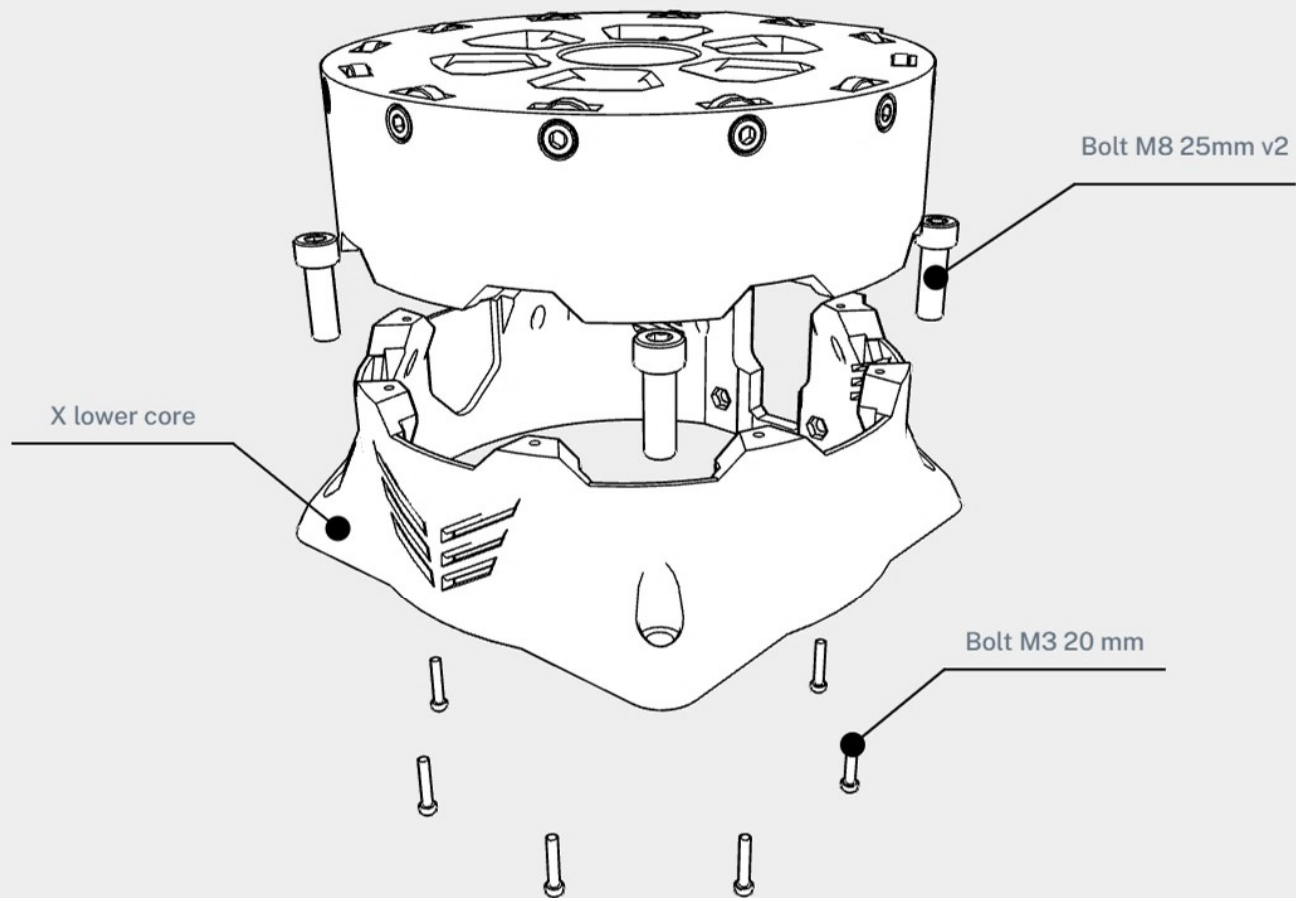
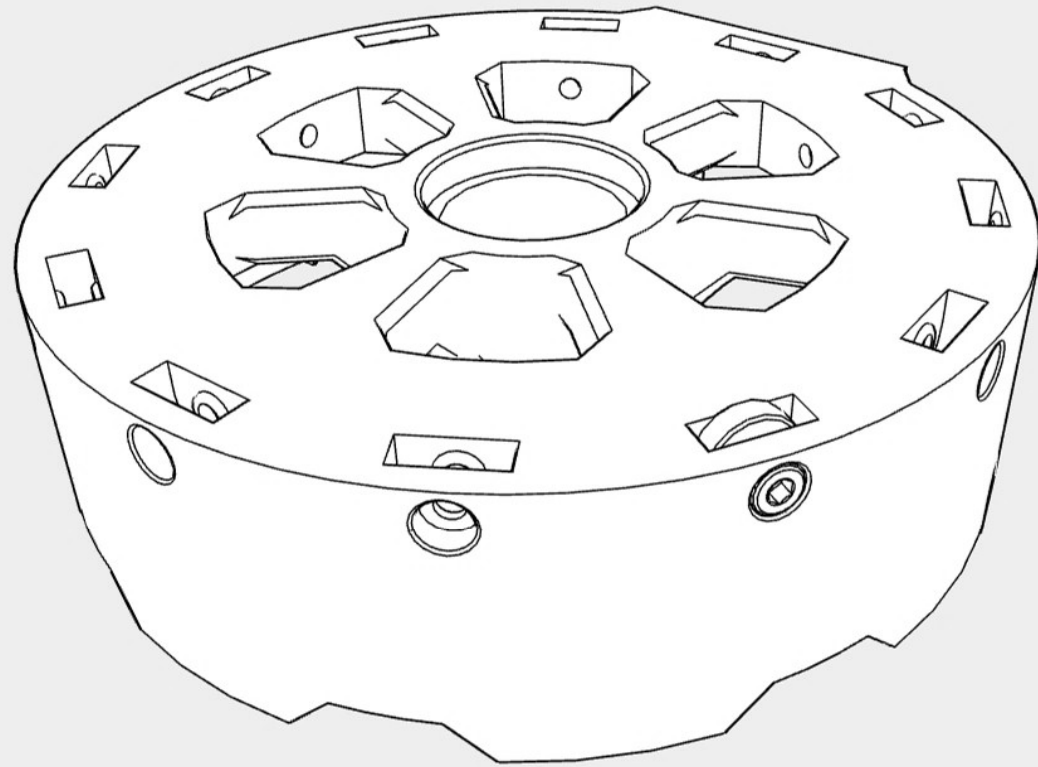


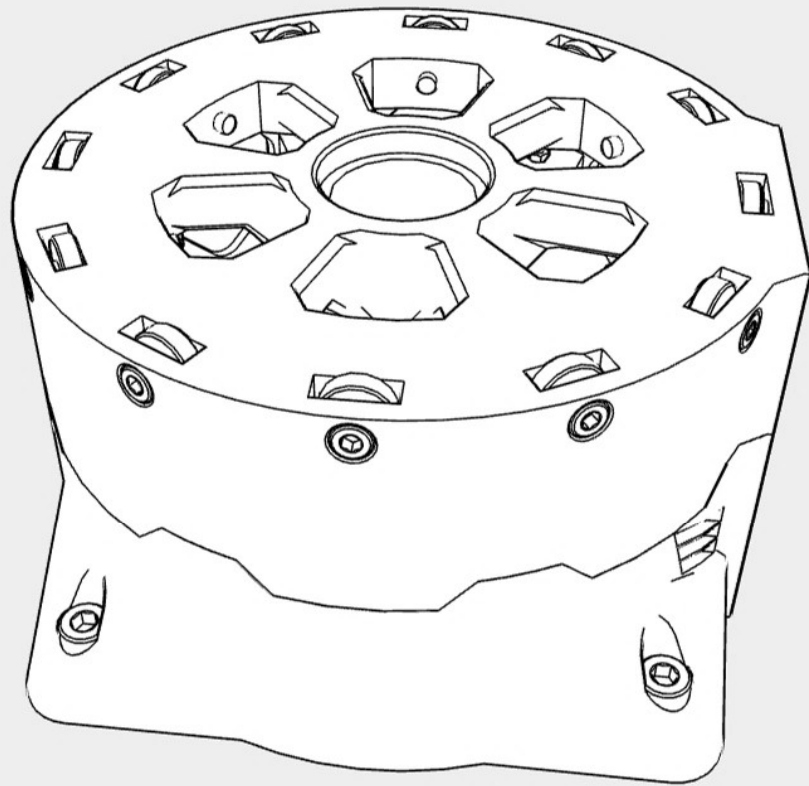
625 bearing (8)

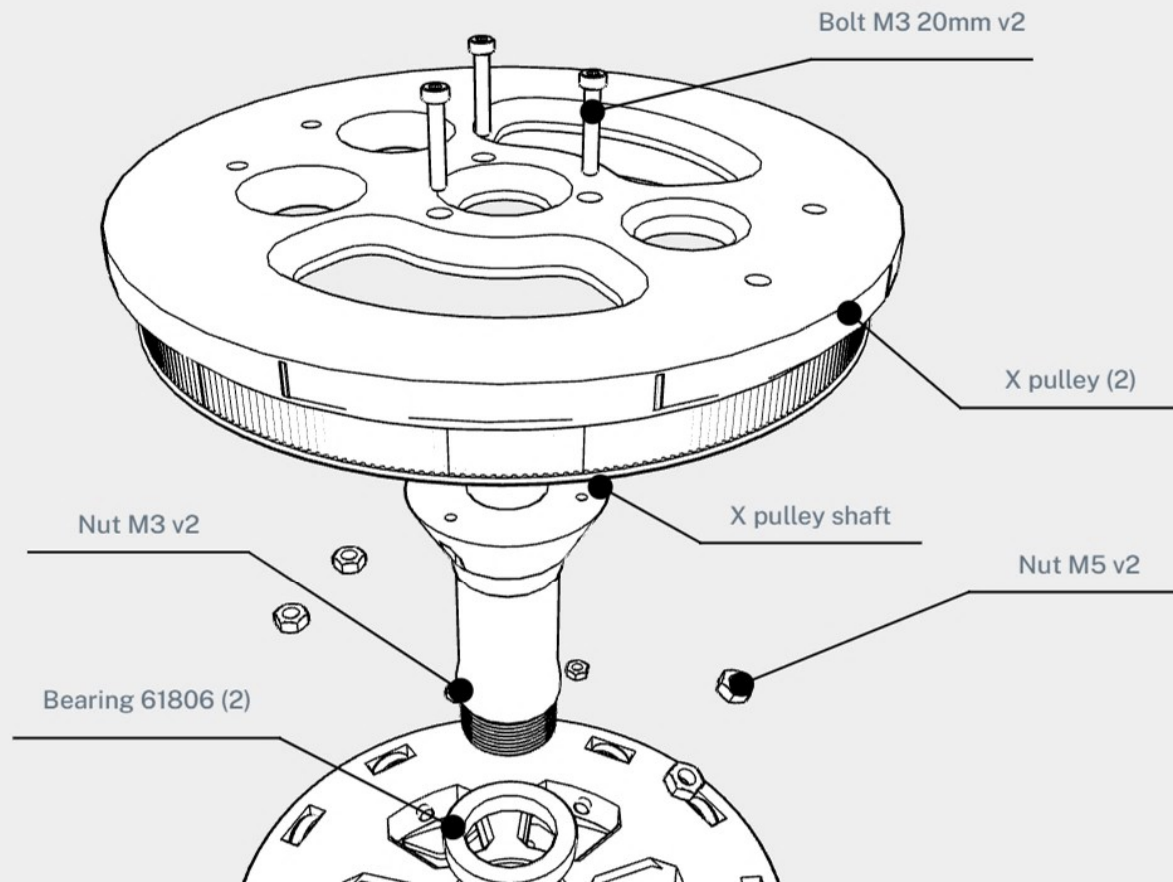
X upper Core

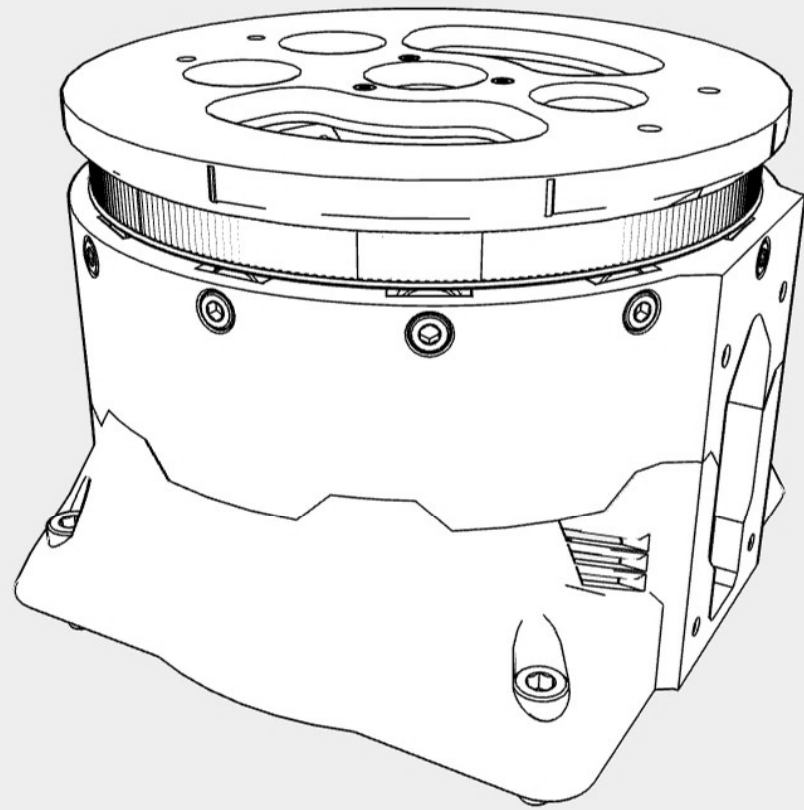
Bolt M5 30mm v2

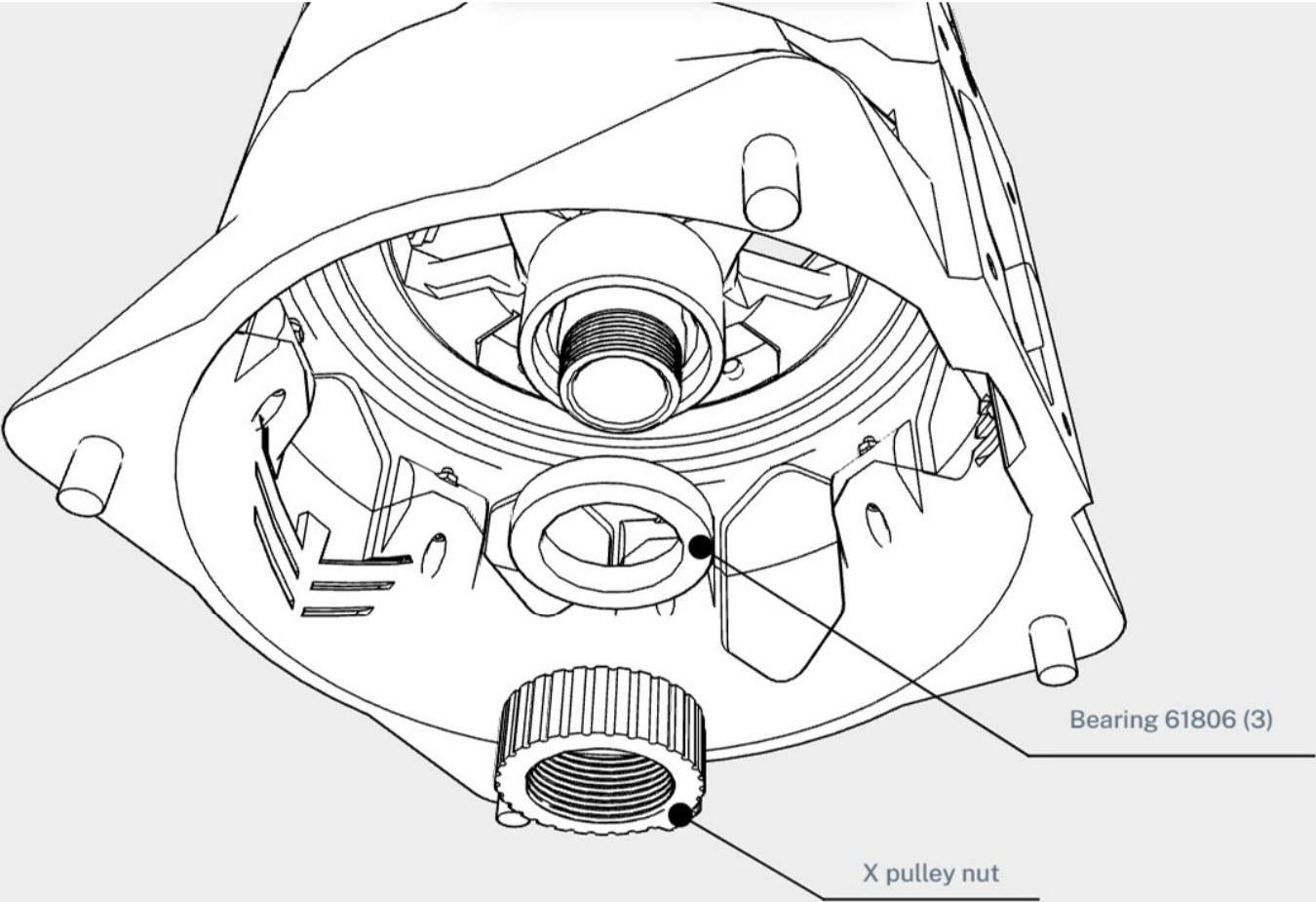


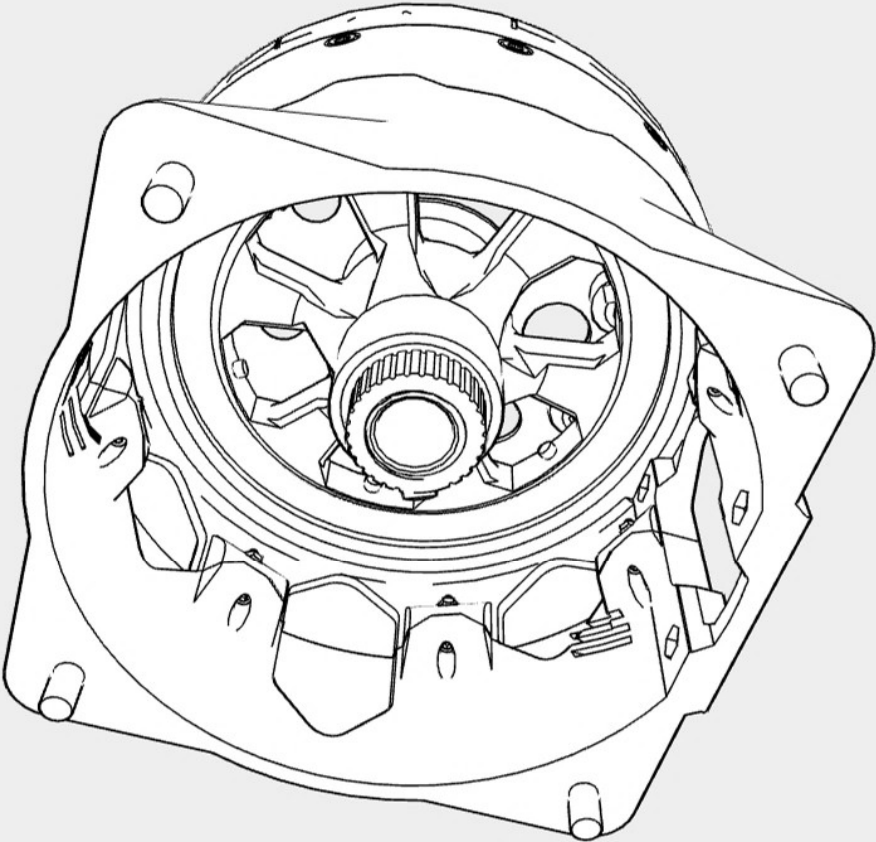


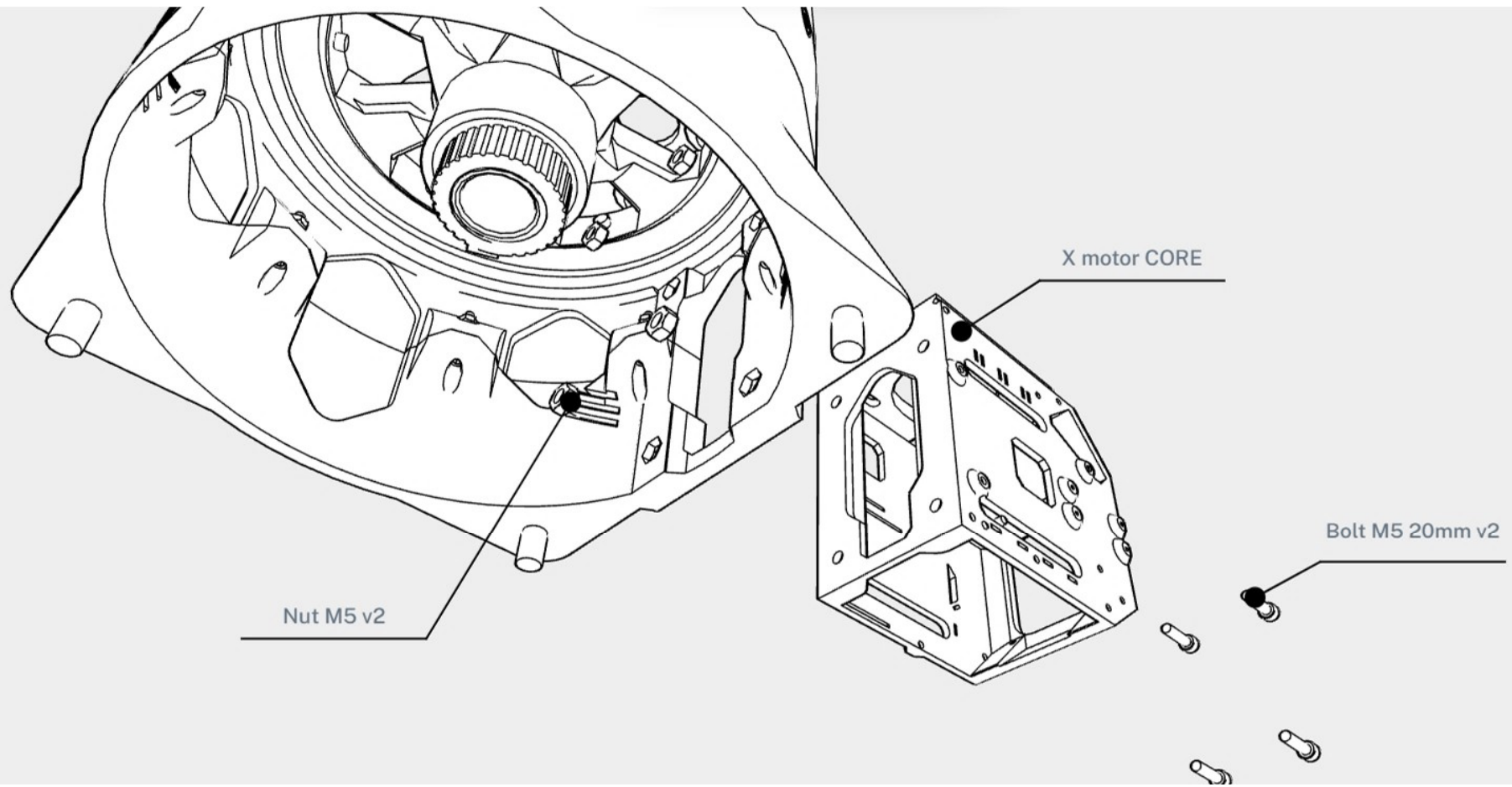


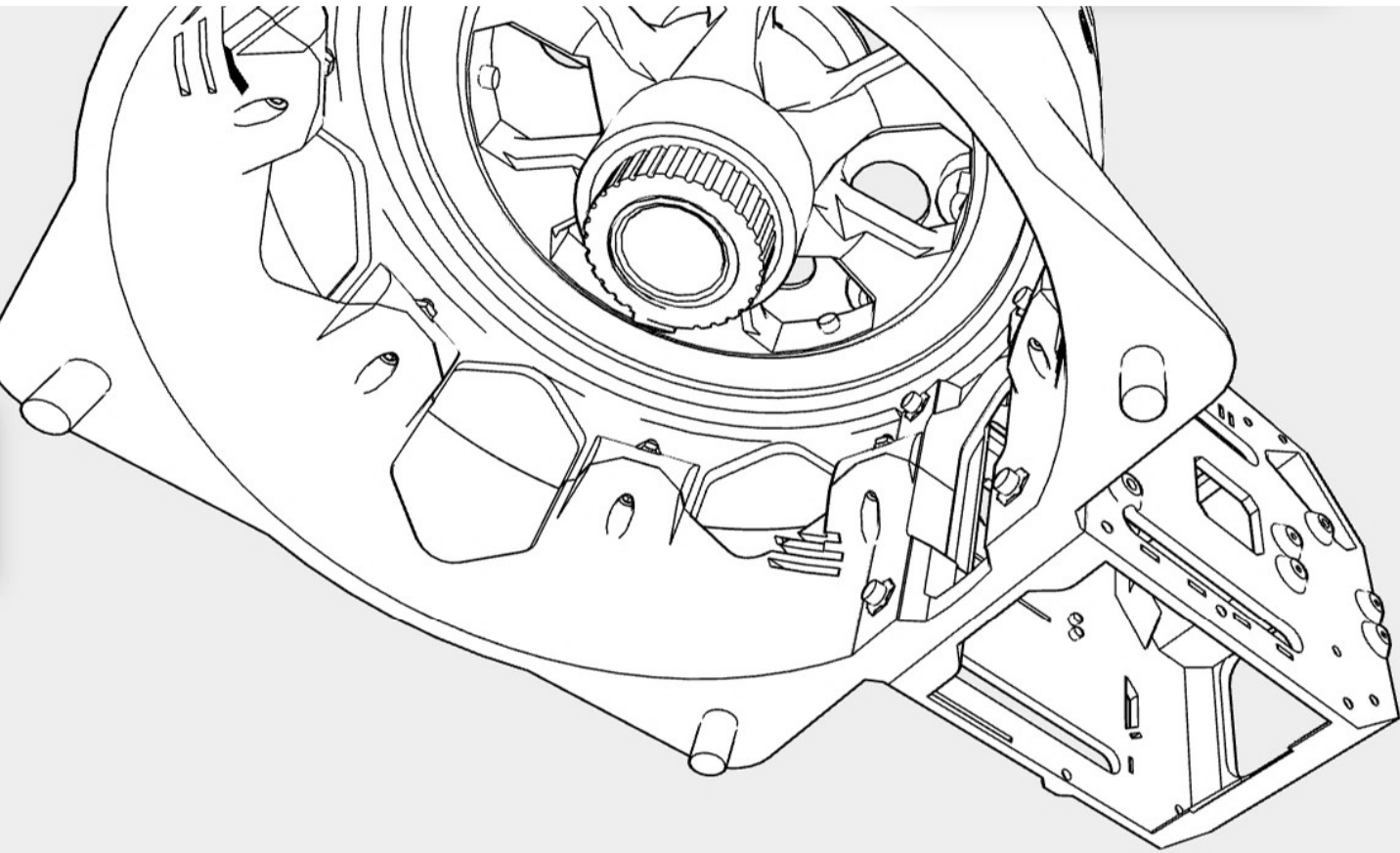


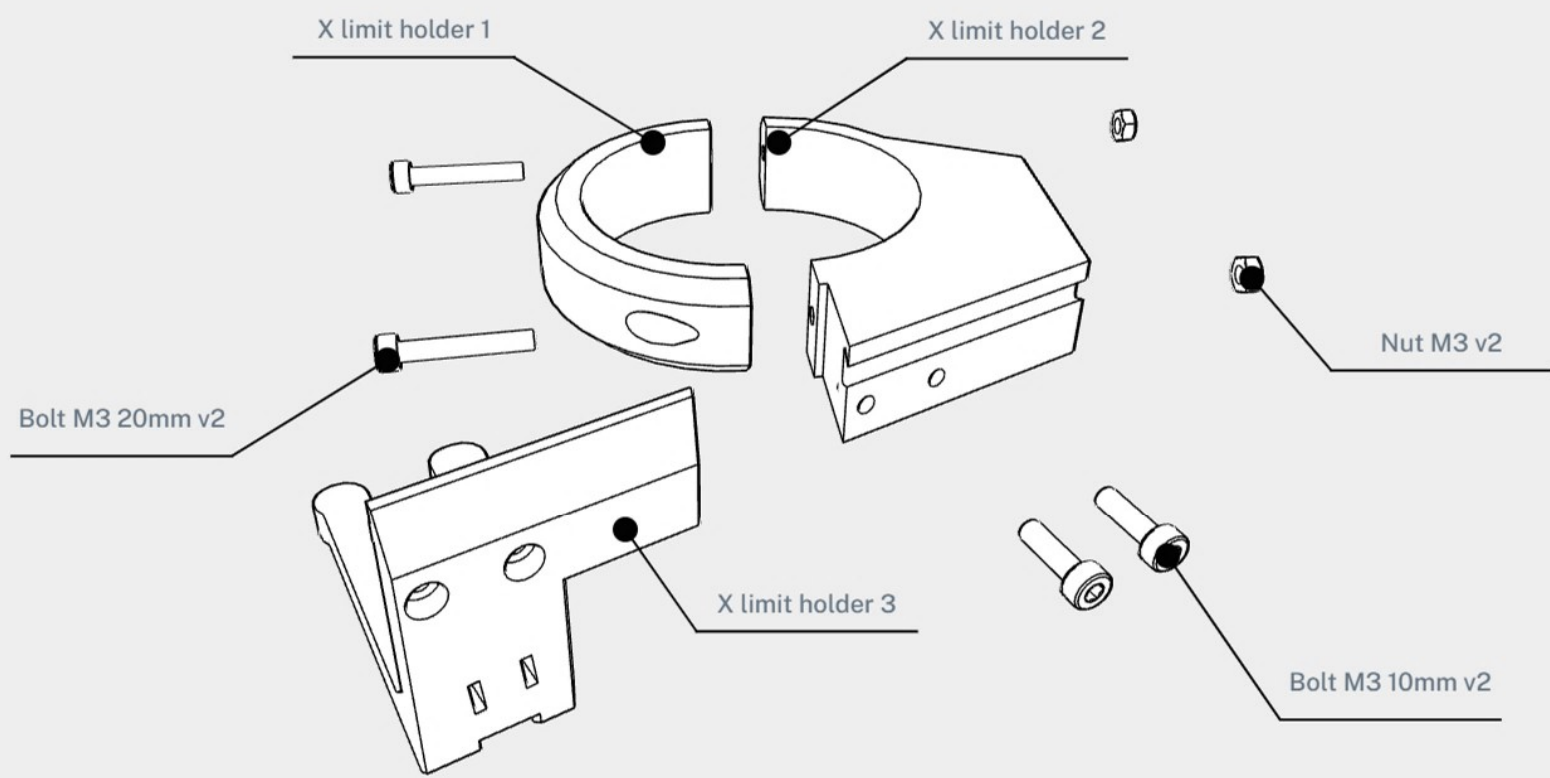


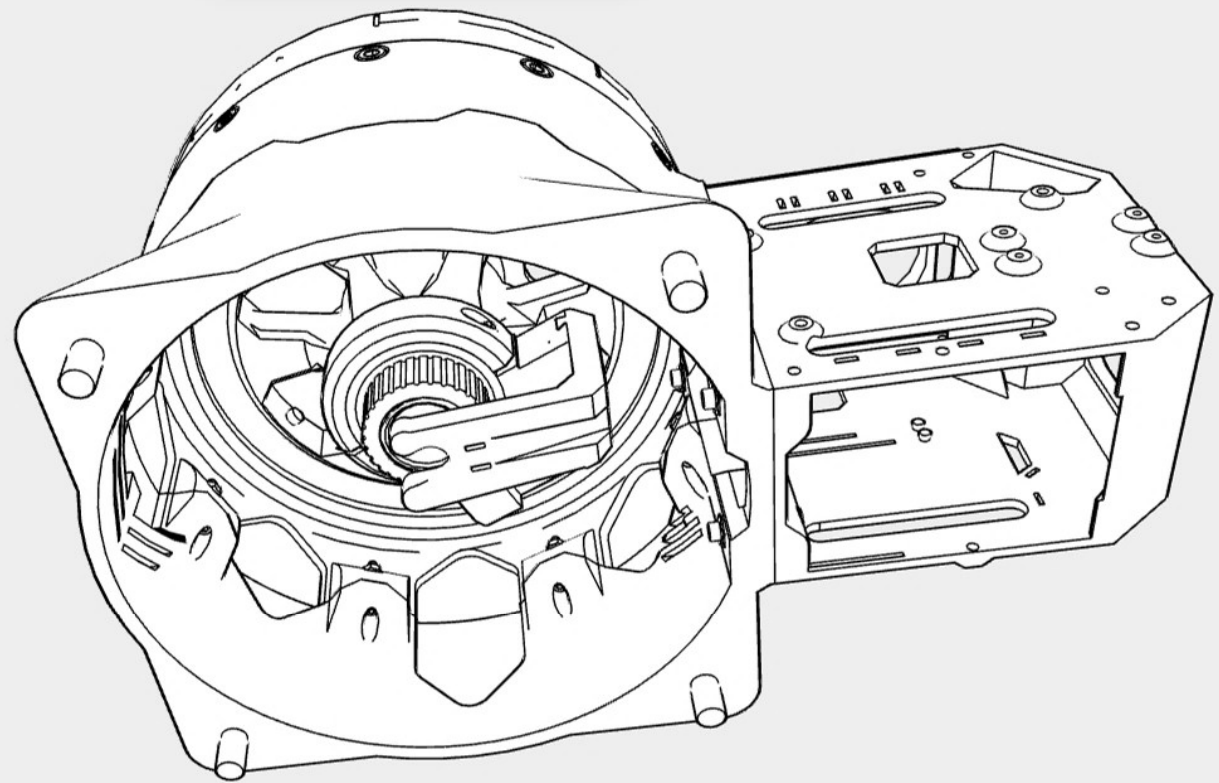


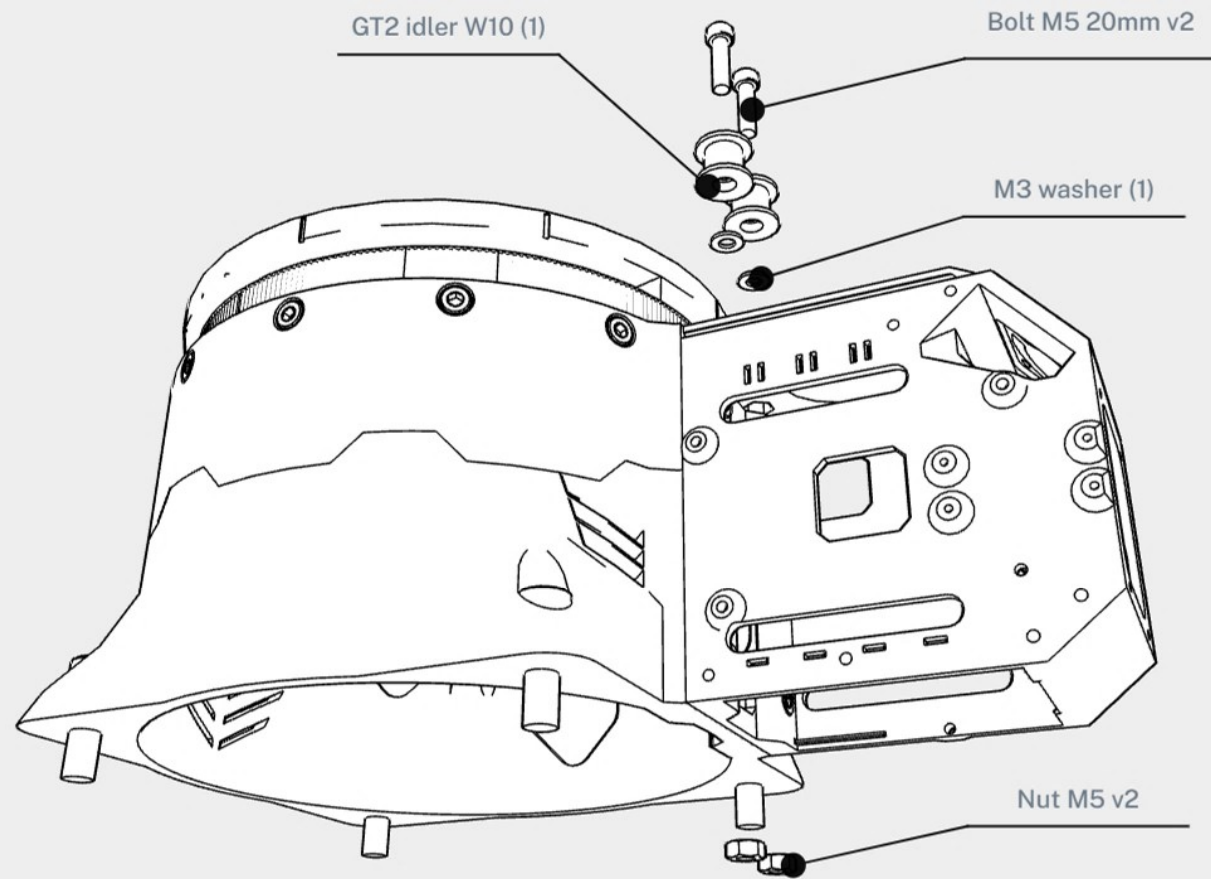


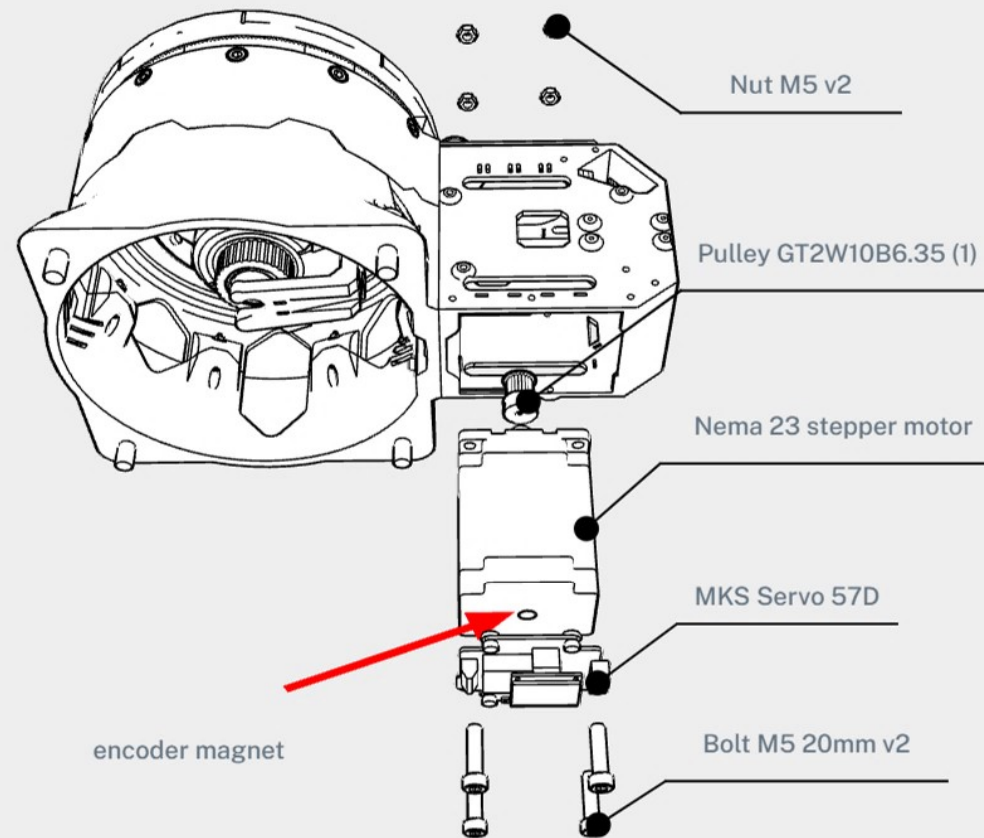




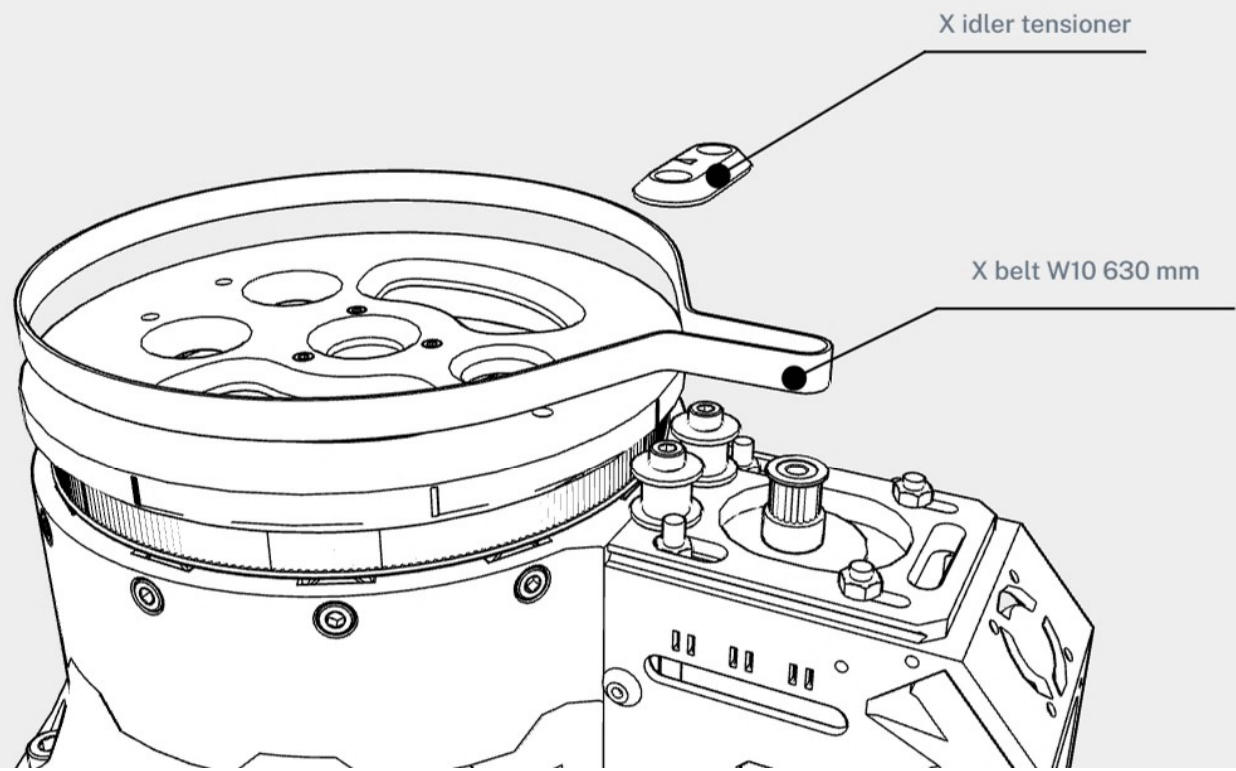








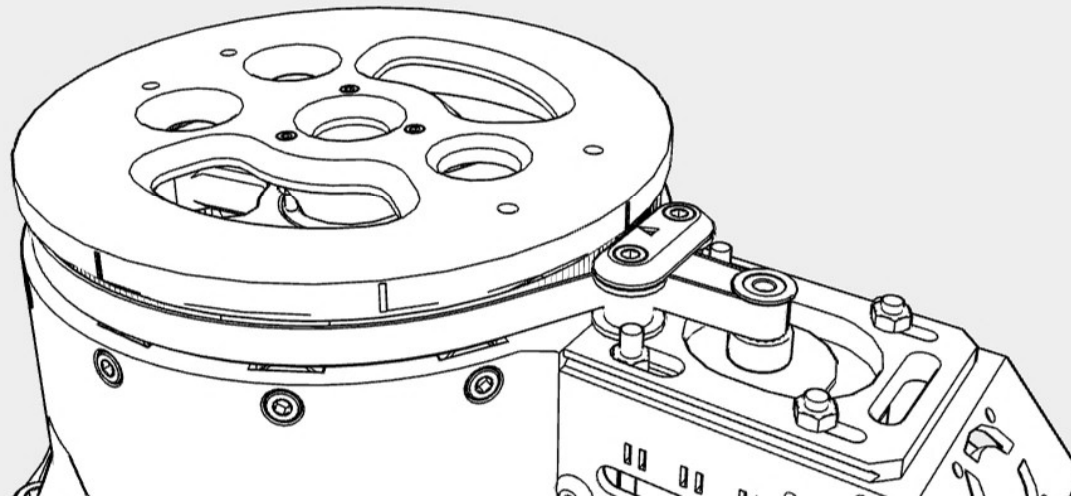
Detailed video about wiring the encoder
can be found on youtube

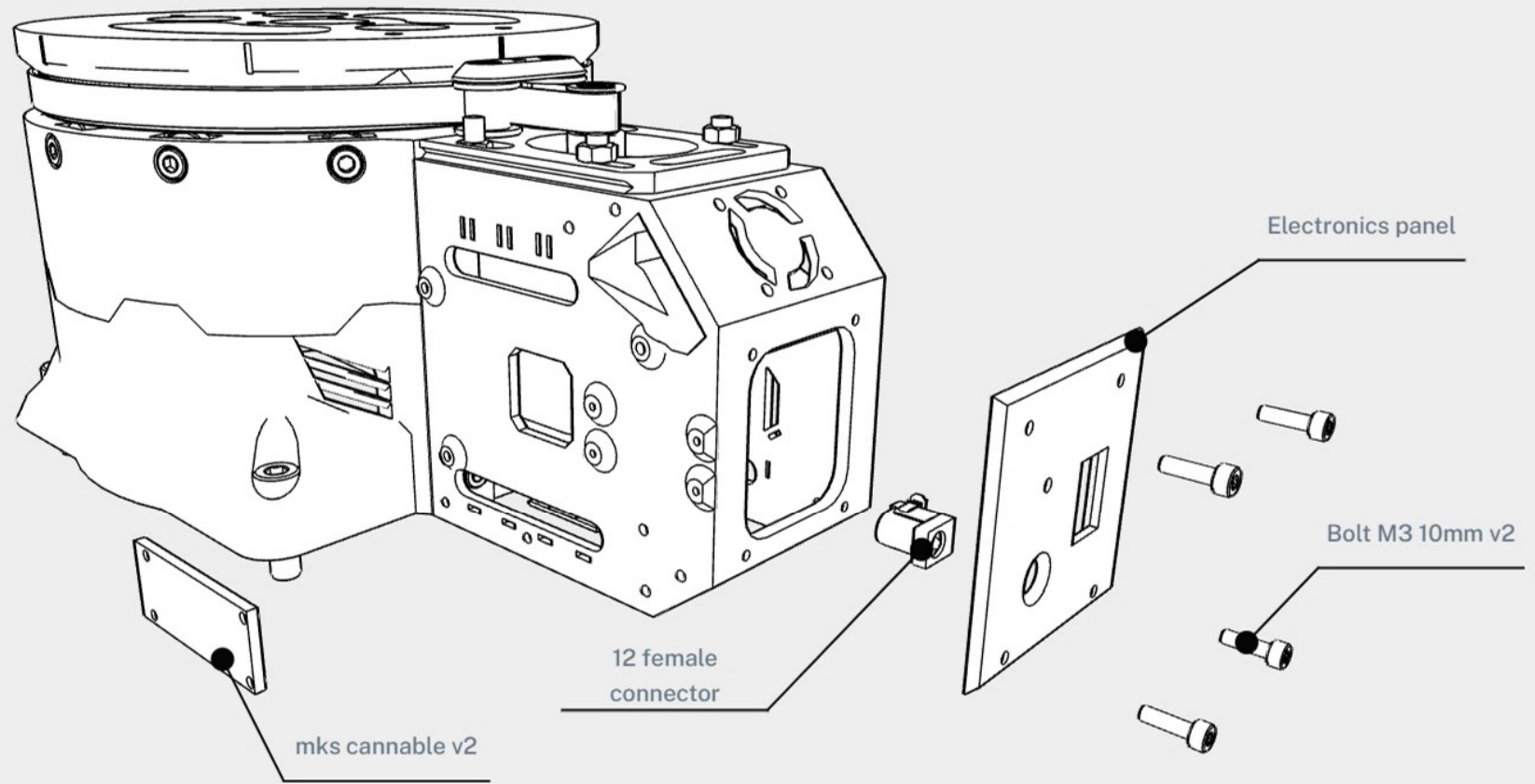


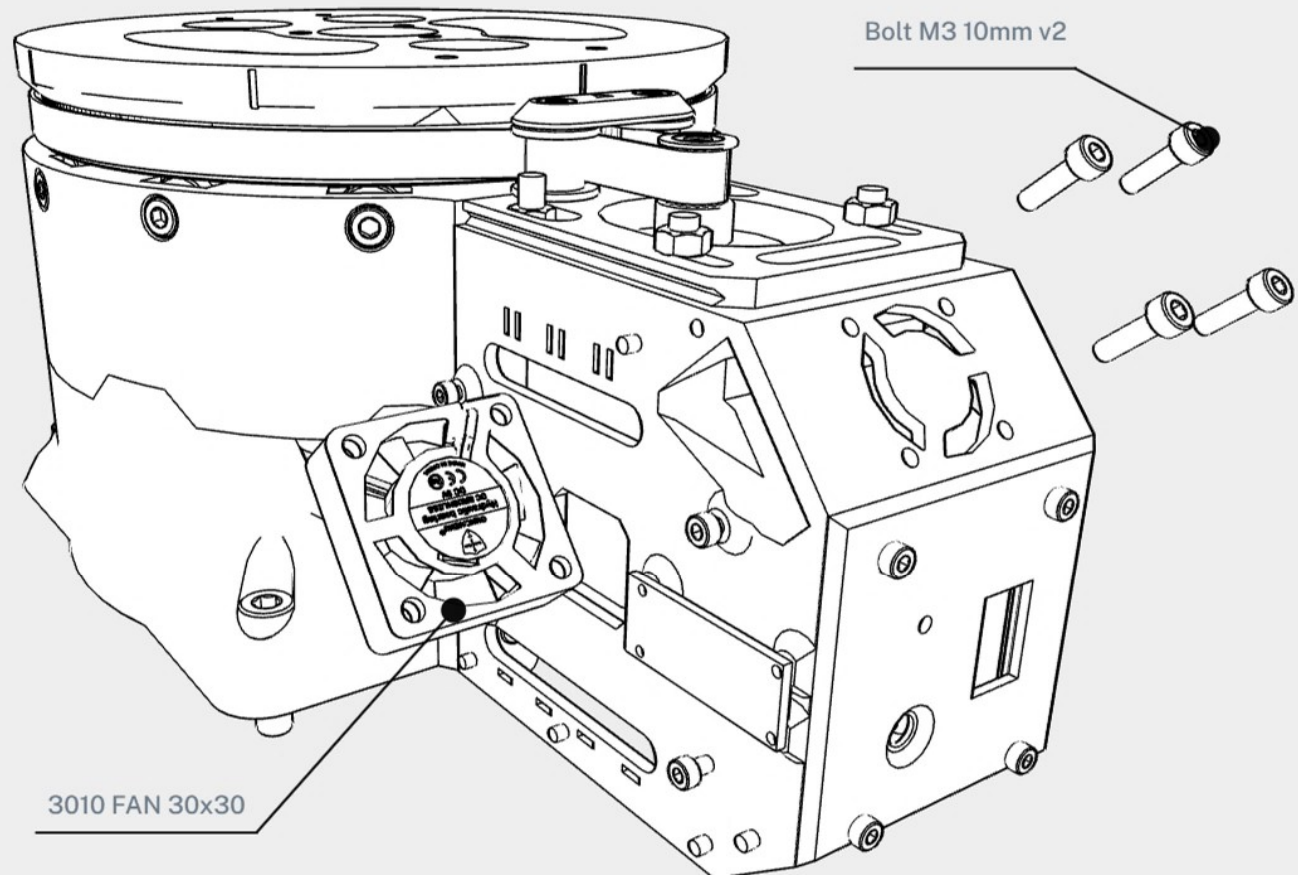
X idler tensioner

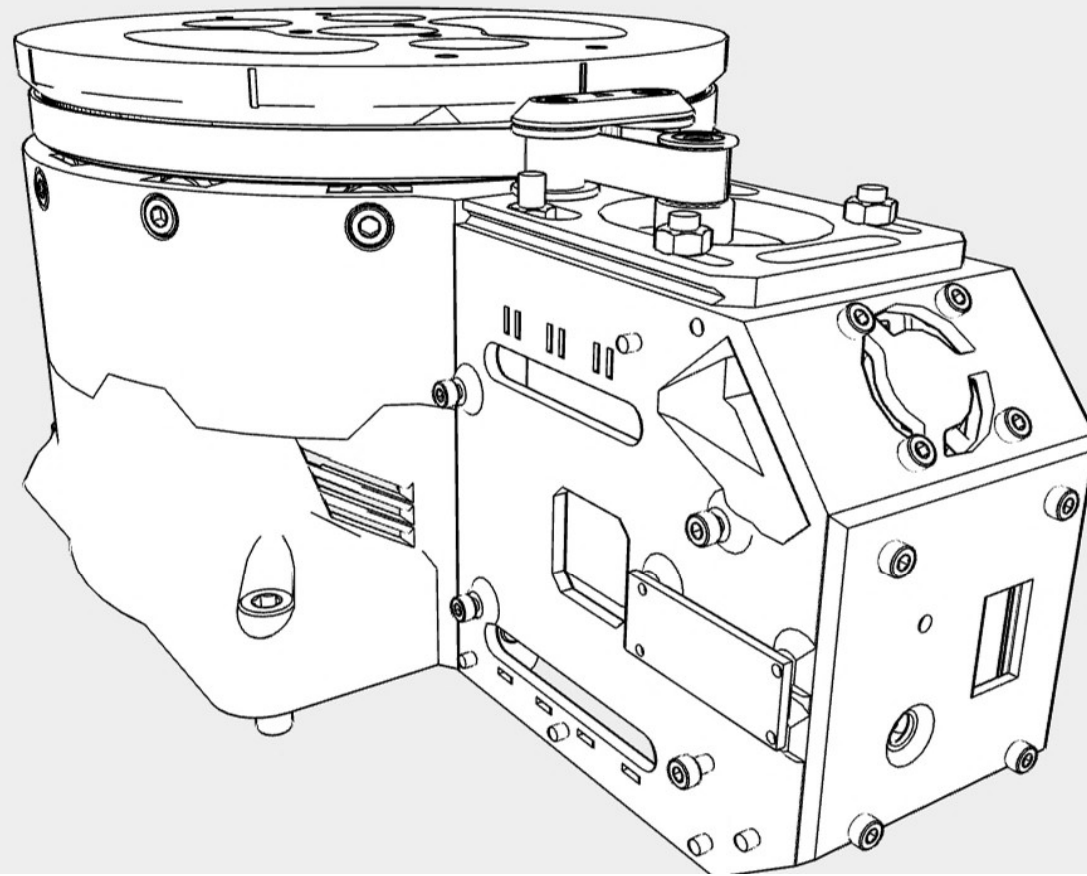
X belt W10 630 mm

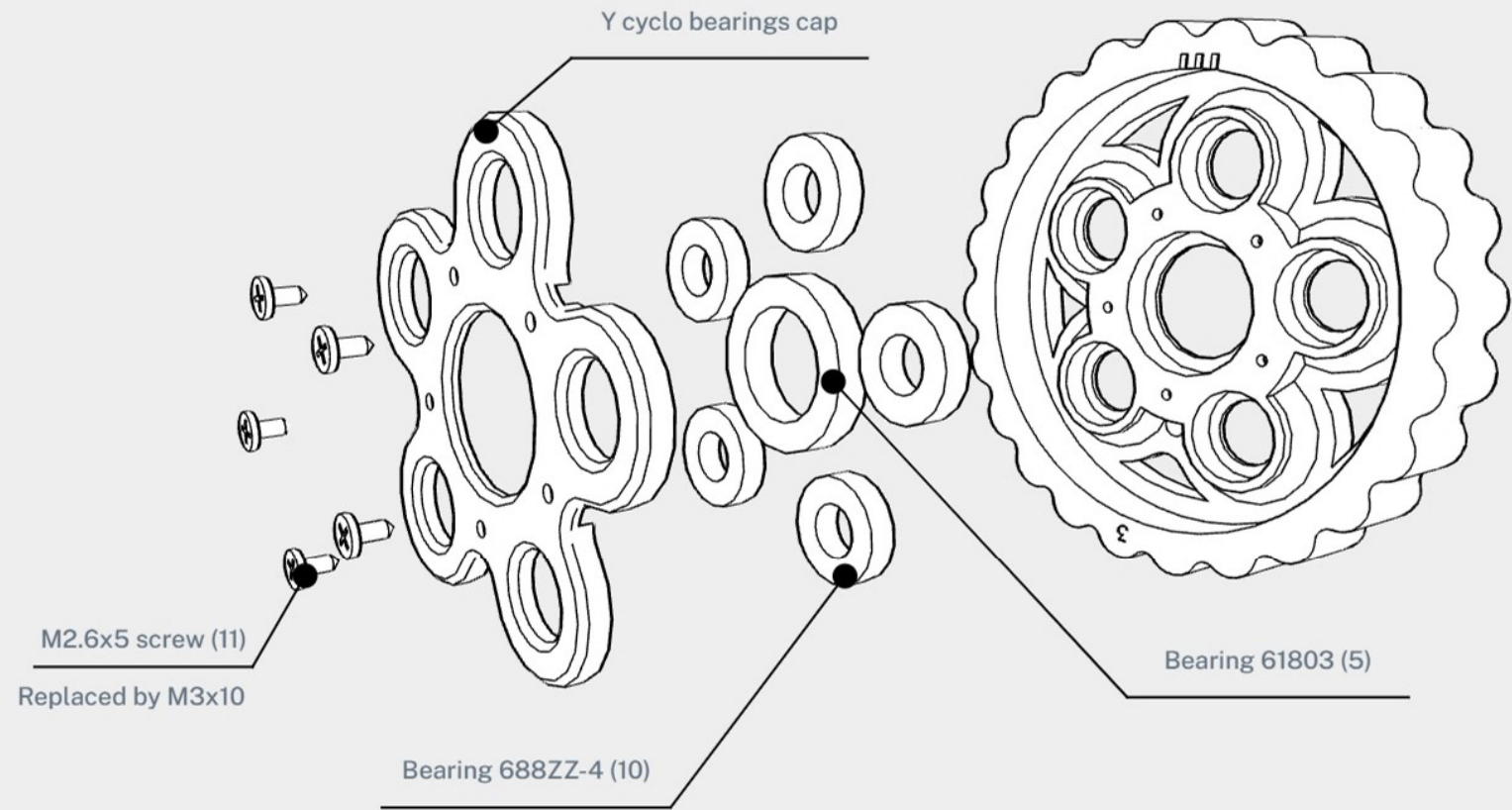
TIP: Do the wiring of the motors as you go. Some motors are in tight spaces and hard to wire after everything is assembled

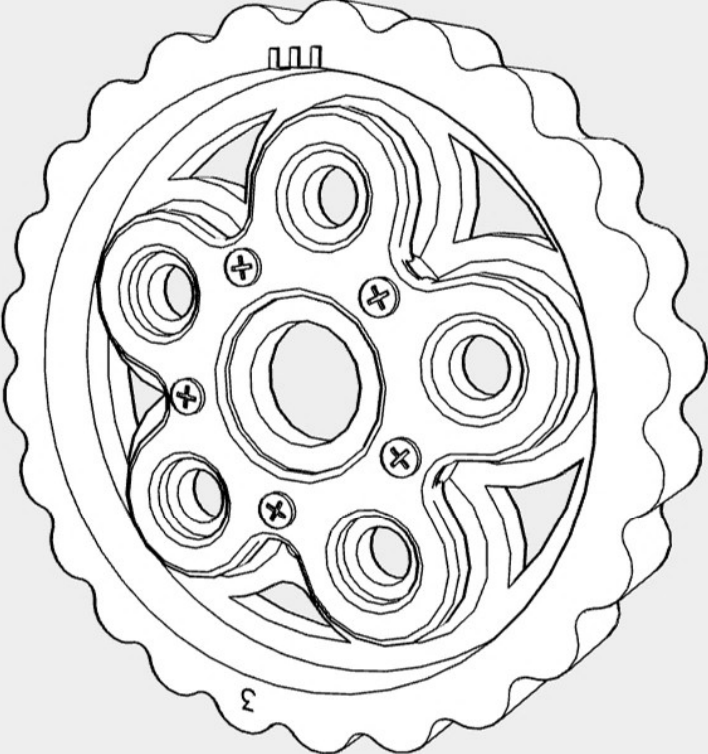


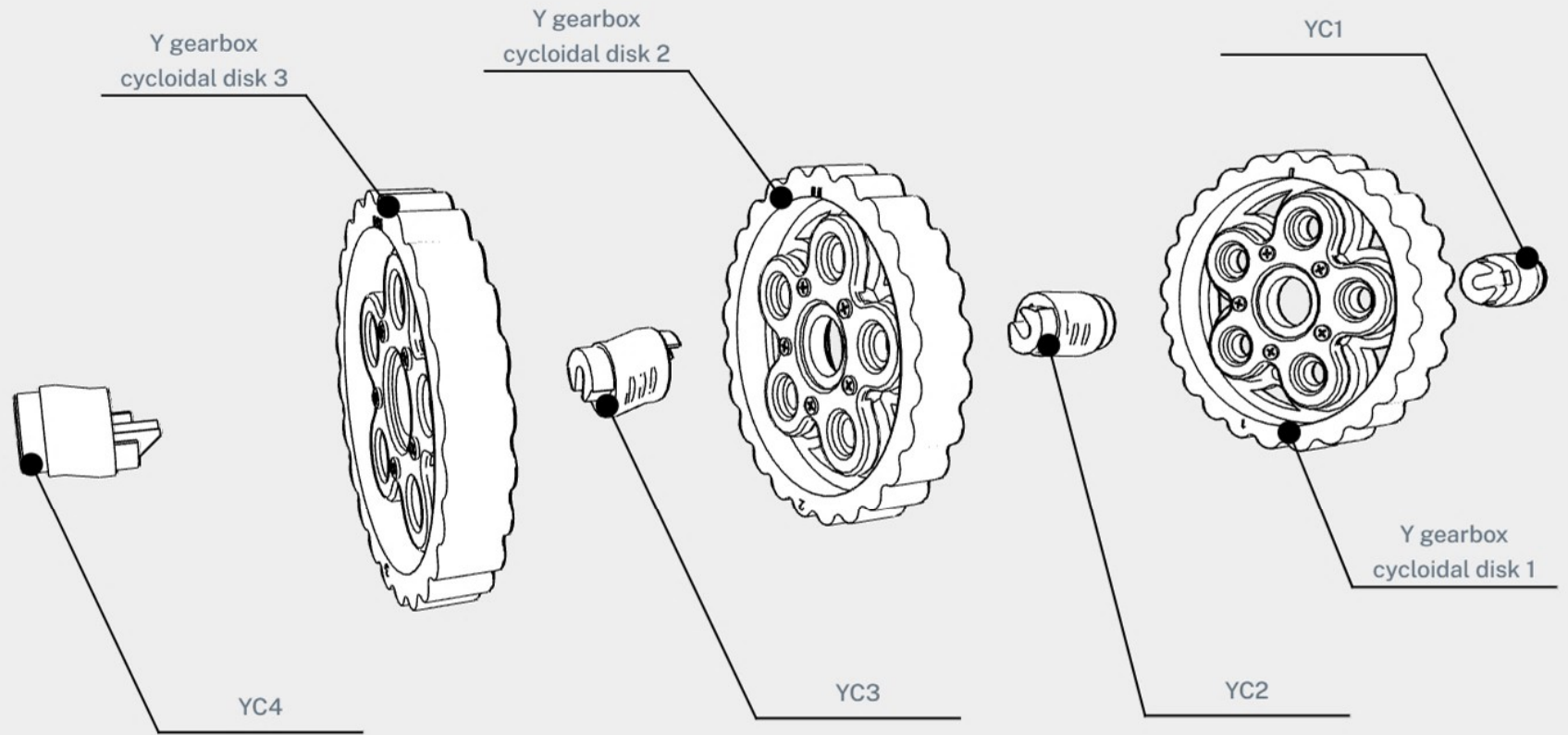




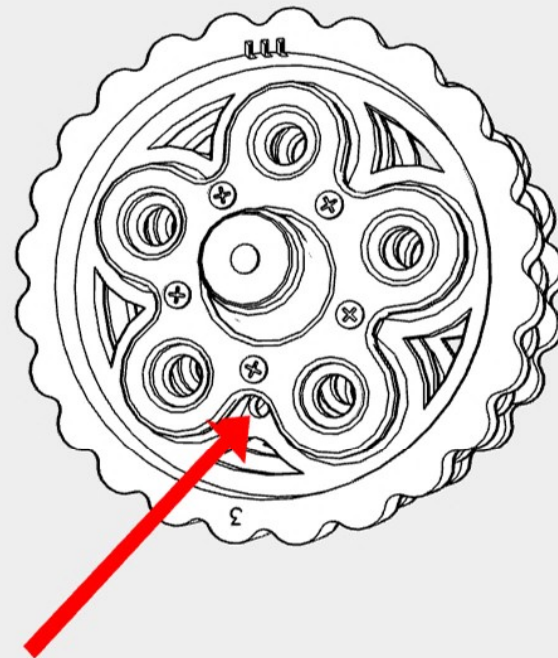


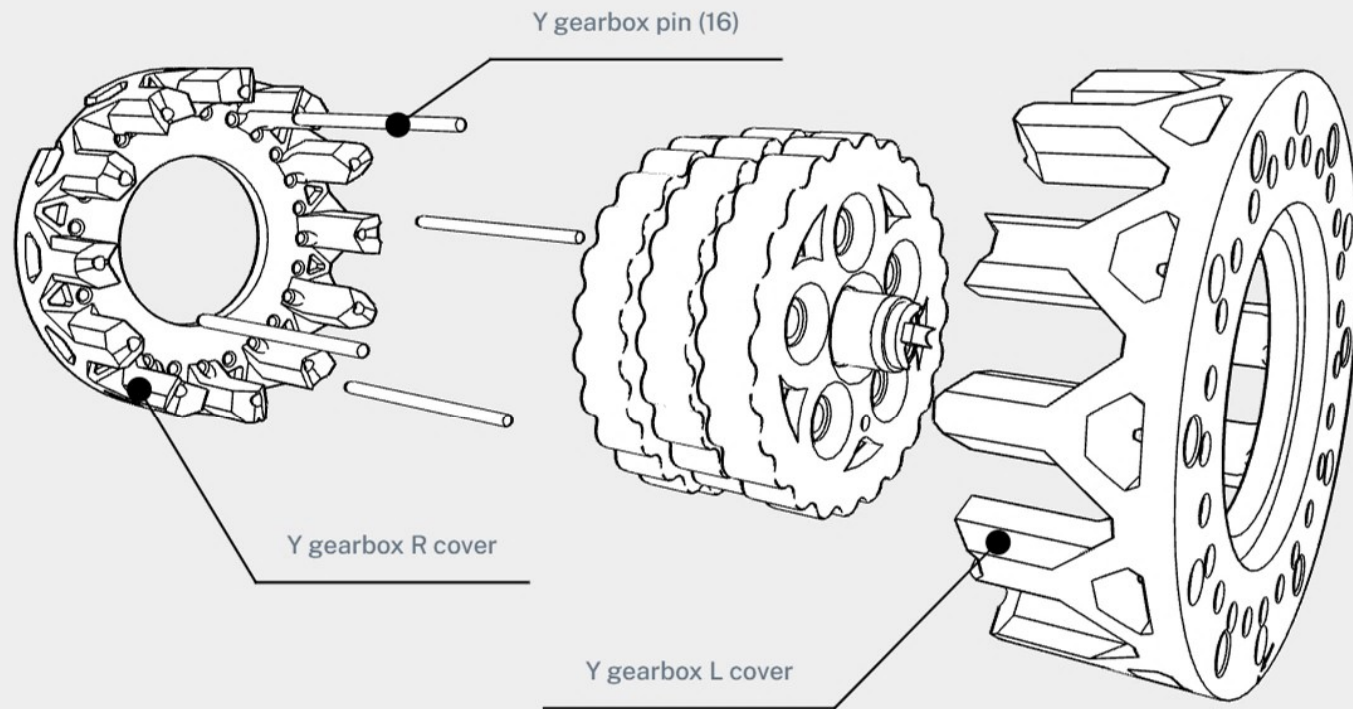


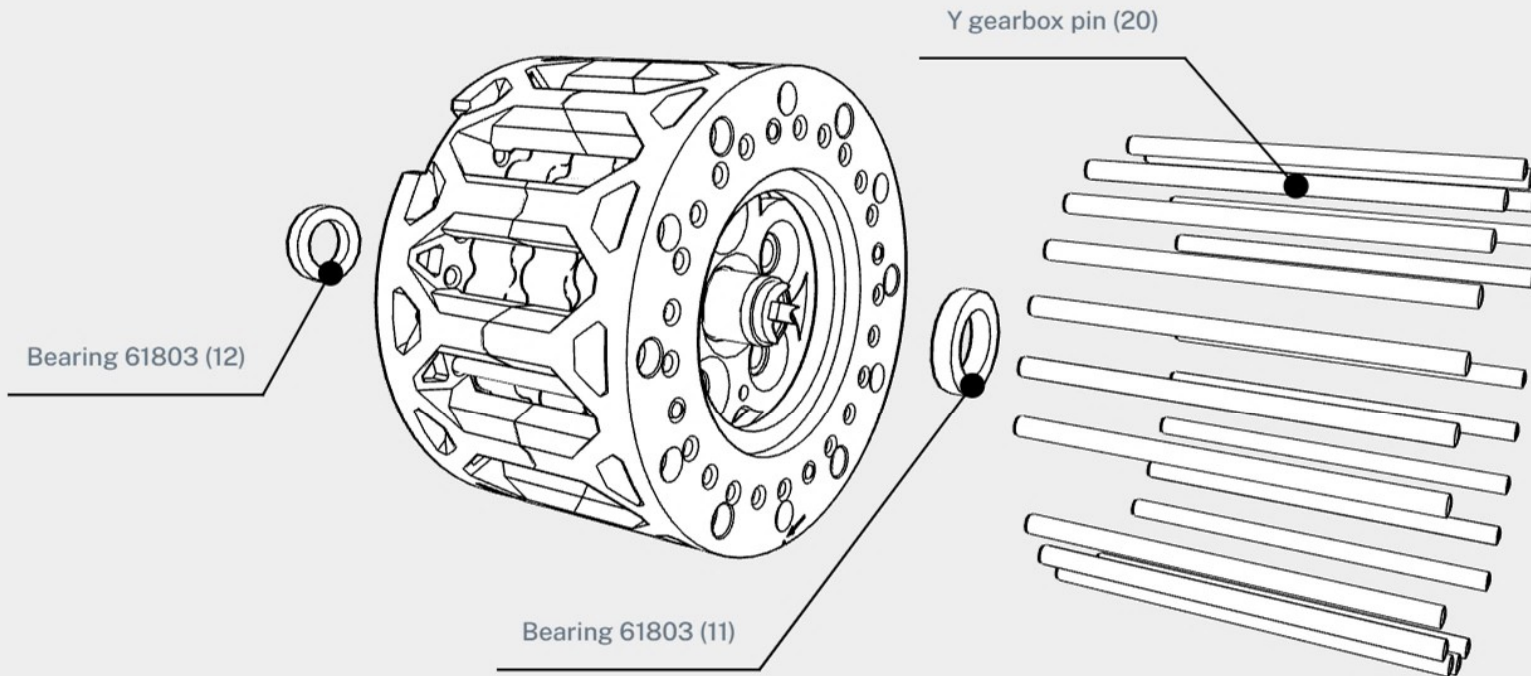


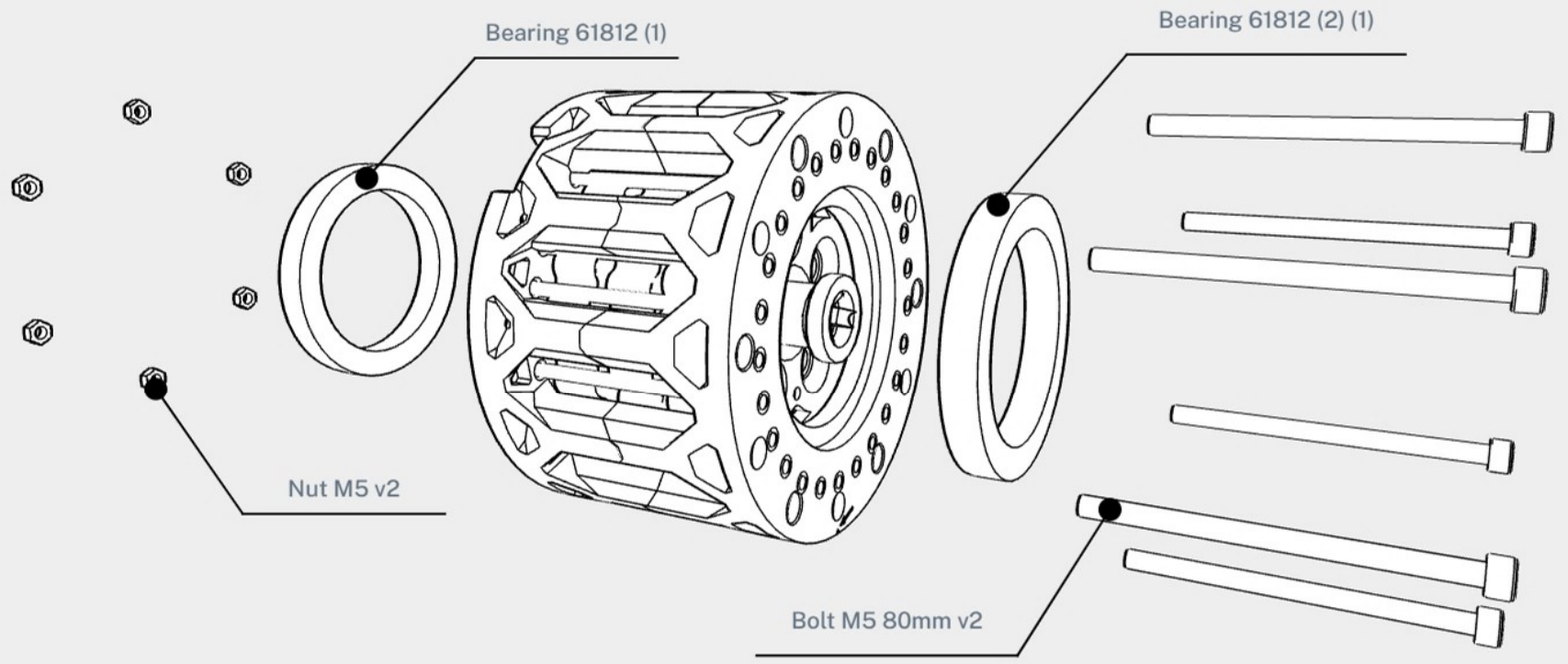


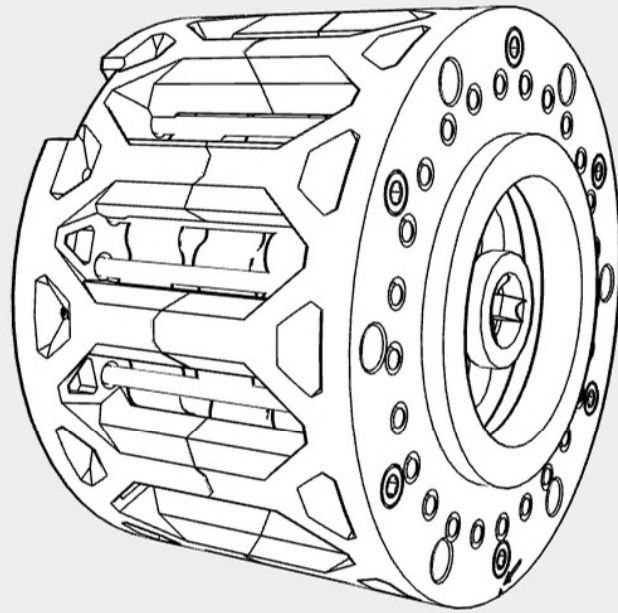
Use one of the 4mm dowel pin to lock the disks into place until the outer dowel pins are inserted. That will prevent disks from misaligning.

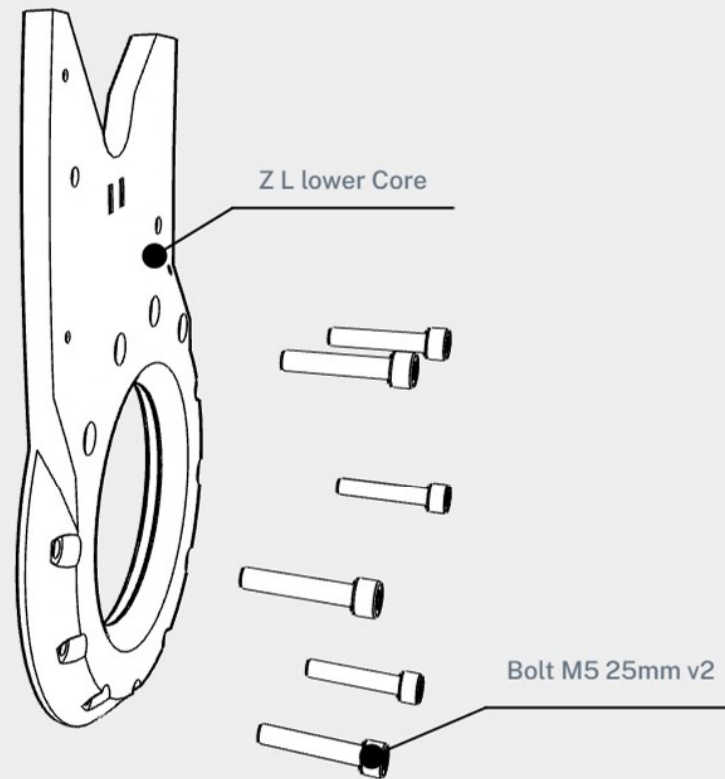
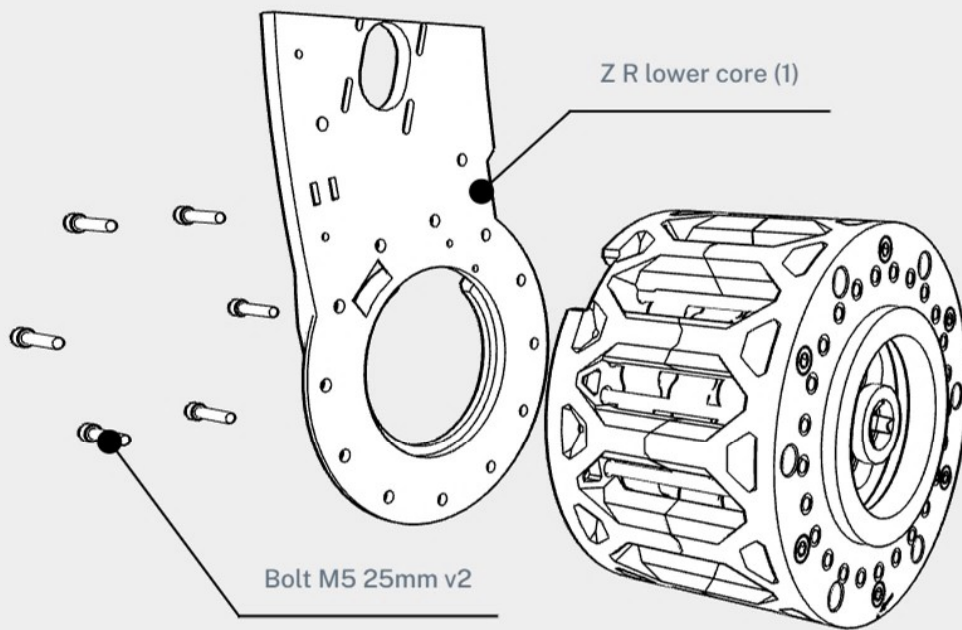


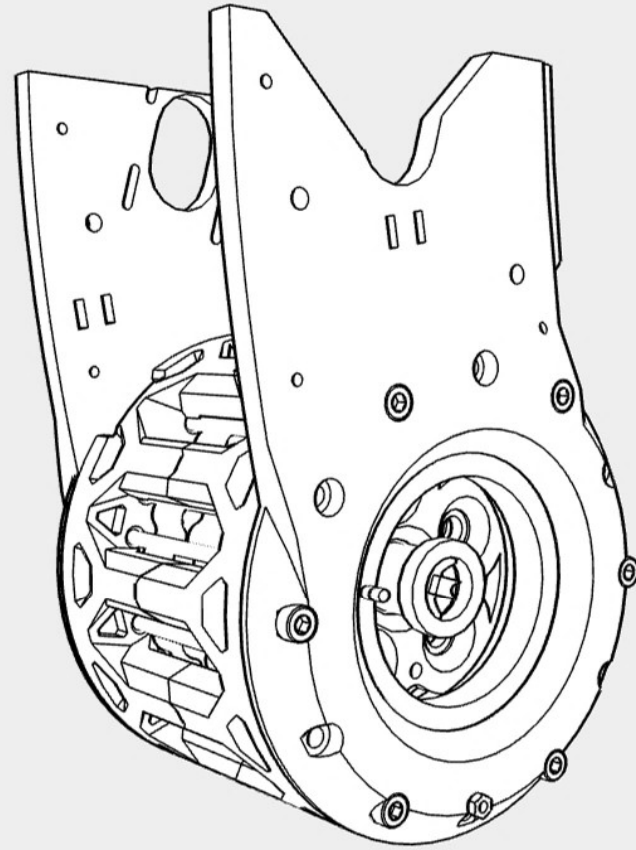


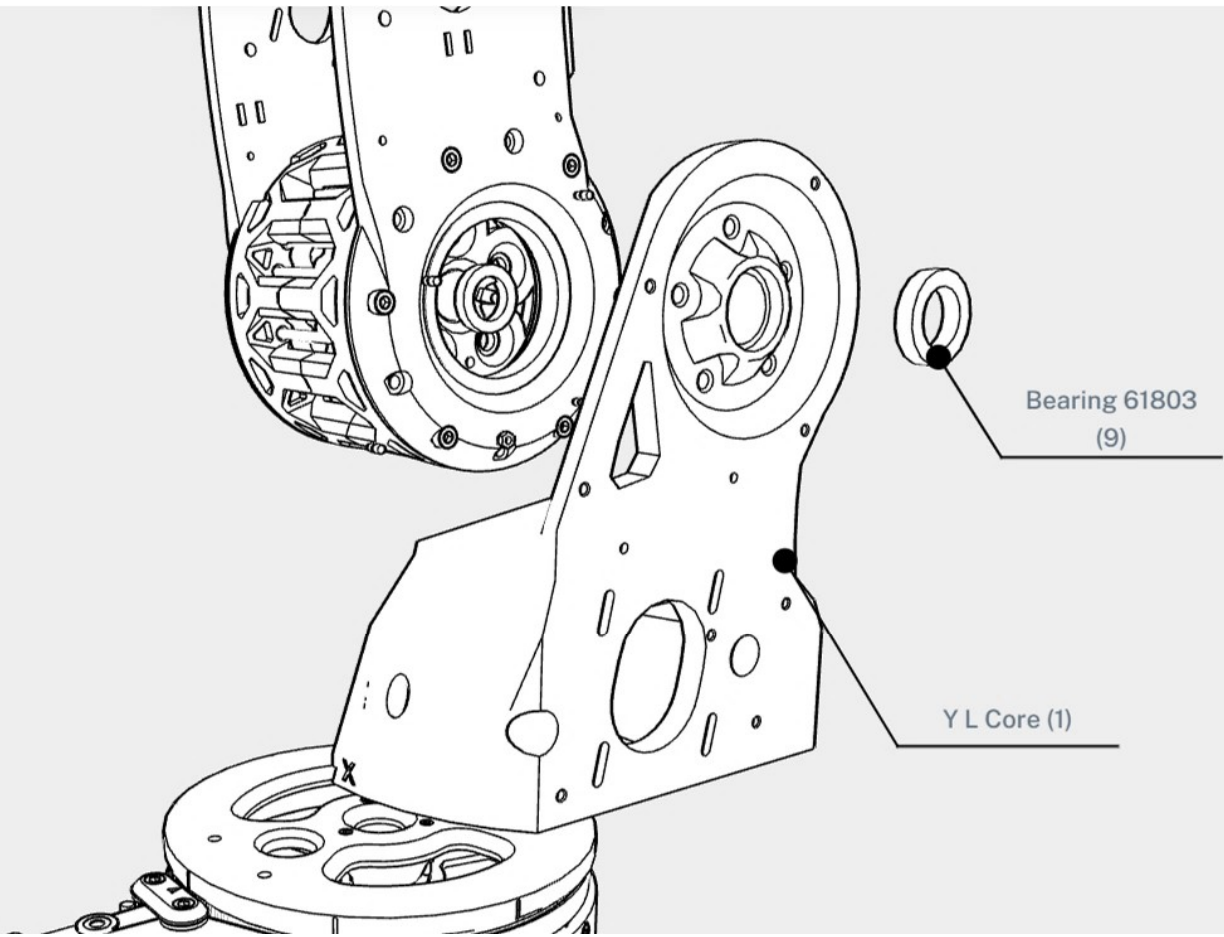






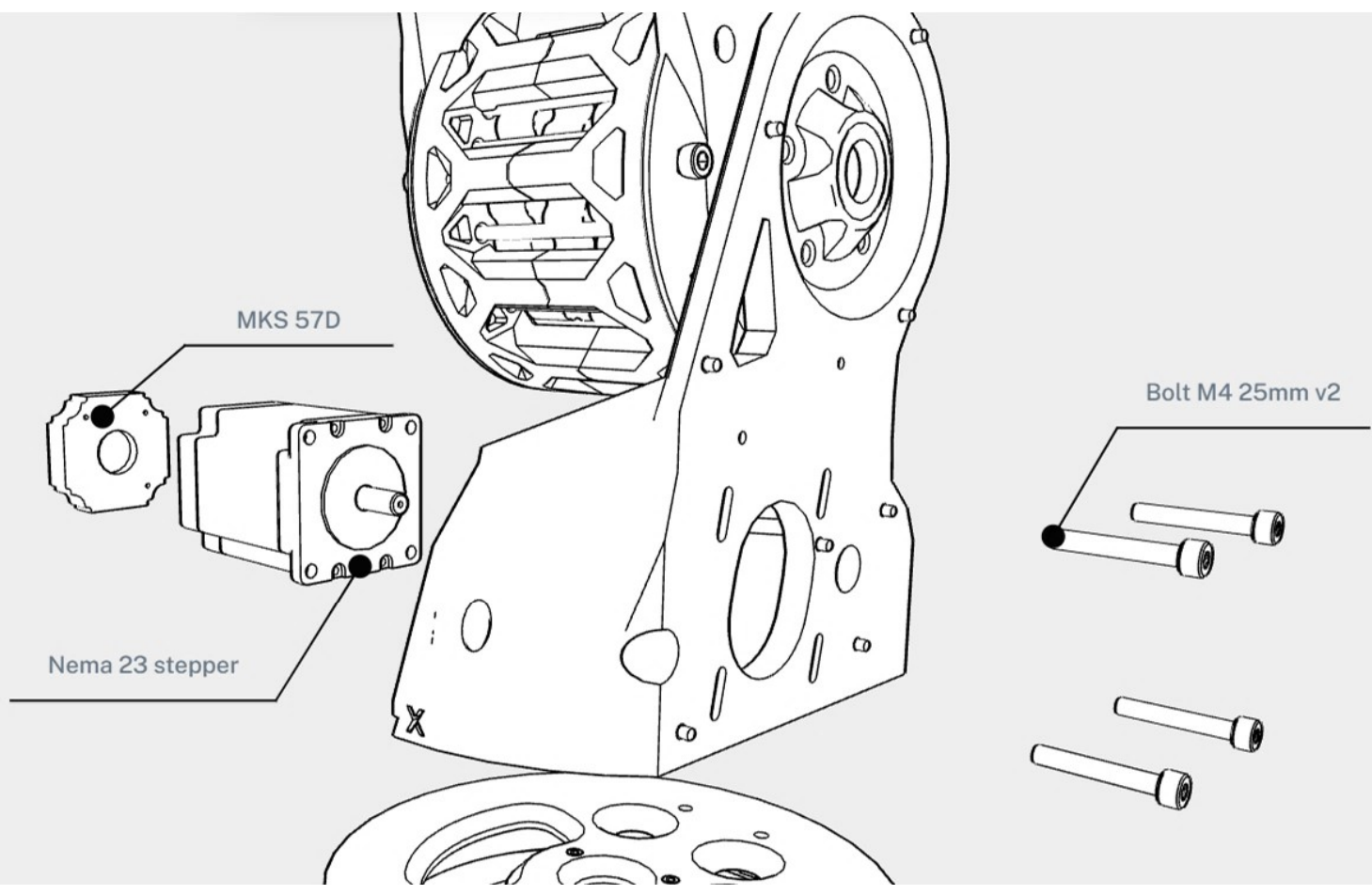


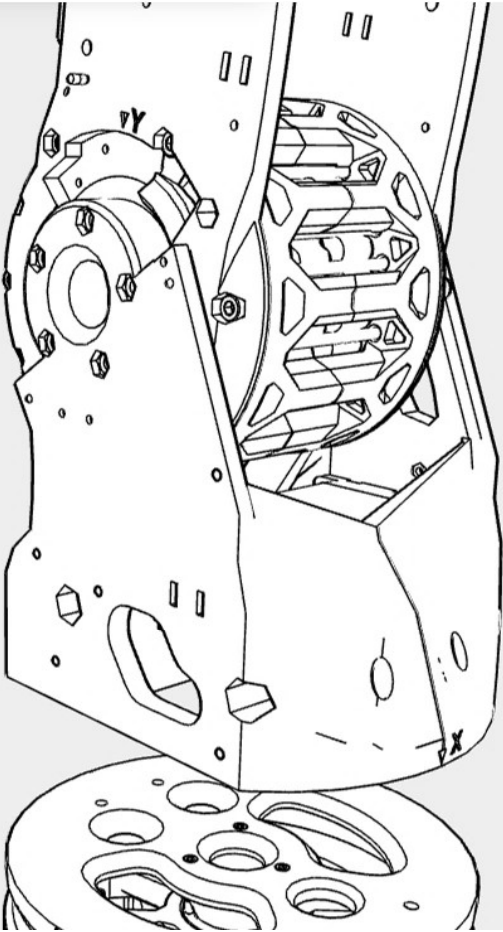


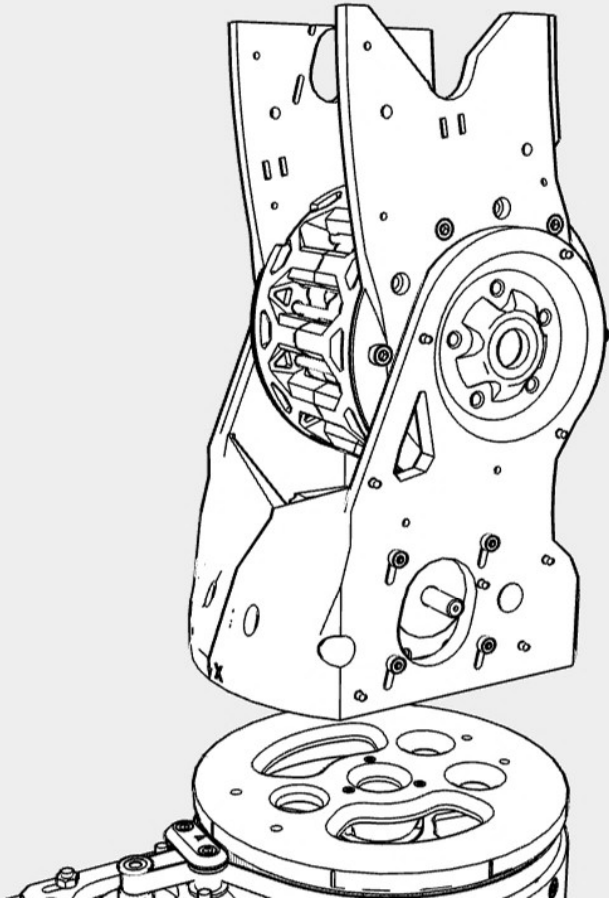


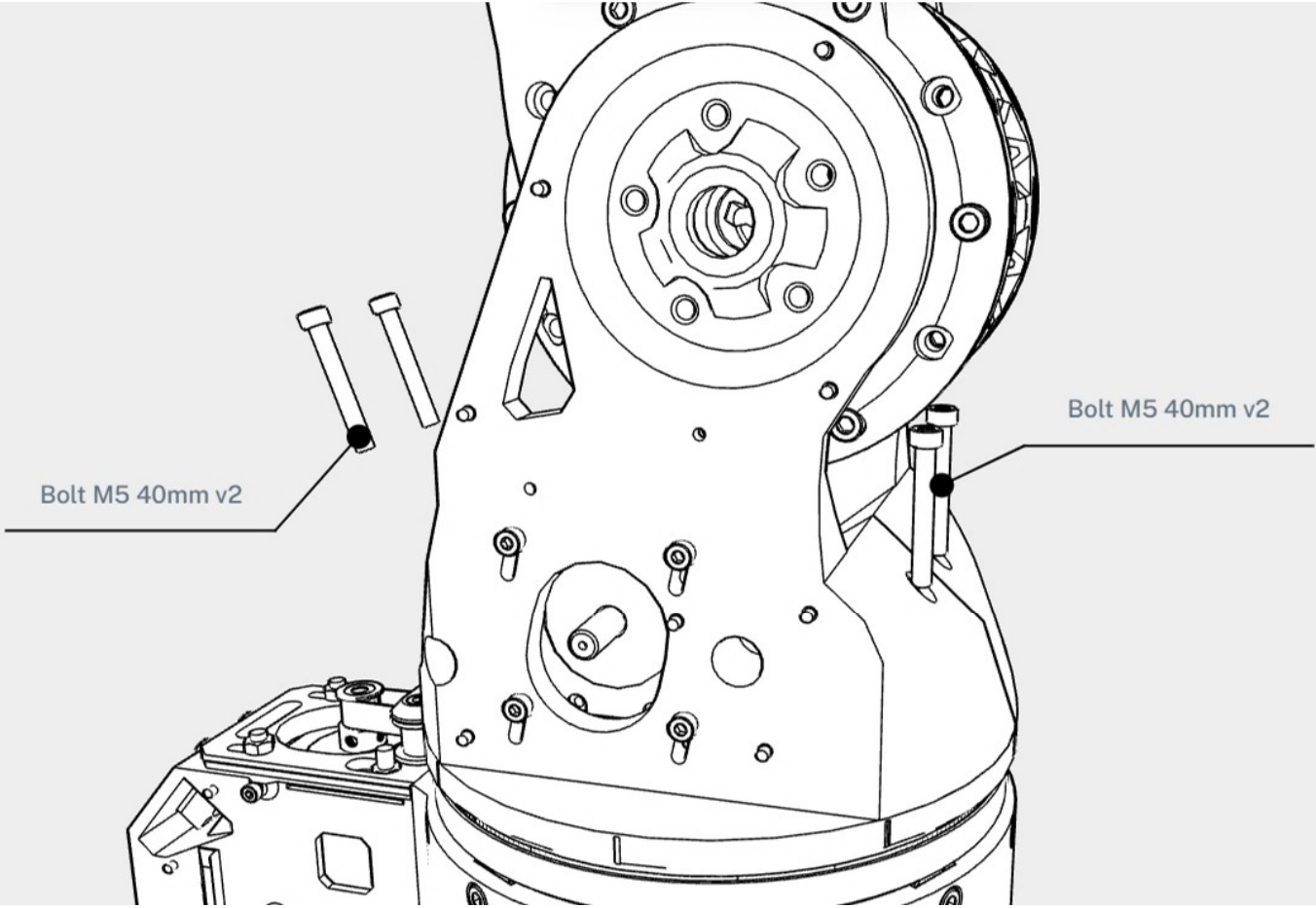
Bearing 61803
(9)

