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Construction instructions

KOLIBRI

Repairable self-build drone

GOTT
GAMLE OSLO TRE OG TEKSTIL AS

MAKEKIT

REPAIRWARE
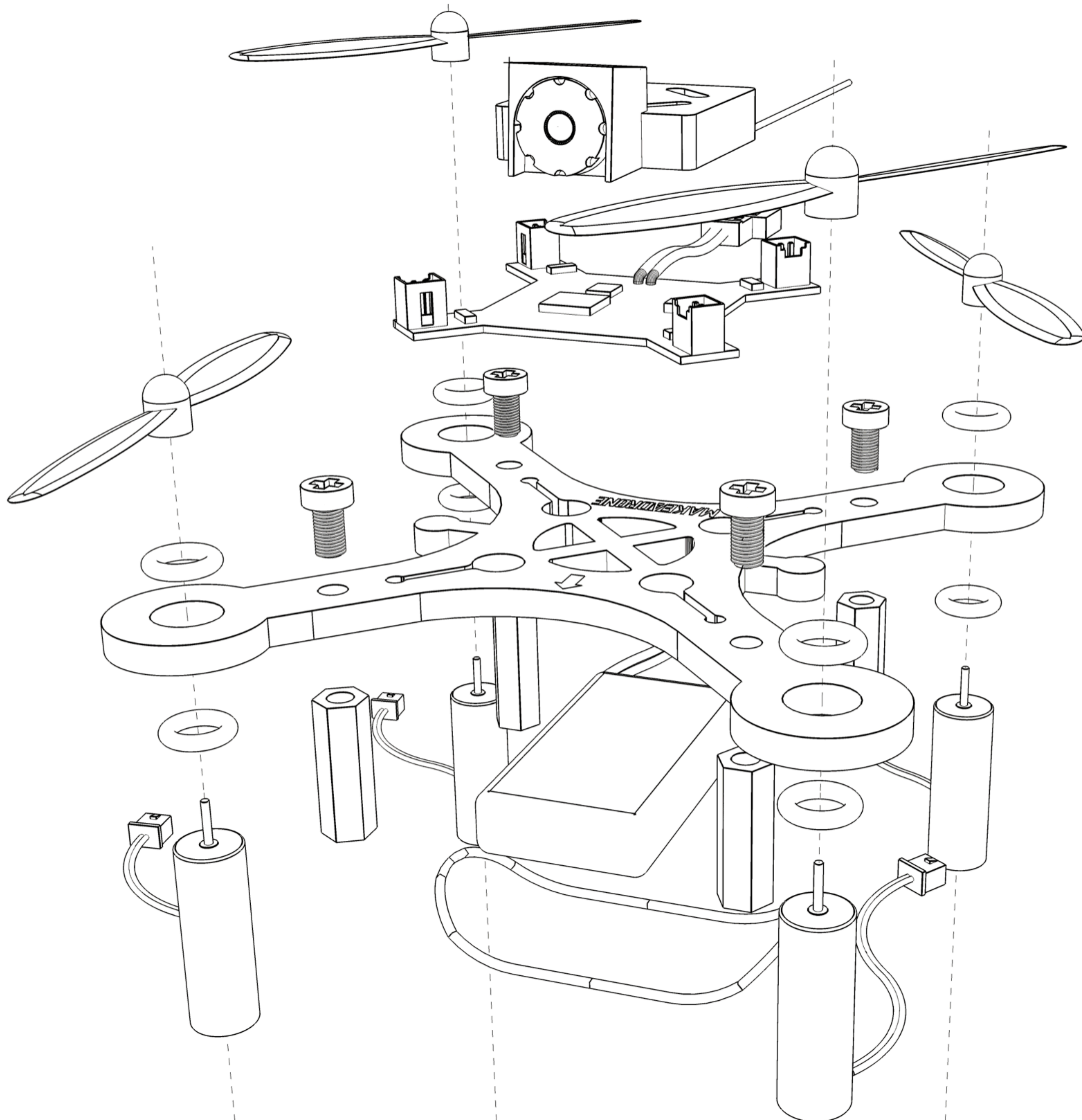
Watch the construction video:

Scan the QR code or go to:

https://youtu.be/te4iWhZiic4

Troubleshooting

What can you do if things do not work out:

One or more propellers do not rotate:
- Check if anything prevents the propellers from rotating, cables or debris.
- Check the connections to the control board. Try connecting the motor to another motor output and see if the fault follows the motor or the control board. There may be a defective motor or defective control card that needs to be replaced.

Quadcopter moves too much to one side/drives too much
- Calibrate the drone when standing on a flat surface (see "Preparation")
- Use the trim buttons to prevent side movements (see "remote control")

The propellers rotate but the quadcopter does not lighten:
- Check that all propellers marked type "A" and "B" are located in the correct place.
- Check that all motors are located in the right place and connected in the right output.

The lights on the drone flash quickly even though I follow "preparation and pairing" on page 6:
- Check that the control card is horizontal.
- Check that the battery is charged.
- Check that there is a battery and light in the remote controller
- Check that the motors are undamaged and free of debris that can prevent rotation
- Reconnect (battery power and remote controller on and off, reconnect)

The light on the remote control flashes no matter what I do
- This may be due to a bad battery in the radio. Charge this or replace the battery.

The app does not display an image from the camera
- Check that you are connected to the Wifi network "Wifi UFO…"
- Check that there is power (control board is lit and cable from control card to camera is connected)
- Restart app

Battery and charging

1. After 5-7 minutes of flying, the battery will be empty and the light on the quadcopter will start flashing. It is then recommended to land as quickly as possible to preserve the life of the battery.
2. The battery should only be charged with a suitable charger. Use the included charger.
3. First plug the usb-charger into the battery. The light comes on.
4. Then plug the USB connector into a charging port. The light goes out, but turns on when the battery is fully charged.
5. The battery works worse in the cold and should keep about 20 degrees when used.
6. Due to the risk of fire, charging must take place under supervision!
7. Batteries that are inflated or have cuts / blows can pose a fire hazard. The battery should then be destroyed and delivered as special waste.

Security and rules

• This drone can fly both indoors and outdoors.
• Avoid wind and rain.
• Do not allow the battery to get colder than 15 degrees, as the effect will disappear. Allow the battery to reach room temperature until flying.
• Use propeller protector indoors.

It is not recommended to fly this drone higher than the roof / treetops and no more than 30 meters away from yourself. Then you easily lose control.

Read more about rules at <u>www.dronelek.no</u>

Congratulations on your new drone kit from MakeKit!

Kolibri is designed, assembled and partly manufactured by MakeKit at the old premises of the Tanberg Radio factory in Oslo, Norway.
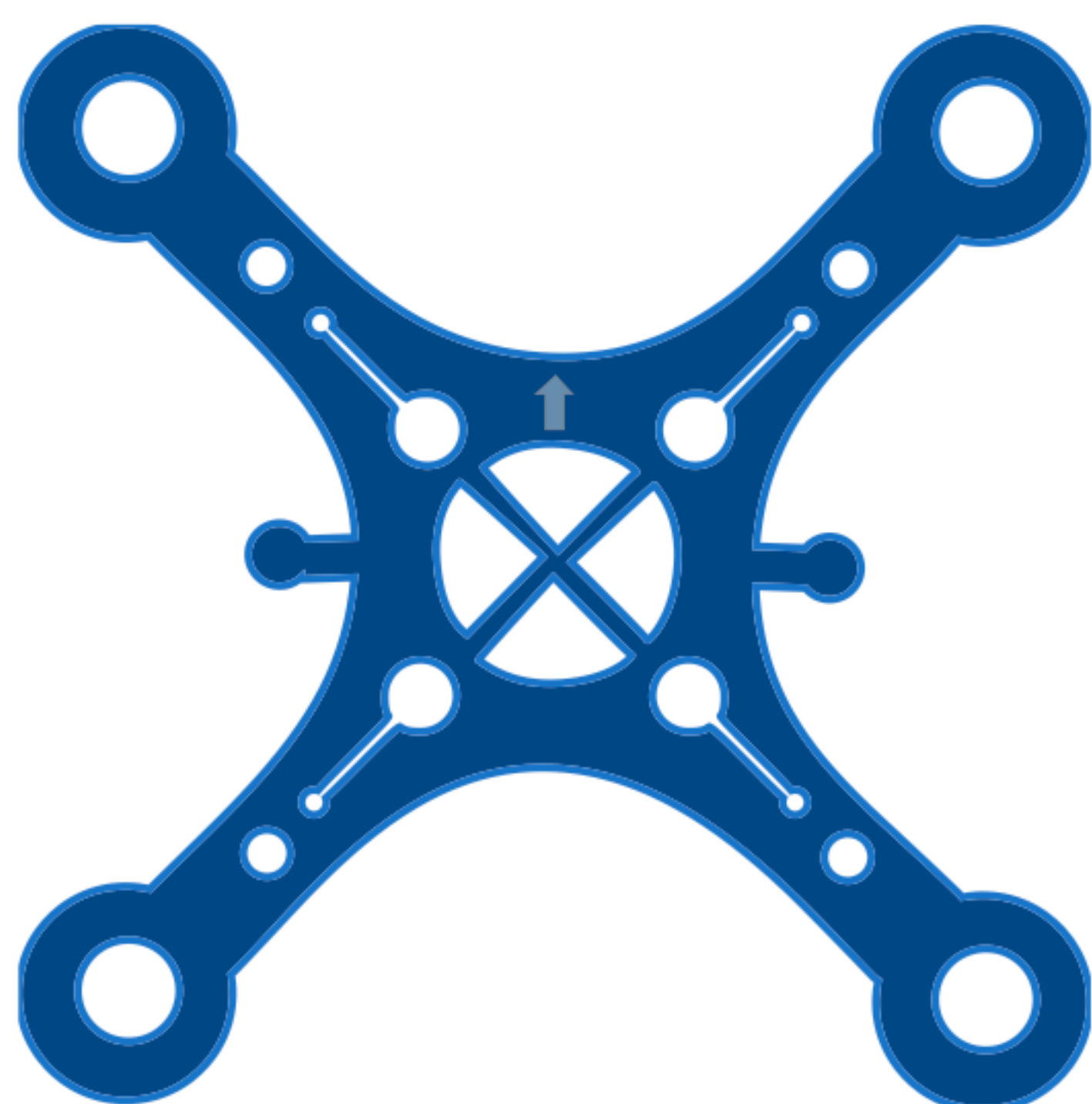
You learn a lot, and it is extra fun to fly something you have put together yourself. In addition, you will be able to repair the product easily.

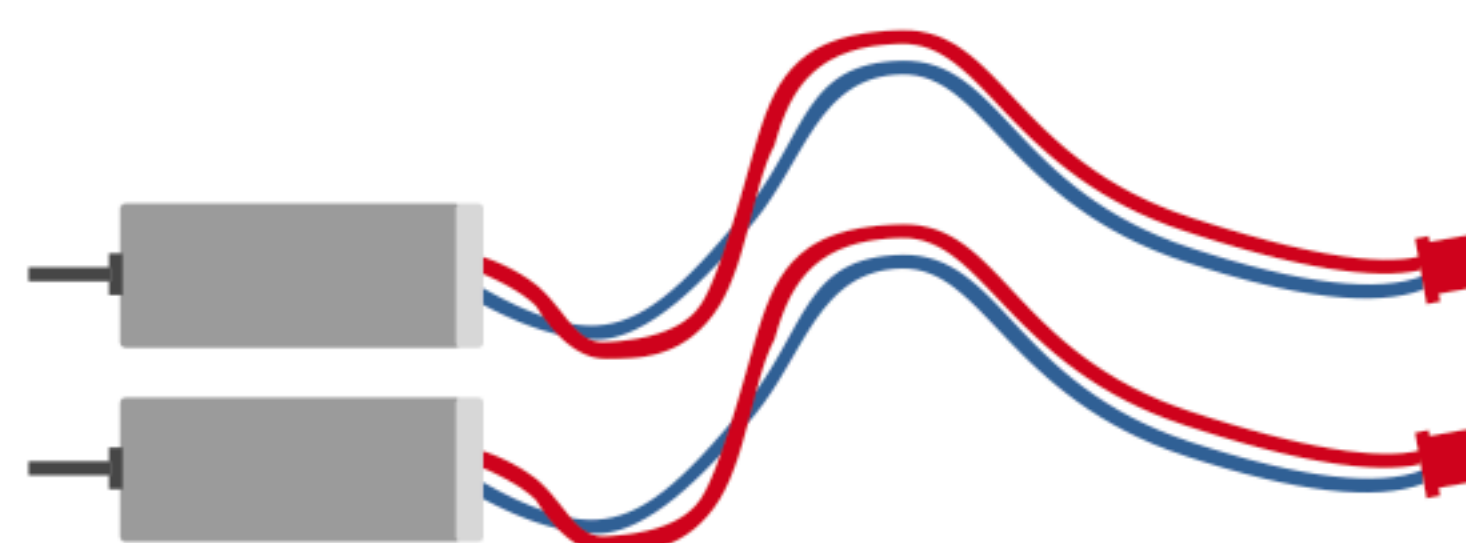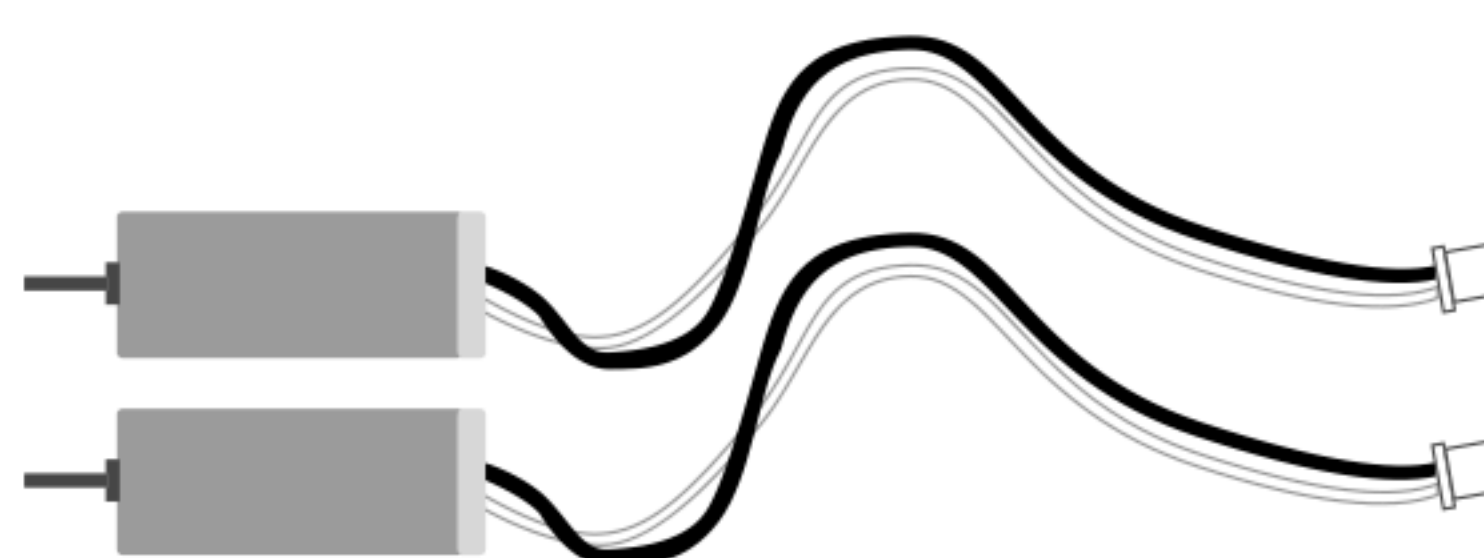All spare parts are available in the online store. www.makekit.no

REPAIR**WARE**
repairware.org

Parts

Spare parts can be found at www.makekit.no

Clockwise rotating motors (for A-propeller)

Counter Clockwise rotating motors (for B-propeller)

Center frame
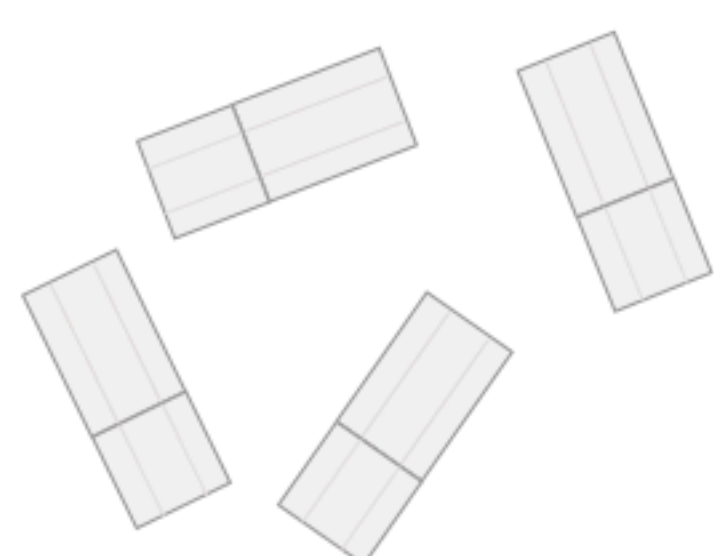
Legs
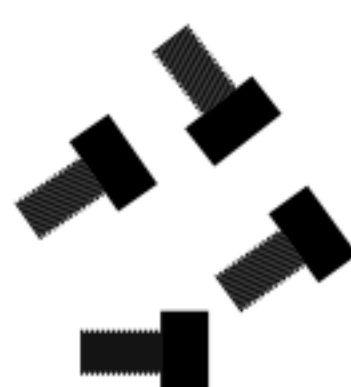
Screws

