You will need

Balsa (all soft):	sheet	1/32", 1/16", 3/32"
	scrap	1/8", 1/4", 1/2"
Ply:		4mm small scraps
		1/8" Liteply (poplar)
Wire:	22 swg	1 length
Adhesives:		Pva and cyano
Paints:		Humbrol matt
		Tuffcoat proofer
Pencil:		White colouring pencil
Felt tips:		One black, fine tip.

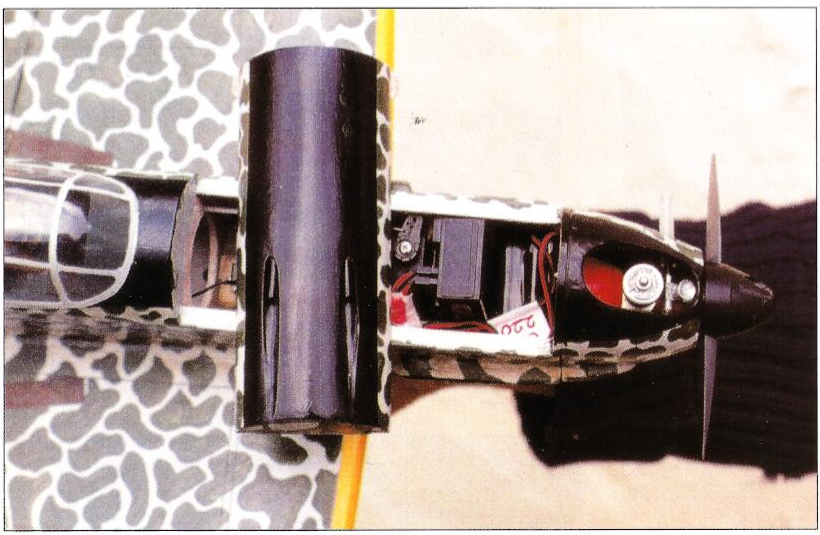
Plus a cockpit canopy, a lightweight 1.1/4" inch spinner cut down as described on the plan, and some red and white Fablon for the national markings.

build from our full-size **PLANS**

Kawasaki Ki 61-1 'Hien' (Swallow)

Paint and finish your 'Hien' before installing the radio gear. CG location is critical on little models like this and you can adjust it by shifting the position of the heavier items of airborne equipment.

When he's not building and flying monster gas turbine-powered scale jets and multi-engined ducted fan giants, aviation artist and aeromodeller extraordinary Chris Golds turns his hand to delightful little Cox-engined fun models like this!



When it first appeared over New Guinea in the middle of 1943, the Kawasaki Ki 61 was believed to be a licensed copy of the Messerschmitt Me 109. It certainly looked similar to the famous Luftwaffe fighter because the engine was a licensed copy of the Daimler-Benz DB 601. Its similarity to the newly emerging Italian Machi C202 lead to its chosen American code name of TONY (Antonio) and this was to stick.

