

Fancher Stunt Model Design Data Form

AIRCRAFT _____ DESIGNER _____ SOURCE _____

WING

Span _____ "

Assymetry: Inboard Span in inches _____ Outboard span in inches _____ I/B _____ %

Root Chord _____ " Tip Chord _____ " Mean Chord _____ " Taper Ratio _____ %

MGC: (See *Fundamentals of A/C Flight*, pg. 35) Location on Halfspan _____ " Lgth _____ "

Area: (Span X Mean Chord) _____ sq. " (_____ sq. ") Volume (MGC X Area) _____ sq. "

Aspect Ratio: (Span²/Area) _____ to 1

Center of Lift: (MGC/3) inches from leading edge at MGC _____ "

Airfoil High Point from leading edge: Root _____ " _____ % tip _____ " _____ %

Airfoil Thickness: Root _____ % _____ " Tip _____ % _____ "

Center of Gravity in % of MGC: _____ % _____ " from leading edge

Center of Gravity to Center of Lift (+ if CG forward, - if CG aft) _____ "

Center of Gravity to Leadout Midpoint (+ if CG forward, - if CG aft) _____ "

FLAPSArea: $\frac{(\text{Root Chord} + \text{Tip Chord}) (\text{Span})}{2}$ (_____) + (_____) X (_____) _____ sq. "

Flap Moment: C/L to Hinge Line _____ "

Flap Volume: (Flap Area/Wing Area) _____ %

Flap/Tail Ratio _____ %

Flap Effectiveness Ratio: $\frac{(\text{Area}) \times (\text{Moment})}{(\text{Wing Area})}$ _____TAIL

Span: _____ "

Area: $\frac{\text{Root Chord} (\quad) + \text{Tip Chord} (\quad)}{2}$ X Span _____ sq. "

Area of Elevator: _____ sq. " Area of Stabilizer: _____ sq. "

Tail Volume: Tail Area/Wing Area _____

Tail Aspect Ratio: _____ to 1

Tail Moment: C/L Wing to C/L Tail _____ "

Tail Effectiveness Ratio: $\frac{(\text{Tail Moment} \times \text{Tail Area})}{\text{Wing Area}}$ _____Total Control Effectiveness Ratio: $\frac{(\text{Tail Moment} \times \text{Tail Area}) - (\text{Flap Mom.} \times \text{Area})}{(\text{Wing Area})}$ _____Stability: $\frac{(\text{Tail Area} \times \text{Tail Moment})}{\text{Wing Volume}}$ _____

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