

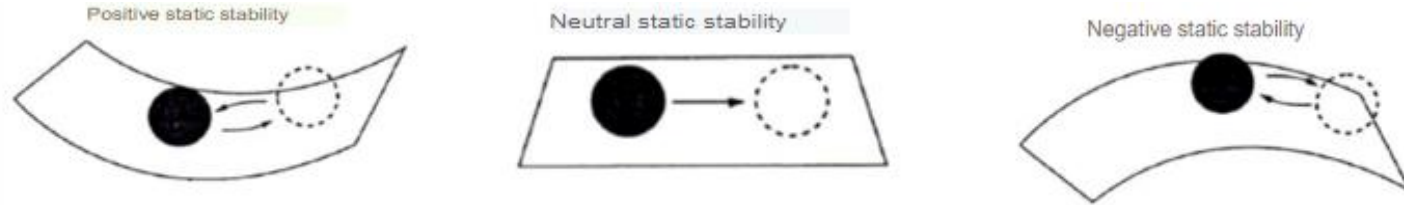


DRONESVIP | CIVIL AERONAUTICAL
TRAINING CENTER

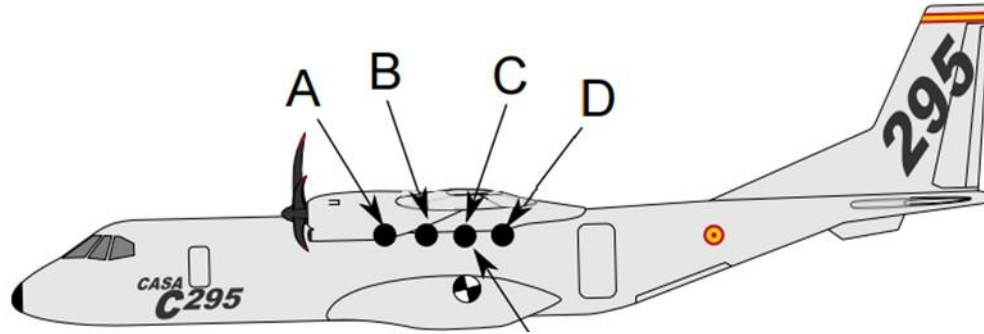
AERODYNAMICS AND PERFORMANCES OF THE UAVs CHAPTER 3

STABILITY AND CONTROL

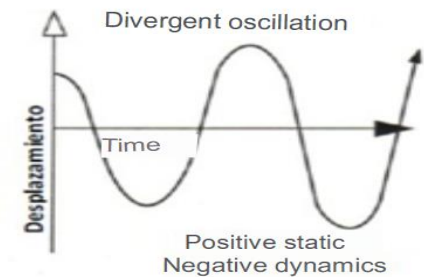
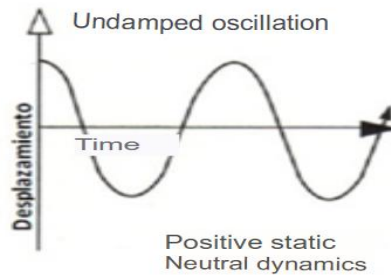
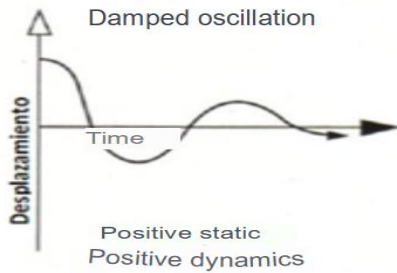
DEFINITION: Stability is the inherent ability of an aircraft to return or not to its original flight condition after being disturbed by external forces.



STABILITY AND CONTROL



NEUTRAL POINT



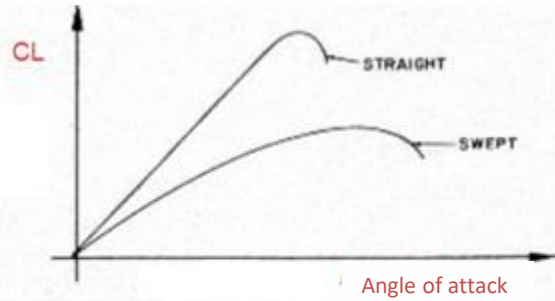
STABILITY AND CONTROL

CONFIGURATION EFFECT

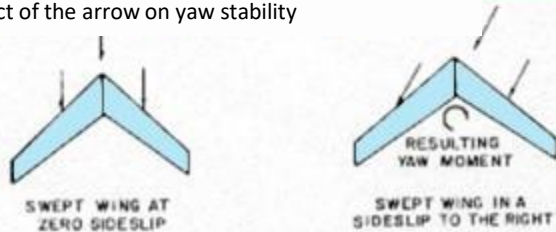


STABILITY AND CONTROL CONFIGURATION EFFECT

Effect of the arrow on lift (low speed)



