11

Attach **4 x nuts** in **A56**.

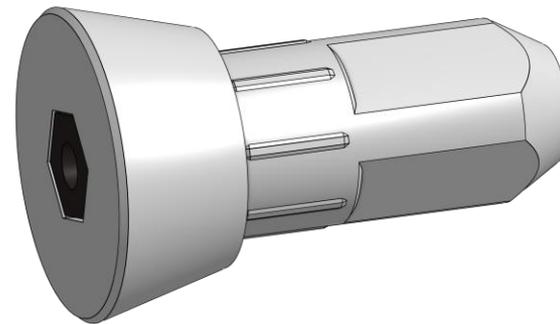
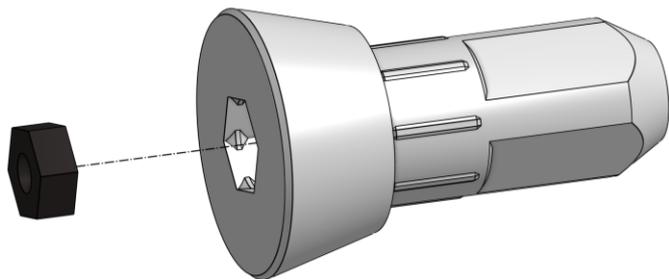


4x



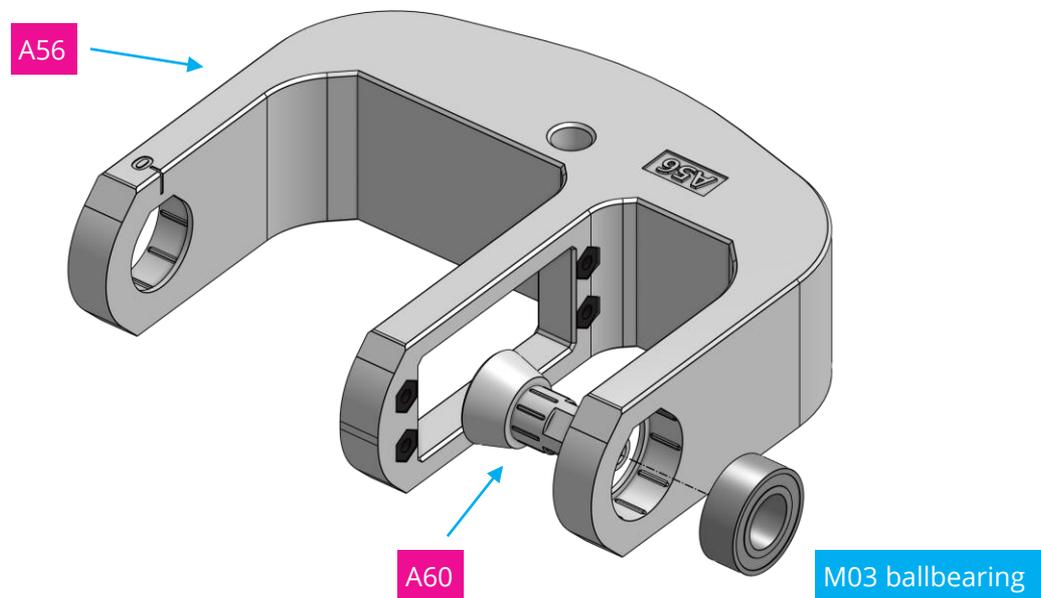
Step 12a

Place **1 x nut** in **A60**.



