



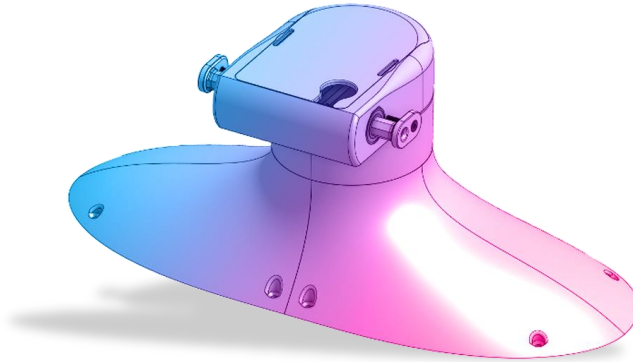
How to build your robot

www.pib.rocks/build

assembly instructions for:

Neck

pib#4 research



PRINT

BUILD

DEVELOP

YOUR OWN ROBOT

Printable and pre-assembled parts

Pib's neck consists of **13 printable parts** and is assembled in **10 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.

We provide a screwdriver shaped like a pen in the box that includes the required hexagonal head. However, using a longer one can be useful

Printable parts

A71s-Inner_part_S

A72s-Top_part_S

A73-Cover_neck

A75s-R-Neck_Right_S

A75s-L-Neck_Left_S

A76-Neck_Middle

A81-Motor_shaft

A82-Neck_axis

A83-Motor_adapter_neck

A02-Face_neck_clamp

A77s-Neck_motor_wedge_S

A78s-Nodding_motor_wedge_S

Non-printable parts

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

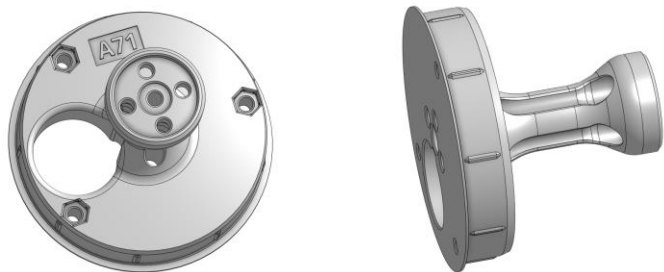
If you do not have it yet, you can buy in our shop
<https://shop.pib.rocks>.

Non-printable parts
2 x M21 Ballbearings
2 x E27 STS3215 servo
2 x M18 Metal-motor-Adapter
1 x M04 Ballbearing

Non-printable parts
13 x S01 M3 nuts
8 x S03 M3 8mm screws
8 x S04 M3 10mm screws
5 x S05 M3 12mm screws
4 x S06 M3 16mm screws
1 x S07 M3 18mm screws
4 x S08 M3 20mm screws
3 x S11 M3 30 mm screws
1 x S13 M3 40 mm screws

Printable parts - Overview

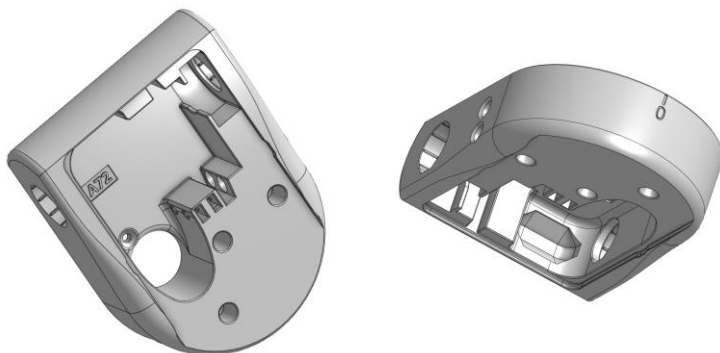
A71-Inner_part



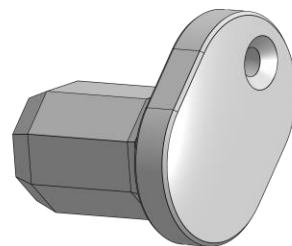
A73-Cover_neck



A72-Top_part

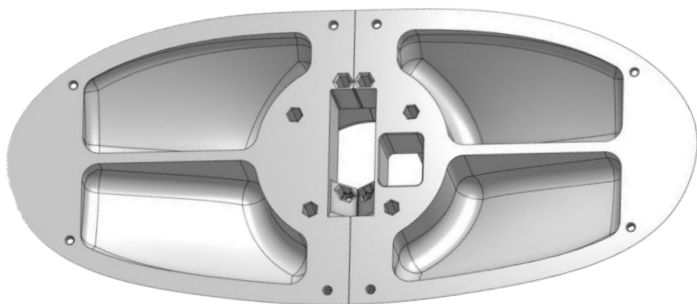
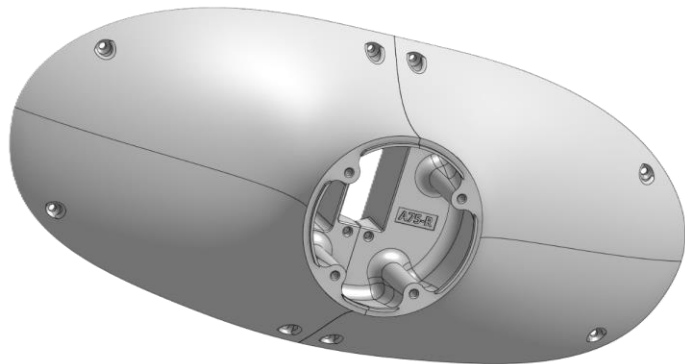