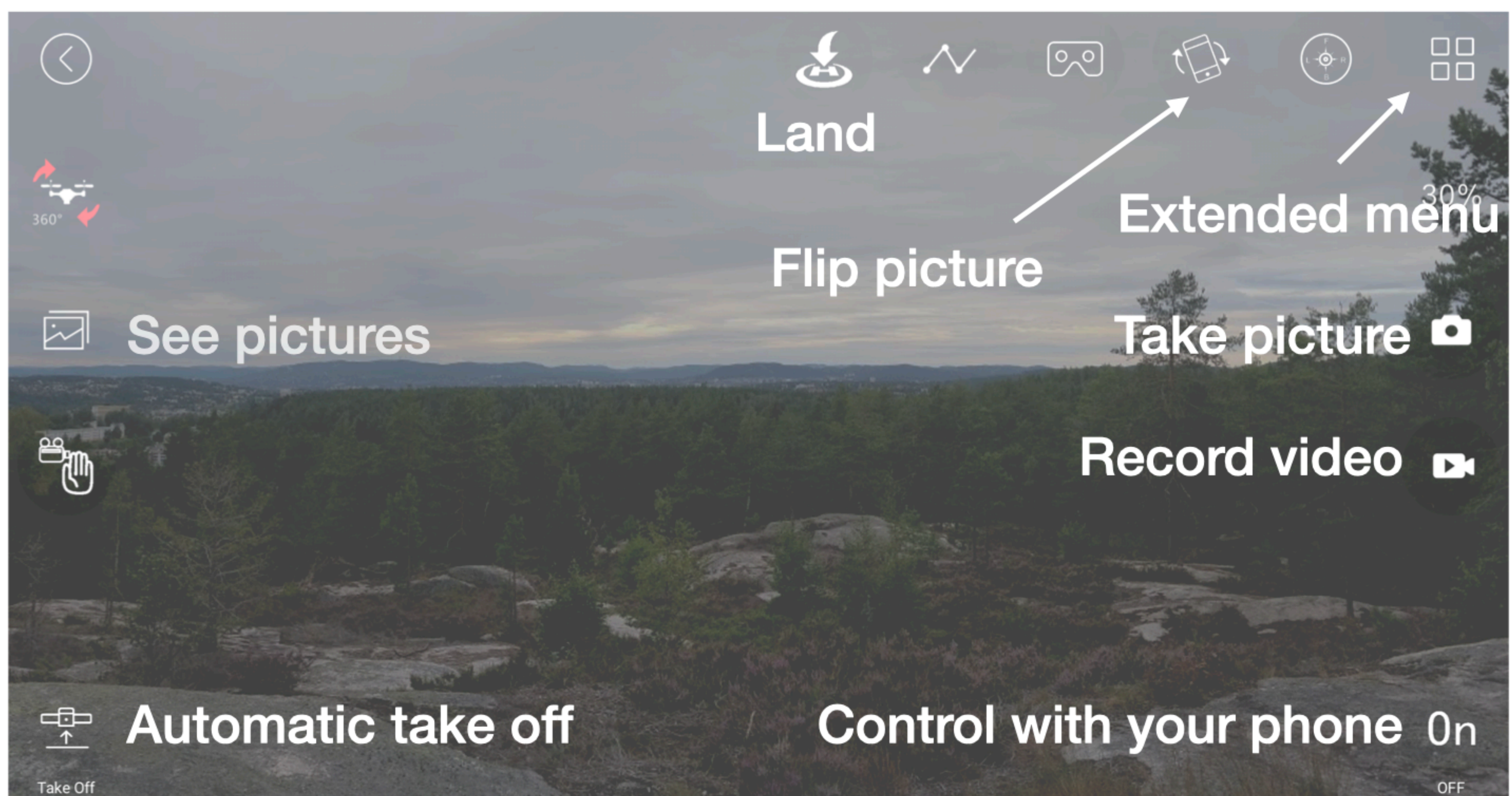Rubber rings
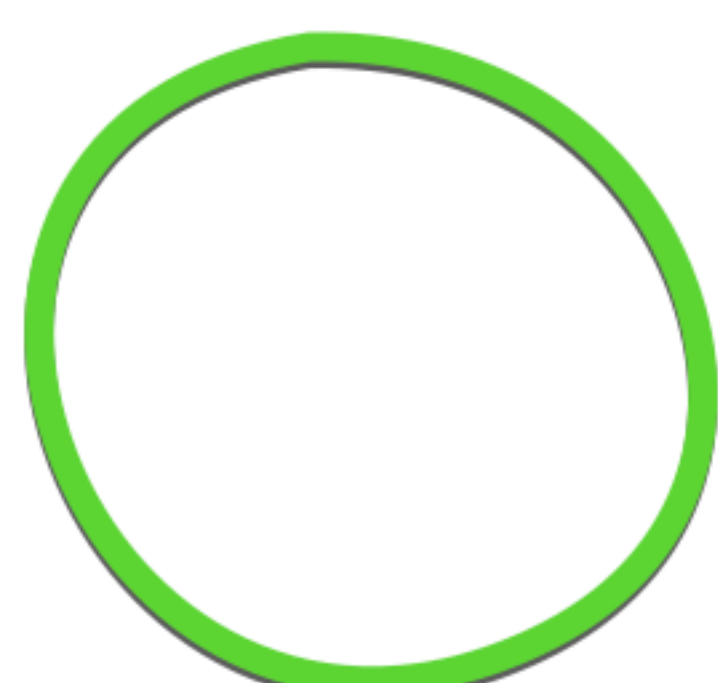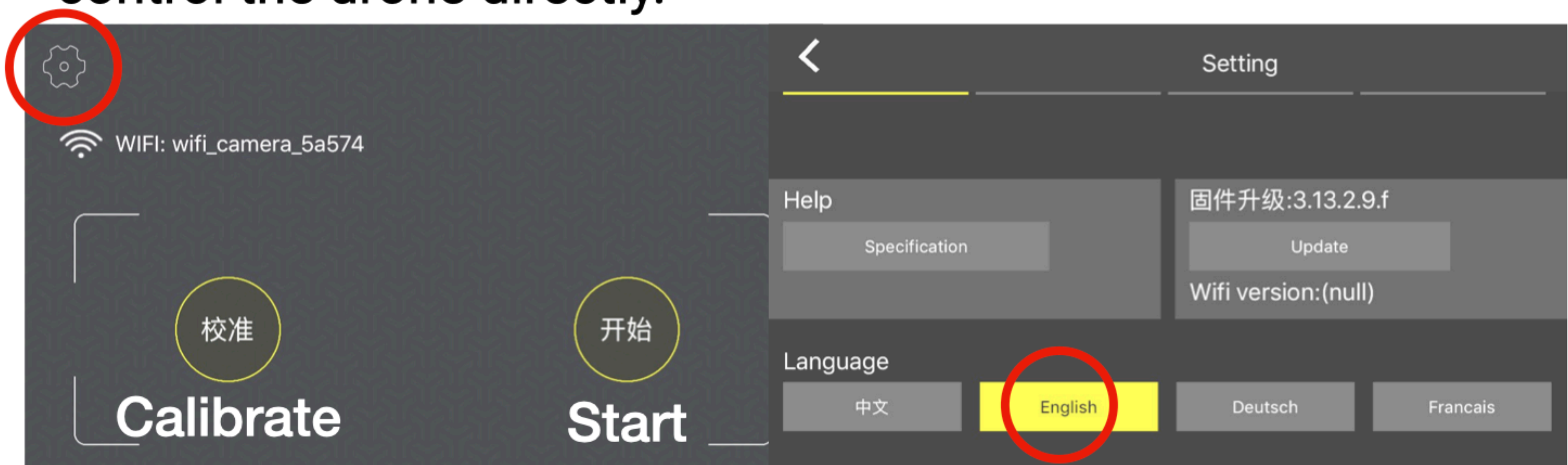
Rubber band
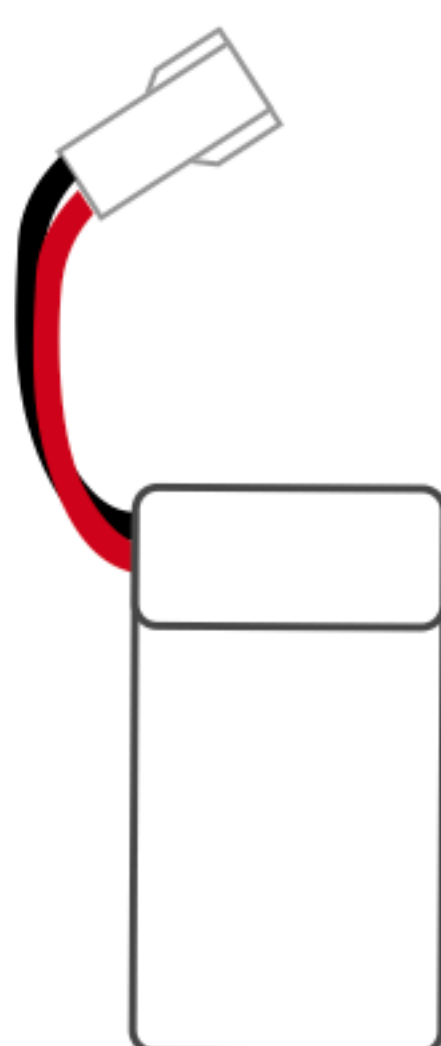
Battery

Charger (USB)
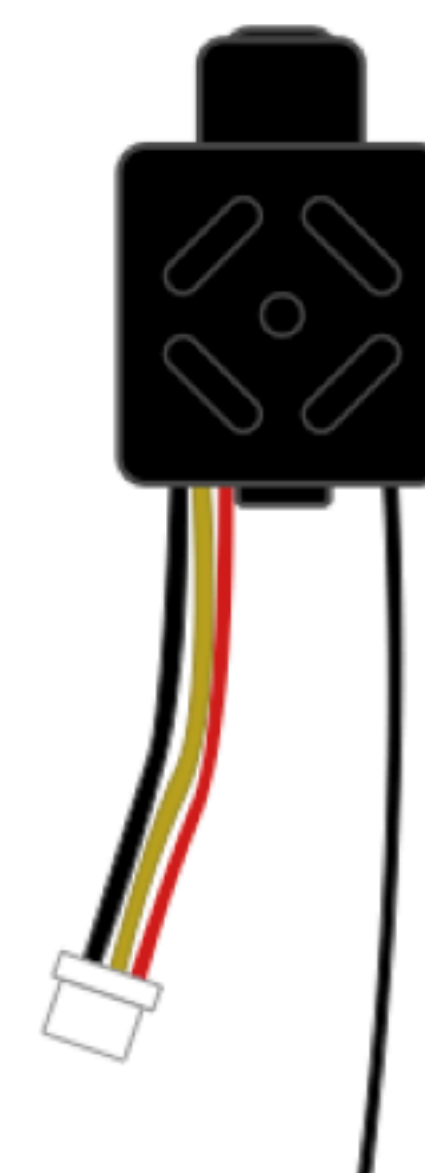
Camera

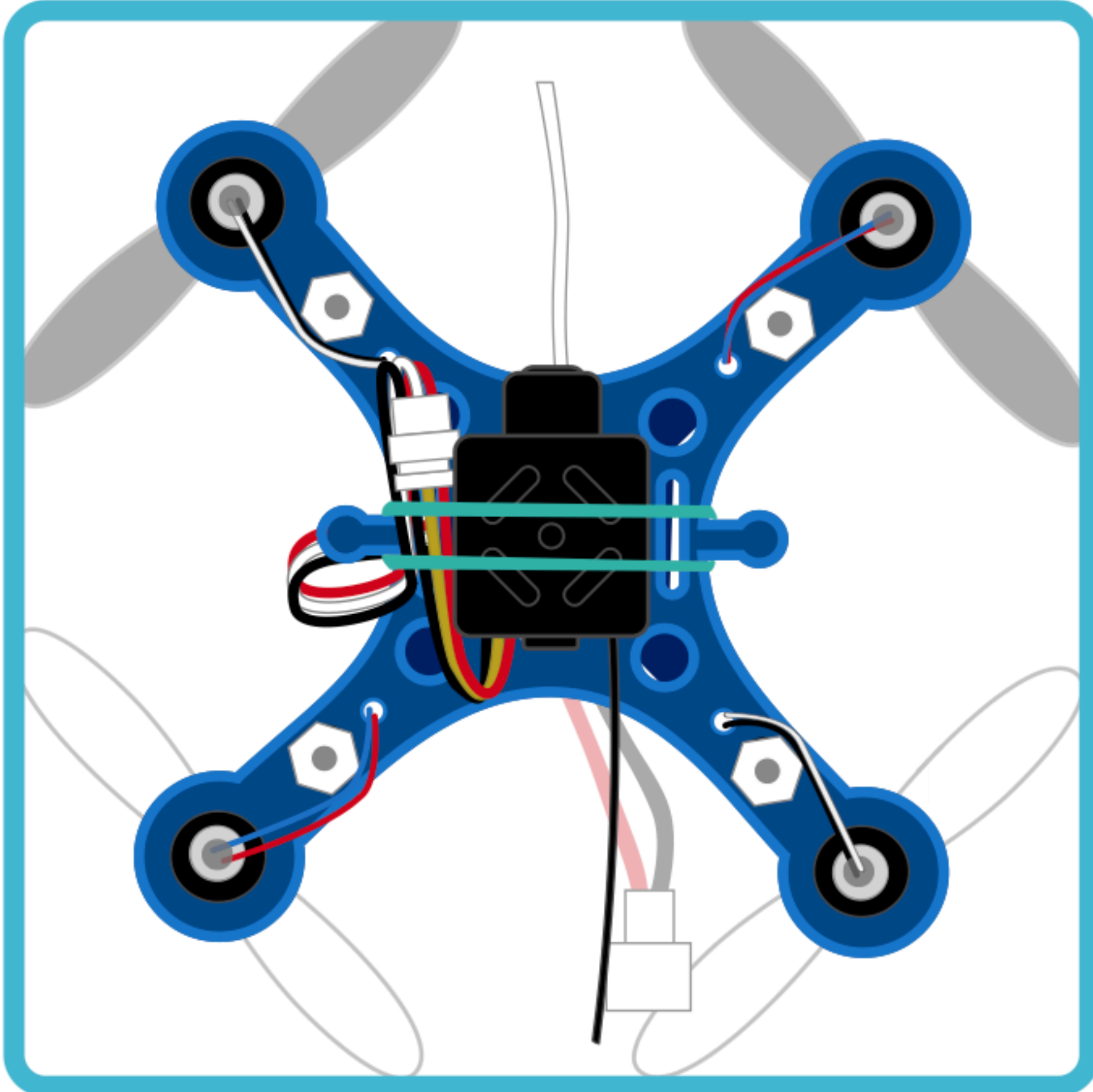The cellphone can be attached to the mount for the mobile clamp.

For those of you who use the XA UFO app:

To change the language, press the gear, scroll down and select "english". The app can be used to see image, but you can also control the drone directly.

WIFI: wifi_camera_5a574

校准
Calibrate

开始
Start

Setting

Help
Specification

固件升级:3.13.2.9.f
Update
Wifi version:(null)

Language
中文 | English | Deutsch | Francais

Land

Flip picture

Extended menu

See pictures

Take picture

Record video

Automatic take off
Take Off

Control with your phone On
OFF

Installation and use of camera

1. The camera is plugged into the three-color cable on the control card and mounted under rubber band on the underside of the quadcopter.
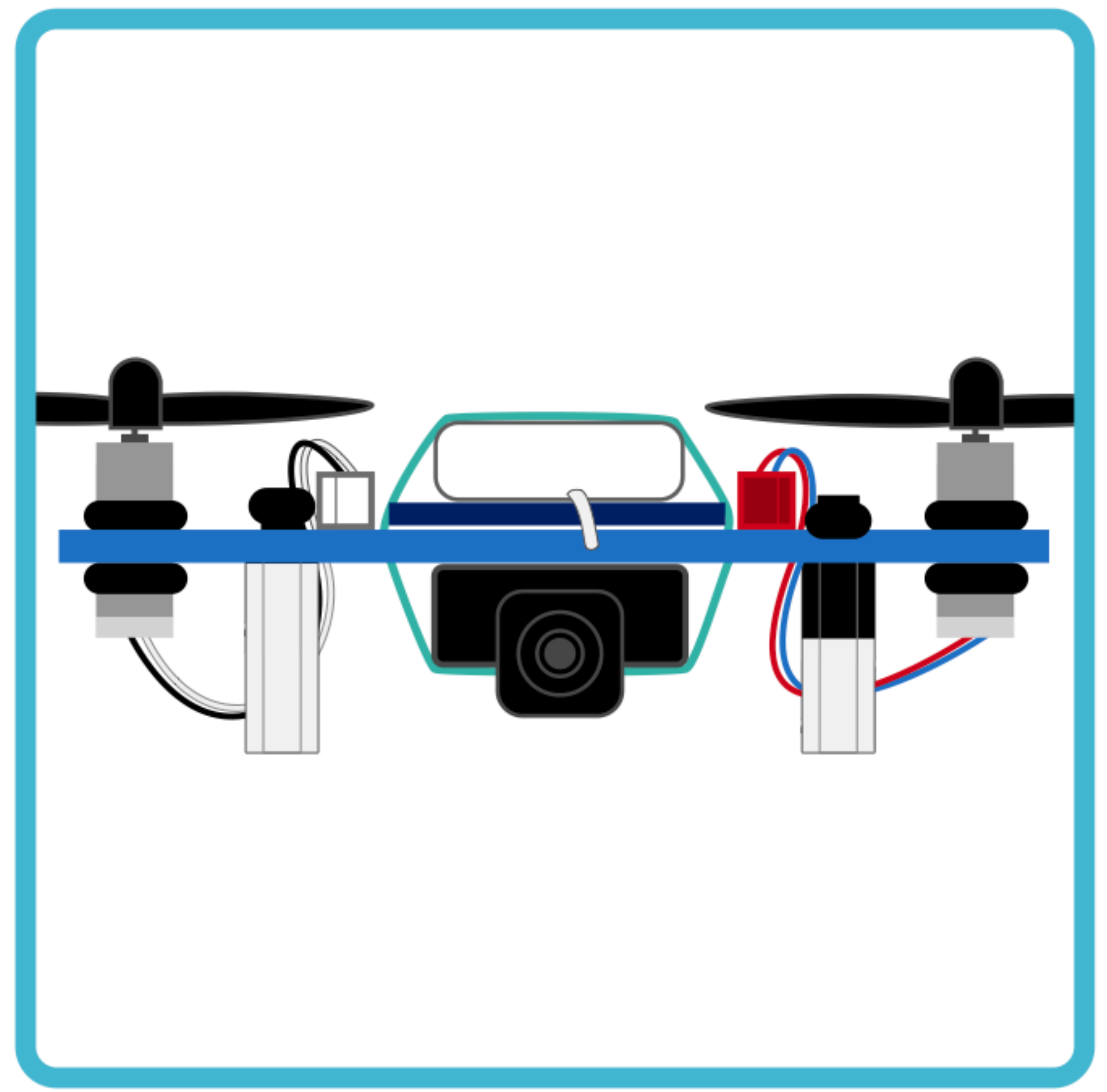
2. The battery is placed on the top. Make sure that the propellers can still rotate freely.

