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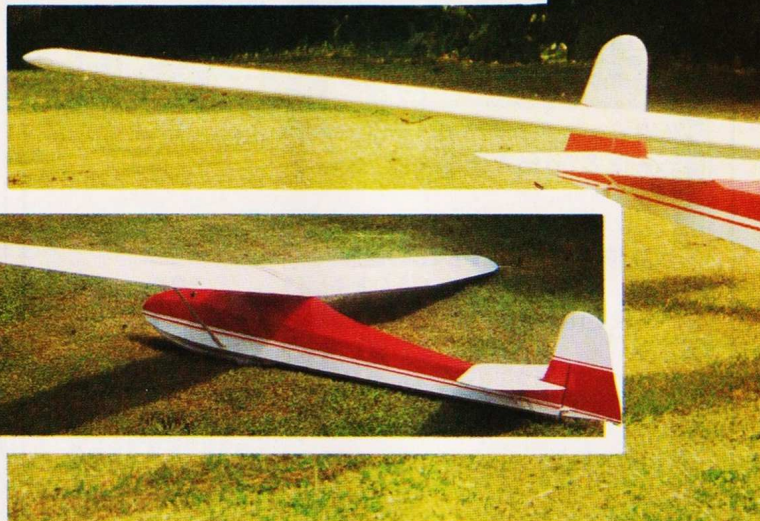
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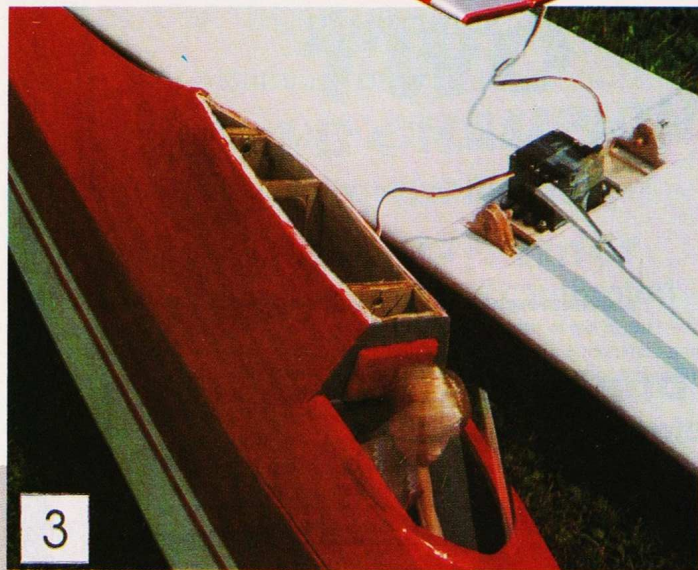
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Having designed and built a near 1/3rd scale Prefect in the early '80s which was a lovely old aeroplane to fly being very scale like in appearance in the air, I wondered if I could reduce the size down to a more manageable 1/5th, which would work out about 104ins span. The bigger model was 150ins and as I get older and more wrinkly it

becomes a littler harder to transport and launch. Hence the 1/5th scale!

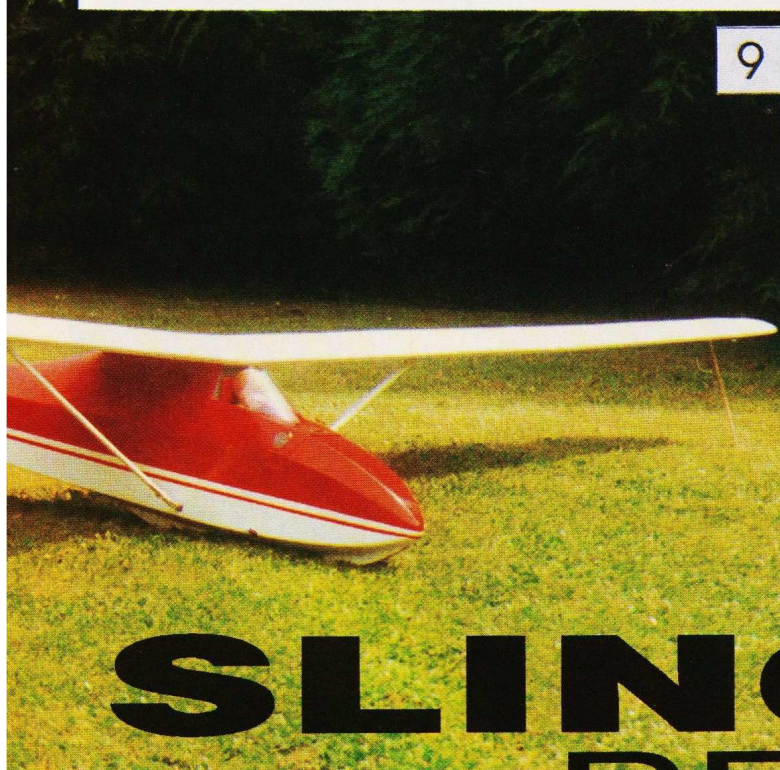
I had the good fortune to contact the Vintage Glider Club's Ron Tarling who was very helpful and sent me photos of both their Prefects. One has a red and white colour scheme, which appealed to me, as did the logos, etc. Thanks Ron, it was very useful, so much so that I have modelled