A82-Neck_axis

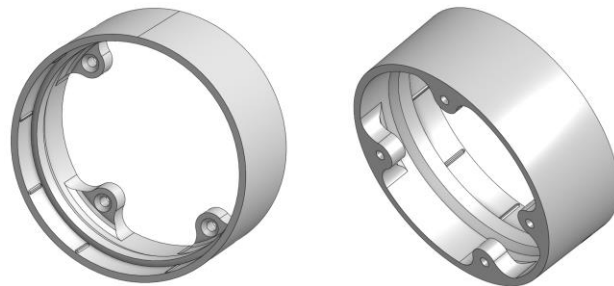


Printable parts - Overview

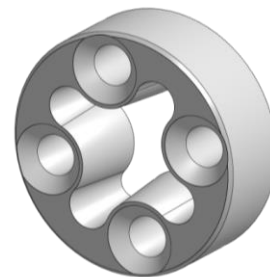
A75-Neck_left/right



A76-Neck_middle

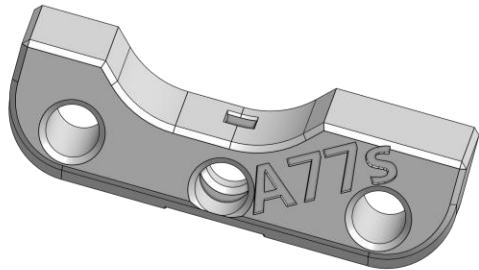


A83-Motor_adapter_neck

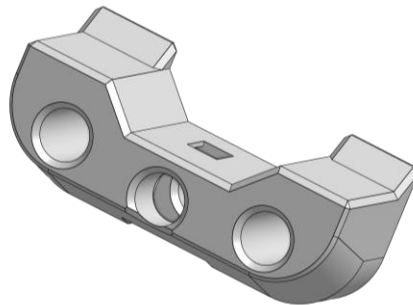


Printable parts - Overview

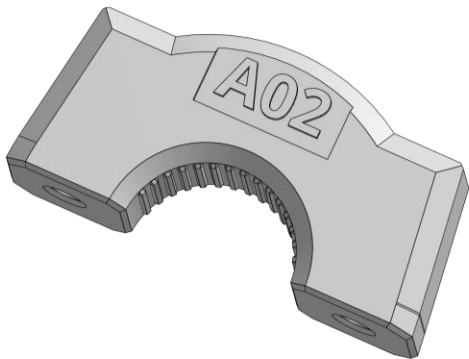
A77s-Neck_motor_wedge_S



A78s-Nodding_motor_wedge_S



A02-Face_neck_clamp



A81-Motor_shaft



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 have their IDs set and calibrated according to tutorial "**step 1c motor calibration**"



Step 1

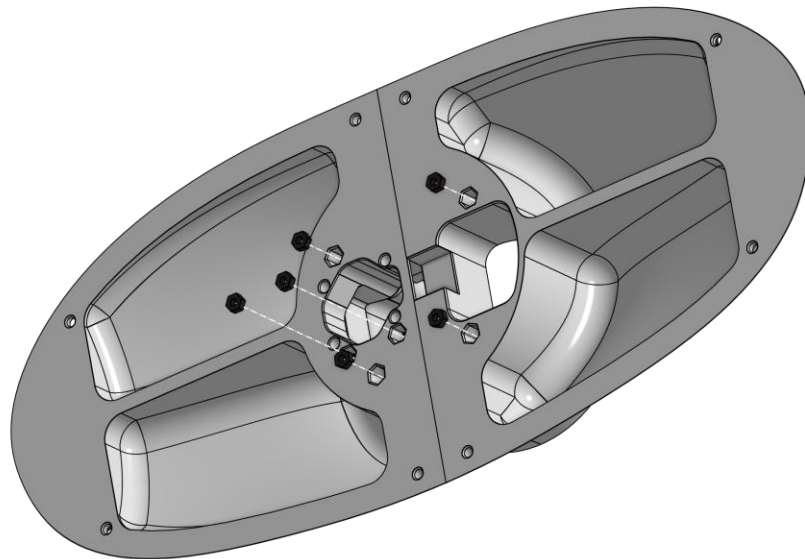
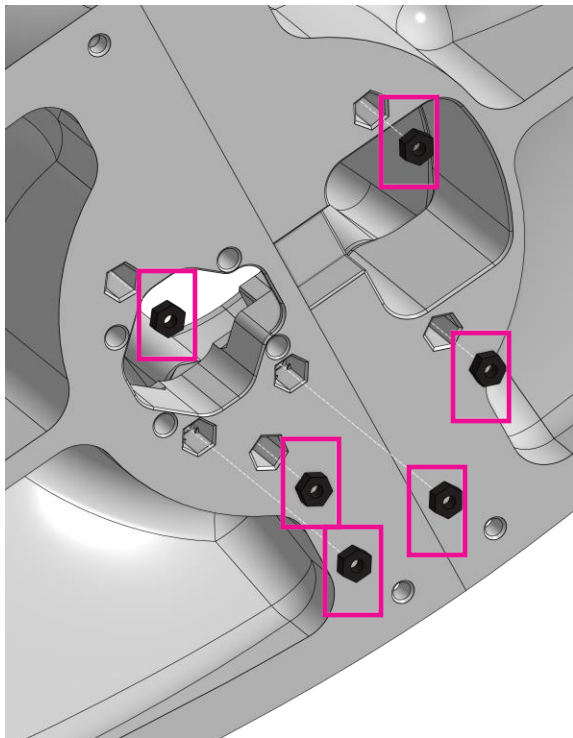
Insert **6 x nuts** in **A75s** in the shown spots.



1



6x



A75

Step 1

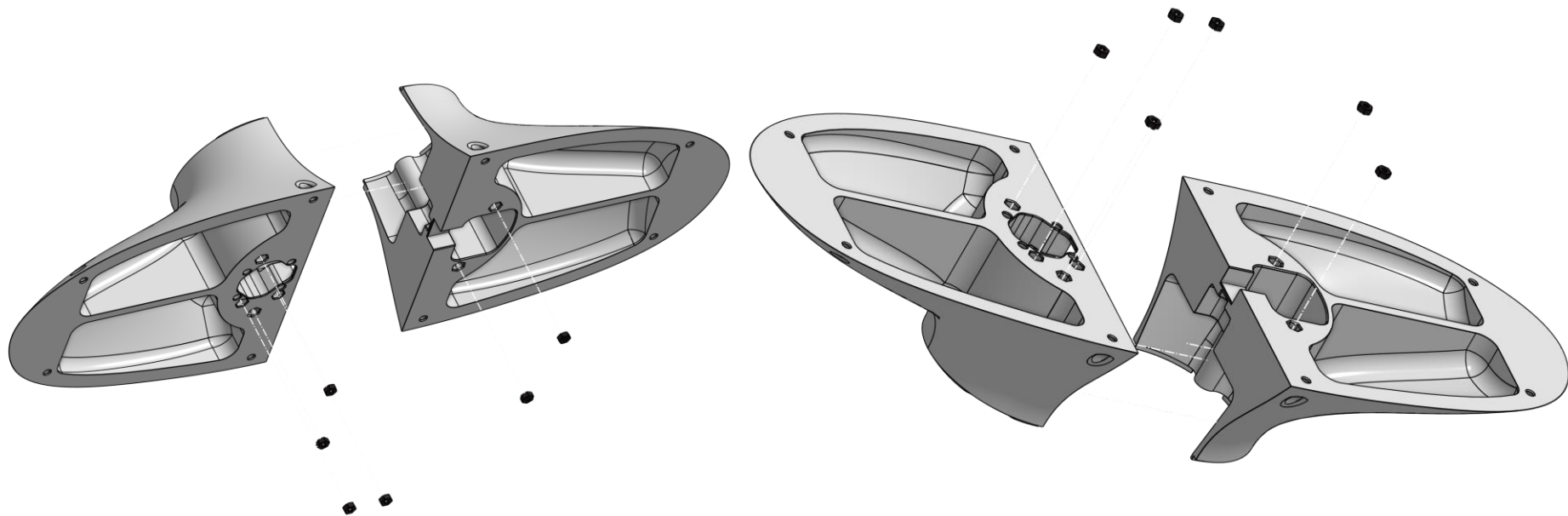
Insert **6 x nuts** in **A75s** in the shown spots.



