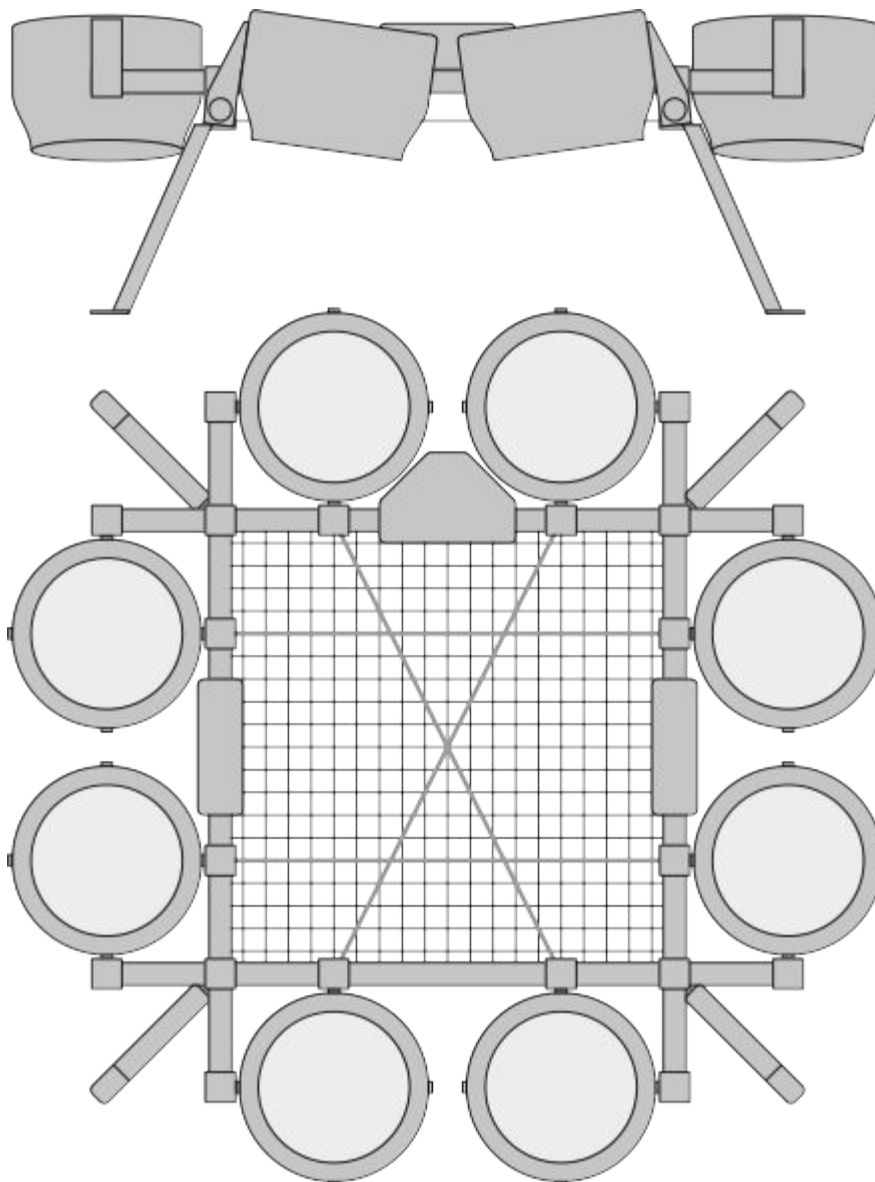


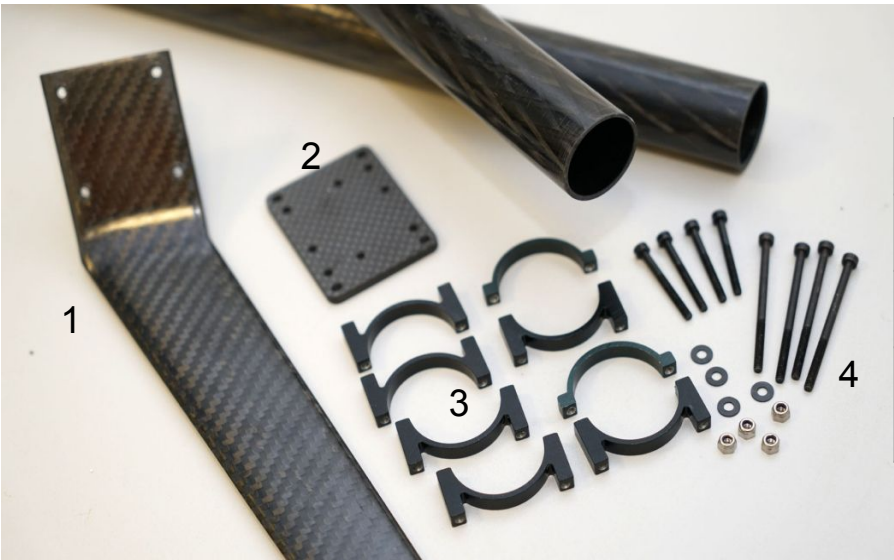
Wohler Mark V - Delivery Drone



Technical Specs :

