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SCALE GLIDER – PART 1**



VOL. 67 NO. 8 AUGUST 2024

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Welcome

Welcome to the August 2024 issue of RCM&E.

How often do you fly? More precisely, how many flights do you make in each session? Years ago, I used to lug one glow powered model and my flight-box across a field to my first model flying site and I considered myself lucky to get three flights notched up. But having mostly 'gone electric' these days I now take two or three models and far too many LiPos. My usual flight count is now four to six flights in a morning, which used to be fine, but now I'm cracking on a bit I find that I'm increasingly tired and achy after a session. And if I try to do an 'all-dayer' (as I did yesterday) then by the time the evening comes, I'm wiped out.

I've long suspected that I'm overdoing it, confirmed when I was enjoying a coffee break between flights and chatting to a couple of more laid-back clubmates. Conversation turned to the topic of 'coming flying' and I listened in disbelief as they both agreed that just one flight was okay, and they preferred to sit and chat rather than actually fly anything. With that, I somewhat sheepishly left them to it and headed out for what was probably at least my fifth flight of the day!

With all the preparation needed for a flying session I think that just one flight is probably a bit too minimal. But on the other hand, as I get older, I realise that I'm probably overdoing it and need to chill out a bit more. Maybe I need to go back to just one model and three charged LiPos to emulate my early glow flying sessions?

Right then, now's the time to see what we have lined up for you in this month's RCM&E. First, I want to start with Bench Blog, which will sadly be Tim Hooper's last column. I'm sure that, like me, our regular readers will be sad to see Tim clear his famous work bench. Tim signs off in fine style with a throttled diesel conversion of a KK Ladybird. Next is Chris Williams (Scale Gliding) who battles the dire spring weather to test fly his new T31 Tandem Tutor glider. In Make It Scale, Danny Fenton concludes his reports from the Scale Indoor Nationals. This month Danny concentrates on the free flight



scale models that flew around the hall at the University of Wolverhampton in late April. Our final column this month is provided by Keith Jackson (Aerobatic Scene), who looks at flying the Double Immelmann manoeuvre.

For this month's pull-out Pro-Plan we have another classic glider from Chris Williams, the Slingsby Type 23 Kite. As is usual with Chris's plans there's not enough space on one plan sheet to feature all of the model so we will be using the pull-out sheet in the September issue to complete this feature.

On review is a realistic looking airliner from XFly-Model. Powered by twin 40 mm EDFs the Twinliner looks just like the sort of aircraft that could well be transporting you to a favourite holiday hotspot soon.

Our features include part two of Ian Turney-White's article on flying a 3/4 scale 1911 Deperdussin. David Ashby makes a welcome return with his report from the Bickley club's gliding day before we join Dave Goodenough who transports us back to last Autumn for the annual Ashbourne scale meeting.

I hope you enjoy reading it all.
Happy Flying!

Kevin Crozier

Editor: Kevin Crozier

Mortons Media Group, Media Centre, Morton Way, Horncastle, Lincs LN9 6JR
kcrozier@mortons.co.uk

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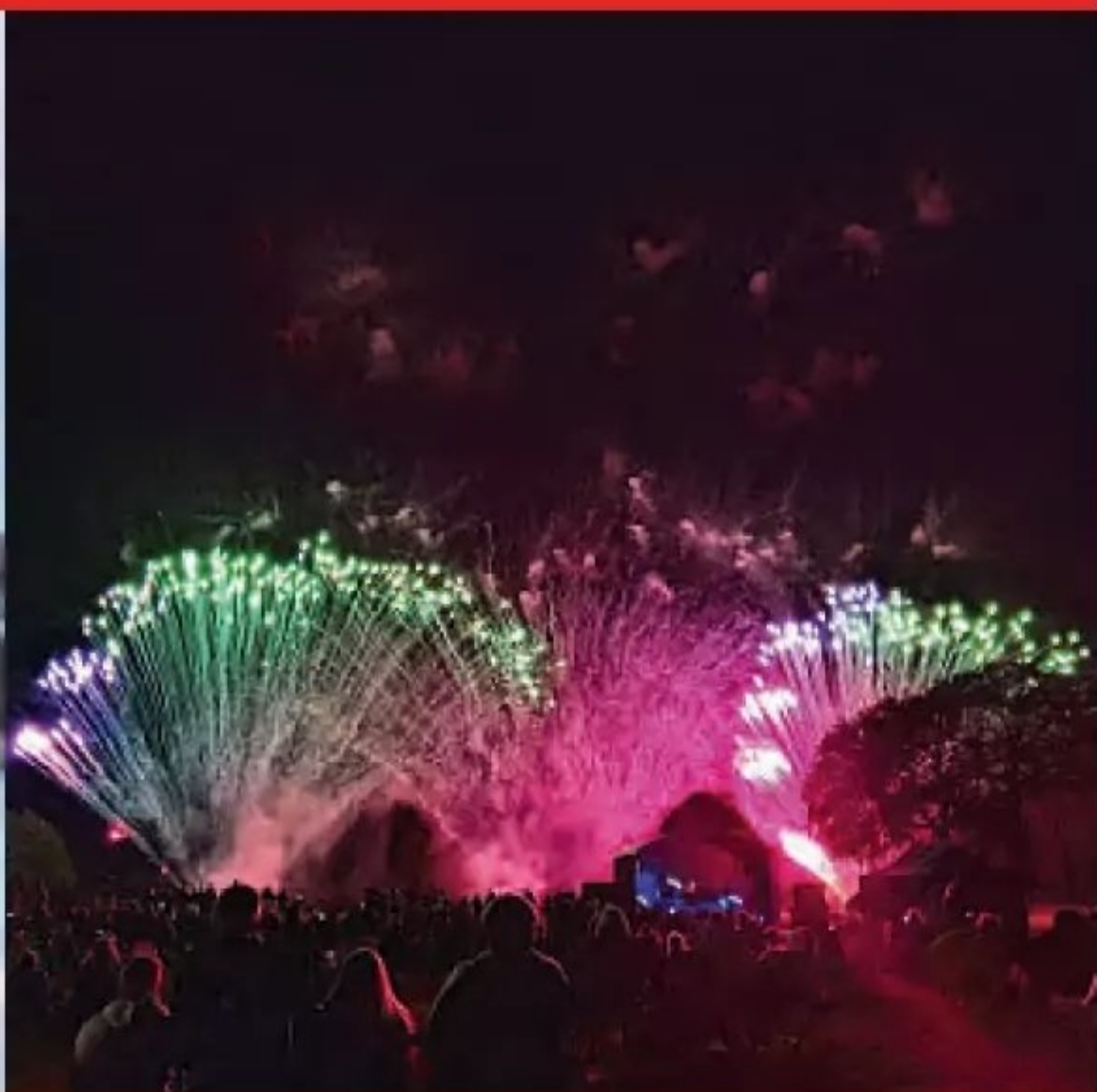
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On the cover