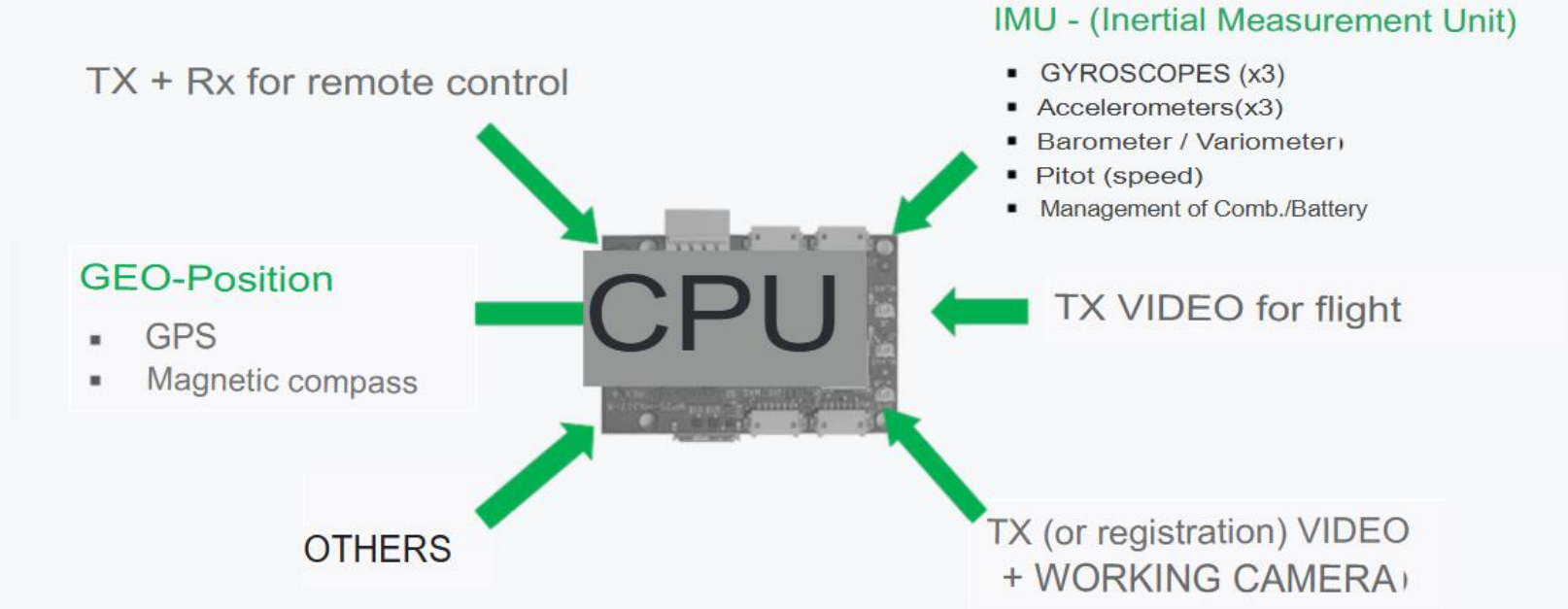
Effect of the arrow on yaw stability



STABILITY AND CONTROL OWN VS ASSISTED STABILITY



UAVs EQUIPMENT

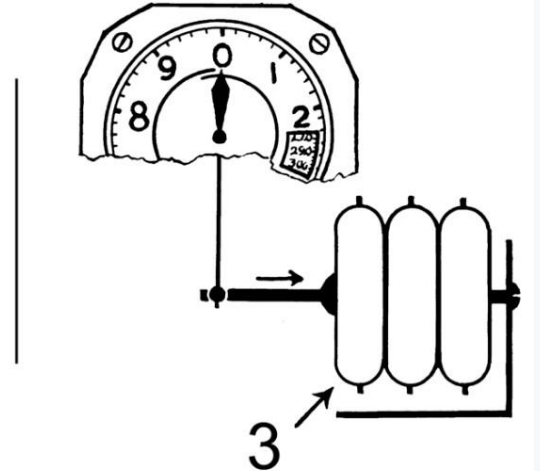
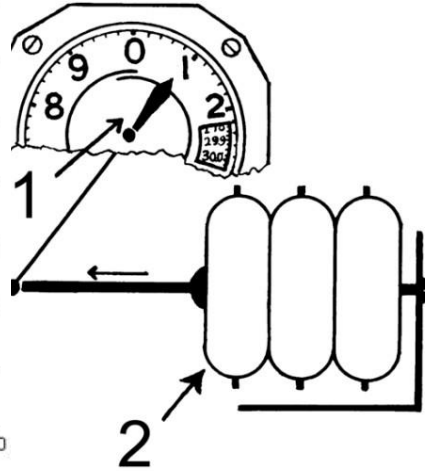
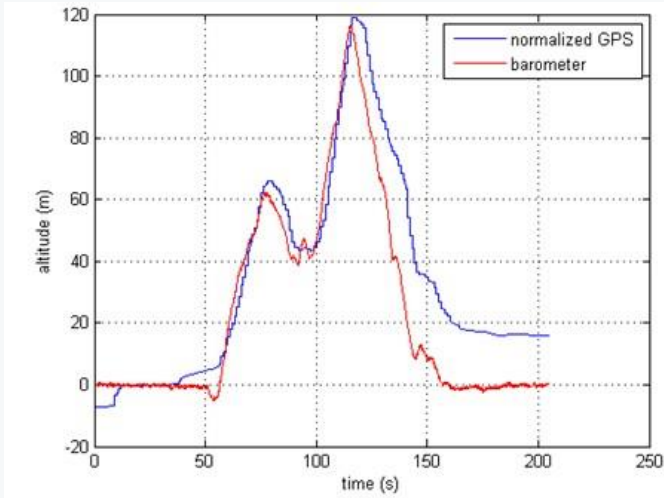