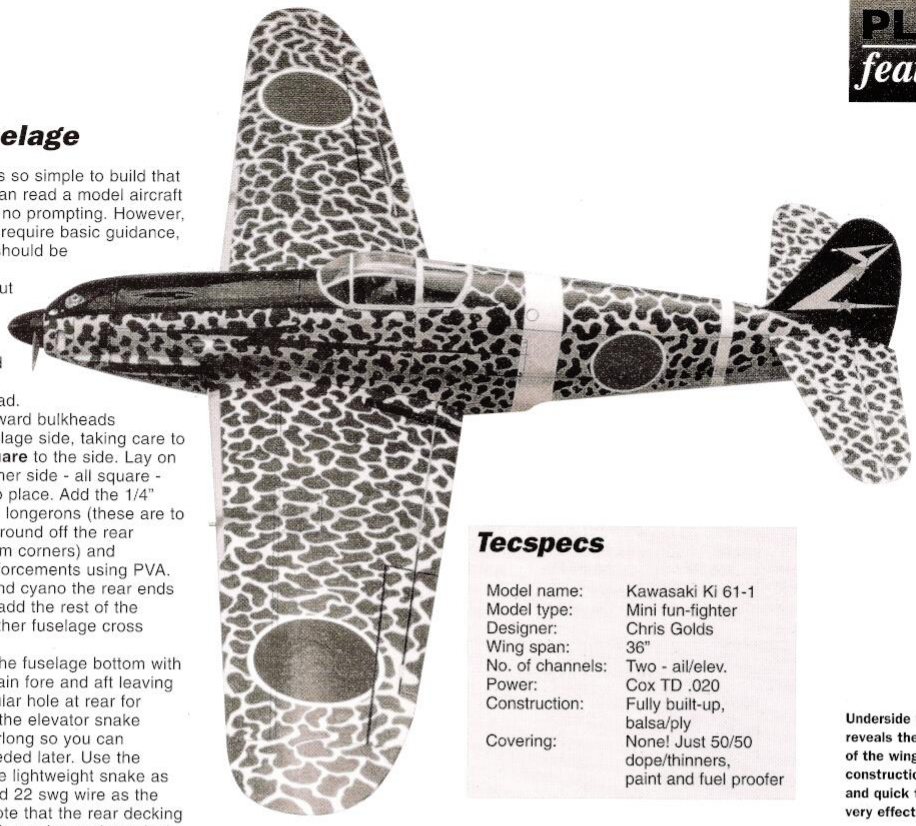
A beautiful aircraft with a wing loading of under 30 pounds per square foot, it was very manoeuvrable and fast. It was improved steadily until the end of hostilities but it was dogged by engine problems and lack of supply until it was mated to the plentiful radial engines available in early 1945 as the Ki 100, to become belatedly the best the Japanese Air Force had at the collapse. For us, it models well with its perfect proportions, sweet lines and colourful finish.

The fuselage

This model is so simple to build that anyone who can read a model aircraft plan will need no prompting. However, for those who require basic guidance, the following should be adequate.

Trace and cut out the 1/16" sides, the 3/32" bulkheads and the single 1/8" Liteply bulkhead. Cyano the forward bulkheads to the left fuselage side, taking care to glue them **square** to the side. Lay on and pin the other side - all square - and cyano into place. Add the 1/4" square bottom longerons (these are to enable you to round off the rear fuselage bottom corners) and triangular reinforcements using PVA. Next, add H and cyano the rear ends together then add the rest of the formers and other fuselage cross pieces.

Now cover the fuselage bottom with 1/32" sheet grain fore and aft leaving a small triangular hole at rear for aerial exit. Fit the elevator snake keeping it overlong so you can shorten as needed later. Use the inner of a white lightweight snake as your 'outer' and 22 swg wire as the new 'inner'. Note that the rear decking is provided with a spine and top deck mounting strips.



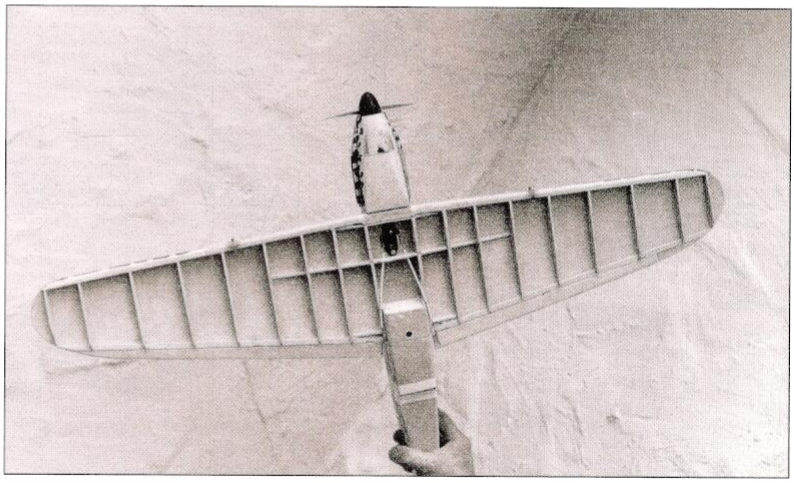
Tecspecs

Model name:	Kawasaki Ki 61-1
Model type:	Mini fun-fighter
Designer:	Chris Golds
Wing span:	36"
No. of channels:	Two - ail/elev.
Power:	Cox TD .020
Construction:	Fully built-up, balsa/ply
Covering:	None! Just 50/50 dope/thinners, paint and fuel proofer

