DOUGLAS DC-3

CRAMMING THE FAMOUS DAKOTA'S CHARACTER INTO A 72" SCALE MODEL ISN'T EASY, BUT TONY NIJHUIS IS THE MAN FOR THE JOB

If this doesn't stir something in you, then you can be human!

Choosing a new subject for a model is never easy, so, as some of you may know, I like to ask around and get a feel for what might interest other modellers: "How about a nice B-17," I enquired, "or perhaps a Wellington?" Of course, the great thing about this sort of informal poll is that you can always ignore the results. Now, initially, when various parties suggested a medium-size Dakota, I don't mind telling you I exercised my right to selective hearing because, to be honest, it wasn't anywhere near the top of my wish list. Our editor, however, wasn't willing to be ignored...

DROIT DE SEIGNEUR

Mr Ashby, it seems, is rather a fan of the DC-3 and, like it or not, I have to admit that its long and diverse history does lend it a certain cache - for a commercial aircraft, that is. Although the design is approaching its 60th anniversary, the Douglas continues to operate in all corners of the world, and has achieved an almost iconic status. It's hardly surprising, then, that so many flyers want a model of the Dakota. On the prototype's maiden flight, for instance, when it was still uncovered, with unfinished nacelles and a plant-pot stuck on its nose, the Dak' was recognised with affection by the first modeller I met. "Oh, a Dakota - that's nice. I remember jumping out of one in '44..." You get the picture. The upshot of all this is that Graham got his way, and his DC-3.

TO SCALE OR NOT TO SCALE

The plans for our Dakota started life as a three-view drawing that I scanned into Autocad to give me a true outline as a reference for the construction drawing. There were only two areas in which I found it necessary to deviate from a scale outline, and these were the engine nacelles, and the retractable undercarriage.

The nose section and cockpit moulding is a real labour-saving item, especially when you consider all those nasty compound curves!

Nacelles have been moved very slightly outboard to accommodate suitable electric flight props.

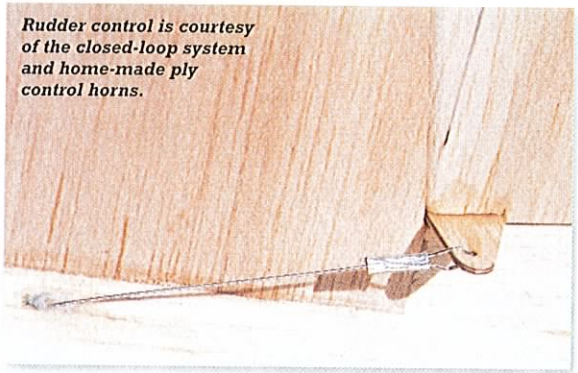
Early on in the design, I realised that scale nacelles would be quite small and too close together: the distance between the centreline of each nacelle and the fuselage would have restricted the propeller size to 9" (200mm). Now, this may have been fine for i.c. flyers (the DC-3's designed for use with .15 - .19 i.c. engines), but I calculated that a geared electric model would need a 10" (225mm) prop'. So, the nacelles were extended out-board by just over an inch.

When it came to the retracts, I'd hoped to enlist the help of Unitracts, as I thought the gear that the company built for the large J. Perkins DC-3 some years ago could have been adapted to produce an undercarriage package for this smaller model. Unfortunately, Unitracts' busy schedule scuppered this idea, so I experimented with a standard Spring Air retract set-up combined with a home-made leg-break mechanism to make the wheels retract upwards and forwards in that characteristic DC-3 manner. Producing a scale action, however, proved more difficult than I'd anticipated, and was certainly a more onerous task than many modellers would want to take on. In the end, I settled on a compromise: a standard Spring Air mechanism that retracts a fixed length leg forward into the nacelle. To make this work, the gear had to be moved back towards the main spar and the legs raked forward to keep the wheels in front of the C of G position. From its extended position, the gear rotates through just 45 degrees to seat the wheels snugly behind the motor firewall. Of course, you could avoid the issue altogether and fit a fixed undercarriage, but it won't look half as good in the air, and the extra drag will be a real disadvantage, especially for an electric-powered model.

