RADIO MODELLER

TWO SHILLINGS AND SIXPENCE
JUNE 1967

FREE *frequency pennant*

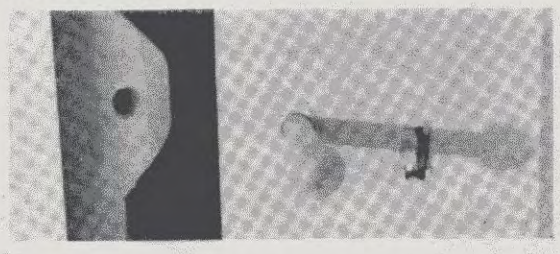
- **"SPECTRE" multi plan — WITH FLAPS!**
- **G.G. SWITCHER-RECEIVER**
- **FLOAT PLANES**
- ***"SPOT THE MODEL" COMP. RESULT***

RMI5
"Spectre"
65" span multi/prop aerobatic model featuring flaps
by
D.A. HAMMANT
for upto .61cu.in. engine
©RADIO MODELLER
12/6

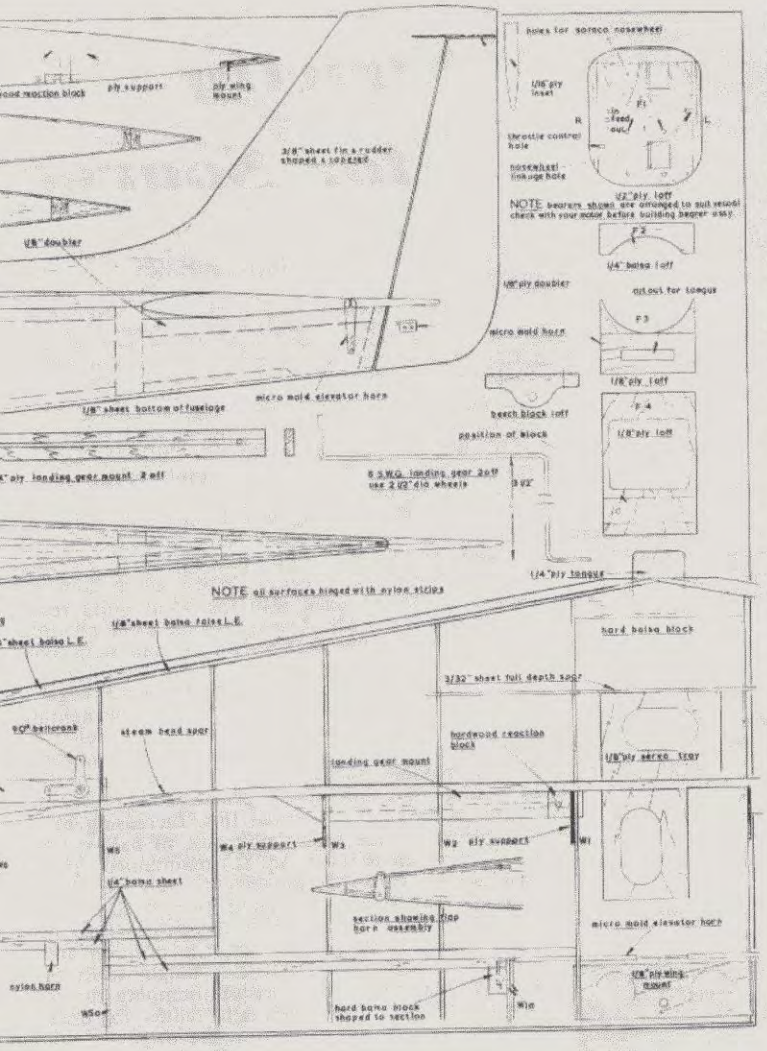
FULL SIZE PLANS —

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

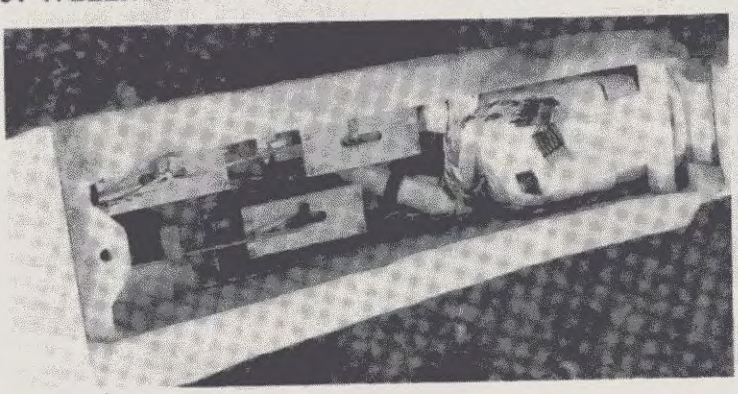
These detail photographs show the method of wing fixing and the installation of the Kraft gear.



A complete set of materials to build this model is available from "Complete - A - Pac" of Earlston. See advertisement for details.



PRICE 12s. 6d. post free from
RADIO MODELLER PLANS DEPT.,
64 WELLINGTON RD., HAMPTON HILL, MIDDX.



(i.e., tapered at the leading edge) I did not use any dihedral and this made the flap operation simple via a Micro Mold elevator horn. If you want some dihedral you will have to use 90deg. bellcranks to operate them. At the time the photographs were taken, I had had many flights with *Spectre* and found the wing made the aircraft very positive in all manoeuvres and steady in strong winds. A couple of weeks ago, the motor cut in a tail slide which was rather low, so I had my work cut out to get the aircraft lined up for landing and, on the way in, I noticed a vehicle on my right and had to veer left. I unfortunately caught the wing on a small metal flap, which returned one half of the wing to its pre-built stage. The fuselage was undamaged and I had a spare *Mother's Worry* wing which I tried and found it flies just as well. So, if you prefer a straight leading-edge, build the wing back to front. By this I don't mean ailerons and flaps on the leading-edge!! (Someone would have.)

