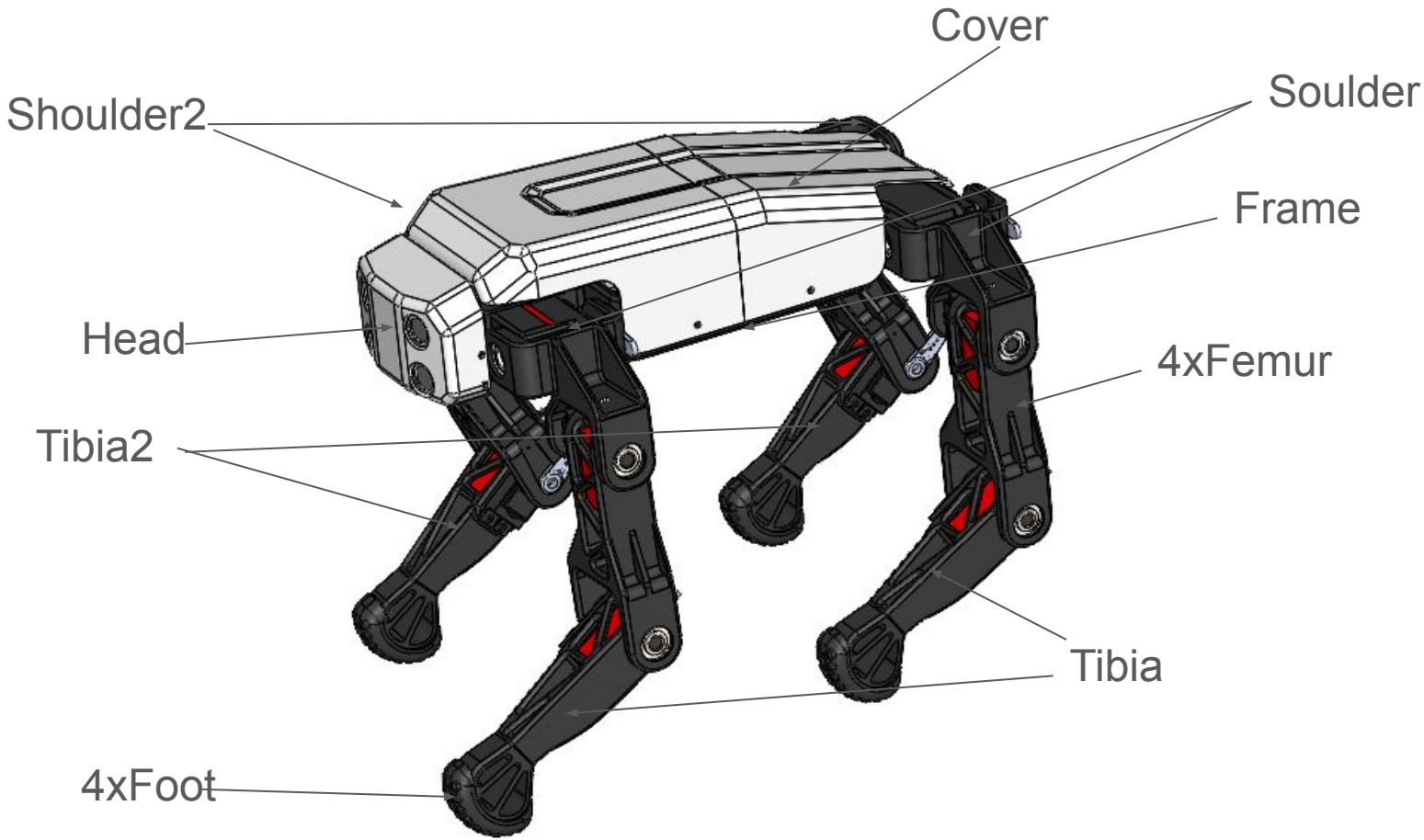
Assembly instruction

ROKI quadruped ROBOT

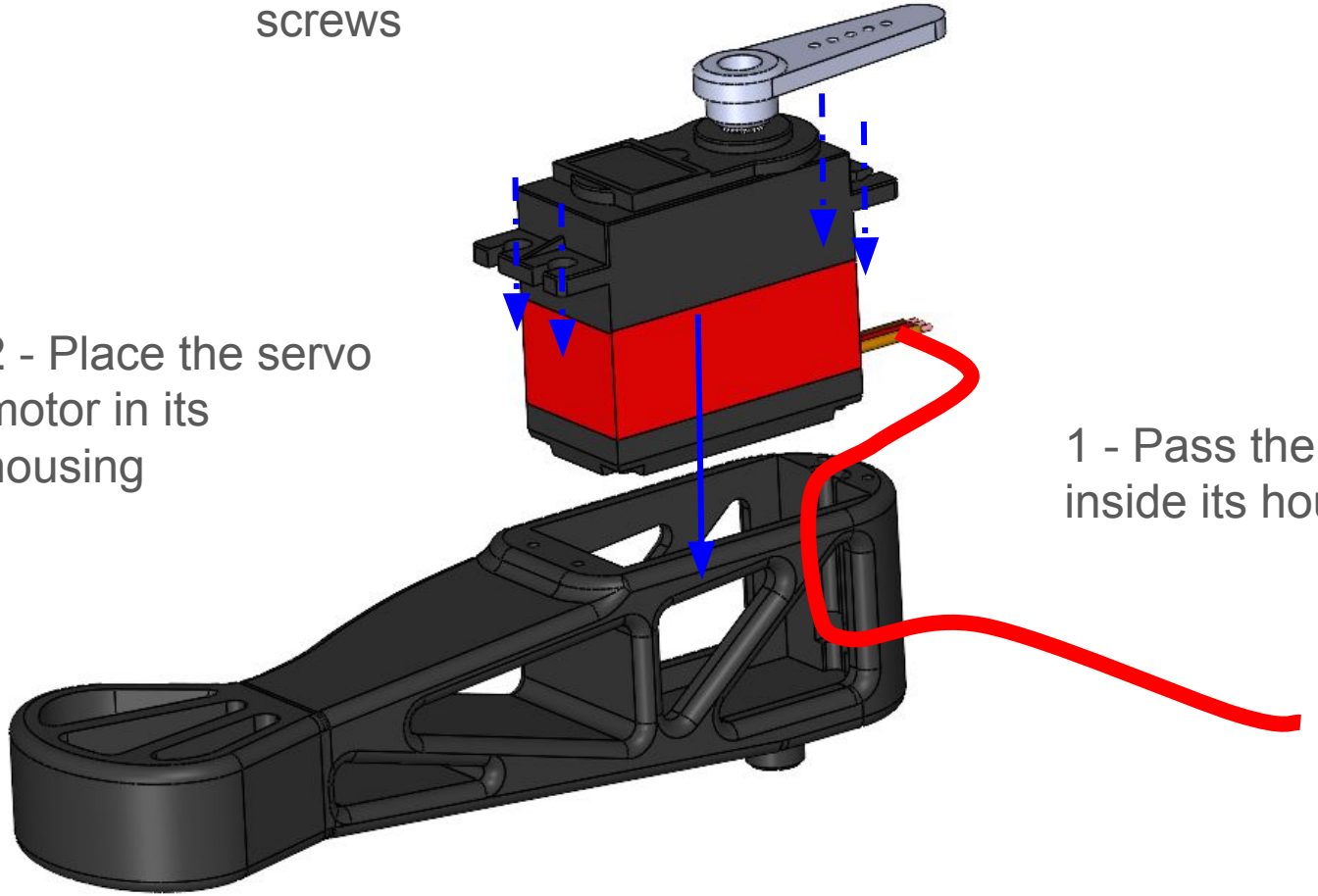

Cover
Shoulder2
Soulder
Frame