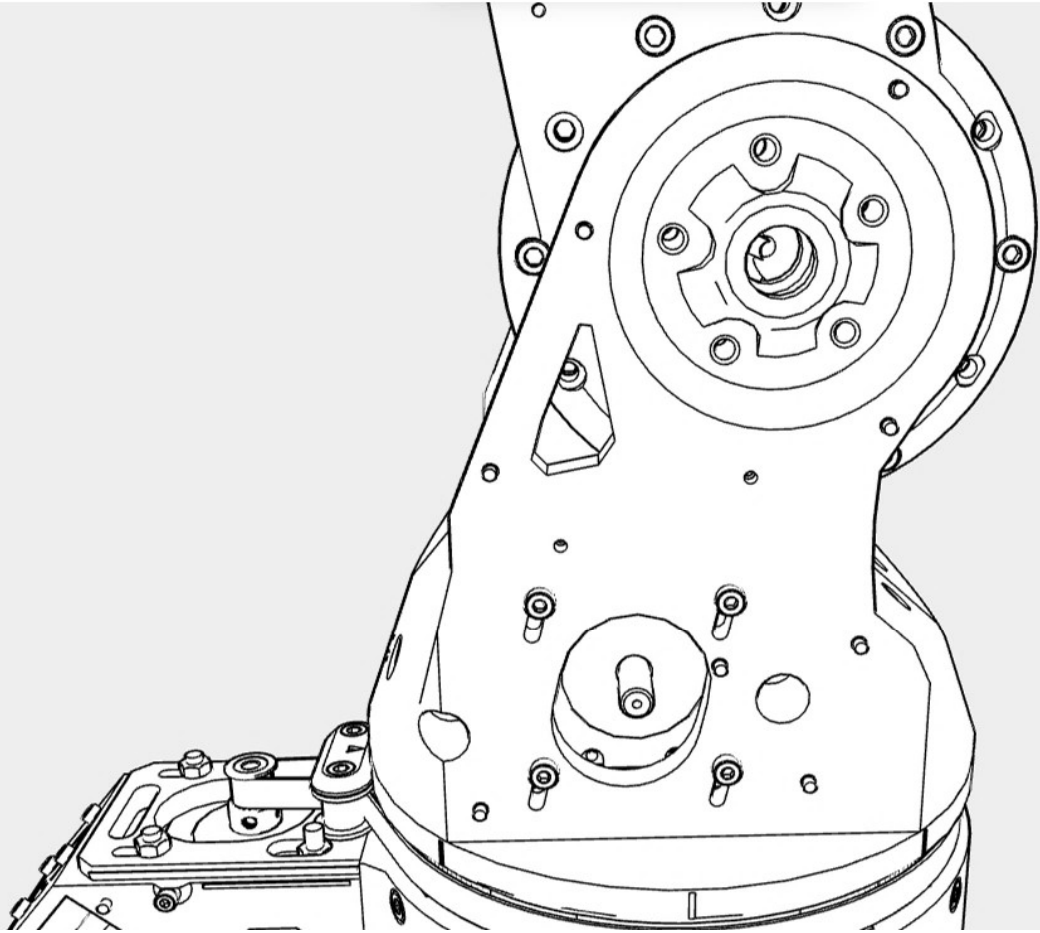
Y L Core (1)

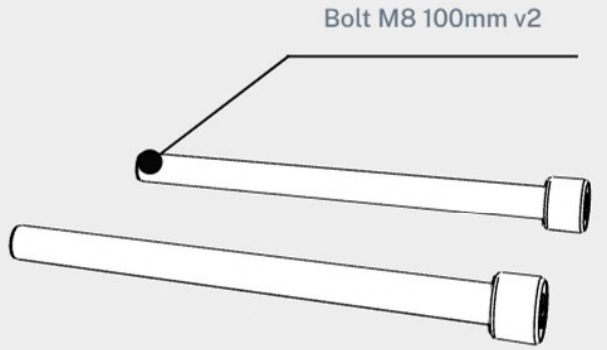
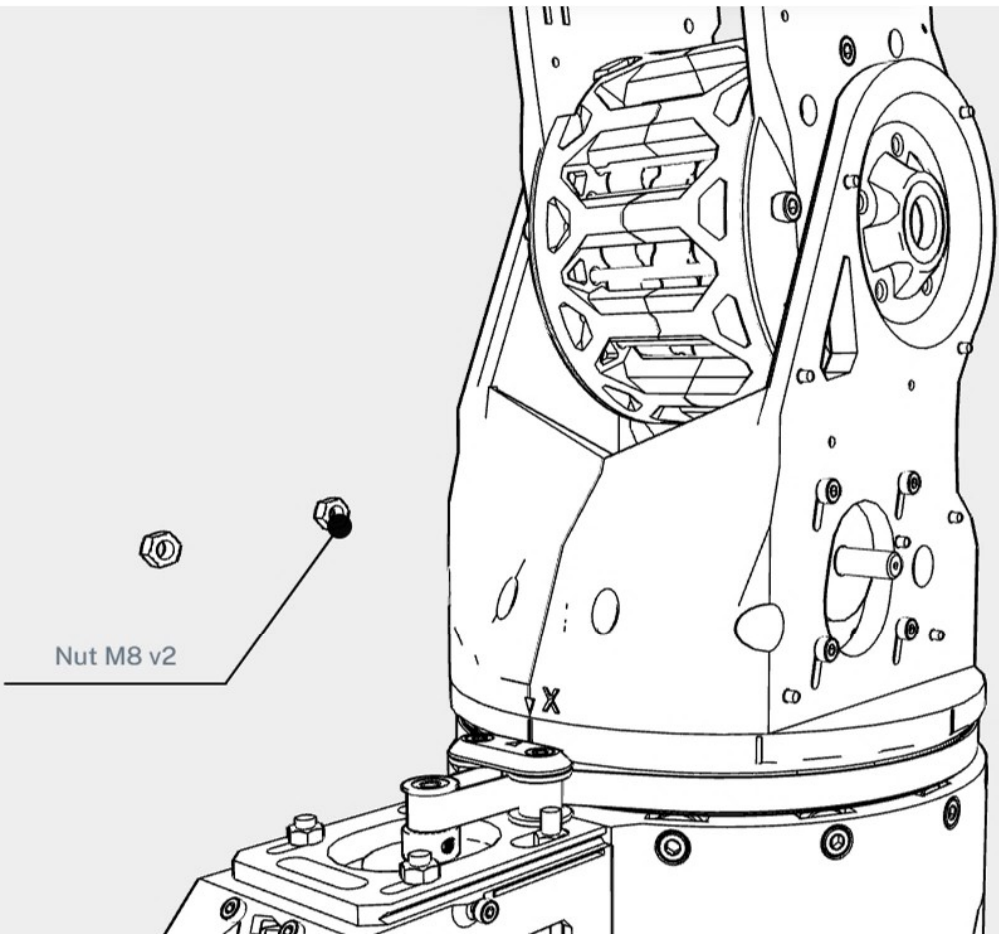


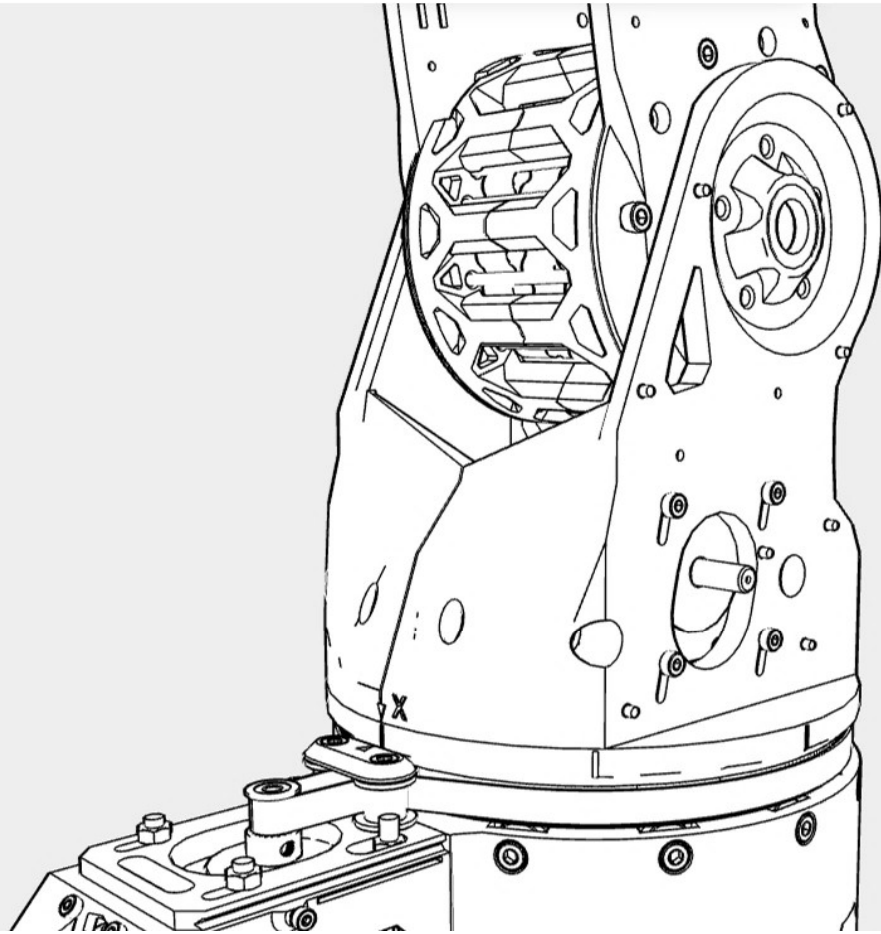


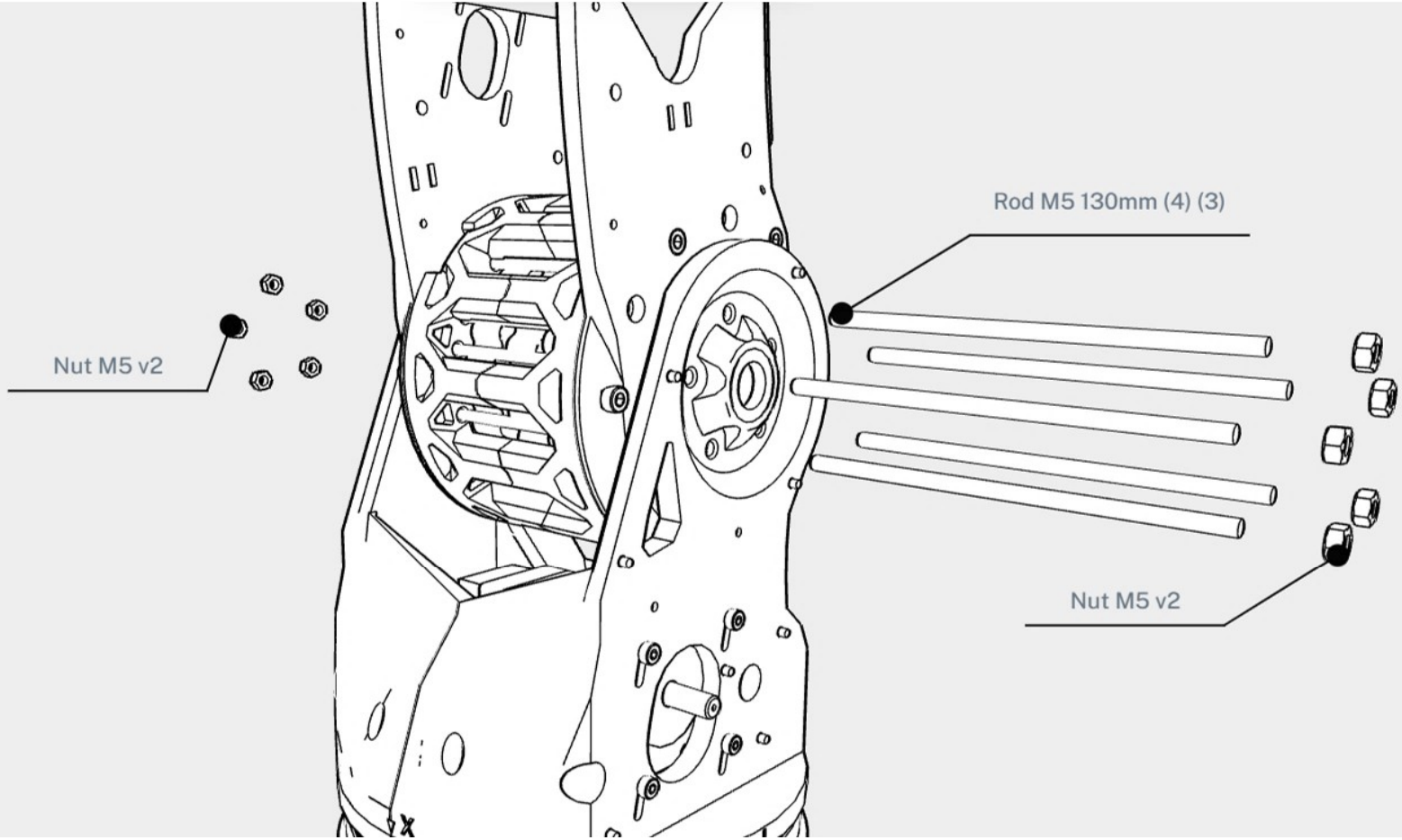


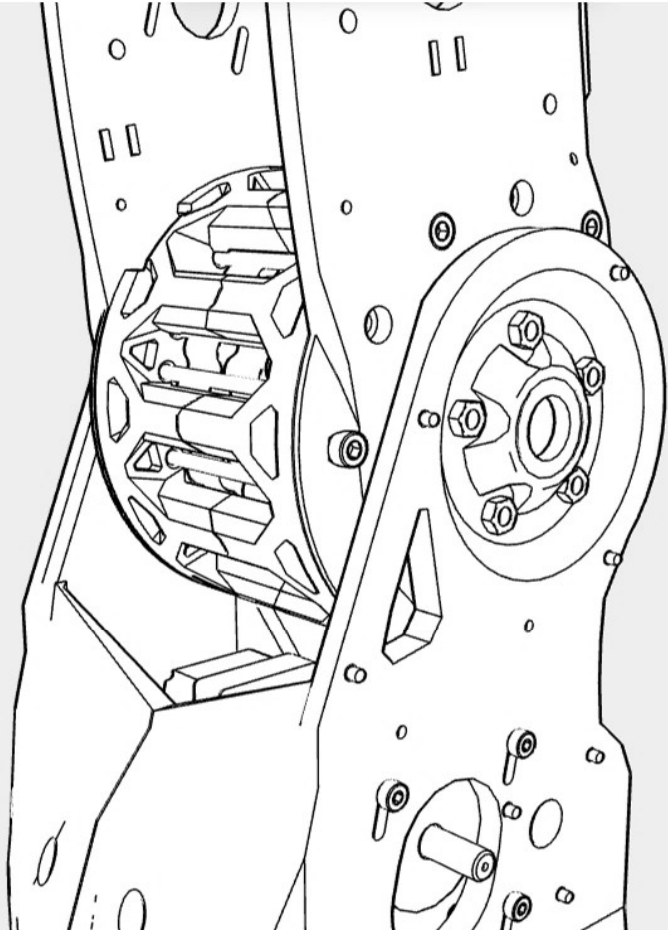


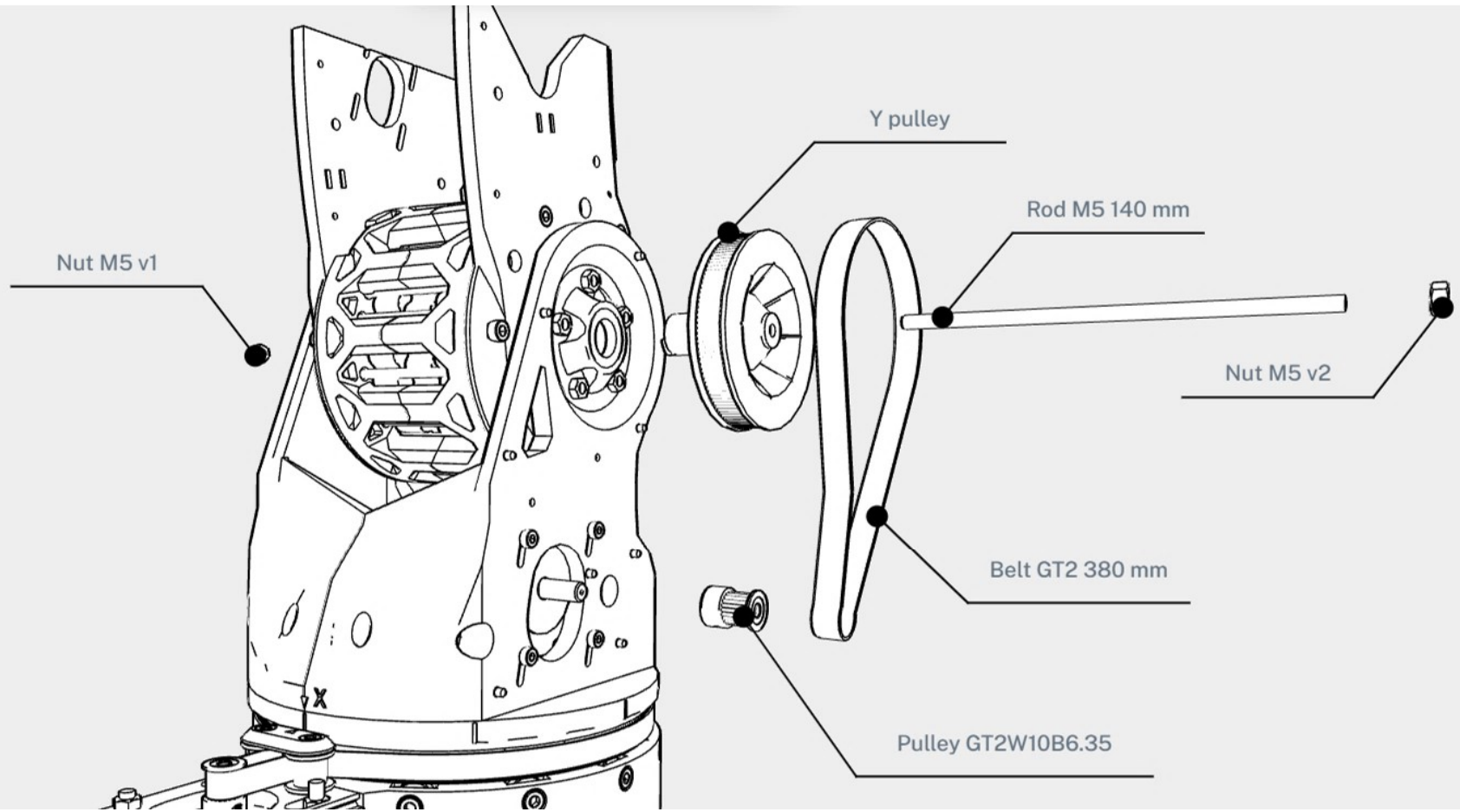


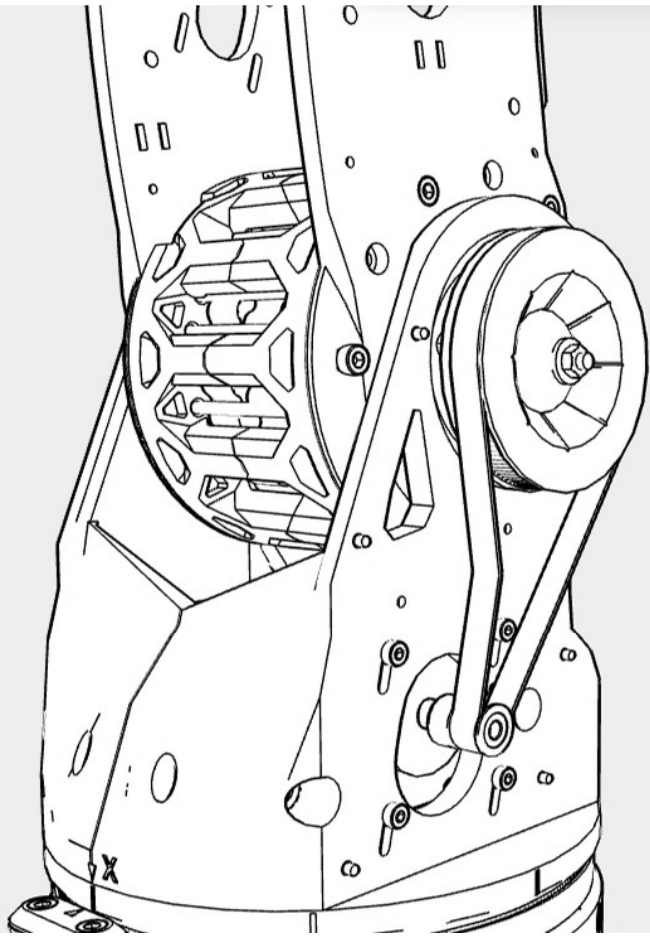


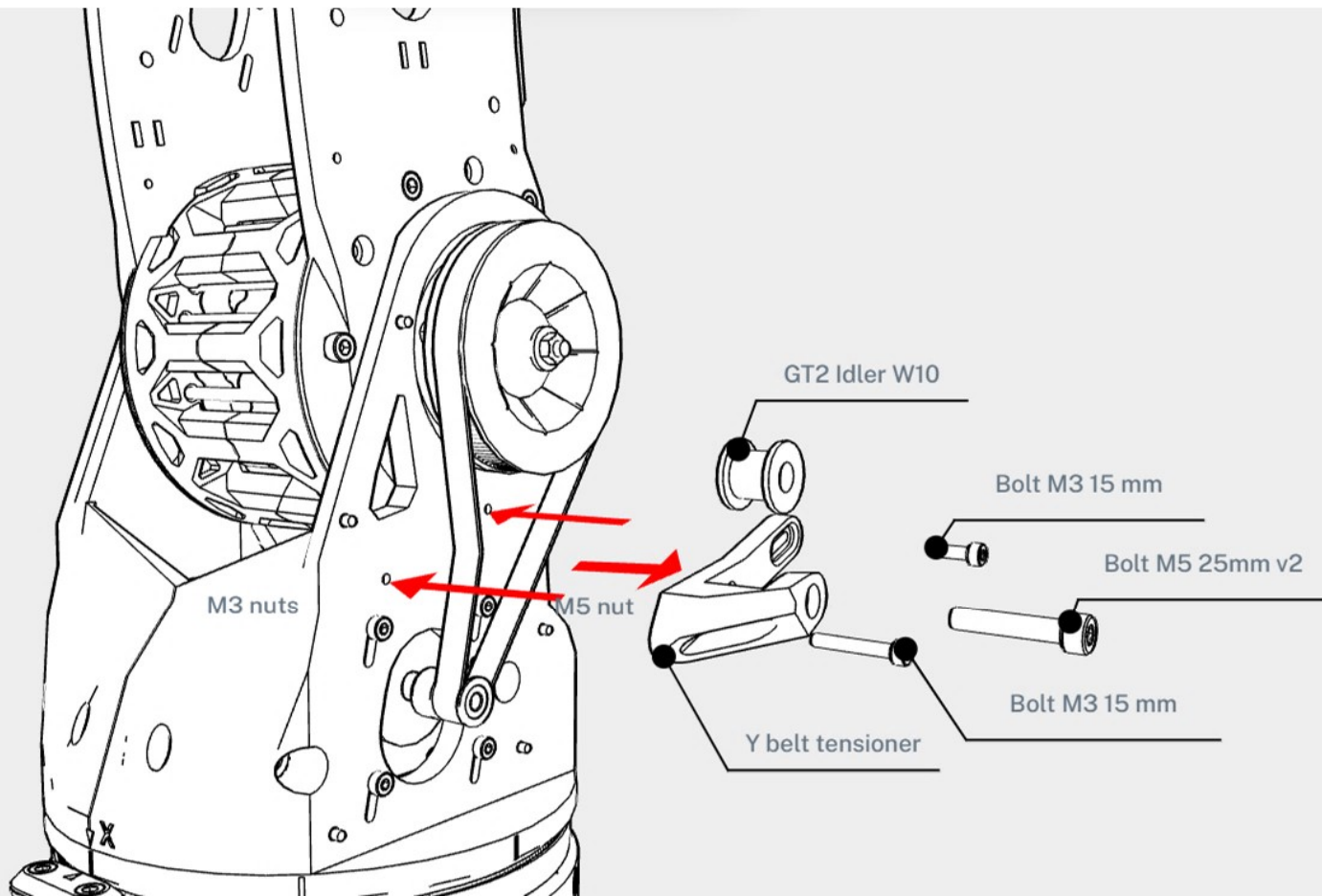


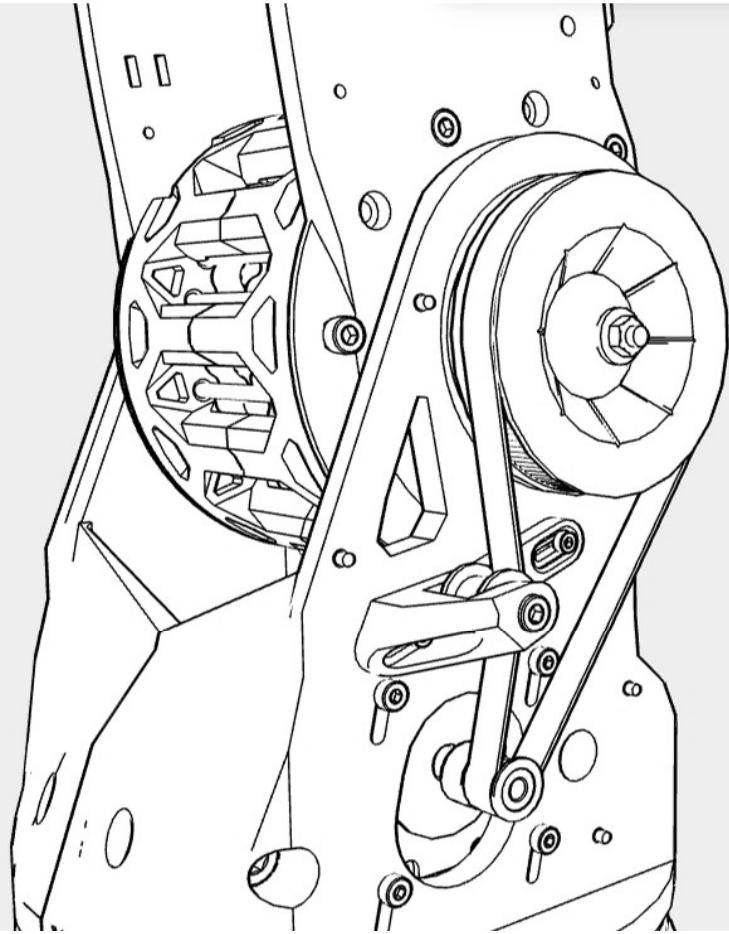


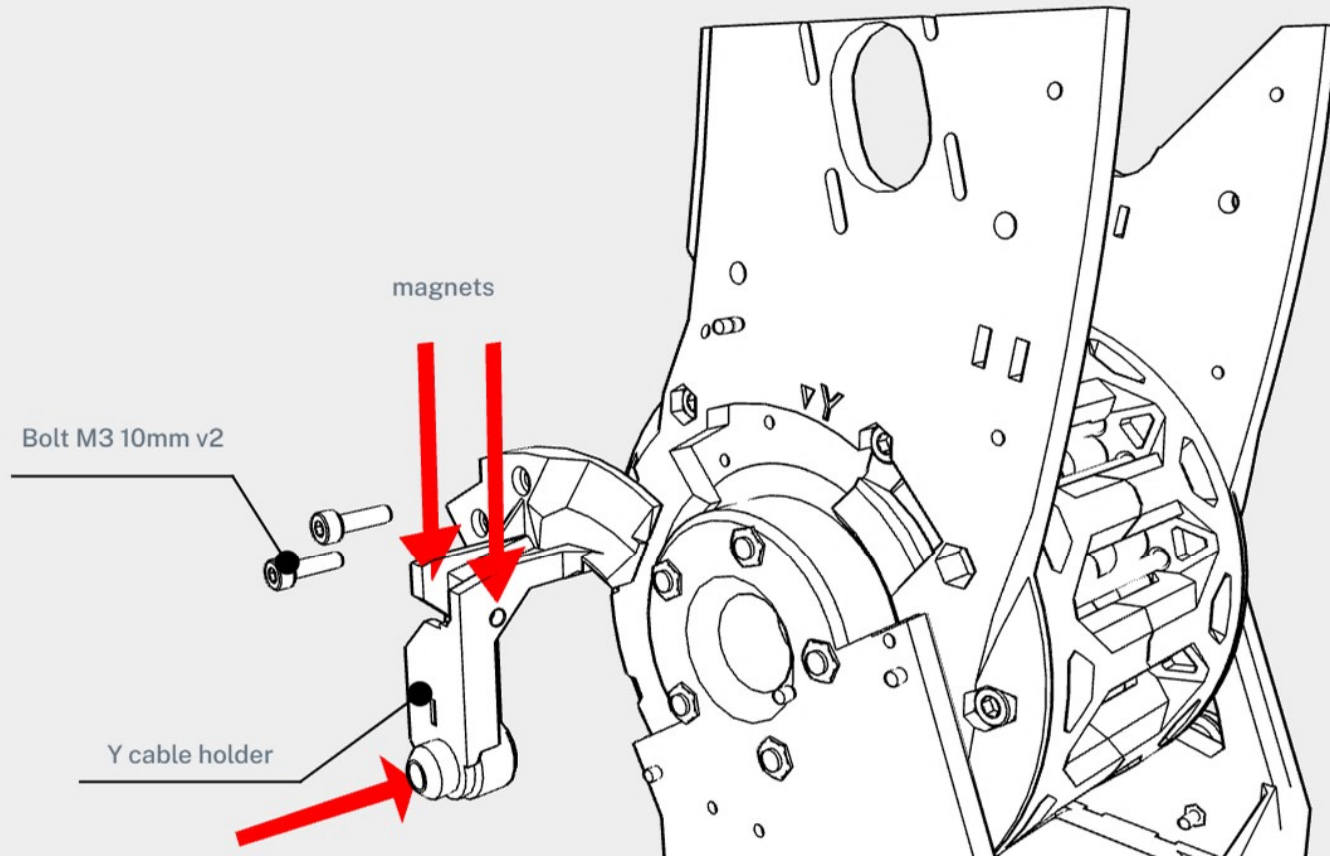


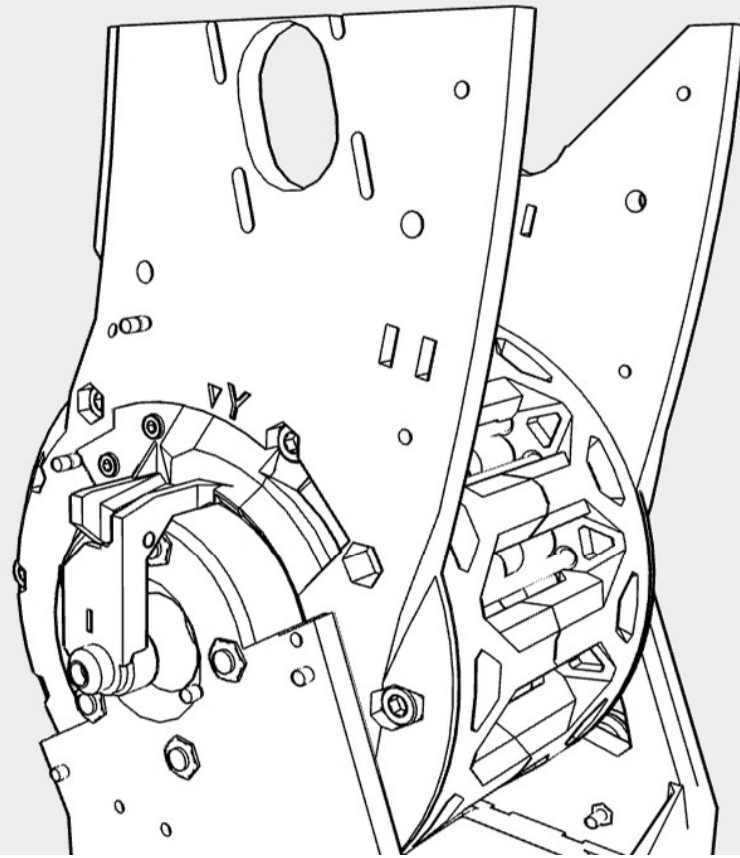


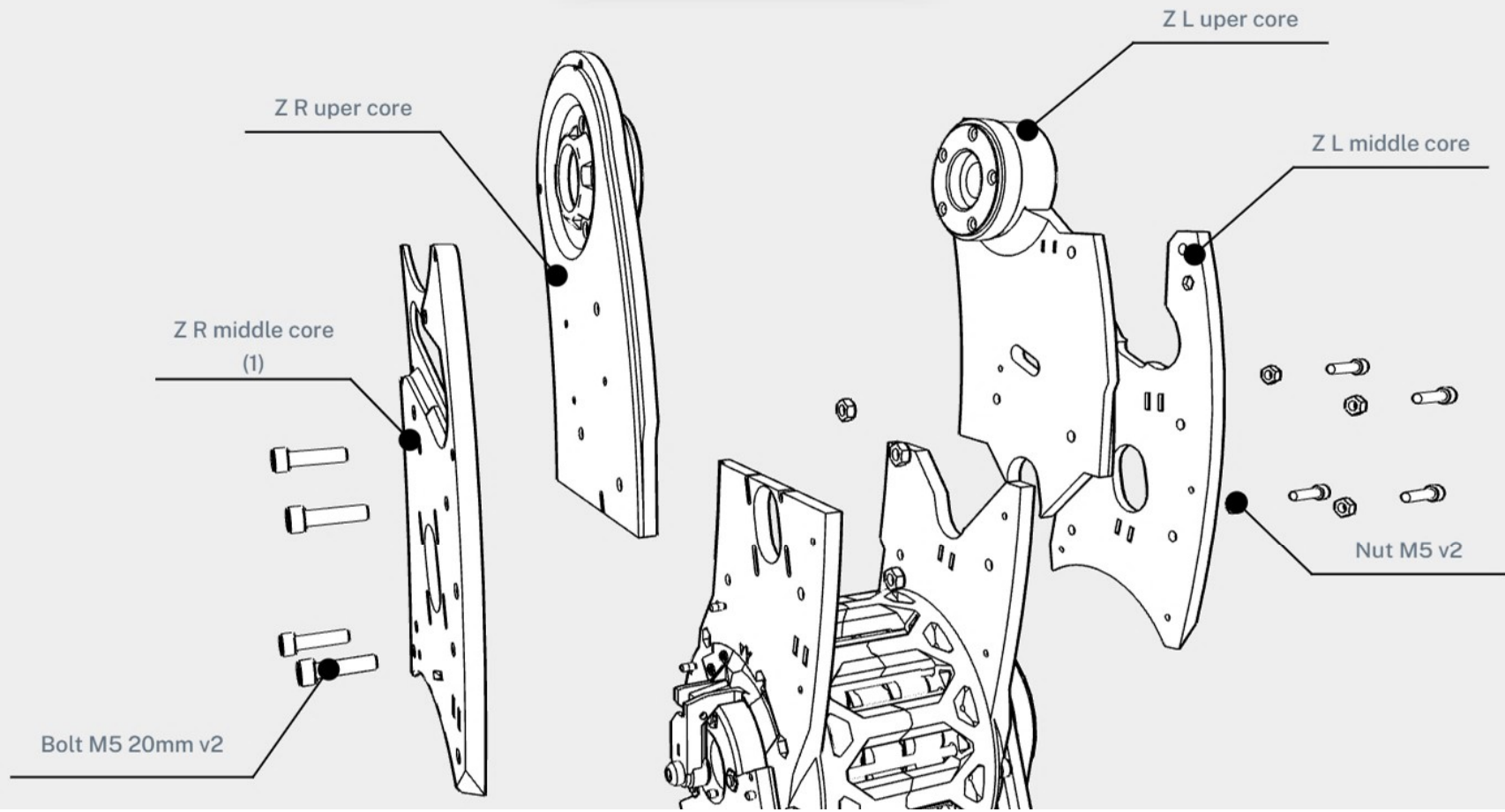


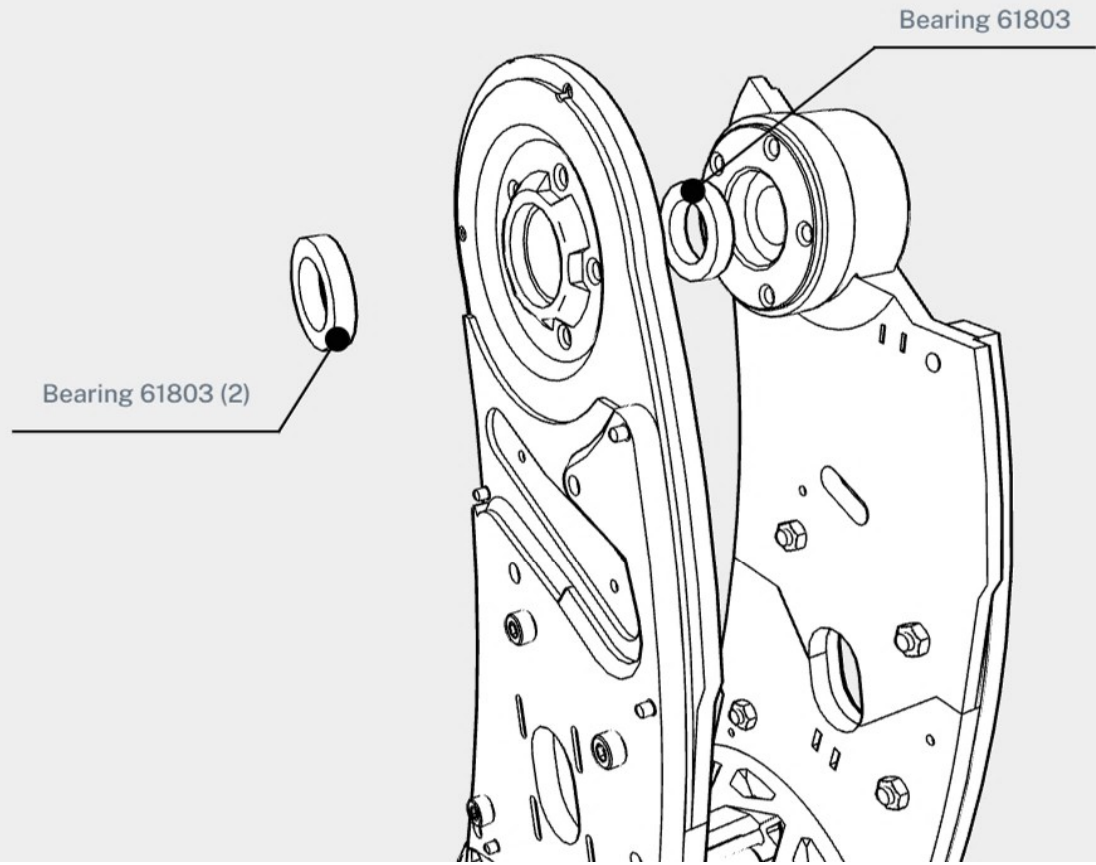


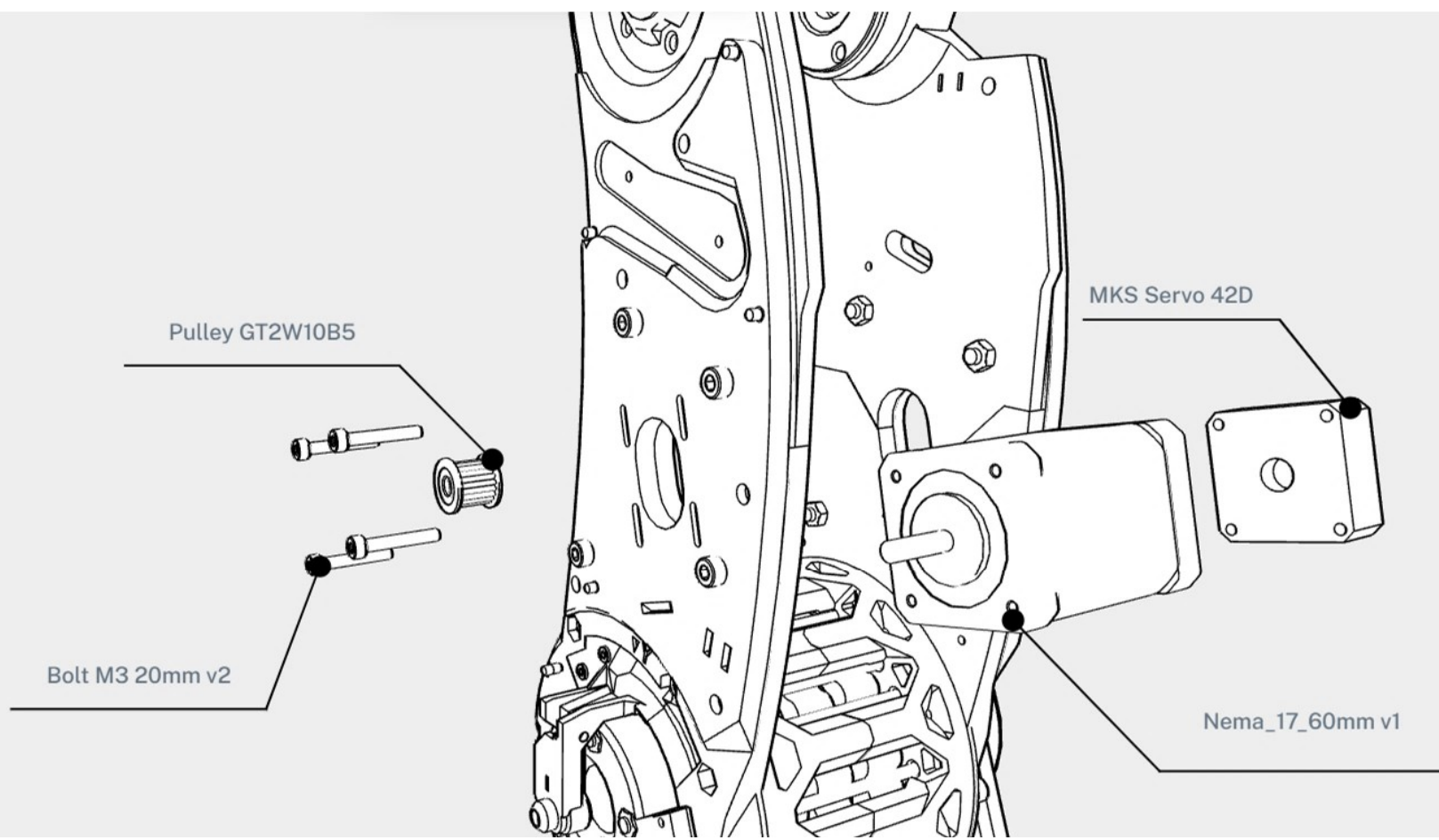


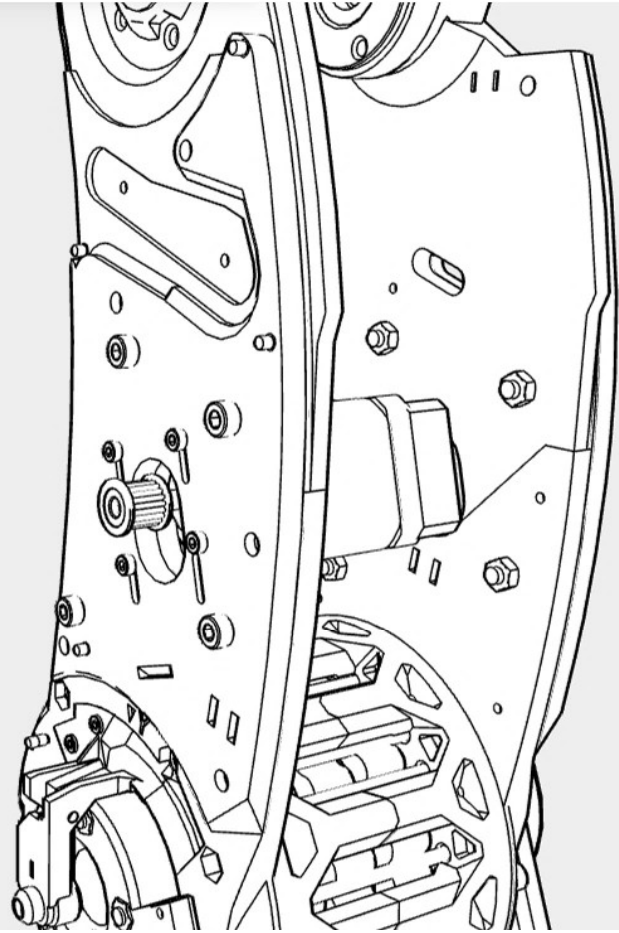


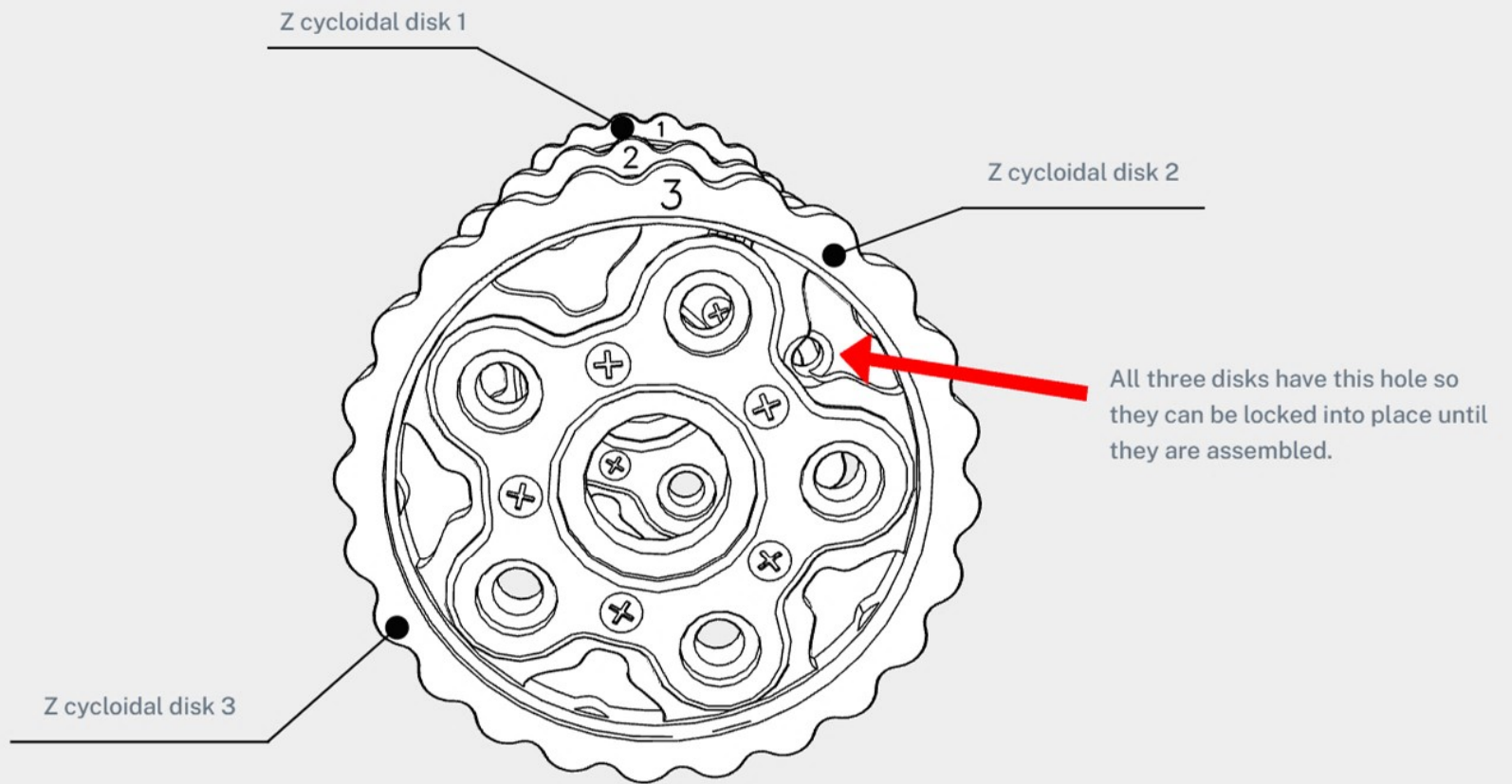




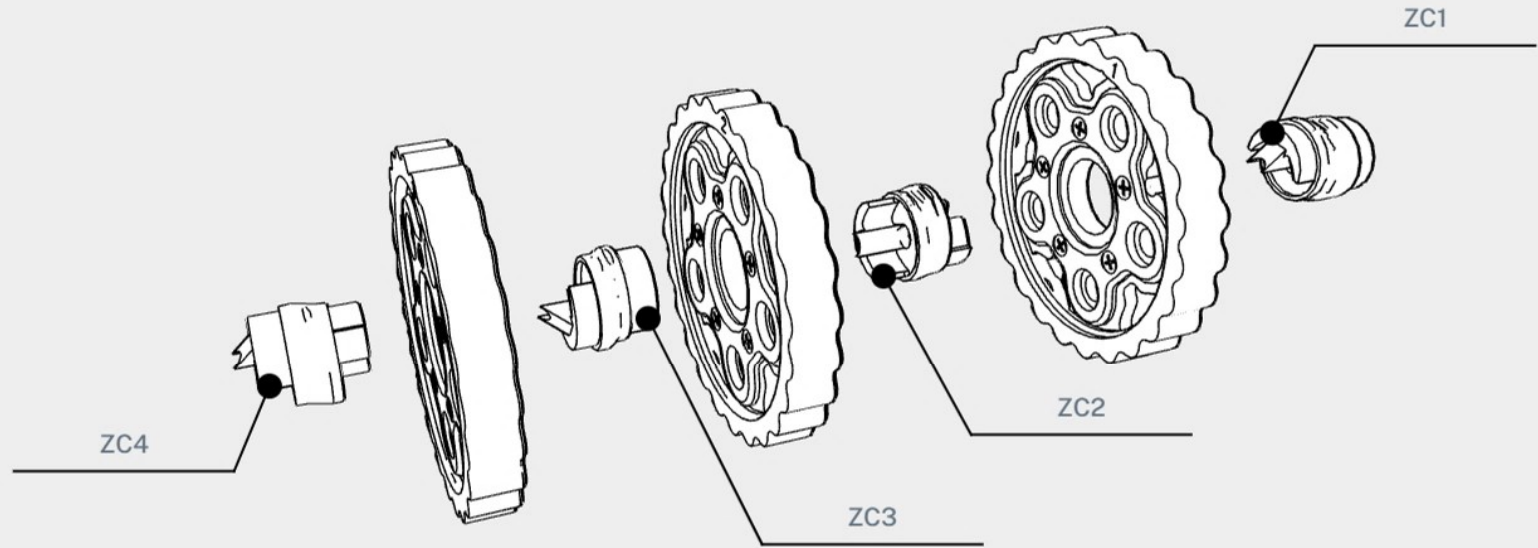


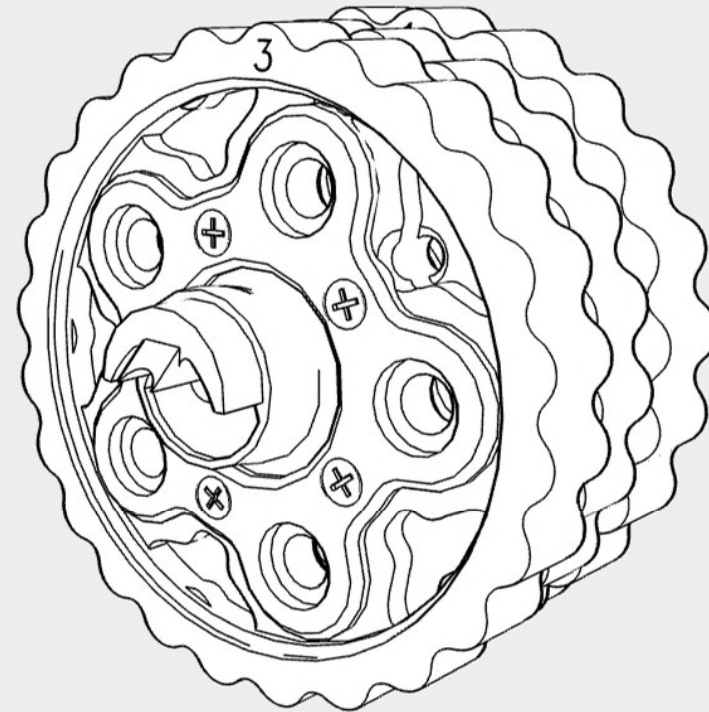


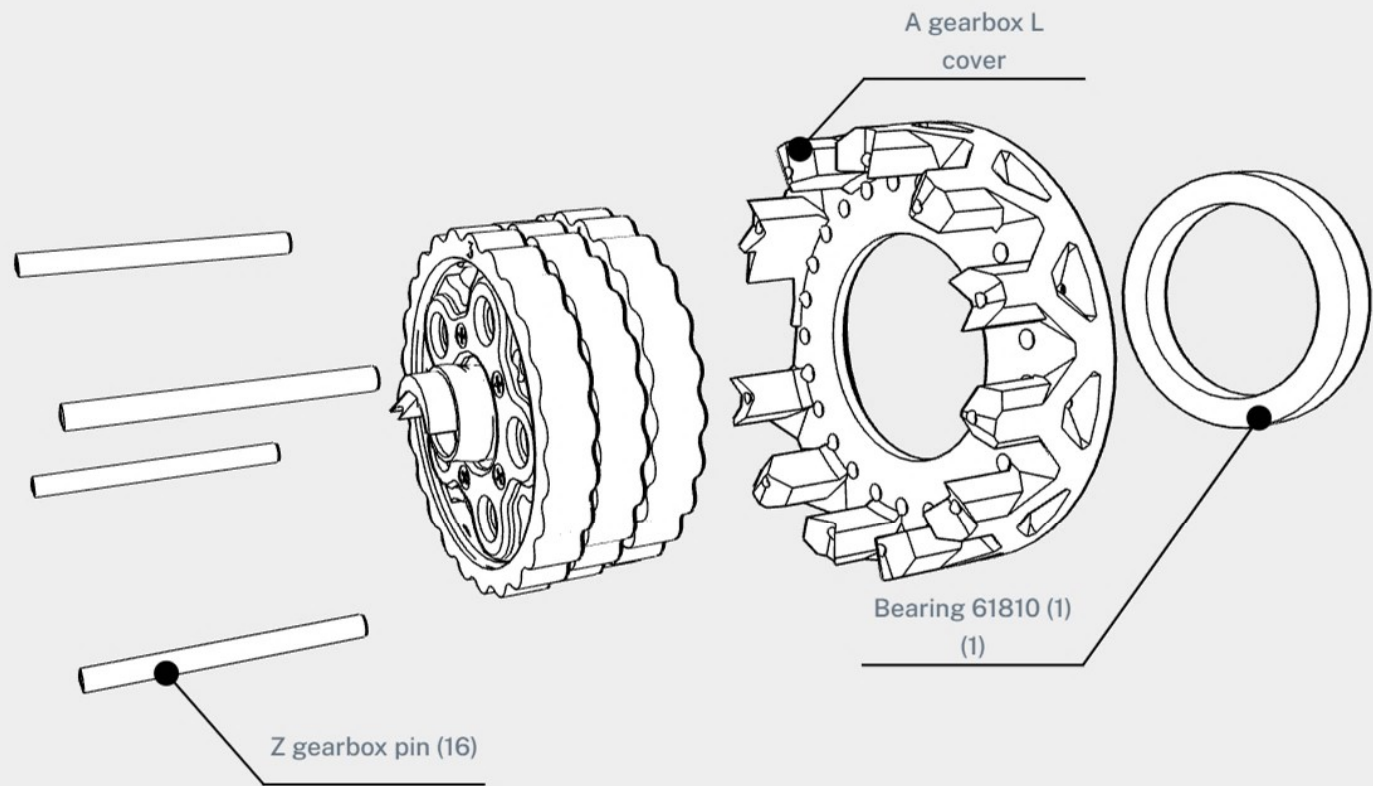


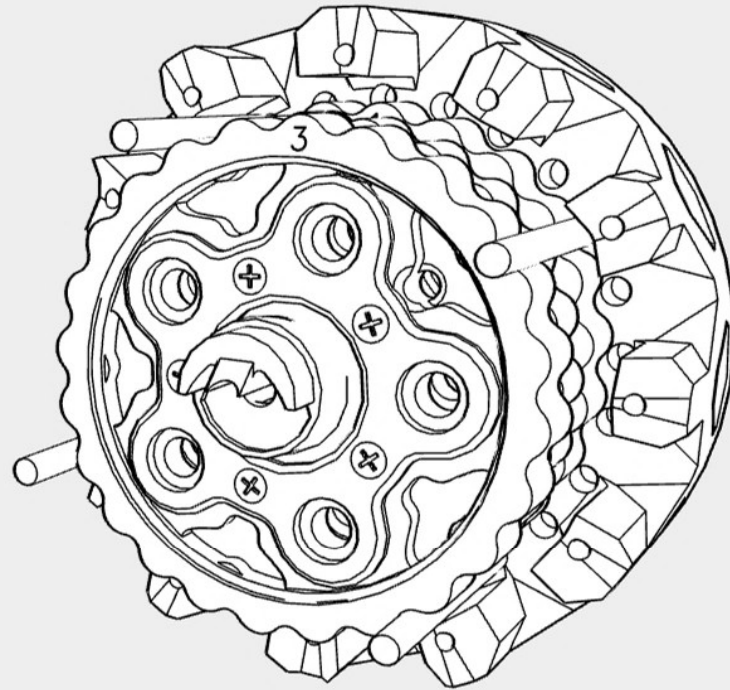


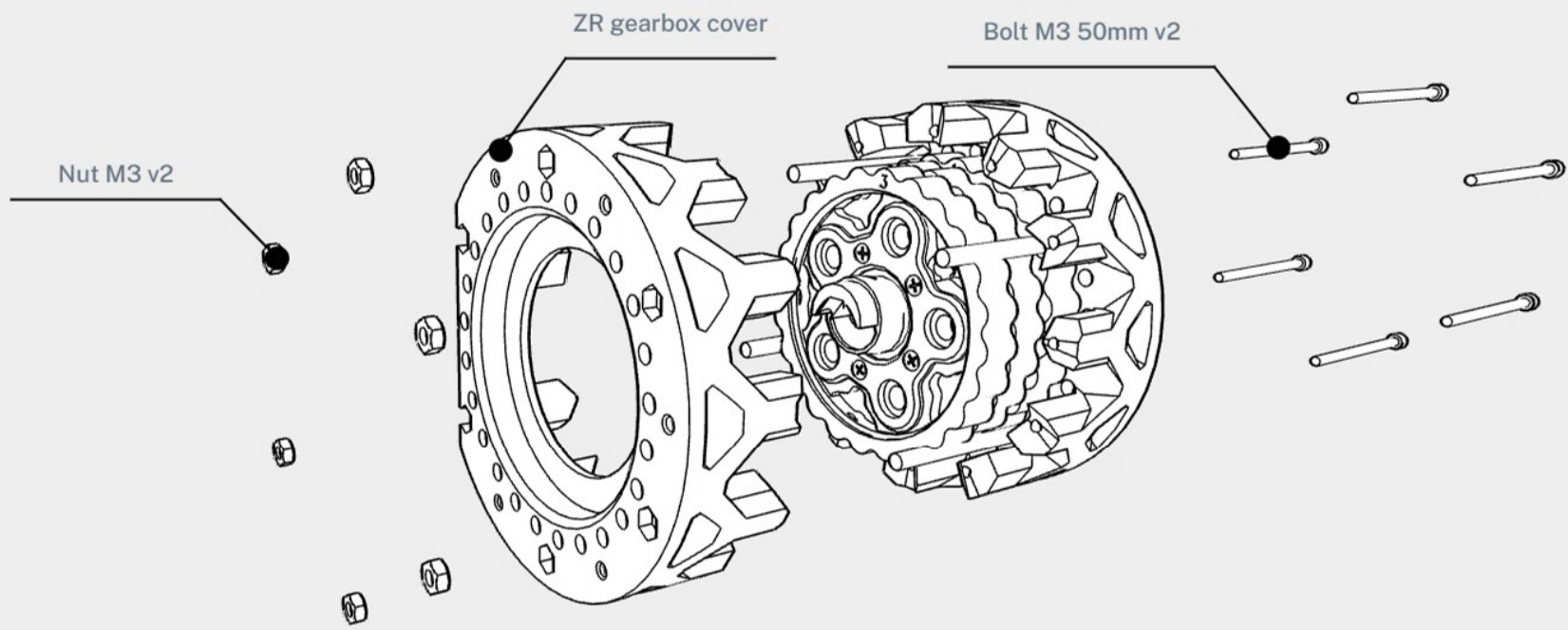
All camshaft pieces have markings on them

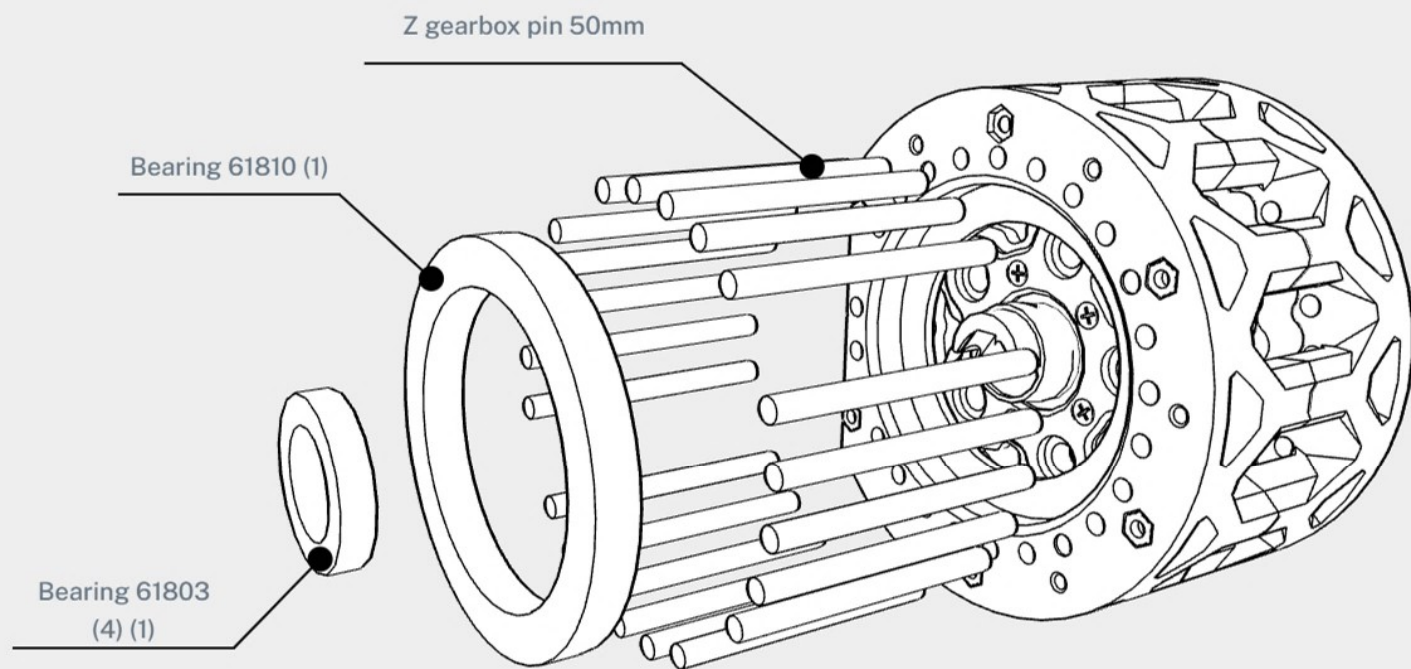




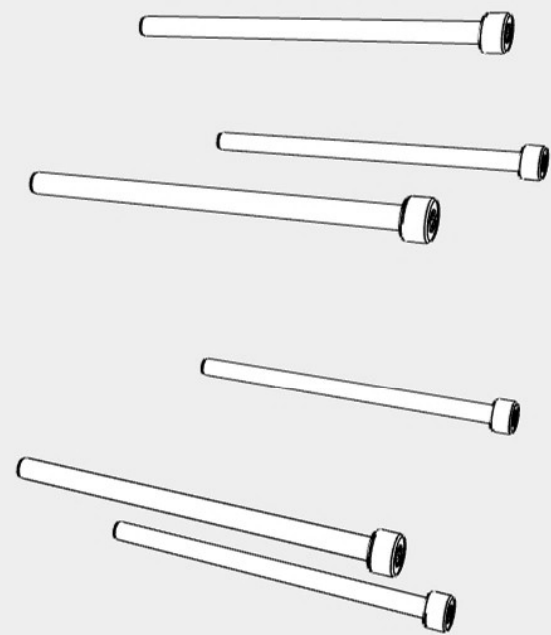
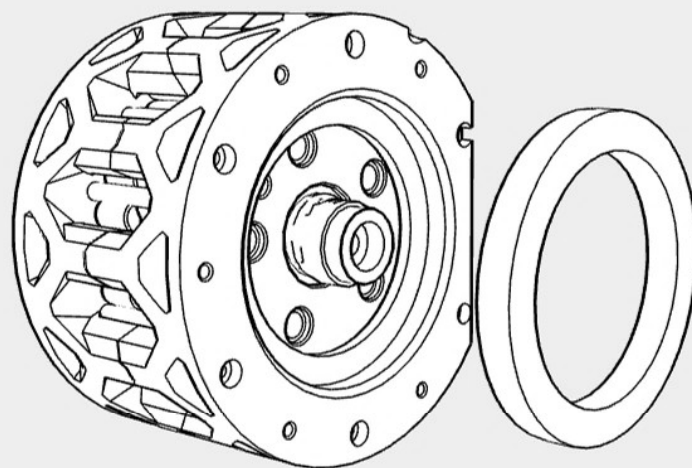


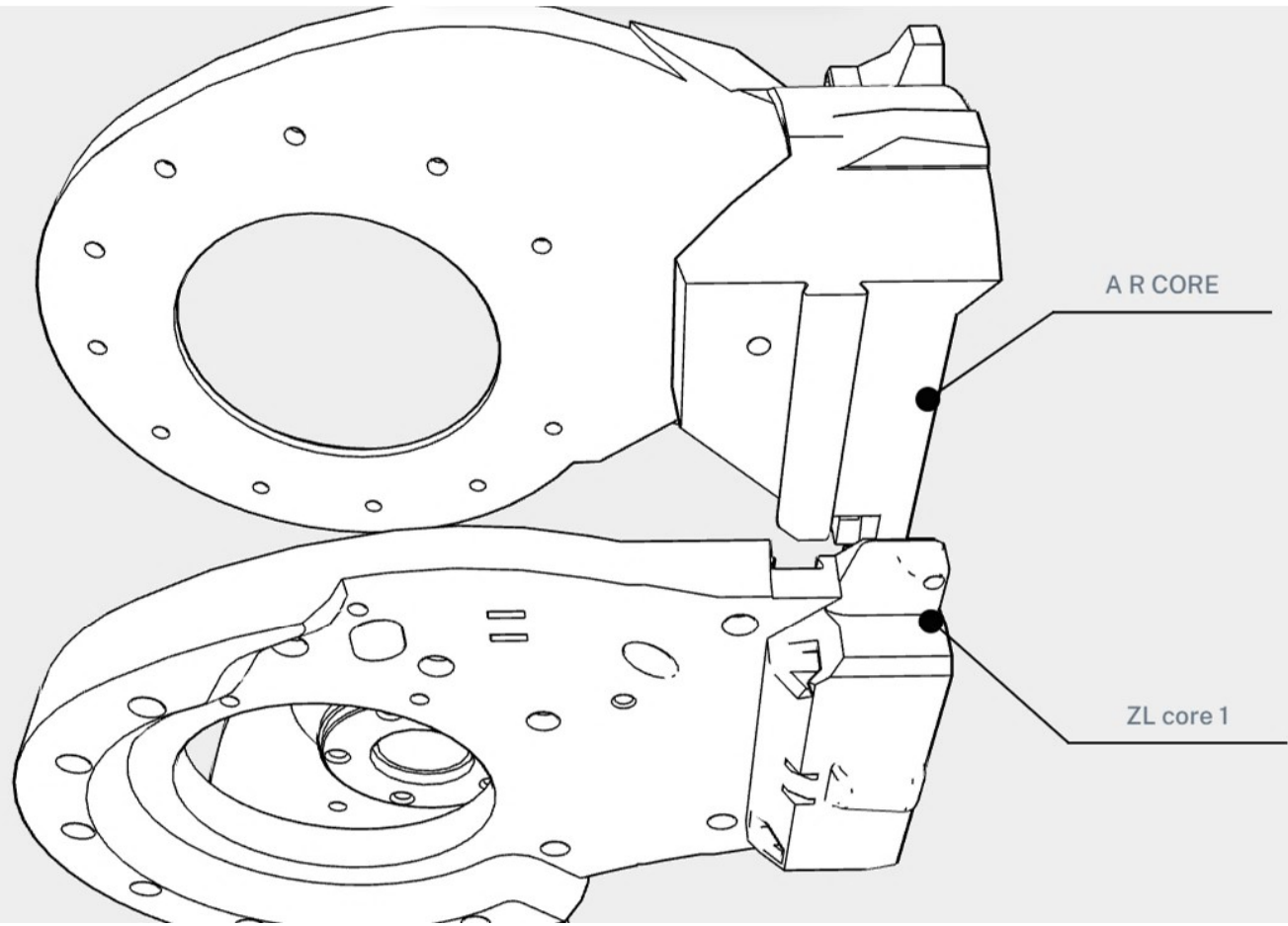






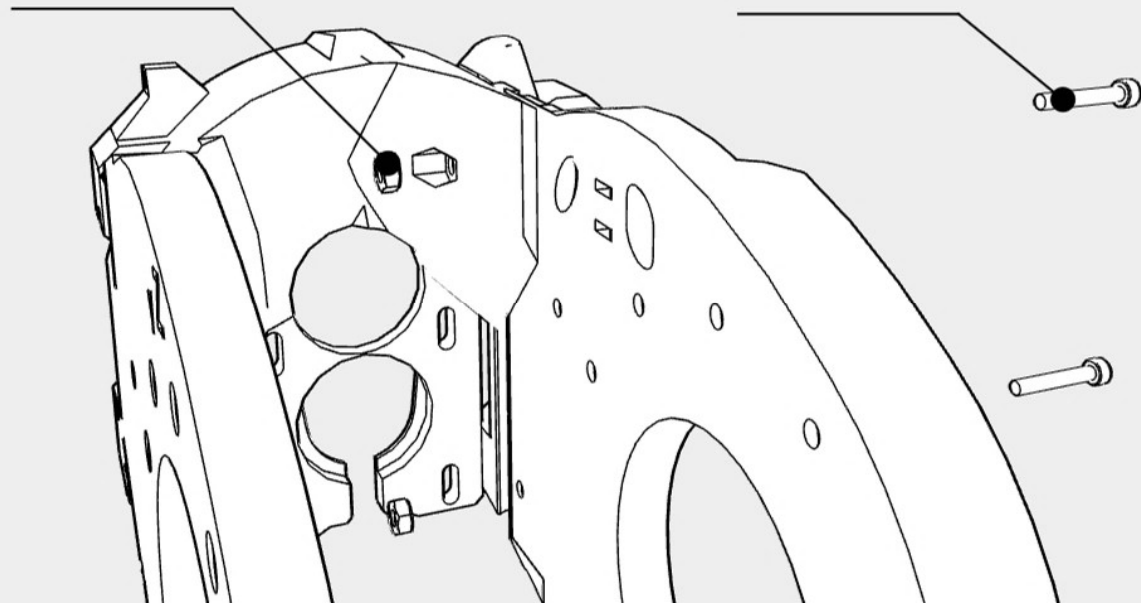
Steps Manager

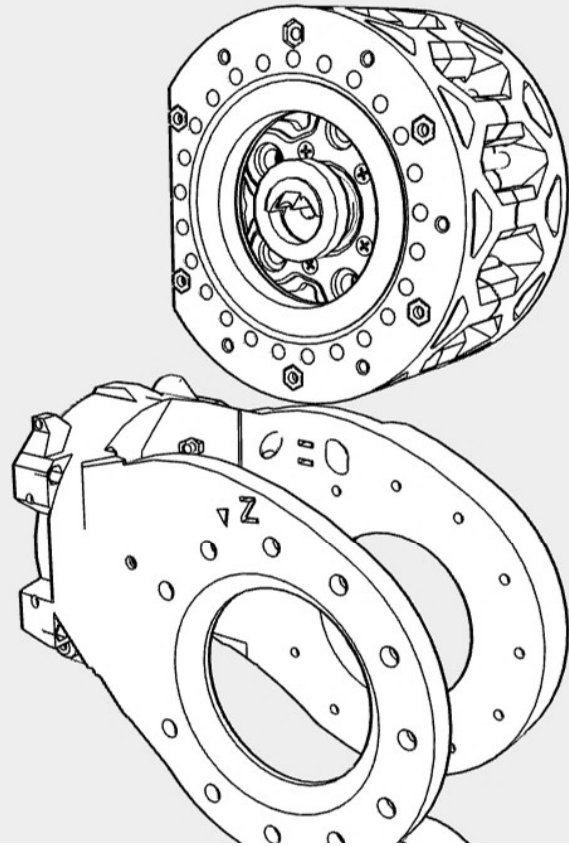


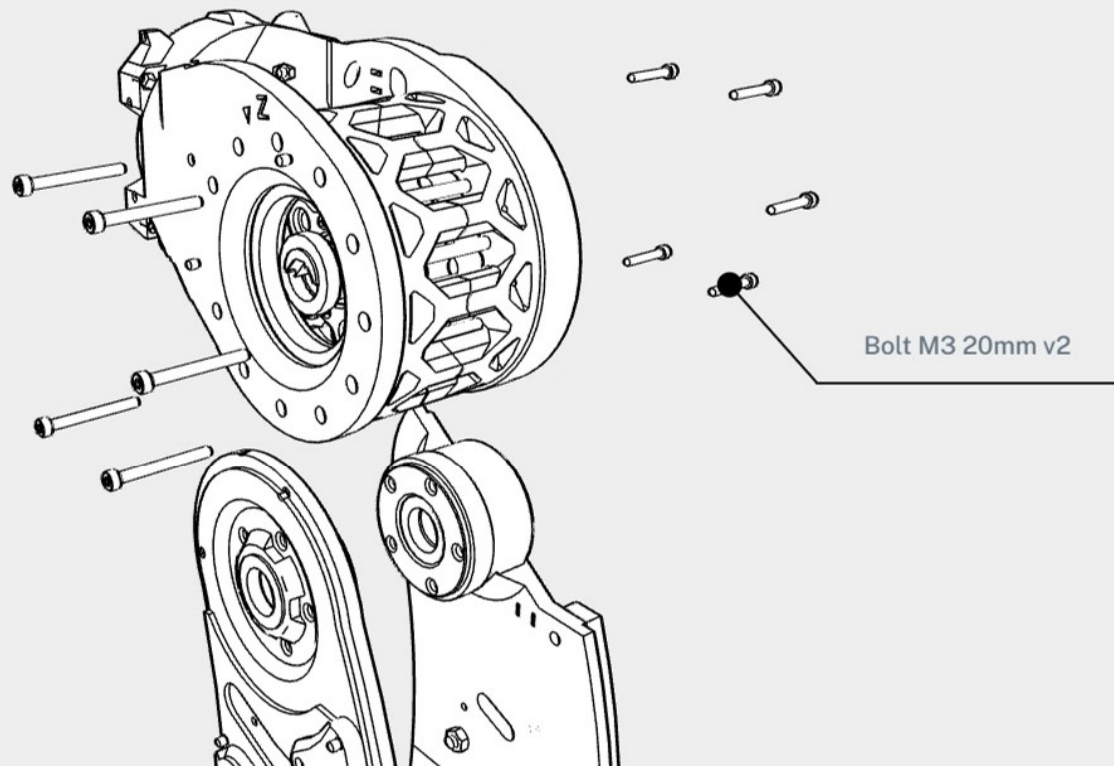


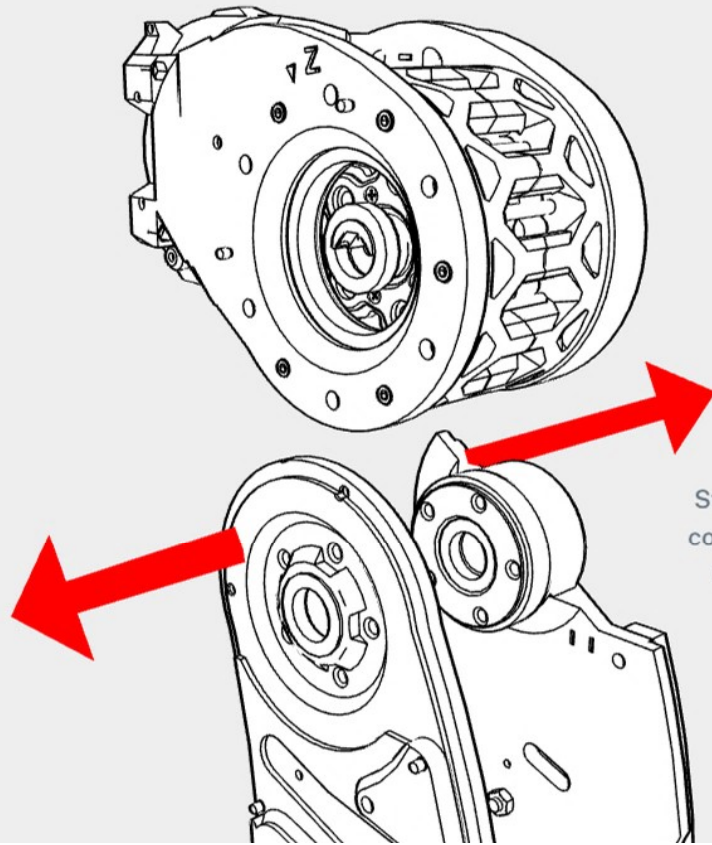
Nut M3 v2

Bolt M3 20mm v2

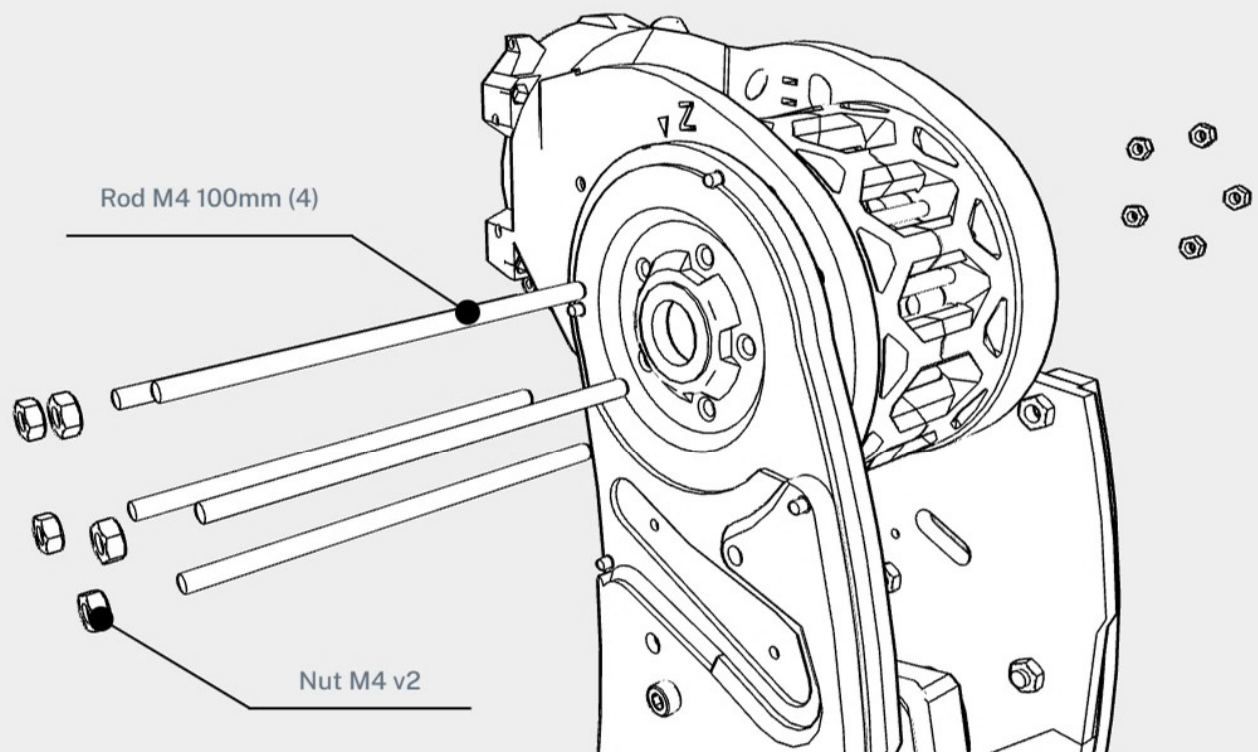






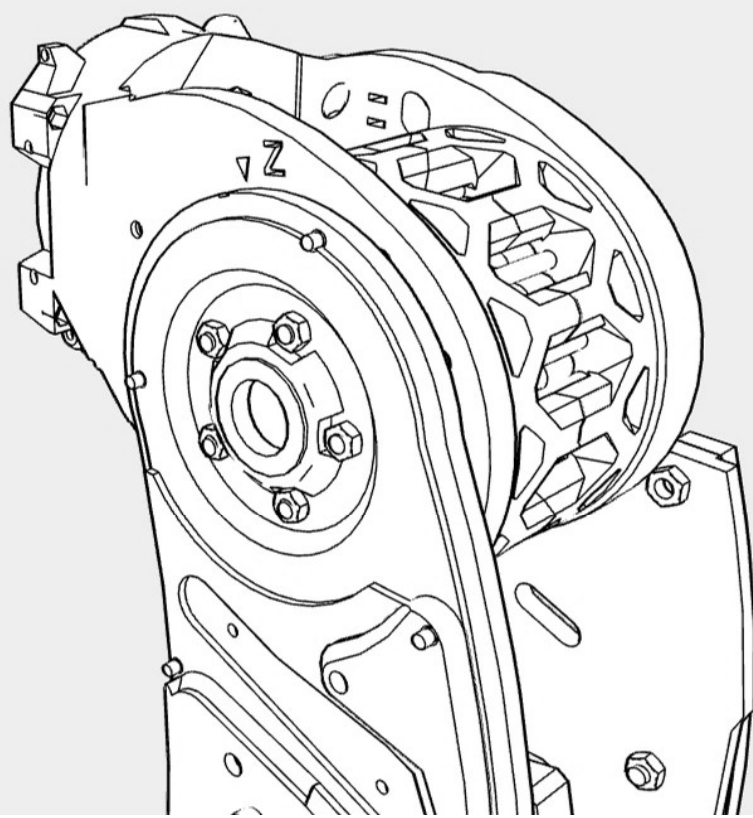


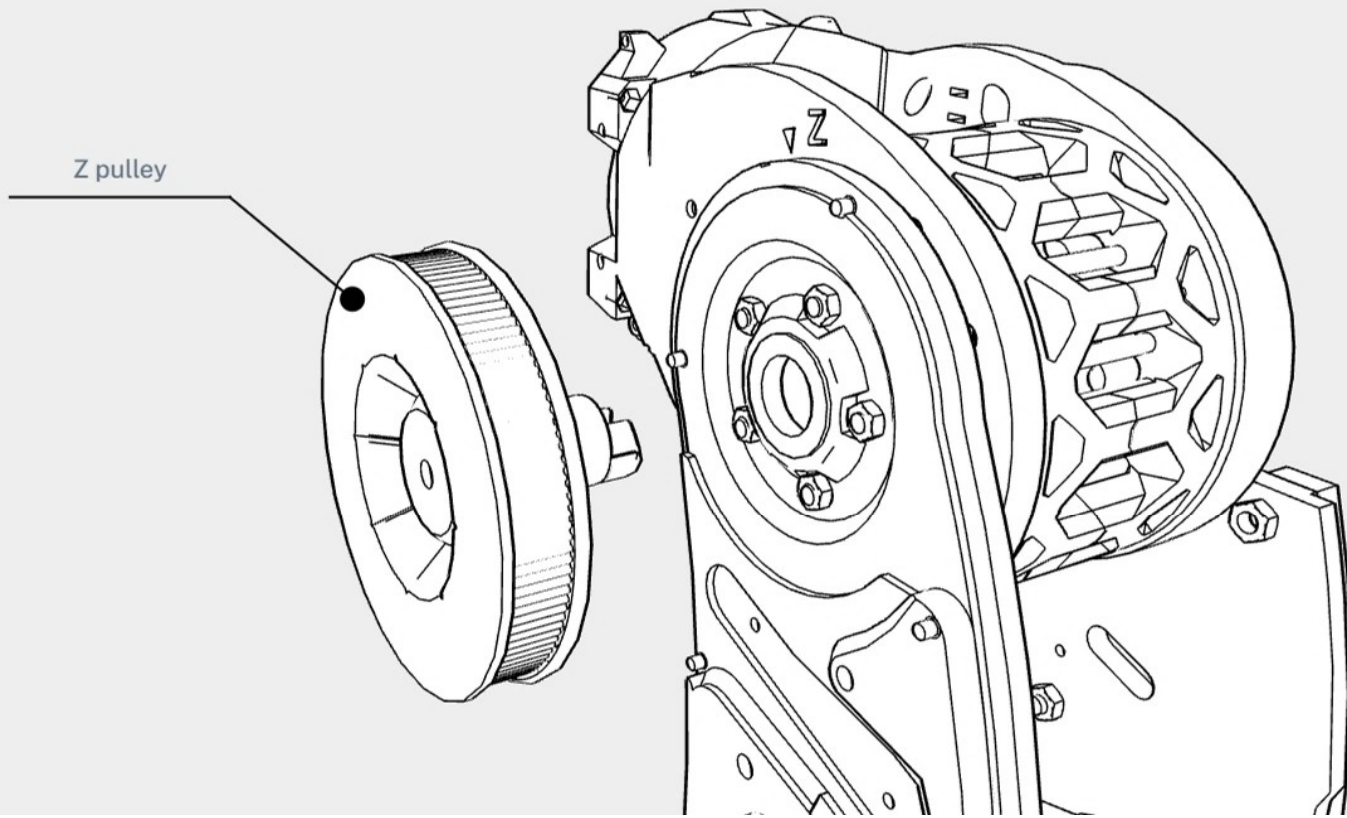
Stretch Z axis
cores so that A
axis can fit



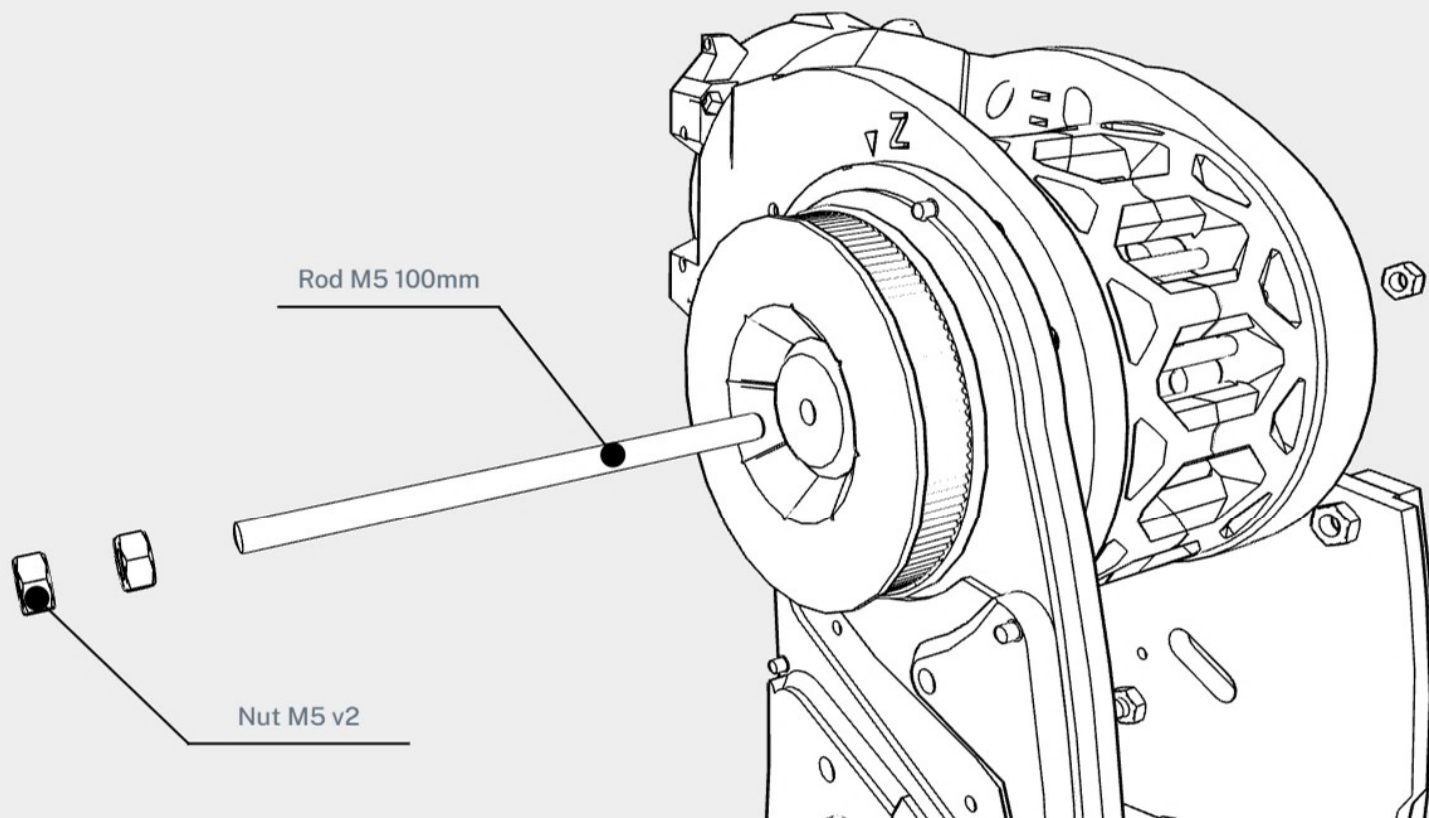
Rod M4 100mm (4)

