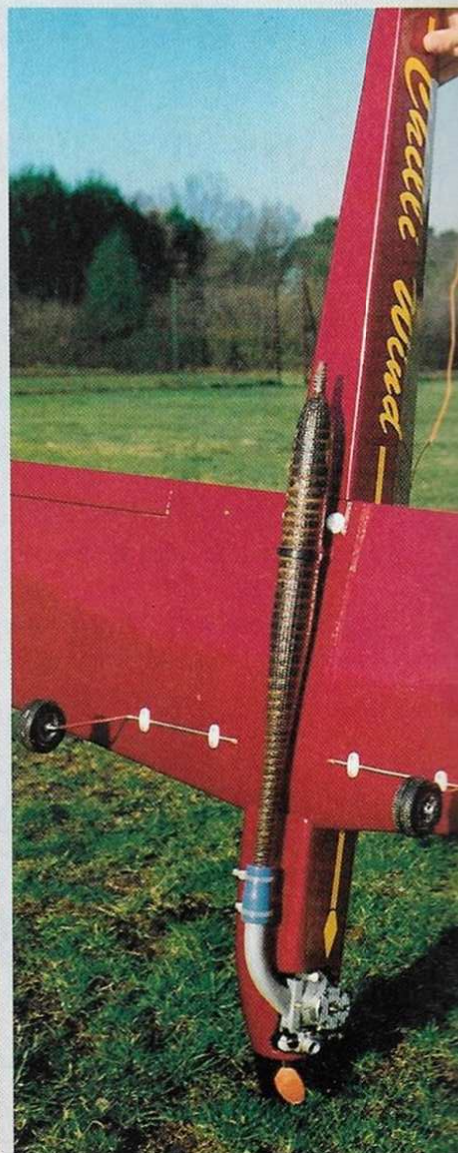
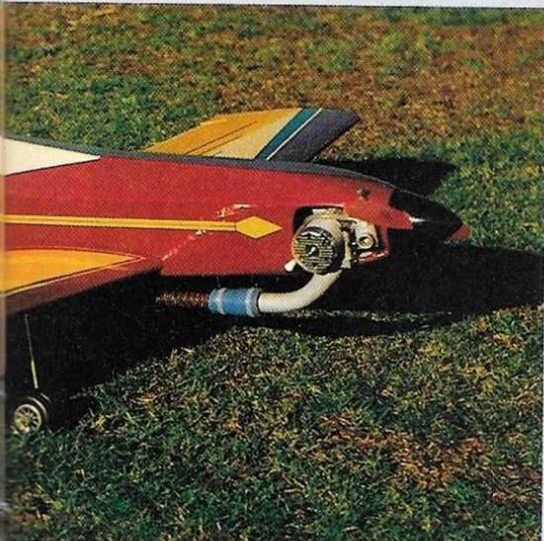




Chilli Wind

Go for aerobatics with
Mike Delacole's
compact 57in hot ship





Wind



machine and it gave me some ideas regarding the styling of the new low winger that was taking shape in my mind. When the drawing board was finally visited, which was way back in 1988, the Chilli Wind was the result.

Wing span	57.1/2 inches
Wing area	570 sq inches
Tail area	25% of wing area
Length	52.1/2 inches
Target weight range	between 4.3/4 and 5.1/4 lbs

I have retained some features from the Jetta but gone is the anhedral tail, swept wing and tricycle undercarriage. Gone too are the curves. I have tried various wing sections, ranging in thickness from 12 per cent up to 15 per cent, but finally decided that the 13.1/2 per cent sections shown on the plan were most suitable. The rest of the model is very straightforward and as there are no specialist items, you should be able to find all you need at your local Flair stockist.