To use your mobile phone as a camera screen:

1. Start the camera by connecting the battery in the quadcopter
2. Check which wifi network appears when the battery is connected.
   - If the name is **WIFI_Camera_xxx**, download the app **XA UFO**
   - If the name is **WIFI_UFO_xxx**, download the app **WIFI UFO**
   - If the name is **HDFPV_xxx**, download the app **HDFPV**
3. Connect to the camera's own wifi network. Select "yes" to connect to a wifi network that does not have internet (Android)
4. Start the app (click "Play")
5. You can record video recordings and photos with the photo / video symbols
6. If the image is upside down, tap the icon to flip the image (see next page)
7. If you change the battery, you may need to restart the app and reconnect.
8. If you have problems, go to the phone's wifi settings, select "forget this network", close the app, do the process again.
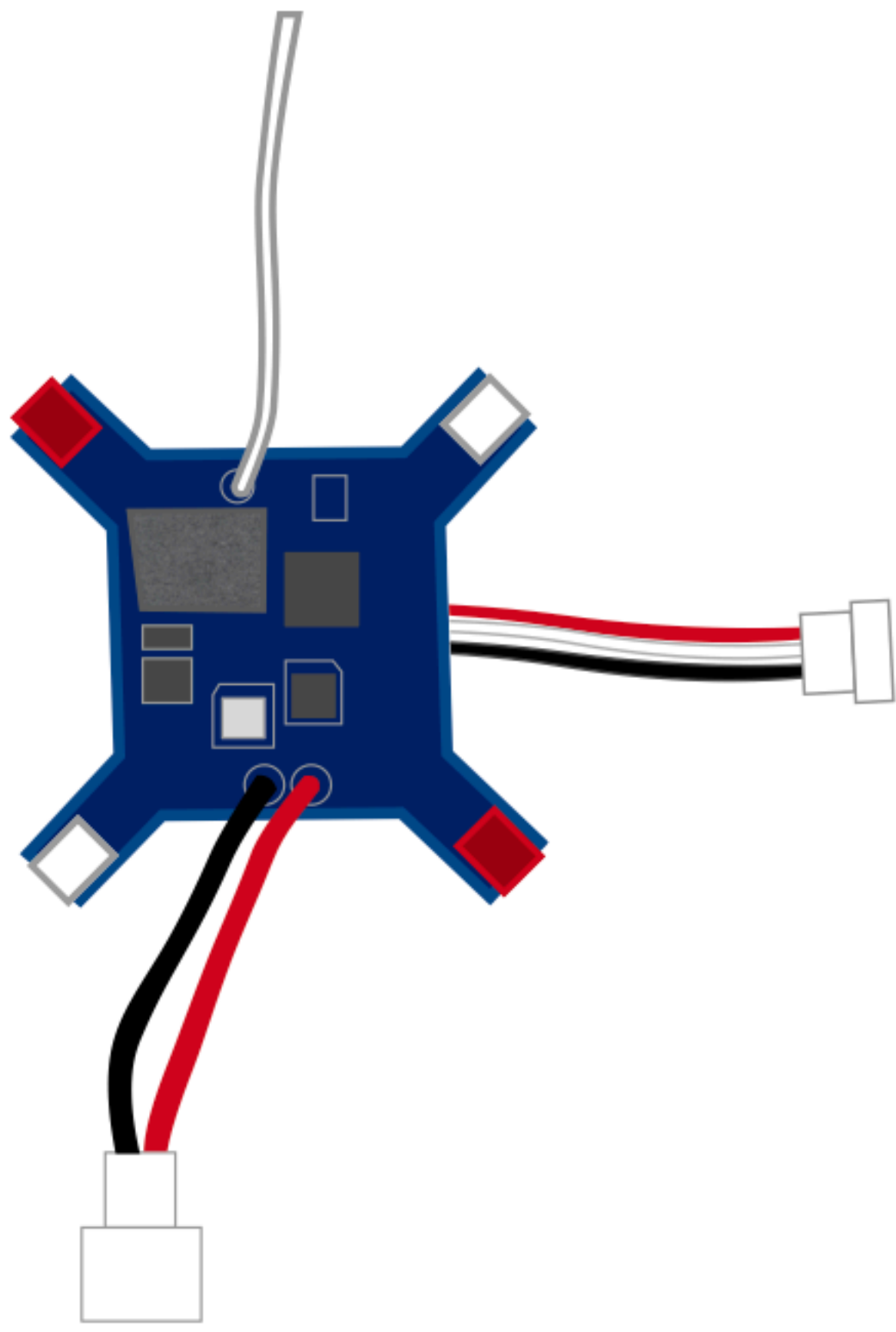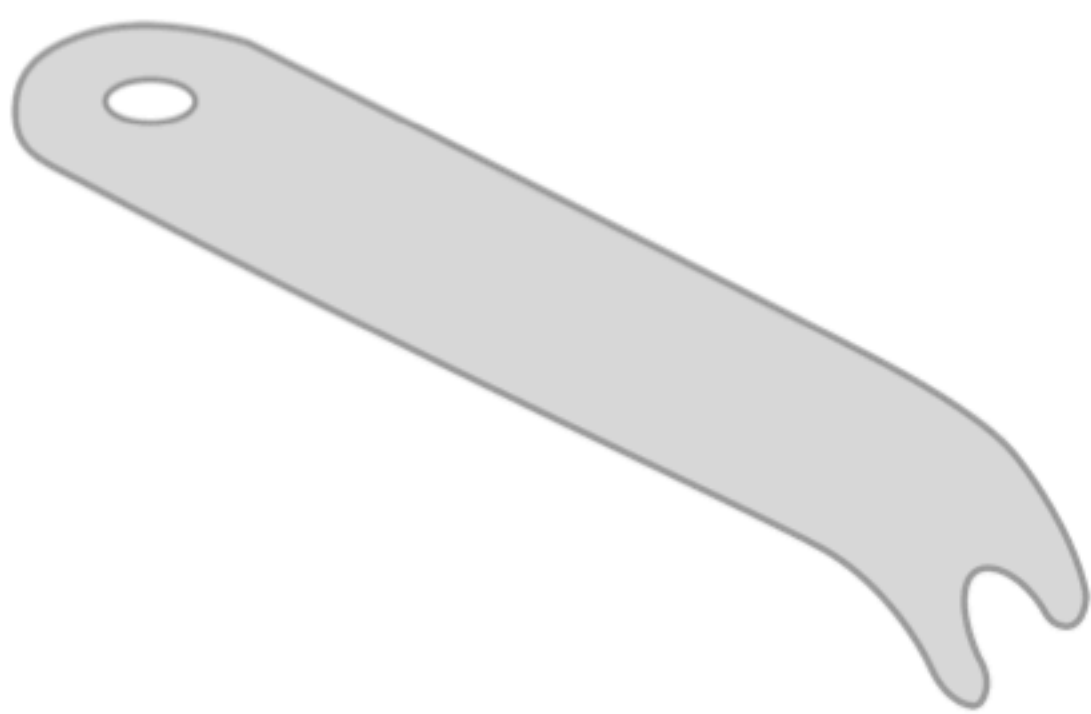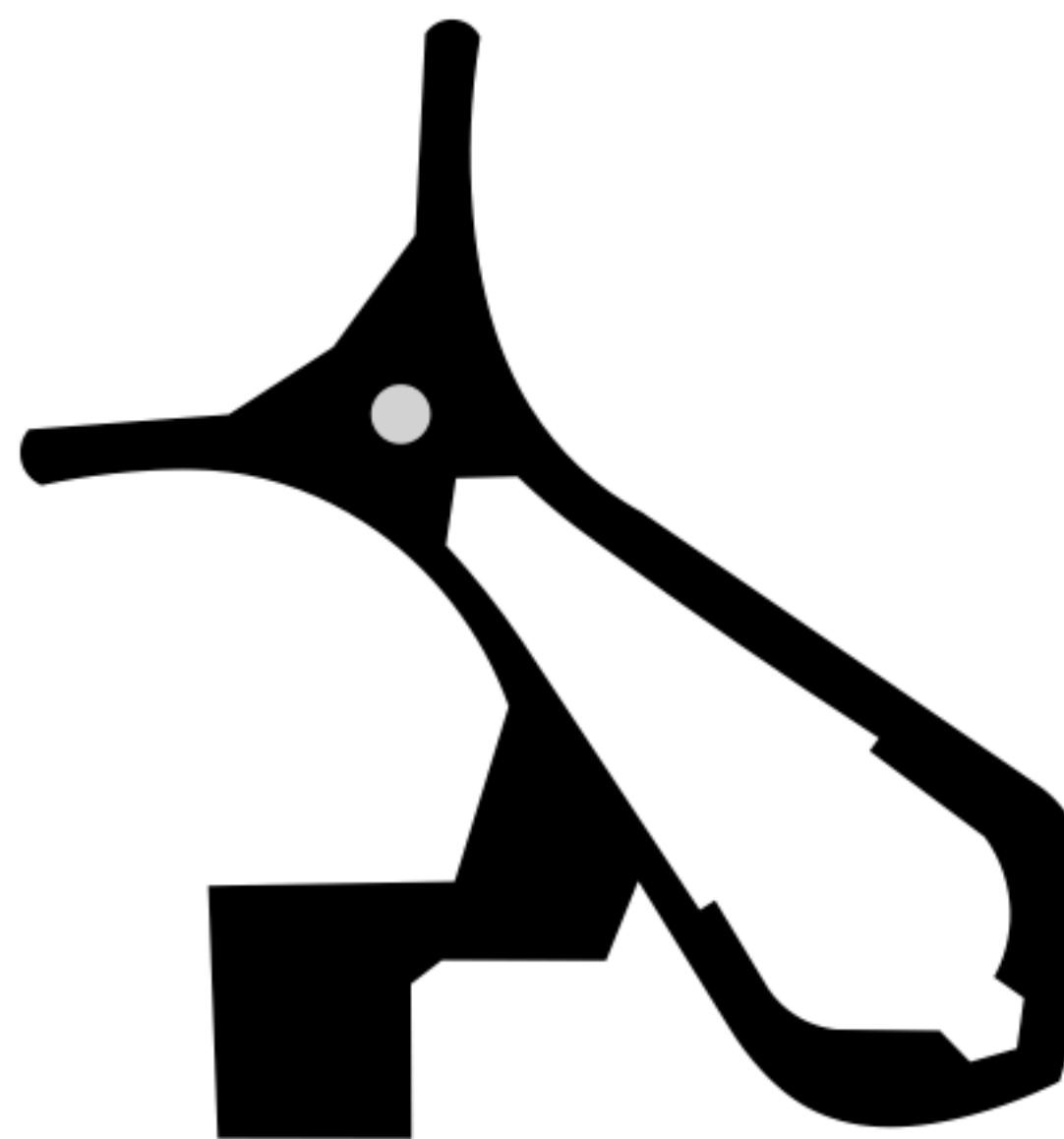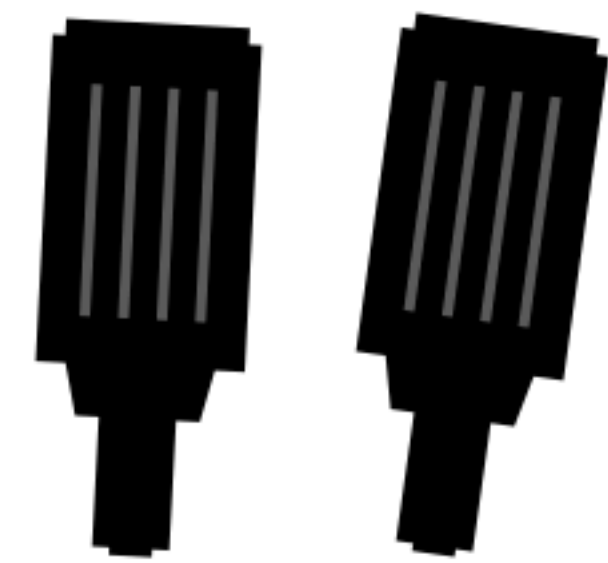
Control card
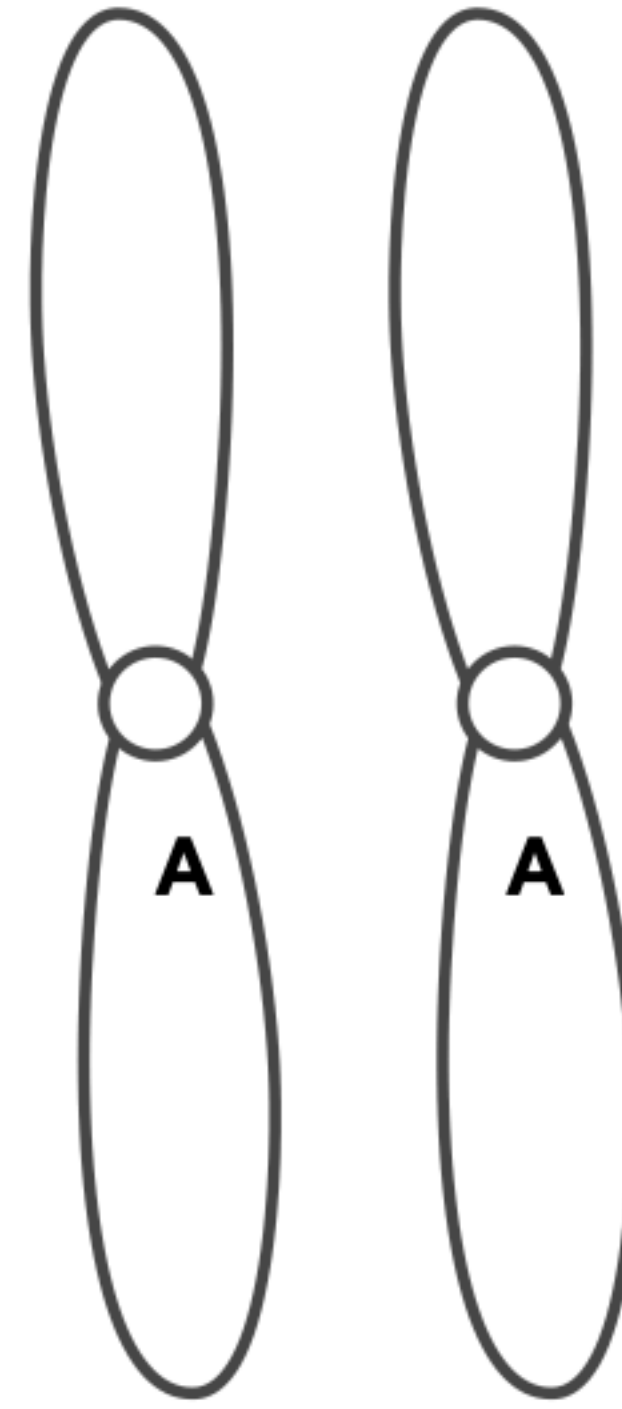
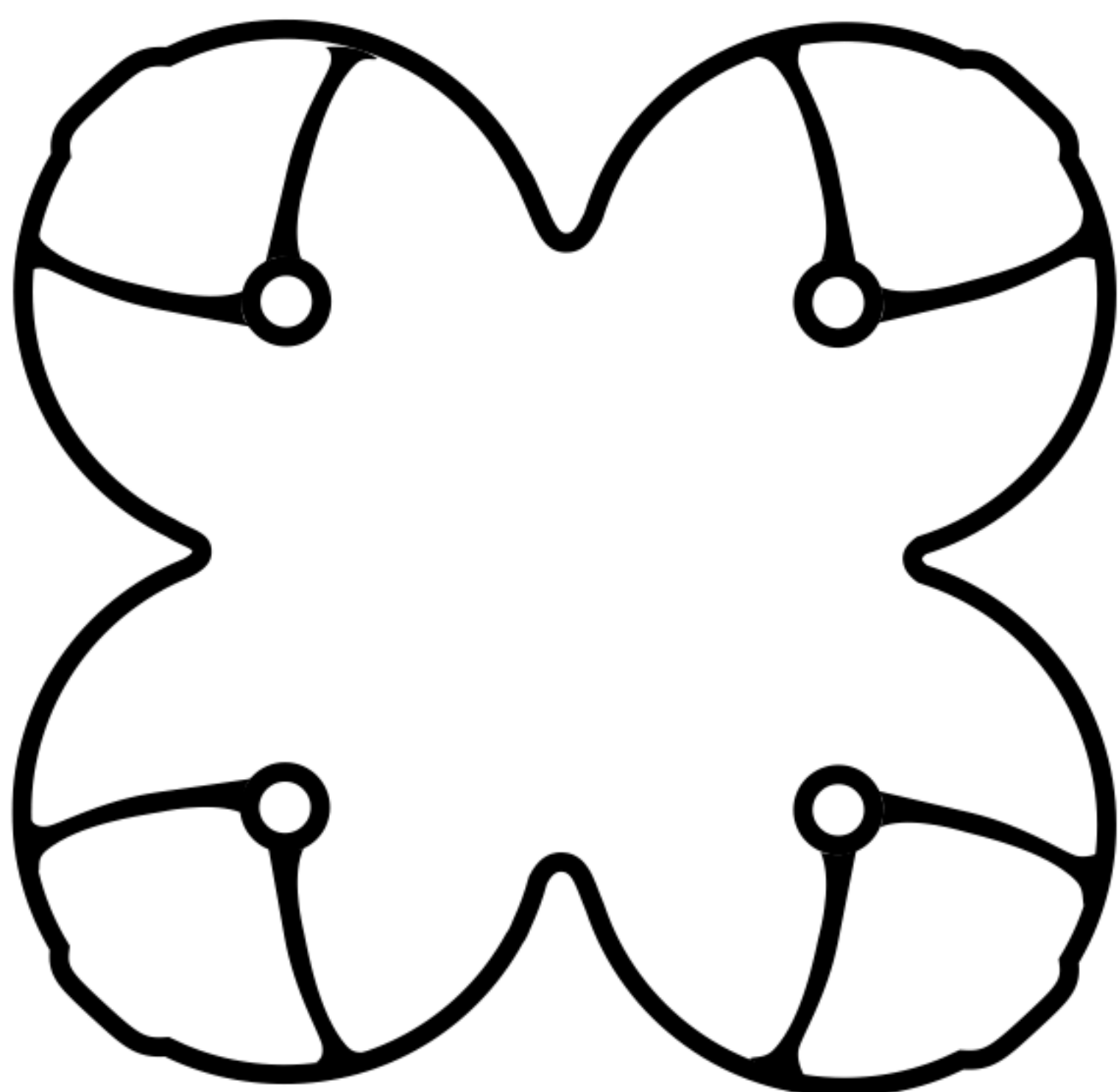A(1/2)-propeller
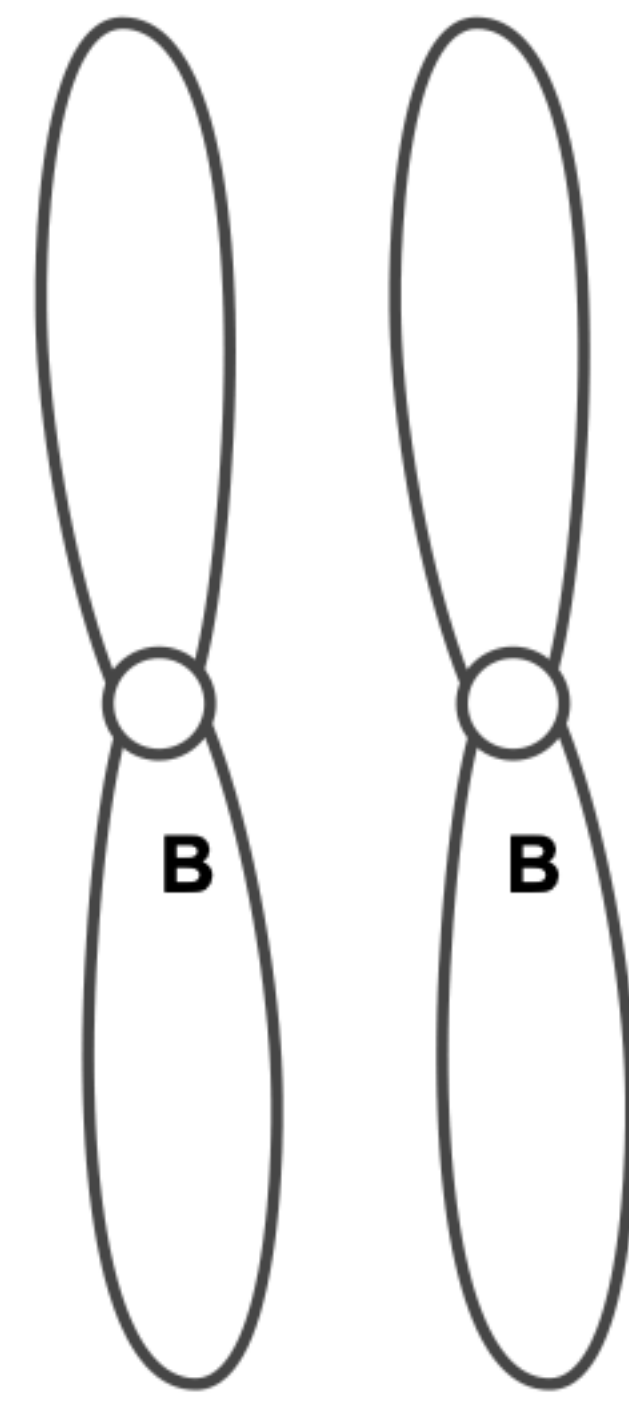
B(1/2)-propeller

