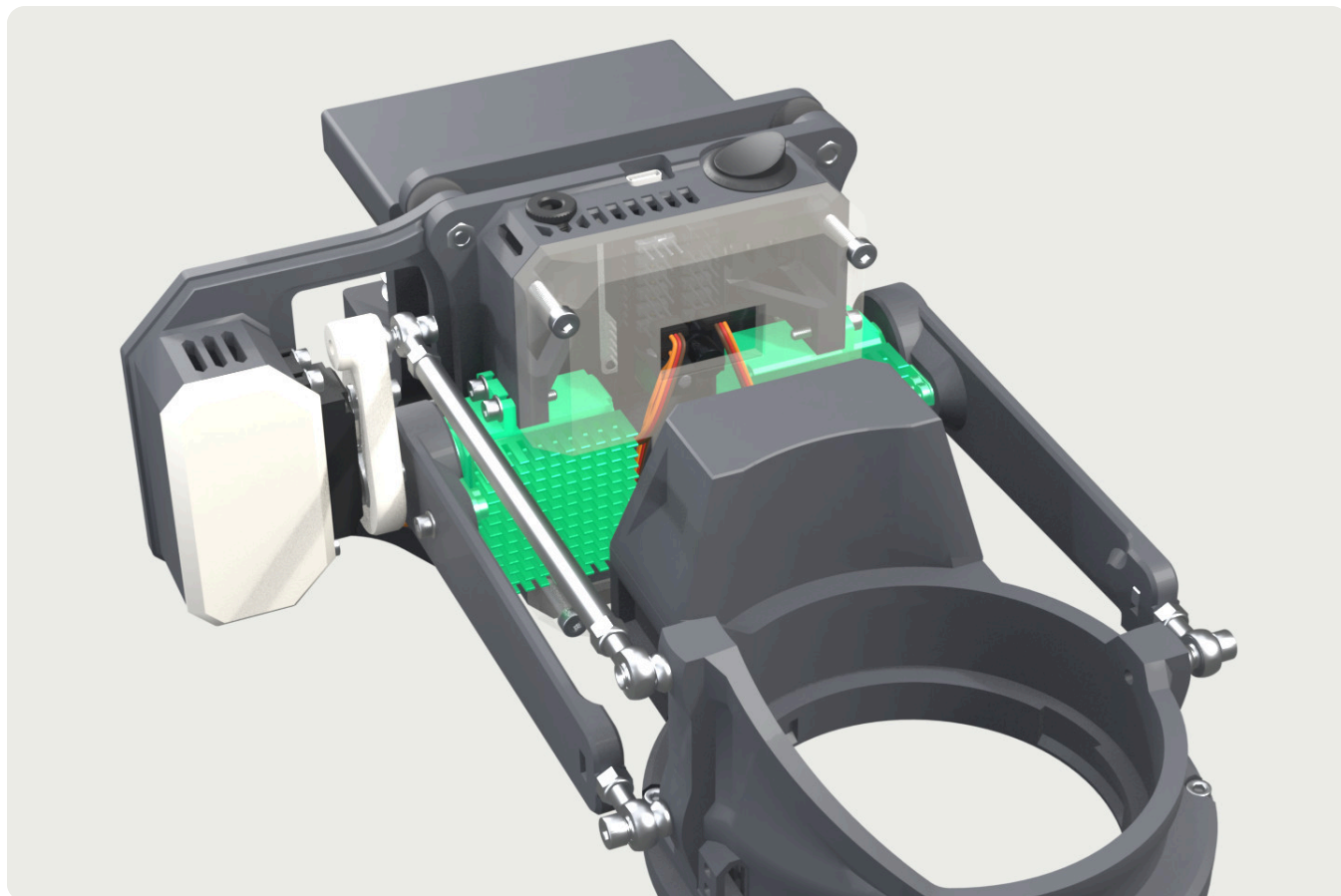


Replacing the main motors

OSR2 · VESPERA Edition



i If you are swapping just the right motor out, you can start at step 3.

Before you start

- Switch the OSR2 off and unplug it.
- Hex keys for M4 and M3.
- A tray for the bolts and washers.