KEEPING IT SIMPLE

Now, as many regular readers of my plan features will know, I prefer not to complicate matters, especially in a scale design. This is principally because I don't like anything that takes too long to build, so I was filled with dread at the thought of having to build the Dak's round fuselage, those tapered wings and the big wing-root fairings. However, there was no way round these assemblies if I was going to make an acceptably scale job of the model. Never one to re-invent the wheel, though, I drew on the Top Flight DC-3's approach to the fuselage construction, and built it in two halves that are assembled over the plan and then joined together.

One of the plus points about this type of fuselage construction is that, within reason, it allows you to position single or multiple packs of batteries anywhere within the fuselage with very little modification. This gives you the scope to really push the envelope when it comes to the size and type of

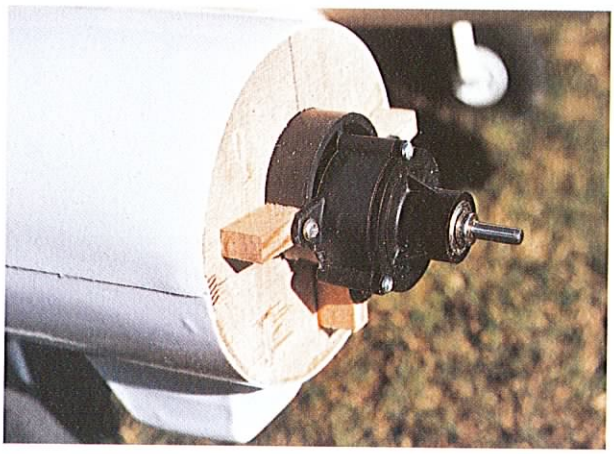


Rudder control is courtesy of the closed-loop system and home-made ply control horns.

electric motor that you use, letting you fit anything from simple 600-types to all-singing brushless motors.

I must admit, though, I drew the line at making the engine nacelles and the nose: they have too many compound curves and bendy bits for my big thumbs. I opted instead for vacuum-formed parts which, of course, will be available for purchase from the Nexus Plans Service ('Hurrah!' I hear you say). The pre-formed nose not only simplifies the fuselage build even further, but also affords easy access to the flight pack in the electric version.

It's only the fuselage and wing, then, that are going to require your undivided attention and patience, and even then help is at hand in the shape of a pre-cut CNC rib and former pack. You really haven't any excuse for not building the model, so let's get going.



Prototype is powered by two standard Permax 600-7.2V motors inside a brace of MP-Jet 2.33:1 gearboxes.

Whilst actuation of the retractable undercarriage isn't exactly scale, they do at least look the part.

FUSELAGE

Start by pinning and gluing the top and bottom spines over the plan, then gluing all the half-fuselage formers - including the wing seat - into position. The $^1/_4$" (6mm) square longerons come next, remembering that if you're using 36" wood for these, you'll need to splice pieces together. Finish off the longerons with a quick sanding before starting the sheeting process.

On the plan I've shown the sequence of sheeting that I adopted, which seemed to reduce both the compound curves involved, and the number of pieces required. Even so, use only the lightest and softest wood for the sheeting, and make sure that you select the same grade of timber throughout, i.e. for both sides.

Sheet the top and bottom surfaces first, not forgetting to remove the pin that holds the spine to the plan; these pins should be relocated to the outside and secured through both the spine and sheeting. Continue by cladding the remainder of the fuselage half, but don't make up the fuselage wing fairings just yet.

When the sheeting is complete, remove the assembly from the board and start work on the opposite fuselage half; this is shown as a faint dotted outline on the plan. When you've assembled both panels, fit the control snake outers to their respective sides and then join the fuselage halves together. Now, take your time and sand the whole assembly smooth, relieving any high spots and treating low spots with lightweight filler. Leave the frontal area in a rough sanded state, though, until the nose piece has been fitted.

Once you're happy with the finish, mark and cut the slots for the tailplane and fin, both of which are made from $^1/_4$" (6mm) medium soft balsa. If you're intending to use a torque rod to link the elevators, ensure that you fit it before gluing the tailplane into position, having first checked its alignment with the wing seats, of course. To seat the fin you'll need to cut a slot in the spine, then proceed carefully to maintain vertical accuracy. Add the fin fillet, and then sand all the edges of the tail surfaces round.

Now, assuming you've bought the accessory pack containing the cockpit and nose section, plus the nacelles and cowls, you can trim the cockpit nose moulding so that F1 just fits within it. Then, pin F1 centrally over F2, drill two holes for the retaining dowels, and glue the dowels into position in F1. Finally, glue the nose onto F1 and trim off any overhanging plastic. You should now be able to fit the cockpit to the fuselage, using a sanding block to blend the two together. Unless you're building the i.c. version, the cockpit should remain detachable as it provides the main access to the flight packs; a simple elastic band and hook arrangement will keep it in place.