Good vertical performance is a necessity for this type of model and this means power. Unfortunately power also means noise, so if you want to keep your flying site, this is a problem that has to be solved. One answer is to follow the example of the big boys and use larger diameter props of coarser pitch and an engine/pipe combination that will turn such a prop at useful revs. I think we have to forget about the trusty 10 x 6 screaming around at 17,000 rpm. The model in the photos uses Bolly products and these come from Australia. I found these via the Wizard of Oz - Brian Winch - whose help I very much appreciated. Following Les Bollenhagen's advice the OS 46 SF ABC is turning a Bolly 11.1/4 x 8 glass prop and exhausting through a Bolly carbon fibre quiet pipe. The pipe is ideal for the Chilli Wind as it is so light (pipe and header weigh only 4.1/4oz) and although quite long, it blends in very nicely. Running this set up will produce around 11,500 rpm and gives all the power needed *plus* it minimises the noise problem. If you want more information on these

Sharp lines of Chilli Wind apparent in this selection of photos. Mike chose OS 46 SF ABC power; Bolly 11.1/4 x 8 glass prop and carbon fibre quiet pipe from the same manufacturer; keeps noise down - an important consideration these days. Note close-loop rudder system. Prototype is held, centre left, by tennis coach Olivia Mair from Perth, Australia.

The Chilli Wind is a compact aerobatic machine designed around motors in the .40 - .50 cu in range. It is an attempt to create a model that would provide an ideal introduction to the modern 'turn around' around style of aerobatic flying. It has simple, classic lines which make for a light-weight structure that is relatively easy and quick to put together. Many of the ideas incorporated in the design have come out of experiments I have been conducting over the past six years with lightweight sports designs. The models that pleased me most from this period were the Rival, a 48 inch span fun fly model, and the Cyclone which was a 57 inch shoulder wing aerobatic trainer. This was powered by a Super Tigre S45 ABC fitted with a tuned silencer and, weighing in at just over 4.1/2 lbs, it went like a rocket and yet also had good low speed performance. The seeds of the Chilli Wind came out of that design. At about that time I produced my own version of the popular Hots design using the flying surfaces and moments of the Rival, coupled to the styling and configuration of the Hots. This was a fun

items the address to contact is: Bolly Props, 11 McKinley Street, Elizabeth Downs, South Australia, Australia 5113. I am sure that there are many other combinations that will work effectively and it is worth doing a bit of experimenting to see how you can get the best out of your engine.

Get it together

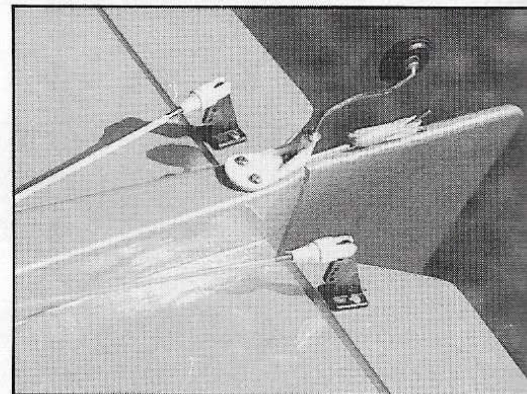
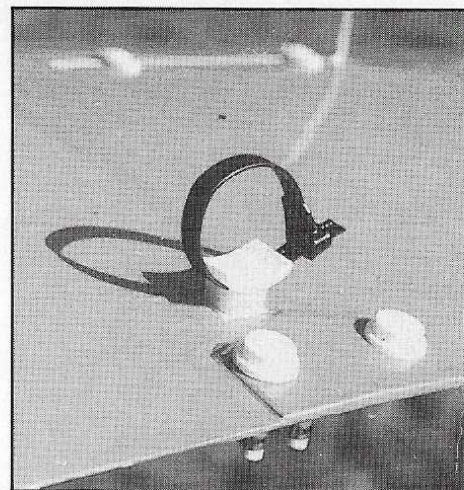
Models fly better if they are built accurately. With this in mind take good care at each stage of the construction, from the marking out to the final balancing. Although this could well be your first model from a plan I have assumed that you have previous experience of building from kits. The prototypes have all used foam wings which were obtained from Geoff Mosely of Dalesman Wings. They have all been very accurate, beautifully made and are heartily recommended. First job is to check for accuracy. Small differences can be lost at the centre when joining but badly warped panels should be discarded. Next glue the 1/4 inch balsa i.e. and t.e. in place and when dry shape to required section. Sand roots to the correct dihedral angle, cut out aileron servo well and accurately prepare a groove in each panel to accept the wing locating dowel later on. Prepare aileron stock to match up with the wing, making sure that you remove equal amounts from the top and bottom. Cut into three pieces as shown on the plan and lay aside. Now join the wing panels on a flat surface making sure that the dihedral is correct and that the tips are accurately aligned. Make up the torque rods and