RELATIVE SPEED / REAL SPEED

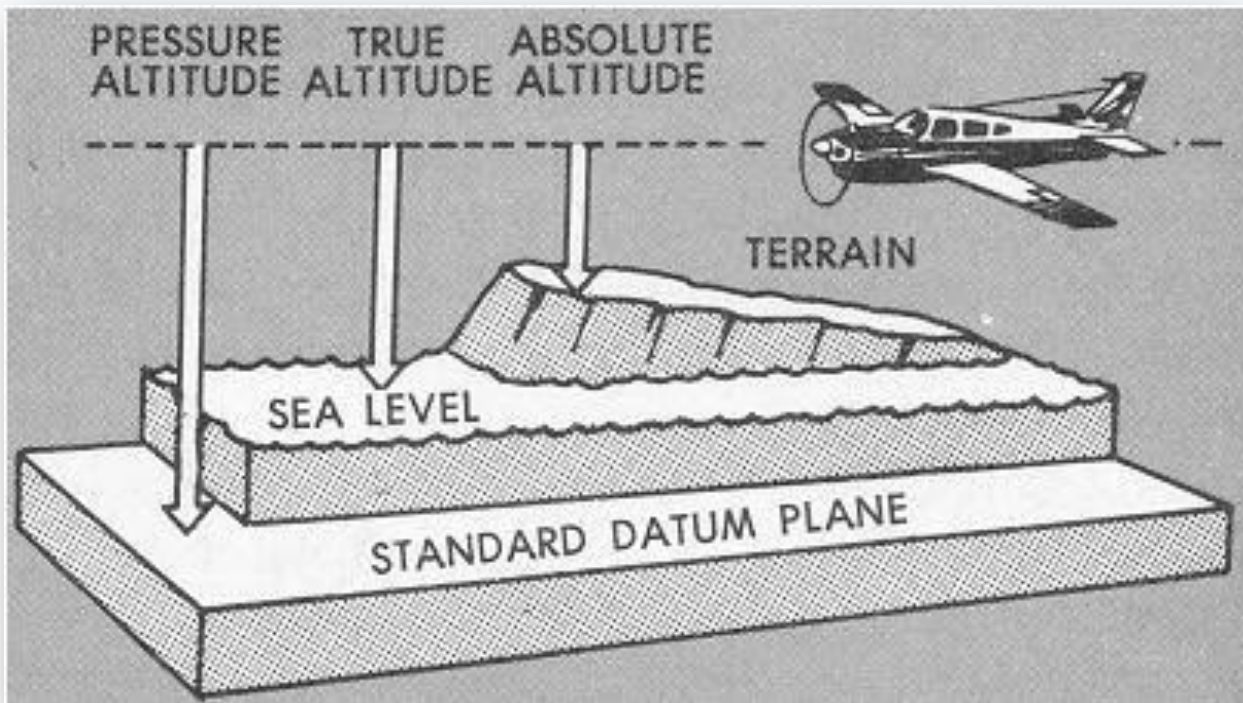


- **VNO:** Maximum structural cruising speed (upper limit of the green arc and lower limit of the yellow arc).
- **VNE:** Never exceed speed (the upper limit of the yellow arc) marked in red.
- **VFE:** Maximum speed with extended flaps (upper limit of the white arc).
- **VSO:** Stall speed or minimum level flight speed in landing configuration (the lower limit of the white arc).

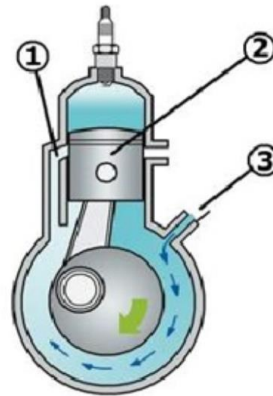
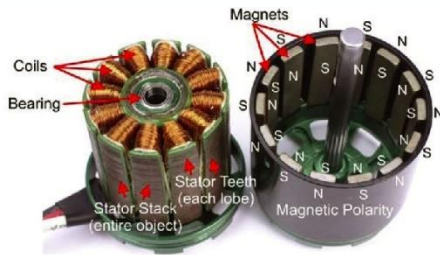
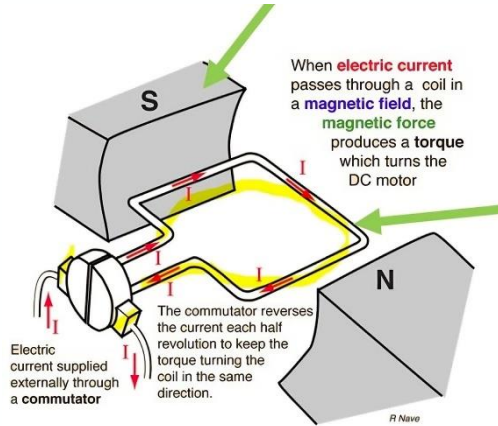
BAROMETER / VARIOMETER



