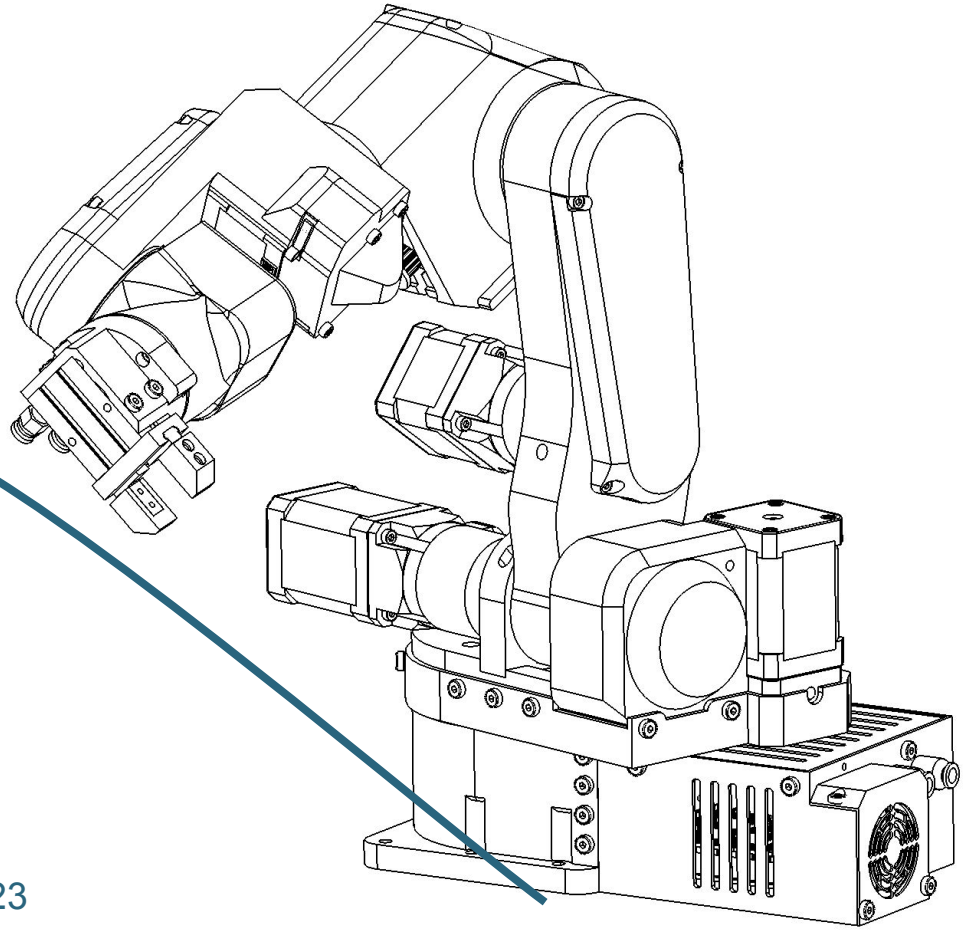
Source Robotics

PAROL6 ASSEMBLY MANUAL



Version 1.2, rev1, date 27.10.2023

Disclaimer important notice

Source Robotics

The PAROL6 robot arm and its associated part are specifically intended for engineering development, demonstration, or evaluation purposes. They are not considered to be a final product suitable for general consumer use. Individuals handling these products must have proper electronics and robotics training and adhere to good engineering practices. It should be noted that these goods may not fulfill all the required design, marketing, and manufacturing-related protective measures, including product safety and environmental considerations typically found in finished products. The PAROL6 robot arm is not compliant with the European Union directives concerning electromagnetic compatibility, restricted substances (RoHS), recycling (WEEE), FCC, CE, or UL. Consequently, it may not meet the technical requirements outlined in these directives or other related directives.

The user assumes full responsibility and liability for the correct and safe handling of the robot. Additionally, the user agrees to indemnify the Source Robotics team against any claims arising from the use or handling of the products. Given the open construction of the product, it is the user's responsibility to take all necessary precautions.

EXCEPT FOR THE INDEMNITY DESCRIBED ABOVE, NEITHER PARTY SHALL BE HELD LIABLE TO THE OTHER FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

Disclaimer important notice

Source Robotics

Before building this robot please read the whole manual! This machine can cause harm to you and people around you. It can burn, electrocute and physically hurt you if you are not careful. Please read these instructions carefully!



Also after reading and building this robot make sure to make yourself comfortable with robot control software and how to operate it!

License

Source Robotics

Robotic arms commander software: Link, STL files: Link and control board software are licensed under GPLv3 license!

PAROL6 STEP files and PAROL6 control board are not open source!

Assembly manual

Source Robotics

Welcome to the PAROL6 assembly manual. PAROL6 is 6 axis robotic arm aimed for education, research and small automation. It is made by Source Robotics, designed by Petar Crnjak

All additional information can be found here:

- Github project repository - most up to date BOM, parts, docs, manuals…
- Docs page - latest documentation on PAROL software
- Official company page - Source robotics

You can also ask help and advice from community:

- Official discord server: link
- Or send us an email at: info@source-robotics.com

And you can follow us on social media:



Assembly manual

Source Robotics

All screws shown are same size and only for reference. For correct size read the instructions stated on the page what screw to use. Some parts are not show; mostly bearings, small screws and belts but are referenced on the page of the building instructions.

This document only shows assembly manual, all other files like BOM, printing table, STL files can be found on GitHub page of the project.

All parts should be printed with PETG material. Reference printing table for optimal infills and printing settings.

Wires are not shown but detailed instructions are given on how to route the wires.

Belts are not shown but detailed instructions are given on how to attach them correctly.

This window shows what parts you will need on this page.

This window show building instructions.

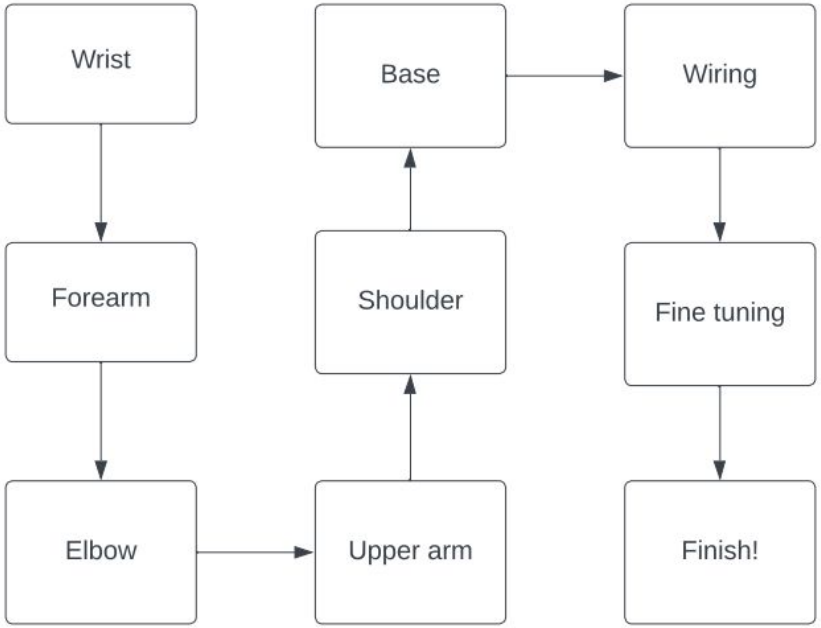
This window shows tips and notes.

Assembly manual - Road map on building PAROL6 and using it!

Source Robotics

Robot needs to be built from wrist to the base. That means we start by building the wrist then lower arm, elbow, upper arm and base. Any other order will not work. This needs to be done this way since all wires pass thru the the robot.

After assembling the robot it needs to be wired up to the PAROL control board. After that some fine tuning and testing can be done.



Assembly manual - Print preparation

Source Robotics

Some parts need to be printed with support. Before using those parts make sure to clean all support material.

Printer settings we used:

- Printer: Prusa MK2S
- Material: PETG
- Layer height:
- Support: Reference printing table
- Infill: Reference printing table

Assembly manual - Wire and pneumatic tube preparation

Source Robotics

Wires for gripper need to be twisted pair wires.
Try to follow these guidelines on how much wire length you need to have for every part of the robot.
Wire lengths:

- Motor joint 1 - 4 wires 1 meters
- Sensor joint 1 - 3 wires 1 meters
- Motor joint 2 - 4 wires 1 meters
- Limit switch joint 2 - 2 wires 1 meters
- Motor joint 3 - 4 wires 1 meters
- Limit switch joint 3 - 2 wires 1 meters
- Motor joint 4 - 4 wires 1 meters
- Sensor joint 4 - 3 wires 1 meters
- Motor joint 5 - 4 wires 1 meters
- Limit switch joint 5 - 2 wires 1 meters
- Motor joint 6 - 4 wires 1 meters
- Sensor joint 6 - 3 wires 1 meters
- Pneumatic tubes - 2 tubes 1 meters
- Gripper wires - 4 wire 1 meters (2 twisted wire pair)

Since robot is built from the wrist to the base of the robot you will have more and more wires as you reach the end. To keep it clean and easy to assemble before adding next link wrap group of wires with insulation tape (we used cloth fabric tape). For example after finishing lower arm assembly wrap Joint 6 motor with tape, Joint 5 motors with tape… Try to use tape of different color to mark different joints. This will help you A LOT when you will need to wire up the robot. When you assemble the robot you will have more length of the wires than you need cut them so you can wire the control board and keep everything clean. Usually after the wires exit the base of the robot they need to have extra 8 cm. For tubes leave 15 cm.

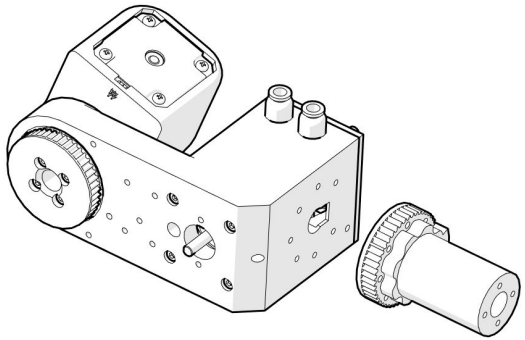
Assembly manual - Screws and attaching parts

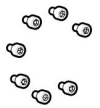
PAROL6 uses M3 -M5 screws to attach parts. Most functional print to print attachments are done with a crew and an undersized 3D printed hole.
For example on image at the right side we are attaching two 3D printed parts that will carry load and are not esthetic parts (esthetic parts are for example covers and robot will work without them). Screws are in this example M3 screws and holes are undersized to 2.7-2.8mm that means that when we screw in the screws we are tapping holes in 3D printed parts.
There are multiple benefits to this:

- Connection is strongest compared to tapping holes with a tap or using brass inserts
- It is simple and fast
- No need to prepare the hole, it can be printed undersized

Cons are that you can't disassemble it a lot of times. In case you feel screws slipping in the hole. Put some super glue in the hole and wait for it to cure. After that re tap the hole.

Most metal to metal parts require no preparation. For example attaching stepper motors or gearboxes. Those parts already have threaded holes. Attaching shaft couplers to motor shafts requires blue threadlocker. This will be discussed more, later in assembly manual. It is also recommended to apply threadlocker to any screw that pairs with metal. So any screw that connects to the motors and gearboxes





Assembly manual - Needed tools

Source Robotics

Tools you will need to assemble this robot:

- Screwdriver set
- Drill
- Soldering iron
- Imbus wrench (Allen key / HEX key) set
- Torque screwdriver
- Rubber hammer
- Hammer
- Pliers

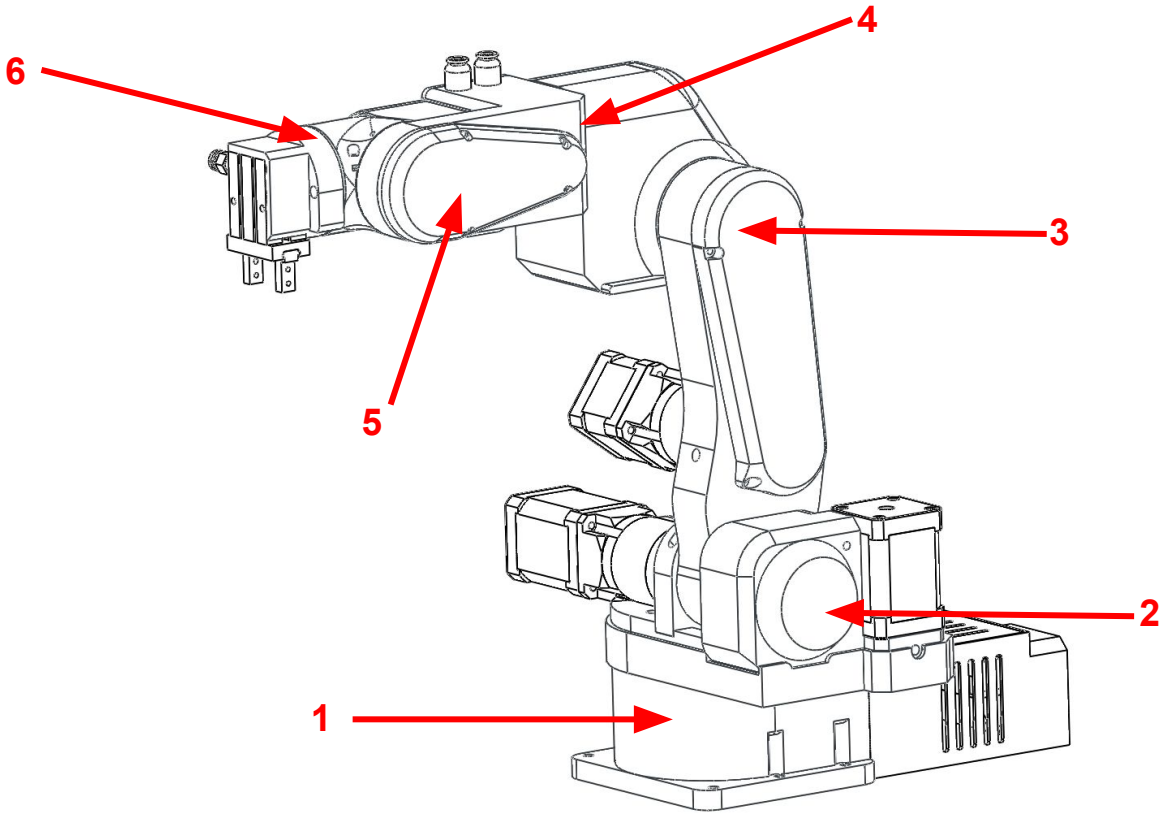
For screwing we recommend using an electric screwdriver and then precision torque screwdriver or last few turns by hand. If you use drill or electric screwdriver for all the parts you risk destroying your threads.

Assembly manual - Needed consumable items

Source Robotics

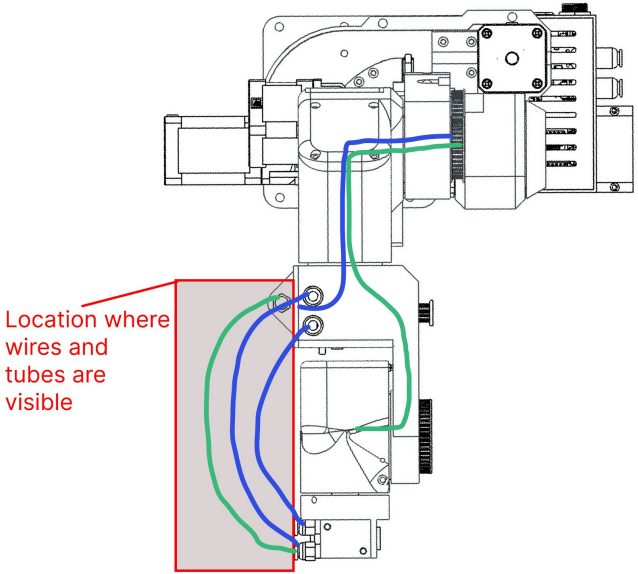
- Blue threadlocker
- Lithium grease
- Insulation tape
- Solder
- Heat shrink tube
- Wire harness
- Cloth Fabric Tape

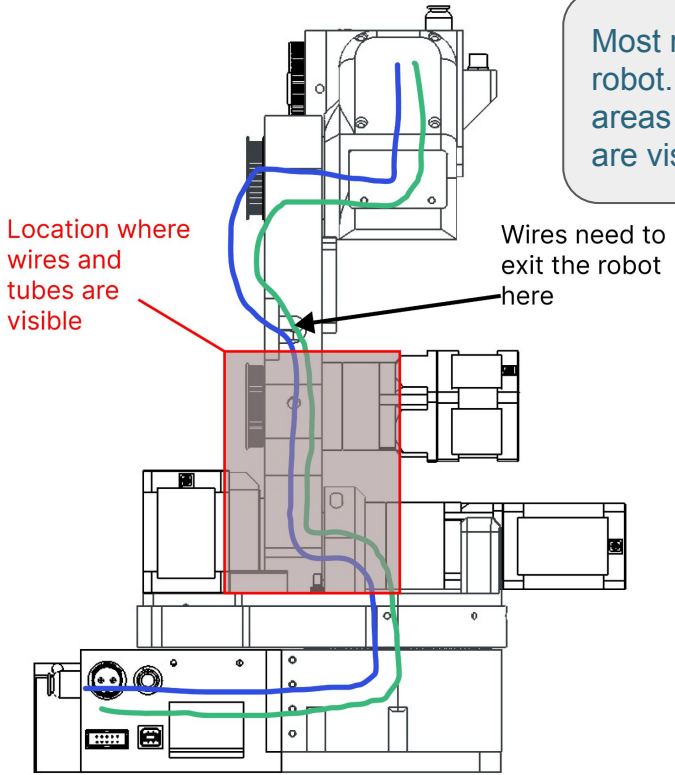
Assembly manual - Joint numbering and names



Assembly manual - Wiring

Source Robotics



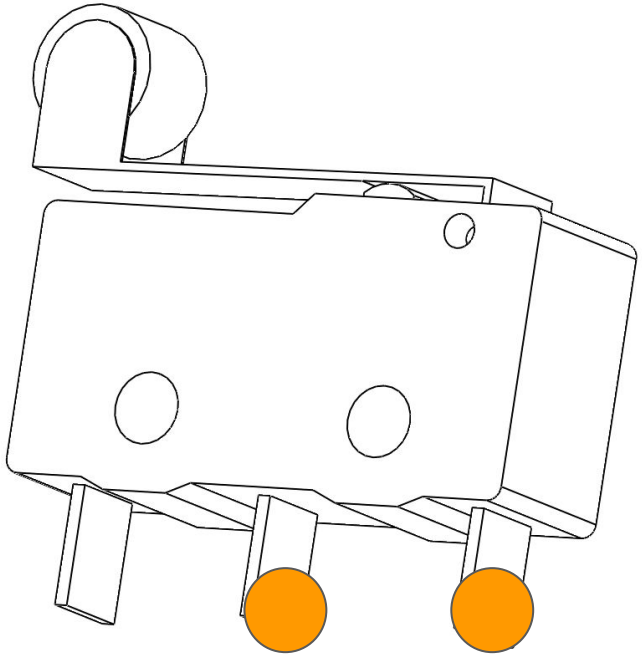


Most robot wires go thru the robot. Only the red marked areas are where robot wires are visible.

Source Robotics

Preparing parts

Limit switches



Attach limit switch wires to contacts indicated with orange. Apply heat shrink tube on the solder joints. Length of the wire needs to be 1 m.

Source Robotics

Additional notes

Additional notes

- In case a belt is not tight enough you can always add additional tension bearings.
- When assembling the robot there is a lot of wires. As you go wrap them in the one single wire harness with insulation tape or cloth tape.
- If during the assembly process the tape gets in the way remove it and add it after that assembly step.
- try to mark the wires so you know what is what after you built the robot.
- Belt tension is done with Ball bearing 3x8x4 and Ball bearing 3x10x4 ball bearings. depending on how much tension you want you can choose any combination. They need to be 2 in pair always on a screw of 14 - 20 mm length ——————————>
- It is recommended for screw to follow ISO 4762 specification.
- **SCREWS USED TO ATTACH GEARBOX TO MOTOR ARE THE ONES YOU GET WITH THE GEARBOX**



Additional notes

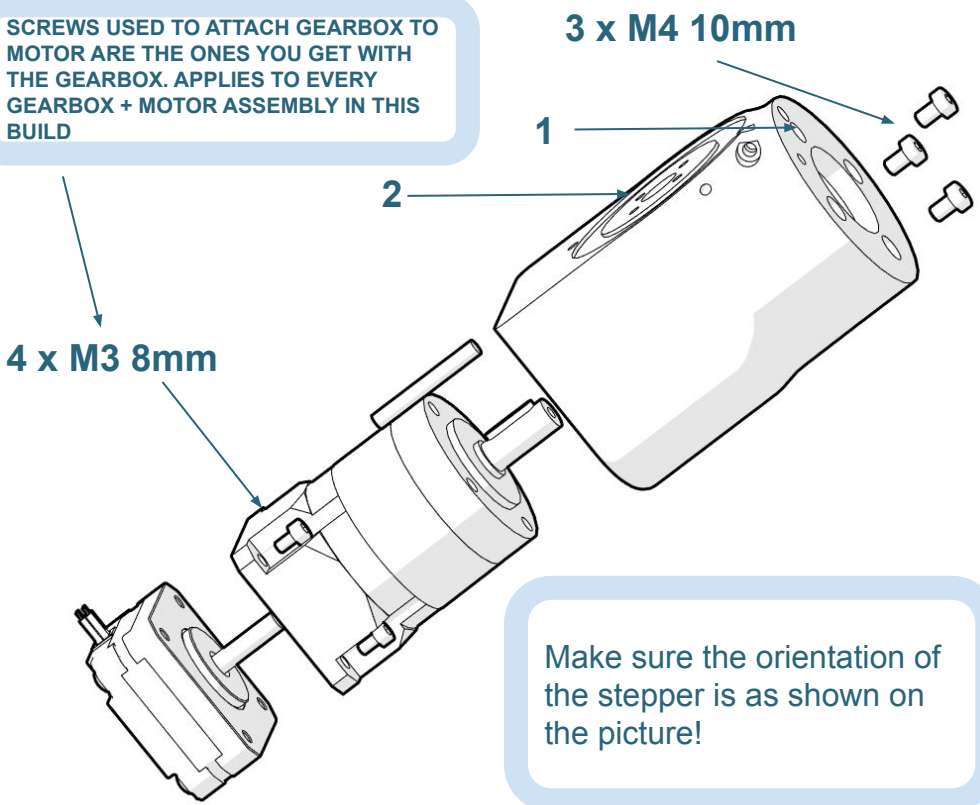
Parol6 robotic arm needs homing since it uses open loop-stepper drivers. Joints 1,4 and 6 are homed with inductive sensors. Homing is done with small screws that trigger the sensor when it gets close to it. You need to find “sweet” spot where the sensors trigger.

Source Robotics

Wrist assembly

Wrist assembly

SCREWS USED TO ATTACH GEARBOX TO MOTOR ARE THE ONES YOU GET WITH THE GEARBOX. APPLIES TO EVERY GEARBOX + MOTOR ASSEMBLY IN THIS BUILD



Make sure the orientation of the stepper is as shown on the picture!

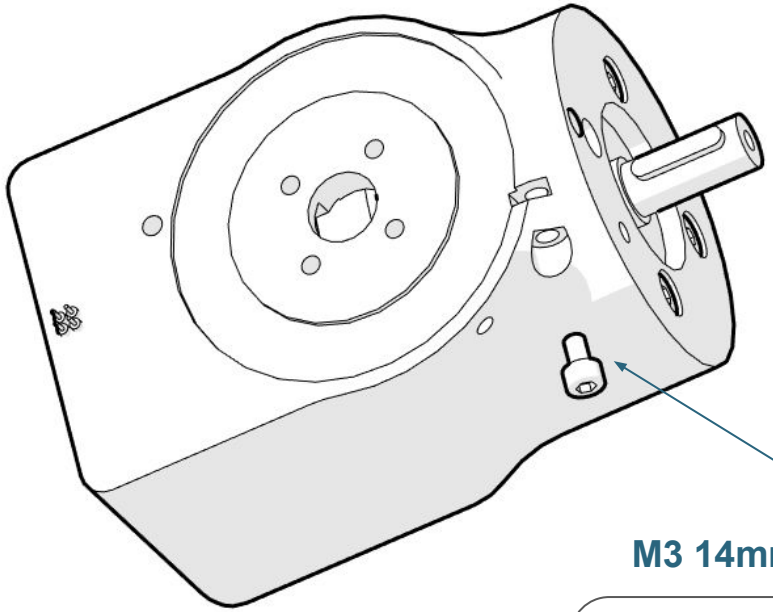
Wrist
Gearbox 10:1
Stepper1
Sensor1
3 x M4 10mm
4 x M3 8mm

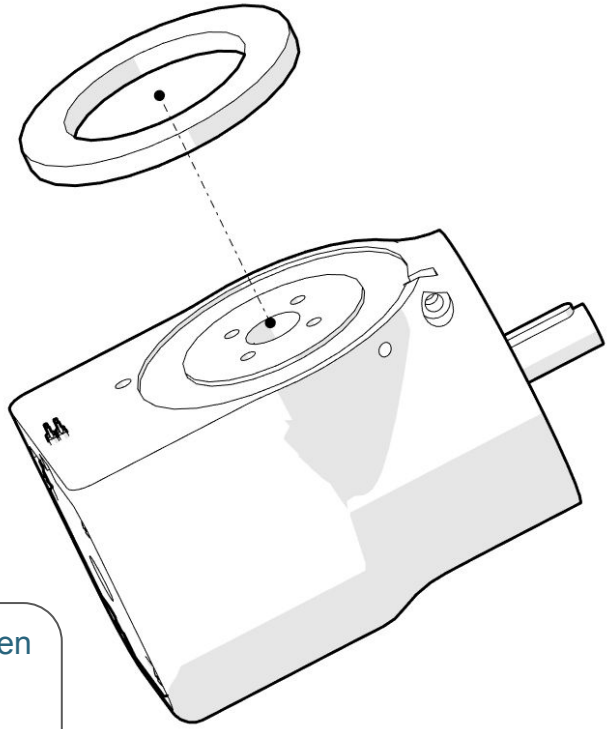
First attach stepper 1 to the gearbox. The gearbox comes with its own coupler that need to be tightened with 2 set screw. Holes to tighten those screws are on the side of the gearbox.