Fuselage facts

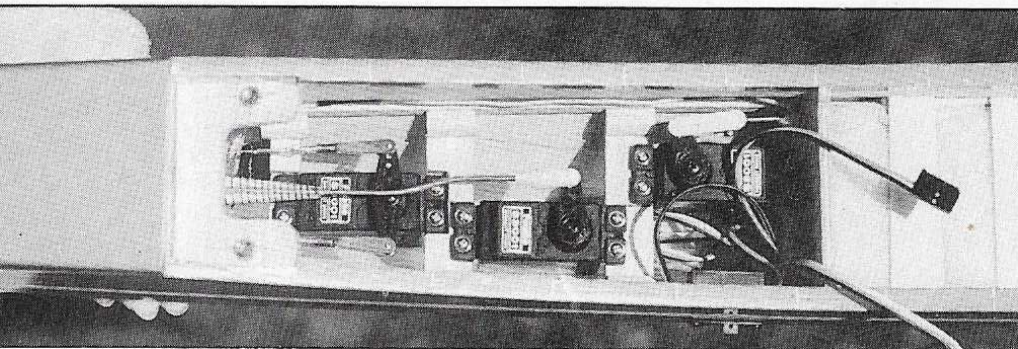
The first job is to make up a pair of fuselage sides. These are long, thin items and it is all too easy to end up with a pair of bananas. A good way of avoiding this is:

1. Make up two 3 inch wide balsa sheets of the required length.
2. Onto these sheets mark out the fuselage sides complete with the position of all doublers, formers and longerons.
3. Glue the doublers, longerons and triangular stock in place.
4. Now cut the sides to shape.
5. Finally mark the datum line on the inside of each side.

This method will minimise the amount of spring that occurs when the balsa sheet is cut. Next we can tackle the formers. These form the heart of the model so do make sure that they are accurate. For future reference during construction clearly mark the horizontal datum and the vertical centre line on each former. Drill all necessary holes in F1 and check that all formers are a comfortable (not tight) fit when placed in position on the fuselage side. The engine is shown mounted at 15 degrees off horizontal on the plans. You could go further in a bid to get the pipe running along the centre line of the model but do remember that the further you go the lower the tank position, unless you are using a pumped fuel feed. Now we can get down to business. Pin the left hand side to the board and glue F1, F2, and F3 in place, not forgetting the right thrust when fitting F1. When the glue has thoroughly dried the right hand side



Simple jubilee clip and shaped baseplate gives perfectly adequate support for quiet pipe. Forked pushrod actuates elevators.



Plenty of room for servos within fuselage. Note robust wing fixing. Chilli Wind plans are available from our Plans Service for £4.25 plus 85p postage. Quote No. RC 1648. A set of foam wings is also available for £20.50 post free; quote FWTRC 1648.

epoxy in position. Line servo well and glue the inboard lengths of aileron stock in place, grooving as necessary to clear the torque rods. Hinge ailerons and fit temporarily to wing. With the ailerons held in the neutral position fit the inboard and outboard pieces of aileron stock. Finally glue the tips in place and give the complete wing a good sanding prior to reinforcing the centre section with glass bandage and resin and fitting the wing locating dowels and ply facing.

