How to Fly the Drone

Items required:

- **AT9S Pro Transmitter - “The Remote Control”**
- **S550 Drone assembled - “Hexacopter”**
- **Propellers (6)**
- **LiPo Battery**

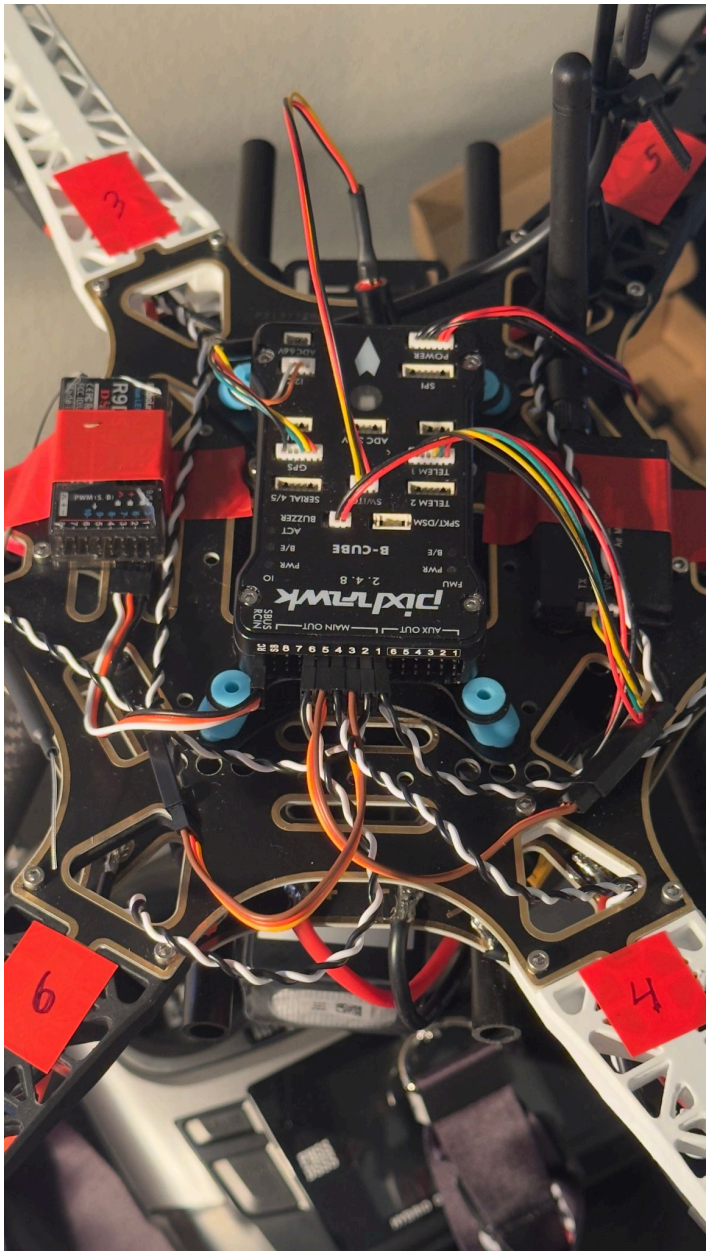
TLDR (**READ DOCUMENT IN ITS ENTIRETY BEFORE USING THIS SECTION)**

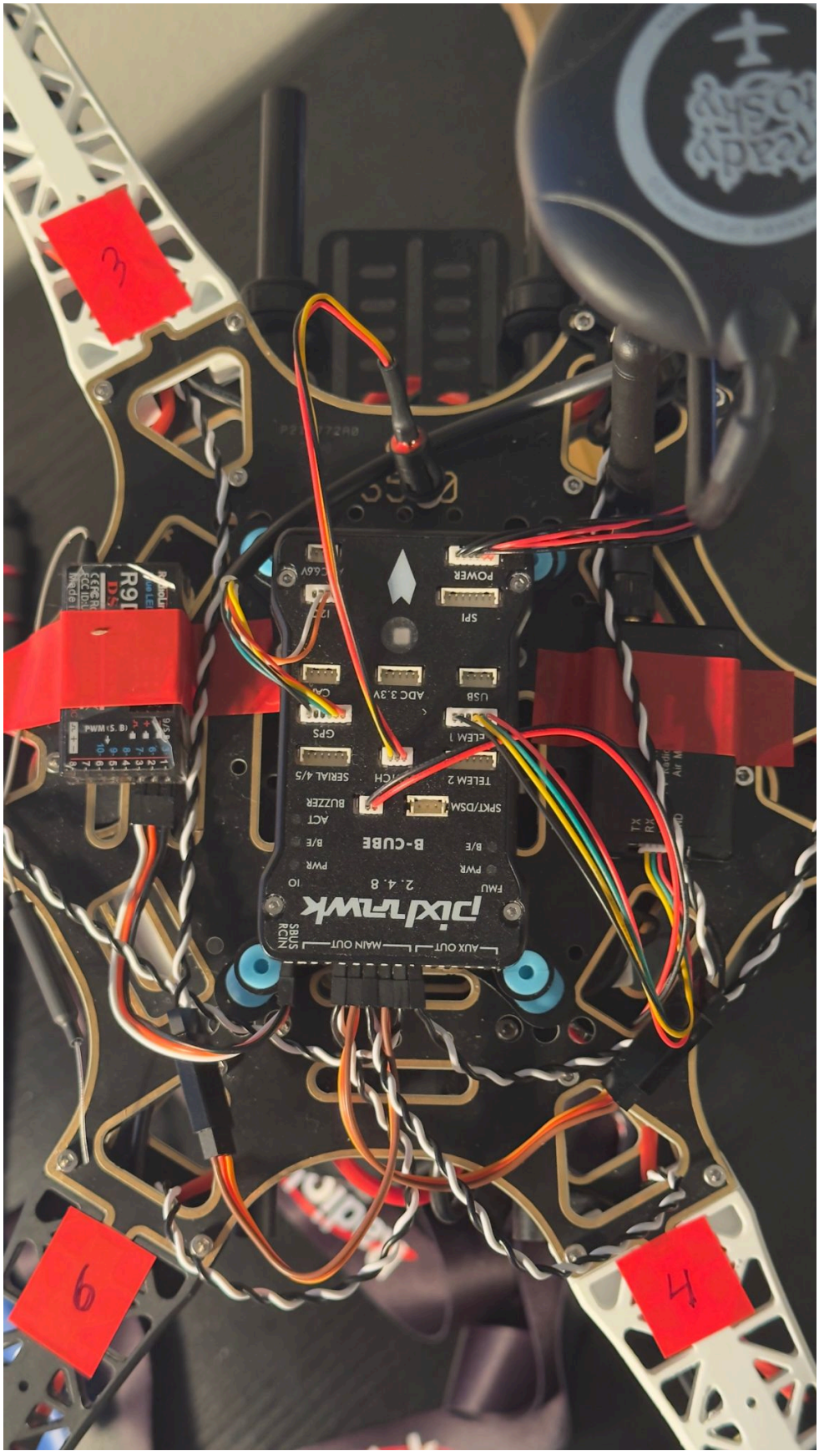
Pre-Flight Checks:

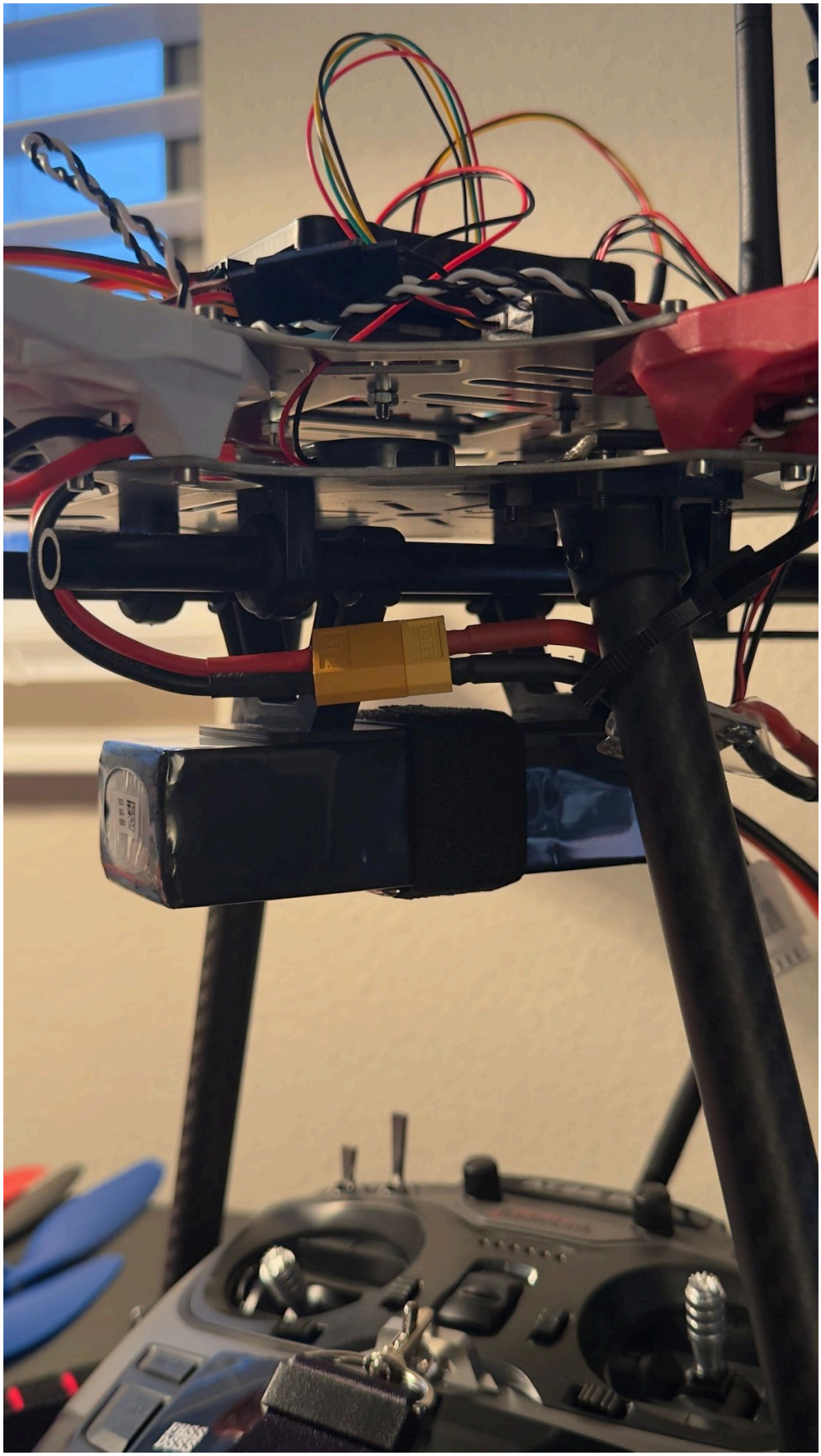
- ☐ ESCs plugged into right ports
- ☐ ESC connected to motors
- ☐ GPS plugged in
- ☐ Radio plugged in
- ☐ Telemetry Plugged in
- ☐ Power Module has not short circuited (doesn’t look burnt)
- ☐ Battery charged
- ☐ Battery secured and velcro tight
- ☐ Screws tightened
- ☐ Fire blanket/extinguisher (the power module has short-circuited and overheated in the past burning some connections)
- ☐ Add Props and make sure orientations are correct (R on CW black and L on CCW silver)
- ☐ Battery plugged in
- ☐ Transmitter Connected (AT9S pro handheld)
- ☐ Safety Switch off
- ☐ Stand clear