Head
4xFemur
Tibia2
Tibia
4xFoot

4x TIBIA

3 - Screw in the 4 screws

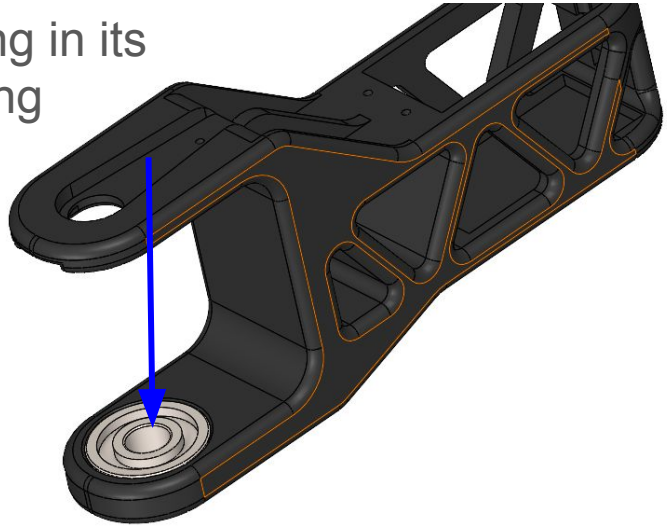
2 - Place the servo motor in its housing

