

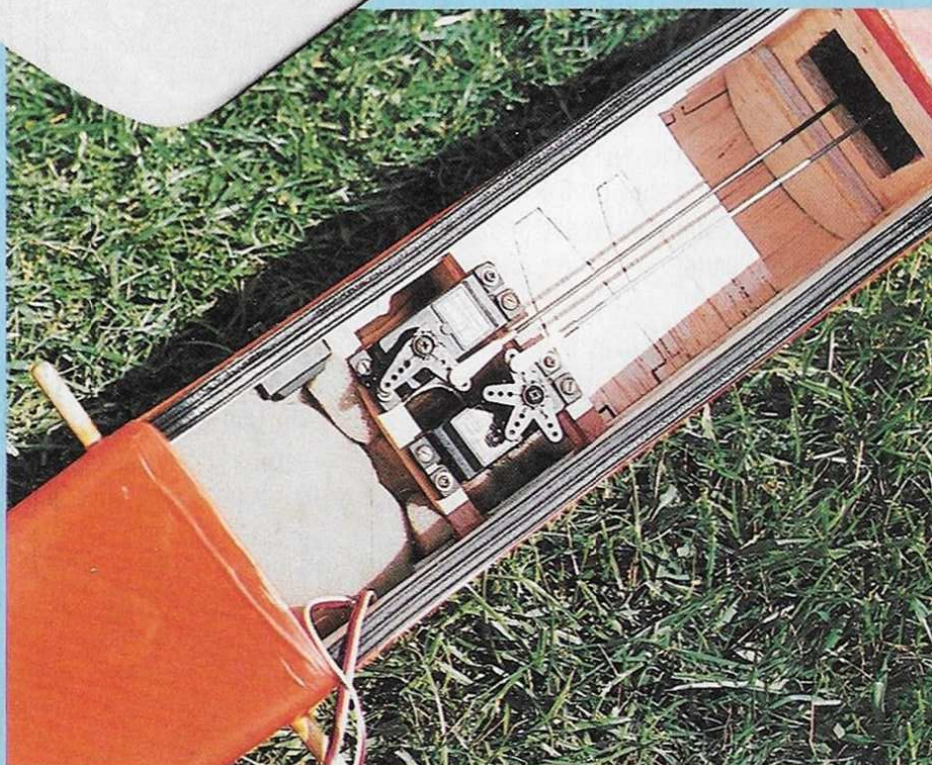
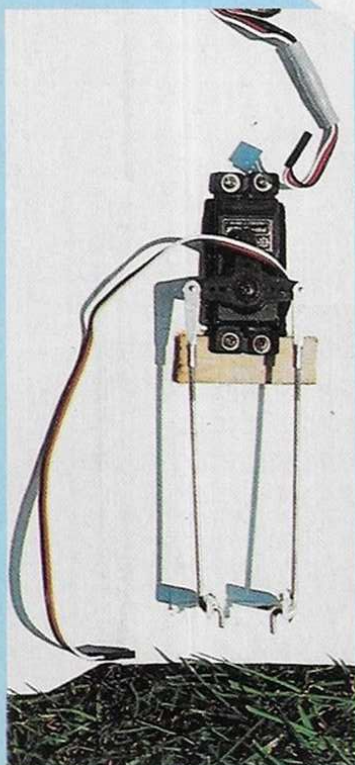
BEING a modeller of fairly small means, I was recently the glad recipient of an unwanted OS.35. Having always found twins more interesting than single-engined subjects, I bought a second OS from my local model shop and began my search for a practical model. I soon discovered that no suitable sport designs existed – only scale. As this was to be my first twin and having heard the stories 'wait until you get an engine cut', and about how difficult twins are to fly, I needed something quick and easy to build and repair. There was no other solution than to design my own model...