What comes out

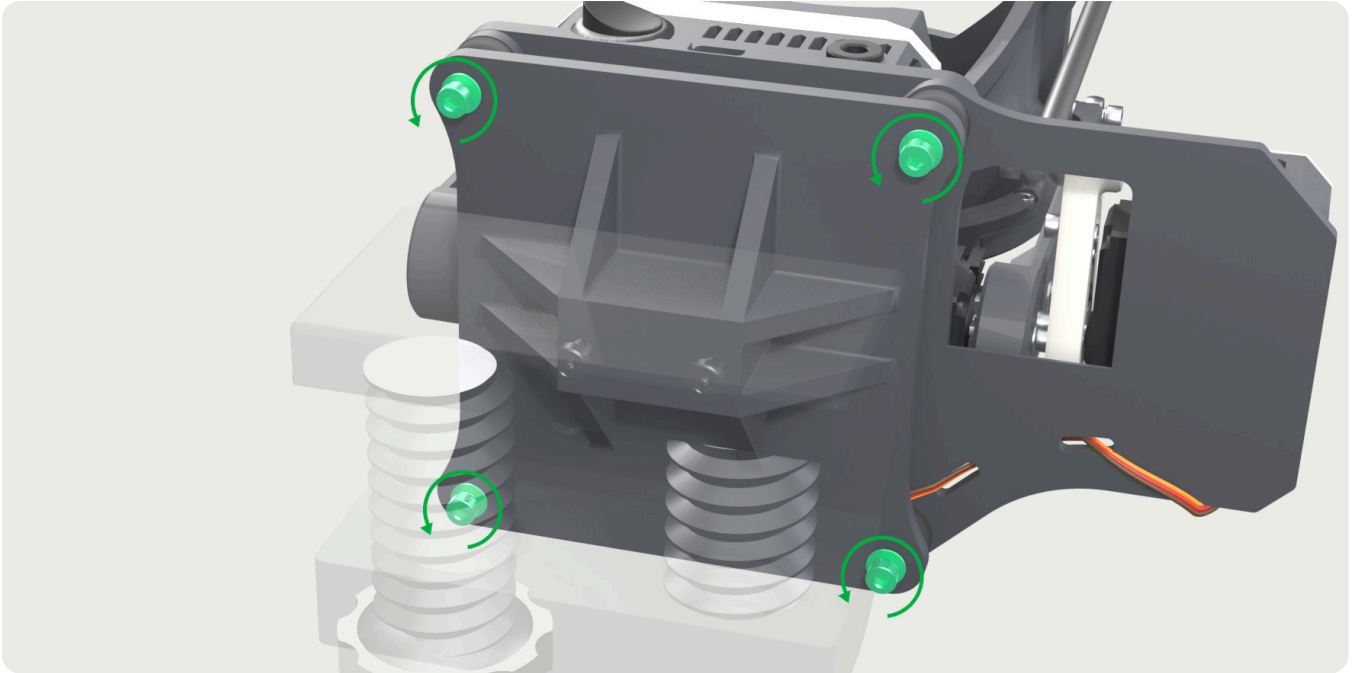
1	Desk mount left motor only	4× M4×12
2	Pitch mounts left motor only	2× M4 rubber mounts
3	Front lid	4× M3×20
4	Bearing arm	2× M3 each motor
5	Motor	4× M3×16 each motor

Washers come off with their bolts.

1 Take the desk mount off

4× M4×12

Left motor only

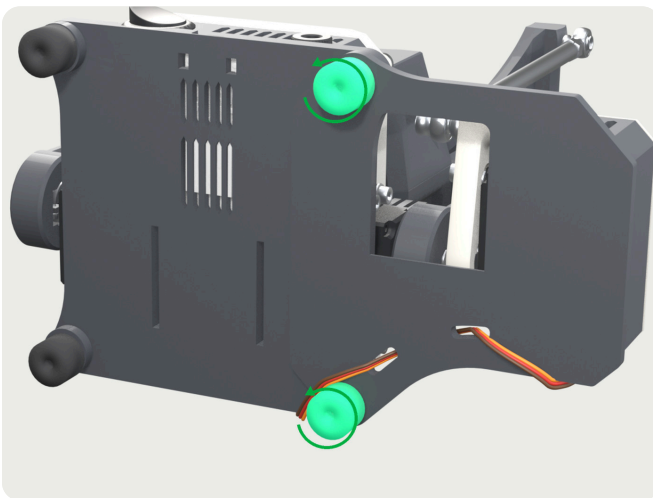


Washers come off with the bolts, then the desk mount comes away.