1

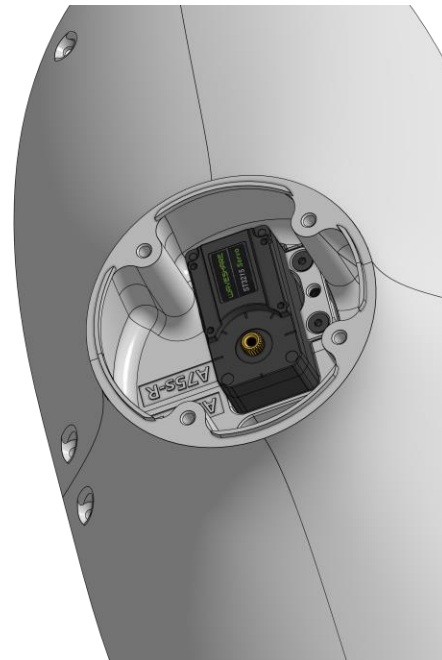
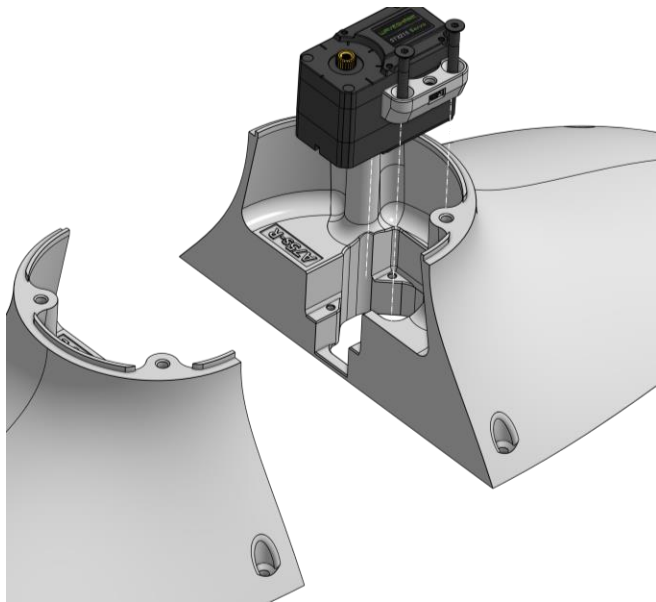


6x



Step 2

Place **1 x E27** (STS3215) in **A75** and use **2 x 25mm screws** and **A77s** to fix it.



Step 3

Connect **A76** to **A75s** using 4 x M3 20mm screws.



1

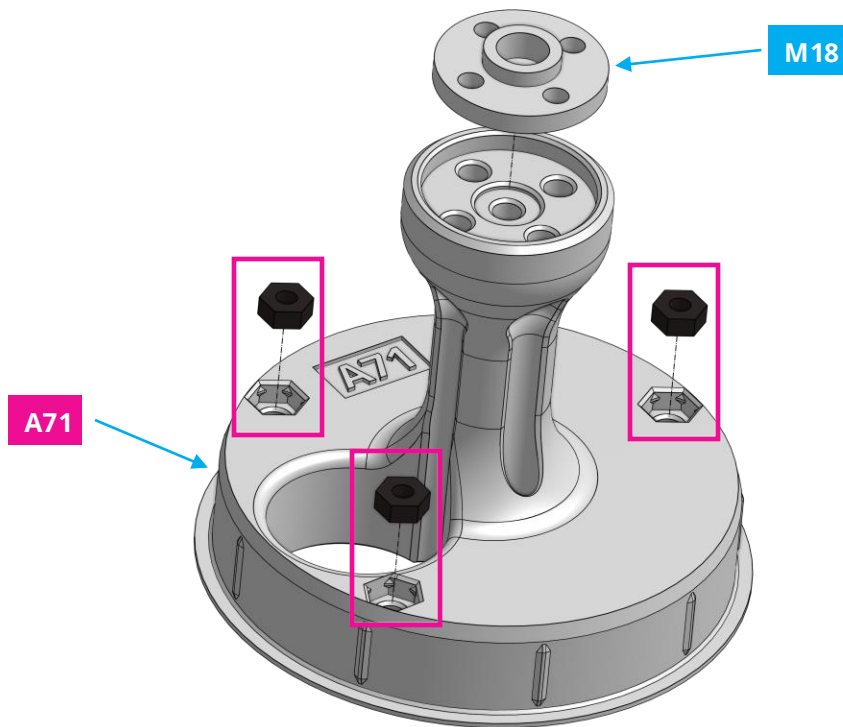


4x



Step 4a

Attach **3 x M3 nuts** and **1 x M18** to **A71**.