Propeller remover

Cell-phone holder

Knobs for remote control

Propeller protector (optional, should not be used at the same time as the camera)

Remote controller (radio)

Remote controller

Movement

One beep: slow movement
Two beeps: medium movement
Three beeps: full movement

Flip
Make one or
more loops
together with
the right stitch

**Throttle
(Height)**

Fly up /
down

Pitch

Fly forward /
backwards

Knob

Yaw

Rotate sideways

Roll

Fly sideways

Trim

Fine-tune the
connectors

Off / On
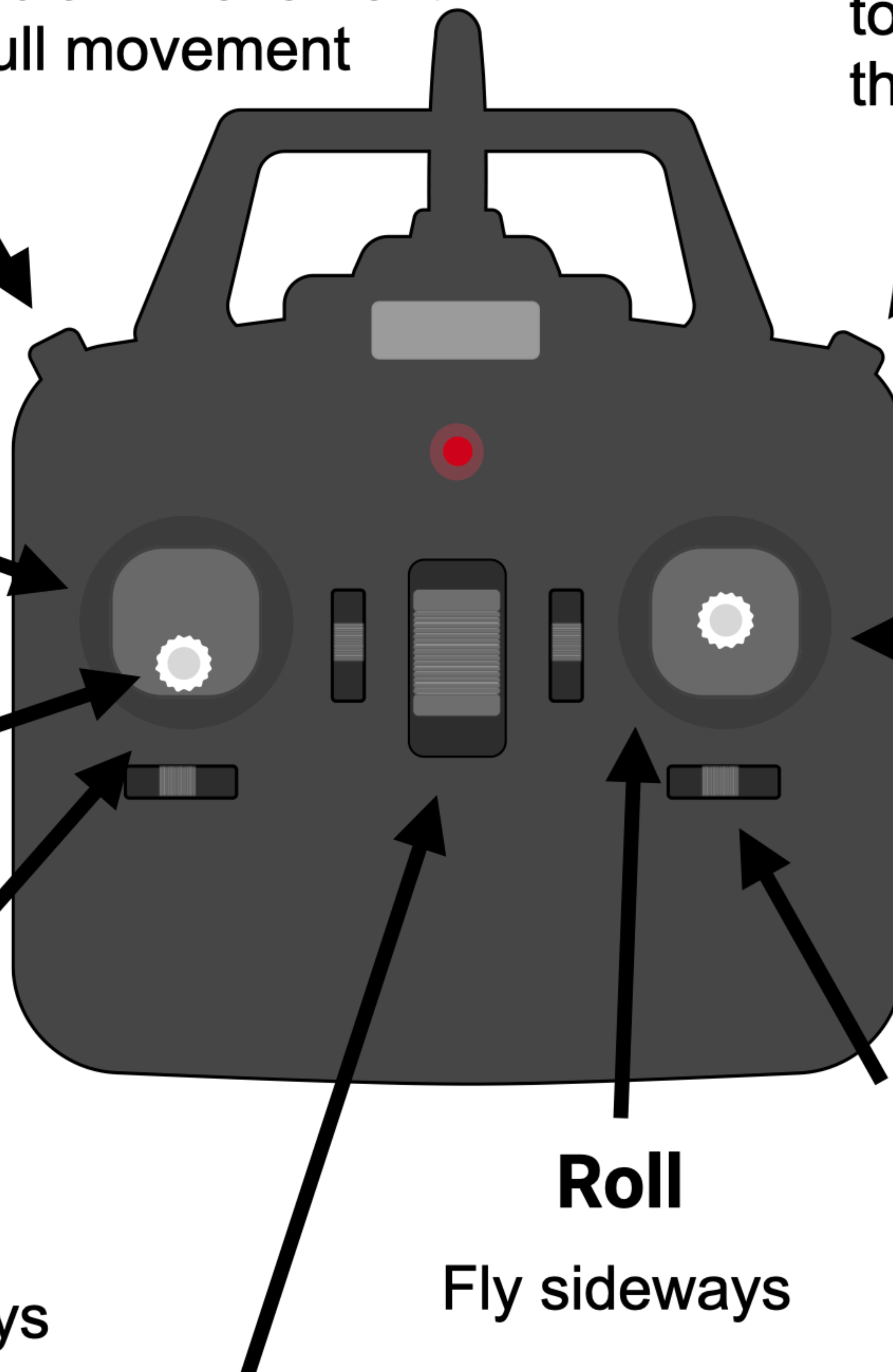
Hints:
Forward is always the way the antenna and the blue light point

Preparation

Follow these steps to fly your drone:

1. Check that everything is fixed and that the propellers can rotate freely.
2. The radio transmitter must be switched off and the drone not connected to power.
3. Connect the battery to the quadcopter that should lie flat on a surface. Quadcopter flashes quickly.