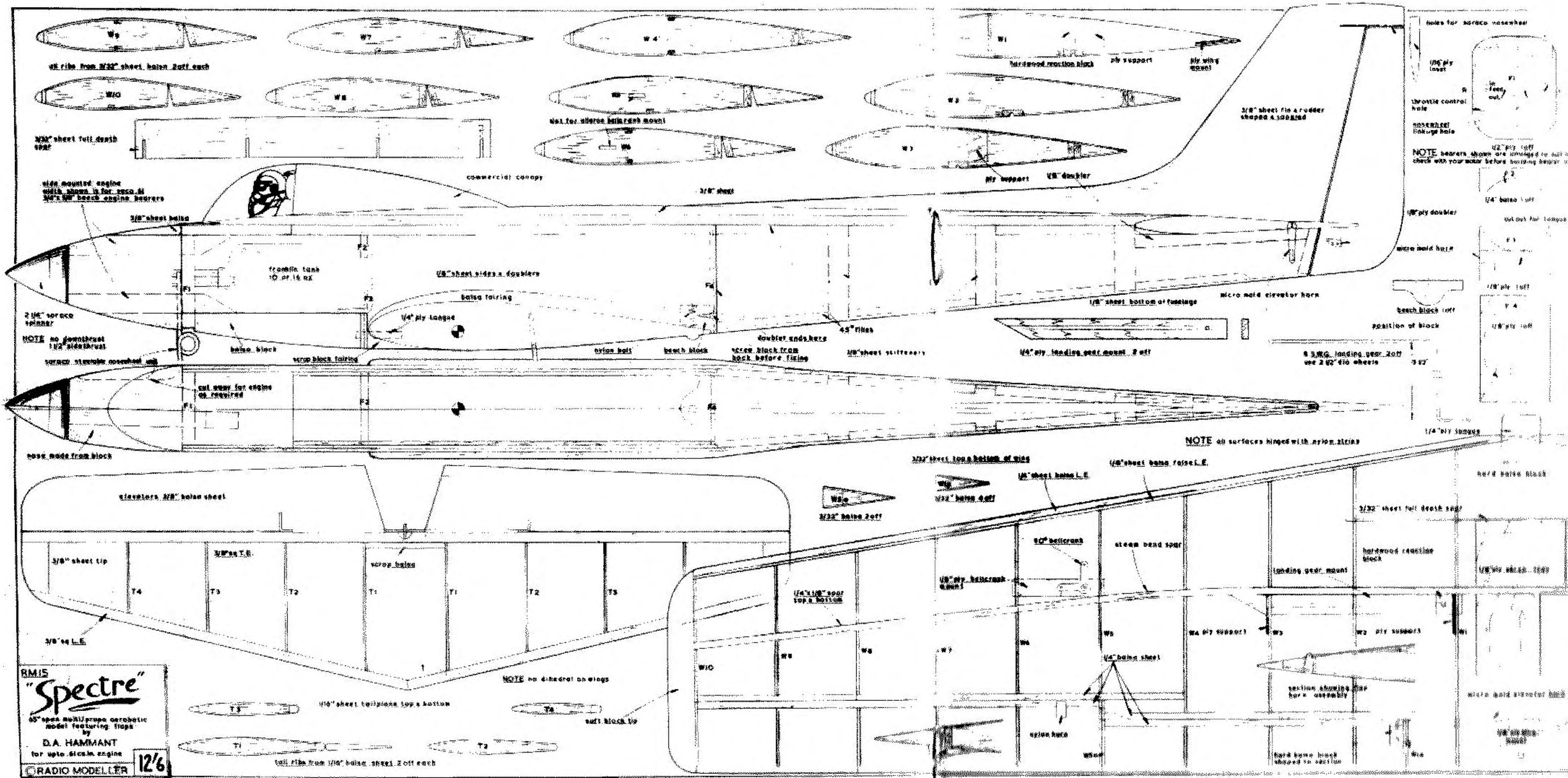
You will notice that the main spars are not very strong. This doesn't matter, as the rear ¼in. sheet spars make up for it. I have used the false leading-edge construction, this makes for faster assembly time and, after completion of the wing, you can use a hard balsa leading-edge to take the knocks it may get.

An easy way to fit the ¼in. ply tongue in the wing, is to finish building the wing and fuselage, then cut away the bottom sheeting in front of the wing servo tray, fit the tongue into the slot in the bulkhead, hold the wing in place on the fuselage with rubber bands and pins, then build up around the tongue with hard block balsa. When dry, remove wing and replace the sheeting. The front block, servo tray and rear ply bolt support, are enough to hold the wings together, but I make sure by putting a 2in. fibre glass bandage all round the joint.

Fuselage

This is quite straight forward in as much as we have the usual ¼in. sheet balsa sides, with ¼in. sheet doublers, ¼in. bottom and two layers of ⅜in. medium to soft sheet on the top, which is shaped before fitting the fin. I am sure you have your own way of building fuselages, but I will quickly go over my method just

