An 11 inch prop is close to scale, though choice of prop will depend on your motor’s rotation speed (Kv). The aeroplane shown is flying with an Emax CF2215 1200kv 270W motor with a 9 x 3.8 prop. This setup gives flying time of about 12-14 minutes with my 3S 1500mah battery.

Propshaft height with a standard Flite Test power pod is correct for a ‘low propshaft’ version of the SE5a. Include a few degrees of down and side thrust. A ‘correct scale’ 11 inch prop will be very close to the ground; fine for tarmac or dirt, but no good in grass.

Dihedral is very pronounced, but is correct for the plane’s original specifications. I will note that during my test build I lost some of the dihedral because my initial spar design was too flexible at the turns. To prevent this I have since modified the design. There are actually historical notes about some situations reducing the dihedral for greater maneuverability - so the version shown in the photograph is still within ‘spec’ for the plane.

There are a few modifications from my original model design. The first is a reduction in the height of the forward turtle deck. This detail was always a feature of the plane, though is often omitted from model designs. The plane’s machine guns projected from the slightly elevated portion in front of the cockpit. Next, I tapered the underside of the fuselage towards the nose. Together, these give the plane a more aggressive and purposeful look. Strangely, this more tapered fuselage is correct for the earliest models, which used a smaller engine. Later models had a much bigger radiator block and engine housing.

I’ve also simplified the method for attaching the cabane structure to the box fuselage decking. Look out for a how to article on the Flite Test website and on my own website mentioned below.

A scale wheel is 85mm. If you want the period wheel look, fill-in any spokes using foam board - see my technique on the Flite Test website: “Olde-Style Wheels for Olde-Style planes”.

Ailerons are on one wing only so the roll rate is graceful rather than snappy, but the plane will roll, and fly inverted at higher revs. For very slow speed turns you’ll need to use the rudder and keep the wings flatter or it’ll lose height quite quickly. At higher speeds it flies bank-and-yank, though a little rudder always helps. The plane requires very little rudder and elevator input to achieve control. I used the thole gauge from the ‘FT Cruiser’ plans, but later reduced the rudder and elevator throws by about a third of their motion. Aileron throws were fine.

When attaching the nose panel, cut the centre to prevent contact with the motor and also to allow airflow over the motor. The dotted outline is actually the later less ‘streamlined’ version. This is shown on the plans for the fuselage and the basic nose piece, so the choice is yours as to which to use. Even with a little bit of battery showing, I still think the more tapered version looks better. If that’s a problem, the ‘standard’ power pod could be made shallower to better hide the battery.

This is a simplified tail design with a larger hinge to make it more robust. I’ve included a second rudder design based on the actual detail, but it has a very small hinge section below the cut-out for the elevator, making it vulnerable to damage. Both outlines are near identical, so unless you feel the detail is important, I suggest using this simplified design.
Before gluing down the tongue depressors make sure there is a big enough gap here for the cable ties to pass around the skewer sitting under the box fuselage deck.

### NOSE PANEL

**Cut around cabane wires**

Use a combination of single swing-in keeper and modified z-bend here.

**INTERPLANE STRUTS**

These wires maintain the wing spacing, but will also share load between the wings. Fitting three wires gives triangulation, which stabilises the wing geometry. Just fitting the two outer ‘interplane struts’ creates a ‘folding box’, which will allow the wings to shift, spreading and pinching under different loadings. Including a third wire is in-keeping with ‘real life’ as the real design would have a pair of crossed rigging wires to stiffen the skewed frame.

You might choose to disguise the ‘third’ strut by ‘bulking-up’ the outer wires by folding PVC tape over them to create the impression of timber struts, and you might also add the fourth ‘crossing’ rigging element by using thin string, fishing gut or thick thread. Another piano-wire element could be fitted, but the angling and positioning of the swing-in keepers would make it a fiddly job, and is really not needed.

Use fine piano wire, around 1 - 1.3 mm, for the struts. Use spare servo arms with a short length of BBQ skewer through the mounting hole as embedded attachment points.

On the bottom wing tilt both attachment points towards the centre of the wing.

On the top wing tilt only the front attachment point towards the centre of the wing.

Sizes shown are very approximate and will depend on the fittings in the wings. Just the same as fitting control rods, you have to make them up to size. Make them in pairs left and right, starting with the two centre pieces to establish the overall geometry.

Do not make them a tight fit. This will distort the wings, flattening the dihedral on the top wing and increasing the dihedral on the bottom wing.

For ease of assembly/dissassembly, use a modified z-bend at one end and a right-angle bend and a small swing-in keeper at the other end. See the build article for more detail.
Simplified cabane assembly: The underside of the box fuselage deck is reinforced with a fitted panel of ‘gift card’ material. The top is reinforced with tongue depressors or popsicle sticks. Holes are cut in the gift card to allow cable ties (zip ties) to pass around a skewer that is pushed through the fuselage sides just beneath the cabane frame. The cabane frame is then pinched-down and held firm by the cable ties. The skewer ends are cut off flush with the fuselage sides, and will be hidden by the turtle deck covering.

The U/C Mount rests on the fuselage sides and also locates in the wing leading edge - held in place by wing elastic skewer. Individual elastics from the front wing skewer hold undercarriage against mount.

Simply loop the wing elastic around the undercarriage wire. Protect underside of wing with popsicle stick to spread load.

Depending on width of wheel used, allow extra at each end of axle for wheel width and collet/glue blob to attach wheel. 85mm wheel is scale.

Kink the last 15mm of the undercarriage wire at the sharp bottom corner to make it vertical and stop the ‘pointy bit’ catching in any wheel spokes.

The frame can be assembled from two ‘sides’ as shown, or if you have a long-enough wire, from a single piece with only one join. You’ll need about 700mm in length for this.