Kit FF09 Rainbow – Modified for Wetlands Flying

by Phil Bromley

The Rainbow is a lovely old-time model with elegant wing and high lift aero foil.

I made a major modification to the model to suit my style of flying - hope you don't mind! There is a wetland area close to where we live, with a great open plain about a quarter of a mile wide and half a mile long. To use that large area to best advantage, I wanted the Rainbow to fly with a long distance straight or slightly curving flight, with just enough power to slowly gain height (rather than the usual flight pattern of spiraling power climb followed by glide.

So my modifications were as follows:

1. I made a 35" long balsa fuselage (3/4" by 1/4 ") - for rigidity laminating two 1/2" by 1/8" balsa strips and two 1/4" by 1/8" balsa strips (quite hard wood).

2. Set up the fuselage nosepiece with 30" between propeller and peg, giving the propeller 1 degree of right thrust, and 5 degrees of down thrust.

3. Used the heavier 11" blue Peck propeller for slow, steady propulsion, with four 30" strands of 3/16" SuperSport Rubber. With that length of rubber, it should be possible to put on about 1,200 turns without strain.

I go down to the wetlands on calm evenings or early mornings. The Rainbow is a sweet flier, and looks majestic in the air. I am slowly increasing the number of turns on the motor, and at present I'm only on about 400 turns (800 to go!). Even so, it is just about disappearing from sight, so I will have to get some binoculars for longer flights.

Attached are 3 photos. If you like, I will later send you some action photos of the Rainbow in flight.

Thanks for an excellent kit.

Regards, Phil Bromley
Adelaide, South Australia

Some further notes:

1. The side view shows the attachment of the wings to the fuselage with 1/8" packing under the front of the wing, and tail plane flush on the fuselage (zero incidence) - superglue was used as the wing need to sit securely on the slender fuselage, rather than be attached with rubber bands.
2. Centre of gravity should be 1" behind leading edge (with rubber motor in place), using blue tack for balancing.
3. Put in generous dihedral - 3.5" under each wing tip.
4. Front of wing is situated 12" behind nose.
5. Balance propeller carefully (use sandpaper) to avoid any fuselage-shake.
6. Start with 100 turns on the rubber motor, and increase by 25 turns each flight.
7. Flight trim it just off a stall by adding tiny amounts of bluetack to nose or tail after each flight, until a perfectly smooth flight is achieved.
8. Adjust for straight flight using a cardboard trim tab on the rudder.
9. Increase turns up to 1,200 - this will give you very long flights - get ready to chase!

Regards, Phil

Final Notes: We have had some lovely calm autumn weather the last few days, and the Rainbow has had some superb flights. I've got up to 1,000 turns now, and it climbs straight and high, with a bit of a curve on the glide. I can just keep it in sight without binoculars.

Kit: FF09 Rainbow, free flight rubber powered flying model