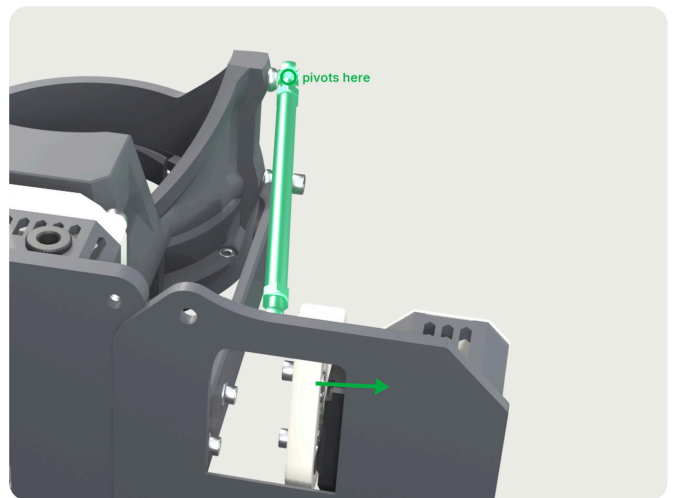
2 Move the pitch out the way

2× M4 rubber mounts

Left motor only



Rubber mounts out

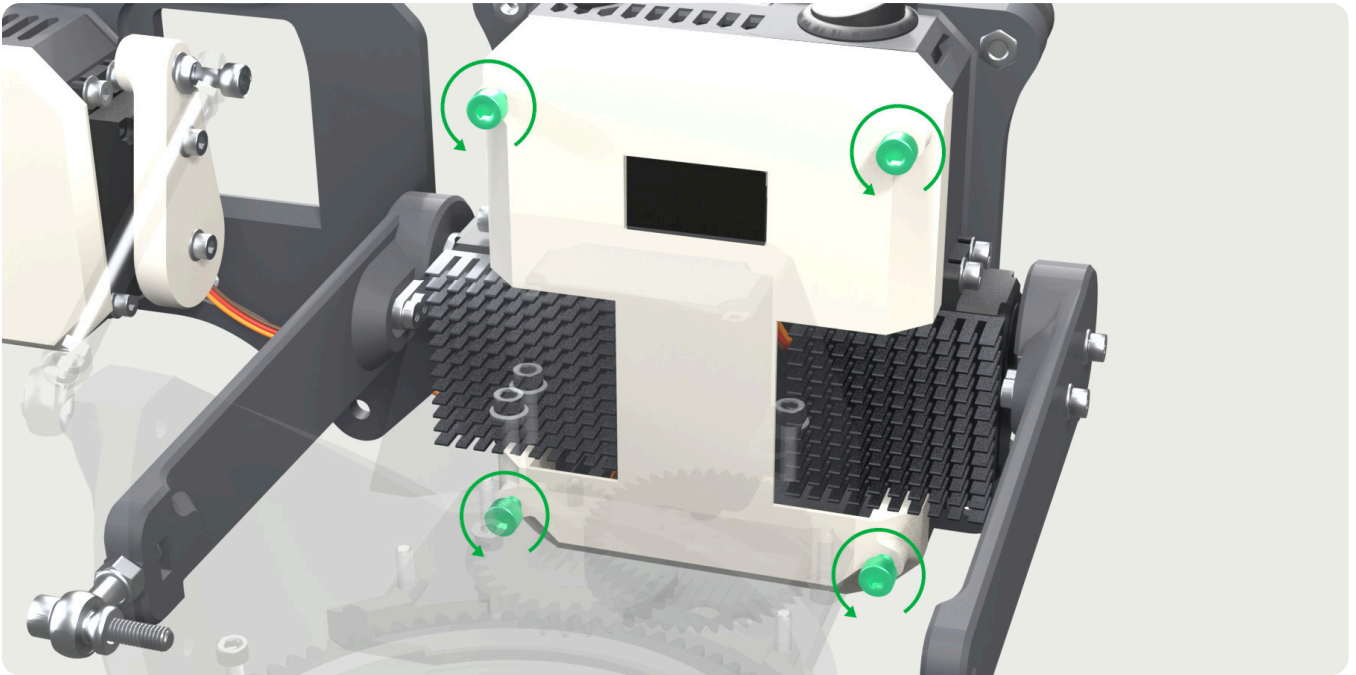


Swing it out

So we can get access to the screws in the left bearing arm. The nuts stay in the body; the metal arm pivots at the receiver.