your red machine, which I believe was the original prototype Prefect. Note the rounded top to the fin and slightly narrow fuselage. I have included the pointed nose, which the VGC incorporated, by blowing a chicken's egg and fibre glassing over same! It looks good – at least I think so.

Flying-wise the smaller machine is very good being quite realistic and a doddle to



1. Tail end details; note tailplane struts, rudder control horn and (just visible) wire tail skid. Wing with airbrake in retracted position is in background. 2 & 5. Full-size colour scheme suggestion; this Dutch registered Prefect at Schaffhausen, Switzerland won a Best Restoration award in 1991. Ian Tunstall photo 3. Wing seat and attachment detail on the model. 4 & 11. Model in flight over Keith Humber's Isle of Wight slope. 6, 7 & 9. 1/5th scale model fully assembled; colour scheme is based on one of a pair of Prefects currently owned by members of the Vintage Glider Club. 8. Full-size instrument panel detail; this is the Dutch aircraft also illustrated in pics 2 & 5. Photo 10 shows another colour scheme suggestion; a full-size Norwegian registered Slingsby Prefect seen at Bourges, France in 1988. Ian Tunstall photo 12. And here's another! This is another Dutch registered full-size example in red and cream. Ian Tunstall photo.



SLINGSBY PREFECT

**A traditional all-wood
vintage glider subject
at 1/5th scale,
designed by Keith
Humber**

launch and fly. It does need a bit of lift but then so do a lot of this type of scale gliders. Anything from force 2 up to 6 fine – over 6, you're on your own! Loops, stall turns, spins and rolls (I know the full-size wouldn't, but they do look good), rolls off the top even, or sedately flying along the slope, are all within the model's capabilities.

