

This is my first kit review and I must admit that I am looking forward to carrying it out. What are my qualifications for carrying out this review? Well, nothing spectacular. I am an average modeller and club flyer. I have built many hundreds, perhaps thousands, of models, ranging from indoor microfilm jobs through to large scale RC aircraft. So I'm no expert, but I am competent and experienced.

Well what about this kit; the Super Hots, from the American Midwest stable out of the UK Chart Hobby Distributors. First impressions were mixed. Upon first viewing the picture on the front of the box, I thought, 'what an ugly looking duckling'.

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Just by looking at the plan, I can see that it is obviously going to be an excellent flying model. It has all the right ingredients: a thick, soft symmetrical sectioned wing, of low aspect ratio and constant cord, mounted right on the thrust line. This will make it track straight and roll accurately through its thrust line axis, have a very wide speed range (with a good motor), have very predictable handling habits and a soft stall, have a high roll rate but not be too twitchy on the elevator. Another good feature is that the undercarriage is fuselage

# MIDWEST SUPER HOTS

**An entertaining 54 inch wingspan sports model for either .45 - .75 two-strokes or .60 - 1.20 four-strokes. Reviewed by David Biddington**

Upon opening the box I thought 'what a fine kit it is'. These initial impressions were confirmed by two of my modelling associates, who 'opened the box' with me. The die cut parts, and there are a lot of them, are all very crisply cut; no die crunching here. The plans are clear, comprehensive and, very important this, rolled. Finally, and without doubt, the piece de resistance, the instructions. To simply say that they are comprehensive is to undersell them. They are without doubt the best I have seen in a kit like this. They come in the form of a 32 page A4 size booklet, containing a parts list, equipment re-

quired to build list, covering essential and desirable items, step by step building instructions and many many specific and general building tips. This will ensure a long life for the model, it will not try to rotate until the correct flying speed has been attained, and it will resist those untidy bouncy multi point arrivals, which some call landings. Yes, I like the way I think it will fly! Indeed I expect it to be a cross between a trainer, a rat racer (remember those you ex control liners) and a big club 20 racer. I think it will be delightful for spot landings. I have already promised to land it so nose high that the tail wheel touches first. I hope I'm going to win that bet! Well, let's get on with it.



## Construction

Construction itself is very conventional and simple. Anyone who has built a previous balsa and ply type of model will have no difficulty. Indeed you will probably find that the comprehensive instructions will slow you down. For those who have never built a model before, the instructions will carry you through without error; though you shouldn't be building this as your first RC model.

Although the instructions, being from an American stable, guide you to use super — cyanoacrylate — adhesives, from slow set to quick set with accelerators etc, I built mine using white PVA wood glues for the majority, plus a little 5 minute epoxy on hardwood and ply joints and the usual impact adhesives for the ply to

*Your reviewer looking somewhat apprehensive as the model makes a low pass!!*



ply fuselage reinforcement panels. Even with these adhesives, the model builds very quickly. I had the whole basic model built within eight building hours.