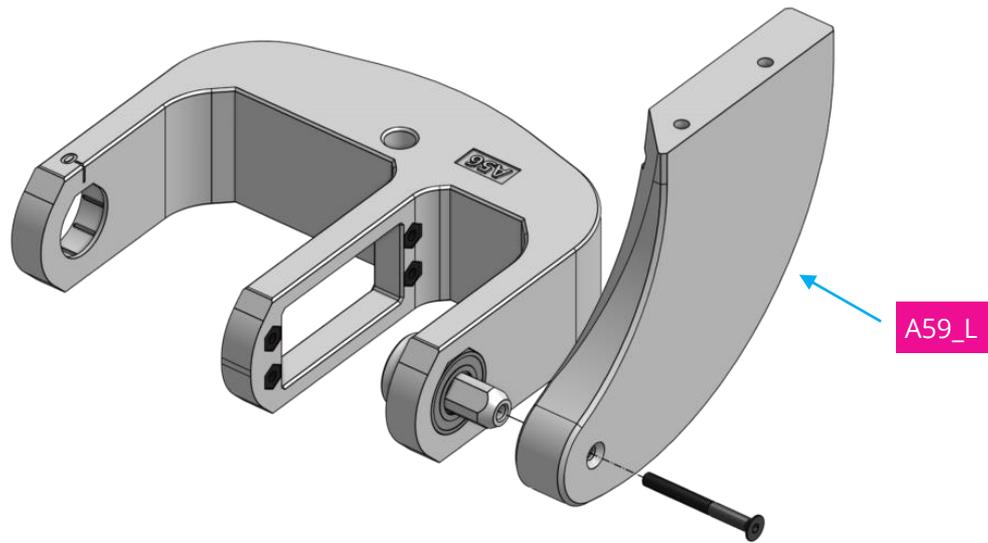
Step 12b

Insert **A60** into **A56** and put **1 x M03 ballbearing** from the other side.



Step 12c

Connect **A59-L** with **A56** using **1 x 30mm screw**.



Step 13

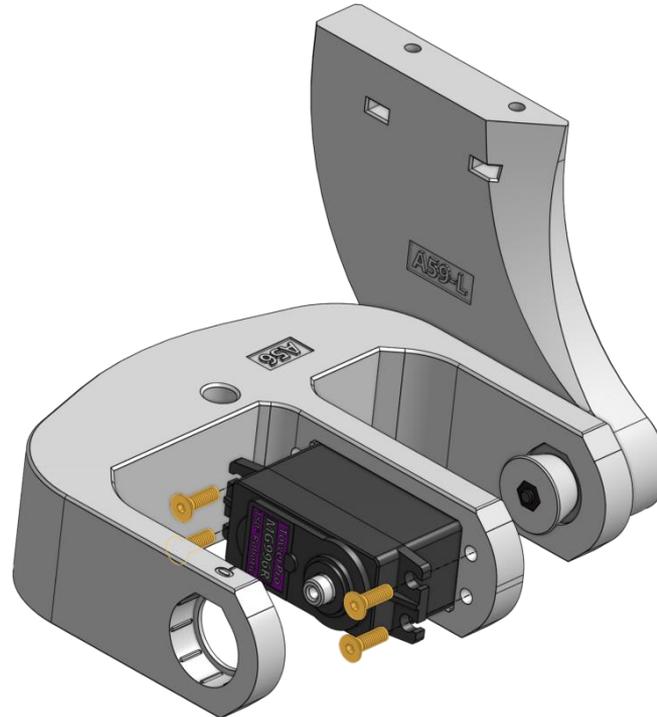
Insert **1 x E07** (MG996R motor) in the shown spot and use **4 x 10mm screws** to fix onto **A56**.



4x



1x



Pull the cable first, then tilt the motor a little bit to put it into the shown spot. You may apply some gently force.

Step 14

Connect **A57** and **1 x M15** Nylon motor connector to the motor and fix them using **1 x 12 mm screw**.



