Aircraft Center of Gravity Calcula

rcplanes.online/cg_calc.htm

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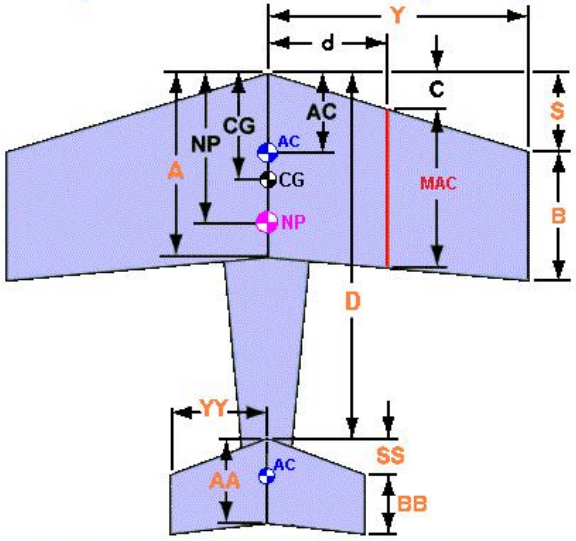
Aircraft Center of Gravity Calculator

Aerodynamic Center (AC), Mean Aerodynamic Chord (MAC), Center of Gravity (CG), Neutral Point (NP) and Wing Area

Wing Root Chord (A):	20
Wing Tip Chord (B):	20
Wing Sweep Distance (S):	0
Wing Half Span (Y):	70
Stabilizer Root Chord (AA):	14
Stabilizer Tip Chord (BB):	8
Stabilizer Sweep Distance (SS):	3
Stabilizer Half Span (YY):	20
Distance between both LE's (D):	52
Stabilizer Efficiency*:	Std.
Enter Static Margin, then Click	7 %
Mean Aerodynamic Chord MAC =	20
Sweep Distance at MAC (C) =	0
From Root Chord to MAC (d) =	35
From Wing Root LE to AC =	5
From Wing Root LE to NP =	7.95
From Wing Root LE to CG =	6.55
Wing Area =	2800
Stabilizer Area =	440
Wing Aspect Ratio =	7

Enter the variables at left using the same units for all entries.
For an aircraft to be stable in pitch, its **CG** must be forward of the Neutral Point **NP** by a safety factor called the **Static Margin**, which is a percentage of the **MAC** (Mean Aerodynamic Chord).
Static Margin should be between 5% and 15% for a good stability.



Low Static Margin gives less static stability but greater elevator authority, whereas a higher Static Margin results in greater static stability but reduces elevator authority.
Too much Static Margin makes the aircraft nose-heavy, which may result in elevator stall at take-off and/or landing.
Whereas a low Static Margin makes the aircraft tail-heavy and susceptible to stall at low speed, e. g. during the landing approach.

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