BAROMETRIC ALTITUDE



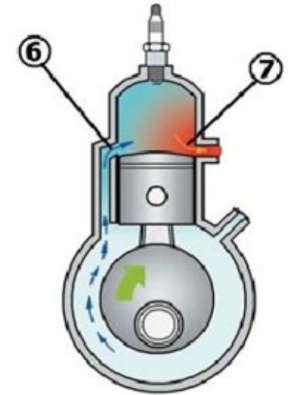
PROPULSION MOTOR GROUP: ENGINES



ADMISSION-COMPRESSION

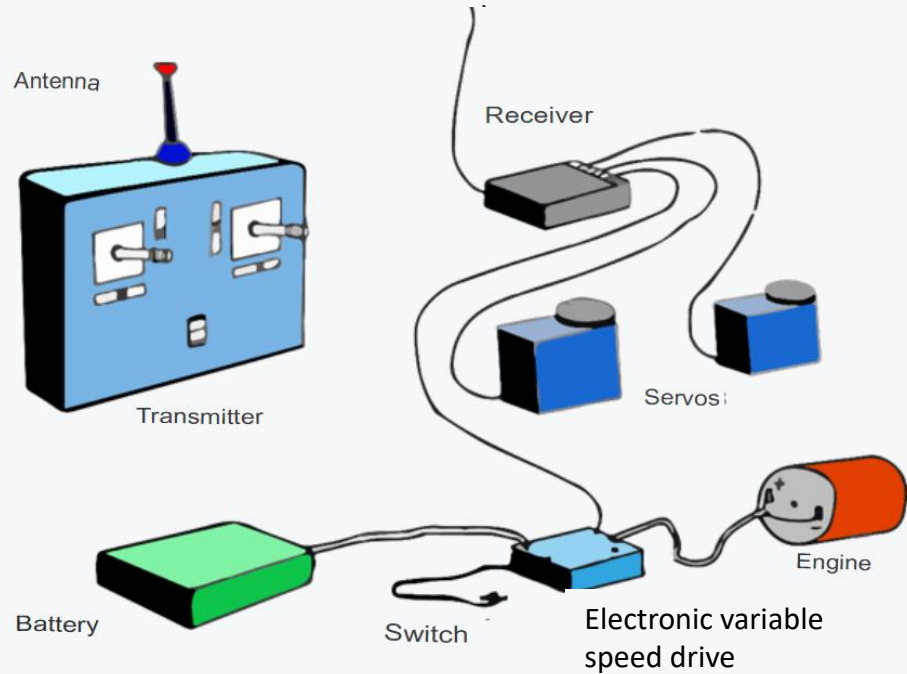


EXPLOSION I