And that's the fuselage pretty much done. Time to move on to the wings.

WINGS

The wings are built-up affairs, fully sheeted over the wing ribs, and constructed in three sections - the centre-section, and two outer panels.

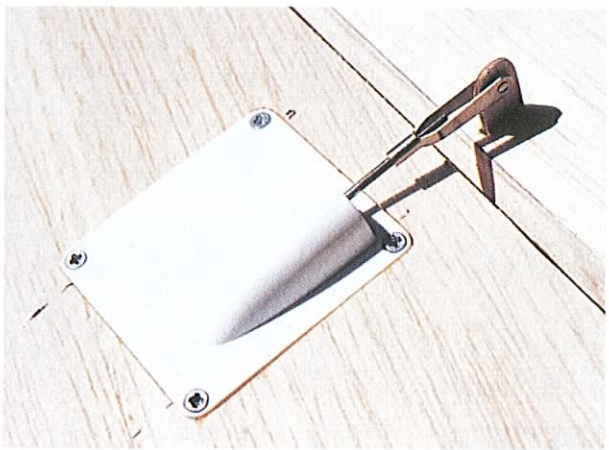
Starting with the centre-section, pin the lower front and rear spars to the plan, and then glue the ribs into

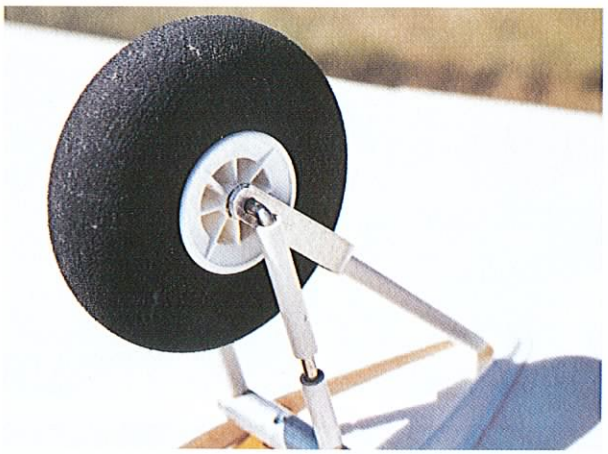
I don't mind telling you, a DC-3 was the last thing I had in mind when I questioned our editor on the subject of my next plan, and to start with, I didn't much care for idea. Now it's done however...

ORDER LIST

Item	Code	Price
Plan	RC2018	£15.75 plus £3.00 UK p&p (£5.00 overseas)
Mouldings	COWRC2018	£15.00 plus £3.00 UK p&p (£5.00 overseas)
CNC parts	CNCRC2018	£65.00 plus £5.00 UK p&p (£8.00 overseas)
DC-3 plan pack inc. plan mouldings and CNC parts	SETRC2018	£85.00 plus £5.00 UK p&p (£10.00 overseas)

To place an order telephone the Nexus Plans Service on 01689 899232 / 233





Aileron servo boxes are rather neat little items from J. Perkins, fixed using just four screws - one in each corner.

They look good, and they work! Retracts are standard Spring Air units with a few cosmetic additions.

position, remembering to angle the outer ribs to the correct dihedral. Next, fit the upper front and upper rear spars, the spar braces B1, B2 and B3, followed by the remaining rear part of the ribs. Add the inner leading edge and, once dry, remove the wing panel from the building board.

Now, using $^1/_{16}$" (1.5mm) balsa, begin to web between the leading top and bottom spars. Using a sanding block, carefully smooth the inner leading edge flush with the wing ribs, and relieve any high spots that have resulted from fitting the spars.

The left and right-hand outer panels come next, following the same build sequence as the centre panel. When you've built all three, join them together in preparation for fitting all the servo and power wiring, as well as the air tube if you plan to fit retracts.

To make things easier, the design uses micro-servos built into the wing to drive each aileron. For the prototype, I used the J. Perkins wing-servo mounting brackets and, as such, the plan shows details of this arrangement.

