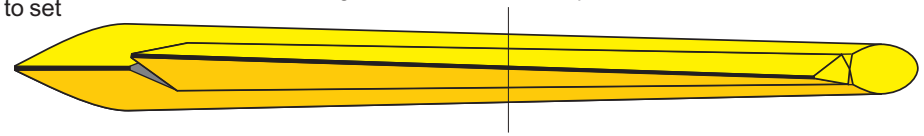
Fundamental Setup Rules-of-thumb:

Account for any twist in each control surface and "average" the twist to set the true neutral position.

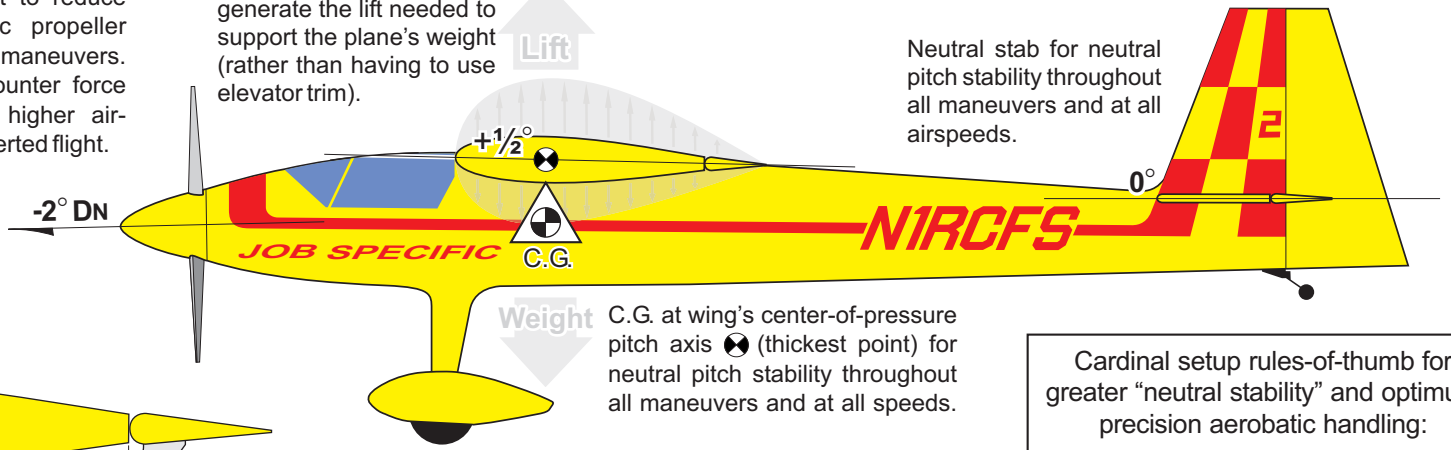
Full length twisted aileron: Half span = true neutral



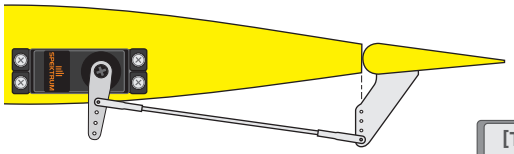
Optional down thrust to reduce P-factor (asymmetric propeller thrust) during positive maneuvers. Also to provide a counter force against climbing at higher air-speeds and assist inverted flight.

Positive wing incidence to generate the lift needed to support the plane's weight (rather than having to use elevator trim).

Neutral stab for neutral pitch stability throughout all maneuvers and at all airspeeds.



C.G. at wing's center-of-pressure pitch axis ⊕ (thickest point) for neutral pitch stability throughout all maneuvers and at all speeds.



Pushrods connected to the holes closest to the servos and furthest out on the control horns to achieve maximum resolution (precision) and mechanical advantage (strength).

[TRAVEL ADJ]

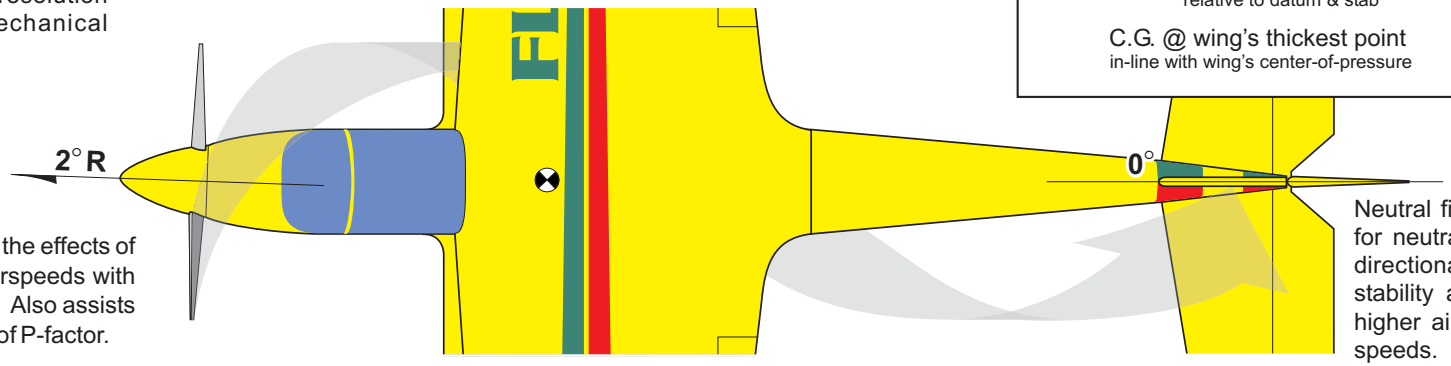
ELEV	RUDD	AILE
D97%	L85%	L87%
▸U94%	R88%	R92%

Physically measure each control surface deflection to confirm proper travel in <u>both</u> directions (noting that different percentages are usually required to achieve the same travel in both directions).

Cardinal setup rules-of-thumb for greater "neutral stability" and optimum precision aerobatic handling:

- 0° Stab incidence — relative to datum
- ½° Pos. wing incidence — relative to stab
- 2° Right thrust — relative to centerline & fin
- 2° Down thrust — relative to datum & stab

C.G. @ wing's thickest point — in-line with wing's center-of-pressure



Right thrust to counter the effects of propwash at slower airspeeds with higher power settings. Also assists in reducing the effects of P-factor.

Neutral fin for neutral directional stability at higher air-speeds.

Program 10-15% expo on low rates to maintain a precise correlation between the control inputs and airplane response. Add 5-10% additional expo when the airplane features over-sized 3D control surfaces. Initially fine tune general handling by changing Dual Rate and/or travel percentages, then secondarily fine tune the expo settings.

CAUTION: Avoid changing any part of the setup to try to help a certain flight condition or individual maneuver! The "best" airplane setup provides optimum overall handling that compliments the majority of things a pilot does, including takeoffs and landings. From that solid footing, shift attention to learning to fly the plane.