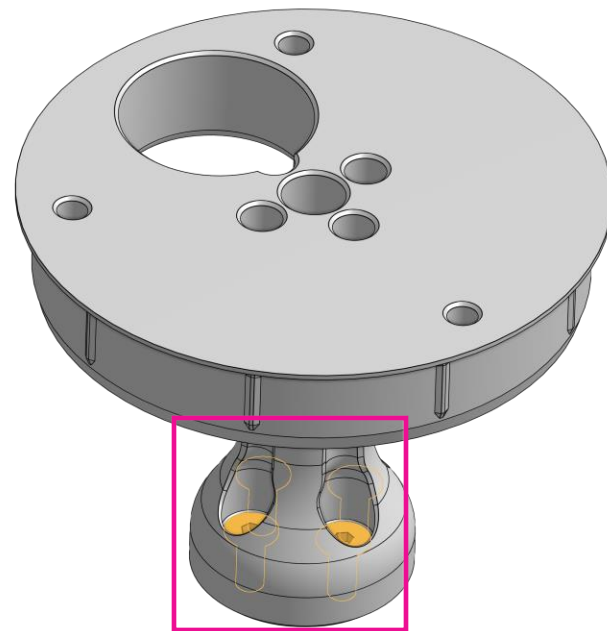
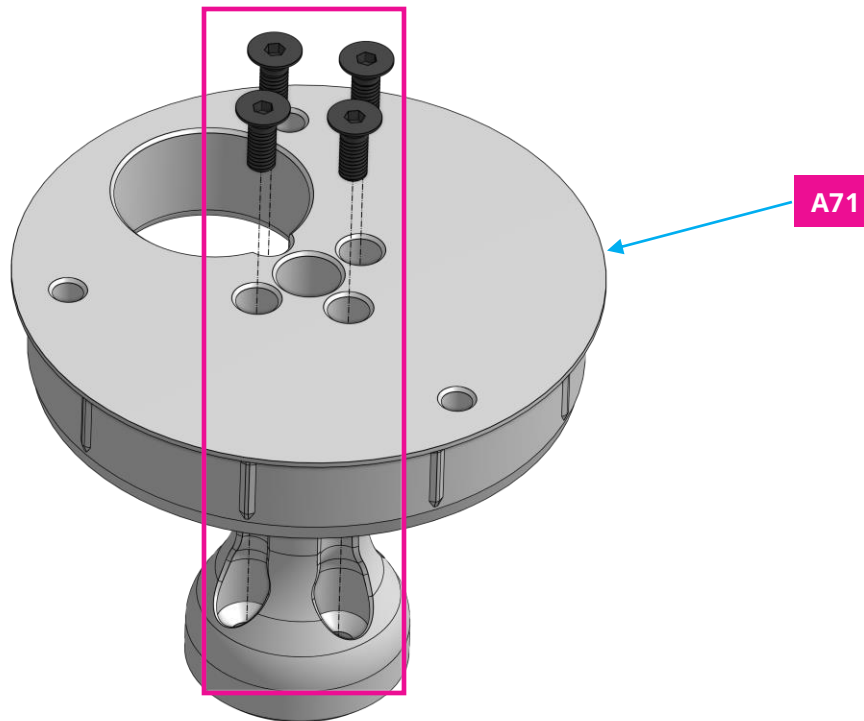


Step 4b

Fix **M18** using **4 x M3 8mm screws**.

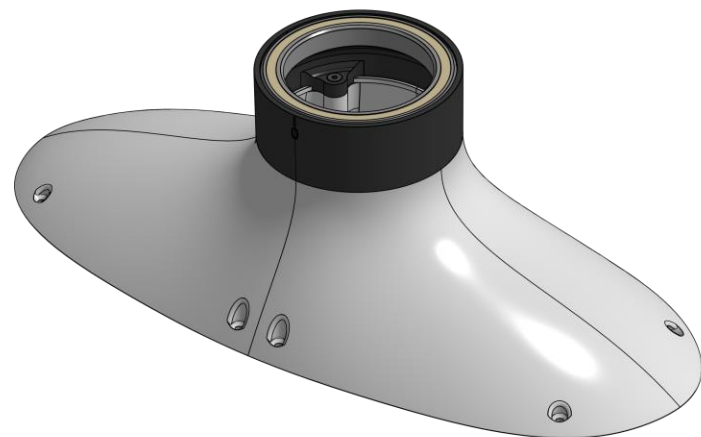
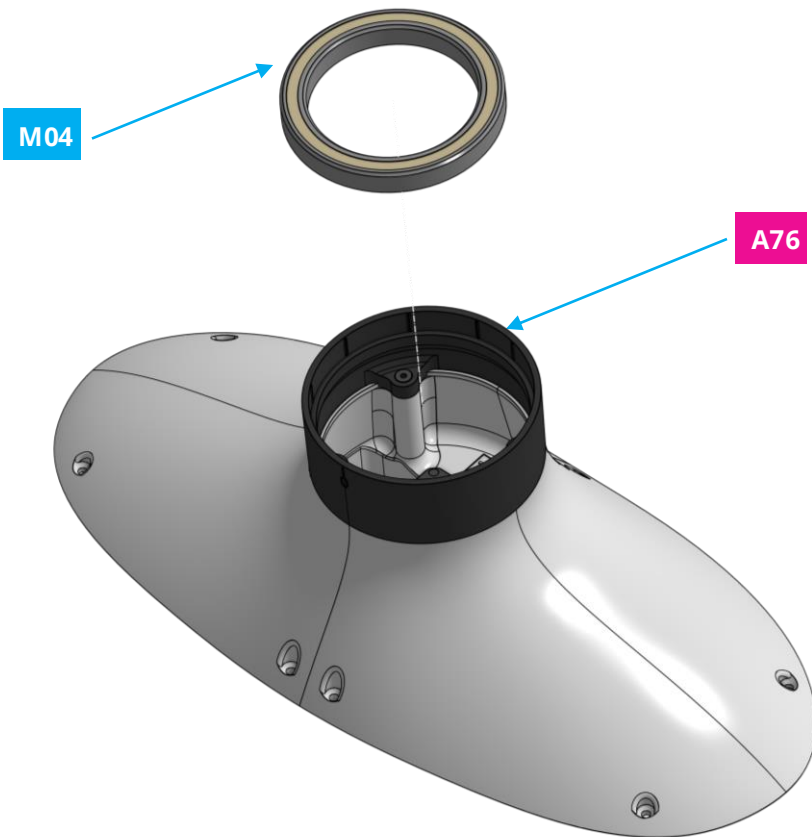


4x



Step 5

Place **1 x M04 ballbearing** in the shown spot of **A76**.