The wing can now be skinned with $^1/_{16}$" (1.5mm) balsa. There's no particular order in which to tackle this job, but the method that seems to work for me involves cutting all the sheets to size and shape using 3" or 4" wide wood, and then gluing the edges together on a flat surface prior to fitting the sheet over the ribs. You'll find that this makes the skinning process a lot quicker, and also allows you to sand the surface of the skin before it's fitted.

Once you've applied the top and bottom skins, trim all the edges flush and to shape. Fit the outer leading edge and shape it to the correct profile, noting that it tapers in thickness towards the tip. Giving the leading edge a constant size profile in this way does much the same job as building-in some washout, and reduces the risk of a tip stall.

The wing tips are made from two sheets of $^3/_8$" (9mm) balsa that are sandwiched together, cut to the correct plan shape and then, after being attached, razor planed to the wing profile and a smooth flowing curve.

The ailerons, meanwhile, are made by cutting their bottom sheets to size, then trimming and fitting their

leading edges at the angle shown on the plan; this incidence can be checked by dry-fitting one of the aileron ribs. Once you're satisfied, mark out and fit the ribs onto the bottom sheet and trim the top edge of the aileron leading edge flush with the ribs. You're then ready to enclose the structure with the top sheeting, which is trimmed to the final shape.

ROOT FAIRINGS

With the wing profile complete, you can make the fuselage wing-root fairings, beginning with the plywood base, which is cut out and glued into position. Use the wing to ensure that the base sits squarely with no gaps, then complete the fairing using a mixture of sheet and solid balsa as shown on the plan.

Next, secure the wings to the fuselage. I found that the best way to do this is to drill the two holes in the F4 formers for the wing dowels and then offer up the wings. Working through the nose to gain access to the inside of the fuselage, mark the location of the dowel holes onto the wing's leading edge. Remove the wing, drill the holes in the locations marked, and fit the dowels.

If you haven't already done so, fit the wing nut retaining plate into the fuselage, offer up the wing and - referring to the position indicated on the plan - drill through both the centre-section and the plate. After fitting the captive wing nut, check that it holds the wing securely.

Actually, while the wing's in place, you can also make-up and fit the fuselage underside leading and trailing edge fairings, and sand them to give a smooth transition from the wing to the fuselage.

NEXT MONTH

Well, that's enough to be going on with. We've still got to make the nacelles, then cover, paint and fit-out the model. Better still, we've got to fly her! So, buy all the bits you need then tune in next month and I'll tell you how well she goes.

WHAT COLOUR?

It's surprising that so many modellers opt to paint their DC-3s in olive drab and invasion stripes when there are literally hundreds of other colour schemes to choose from. I think, for example, that the Finnair Hewlett Packard scheme used by commentary-box wizard Colin Hammond on his large Dakota is absolutely superb: it brings the aeroplane bang up-to-date, and I just had to copy it for my model.

The decals for Colin's DC-3 were supplied by Pyramid Models, and a quick call to Lee was answered with a lovely set of decals scaled to match my 72" Dak'. Pyramid Models has now made the decal set commercially available, so give them a call if you like this contemporary look (see next month's contact panel for details).

I'm convinced that electric flight is the way to go for twin engine aircraft such as this. If you go to all that trouble building the DC-3 you really don't want the worry of losing it to an engine failure. Do you?

Why paint it olive drab when you can purchase a set of taylor-made Hewlett Packard decals and have it looking like this? Get 'em from Pyramid Models.

DATAFILE

Name:	Douglas DC-3
Designed by:	Tony Nijhuis
Aircraft type:	Near-scale electric twin
Wingspan:	72"
All-up weight:	7 lb 5oz
Power:	Permax 600-7.2V
Gearbox:	MP-Jet 2.33:1
Battery pack:	10-cell 3000mAh NiMH (HVHC)
Speed controller:	Protech 45 amp

DOUGLAS DC-3

IF THE RESPONSE TO LAST MONTH'S FEATURE IS ANYTHING TO GO BY, YOU'LL BE EAGERLY AWAITING THIS SECOND AND FINAL PART OF THE TONY NIJHUIS DAKOTA BUILD

Whilst I chose the Finnair scheme for my model there are literally hundreds of alternatives not to mention the C-47 cargo versions.

Don't feel obliged to cut out the window openings, stickers or paint will do almost as well!

