

# On the 'Wing...

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Redwing XC, Part 1

**O**ur Redwing XC is slowly taking shape. The structure is simply an enlargement of the two meter version which has been flying successfully for the last few months. The spar system is strong enough for full power winch launches, and the control surfaces make for a very responsive aircraft.

As is usual with our construction projects, all of the ribs are cut out using templates of aluminum sheet. The basic framework is assembled over a large ceiling tile, so pins can be used to hold the pieces in place.

The spar webbing is fitted and glued with the wing on glass and held firmly in a fixture. This assures accurate alignment and prevents warps from creeping in. The photo on this page shows all of the ribs in place and the spars completed.

A few items in the photo at right may not be immediately obvious, so we've also included some close-up photos for clarity.

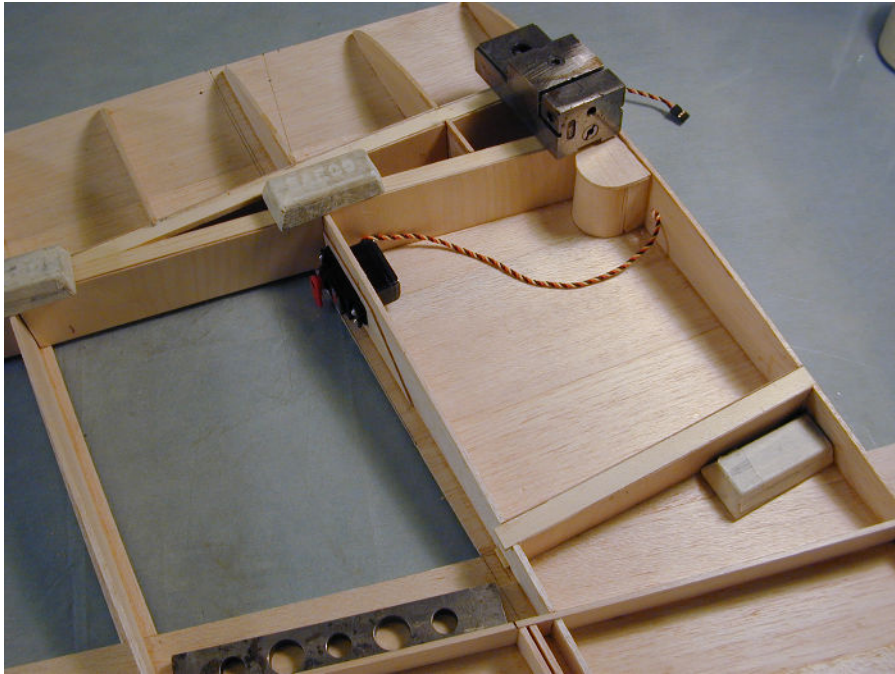
The white tube in front of the main spar is a paper conduit for the aileron servo wiring. The wiring goes through a small

circular hole in the spar webbing directly in front of the servo.

The main spar consists of a long straight component which runs along the 30% chord line. The back of this spar is webbed with 1/16" plywood near the root, and 1/16" balsa at across the outer wing panels. This webbing forms the back of the leading edge D-tube.

The main wing rod goes into the short angled spar so it traverses the fuselage and enters the wing at 90 degrees to the wing root. This component is filled with vertical grain balsa to support the brass tubing which is the wing rod receptacle, and has plywood webbing front and back. It's tied to the main spar with 1/32" plywood gussets on the inside of the caps.





The sealed compartments immediately behind the main spar are used as finger holds to firmly grip the aircraft during launch.

The rear spar will hold the secondary wing rod and is webbed front and back with 1/32" plywood.

The elevator servo (Hitec HS-605BB, inboard) and aileron servo (Hitec HS-635BB, outboard) are mounted to the respective wing ribs using wood screws through 1/16" plywood reinforcement which is glued to both sides of the rib.

Additionally, there are specially placed balsa reinforcements in the control surfaces. These will be used as anchor points for the internal circuit board control horns.

The next major steps will be to install the upper surface sheeting and the remaining cap strips, cut the control surfaces free and face the open leading edges, and add the wing tips and leading edge.

From there, it's on to the fuselage!