blink   permanent light

4. Turn on the radio transmitter. Quadcopter flashes slowly.
5. Move the throttle all the way up and down once. The quadcopter should now be permanently lit.
6. Calibrate the protractor in the drone as shown further down the page.
7. Transmitter and drone are ready to fly. If the light is not permanently lit on the drone, perform the operation from the start or check that the battery is charged.
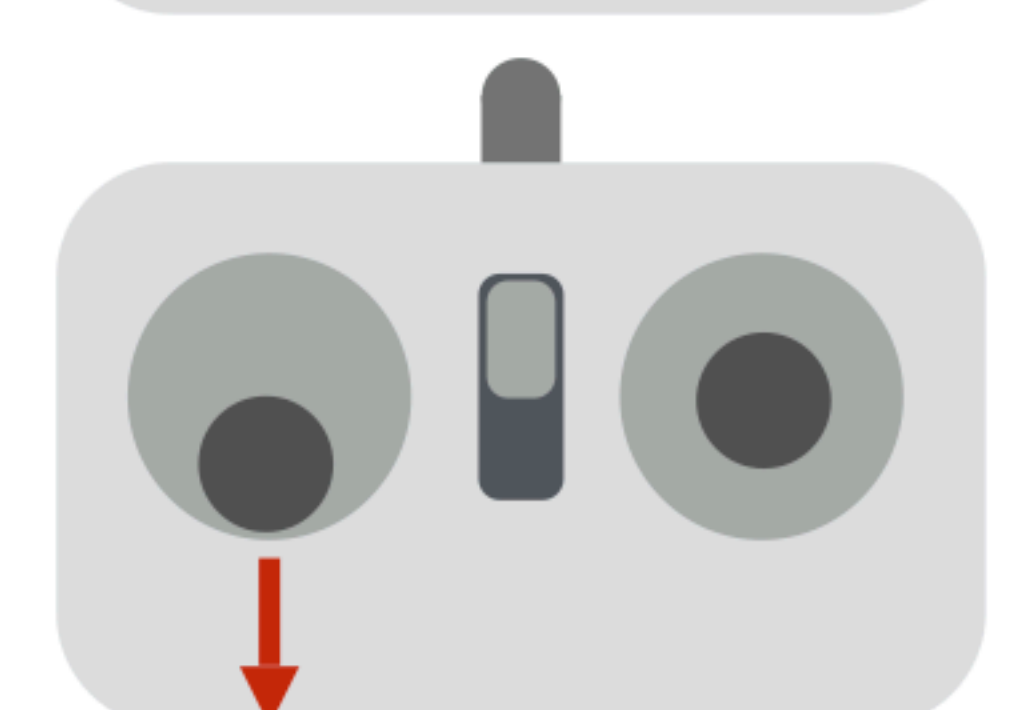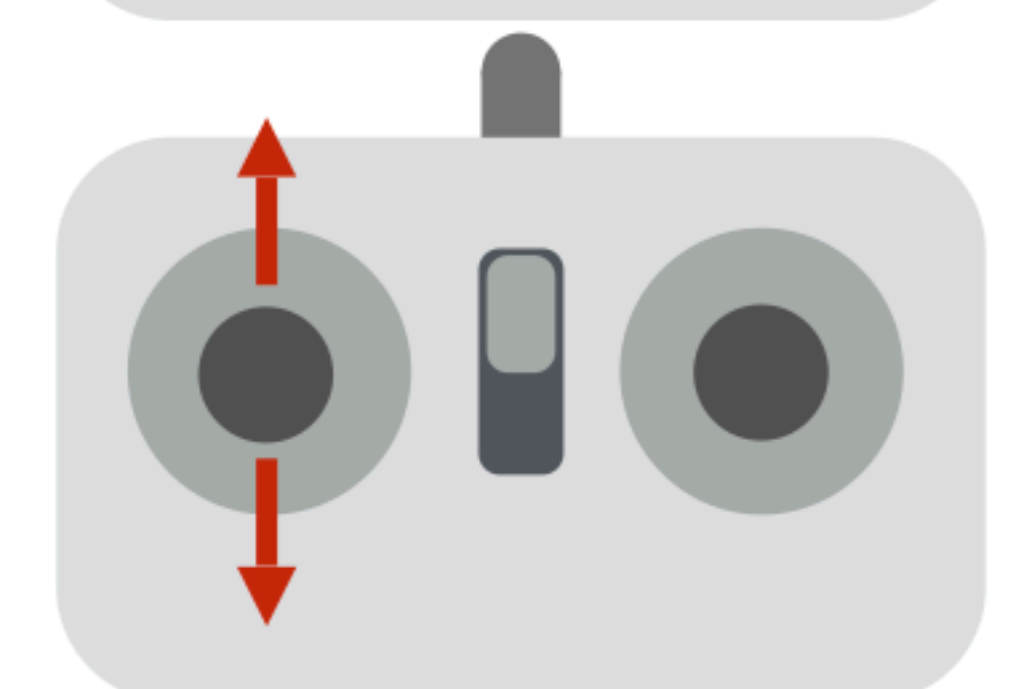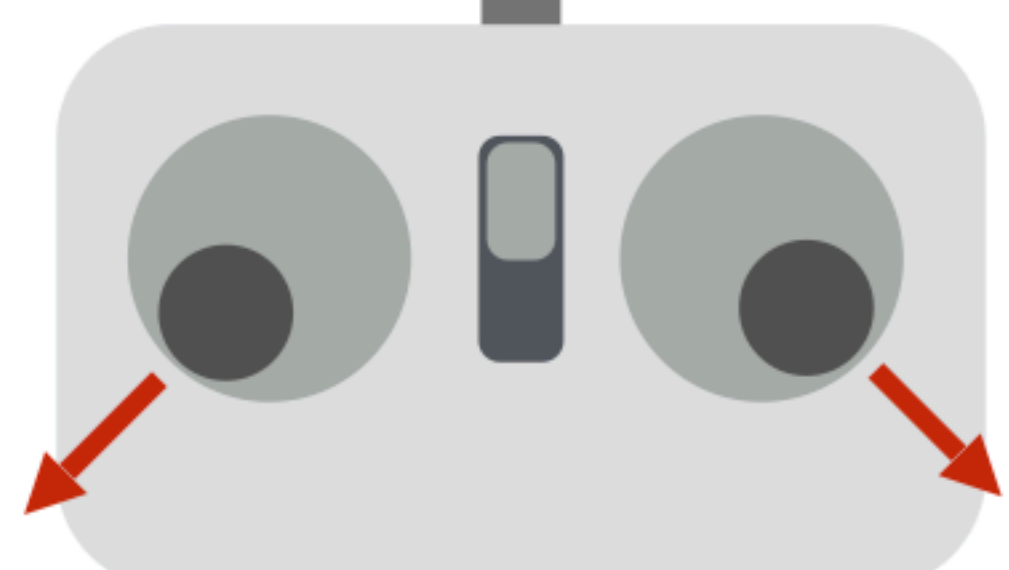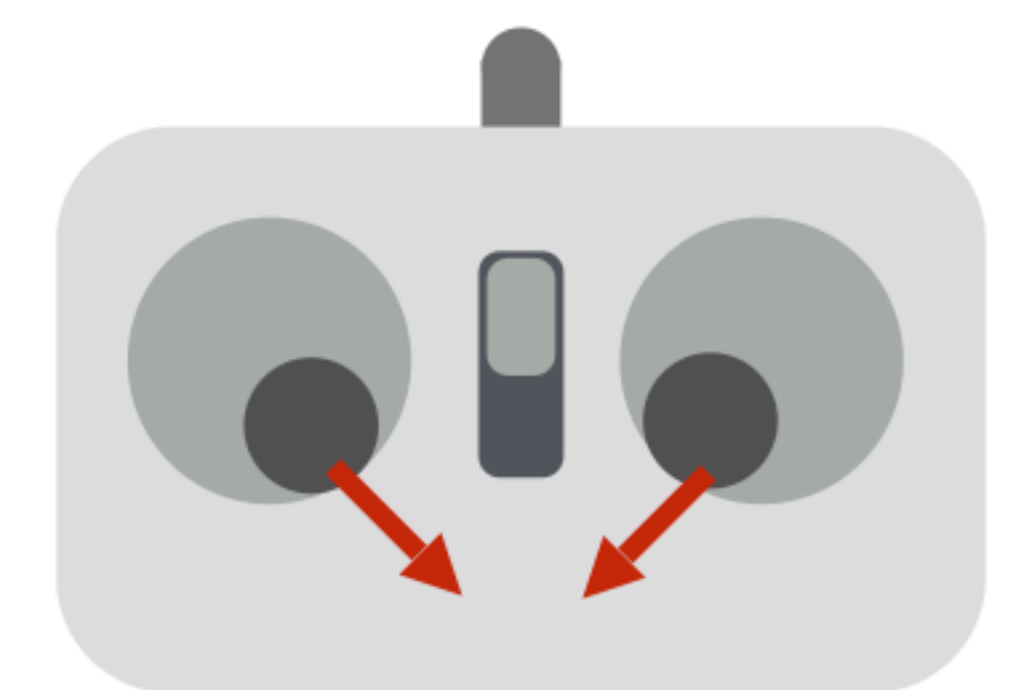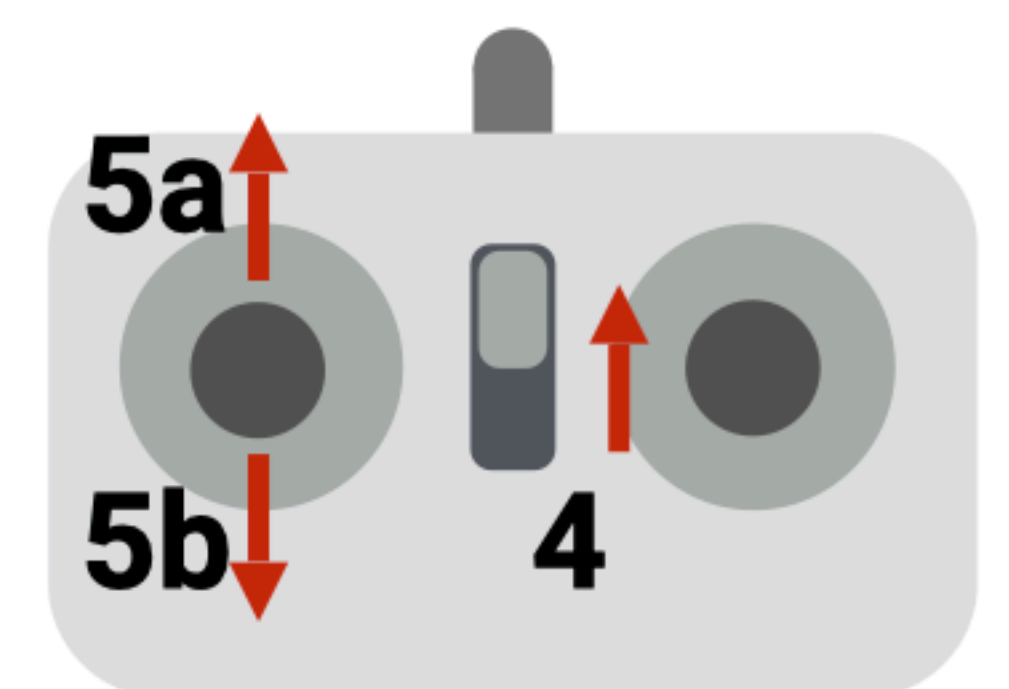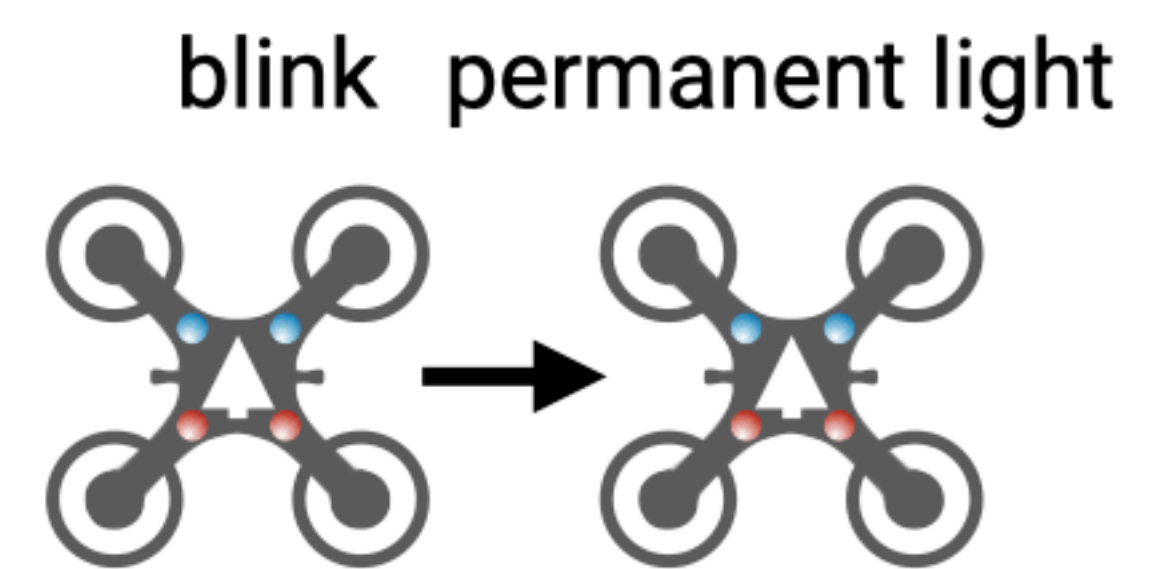
Calibration

Get more stable flying by moving the sticks as shown on the right. Hold the grip for about 3 seconds until the lights on the drone flash. Done after each preparation.
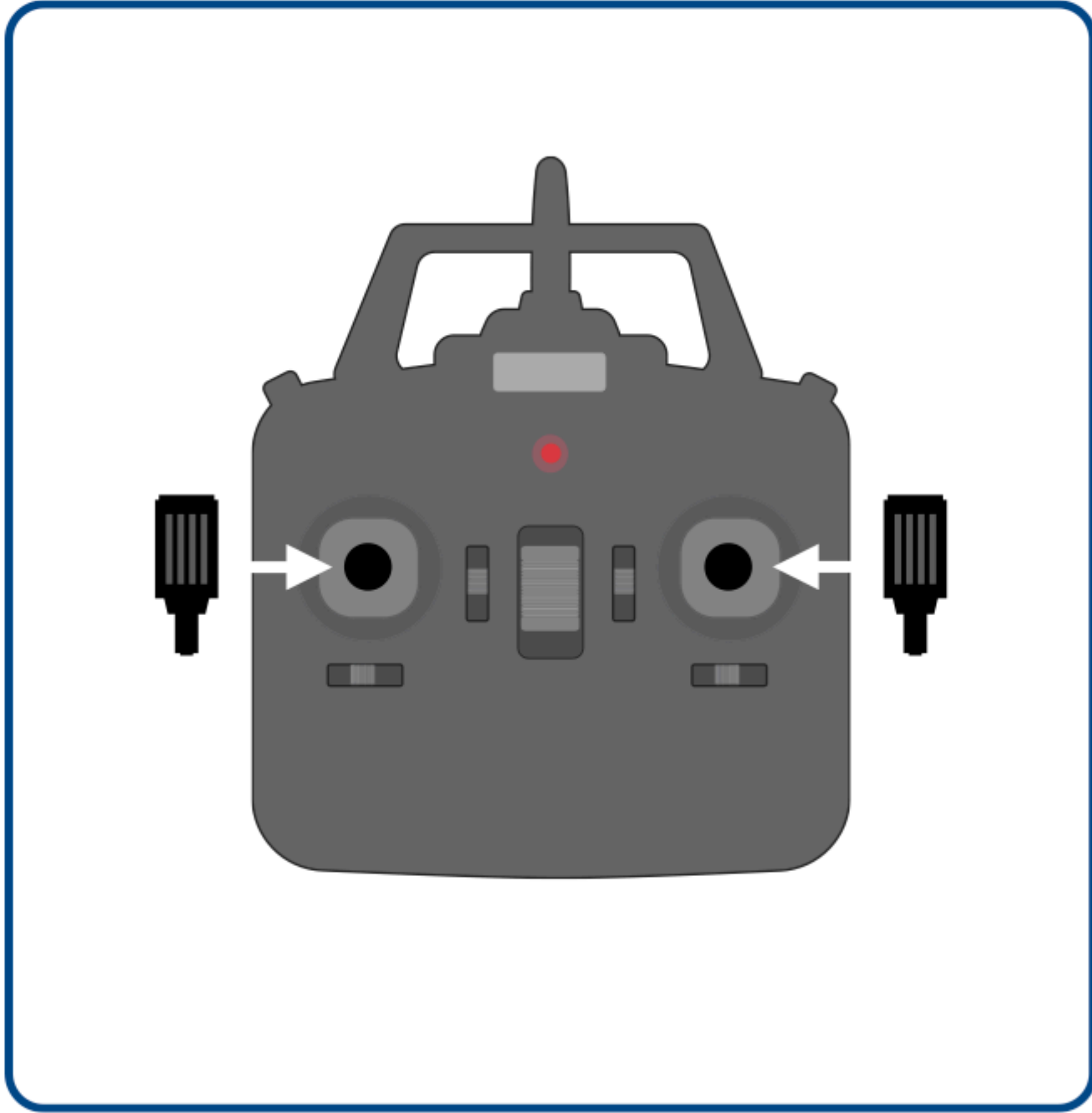
Start the engines, take off

Move the sticks one by one as shown in the picture, until the propellers start spinning.
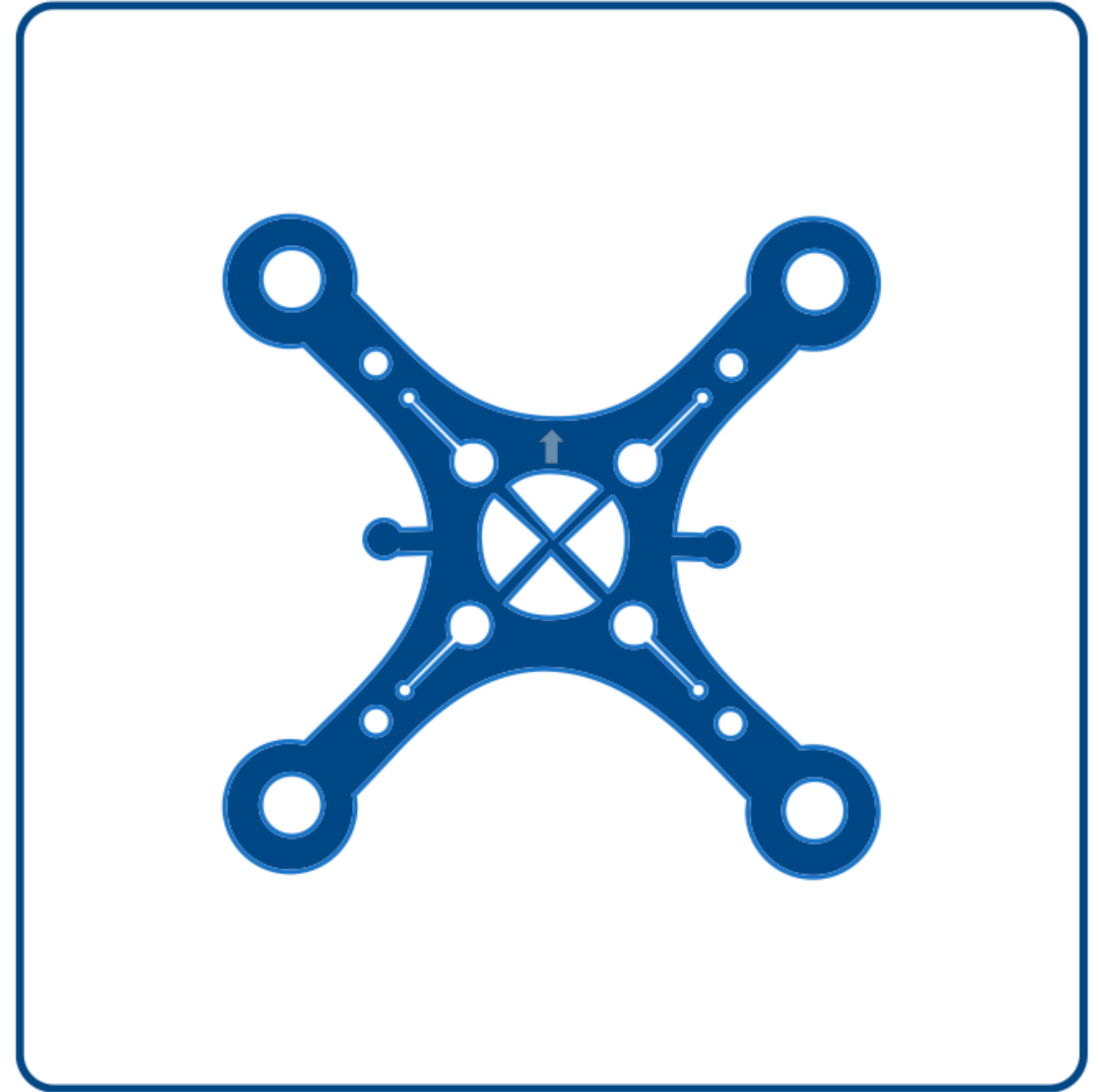- Then move the throttle stick up or down to change the height.