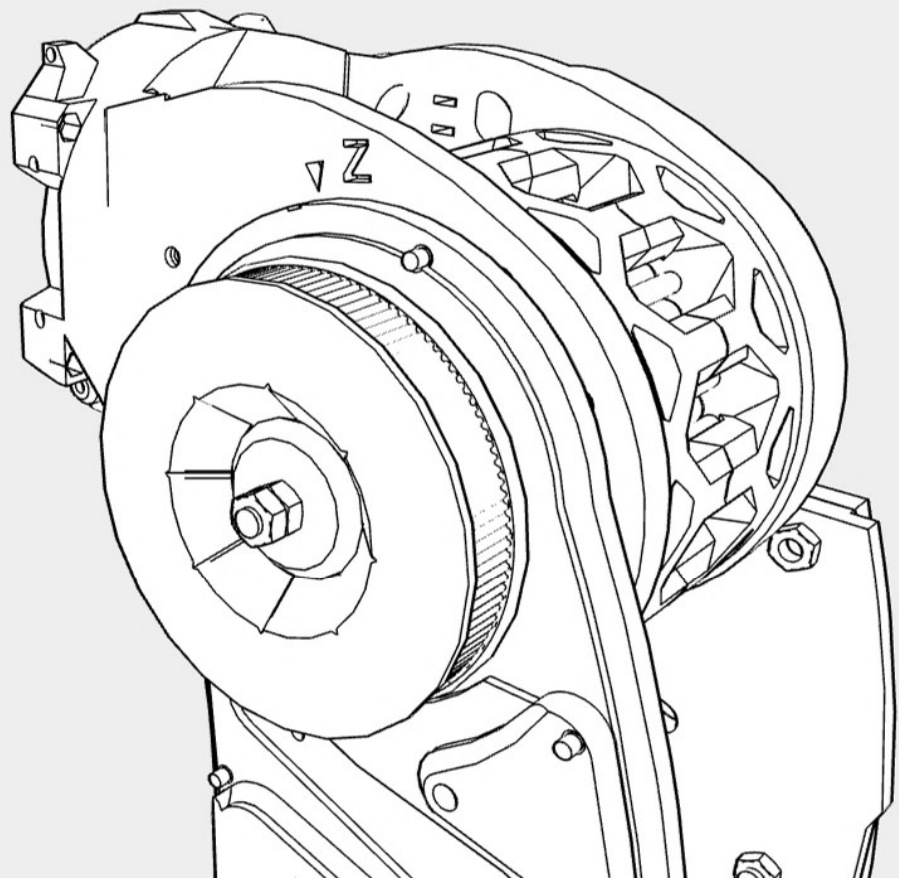
Nut M4 v2

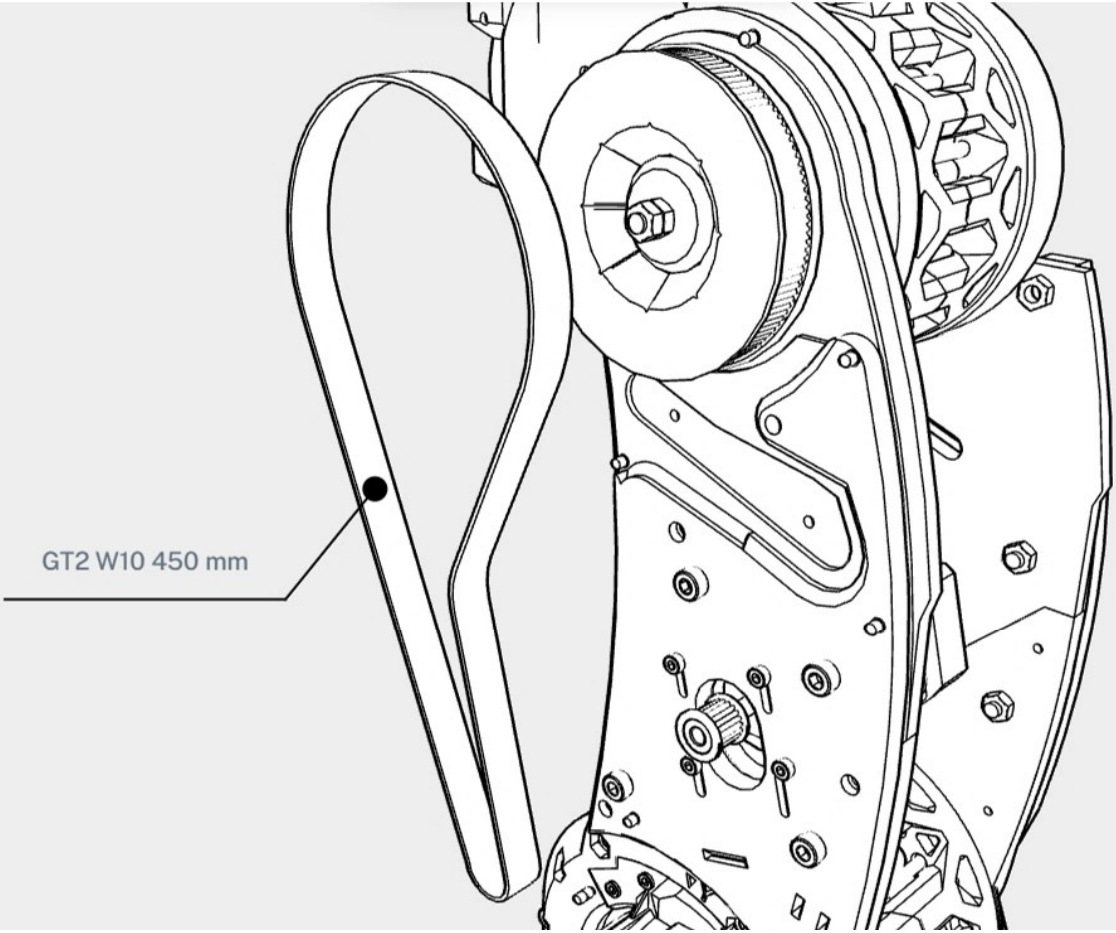




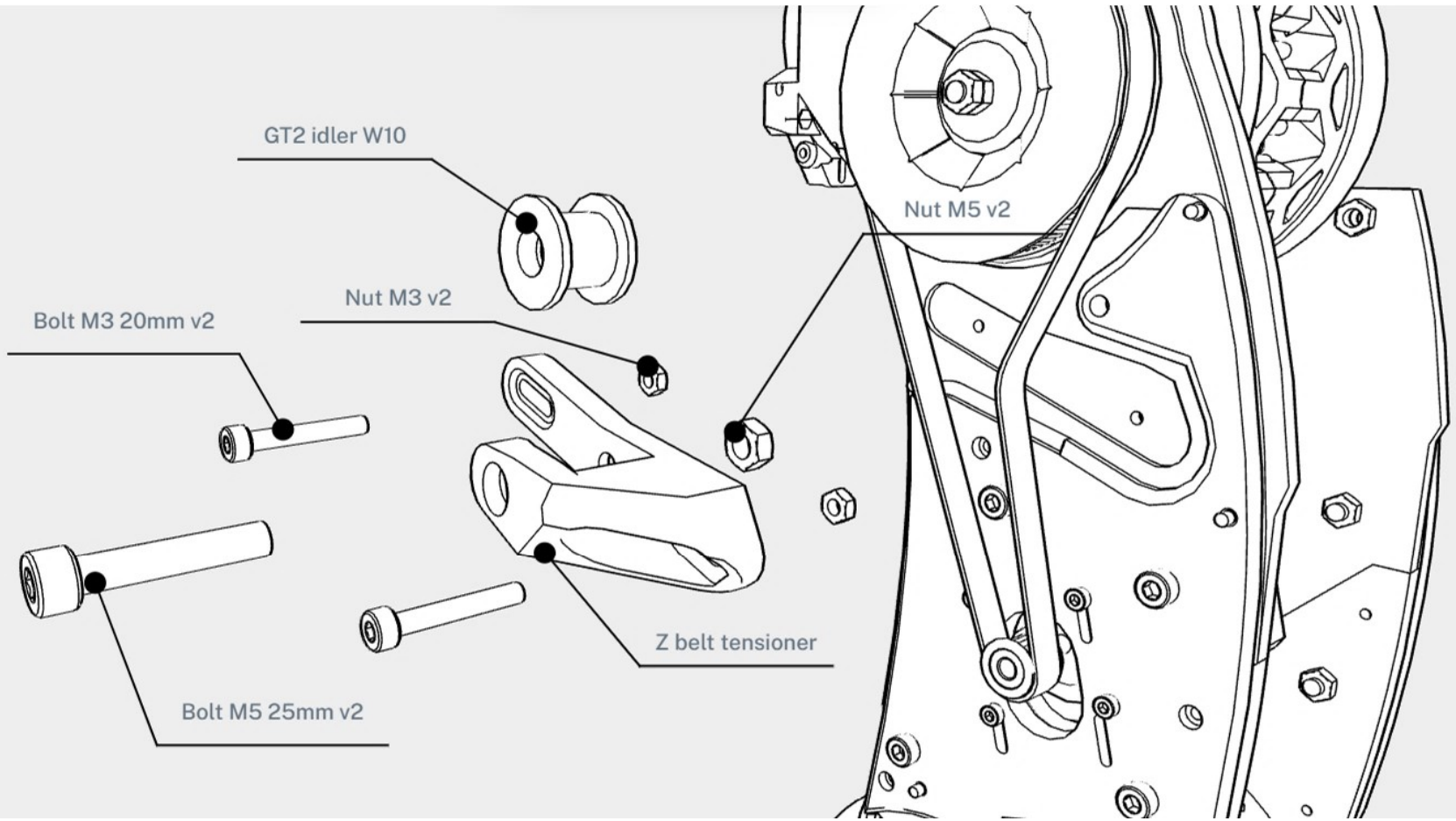
Z pulley

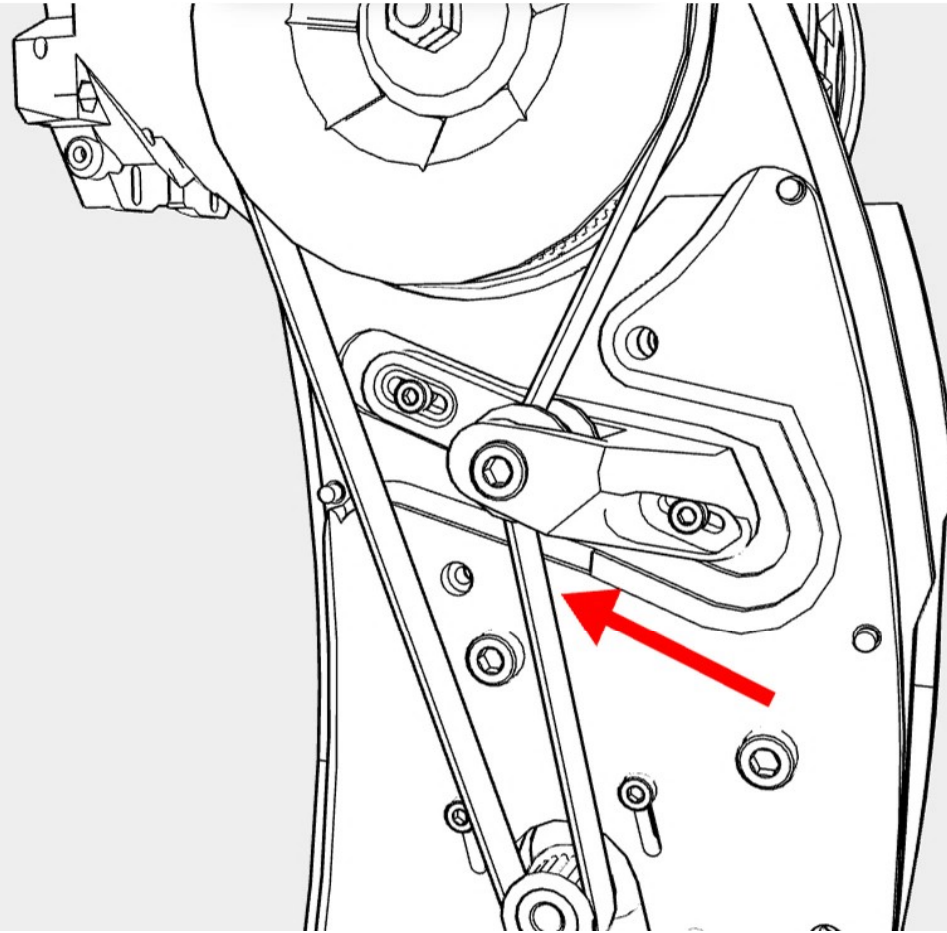




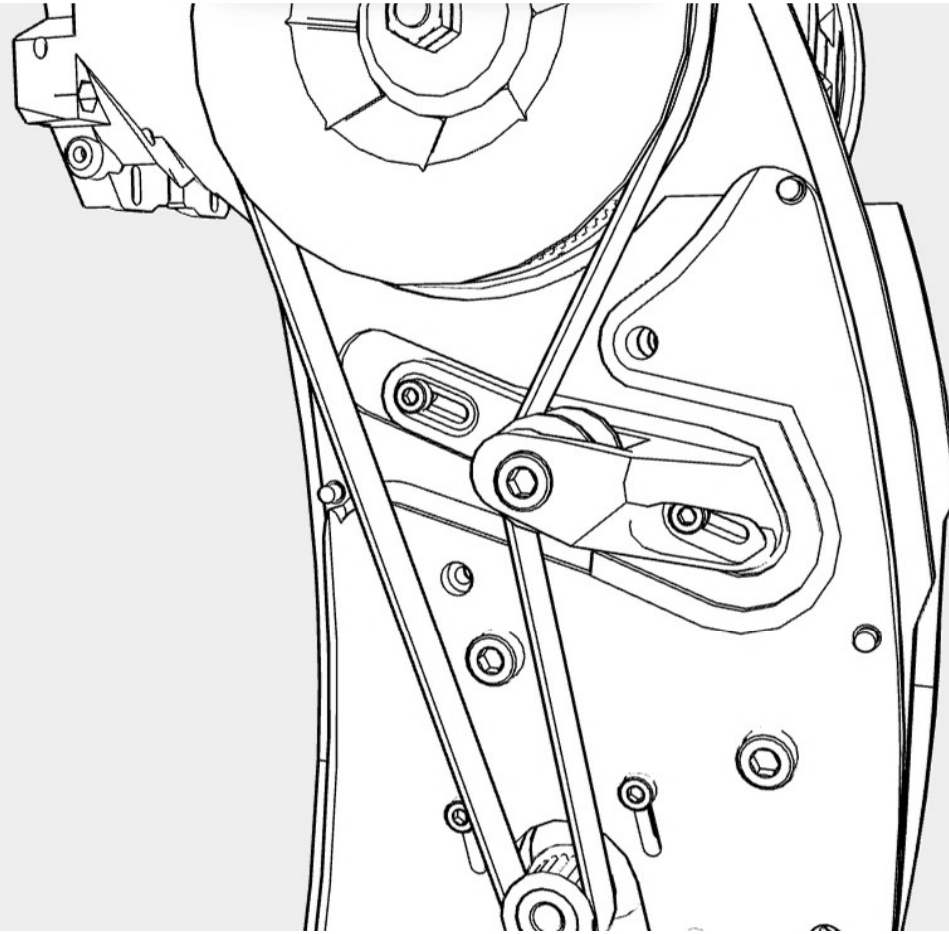


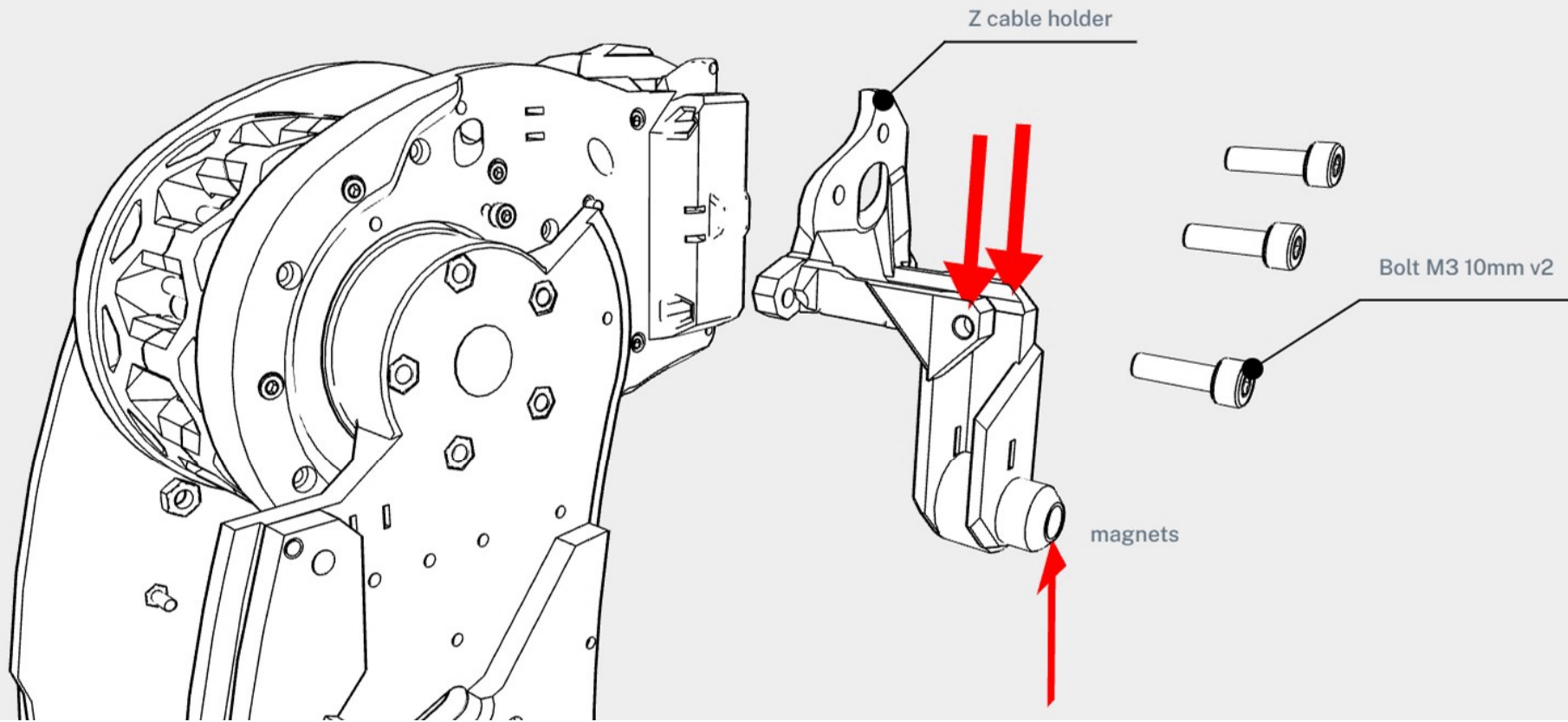
GT2 W10 450 mm

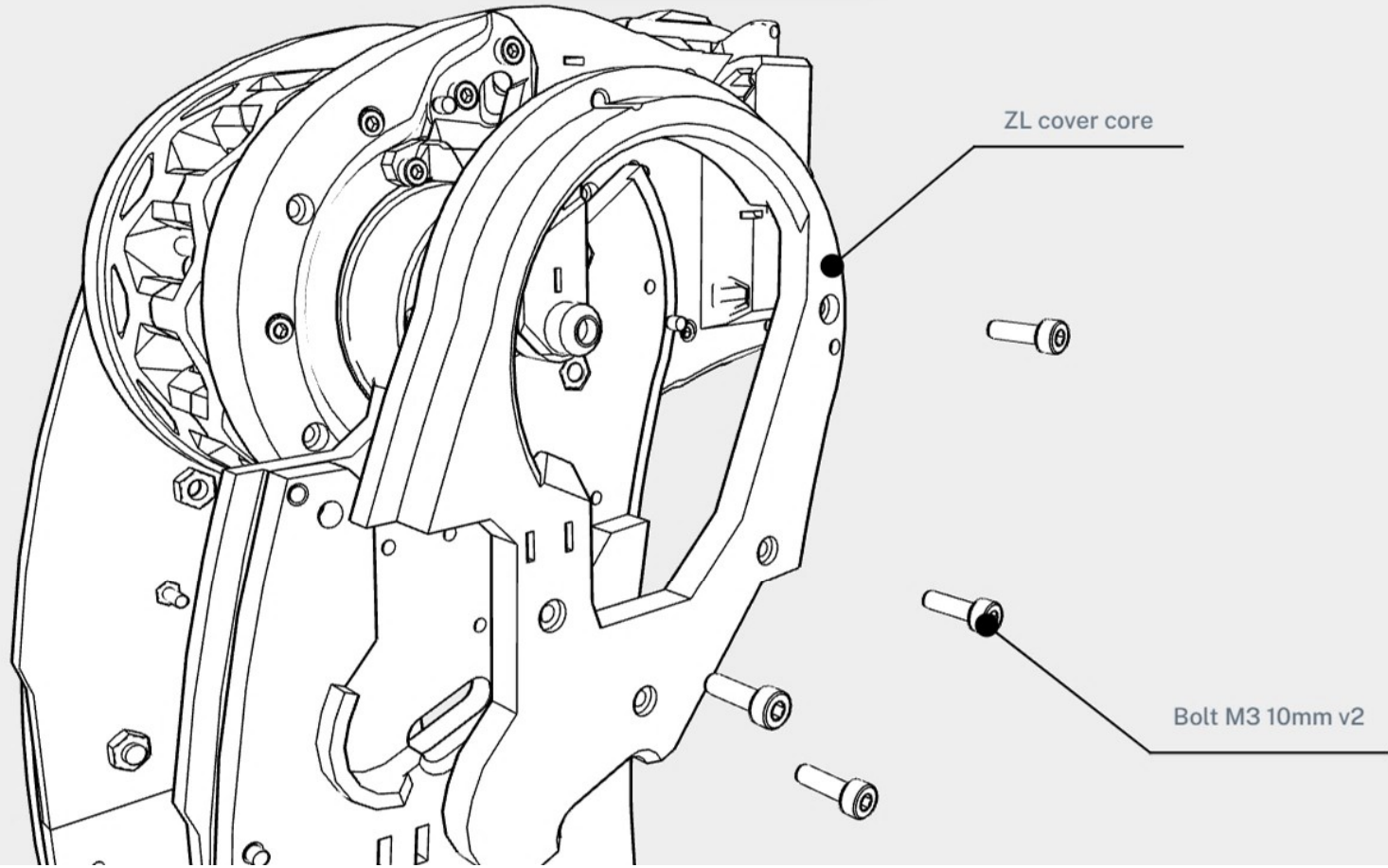


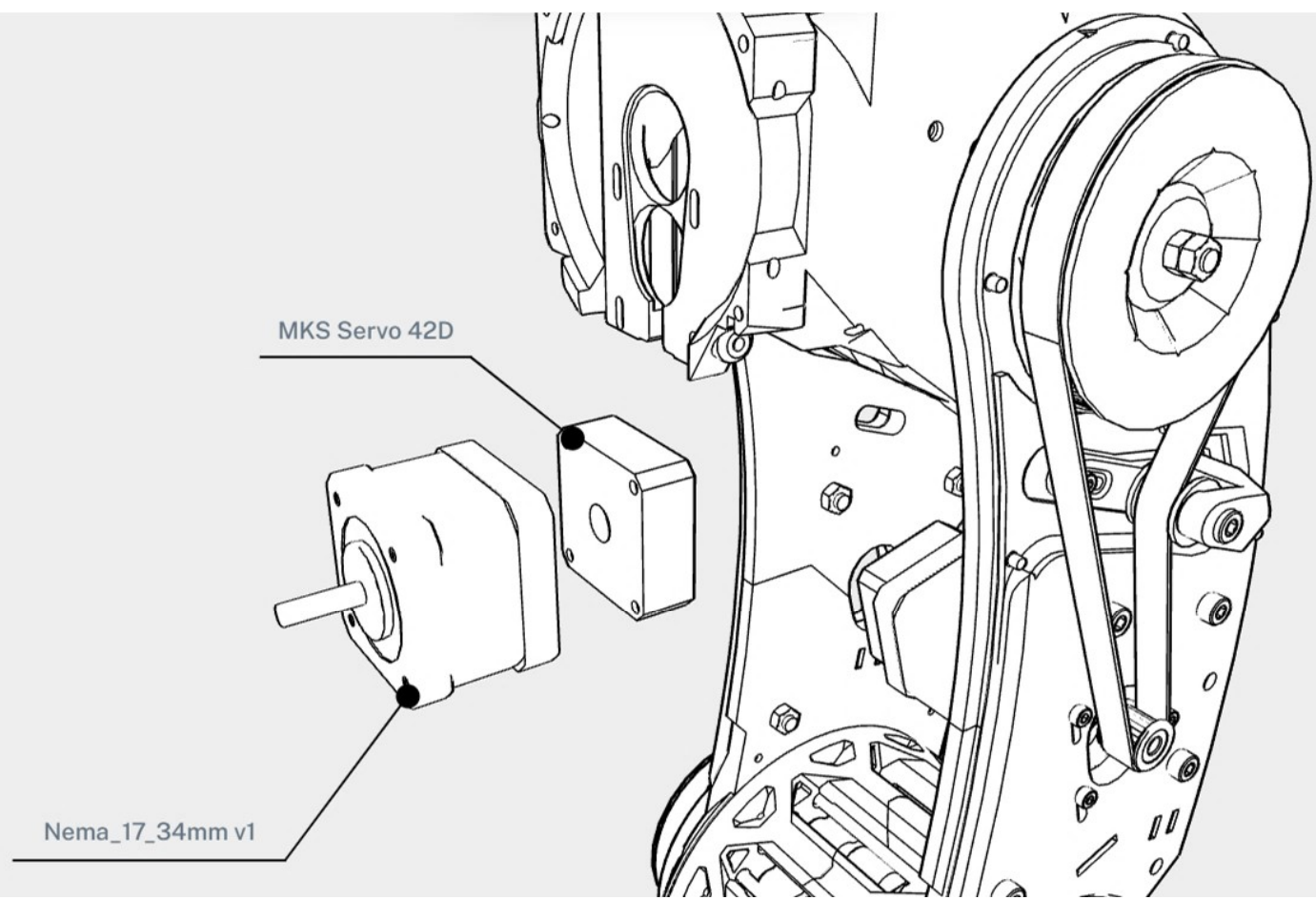


Tighten the belt, then
tighten the bolts to secure
the tensioner



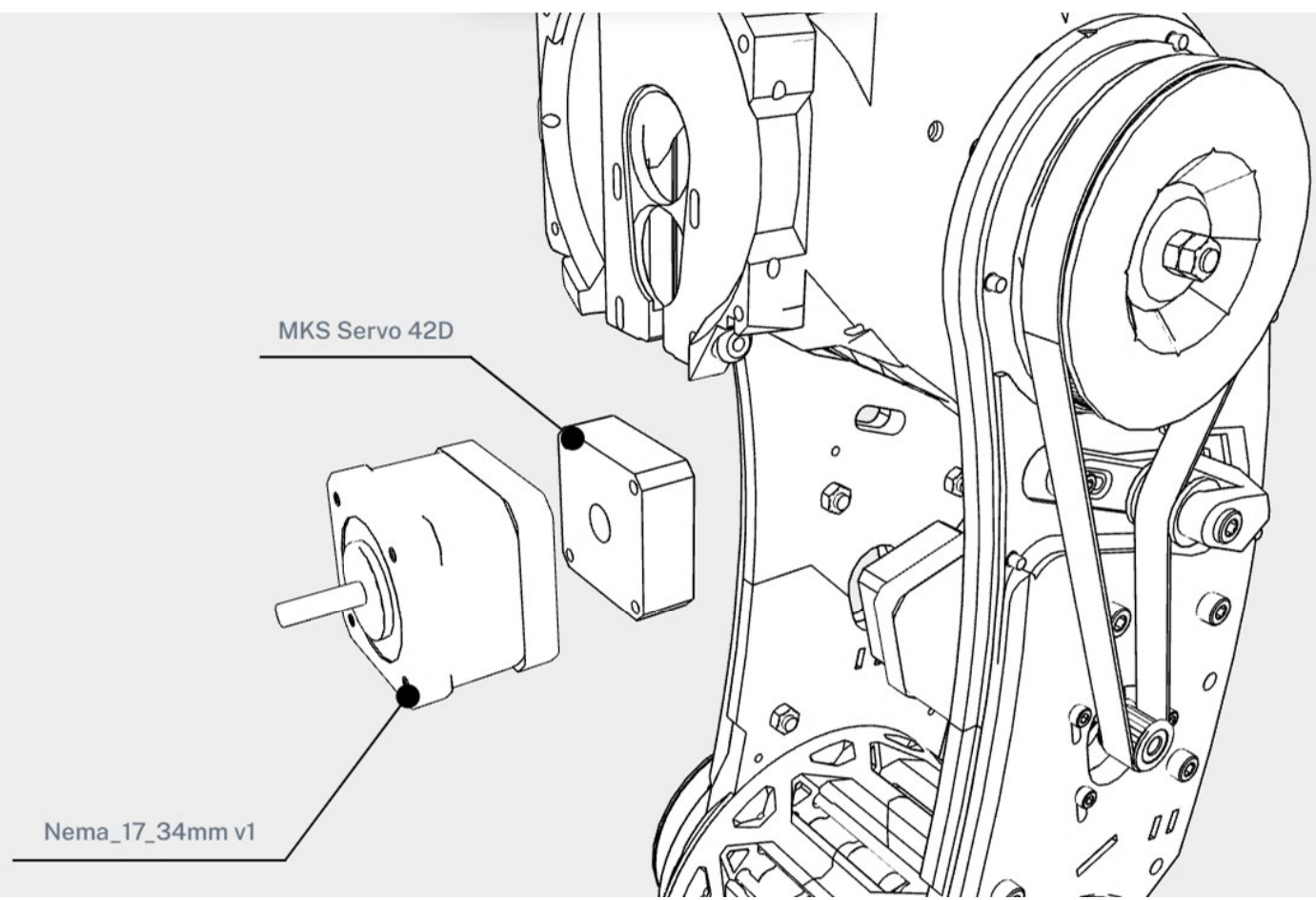






MKS Servo 42D

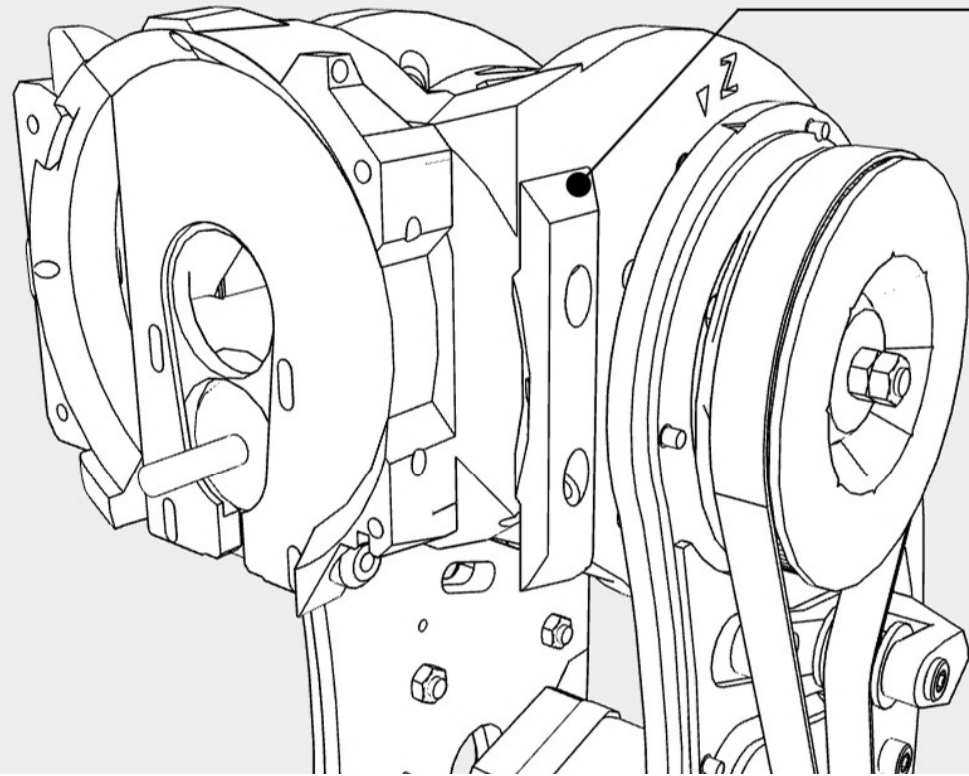
Nema_17_34mm v1



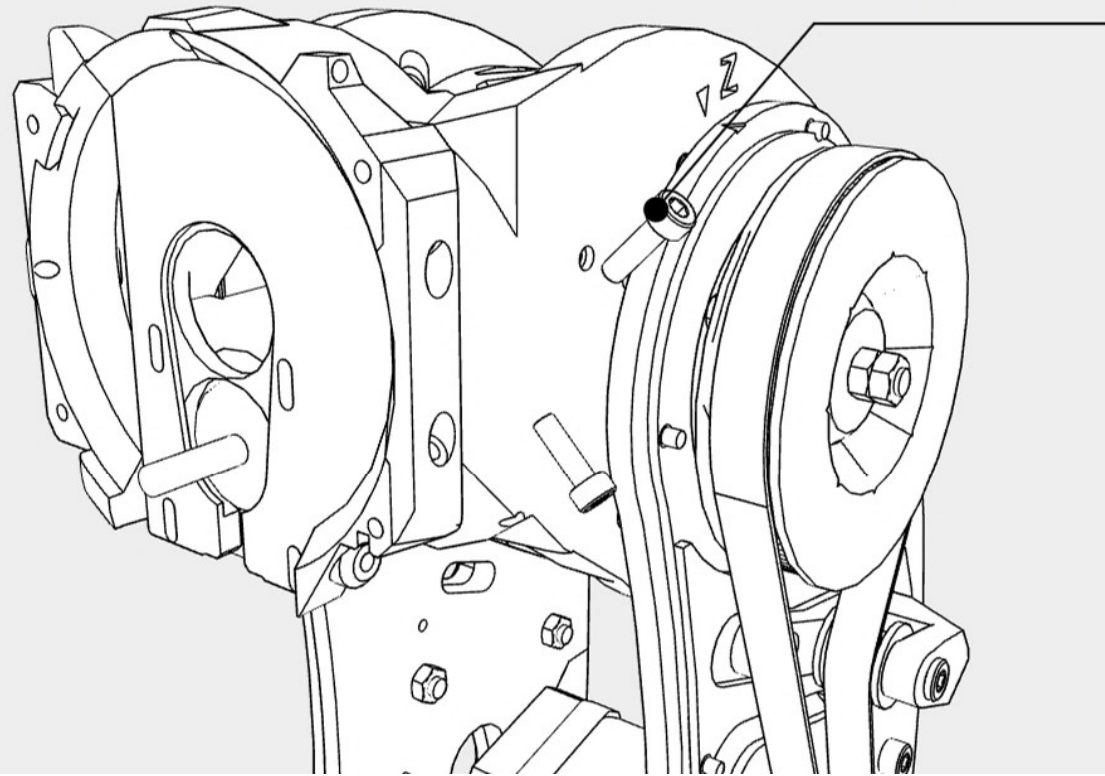
MKS Servo 42D

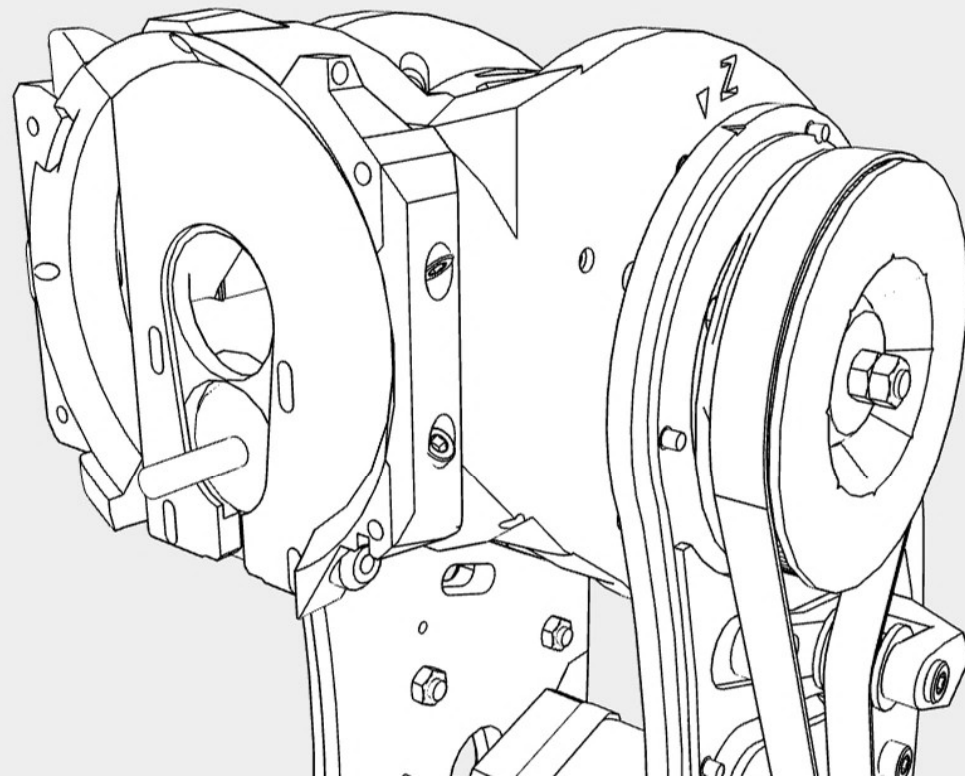
Nema_17_34mm v1

A m3 bolt carrier

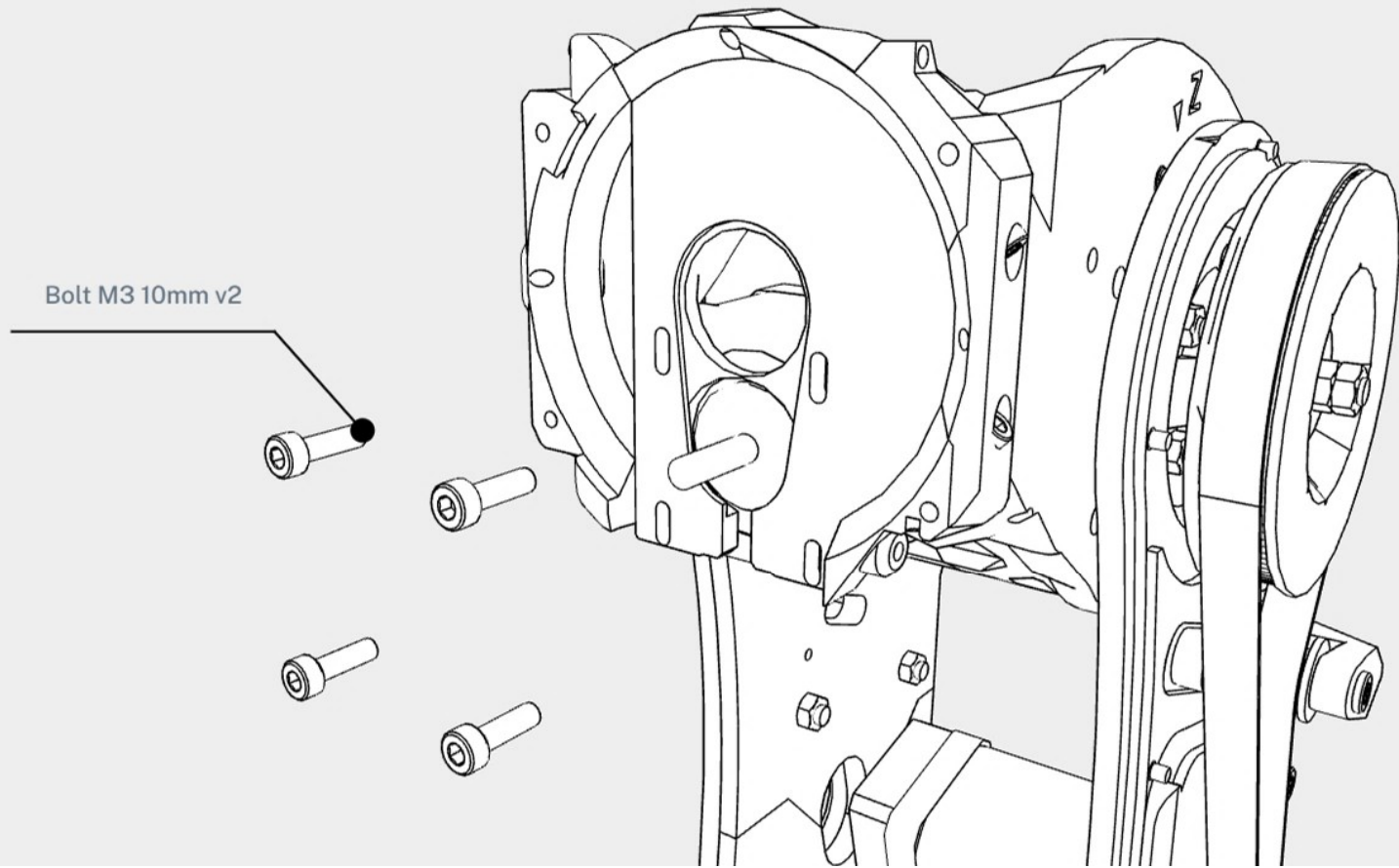


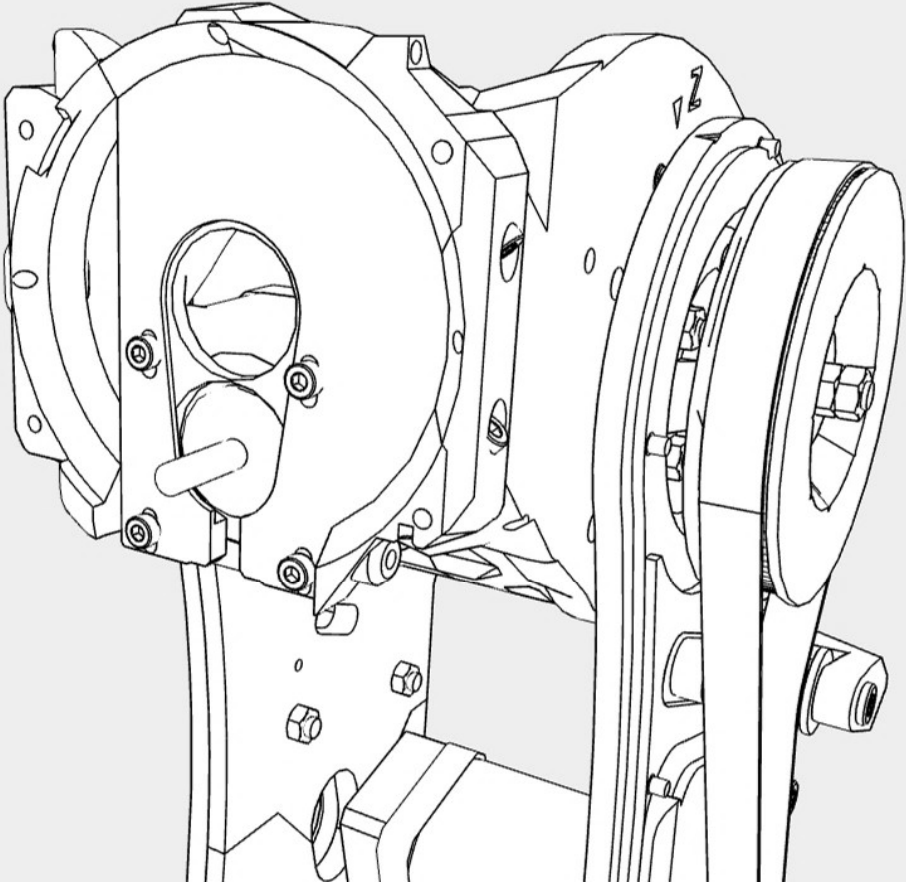
Bolt M3 10mm v2

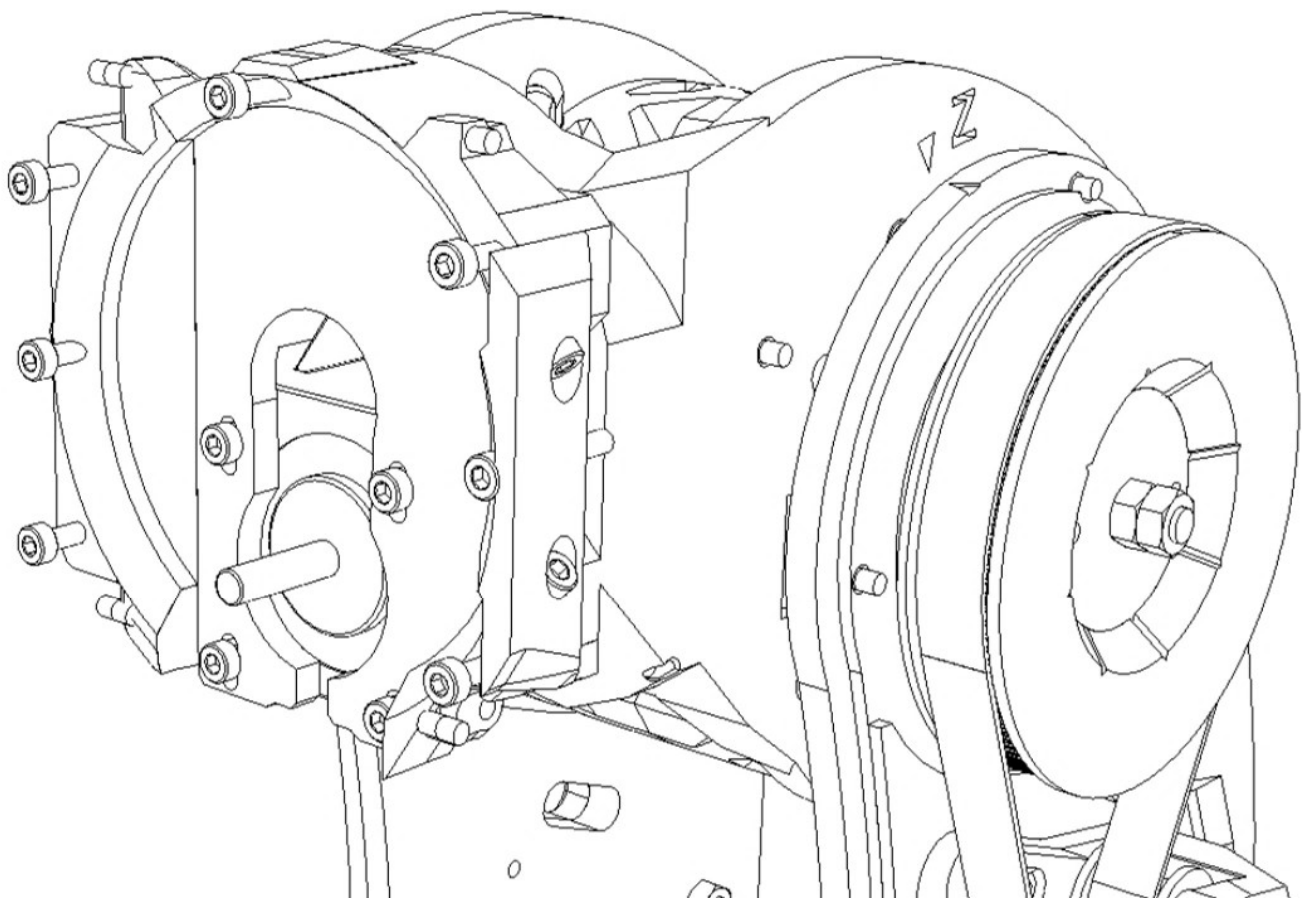




Bolt M3 10mm v2



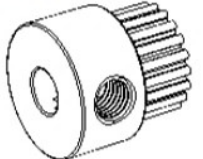




Remove the top ring of the pulley with pliers

AG motor gear

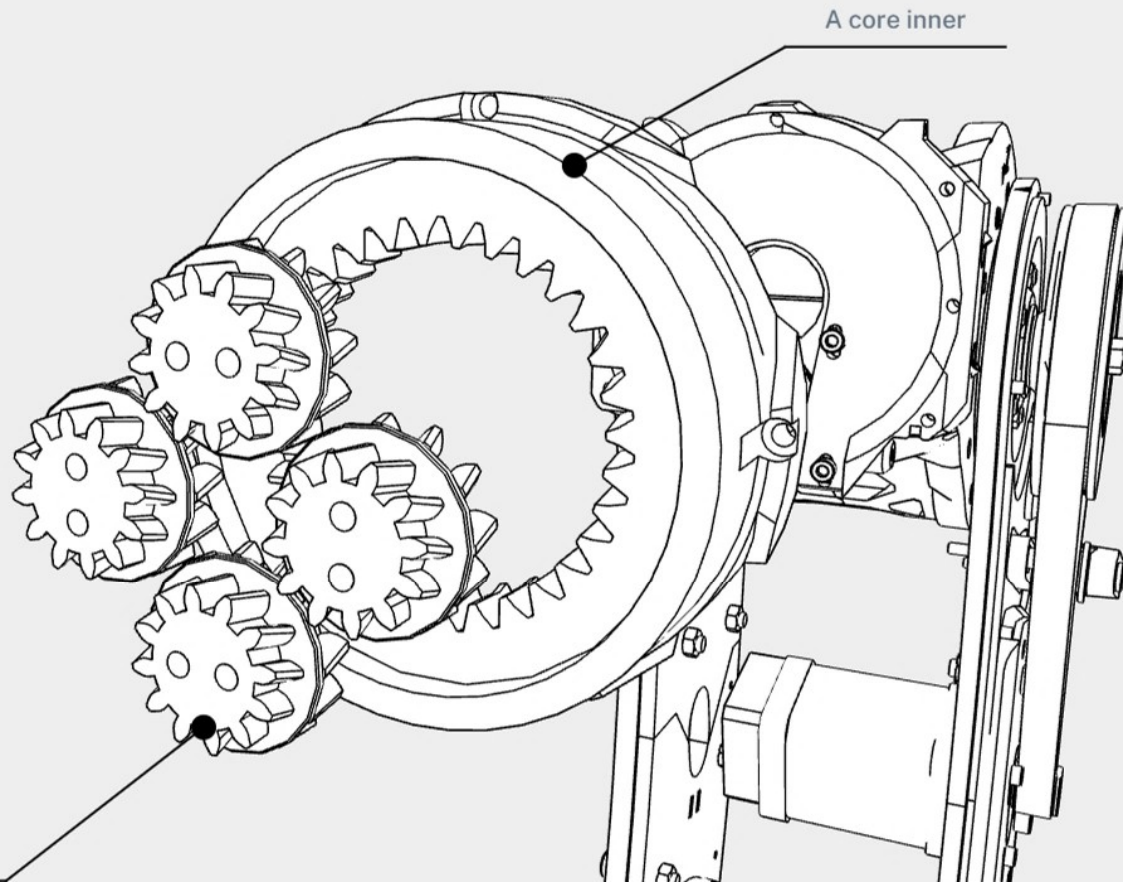
GT2B5W6

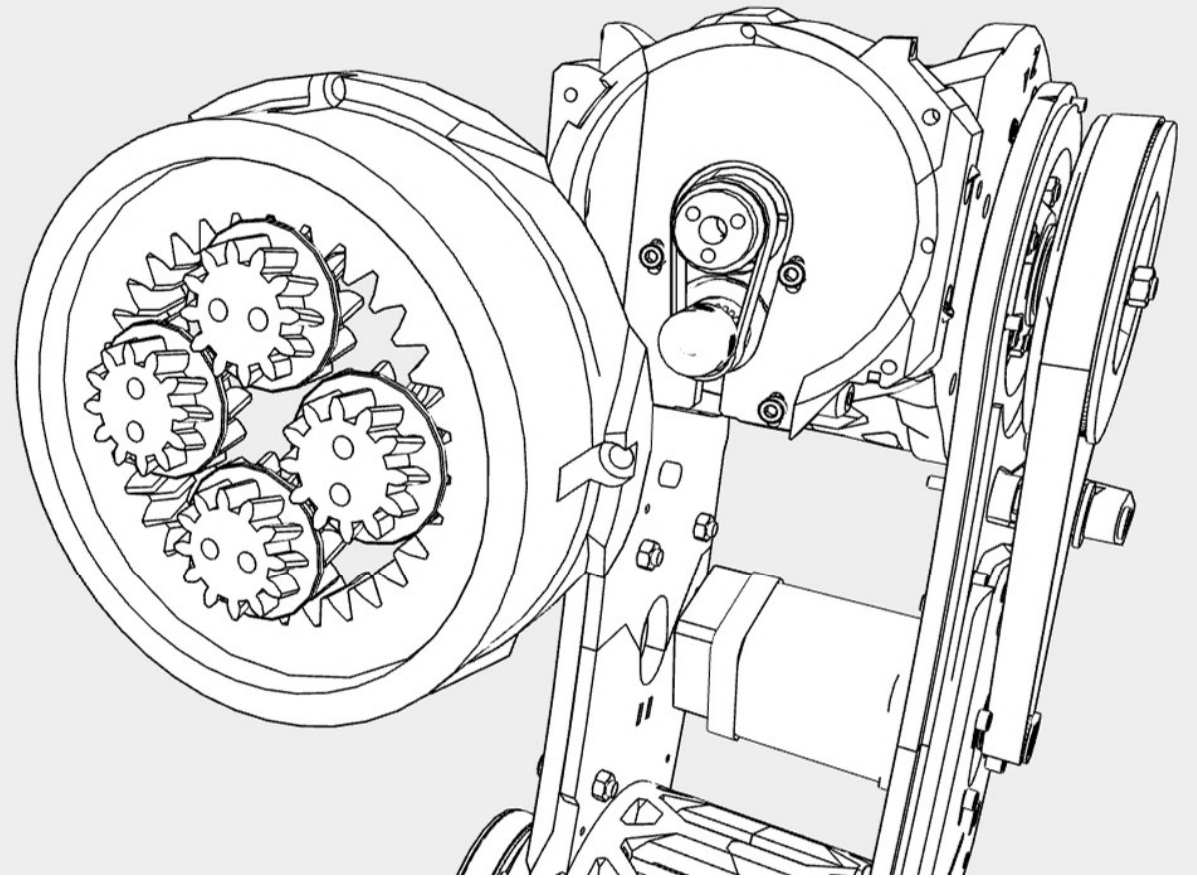


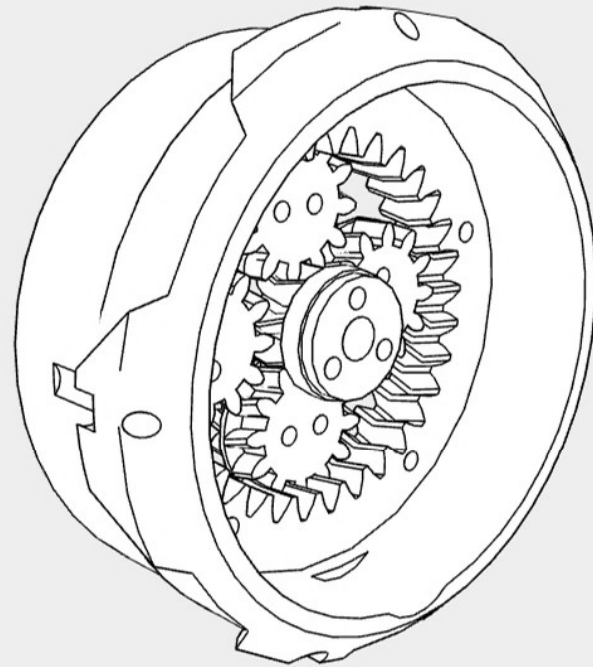
Orientation of the planetary gears are important for the proper function of the gearbox.

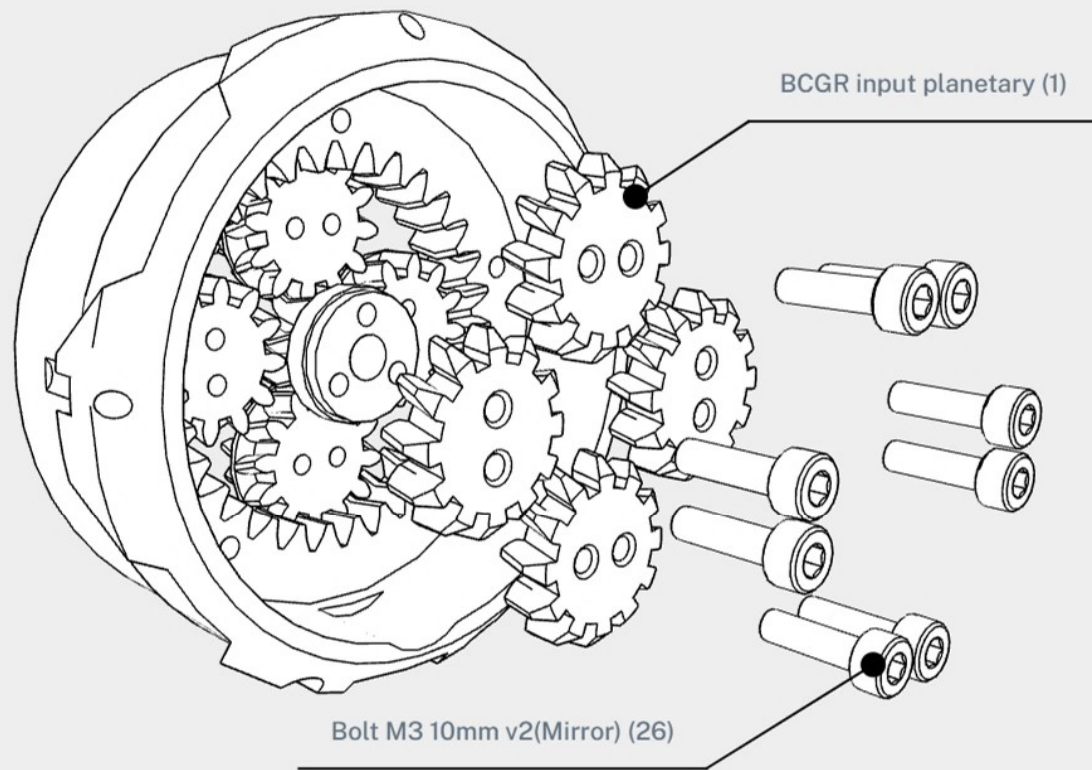
Each gear is rotated 90° in respect to the next one.

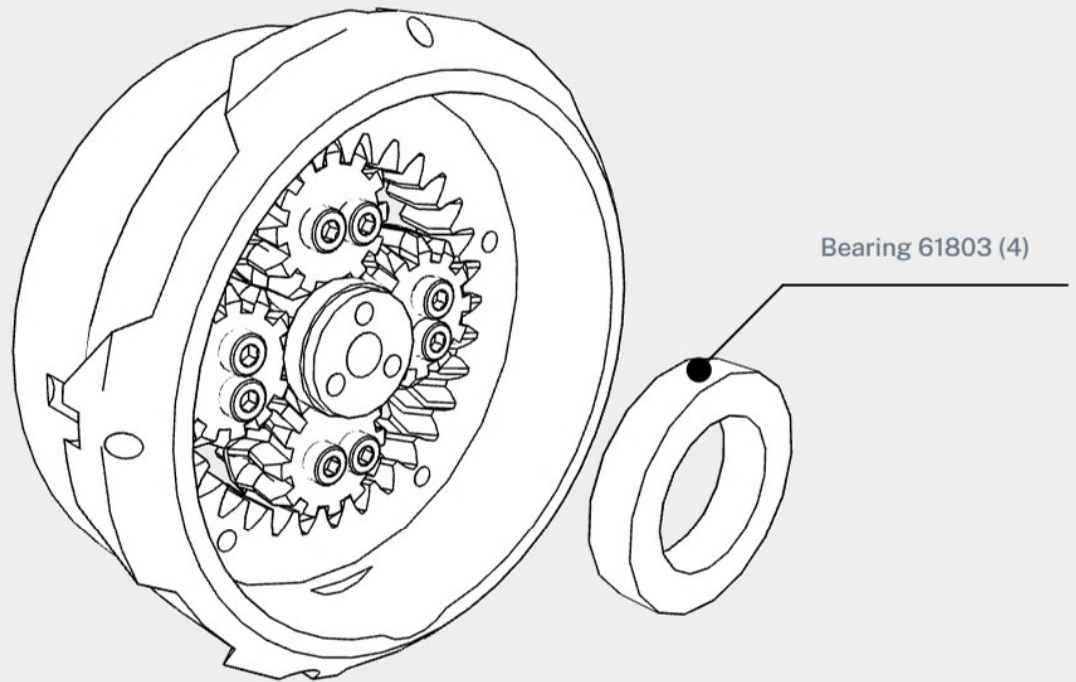
BCGR middle planetary (4)



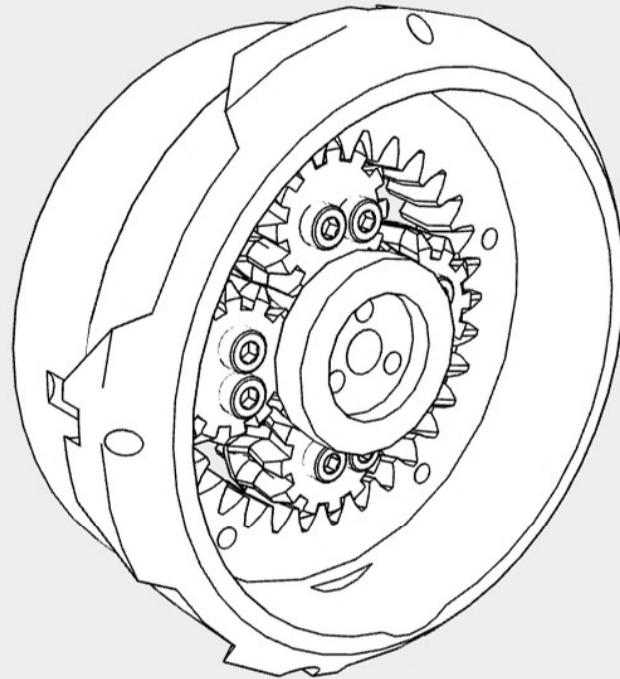


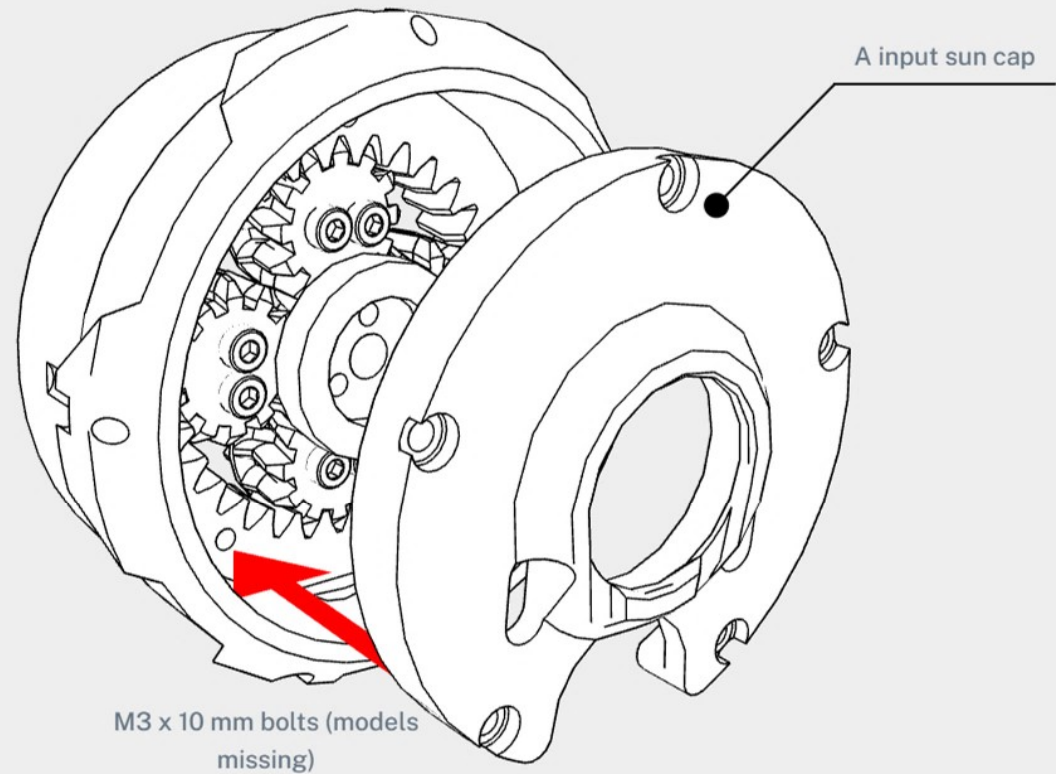




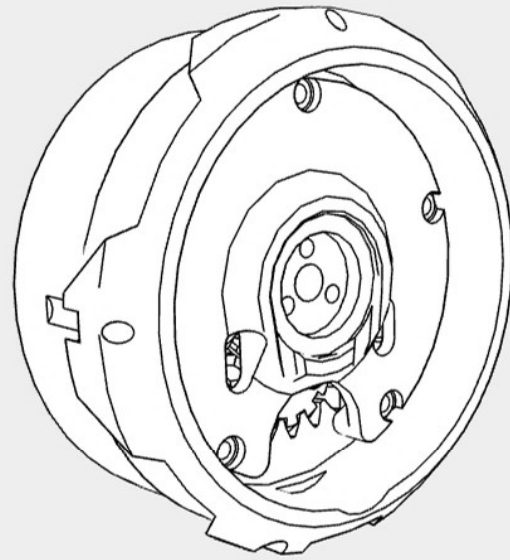


Bearing 61803 (4)





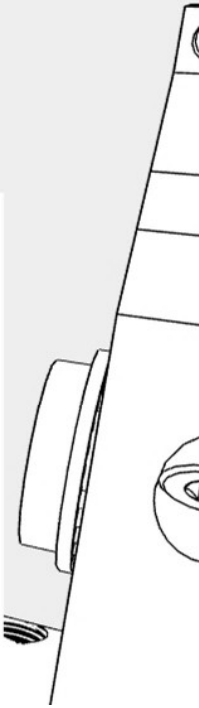
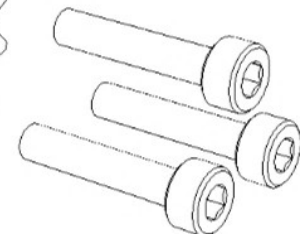
Attach AG input
gear in this step
it's easier than
doing it
afterwards in
step 99

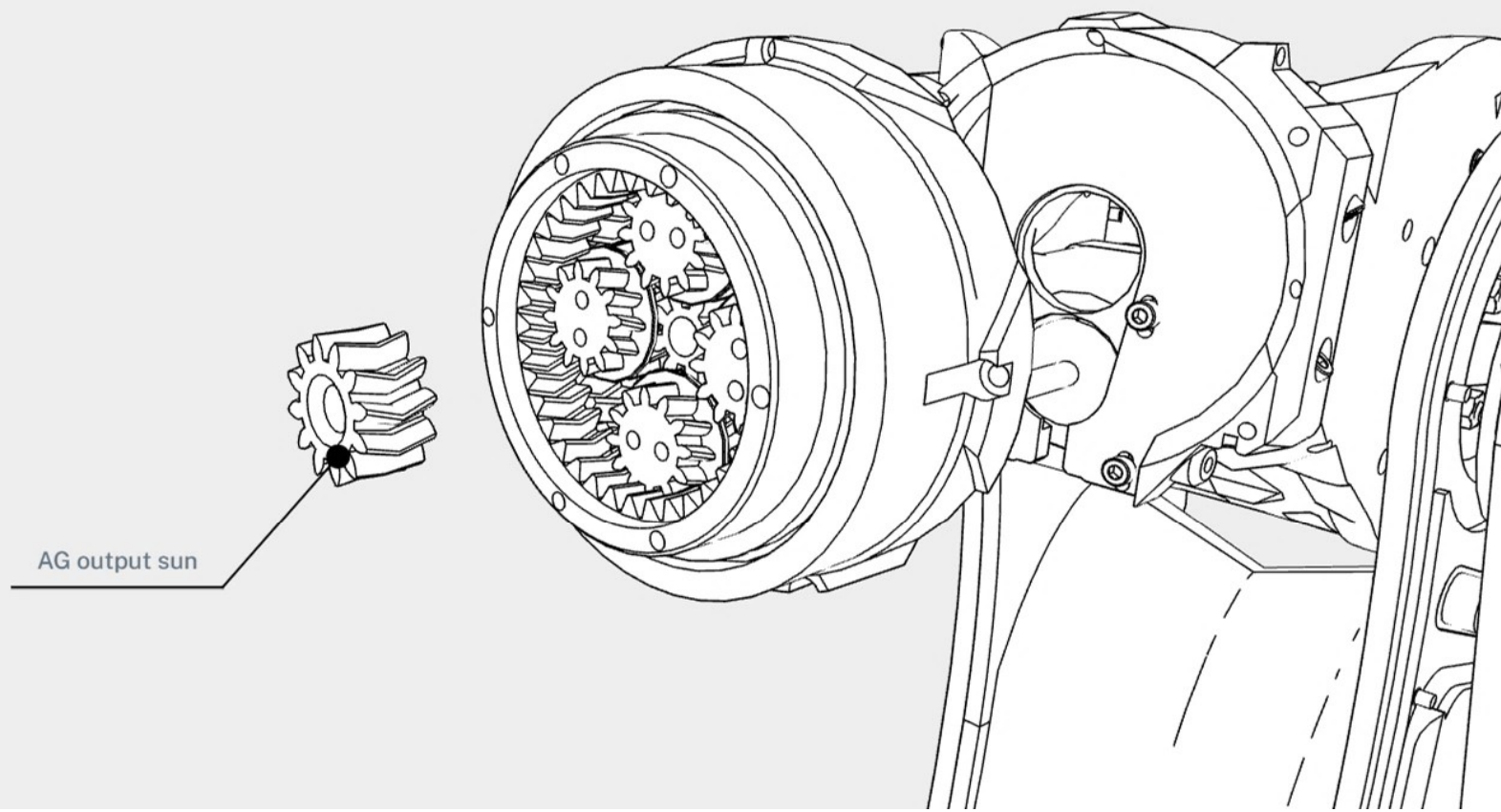


AG input gear



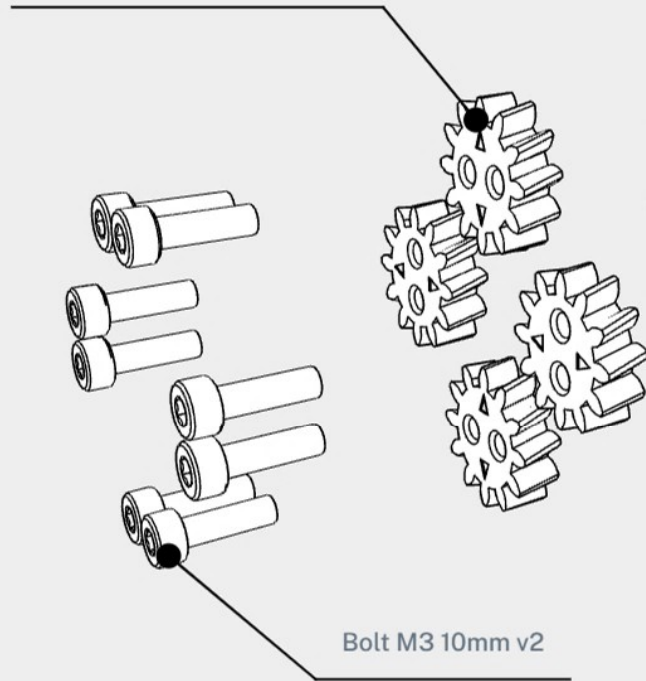
M3x15



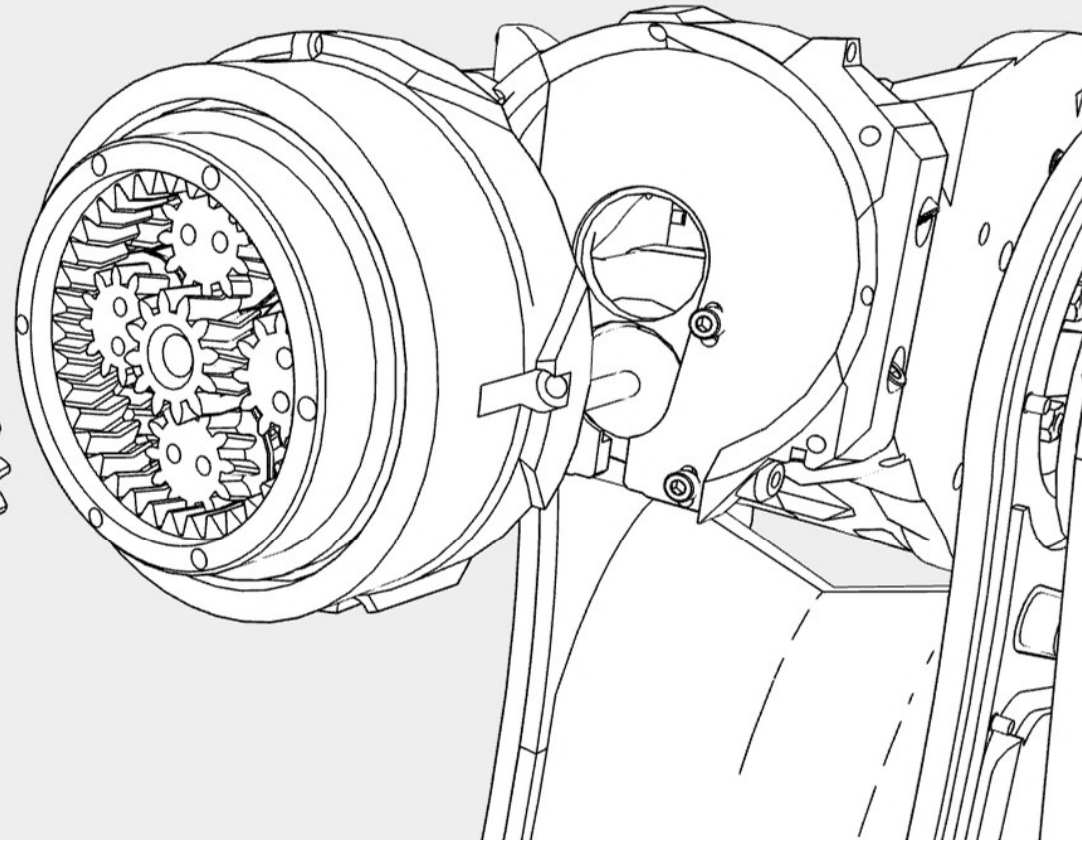


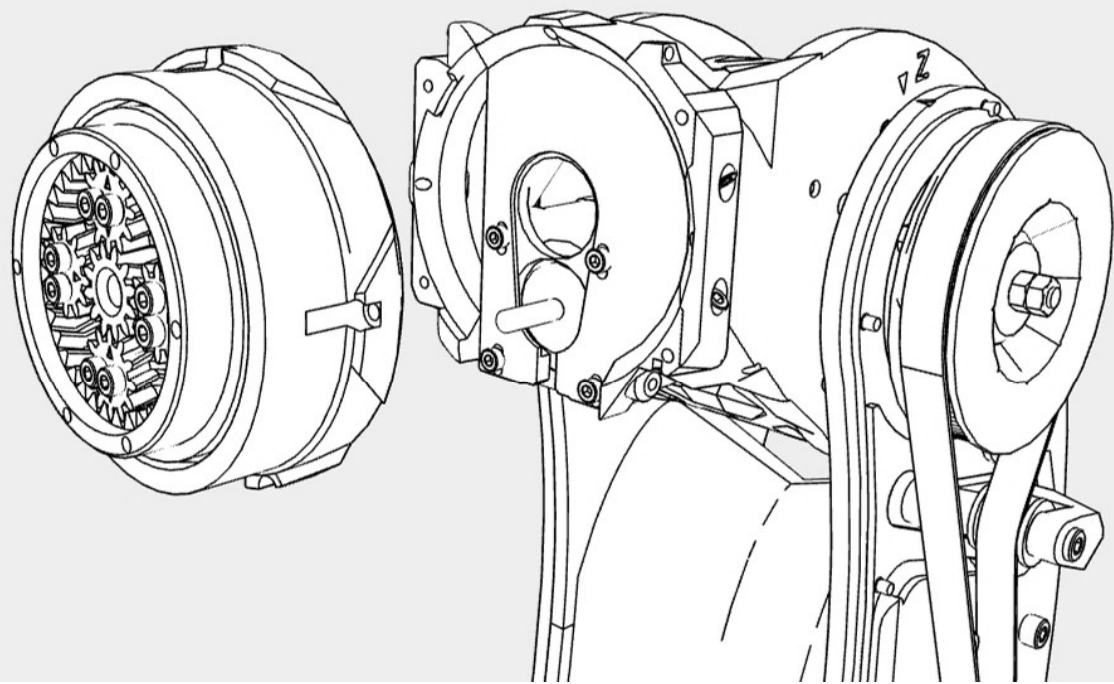
AG output sun

BCGR output planetary (4)

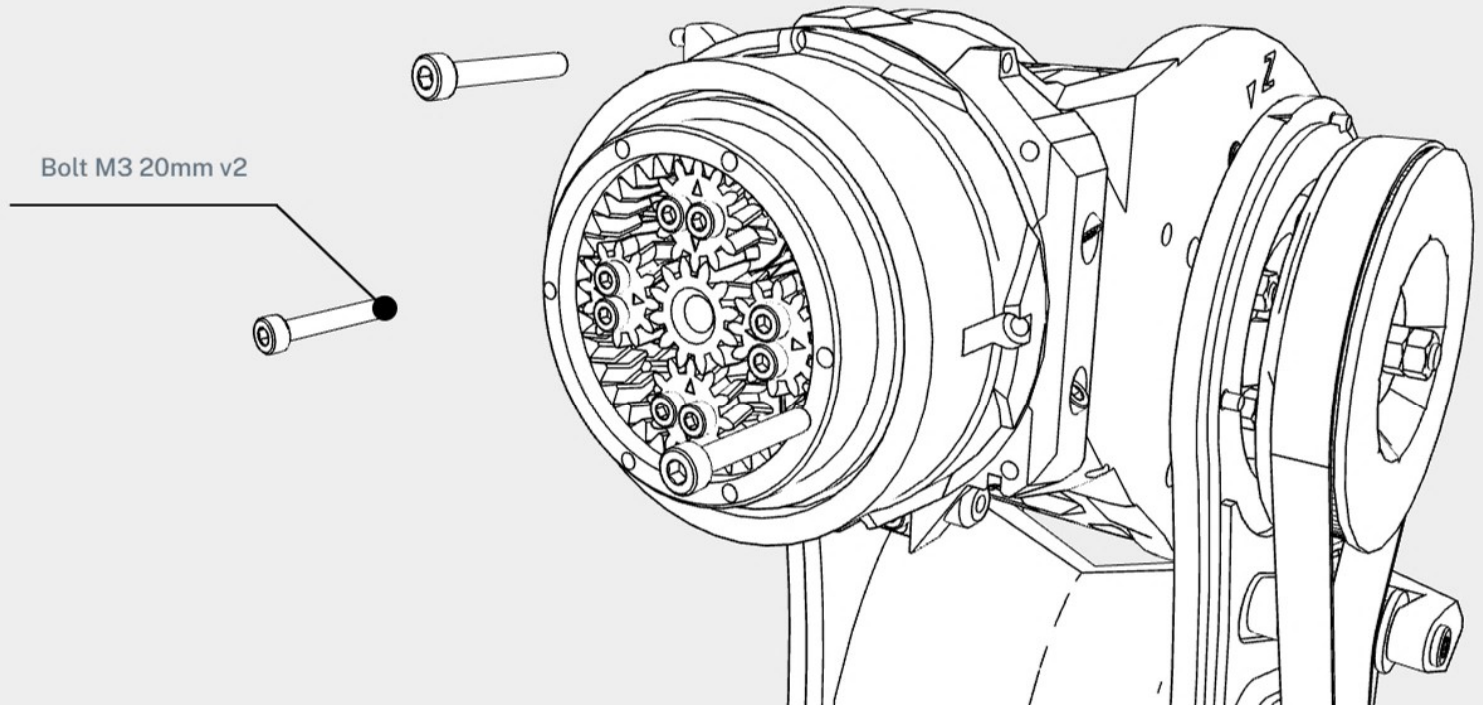


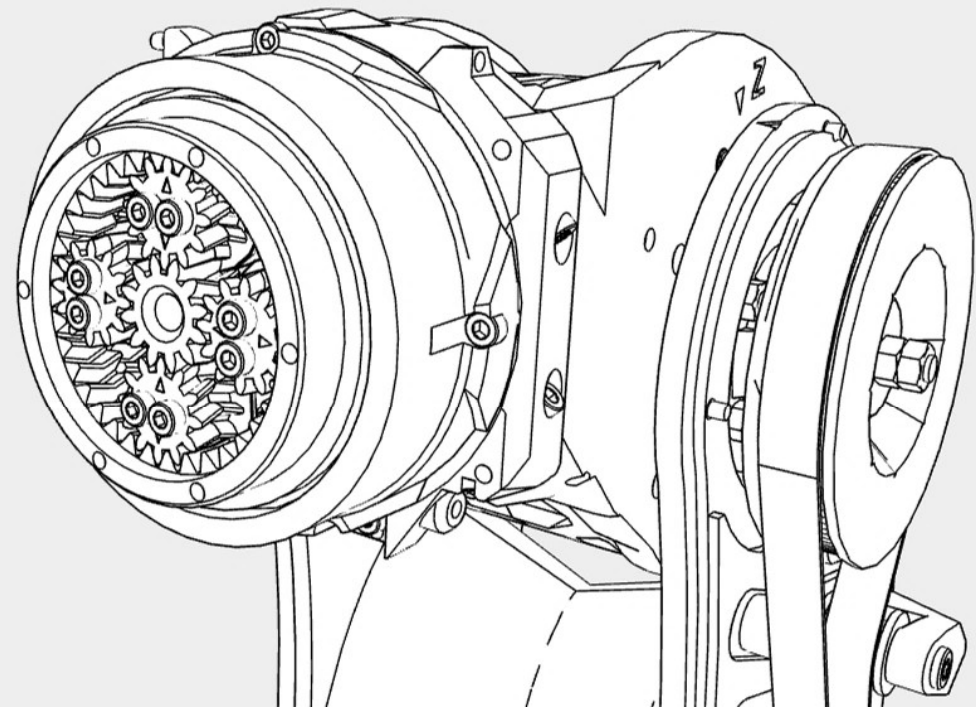
Bolt M3 10mm v2



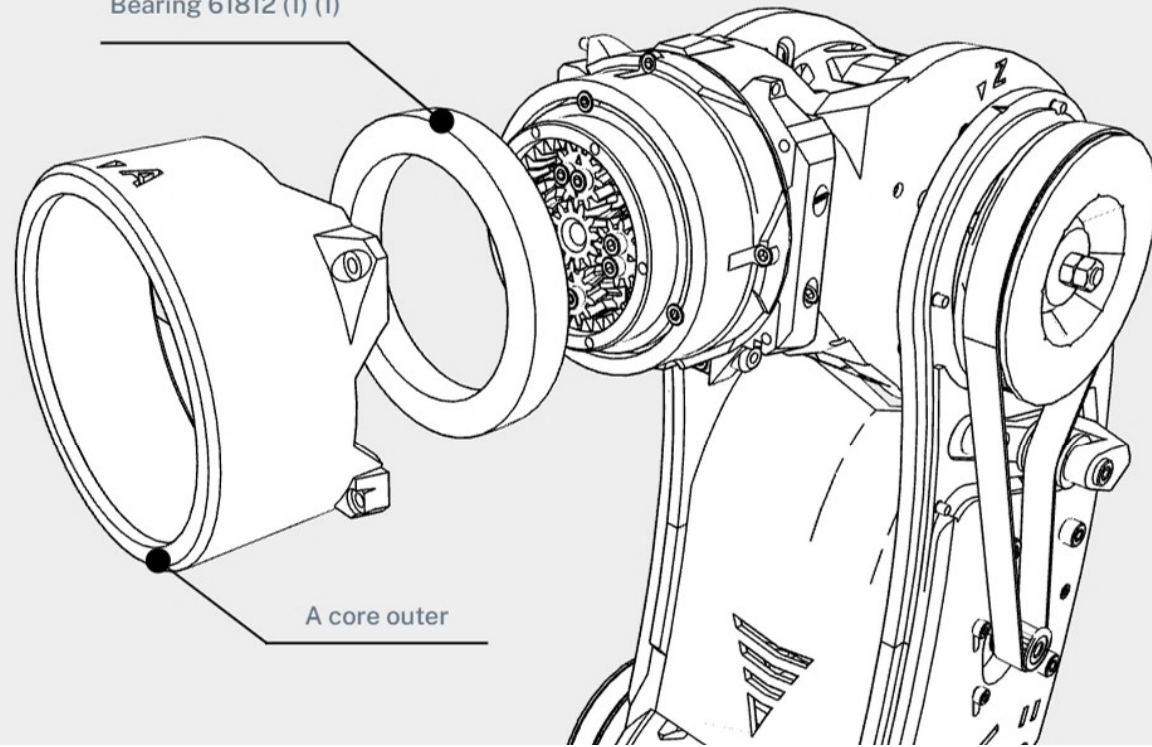


Bolt M3 20mm v2

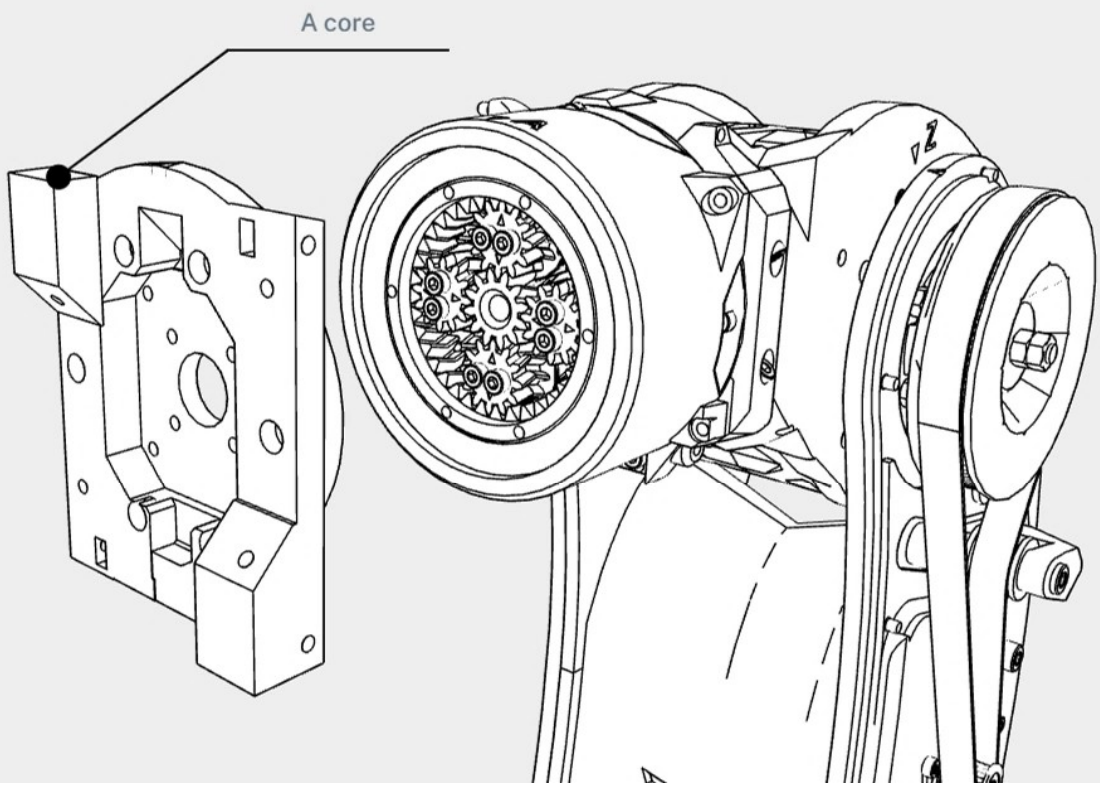




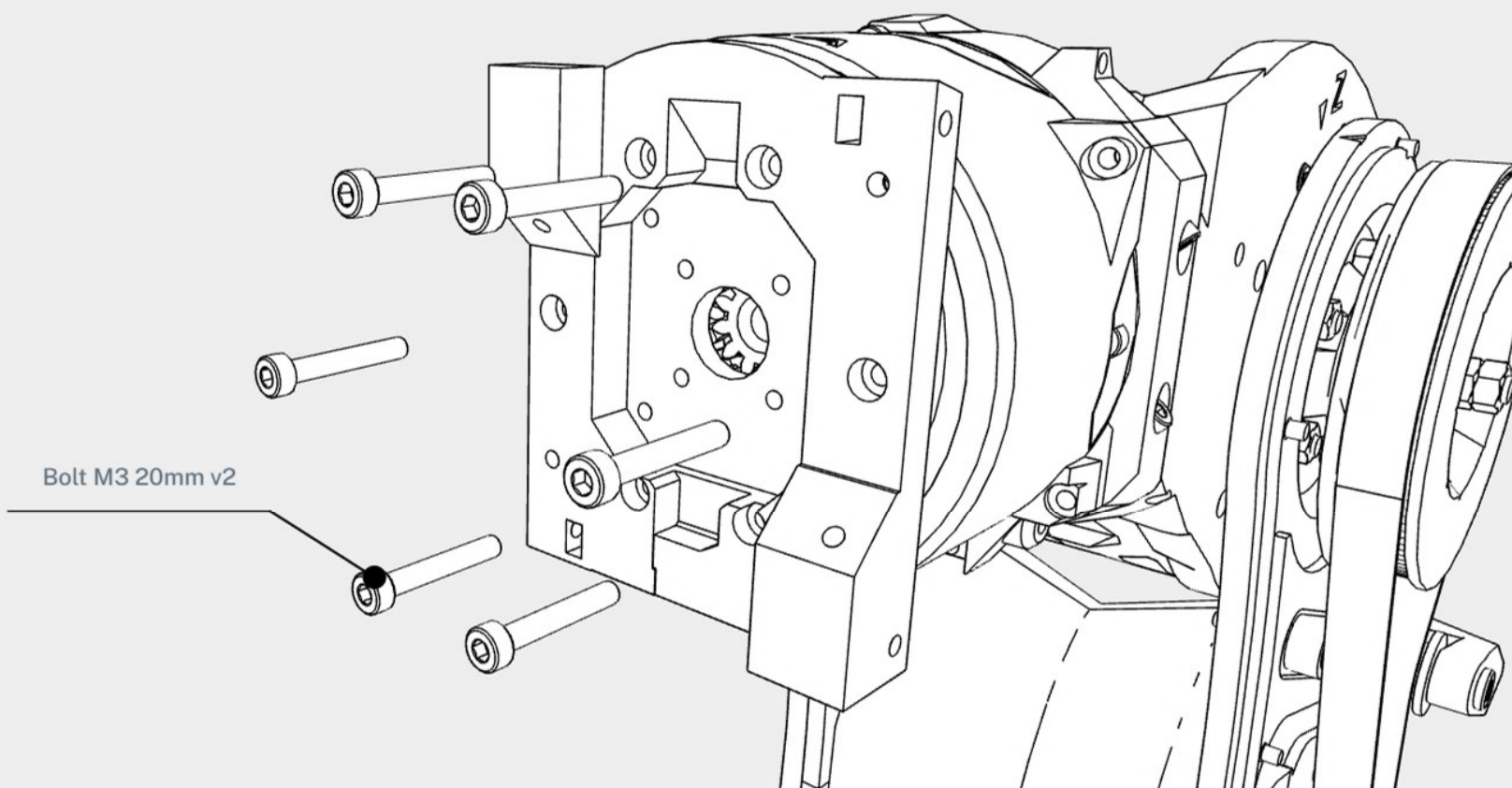
Bearing 61812 (1) (1)