Now press fit sensor 1 in wrist part. It needs to lay flat on top part of the wrist as indicated by arrow 1.

Wires for the motor and sensor need to exit from the hole market with arrow 2.

Wrist assembly





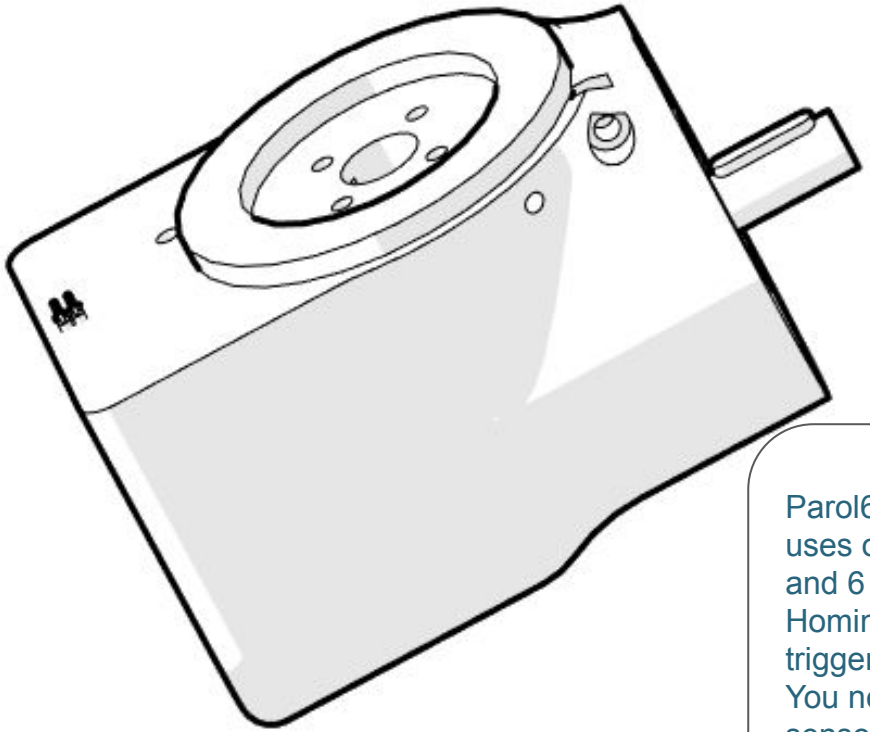
M3 14mm

Bearing 1
*M3 14mm
*M3 nut

If the sensor is loose you can tighten it with M3 nut and a screw.

Attach bearing 1 to wrist part.
Assembled part is on the next page.

Wrist assembly

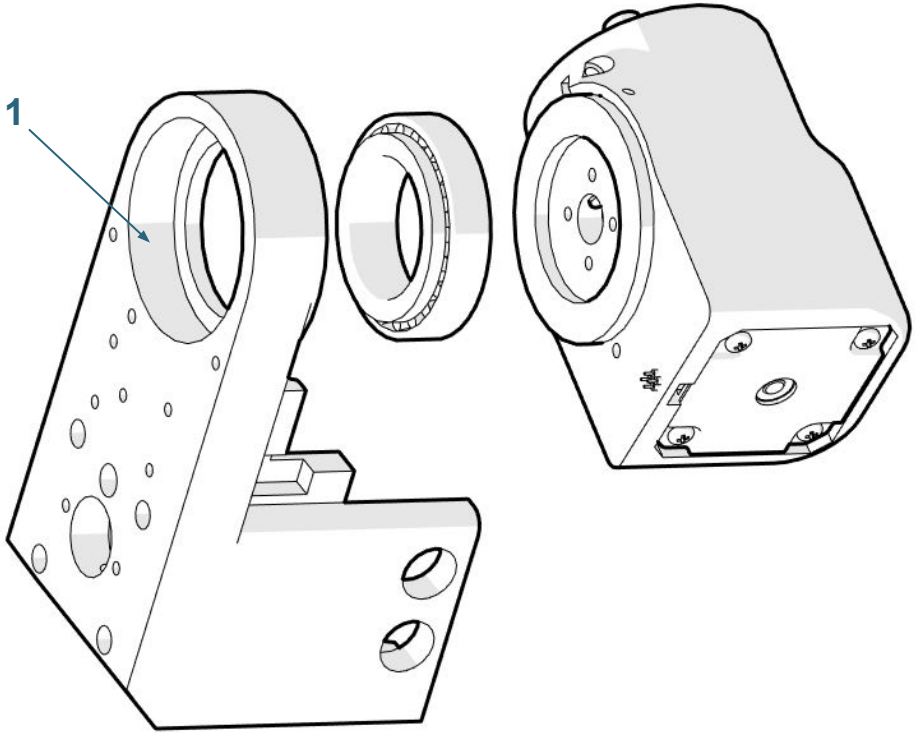


Parol6 robotic arm needs homing since it uses open loop-stepper drivers. Joints 1,4 and 6 are homed with inductive sensors. Homing is done with small screws that trigger the sensor when it gets close to it. You need to find “sweet” spot where the sensors trigger.

Source Robotics

Forearm assembly

Forearm assembly

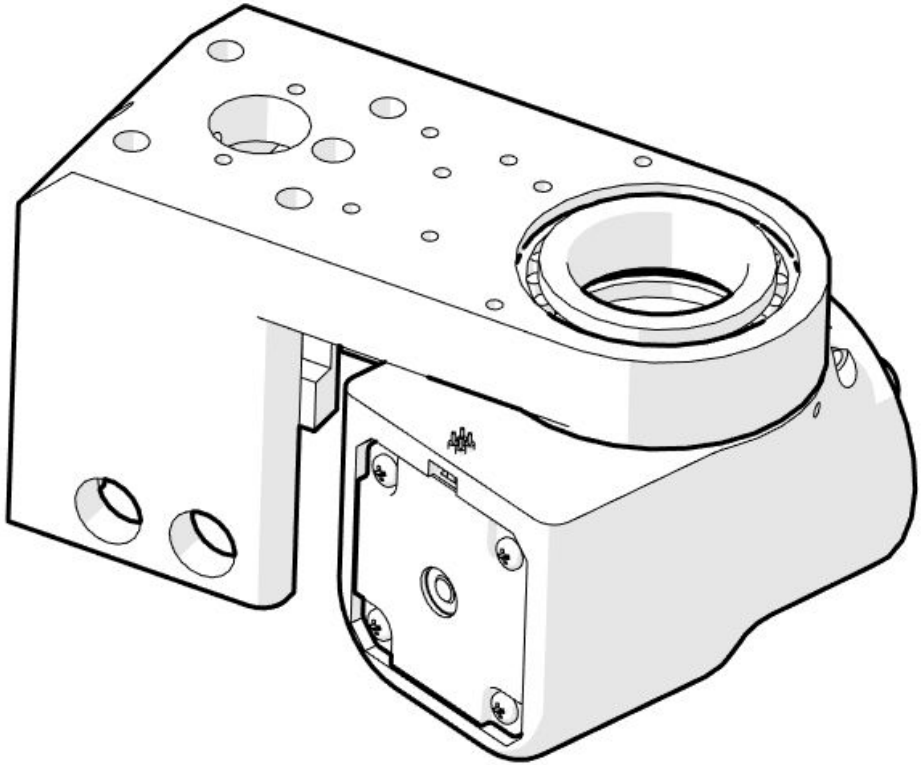


Bearing 2
J5_part

Bearing 2 need to go in the groove marked with arrow 1.

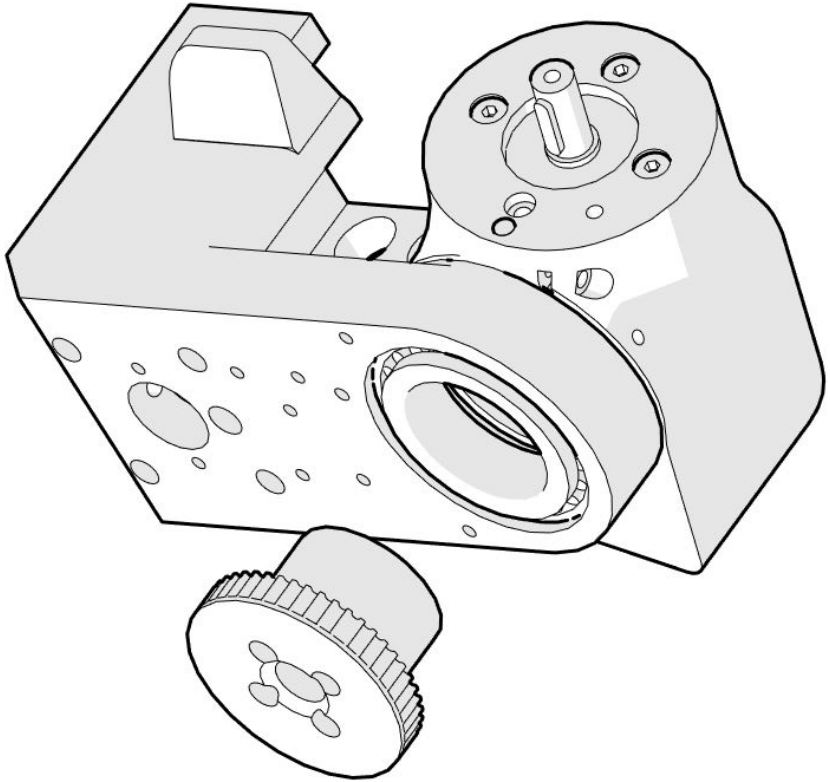
Assembled part is on the next page.

Source Robotics



Hammer in the bearing with rubber hammer. Another option is to use screwdriver and gently tap with a hammer on the whole circumference of the bearing.

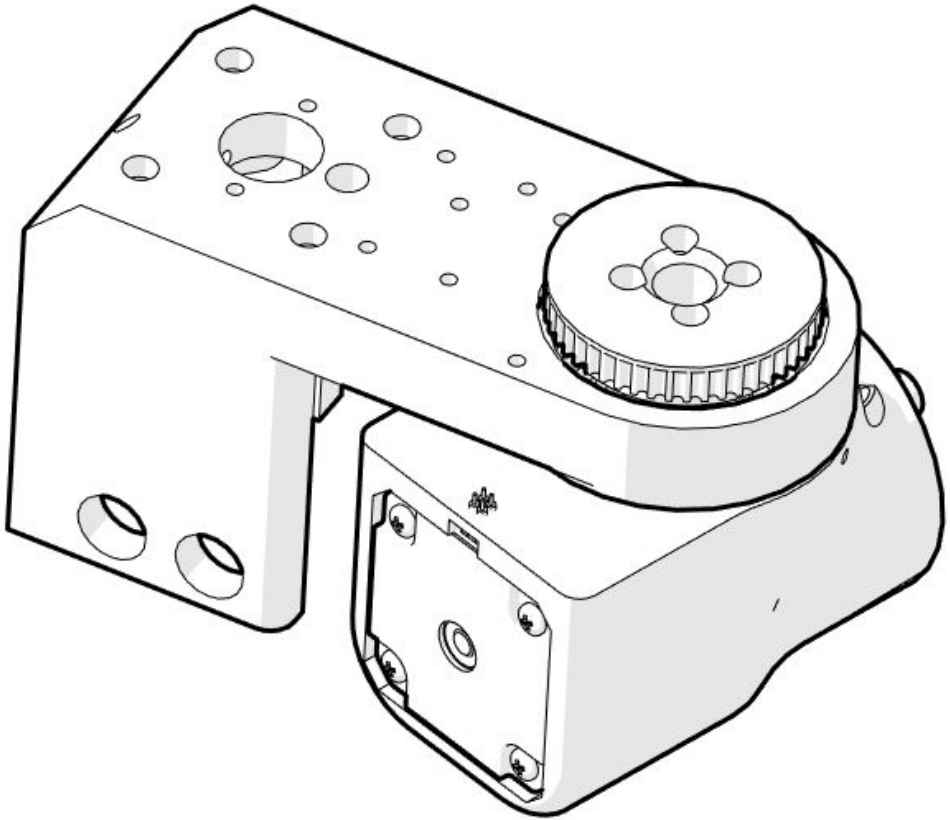
Forearm assembly



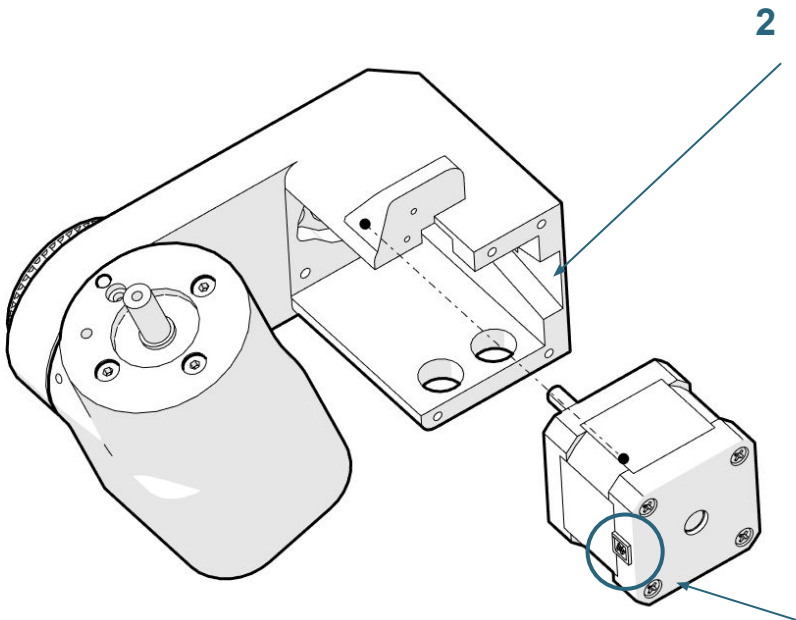
HTD3_48_J5_pulley

Pull all then wires from J6 thru the pulley and the bearing! Assembled part is on the next page.

Forearm assembly



Forearm assembly



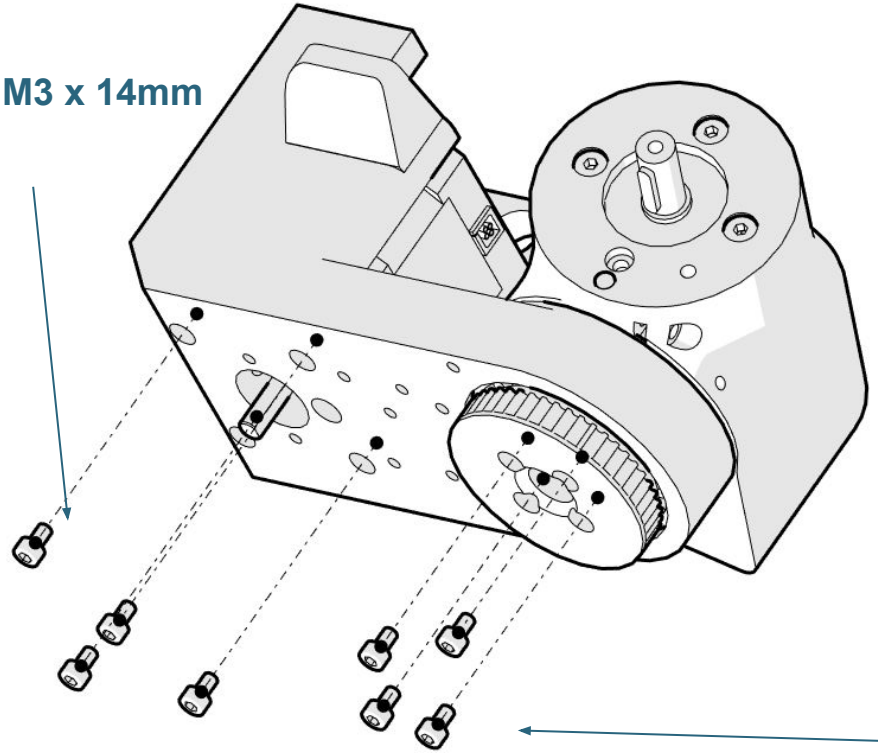
Stepper 2

Stepper wire, all other wires and pipes need to go thru the wires guide marked with arrow 1 and then thru a hole on J5 part.

Stepper orientation is wrong on this image. Flip it 180 degree so that wires go thru the hole where arrow 2 points

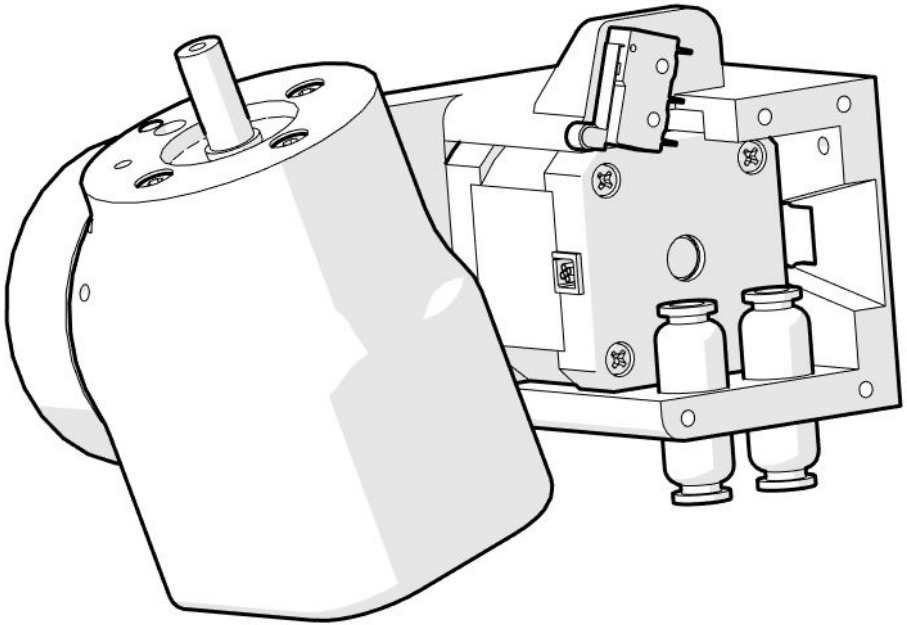
Forearm assembly

Source Robotics



4 x M3 x 25 mm
4 x M3 x 14mm

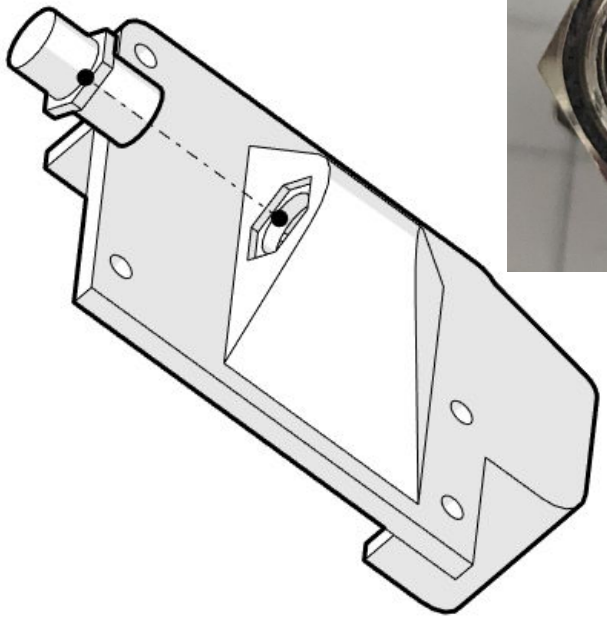
Forearm assembly



2 x Pneumatic connector 1
Limit switch
2 X M2 x 10mm

Limit switch needs to be secured with M2 screws. Wires need to go thru a hole in J5 part. Pneumatic connectors need to be secured with provided nuts. Pneumatic tubes go thru a hole on J5 part.

Forearm assembly



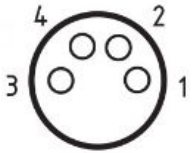


J5_electronics_lid
Gripper connector electric

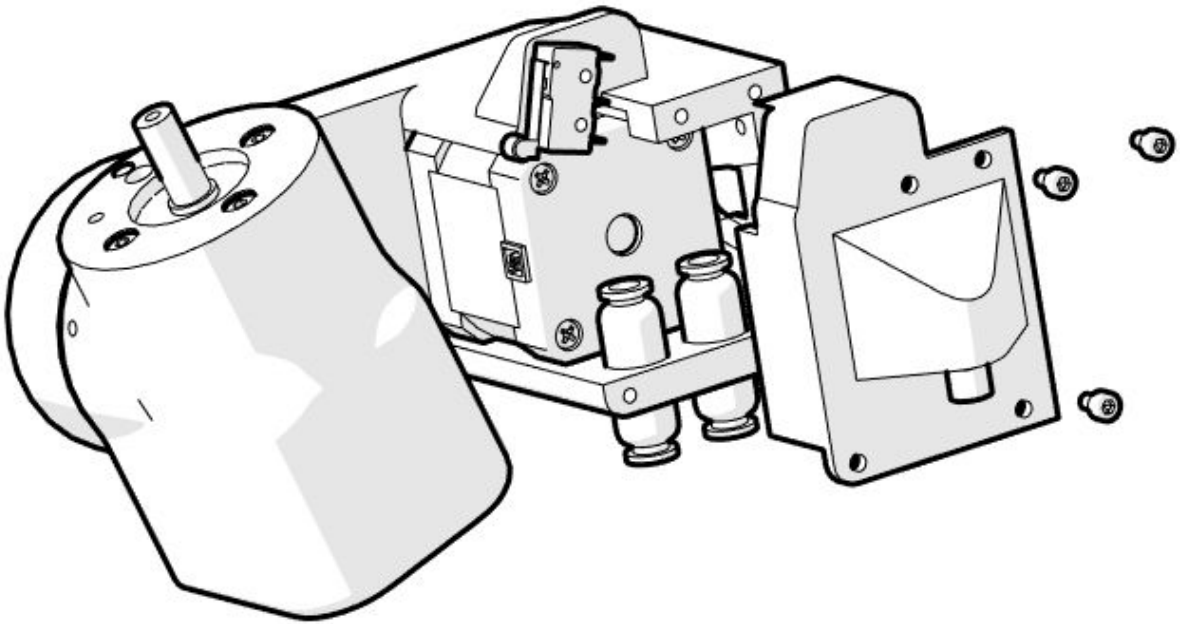
On the gripper connector solder 4 wires of length 1m.
2 wires need to be twisted pair for the can bus.
Use heat shrink on solder joints. After placing gripper connector in lid use provided nut to tighten connector to the lid.

Solder 4 wires to 4 pin connector. Use this pinout:

1- 24V
2- CANH
3 - GND
4 -CANL



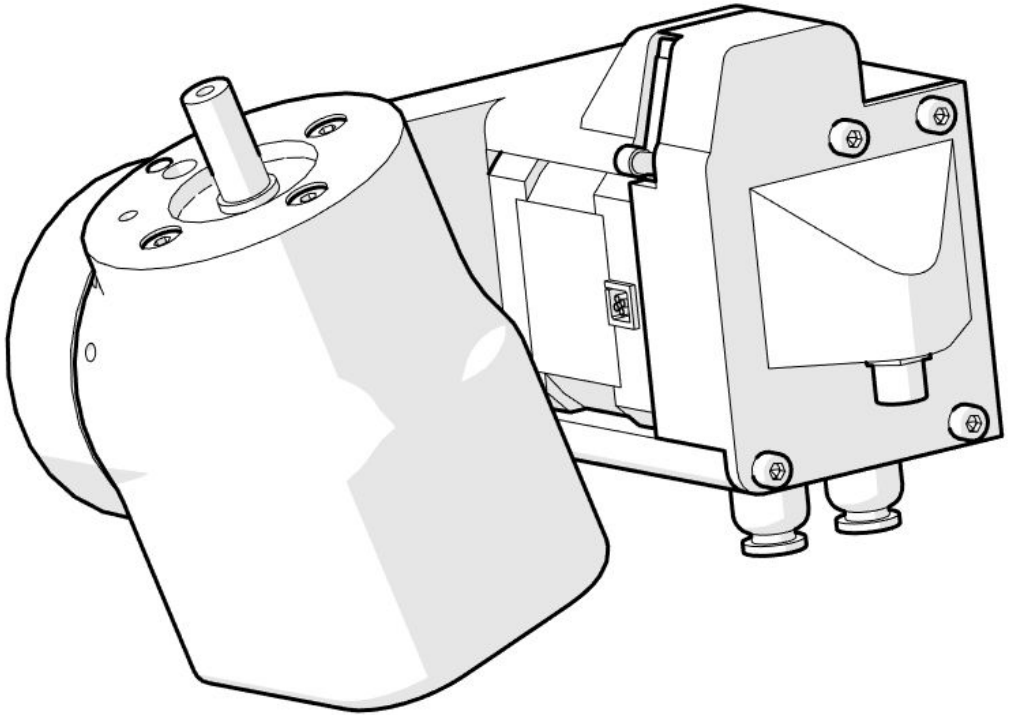
Forearm assembly



4x M3 8 mm

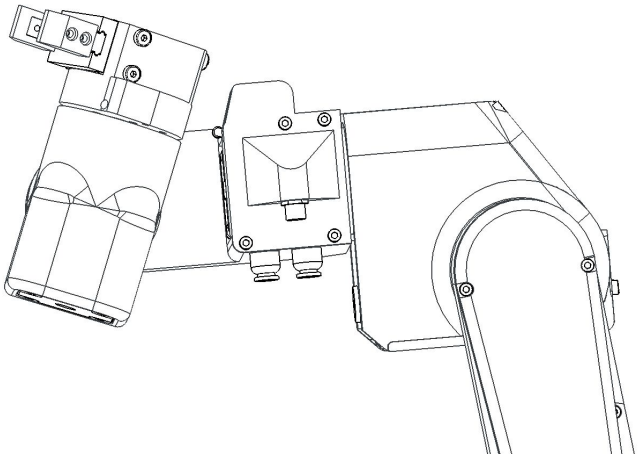
Assembled part is on the next page.