When we left the building board last month, we'd got as far as fitting the wings to my 72" model of what everyone keeps telling me is their favourite commercial aeroplane. Now, it's true that I hadn't been keen on the idea of building a DC-3, in fact I even tried to ignore the pro-Dakota lobby from modellers in general and Graham in particular. Mind you, I have to admit that, as the aircraft began to take shape, she started to grow on me too. Ridiculous sentimentalism, of course. Let's just get on with it, shall we.

Since it flies so well the model will happily accept further detailing. Cockpit detail, Pitot tubes, doors etc. could all be added with ease.

ENGINE MOUNTS

As you can see from the plan, the first job is to cut away the leading edge between wing ribs W1 and W2, and then remove the upper and lower wing skin back to the main spar. With any luck, this will reveal the ends of the power wiring and the retract air lines. You're now ready to glue the ply nacelle sides NS1 in position on the wing ribs; they should also lock into the main spar to give the correct nacelle / wing angle (If you're building the i.c. version, trim NS1 to the length required to mount your engine). Next comes the round former N1, and the horizontal struts that brace it against the wing leading edge. The position of N1, by the way, has been designed around MP Jet's 2.33:1 gearbox, which relies on the off-centre hole in N1 to allow the 'box to be slid into the engine bay where it's secured to N1 with three screws.

If you're planning to fit retracts, then this is the time to make up and fit the appropriate mounts as shown on the plan, where - if you're looking for a scale appearance - you'll also find detail of the Dak's undercarriage leg. If detailing is not your thing, then take heart that a simple cranked wire leg will do just fine.

NACELLES

The pre-formed plastic nacelles have a lip around the wing profile, which not only makes trimming them easier but gives a good area with which to glue them to the wing. When you've cut out the flat area of the lower nacelle to allow the undercarriage leg and wheel to retract, you can trim your wire undercarriage legs to the correct length. Note, though, that the wheels don't retract fully due to the motor / firewall intruding into the wheel well. With the undercarriage areas opened up, there's plenty of access into the nacelles, so you can now glue the moulded halves into position, ready to receive the cowls. You'll probably notice that for the electric version, the plan shows the cowls fitted quite deeply over the nacelles. This has simply been done to give modellers some room for manoeuvre when fitting different size of motor or engine.

COVERING

Your choice of covering will probabl be determined by the colour schem you have in mind. If, for example, you're thinking of a standard base colour such as white or silver, then a regular iron-on film material will be fine. For the prototype's rather unusual scheme, however, I needed painted finish. Now, while my usual paint-over-film approach may give very good, light-weight result, there always the dreaded problem of the film slackening in hot weather. On t occasion, then, I decided to try an alternative - not tissue, as you might expect, but Flair Products' glass clo At 17gm / sq. m, this material is ver

If you fancy the Finnair finish you'll be pleased to note that a sticker set is available from Pyramid models.

light, and I kept it that way by applying it with Ronseal's quick-drying water-based varnish rather than the usual dope or epoxy.

Before covering, the airframe needs to be coated with a non-shrinking dope or sanding sealer to stop the wood absorbing the heavier varnish. This also helps to prevent the balsa skin from swelling and causing ripples in the covering which, experience tells me, don't come out! After cutting the cloth to size for each of the wing panels and the fuselage halves, I wetted its surface with varnish using a 4" mini roller. The cloth is then laid onto the airframe, and pulled into shape, before being thoroughly wetted with another coat of varnish. Don't be too concerned about any overhanging cloth - you can trim this away with a knife and sand the edges flat after the varnish has dried.

Plan to cover one side of each wing, and half of the fuselage, then allow the varnish to harden overnight before tackling the opposite sides. When you come to cover the remaining airframe, trim any excess material to a minimum and press the edges flat with the roller. You'll have to keep an eye on the edges, as they tend to come unstuck easier when using varnish than they do with epoxy. Finally, cover both sides of the tail surfaces at the same time, which will hopefully produce even shrinkage and avoid any warps.

Happy? Good. When you've finished, give the whole airframe a sanding and then apply a coat of varnish mixed with talcum powder, which will help to fill the weave of the cloth. If necessary, use a lightweight filler to close any untidy joints, and seal the filler with varnish.

Cut out the windows, seal their edges with dope or sanding sealer, and after a final rub down, the model will be ready for painting.