Step 6

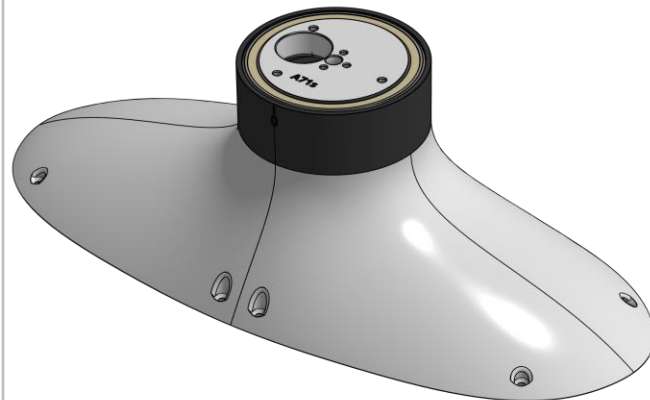
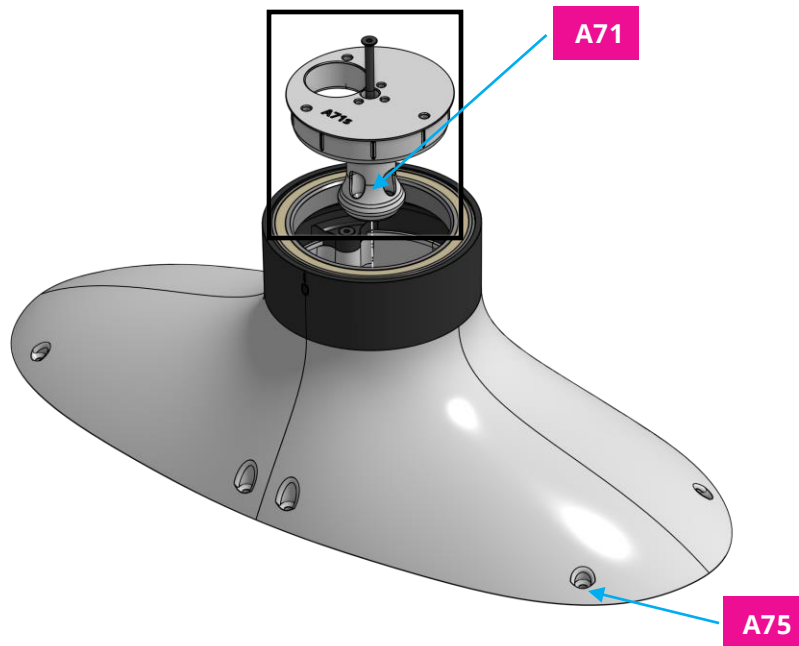
Connect **A71s** to **A75** using 1 x M3 40mm screw.



2



1x



Step 7

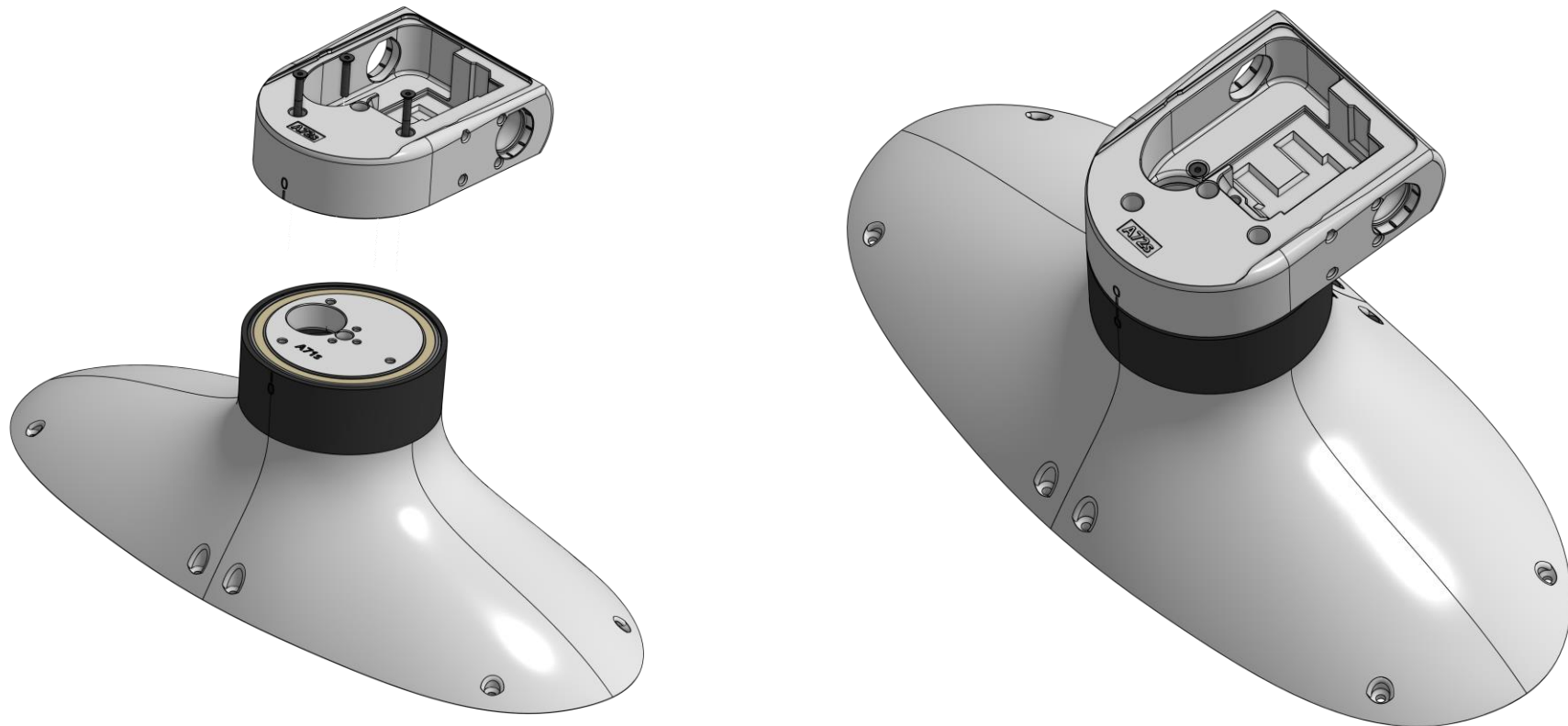
Connect **A72** to the assembly using **2 x M3 30mm screw** and **1 x M3 18mm screw**.



2



3x



Step 8a

Connect **E27**, **M18** and **A83** using **4 x M3 10mm screws**.