Continued on page 203



RM15
"Spectre"
45" span multi/propo aerobatic model featuring flaps
by
D.A. HAMMANT
for upto .61cu.in. engine
©RADIO MODELLER
12/6
commercial canopy
3/8" sheet
side mounted engine
width shown is for super 61
3/8" sheet balsa
frankie tank
1/8" sheet sides & doublers
balsa fairing
1/4" ply tongue
2 1/4" spinner
NOTE no downthrust
balsa block
scrap block fairing
nylon bolt
beech block
45° fillets
1/8" sheet stiffeners
1/8" sheet bottom of fuselage
micro mold elevator horn
1/4" ply landing gear mount 2 off
cut away for engine as required
nose made from block
3/8" sheet fin & rudder shaped & sanded
hardwood reaction block
ply support
ply wing mount
slot for aileron bellcrank mount
3/32" sheet full depth spar
NOTE all surfaces hinged with nylon strips
3/32" sheet top & bottom of wing
1/8" sheet balsa false L.E.
1/4" sheet balsa L.E.
3/32" balsa 2 off
elevators 3/8" balsa sheet
3/8" sheet tip
3/8"sq T.E.
scrap balsa
3/8"sq L.E.
NOTE no dihedral on wings
1/16" sheet tailplane top & bottom
soft block tip
tail ribs from 1/16" balsa sheet 2 off each
90° bellcrank
steam bend spar
landing gear mount
hardwood reaction block
1/4" balsa sheet
nylon horn
hard balsa block
beech block
position of block
NOTE