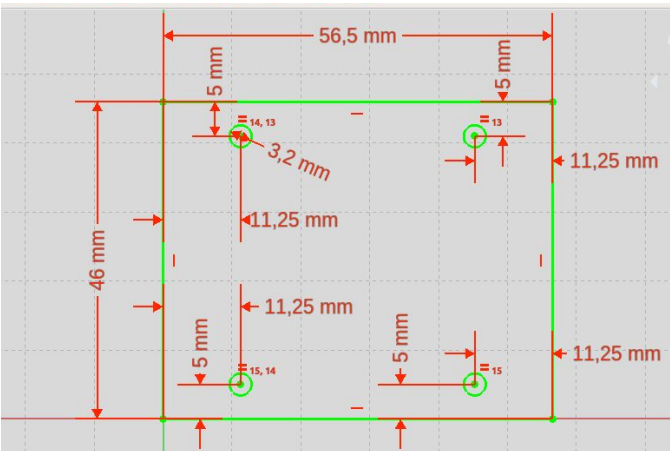
- Frame was designed to fly with 8 turbines Athena V1.64
- Power source - two batteries Li-Po, 6S, 22Ah, 25C, 2500g each.
- Autopilot - Pixhawk2 Cube
- Payload up to 10 kg, 550x540x220mm (cabin luggage size)
- Size of the drone - 116x117x43cm
- Mass of the frame only - 2,3kg
- Frame with wiring and avionics - 3,4kg
- Batteries - 5,1kg
- Turbines - 1,15kg each, 9,2kg - eight turbines.
- RTF mass - 17,7kg
- Safe thrust of Athena 1.64 turbine - 30N (20V on ESC, 40A)
- Total thrust - up to 300N on a full battery

I) Assembling LDG (1/2)



<u>Pieces</u>	
1	Carbon LDG
2	Small Carbon Plate
3	Aluminum Spacers
4	4 Screws M3x25, 4 M3x50, 4 M3nuts, 1 M4x16 , 1 M4nuts

Step 1 : Drill LDG with 3mm drill bit



Rq : you can use the 3D printed tool (LDG-Drill-Tool.stl)



4mm hole for Caoutchouc pad

I) Assembling LDG (2/2)

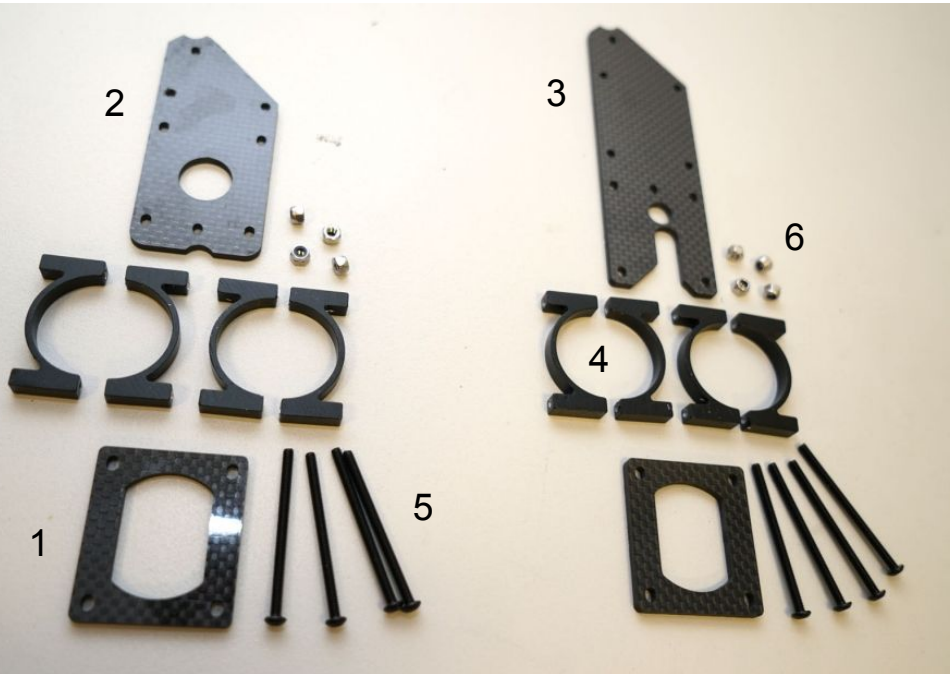
Step 2 : Glue M4 nut in the caoutchouc pad & screw caoutchouc pad on LDG