Underside view reveals the simplicity of the wing construction. Easy and quick to build and very effective.

Tail feathers

Trace and cut the fin and rudder, tailplane and separate elevators. Replace tips with 3/32" x 1/2" strips to give cross grain strength. Sand smooth with rounded leading edges and tapered trailing edges. Check the finished fin and tailplane on the fuselage for **squareness** of sit and, when satisfied with the alignment, cyano all into place on fuselage - 30 minutes work. I used Kavan mini-hinges on the elevators and cyanoed them in place. I make a pin hole through the balsa surface and hinge blade and drop in a **little** cyano. **Precaution**: oil the hinge pins first to prevent cyano locking the hinge. I use 3 in 1 oil. Slide the elevator into appropriate position and cyano into place then check for hinge freedom. 15 minutes work.



Wing

Join two sheets of 4 inch x 1/16" soft balsa using Sellotape and obtain a **tight** join. Turn sheets over and cyano all along the join. Sand smooth and turn over again. Remove tape and re-cyano the join. Sand smooth. Trace and cut out the two wing panels. NB: sheet abuts the leading edge. Next, cut the 1/2" square soft leading edges, with trailing edges and all the ribs in 3/32". Pin down leading and trailing edges over the plan protected by cling-film, etc., then add ribs keeping rib bases firmly pinned to work board and cyano to the leading and trailing edges. Notice how the ribs provide the washout.

Now, thin bead PVA all ribs and front edge of skin and pin in place. Allow to dry completely (about five hours). When dry, un-pin and sand leading edge to conform to skin. Cut the dihedral brace from 1/8" Liteply and slot into centre section ribs. Slide the wing panels onto brace and cyano into place. Pin brace to workboard and add centre section leading and trailing edges. Cover wing centre section with .4mm ply grain across. Fill gaps in ribs 1-4, made by inserting dihedral brace with 1/8 scrap, and sand smooth. Time taken, about one hour.

Wing fixing is by twin 1/8" dowels and 3/4" self-tapping screw into 1/8" Liteply cross plate.

Canopy

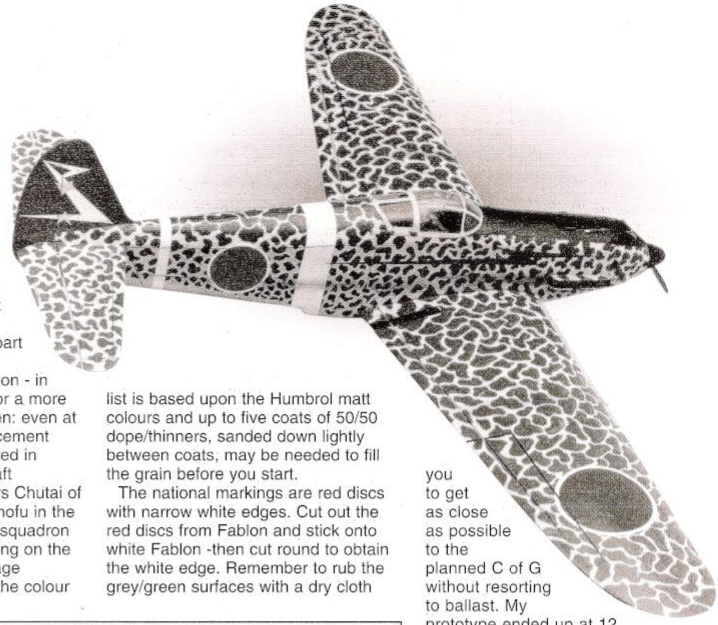
Build as shown on the plan: take care not to cut too much away when fitting to fuselage - remember 'cut and fit, cut and fit'. You could use a commercial canopy, about 5 inches ➤

long.