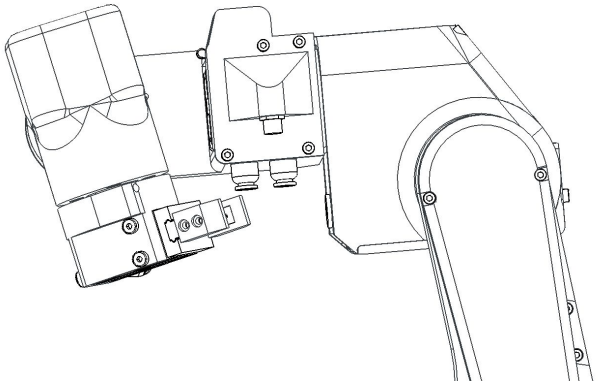
Forearm assembly



Source Robotics

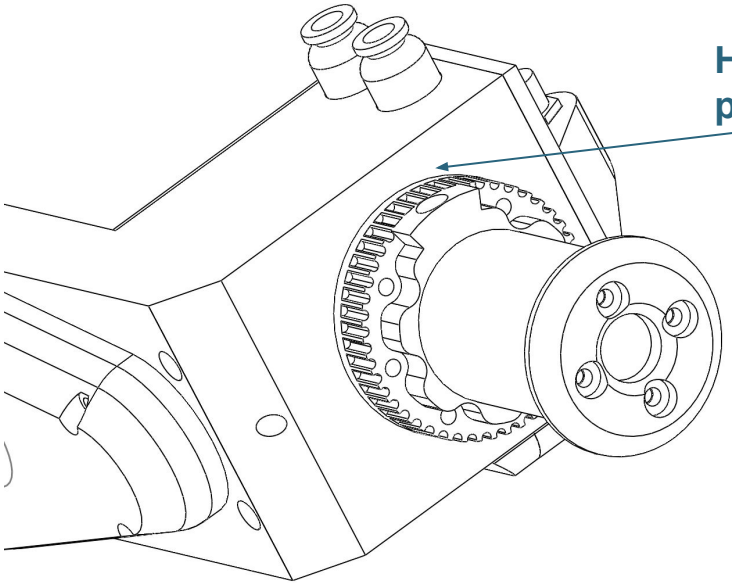
IF THERE IS NO GRIPPER ON WRIST PART IT CAN APPEAR IT CAN SPIN INDEFINITELY. DO NOT DO THAT! LIMITS OF J5 ARE SHOWN ON THE IMAGES BELOW!





Forearm assembly

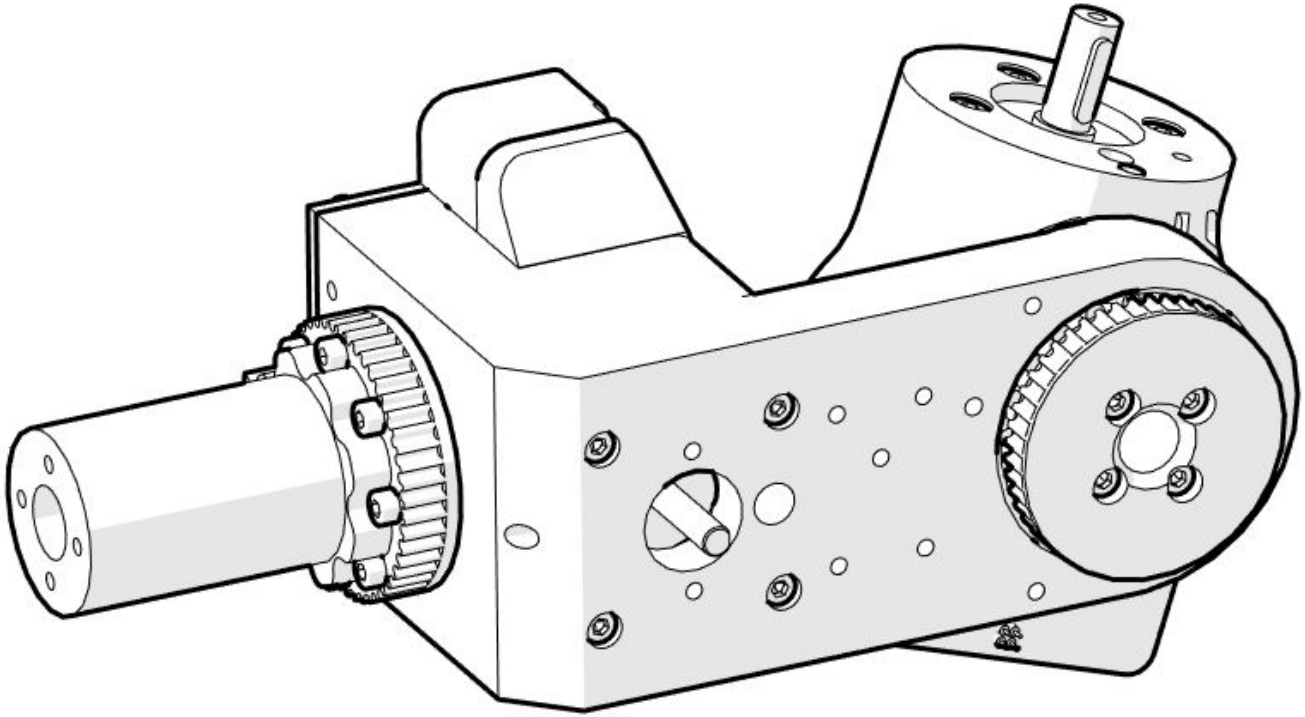
J4_output_pulley
6 x M3 x 16mm



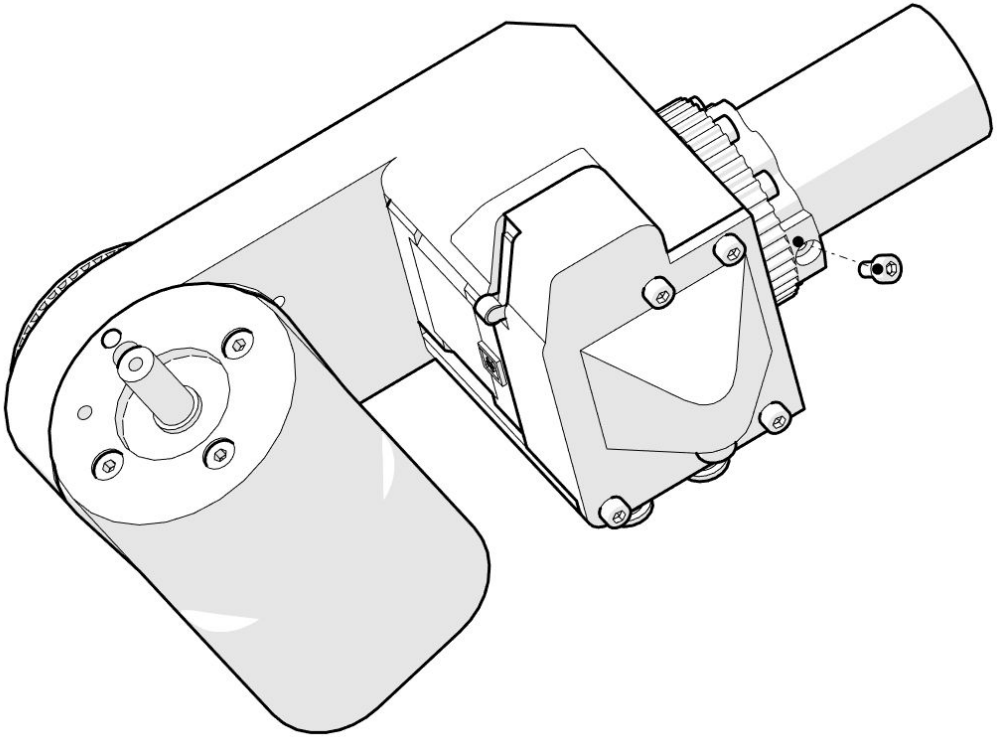
All wires and tubes need to go thru J4 output pulley. Use M3 16 mm screws to attach pulley to body of lower arm.

Forearm assembly

Source Robotics



Forearm assembly



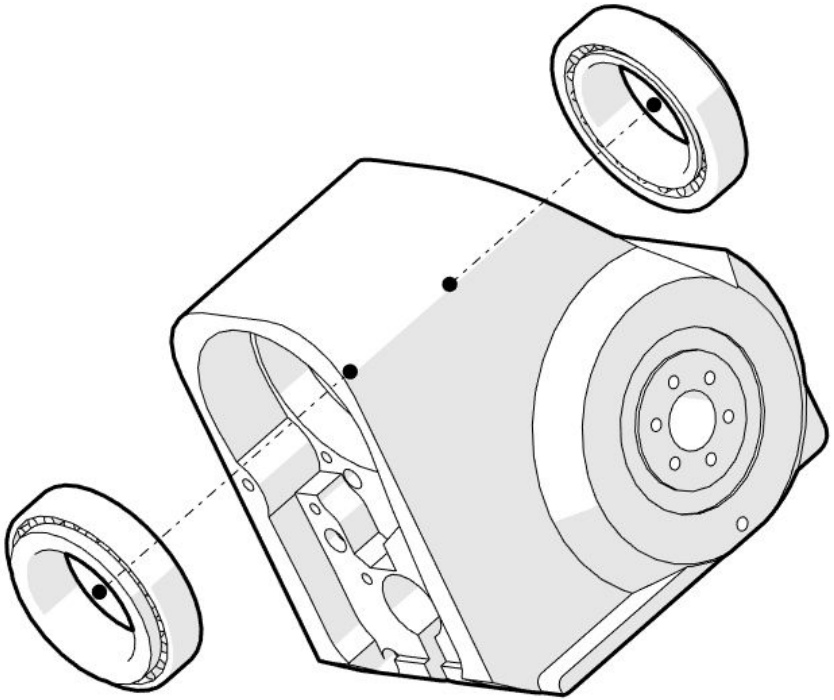
1 x M3 x 6mm

This screw is used to trigger J4 sensor. Please use provided screw. If different screw is used sensor will trigger at wrong position and mess with robot kinematics.

Source Robotics

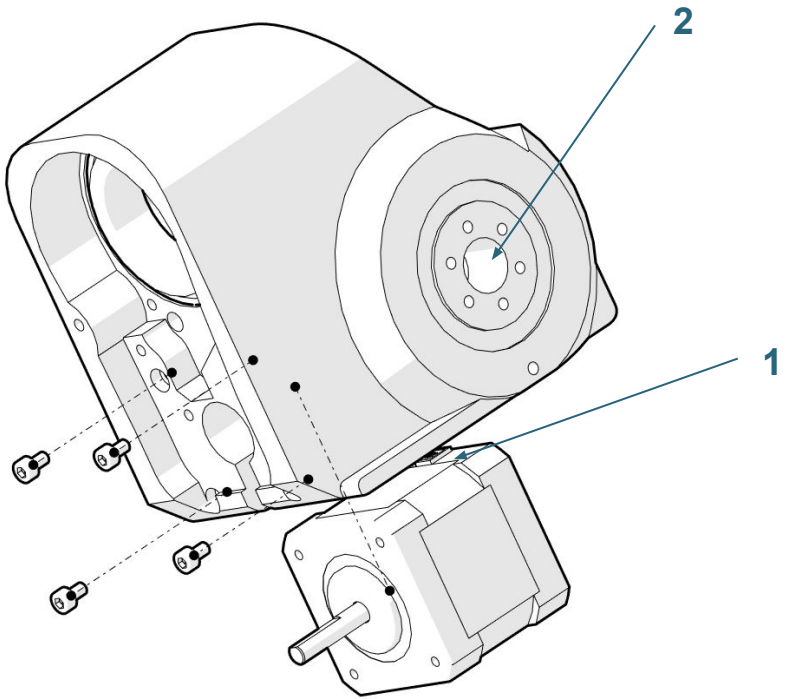
Elbow assembly

Elbow assembly



Elbow_part
2 x Bearing 2

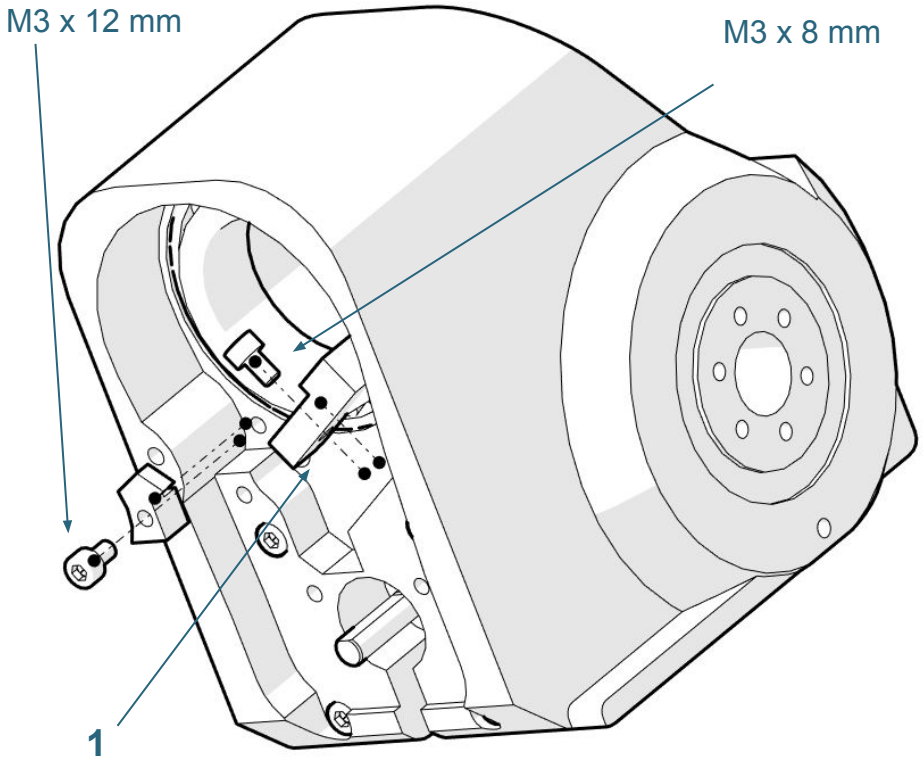
Elbow assembly



Stepper 2
4 x M3 x 14 mm

Secure the stepper with 4 screws. Note the position of stepper wires with arrow 1. All wires from previous steps and from subsequent steps need to go thru hole 2.

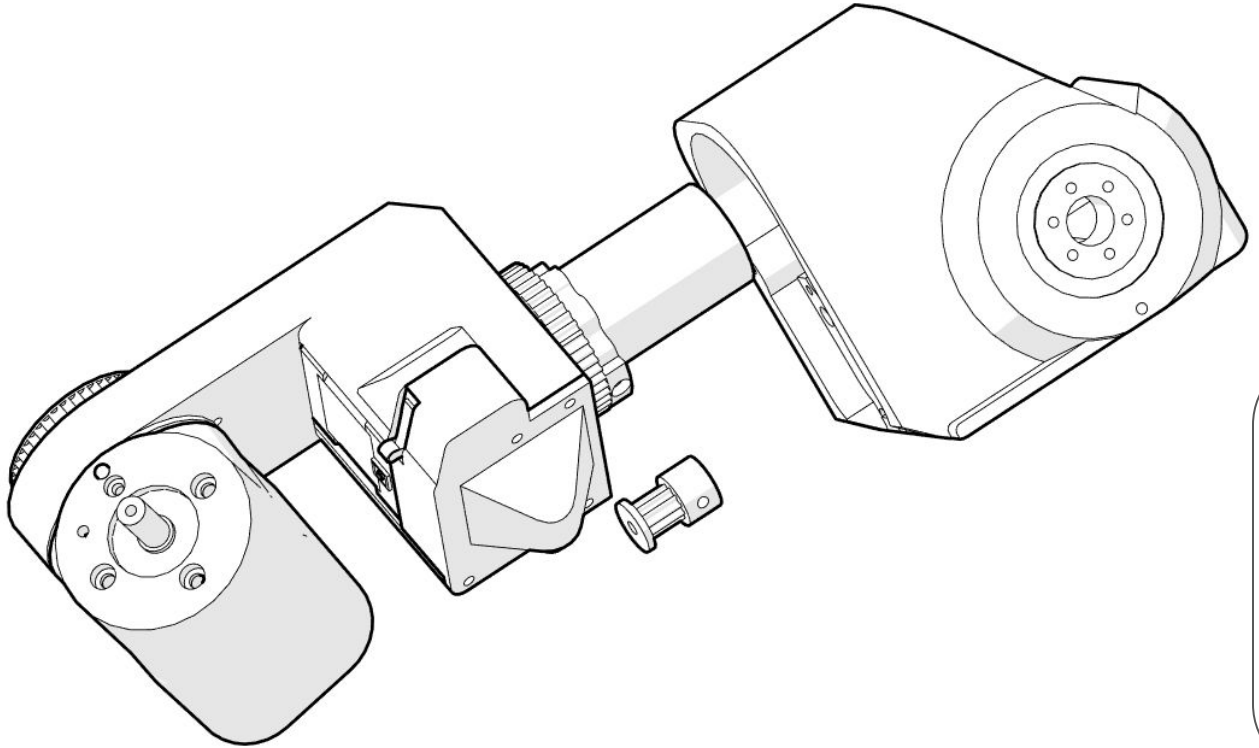
Elbow assembly



J4_limiter
Sensor 2
M3 x 12 mm
M3 x 8 mm

Wires of the sensor 2 need to go thru a hole marked with arrow 1. Assembled part is on the next page.

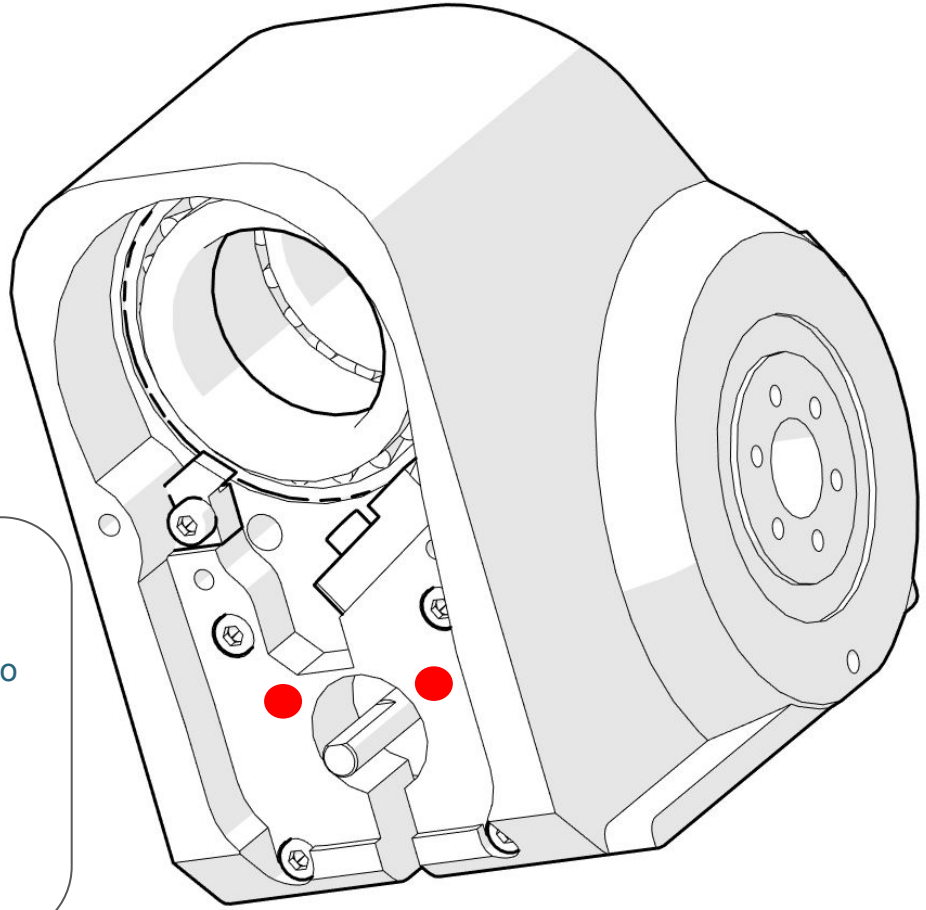
Elbow assembly



J4 pulley
J4 belt

First pull all wires and tubes thru the elbow part! When J4 pulley and J4 output pulley are in illustrated position put the belt on.

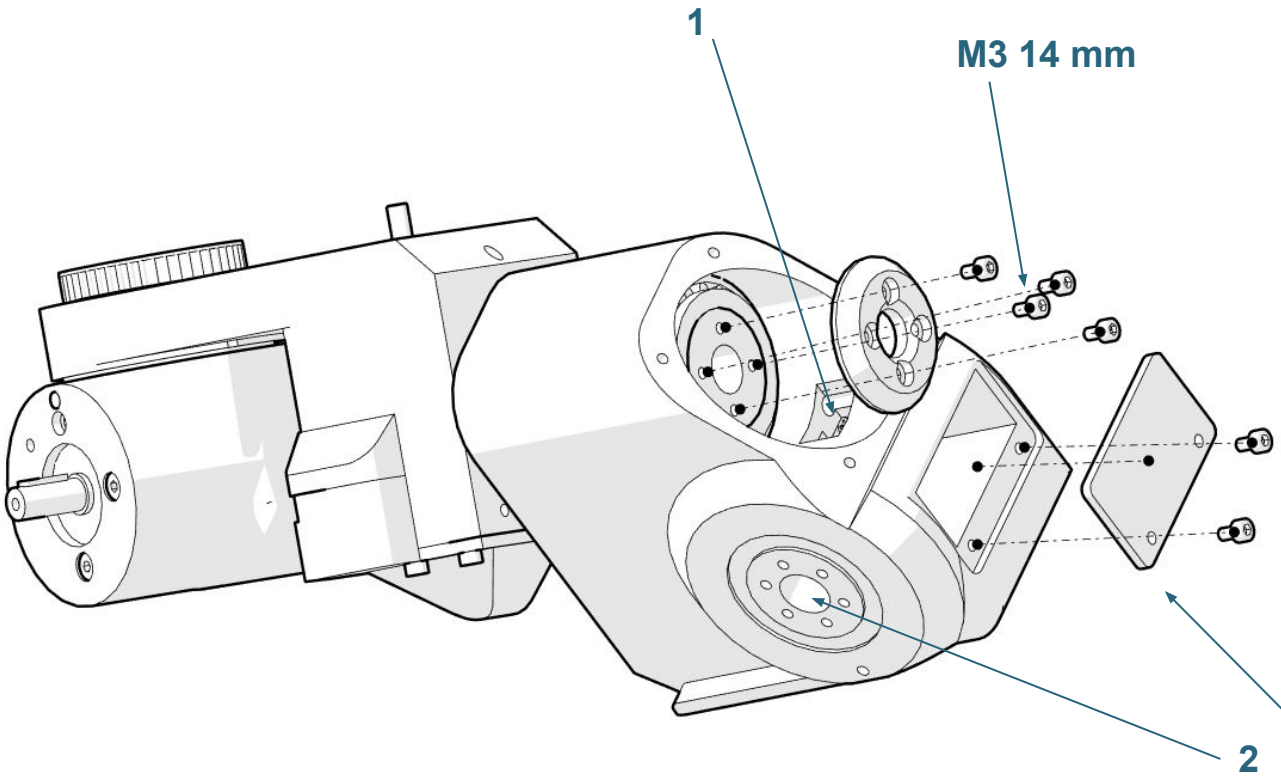
Elbow assembly



Belt tension bearings go to the red marked spots!
USE M3x15 mm screws with tapered head!