1 - Pass the wire inside its housing

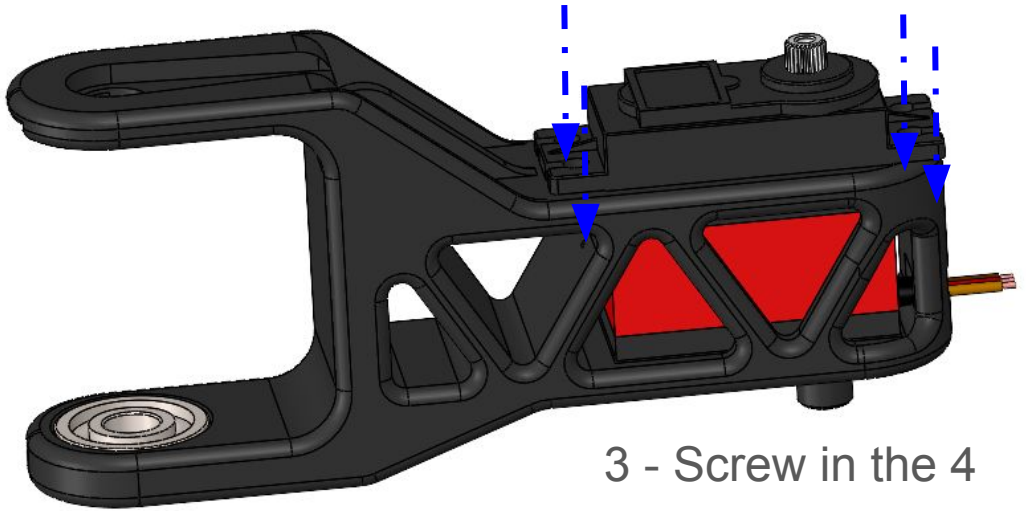


4x FEMUR

1 - Place the ball bearing in its housing



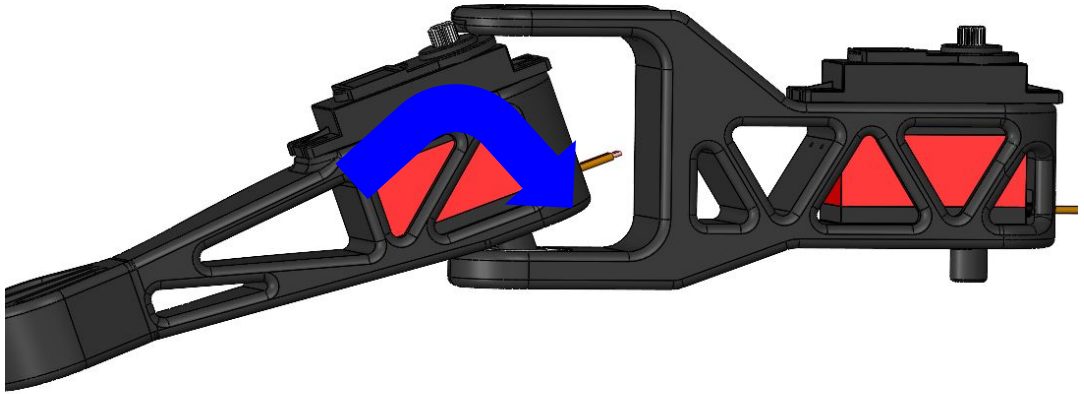
2 - Place the servo motor in its housing