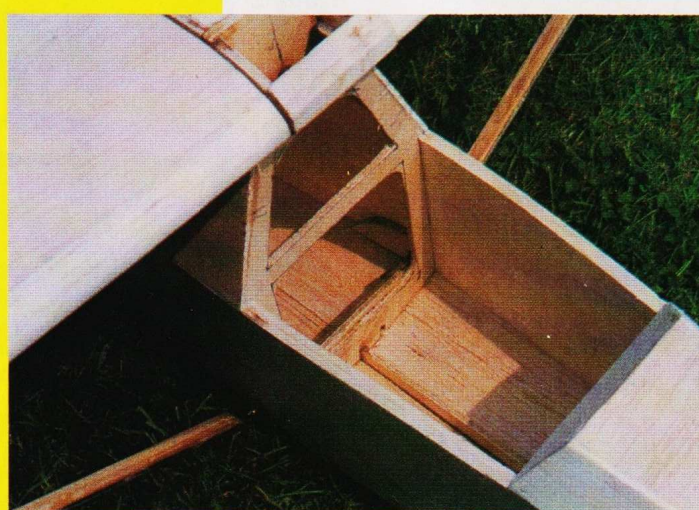
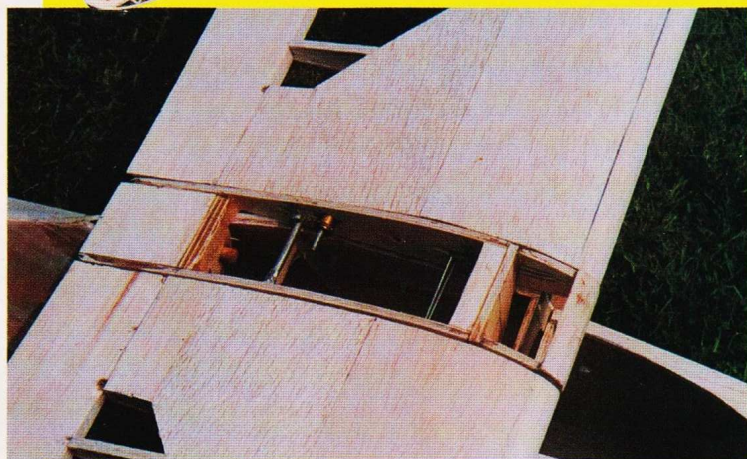
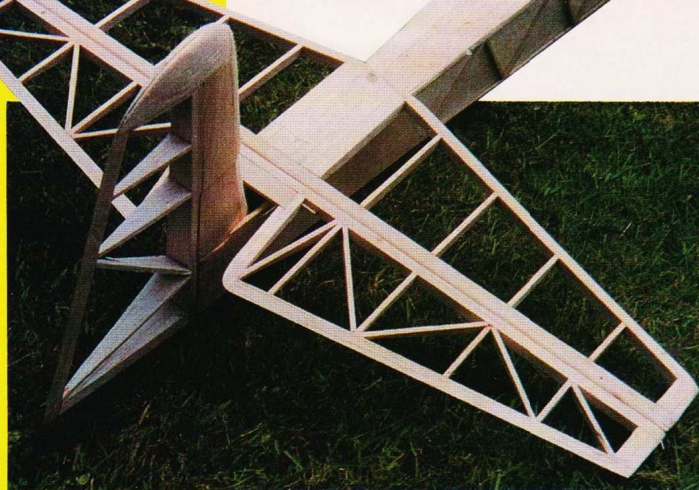
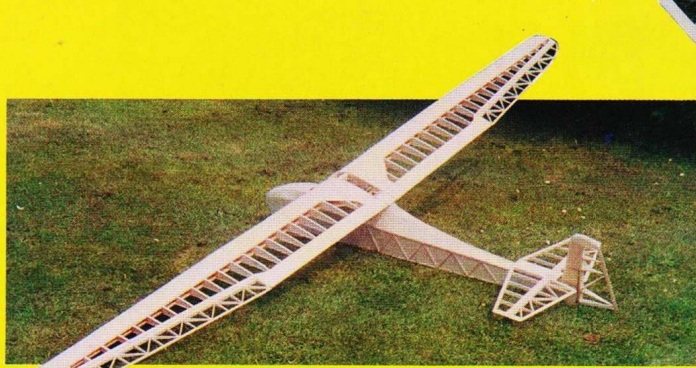
Let's start

The construction is most straightforward, the only tricky parts are the wing mounting centre section and the air brakes – they are very tricky indeed! It took me a couple of

weeks of fiddling to get them to work satisfactorily. I think, in hindsight, I would have accepted the non-scale commercial manufactured brakes and fitted them. I strongly recommend that you fit commercial Schemp Hirth style brakes – mind you, if you have the patience then the scale brakes do a super job. On landing they really push the model down on the ground with a very satisfying roll to a stop, very scale.

However, enough chit chat, on with a brief description of the finer points of construction. The fuselage is built using a 1/8th sheet basic box. Fuselage sides are doubled up with a second 1/8th lamination at the cockpit area. This is glued on the outside of the basic box. The rear section is longeroned and spacers with 1/8 x 1/8 false longeron spacers. You cut the basic fuselage side from balsa sheet and frame up onto 1/8in ply formers before fixing the rest of the nose sheets plus false longerons, etc.