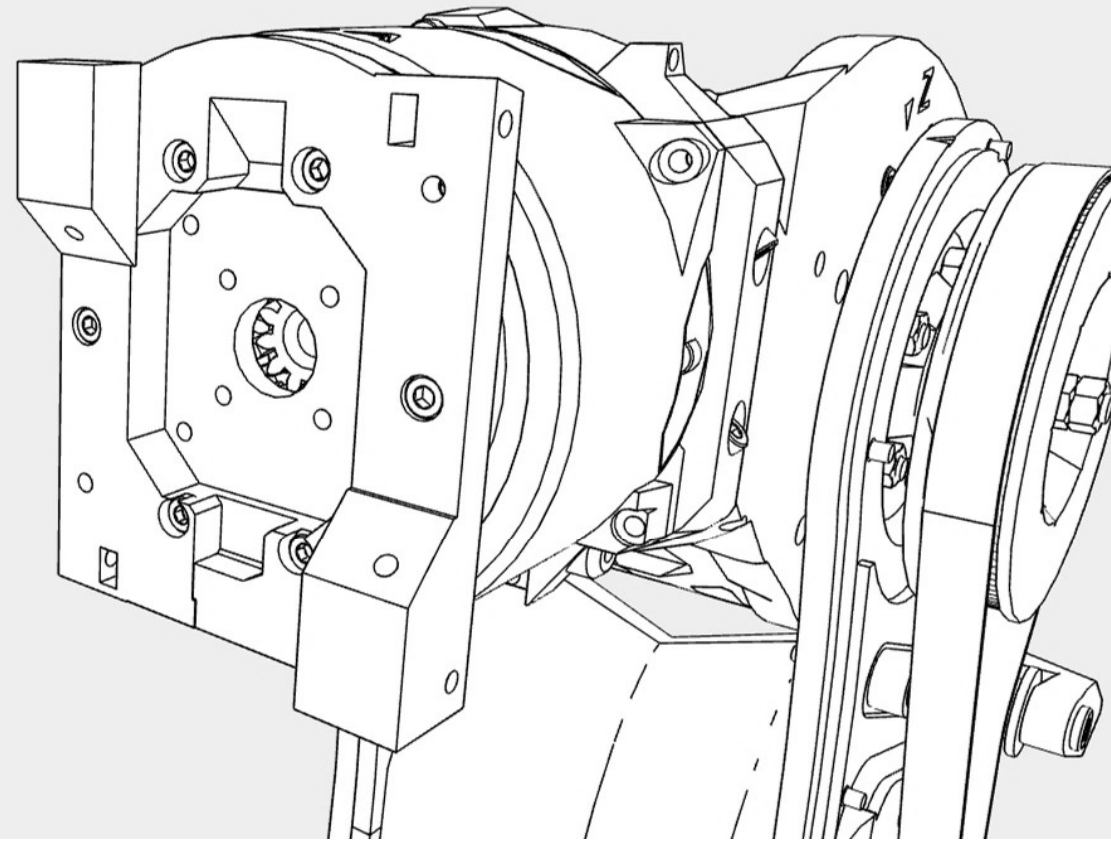
A core outer

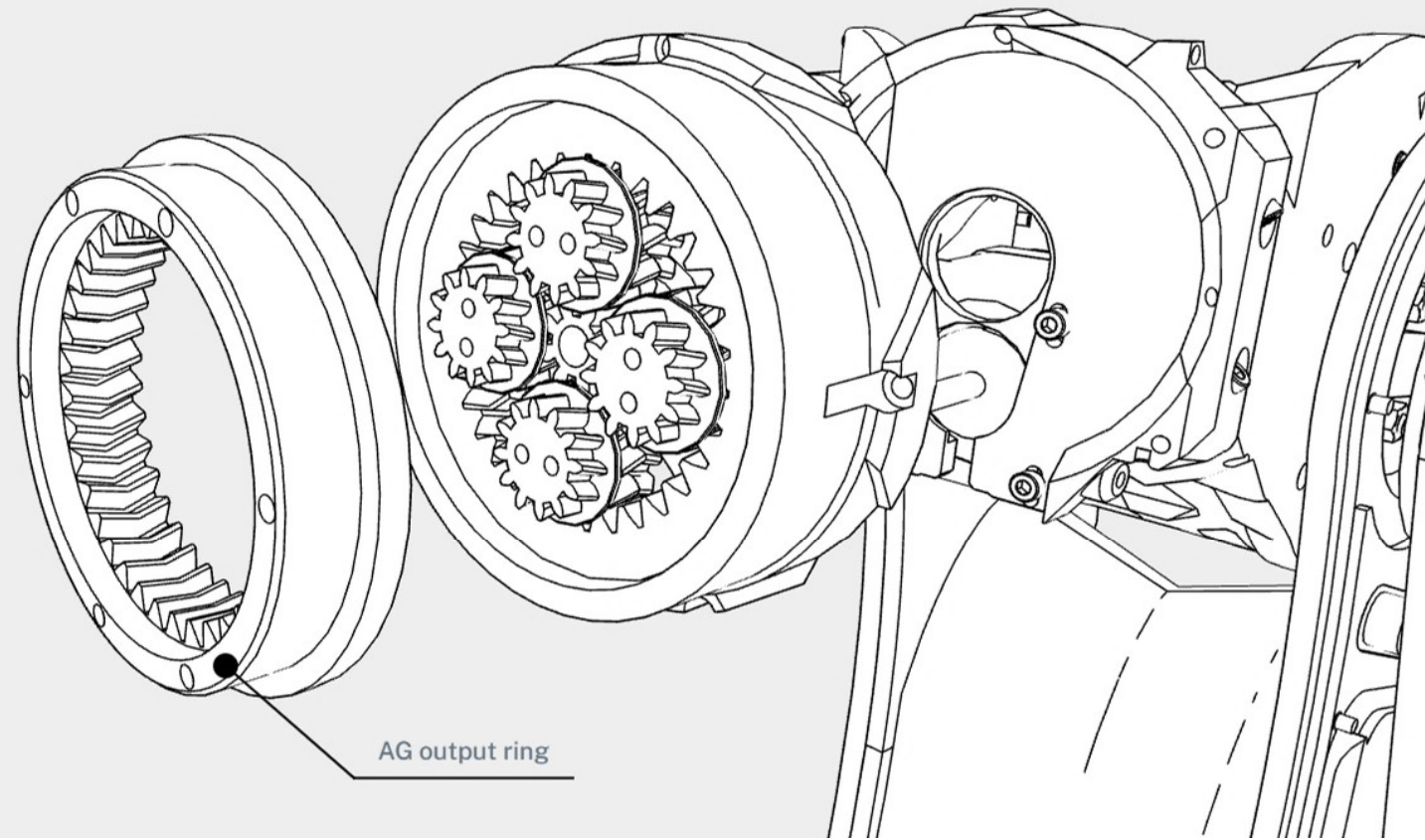


A core

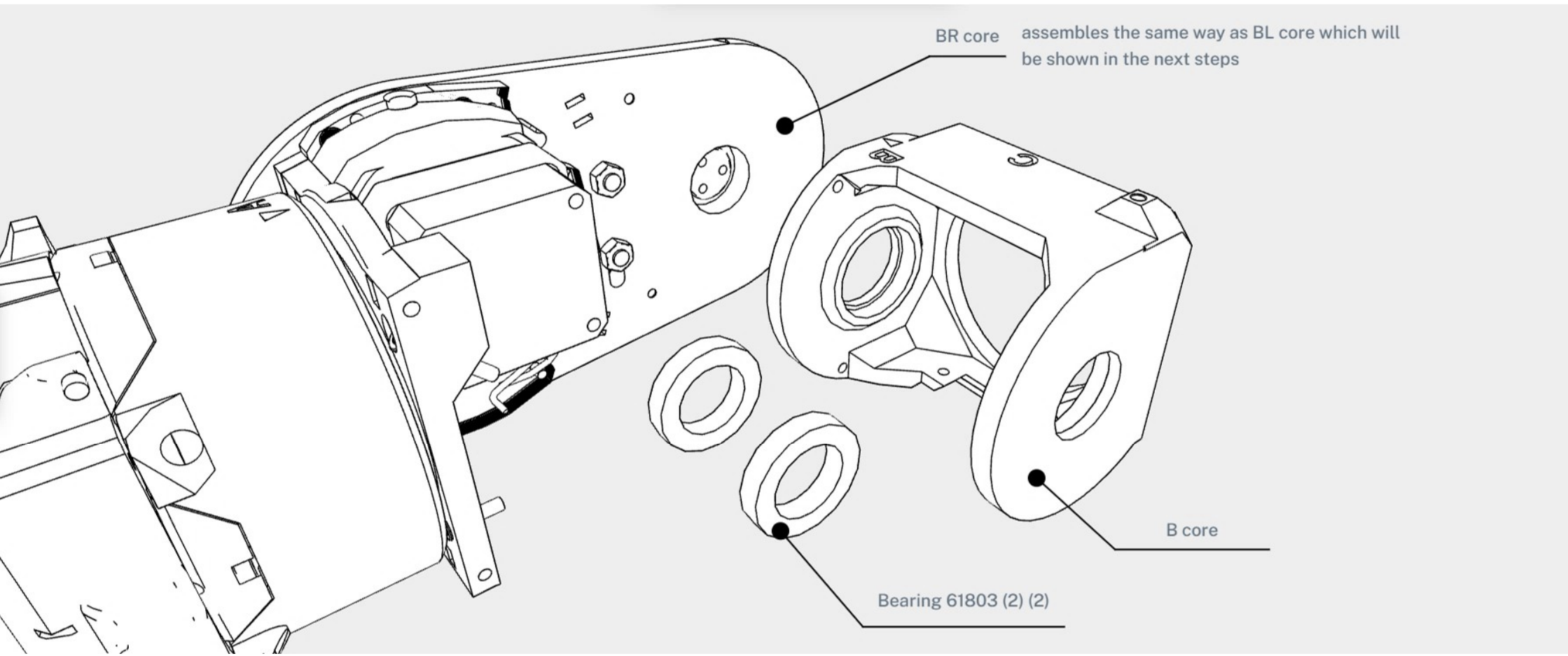


Bolt M3 20mm v2





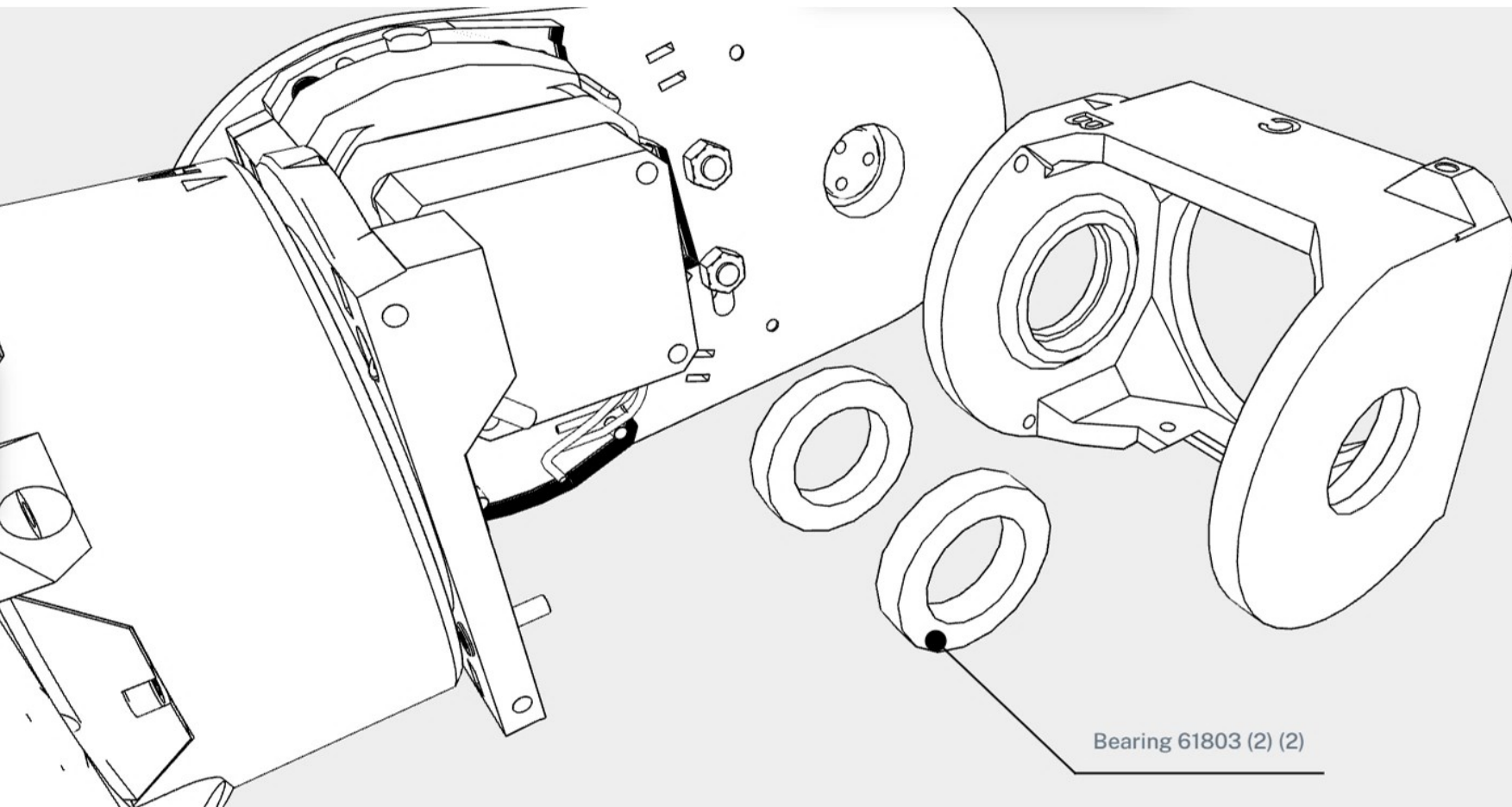
AG output ring



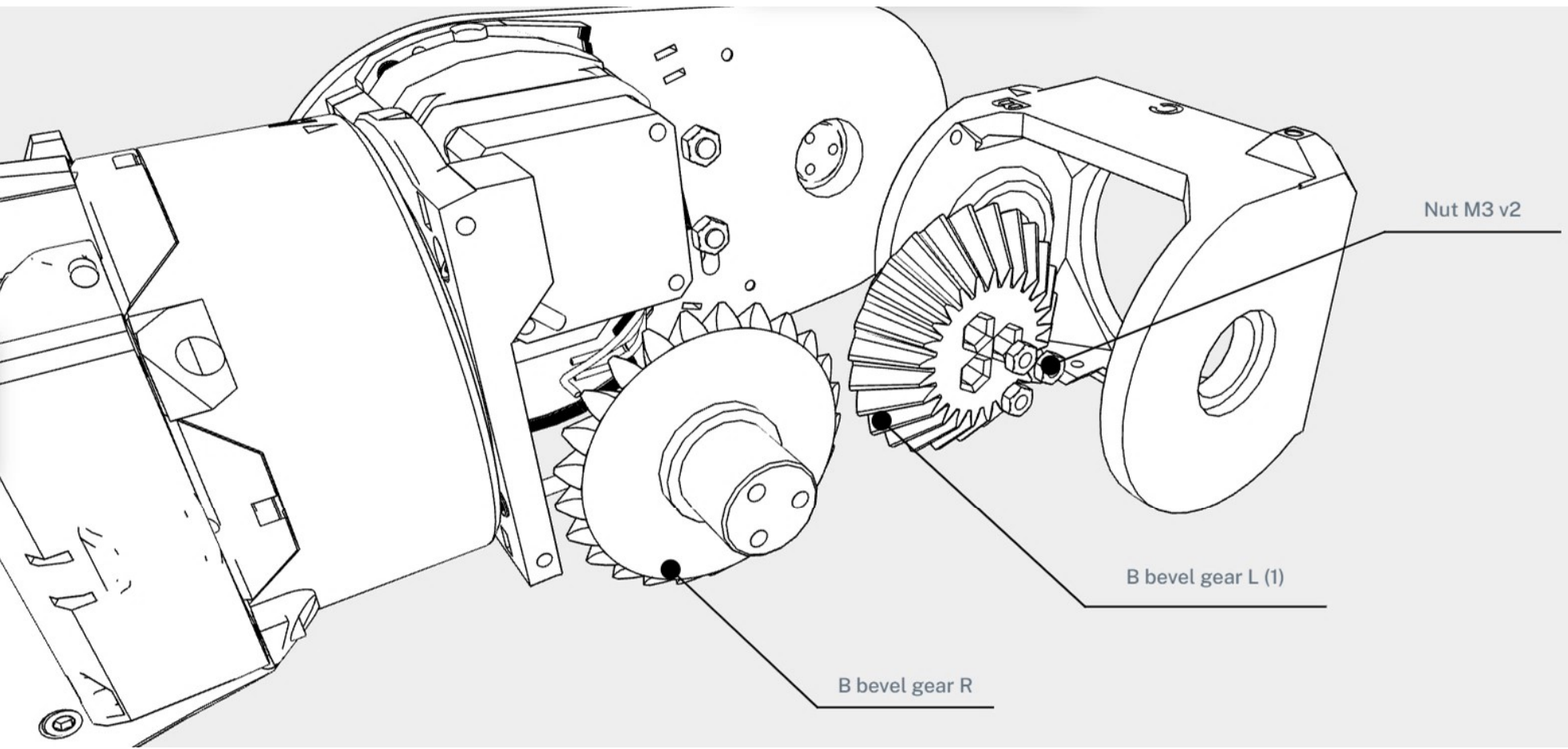
BR core assembles the same way as BL core which will be shown in the next steps

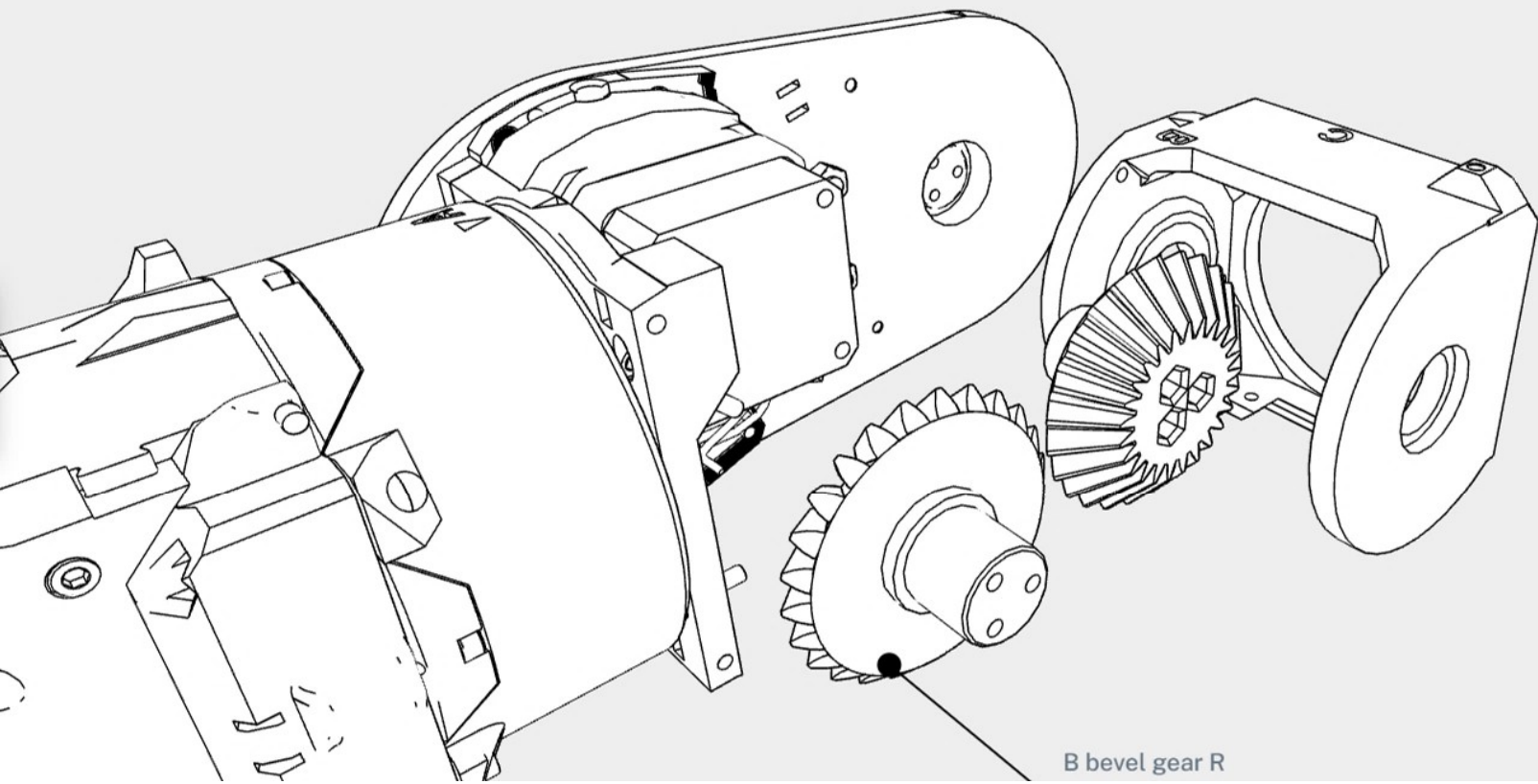
B core

Bearing 61803 (2) (2)

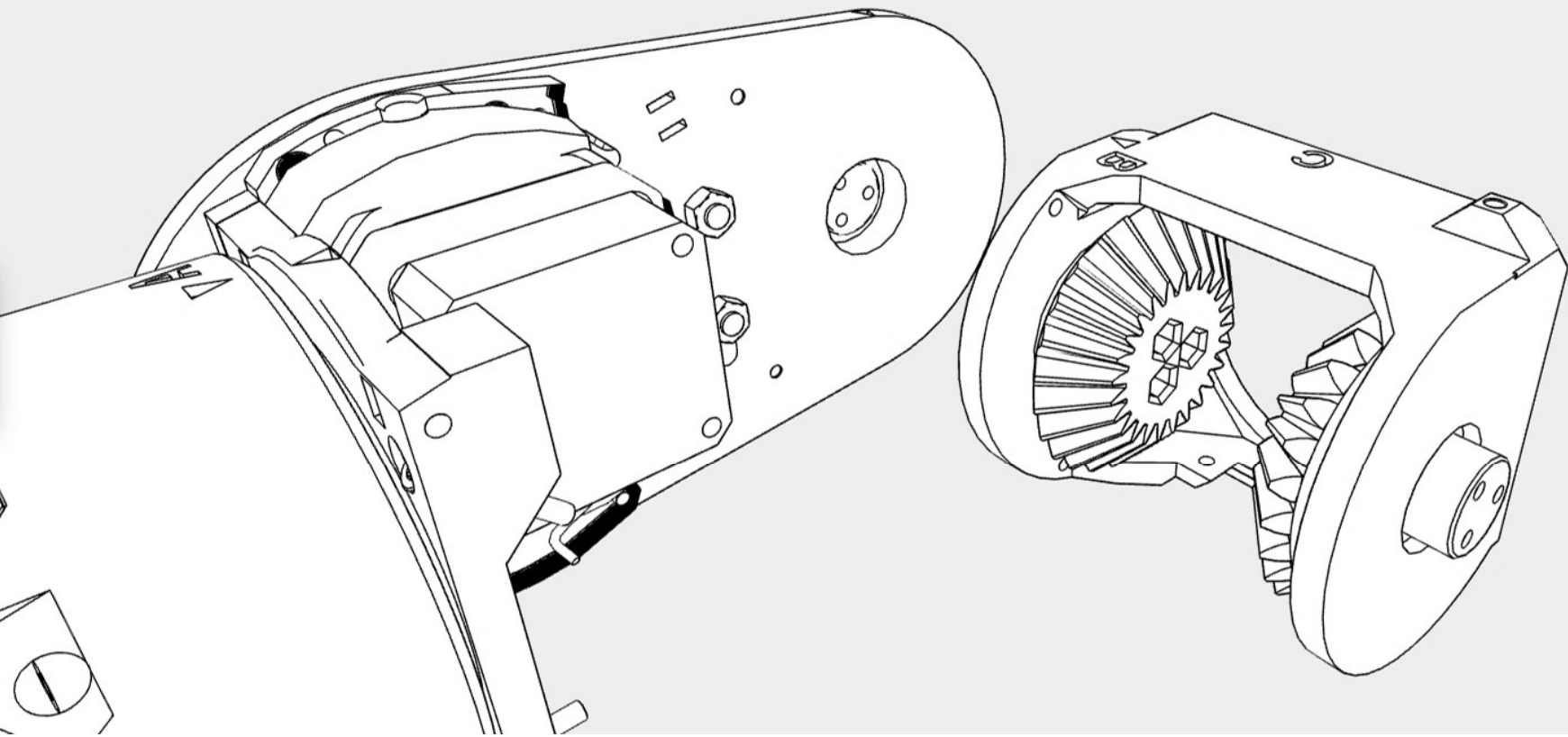


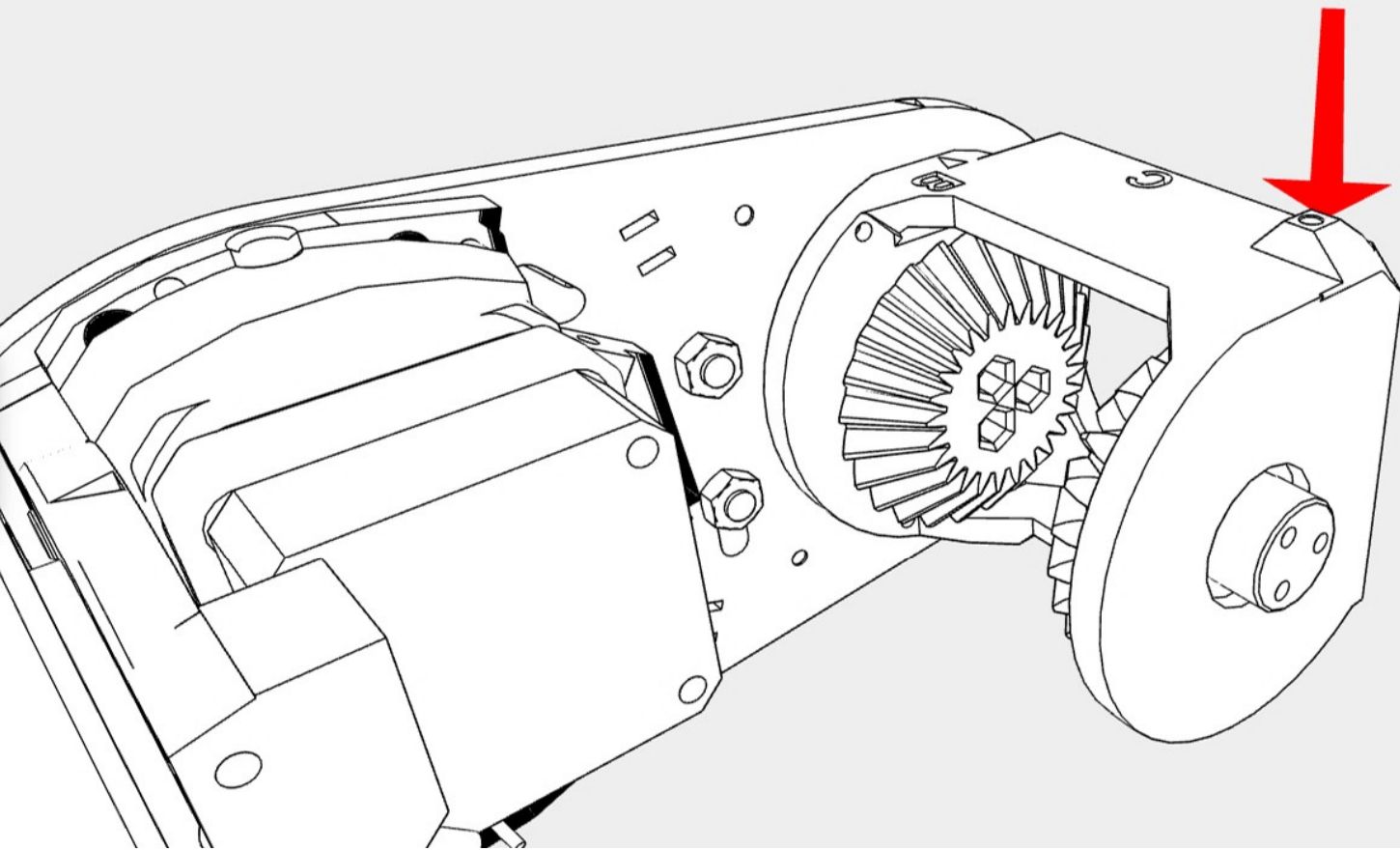
Bearing 61803 (2) (2)



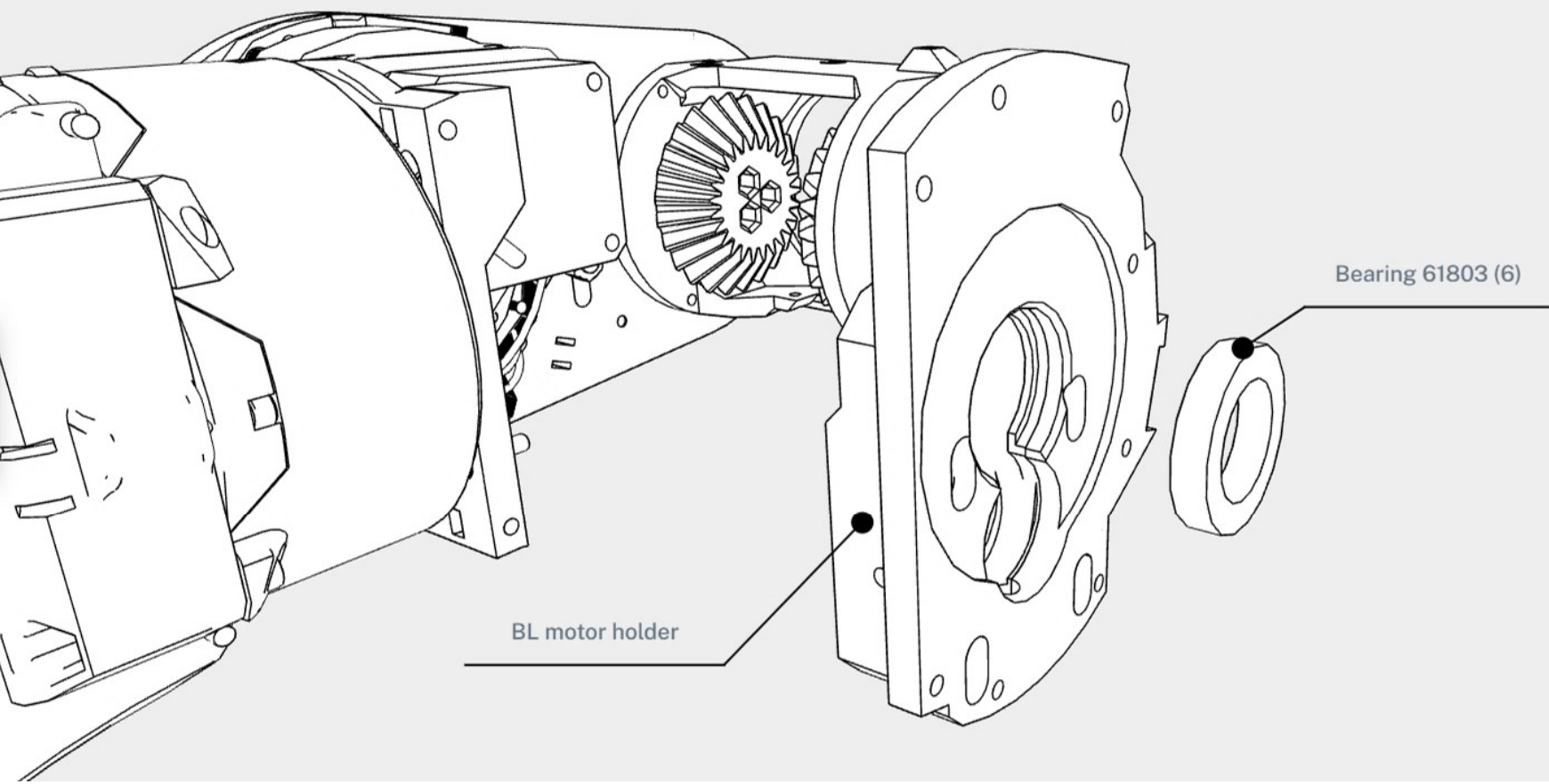


B bevel gear R



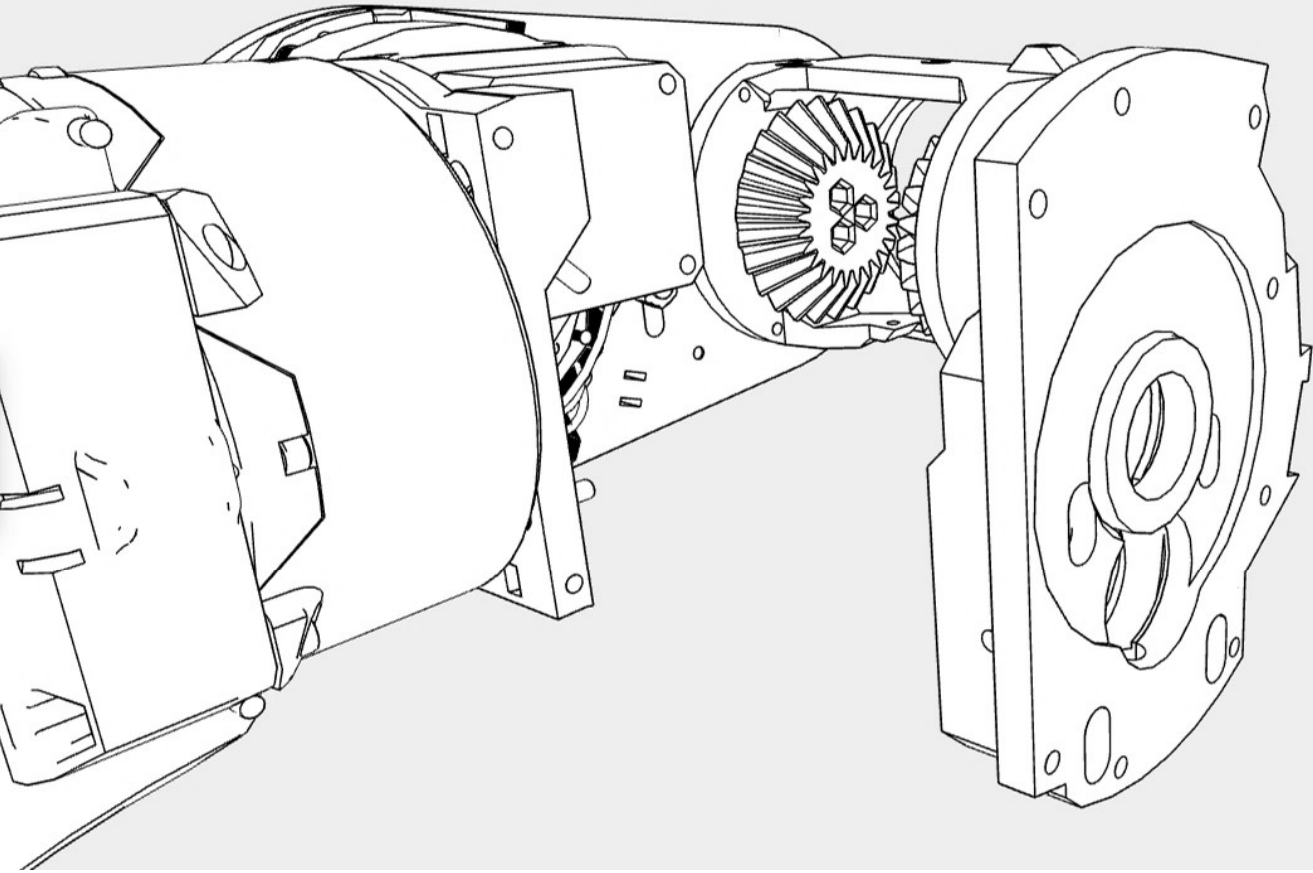


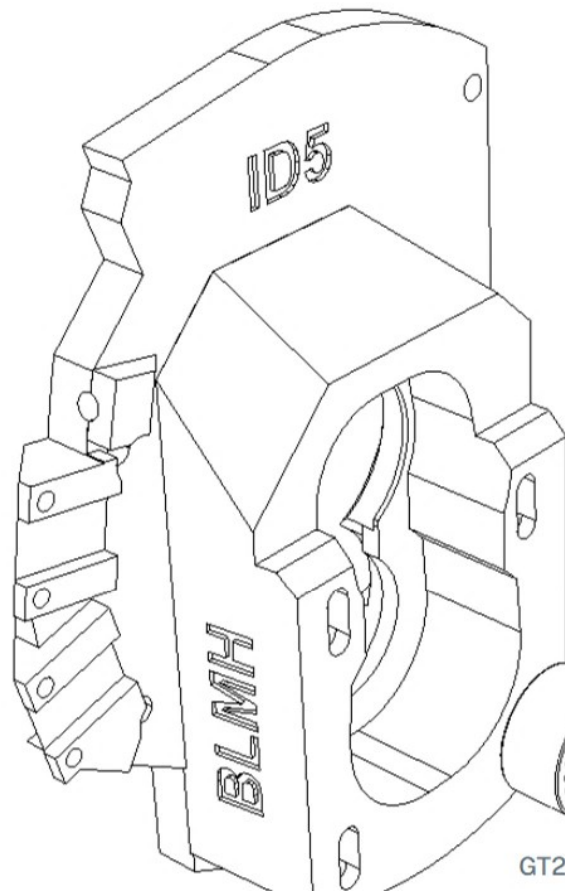
magnet



BL motor holder

Bearing 61803 (6)

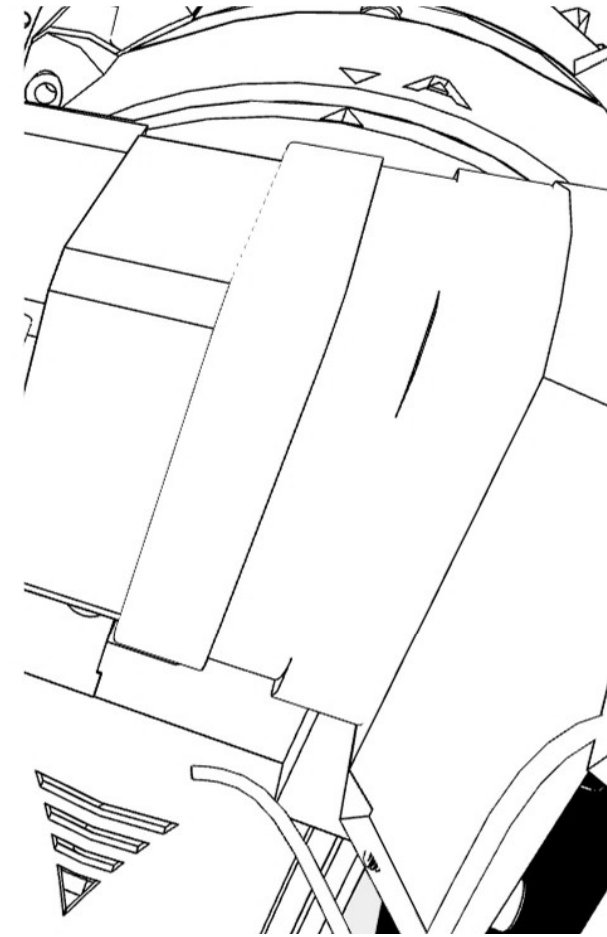


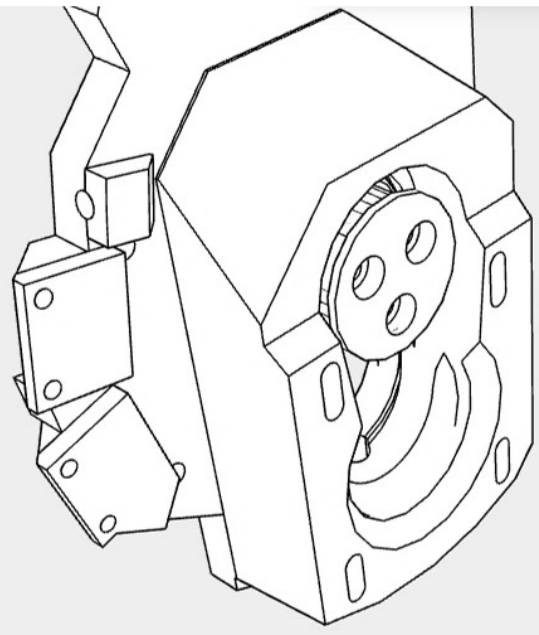


BCGR/BCGL motor gear (they are the same)

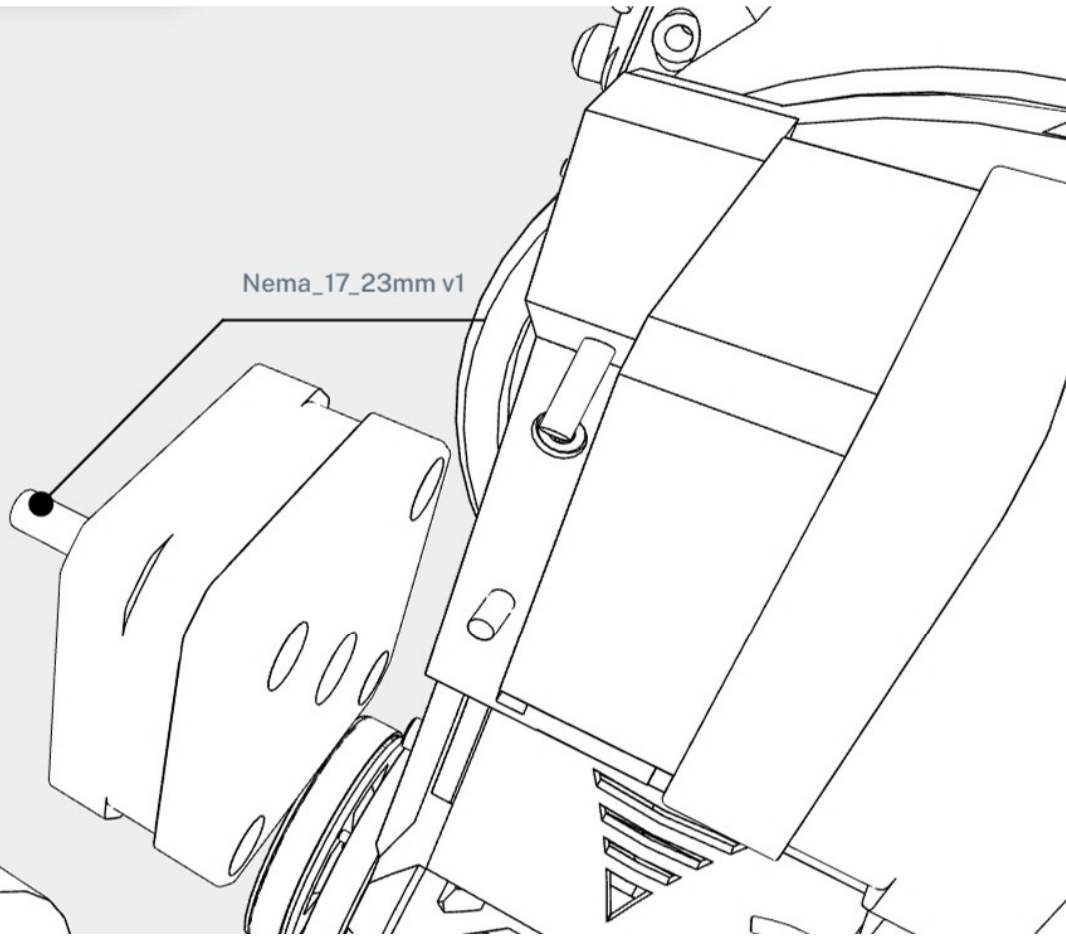
BCGL gearbox gear

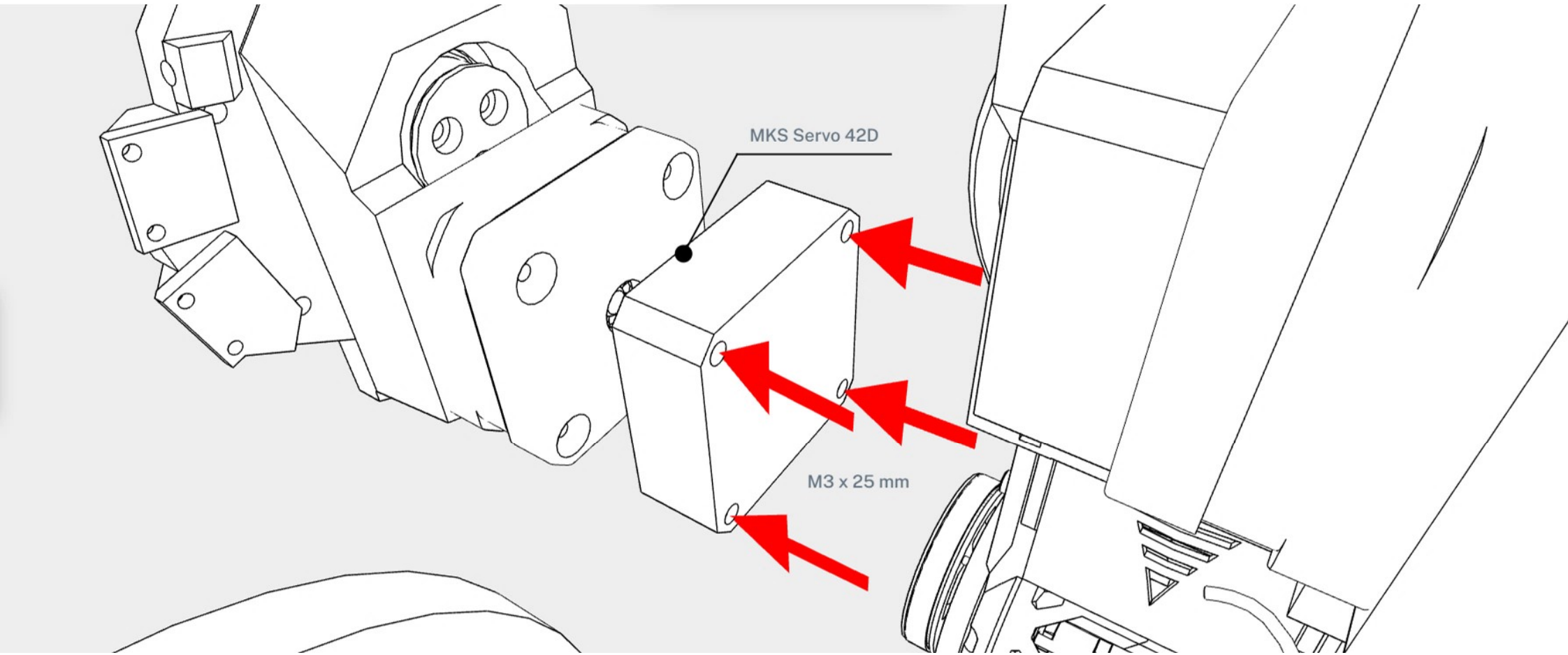
M3x15





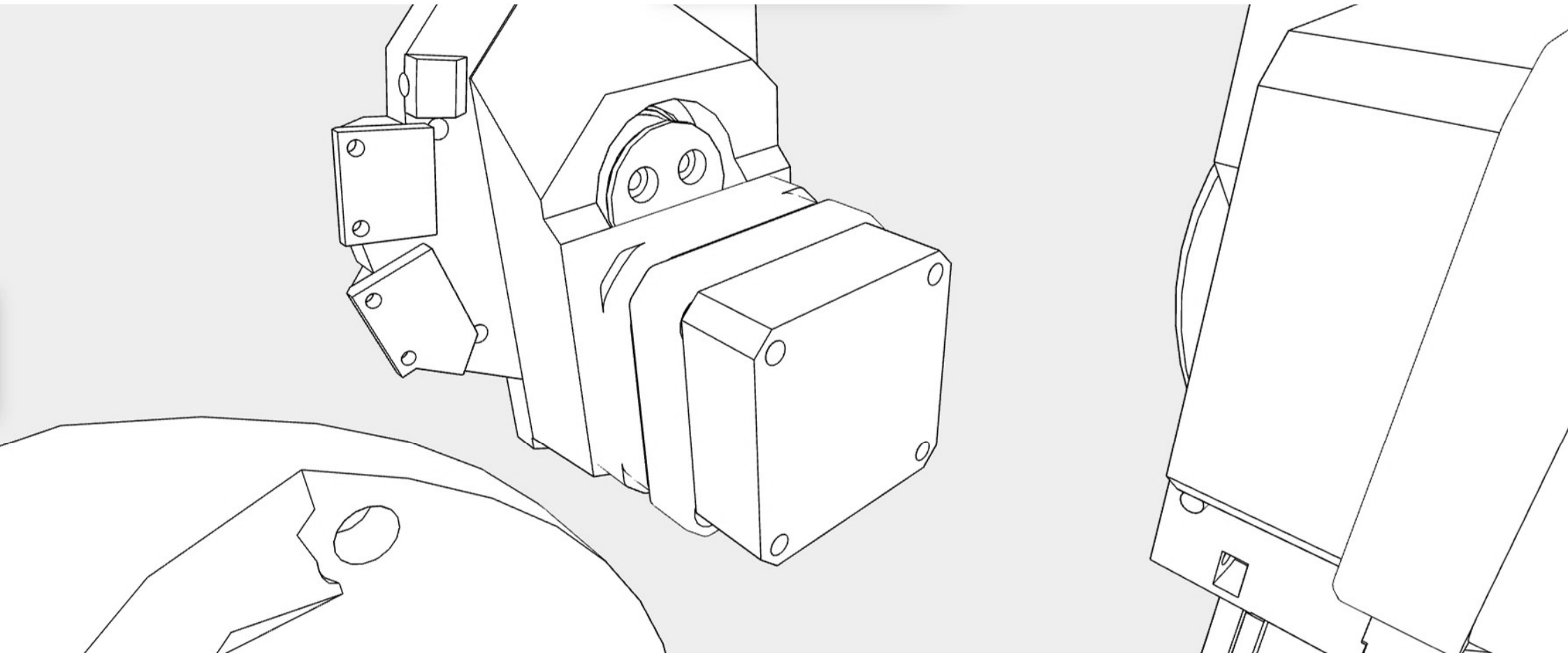
Nema_17_23mm v1

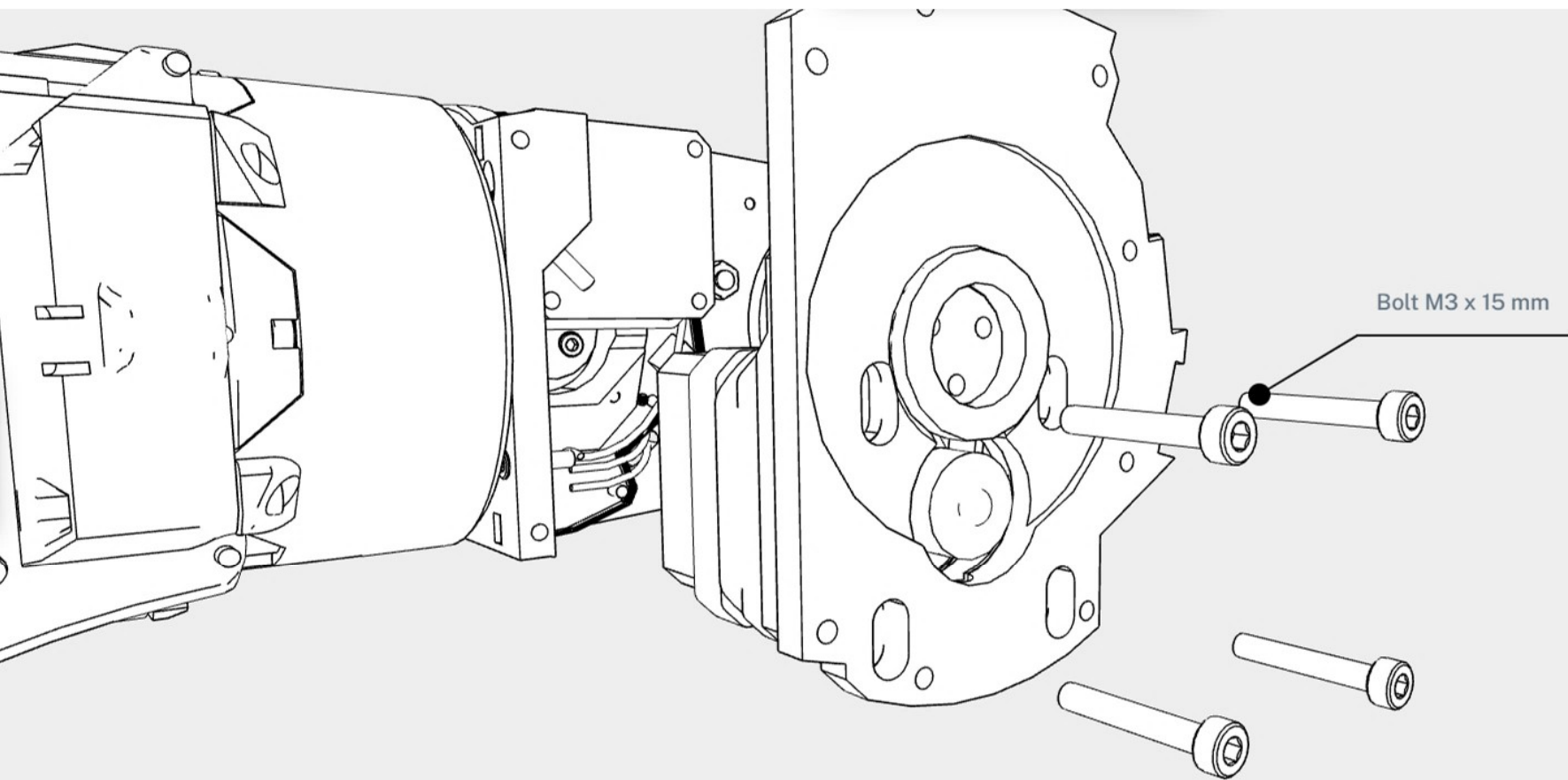




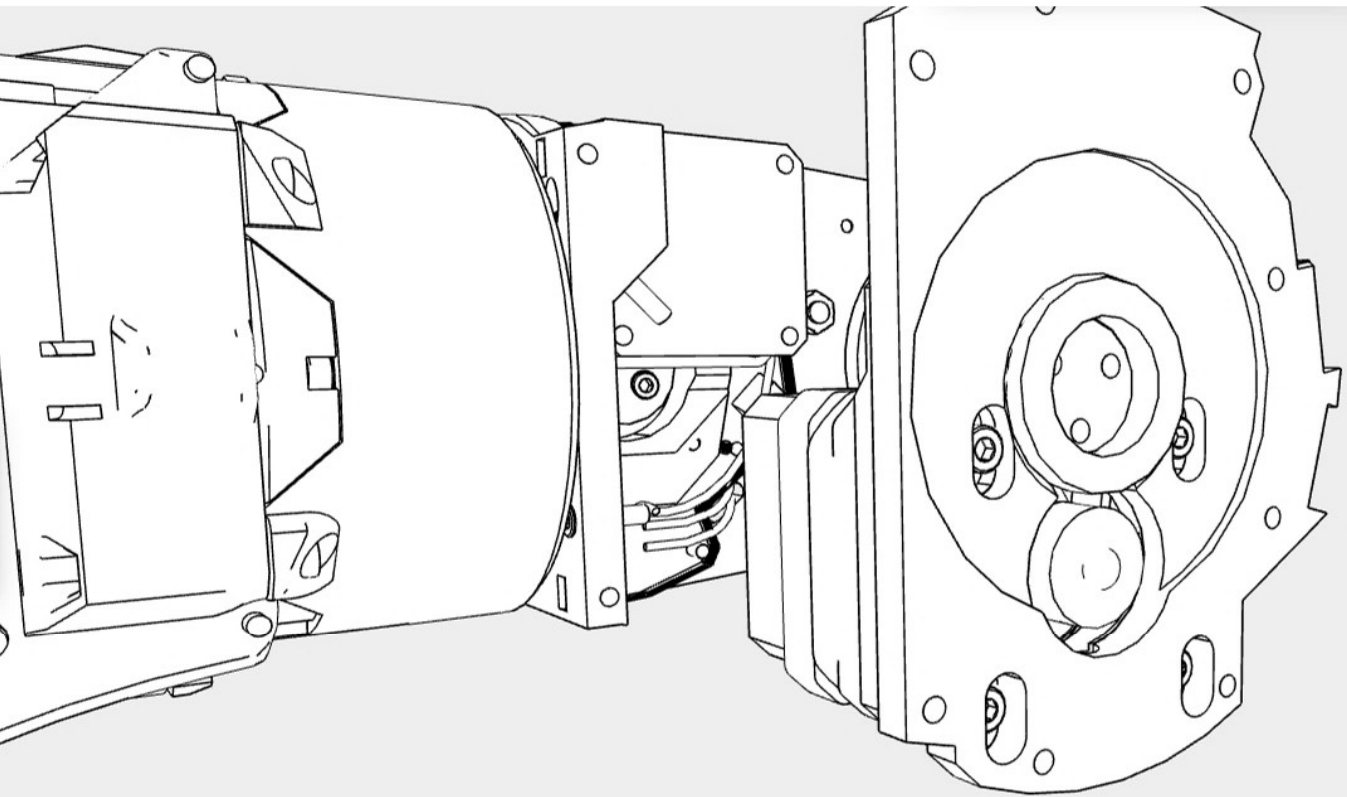
MKS Servo 42D

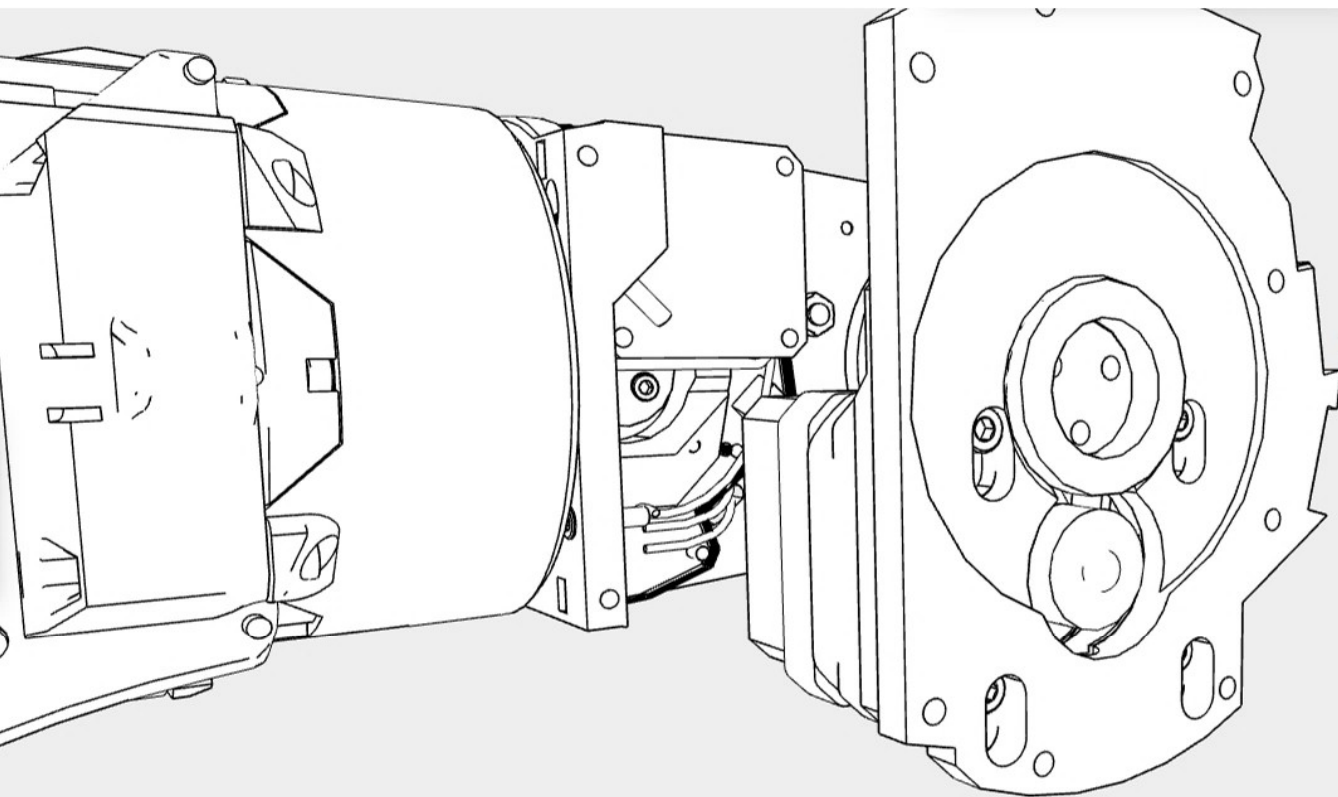
M3 x 25 mm



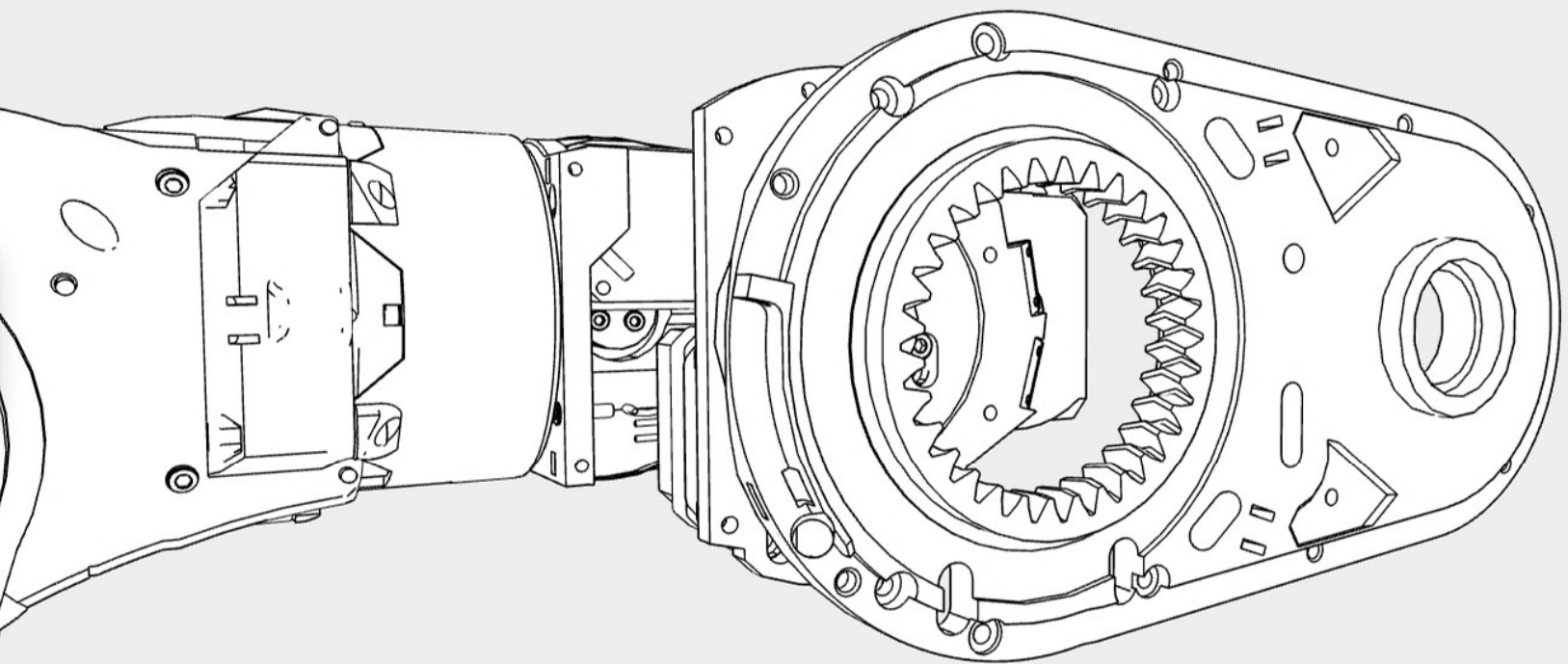


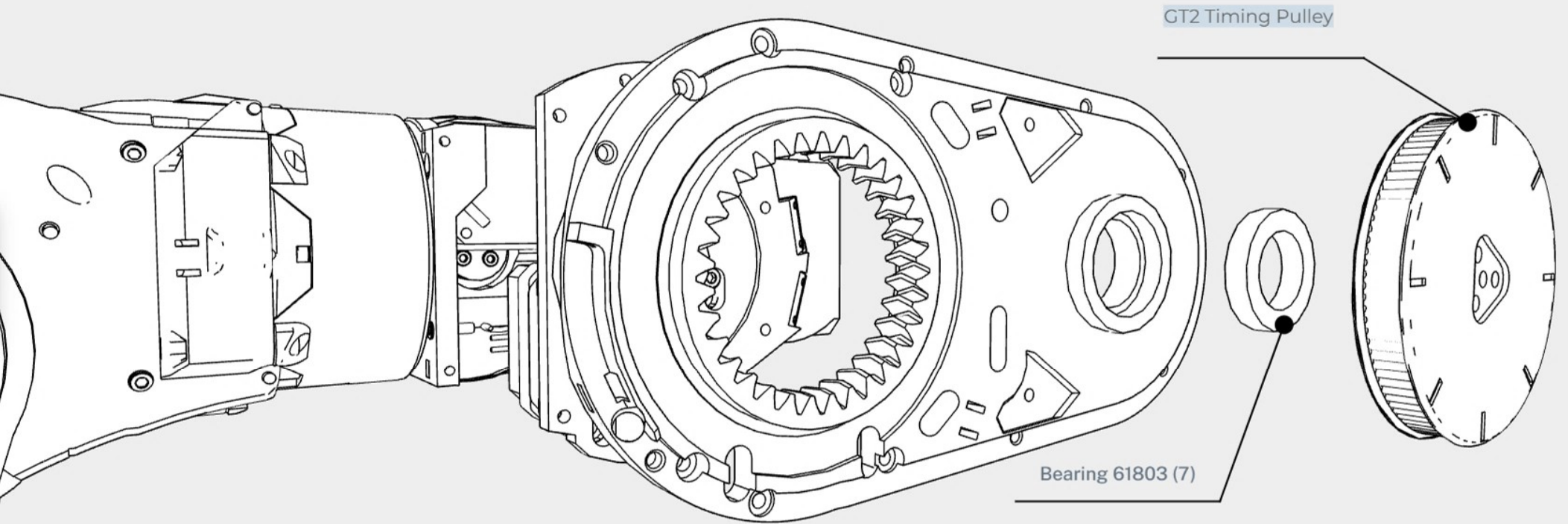
Bolt M3 x 15 mm





Tighten the bolts all the way. Not too hard because motor housing is made out of aluminum and the threads might be damaged. Only tight enough so that the belt can't skip.

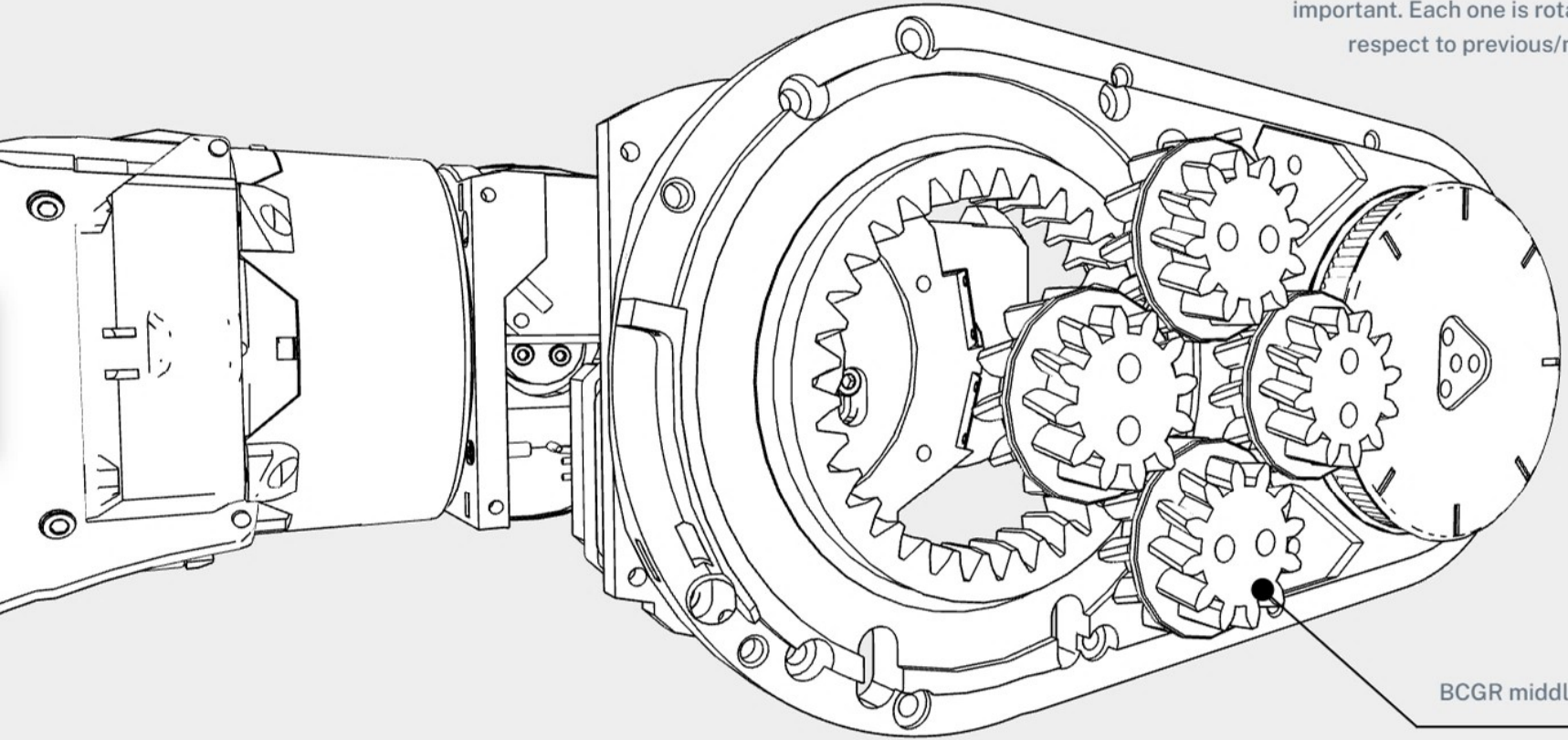




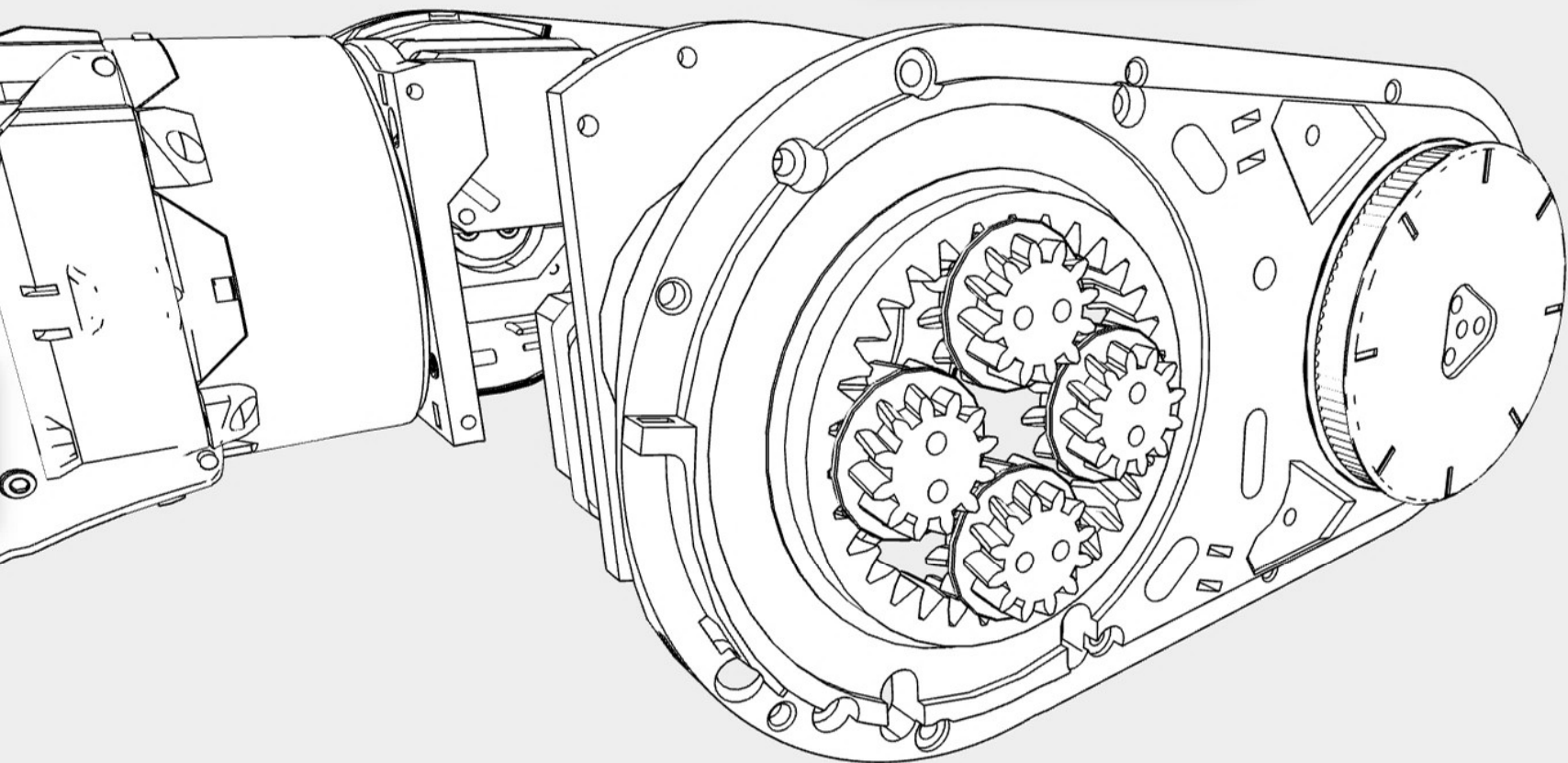
GT2 Timing Pulley

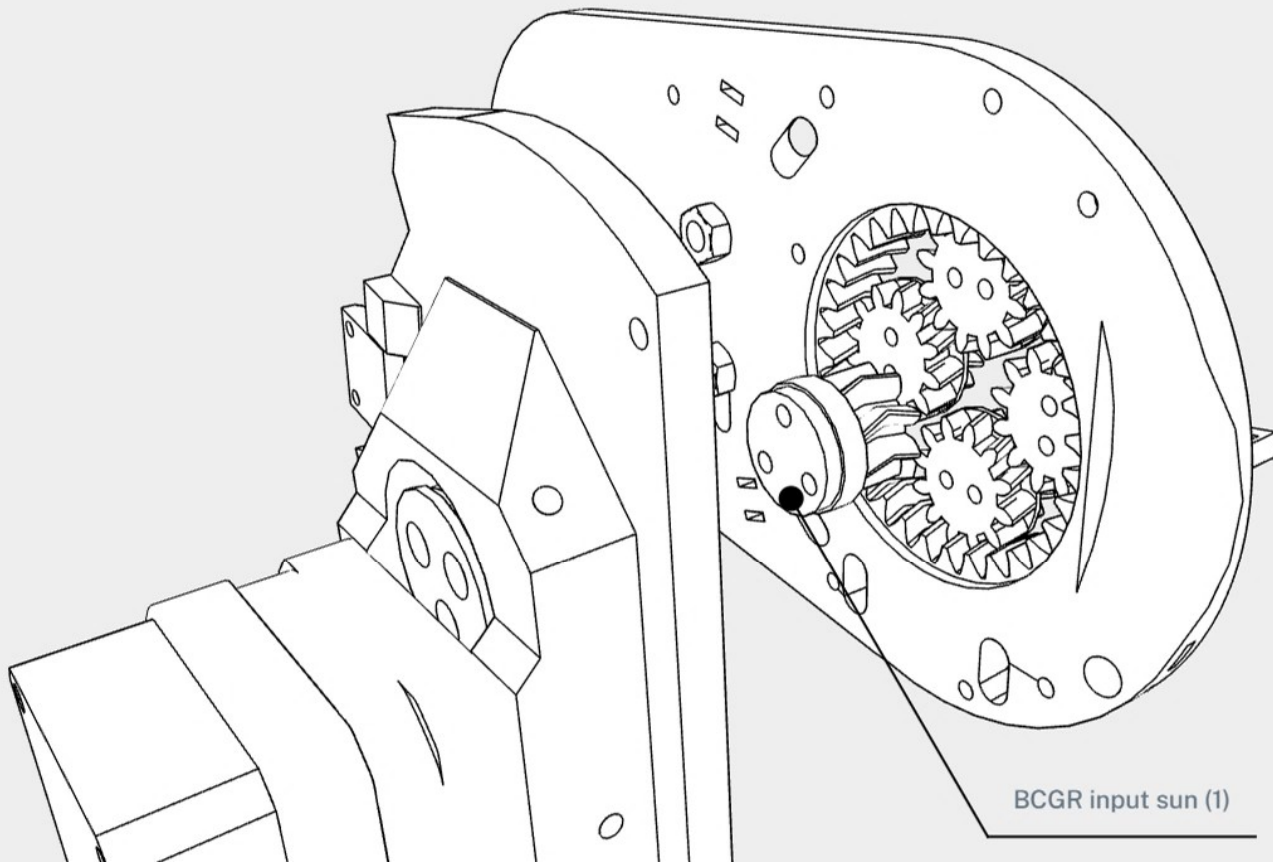
Bearing 61803 (7)

Orientation of the middle planetaries are important. Each one is rotated 90° with respect to previous/next one

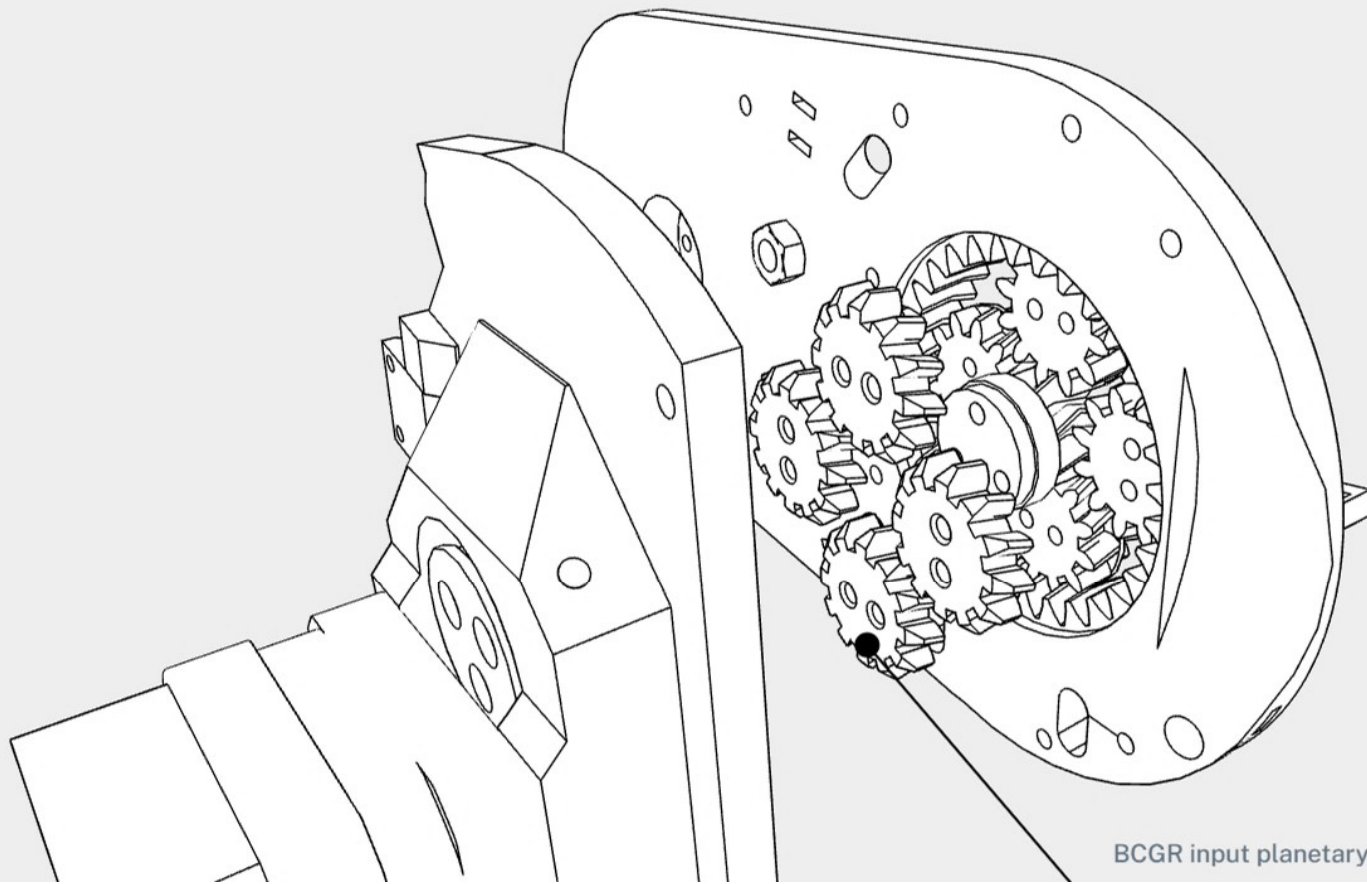


BCGR middle planetary (4)

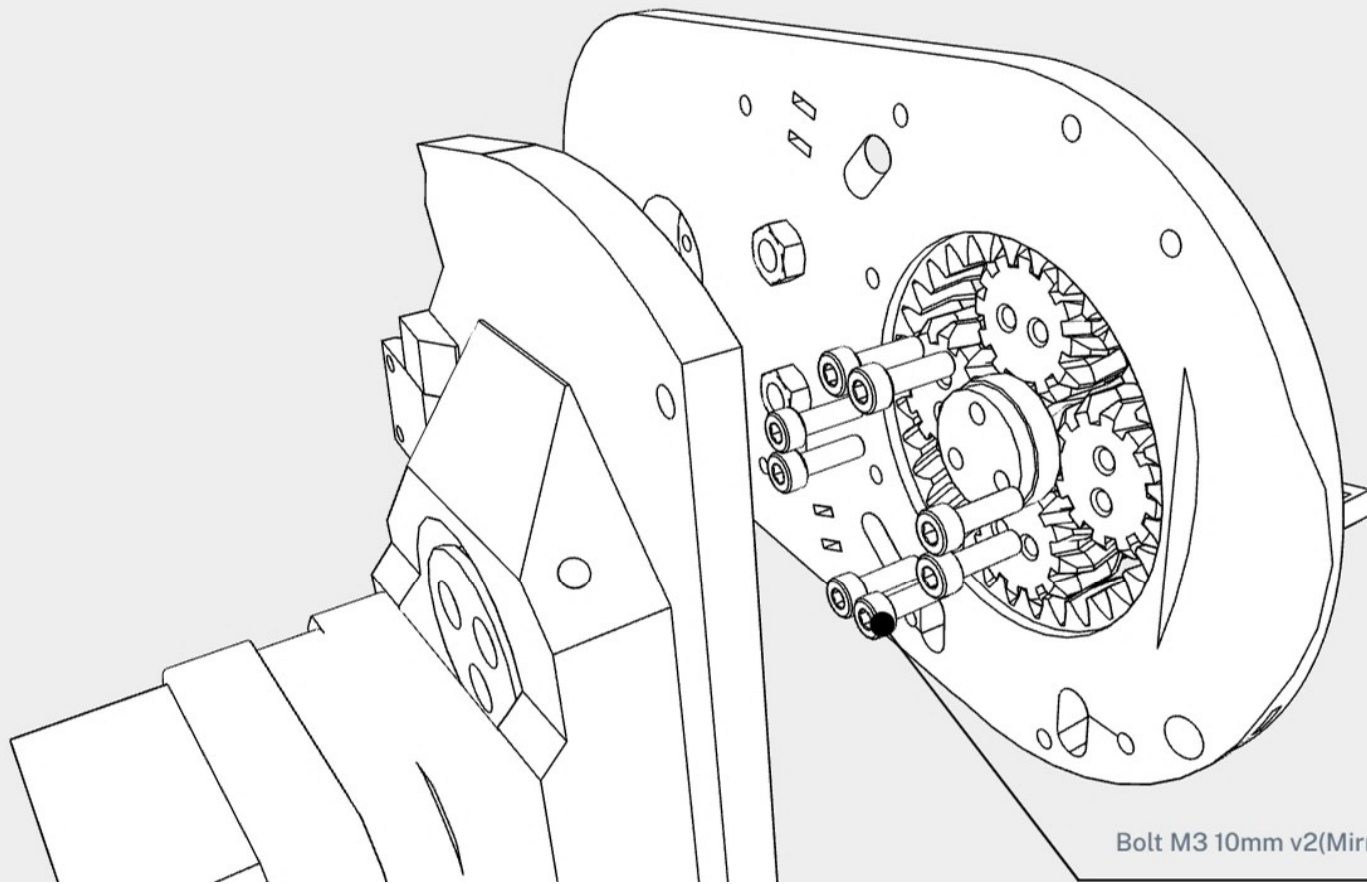




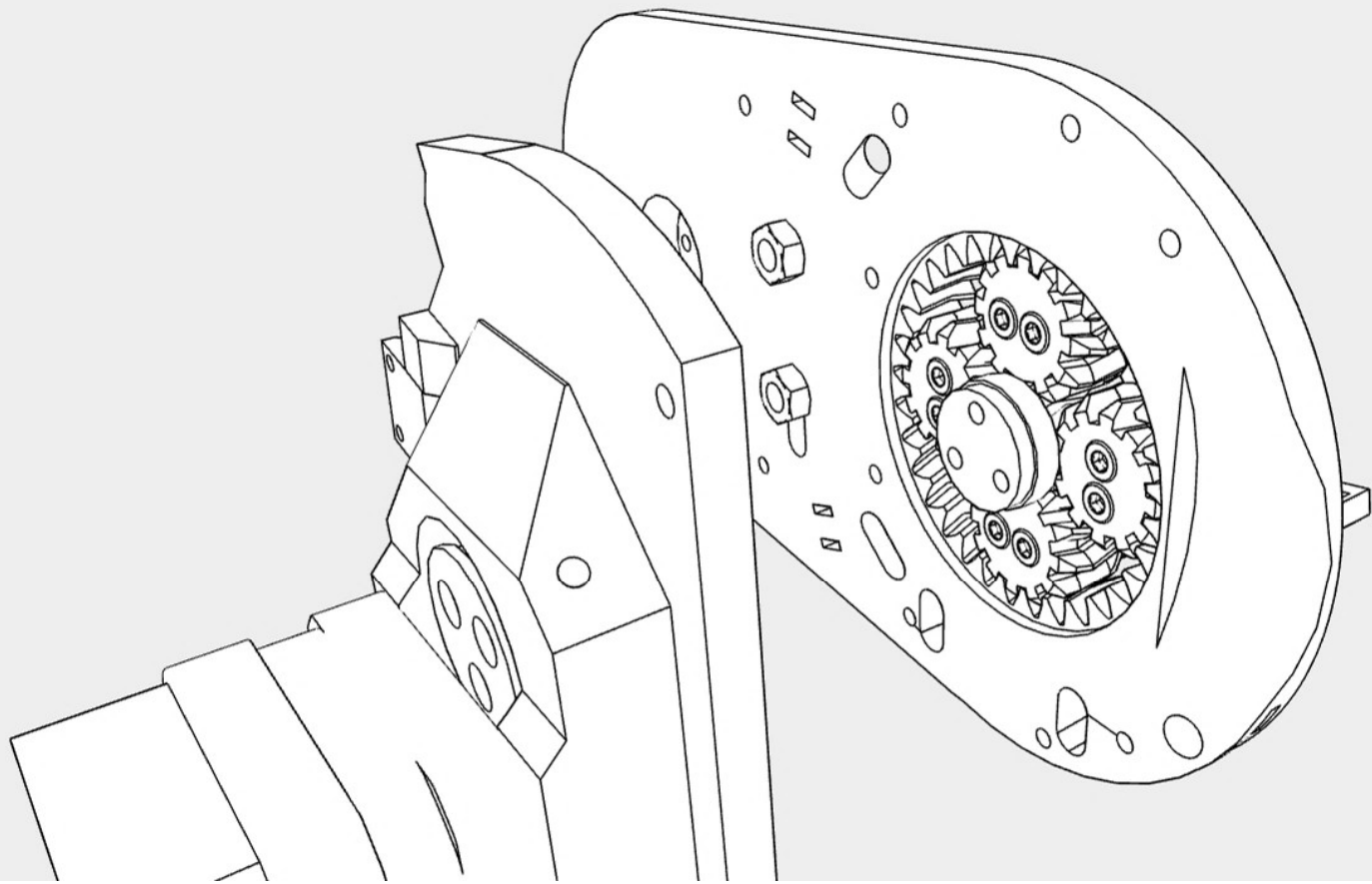
BCGR input sun (1)

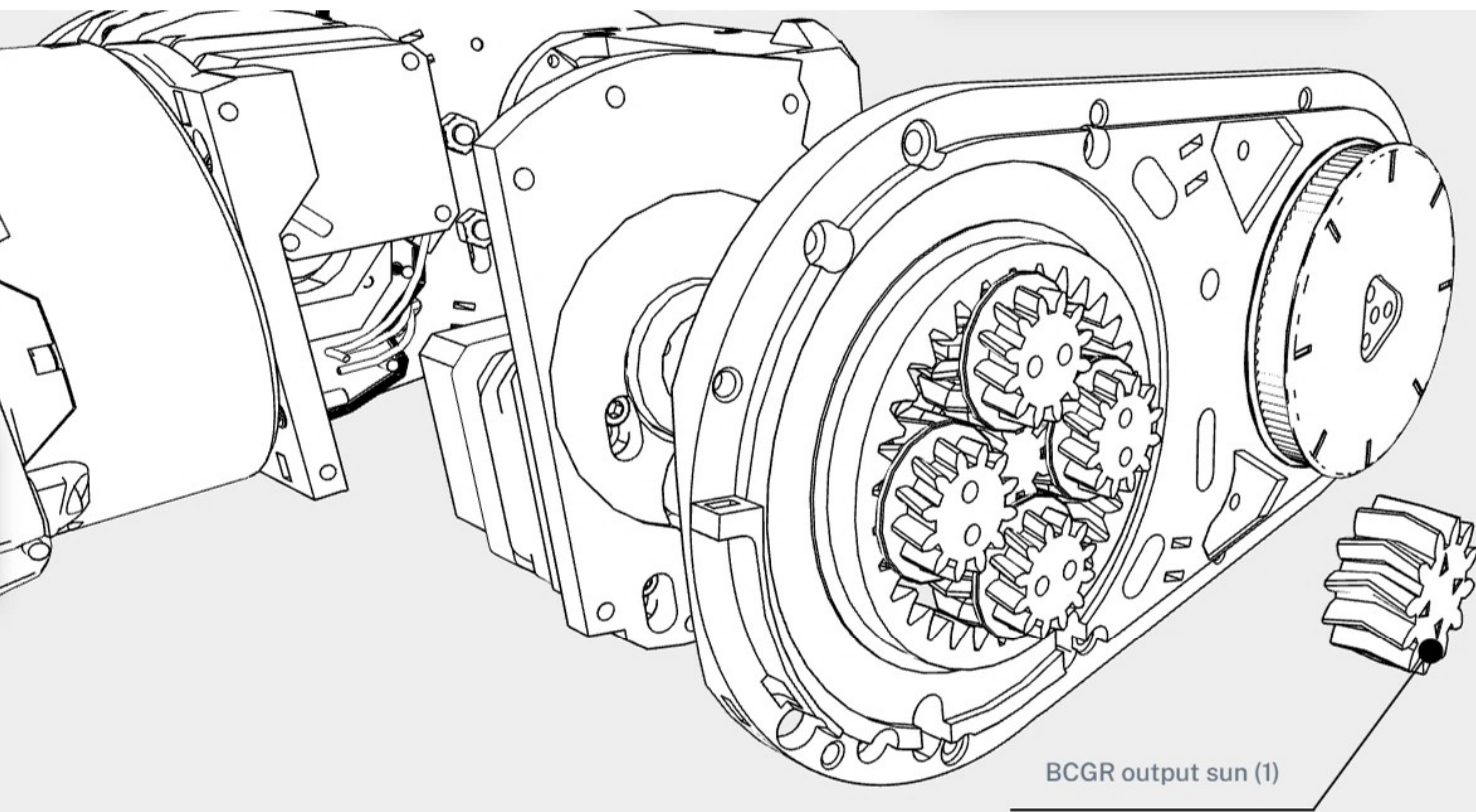


BCGR input planetary (1)

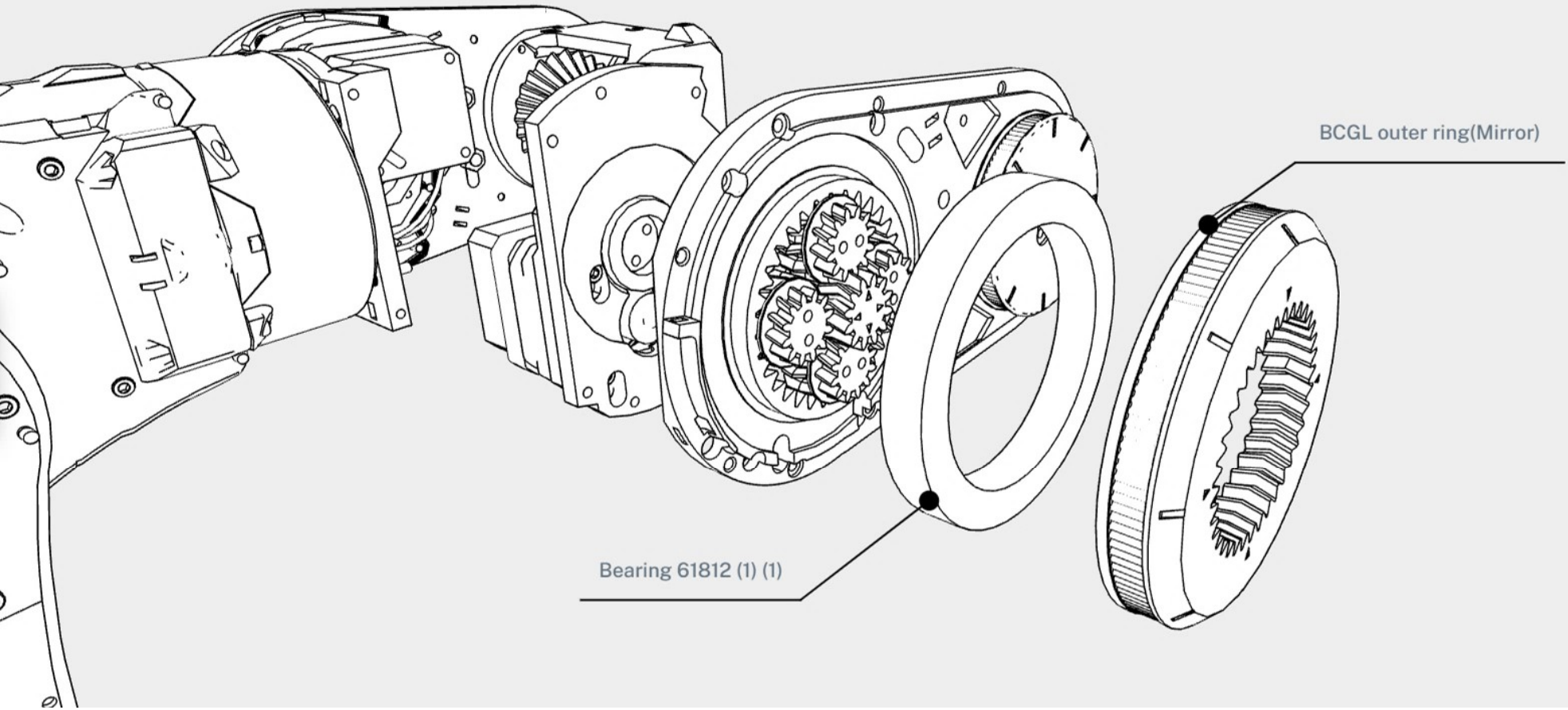


Bolt M3 10mm v2(Mirror) (4)