Parol6 robotic arm needs homing since it uses open loop-stepper drivers. Joints 1,4 and 6 are homed with inductive sensors. Homing is done with small screws that trigger the sensor when it gets close to it. You need to find “sweet” spot where the sensors trigger.

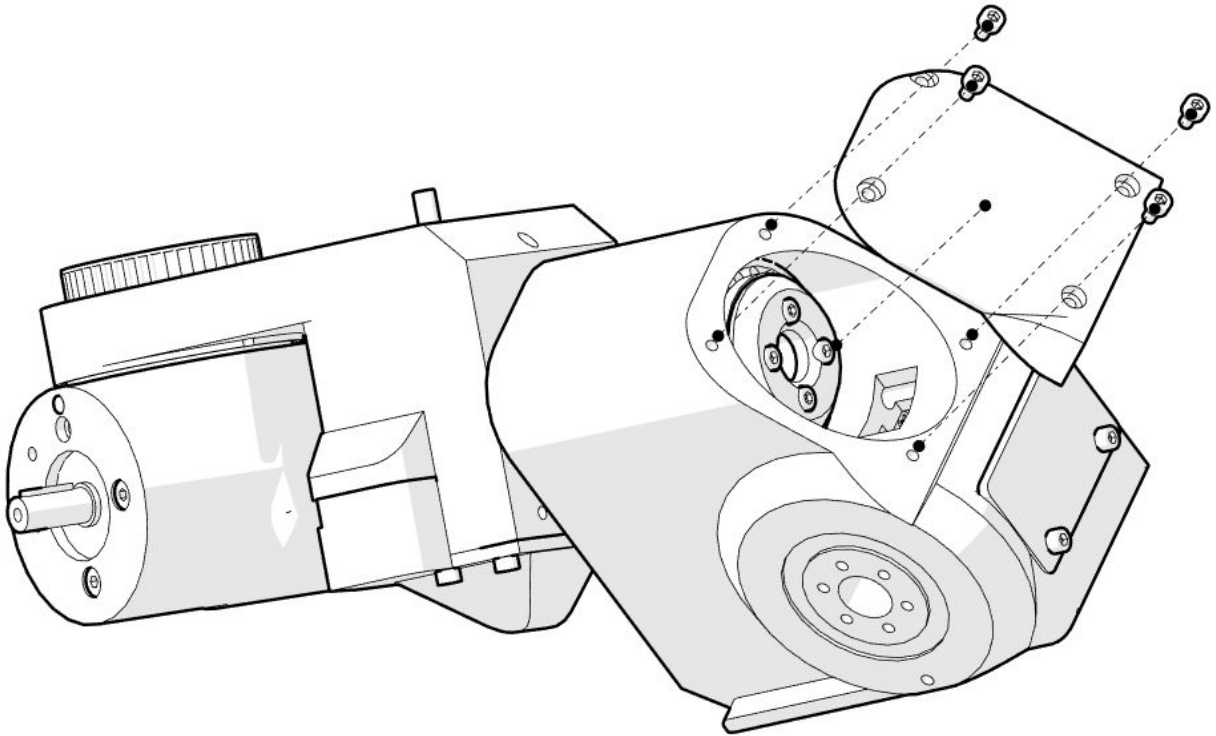
Elbow assembly



Elbow_lid_2
J4_bearing_backplate
2 x M3 8 mm
4 x M3 14 mm

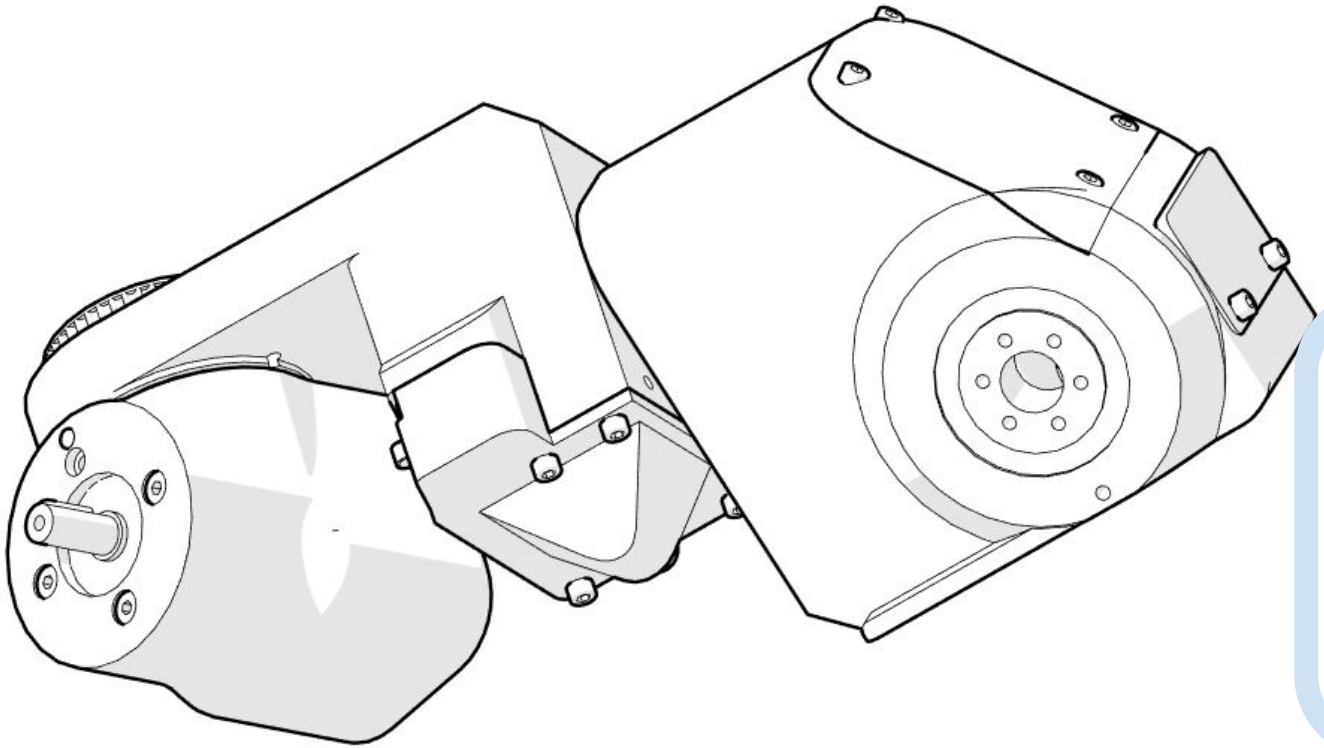
All wires and tubes need to go where arrow 1 is pointing and exit where arrow 2 is pointing.

Elbow assembly



Elbow_lid_1
4 x M3 IMBUS 8 mm

Elbow assembly



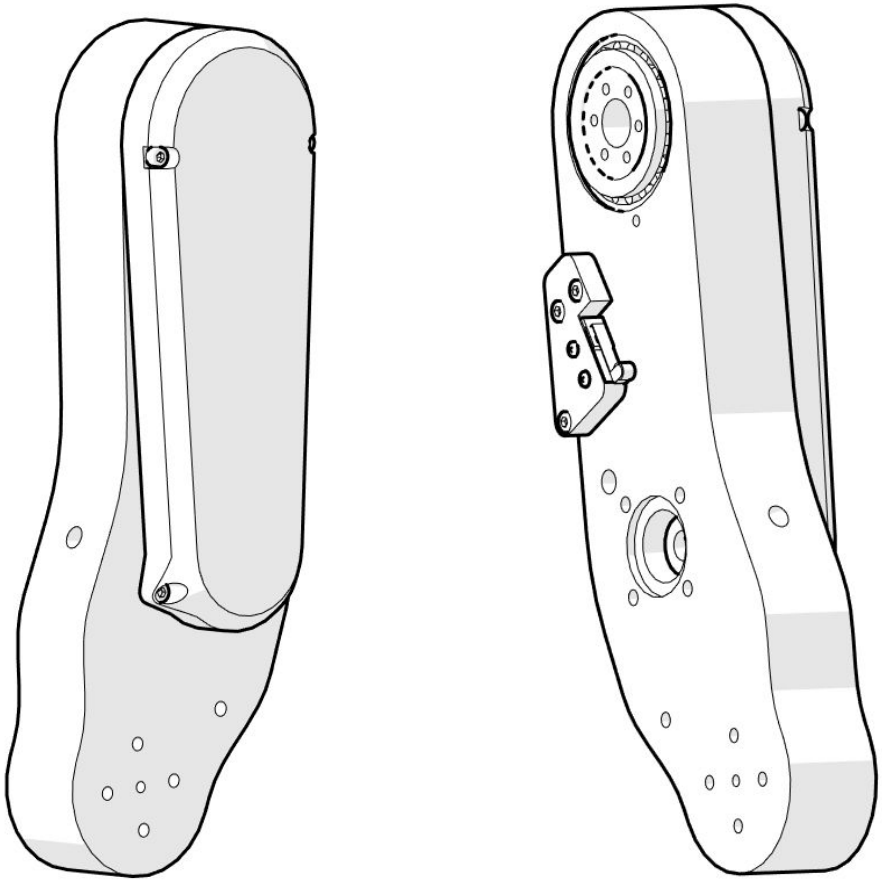
Make sure that all joints can move and that there is not much friction on specific spots. If there is you have:

1. Misaligned bearings
2. Used too much torque on bearing retainer screws.
3. Tangled wires.

Source Robotics

Upper arm assembly

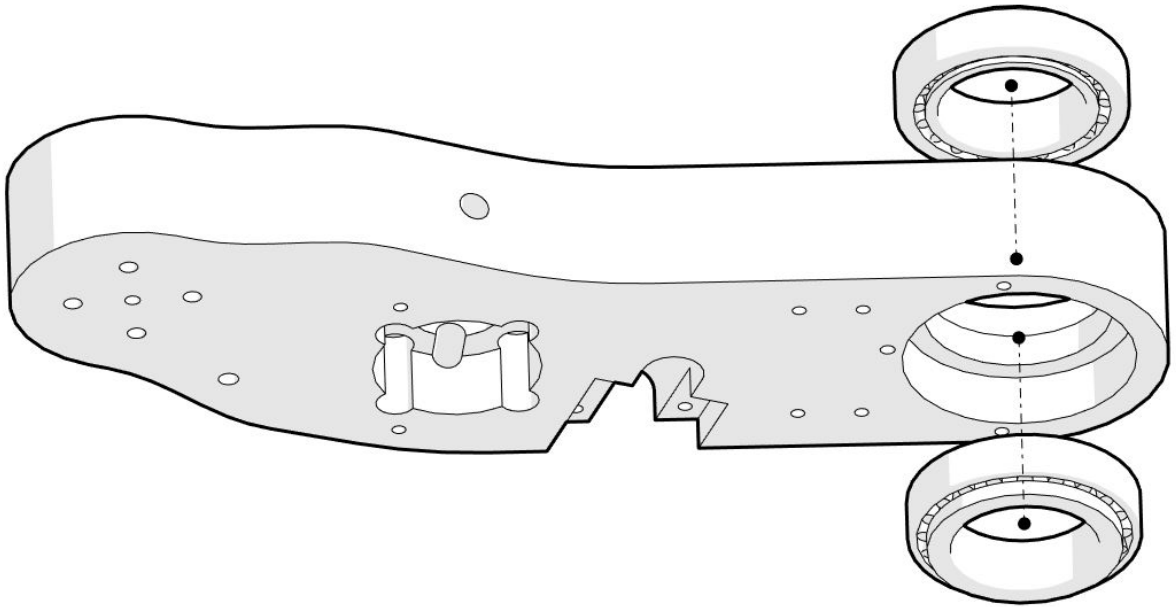
Upper arm assembly



Upper arm assembly

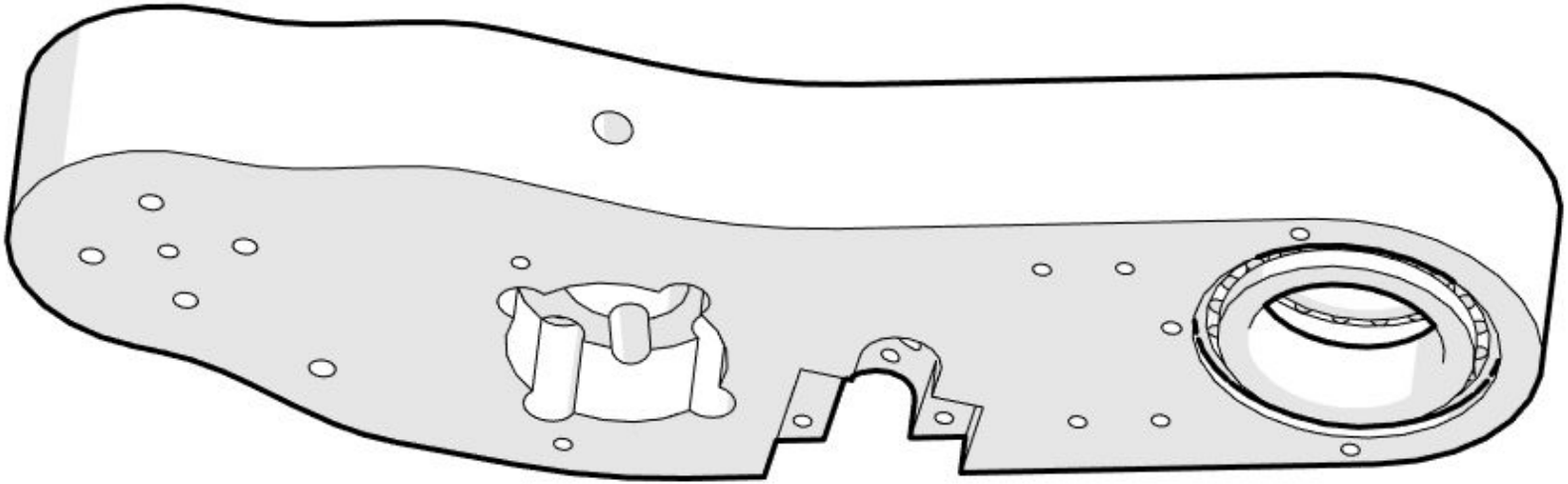
2 x Bearing 2
Upper arm

Assembled part in the next page.



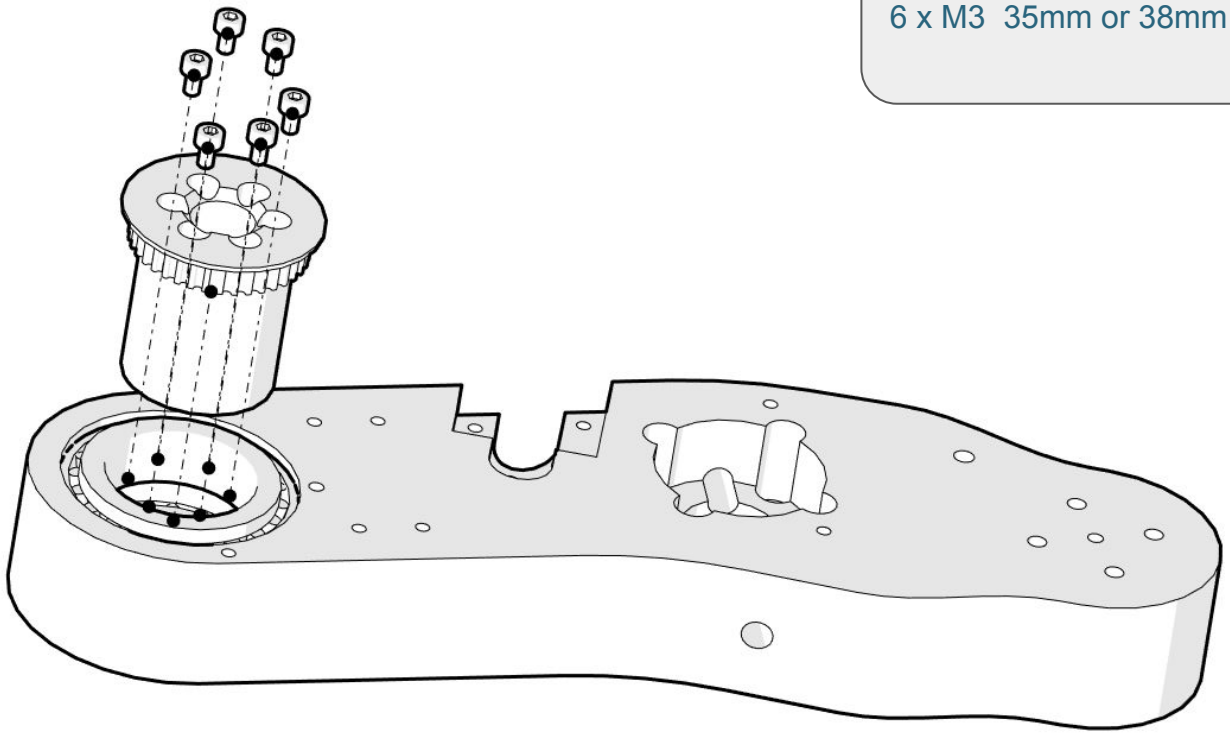
Upper arm assembly

Source Robotics

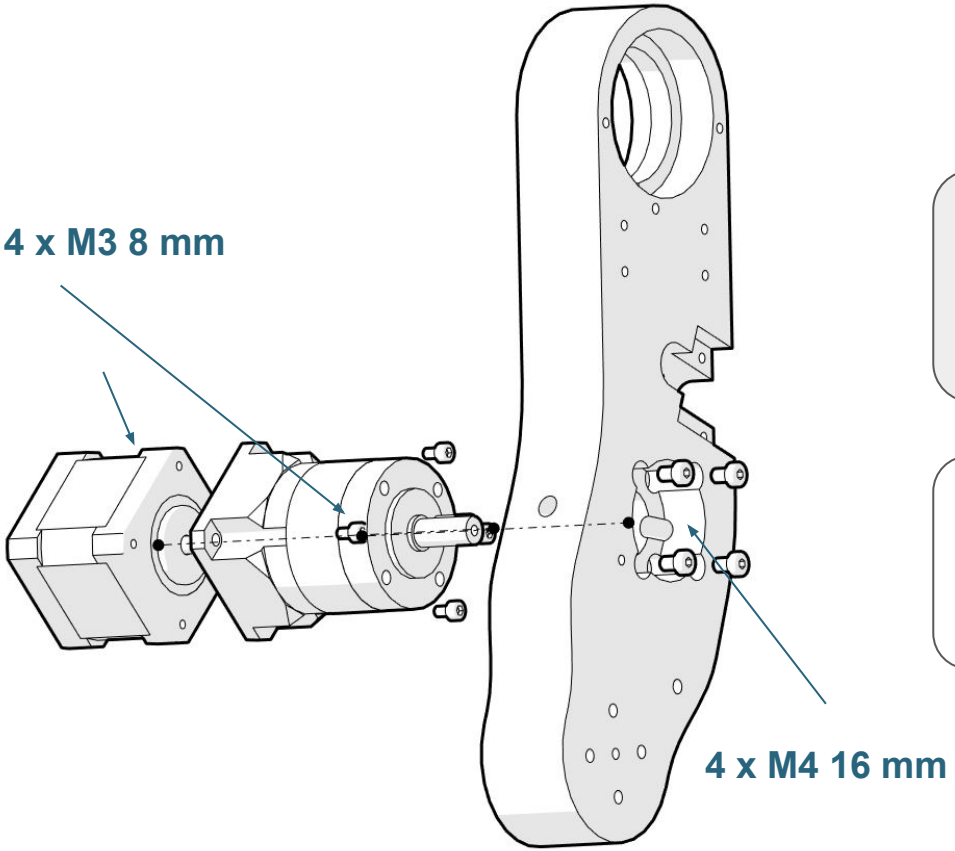


Upper arm assembly

38_pulley_J3
6 x M3 35mm or 38mm



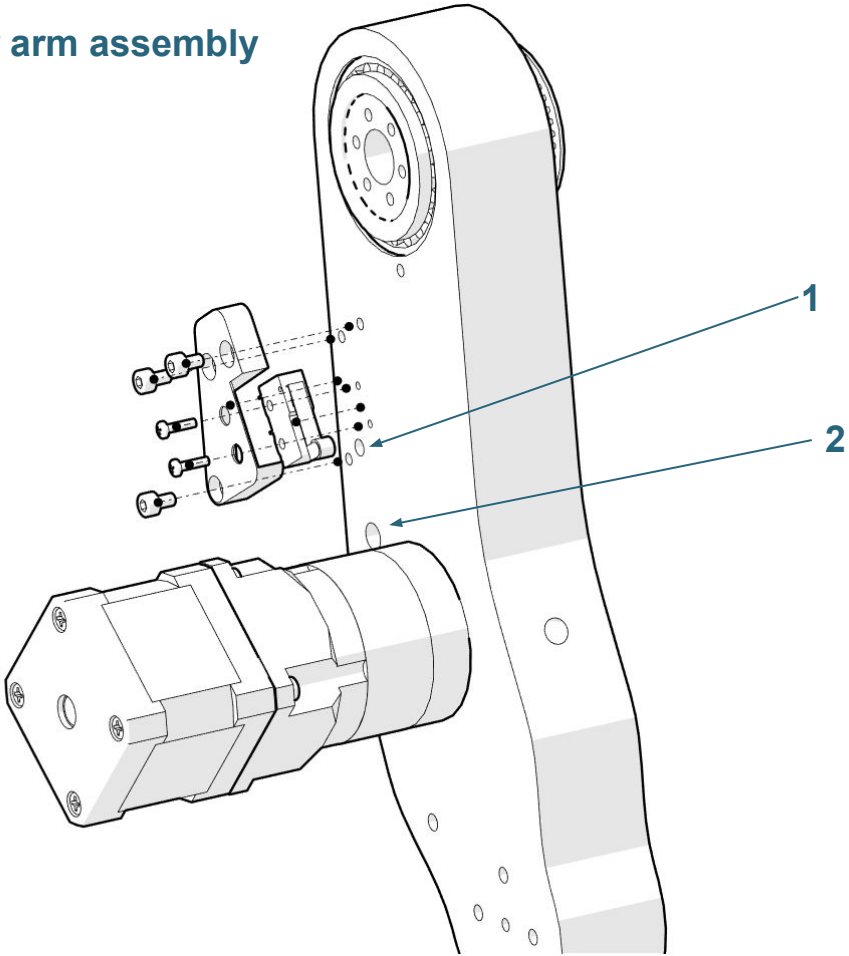
Upper arm assembly



Stepper 2
Gearbox 20:1
4 x M3 8 mm
4 x M4 16 mm

Make sure that the location of the stepper side with wires is as pointed by the arrow!

Upper arm assembly

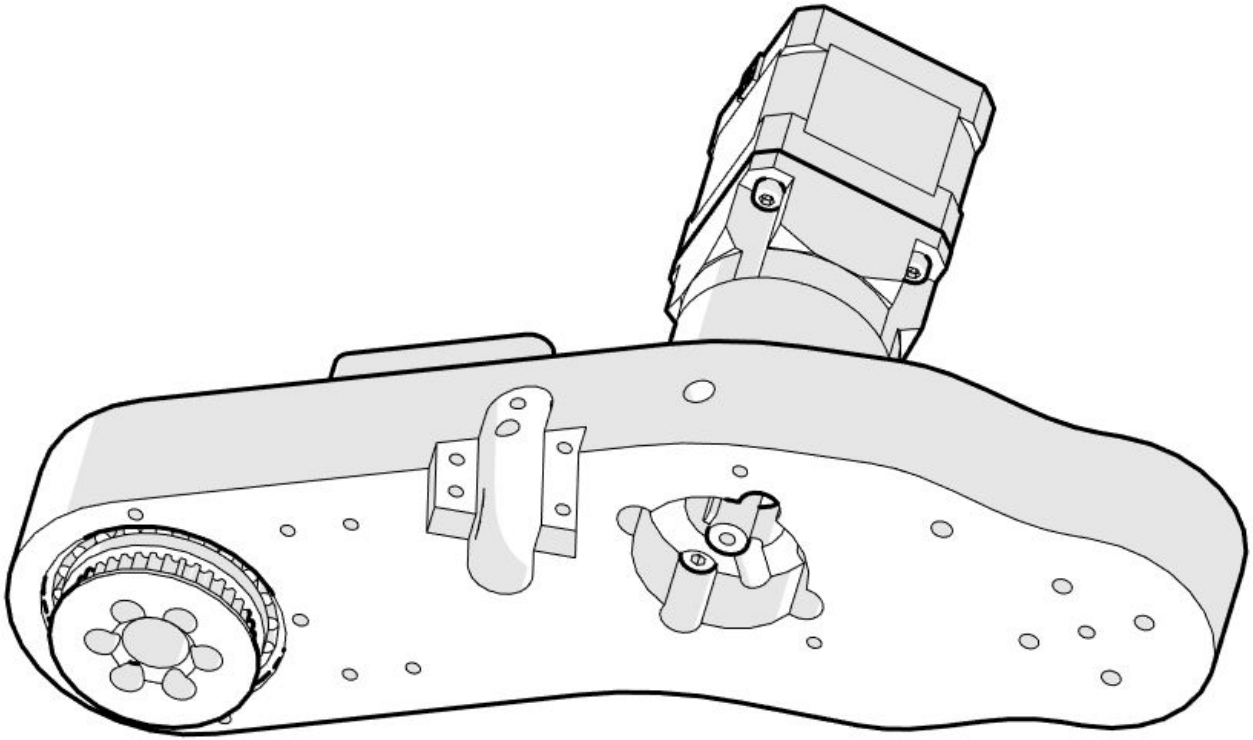


J3_limit_switch_cover
Limit switch
3x M3 8 mm
2x M2 x 10 mm

Limit switch wires go thru hole market with arrow 1. Stepper wires go thru a hole marked with 2. Finished part on next page.