Step 3 : Assemble Alu spacers with M3 screws (x4) & Carbon plate



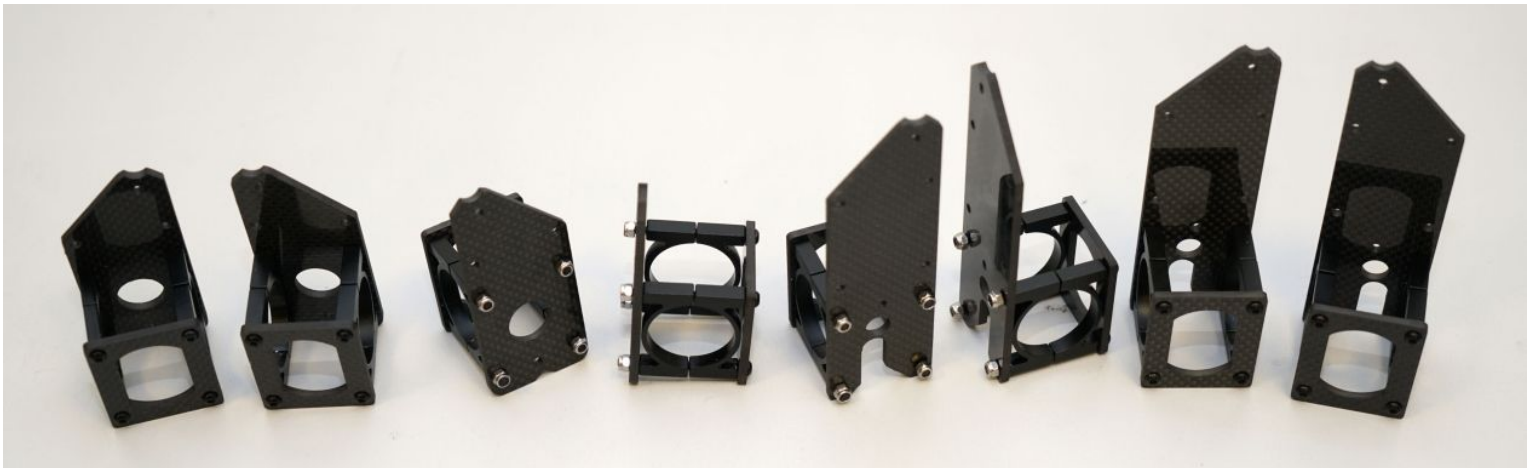
II) Assembling Turbine Holder 1



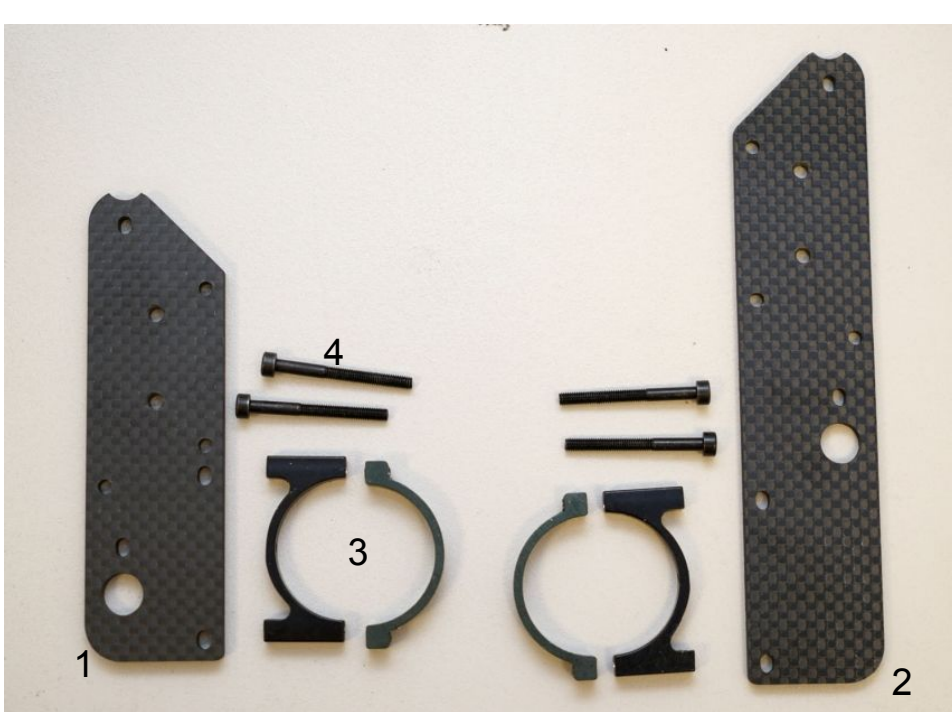
Pieces :

1	Small Carbon Plate (x2)
2	Medium Carbon Plate
3	Big Carbon Plate
4	Aluminum spacers (x4)
5	M3x45 screws (x8)
6	M3 nuts (x8)