The model as designed uses a foam tail but an alternative made out of 1/4 inch sheet could be used. This would be easier to install and also do away with the forked pushrod. The fin and rudder are made up from 1/4 inch sheet. The originals used a balanced type of rudder but the plans show a continuous rudder line as this is easier to make and is also more efficient in aerodynamic terms.

can be added. Chamfer the rear ends to accommodate the fin post later on. With the sides held in a vertical position and located accurately over a straight line we can fit F4 and tack glue the rear together, not forgetting to include a temporary 1/4 x 1/4 inch spacer. Note that the only curved part of the fuselage sides occurs between F3 and F4, otherwise they are straight. Add the 3/32 inch crossgrain fin support, the 1/4 inch x 1/8 inch cross members and the triangular stock to reinforce the joint between F1 and the rest of the fuselage. A good idea at this stage would be to make a simple jig that will support the basic fuselage in such a position that the sides are vertical and the horizontal datum line is parallel to the work surface. Things move swiftly from this point and the sequence is as follows:

1. Install tailplane making sure that it is at the correct incidence and square in

relation to the fuselage.

2. Remove the temporary spacer and glue the fin in place, again making sure that it is correctly aligned.
3. Glue formers F5, F6 and F7 in place and add the 1/4 x 1/8 in balsa to the rear of F4.
4. Fit 3/32 inch spacer strip between F4 and the fin. Chamfer to accept decking.
5. Fit rear decking.
6. Add 3/32 inch capping strip.
7. Fit front side and top sheeting.



8. Finally, fit canopy sides and top.

Remove the fuselage from the jig, if used, and add the 3/32 inch crossgrain sheeting to the rear and the 1/8 inch cross grain under tank bay. You might fuel proof the whole of the tank bay before adding the sheeting as it will be more difficult later on. We now have something which is beginning to resemble a Chilli Wind and this is a good moment to fit the captive nut plate and tidy up the wing seating, making sure that the wing is mounted at the correct incidence. Hold the wing accurately in position on the fuselage and drill through for the wing bolts. The next task is to finish off the nose area. You will need to mount the engine for this operation in order to achieve a neat

gap between the ply nose ring and the spinner. Be careful not to remove any material from the fuselage sheeting. That's about all there is to the building and now it is down to details such as making the exit holes for the closed loop rudder linkage and the forked pushrod for the elevators. If flying off grass a simple tail skid will be sufficient but, for the hard stuff, a steerable tailwheel is an asset.

Finishing off

The ideal covering material for this model is Solarfilm. It is relatively easy to achieve good results and there is a large range of colours from which to choose. It is a good idea to have contrasting upper and lower surfaces as this is a

great help in determining the attitude of the model in flight; always helpful! Fuelproof the engine bay and tank bay.

The radio installation should not pose any problems but is worth having a dry run before fixing anything permanently in place to see if you can balance the model by positioning the gear before adding any extra weight. The trickiest job will be installing the forked pushrod and at first glance it may not seem possible. A simple solution is to thread two pieces of thin plastic tube up through the fuselage via the exit holes and into the radio bay. Insert the pushrod ends into the tubing and then carefully guide the whole lot back down the fuselage. It works like magic. With everything in place we can balance the model laterally and adjust the c of g if necessary. The control throws shown on the plan are intended as a safe starting point and you will, no doubt, adjust them to suit your own taste.

Clear for take off

Before the maiden flight check and double check that everything is securely in position and that the control throws are working in the correct sense. When satisfied that all is well fire up the motor and off you go. You will find the Chilli Wind a smooth, precise performer and even if it is your first low winger, you should not experience any problems. Once you have familiarised yourself with the model you will be able to start the trimming process and an excellent aid in this department is an article written by Ken Binks in the April 1986 edition of RCM&E. If you do not have the magazine the editor assures me that photo copies are available of the article - do get one (£1.50 from the ASP Photostat Dept.). The Chilli Wind has an excellent aerobatic capability and with its distinctive lines it looks great both on the ground and in the air. The rest is now up to you, so have fun and safe flying.