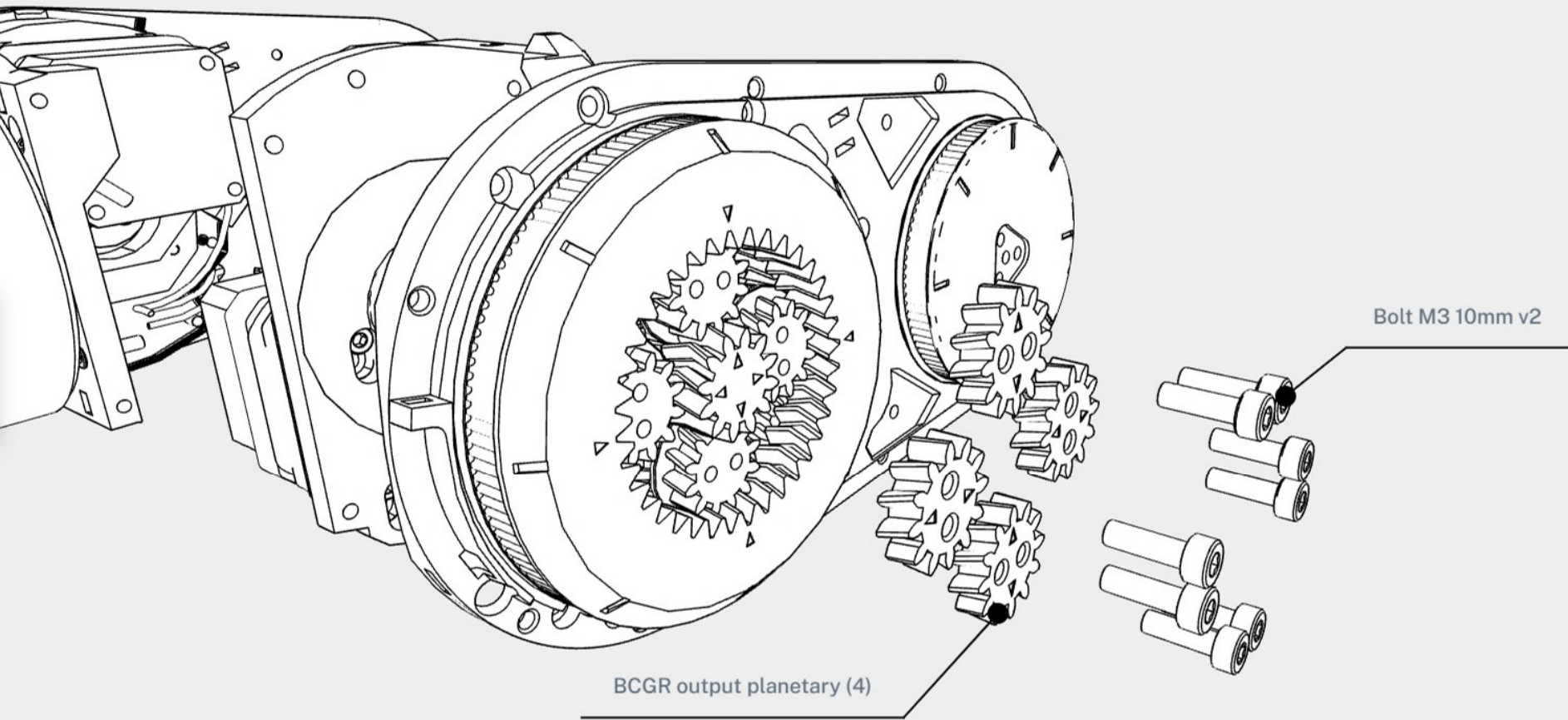


BCGR output sun (1)



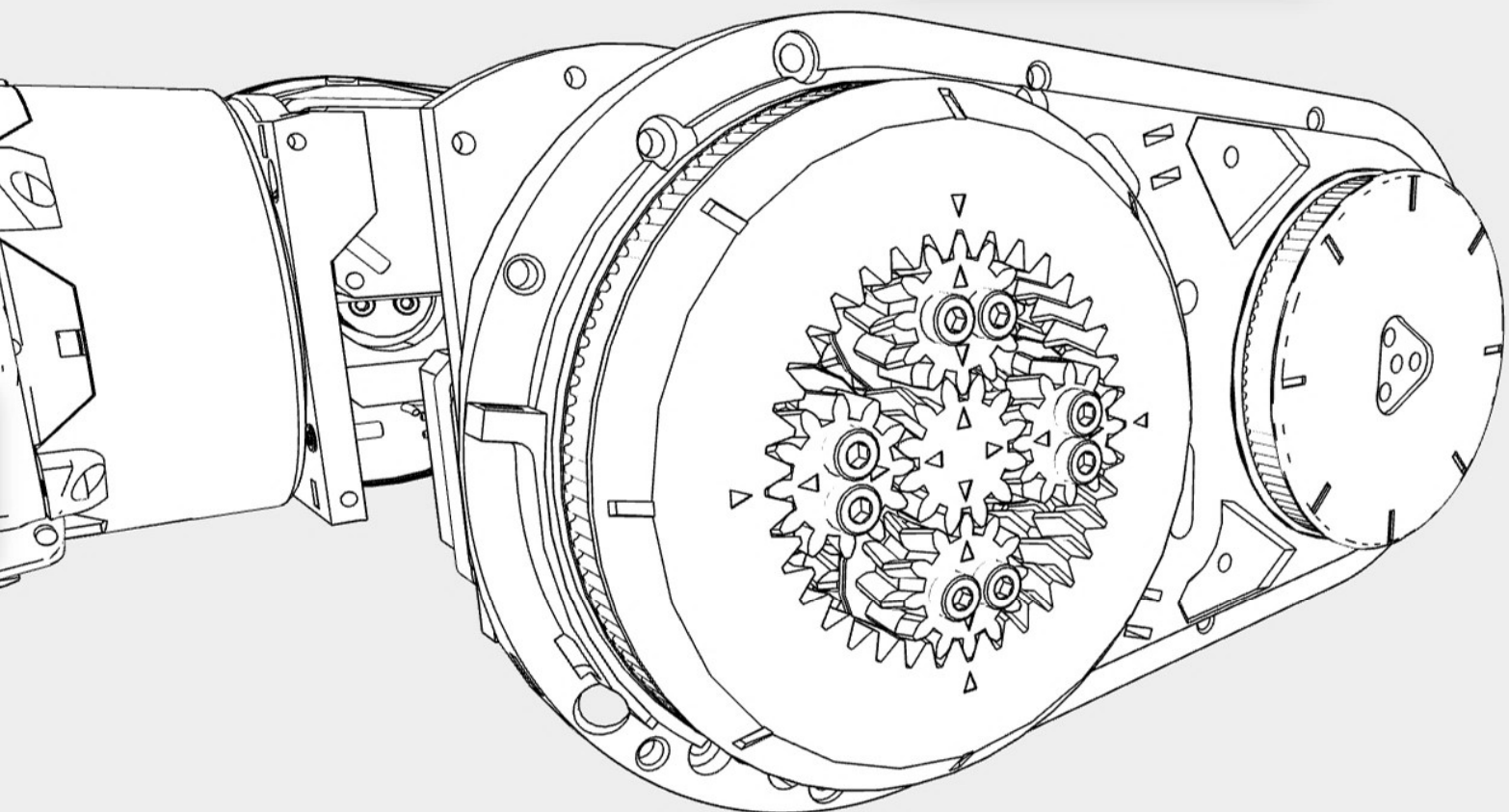
Bearing 61812 (1) (1)

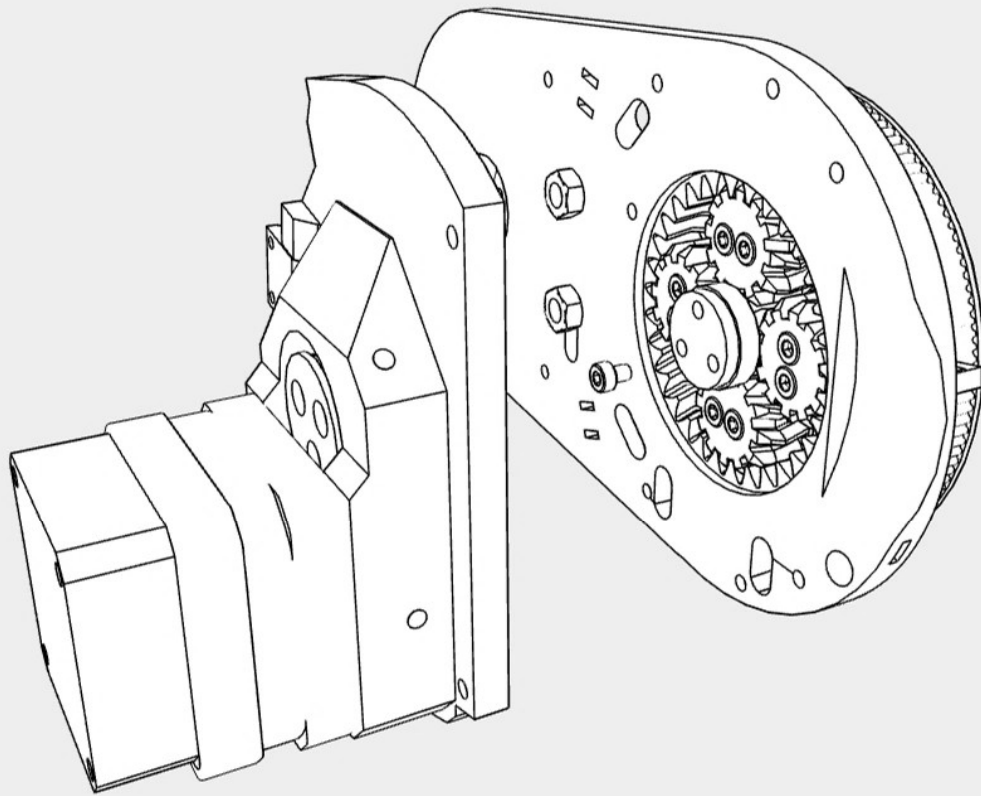
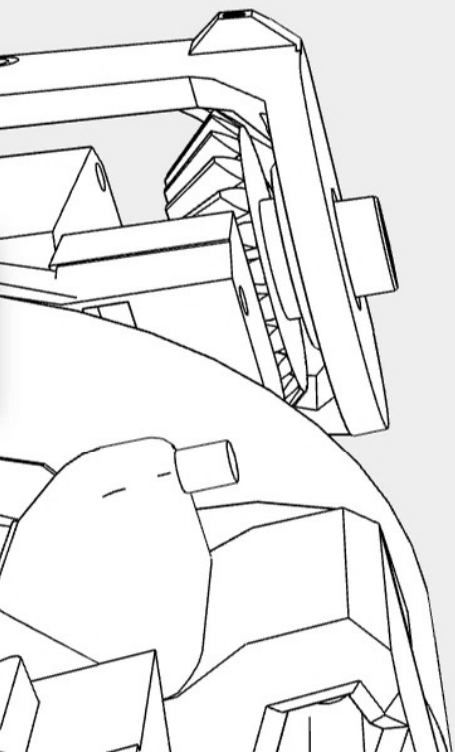
BCGL outer ring(Mirror)

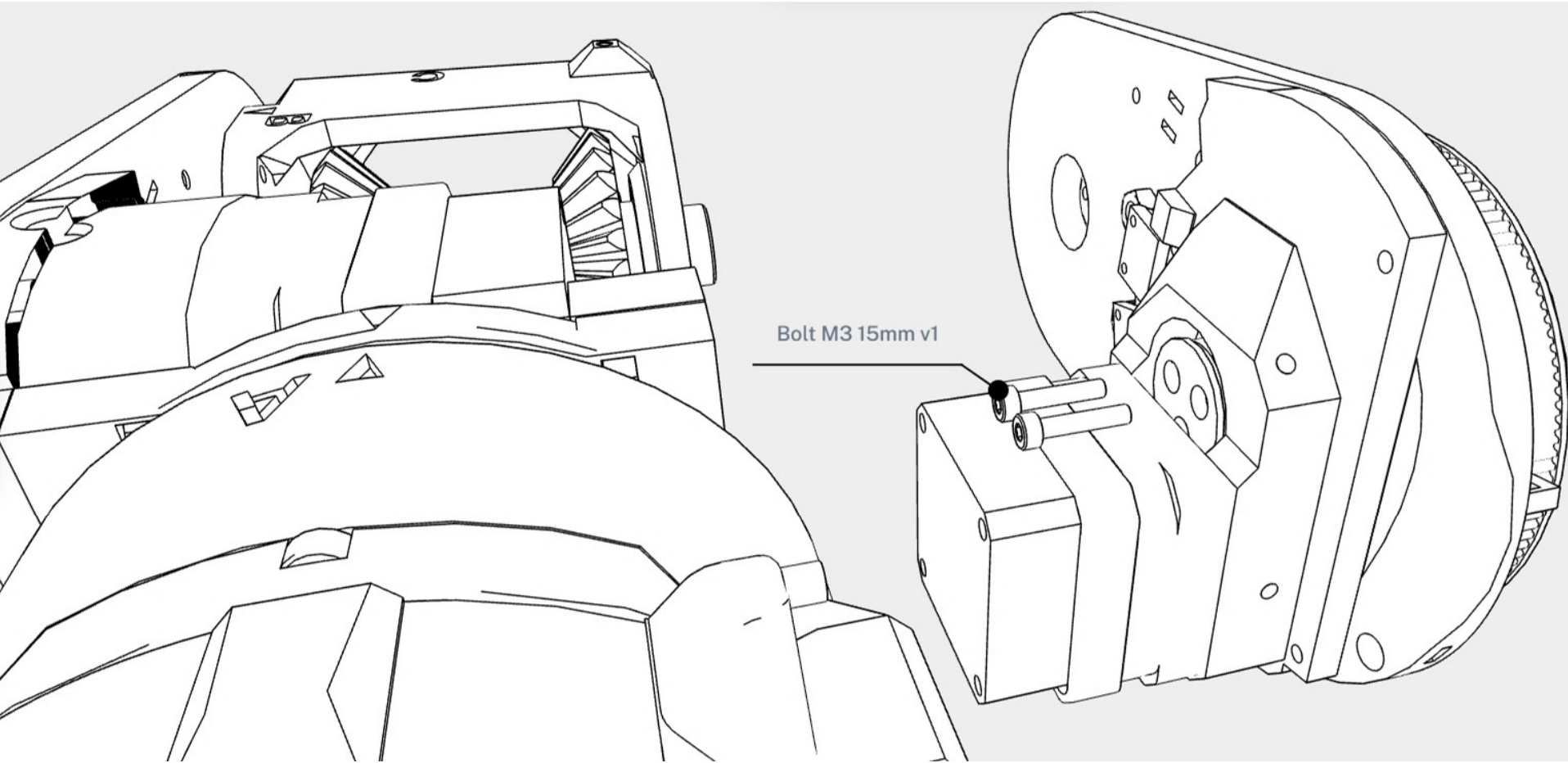


BCGR output planetary (4)

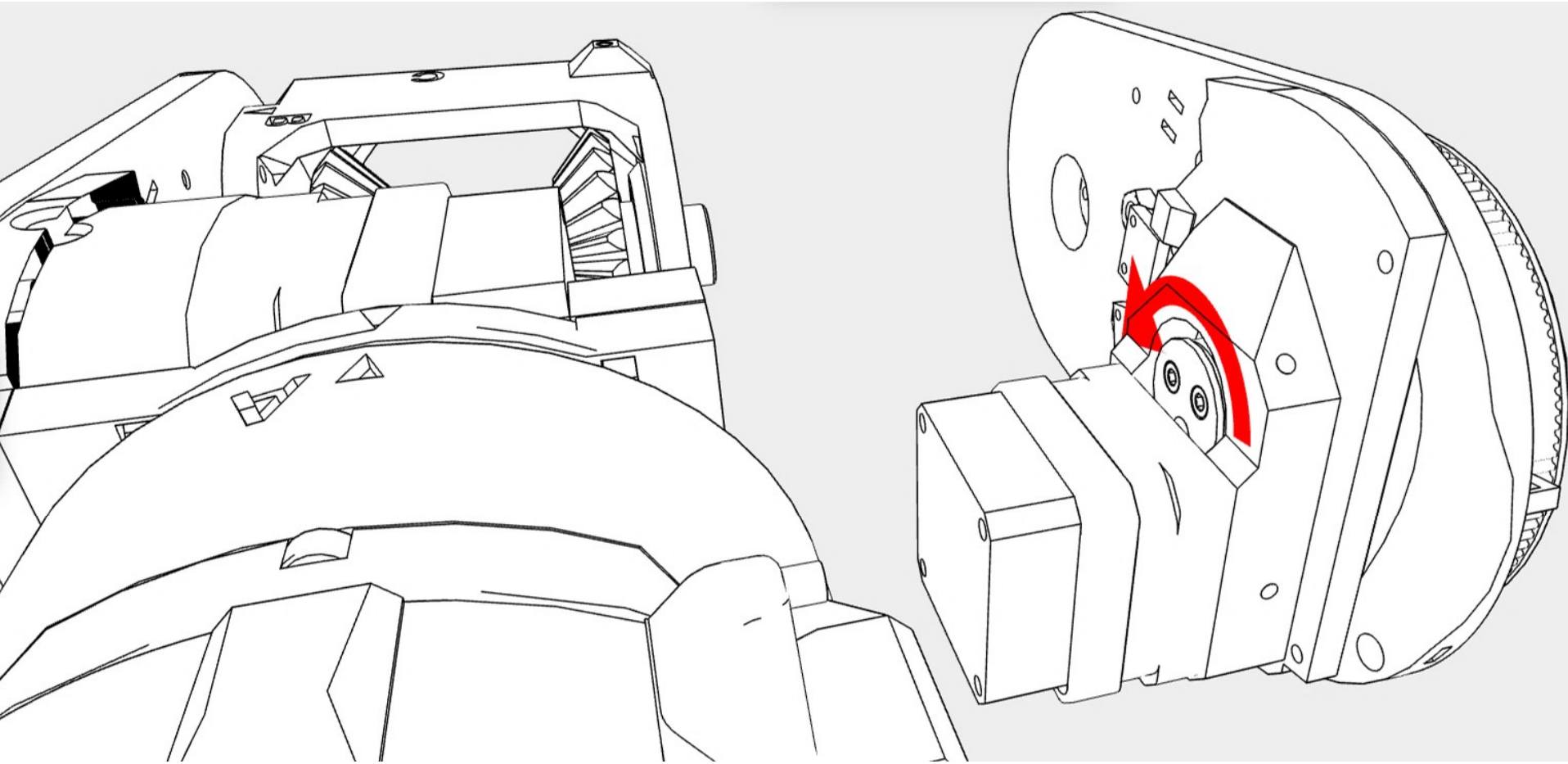
Bolt M3 10mm v2

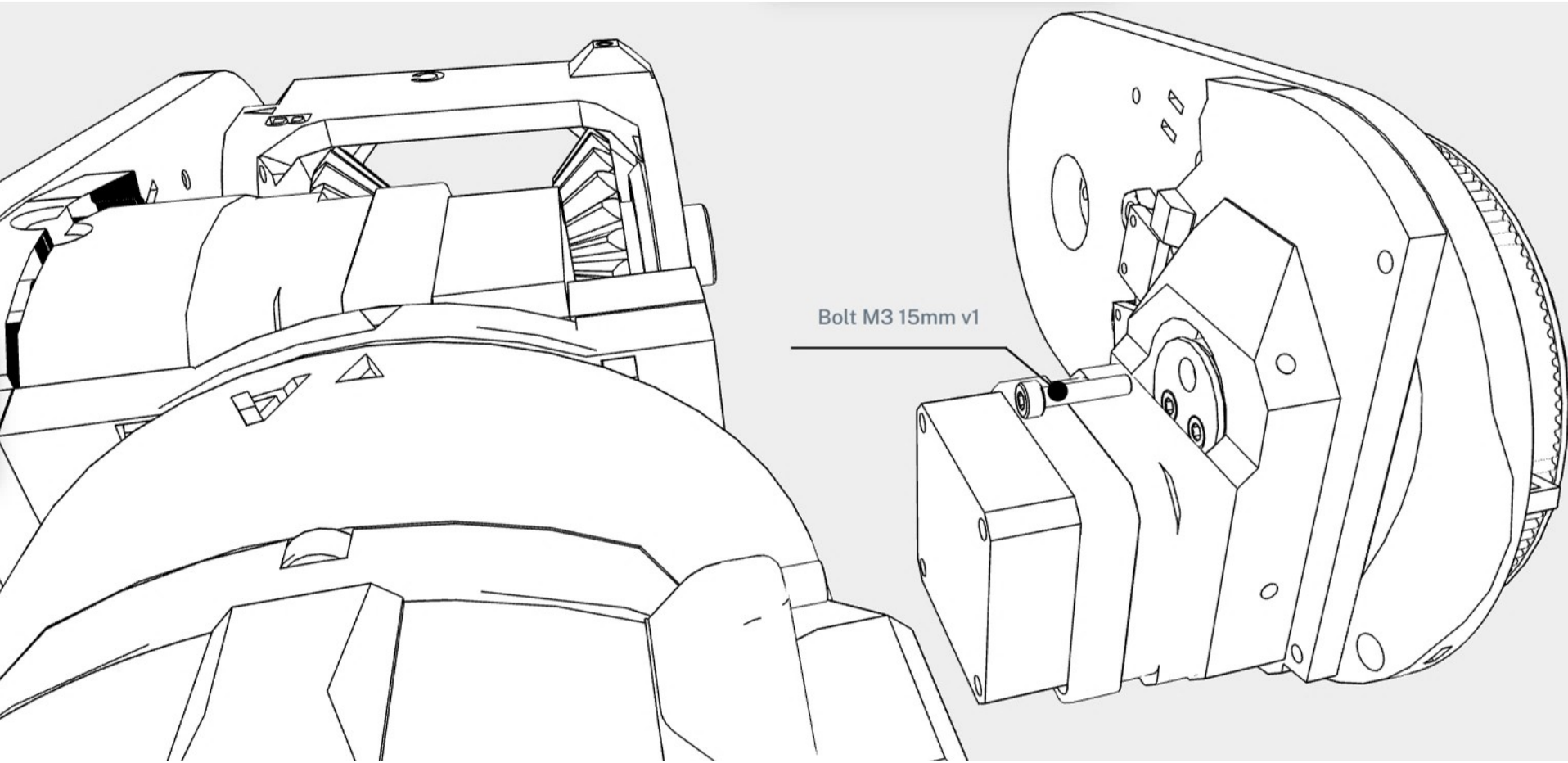




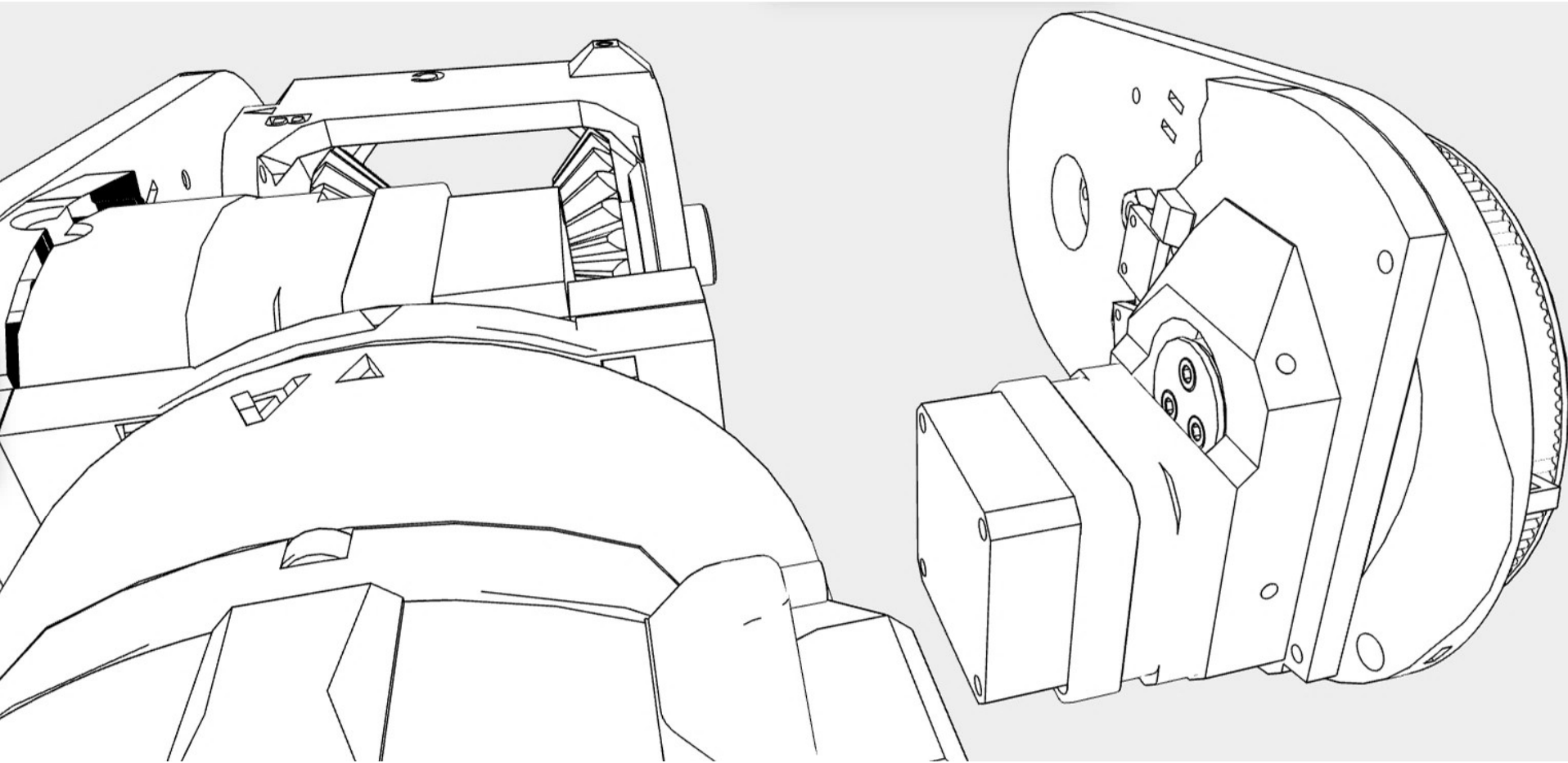


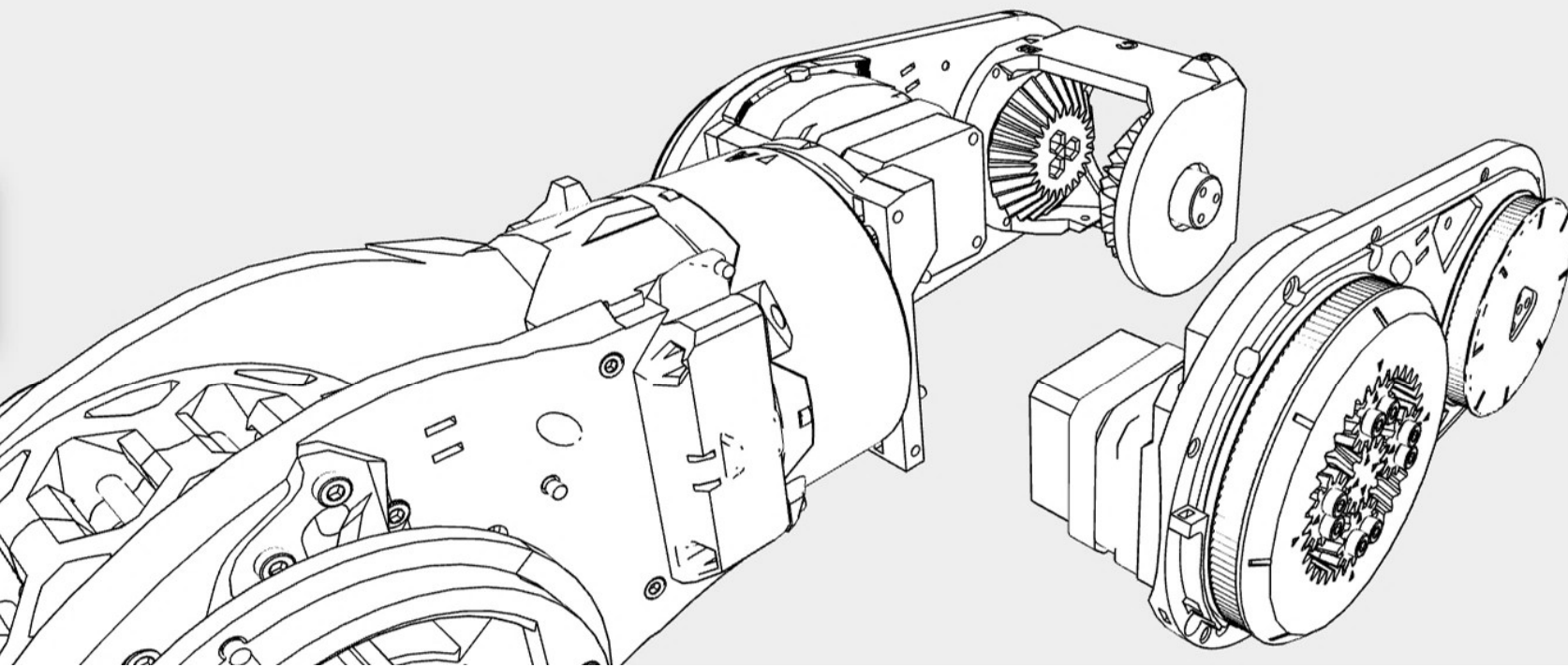
Bolt M3 15mm v1

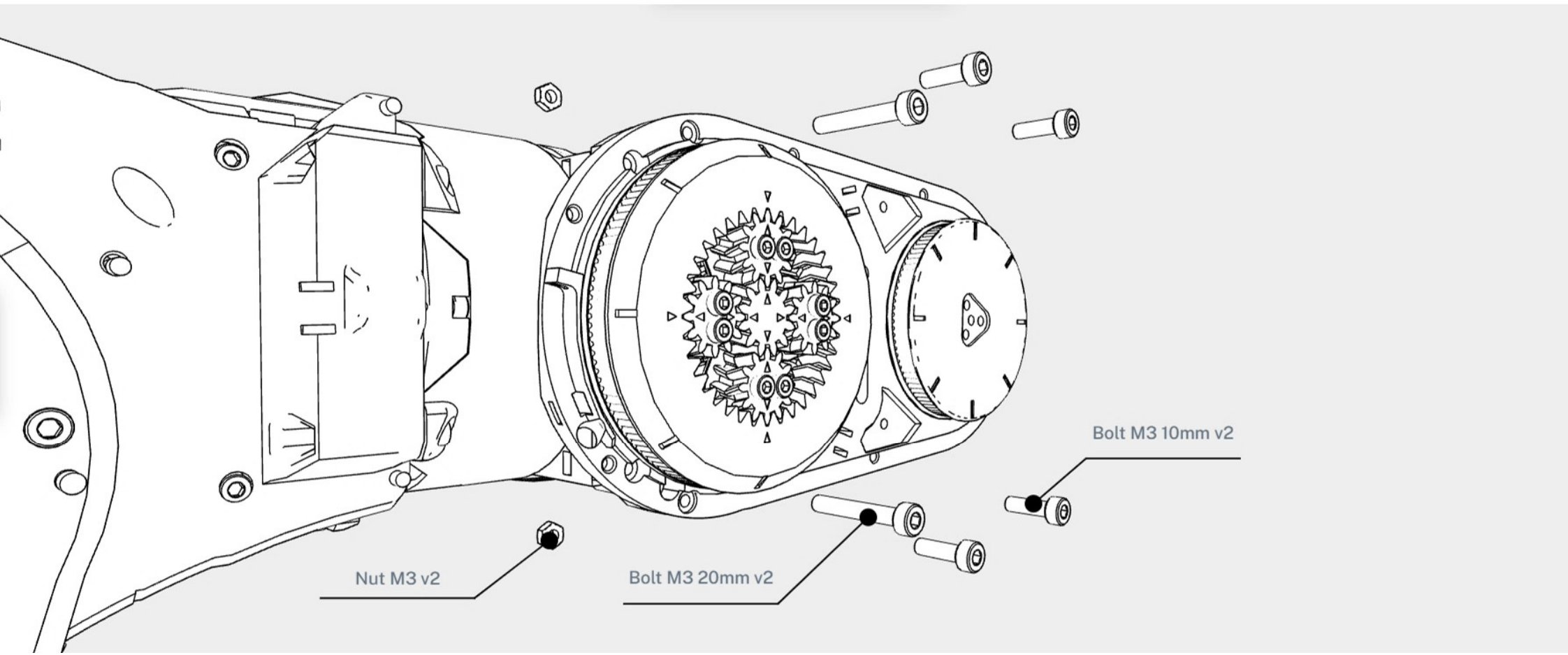




Bolt M3 15mm v1



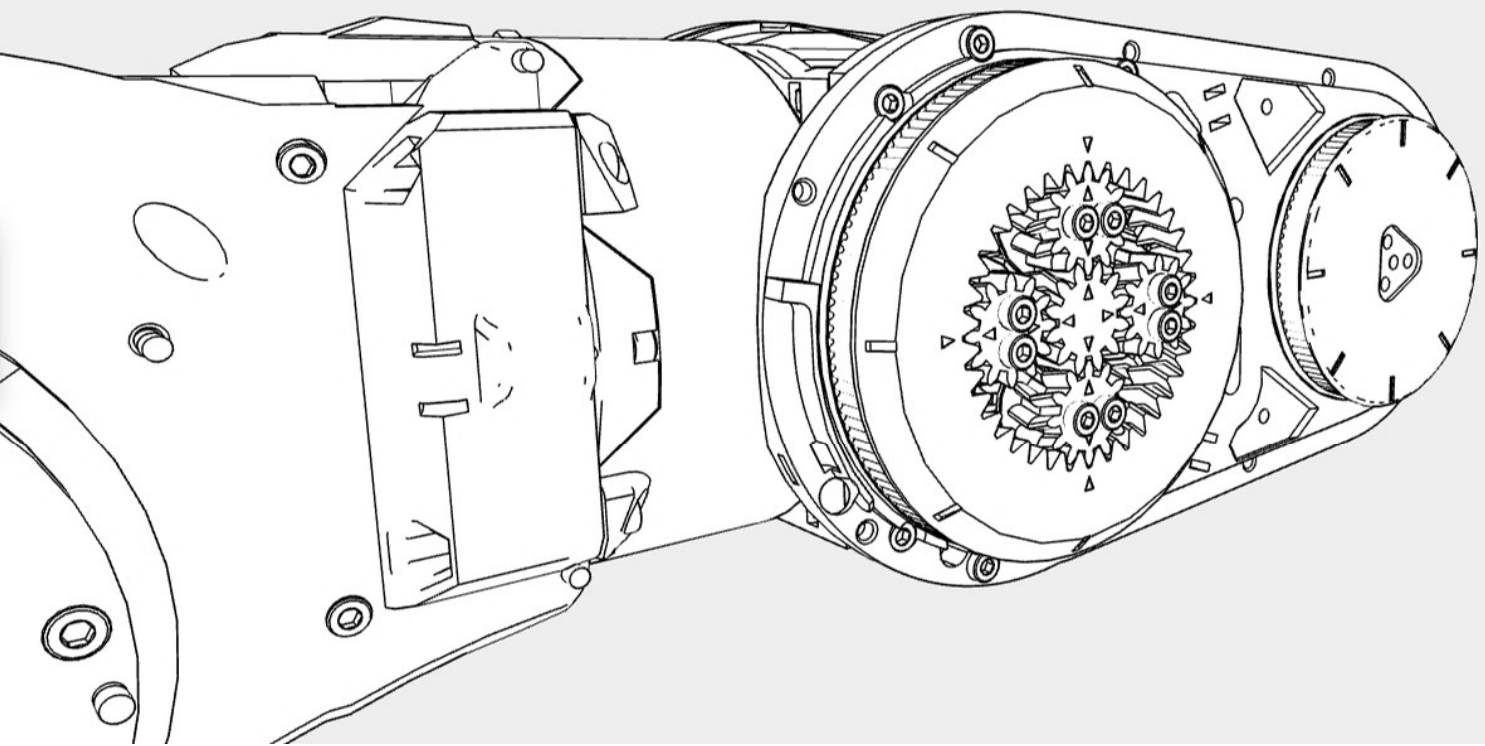


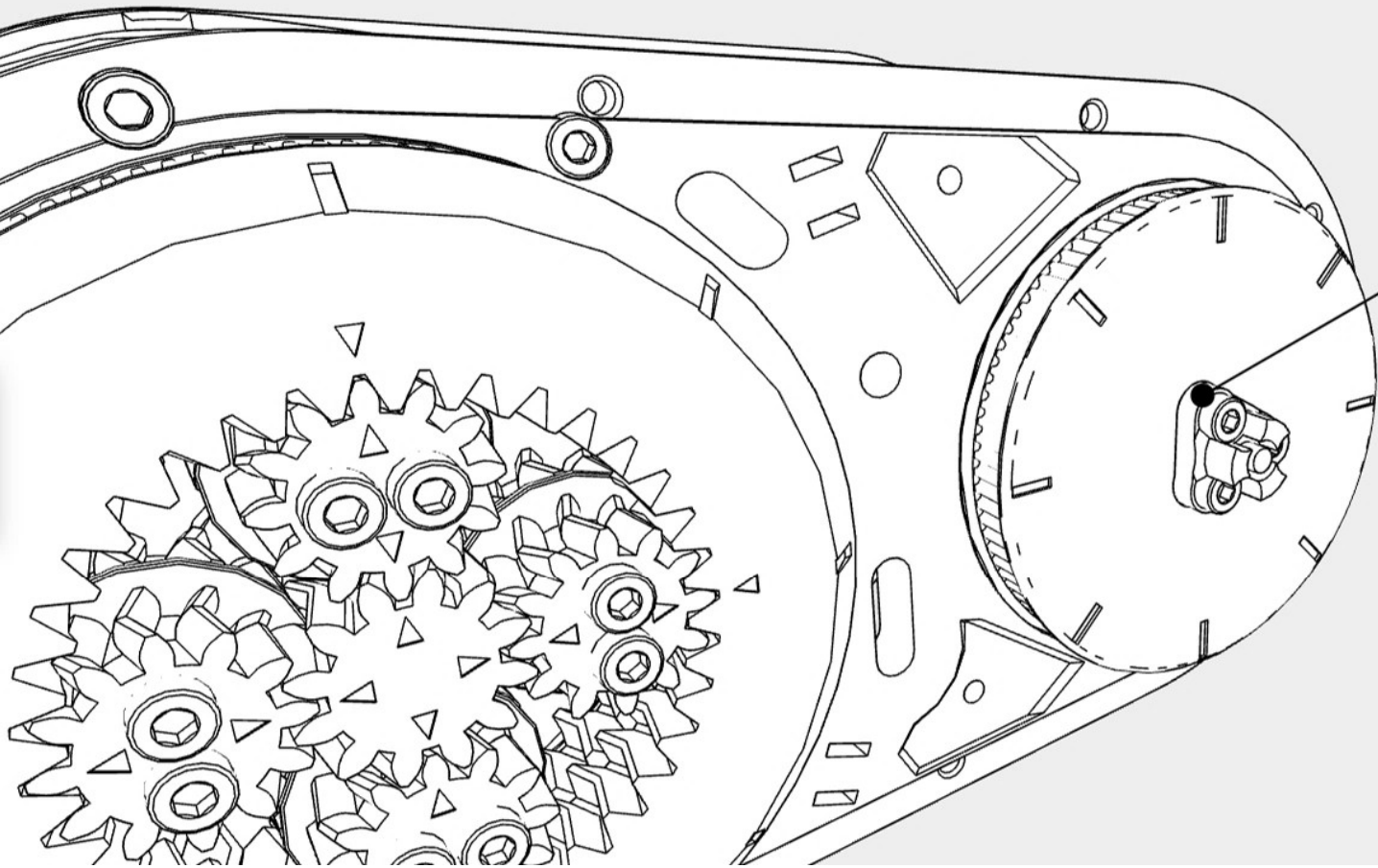


Nut M3 v2

Bolt M3 20mm v2

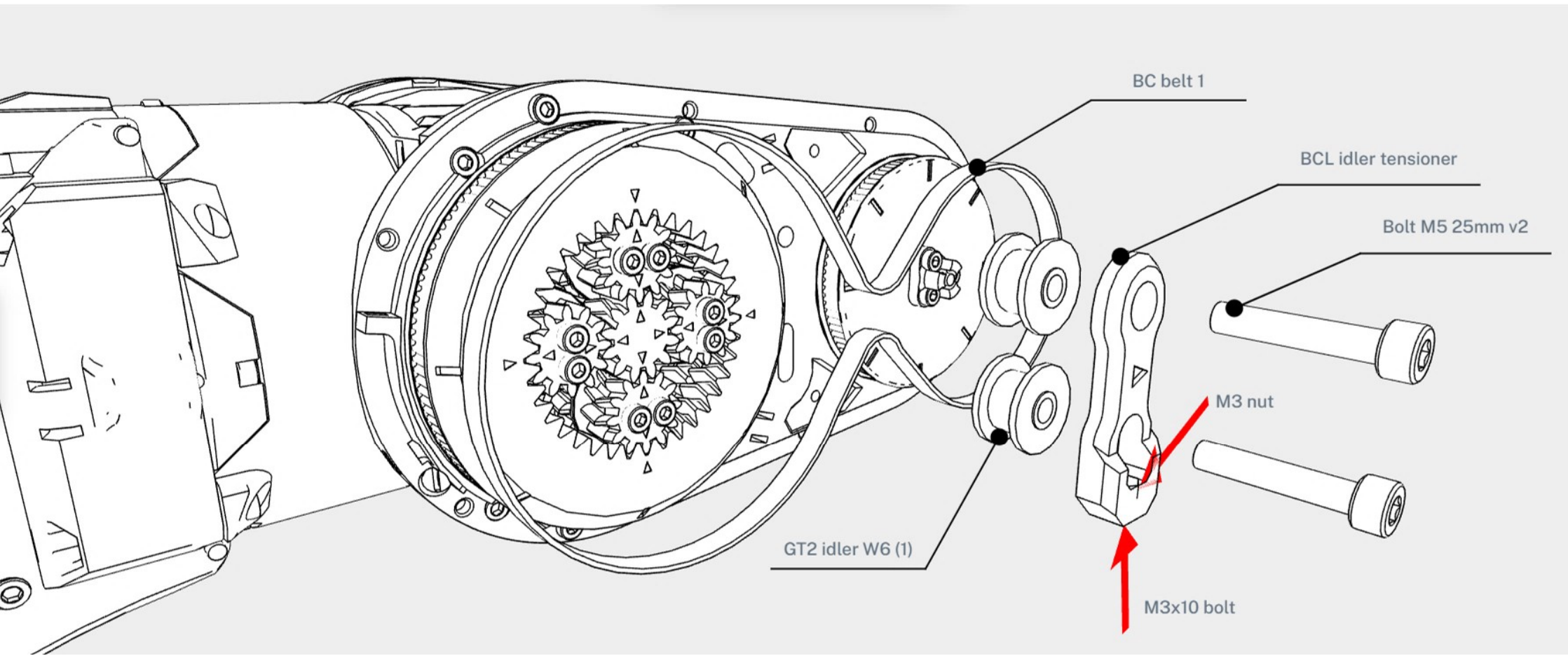
Bolt M3 10mm v2

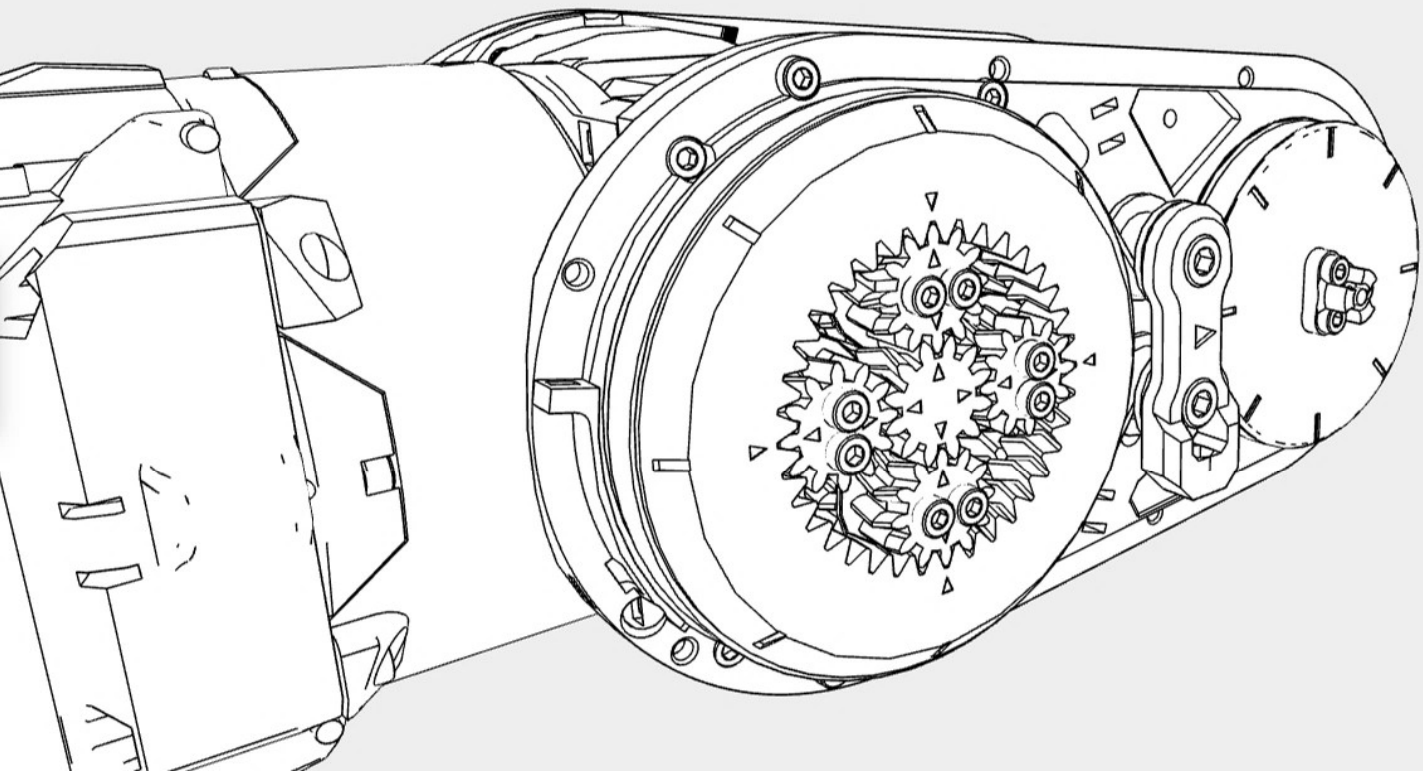


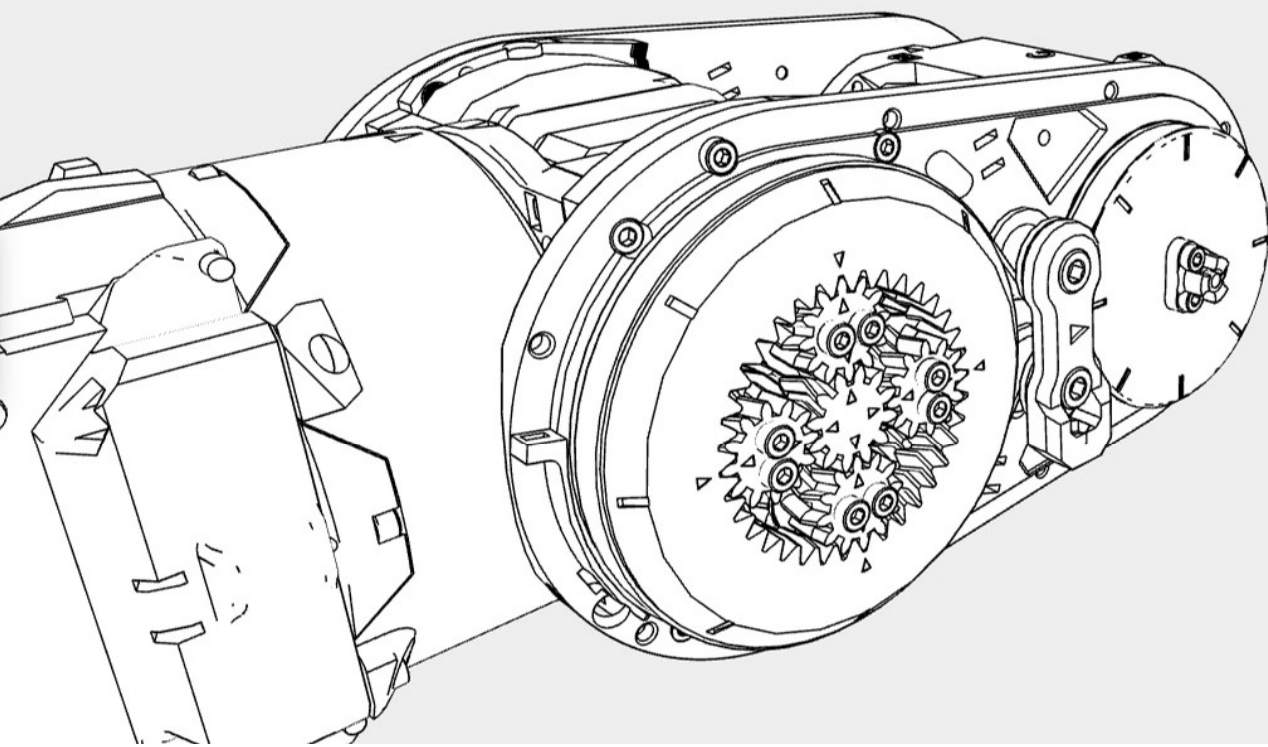


BCL magnet holder

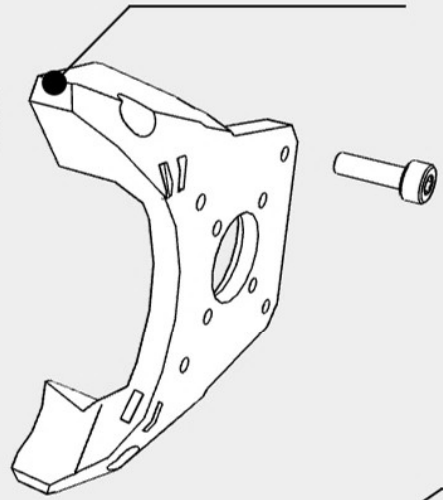
Not needed if additional encoders will not be used





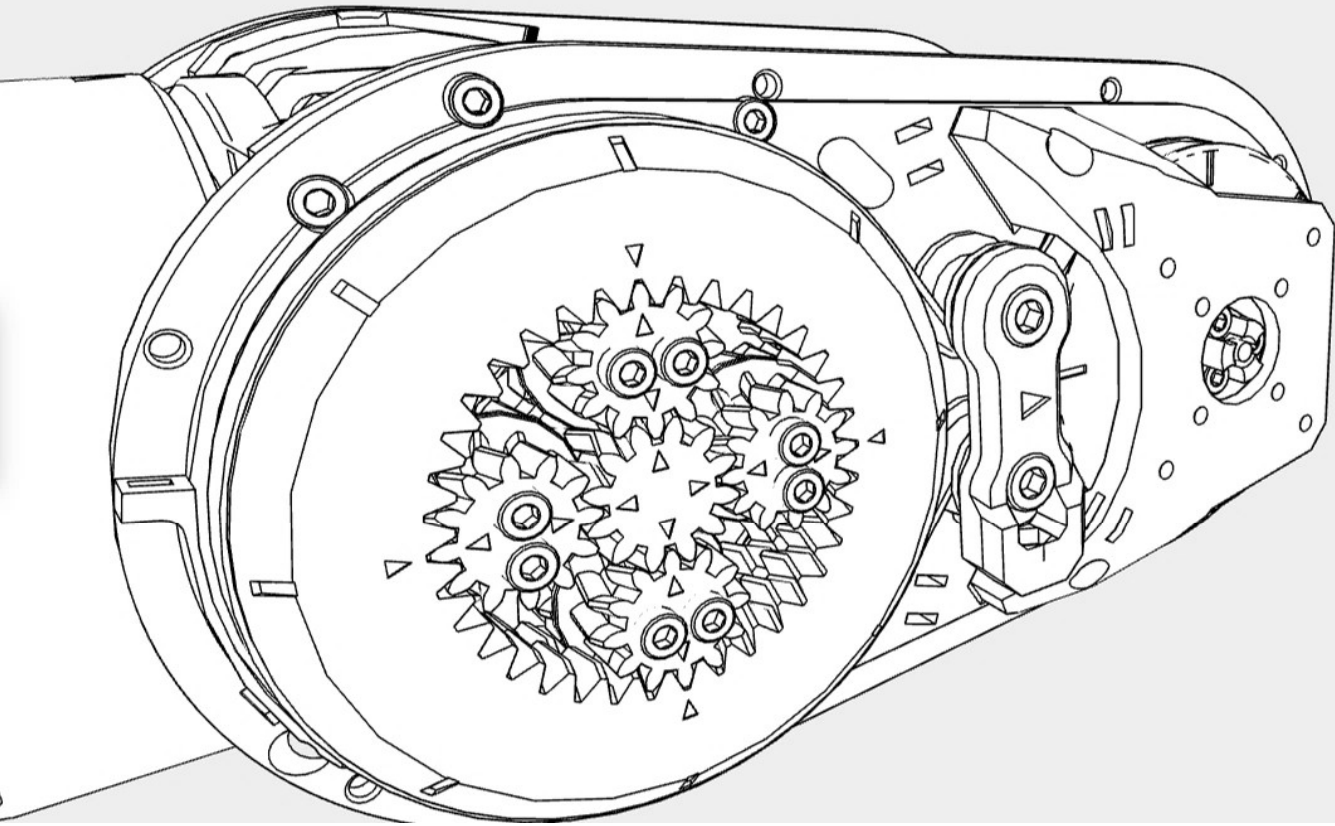


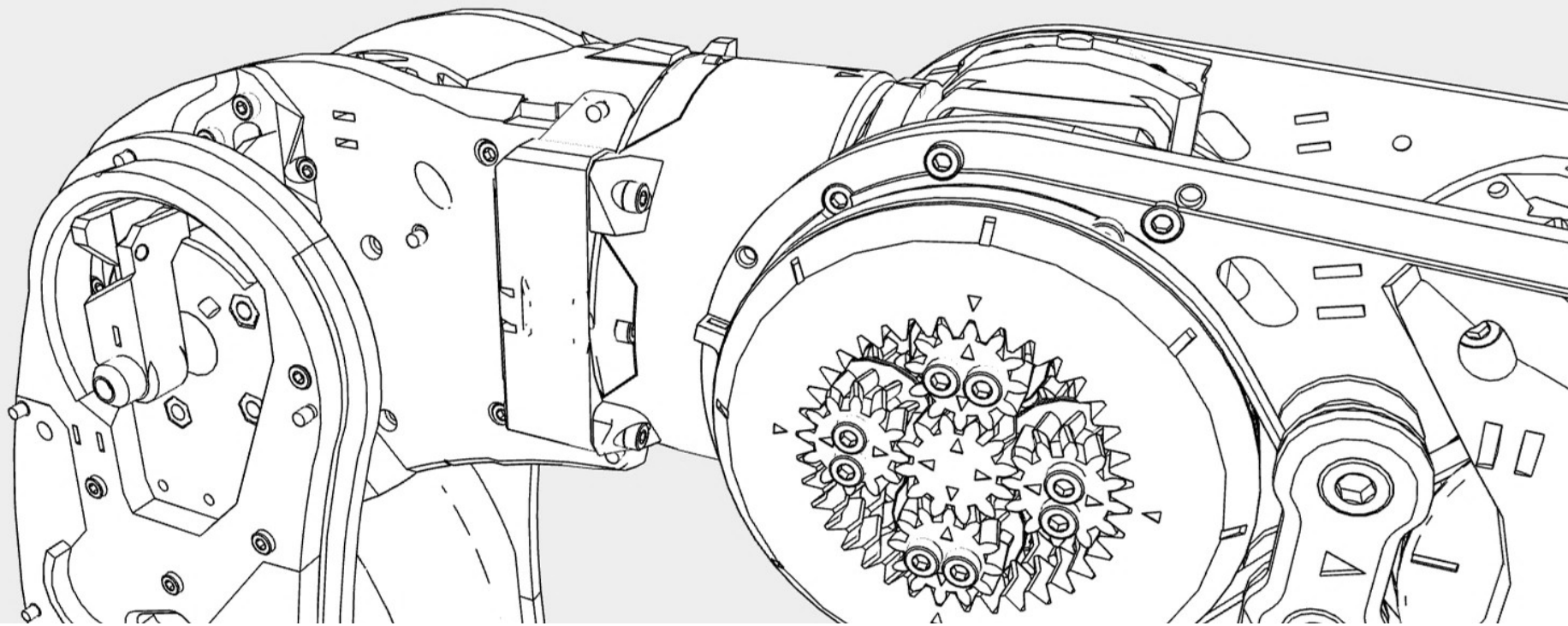
BCL encoder holder

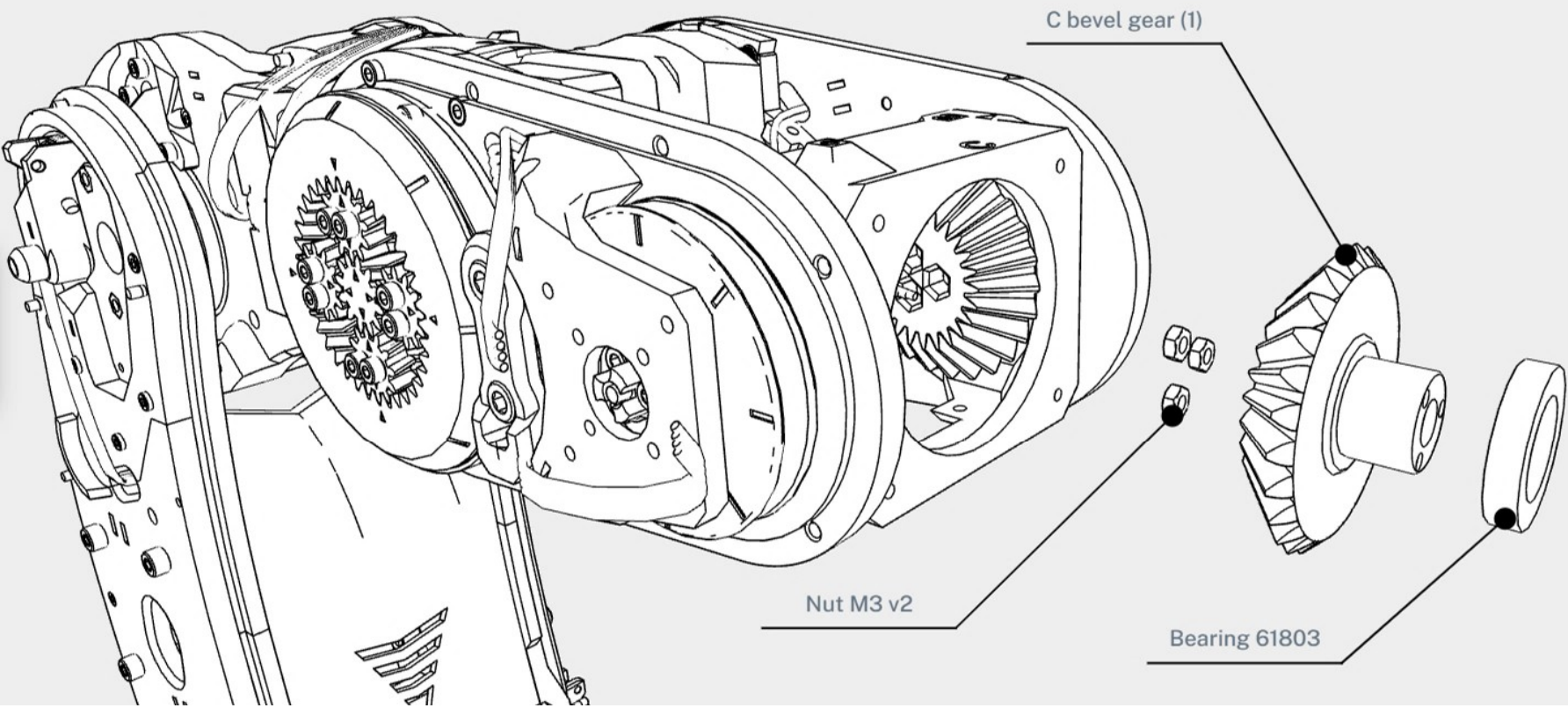


Bolt M3 10mm v2





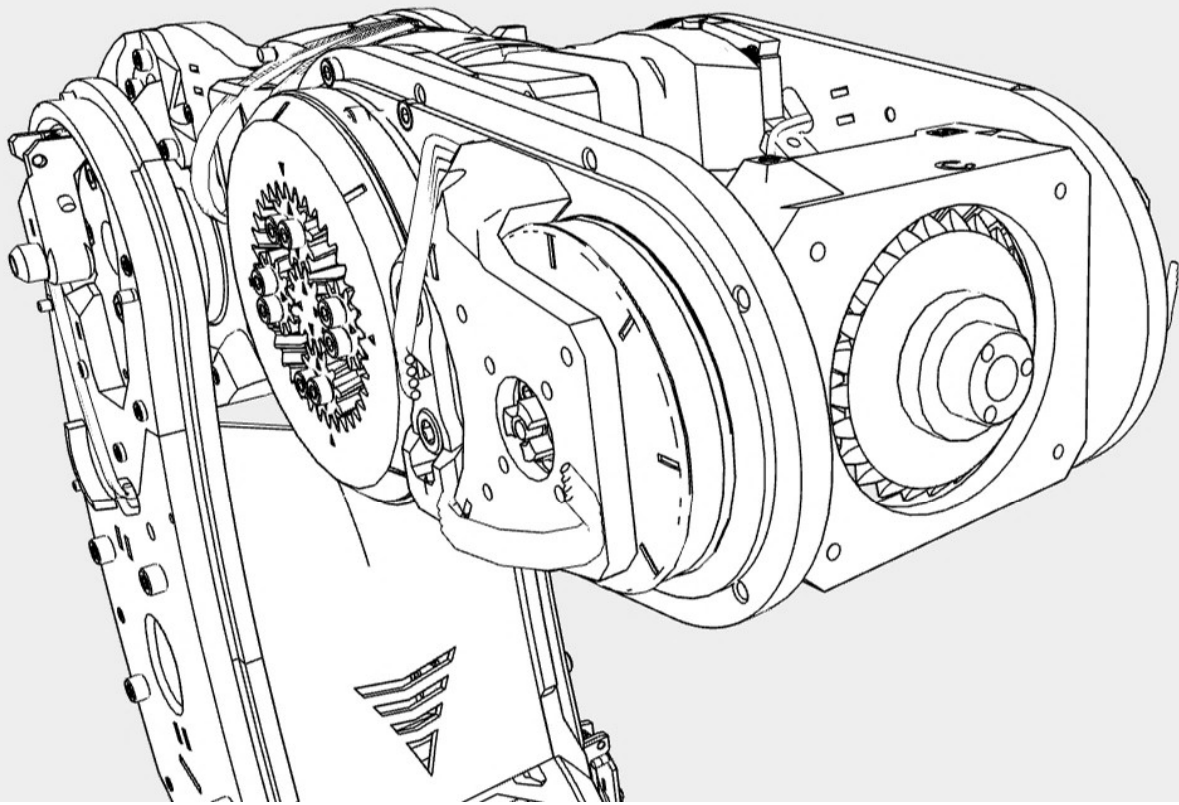


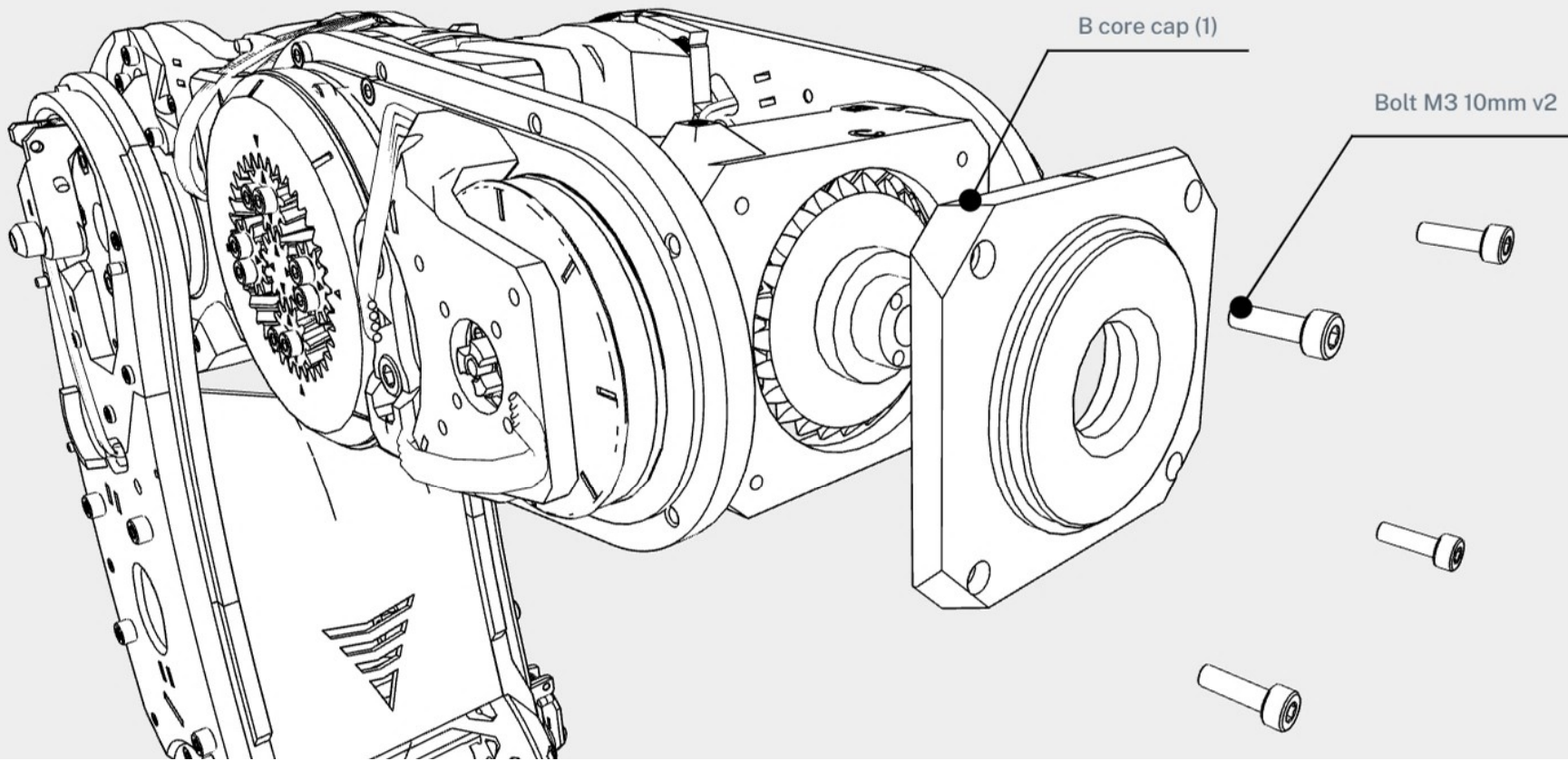


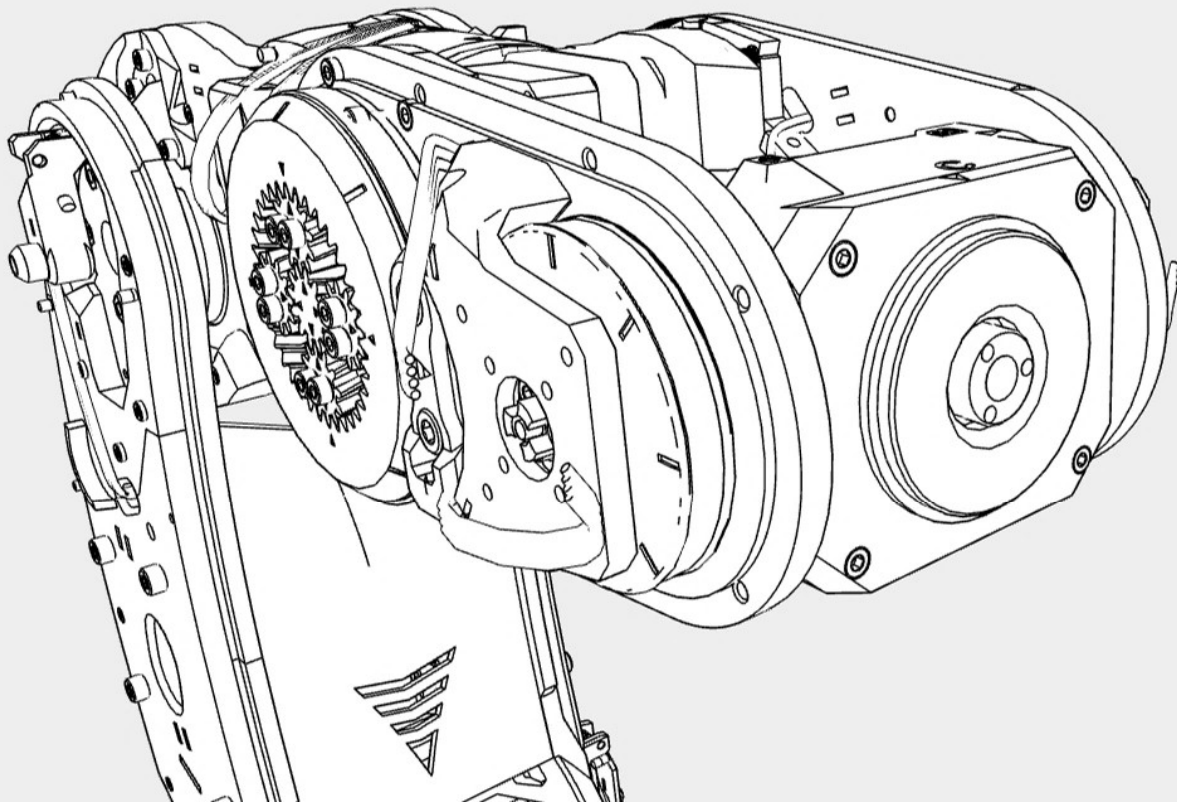
C bevel gear (1)