Photo: David Ashby

The Bickley club in North Kent holds a number of themed get-togethers every year attracting flyers from across the South East. But gliders, or sailplanes if you prefer, hadn't featured until earlier this year when a warm and sunny May Sunday provided perfect conditions. Here's Neil Wallis with his Pichler Sinbad, a modern version of Henry Struck's early 1940s design.

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D-DAY COMMEMORATIVE TITLES

To commemorate the 80th Anniversary of D-Day, Mortons Media have published two bookazines dedicated to Operation Overlord, the largest seaborne invasion in military history.

D-Day RAF by Clive Rowley

'D-Day RAF: The RAF's Part in the Great Invasion' by Clive Rowley brings to light the often overlooked yet vital contributions of the Royal Air Force in the success of Operation Overlord on June 6, 1944.

While the courage and sacrifice on the beaches of Normandy are well documented, the dangerous and crucial missions undertaken by British and Commonwealth pilots and aircrew remain a lesser-known chapter of this historic day. Clive Rowley, a retired Squadron Leader and former Officer Commanding of the Battle of Britain Memorial Flight, masterfully recounts these stories of quiet bravery and heroism high above the tumultuous landing grounds of France.

'D-Day RAF' is enriched with rare period photographs and exquisite aviation art, presenting a vivid portrayal of the Royal Air Force's indispensable role in the Normandy landings. Readers will gain insight into the diverse aircraft that played critical roles, from the nimble Supermarine Spitfire fighters and formidable Hawker Typhoon



fighter-bombers to the versatile A-20 Boston and powerful Avro Lancaster bombers.

Priced at £9.99, 'D-Day RAF: The RAF's Part in the Great Invasion' is an essential addition to the library of anyone interested in military history, aviation enthusiasts and those seeking to understand the full scope of the Normandy invasion. The bookazine is available for purchase at www.classicmagazines.co.uk

D-Day Overlord by Dan Sharp

The updated edition of 'D-Day Overlord: Operation Overlord and the Battle for Normandy' by Dan Sharp is now available. This commemorative edition provides a comprehensive and detailed narrative of the invasion of Nazi occupied France, offering readers an in-depth look at the events of June 6, 1944, and the subsequent Normandy campaign.

The bookazine delves into the intricate details of each of the five landing zones - Sword, Juno, Gold, Omaha and Utah - and the airborne assault that paved the way for the beach landings. The account is enriched with vivid descriptions of the intense combat and strategic manoeuvres that followed, capturing the essence of the battle that marked a turning point in World War II.

As British, American, and Canadian soldiers braved the fortified beaches under a hail of machine gun fire, their heroic efforts became legendary. The narrative brings to life the struggles faced by these soldiers as they fought through concrete bunkers and armoured emplacements of Hitler's formidable Atlantic



Wall. The subsequent ferocious battles against the fanatical Waffen-SS divisions, equipped with fearsome weapons like the King Tiger tank, are depicted with harrowing realism.

Priced at £9.99, 'D-Day Overlord: Operation Overlord and the Battle for Normandy' is an essential read for history enthusiasts, military scholars, and anyone interested in understanding the pivotal events of World War II. This special edition is available for purchase at www.classicmagazines.co.uk

HARROGATE MODELS: LONG SERVICE AWARD

Oatlands Mount postmaster, Ian Bainbridge, who is also well-known for his Harrogate Models business, has reached his 50 years' milestone serving Post Office customers and local modellers.

In his retail shop, alongside his Post Office branch, Ian started selling a few models alongside cards and stationery. He then started getting requests for different kits and this side of the business grew and grew. Due to the demand the upstairs floor was converted into Harrogate Models which now stocks everything from trains, cars, planes and boats and radio control models, plus accessories.

Postmaster, Ian, said: "I managed to stay open throughout the pandemic and it was really busy. Customers wanted to send parcels to people that they could not see and do home shopping returns.

People also had a lot more time on their hands to make models, or to enjoy radio control vehicles, so we sold a lot more on the model side of the business to both existing and new customers. Parents wanted something that their children could do rather than being on their electronic devices all the time, so they suggested hobbies that they had enjoyed as children. People also looked for something to do with their

unexpected spare time."

Ian had enjoyed making the occasional model as a child, but he never expected to become a postmaster - or the owner of a model shop - at 67 Leeds Road, Harrogate, HG2 8BE. His brother had become an airline pilot and he planned to follow in his footsteps, but his parents ran the Post Office in South Croft, Leeds and needed help to run the business. He worked there from 1974 until May 1987 before taking on Oatlands Mount Post Office.