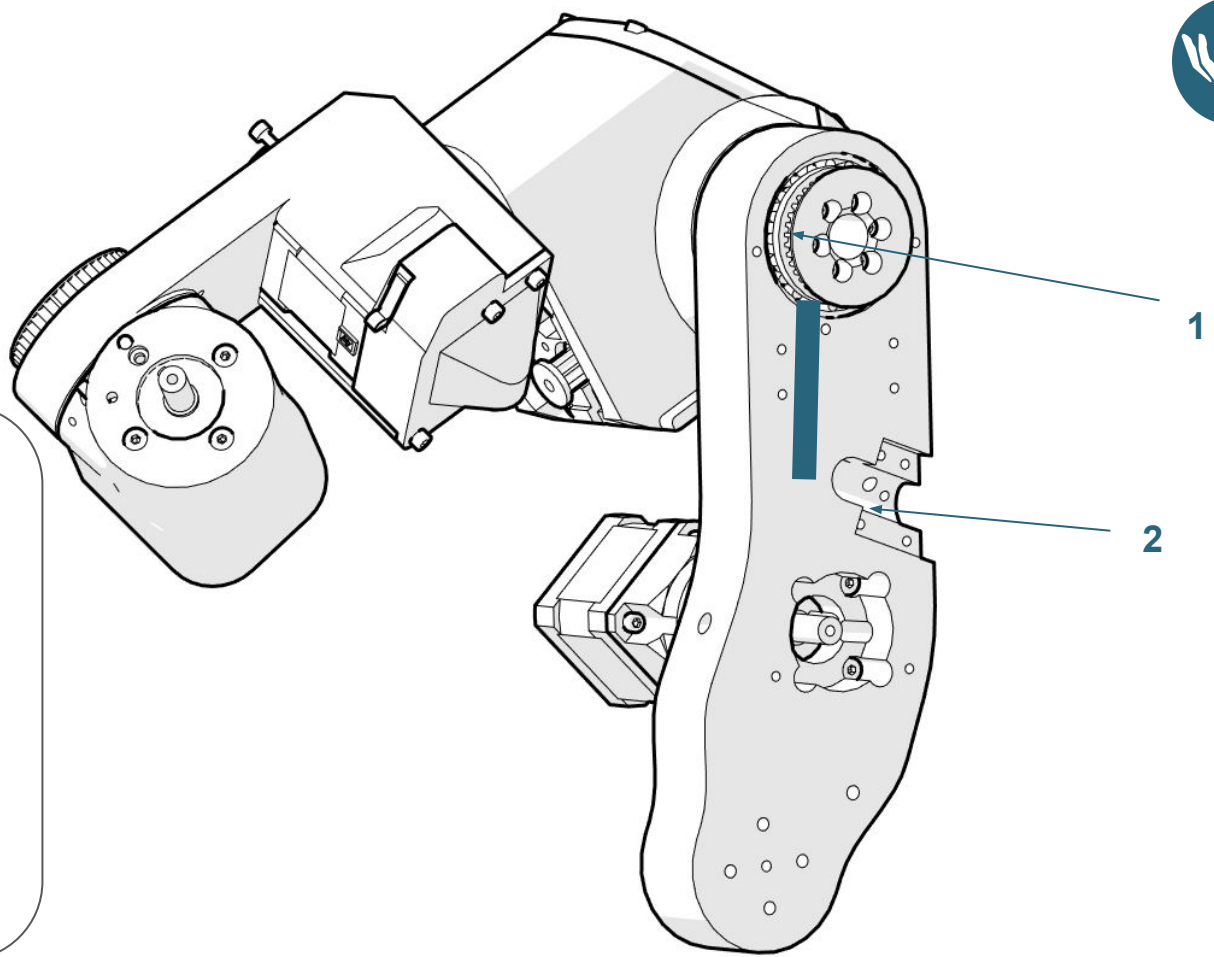
Upper arm assembly

Source Robotics



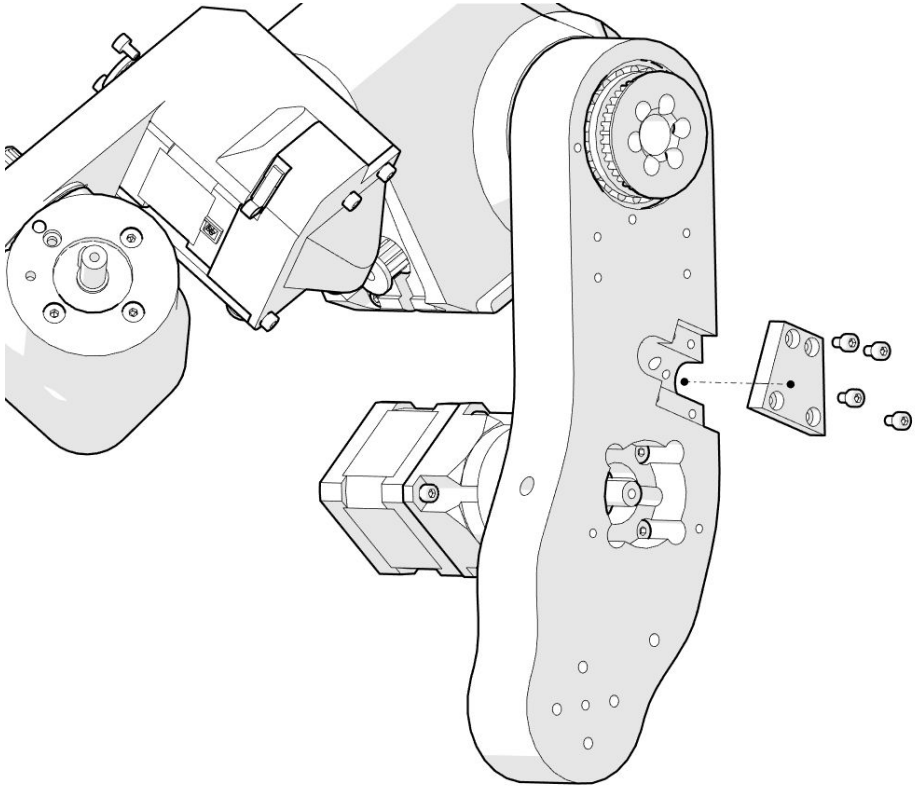
Upper arm assembly

Source Robotics



Attach Upper arm assembly to the Forearm assembly. Wrap the wires with cloth fabric. Wires need to go thru the hole pointed by arrow 1 to the slot pointed by arrow 2. Wires need to follow the blue line.
*Note that you need to pull wires from J3 limit switch and J3 stepper thru the same slot!

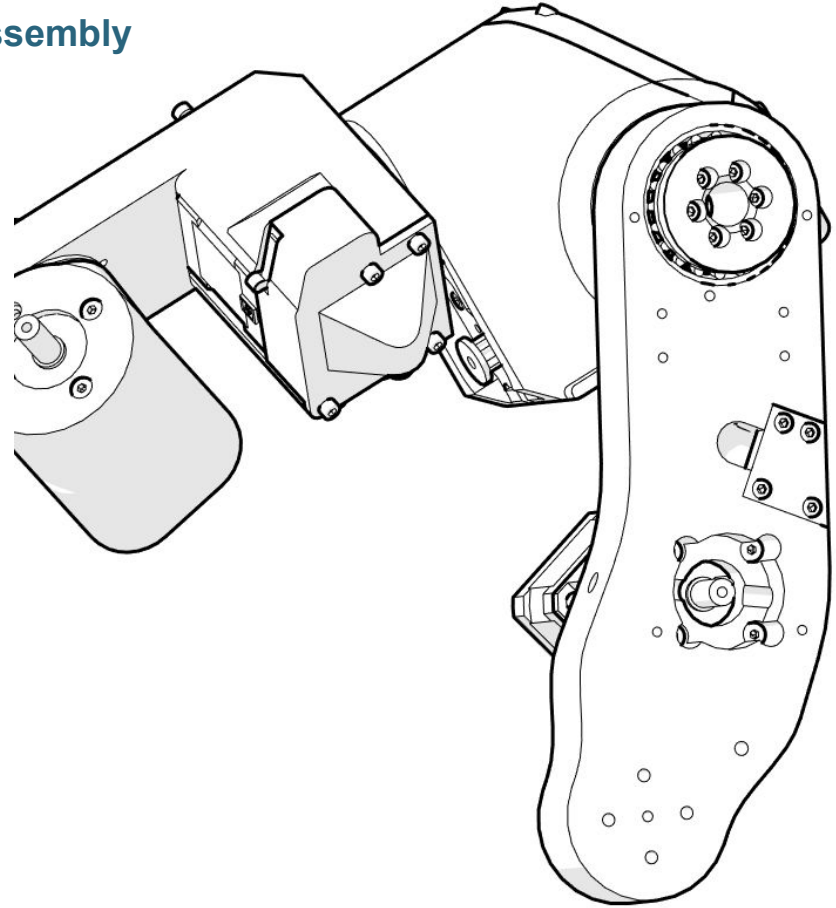
Upper arm assembly



Upper_arm_wires_cover
4 x M3 12 mm

Enclose the wires by upper arm wires cover. Make sure the wires are tight.
Assembled part on next page

Upper arm assembly



We will attach the belt in later steps!

Once the wires are enclosed try to move joint 3.

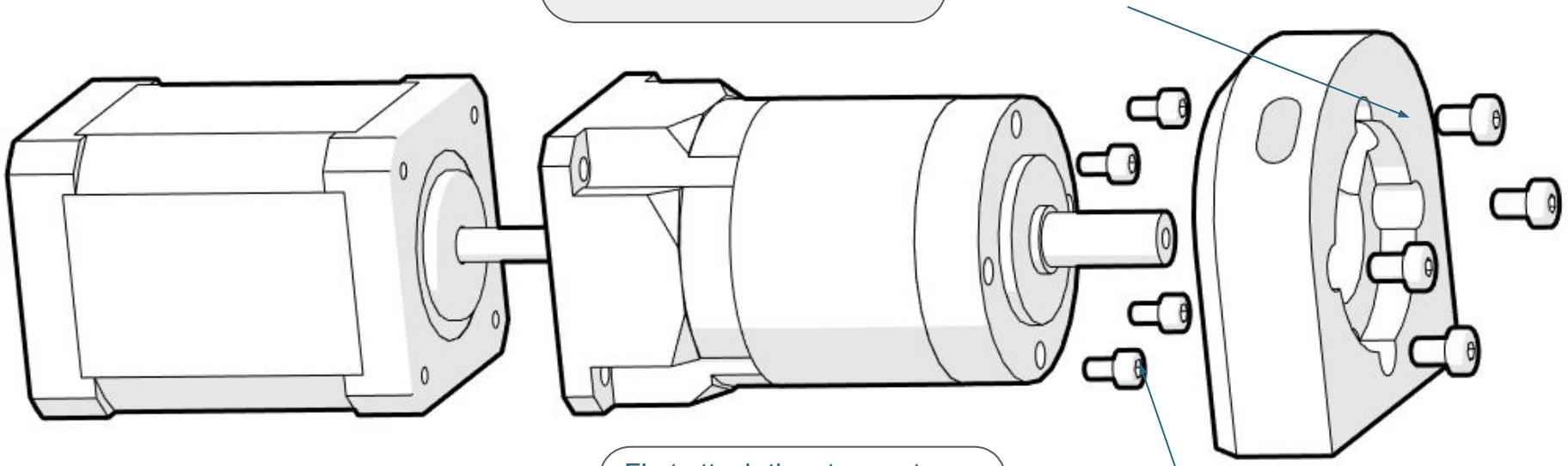
Source Robotics

Shoulder assembly

Shoulder assembly

J1_turret_motor_holder
Stepper 3
Gearbox 20:1
4 x M3 8 mm
4 x M4 16 mm

4 x M4 16 mm

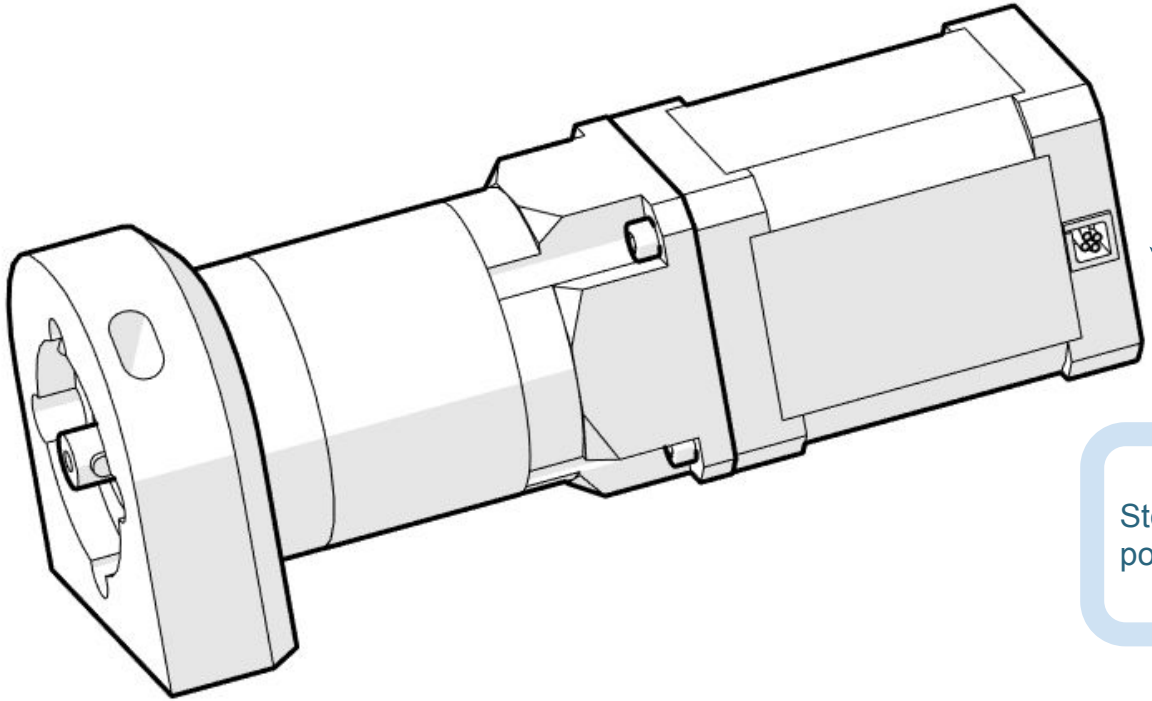


First attach the stepper to the gearbox. After that attach turret holder to the gearbox. Assembled part is on the next page.

4 x M3 8 mm

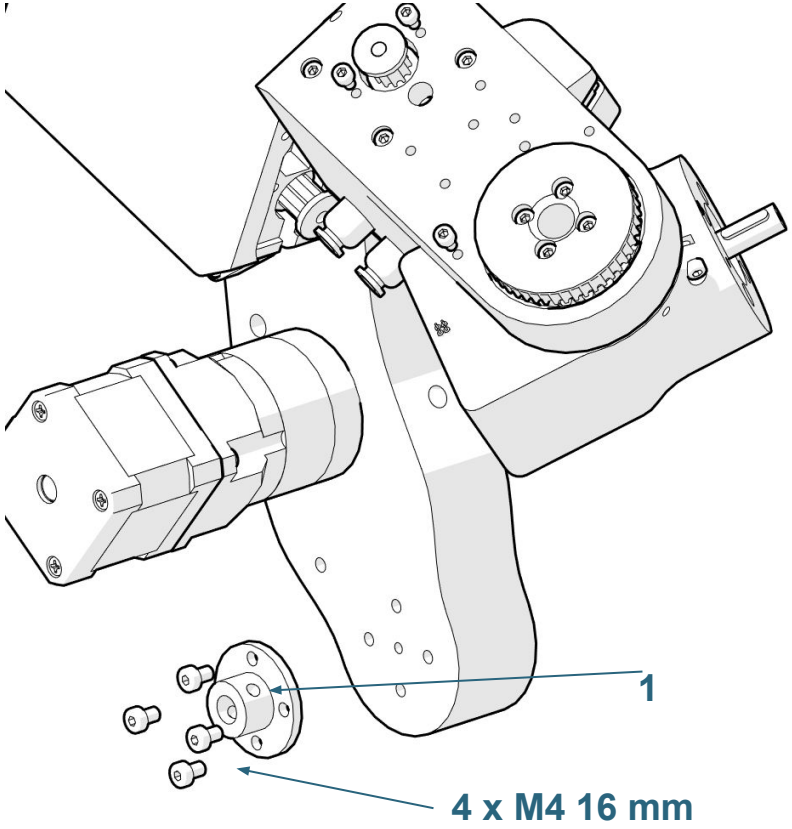
Shoulder assembly

Source Robotics



Stepper wires need to be positioned like this

Shoulder assembly



Shaft coupler
4 x M4 16 mm

Note the position of the hole marked with 1. It is important for it to be positioned this way for easier screw tightening.

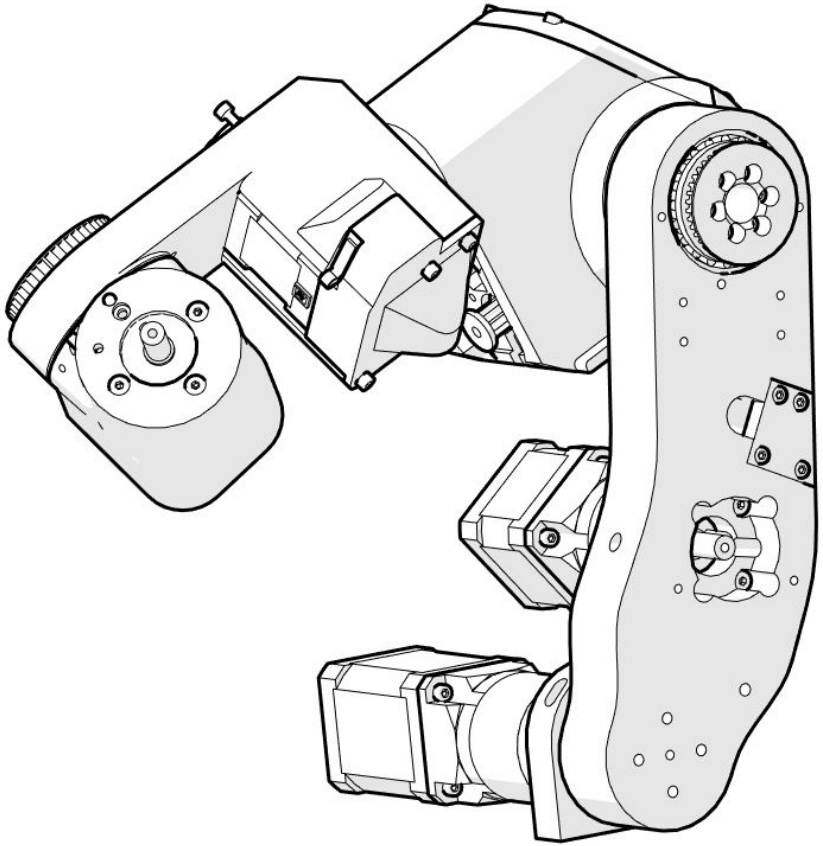
Source Robotics

shaft couplers need to be aligned with the hole, you must use blue threadlocker and it is best to let it cure for few hours





Shoulder assembly

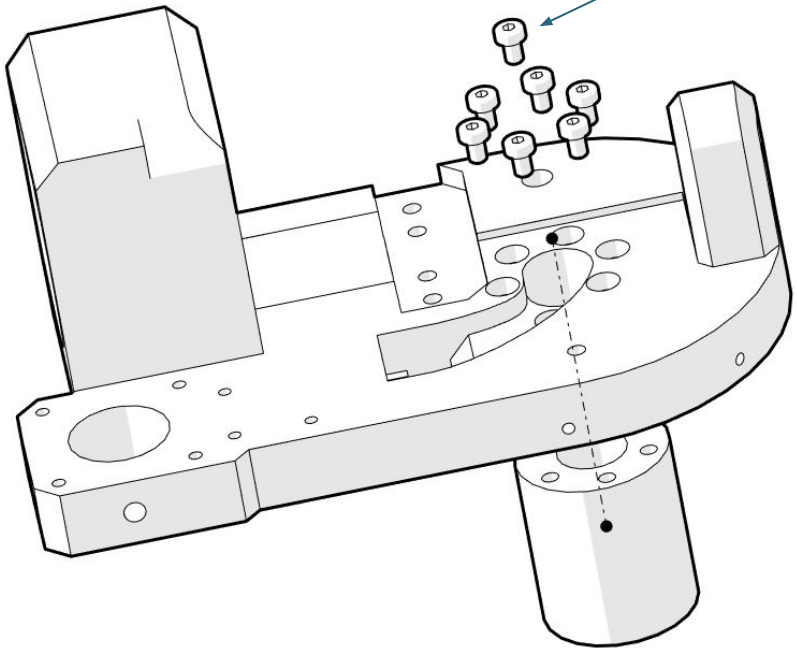


Gearbox has a hole (keyway) where key should be going. Since we are not using keys make sure that the screw of shaft coupler goes in the keyway! Use threadlocker here!

Shoulder assembly

Source Robotics

M4 14 mm - used for homing J1

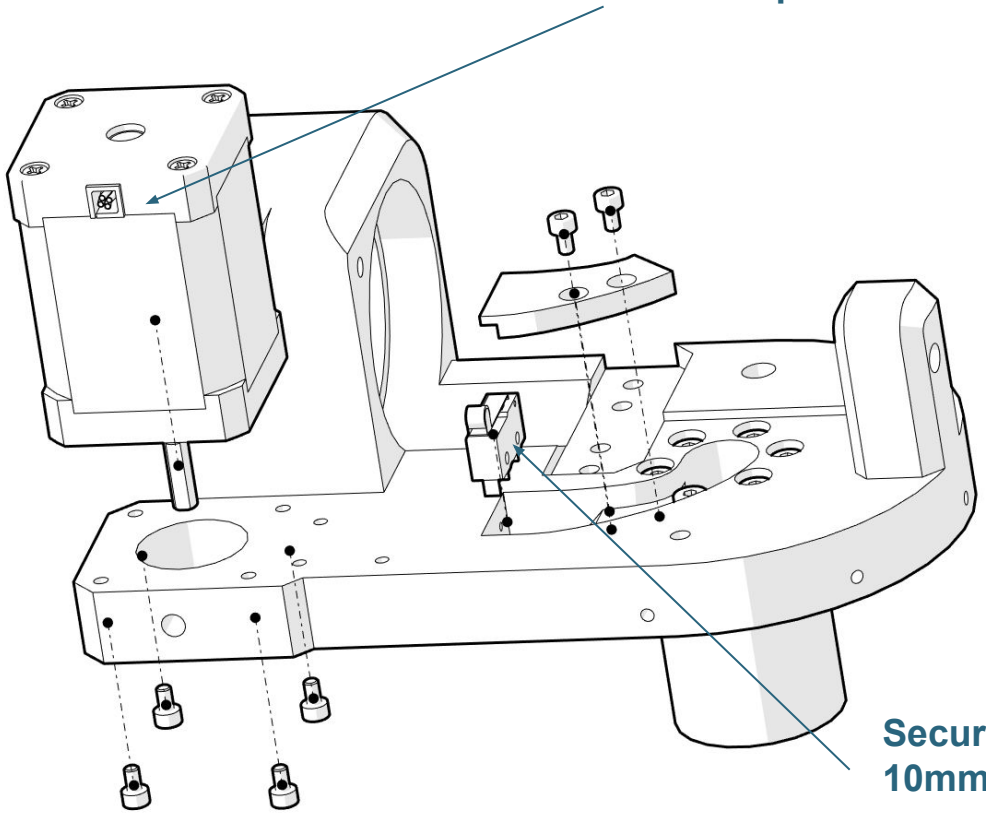


J1_turret
J1_rotation_shaft
6 x M4 16 mm
1 x M4 14 mm

M4 14mm screw is used to home J1. It needs to be peeking out a little on the bottom side after you screw it in. Do not screw it in all the way!