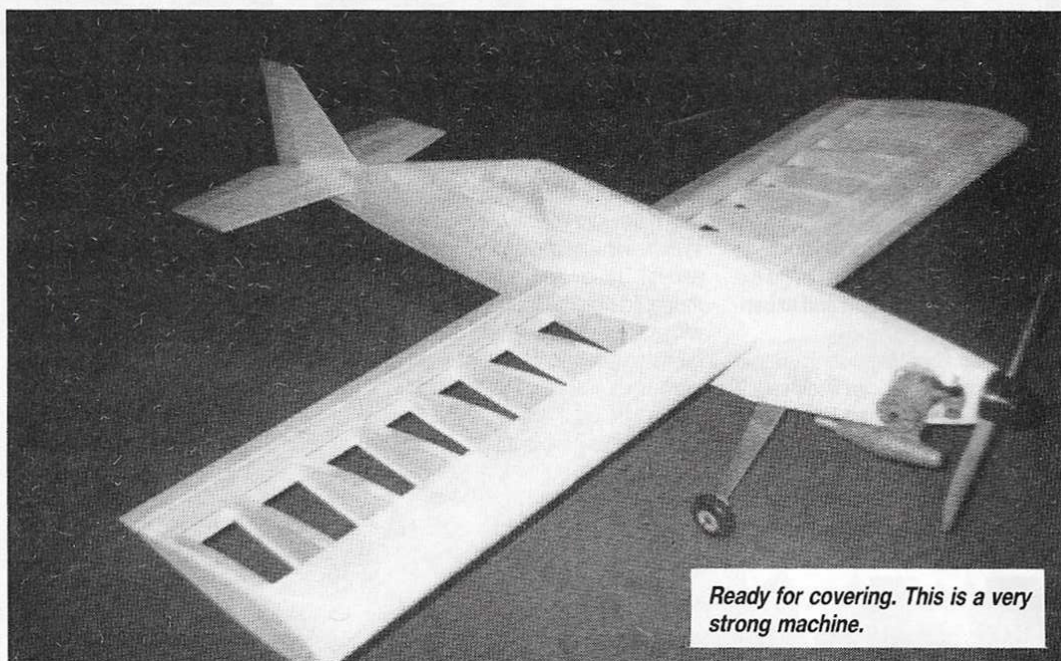
I, like most experienced modellers, have my own tried and tested, favourite methods of doing things. However, for the purposes of giving a fair review of the kit, I kept rigidly to the instructions and plan, except for the aforementioned use of adhesives.

I have two negative comments to make about the kit. They are: that although all the wood in the kit is excellent in quality and the way in which it is cut and presented, some of it was, in my opinion, excessively hard and heavy. This fault was mainly associated with the wing sheeting material, which was so hard that I could not bend it around even the soft contour of the rib shape, without wetting, mass pinning and reinforcing with masking tape. This resulted in a wing which weighed in at 1lb 10oz bare; i.e. without any superstructure, ailerons, covering or servo rails etc. Secondly, I was surprised that for a kit of this price, it contains no motor mount, wheels, tank, spinner etc. However, it has a hell of a lot of good points, so read on.

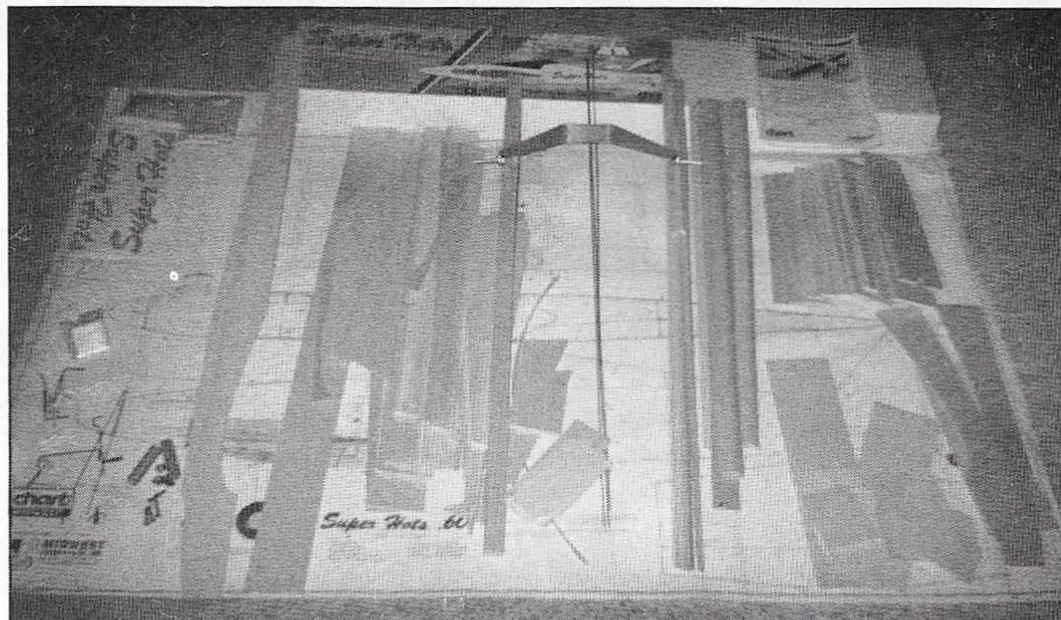
## Building

Well, what can I say. It's all in the instructions. The wing is jig built — materials for the jig are included. Just read the instructions and you simply cannot go wrong. I did not like the wing bearing blocks in the fuselage or the wing hold down blocks in the wing trailing edge. These are made of 1/4 inch hardwood and I feel that with their uni-directional grain, they could split under the pressure of overtightened wing hold down bolts. I replaced these items with good quality five-ply plates of slightly larger dimensions. I also thought that the wing strengthening in the centre section was a little 'over engineered'. You could use the wing as a Bailey bridge. Still it's better to err on the side of safety, so I built it according to instructions. There is no doubt that with this wing and a fuselage which is mainly of ply, it's going to be a very strong and durable model.