Ian said: "I have really enjoyed my time serving Post Office customers and running Harrogate Models and getting to know people better. Many people that I have served have become friends. There are always new people popping in from across the UK as there are not as many model shops these days."

A Post Office 50 Years' Long Service Award has been presented to Ian in appreciation of his important role in the community. Post Office Area Manager, Amy Hart, said: "I want to sincerely thank Ian for serving Post Office customers for five decades. He has been at the heart of Oatlands Mount for 37 years, providing a great service for the local community. But with the retail side of Ian's business, people also travel here from far and wide."



CHEAPEST TRAINER EVER?



Henry Bellis writes with an account of making and flying Chopstick, an improvised holiday project:

'We were faced with a problem. On our holiday on a small island in the Atlantic there were no model shops. We had the radio equipment and motor etc., but nothing to fly.'

I decided to make a model based on the Ugly Stick, but we had to obtain materials. Grandpa, Dad and I sourced various materials from local shops. From the ironmongers we purchased polystyrene, glue and dowels. From the art shop we obtained three sheets of foam board and a cake base, for the thin plywood for the motor mount. From the stationers we obtained rubber bands and adhesive tape. The Chinese restaurant downtown provided chopsticks, originally intended for use as undercarriage legs, hence the name Chopstick, but instead we used wooden dowels with some piano wire shoved up inside for axles.

Unusually, we decided on a triangular fuselage for strength, weight and economic reasons. The wing was based roughly on the Ugly Stick and was built

by carving the soft polystyrene using a bread knife, kitchen knives and other implements available at the time. It was strengthened using a dowel and covered with a layer of foam board top and bottom. The trailing edge was sliced to provide strip ailerons, the hinges being reinforced with adhesive tape. The fin and tailplane were constructed from a single layer of foam board; I insisted on having a German WW1 tail fin design!

We then needed a pair of light wheels. The only option was a sneaky visit to the swimming pool, which provided us with two slices of foam flotation noodle. Hubs were made from slices of cork from a wine bottle glued in each noodle. Grandpa and Dad had to drink all the wine, of course!

The finished aircraft was surprisingly strong and light. The motor used was a small outrunner (an Emax XA2212) and the prop a 10x5 running off a 2S 5000 mAh LiPo. The wingspan is one metre and seven centimetres.

The maiden flight was from a rough track into a brisk wind and it took off in just over a metre! It has proven very easy to control, being a slow flyer, and will be good for me to learn to fly model aircraft with. It has had its first flight in the UK after it was squeezed into a suitcase, but the fuselage and wing had to be chopped off for transporting to England. The landing gear won't be useful on a long grass field, so we chopped those off permanently.'

Written by Henry Bellis with help from Grandpa (Dick Bellis) and Dad (Rupert). Photos by Henry, age 10.



Tim Hooper files his final column with a look at a refurbished Keil Kraft cabin cruiser

Words & Photos: **Tim Hooper**

Some years ago, I bought a plan-built replica Keil Kraft Ladybird airframe at the much-missed Nats swapmeet. I fitted a little electric motor, together with all the electronic gizmos necessary to make it flyable as an electric free flight model. The motor bulkhead was mounted on adjustable screws to allow fine tuning of the side and down thrust at the field.

Although test glides were successful, a house move saw the Ladybird stashed in a corner of the hangar where it has sat idle and forgotten for several years. With the advent of my fledgling machining journey - especially with the fabrication of simple carbs to suit my

old diesels - I needed a model to house my little retro throttled .75cc DC Merlin engine and the Ladybird seemed ripe for a conversion job.

WOODEN TUNING FORK

Besides needing some radio guidance to be added in the cabin area, I thought that the best place to start butchery was up front. The little outrunner (and its fancy mounting system) was summarily ousted and I gave some thought to retro fitting a pair of hardwood bearers for the incoming engine. The balsa front former received a facing of 1/8" ply, cut from an old fruit box, no less! Rather than attempt to fit engine bearers into the fuselage one at a time

“I needed a model to house my retro throttled .75cc DC Merlin and the Ladybird seemed ripe for a conversion job”



All ready for the off! Our revamped Keil Kraft Ladybird is this month's victim. The fuel can gives it away a bit, doesn't it?

and hope for the best when it came to aligning them, I thought it simpler to cut the bearers over length and then space them apart with a sacrificial lump of balsa at one end, the same width as the Merlin's crankcase. The result looked like an oversize, wooden tuning fork. The two 'prongs' were pressed against the bulkhead and their position marked with a pencil. The resulting square shapes were drilled initially and then filed out until the prongs were a snug but sliding fit. The prongs were shaped to fit against F2, with several degrees of down thrust built in, and then the entire tuning fork was securely glued in place.