3 Pop the front lid out

4× M3×20



The heatsinks stay on the motors.

4 Unscrew the bearing arm

2× M3 each



Right motor

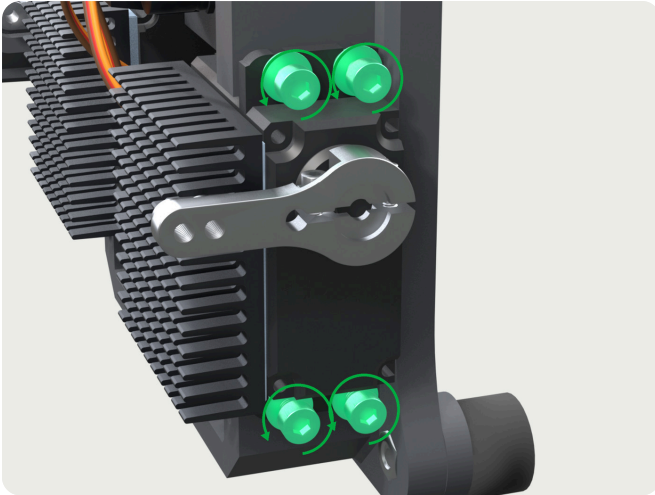


Left motor

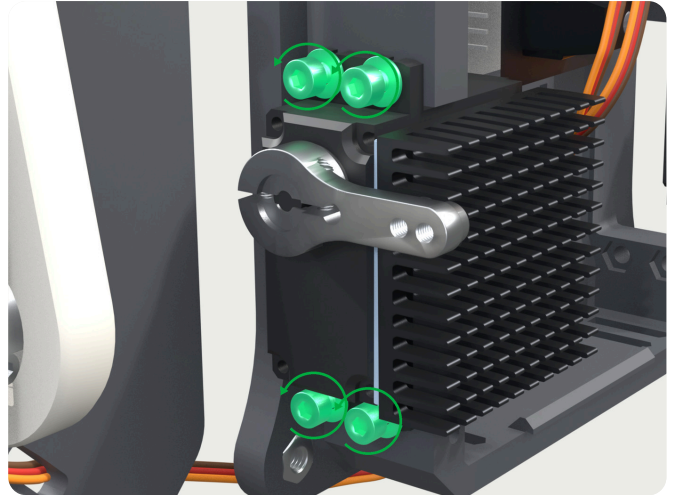
The arm comes off the horn and hangs down on its ball joint at the receiver.