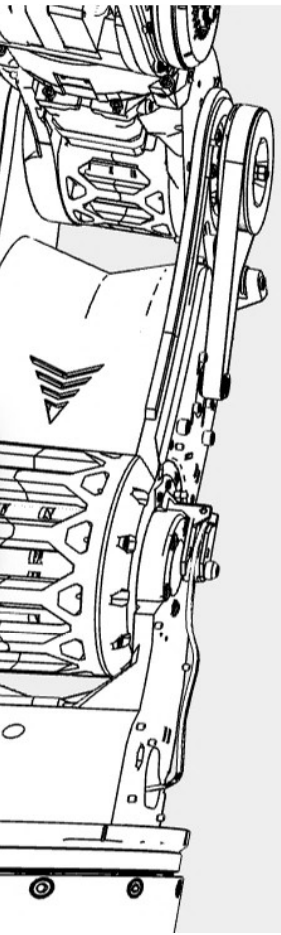
Nut M3 v2

Bearing 61803

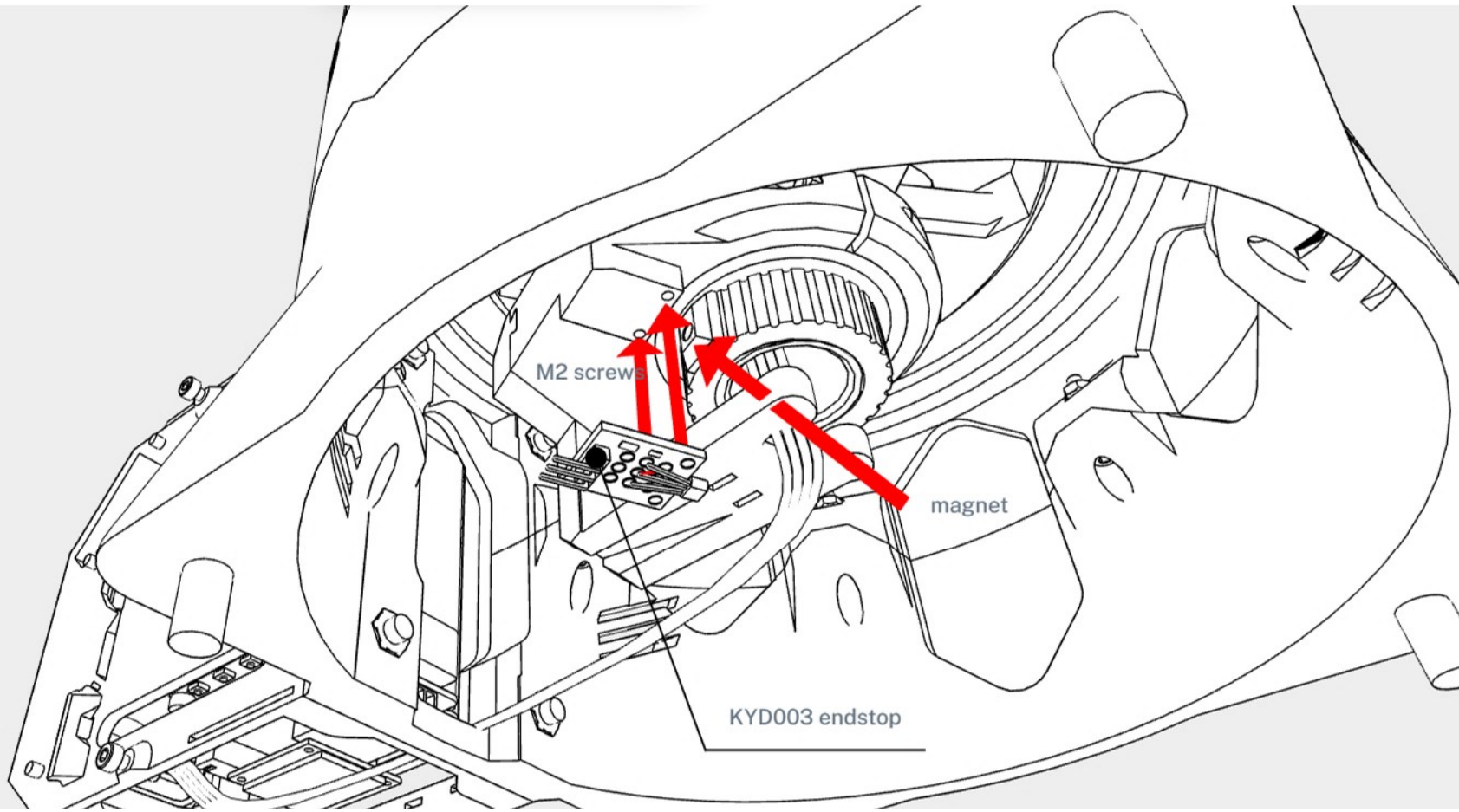


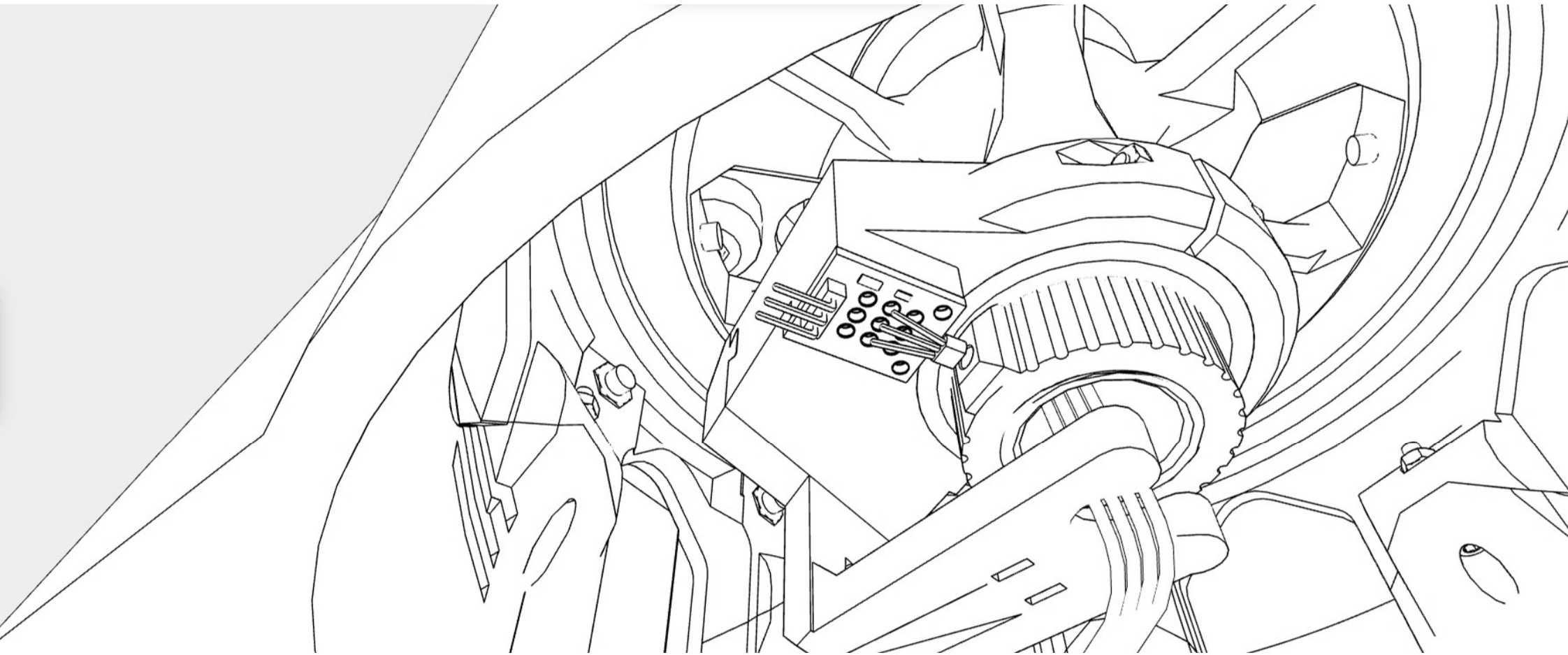




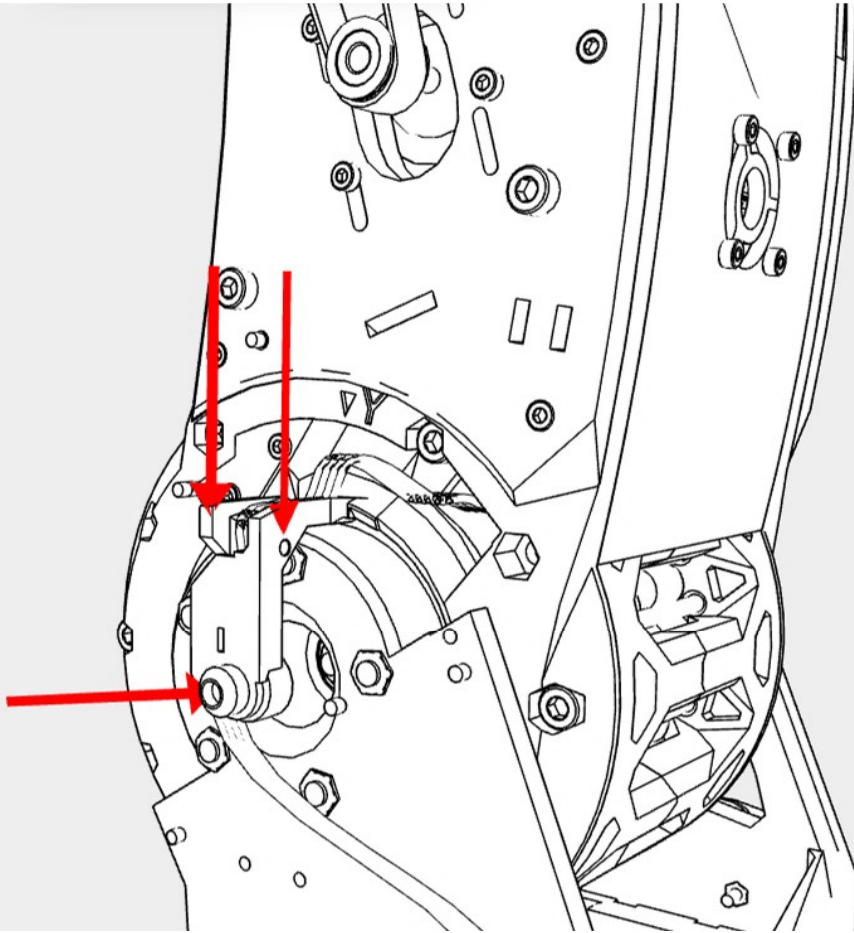


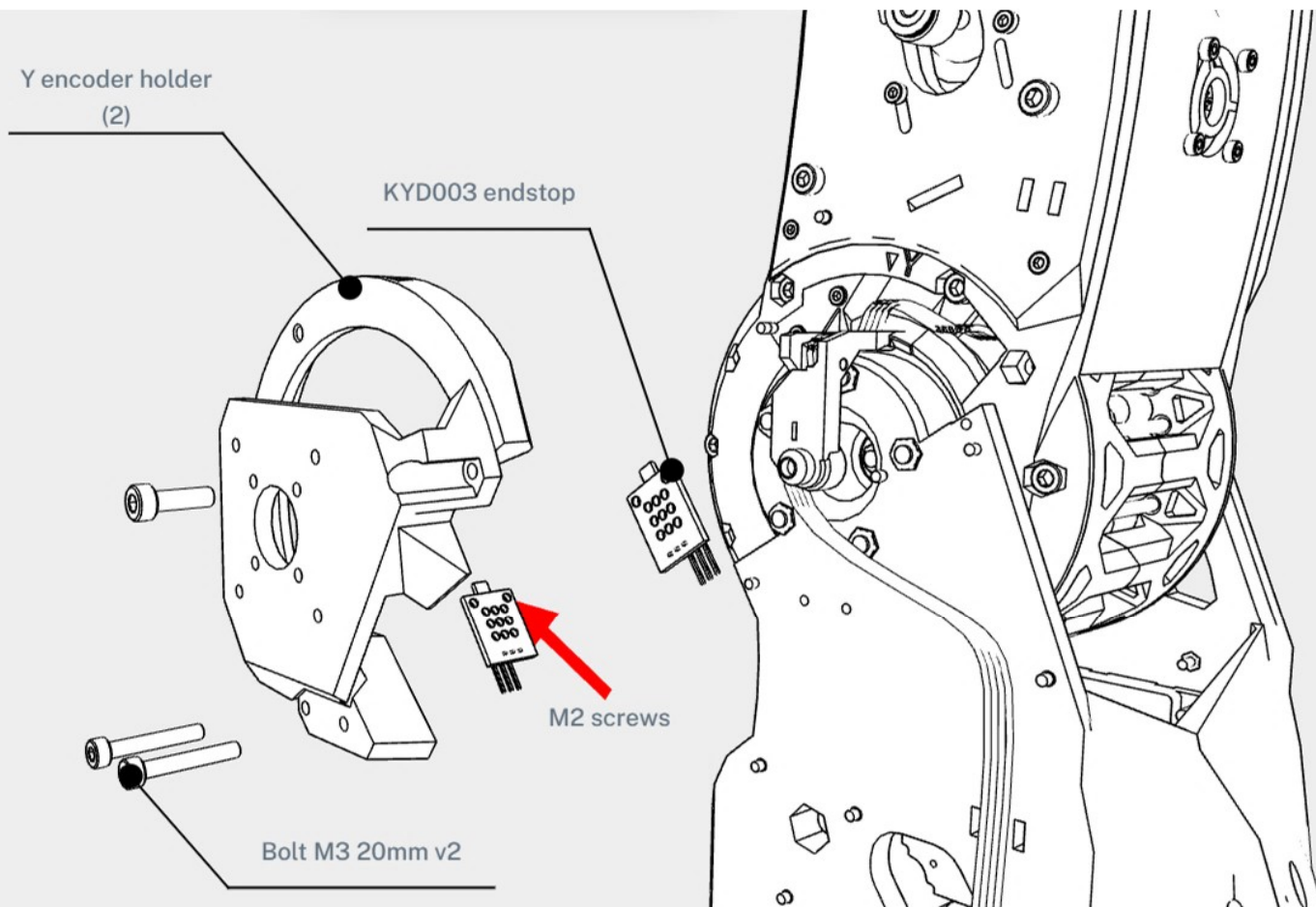
LIMIT SWITCHES

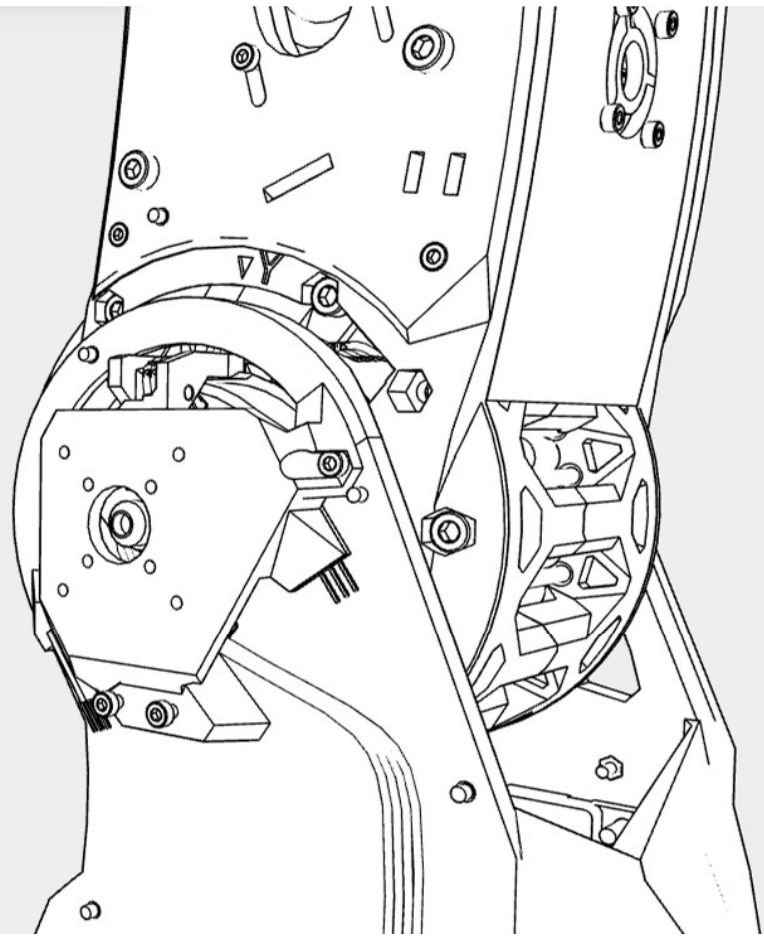




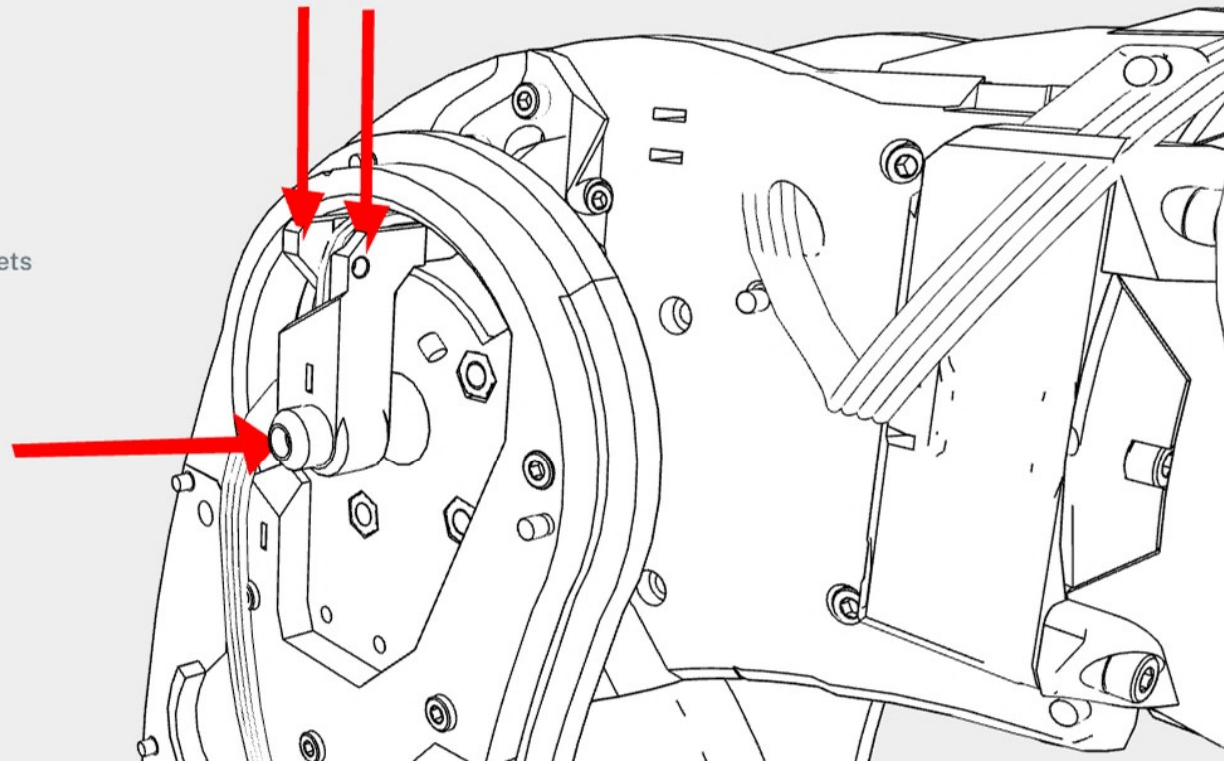
magnets

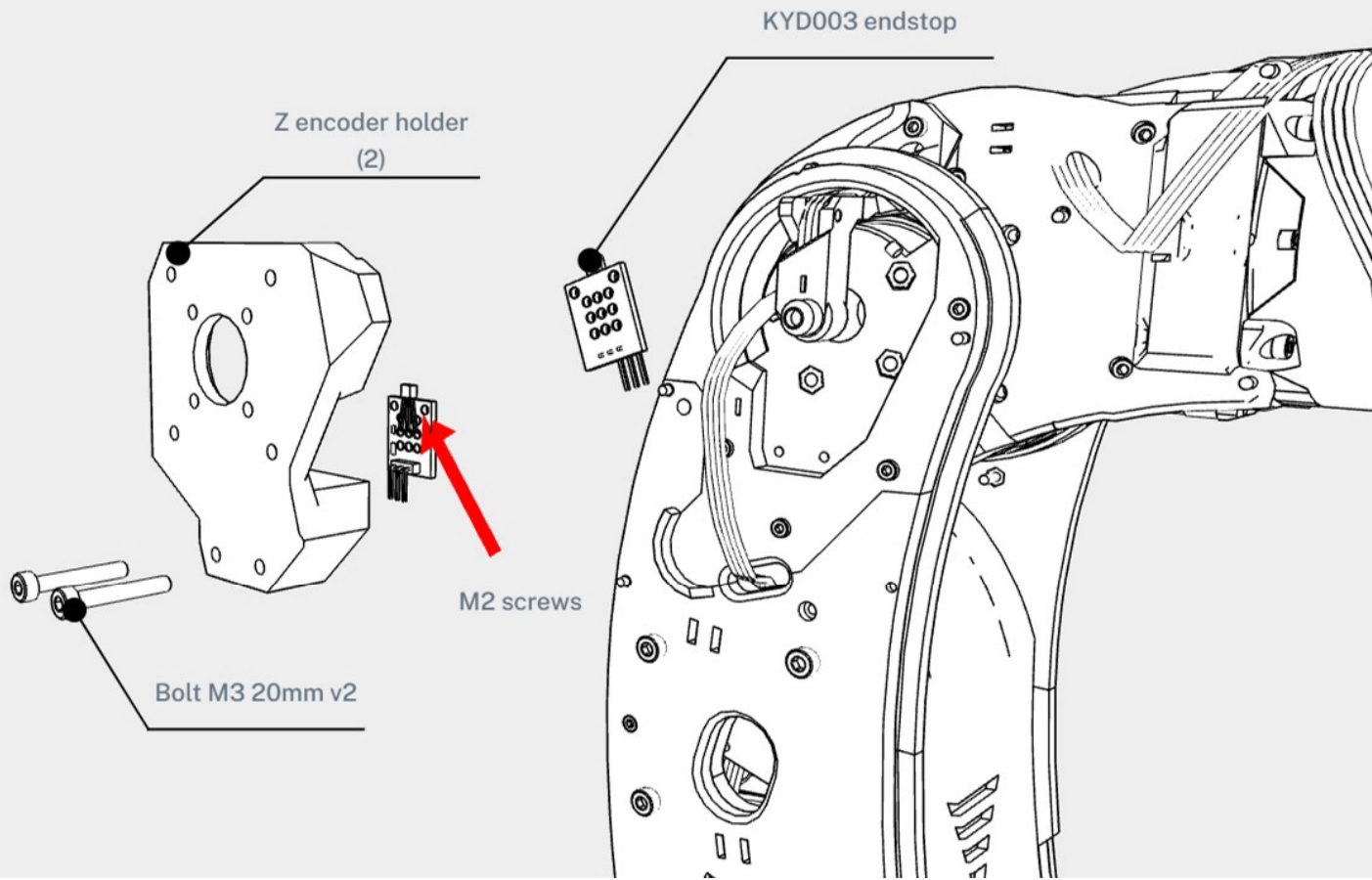


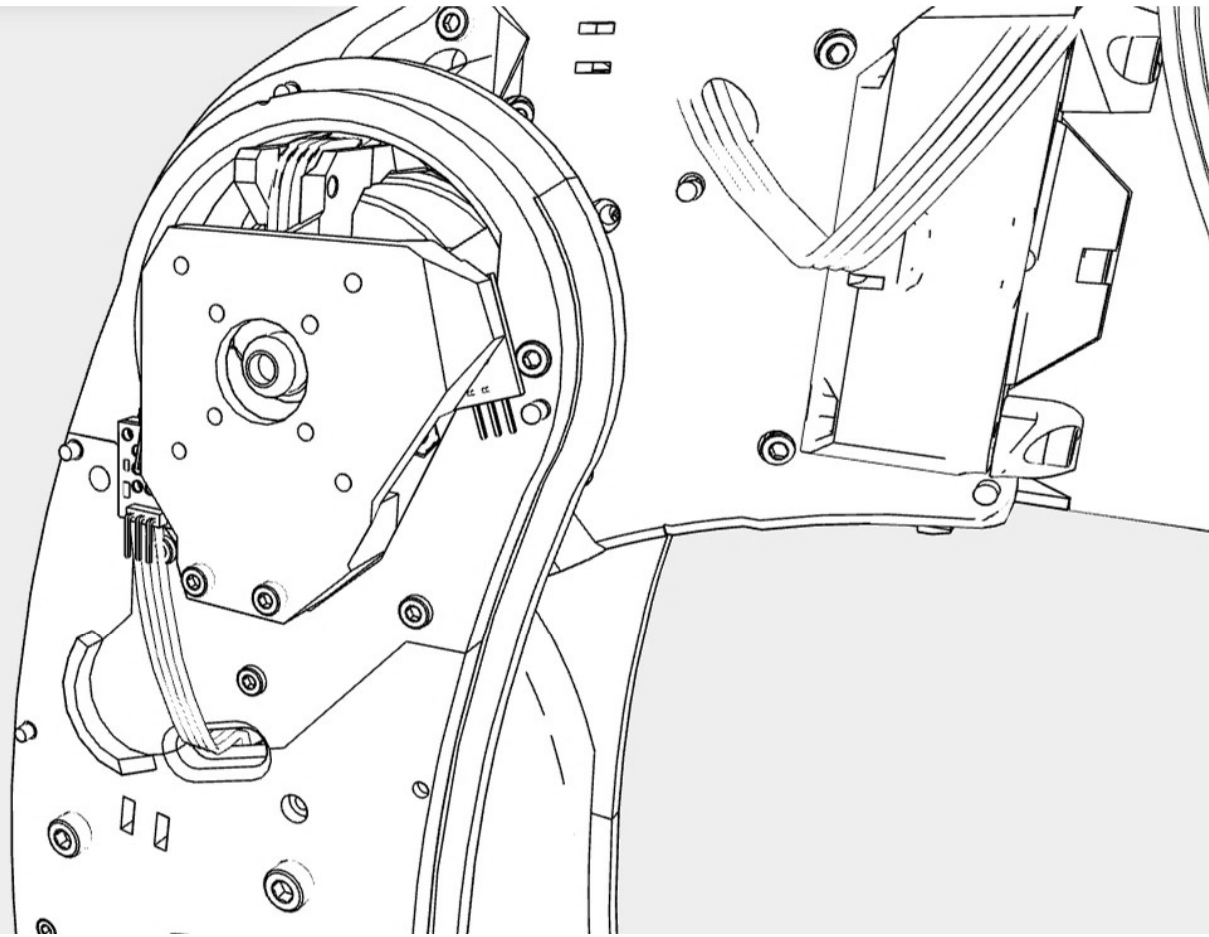


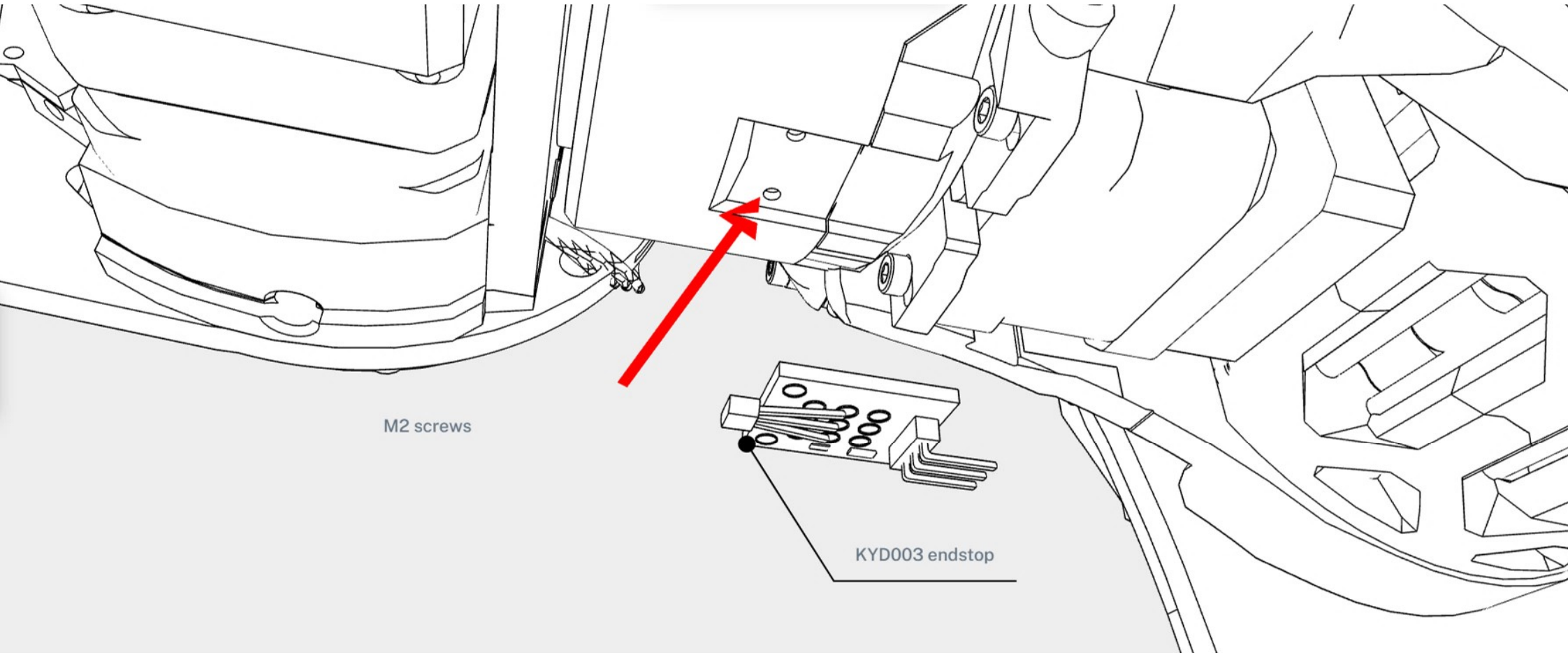


magnets



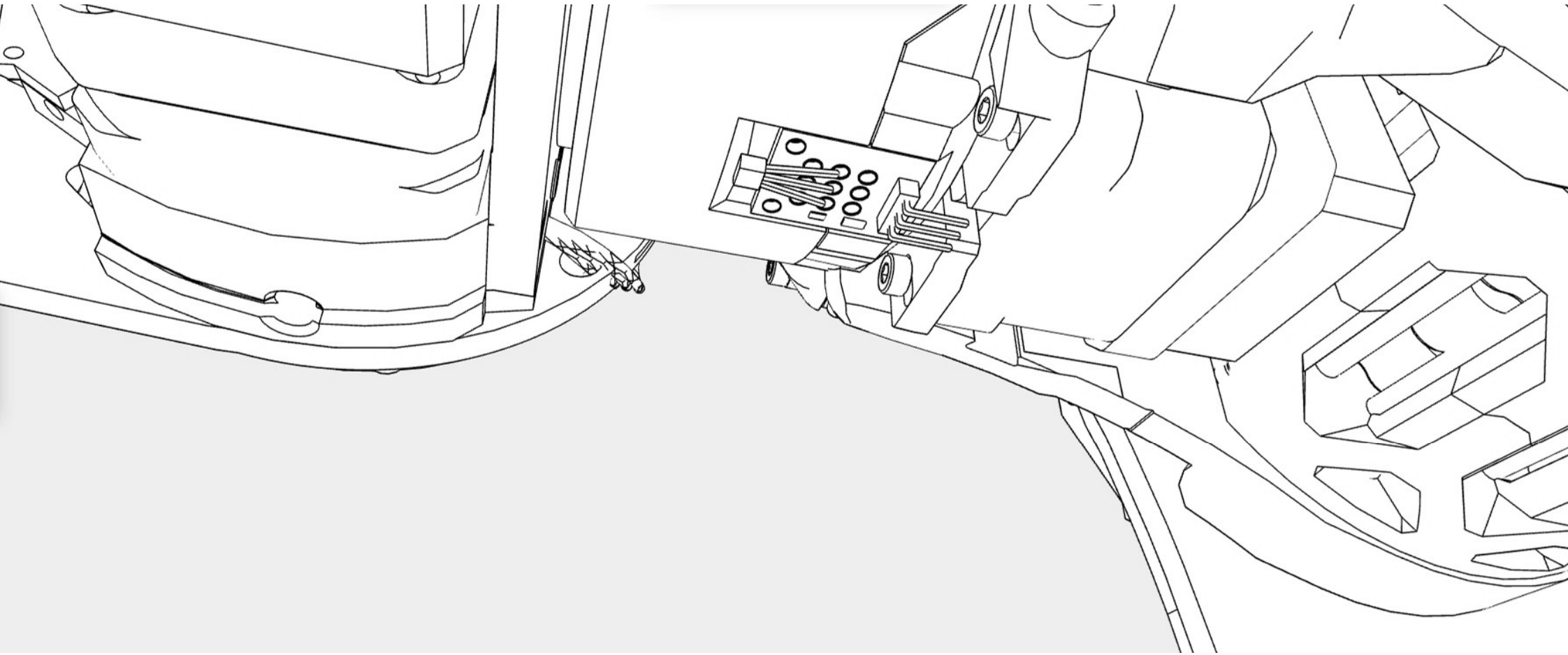


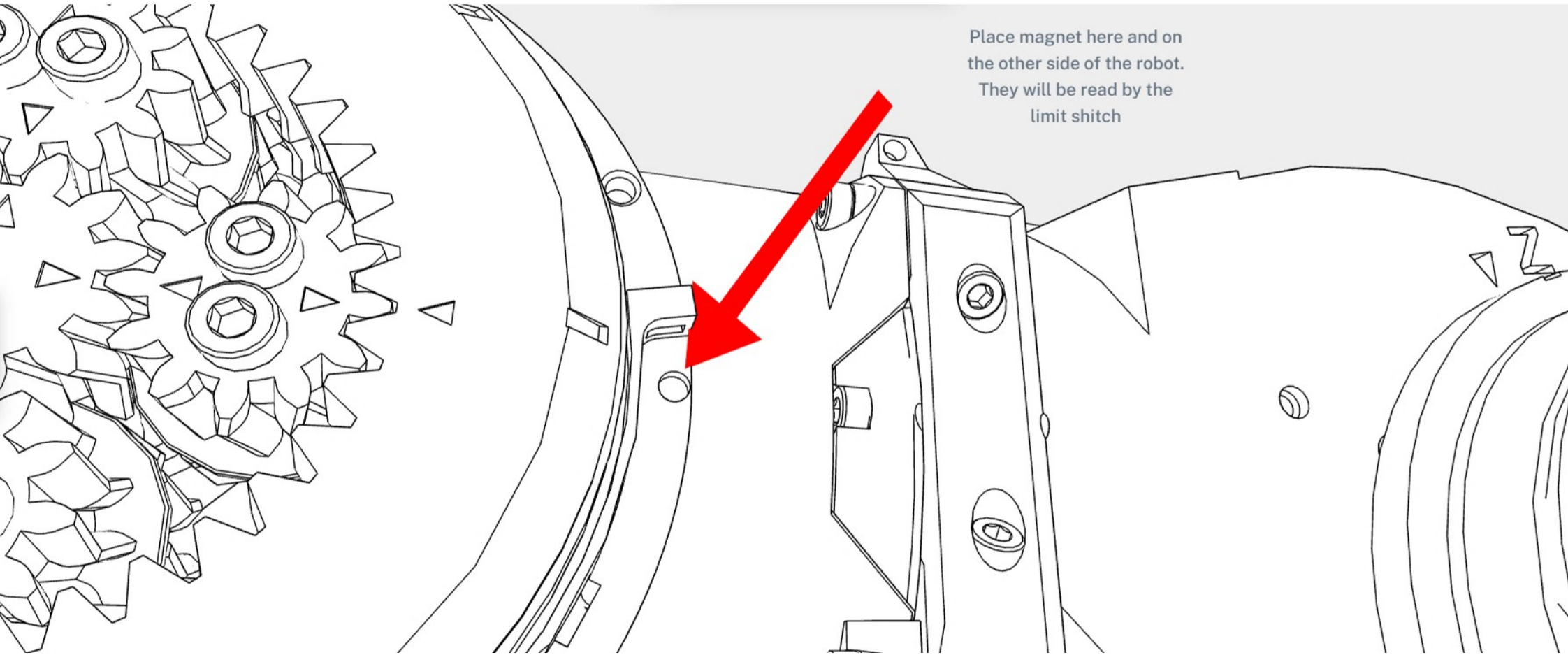




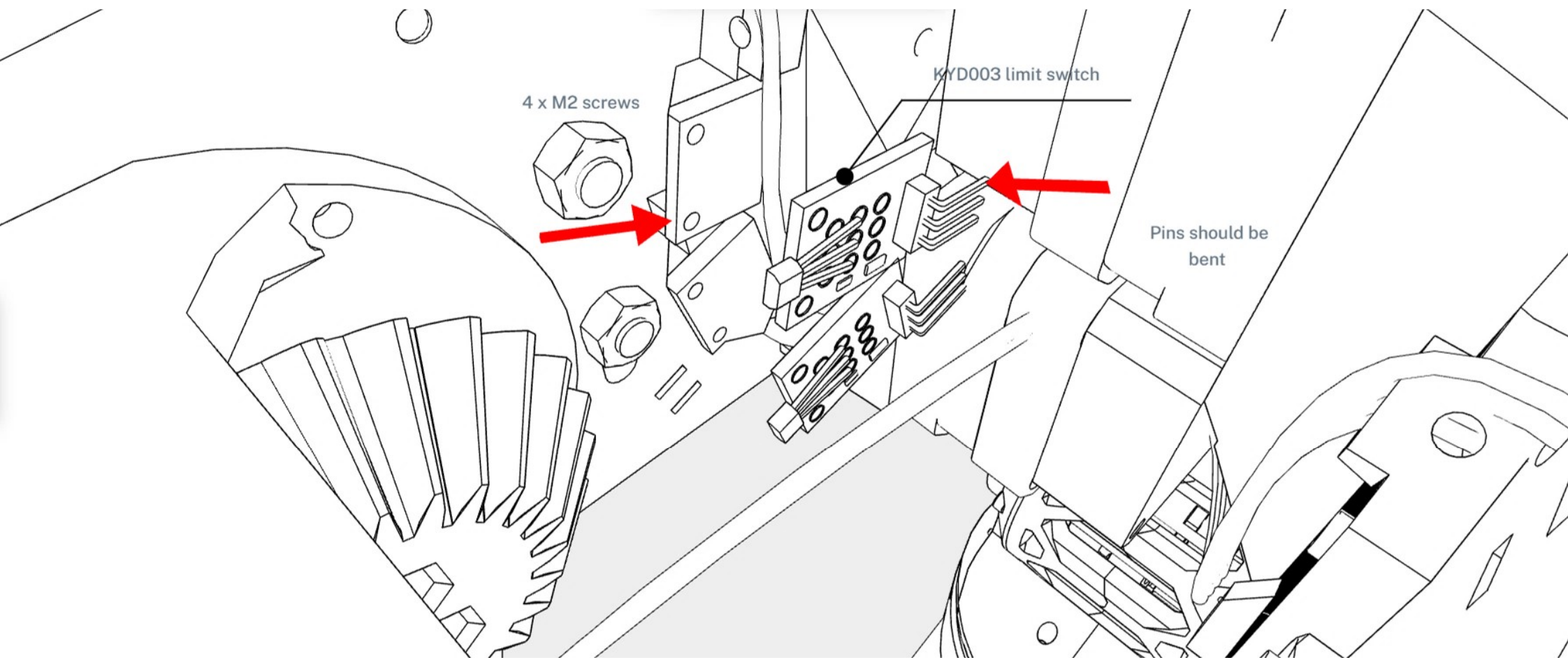
M2 screws

KYD003 endstop





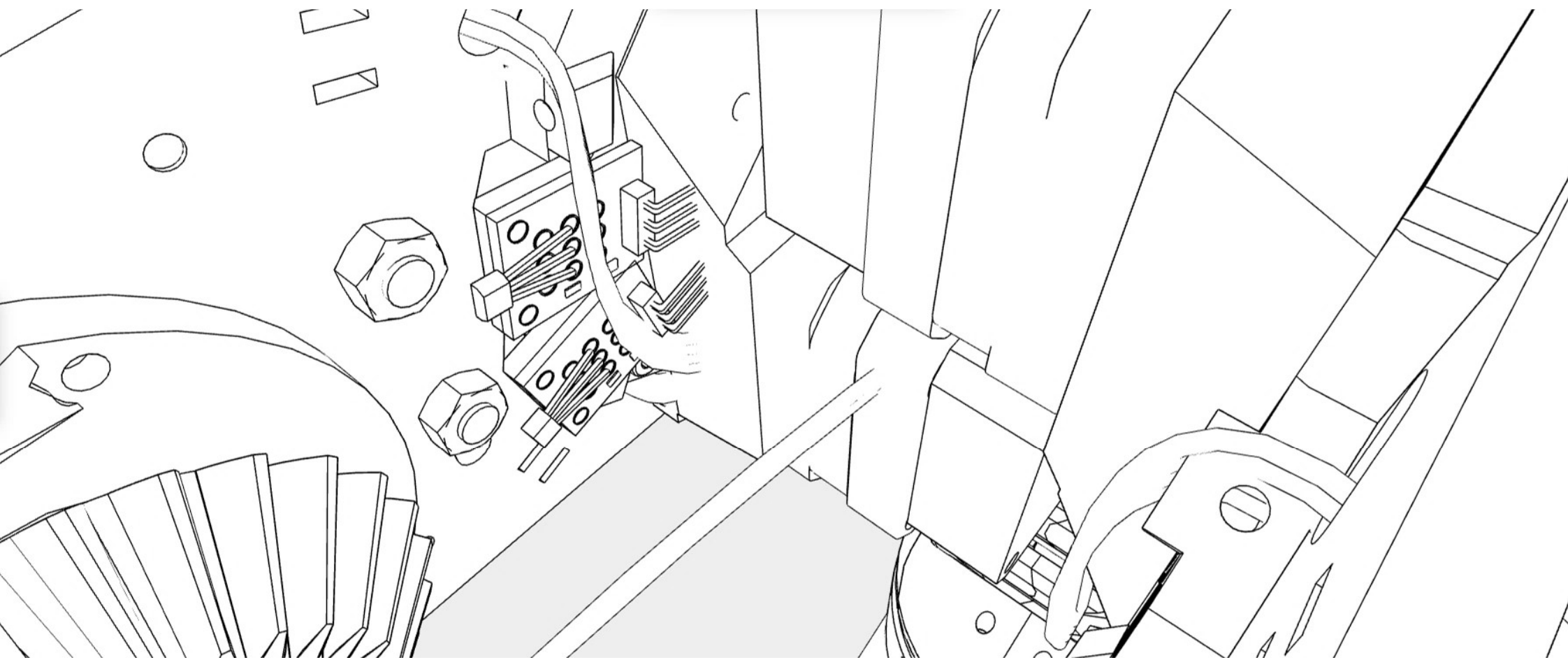
Place magnet here and on
the other side of the robot.
They will be read by the
limit switch



KYD003 limit switch

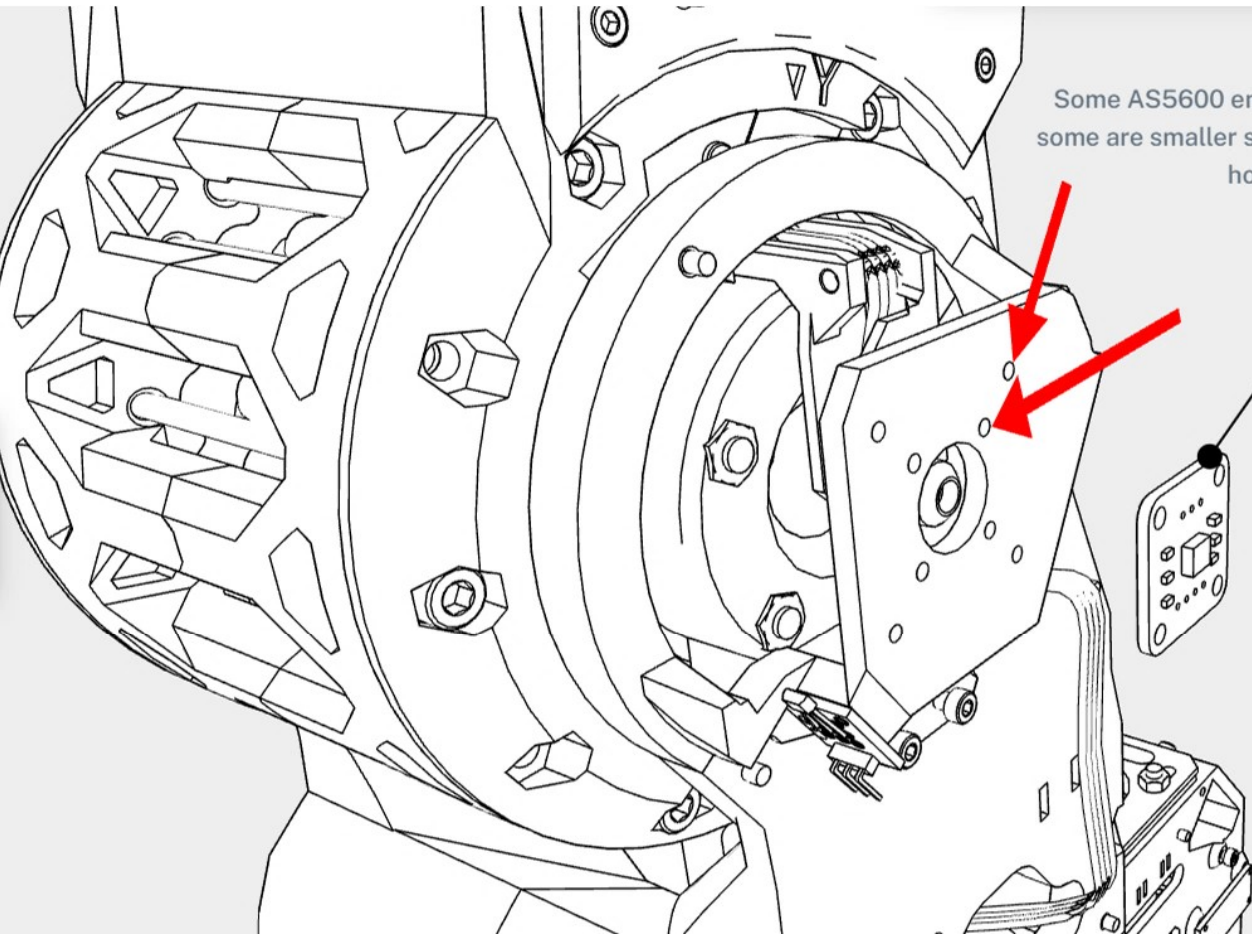
4 x M2 screws

Pins should be bent



ADDITIONAL ENCODERS

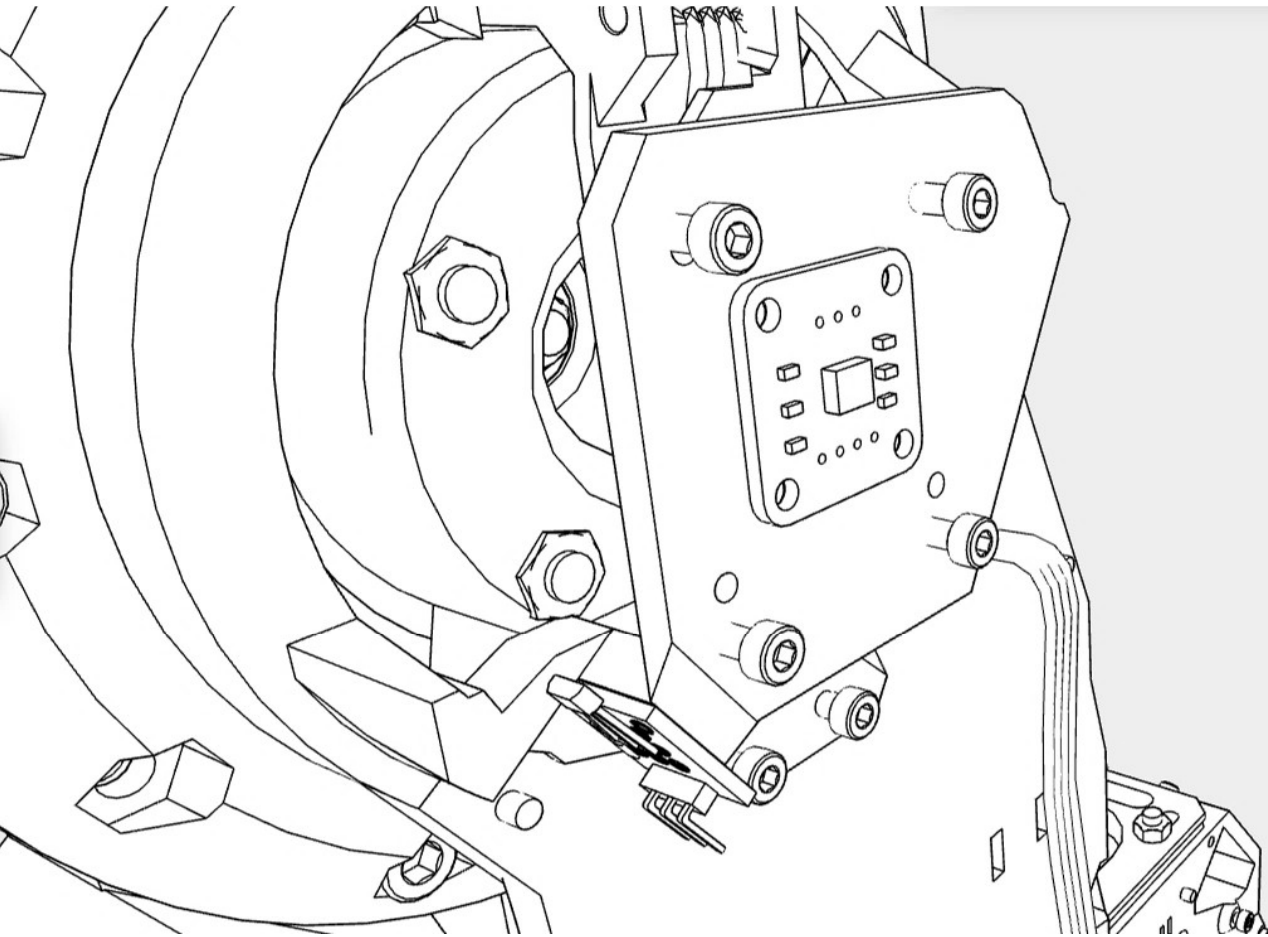




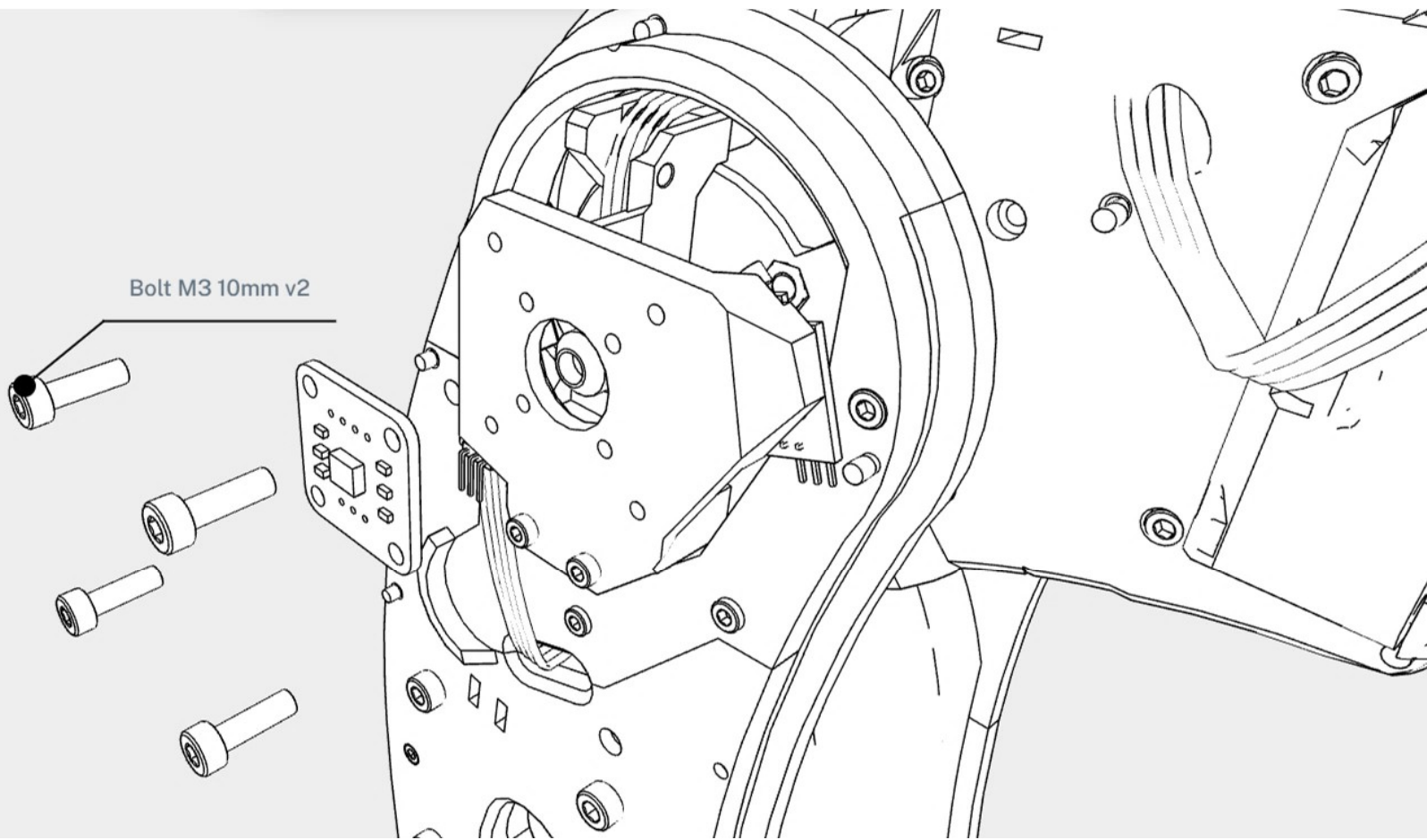
Some AS5600 encoders are larger,
some are smaller so are the dedicated
holes

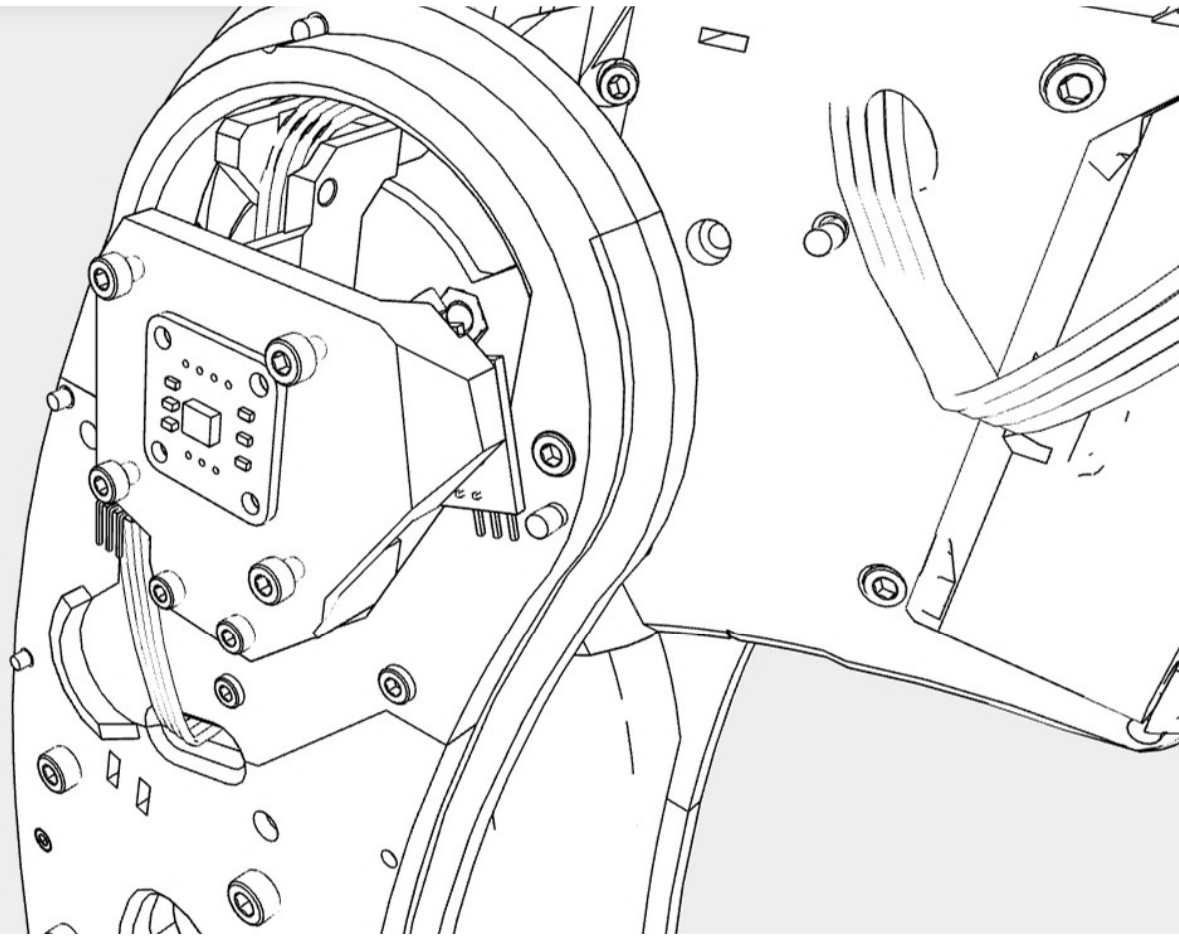
AS5600 v1 v1

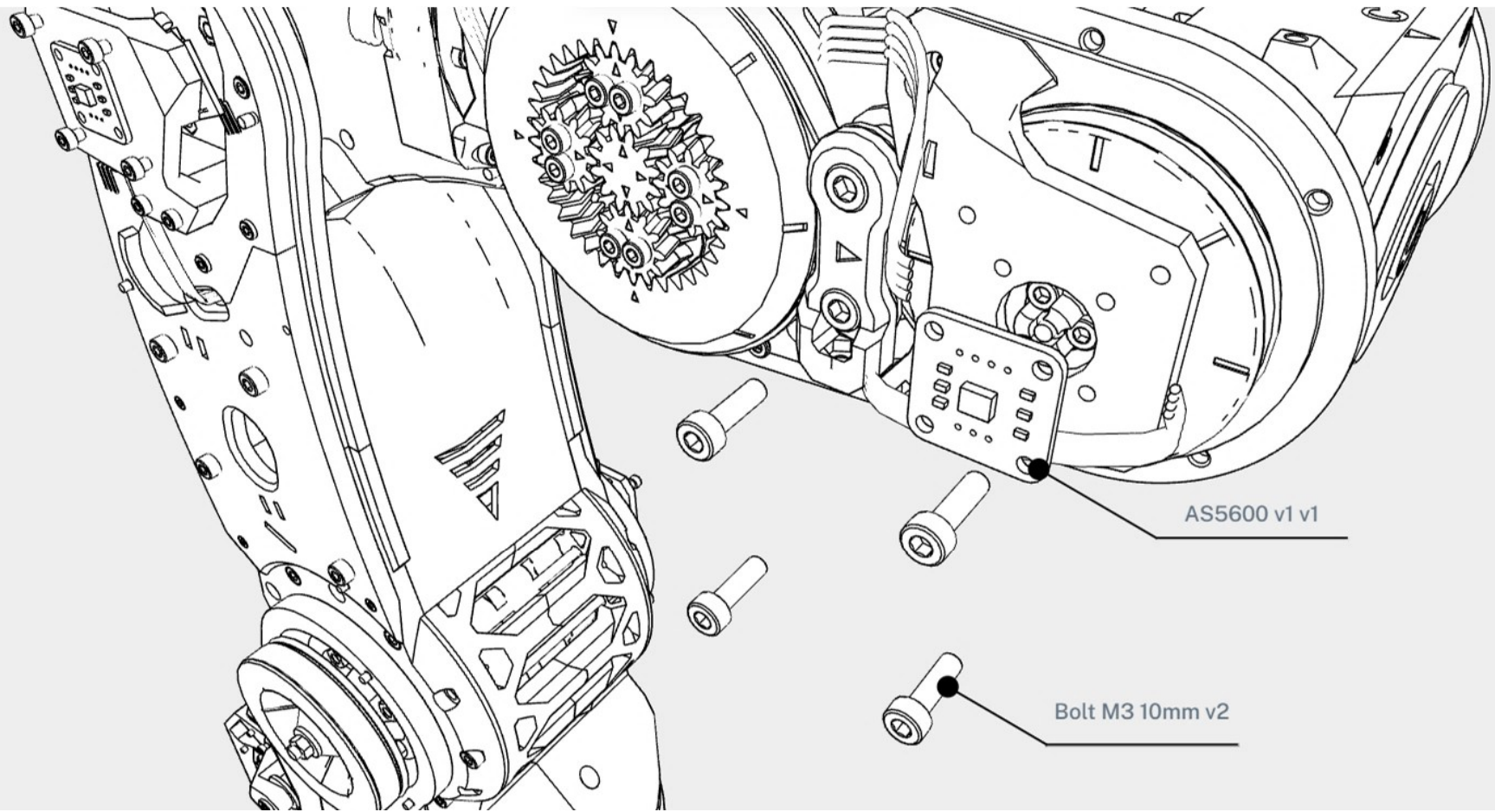
Bolt M3 10mm v2



Bolt M3 10mm v2

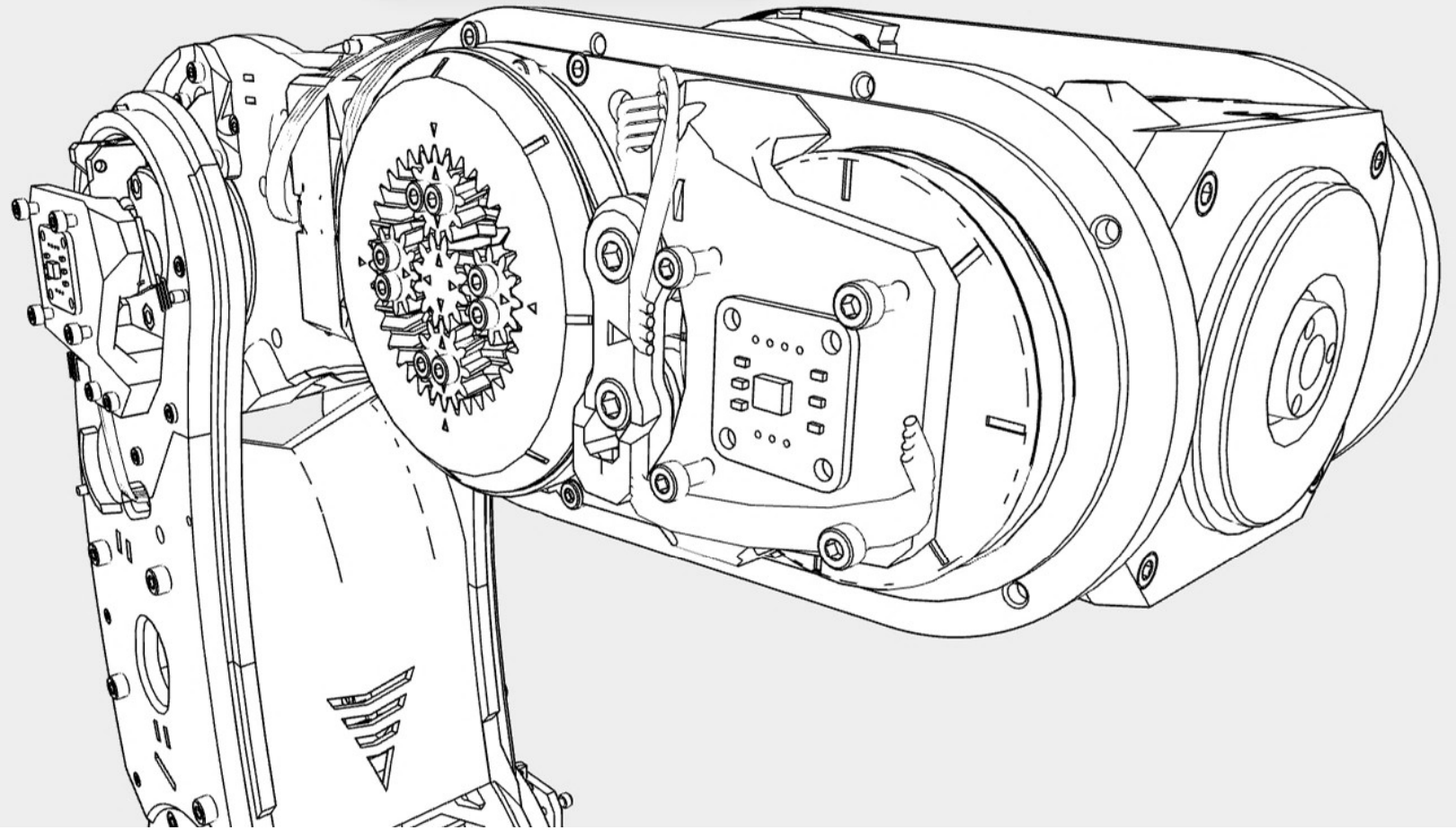




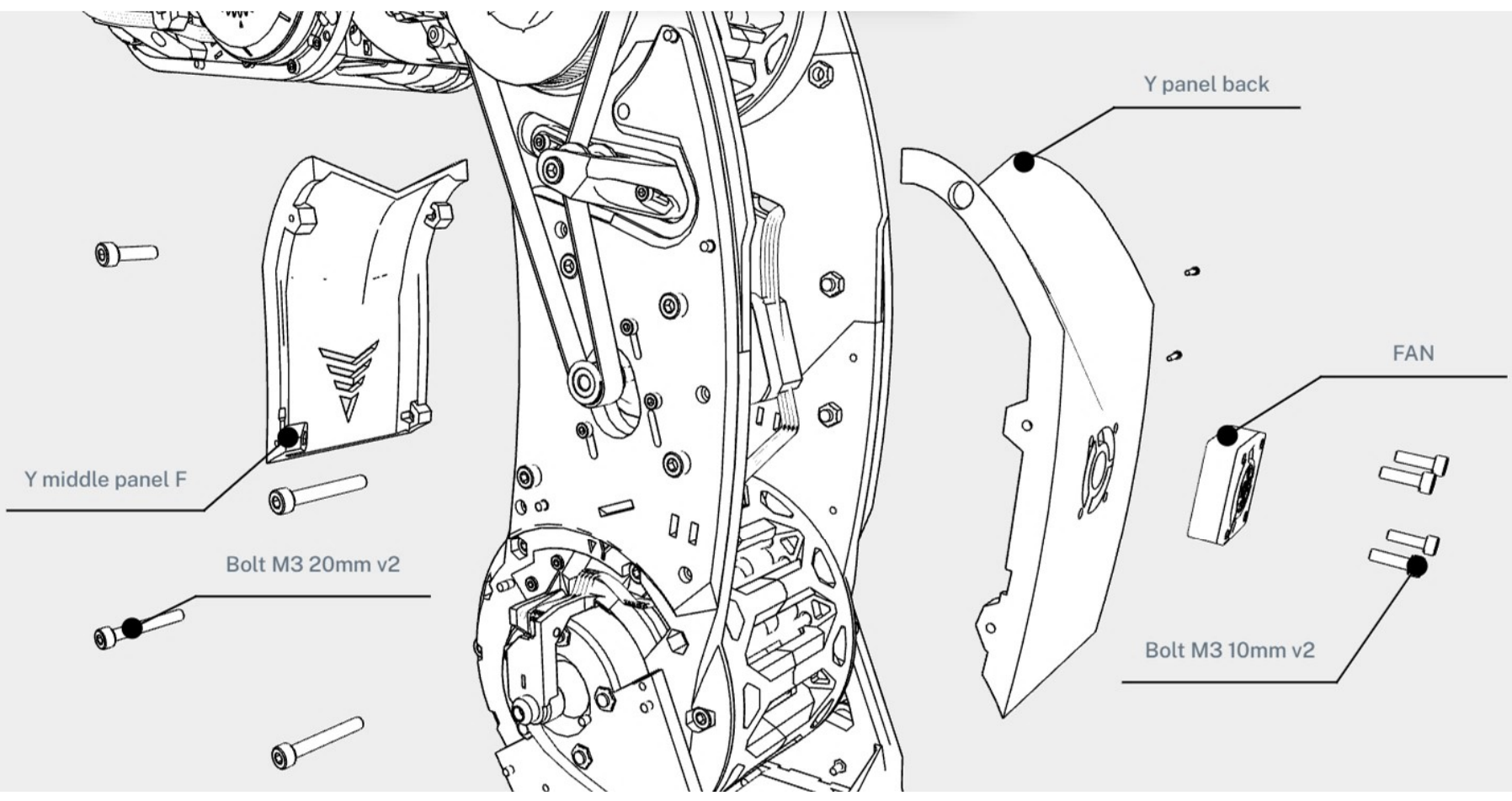


AS5600 v1 v1

Bolt M3 10mm v2



COVER PANELS



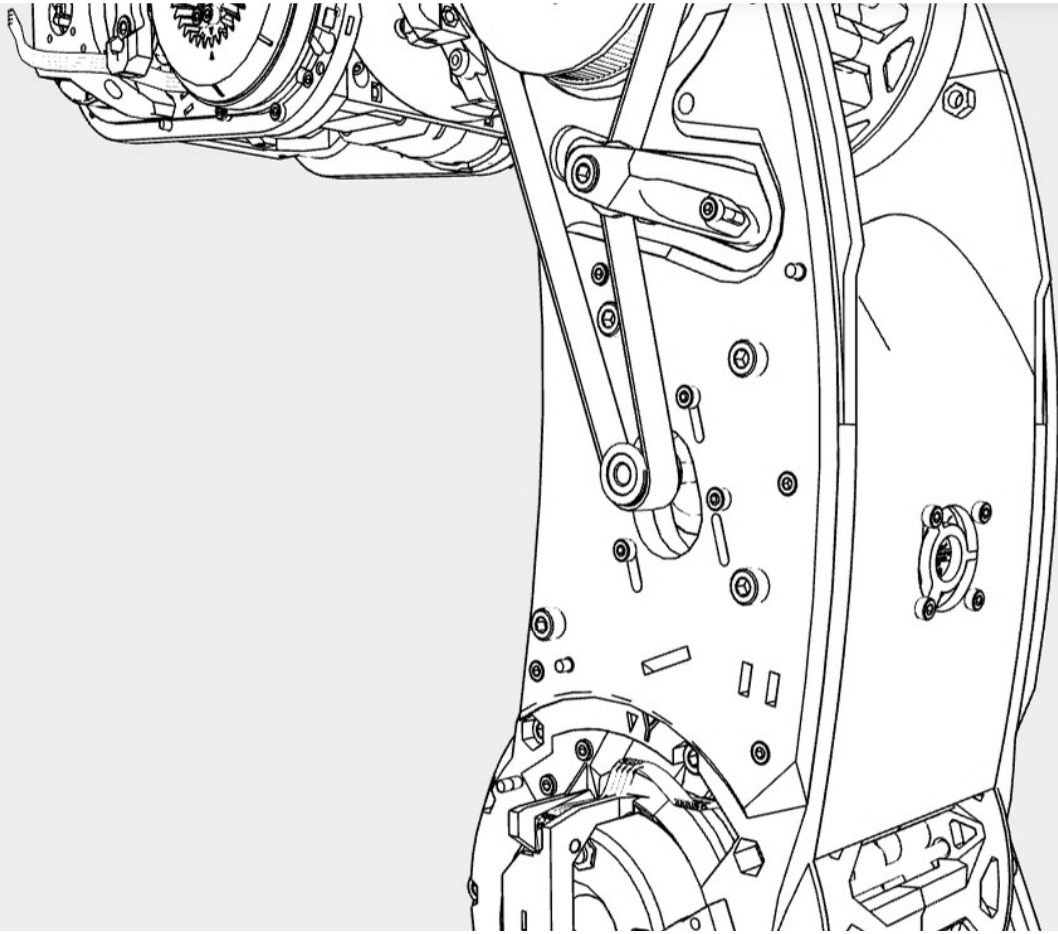
Y middle panel F

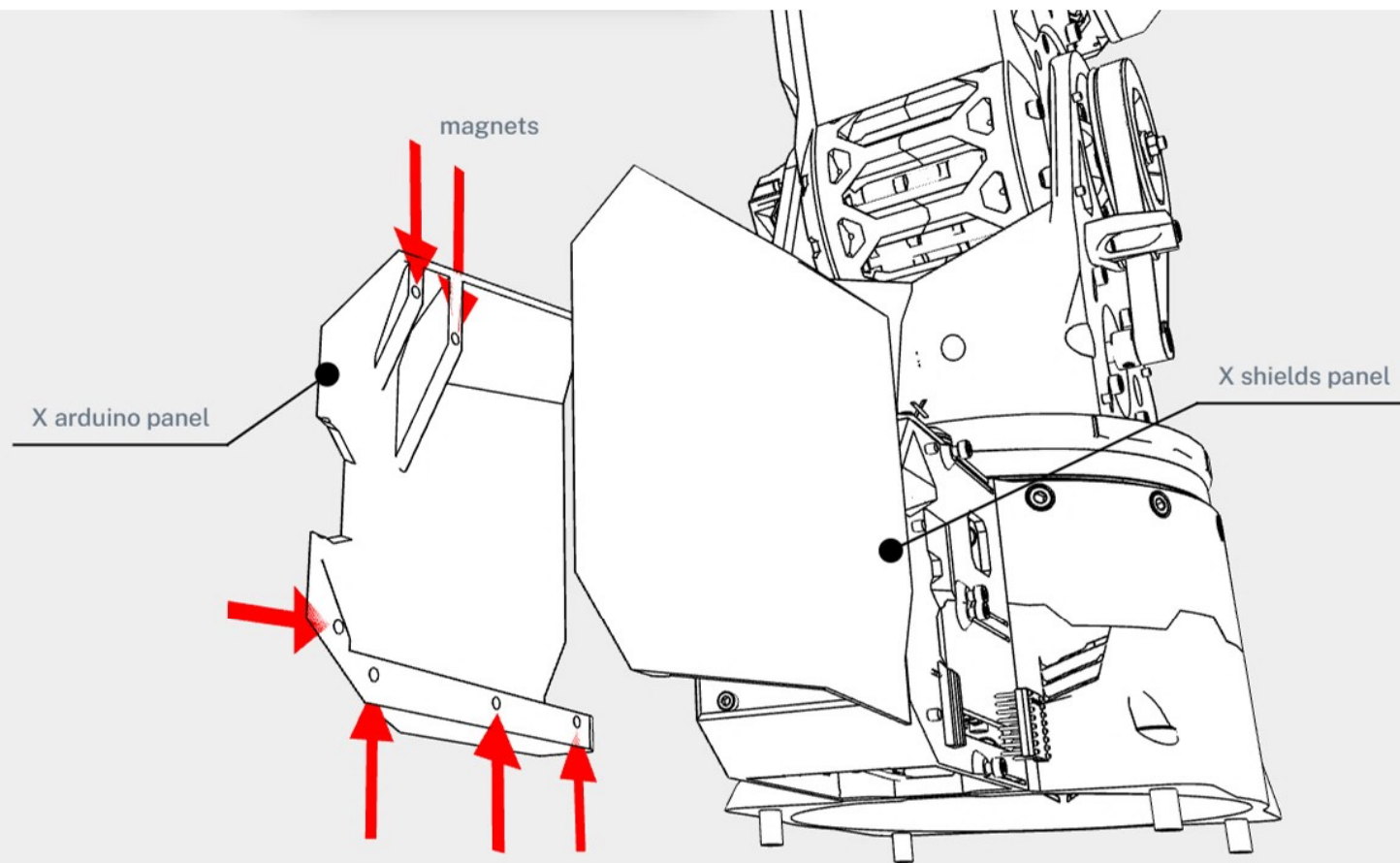
Bolt M3 20mm v2

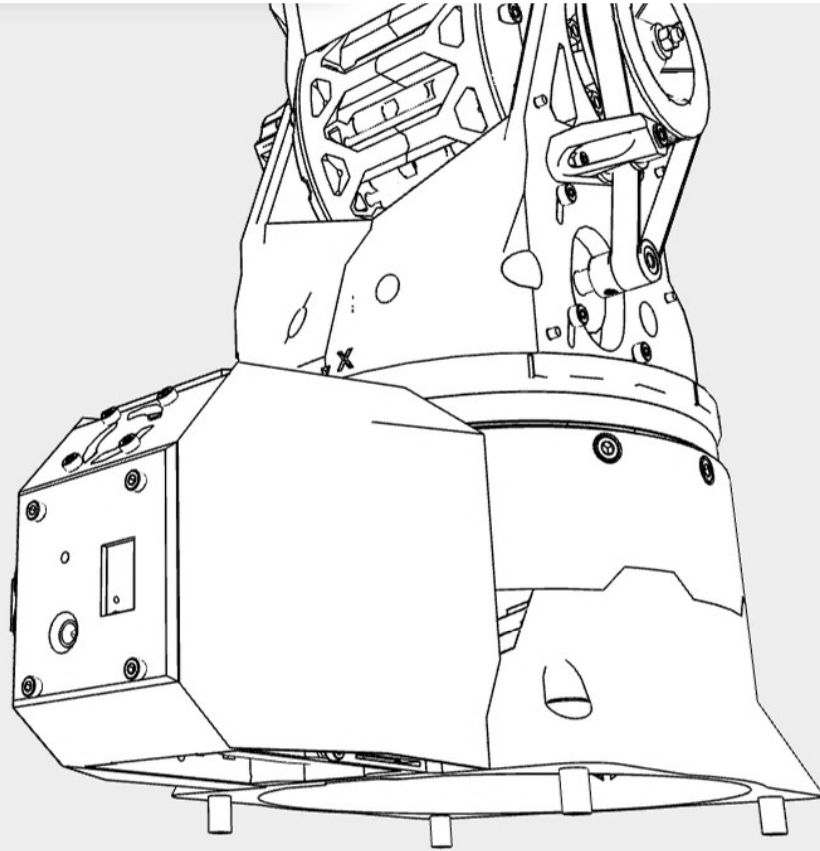
Y panel back

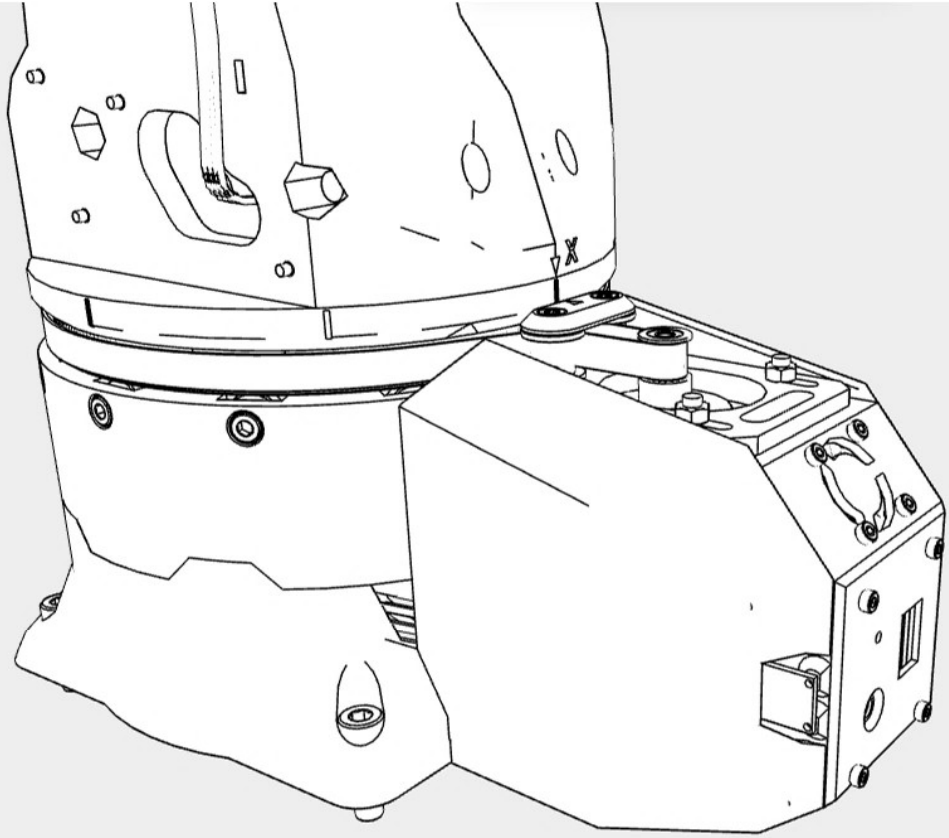
FAN

Bolt M3 10mm v2

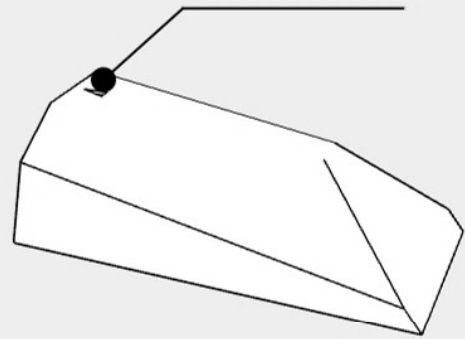


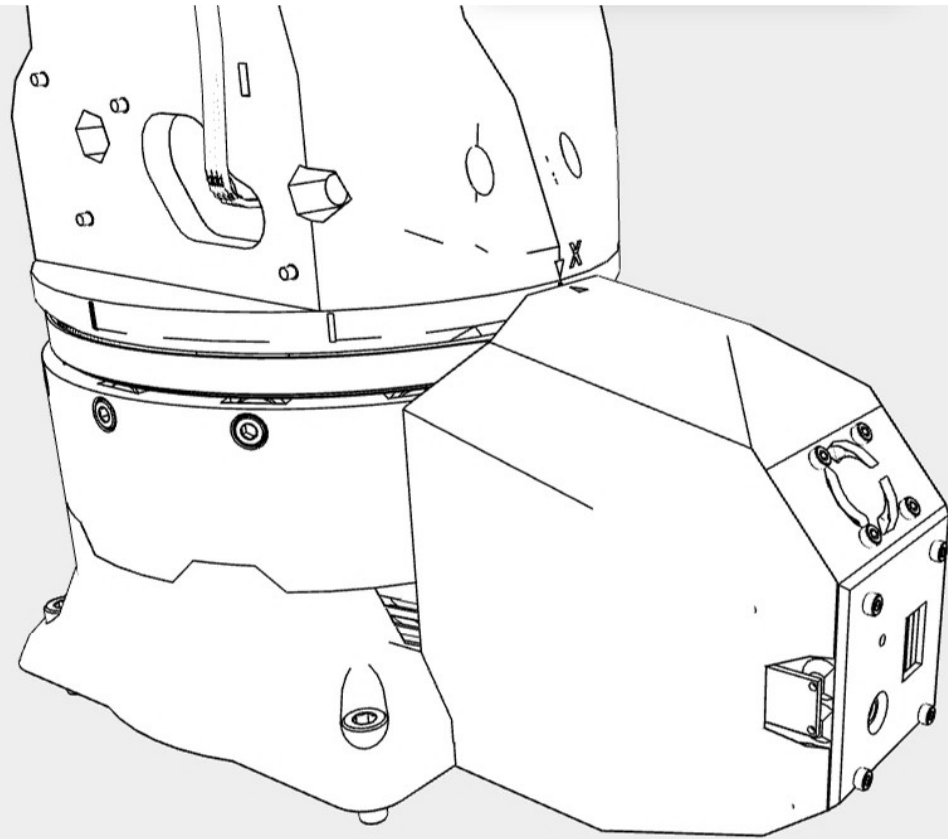




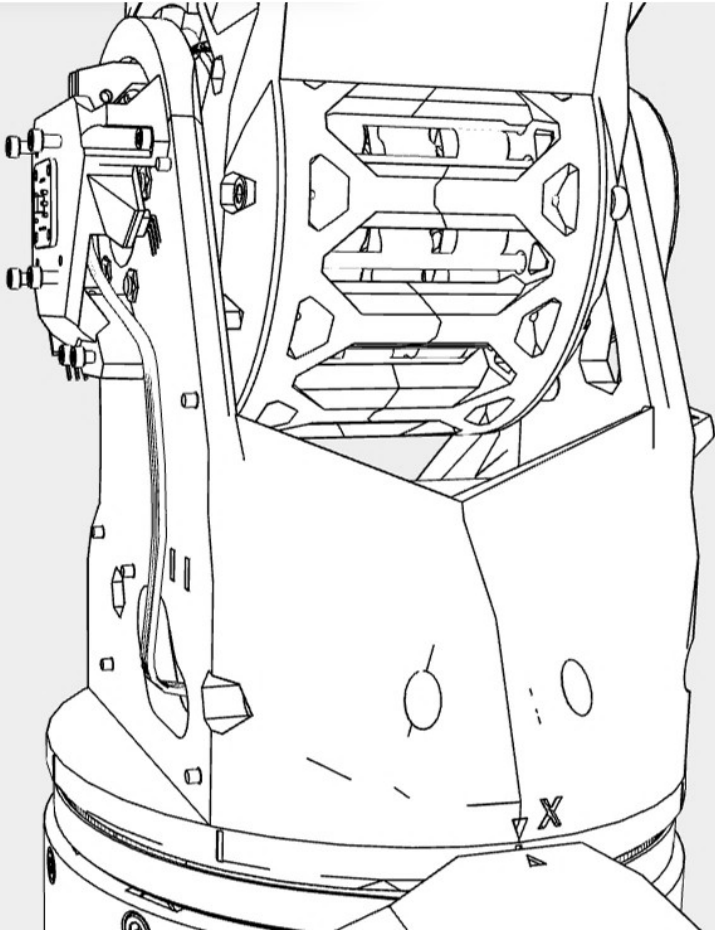
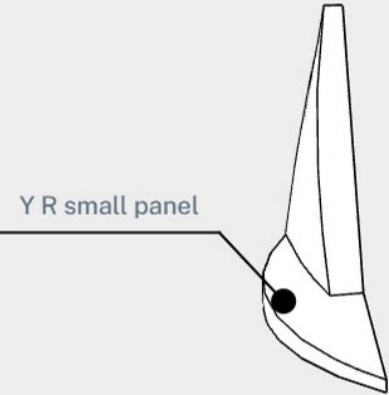