3



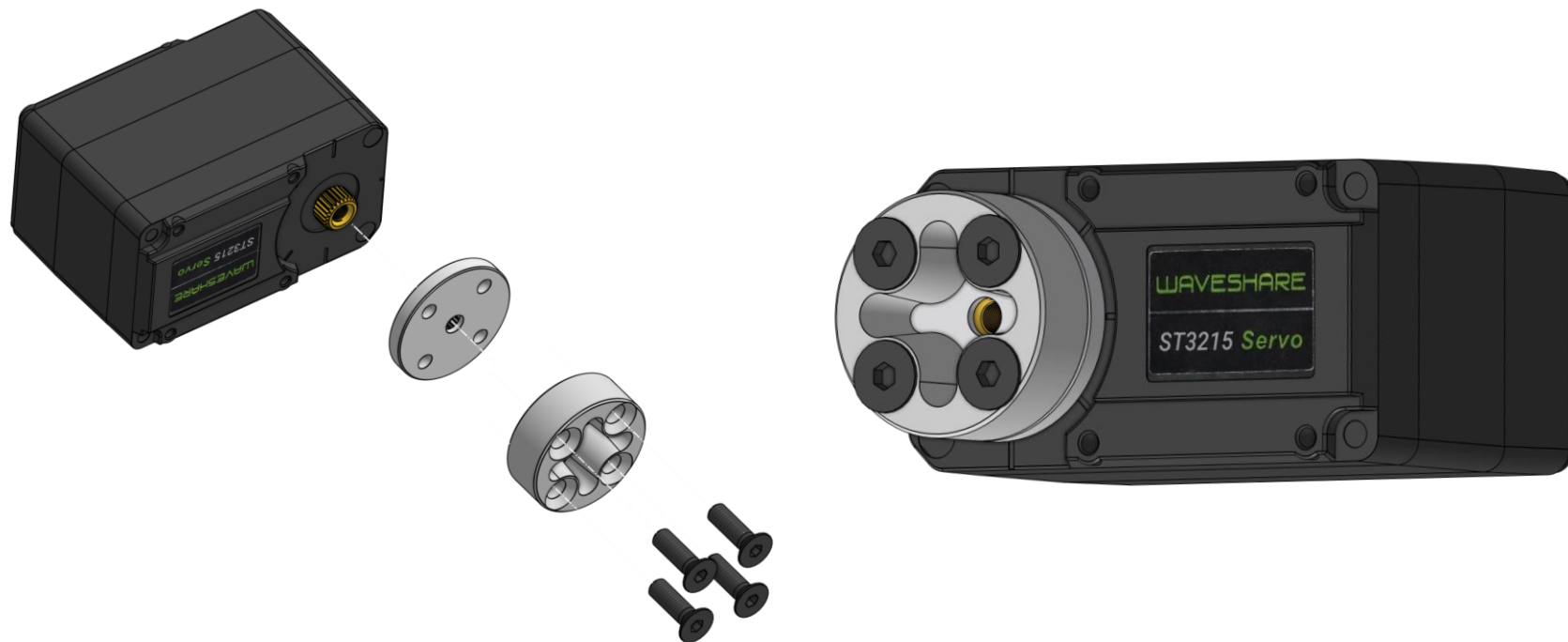
1x



1x

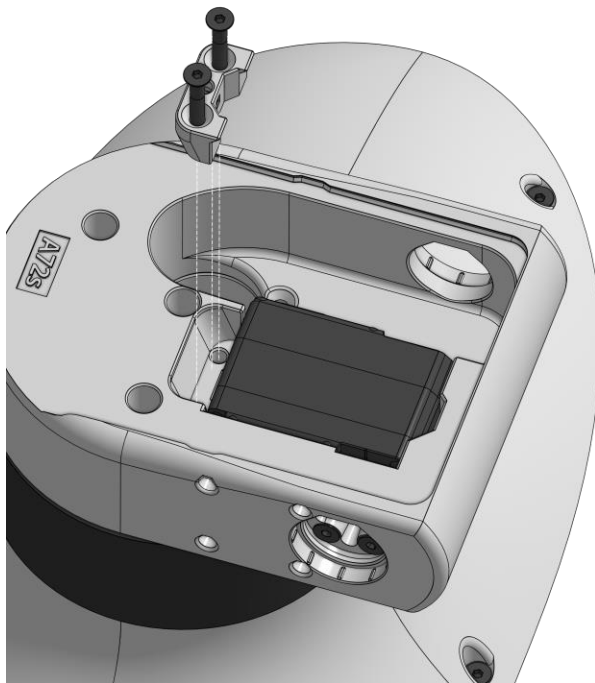


4x

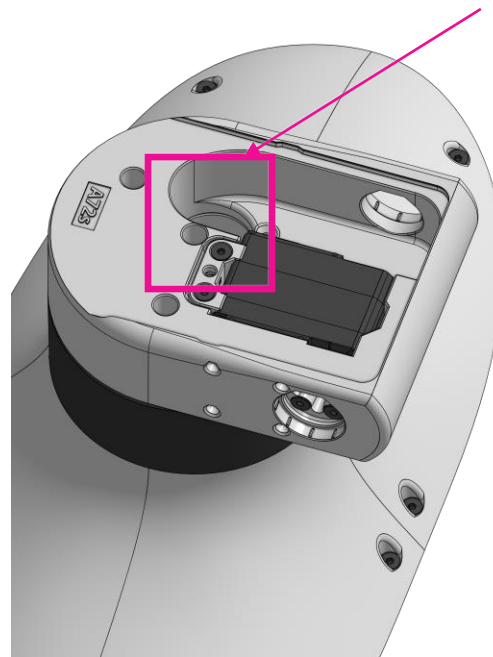


Step 8b

Insert **E27** in **A72** and fix it using **2 x M3 20mm screws**.



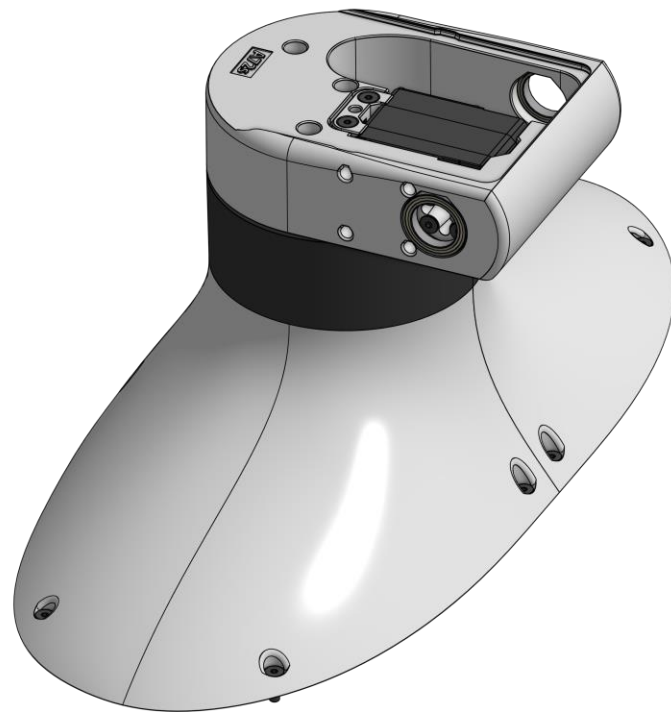
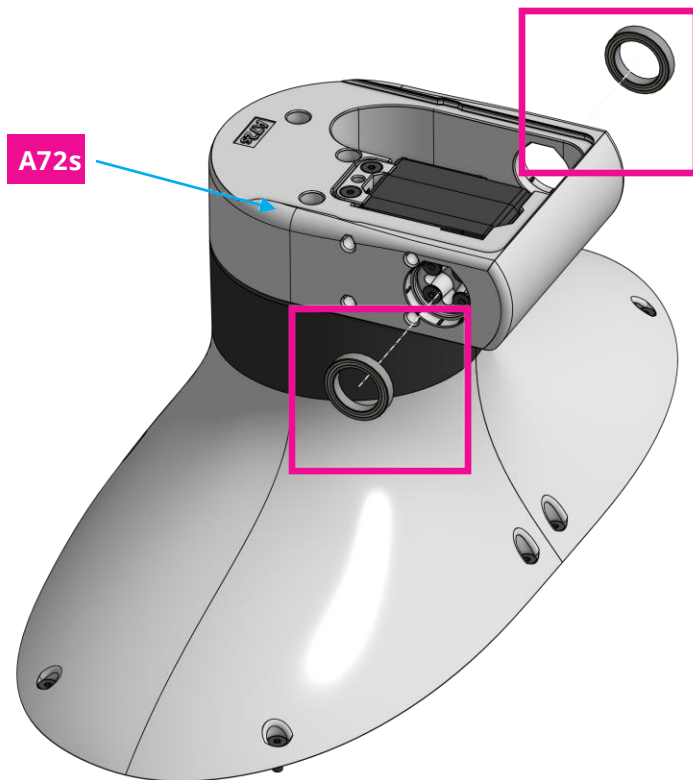
Guide the motor wire through this hole.