SPECTRE

Continued from page 199

for the record. After completing the sides, doublers and 45deg. fillets, I cut the ply bulkheads out, drill them where necessary and fit the beech block wing retainer to the rear one. Cut to shape the first top sheet then, in one fell swoop, glue the top, sides, bottom and bulkheads together, holding with pins and elastic bands. Before putting aside to dry, I give all bulkheads a *finger* fillet of Araldite. When dry, I fit bearers (if used) top sheet, nose blocks and wing fairings, and the fuselage is now ready for rough shaping. Before completing the nose block, don't forget to fit the nylon blocks for the steerable nosewheel, or Franklin mount, depending on what you decide to use.

If you are using a Merco 61, you will probably use a 10oz. tank but, for a thirsty Veco 61 or Rossi 60, a 16 oz. one is needed. Whatever you use, cut the centre bulkhead to match the tank. The fuselage is now ready to accept the stabilizer and fin, construction of which is well covered on the plan. I have broken away from my usual 45deg. mounted engine and gone to side-mounting for two reasons. One is that the silencer on a side-mounted engine is well down and throws the exhaust dirt under the wing and away. The other reason is that it gives the aircraft a much neater profile appearance. It's just as easy to start, too.

Finishing

I have also broken away from the traditional nylon covering and used tissue. I have found this strong enough and just as hard wearing as nylon. A good point about tissue is that if you happen to do something silly with your aeroplane a crack shows up distinctly but, with nylon, it doesn't —and you will probably go on flying with a badly damaged wing and not know until it folds up in the air! This is not theory—I have seen it happen many times. Brush on two coats of sanding sealer rubbed down with a very fine wet or dry paper—I use it wet. Then two spray coats of "Spragloss" nitro-synthetic enamel white. (Made by Valentine and available from most motor trade suppliers. Trim colour is made by the same people and they have a vast range of colours.) All thinned down with a good quality fast drying thinners. This method is inexpensive—a pint of white costs 9s 6d. Thinned down 50 per cent This will do three models. Finish off after applying transfers, with H.M.G. Hot Fuel proofer. A cockpit canopy is a "must" for this or any aircraft of this type, in my opinion, and there are plenty to choose from in the shops.

First flights

There have been many articles in magazines about trimming and flying R/C aircraft, some good and some not so good. The point is that no two aircraft fly alike, and, once you get your shining new model in the air, you forget what the man said and fly it your own way which is, let's face it, the right way. I am not trying to tell you how to fly *Spectre*, but I will say a few things about the first flight. For proportional users—have plenty of movement on all surfaces. For reeds—keep it to a minimum for the first few flights, feed in some down trim and give the engine all the power it can muster. You won't need it, but it will get you out of trouble better than four-stroking. Once you have gained some height and got the feel of *Spectre*, turn the power down and start lowering the flaps. Then notch the power back until the aircraft appears to hover, start your approach and drop the power slowly until she begins to sink. Continue dropping the power and using elevator (or trim, for reeds) until the nose is well up. Feed in throttle if she sinks too fast. This may sound difficult, but really it is easy and, with practice, you will wonder how you ever managed without the flaps! They are now standard equipment for me on all my aircraft. To quote RADIO MODELLER—"Flaps will soon become as commonplace as trim on reed models, though that was quite a luxury at one time." At the time of writing this article I am constructing an 8ft. wingspan version of *Spectre*—with flaps, of course.

Have a go with *Spectre*, you will enjoy flying it. I do, and it is my competition model for this season—that is, until big brother is finished.