

To Test For	Test Procedure	Observations	Adjustments
Control Neutrals	Fly Model Straight & Level	Use transmitter trims for hands off level flight	Adjust clevises to center transmitter trims
Control Throws	Fly model and apply full deflection of each control in turn	Check Response of each control	Aileron: Hi-rate, 3 rolls in 3 to 4 seconds
			Elevator: Hi-rate to give a smooth square corner. Low-rate to give a loop of approximately 130 feet diameter
			Rudder: Hi-rate approximately 30-35 degrees, for stall turns, Lo-rate to maintain knife edge flight.
Center of gravity method 1	Roll model into near vertically banked turn	Nose drops	Add weight to tail
		Tail drops	Add weight to nose
Center of gravity method 2	Roll model inverted	lots of down elevator required to maintain level flight	Add weight to tail
		No down elevator required to maintain level flight	Add weight to nose
Decalage	Power off vertical dive release controls when model is vertical elevator must be neutral	Model continues straight down	No adjustment required
		Model pulls to canopy nose up	Reduce incidence
		Model pushes to bottom nose down	Increase incidence
Lateral balance course adjustment	Fly model straight and level upright. Check aileron trim maintains wings level. Roll the model inverted wings level release aileron stick	Model does not a wing	No adjustment required
		Left wing drops	Add weight to right wing tip
		Right wing drops	Add weight to left wing tip
Elevator alignment (for models with independent elevator halves)	Fly model away from you and into any wind. Pull it into an inside loop or vertical climb. Roll it inverted and repeat by pushing it into an outside loop or vertical climb	No rolling tendency	No adjustment required
		Model rolls in same direction in both tests	Elevator halves misaligned. Either raise one or lower the other
		Model rolls in opposite direction in both tests	One elevator half has more throw than the other, model will roll to the side with the most throw. Reduce throw on that side or increase throw on opposite side.

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Lateral balance (final adjustment)	Fly the model high into the wind either coming towards you or going away from you, smoothly push into a vertical dive, pullout sharply and watch for a wing dropping.	Neither wing drops on pulling out	No adjustment required
		Right wing drops	Add weight to left wing tip
		Left wing drops	Add weight to right wing tip
Dihedral	Fly model straight and level into any wind, apply rudder and watch for any tendency for the model to roll. Test in both directions. Make changes in small increments. Don't worry about nose pitching up	The model does not roll	No adjustment required
		The model rolls in the direction of the applied rudder	Reduce dihedral
		The model rolls in the opposite direction of the applied rudder	Increase dihedral
Side thrust (during tests re-trim with rudder until a straight vertical is achieved then add side thrust to the value of half the rudder trim that was needed. Zero the rudder trim (go back and re-test after adjusting)	Fly model away from you, into any wind. Pull it smoothly into a vertical climb going at least to normal maneuver height (watch for deviation to the left or right as it slows down)	Model continues straight up	No adjustment required
		Model pitches up (goes towards the top of the model)	Increase right thrust
		Model pitches down (goes toward the bottom of the model)	Reduce right thrust
Up / Down Thrust	Fly the model cross wind, at a distance of around 100m from you, (elevator trim should be neutral as per side thrust test. Pull it into a vertical climb and neutralize the elevator (watch for any deviations up or down as it slows)	Model continues straight up	No adjustment required
		Model pitches up (goes towards the top of the model)	Increase down thrust
		Model pitches down (goes toward the bottom of the model)	Reduce down thrust

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Aileron Differential (set the model up with 12 degrees up and 11 or 12 degrees down to start with)	Fly the model level into the wind going away from yourself. Pull up into a 45 degree climb and roll to the right. (After adjusting try again in both	Model does not veer sideways	No adjustment required
		Model path veers to the right	Increase the up throw on both ailerons
		Model path veers to the left	Increase the down throw on both ailerons
Pitching in knife edge flight (method 1)	Fly the model on a normal pass and roll into knife-edge flight, maintain height with top rudder (do this test both left and right knife-edge flight)	There is no pitch up or down	No adjustment required
		Nose pitches up (model climbs laterally)	Alternative cures 1. Move CG aft 2. Increase wing incidence 3. Add down trim to ailerons
		Nose pitches down (model climbs laterally)	Reverse above
Pitching in knife edge flight (method 2)	Fly the model on a normal pass and roll into knife-edge flight, maintain height with top rudder (do this test both left and right knife-edge flight)	There is no pitch up or down	No adjustment required
		Nose pitches to the canopy in both knife edges	Lower both ailerons slightly approximately 2 turns
		Nose pitches to bottom in both knife edges	Raise both ailerons slightly approximately 2 turns
		Nose pitches to opposite directions in both	Use mixing from rudder to elevator to fix problem
Power off tracking (test 1)	Fly the model level into any wind, pull the power back and watch for any roll off to either side	No roll to either side	No adjustment required
		Model rolls left	Mix 2% to 3% right aileron to low throttle, enough to neutralize the roll
		Model rolls right	Mix 2% to 3% left aileron to low throttle, enough to neutralize the roll

Power off tracking (test 2)	Fly the model high at a distance of approximately 199m into or across wind but sideways to yourself push it into a vertical dive watch for any tendency to roll whilst in the dive	The model shows no tendency to roll	No adjustment required
		Model rolls left	Mix 2% to 3% right aileron to low throttle, enough to neutralize the roll
		Model rolls right	Mix 2% to 3% left aileron to low throttle, enough to neutralize the roll
Power off tracking (test 3)	Fly the model high at a distance of approximately 199m into or across wind but sideways to yourself push it into a vertical dive watch for any tendency to roll whilst in the dive	No pitching model continues straight down	No adjustment required
		Model pitches to canopy	Mix 2% to 3% down elevator to low throttle
		Model pitches to bottom	Mix 2% to 3% up elevator to low throttle

1. Trimming must be done in calm conditions.
2. Abbreviations are used.
3. Make multiple tests before making adjustments.
4. If any changes are made, go back over previous steps and verify or readjust as necessary
5. A good Decalage starting point is 0 Deg. Wing, 0 Deg. Stab, 1.5 Deg. Downthrust & 1.5 Deg. Right thrust
6. The model should be perfectly aligned whilst it was being constructed.
7. Static balance the model prior to flying it.
8. Setting the C of G to between 34% and 38% of the MAC is a good starting point.
9. All vertical dives are power off.
10. Setting up the model with 12 Degrees up Aileron and between 11 and 12 Degrees down is a good starting point.

Take your time Trimming is a constant procedure throughout the life of your aircraft. If a trim condition changes noticeably, inspect all airframe and control components carefully to determine what caused the change!