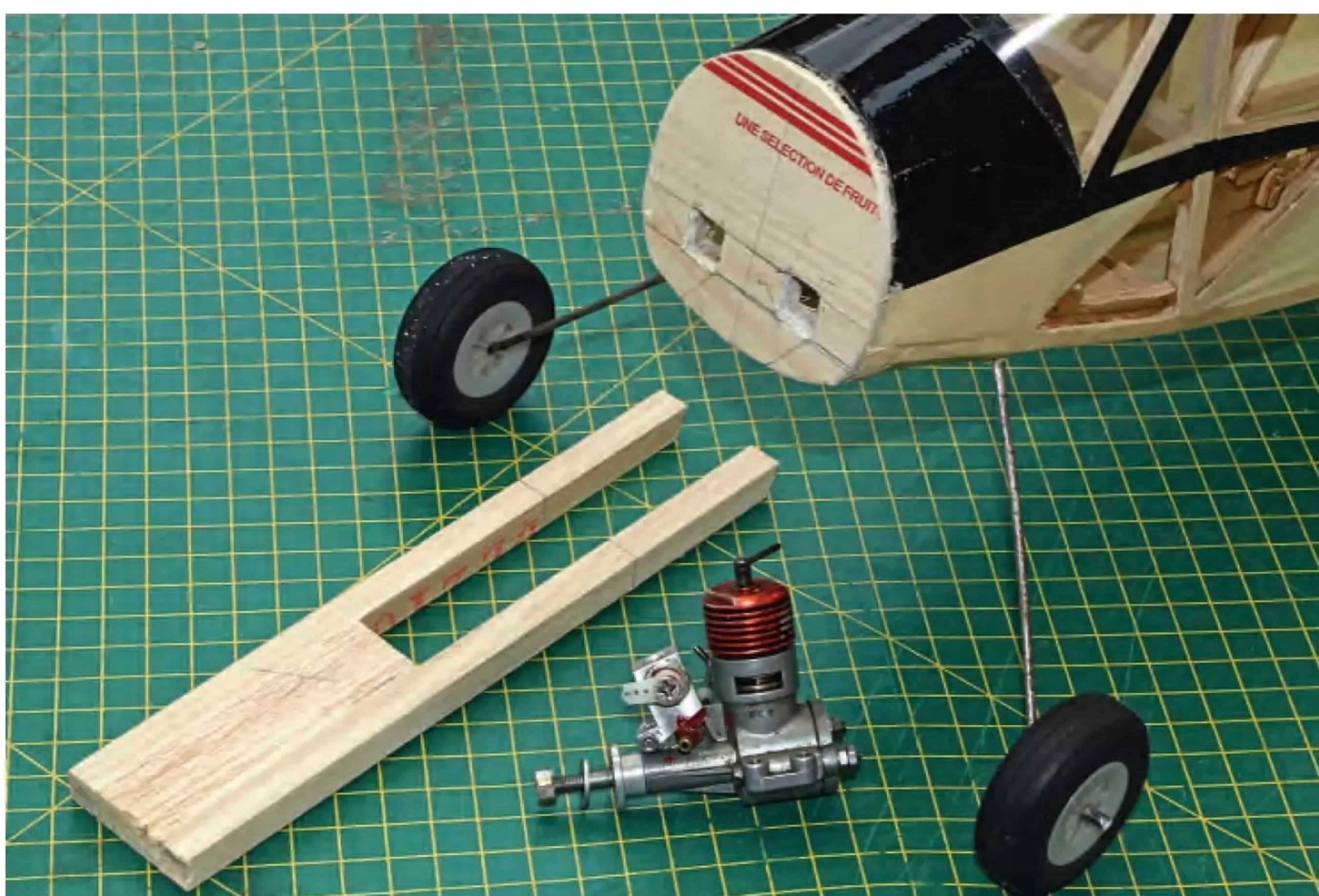
The radial cowl, which made the Ladybird so distinctive, was originally formed from balsa sheet wrapped around a former. This looked a bit vulnerable, especially if I were to try to start the engine using a rubber-hosed 'chicken' 



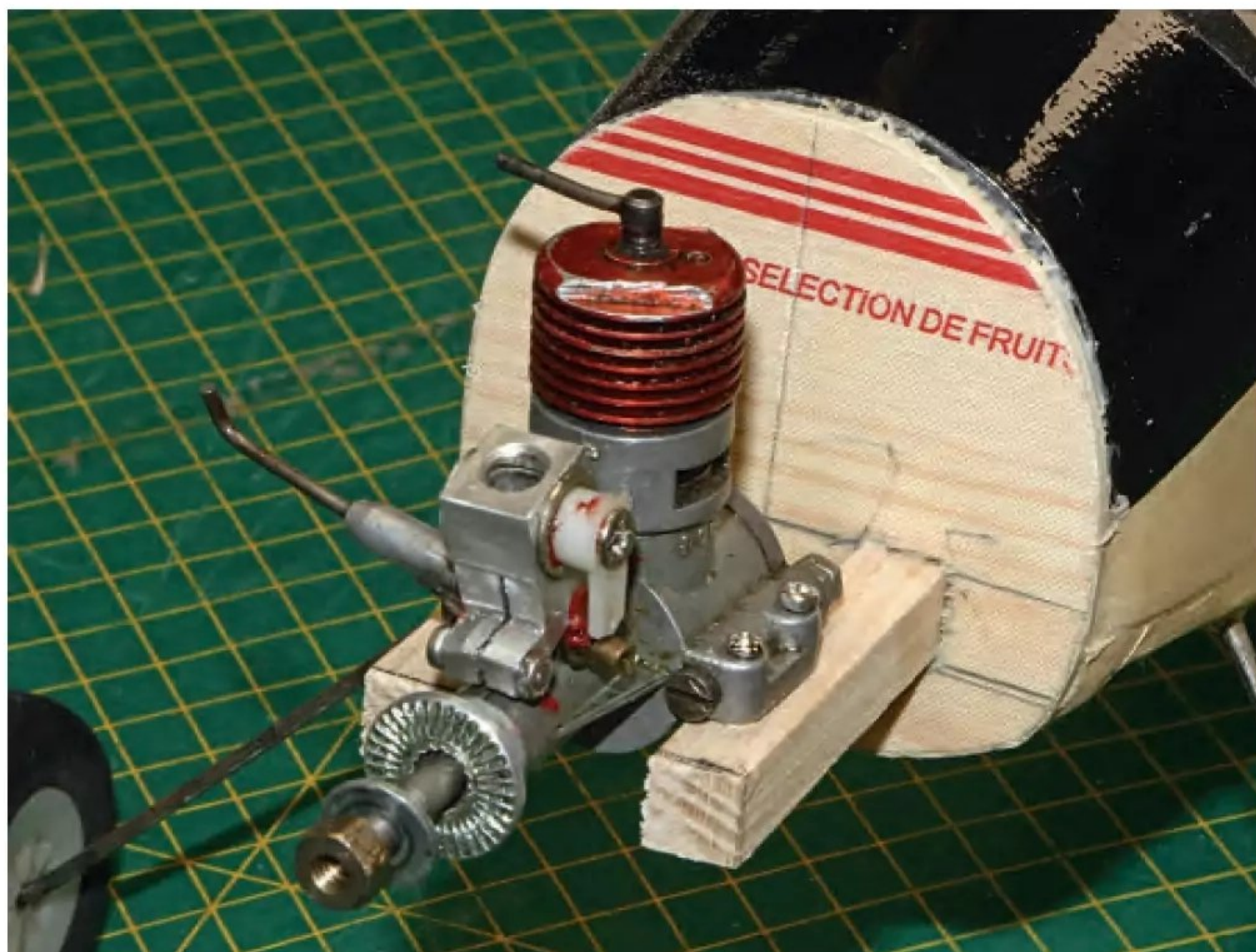
The angularity of the straight tapered wings contrasts with the curvaceousness of the Ladybird's fuselage.