5 Remove the 4 screws holding it

4× M3×16 each



Right motor



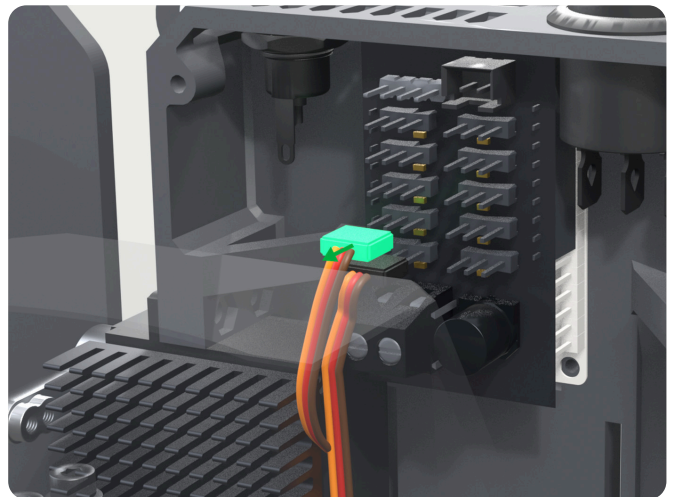
Left motor

6 Unplug from the vESP Power Board

3-pin Dupont



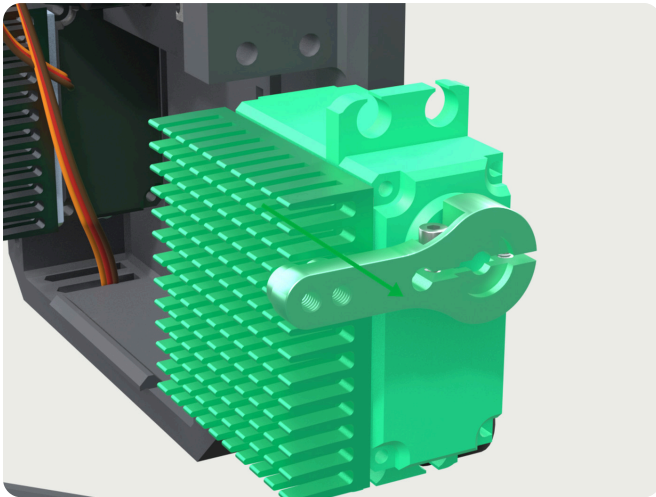
Right motor



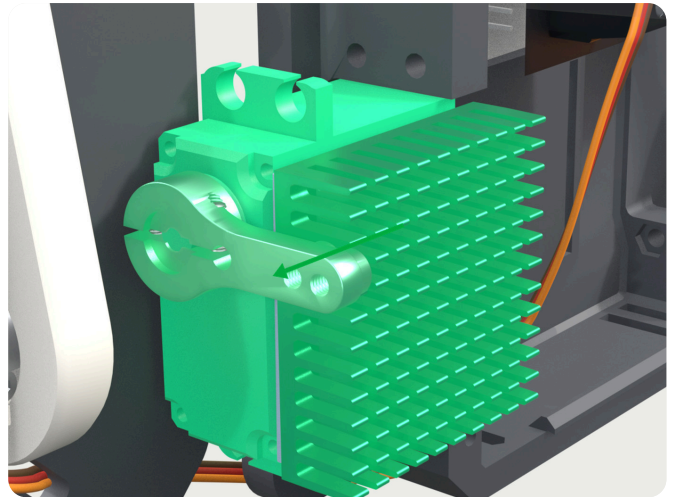
Left motor

Left motor: the header just above the pitch one. Right motor: the one directly opposite. Signal wire on the outside.