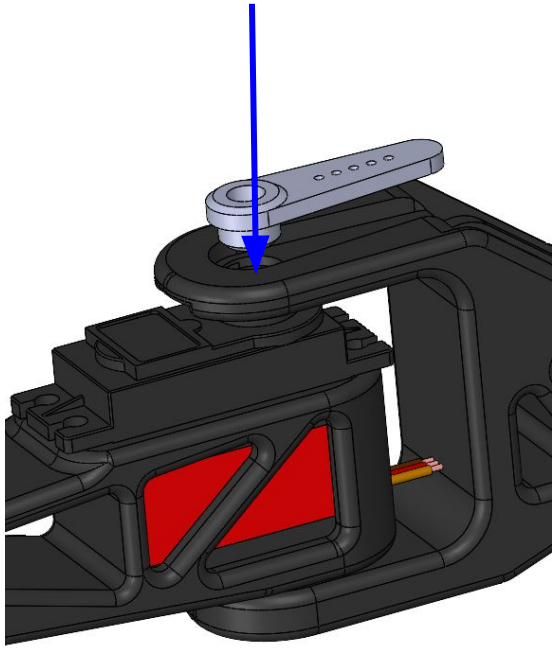
3 - Screw in the 4 screws

4x FEMUR

1- place the TIBIA in the ball bearing of the FEMUR as photo bellow

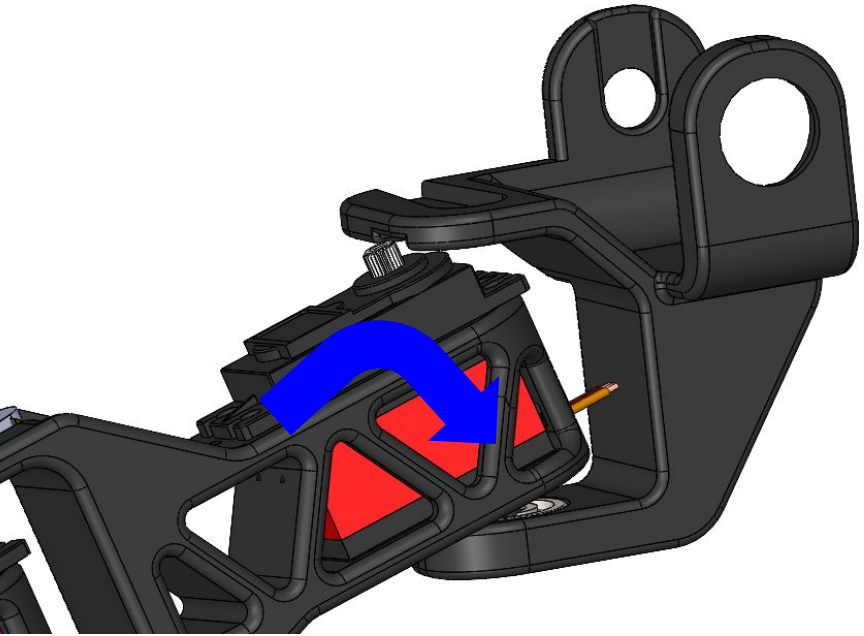


2 - fix the servo arm through the femur

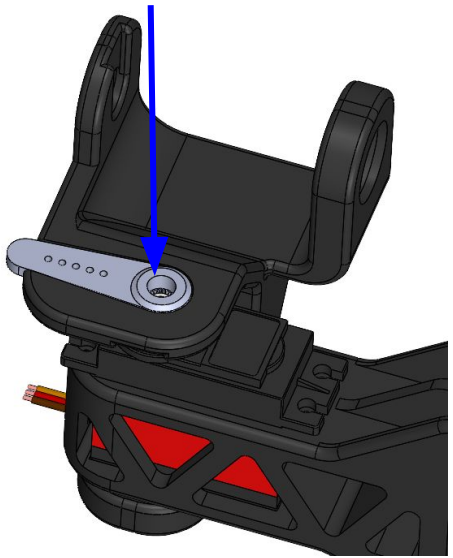


4x shoulder