I'd originally adapted the Ladybird to electric free flight using a questionable, adjustable motor mount. That little PCB controls the power, duration and decline of the motor run. A neat bit of kit that will get used again in a different application.



F1 was refaced with a scrap of orange box ply. The hardwood bearers were spaced apart with a chunk of balsa to keep them aligned during fitment. A tad of down thrust was built in too.



Trial fitting the home-throttled DC Merlin now that the engine bearers were trimmed to length.

stick', so the inside of the cowl was reinforced with an internal layer of 1/64" ply.

The protruding bearers were trimmed to length and drilled to accept the engine. My first attempt put the engine too far forwards, so I re-drilled them to site the engine a tad further aft. With the engine's compression screw removed the cowl covered the engine very neatly, so that was a good place to start.

I added balsa to the sides of the bearers and the inside of the cowl, to allow the cowl to slide into position from the front. Trouble is, I now needed to start cutting holes to facilitate access to the needle valve, compression screw and the yet to be added fuel tank, and to promote airflow around the engine, particularly around the hot cylinder head.

TIN TANK

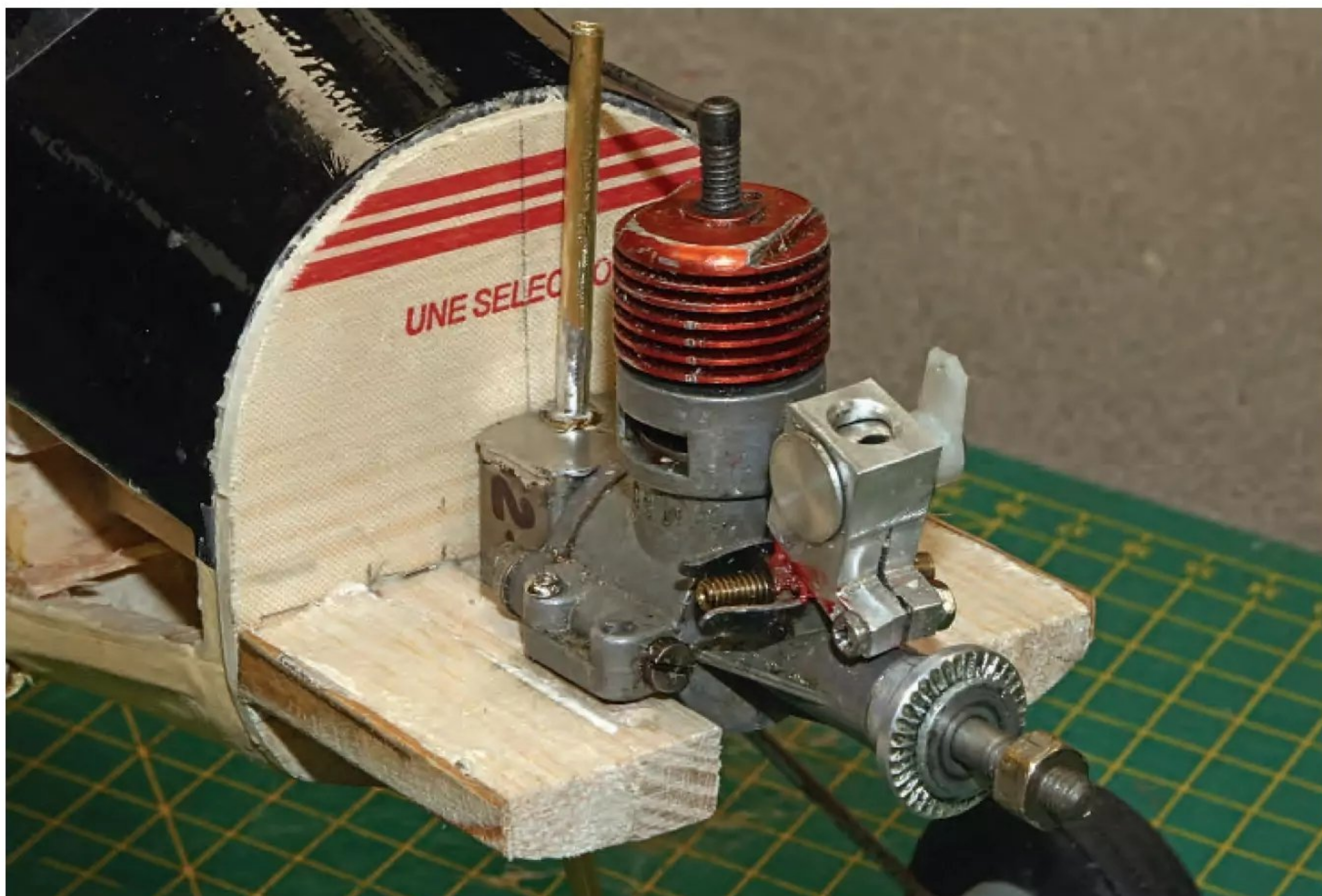
Between the rear of the engine and the bulkhead was a space just barely big enough to accept a small fuel tank. Luckily, little diesels are known to be frugal, so I measured up the space and shaped a small hardwood block to fit the void. I used the block as a former to bend up a fuel tank, using scraps of tinplate pinched from a coffee can.

