THE WING

There are two types of wing configurations, they are:

- **Monoplanes** - those that have one wing
- **Biplanes** - those with two wings

WING POSITIONING*:*

High wing - on the top of the fuselage

Mid wing - in the middle of the fuselage

Low wing - on the bottom of the fuselage

INTERNAL CONSTRUCTION OF THE WING

Spars

- They are the main members of the wings and run the length of the wing from wing root to wing tip. The spars are intended to stiffen the wing against torsion or twisting.

Ribs

- They run from the leading to the trailing edge. Their purpose is to give the wing its framework to which the covering is fastened.

Compression Struts

- Usually steel tubes spaced at regular intervals between the front and rear spars intended to take compression loads.

Drag and Anti-drag Wires

- Run diagonally from front to the rear spars. These wires take drag loads and anti-drag loads, as their names imply.

Ailerons

- A moveable section attached to the trailing edge of the wing located towards the wingtip. As one moves downward, the opposite aileron moves upward.

Flap

- A moveable section located next to the ailerons located towards the wing root.

Wing Span

- The maximum distance from wing tip to wing tip.

Chord

- An imaginary straight line joining the leading and trailing edges of the wing.

Struts

- Extend out from the fuselage and attach to the wing, for support.

Engine Cowl

- A protective housing for the engines. It streamlines the front of the aircraft to reduce drag. It ducts air around the engine for cooling.

UNDERCARRIAGE OR LANDING GEAR

The function of the landing gear:

- To absorb the shock of landing.
- To support the weight of the airplane and enable it to move on the ground.

Landing gear may be:

- Fixed
- Retractable (which provides more streamlining).

The landing gear may be:

- Tricycle, or
- Tail wheel configuration.

Propulsion System

The propulsion system of a modern general aviation airplane is generally a gasoline powered, air cooled, internal combustion engine that drives a 2 or 3 bladed propeller.

EQUIPMENT, RADIOS, INSTRUMENTS

All instruments, radios, and other various equipment are located inside the cockpit.
A radio which enables contact with the ground, ATC, and other aircraft.
Instruments panel (airspeed indicator, altimeter, compass, etc.).
ELT (Emergency Locator Transmitter).

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