Fuselage first

This is made from 1/8in. sides cut to shape, reinforced with 1/4in. balsa doublers between F1, F2 and the wing seat. 1/4in. square balsa stringers are then added to the top and bottom rear of the side assemblies with 1/4in. square uprights between. Next, glue formers F2 and F3 to one fuselage side, checking that they are vertical and when set, add the second side. Pull in and glue the tail and nose. Fit F1 with the nose leg sewn and glued in place. Next, fit the 1/4in. square cross pieces top and bottom then add the formers F2A, F2B, F4, F5 and F6. The front top decking is completed by planking with 1/8in. balsa. The rear fuselage deck is constructed from 1/8in. balsa sides with a 1/4in. balsa top. Fit the lower 1/16in. sheet, cross-grain and add the front lower 1/4in. sheet. Laminate the nose block from 1/2in. sheet.

Tail and fin

The tailplane is simply shaped from 1/4in. sheet with the elevator joined using 1/4in. hardwood dowel. The fin is then glued to the tail and this assembly





Nigel Burton's neat sport twin is simple to build and at 62in span, ideal for a pair of .25s to 40s

fitted to the fuselage. Use scrap 1/2in. sheet to form fillets between the fin and tail, carved and sanded to blend with the contours of the fuselage.

Wings

On the original model, the wings were 'foam and veneer', with balsa leading and trailing edges fitted in the normal manner. Slots were then cut in from the leading edge where the nacelles are fitted. These were built-up in the same way as small fuselages, with 1/4in. sides, 1/16in. ply doublers and a 1/4in. ply engine bulkheads. On completion, the finished nacelles were coated with glue and located, sliding back and forth to ensure good adhesion. Holes were drilled through the foam core for the throttle servo wires and individual servos mounted in the nacelles beside the tanks. The wings were then joined and finished in the normal way, with ailerons controlled by torque rods. The nacelles were then sheeted on top, SLEC tanks installed and tank hatches fitted.

The built-up wing is of conventional construction. Start by pinning the bottom spar of one panel over the plan, packed

up 1/4in. Each rib is then glued onto this spar and the false trailing edge added. Note that the ribs from the root to beyond the nacelles are fitted in two halves, with a ply dihedral brace in between. The nacelle ribs can now be fitted, followed by the top main and 3/16in. rear spars and leading edge. The 1/2in. nose block is fitted next, together with the engine bulkhead and mount. Add the 1/4in. sheet former between the spars in the nacelle and the 1/16in. webbing each side of the spars.

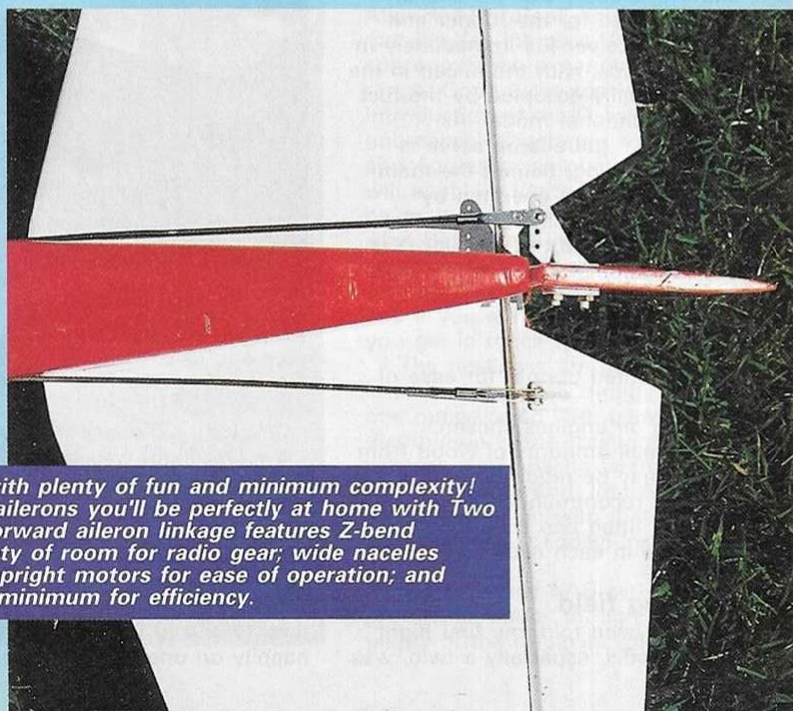
Install the ply rib undercarriage mounting block and sheet the top of the wing before removing from the board. Turn over and fit the main undercarriage ply blocks and sheet the underside of the wing - except where the tank hatch is to be fitted.

