Report 18/10/2022

So today, I started by resuming the test on the ESC and the brushless motor. However, the test didn’t work so I’ll try to understand why. The ESC began “to sing” to notify that an issue is happening.

The reason was obvious, Nino point out the fact that one of the wire was disconnected and free. To reconnect it, I have asked for help to the teacher because I didn’t remember how to make a weld.

After that the program worked correctly. I tested different value of PWM to see how it react. From 0 to 20 and 170, the motor won’t start, from 30 to 140, the motor will gradually increase his rotation speed, at 150 it slow down almost as much as 30 and it also increase partially at 160. I saw a voltage drop when the motor start and stop, and the current can go to almost 1.8A at full speed. If we initialize the esc at a random value as 1555 or 1666 it run. It also run full speed at 142 but can’t start at 143

And I began to search how to inverse it. To analyze it, I choose to add an propeller because it had be easier to see the direction of rotation. I stopped this test because it was to dangerous for my hand. After some more research, I found that the one that we have weren’t bi-directional. So I began to search one directly.

My research weren’t in vain because I finally found a bidirectional esc waterproof which correspond to our need. I submit it to the teacher. I studied around 5 esc, however in the list some must be manually switch, other weren’t bidirectional or waterproof and I finally found one which based on the explanation correspond.

The link:

[Readytosky bidirectional waterproof esc](https://www.amazon.com/Readytosky-Bidirectional-Brushless-Pneumatic-Underwater/dp/B08HWQ58QX/ref=sr_1_3?crid=3FV281RGJCI34&keywords=reversible%2Bbrushless%2Besc%2Bboat%2B30A&qid=1666083859&qu=eyJxc2MiOiIxLjU2IiwicXNhIjoiMC4wMCIsInFzcCI6IjAuMDAifQ%3D%3D&sprefix=reversible%2Bbrushless%2Besc%2Bboat%2B30%2Caps%2C292&sr=8-3&th=1)