The motor cable should hang out at the bottom of **A75**.

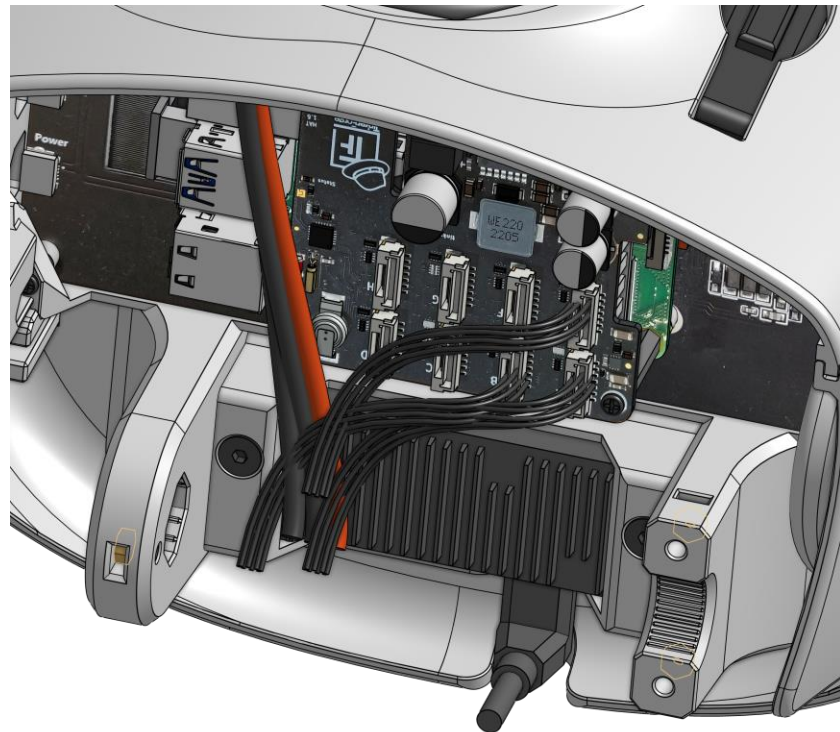
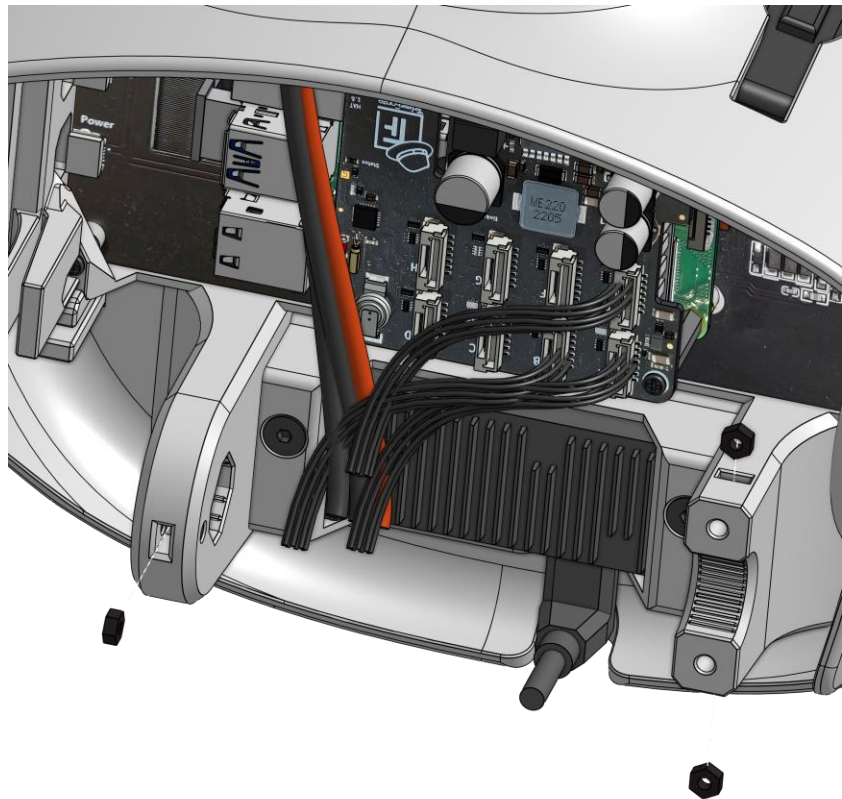
Step 9a

Insert **2 x M21** in the shown spots of **A72s**.