7 Remove the motor



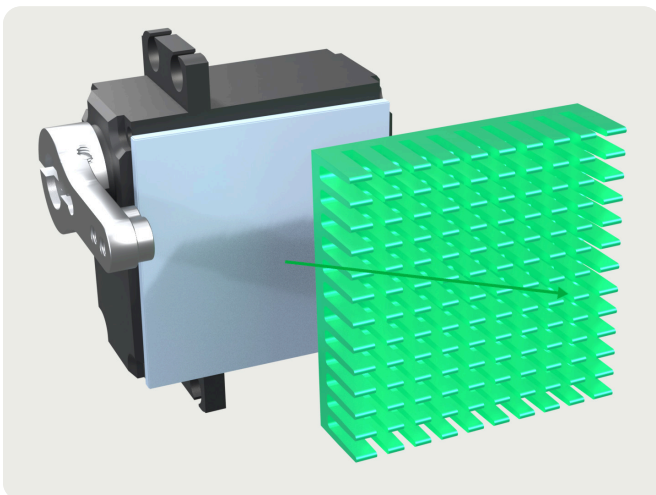
Right motor



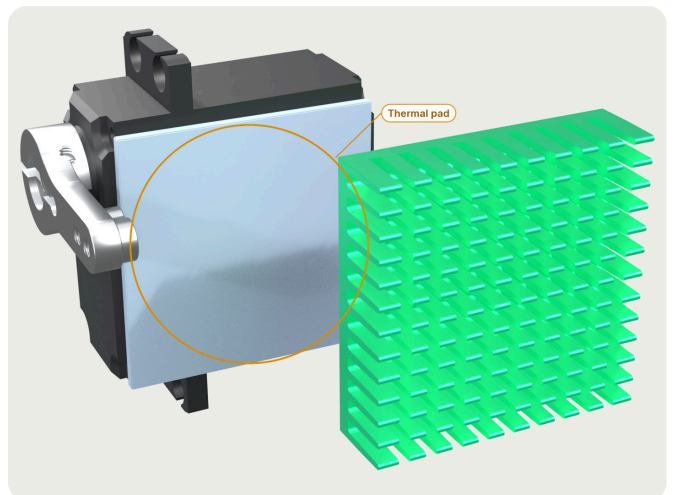
Left motor

It slides out sideways, horn first, with its heatsink.

8 Gently pry and wedge the heatsink off to re-use it on the new motor.

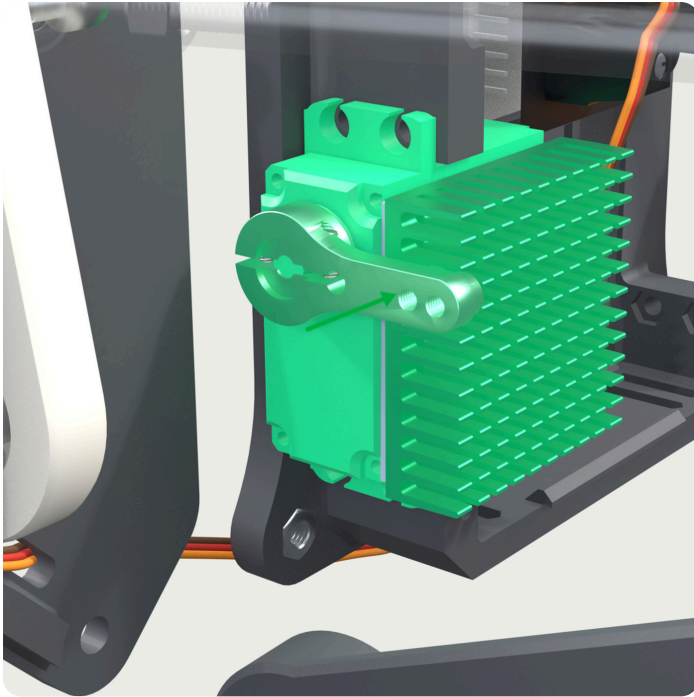


Pry it off



Thermal pad

⚠ Replace the thermal pad if it is weak.



NEW MOTOR

Make sure the servo horn is centered at its 1500

Plug it back and boot device (on/off) before re-assembly to re-home the centre horn so it aligns.

PLUGGING BACK IN

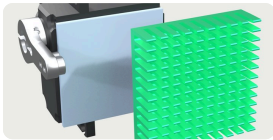
Which header

- Left motor: the header just above the pitch one.
- Right motor: the one directly opposite.
- Signal wire on the outside.



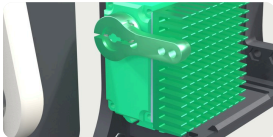
Work back in reverse

For each motor you replaced. Right motor only: stop after step 3.



8 Heatsink onto the new motor

⚠️ Replace the thermal pad if it is weak.



7 Motor back in, horn first

Servo horn centered at its 1500 first.



6 Plug into the vESP Power Board

3-pin Dupont

Left: just above the pitch one. Right: directly opposite. Signal wire on the outside.



5 The 4 screws holding it

4× M3×16 each



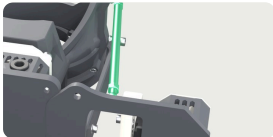
4 Bearing arm back on the horn

2× M3 each



3 Front lid

4× M3×20



2 Pitch back in, rubber mounts

2× M4 rubber mounts

Left motor only



1 Desk mount

With the washers.

4× M4×12

Left motor only