1- place the FEMUR in the ball bearing of the shoulder as photo bellow

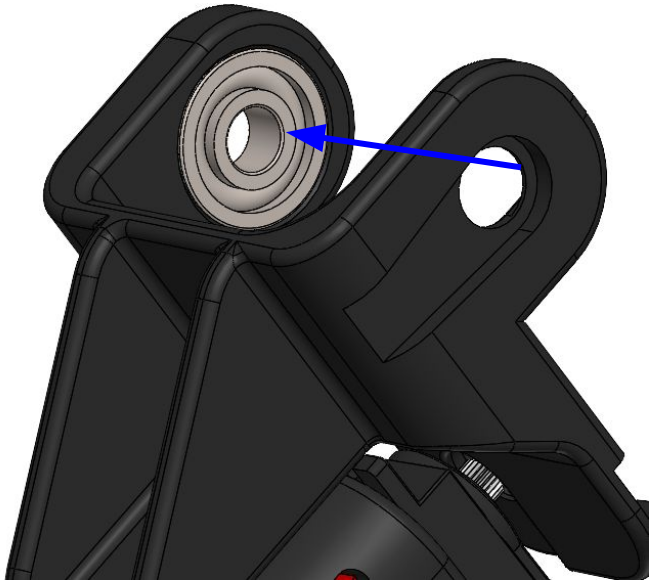


2 - fix the servo arm through the shoulder



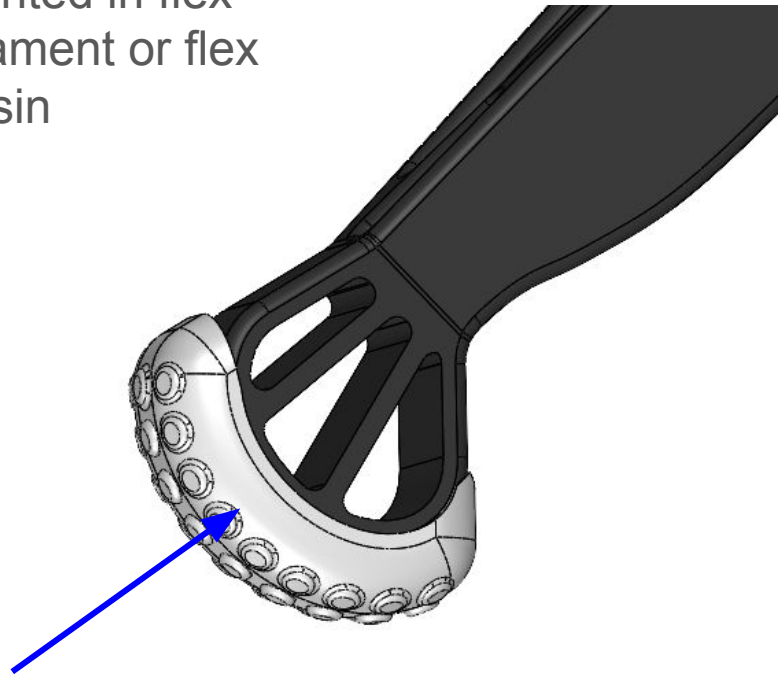
4x shoulder

3- Place the ball bearing inside its housing



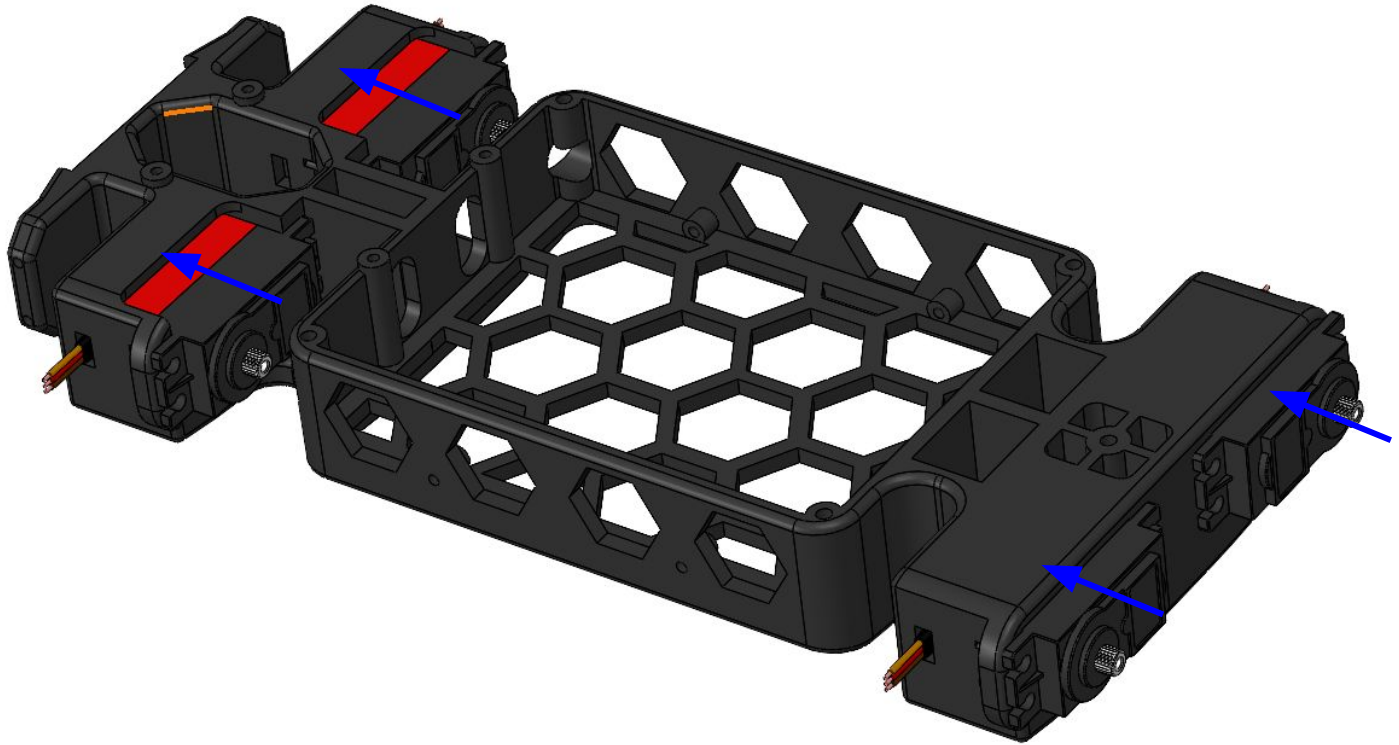
4x foot