Landing

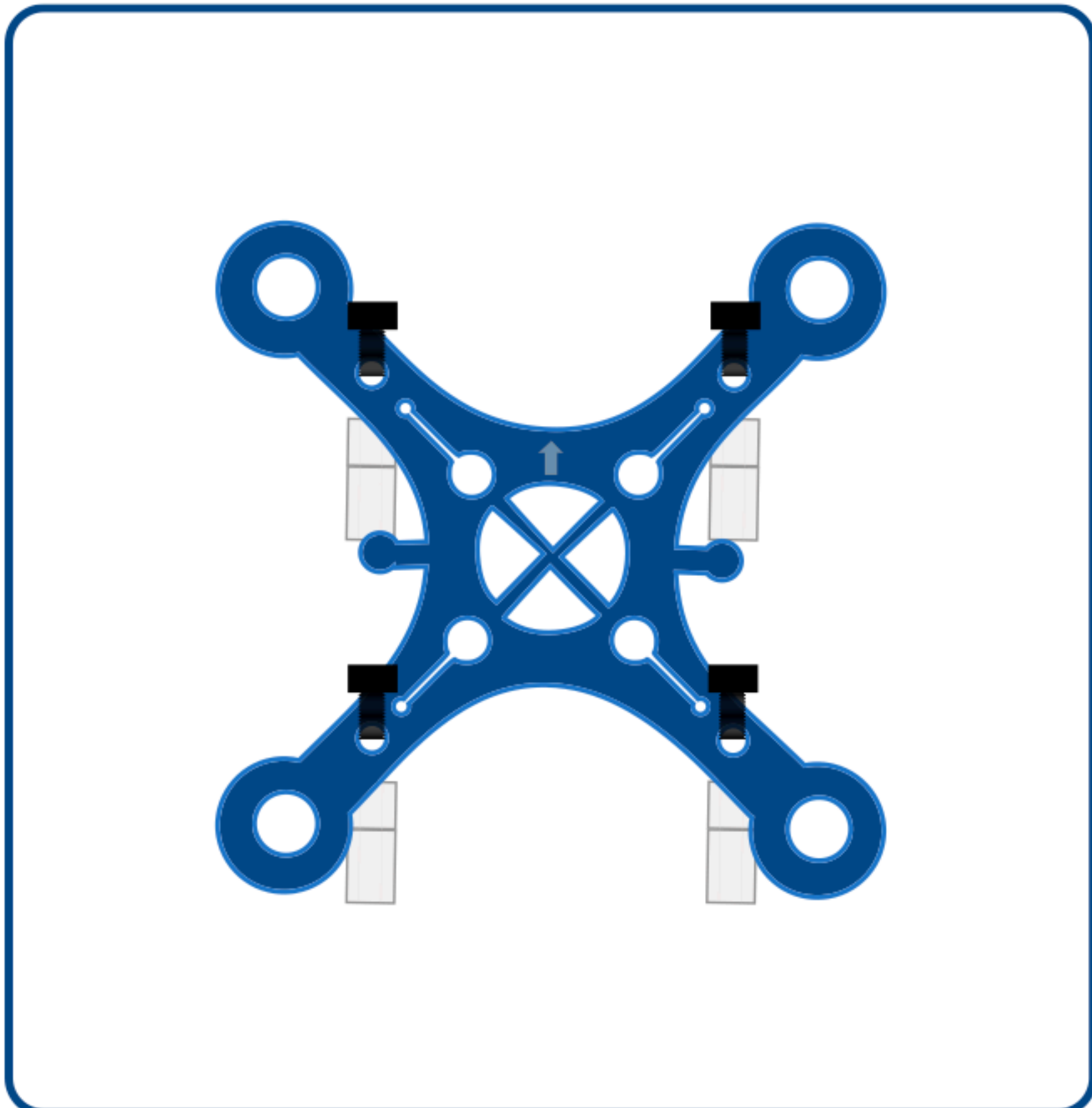Hold the throttle stick (left stick) all the way down for about 3 seconds.
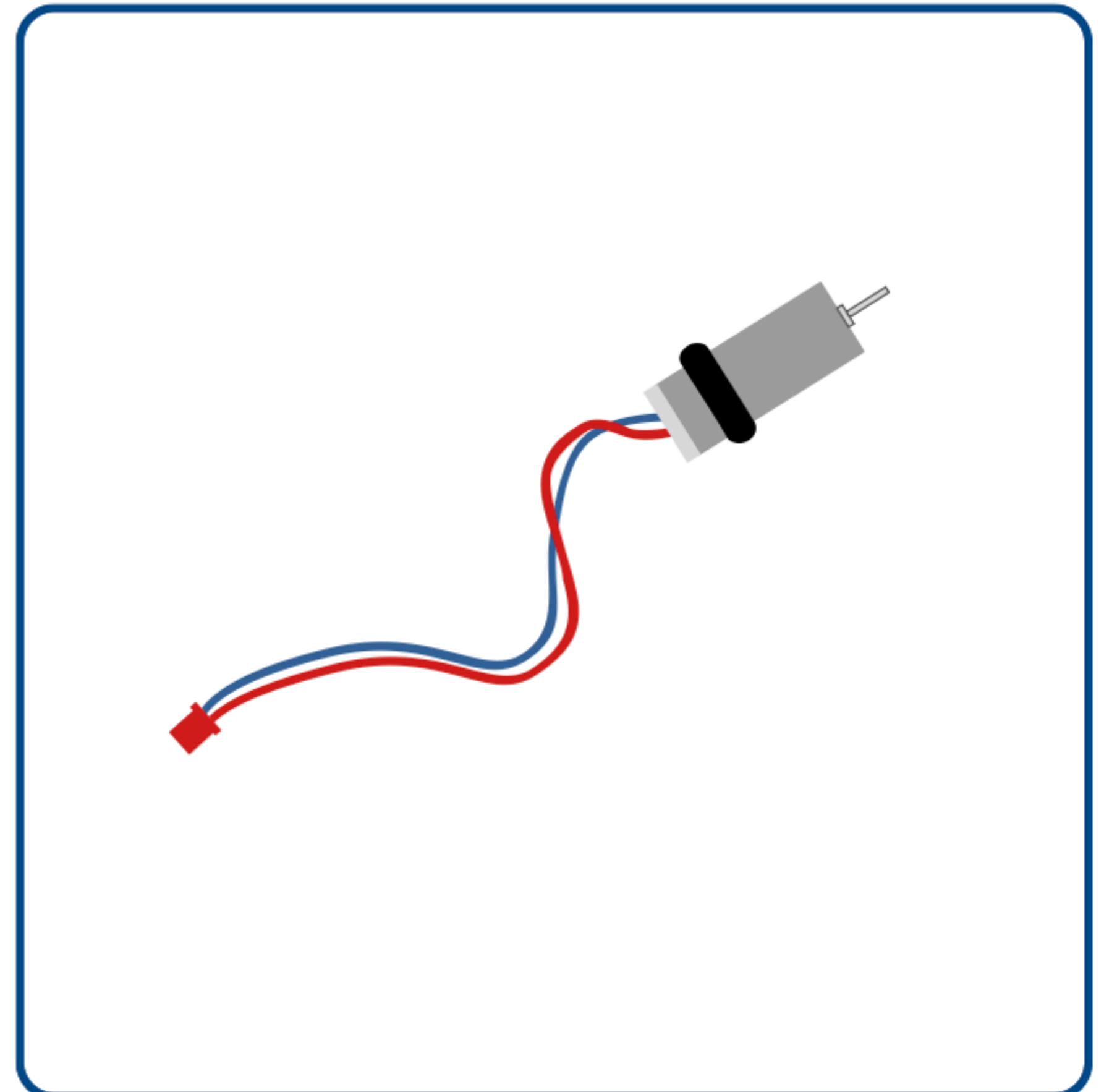
Assembly part 1

**1.** Mount the two knobs in the mounts on the radio

2. Position the center frame with the up arrow. The direction of the arrow is forward on the drone.


3. The legs are mounted in the second outermost hole from the center on the center frame. The screw is screwed into the leg from above.


4. Rubber ring is threaded on the underside of the engine.

**Red**/blue   Black/white

Black/white   **Red**/blue
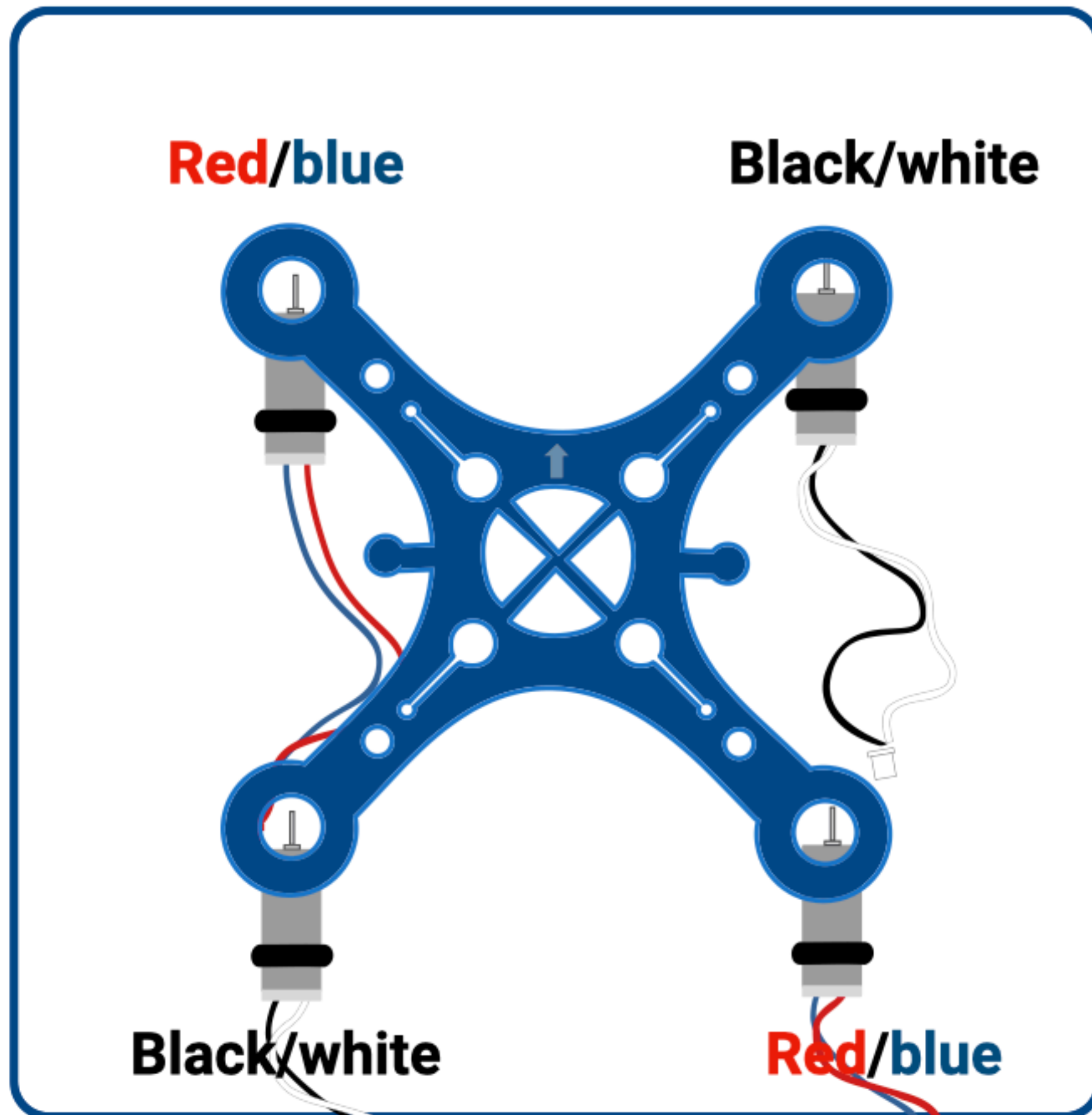
5. The motors are mounted as in the picture. Black/white engine should be at the top right and bottom left and opposite for the red/blue engines.

The engine should be placed high up
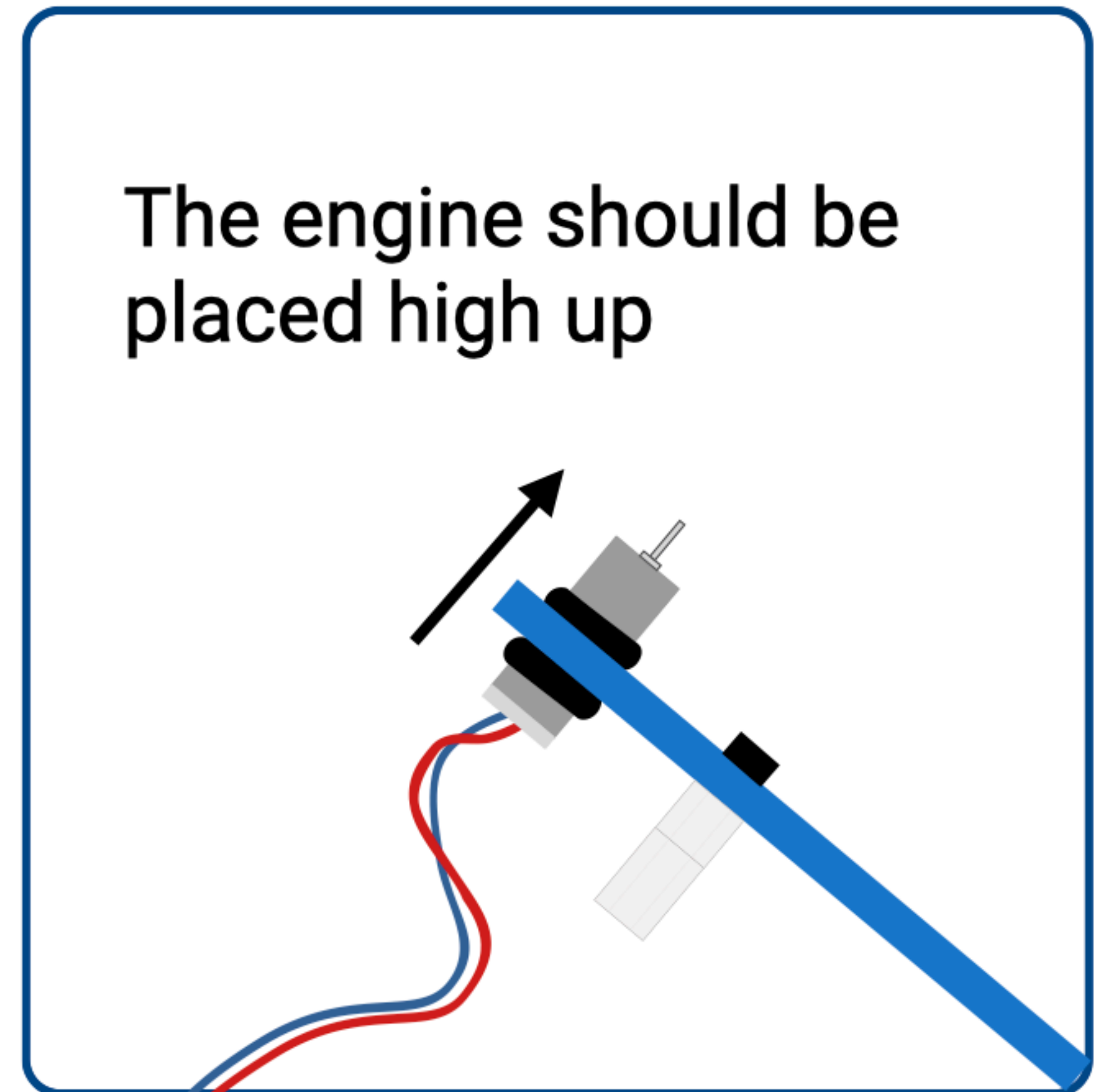
6. Once the engine is in place, thread a rubber ring on the top of the engine. **Position the engine high** so that the bottom cannot hit the ground
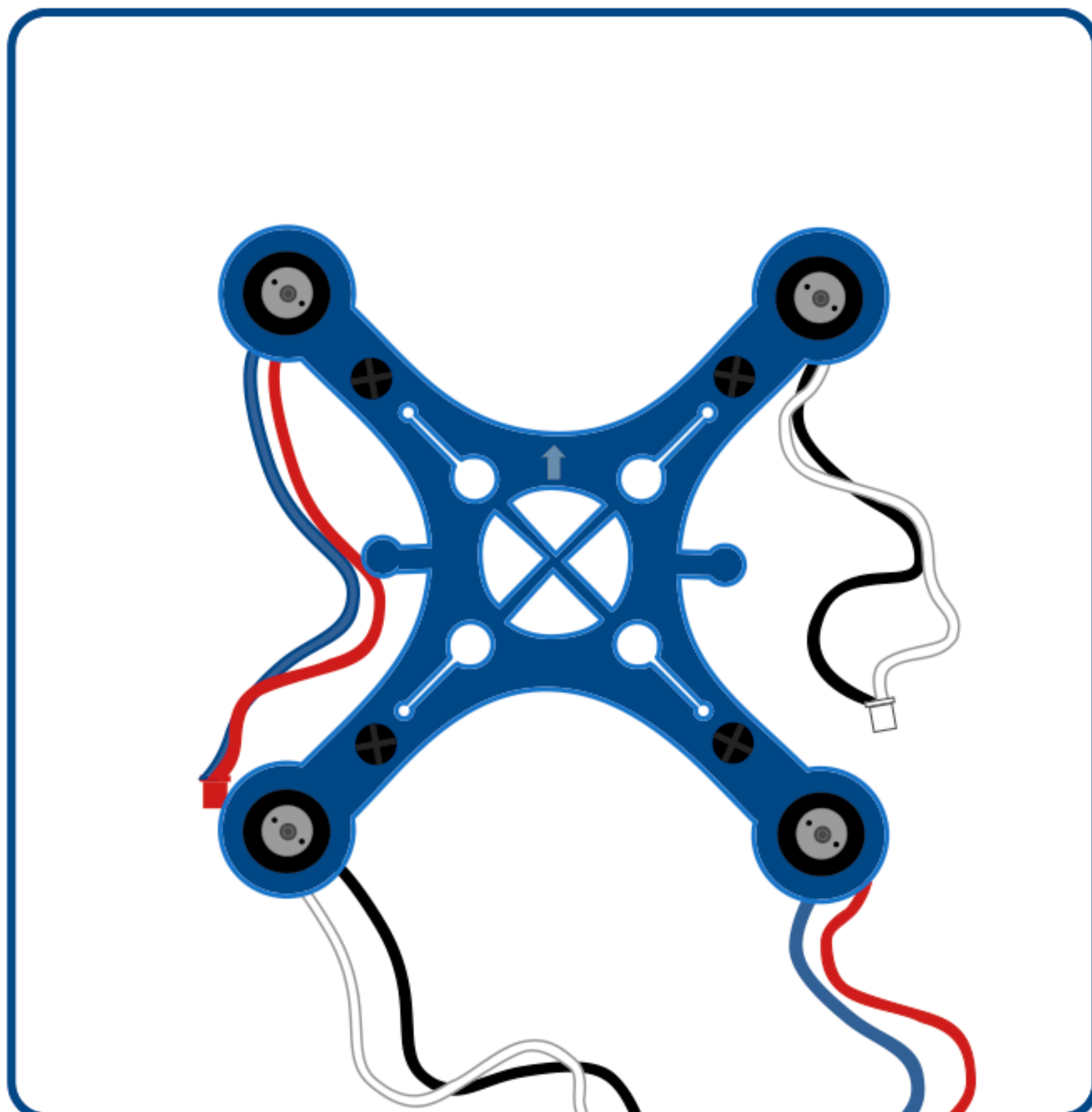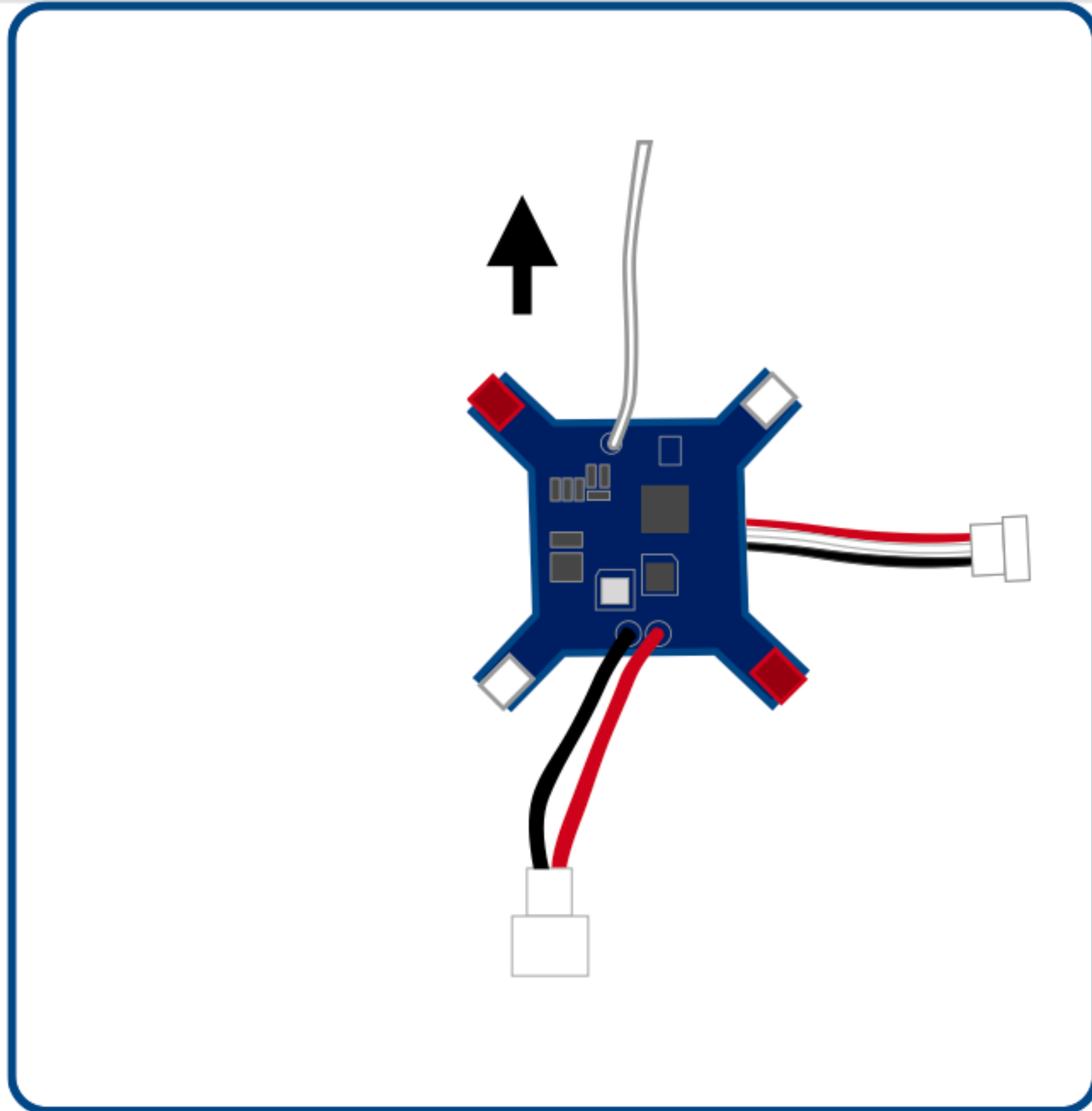