Shoulder assembly

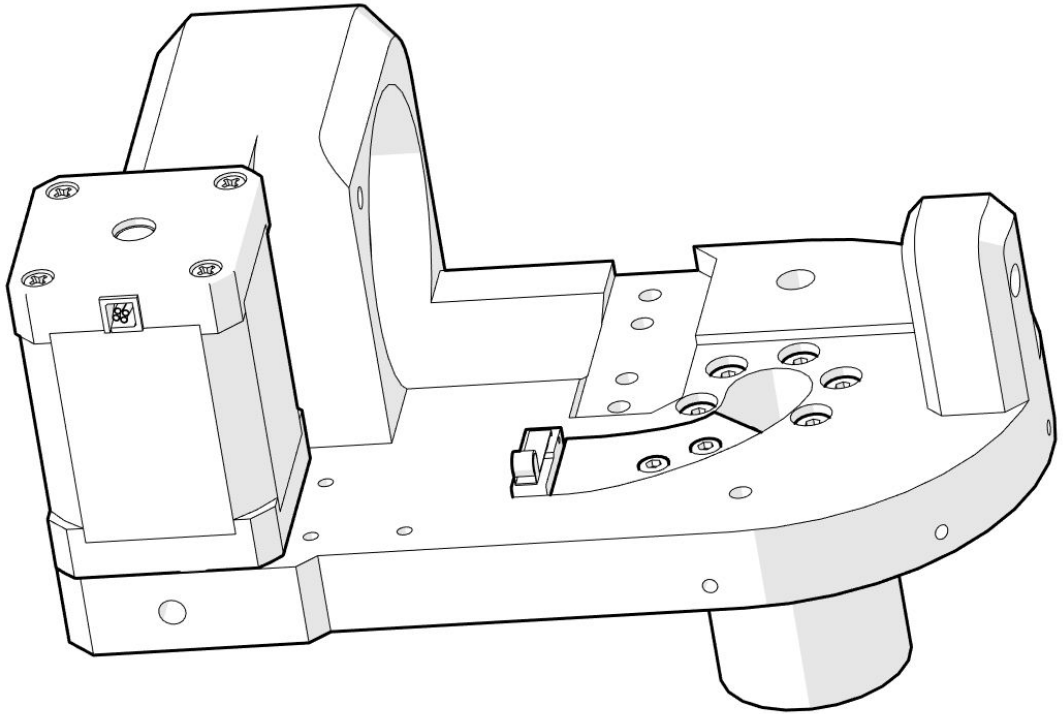
Source Robotics



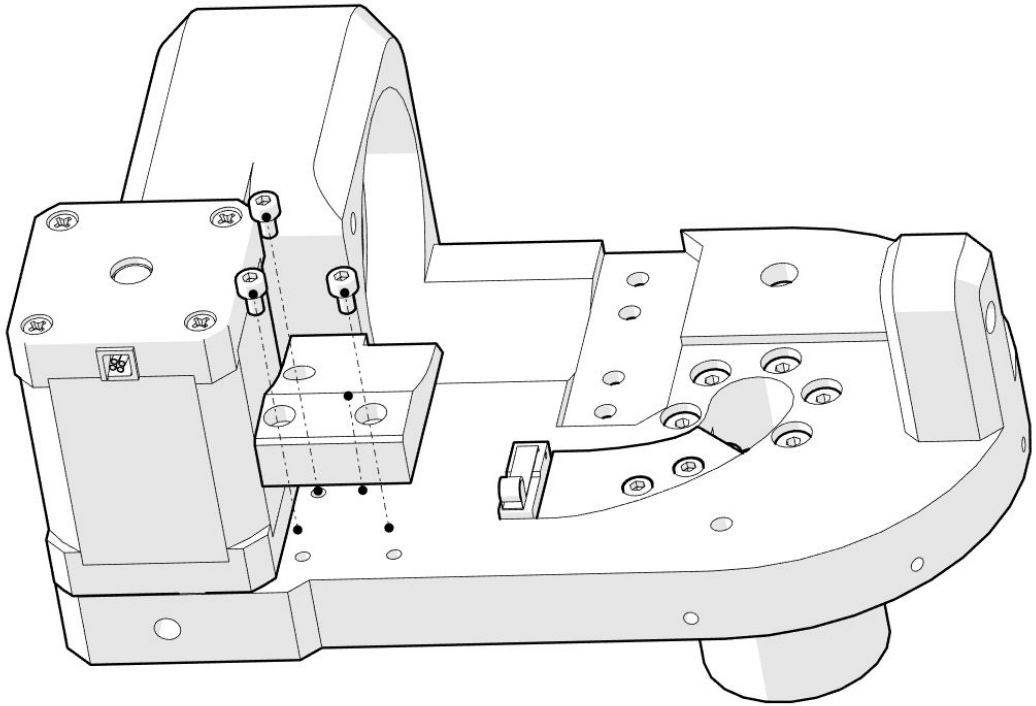
Stepper 3
Limit switch
J2_limit_switch_cover
2 x M3 8 mm
4 x M3 14 mm
2 x M2 10 mm

Before placing the lid attach limit switch with 2 M2 screws. After that pull its wires thru J1 rotation shaft.

Shoulder assembly



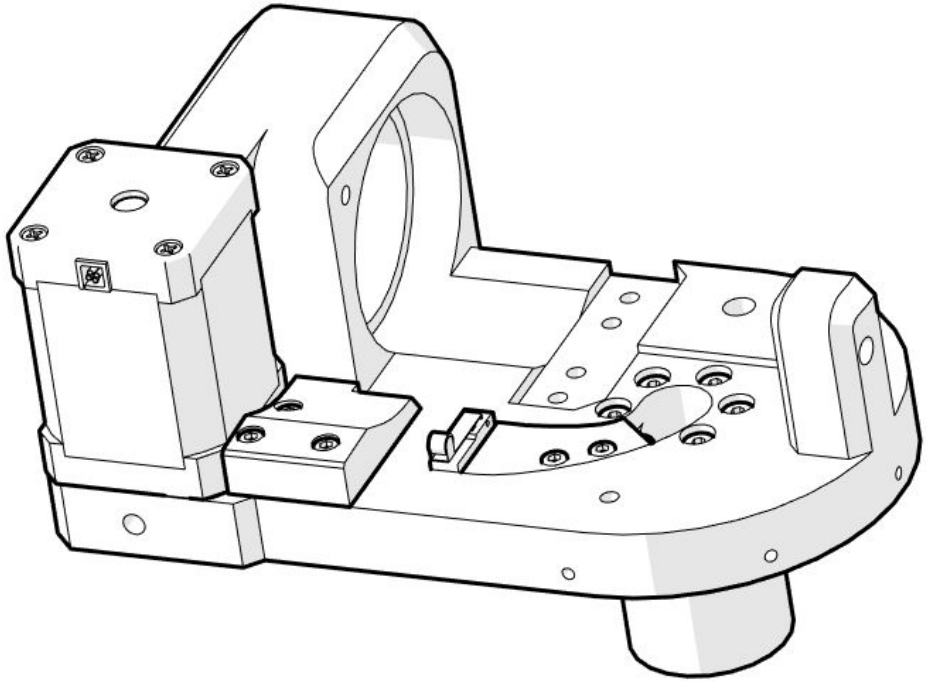
Shoulder assembly



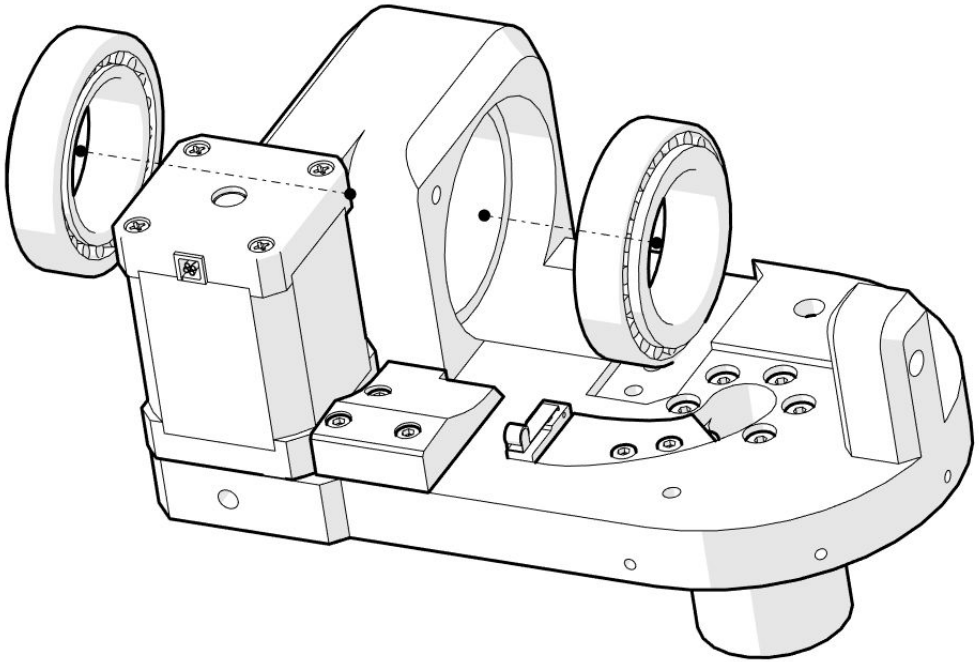
J2_stopper_block
1 x M3 8 mm
2 x M3 12 mm

Shoulder assembly

Source Robotics

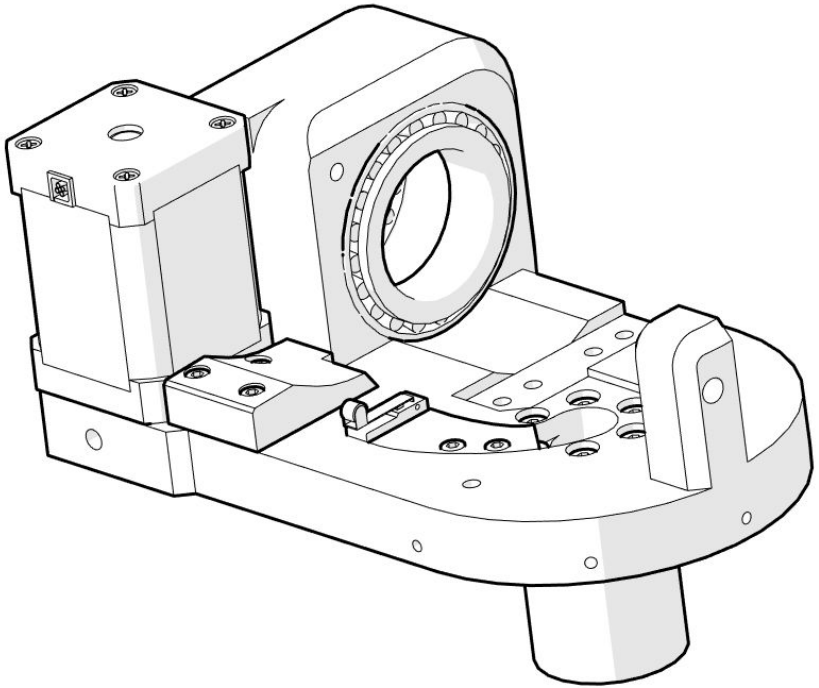


Shoulder assembly

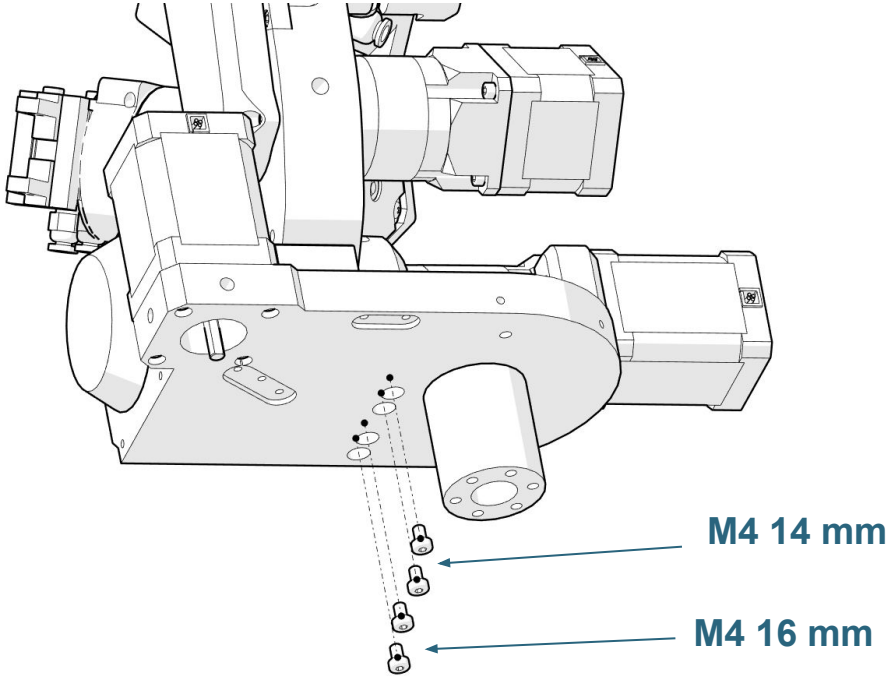


2 x Bearing 3

Shoulder assembly



Shoulder assembly

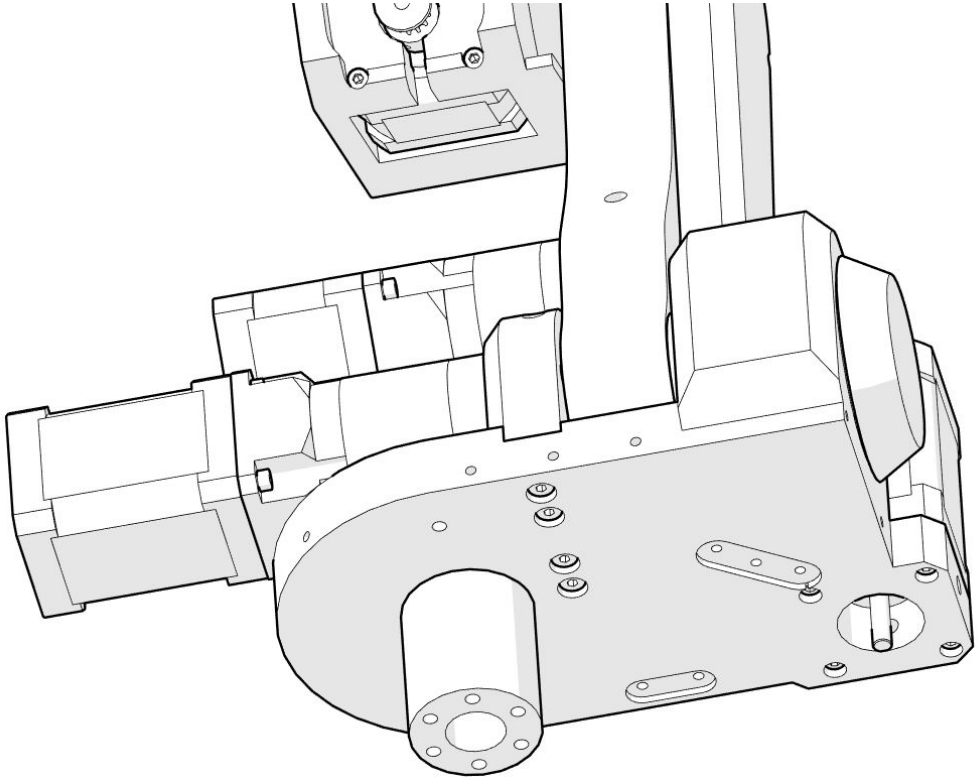


2 x M4 16 mm
2 x M4 14 mm

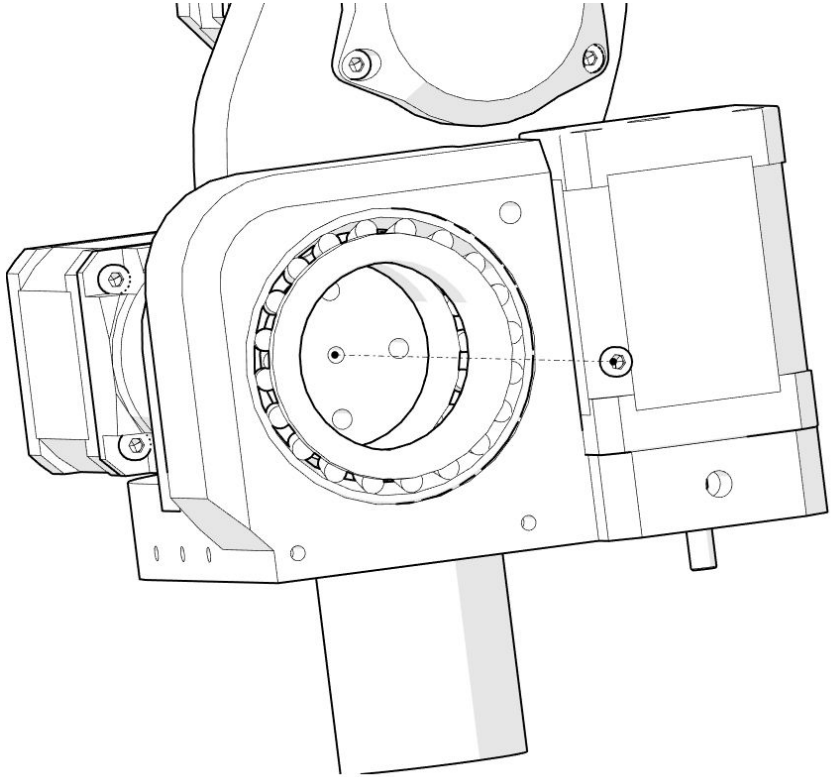
J1_turret is modified in new versions to have guide rails for stopper for J1.

Shoulder assembly

Source Robotics



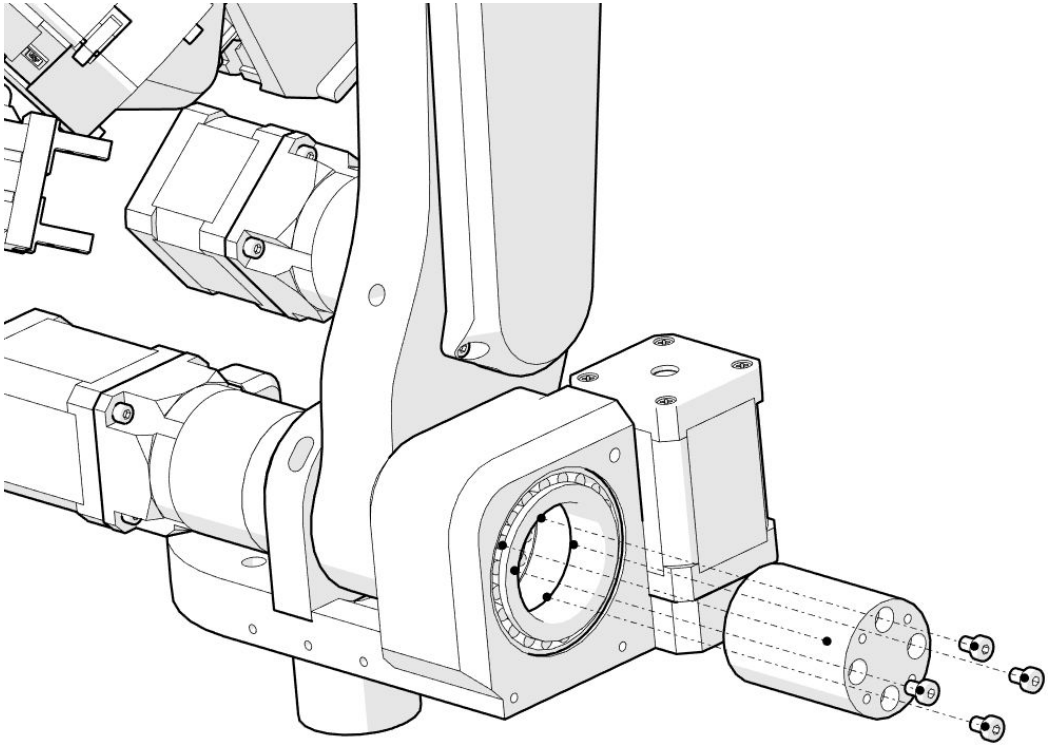
Shoulder assembly



1 x M3 ?

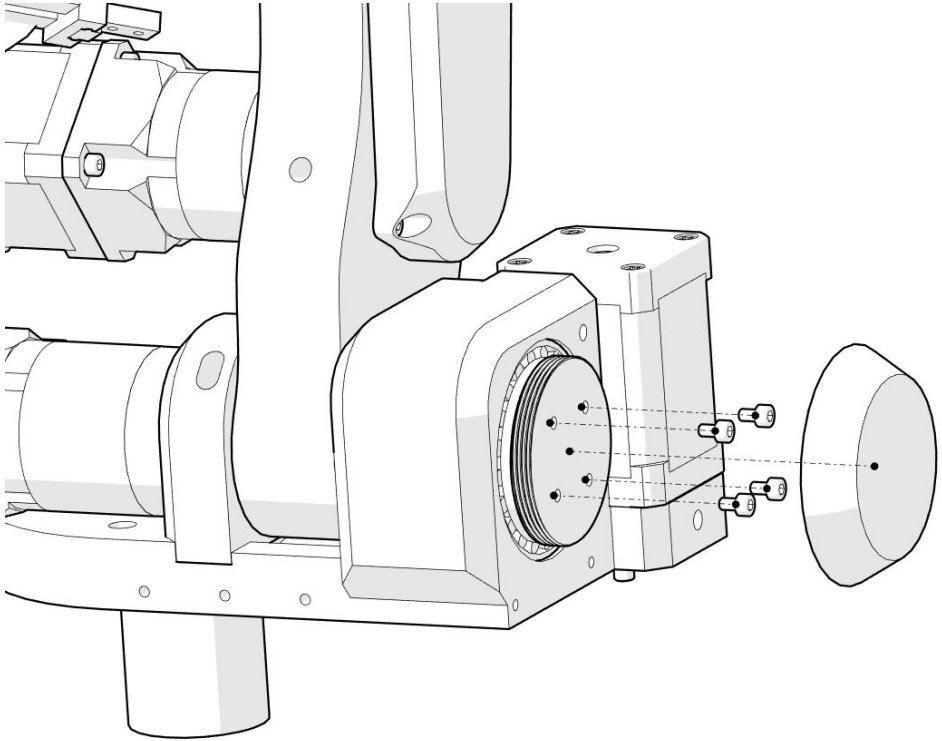
This step is not necessary!

Shoulder assembly



J2_shaft
4 x M4 x 50 mm

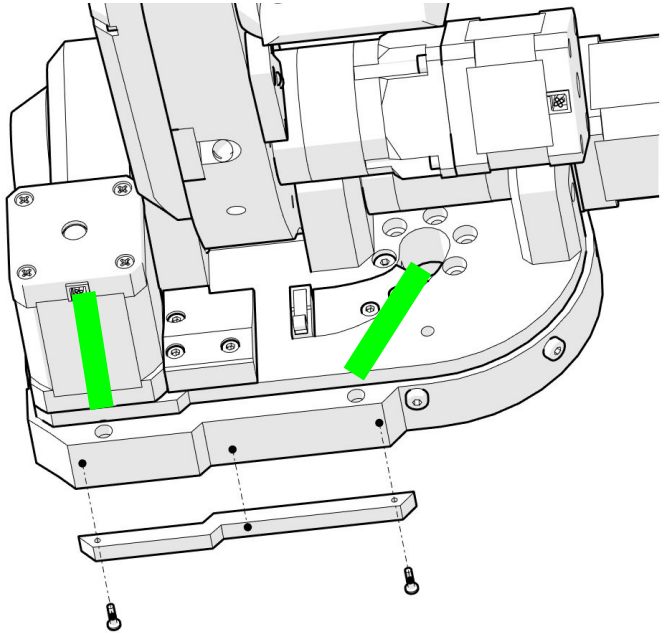
Shoulder assembly



J2_bearing_backplate
J2_cover
4 x M3 12 mm

J2_cover and bearing_backplate have threads.

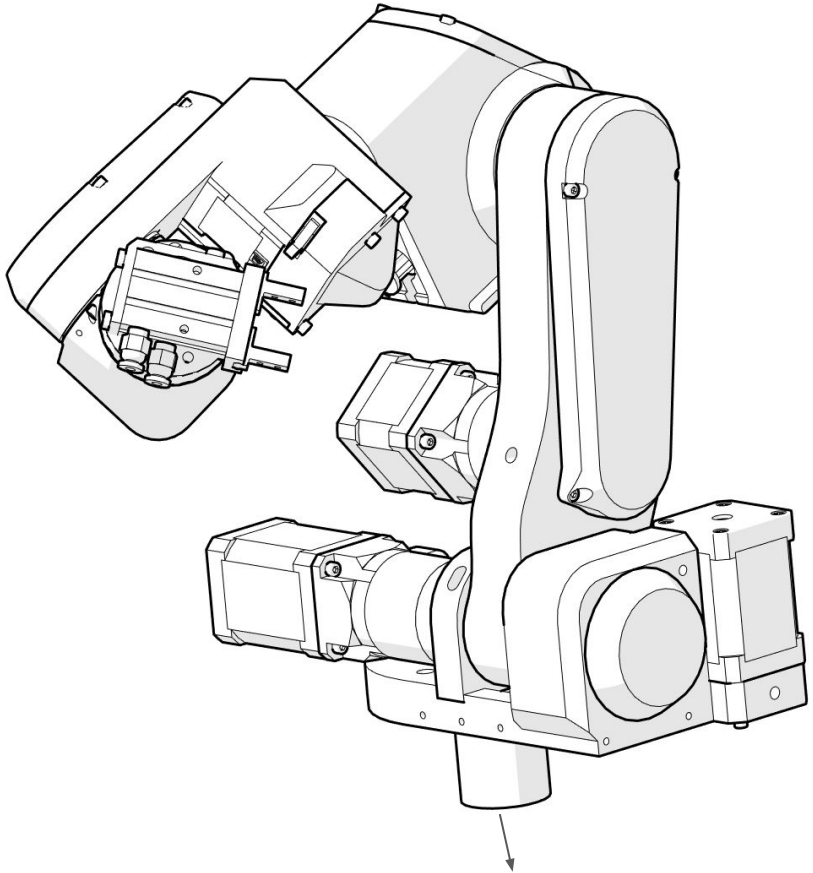
Shoulder assembly



J1_belt_cover
J1_wires_cover
M2 x 10 mm

Pull the wires from stepper for J1 thru the holes on the J1_belt_cover. After that pull the wires thru the J1_rotation shaft!
J1_belt_cover does not get screwed in on this stage!
Attach wires cover with 2 M2 screws.

