



**SNS COLLEGE OF TECHNOLOGY**



**(An Autonomous Institution)**

**COIMBATORE-35**

**DEPARTMENT OF AEROSPACE ENGINEERING**

**BIPLANE, MONOPLANE AND TRIPLANE**

# BIPLANE

- Biplane is a **Fixed wing aircraft** with two main wing
- **Heavier than air**
- **Wright Brothers** used Biplane concept in early days
- Disadvantage is structural (**more drag when compared to monoplane**)

- Improved in structural and materials for **greater speed in 1930's**
- Producing of **lift purpose biplane** are used (one above the another). But cant able to produces of **twice lift** because of **drag**.
- In Biplane configuration  
The **lower wing** is attached in **fuselage**  
**Another** one wing is on **top of the fuselage**

- TAIL PLANE = Elevator
- UPPER WING = Aileron
- LOWER WING = Flap
  
- Biplane produces less lift and more drag when compared to Monoplane
- 1914 to 1925 Biplane with reciprocating engine are used.

Example : Boeing Stearman



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# Monoplane

- A Monoplane is an aircraft with has **only one main set of wings surfaces**
- Since in **1930's** it has been an ordinary form of fixed aircraft

# Types of Monoplane

- **LOW WING** = Wing surfaces is below the bottom of the fuselage
- **MID WING** = mid way of the fuselage
- **SHOLDER WING** = mounted above the fuselage middle
- **HIGH WING** = top of the fuselage



- Example : Any fixed wing aircraft



# TRIPLANE

- Fixed wing aircraft
- Equipped with **three set of wings** one above the another

One will be **bottom** of fuselage

Another will be **top** of the fuselage

Third will be **above** the fuselage struts

- Example : **Caproni Ca.4** was an [Italian heavy bomber](#) of the [World War I](#).



Transition from Biplane to  
Monoplane Between World  
Wars.mp4