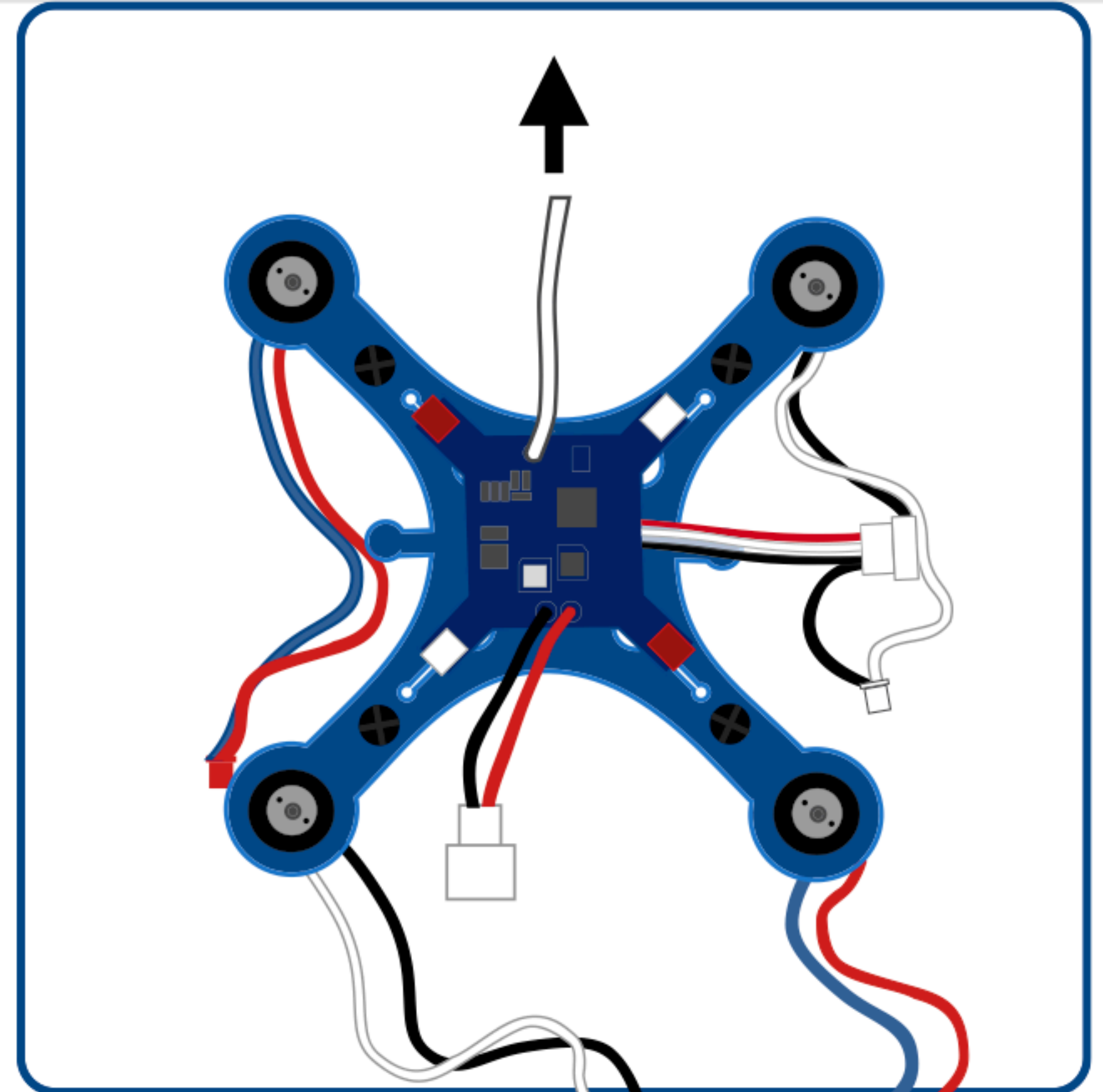**7.** This is what it should look like.
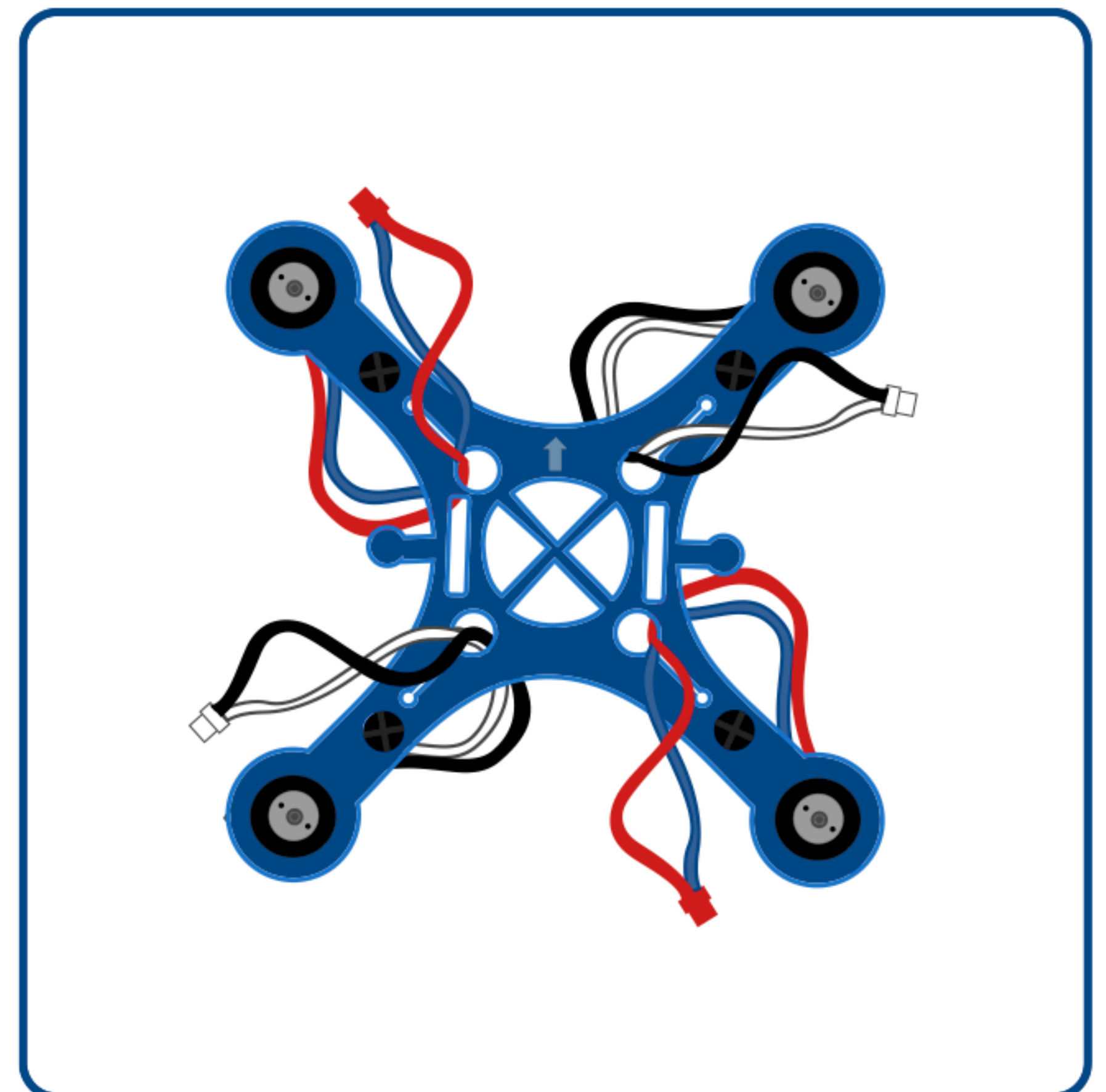
8. Thread the wires into the oblong hole and run the wires out towards the motors. This keeps the wires away from the propellers when flying.
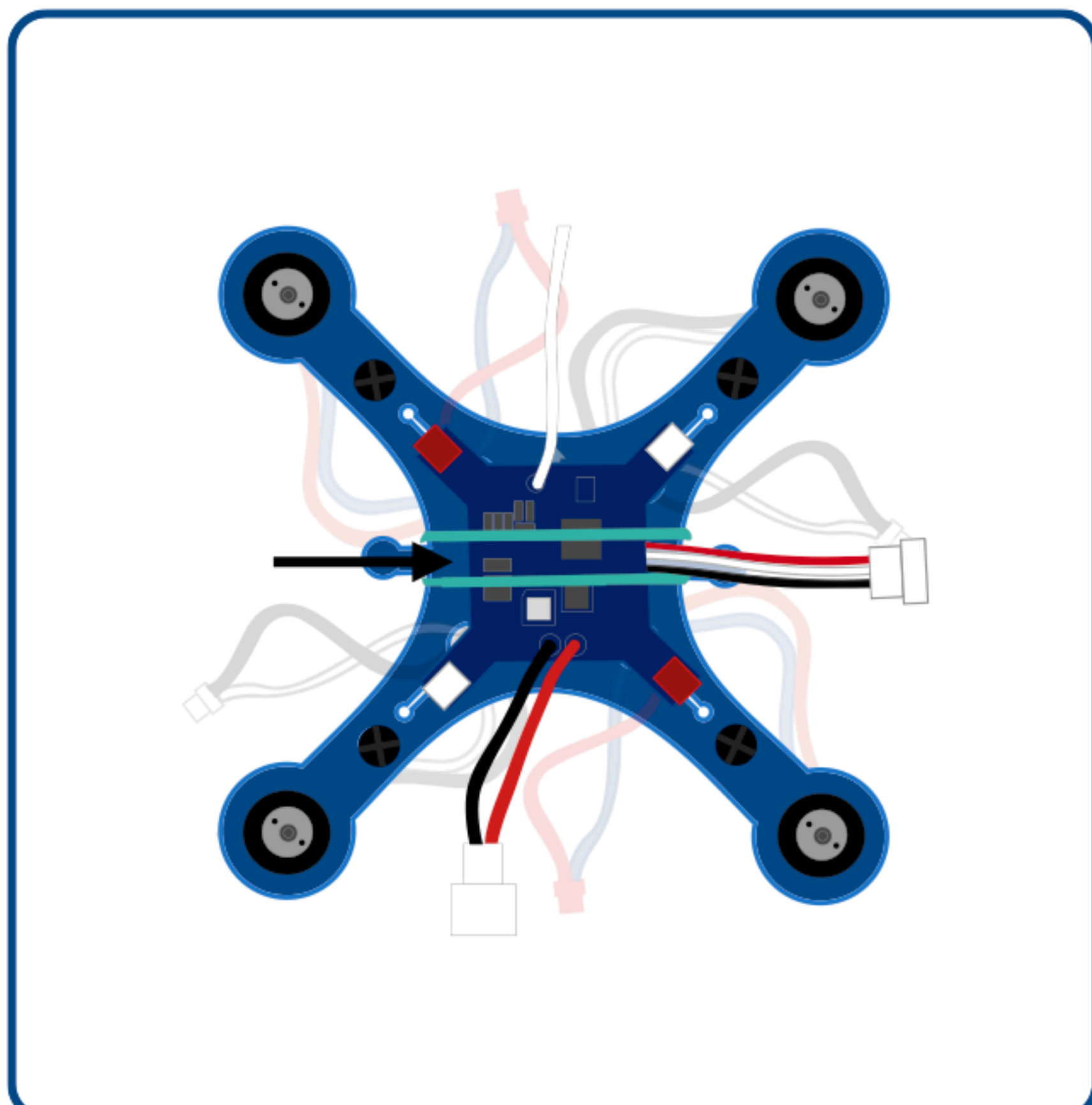
7

Assembly part 2

9. Find the control card.
It must be placed so that the antenna (silver/transparent) is in the same direction as the arrow on the center frame, forward on the drone.


10. Place the control card on top of the frame with the antenna facing forward and the battery cable (red and black) facing backwards.