2- Glue the foot pad, they must be printed in flex filament or flex resin

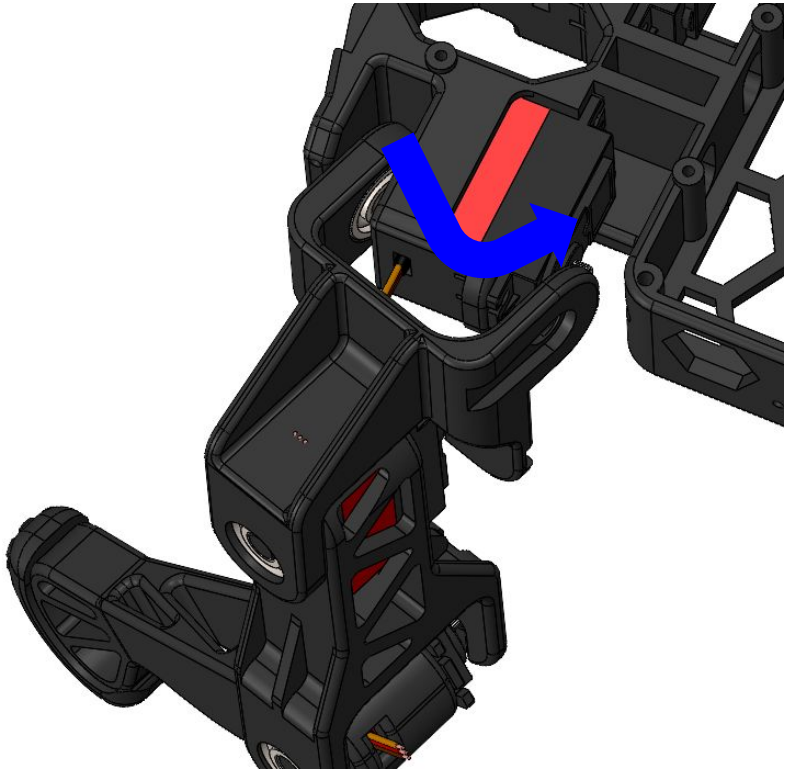


1- Place all servo motor inside their housings and screw them

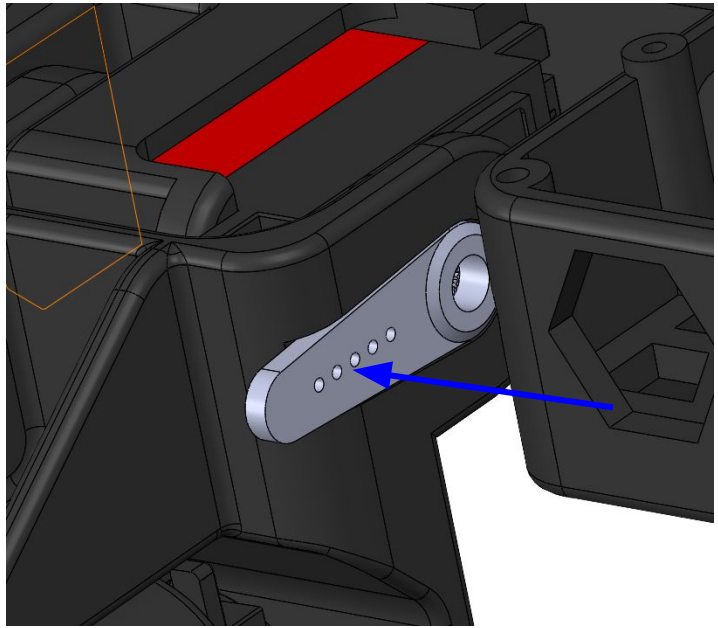
Frame



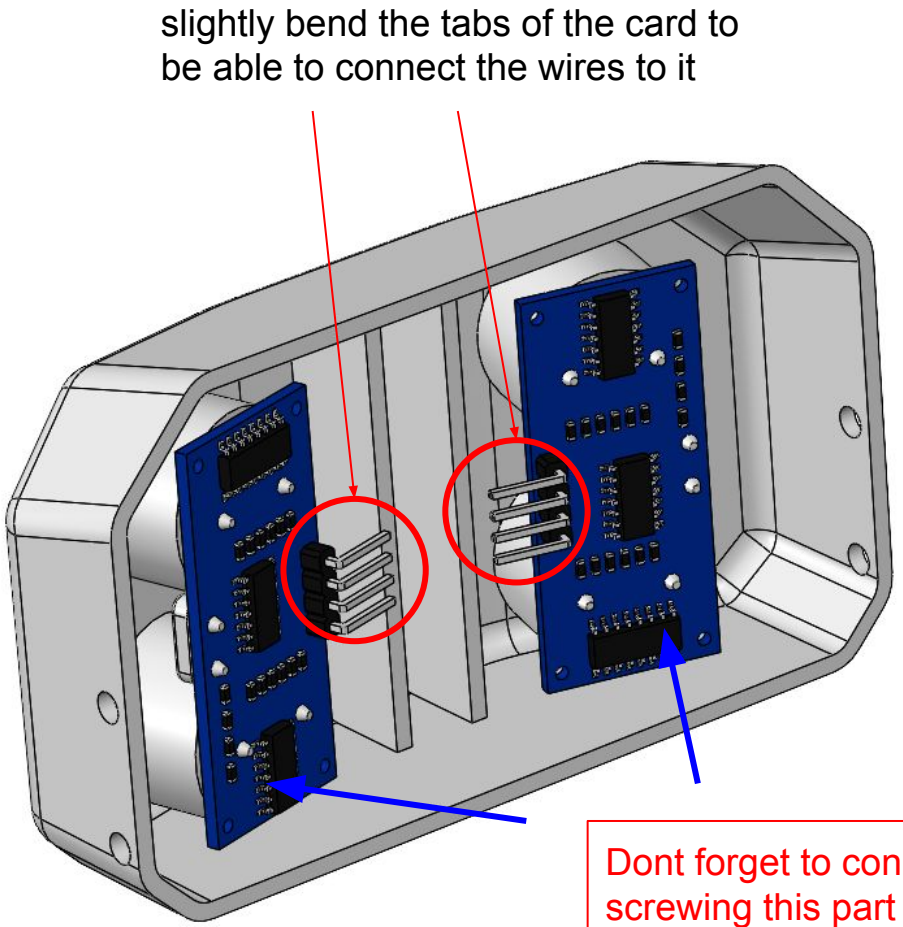
1- Mounts the 4 legs on the fram as photo below