Step 1 : Assemble Alu spacers with M3 screws & Carbon plates



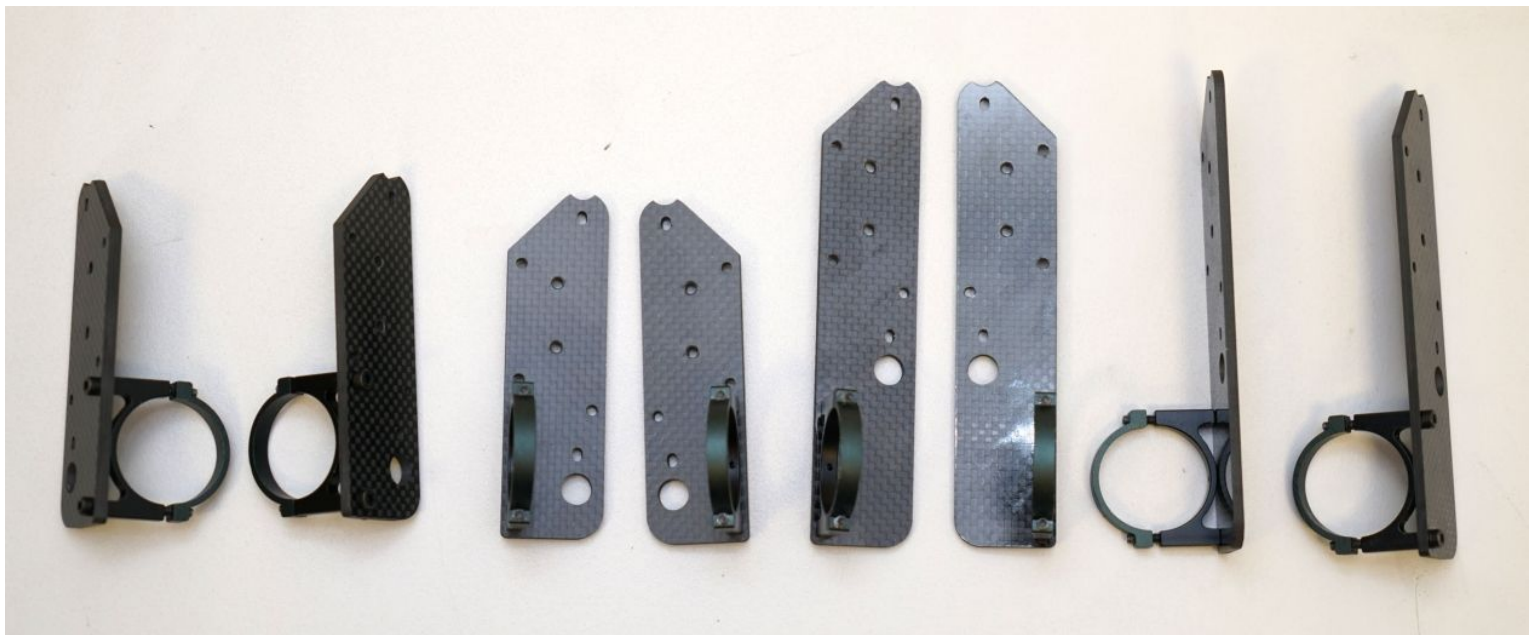
III) Assembling Turbine Holder 2



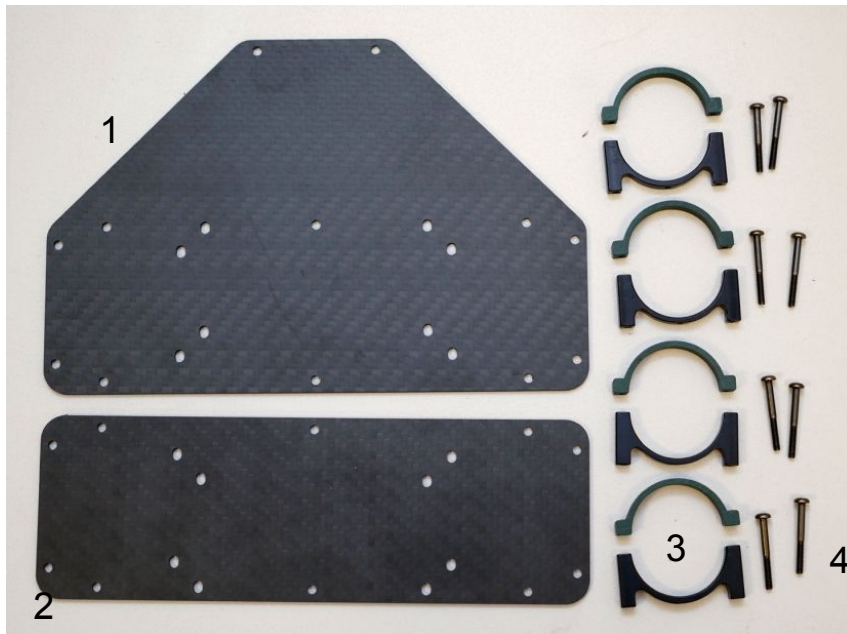
Pieces :

1	Small carbon plate
2	Big carbon plate
3	Alu spacers
4	M3x30 screws

Step 1 : Assemble Alu spacers with M3 screws & Carbon plates



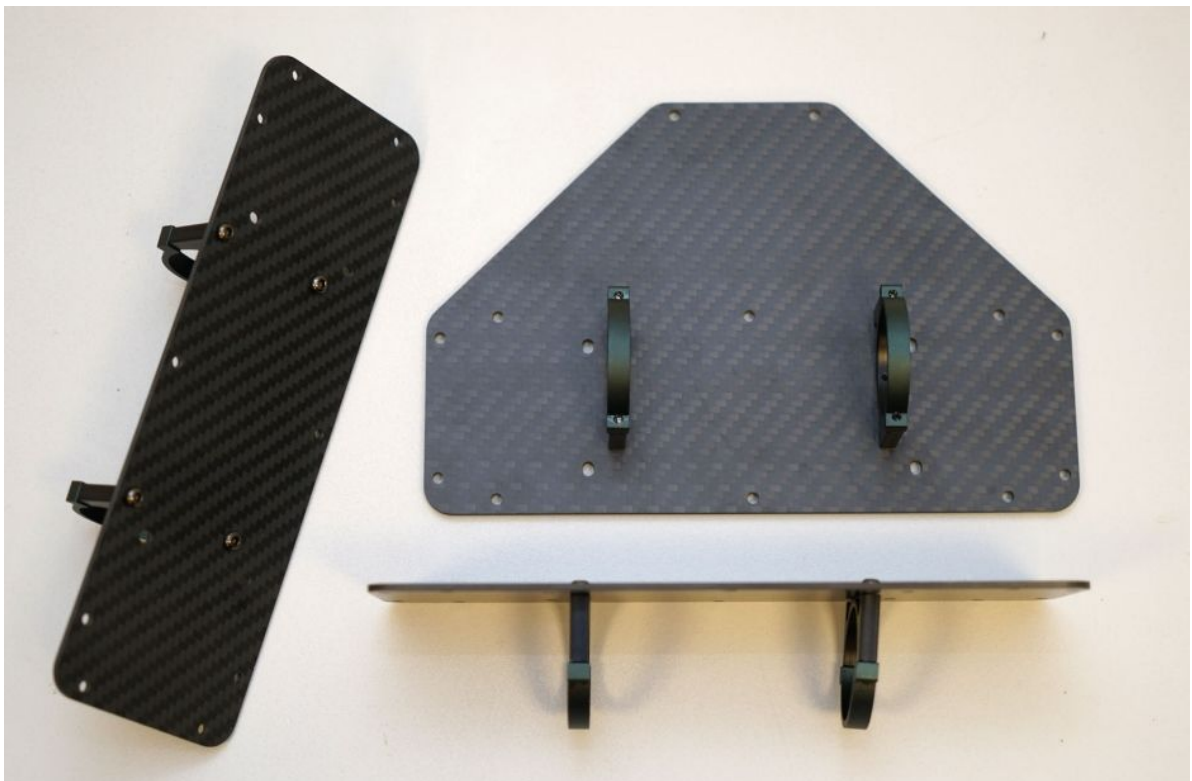
IV) Assembling PX & Battery Holder



Pieces :