FINNAIR FINISH

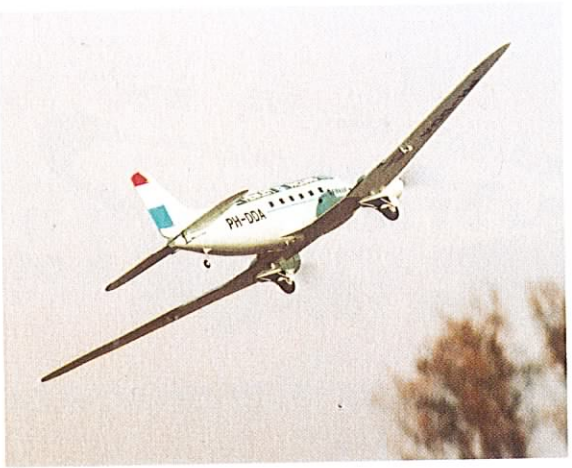
I sprayed the model with a cellulose primer, which serves to highlight any remaining imperfections in the covering. Then, when I was happy with the finish, I applied a top coat using Japlac International paint from B&Q. The prototype's colour is a combination of gloss white and British Racing green, mixed by eye, and thinned 50/50 with cellulose thinners ready for spraying. Even when thinned down, the Japlac gives excellent coverage: two quick coats did the job, and only added 4oz to the all-up weight. The detail on the wings, nose and cowls was then painted in good old racing green.

As I mentioned last month, Pyramid Models has produced a decal sheet for the Finnair colour scheme, and I think you'll agree it really finishes the model off a treat. For those who wish to follow suit, their telephone number is given in the Contacts box at the end of the article.

FITTING OUT

The radio and control installation is, for the most part, quite conventional.

Rather than my usual 'tissue and dope' method I opted for Flair Products' glass cloth on this one, applied using Ronseal quick-drying varnish.



Flying characteristics really are very sweet indeed.

On the prototype, however, I elected to operate the elevator halves using a double pushrod arrangement. To make life easier, I'd suggest you go for a single elevator pushrod and connect the control surfaces with a torque rod, as detailed on the plan.

If you haven't already done so, now's the time to fit the retracts and the motor / gearbox arrangement. Here again, you might want to improve on the prototype. My two Multiplex Permax 600 7.2V motors were connected in parallel with a 45amp speed controller, and while I estimate that the current draw during flight is no more than 30 amps or so, you might consider using a 50 or 60A controller, just to be on the safe side.

From what I can tell the adverse stalling effects of the tapered wing seem to have been offset by a thicker leading edge section.

FLYING

What is it they say - never rush yourself into the air? Well, they're right. The day that I first flew the unfinished model was the first decent day in a fortnight, and the last day before I went away for a two week holiday. So, full of eleventh-hour haste, I rushed to the local flying field and, after a pre-flight check, lined her up for take-off, feeling that familiar sense of foreboding that goes with any maiden flight of a new design. I knew my C of G calculations would be pretty near the mark, and that I'd set the throws to the maximum to give myself some leverage. As for everything else, well... I'd just have to suck it and see.

As soon as I opened the throttle the tail lifted, but a touch of elevator kept her from tipping forward onto her nose. As the speed built up, the rudder began to gain authority, though she tracked straight enough and needed very little correction. Twenty metres further on, I fed in up elevator and she lifted off and climbed away. After gaining height, the model was trimmed into-wind, calling for a fair amount of up trim, but needing no rudder or aileron trim to fly straight and level, hands off. The flip-side of this stability, however, was sluggishness, which I put down to a forward centre of gravity.

By the third circuit I found that maintaining height was becoming a problem, and decided to bring her around for a landing. At just that moment, though, the auto cut-off in the speed controller stepped in and turned the model into a glider that was heading downwind at an alarming rate of knots.

So much for being prepared with a fully-charged battery!

The forward C of G didn't help matters, and nor did the line of sma trees that I had to clear in order to bring the model back into the field. Fortunately, I still had good aileron and rudder control, and was able t make a controlled 180° turn before dragging her tentatively in on the sharp edge of a stall.

Although it wasn't the perfect ending to the flight, I had at least tested the model's handling in a dead-stick situation. Whilst I'd previously had concerns about the performance of the tapered wing i low-speed conditions (where they have a habit of flicking), the extra thickness built into the leading ed seems to have quite nicely balanc out any instability.

It was another three months aft this initial test that the finished m was ready for flight. During this t I found that I'd become rather attached to the Dak', and the prospect of doing something silly ruining it probably contributed t this delay. Finally however, curios overcame trepidation, and we fou

Cruising past with wheels tucked away the model looks every bit the classic '30s airliner.

