



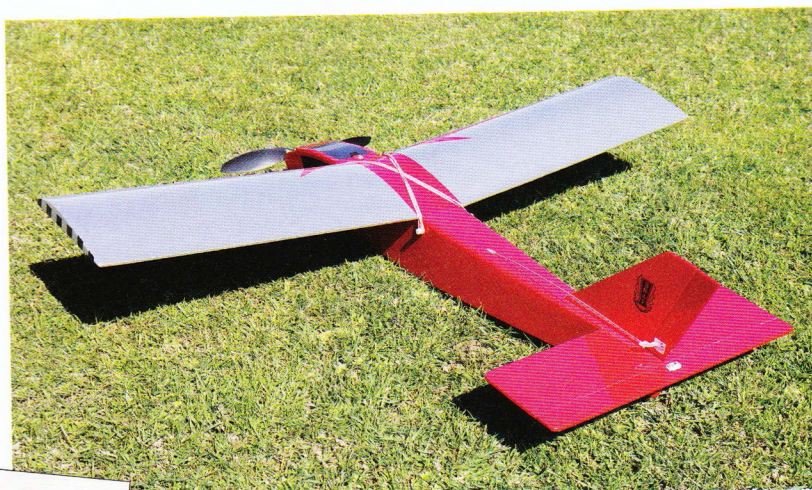
Sleeker

DAVID ASHBY DISCOVERS A FINE LITTLE SPORTSTER AFTER GRABBING POPS' PLAN TO CURE A BIT OF WINTER SHED DESPONDENCY

Tradition dictates that Sleeker receives a tissue finish although it doesn't look too shabby in film.

Sleeker, a 32" span single-channel sportster, appeared in RCM&E's May 1968 issue. The design is credited to Peter Cook too although dad designed it and Pete built the first example. It first flew in 1965 spanning 24", but grew to span 32" in time for publication. I'll be honest when I say that I grabbed the plan and started building to cure a bit of boredom on a wet winter's day. It looked like a quick build and certainly was, but the big surprise came when it flew; fly it did rather well.

Although it's a great sportster,



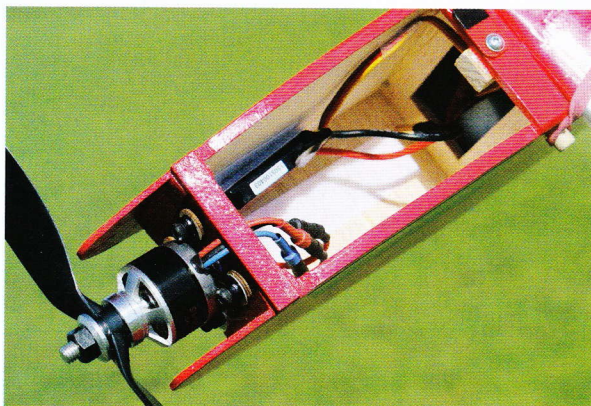
Sleeker was designed with single-channel spot landing competitions in mind, the sort that were popular in the mid-to-late 60s. The design is very much of its time—for an .049 engine, it was compact, cheap to build and pretty easy to repair when single-channel button-pushers ran out of talent. Not that I wanted to push buttons—2.4GHz proportional rudder, elevator and throttle would be a prerequisite minimum, electric power too. The basic design lives

up to the name, it's pretty sleek and good-looking but the bits that detracted from this had to go—wheels and tail bands. Without wheels belly landing would do the stab' no good either so that moved up to sit on top of the fuselage.

WING

The wing is fully sheeted and dead simple to build—just lay down the bottom sheet, pop on the leading edge, add the ribs, including the thicker root ribs at the correct dihedral angle and add the tips and top sheeting. I made a thin ply rib template and then used this to cut out all the ribs I needed.

You'll need to splice some sheet together



A battery hatch should be easy to create, mine is retained by a small tab. A 3S 850mAh LiPo slips easily inside.

Don't ignore the suggested motor thrust lines.

for the required cord and extend the rib positions beyond the plan so you can see where to put them when the bottom sheet is down. The halves can be separated, the roots sanded flush and then the halves re-joined at the root using epoxy. There's no joiner to add strength nor is it necessary if the wings meet flush, so don't be tempted to add unnecessary weight in this respect.

TAIL

The sheet stab' and elevator use some hardwood for strength and I followed the plan but I'd be tempted to extend these reinforcements further as the 1/8" sheet is easy to warp if covering with film. I increased the elevator area so it's 20mm wide, just to ensure its effectiveness. As mentioned I put the stab' on top of the fuselage without a second thought, then realised I'd overlooked incidences, but I needn't have worried, the effect of (what seems to be) a little positive incidence at the tail is difficult to discern in flight.

FUSELAGE

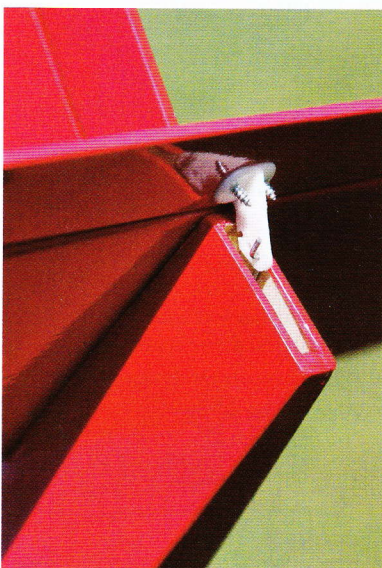
Again, simplicity is the theme thanks to sheet sides and rectangular formers. A strong box is the result. Some formers will need alteration – F3 could be ignored in fact as it serves little purpose and F2 will need a cut-out in the centre through which wiring can pass.