Step 9b

Insert **3 x M3 nuts** in the shown spots the head

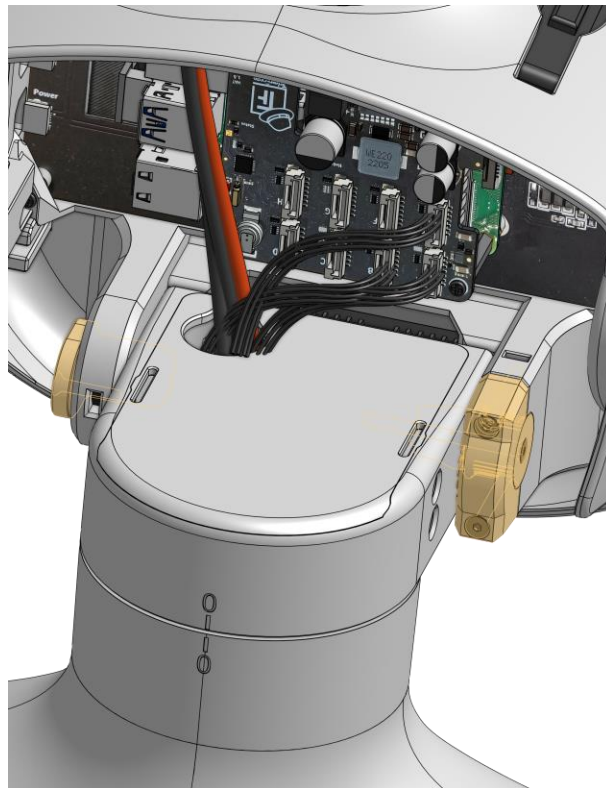
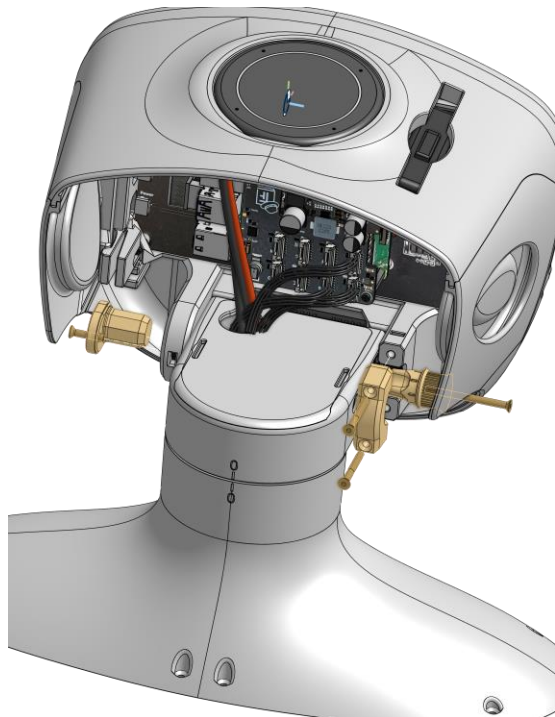


Step 9c



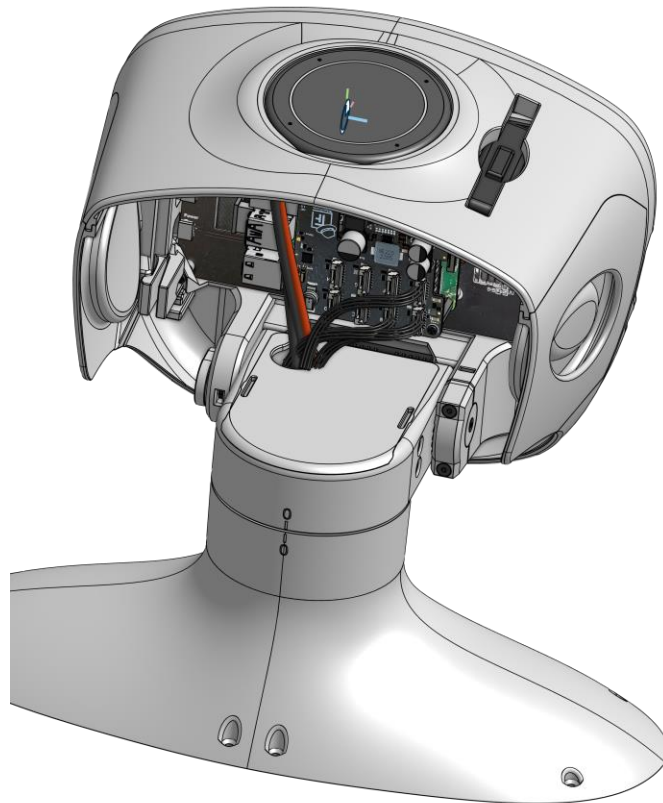
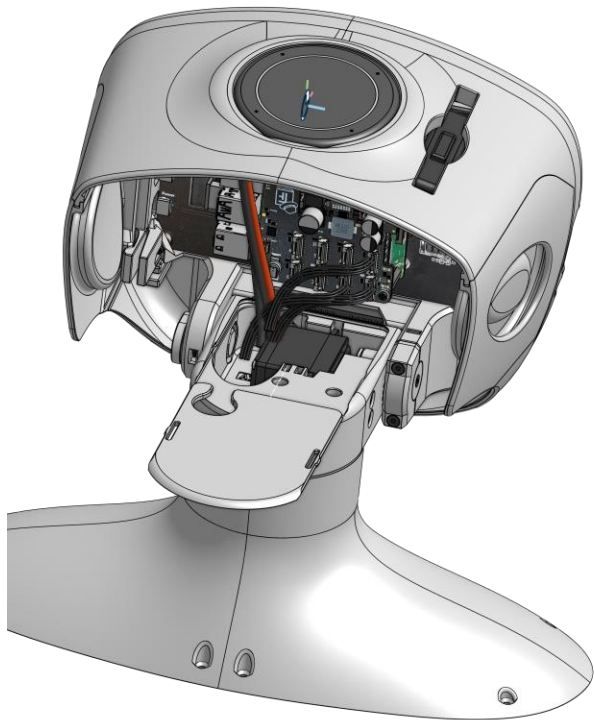
Connect head to neck using **A81** and **A82**, 1 x M3 16mm screws and 1 x M3 40mm screws.

Then enclose **A81** with **A02** and 2 x M3 30mm screws



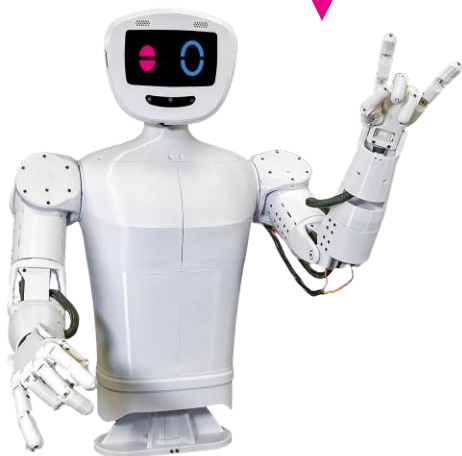
Step 10d

Guide the wires from the head through the hole in **A72**, then close **A73**.



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.



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Order non-printable parts for pib.