Brass tubing completed the pipework for the fill, vent and feed functions. As always, the holes for the pipes were punched through the tinplate using a nail, rather than a drill. The idea behind this is that the nail will punch a dished hole in the plate, which will give the supporting fillet of solder a better purchase on the plate. It's an old ruse that still works well.

The central portion of the tank was joined by the top and bottom end plates and leak tested by blocking two of the outlets, submersing it in water and then applying a bit of internal air pressure by blowing into it. No bubbles, no leaks.

COMPRESSION SCREW

With the cowl fitted over the engine it was obvious that the Merlin's compression screw wasn't quite long enough to be accessed through the top of the cowl, so I needed to cobble up a longer screw. Trouble is, the ancient Merlin is based on Imperial threaded fixings

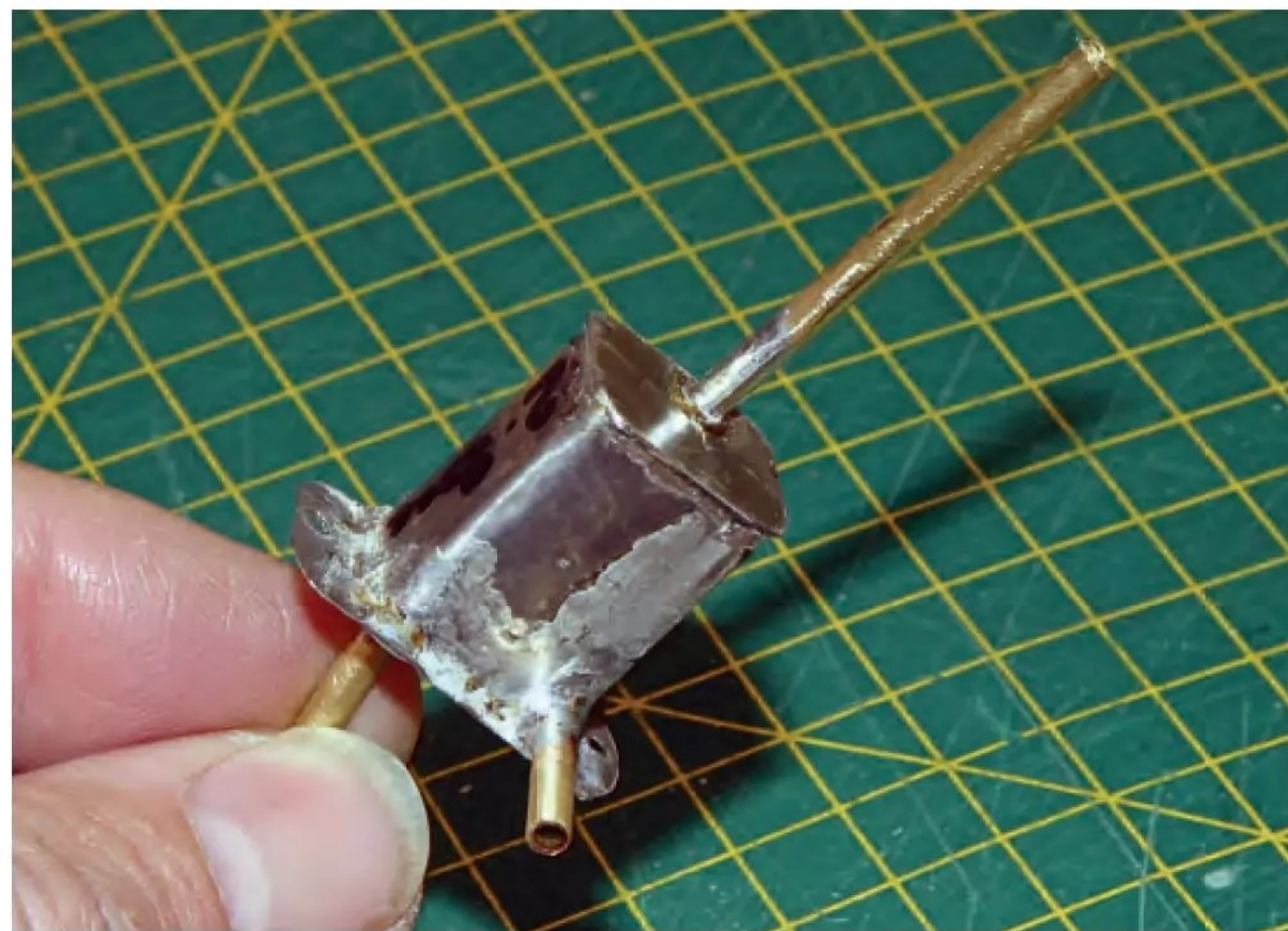


The tank is a snug fit betwixt engine and bulkhead.



With the cowl slipped into place it became obvious that both the compression screw and needle would need extending to allow easy adjustment.

and the compression screw is blessed with an archaic 4 BA thread. BA stands for British Association, by the way. A rummage through my bolts box yielded nothing suitable so I was faced with a couple of choices really; I could drill and tap the Merlin's aluminium cylinder head with a metric thread and use a matching bolt as



It may not be very pretty, but that little tinplate fuel tank doesn't leak and holds 2.8 cc of precious diesel fuel, enough for around three minutes of in-flight pottering.