1

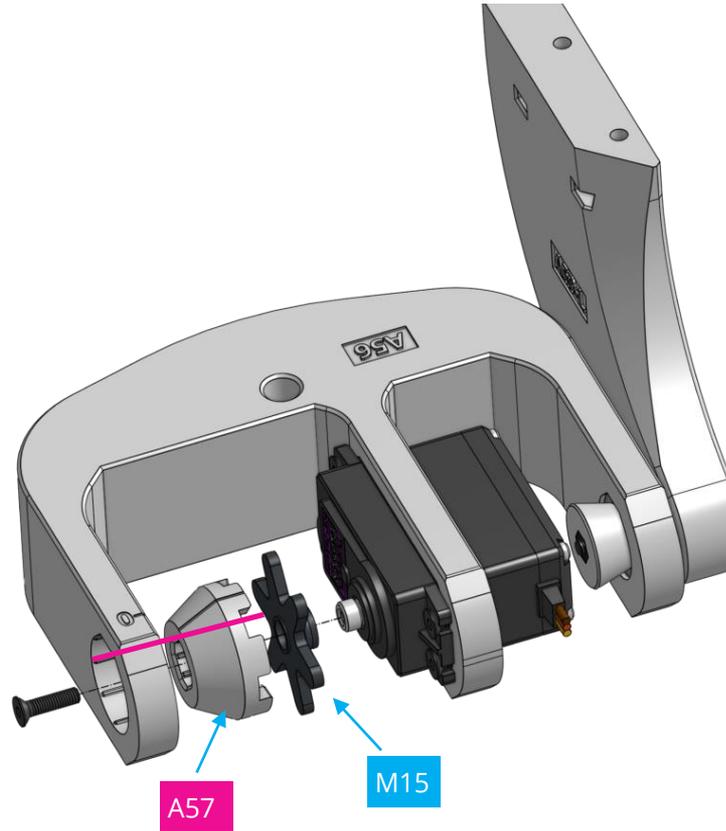


1x



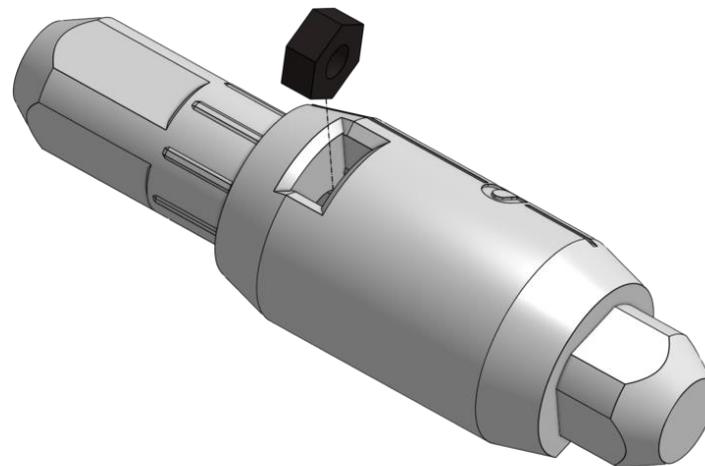
1x

Make sure that the highlighted line on A57 and the printed "0" on A56 are lined up!



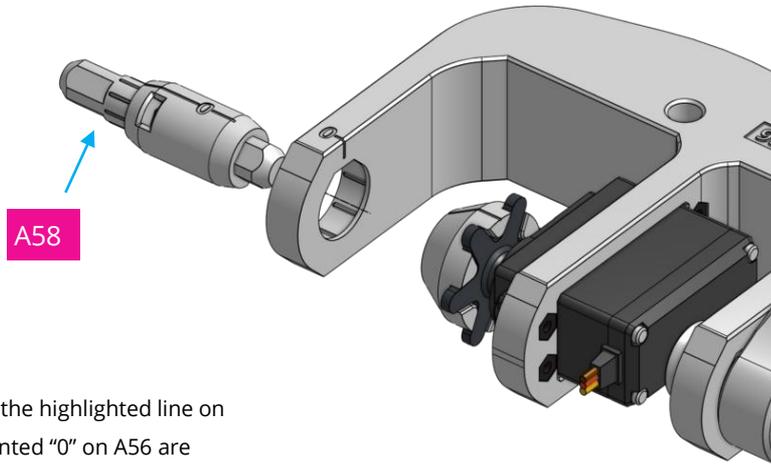
Step 15a

Insert **1 x nut** into **A58**.

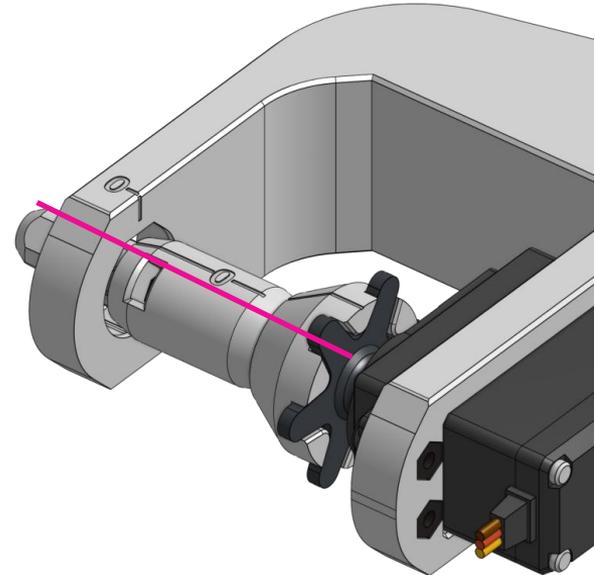


Step 15b

Insert **A58** into the previous assembly.

