Blimp Assembly Instructions

George Mason University

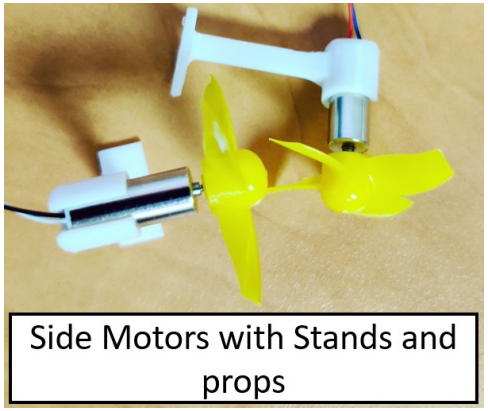
Components not included in the Kit

- Helium
- Laptop (Windows OS)
- Putty (for weight balancing)
- Tape

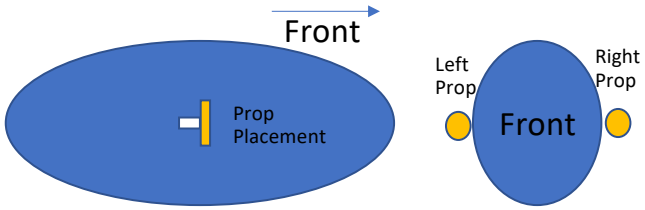
Assembly Instructions

1) Mounting the Side Motors

- Fill the Balloon given in the kit with helium
- Use double sided tape on the base of the stand and stick it on the balloon
- Use packing tape on the motor mounts to further secure it.
- Use appropriate extension cables given in the kit to connect them to pins M1(Left),M3(Right) on the control board.

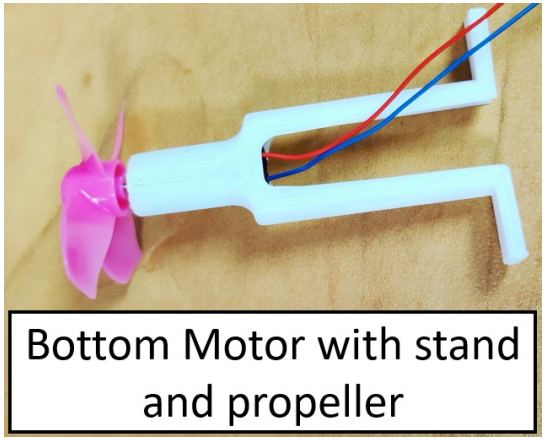


Side Motors with Stands and props



2) Bottom Prop Placement

- Use double sided tape on the base of the prop mount
- Use packing tape on the mount to make it more secure



Bottom Motor with stand and propeller

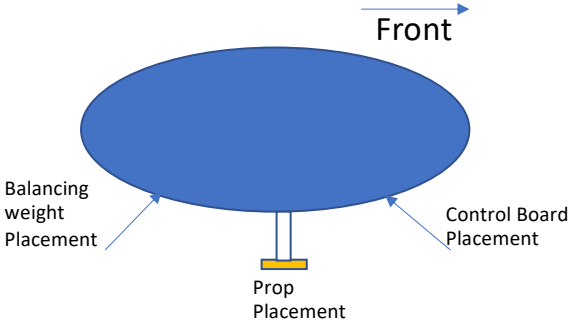
3) Control Board Placement

- Use packing tape to mount the control board directly on the balloon

Note(1) – make sure the motor, servo and battery ports are exposed.

Note(2) – Always connect the polarity changing cable to the control board. (This is very important)

Note(3) – Keep the UFL antenna connected to the XBEE module on the control board.



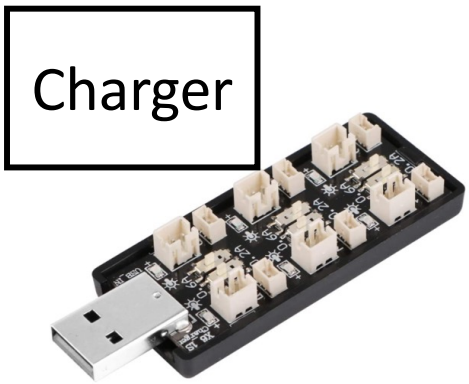
4) Balancing Weighting Placement

- Place the putty on the balloon at necessary places to make the blimp neutrally buoyant and keep it horizontal.