The method of cowl construction was a little strange. It entails installing the motor on the front bulkhead, sticking a couple of ply spinner rings to the back of the spinner and then in-filling with sheet and triangle section balsa. Then take the engine out and carve to shape (the cowl that is!). Still it works well and bearing in mind the range of engine sizes recommended, is probably the best solution to the problem. I must say though that I have considerable re-



Ready for covering. This is a very strong machine.



servations about the model's ability to absorb the torque of a 1.20 four-stroke motor. Still, I suppose some people have a sense of adventure!

## Finishing

I used iron on film to cover and trim the model, sealing joints with the appropriate film sealer. The engine and fuel tank compartments were given several coats of polyurethane varnish. One surprising thing about this model is, that although the fuselage looks very deep, the actual area for the radio installation is quite limited and, therefore, has to be thought out a little carefully. By burying the aileron servo very deep in the wing and putting the elevator and rudder servos as close to the side and as deep down in the fuselage as possible, no snags occur. I usually encase both my receiver and battery pack in turbes of high density foam. There being insufficient room for this luxury, I resorted to other methods. I

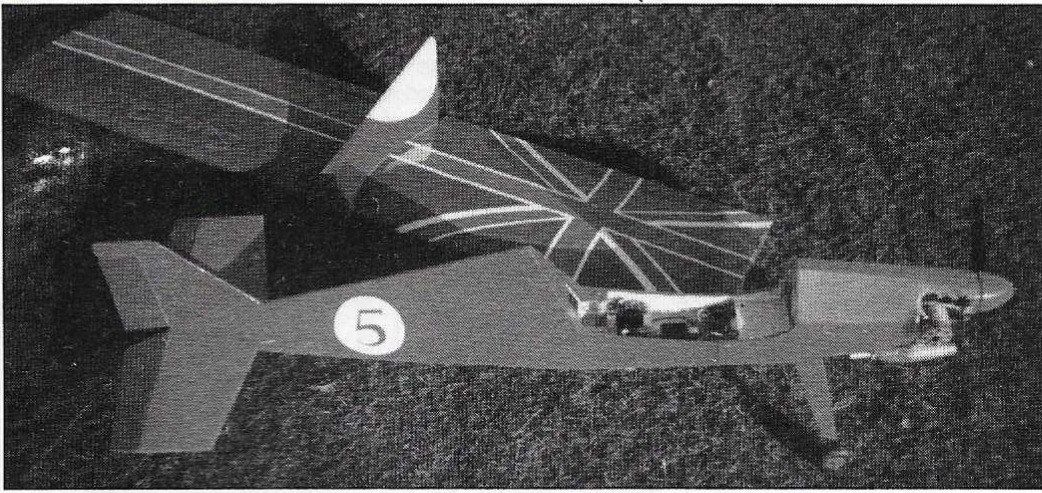
don't like to risk having my battery pack move in flight, so my method, was to 'stick' the pack into the fuselage with a good thick coat of silicone rubber. By putting this in a corner, the silicone adheres to both the pack and the fuselage on three sides. This is the least obtrusive method of installation possible. I have used this method before, on an excessively fast flying wing, so I know it works. The only thing I would recommend, is to make the bead of silicone, between the fuselage and pack, good and thick; it has to absorb a good deal of vibration. A balsa panel was then siliconed over the top of this and to the two sides of the fuselage. This left a void for the receiver to be installed, in a sandwich of foam. This also allows all the servo wires etc. to be poked out of harm's way. I don't like to have anything slopping around which could snag any of the servo output arms. The radio installed was Futaba and the engine, ap-

*An excellent rolled plan and instruction book plus quality wood stock are to be found within the kit box.*

propriately, an American schnuerle ported Kraft 61.