1	PX carbon plate
2	Battery carbon plate
3	Alu spacers
4	M3x25 screws

Step 1 : Assemble Alu spacers with M3 screws & Carbon plates



V) Assembling Frame

Step 1 : Assemble Pieces previously mounted (I to IV) on carbon tubes



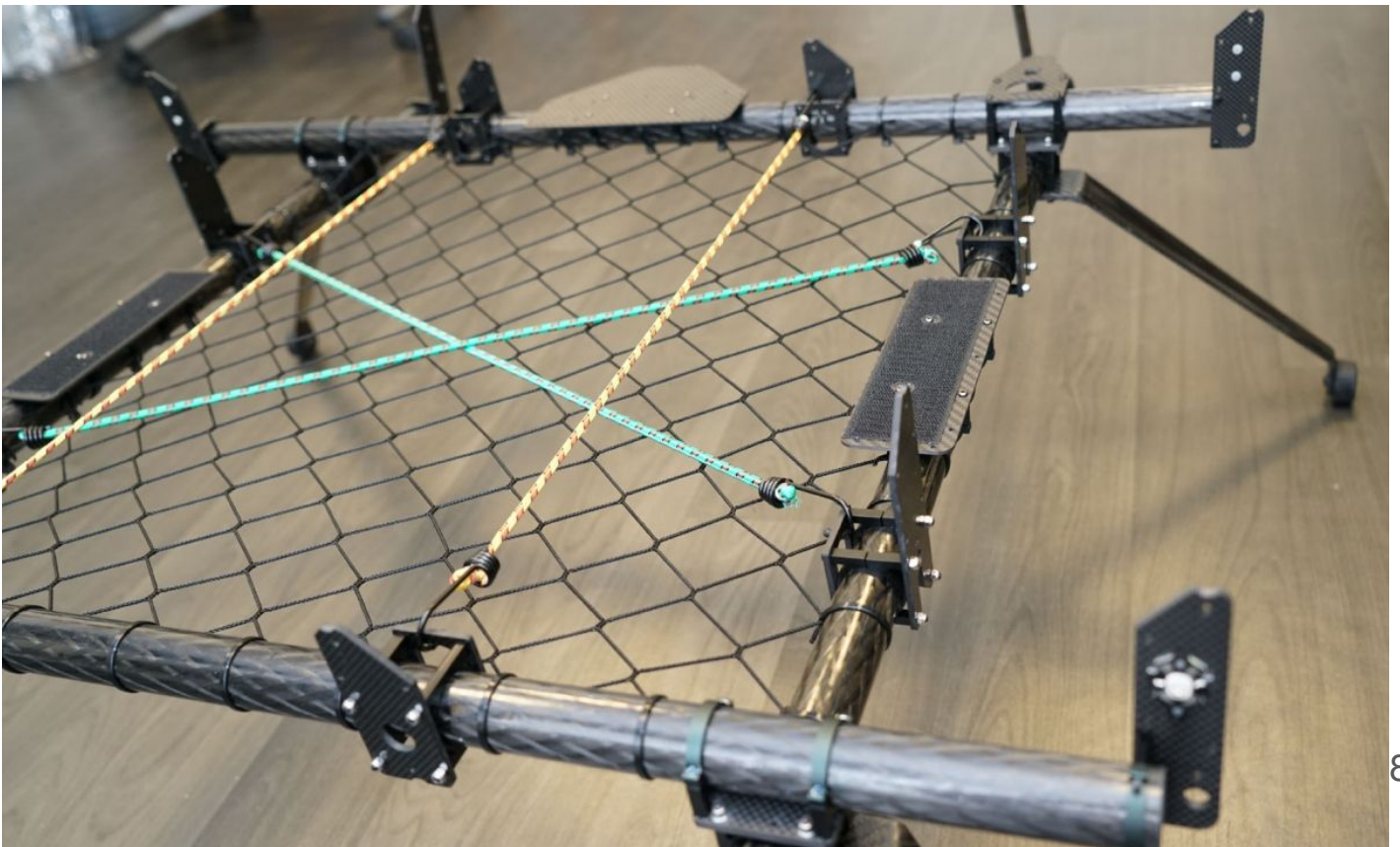
- Symmetrical design
- Attach the turbine to set proper distance between mounts.