X motor cover

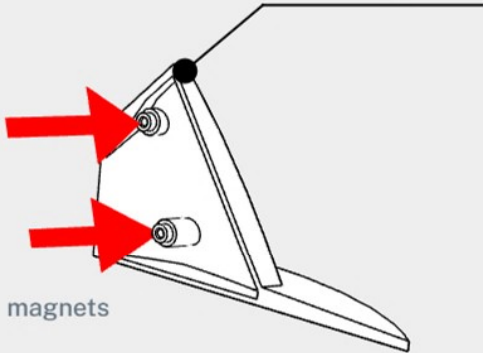




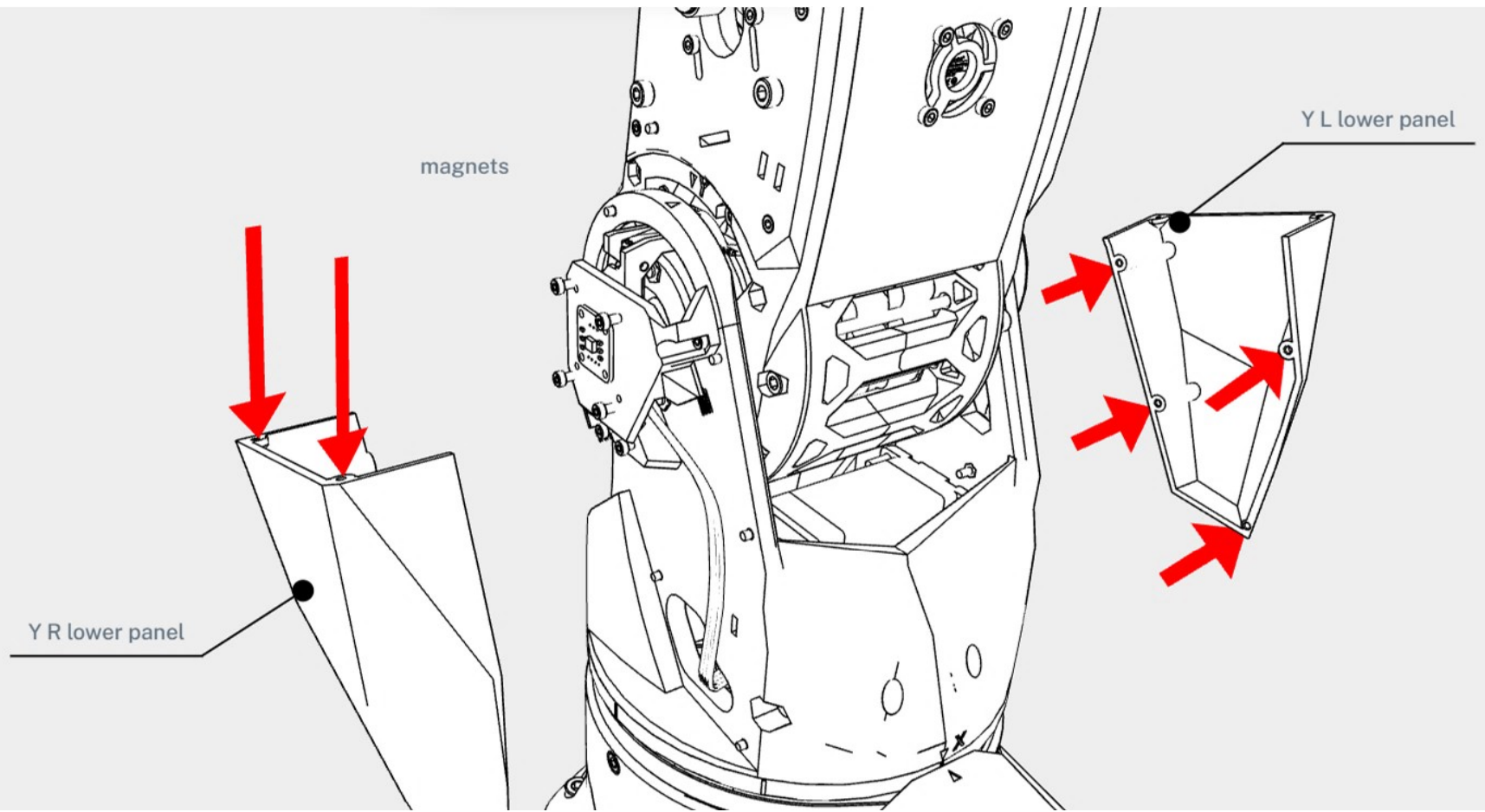
Y R small panel

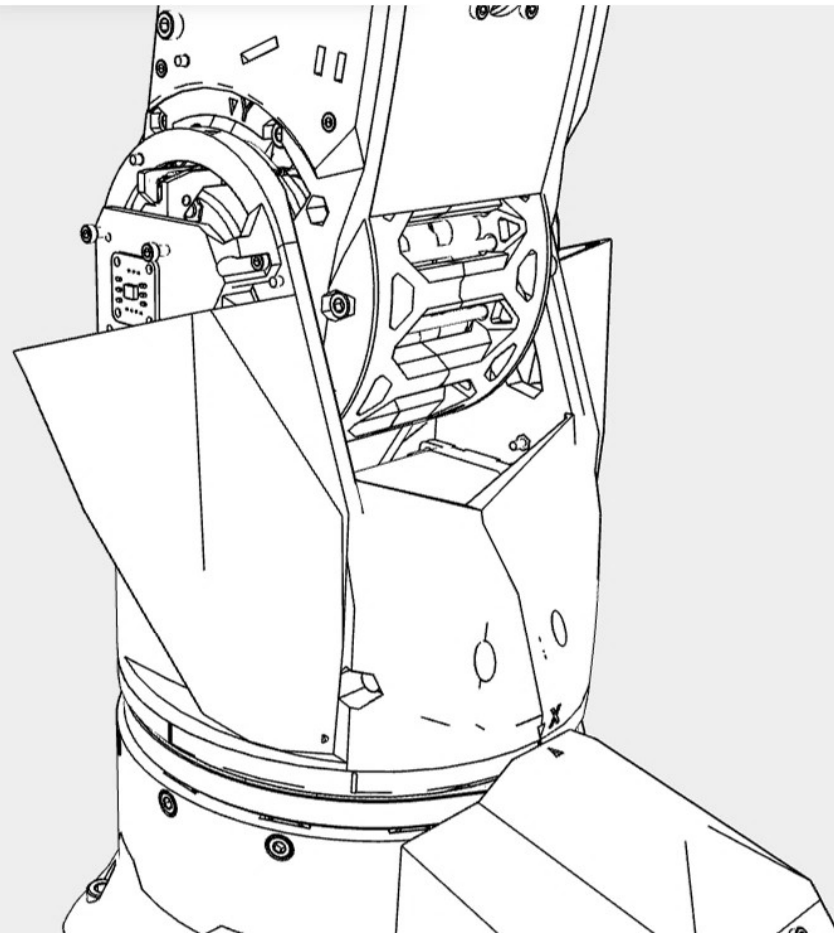


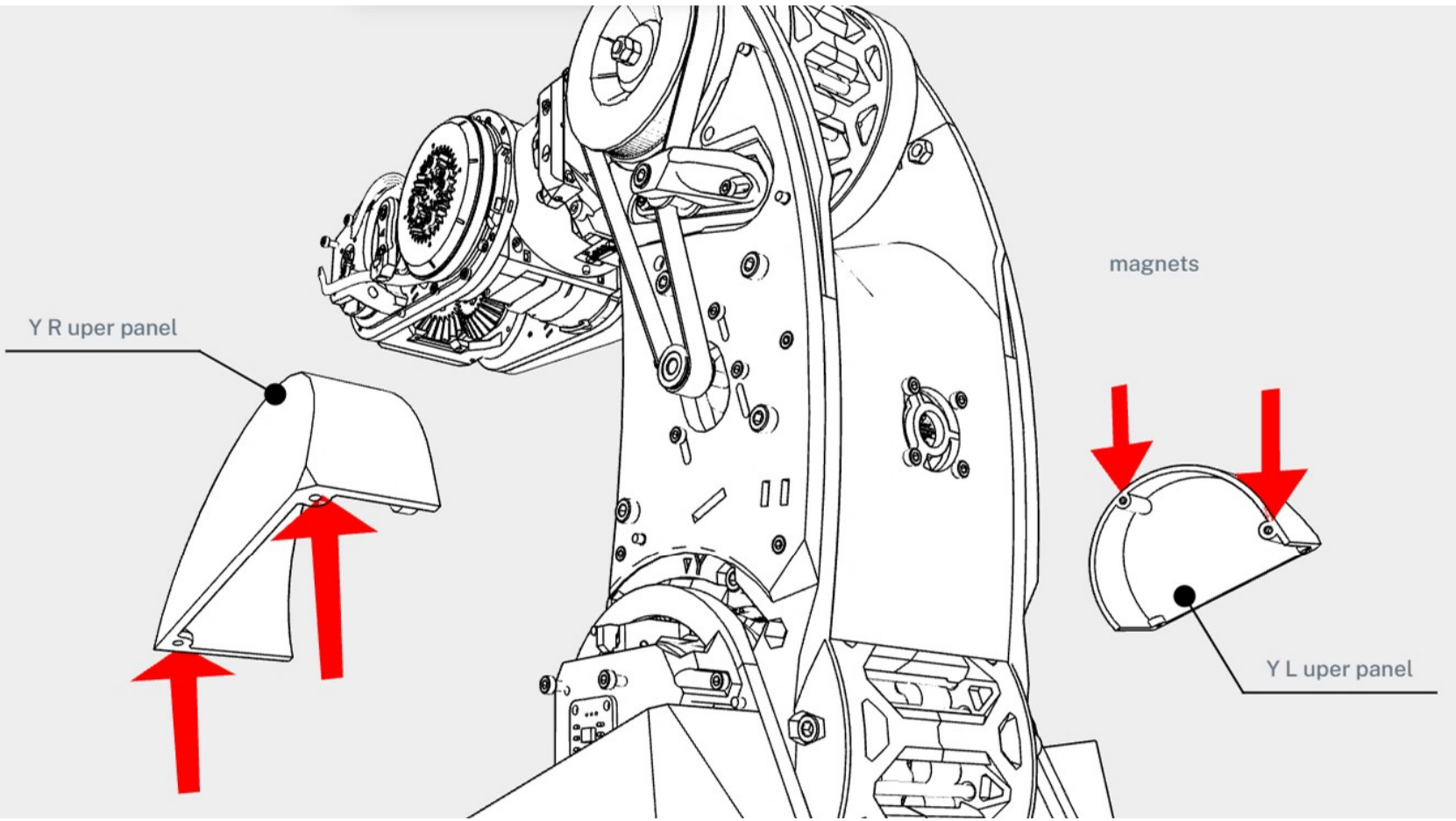
Y L small panel

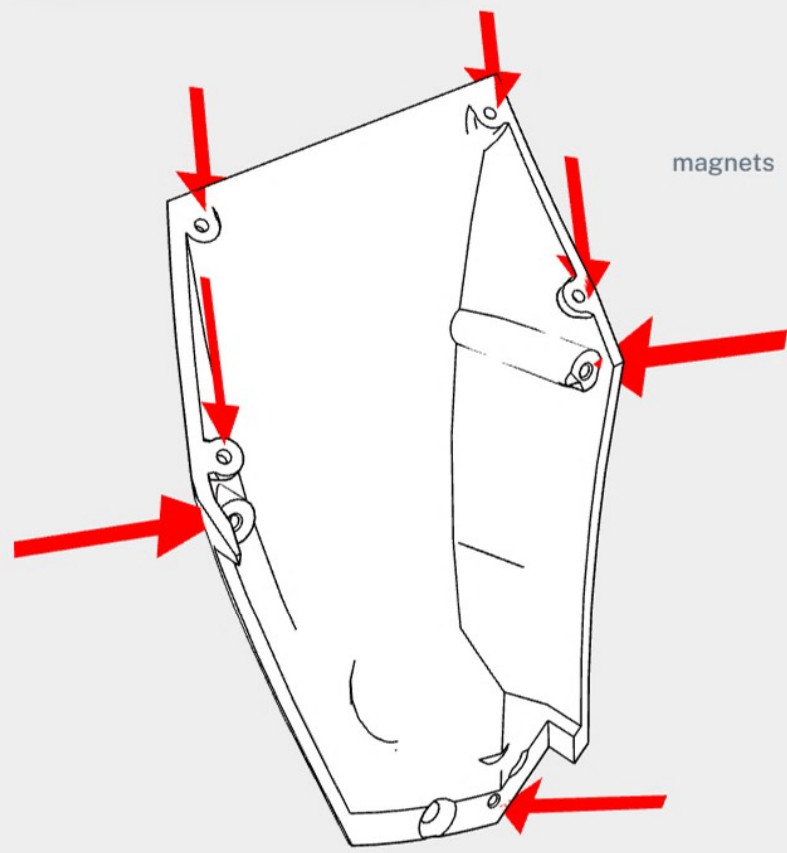


magnets

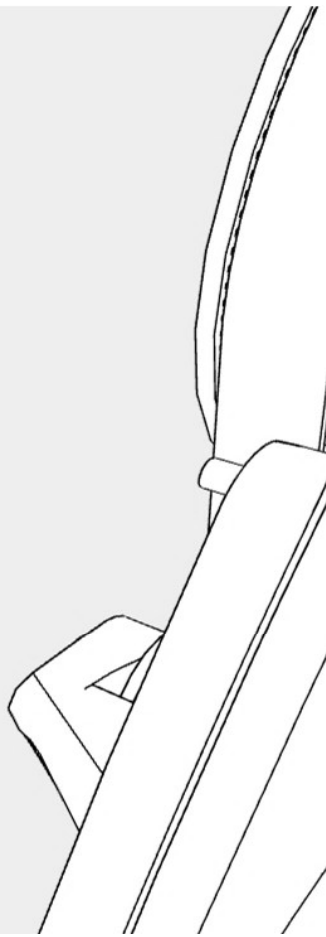


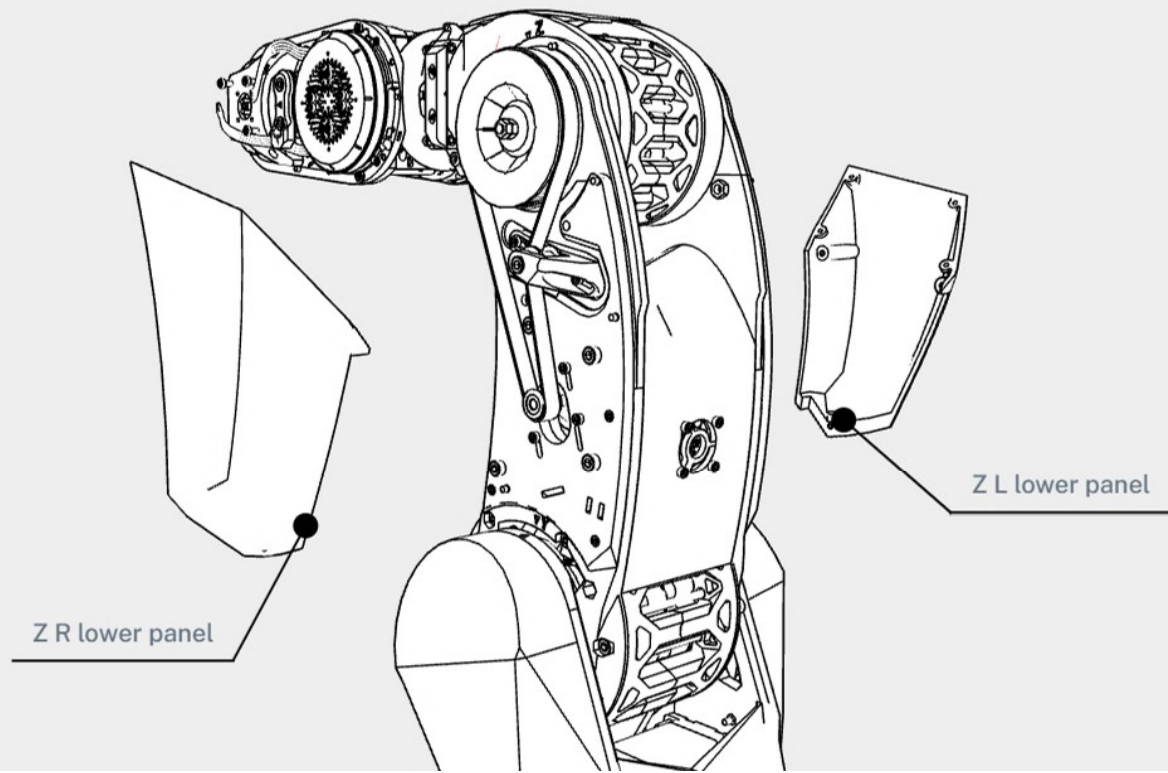






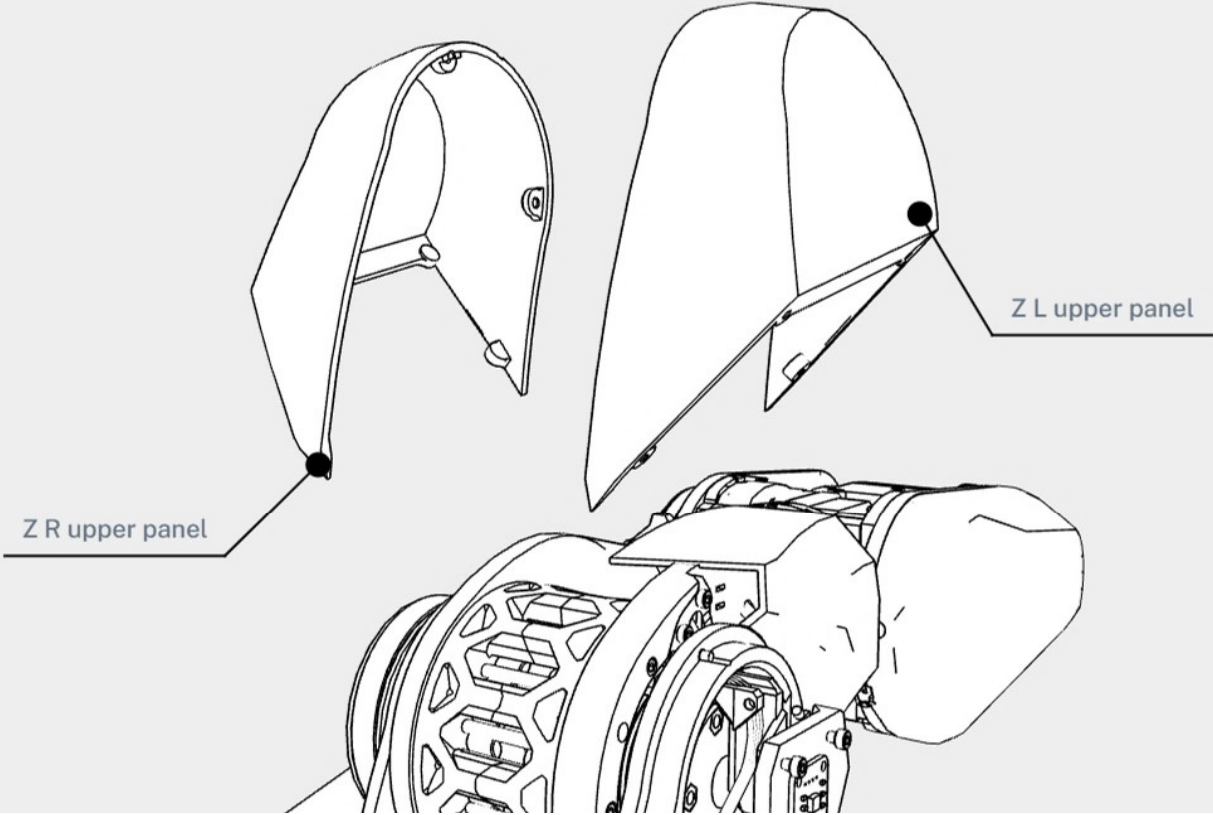
magnets



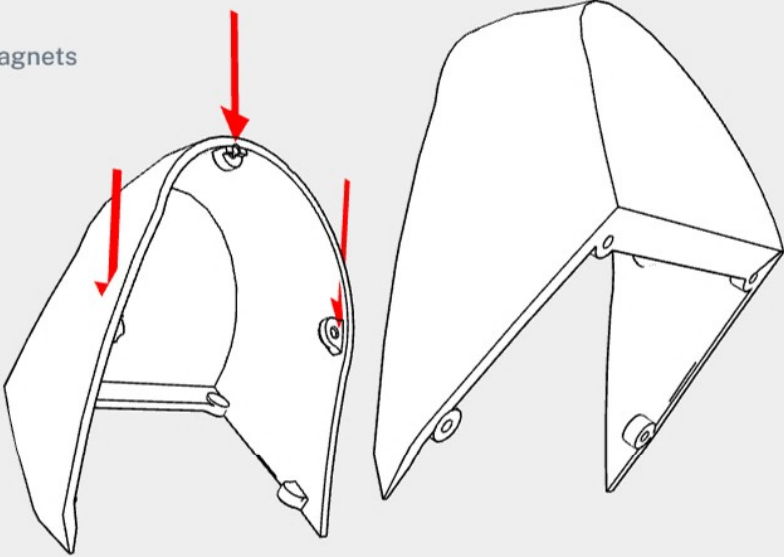


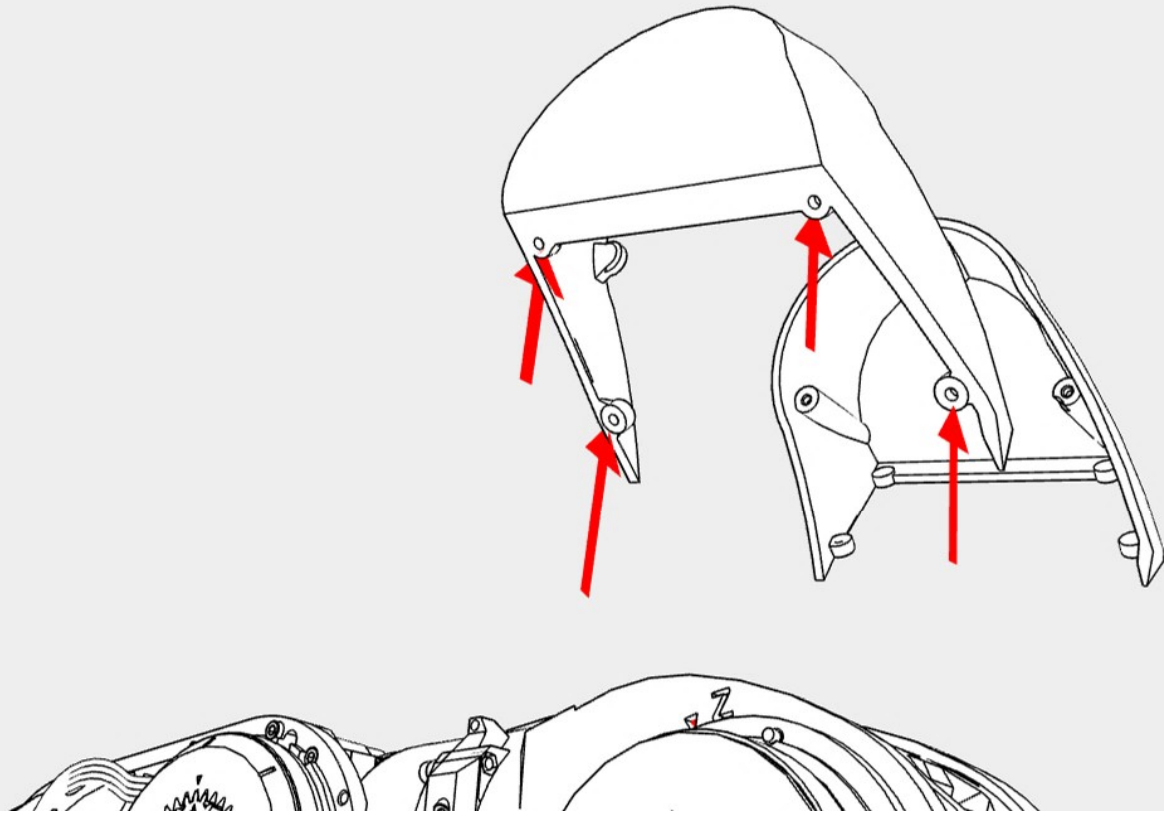
Z R upper panel

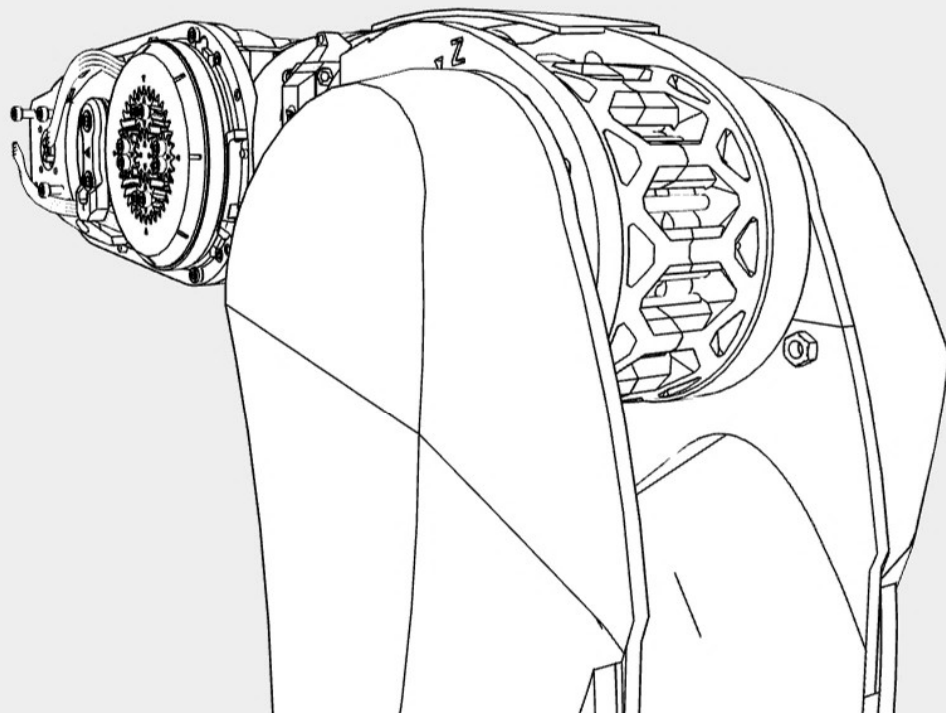
Z L upper panel

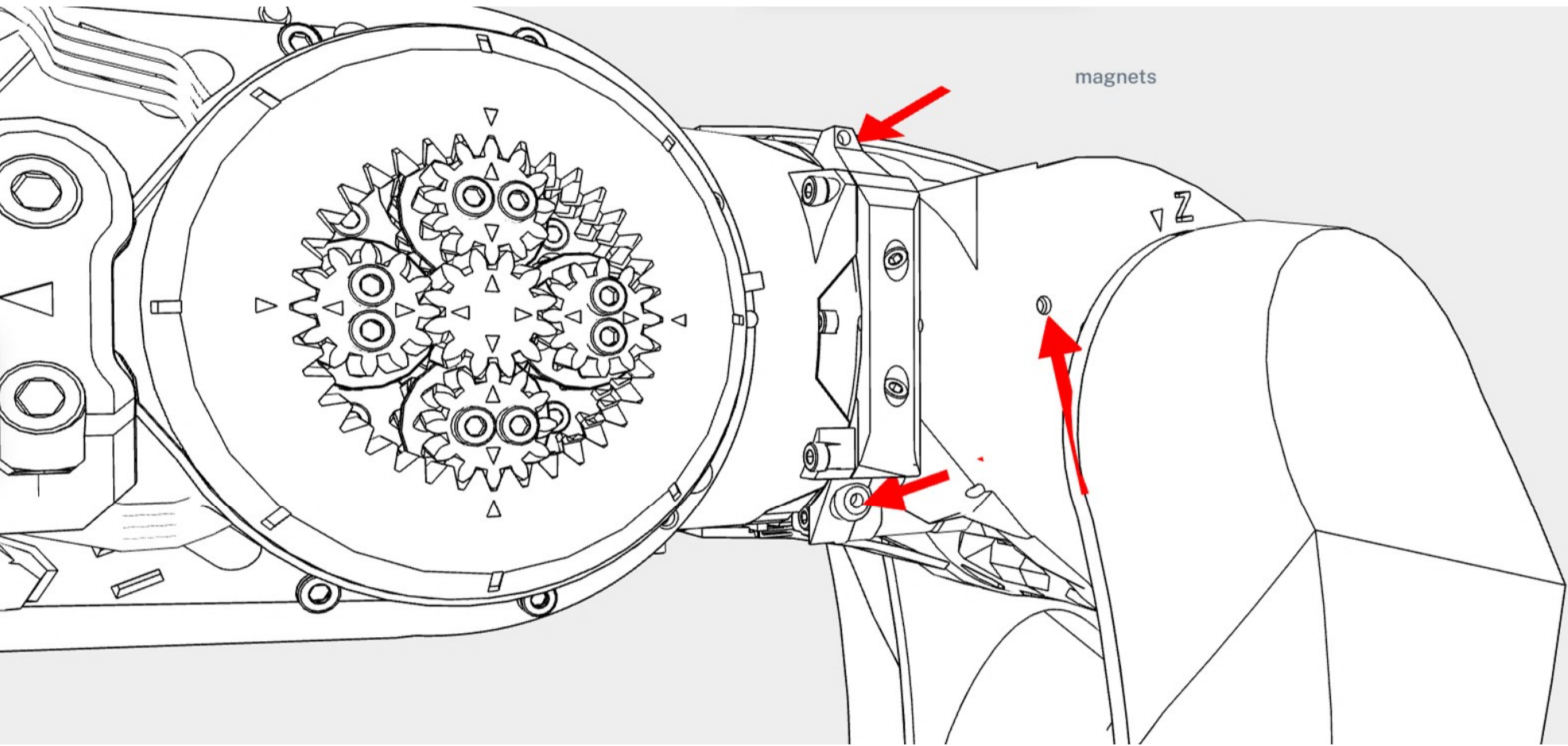


magnets

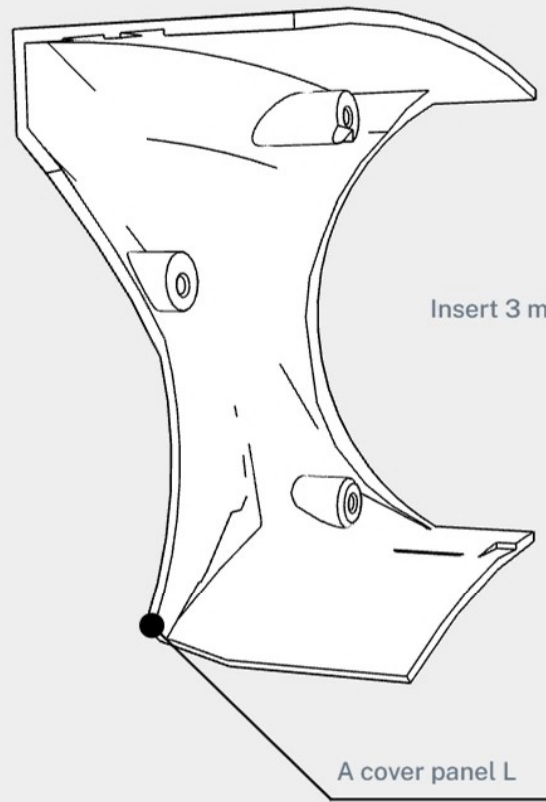






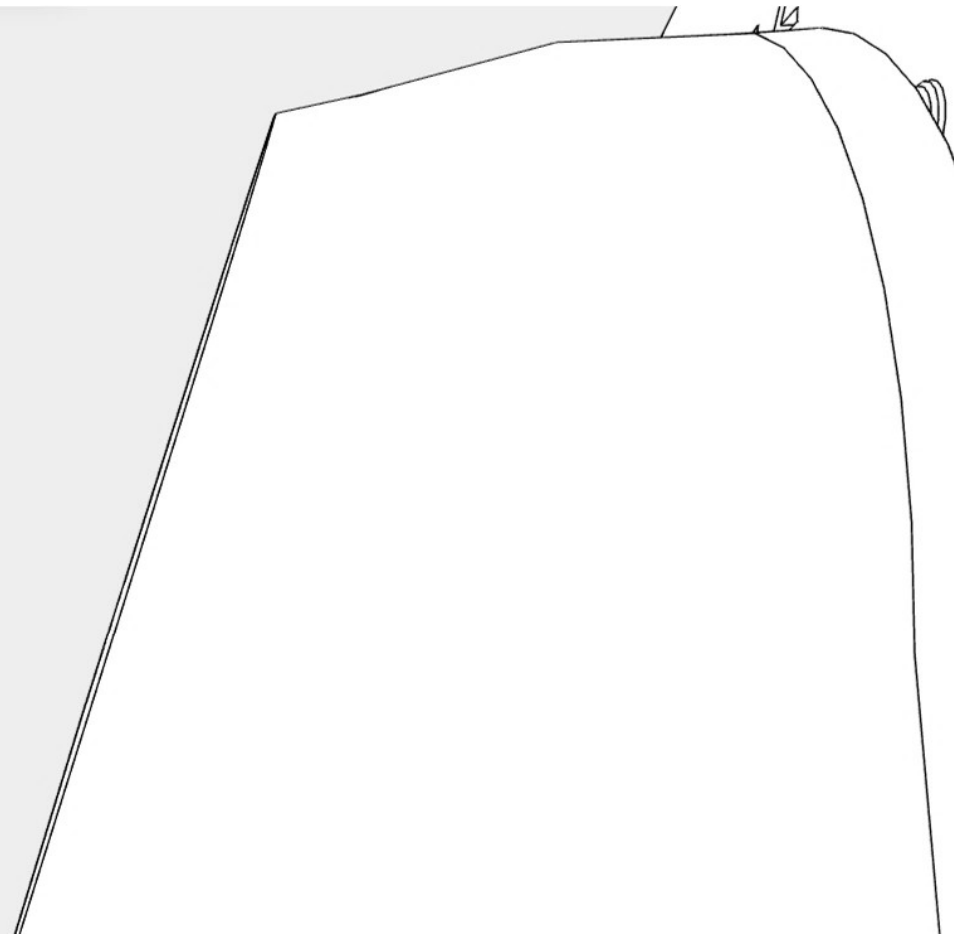


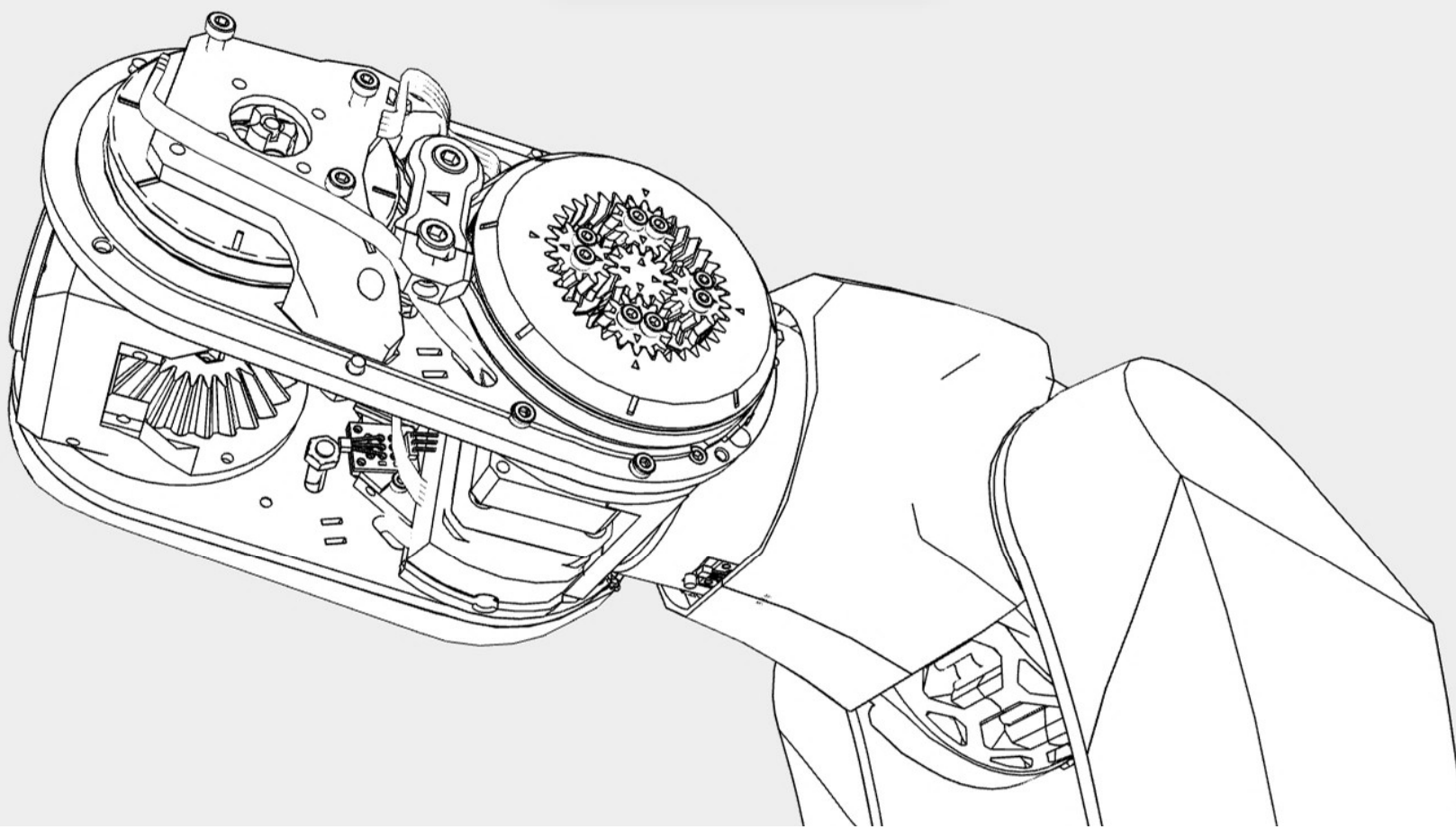
magnets

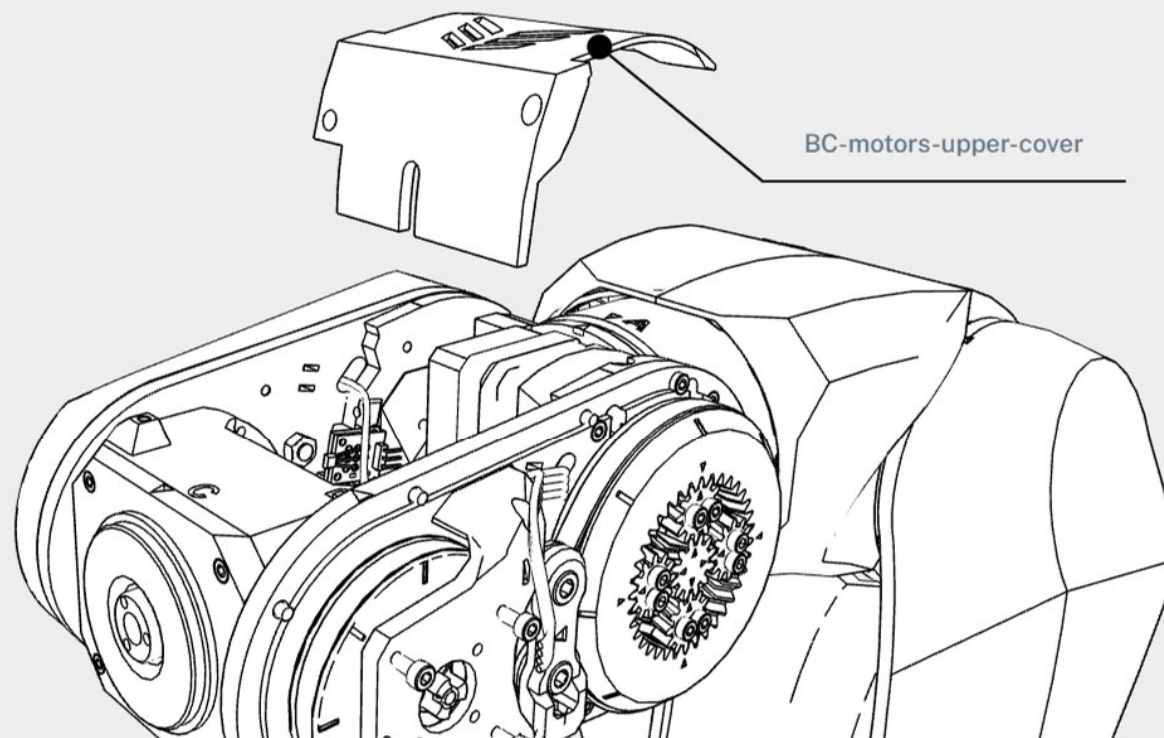


Insert 3 magnets

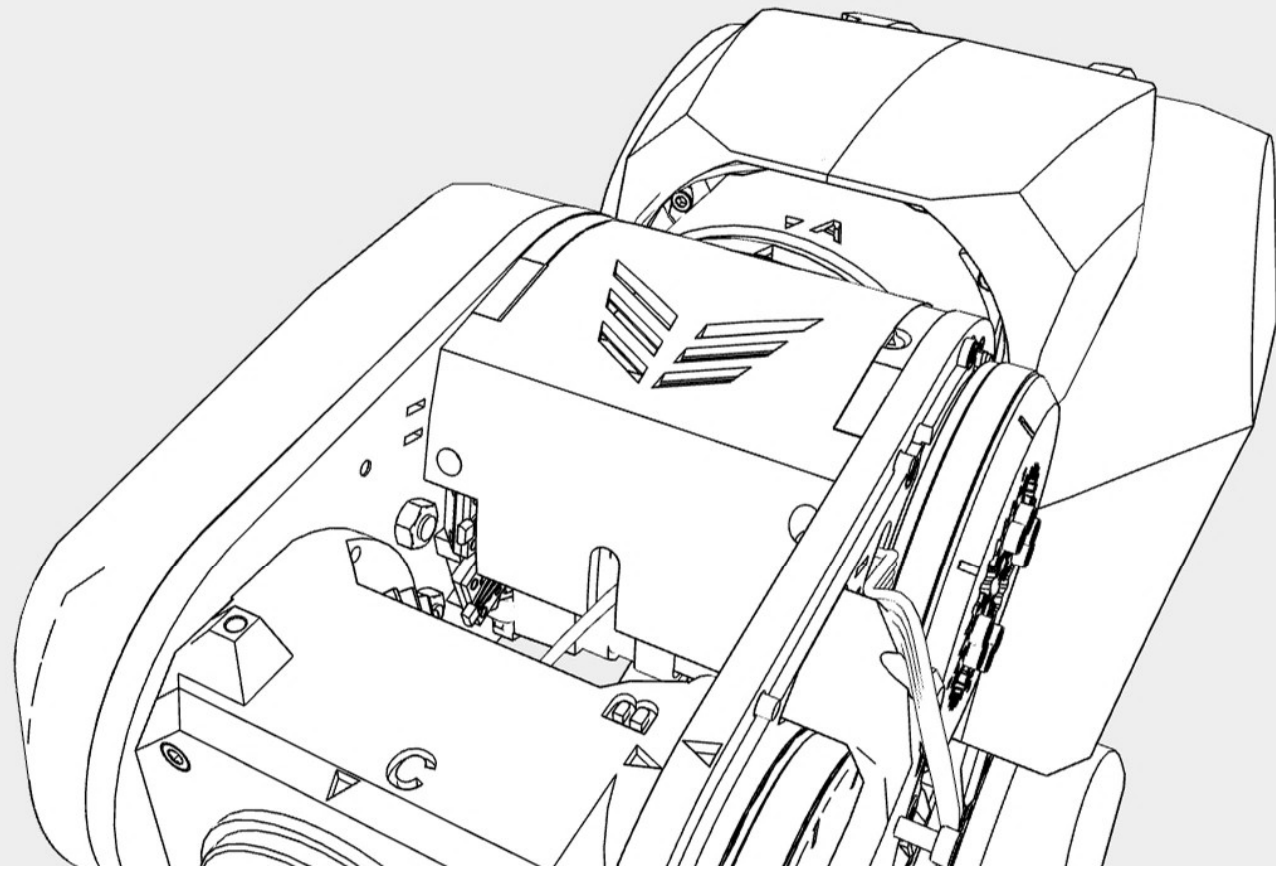
A cover panel L



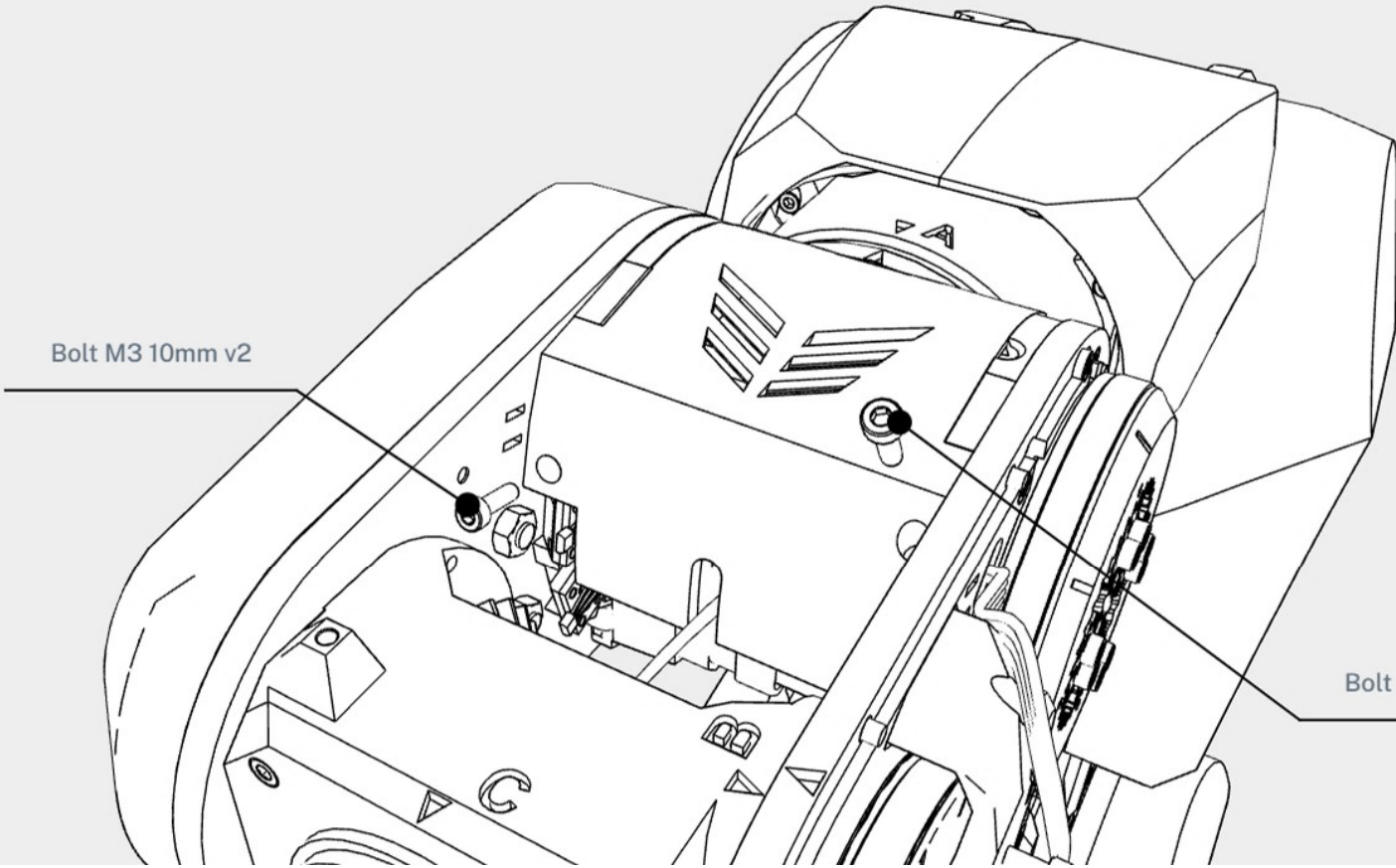




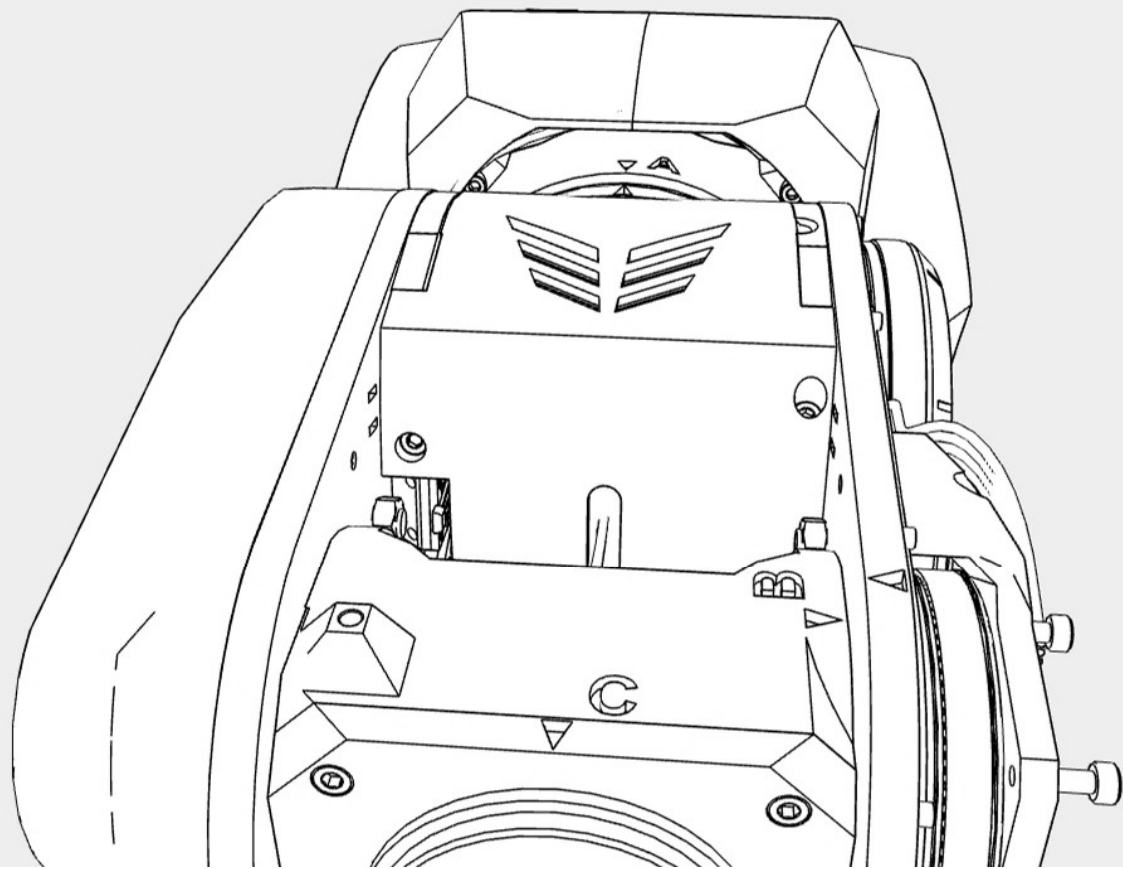
BC-motors-upper-cover

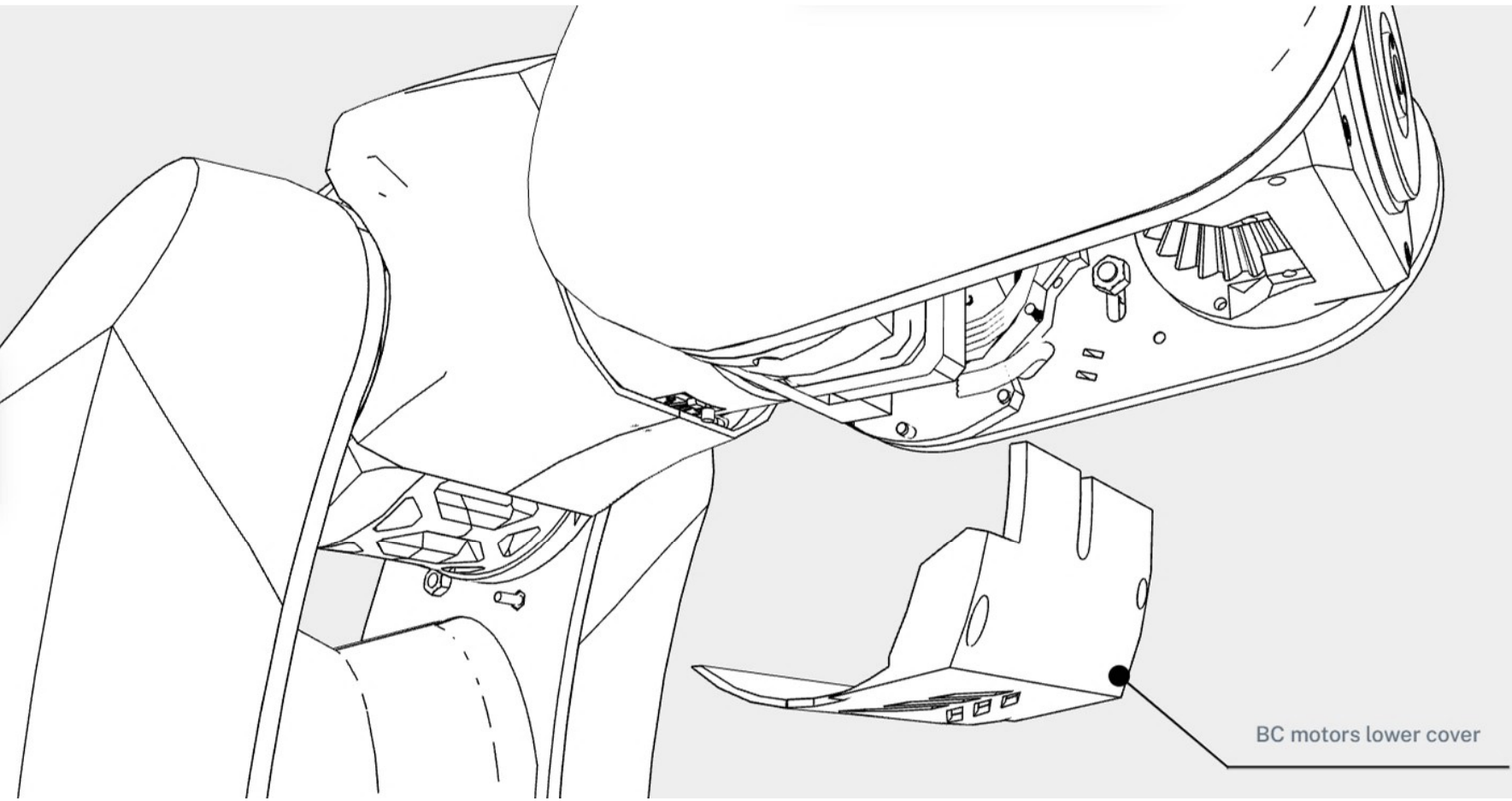


Bolt M3 10mm v2

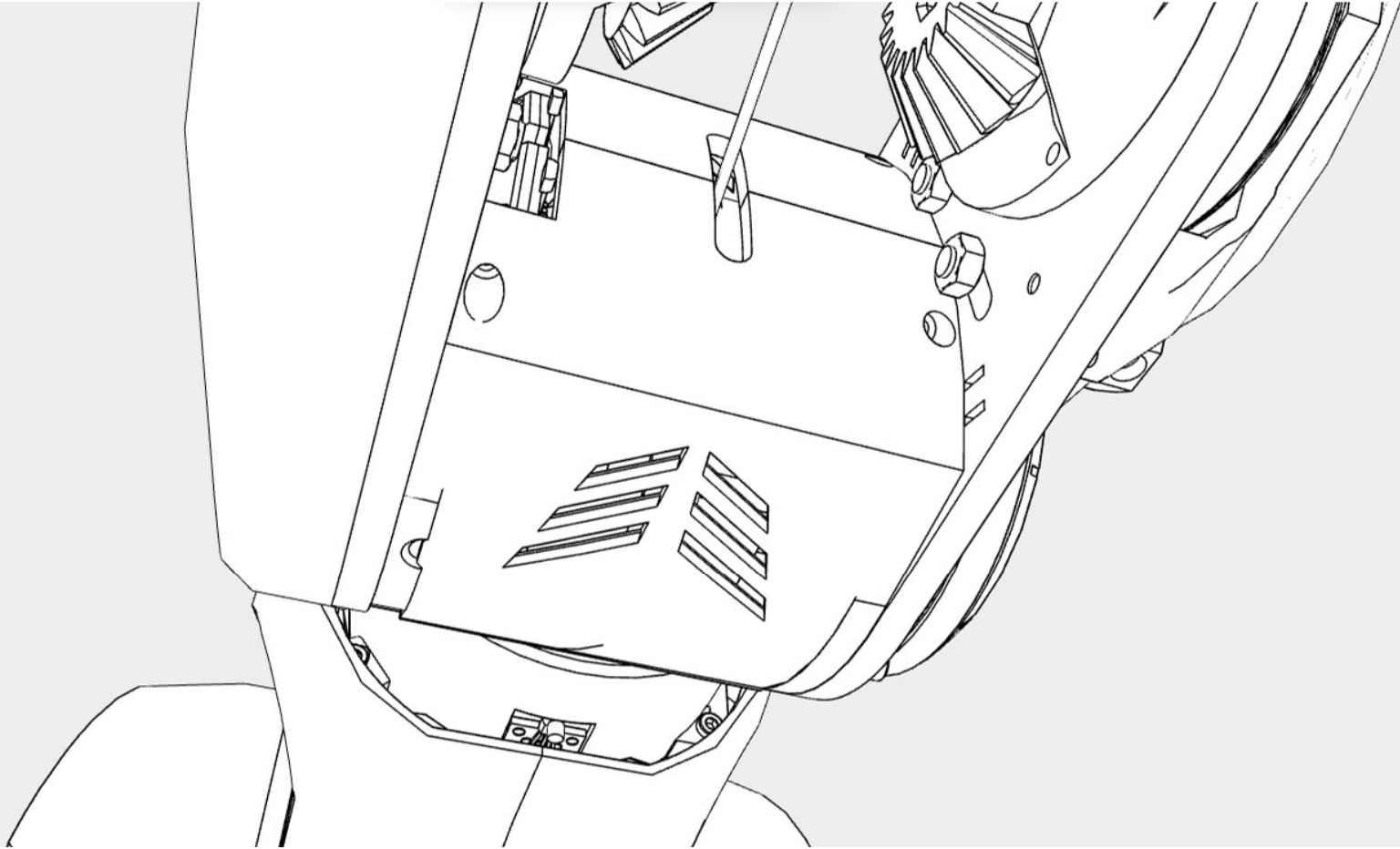


Bolt M3 10mm v2



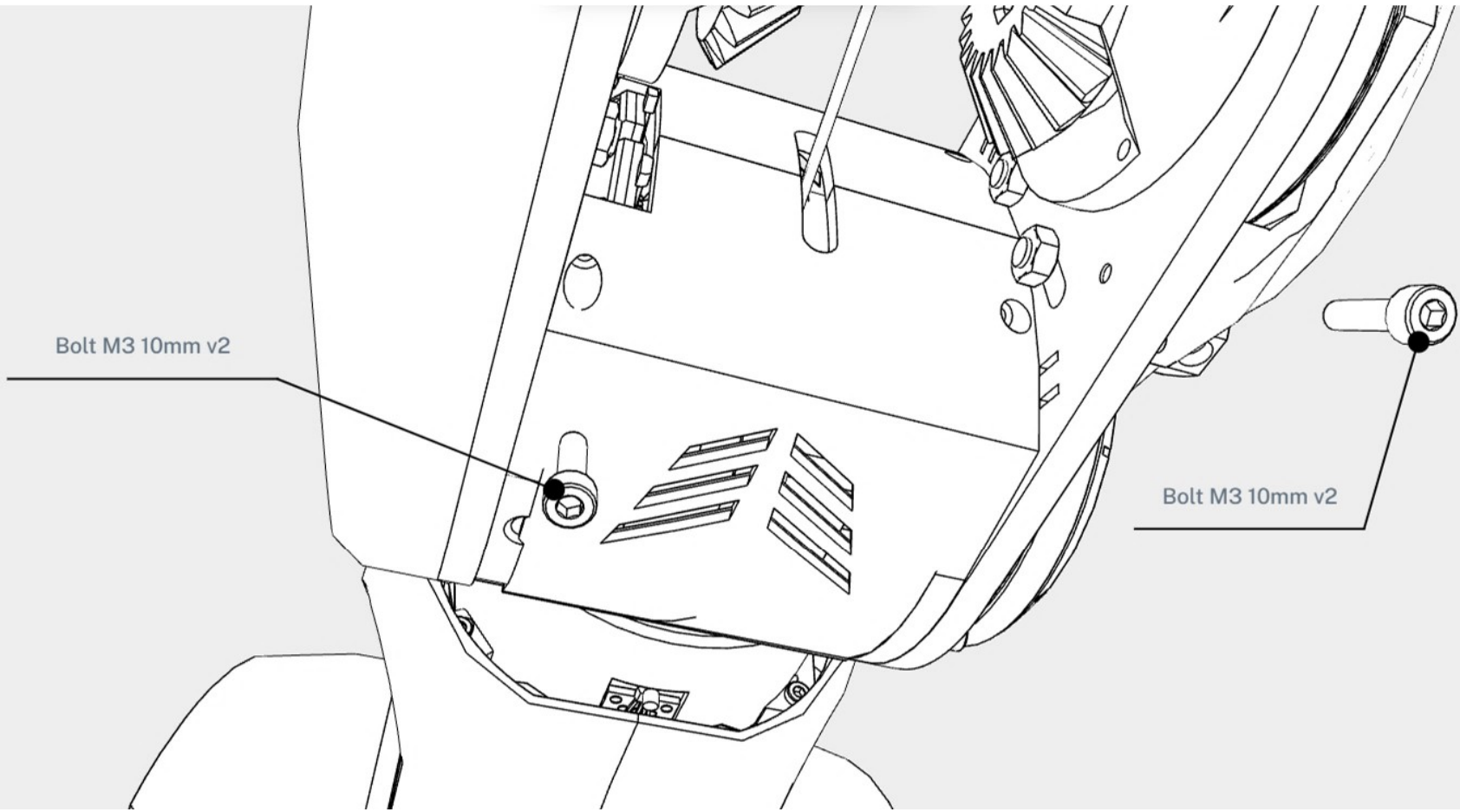


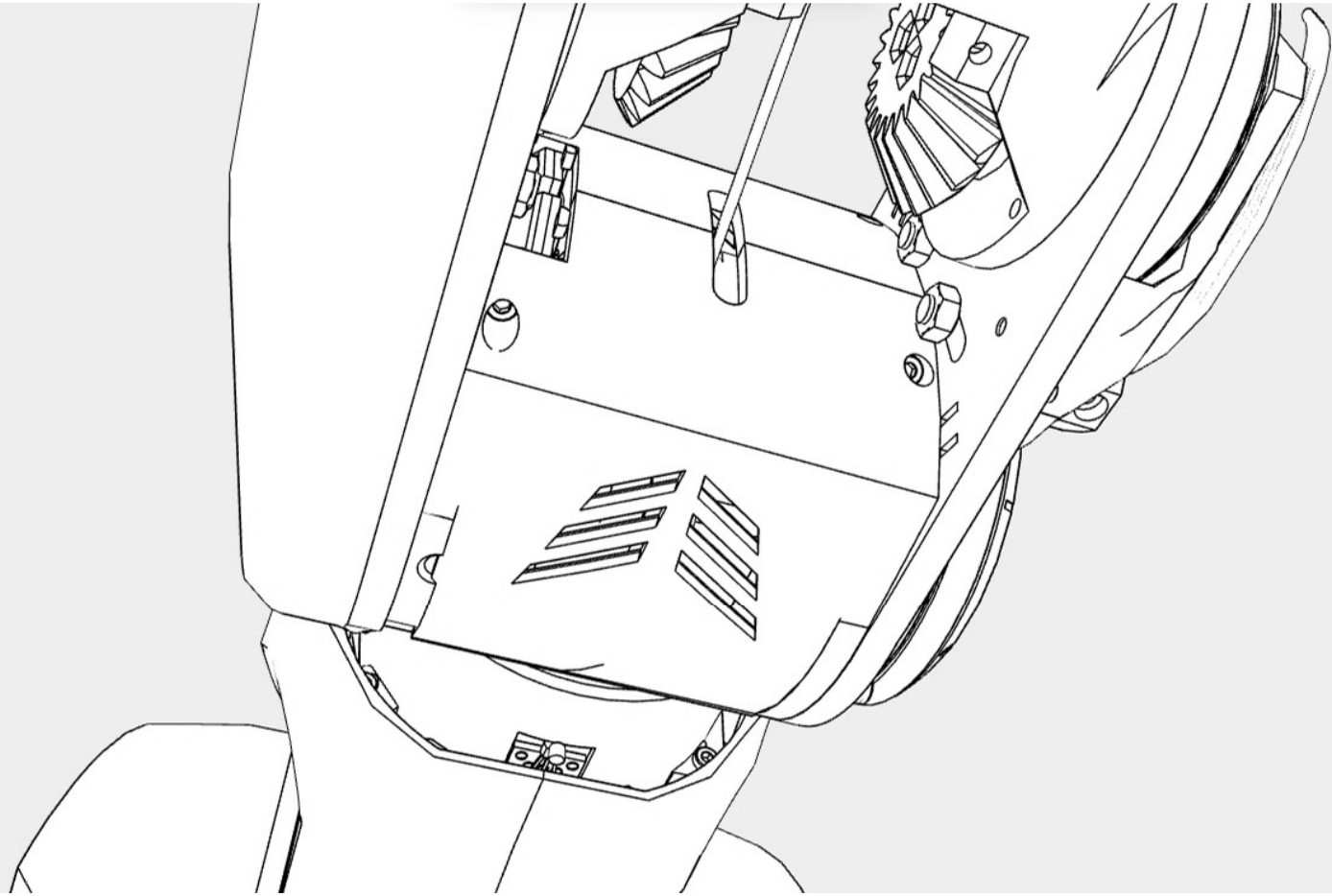
BC motors lower cover

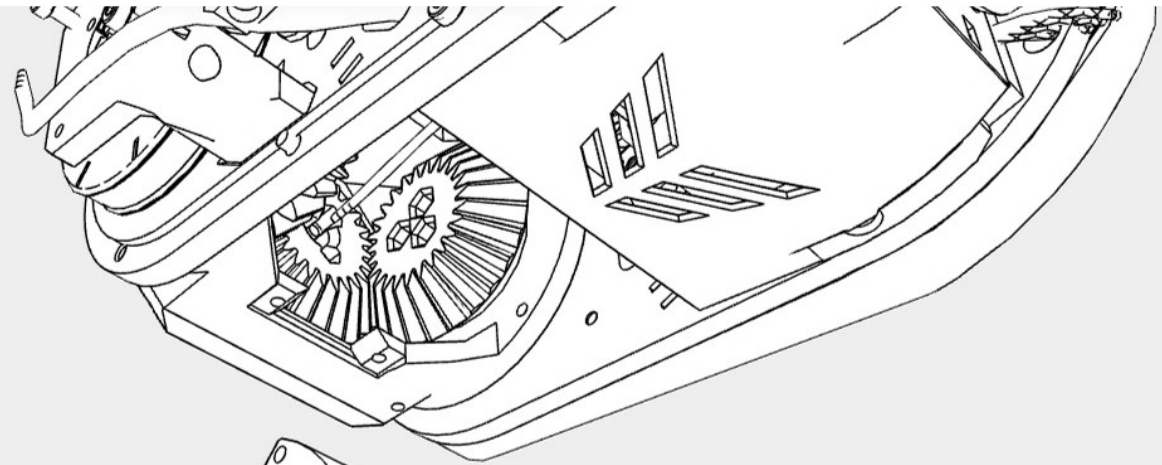


Bolt M3 10mm v2

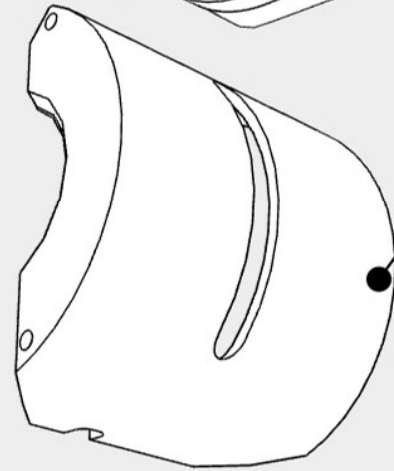
Bolt M3 10mm v2

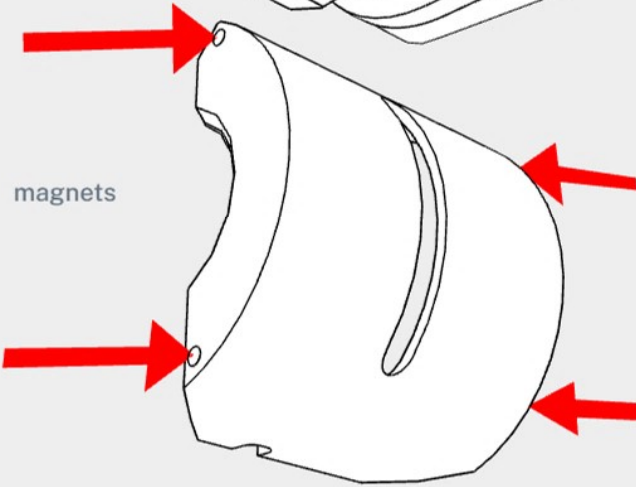
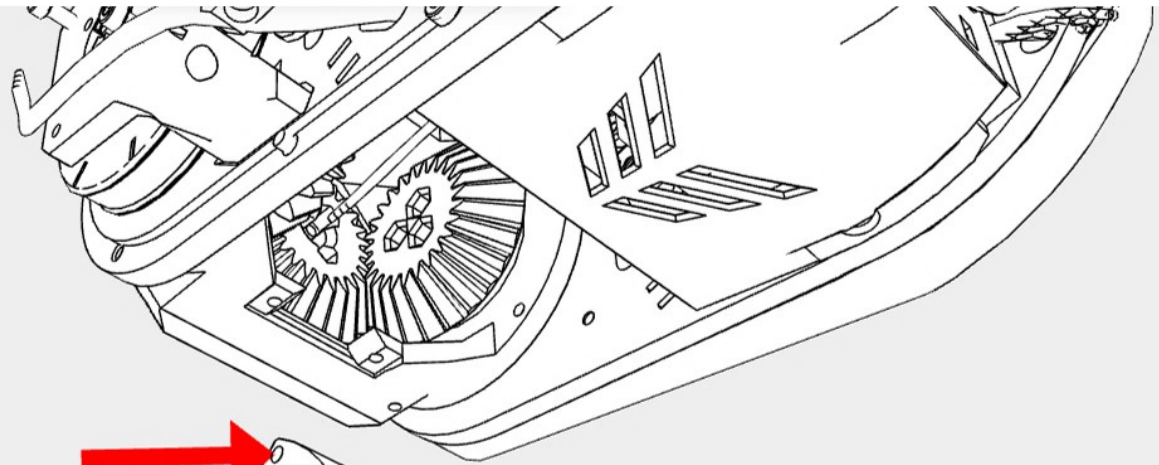




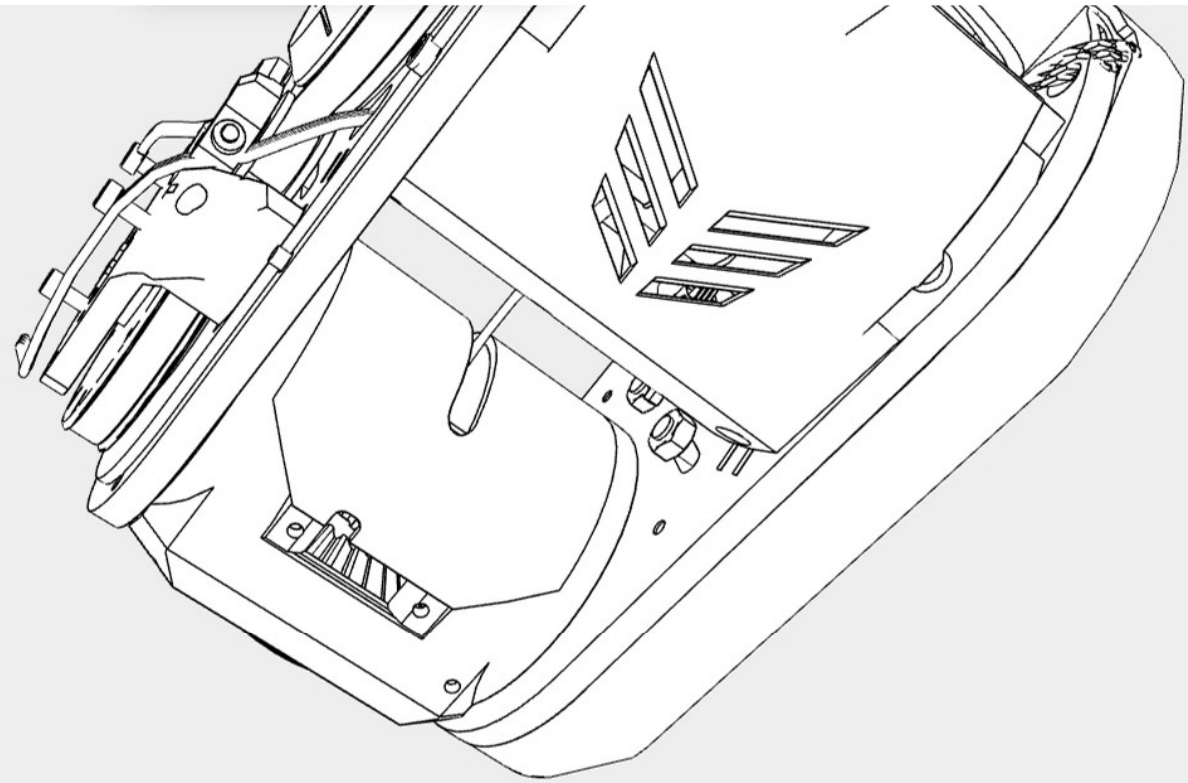


C panel (1)

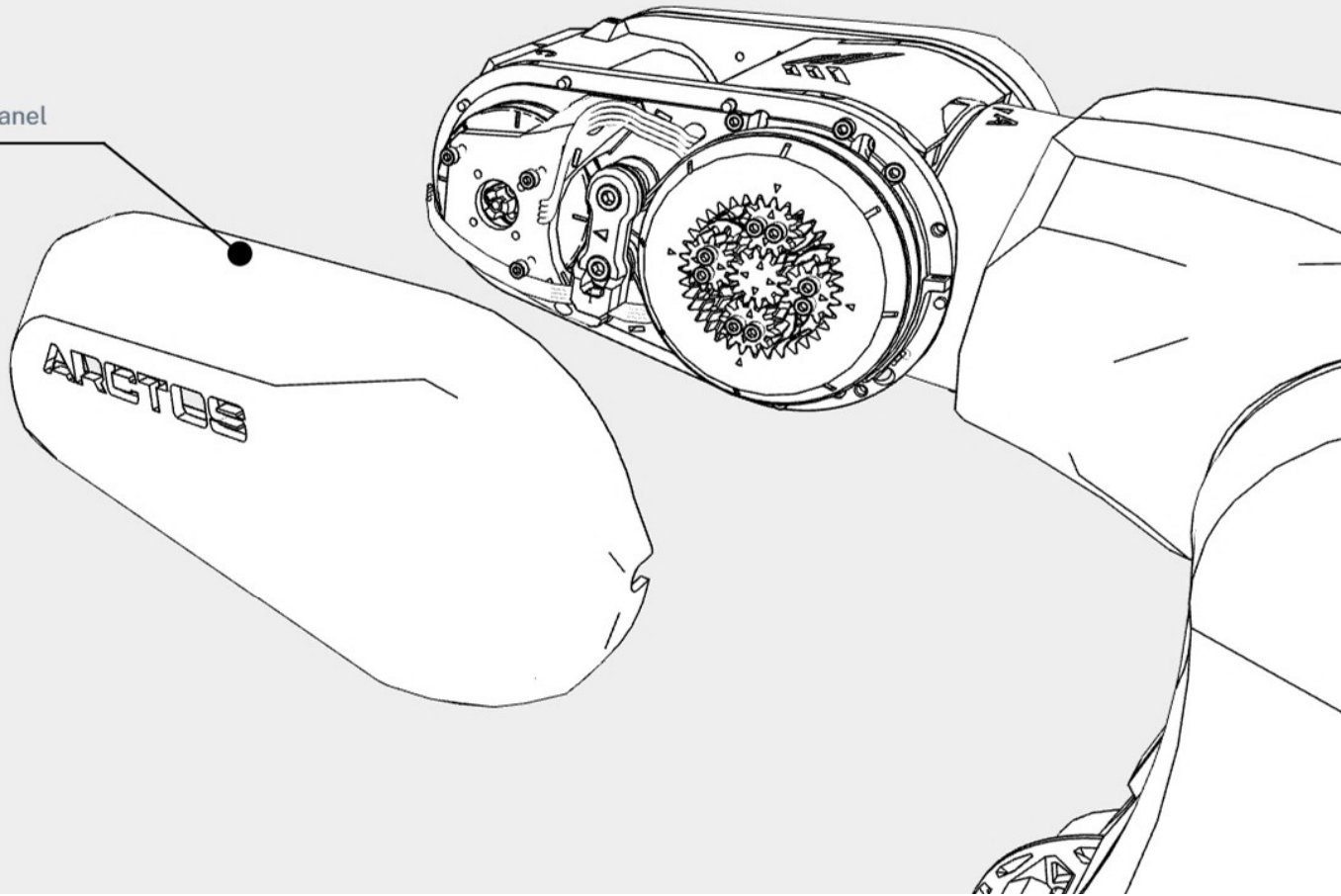


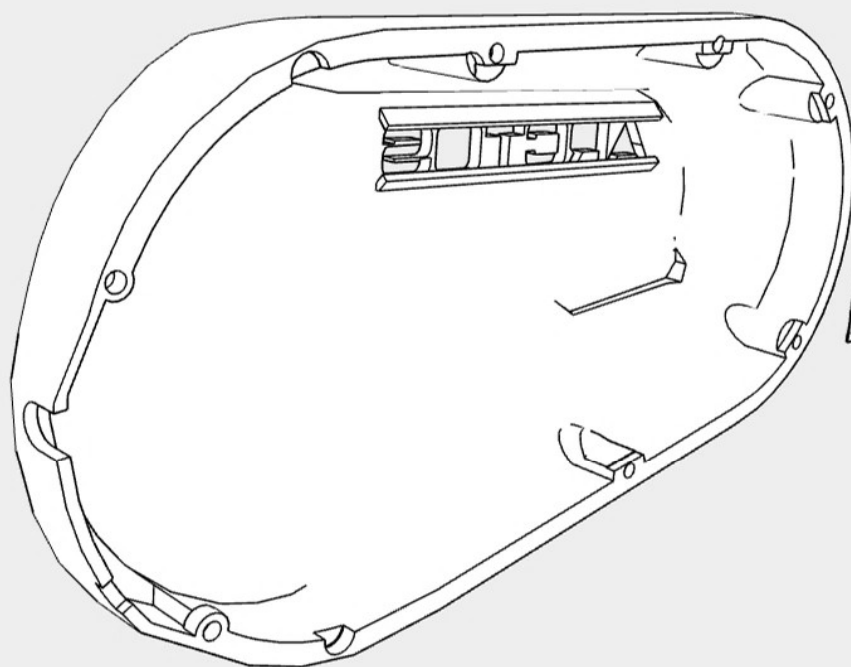


magnets



BR panel

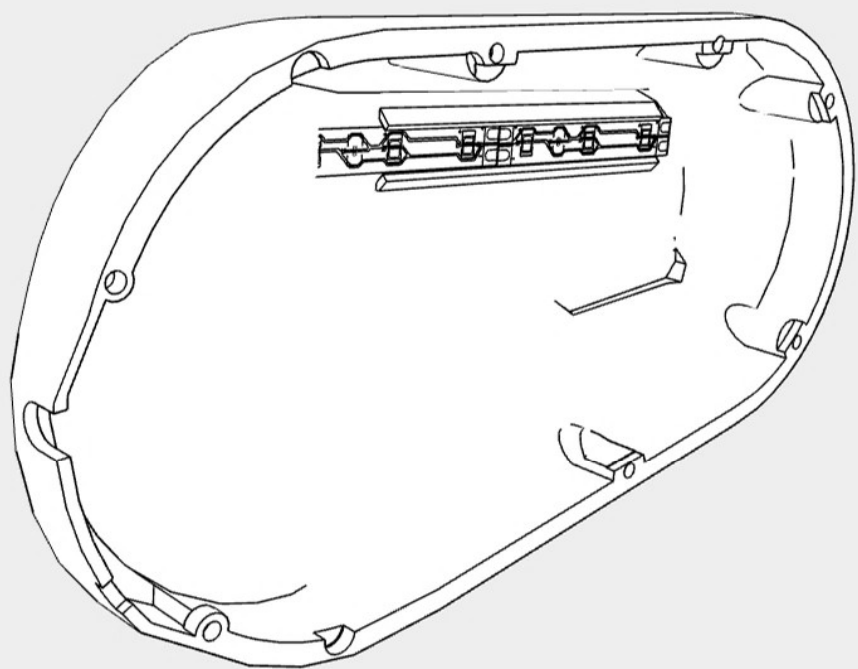


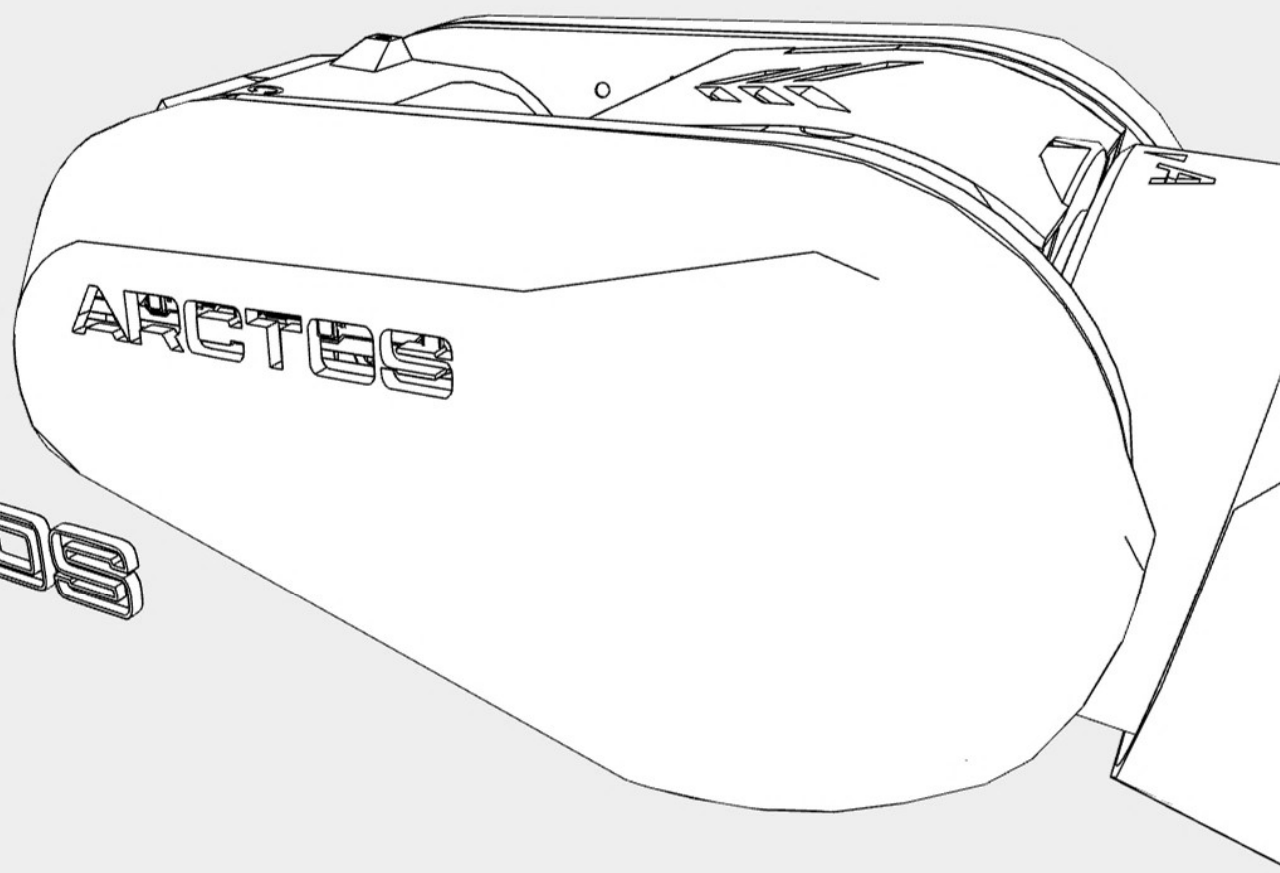


12V LED strip

Optional (not included in the kit)





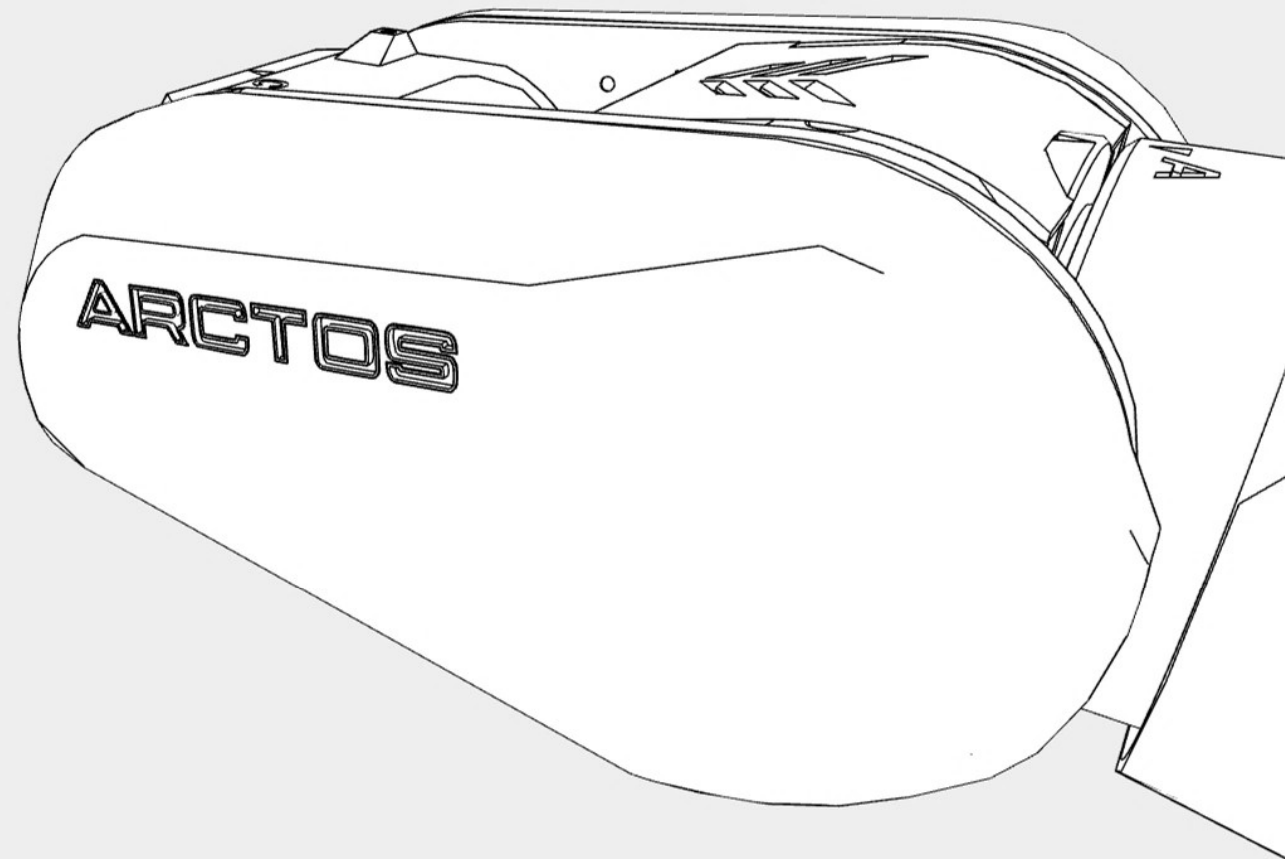


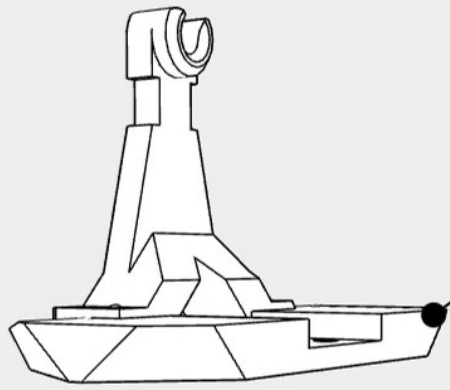
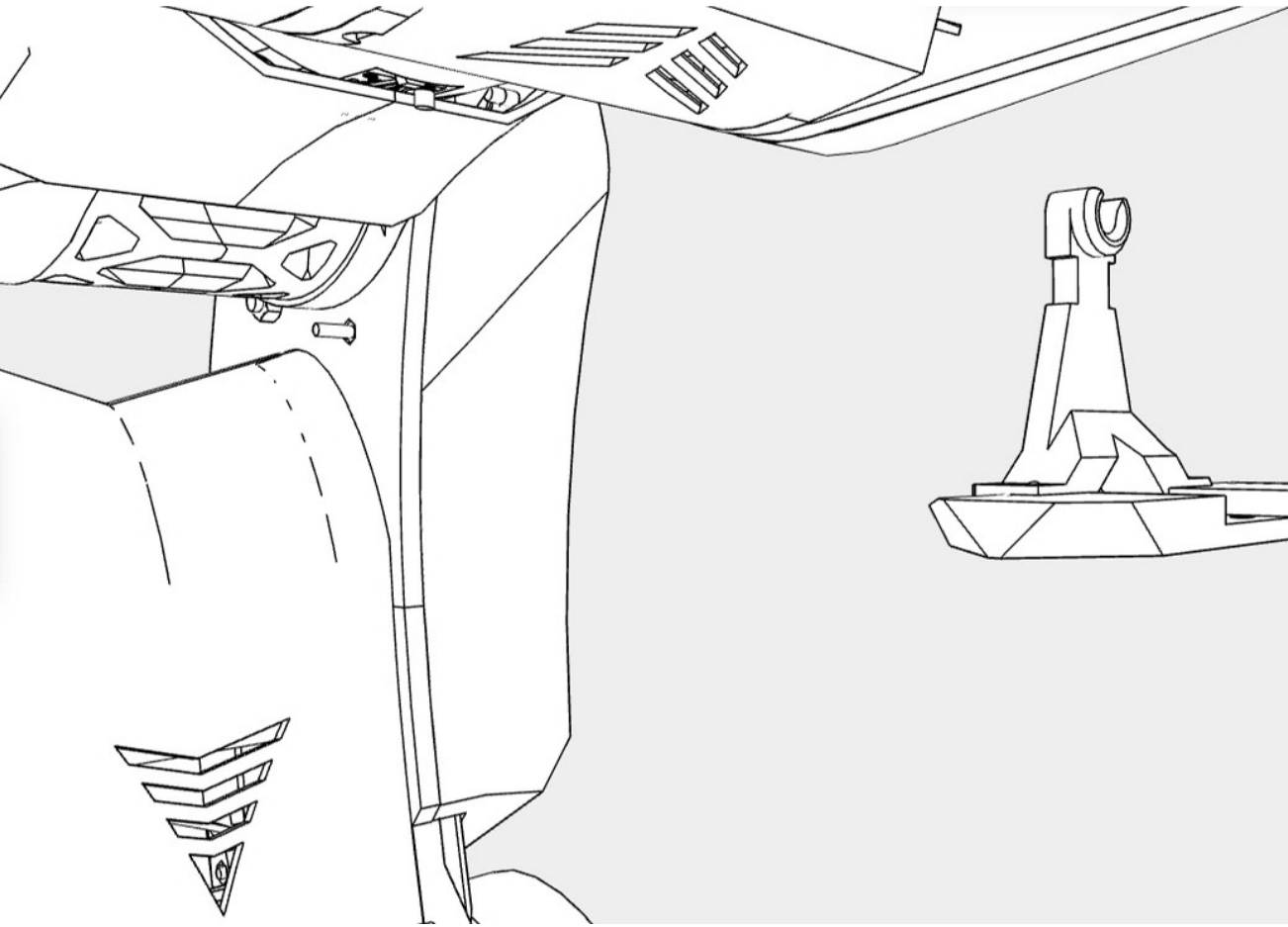
ARCTOS

ARCTOS

ARCTOS

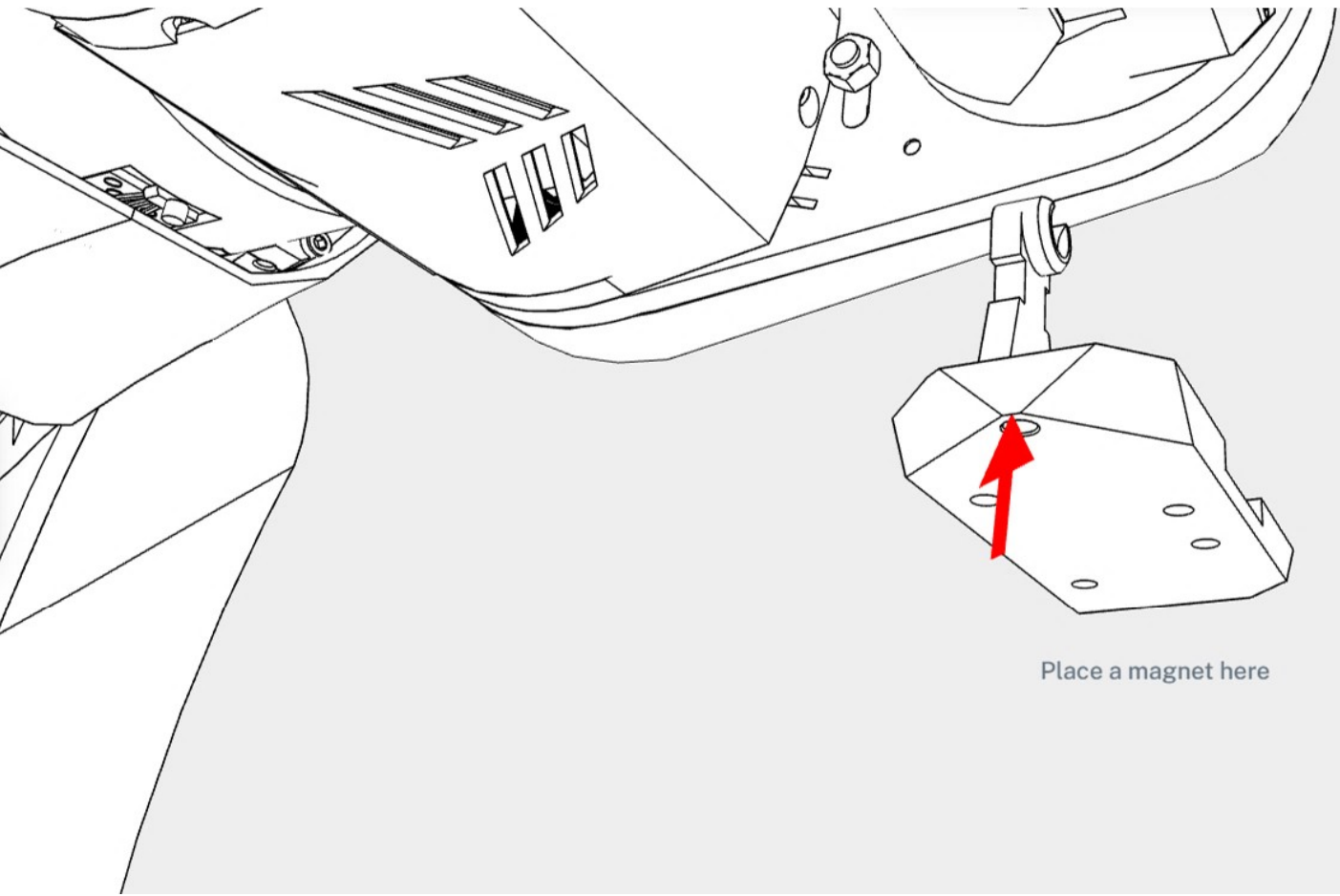
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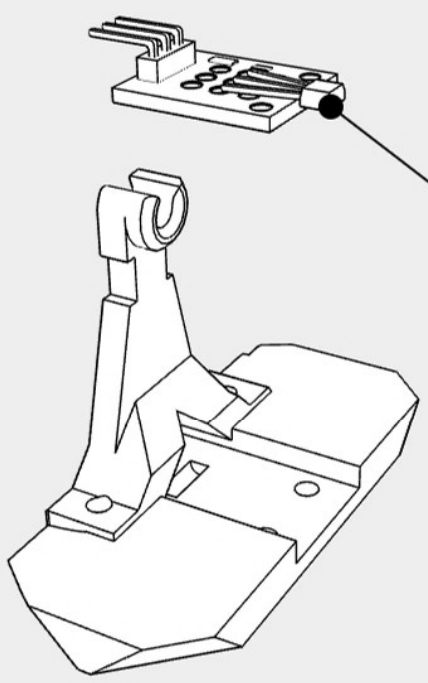
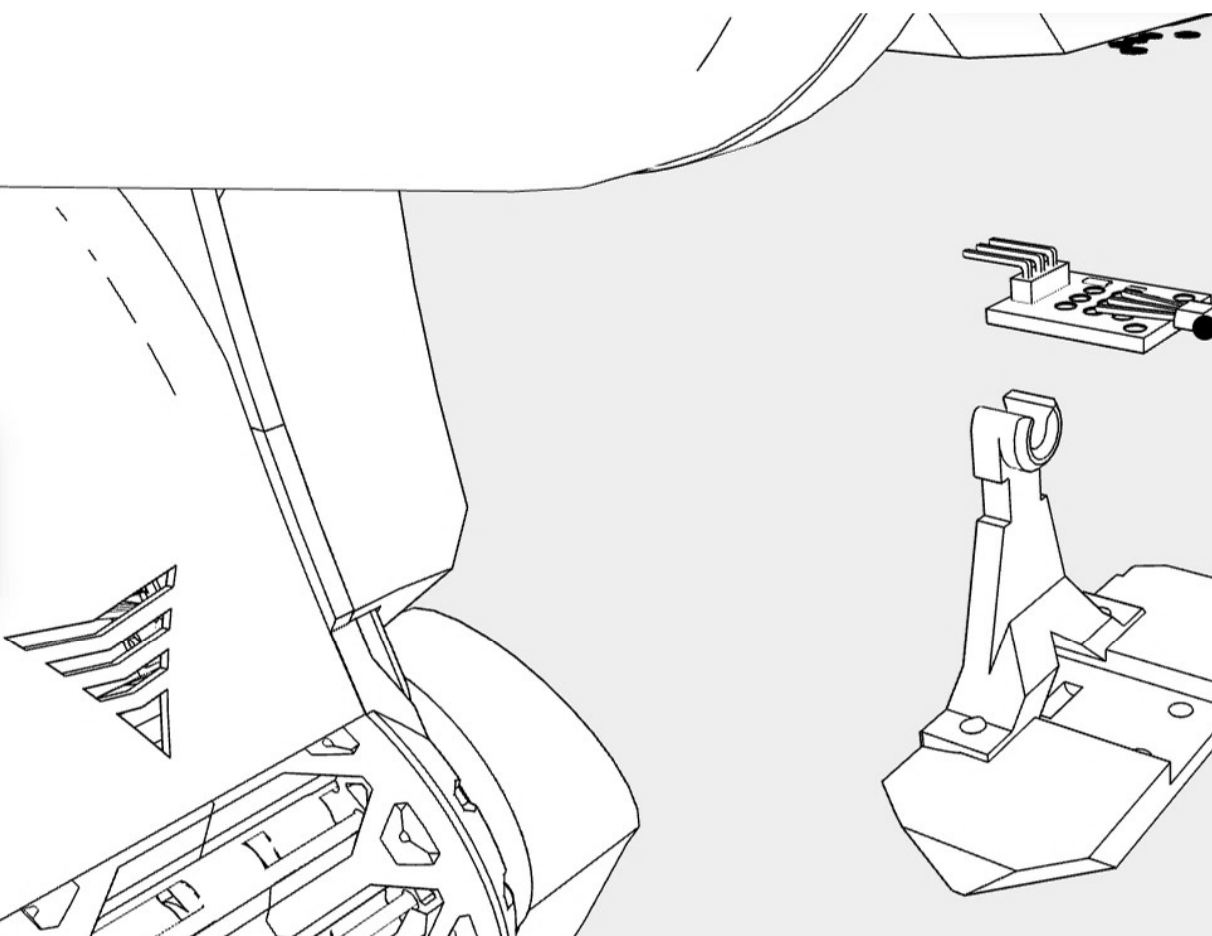


C cable holder

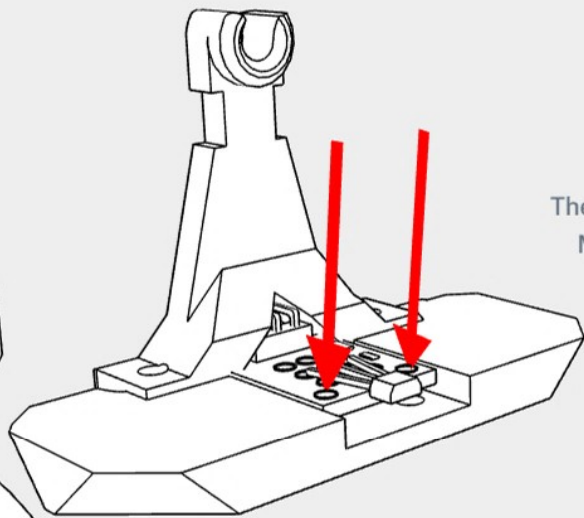
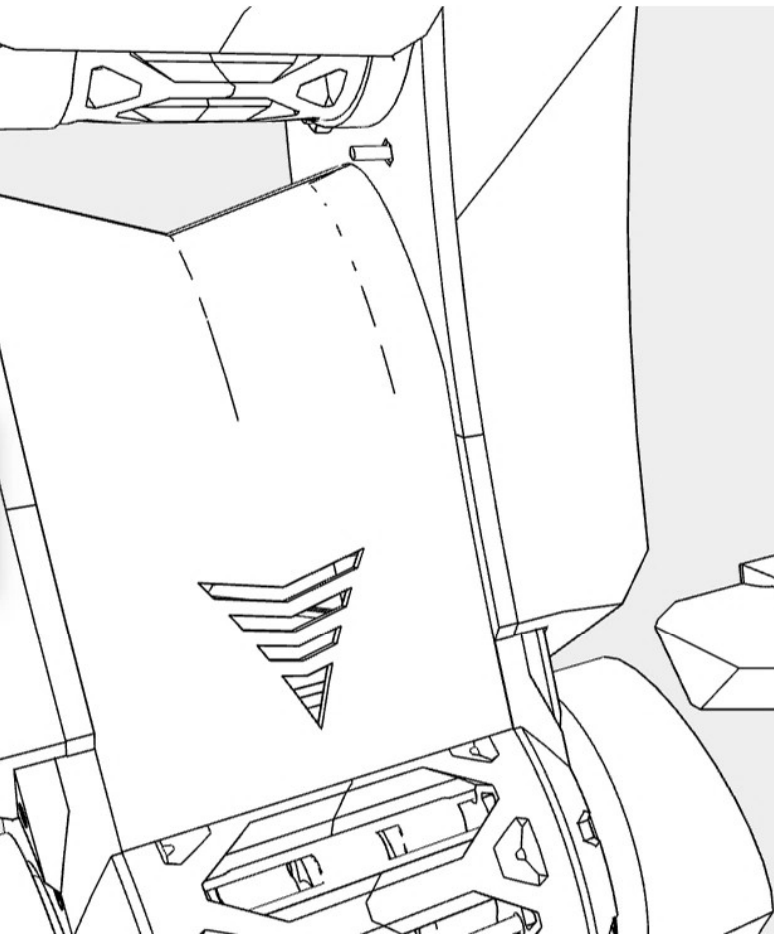




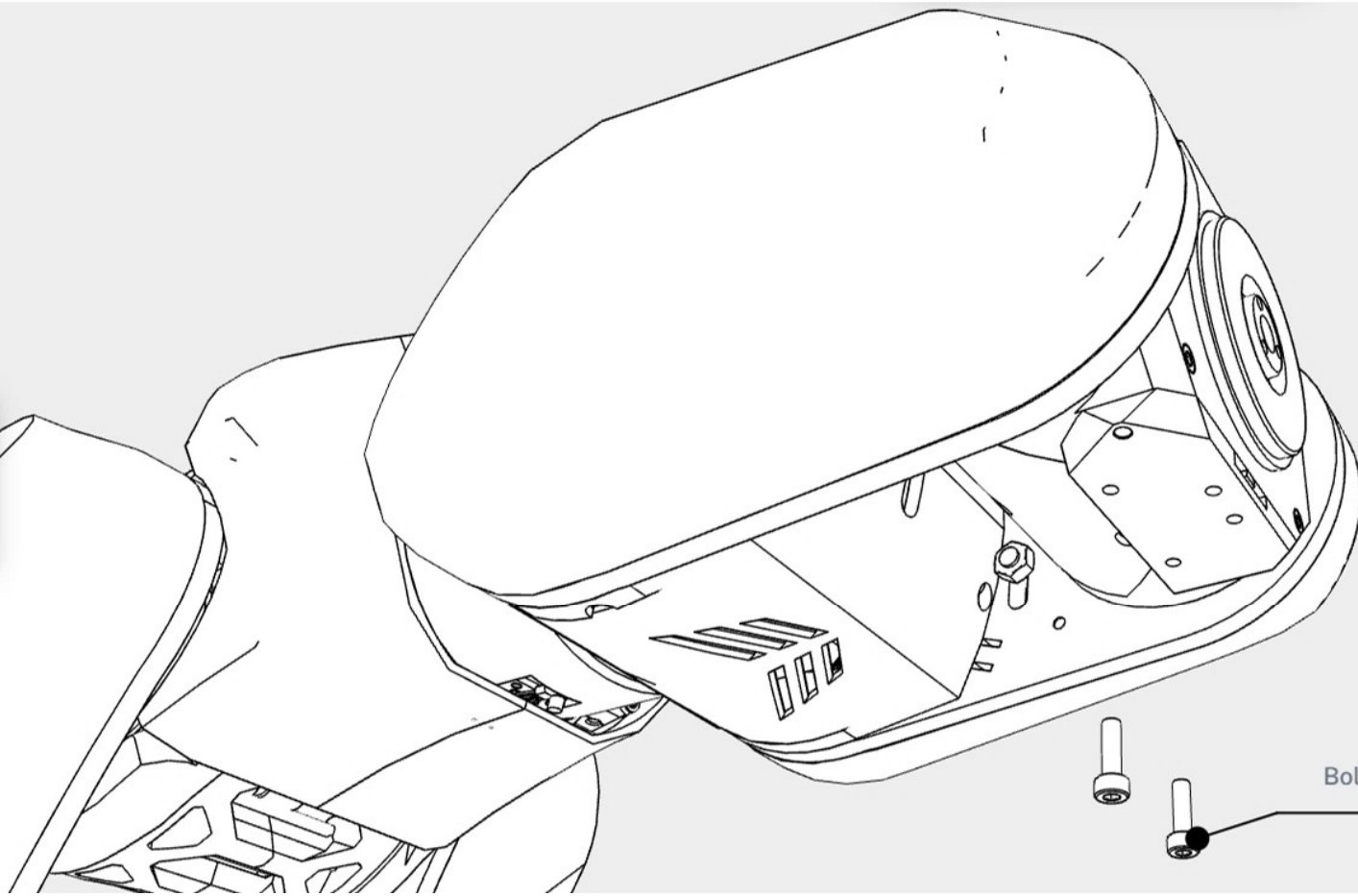
Place a magnet here



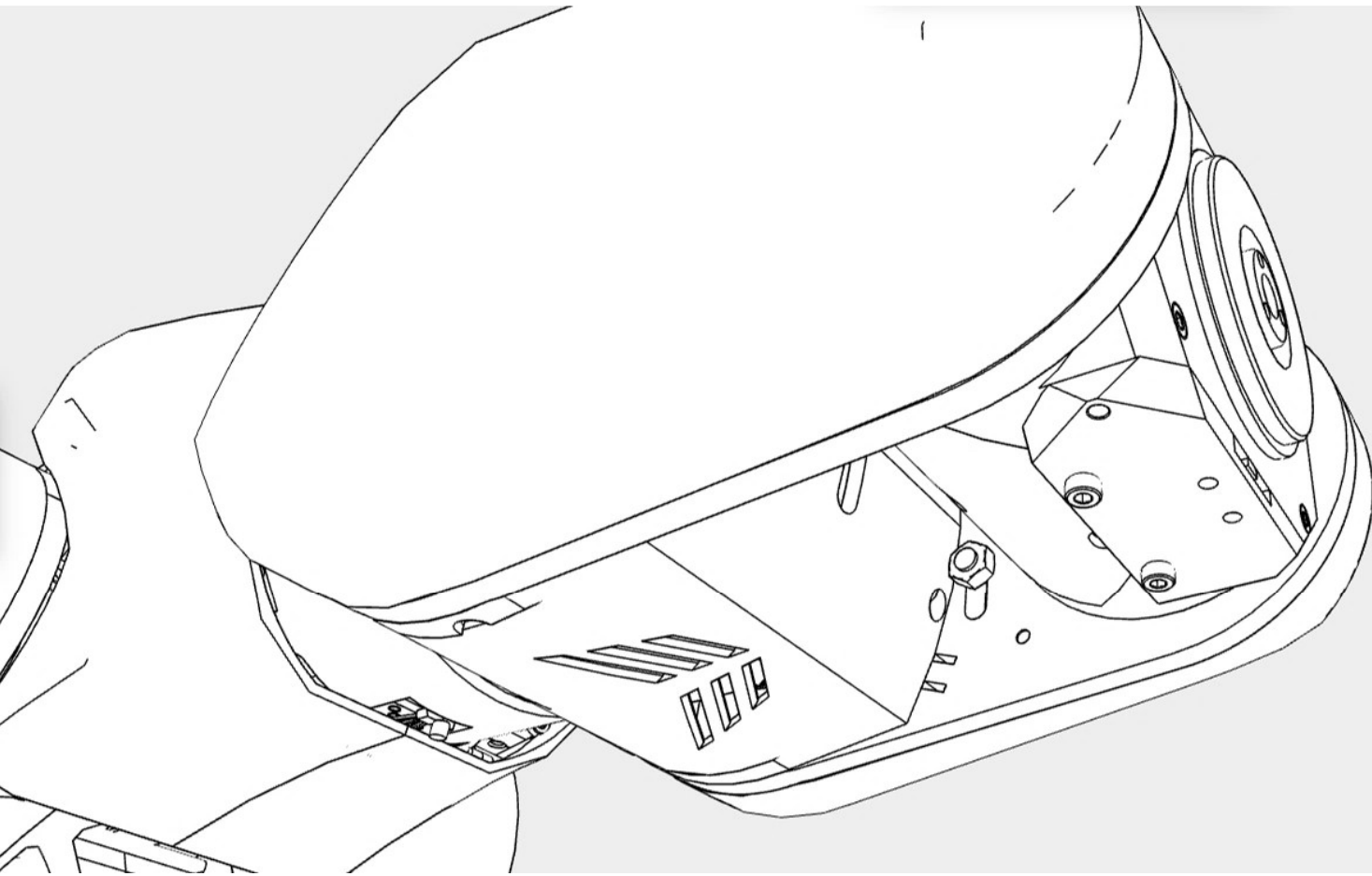
KYD003 magnetic endstop

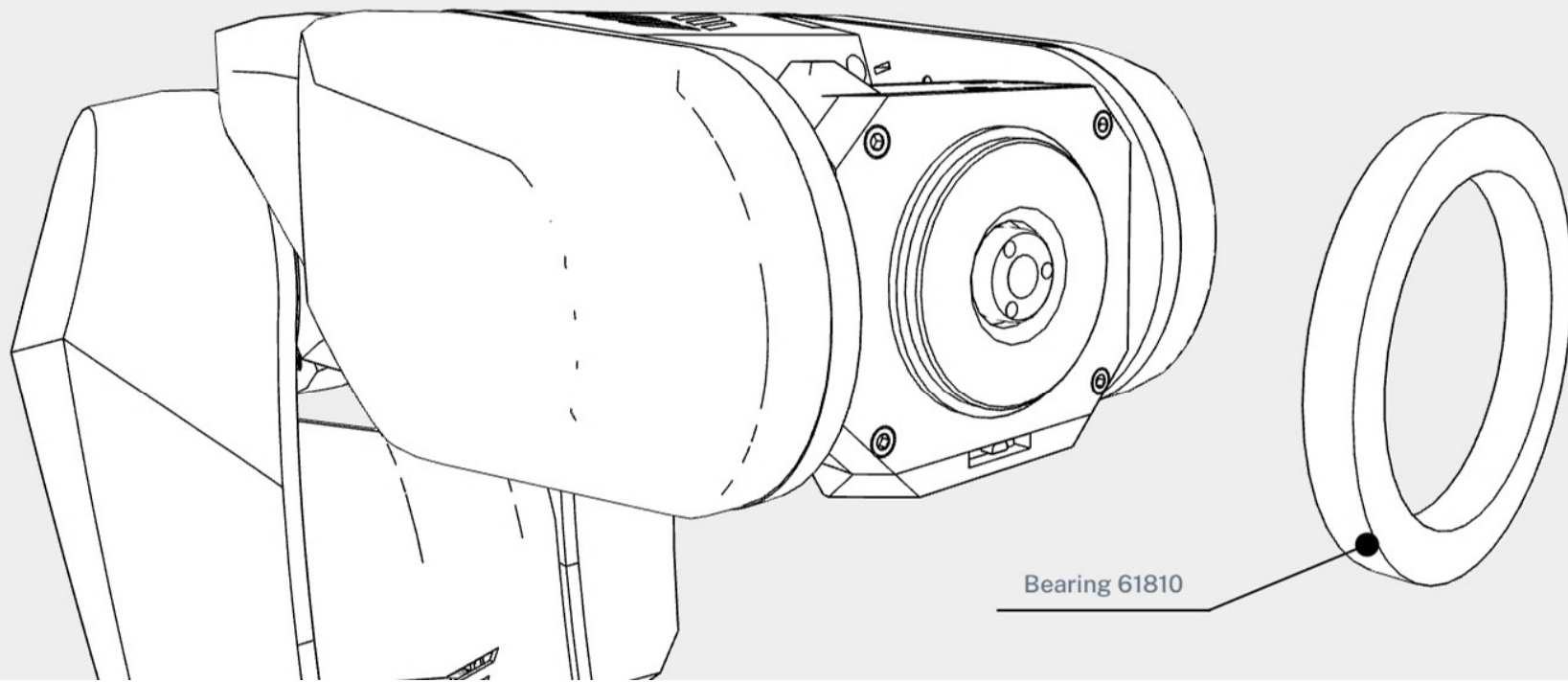


There goes two
M2 screws

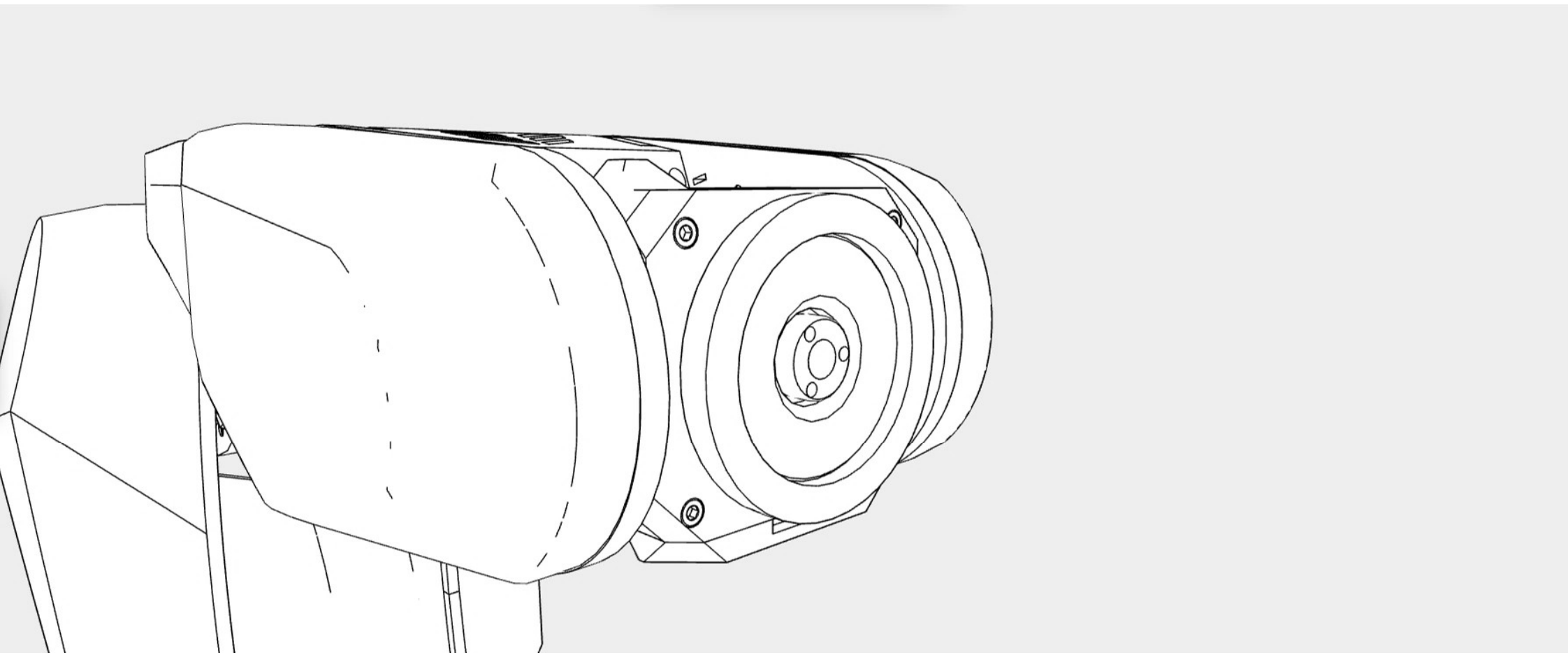


Bolt M3 10mm v2





Bearing 61810

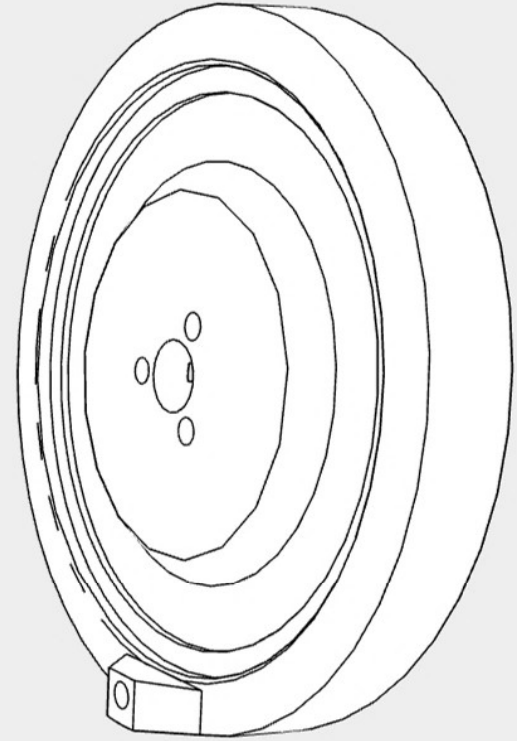
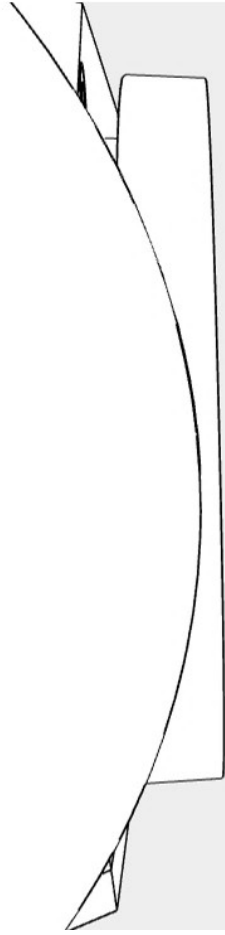