With no undercarriage to support I ignored the bottom ply doubler at the nose and the main u/c retention dowel. I left a gap right at the tail through which the elevator push rod could pass too. Micro servos for both the elevator and rudder live under the wing, my rudder pushrod leaves the fuselage a little earlier than it could do so I'm sure others will make a neater job or run the rudder connection through to the tail's end to emulate Sleeker's original single-channel design.

Crafting a nose hatch for battery changing was easy – I made two curved ribs using the plan side view, added oversize sheeting before trimming and sanding it to fit. Finally, I decided to use traditional bands and dowels to retain the wing, it seemed easier that way but, as I say, a removeable stab' wasn't necessary, so



It's a compact little model, perfect for the park or just about anywhere.



paint – it'll look nicer and protect the balsa from moisture ingress.

POWER SYSTEM

It's important not to ignore the side and downthrust mentioned on the plan. Naturally, I decided to ignore these, but had to make amends using washers behind the motor x-mount after the first flight.

My power system is quite beefy, massively so in fact – a 2826-size outrunner spins a 9 x 4.5" GWS-style prop with power from a 3S 850mAh LiPo via a 40A ESC. Again, it's what I had to hand although a bit overkill really with a static figure of 170W (15A) for this 1lb model.

A true scrap box special, I just used the hardware I had lying around.

this was covered first, then attached.

COVERING

A scrap box special, my Sleeker was covered using a few spare bits of silver and red Oracover with black Solartrim for the cockpit areas. The SMAE logo I found after a quick Google search before printing it onto clear self-adhesive film.

The motor area benefits from a coat of





My model is a bit over-powered, no, make that quite a bit!

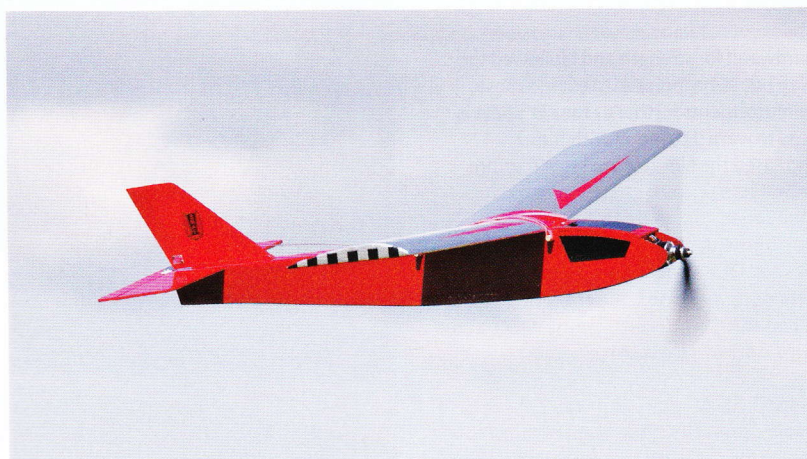
Still, full throttle is rarely required and Sleeker does fly well at faster speeds, although it's just as nice pottering around in relaxed style too.

Without wheels and u/c reinforcement it wasn't a surprise to find that my model, at 1lb (450g), weighed in under the 190z (538g) original.

SLEEK STREAK

Suffice to say that, with a power-to-weight ratio that wouldn't shame a pylon racer, my Sleeker gets away easily from a hand launch. If you've never flown a rudder/elevator model before then it's worth taking time to appreciate the rudder's effectiveness, especially if pulling a roll – practice the aerobatics at height before lowering the ceiling. What's struck me though is just how comfortable the model feels. It's predictable, turns are smooth and the speed envelope wide. Very wide when the tap is opened – a ballistic Sleeker may upset single-channel purists but it's great fun to fly and impressively composed.

With dihedral such as it is, not



COF G & DEFLECTIONS

Strangely, the C of G wasn't mentioned on the plan or in the 1968 build article, but an 850mAh 3S pack balanced my model at 50mm back from the l/e at the root (just under 1/3-cord) and this has been fine.

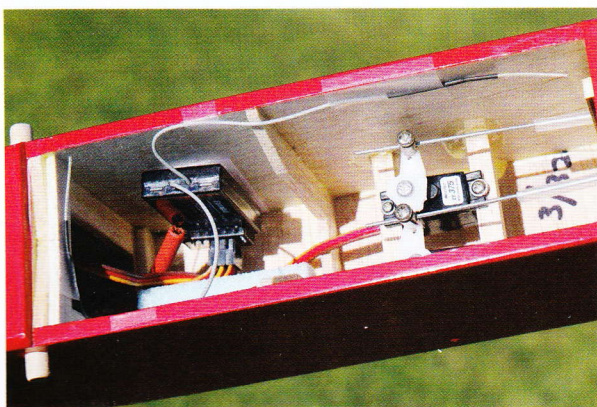
My suggested control surface deflections are:

Rudder 15mm +/-

Elevator 10mm +/-

Exponential and/or dual rates shouldn't be required but can be adjusted to suit.

Under the wing there should be plenty of room for a couple of micro servos and the Rx.



unexpectedly inverted flight doesn't feel so comfortable, but that won't matter as you'll be so happy pulling big loops and learning to fly axial rolls.

To be honest I could easily prop-down and still enjoy a good burst of speed but the big flexible 9 x 4.5 makes a nice whistling noise in a dive, so I've left it be.

BUILD IT!

I've been very pleasantly surprised with Sleeker. Sure, my contemporary take

dispenses with the features some may consider authentic and essential but, at heart, it's a good looking, easy-build model that'll use up a few scraps of balsa to become a handy little park flyer or sport hack. I'd expected to fly it a few times before it became a dust collector, but it's a model I keep coming back to for a quick blast at the start of a flying session, usually before I fly something more elaborate. A bigger Sleeker would be nice too don't you think? Hmm, something for next winter perhaps. ➔