



# General Knowledge

Static Stability



# Stability

Stability is the inherent quality of an aircraft to correct for conditions that may disturb its equilibrium and to return to or to continue on the original flight path. It is primarily an aircraft design characteristic.

01

## A Stable Aircraft

If the aircraft is to provide maximum utility, it must be safely controllable to the full extent without exceeding the pilot's strength or requiring exceptional flying ability.

02

## Static and Dynamic Stability

The reaction of any body when its equilibrium is disturbed is referred to as stability. The two types of stability are static and dynamic.

# Static Stability



## Definition

Static stability refers to the initial tendency, or direction of movement, back to equilibrium. In aviation, it refers to the aircraft's initial response when disturbed from a given pitch, yaw, or bank.



## Positive static stability

The initial tendency of the aircraft to return to the original state of equilibrium after being disturbed .



## Neutral static stability

The initial tendency of the aircraft to remain in a new condition after its equilibrium has been disturbed.



## Negative static stability

The initial tendency of the aircraft to continue away from the original state of equilibrium after being disturbed.