VI) Mounting Nylon mesh

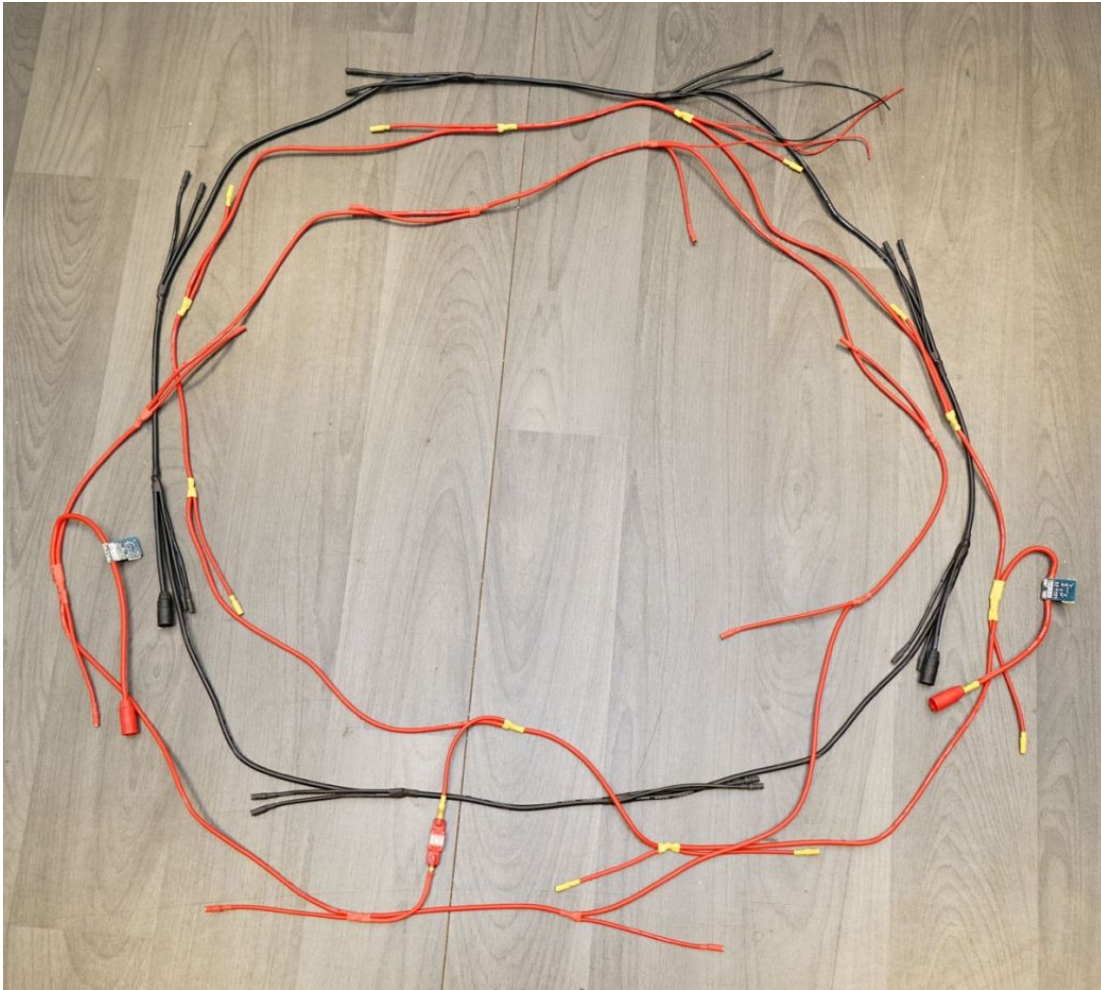
Pieces :

Nylon net 650*650 twine #18 mesh 30

Zip ties 18kgf



VII) Wiring (1/3)



Power harness :