After the installation was complete the model was weighed. It came out at 7lb 2oz. The next job was to balance it all up. Unfortunately the heaviest wing panel was on the same side that the engine pokes out. To obtain a perfect balance necessitated 2oz worth of weight being installed in the opposite wing tip. Thus, the final all up weight, dry, came out at 7lb 4oz. This gives a wing loading of 23.8oz per sq. ft.

Although you may think that putting 2oz of ballast in a wing tip is a bit O.T.T., I can assure you that it is worth getting the balance right. On large stretched out loops, stall turns, all big vertical manoeuvres and particularly when flying very slowly, it makes a considerable difference.



Although the fuselage looks very deep, the actual area for the radio installation is quite limited.

### Per Ardua Ad Astra

I cycled all the batteries, then fully charged them. The chosen day for test flying came, so off we went to the flying field. I say field, it's actually common ground on Bodmin Moor. Unfortunately half of the rest of Cornwall seemed to be there as well; footballers, golfers, kite flyers, horse riders, motorcycle scramblers and go-karters. This didn't seem to worry the other model flyers, but it certainly worried me. Model aircraft are potentially lethal and should be treated as such. So I contented myself with setting the engine up, to perfection.

Finally, a perfect day presented itself; clear bright skies and a bitterly cold force 6-7 wind, — ideal! Ideal that is, because there was no way that anyone else would be out on the moors enjoying themselves. So, off we went and sure enough, apart from a few sheep, it was deserted. So out

came all the flying clobber. I fuelled up, (the engine — not me!) checked the range, re-checked all flying surfaces were correctly connected and switched the rates to on. After a couple of quick flicks, the trusty old Kraft burst into life. A final check of the control surfaces, open the throttle and off she went.

Now you have probably heard the old cliché, 'it flew right off the building board', well, it could have. It certainly didn't travel very many inches before it *leapt* into the air. The force 7 westerly probably helped somewhat. Out she climbed, straight as a die. Not a single degree of trim was necessary on any control. That's what happens when a model is jig built and properly balanced. Okay, let's put her through a few manoeuvres. Loops — beautiful. Bunts — same. Spins — clean and easily recovered. Rolls — linear. Four point rolls, eight point rolls, slow rolls, rolling circle, rolling loop, all no problem. Slow speed handling — very very good. It flies backwards quite

easily in this wind. Right let's check the stall. Back off on the power, raise the nose as speed drops, more nose up and still more. Flying backwards now (relative to the ground that is), nothing exciting, just mush. It still responds to rudder, elevator and aileron. Not a hint of a dropped wing, just a slight lowering of the nose every second or so, still to a nose attitude and recover. See, told you that balancing pays off.

Okay, let's land it then, the old stick stirrers are getting decidedly cold and stiff. Glide, very flat indeed. Nose up, a little power, nose up a little more. Using the wing as an air brake against the power now and yes the tailwheel touches first, well before the main gear. Not bad for a first flight

in a near gale. George! — Ken! — you owe me a pint!!

To sum up then. This is a fairly expensive kit for what it is. The instructions, plans and for the most part, the quality of wood, are all quite superb. The flying characteristics are exactly what I anticipated they would be, i.e. *excellent*. The space for the radio installation is somewhat limited, but easy enough with a little thought. I still think it's a touch ugly, but at least it doesn't look like 'the rest'. In fact with a good paint scheme it shows a bit of character and then grows on you, much like a Morris Minor or a Beetle.

Without doubt its greatest attribute is its flying characteristics. It will fly every manoeuvre in the book and yet will land at a walking pace and is very responsive and predictable at all times. It definitely engenders a feeling of confidence. I would recommend it for anyone who wants to progress onto an aerobatic aileron trainer, provided that they have an instructor with them at first and to anyone else who wants a real good time flying a model that will do anything that *you* are capable of.

Post Scriptum — When I have used the term 'we', as in 'we went out to the flying field', I mean my long suffering wife Marilyn and myself, not the Royal we. Thank God I remembered to put in this caveat! Good flying. □

Mrs. Biddington seems to prefer the underside colour scheme!