Shoulder assembly



Now pull all the rest of the wires thru the J1 rotation shaft!

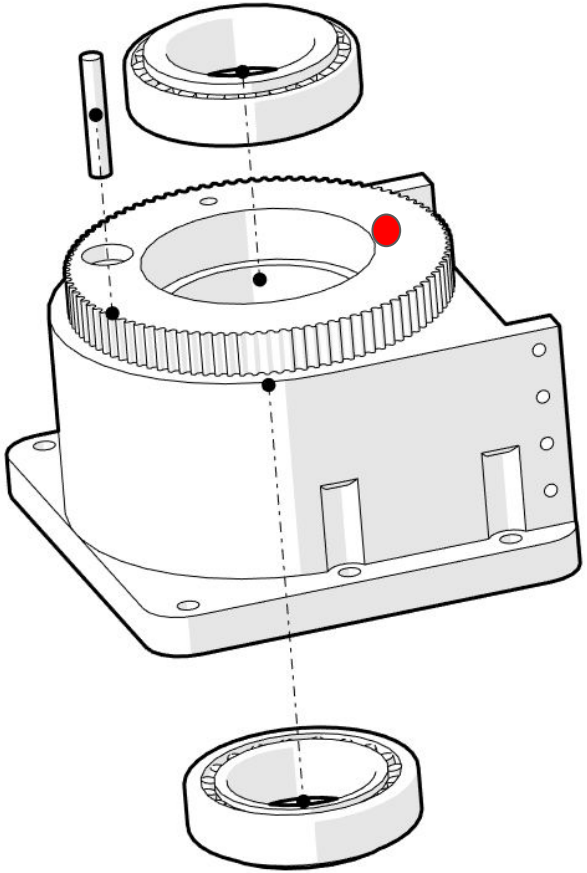
Source Robotics

Base assembly

Base assembly

Source Robotics

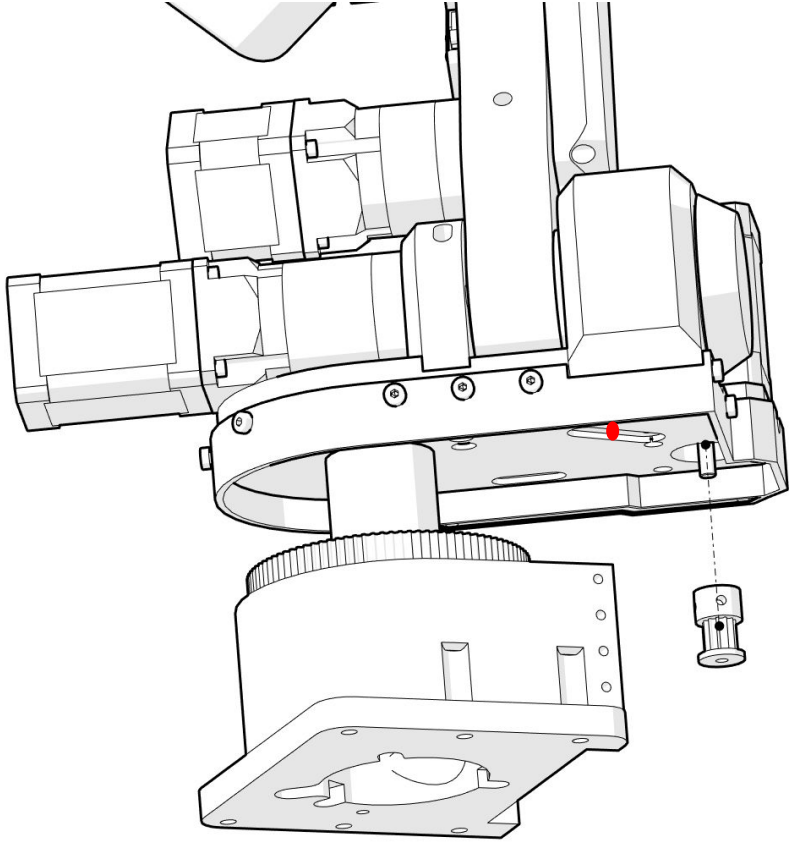
Main_base
2 x bearing 3
Sensor 3
1 x M3 25 mm



Parol6 robotic arm needs homing since it uses open loop-stepper drivers. Joints 1,4 and 6 are homed with inductive sensors. Homing is done with small screws that trigger the sensor when it gets close to it. You need to find “sweet” spot where the sensors trigger.

Sensor 3 needs to be in level with the main base. Screw it in with provided nuts, one from each side. In the hole marked with red attach M3 20mm screw all the way. It is used as a rotation limiter for J1.
IF YOU DON'T HAVE ROTATION BLOCKER IN PLACE YOU RISK DAMAGING YOUR ROBOT BY DOING MORE THAN 1 ROTATION IN THE BASE OF THE ROBOT!

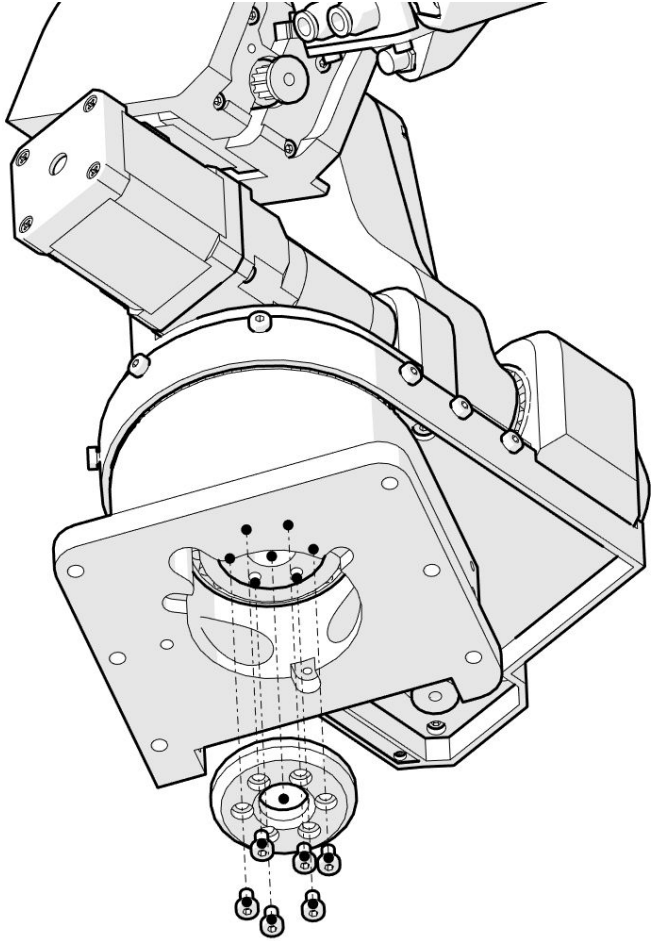
Base assembly



J1 pulley
J1 belt

Place J1 belt in position. Pull all the wires thru the base part (except J1 sensor) . After that slowly put the base all the way up to the J1 rotation shaft. Belt at this stage needs to be around base. After that you can screw in the covers and attach the pulley. Pulley has set screw holes on its side same as the cover part. If needed add belt tension bearing on the red spot.

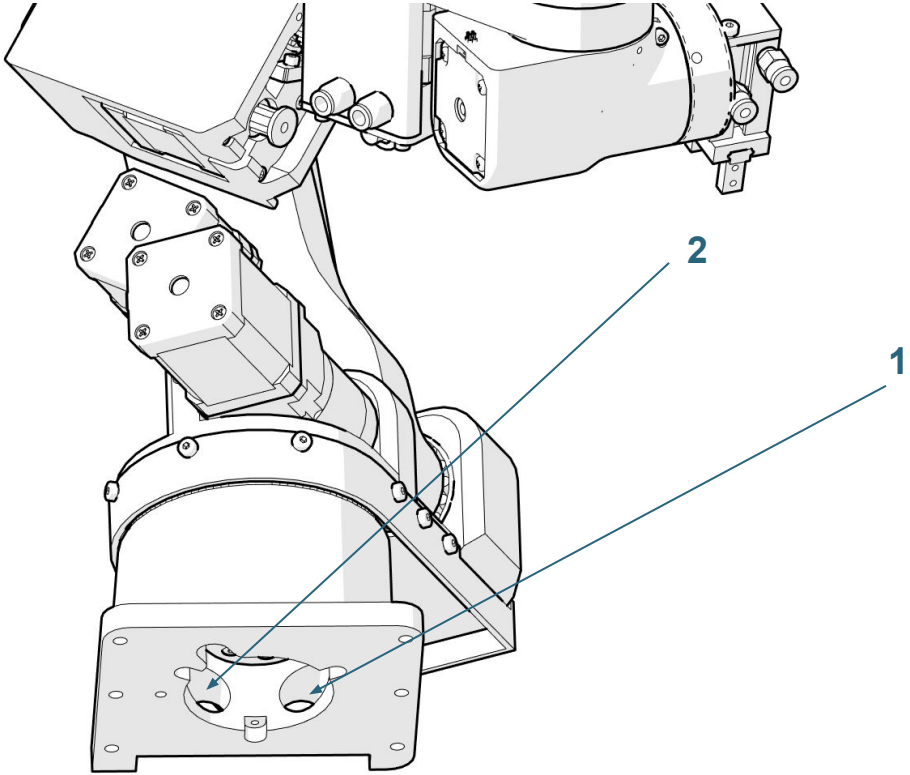
Base assembly



J1_backplate
6 x M4 16 mm

Pull all the wires (Except J1 sensor) thru the J1 backplate.

Base assembly



All robot wires need to go thru hole 1 and 2. To keep wiring mess to a minimum and reduce strain on the wires use this guide:

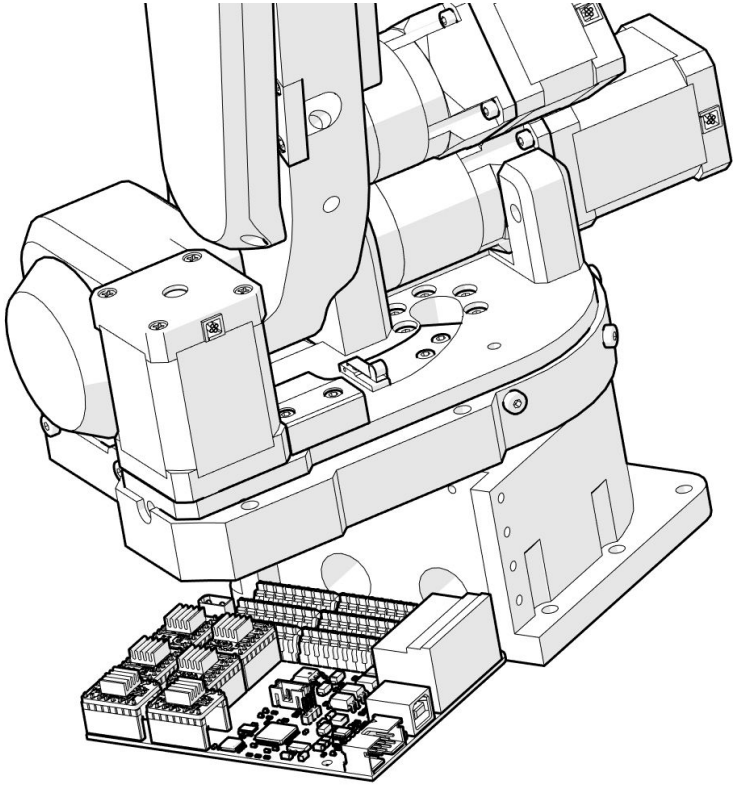
Hole 1:

J1,J3,J5 Steppers
Limit 2,1,5

Hole 2:

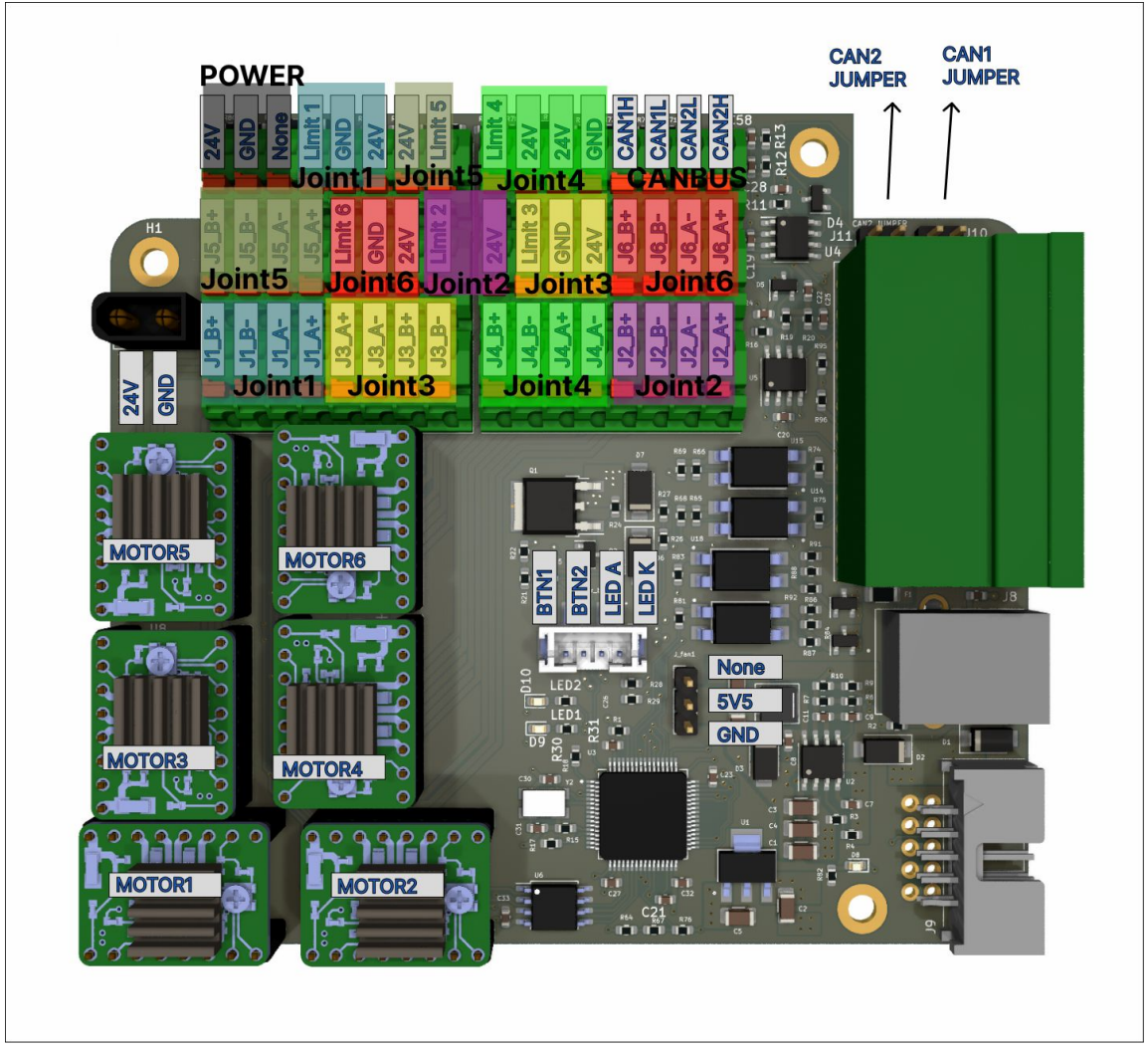
J2,J4,J6 Steppers
Limit 6,3,4, CAN
Pneumatic tubes

Base assembly



PAROL6 control board
You can buy PAROL6 control board at:
https://source-robotics.com/products/parol6-control-board
Or send us an email at
info@source-robotics.com

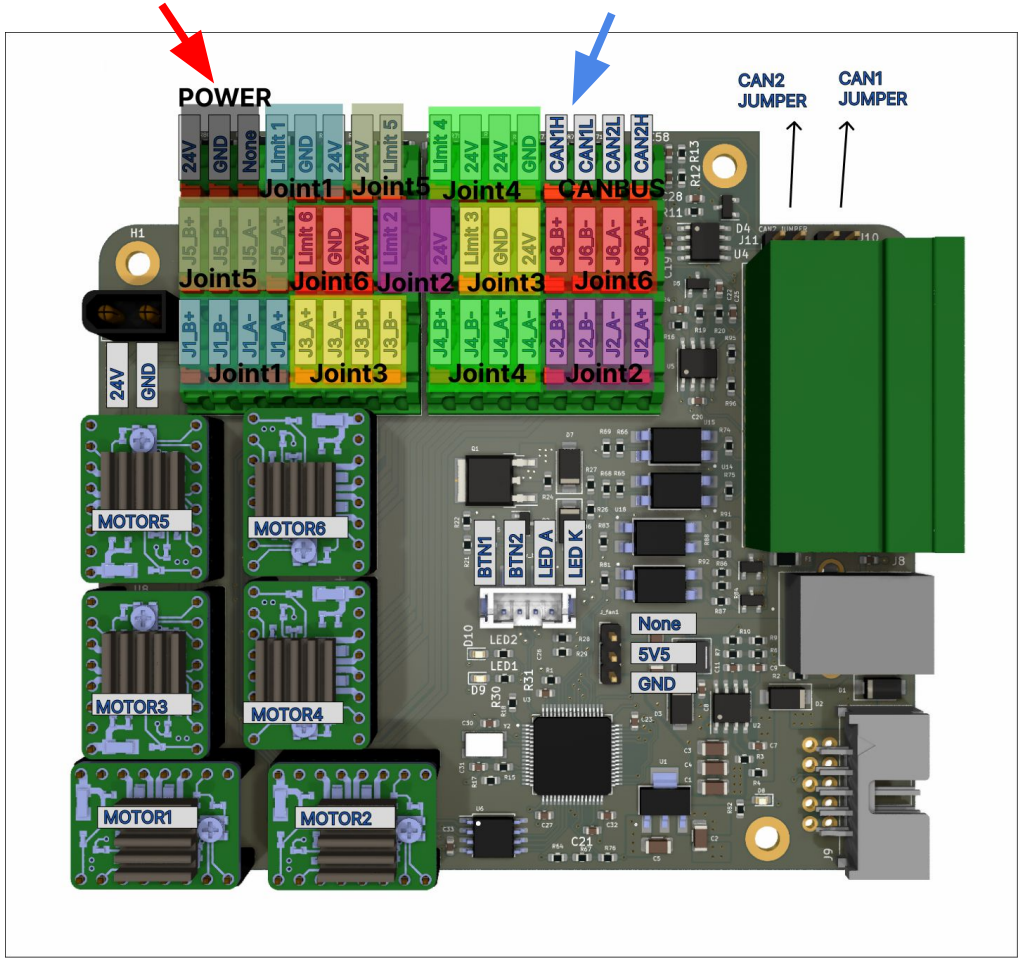
Position the board like shown in the picture. Wire the robot by following these wiring instructions or ones in the docs!



Source Robotics

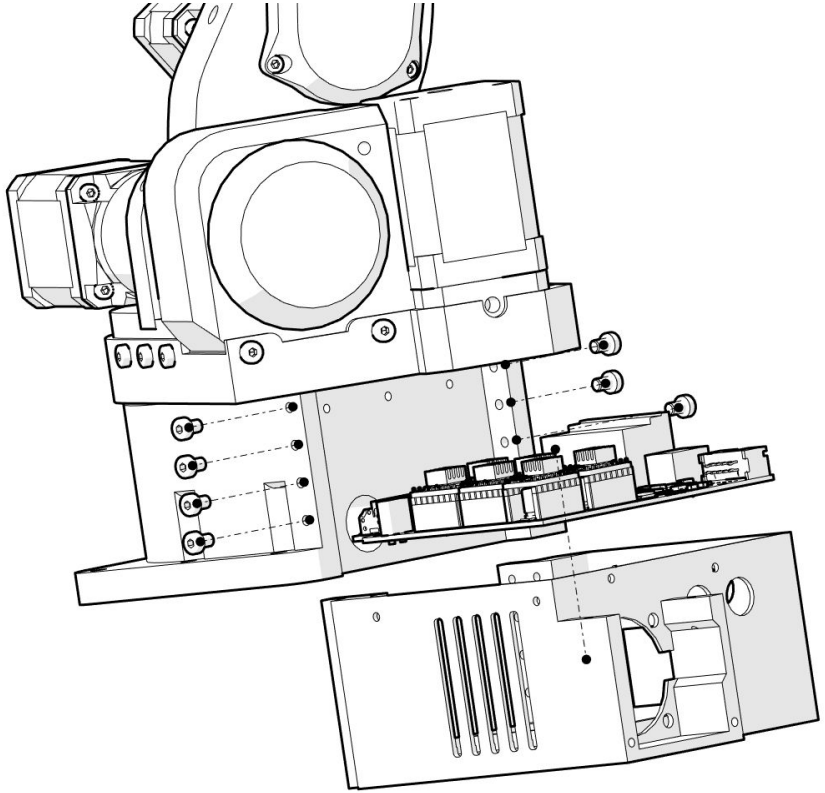
Wire the robot using the image on the left. For the stepper motors it is important to wire phases A and B correctly but if you switch the wires on one phase ex. phase A+ and A- it is not important since this will be taken care in the software. For limit switches orientation is also not important (one lead to 24V other to signal. For Inductive sensors.

- Black - signal
- Blue - negative
- Brown - positive



Connect CAN gripper connection wires to the 24V and GND of the POWER connection (marked with red arrow). Connect CANH and CANL gripper connection wires to the CAN1H and CAN1L of the CANBUS connector marked with blue arrow.

Base assembly



Electronics case
8 x M3 12 mm

Slide the electronics case from the bottom of the board. Secure it to the robot with 8 x M3 screws. Remove the terminals from the green connector next to the USB.

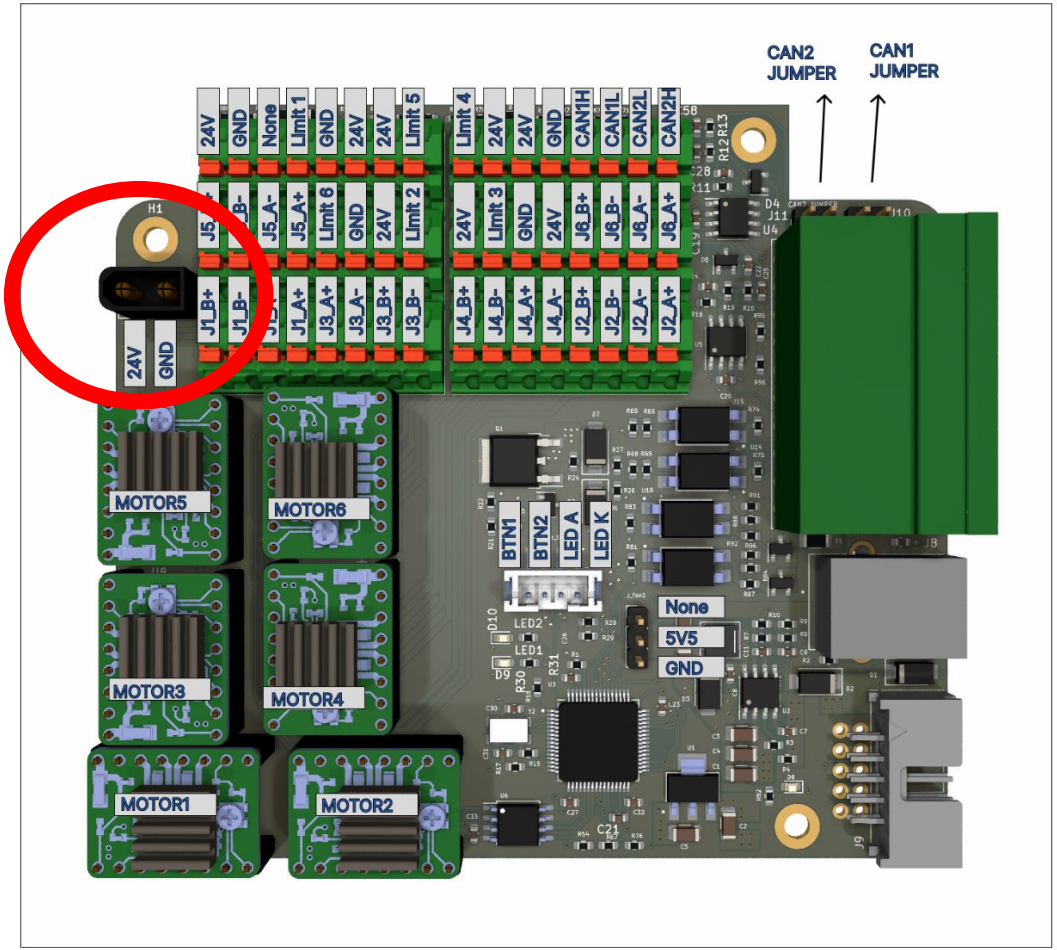
Prepare the wires





On/off button
JST PH 2.0mm 4pin wire

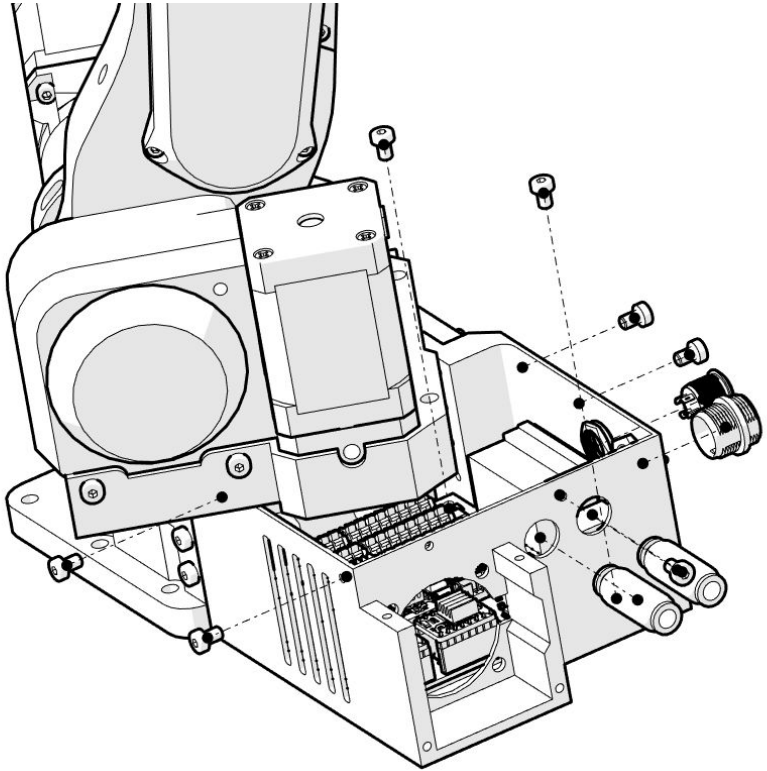
Attach JST wire to the button following the colour markings. Only follow it if you have exact same wire and button. Length of the JST cable needs to be 80 mm!