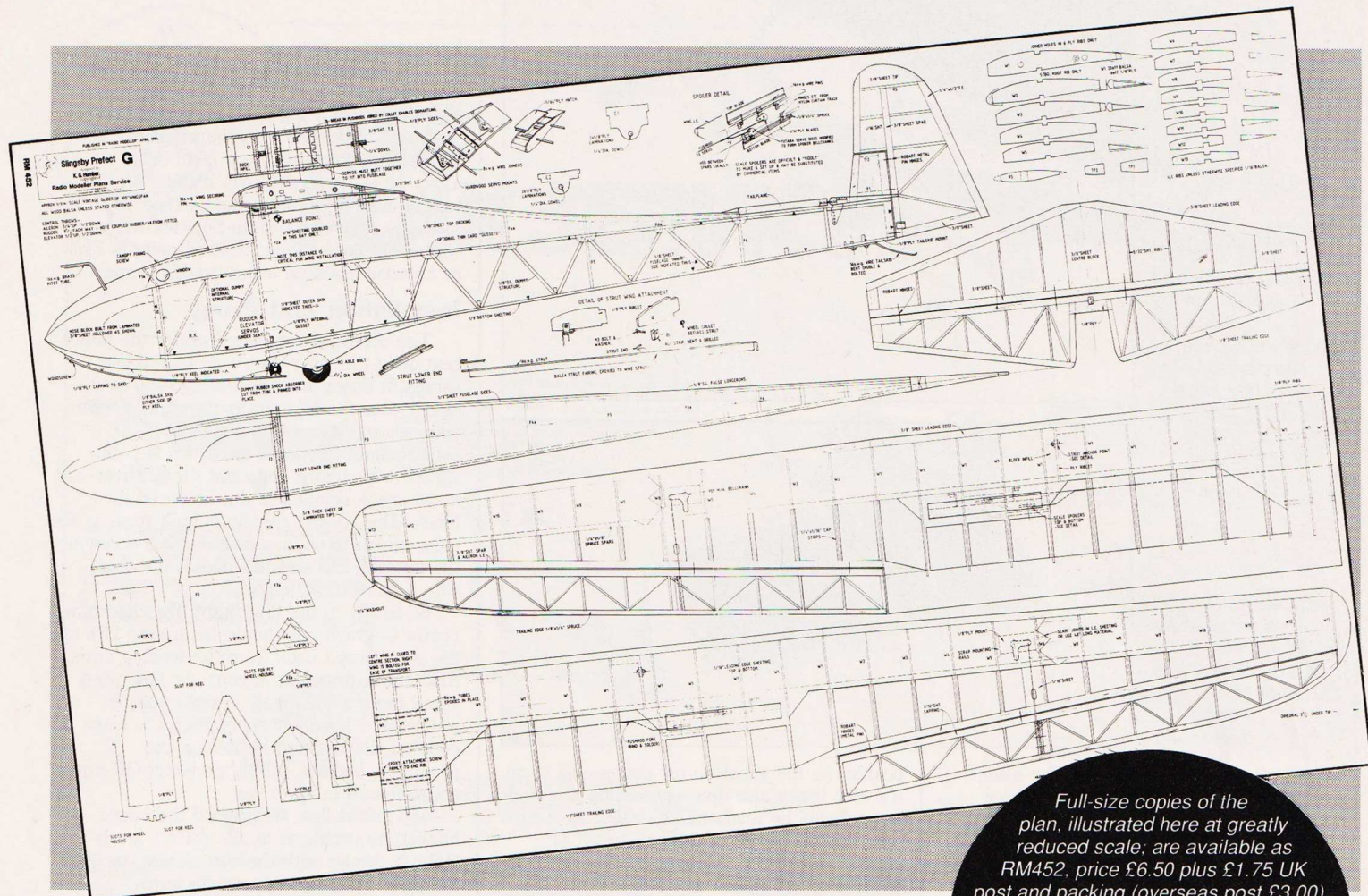




Construction shots, from top left clockwise: The completed airframe before covering.
 ● Tail end close-up; simple, sturdy scale structure. ● Wing strut attachment detail.
 ● Rear fuselage top decking; note 1/8 square false diagonal bracing. ● Cockpit area showing bulkhead F2. ● Wing structure detail; note rib cap strips and aileron construction.
 ● Underside view of fuselage showing wing strut attachment and landing skid.
 ● Wing centre-section; left wing is glued to this, right wing bolted on for removal to transport.

There is a 1/8in centre ply keel skid member, which is fixed before the bottom sheeting is completed. The nose block is laminated up from 3/8in sheet and shaped with a razor plane.

The wing strut fixing is rectangular brass tubing bolted to a 1/8in ply plate firmly glued into position. The end of the brass tube is filed into a fork with a 1/16in hole



Full-size copies of the plan, illustrated here at greatly reduced scale, are available as RM452, price £6.50 plus £1.75 UK post and packing (overseas post £3.00), from Radio Modeller Plans Service, Argus House, Boundary Way, Hemel Hempstead, Herts. HP2 7ST. Model Pilots' Association members enjoy a discount on ALL our plans and need only send £5.90 plus their membership no.

drilled transversely to accommodate a 16swg right-angled pin to hold the struts in position. The pin is retained with a small rubber band around the base of the strut; the drawing and photos should be self-explanatory.