Who'll be the first to make an i.c. version? Two .15 cu. in. engines should fit the bill very nicely.

ourselves at the Hastings Model Flying Club with the aircraft sitting on the runway facing the hungry teeth of a 15kt wind.

There'd been no mistake over peaking the batteries this time, but NiMH cells really need to be warm (30 - 40°C) for best performance. No wonder then, given the cold easterly that was blowing, that the motors didn't give quite the kick I was expecting when the throttles were opened. The take-off run, however, was uneventful: a slight swing to the left was checked with rudder, and she accelerated well, lifting off after around 20m. With the centre of gravity in the correct position, I found that you really need to be cautious with the elevators: it's easy to bring the nose up too far too soon, and push yourself into a stall.

As she gained flying speed, the model climbed at quite a rate even with the elevator stick centralised, and really demanded down trim.

After trimming her out and retracting the wheels, I backed off the throttle and settled into a cruise, feeling the batteries begin to deliver more power as they warmed up. The motors gave lie to their price and provided a comfortable margin of power that gave the streamlined model a respectable turn of speed.

Although the control surface movements remained unchanged from the test flight, they now felt much more responsive. You can make bank and yank turns with the Dak' if you want, and she responds with little in the way of tail hang. Adding some rudder, however, will really clean up the turns, especially in windy conditions.

By the time I brought her in to land, the wind had swung off the runway heading, and was beginning to gust. Even with a slight cross-wind, though, the Dak' proved very stable with only a slight tendency to weathercock, something that was easily countered with the rudder. Coming in to land a little too fast resulted in a bounce or two on the rather rigidly sprung undercarriage legs, suggesting that softer tyres or coil-sprung legs (and slower approaches!) would be a useful improvement.

WAS IT WORTH IT?

Oh, well, since you ask, yes. As I said, I designed the Dakota to answer demand rather than to satisfy any ambitions of my own. After four months' work, however, and not a few challenges, the finished model definitely justified all the effort. I'd taken quite a shine to her, in fact. It was unfortunate, then, that in a moment of weakness I gave in to the relentless pressure from editor and would-be Dakota owner Graham, and agreed to sell him the prototype. This being the case, what did I find myself doing the other night? That's right - building another one, just for me. When will I learn?

THE PRICE OF POWER

In the prototype, I used Multiplex Permax 600 7.2V motors, opting for a relatively cheap motor and gearbox combination on the grounds that, if a model succeeds with a low-spec' set-up, then performance and pleasure can always be increased by retrofitting a more powerful and efficient powertrain. And this was exactly how things turned out. Despite an all-up weight of 7 lb 5oz, the Permax motors proved to be a very good set-up. At cruising speed the current draw from each motor is no more than 12 - 15A, and after each flight the motors and battery pack are only slightly warm. Using Sanyo 3000HVHC cells, I've been able to push flight duration to seven minutes.

When you build yours, you'll find that the CNC parts have pared down the model's weight by stripping out excess ply from the fuselage formers. Even so, your model will still weigh around 7 lbs, so you may want to go for 600-size neodin or brushless motors. Either will give you greater efficiency or, in other words, a better power-output return, on your power-input investment. The neodin, for example, offers 70% efficiency compared to the 50 - 60% of a typical cheap can motor, while with brushless the efficiency approaches 90%. Of course, while these returns may make your batteries go further, the downside is their price: neodin and brushless motors can be five and 10 times more expensive than low-spec 600-size can motors.

CONTACTS

The Finnair decal set, including registration lettering, is available from Pyramid Models priced at £14.99. Tel. 01462 731562.

ORDER LIST

Item	Code	Price
Plan	RC2018	£15.75 plus £3.00 UK p&p (£5.00 overseas)
Mouldings	COWRC2018	£15.00 plus £3.00 UK p&p (£5.00 overseas)
CNC parts	CNCRC2018	£65.00 plus £5.00 UK p&p (£8.00 overseas)
DC-3 plan pack inc. plan mouldings and CNC parts	SETRC2018	£85.00 plus £5.00 UK p&p (£10.00 overseas)

To place an order telephone the Nexus Plans Service on 01689 899232 / 233

Dakota lovers can't fail to be inspired by photos like this. Go on, get that building board dusted down.