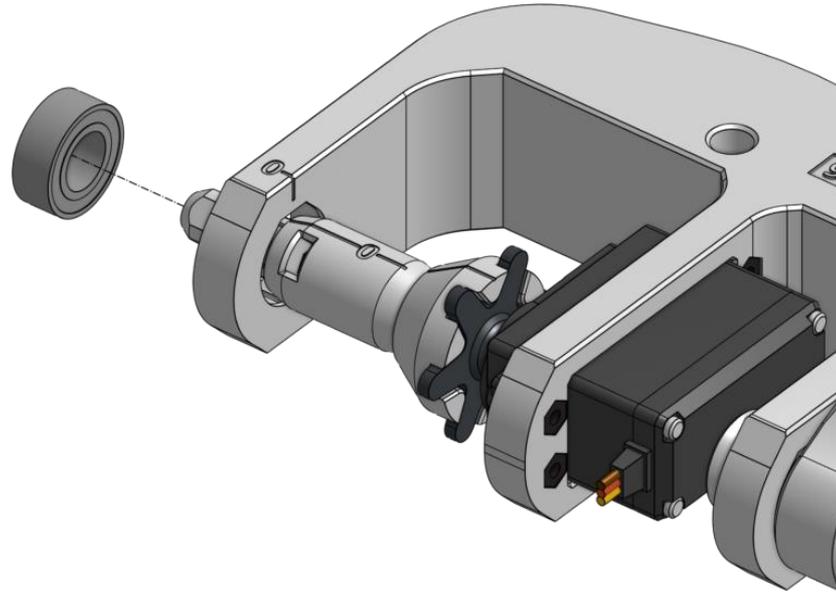


Make sure that the highlighted line on A58 and the printed "0" on A56 are lined up!



Step 16

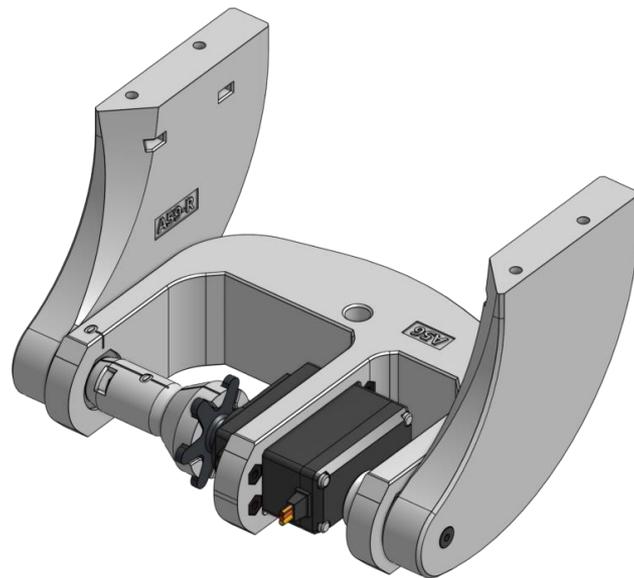
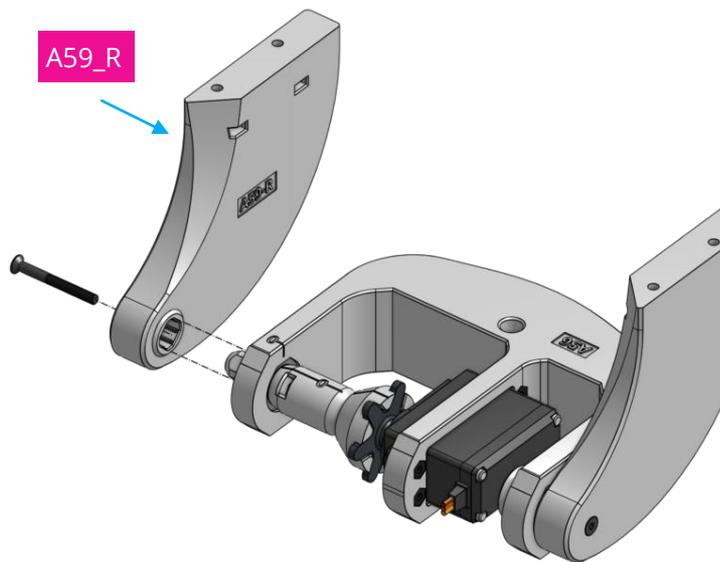
Insert **1 x M03 ballbearing** onto **A58**.



You may need some gentle force to put the ballbearing onto A58.