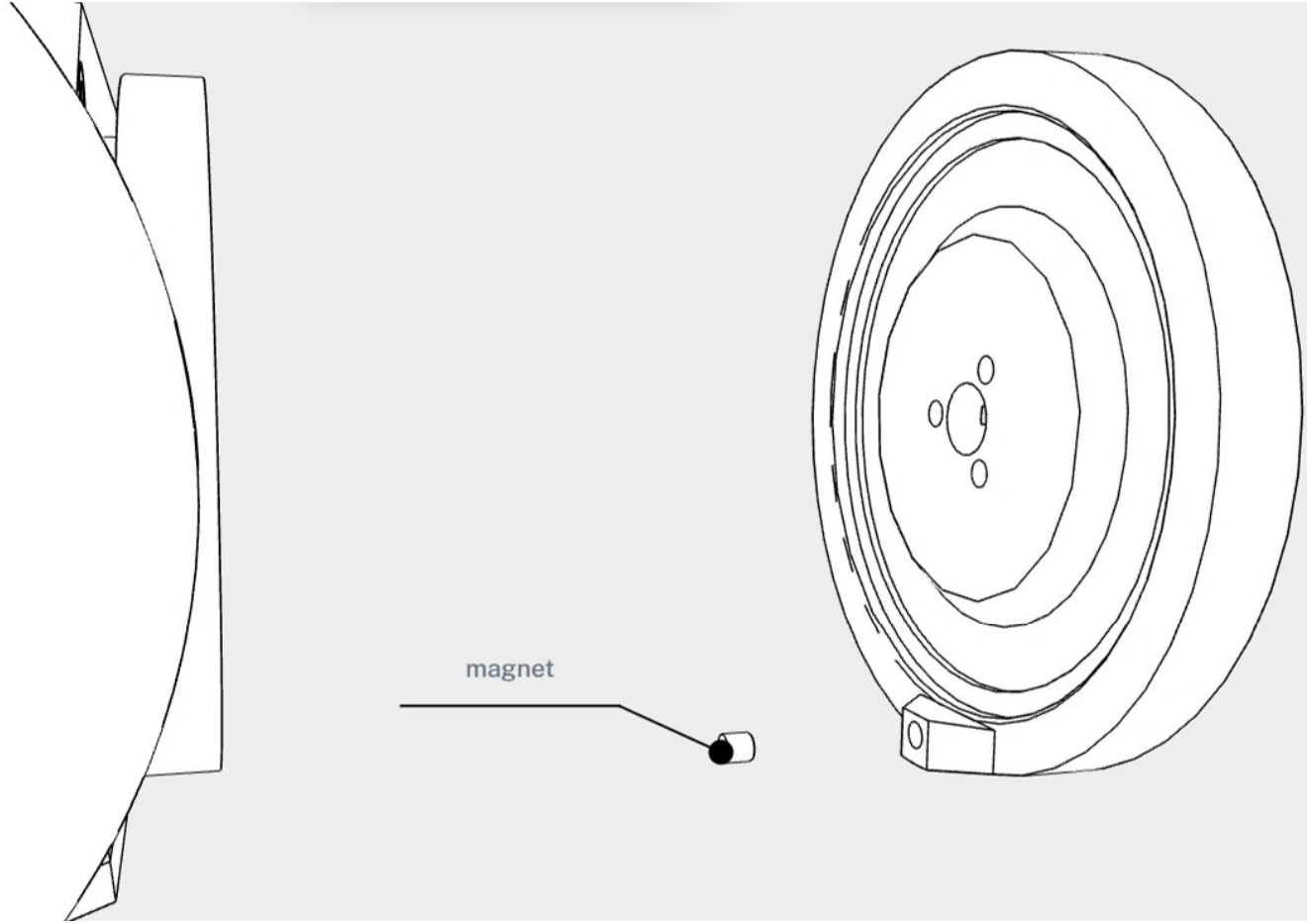
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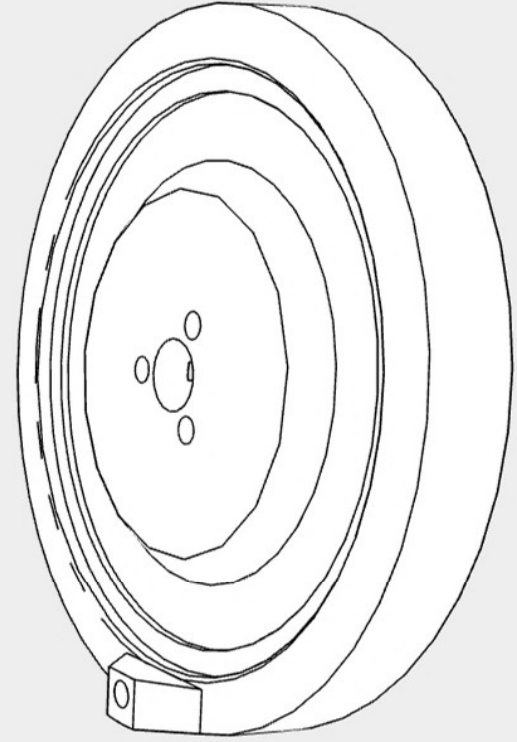
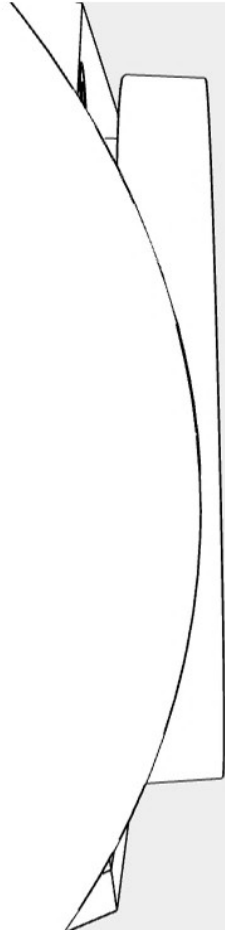
magnet

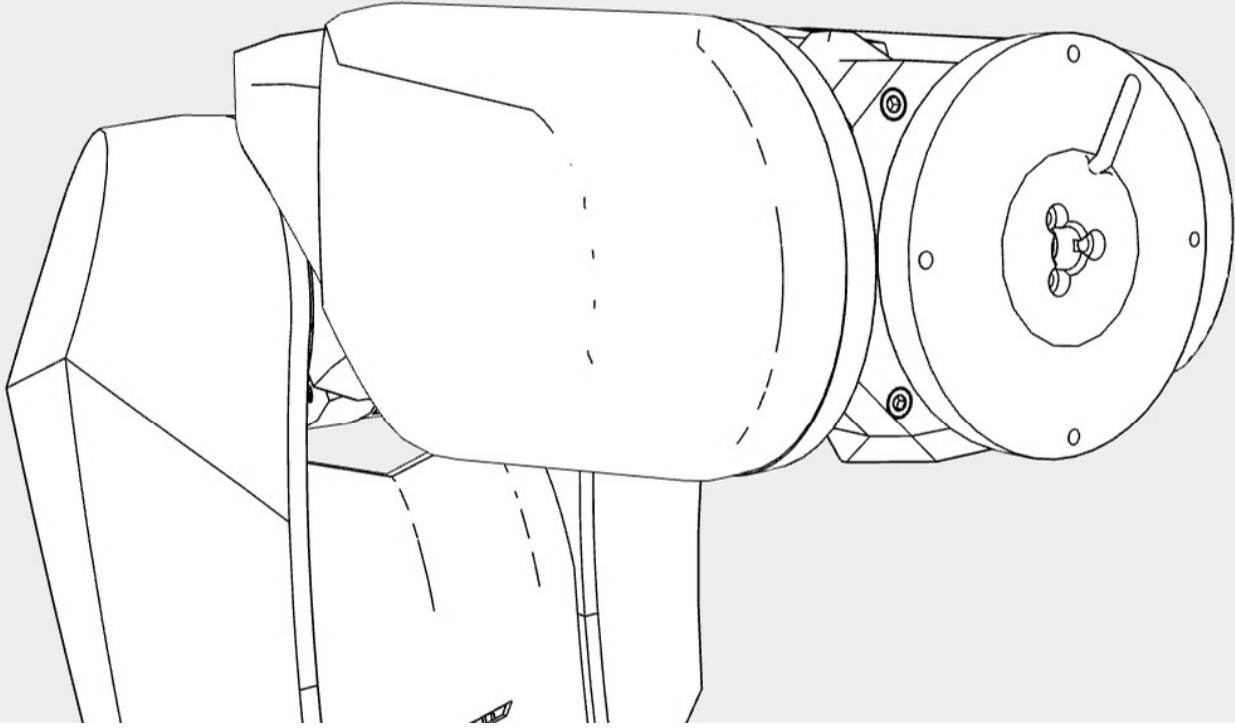
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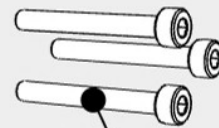
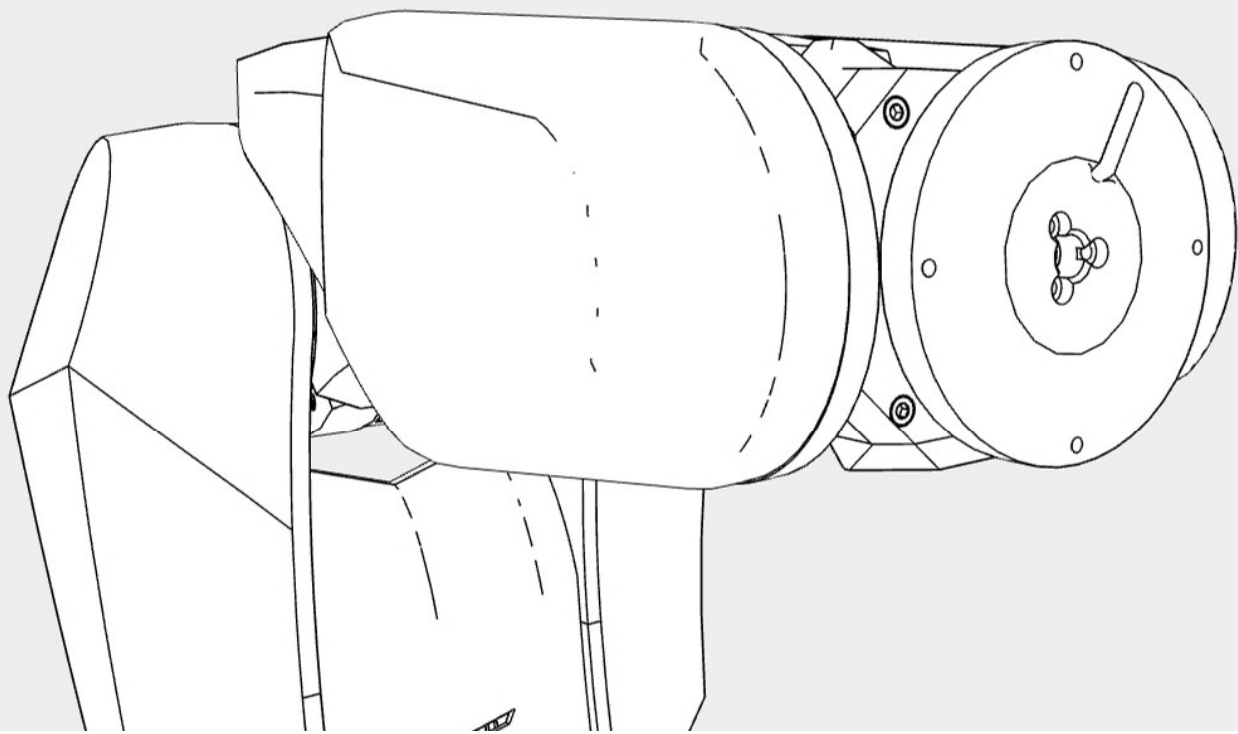
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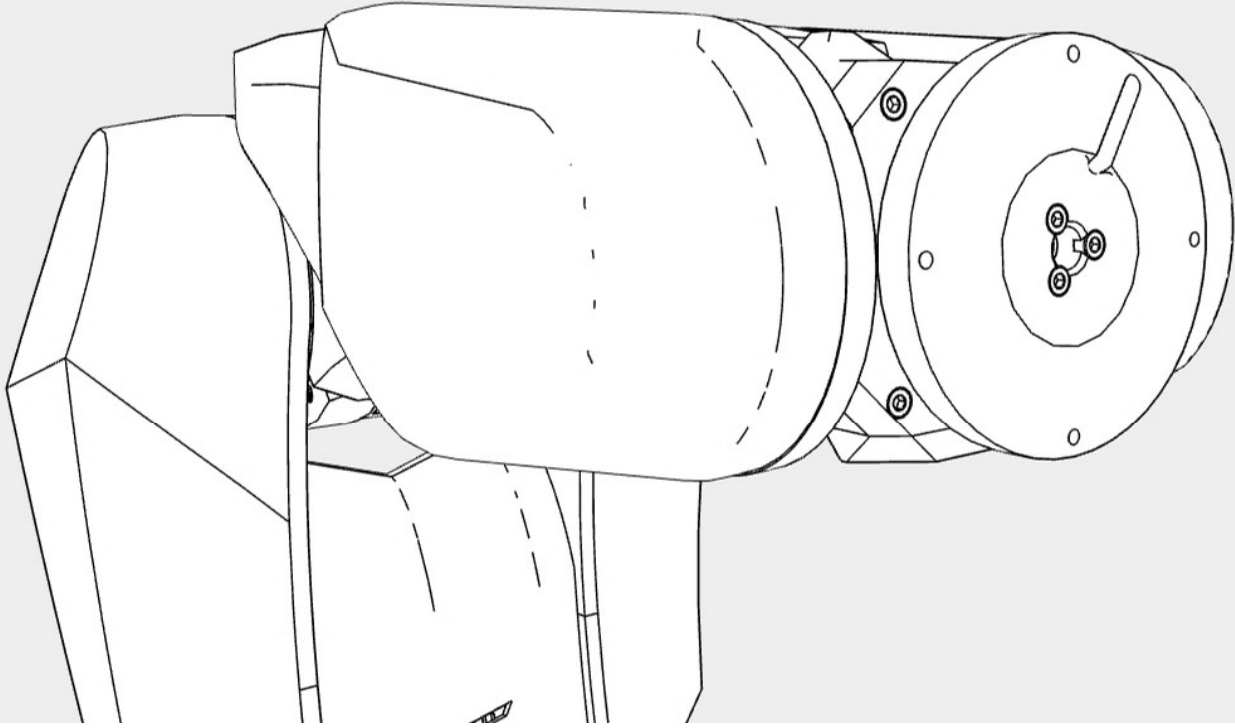
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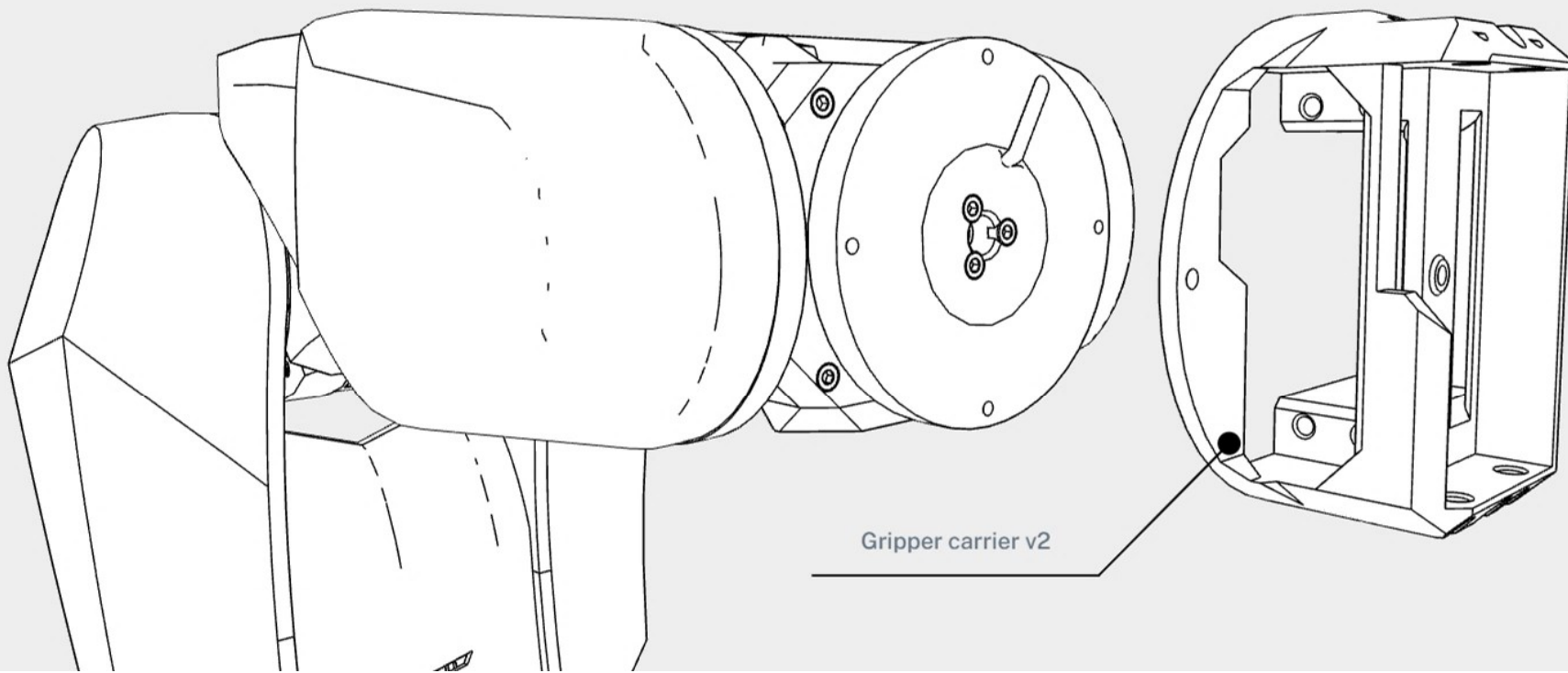




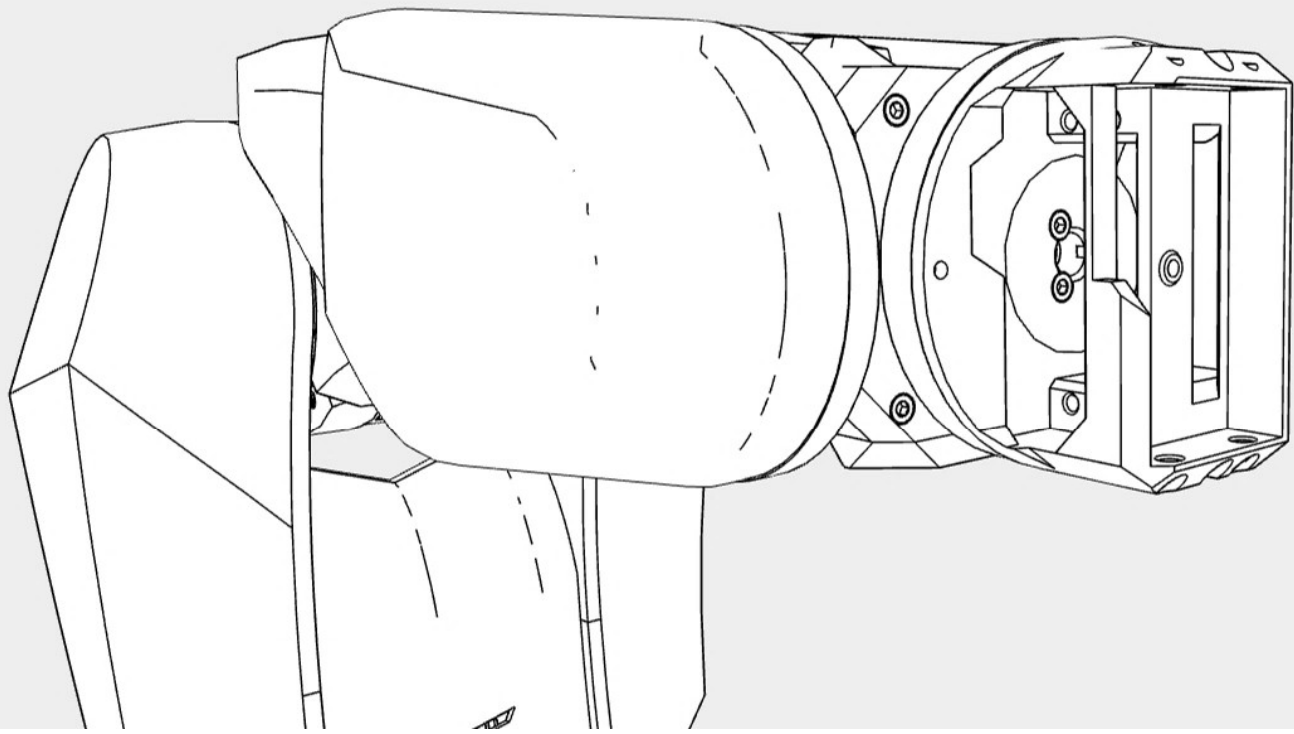


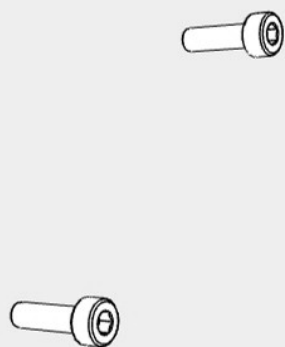
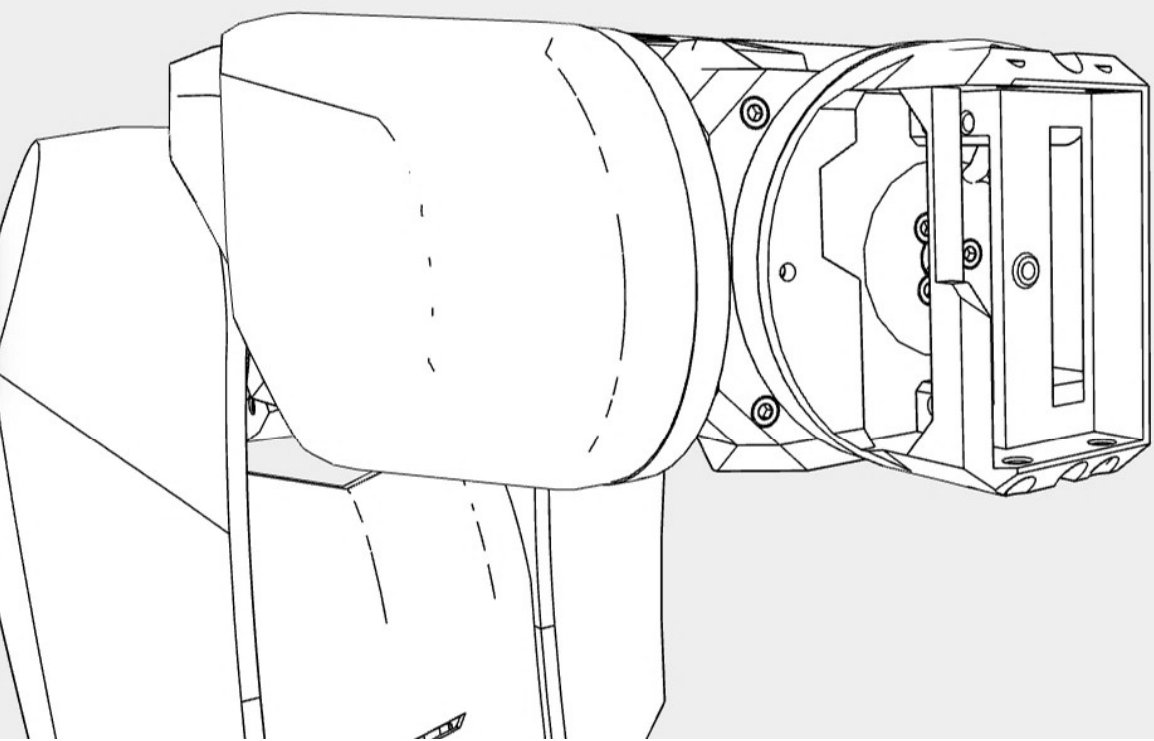
Bolt M3 25mm v2



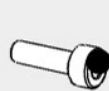


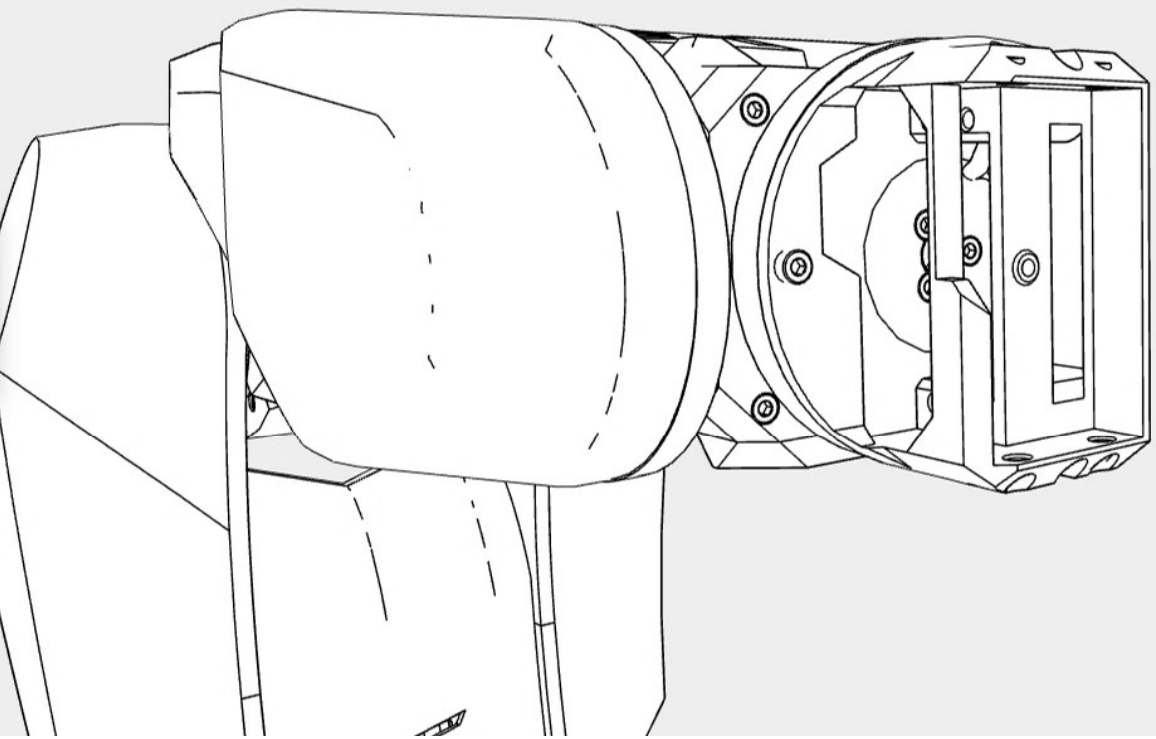
Gripper carrier v2

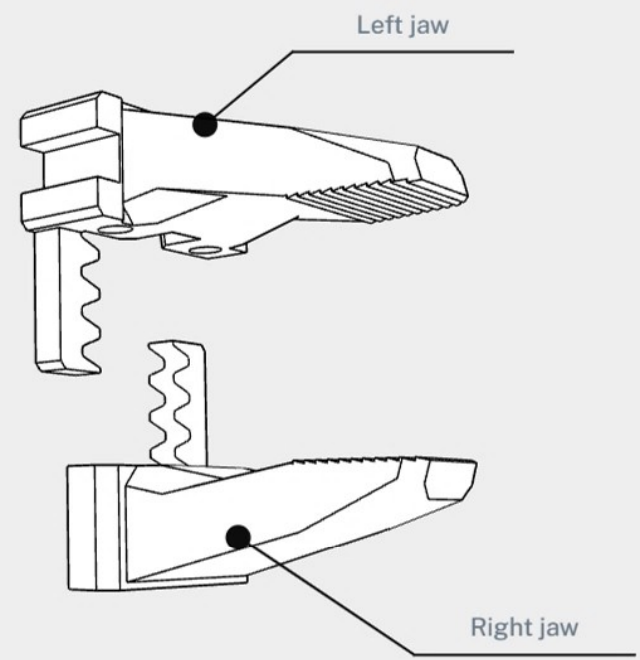
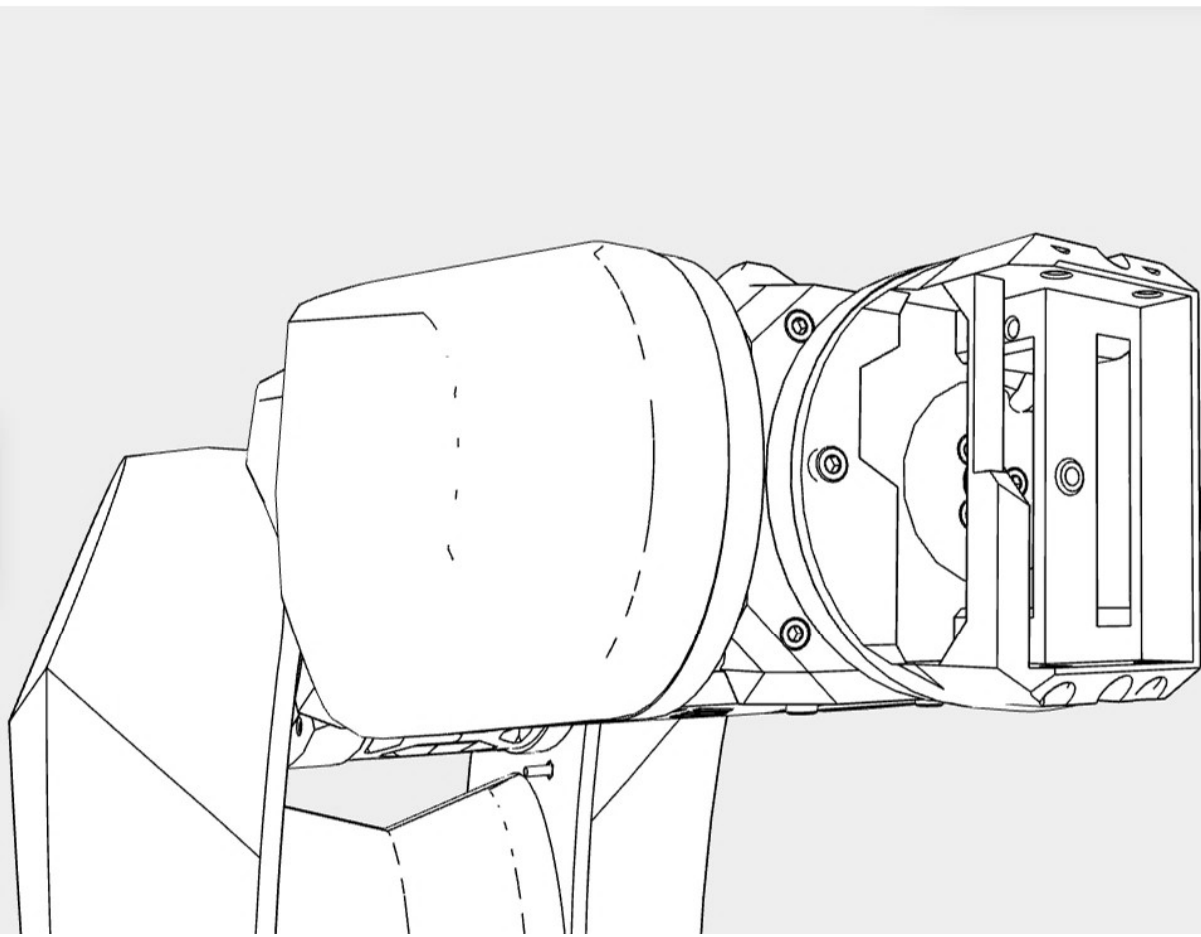


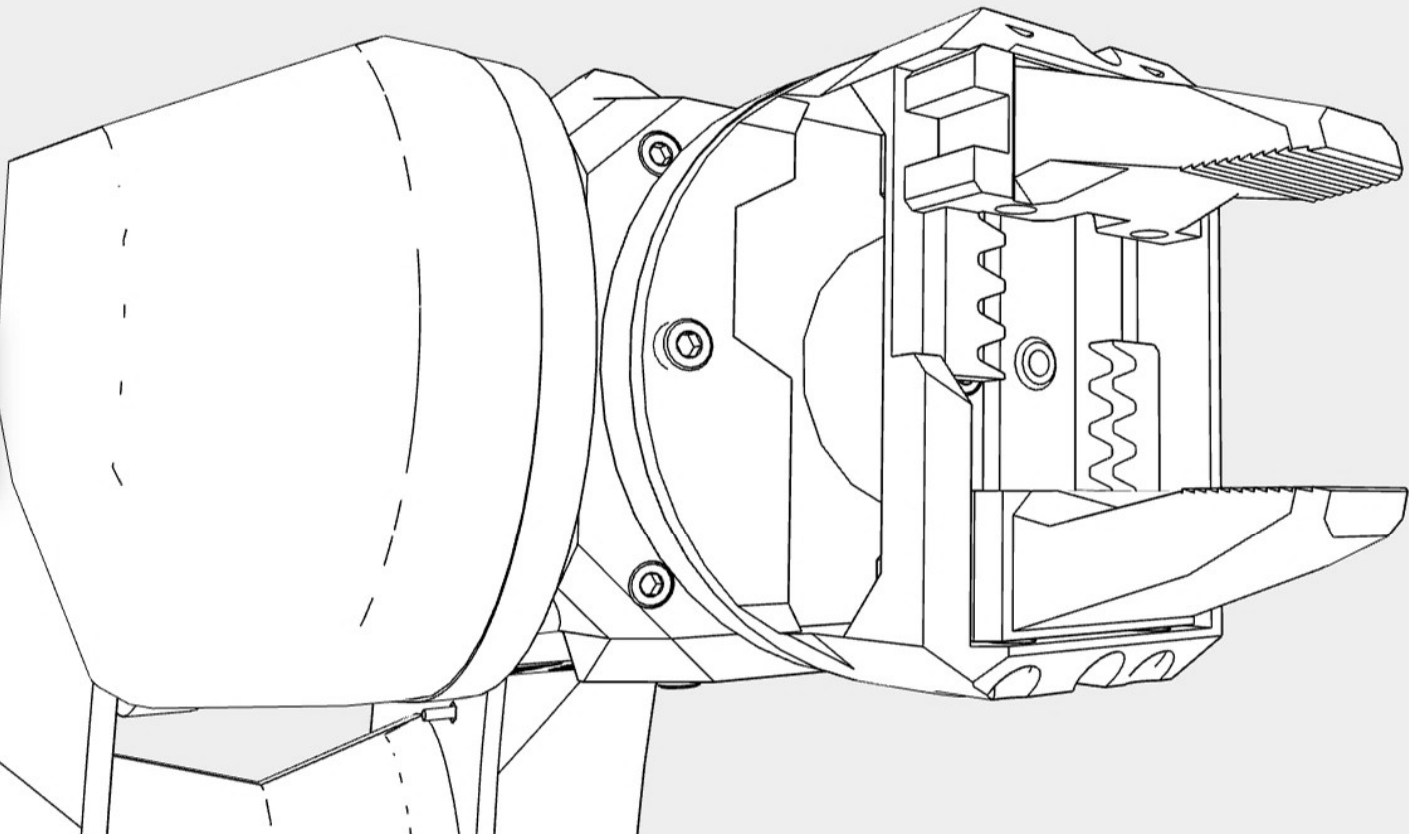


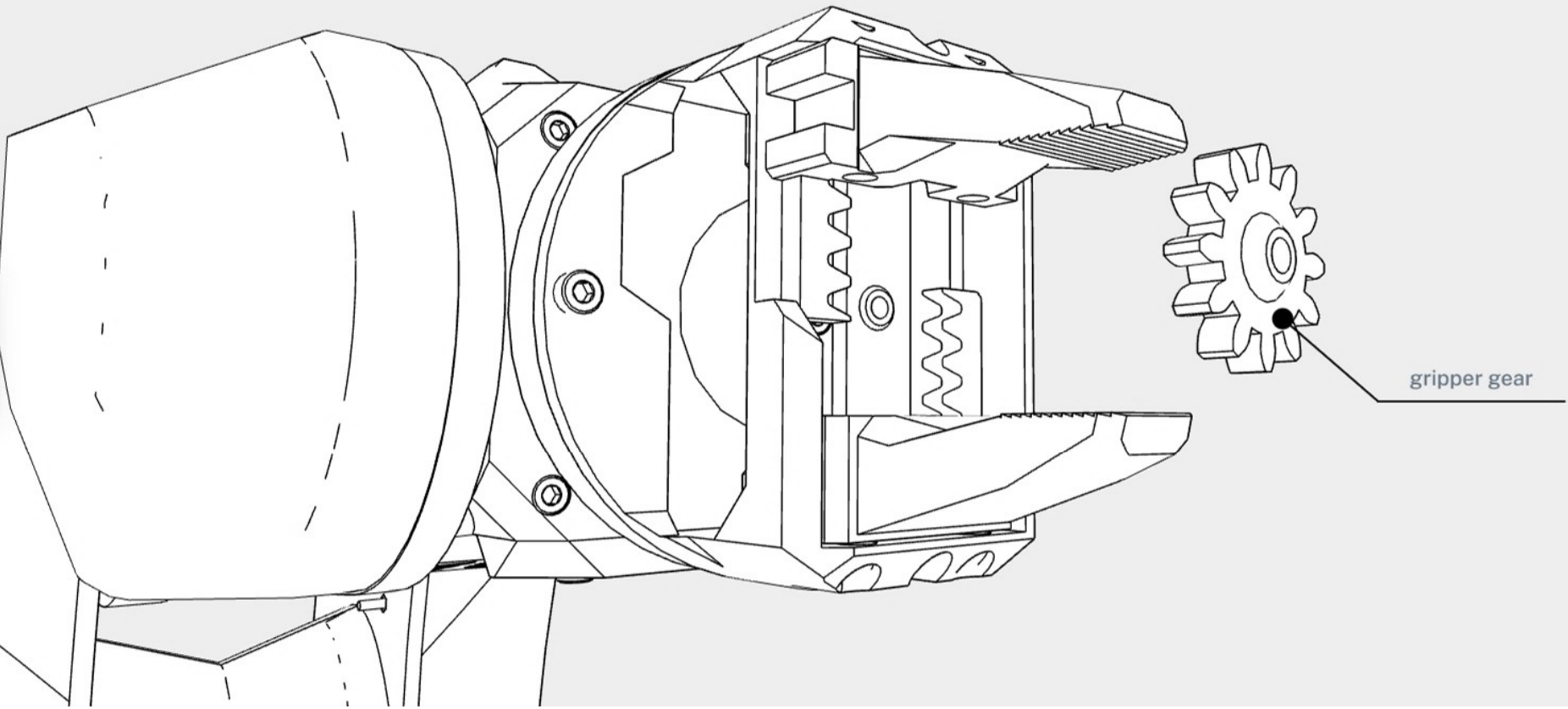
Bolt M3 10mm v2



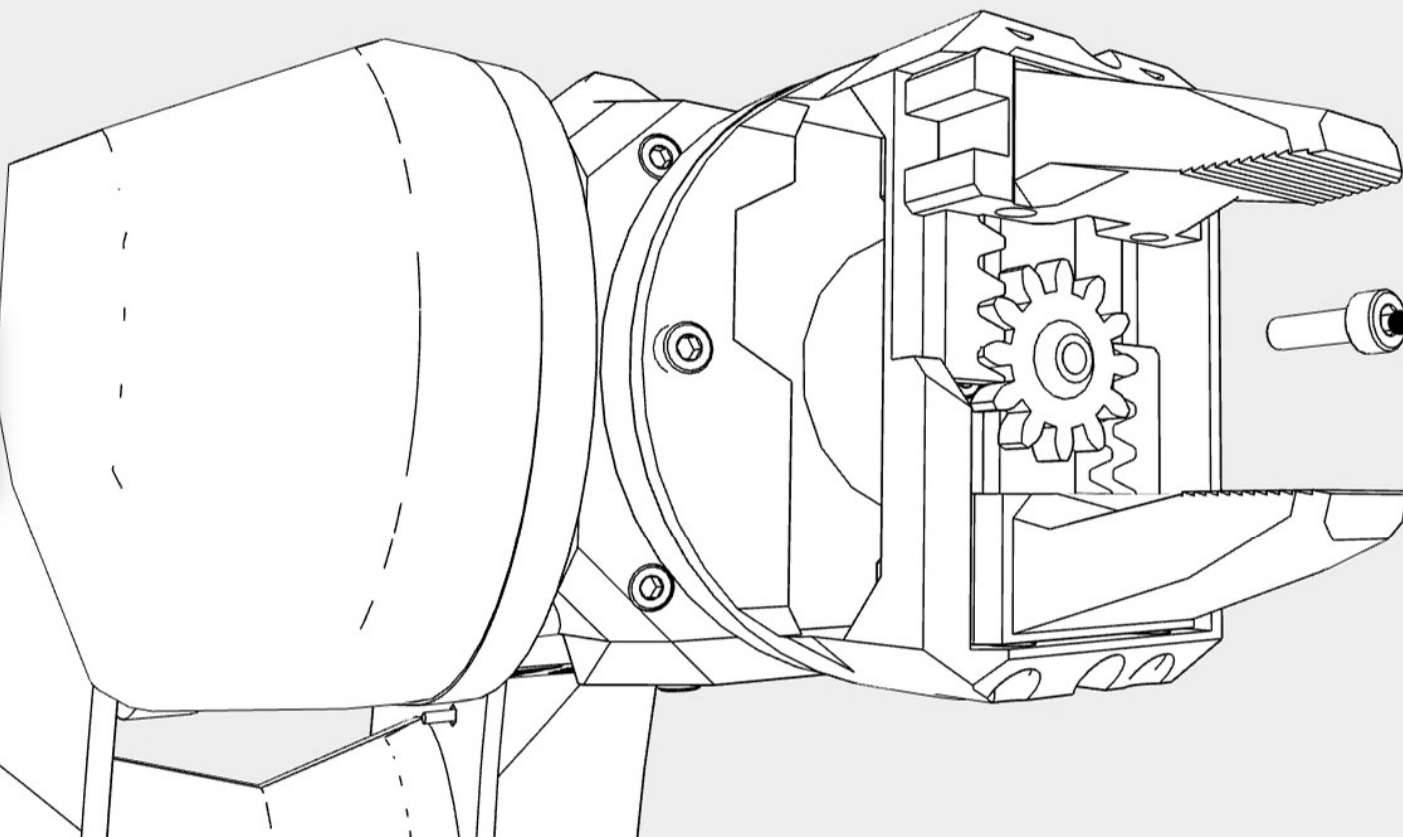




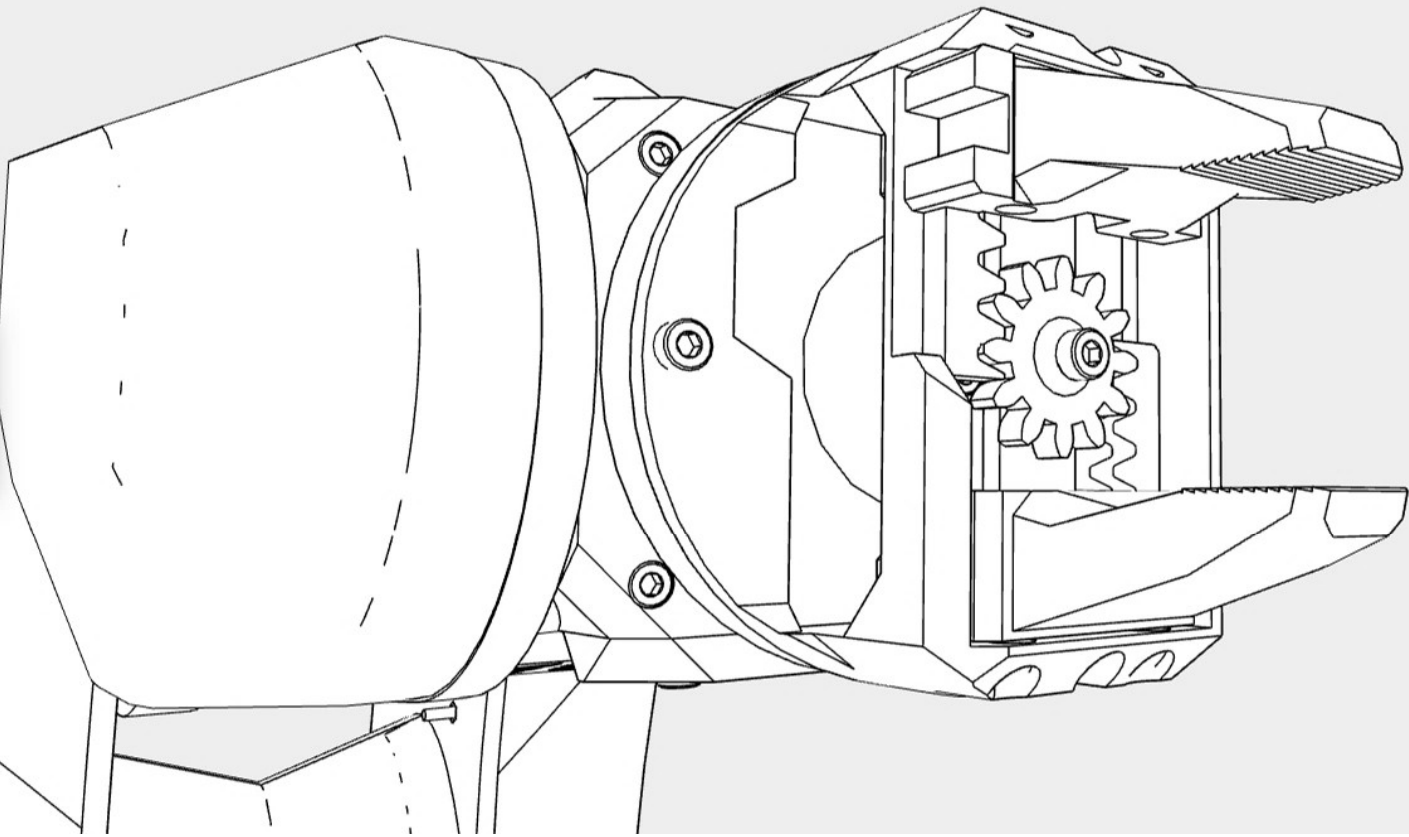


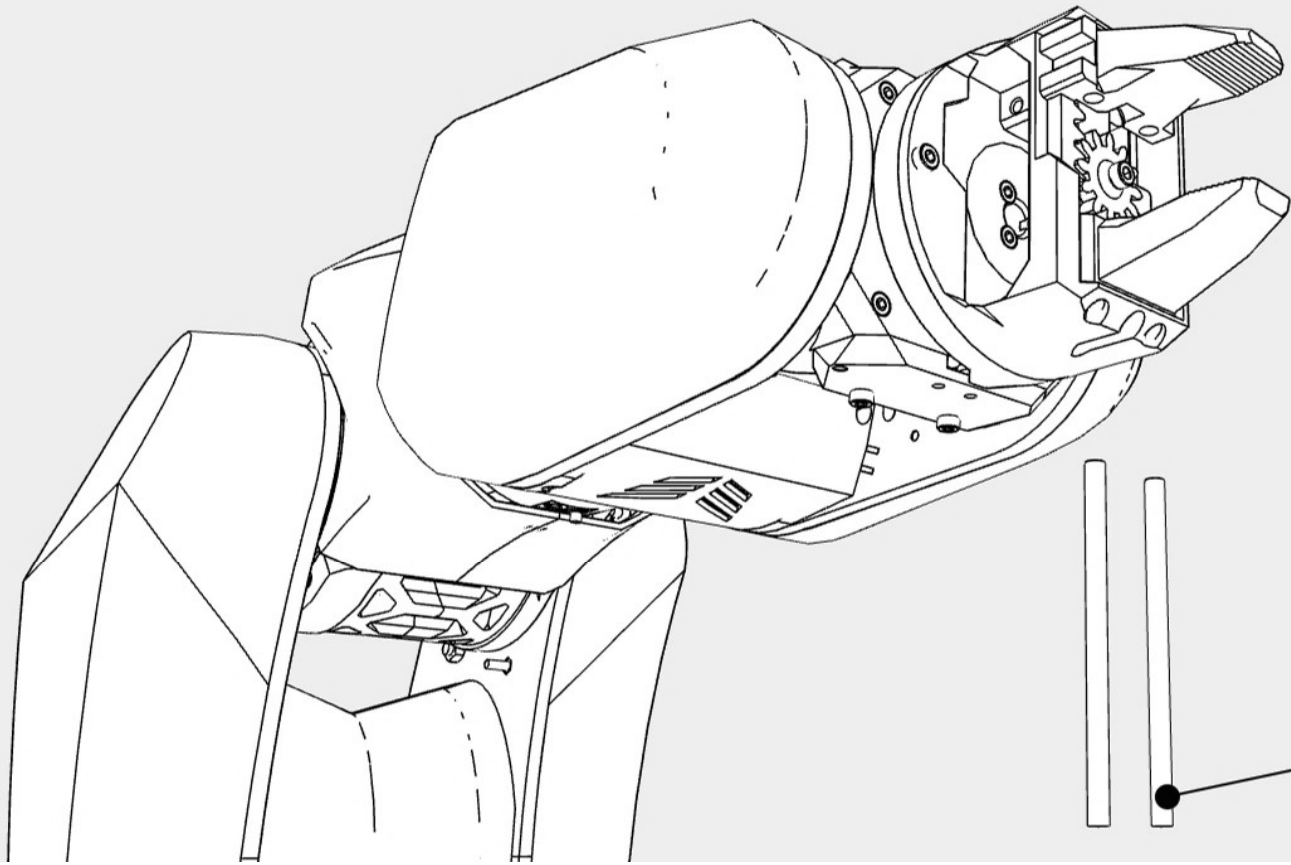


gripper gear



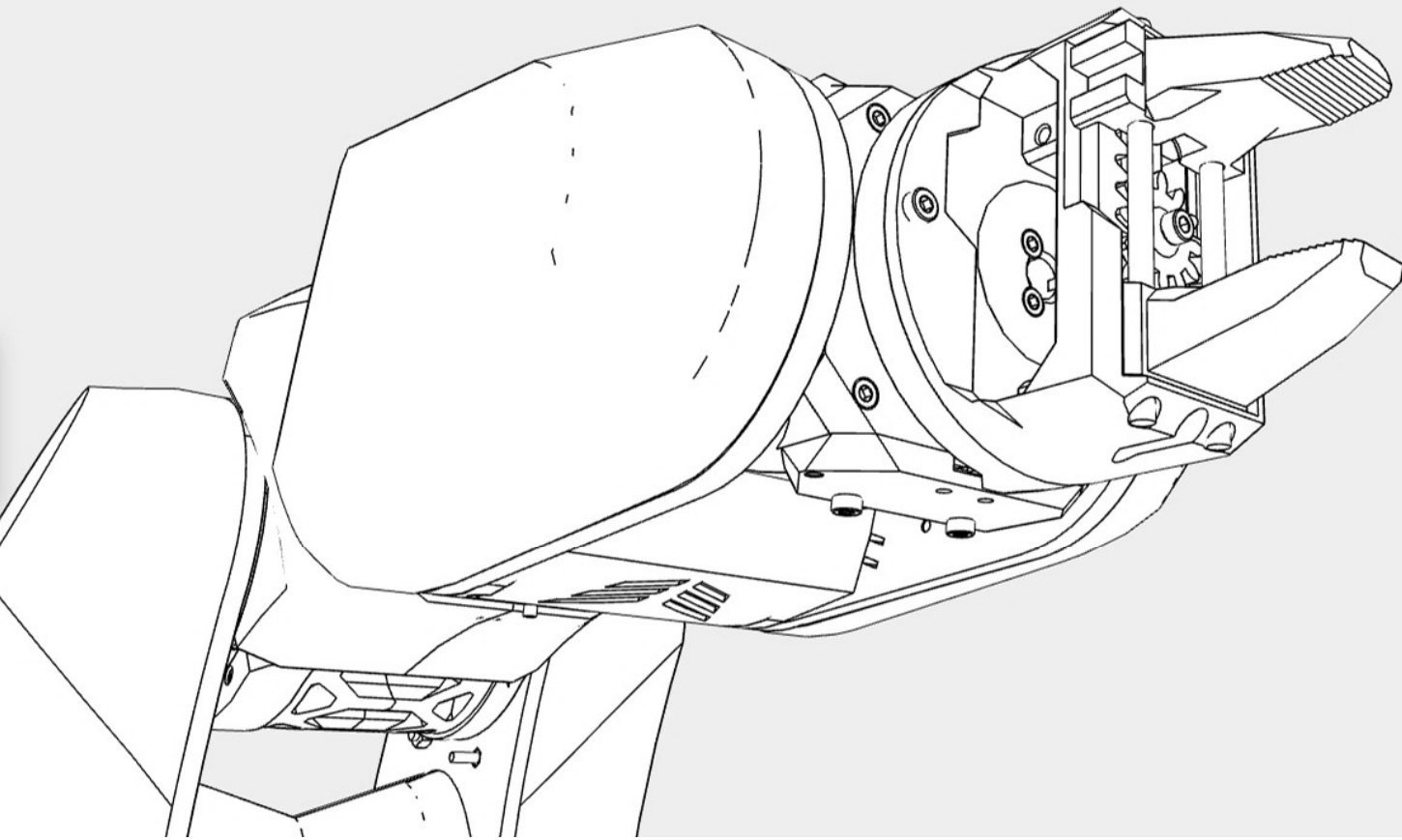
Bolt M3 10mm v2

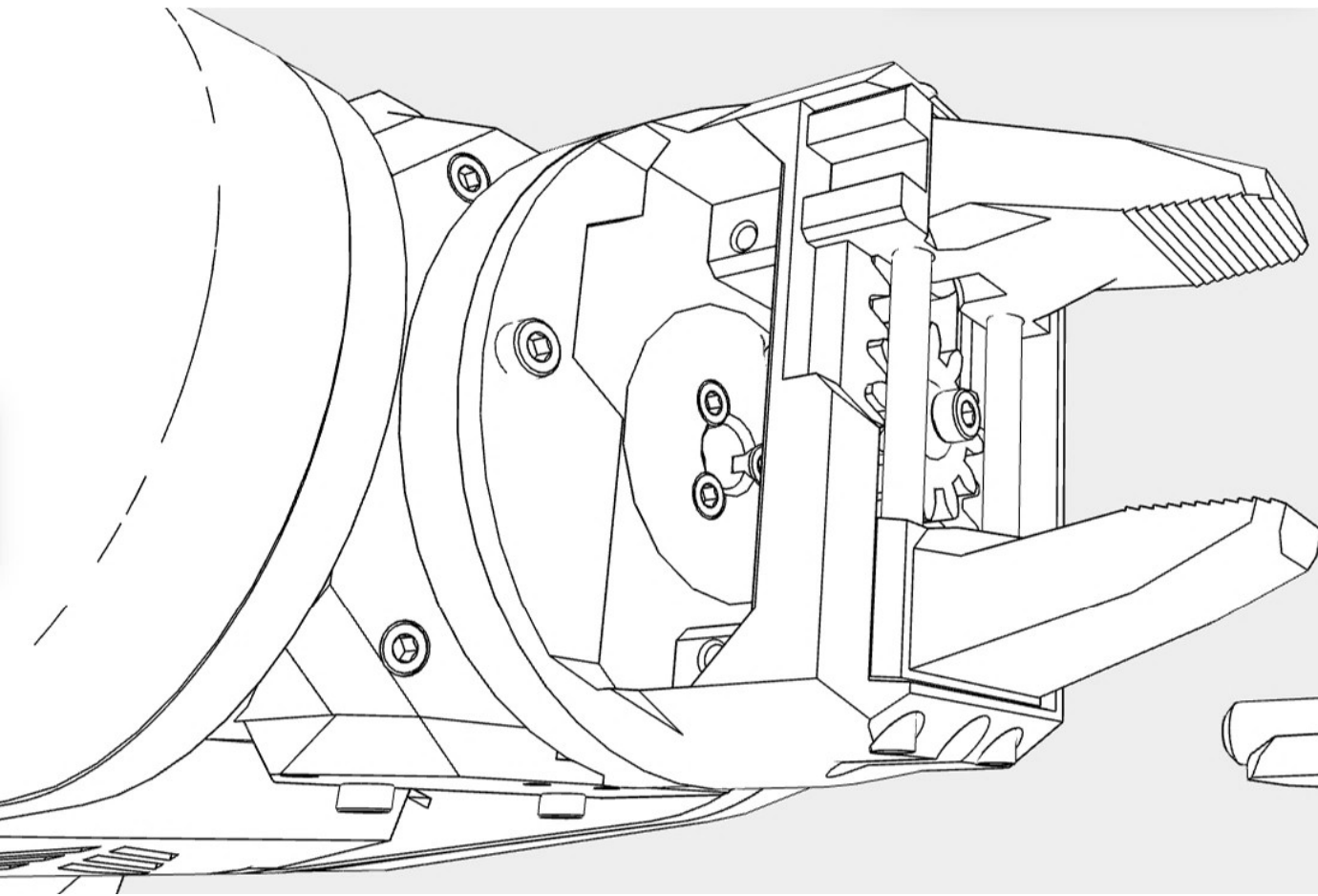




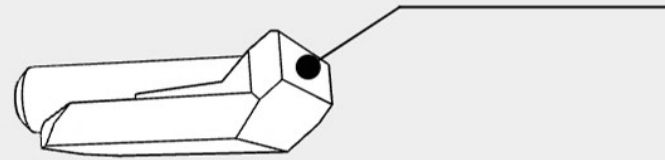
Stainless steel rod 4x70 mm

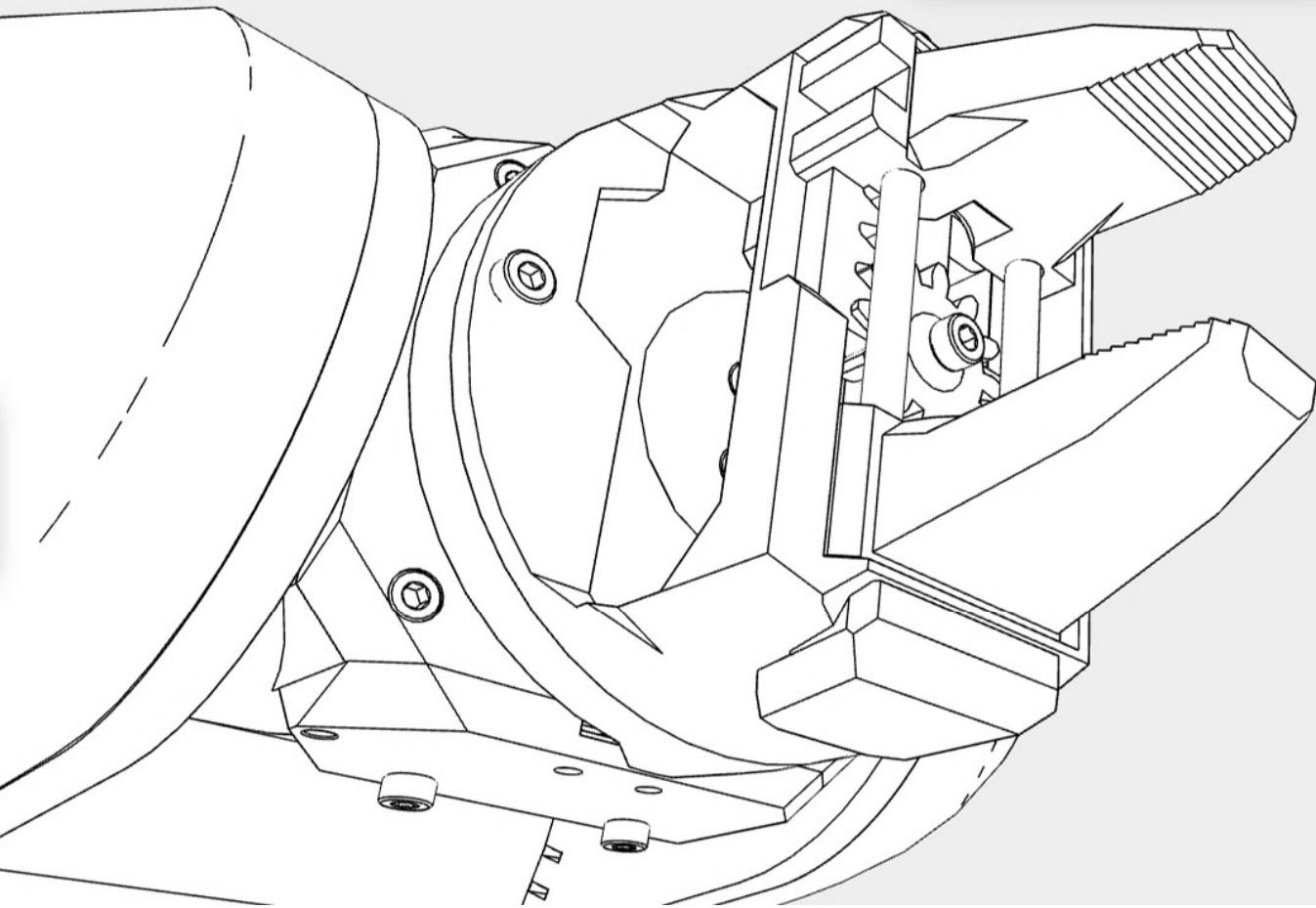


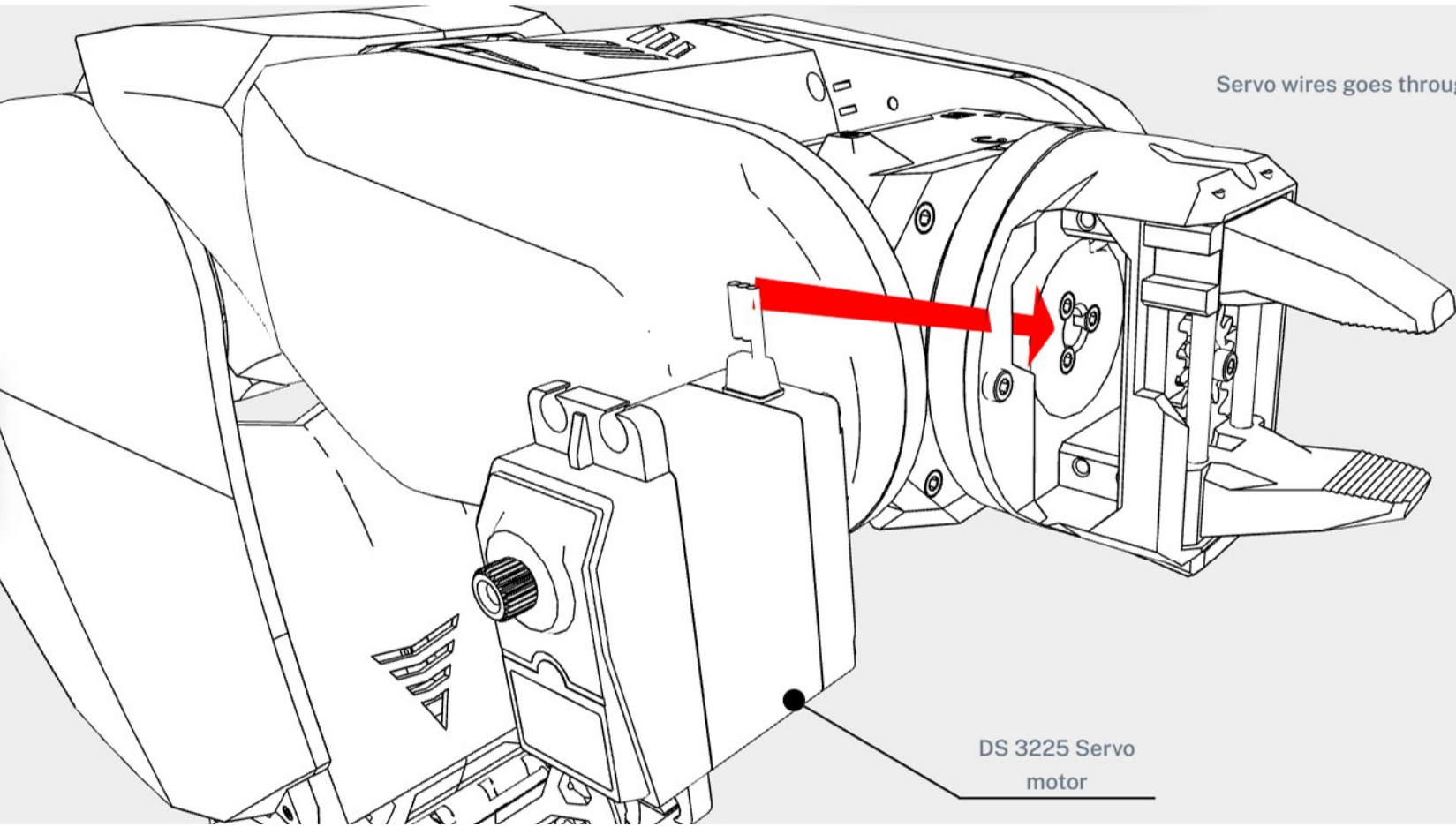




Gripper rods cap

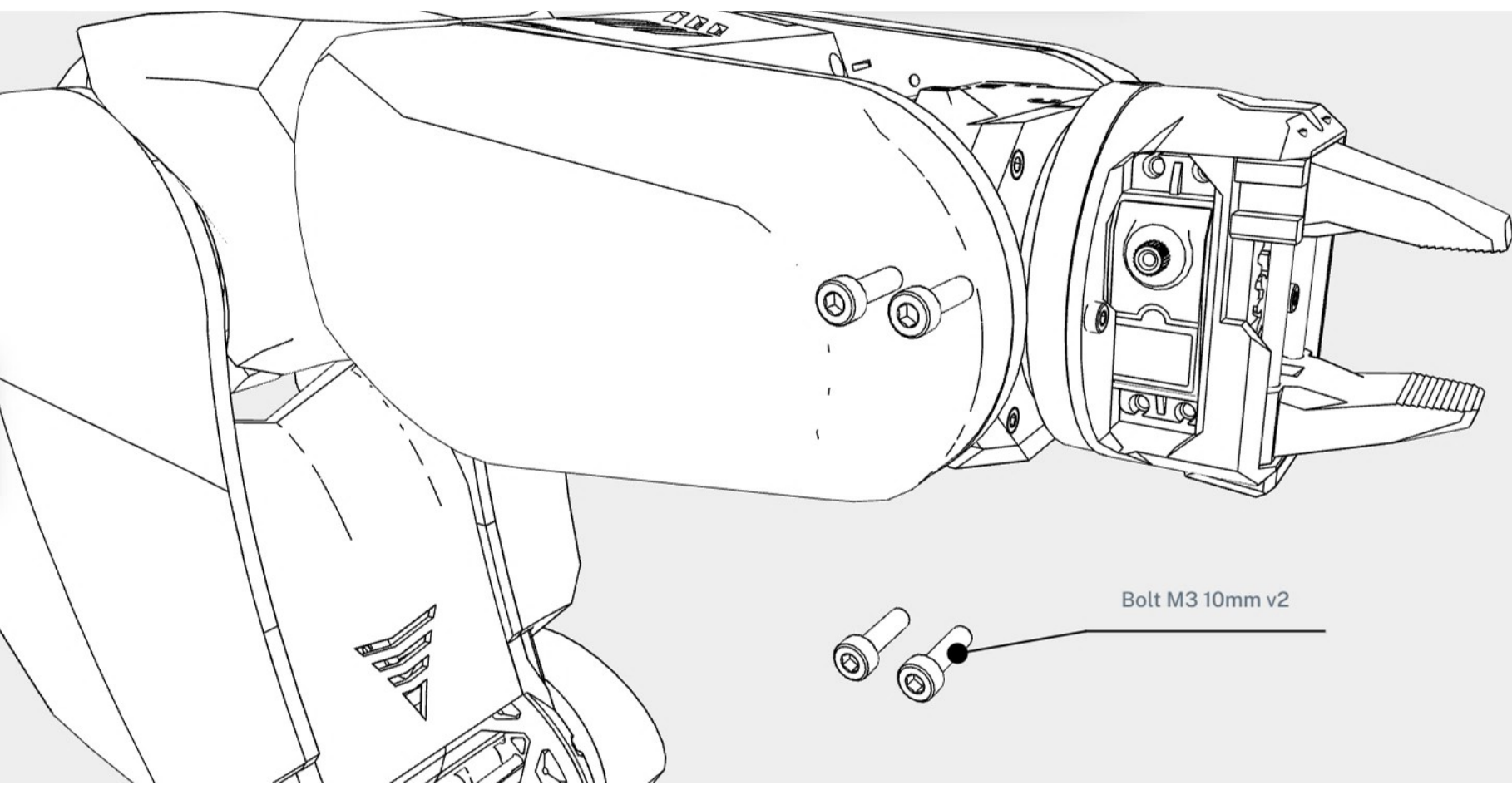




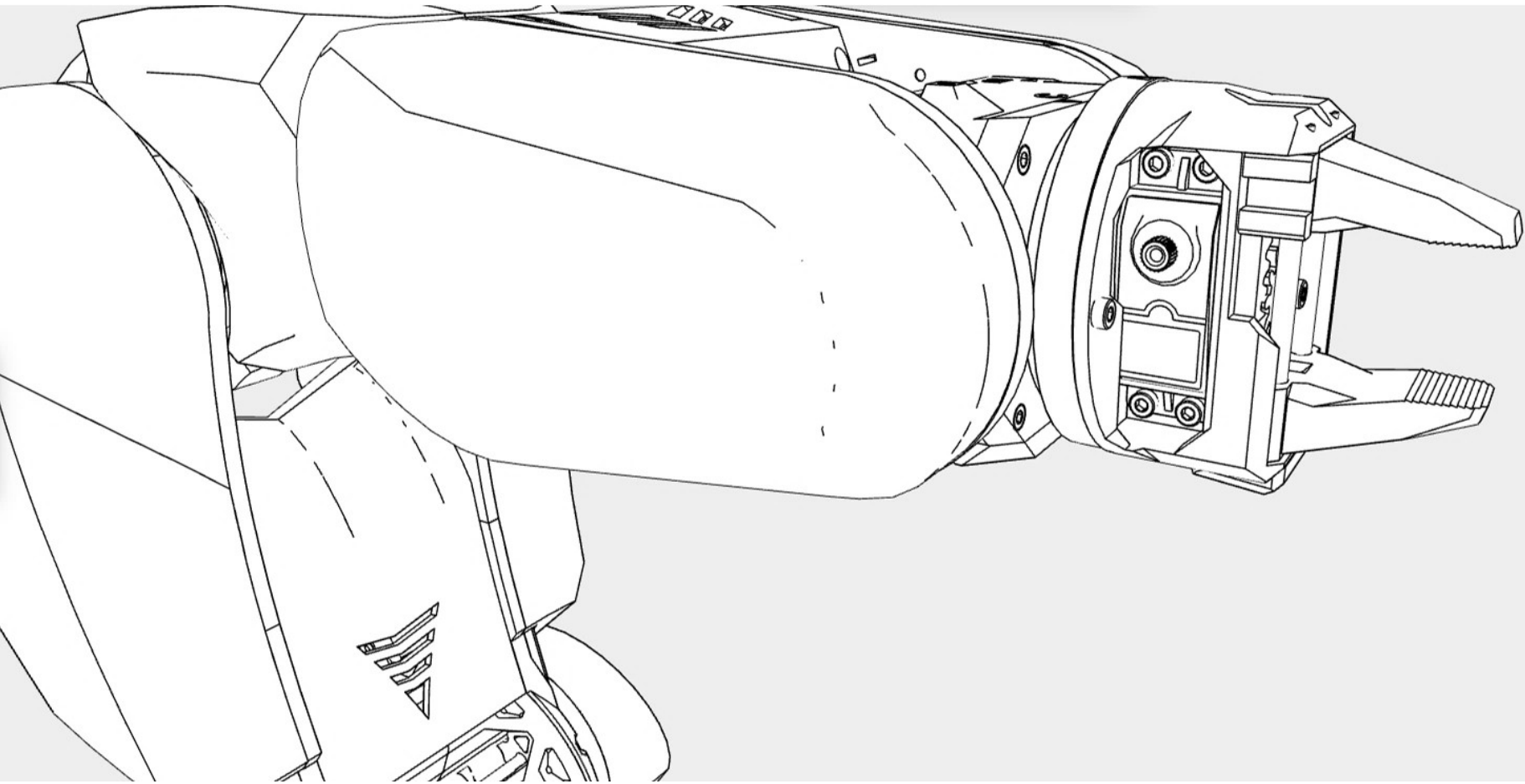


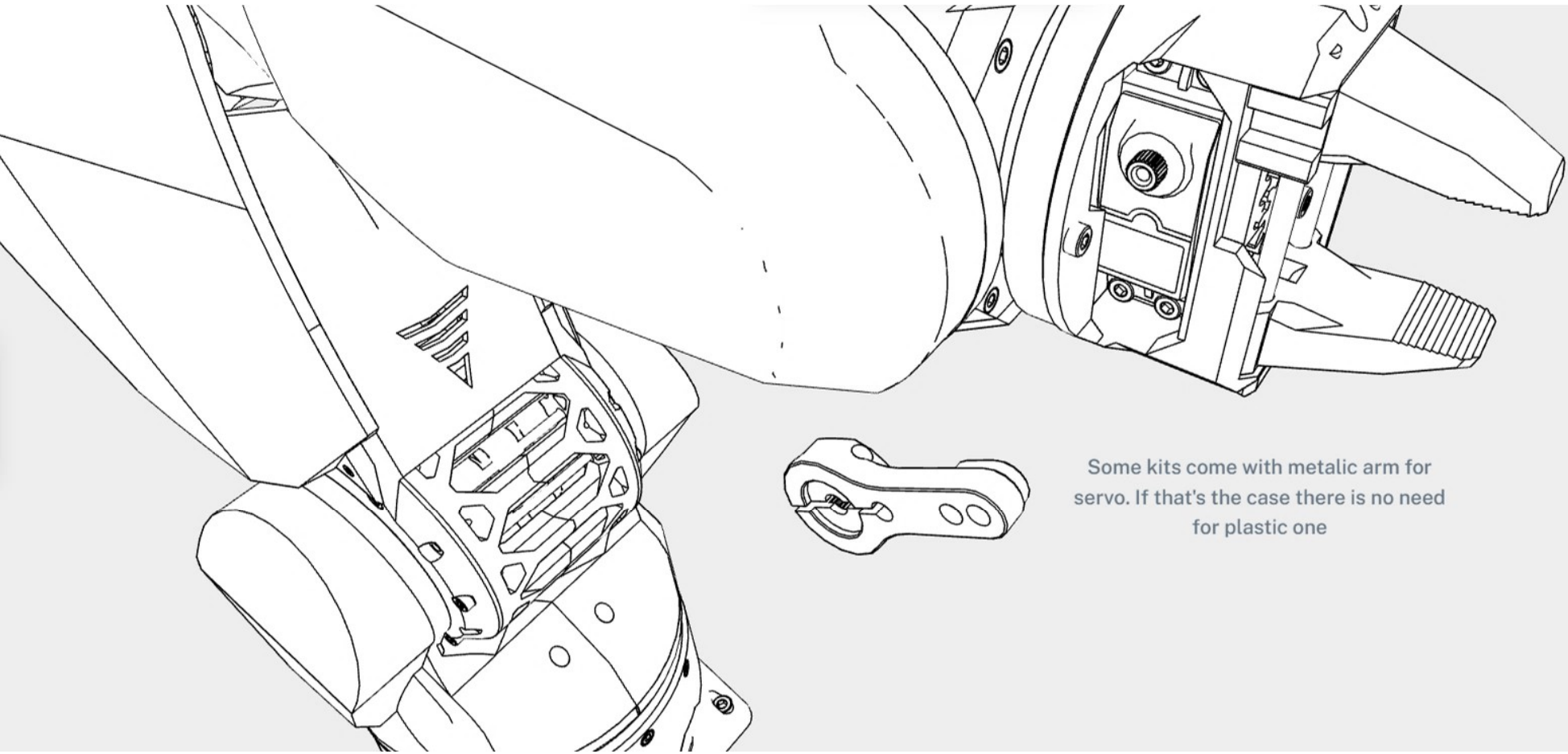
Servo wires goes through this hole

DS 3225 Servo
motor

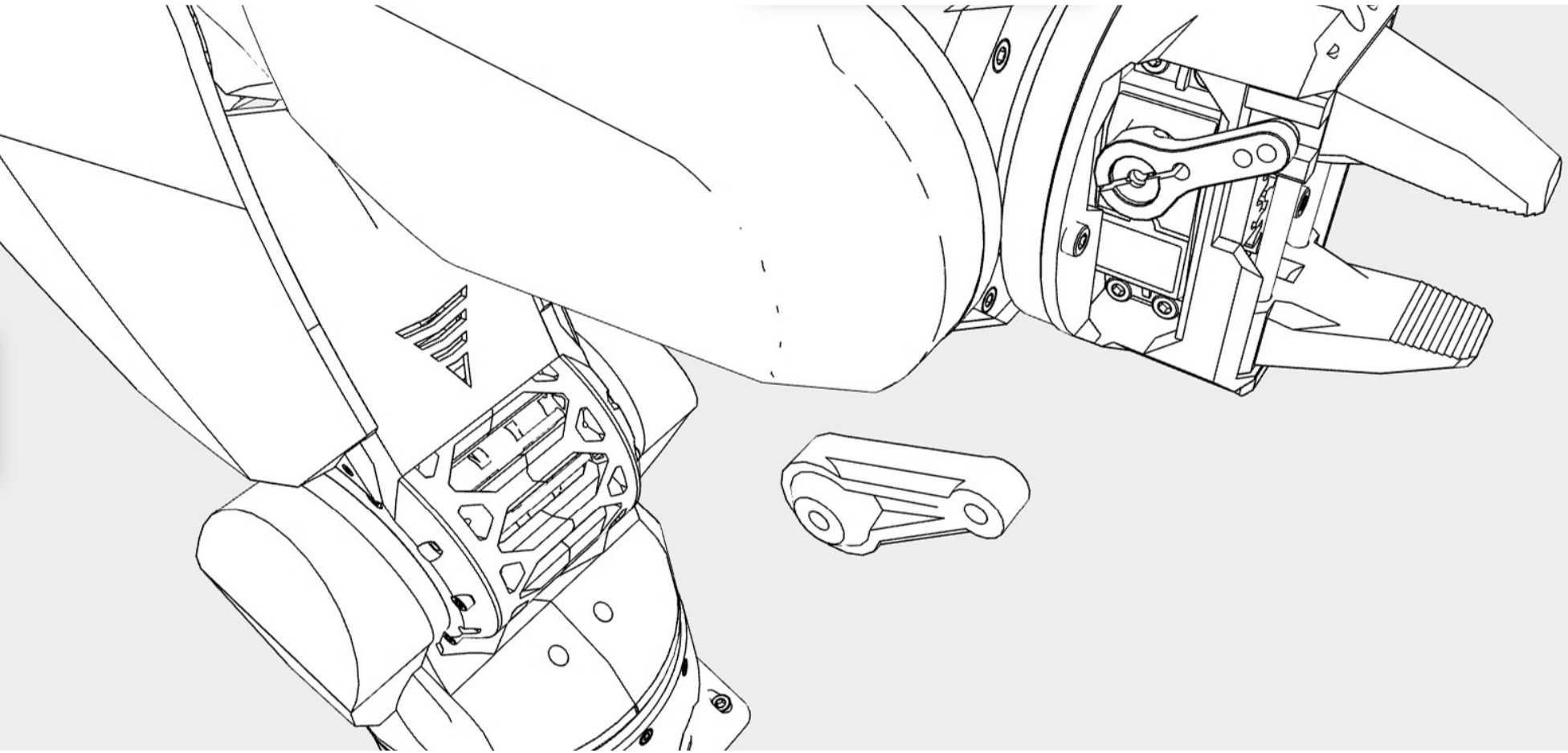


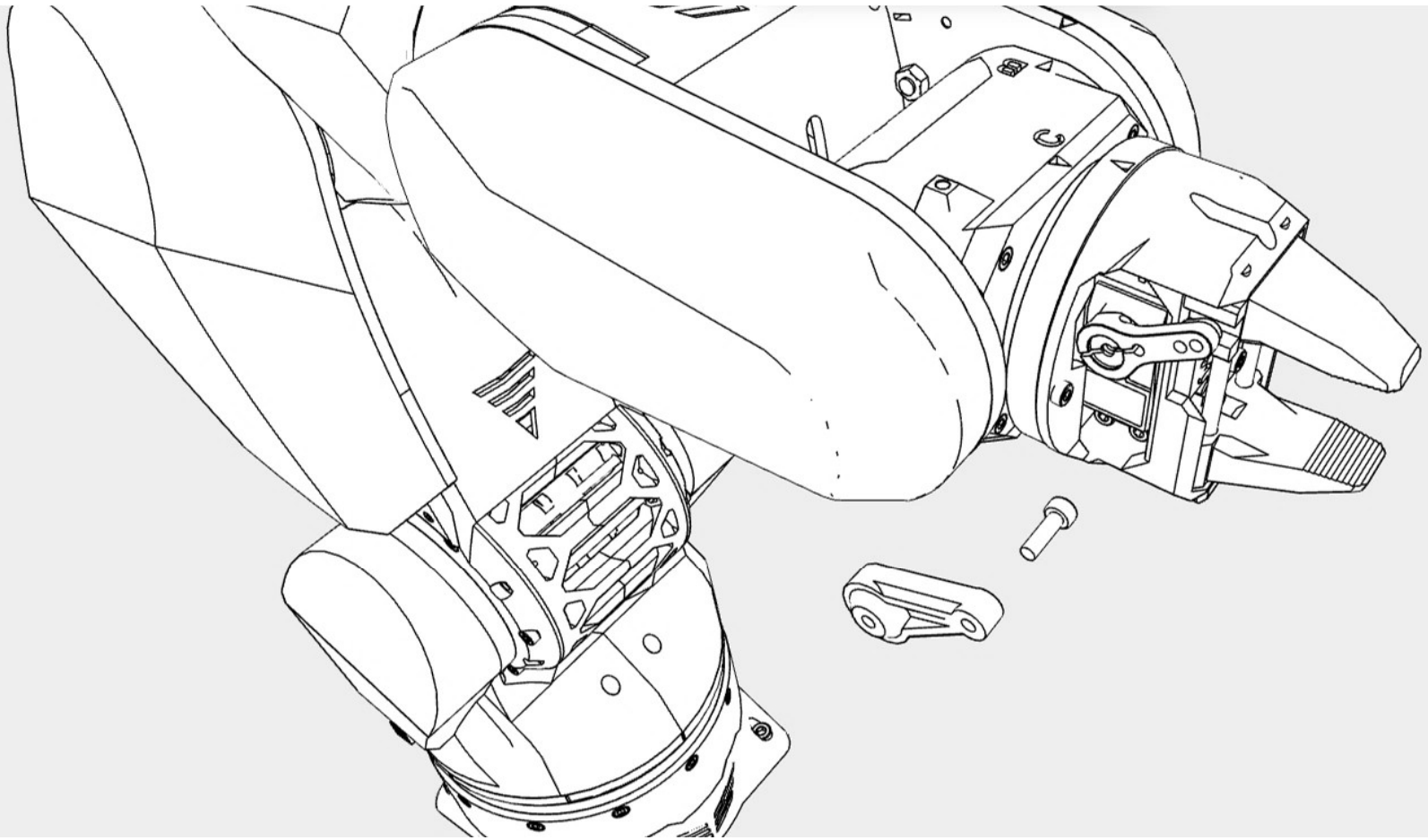
Bolt M3 10mm v2

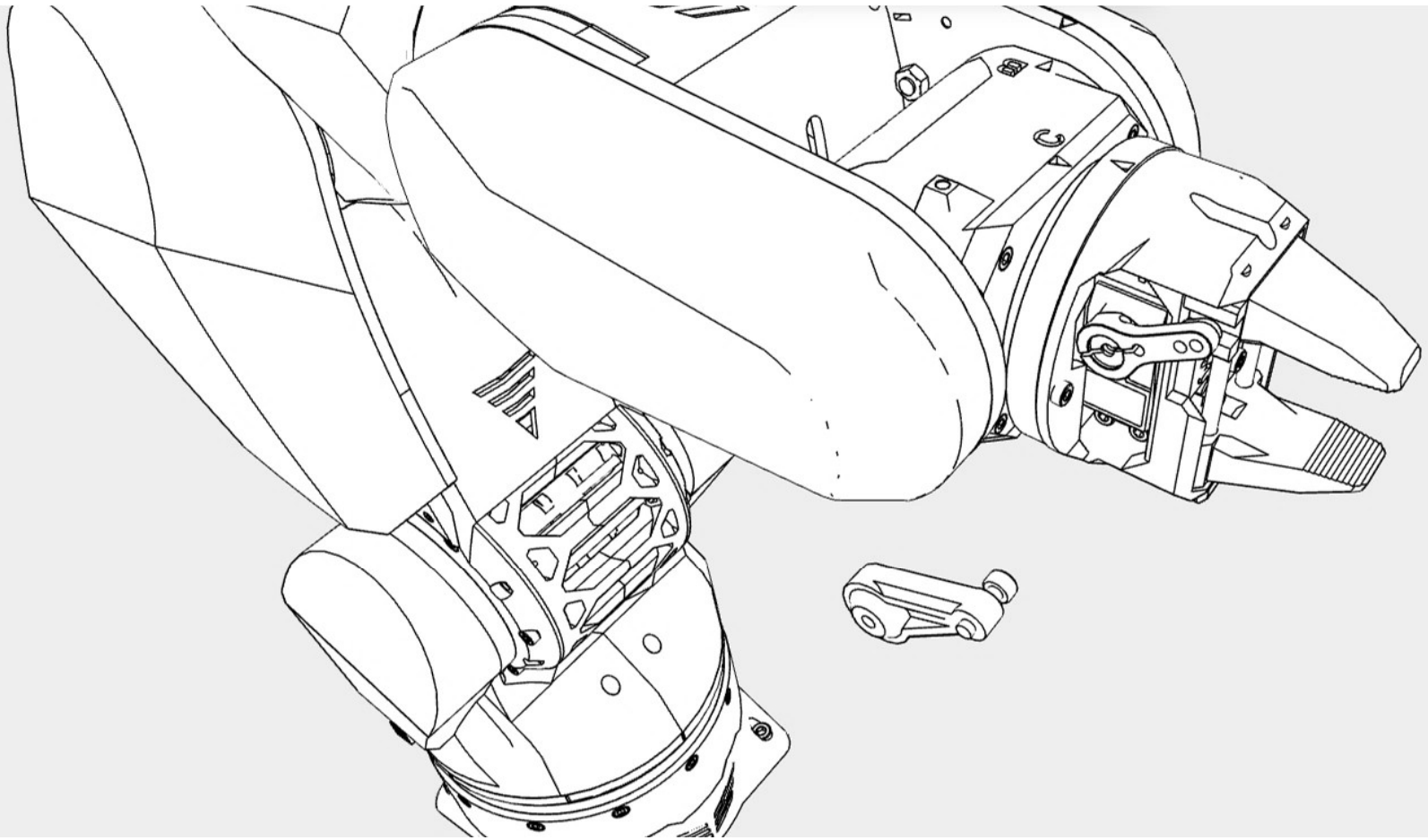


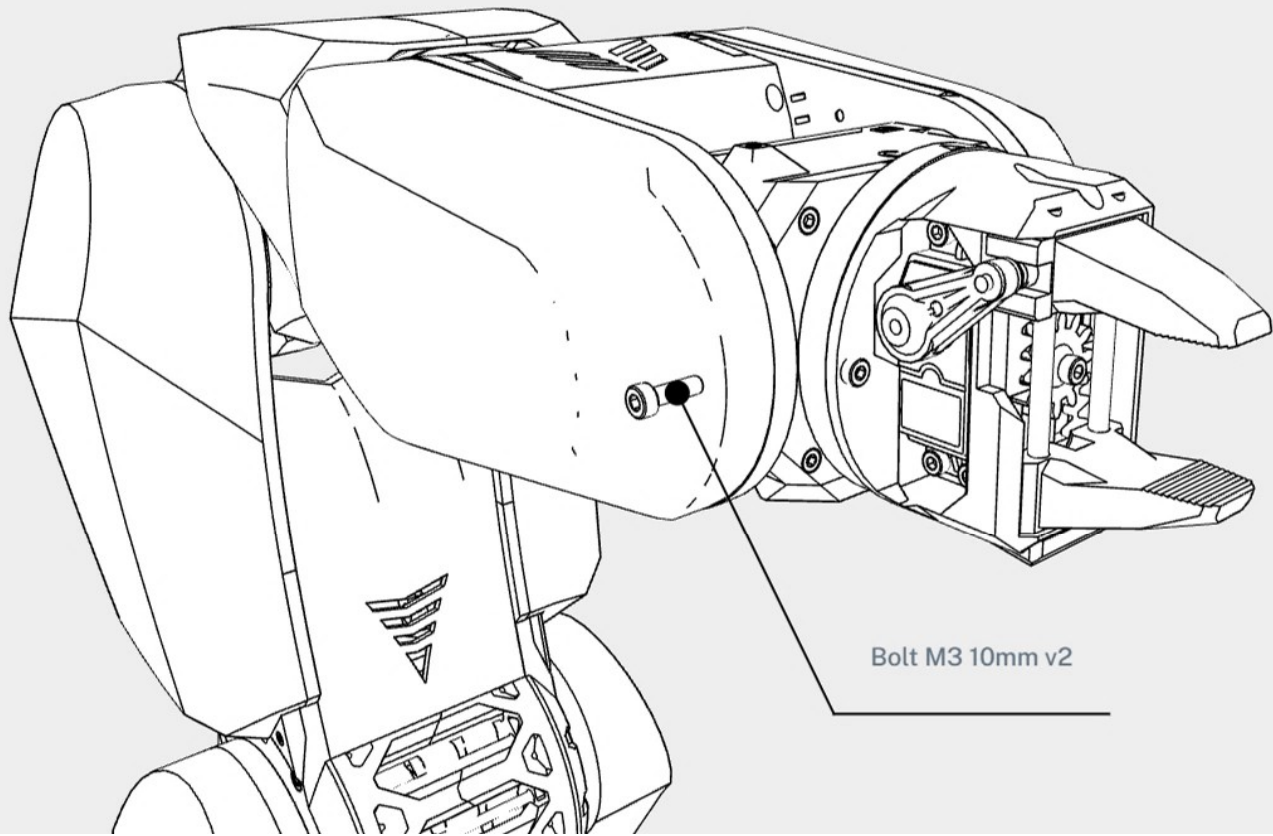


Some kits come with metallic arm for servo. If that's the case there is no need for plastic one

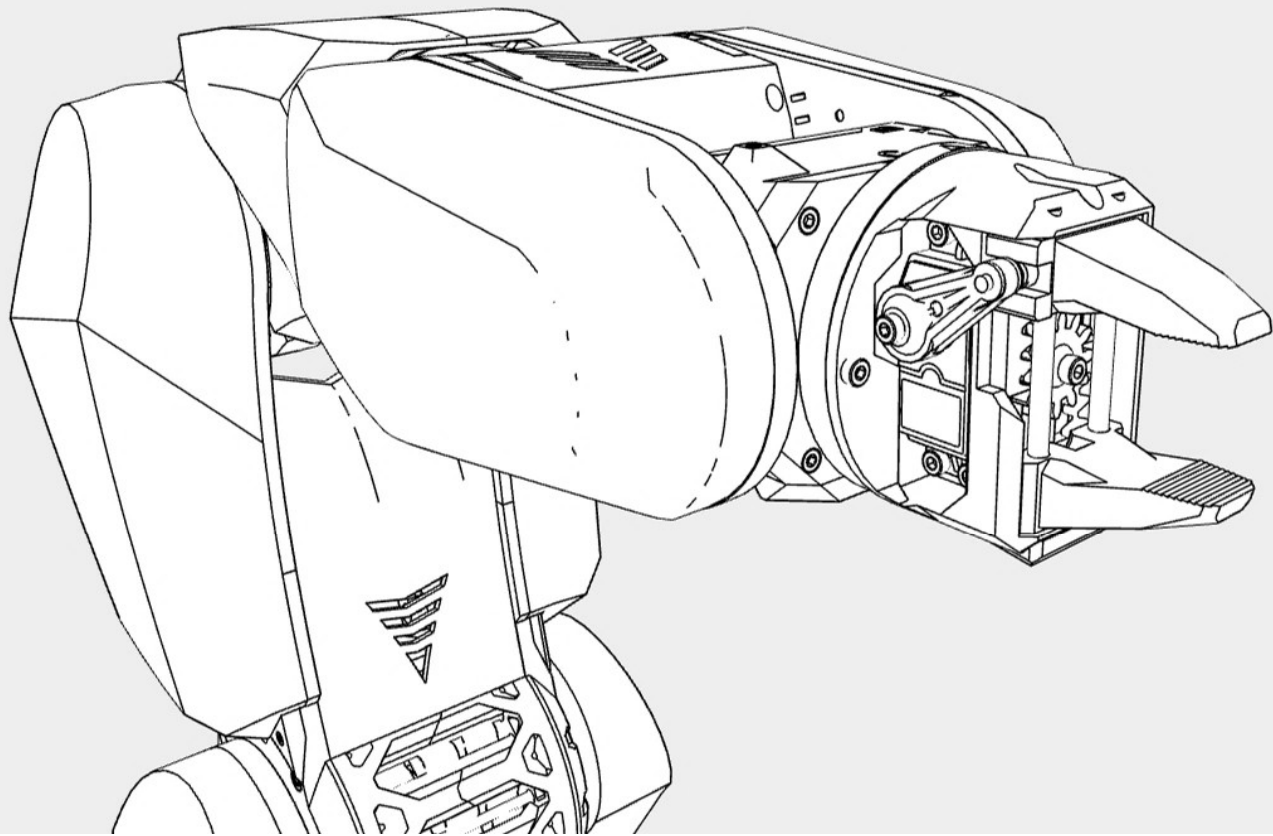


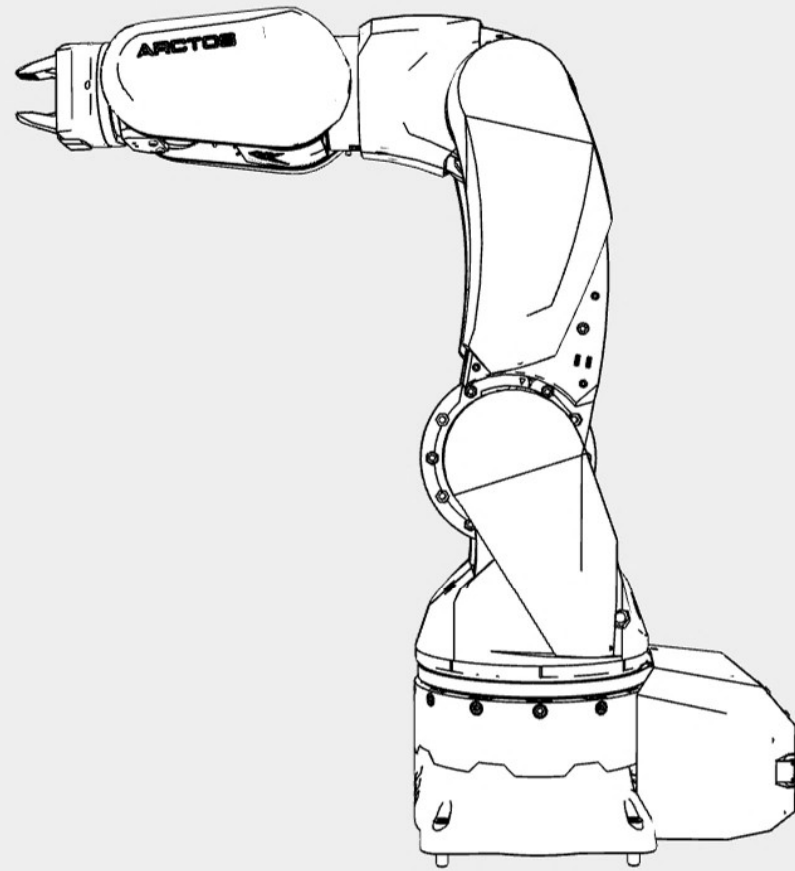






Bolt M3 10mm v2





ARCTOS assembly manual v 0.2.9 beta