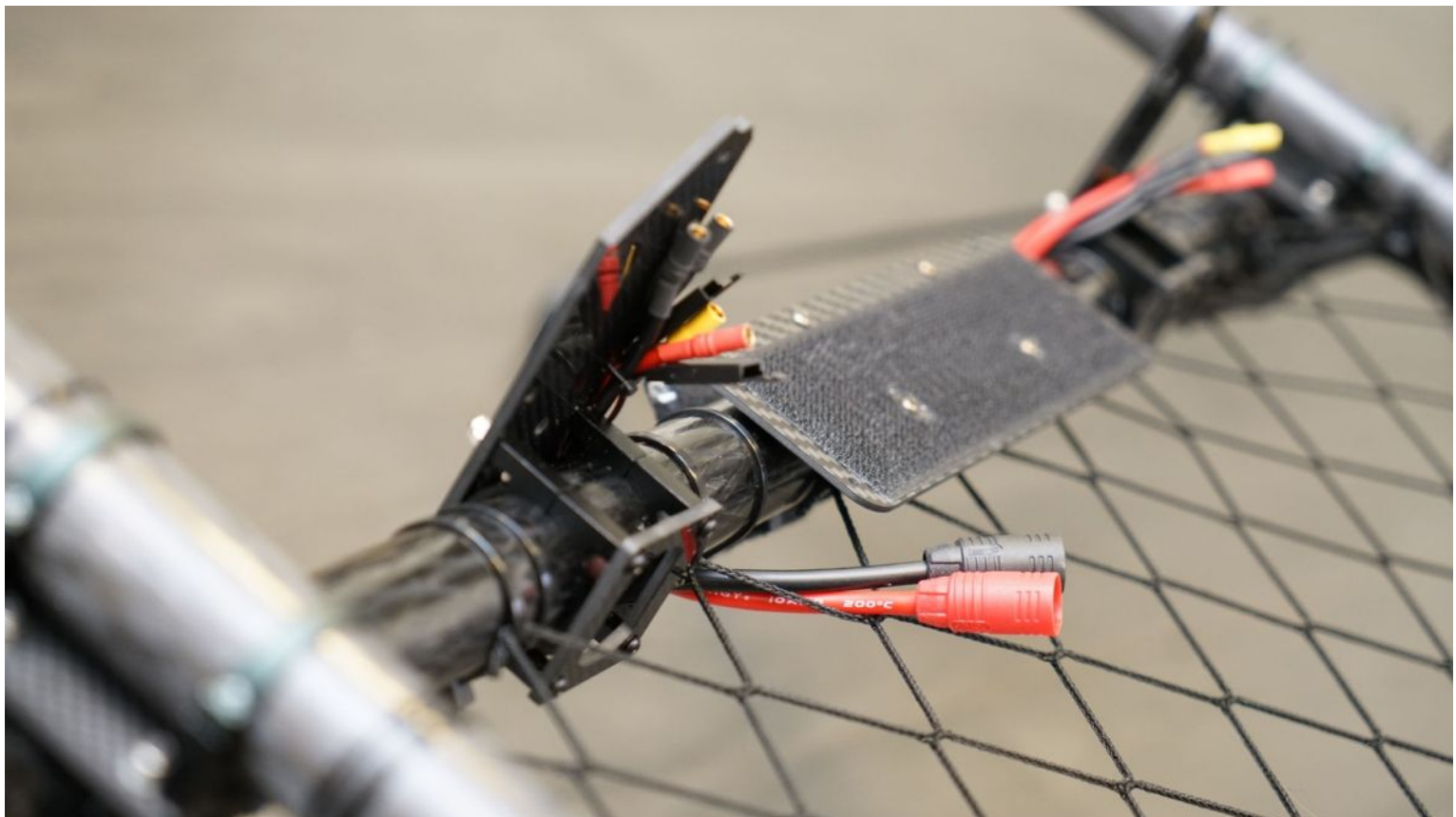
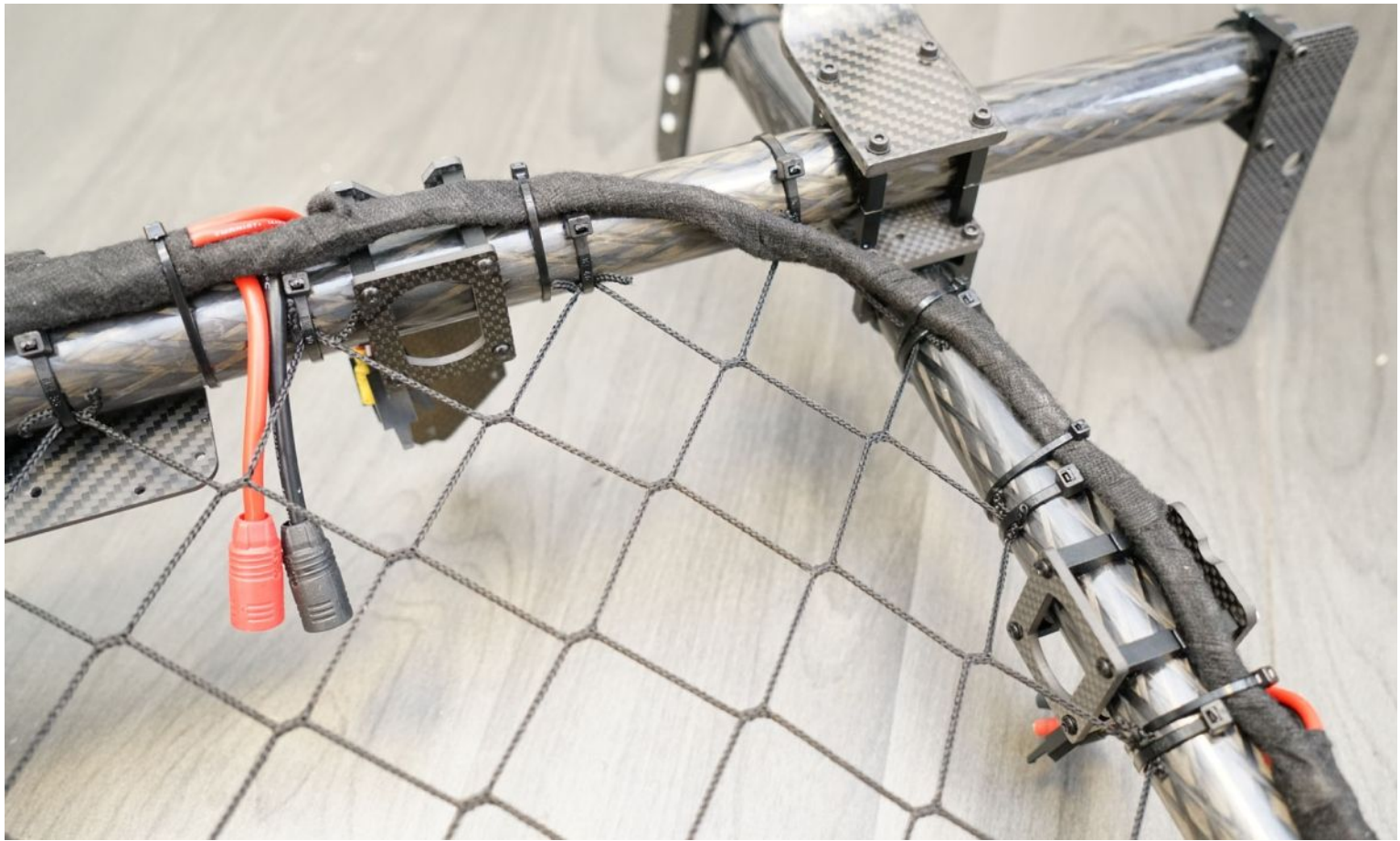
- Perimeter : 240cm
- Black 10AWG
- Red 12AWG
- Fuse
- Motor Connectors