ESCAPE

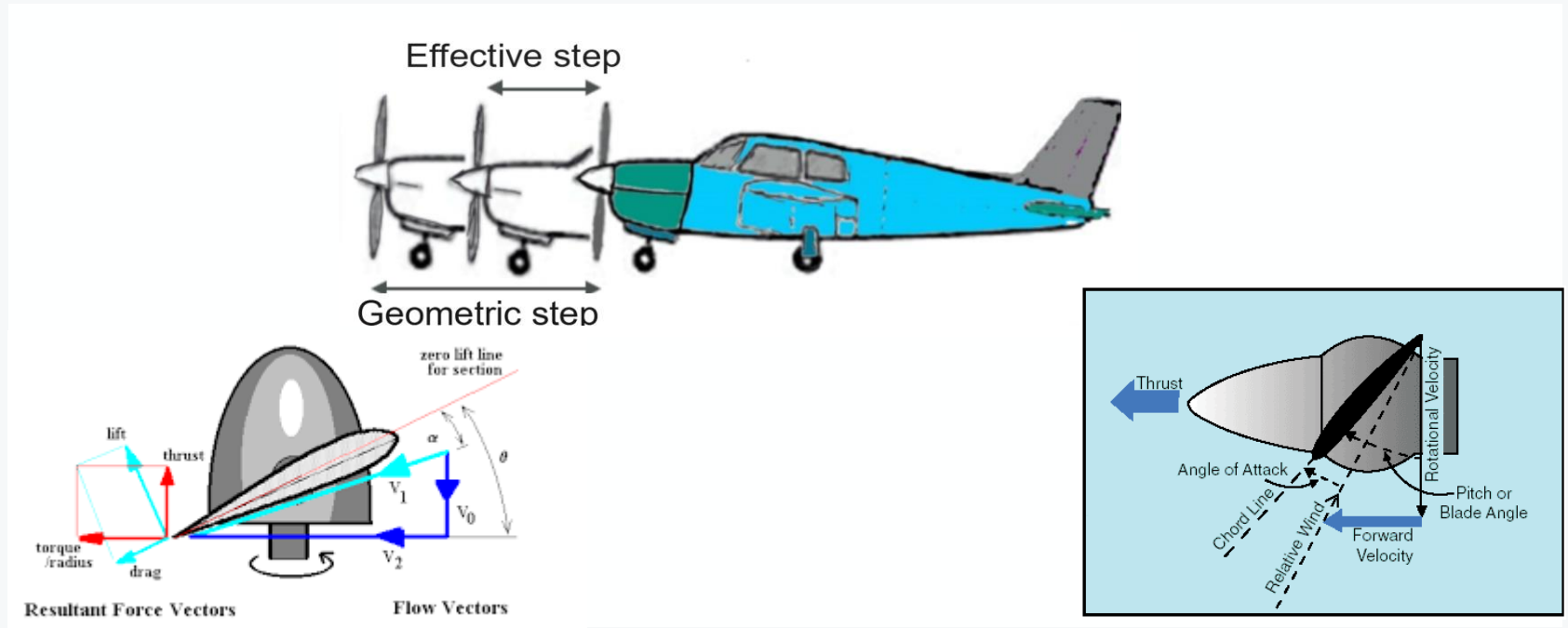
PROPULSION MOTOR GROUP: ELECTRIC MOTORS



PROPULSION MOTOR GROUP: PROPELLERS



PROPULSION MOTOR GROUP: PROPELLERS



QUESTION TIME!