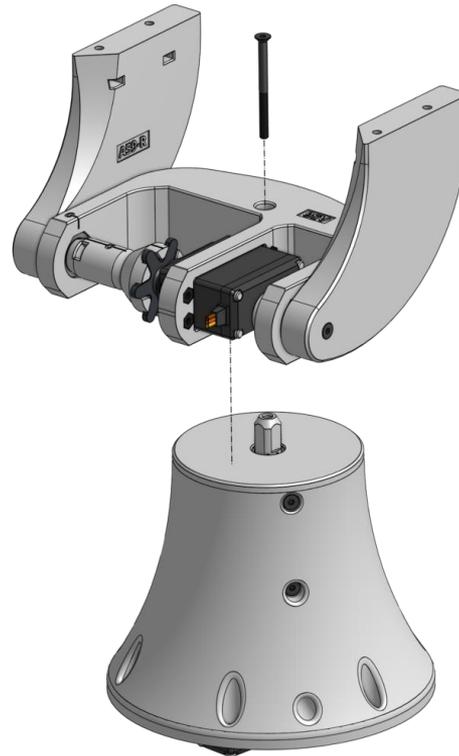
Step 17

Connect **A59-R** to **A58** and fix it with **1 x 30mm screw**.



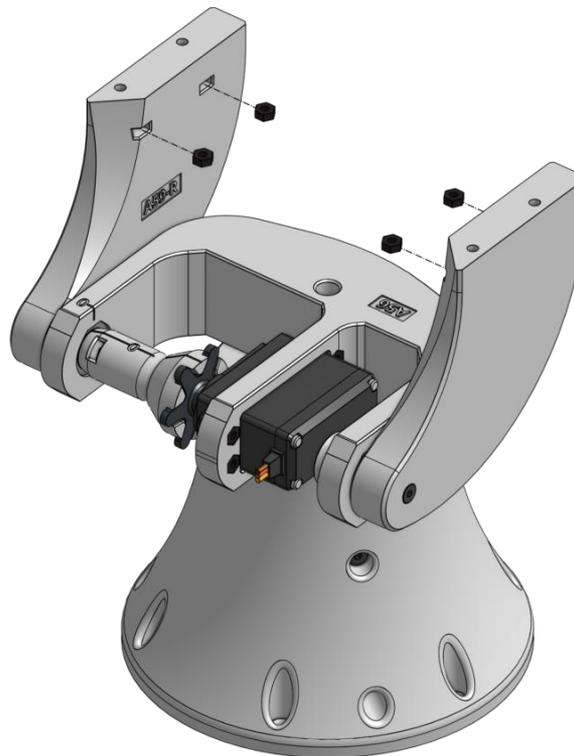
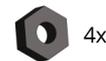
Step 18

Connect the assembly to the assembly from step 10 using **1 x 40mm screw**.



Step 19

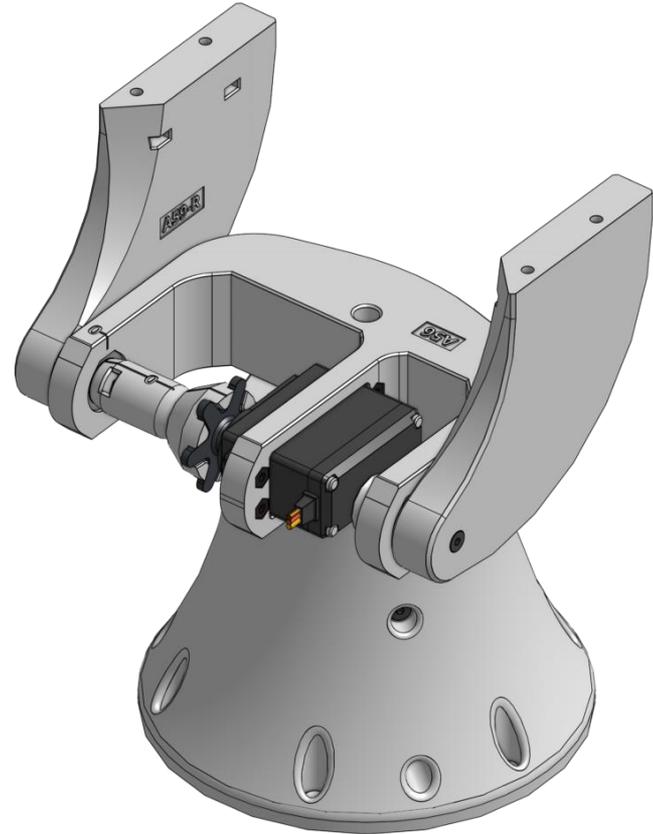
Place **4 x nuts** in the shown spots of **A59-R** and **A59-L**.



Congratulations

You did a great job, pib's neck 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.