GX16 2PIN
xt30 female connector

Attach GX16 2PIN male connector with at least 110 mm wire to the xt30 female connector! MAKE SURE YOU FOLLOW THE POLARITY AS SHOW ON THE IMAGE!

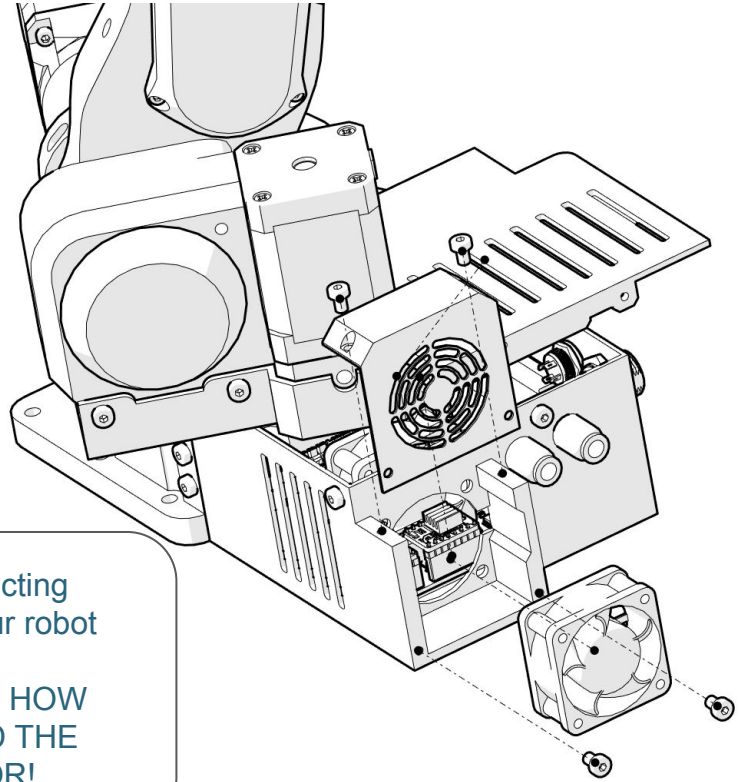
Base assembly



2 x Pneumatic connector 1
On/Off button
Power connector
8 x M3 8 mm

Pneumatic tubes after they exit the base of the robot need to be at least 150mm long! If needed shorten cooling fan wires. Also make note of the polarity of the fan!

Base assembly

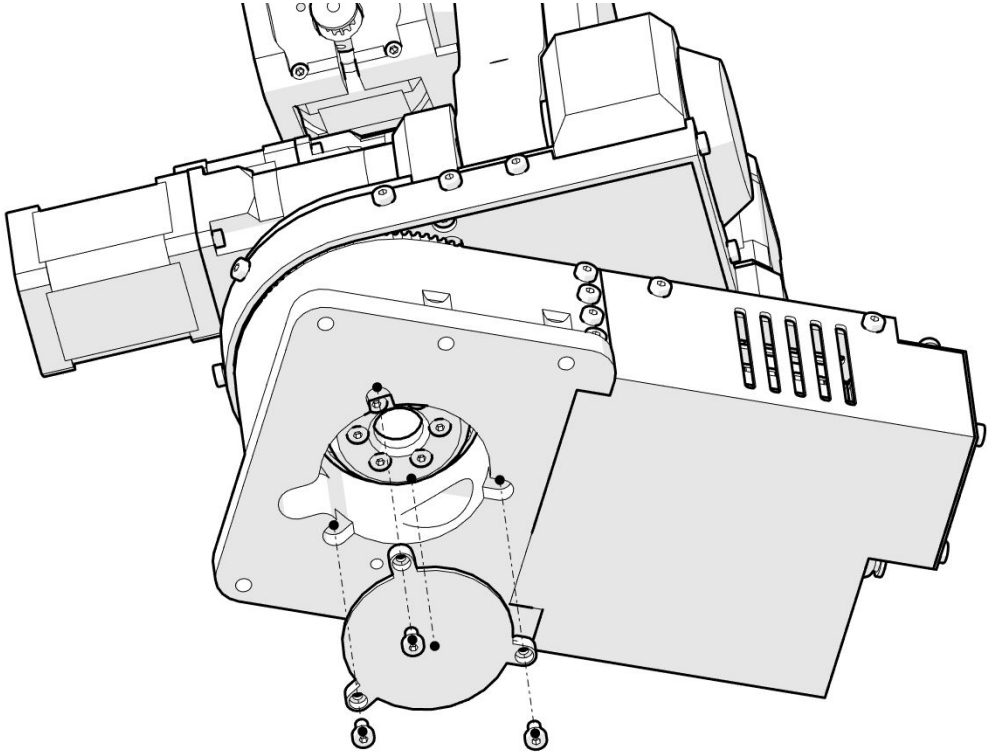


Lid_electronics
Fan cover
Cooling fan
2 x M3 8 mm

Attach cooling fan using provided screws. Fans wires need to shortened if they are too long. Depending what fan you use; it may come with different set of screws.

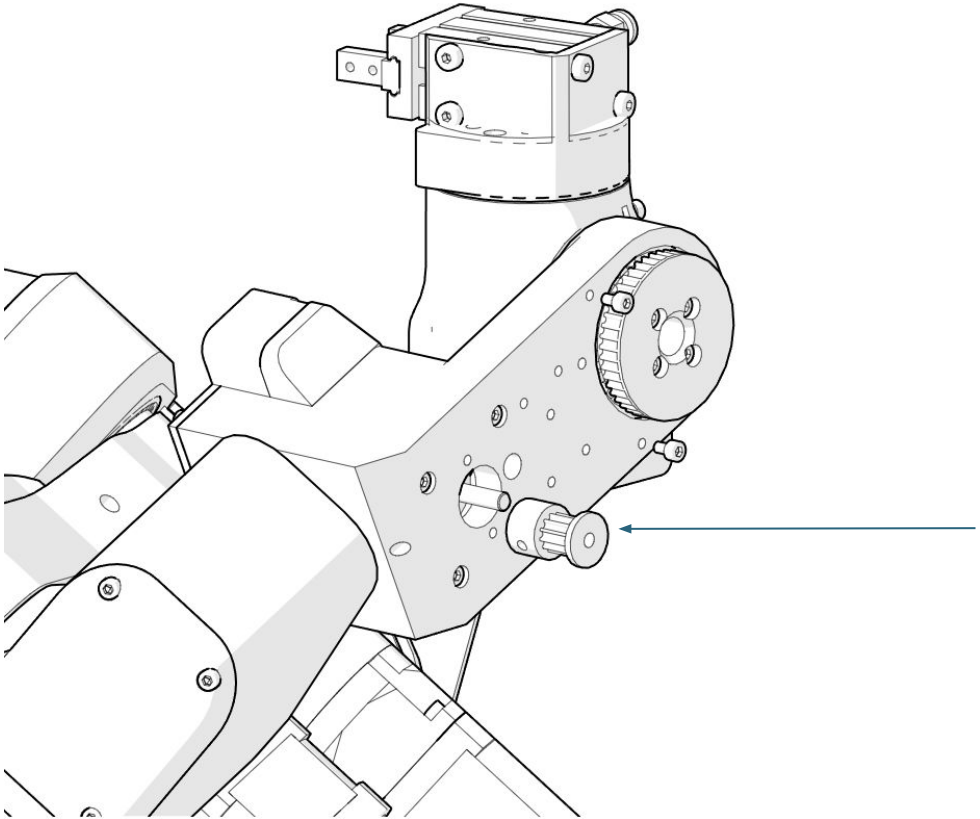
When connecting power to your robot (24V) PAY ATTENTION HOW YOU WIRED THE CONNECTOR!

Base assembly



Bottom lid
3 x M3 8 mm; 2 mm head height

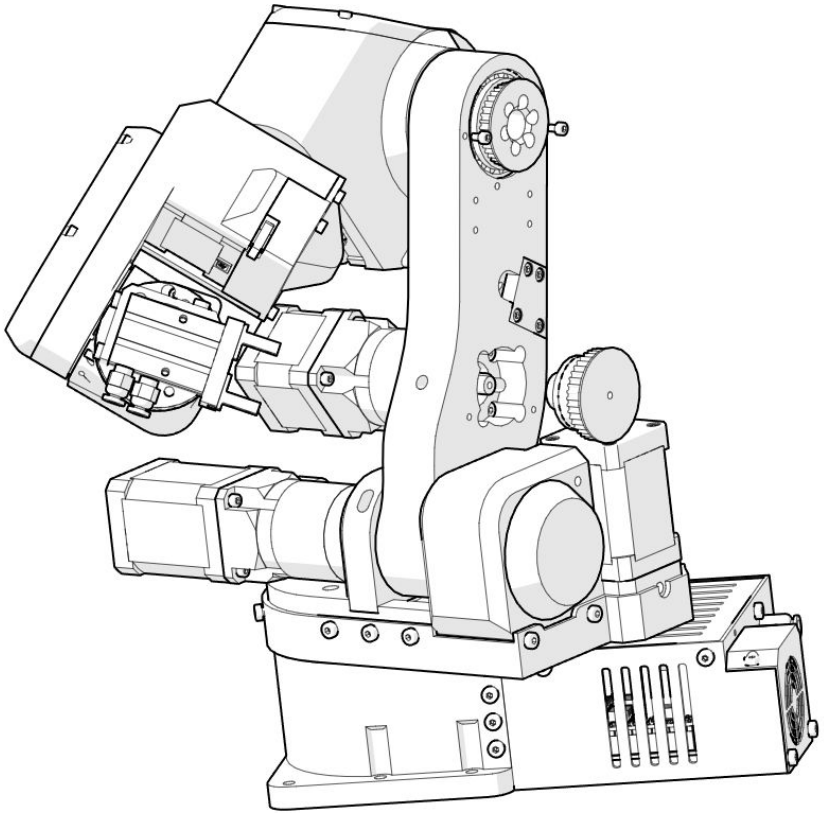
Attaching J5 belt



J5 Pulley
J5 belt

Attach the belt between J5 pulley and HTD3_48_J5_pulley

Attaching J3 belt



4 x 3x8 mm bearing
42_pulley
Shaft coupler
4 x M4 10mm

Attach shaft coupler to the pulley with 4 M4 10mm screws.

Gearbox has a hole (keyway) where key should be going. Since we are not using keys make sure that the screw of shaft coupler goes in the keyway! Use threadlocker here!

shaft couplers!

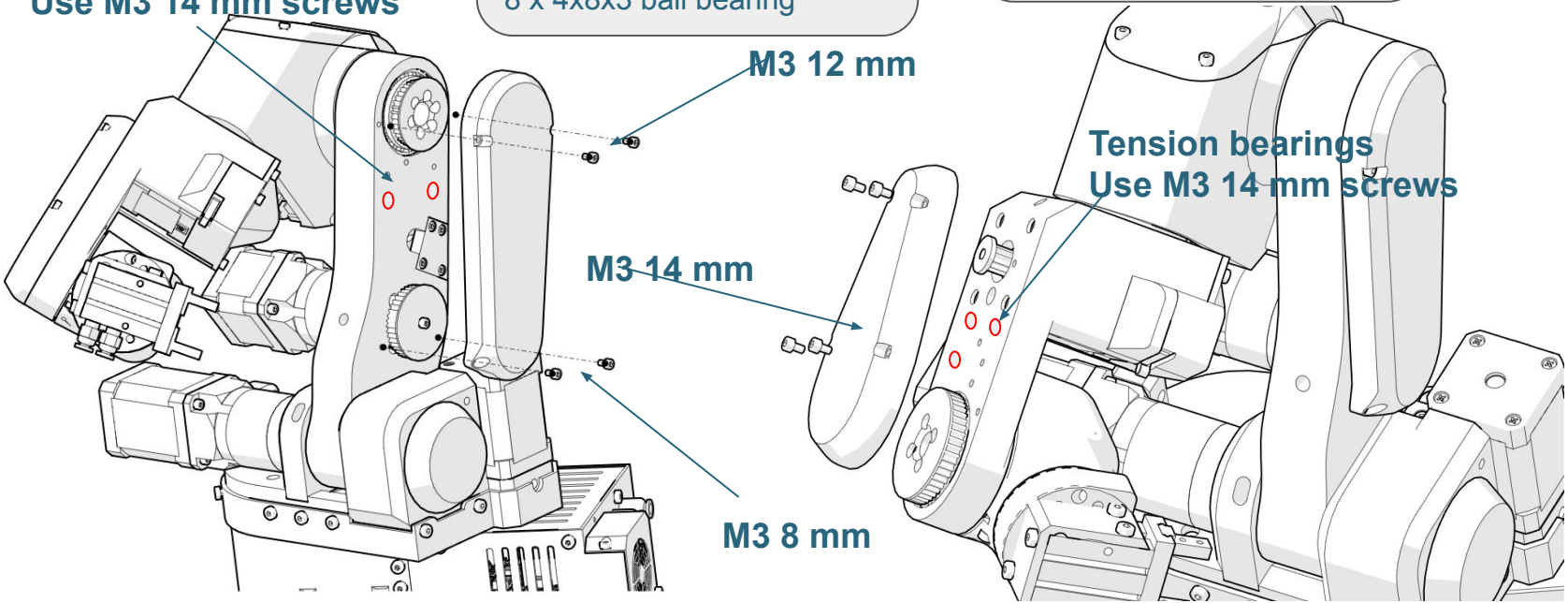




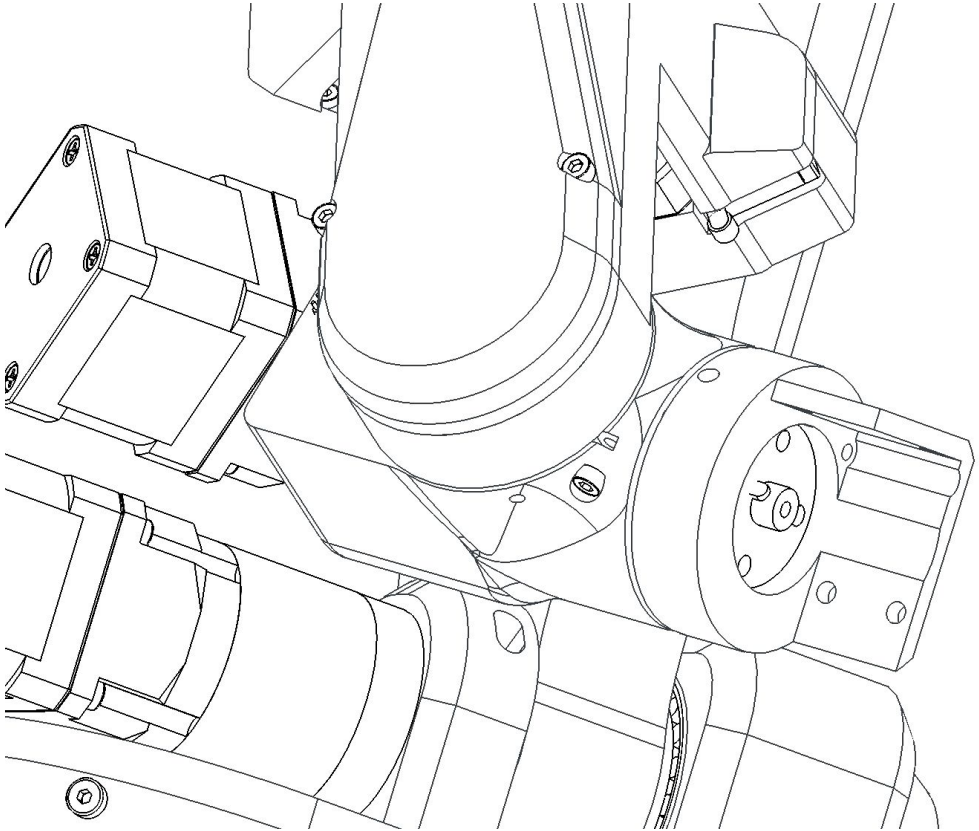
Attaching joint covers

2 x M3 12 mm
2 x M3 8 mm
8 x M3 14 mm
8 x 4x8x3 ball bearing

For belt tension use 2 bearings on M3 14 mm screw. Do that on each side of the belt



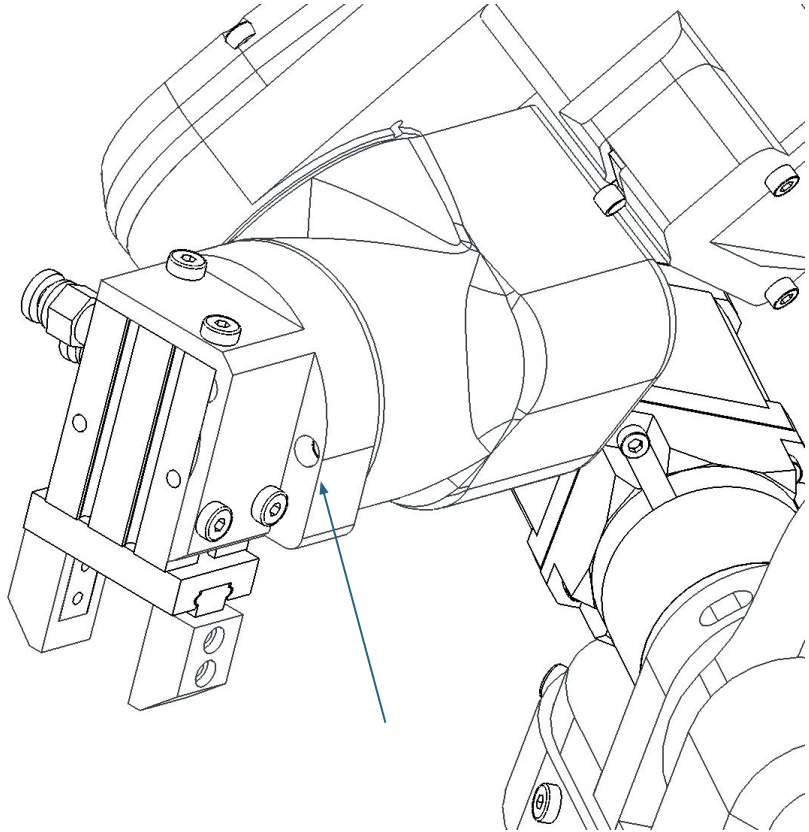
Pneumatic gripper



Shaft coupler
4 x M4 10mm
Pneumatic gripper holder
M3x 14mm screw

Attach shaft coupler to the pneumatic gripper holder. Make sure to align holes of the shaft coupler for set screws with the ones on the pneumatic gripper holder.

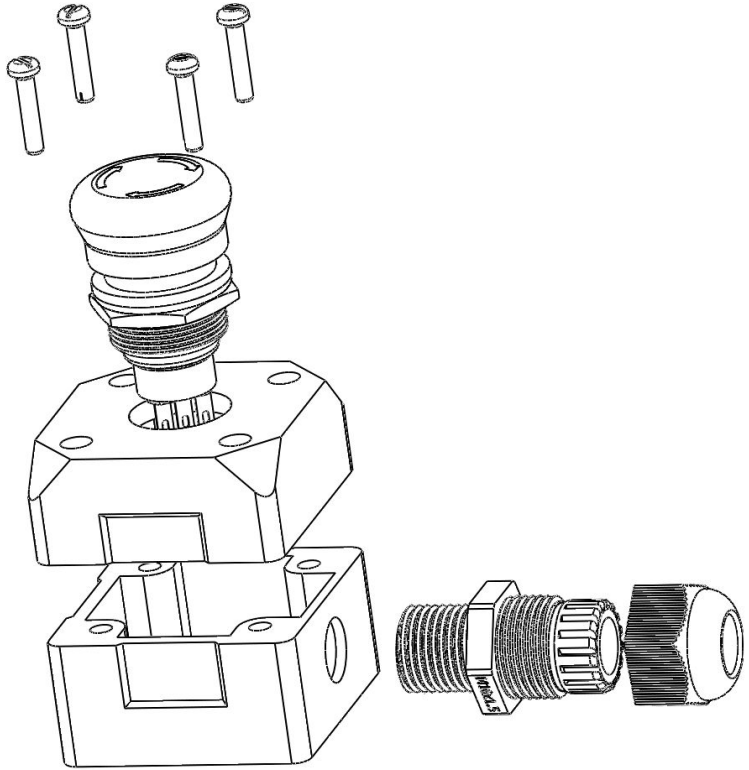
Pneumatic gripper



M3x 14mm screw
Pneumatic gripper
4 x M4 10mm

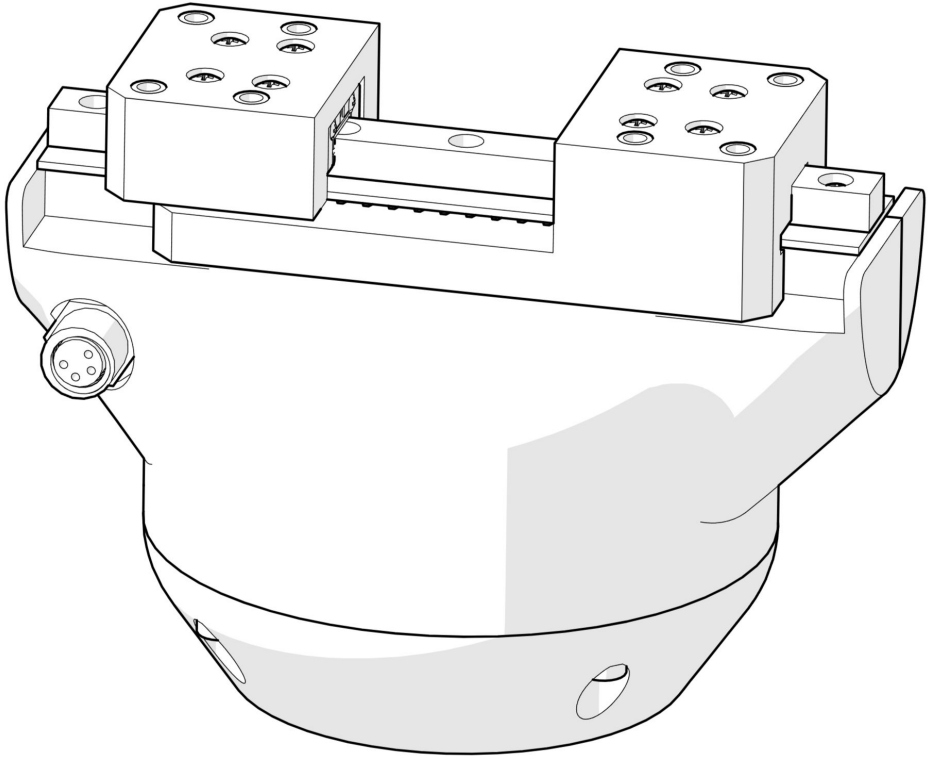
Attach gripper to the holder with 4 M4 screws. Add pneumatic connectors to the gripper if they are not installed. Install homing screw (M3 x 14mm) to the hole marked with arrow. Make sure that homing screw triggers the sensor. Screw in the set screws on the shaft coupler.

Estop assembly



4x M3x 25mm screw
Estop
Estop bottom
Estop top
Cable gland PG7
4 x M3 brass inserts

SSG48 gripper



If you want to build SSG electric gripper to use with your PAROL6 check this guide: https://github.com/PCrnjak/SSG-48-adaptive-electric-gripper

Great job!

Source Robotics

[Go to the docs to get your robot up and running!
https://source-robotics.github.io/PAROL-docs/](https://source-robotics.github.io/PAROL-docs/)