Repeat this process with the other panel, building it onto the first, which should be propped-up 1.1/2in. Fit the torque rods and trailing edges to the centre section of the wing and fit wing tips. Cut a hole between the root and next ribs, behind the main spar, for the centrally mounted aileron servo. Sand the entire wing and nacelles prior to covering.

For speed, the prototype was covered with Solarfilm, but any method may be

Get what it takes!

TO TANGO



Go for that unmistakable 'twin' sound with plenty of fun and minimum complexity! If you've built and flown a 'single' with ailerons you'll be perfectly at home with Two to Tango. Detail photos show: Straightforward aileron linkage features Z-bend spokes; voluminous fuselage allows plenty of room for radio gear; wide nacelles incorporate servo alongside fuel tank - upright motors for ease of operation; and neat, simple tail - keep hinge gaps to a minimum for efficiency.

used, providing the weight is kept to a minimum.

Radio installation

As there are only two servos fitted in the fuselage, there is plenty of room immediately beneath the cockpit for two rails, allowing side-by-side installation. Pushrods are used for the rudder and elevator. The receiver fits immediately in front of the servos, with the ni-cad in the large space usually occupied by the fuel tank in a conventional model. As described above, the aileron servo is mounted in the wing, behind the main spar. The throttles are operated by individual servos, one in each nacelle, linked by a 'Y' lead to the receiver. Yes, it does mean another servo, but it does make engine set-up far more easy.

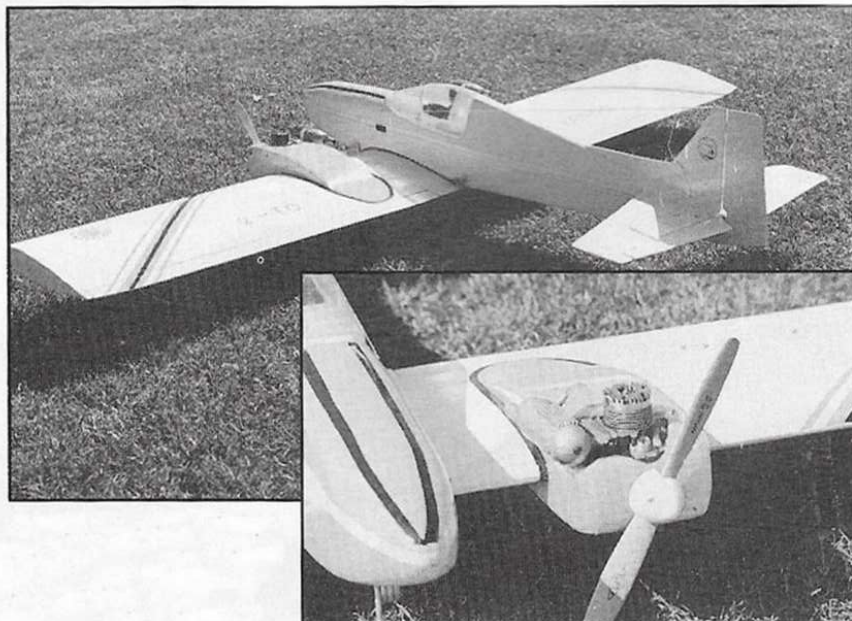
Engines

These are mounted upright for ease of operation.

Depending on engines chosen, removal of small amounts of wood from the nacelles may be required to clear the exhausts. The recommended engine size is .25 to .35. I fitted two six-ounce SLEC fuel tanks, one in each nacelle.

To the flying field

After all I had been told, my first flight with a new model, especially a twin, was



an exciting experience! But don't worry – my first flight was great fun, with no problems until one engine cut prematurely... I immediately shut the throttle, as I had been previously advised to do, bringing the other engine back to tick-over. Not wishing to land in a ploughed field, I gently opened the throttle and to my surprise she flew happily on one engine, requiring only a

small amount of aileron and rudder trim to counteract the yaw. I completed the circuit and landed OK.

With the control throws and CG set-up as shown on the plan, Two to Tango will perform all aerobatic manoeuvres with ease. My prototype weighs 6.1/2lbs ready to fly. So, with no worries, go out and dance the Tango. Most of all – have fun!