5) Battery connection to Board and Re-charging battery

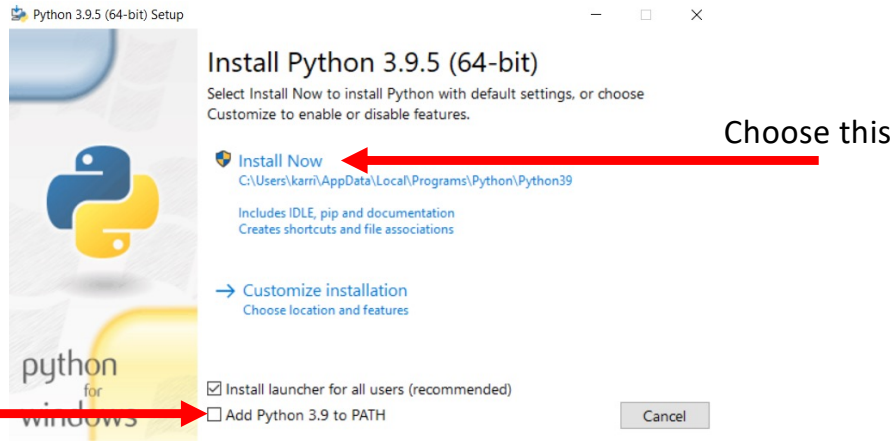
- Connect the battery to the other end of the polarity change cable to power the board up. (Very Important)
- To charge the battery plug in just the battery to the charger with out the polarity changing cable. (Very Important)



6) Setting Up Python on the Laptop

Download python from - https://www.python.org/downloads/

Follow the steps given in the snippet



7) Installing Required Libraries

- Open “Power Shell” on your windows PC and use the following commands to install pygame and then pyserial.