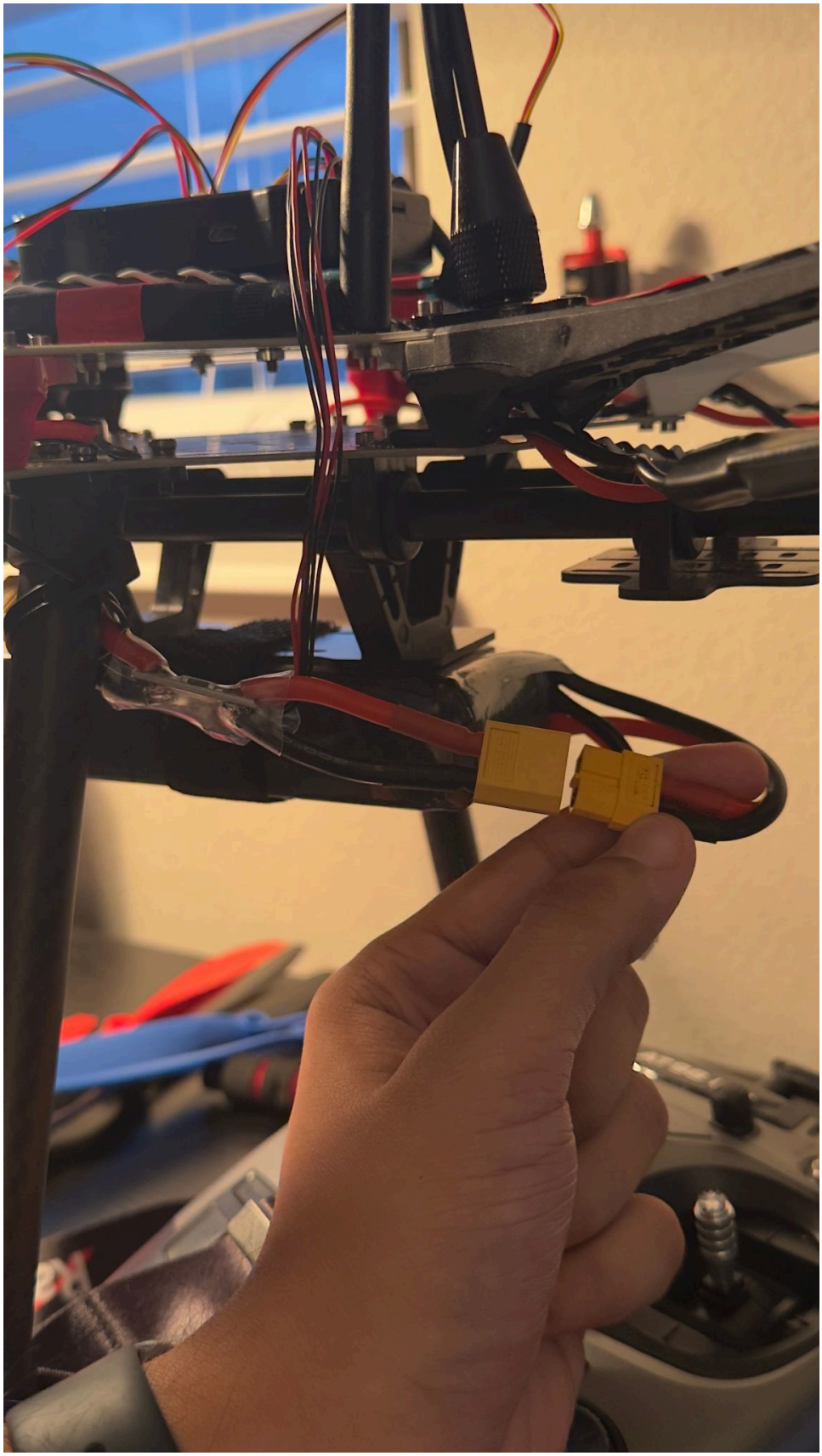
Drone checks:

- Make sure all appropriate wires are connected in the correct spots. Below are images of the drone wired correctly. Compare these photos to the drone in front of you:




3
6
4
B-CUBE
pixhawk
2.4.8
POWER
SPI
USB
ADC 3.3V
GPS
SERIAL 4/5
TELEM 2
SPKT/DSM
BUZZER
AUX OUT
MAIN OUT
SBUS RCIN





In terms of wiring you should have connected:

- On top of controller:
    - POWER
    - I2C
    - TELEM1
    - GPS
    - SWITCH
    - BUZZER
- On side of Controller
    - MAIN OUT **1** through **6**
    - RC

The battery should be charged and securely strapped in with velcro. You can see the battery charge when you connect the ground module telemetry to a computer and open “QGround Control Station” App.

Transmitter checks (Handheld AT9S Remote Controller):

- Make sure that when you turn the transmitter on you hear a beep on the drone. This indicated the onboard radio has made connection to the transmitter
- Here are images of the transmitter. You will see **silver switches**. These need to be flipped to the current setting.
- The ***IMPORTANT*** one is ***C*** in the upper right. This has 3 levels for 3 different flight modes. Stabilize, RTL (return to land), and altitude hold.
- **When flying I have it in stabilize which is the *C* switch flipped all the way UP. This gives you the most manual experience to fly the drone.**
- ***A*** and ***B*** are set all the way up flipped upwards.
- ***D*** is set all the way down
- ***F*** is set all the way down. ***E*** is set all the way up
- ***H*** and ***G*** are set all the way up

The two knobs under the words “AT9S Pro” are turned all the way down (turn counter clockwise fully)

When powered on the screen should read **M: S5501-001**. This is the transmitter profile made for our drone.


AT9S Pro
RadioLink
Mode
End
FHSS
DSSS
U: RadioLink
11.8v
M: S5501-001
[NORMAL]
04 39
T1 00:00.0
T2 00:00.0
MT 04 15
RX: 0.0v
EXT: 0.0v
HYBRID DUAL SPREAD SPECTRUM

Flying

Attach the propellers. The motos with silver heads spin CCW (counter clockwise) and the motors with black heads spin clockwise)

The Props with the text **1045R** go on the black **CW** motors. Props with the text **1045L** go on the silver **CCW** motors. Each motor arm also has a numbering between 1 and 6. 1, 6, 3 are CW and 2, 4, 5 are CCW.

Hand tighten the screw onto the motors with the props. When the motors spin the screws will further self tighten.

On the transmitter the left stick controls throttle (up and down) and rotation (spinning the drone on its axis). The right stick is for forward, backward, left, and right movement. They are very sensitive so don't be sudden with the controls when piloting.

Plug in the power module to the battery (The two yellow XT60 connectors one coming from the battery and the other coming from the power module)

You should hear a couple beeps. You'll know you're ready to flip the safety switch when the motors start beeping at a pace and the motors are twitching slightly.

To arm the drone, find the safety switch on the drone (button flashing red) and hold it for 3 seconds till it turns solid.

Then distance yourself from the drone. Hold the left joystick down to the right for a few seconds. You'll hear the drone beep and the motors will start to spin at their minimum speed.

NOTE: when taking off I give some push forward on the right stick so the drone doesn't flip backwards like it tends to (I am adjusting the trim and some other things to remedy this issue.

The drone will then take off and you can fly it around.

NOTE: Landing can be difficult so be gentle. When the drone makes contact with the ground I again give some forward push on the right stick so it doesn't lean and fall towards the back.

Once the drone has made contact with the ground to disarm hold the left stick down adn to the left until the drone beeps and the props starts spinning