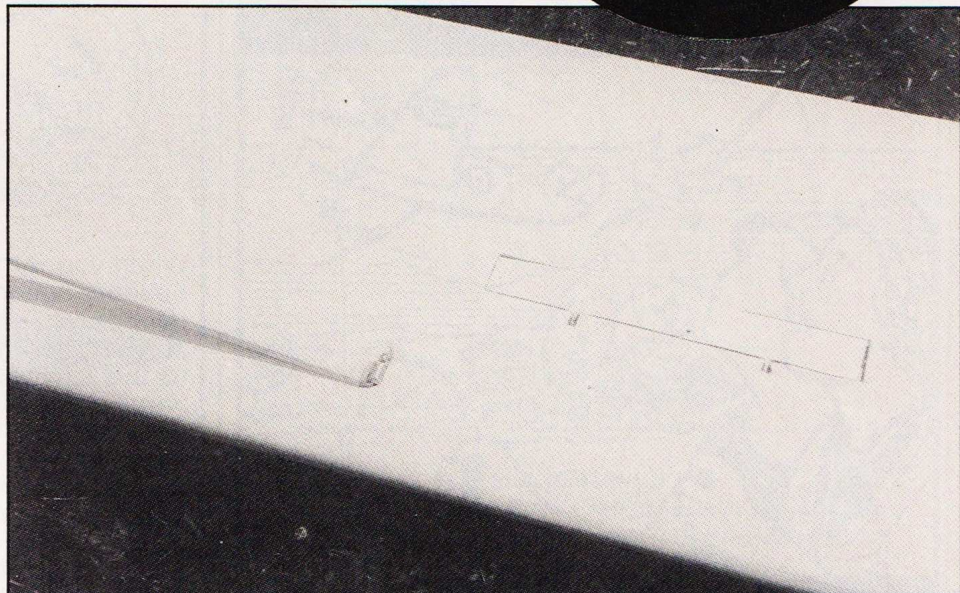
The strut itself is 16swg faired with balsa to a streamline section. The bottom end is bent into an open eye, which fits into the brass fork. The 16swg angle pin engages ditto and retains the strut in position. It is a working strut so make a thorough job of it. The wing centre section is retained in position by two 1/4in birch dowels; they have to be cut to exactly the right length. To enable the wing to be rigged the dowel engages into the two sub fuselage formers as per the drawing. When the wing is rigged a transverse 16swg pin is pushed across the fuselage through the ply wing saddle in front of the dowel mounting, which stops the centre section from sliding forward and disengaging – with dire results I may add...

Seriously, this is a very quick system of rigging a scale model; I can rig the prototype in under a minute while most modellers are still thinking about it! So it is worth the effort to make the mounting assembly. Do make sure the dowels are long enough to engage in the former, but not too long to make it impossible to push the centre section into position – tricky, but in practice I have had no trouble with the system and would use it again on future models. The rest of the fuselage is pretty straightforward. The 1/8in ply wheel box is standard Slingsby with a 3mm axle bolt fitted. The skid is faced with balsa sides and capped with 1mm ply.

Wings

The wings are built over the plan using 1/8in to 1/4in washout on the last ribs. You may have to adjust the tip ribs for size to

One of those fiendish scratchbuilt airbrakes in the closed position; if you chicken out, designer says commercial items are a sensible shortcut!