11. The control card must be attached with a rubber band to the knobs. First over the frame, then below and back. (See point 16) If they are foam rubber, this should be placed under the elastic as shown in the picture.
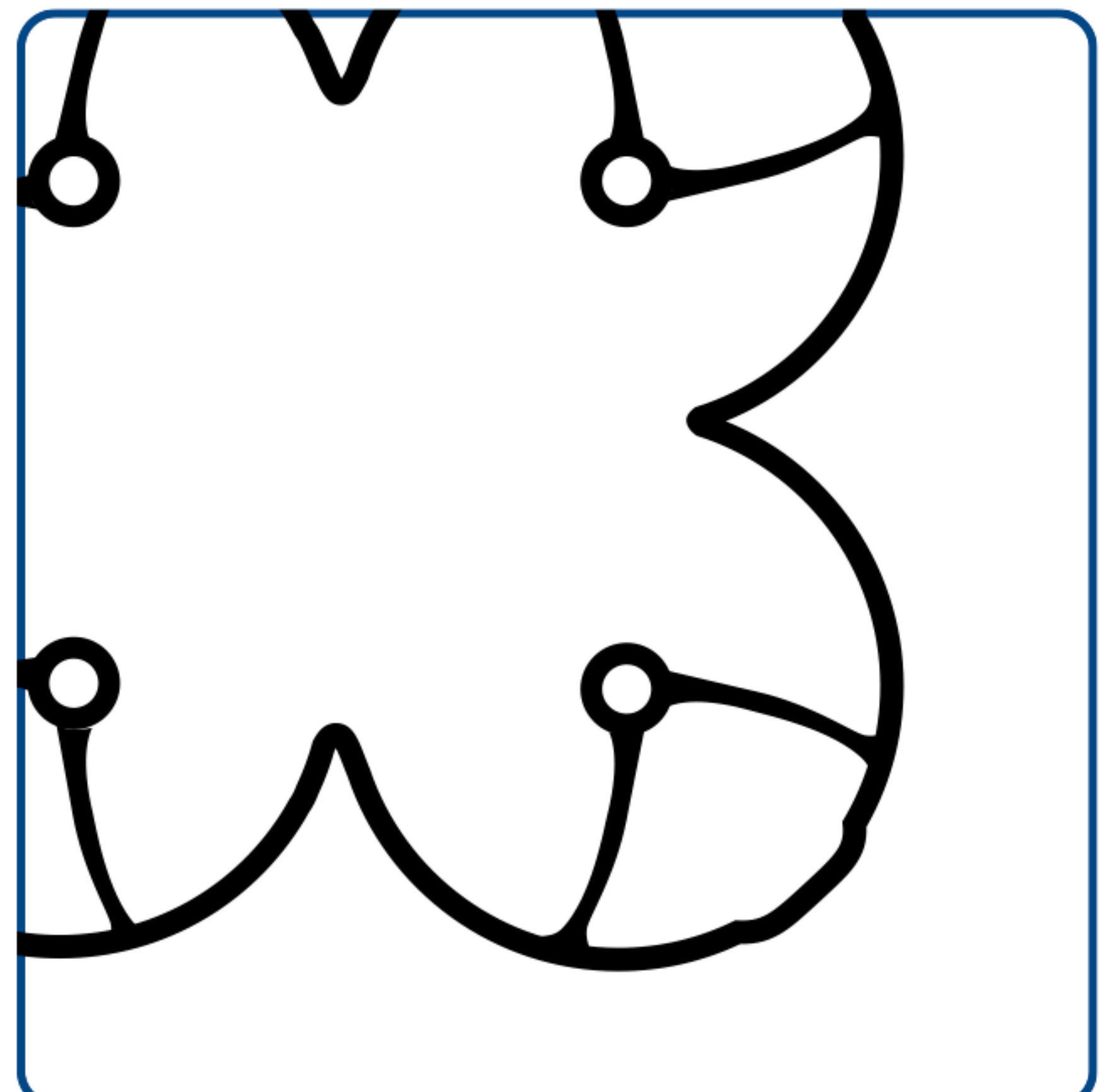

12. The propeller protector is initially recommended, but should not be used at the same time as the camera. Fastened with 4 holes in the middle which are pulled down the motors.
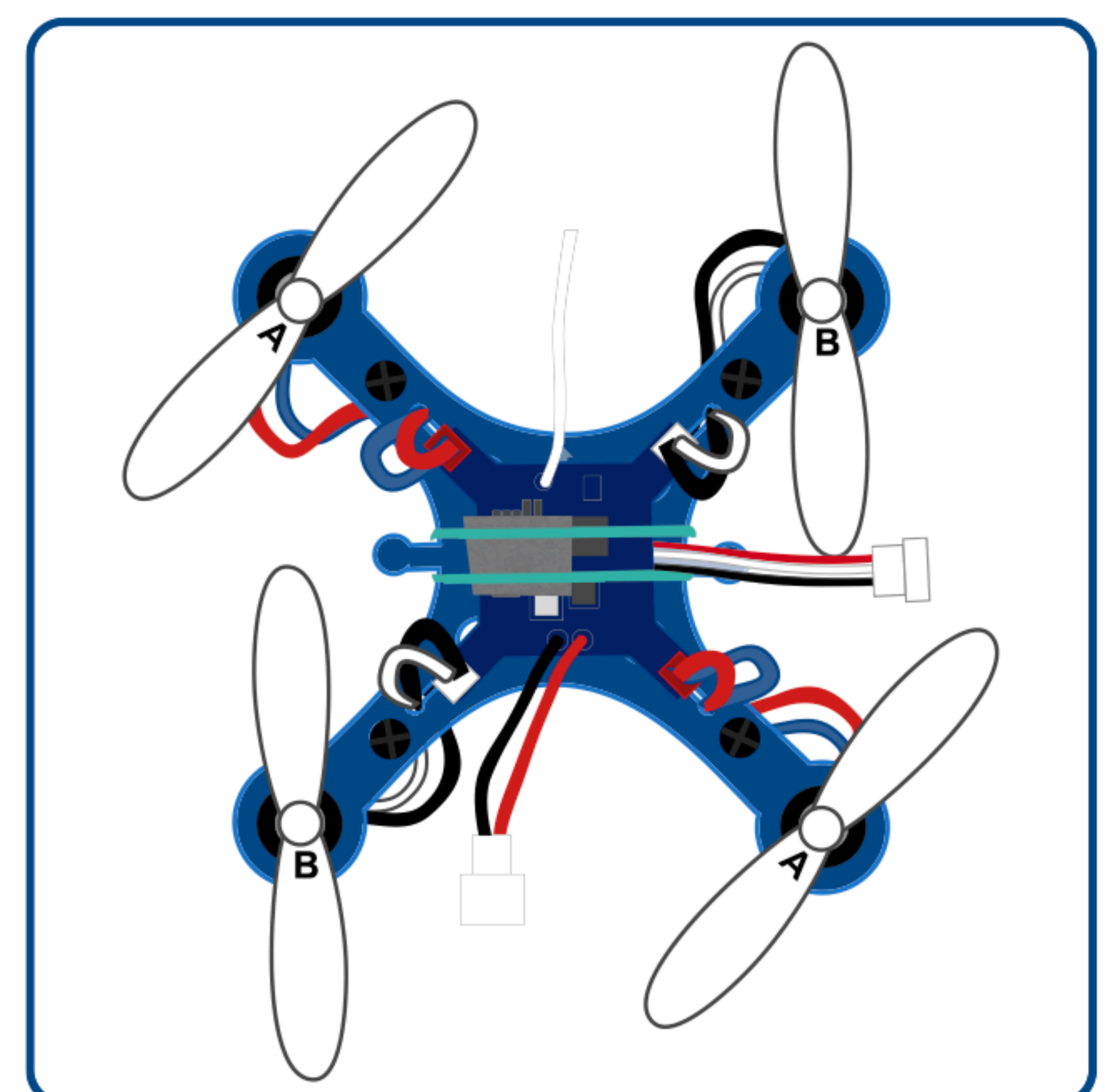
8
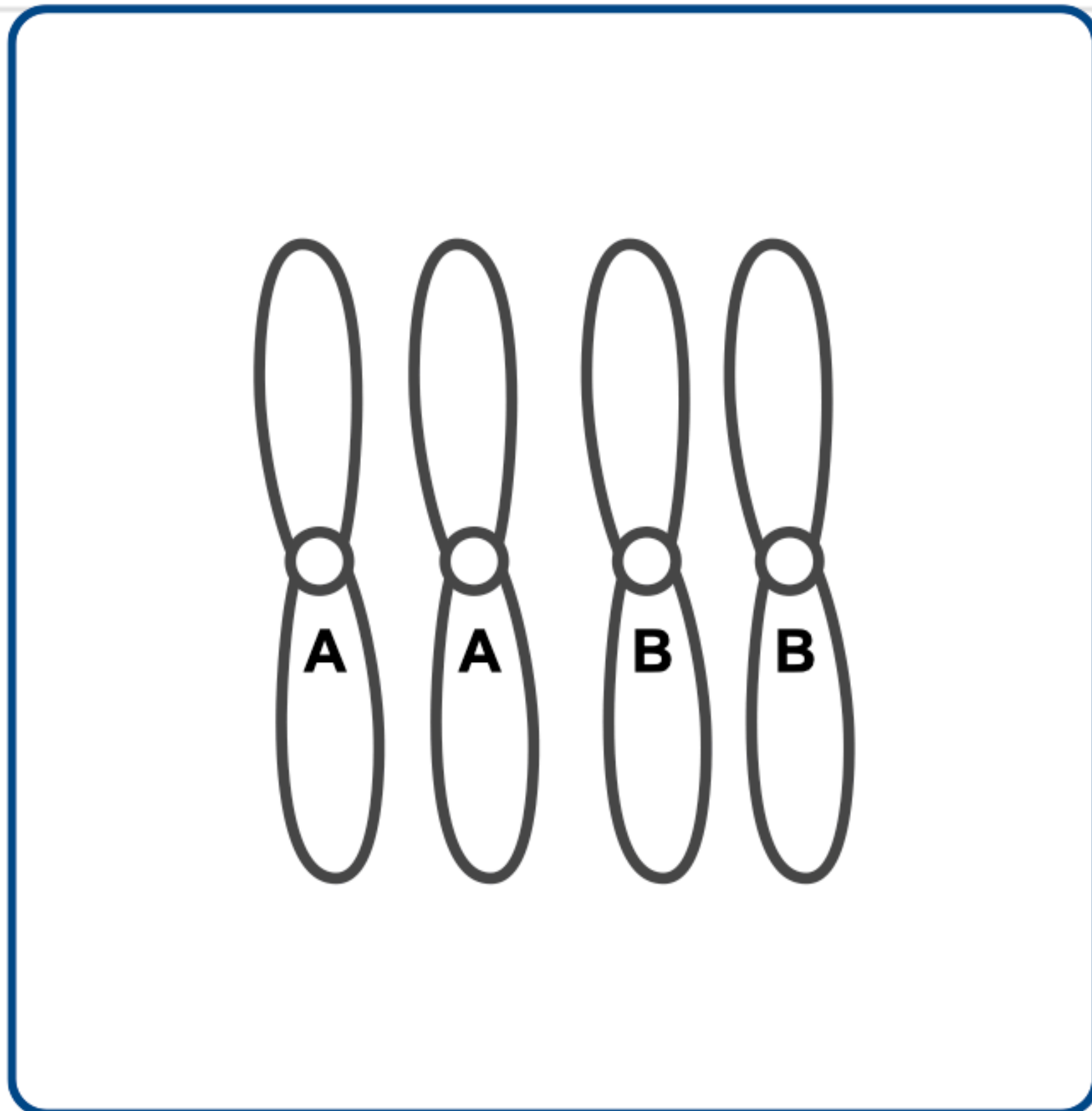
13. For the drone, use A and B propellers. Both propeller types can be black or white. A1 and A2 are the same propeller.
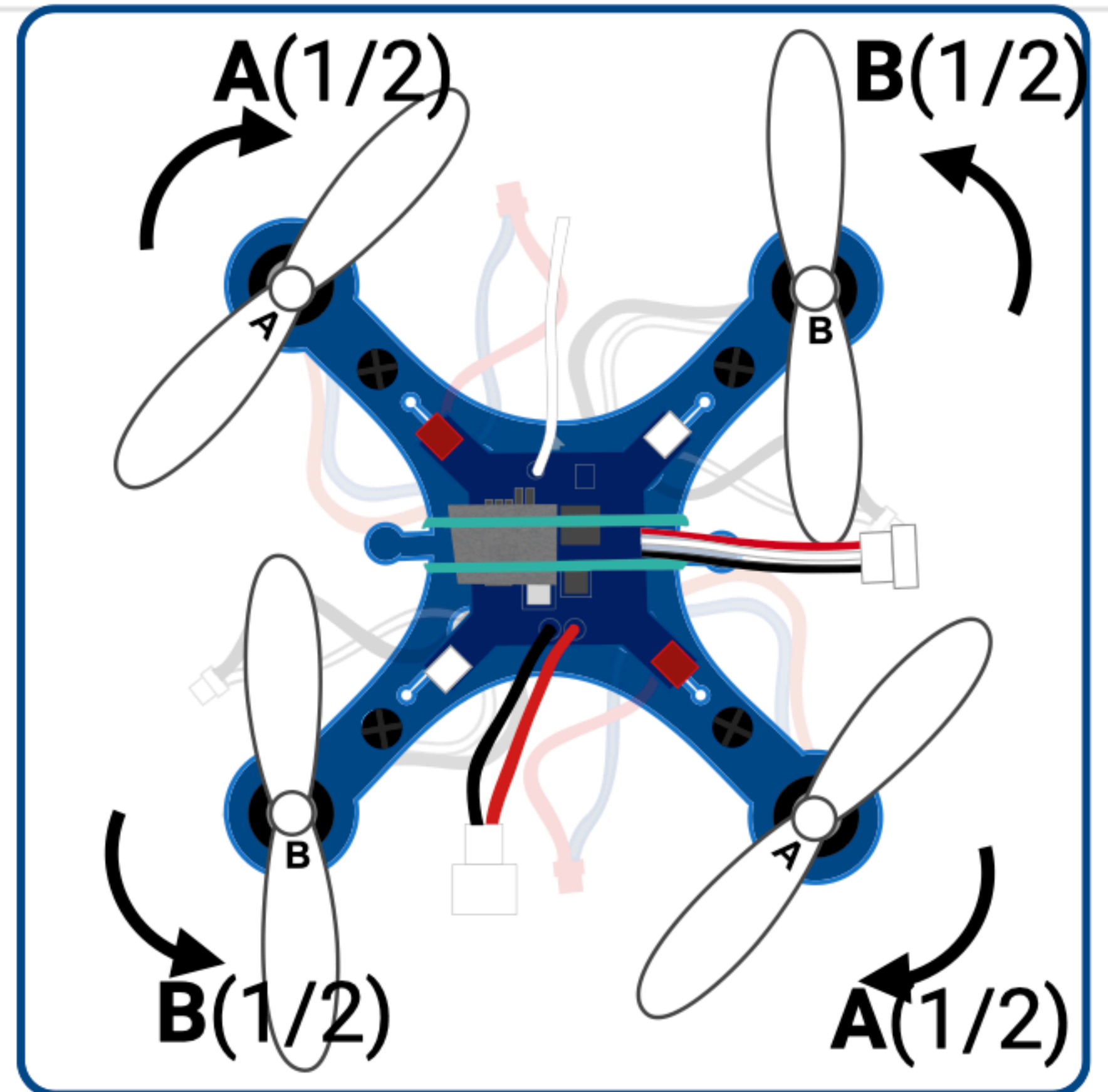
14. Attach the propellers as shown in the picture. Note the location of the A and B propellers.
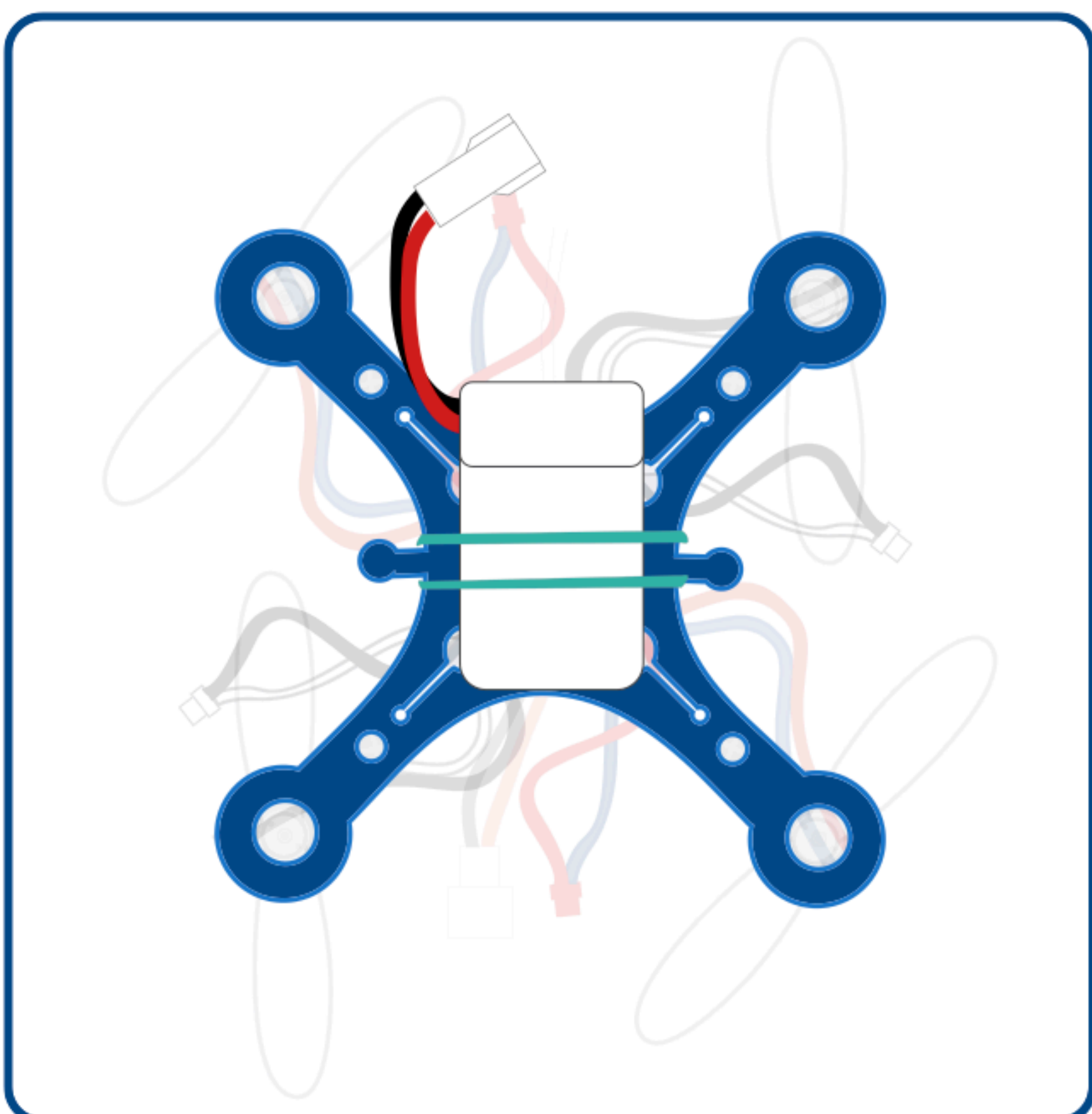
16. Turn the drone. The battery is attached under the elastic on the underside. **Wait to plug in the battery until you are ready to fly.**

15. Connect the plug from each motor to the connector on the control card that has the same color.