BEFORE WIRING SEE FULL WIRING DIAGRAM

⋮

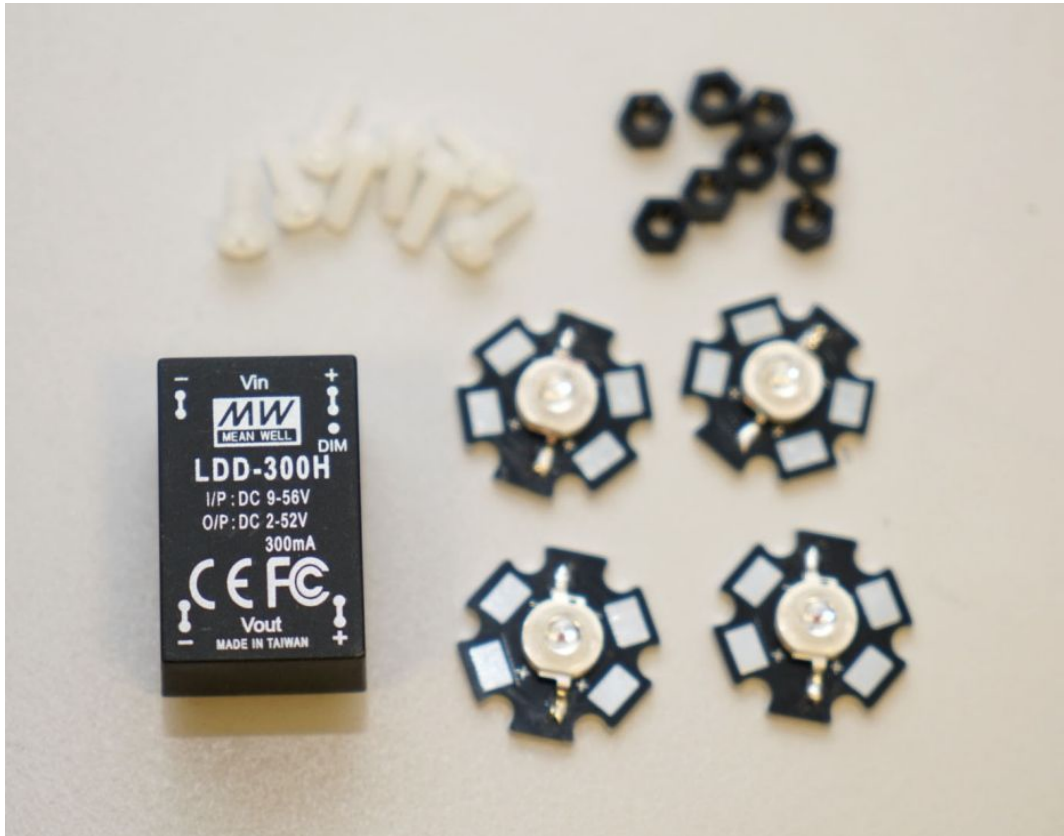
In Dropbox : NPC-A024-A-B-Mark-V/Eng_Wohler-b-Mark-V-X8_...ineering
/WB5-WiringDiagram/Wohler-B-MarkV-WiringDiagram-rev1.0-20190821-vb.pptx

VII) Wiring (2/3)



VII) Wiring (3/3)

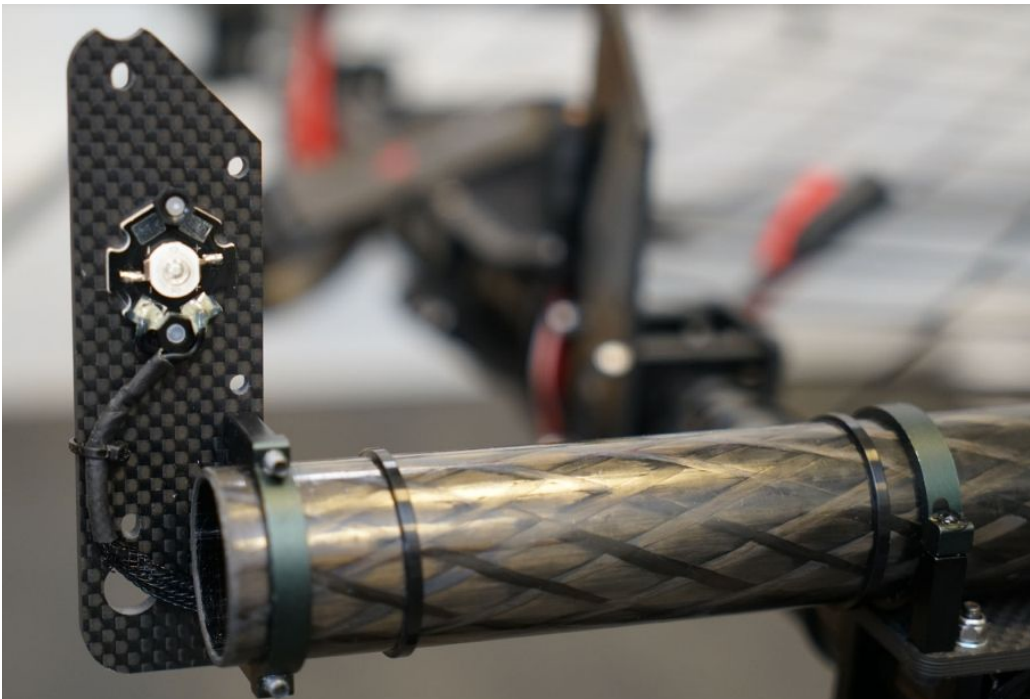
Assembling LED :



Colors :

- Front : Green
- Back : Red

(DJI style)



VIII) Mounting Turbines



M3x8 & M3x12 screws



Final Result

