

# Flight Trimming Chart

Notes: Trimming must be done with little or no wind. Make multiple tests before making adjustments. Start at the beginning and work down the list for best results. If any changes are made, go back over the previous steps and verify or adjust further if necessary as each adjustment can cause earlier settings to change. **CHANGE ONLY ONE THING AT A TIME!!**

**1. Control Centering:** Fly straight and level. Use transmitter trims for hands off straight and level flight. Adjust clevis to center transmitter trims, or reset computer trims.

**2. Control throws:** Fly model and apply full deflection of each control in turn. Check response of each control; Aileron hi-rate: 3 rolls in 4 seconds, low rate: 3 rolls in 6 seconds, Elevator high rate: to give a good and smooth corner, low rate: to give a loop of approx. 130 foot in diameter, Rudder high rate: 30-35 degrees for stall turns, low rate: to maintain knife edge.

**3. Decalage:** Power off vertical dive, cross wind (if any). Release controls when model is vertical (elevator trim must be neutral).

A: Model continues straight down; no adjustment

B: Model starts to pull nose up; Reduce wing incidence

C: Model starts to pull nose down; Increase wing incidence

## **4.Center of gravity:**

**Method 1:** Roll into a near vertically banked turn

A: Nose drops; Add tail weight

B: Tail drops; Add nose weight

**Method 2:** (Simple) Roll inverted

A: Lots of down elevator required to maintain level flight; Add tail weight.

B: No down elevator required or plane climbs; Add nose weight.

**5. Tip weight:** (course adjustment) Fly straight and level upright. Adjust aileron trim for level flight. Roll inverted, level wings and release stick.

A: Model does not drop a wing; No adjustment.

B: Left wing drops; Add weight to right tip.

C: Right wing drops; Add weight to left tip.

**6. Side thrust:** Fly away from you, into any wind and pull vertical.

A: Model continues straight up; No adjustment.

B: Model veers left; Add right thrust.

C: Model veers right; Reduce right thrust.

**7. Up/Down thrust:** Fly normal path into wind, parallel to you, approx 100 yards from you. Elevator trim should be neutral per test 3. Pull vertical and release elevator.

- A: Model continues straight up; No adjustment
- B: Model pitches nose up; Add down thrust
- C: Model pitches nose down; Reduce down thrust

**8. Tip weight: (fine adjustment)**

**Method 1:** Fly model as per test 7, and pull into a small loop (1 only).

**Method 2:** Fly model as per test 7, and push into a small outside loop (1 only).

- A: Model comes out with wings level; No adjustment
- B: Model comes out with right wing low; Add weight to left tip.
- C: Model comes out with left wing low; Add weight to right tip.

**9. Aileron differential:**

**Method 1:** Fly towards you and pull into a vertical climb. Release controls, then do a half roll.

- A: No heading changes; No adjustment.
- B: Heading changes to opposite of roll command (veers left after right roll); Increase differential
- C: Heading changes in direction of roll command.; Reduce differential.

**Method 2:** Fly model on a normal pass and do three or more rolls.

- A: Roll axis on model center line; No adjustment.
- B: Roll axis off same as roll same as roll command (right roll, roll axis off right wing tip); Increase differential.
- C: Roll axis opposite of command; Reduce differential.

**10. Dihedral:** Fly on normal pass and roll knife edge. (left and right)

- A: Model holds knife edge; No adjustment needed.
- B: Model rolls in direction of rudder; Reduce dihedral.
- C: Model rolls opposite direction of rudder; Add dihedral.

**11. Elevator alignment with independent halves:** Fly model per test 6 and pull into a loop. Roll inverted and push into an outside loop.

- A: No roll tendency when elevator applied; No adjustment needed.
- B: Model rolls same in both tests; Elevator halves misaligned. Raise one half or lower the other according to roll.

C: Model rolls opposite in both tests; One elevator half has more throw than the other. Model rolls direction of more throw.

**12.Pitching in knife edge:** Fly per test 10.

A: No pitch up or down; No adjustment needed.

B: Nose pitches up; \*

C: Nose pitches down; Reverse below.

\*Alternate cures:

1) Move C.G.aft

2) Increase wing incidence;

3) Add down trim to ailerons.