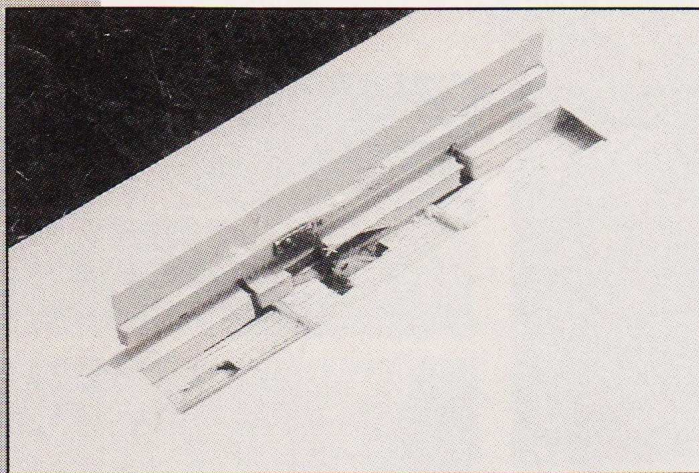


suit your model; I have drawn around the ribs on my model and shown these on the plan so they hopefully are near enough. The leading edge is sheeted with 1/8in sheet top and bottom while the main trailing edge is planed from 1/2in sheet. All ribs are 1/16in other than the three root ribs, which are 1/8in ply with 8swg brass dowel tubes epoxied into position.

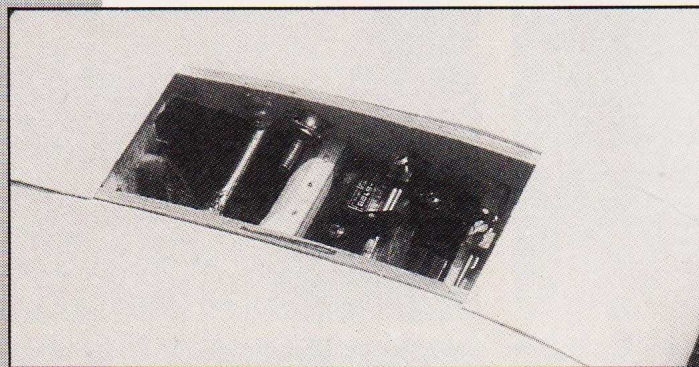
On my prototype I permanently fix the starboard wing panel to the centre section with epoxy and dismount the port panel for transport. I have a 3/16in bolt through the

wing root rib and a knurled nut tightened with the fingers to hold the wings together; it works well in practice. This now leads me onto the subject of the dreaded airbrakes/spoilers. My model uses two Futaba 148 servo discs trimmed to shape as bellcranks, one disc for the top blade, one for the bottom blade. These are operated by 16swg pushrods which are formed into a 'Y' by binding and soldering. The bellcrank discs are mounted by 3mm bolts onto 1/8in ply plates glued into position. The blade is operated by short 16swg pushrods into metal

One of Keith's amazing scratchbuilt spoilers in the deployed configuration; they're fiddly to make but work beautifully...



Airbrake and aileron servos nestle in the centre-section; brass collets connect wire pushrods to allow the model to be dismantled.



bearings on the spoiler blades. The blades are 1/16in ply with 1/4in x 1/8in spruce reinforcing, which enables 16swg angle hinge pins to be fitted. These in turn engage into nylon angle hinge cleats made, in my case, from an old piece of plastic curtain rail (I think!).

The hinge cleats are screwed into

position in the wings to ply plates – all in all, it's very tricky and time consuming. It could be probably be made much easier by using only the top blades of the spoiler or, of course, as I said previously, by buying commercial airbrakes and fitting same. It is up to you as the builder to decide. Either way will work quite satisfactorily from the

flying point of view.

The strut fixings in the wings are bolted dural or aluminium 'U' straps as per the drawing; make a good job as, again, they are working struts. The tail group is pretty straightforward ie, built up from 3/8in x 3/8in LE/TE with 3/32 rib blanks. All hinges are Robart steel pinned type. My model is covered in white Solartex left in white as a base colour; the red paint is Flair or Solarlac trimmed using masking tape.

Installation and flying

The servos are mounted under the pilot's seat or in the wing centre section; these servos fit down into the fuselage top so do check your fuselage top is the right size for your servos before commencing construction! Pushrods are 1/4in x 1/4in spruce with 16swg ends and the receiver and nicad are positioned in the hollowed nose block. The cockpit canopy is built from 1/8in balsa sheet, fixed in position with a screw at the forward end and retained at the rear with a balsa cleat/ledge.

So finally to the first flight. Do check the centre of gravity; it should be around 25% of the wing chord back from the leading edge. Also check direction of controls. OK, wind about force 3-4. Launch straight out, no problems. I have just remembered – I use coupled ailerons and rudder on the prototype, but she will fly perfectly OK non-coupled so it is up to you.

My model flew straight off the board – honest, no problems at all! She's a lovely sight in the air with the sun shining through the wing covering; try one, it's super.

And don't forget, let's see some photos. Long flights and happy landings!



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