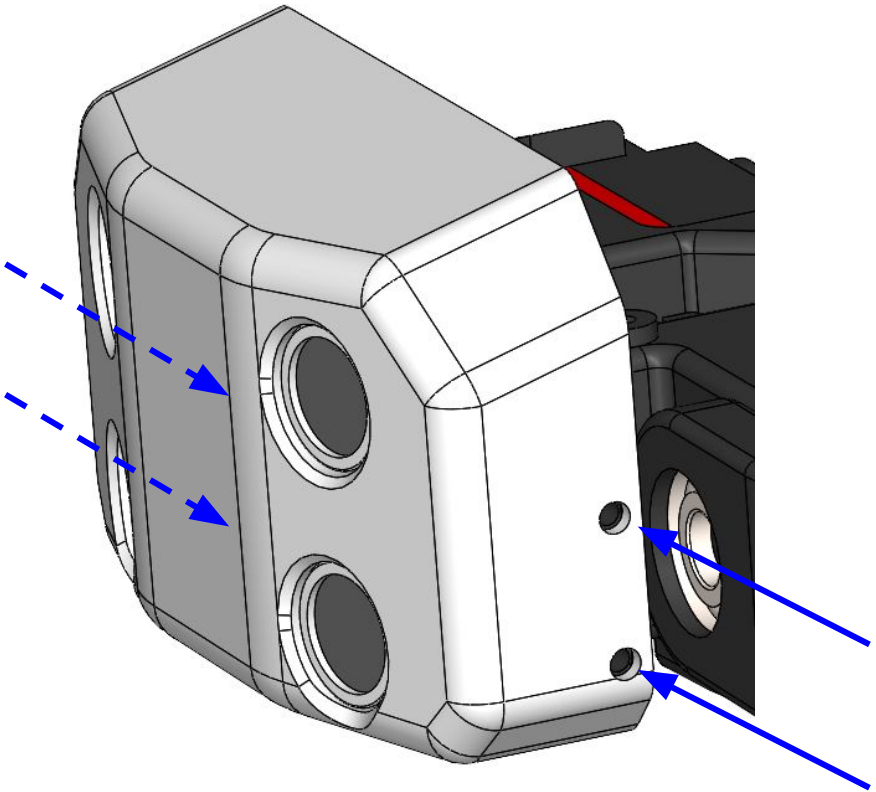


2- fix all motors with servo arms

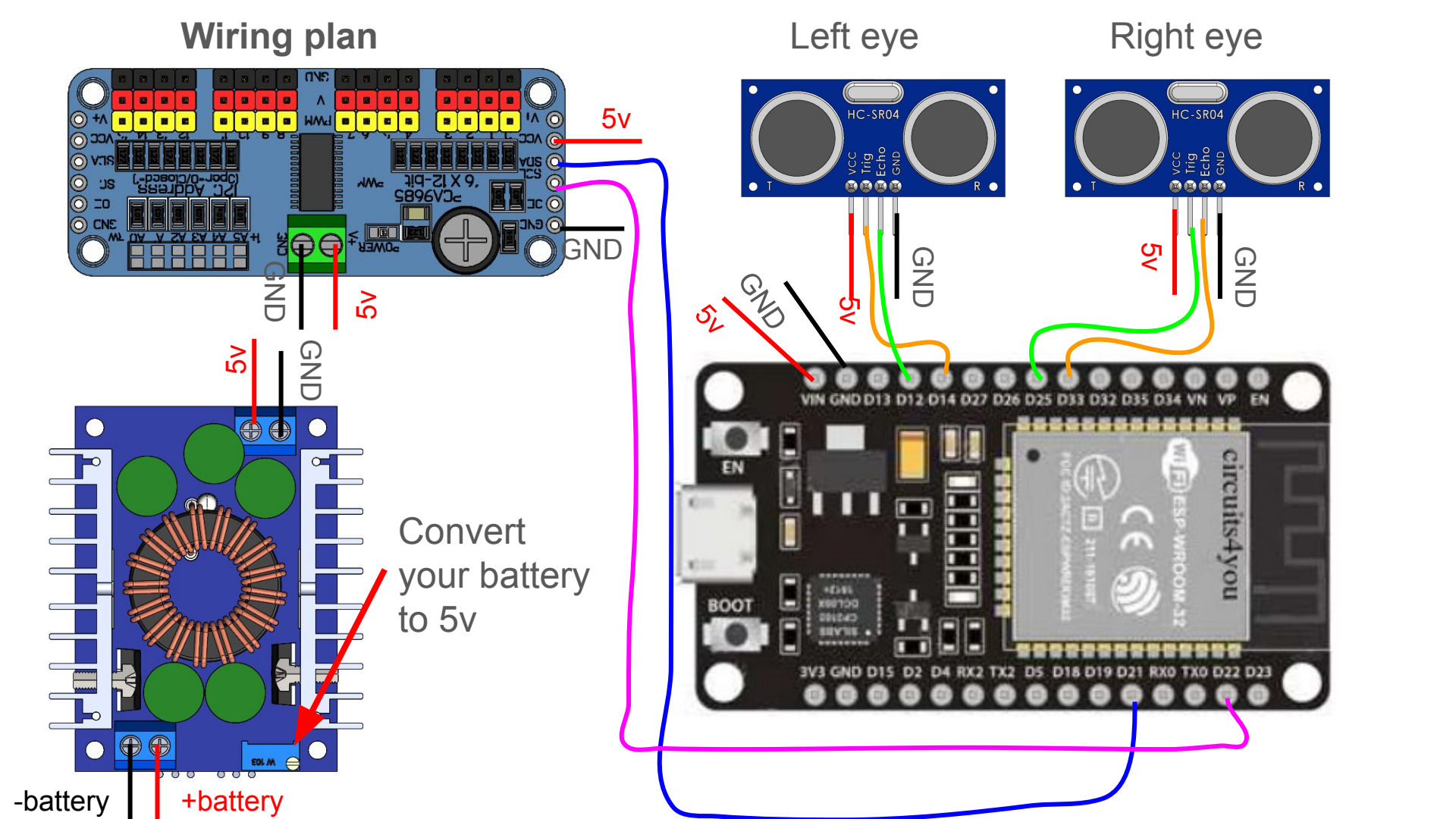


1- place the ultrassonics sensors inside head



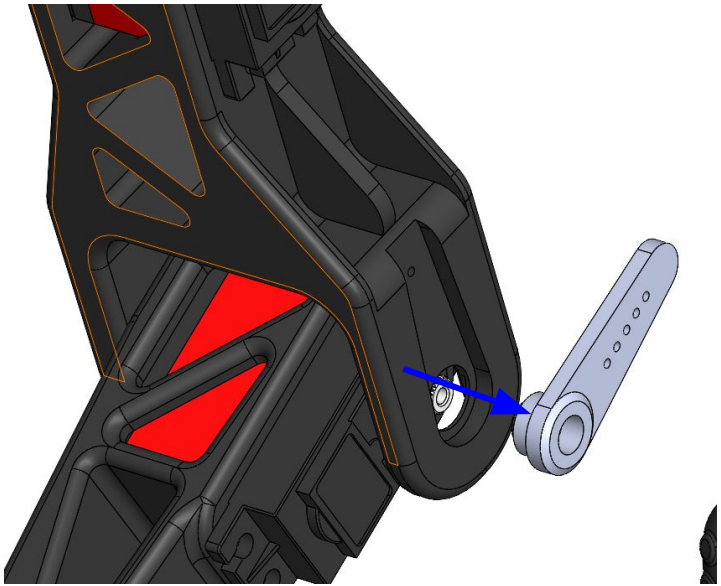


1-Use screw Ø3x8
to screwing the
head on the frame


Wiring plan
Left eye
Right eye
HC-SR04
VCC
Trig
Echo
GND
T
R
5v
GND
PCA9685
16 X 12-bit
PWM
POWER
VIN GND D13 D12 D14 D27 D26 D25 D33 D32 D35 D34 VN VP EN
3V3 GND D15 D2 D4 RX2 TX2 D5 D18 D19 D21 RX0 TX0 D22 D23
EN
BOOT
circuits4you
ESP-WROOM-32
Convert
your battery
to 5v
-battery
+battery

First start

1 - On first startup you should initialize all 12 servos. You must first remove all the servo arms from each motor so as to leave each motor free to rotate.

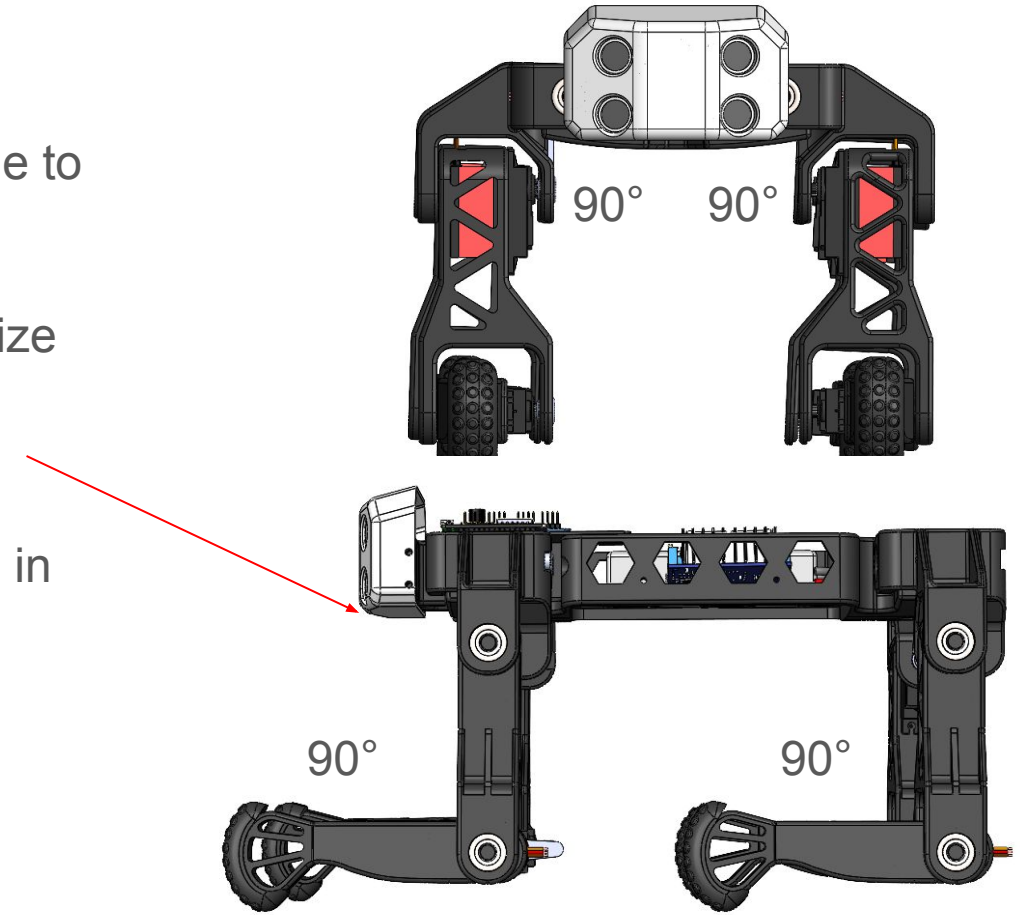


First start

2- Then upload the "initialization.ino" code to the esp32

3- Start the robot, all motors should initialize automaticaly at position= Shoulder: 90° / Femur: 90° / Tibia: 90° / Tibia2: 90°

4- then put the robot in position as shown in the picture then reattach the servo arms. Your robot is initialized



5- Now you can upload “Main_ROKI.ino in your ESP32.
6- Start the robot, connect your PC or smartphone to the wifi “ROKI001”, type password “ROKI001123456”.

```
const char* ssid = "ROKI001"; // Nom du réseau
const char* password = "ROKI001123456"; // Mot de passe du réseau
```

7- to know the IP adress of ESP32, connect it to your computer and open the serial monitor, at starting the ESP32, the IP adress will appear

```
IP Address: 192.168.4.1
left
0right
0
```

8- Type this adress in your web browser