pip install pygame

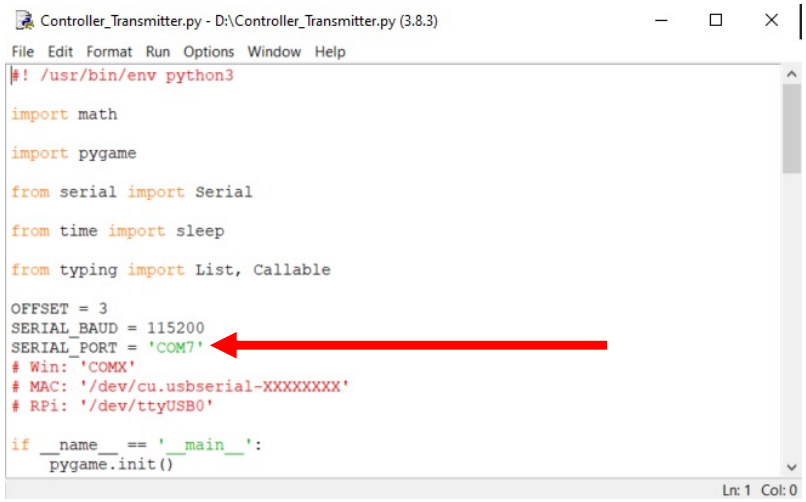
pip install pyserial

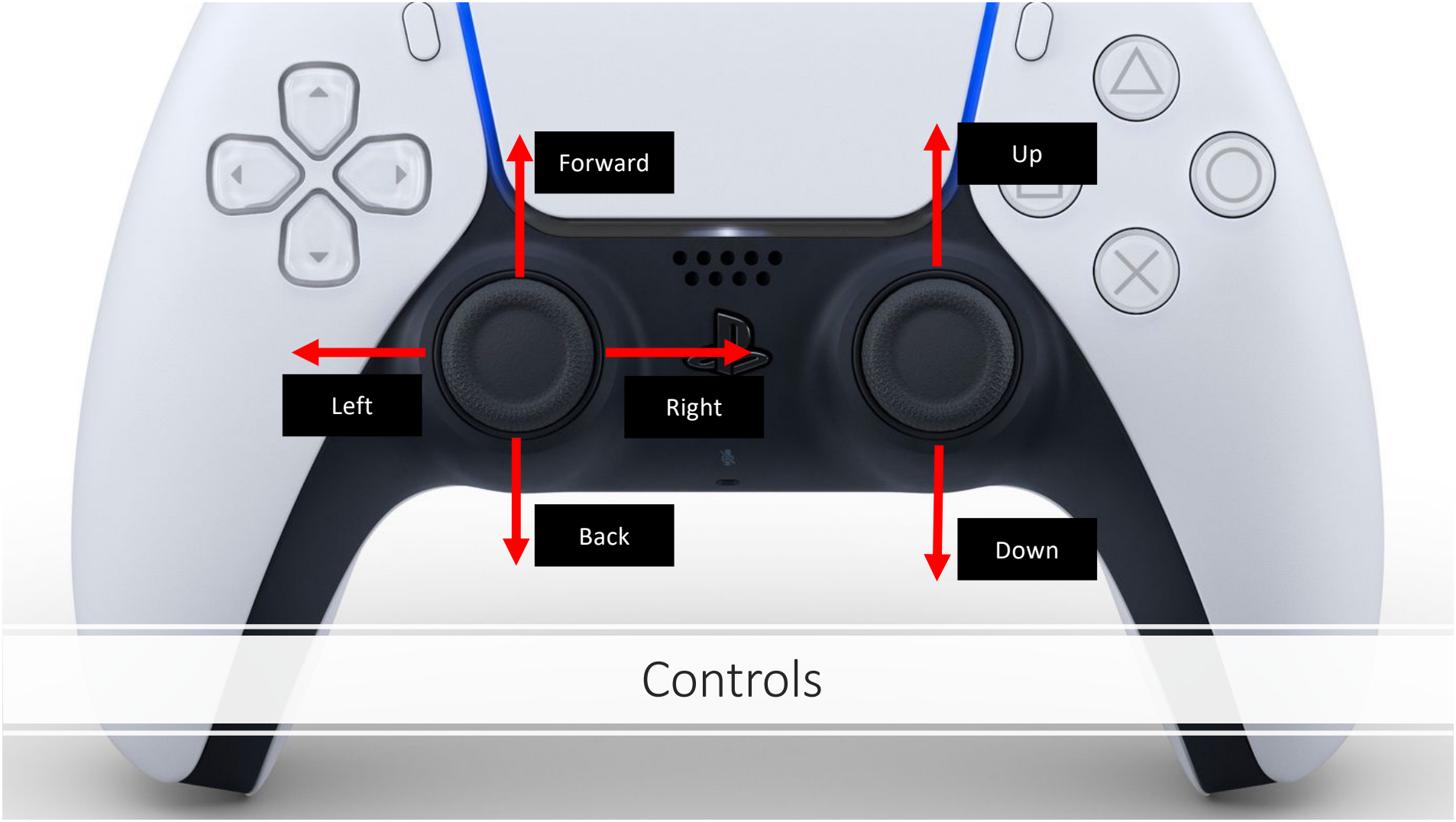
8) Code for Controller

- Follow the given link to get access to the code needed to use the controller.

Link - https://drive.google.com/drive/folders/1Lj_8Hp93GcQFKFuYIUDUtCngLuf28d5Z?usp=sharing

- Before running the code, connect the XBEE module to the laptop.
- After connecting Go to “Device Manager” on your laptop.
- Look for “Ports (COM & LPT)” dropdown menu.
- Check for the “COM#” port to which the XBEE is connected
- Open the code in python IDLE to edit it.
- Change the “COM#” port number in the code to the one shown in “Ports (COM & LPT)” in “Device Manager”.
- Save the code and run it. It should give put the controller input values.
- This need to be done every single time you want to operate the blimp.





Controls