Painting

I have always loved colourful aeroplanes and, as an aviation artist, I occasionally get a commission with the words 'you choose the subject'. YIPEEE!!! With models, I get to choose **every** one I make and so colour plays a large part in my choice of aircraft. The Kawasaki Ki 61 is no exception - in fact, you could hardly wish for a more colourful aircraft than the Hien: even at the end of the conflict, replacement aircraft were still being sprayed in Squadron colours. Our aircraft belonged to the Headquarters Chutai of the 244th Sentai based at Chofu in the Tokyo province, and thus its squadron colour was blue, this appearing on the fin and rudder and the fuselage lightning stripe. Once again the colour list is based upon the Humbrol matt colours and up to five coats of 50/50 dope/thinners, sanded down lightly between coats, may be needed to fill the grain before you start.

The national markings are red discs with narrow white edges. Cut out the red discs from Fablon and stick onto white Fablon -then cut round to obtain the white edge. Remember to rub the grey/green surfaces with a dry cloth before sticking on the markings. All that remains is to smudge on the exhaust burns as far back as the fuselage red disc - but be sparing with this effect. Tuffcoat all over and thoroughly inside the cowling (Cox fuel - 25% nitro - will eat most paints unless well protected). Finish with thin panel lines and you are ready to fit the radio.



The amazing Mr. Golds with the prototype - and a glimpse of another full-size plan subject coming shortly! When he's not designing tiddlers like this he's beavering away on his next gas turbine project, a 9 feet long Supermarine Swift! It might have flown by the time you read this.

Area	Humbrol Tinle (matt) No.
Whole airframe (except fin & rudder):	Light grey 196
Fin & rudder/fuselage lightning stripe:	Blue 25
Fuselage top, sides: wing & tail upper sides all lizard mottled:	Green 86
Rear fuselage vertical stripes (forward wide, rear narrow), fin character:	White 34
Stars on fin character, wing inboard leading edges:	Yellow 154
Nose top, anti glare:	0Black 33
Exhausts:	Brown/black 29/33

Radio fit

Fitting the radio gear last allows you to get as close as possible to the planned C of G without resorting to ballast. My prototype ended up at 12 ounces ready to fly including 1 ounce of ballast (curses!) My total empty airframe, painted and proofed but without engine and radio gear, weighed 6 ounces so this should give you a lead as to eventual weights.

Flying

This model is strictly for hand launching in the accepted fun-fighter manner. Run the engine at home to get the best settings. For starting, my old faithful David Brock 6 volt mini-starter (soon to be featured in *RCM&E* mag., along with my special glow-clip idea for starting cowled Coxs) copes admirably. To hand-launch, grip the model with thumb and finger tips outside of each root rib just behind the C of G and launch slightly upwards **into** wind, over grass. **Do NOT** launch downwards at all as you will not have time to grab the stick before you hit the ground. **Or** get a good hand-launching friend (rare these days!) to do the job for you.

Now you're set for between 2 and 2.1/2 minutes of fun flying and a really slow landing with no tendency to tip-stall at the last moment. If you have enjoyed this unusual little model, keep your eyes peeled for some more to be tried this year, beginning with the Junkers D1 'Tin Donkey' visible in one of the photographs and, later, an Me 110 twin-engined fighter.

Happy landings and FLY SAFE!

Editor's note

Chris is planning some multi-engined scale subjects using Cox TD .020 power for future issues. Some of these will involve pusher engines (should be fun!) and here's where you can help. If you 've got any Cox TD .020 pusher props (three or two blade) lying around unused and unloved, Chris would be delighted to take them off your hands. Drop him a line via RM.