The 4 BA comp screw was stood down in favour of a similarly threaded brass bolt which was cut to a suitable length. The threading tap wasn't needed in the end.

a comp screw. This would be the easiest bodge but the half-hearted purist in me couldn't bring myself to desecrate an irreplaceable vintage component in this way. What I needed to do was to source or make some 4 BA rod to modify for use as a comp screw. A quick mooch on eBay found some shiny brass, hexagon-headed 4



The head of the brass comp screw was cross-drilled and a piano wire tommy bar pressed into place.

BA bolts which could be shortened and then cross-drilled to allow the fitting of a tommy bar. Just to cover all my bases I also bought a 4 BA die which would allow me to thread a piece of plain rod, should I need to approach the problem from this direction instead. Belt and braces, really.

Upon their arrival I popped one of the brass bolts into the mill and cross drilled the head with a 1.6 mm drill which allowed a short piece of piano wire to be pressed into place using a vice, to act as a tommy bar. The threaded, bottom end of the bolt was then sawn to length to allow the tommy bar to be just clear of the top of the cowl when screwed into the top of the engine.

Just to complicate things further the needle valve needed to be extended so it would extend clear of the side of the cowl. After straightening the cranked end of the needle I added a brass sleeve, together with a new cranked end made from piano wire. All this was cleaned, roughened, fluxed and soldered together. I was a bit hesitant about straightening the needle but it's reversible if I need to reinstate the engine back to its original state.

It was only after fuel proofing and painting the cowl that I realised that I'd made no provision for exhaust priming the Merlin and so I cut and fitted a short length of tubing to reach from the outside of the cowl directly to the engine's exhaust port.

RADIO IN

Fitting the radio gear was next up and this called for a bit of head scratching. Adding three servos, receiver, battery, switch and linkages to a small airframe that was already covered in Litespan looked a bit of a problem. The best solution I could come up with was a small lite-ply tray that carried the servos, which could screw onto the upper longerons in the cabin area. The Rx lives on a balsa shelf behind the windscreen, whilst the 2S 450 flight pack lives beneath and can be accessed through a screw down hatch that also carries the switch. Not a perfect solution but workable, I think.

I added plastic exit tubes to the rear fuselage for the beading wire that will wiggle the rudder. The Ladybird's all flying tail called for the



“Just to complicate things further the needle valve needed to be extended so it would clear the cowl”

addition of a comparatively large 1/32" ply control horn beneath its left half, connected to the elevator servo by carbon tube with wire ends.

The Merlin's homemade carb links to its servo with another piece of bent wire, running through plastic tube. To keep the spent exhaust gunk away from the radio gear I sealed up the



Ladybird shows its free flight origins in the use of plug-in wing panels which are designed to allow the wings to harmlessly part company with the fuselage in the event of a heavy landing. Gentle R/C guidance should forestall that - hopefully!



The KK Ladybird is a very shapely model, especially when compared to the box 'n' plank compatriots of its original era. It used to be referred to as a 'builder's model'.



“I hurried the Ladybird off to the field, expecting to get it in the air pretty much immediately”

Cream Litespan, aided by black Solarfilm trim, looks kind of classy, I think.



We have a winner! This throwback combo should see a fair bit of airtime over the coming season.

sides of the cabin with new windows, taped in place, which is very counterintuitive I'll admit as I normally insist that everything is easily accessible.

Now, what I should have done next was to test the engine at home to make sure that everything was hunky-dory. However, lulled by the fact that the engine and its new carb were a known success on the test bench, I hurried the Ladybird off to the field, expecting to get it in the air pretty much immediately.

DIRTY ARRIVAL

Although the little Merlin was eager to fire it struggled to continue running for more than a second or two. A fuel feed issue, obviously. Eventually it managed to run, so not wanting to overthink things I grabbed the Ladybird and hand launched it into the air on the first flyable day we'd enjoyed in weeks. The model climbed convincingly away...

The engine died and the subsequent landing in the ploughed dirt that surrounded our strip

saw the little Merlin ingest enough grit to make me take it home to strip and clean it properly. Lesson learned - I hope.

Predictably, the cause of the engine's reluctance to run was an air leak in the fuel line. Substituting a length of fuel tube with a tighter fit on the spray bar's inlet was an easy fix.

The Merlin seems to be an excellent match for the Ladybird. Allied to a 7 x 4 prop it has adequate power for a decisive climb out from a hand launch. Throttled back to cruise, the small size of the fuel tank limits the engine run to around three minutes or so, followed by a gentle glide back to the strip. Really, that's all we want!

AND THAT'S THAT!

It's time for me to step aside. It's been nine years since editor emeritus David Ashby suggested that I step into the late Pete Lowe's shoes for a few issues and chat about what was happening on my own work bench for a while. Now it's time for us all to move on.

I hope it hasn't been too onerous for you all. It's been great to receive your feedback, advice and encouragement when a project has hit a snag, so thank you all very much. See you at the flying field! ■

