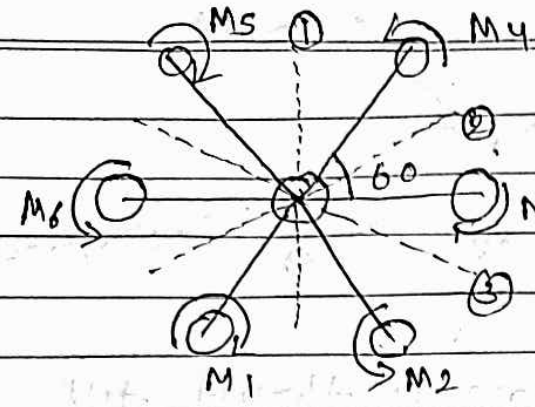
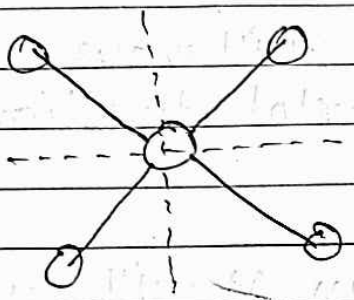
Henacopter



5 degree of freedom
① thrust
② Yaw
③ 3 about 1, 2, 3 axes.



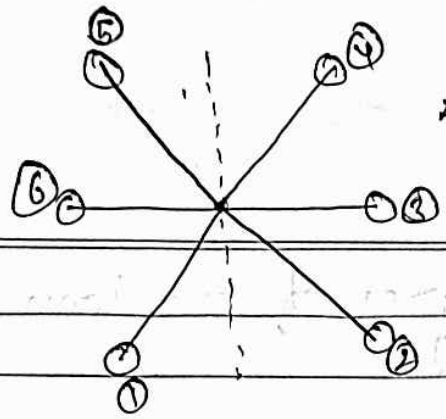
4 degree of freedom
① thrust
② Yaw
③ Pitch
④ roll

quadcopter

→ thrust is same in both.
→ Yaw is same in both
→ 3 dof in henacopter and 2 dof in quadcopter are about the axis and their motion along them can be controlled by adjusting the speed of propellers

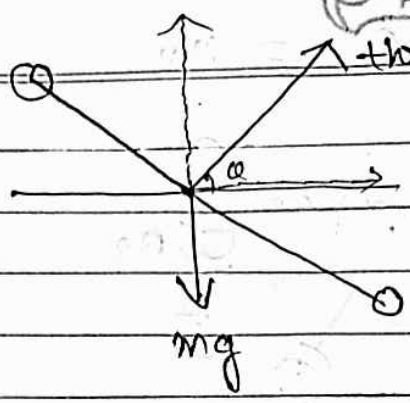
Advantages of Henacopter over quadcopter
→ more stable
→ more Power
→ more ways of direction
→

disadvantage of Henacopter over quadcopter
→ consumes more power, discharge fast
→ more expensive as it has 6 propellers



inc 1, 5, 6

dec 2, 3, 4

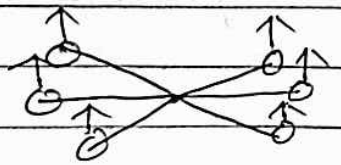


Increase the thrust till Vertical comp. takes over mg and it will move in horizontal direction

→ Now exchange the speeds then it will reverse its direction

→ Now we can move it up, down, about the axis 1 to it (yaw), and in different directions with adjustment of each rotor.

Inc - 1, 5, 6	dec - 2, 3, 4	high effect
Inc 6 only	dec 3 only	low effect



$$\text{Thrust} = \sum_{i=1}^{6} F_i$$

$$\sum_{i=1}^{6} F_i - mg = ma$$