Thanks, Tim. It has been a pleasure working with you, especially as you've made my life a lot easier with your well-prepared articles and well-lit and sharply focused photographs. You'll be greatly missed, not only by me but our regular readers too.
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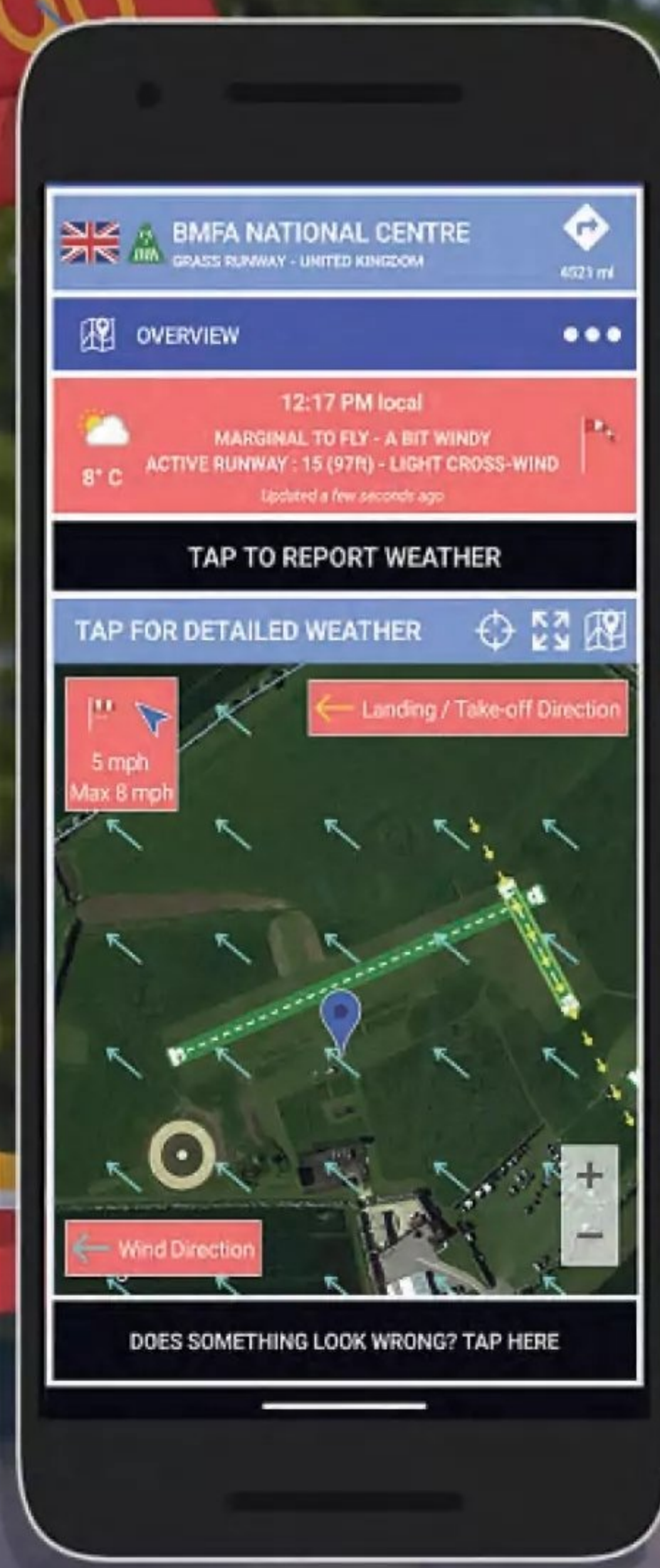


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TANDEM TUTOR TAKES OFF

Chris Williams beats the showers to test fly his new T31 scale glider
words & photos **Chris Williams**



CW's latest Tandem Tutor made its debut at CMFC on a grey day with the clouds barely overhead.

In the fullness of time the T31 Tandem Tutor made its debut at CMFC on a typical grey day, with the cloud base barely over our heads. There was one reason to be cheerful, however; at least the endless gales had given way to an eerie temporary calm. We hooked the 'Flying Airbrake' up to the tug and shook hands with Aviation. No trouser-altering issues manifested themselves during the tow and then it was time for the landing. This is where the surprise kicked in. I was expecting a graceless dump as the drag overcame the lift but instead a nice floaty landing with a satisfying roll out ensued. 'Well, I never', I thought to myself, 'who knew?'

A few weeks later, during a monsoon break, the chance to try her out on the slope presented itself and off we went to White Sheet. There was fair breeze on the hill, averaging 15 mph, but gusting higher, and the fun began. The T31 is as close as it gets to being un-stallable, with predictable control responses and no nasty surprises, and the spoilers/up-going ailerons give a very strong



T31 being launched from the slope at White Sheet.

“I can offer no scientific proof as to why this model flies so well”

glide path descent. The consequence of the foregoing is that when it comes to the critical business of landing, the T31 is the absolute bee's knees, such that I found myself ignoring my other gliders, instead to constantly launch and land it until it was time to go home. ✈



Twin Tutor is as close as it gets to being un-stallable with predictable control responses and no nasty surprises



Launching off White Sheet on an all too rare bright and sunny day.

I can offer no scientific proof as to why this model flies so well. But I'm fairly convinced that my drag reduction protocol (top hinged and bottom sealed ailerons, no tail struts, no rigging wires, sealed tailplane hinge line etc.) has a lot to do with it.

So, as all my low expectations were now completely unrealised, it's a shame that I didn't bother with producing a plan and, of course, it's now too late. Instead, I have put a build log up on the Scale Soaring website and offered the basic working drawings to anyone wishing to have a go.

(To see her in action on YouTube, Google: **TANGLING WITH THE T31**)

PROJECT GENESIS

When I was looking for a colour scheme for the previously published Foka 4, I fixed on one I really liked only to discover just in time that it had a T-tail and was therefore a Foka 5. Having completed the T31, focus therefore turned to the Foka 5; similarly sleek but with a differently configured rear end. The full-size features wings that look to be almost identical in planform so I was able to use the existing drawings for the '4' but the tail feathers and the even sleeker-looking fuselage were going to throw in some serious complications.

The full-size has an all-moving tailplane which is perched on the top of a severely swept-back fin, a situation that was going to strain my limited engineering skills to their breaking point. So, the first scale crime I was about to commit was to build a conventional tailplane instead and the Scale Police were jolly well going to have to look the other way!

Next up, squeezing two servos into the stylish fin was going to be complicated, so the first job was to make up the fin and tailplane to ensure the viability of the project. Once this was done the rest of the build was much more conventional and similar to that of the Foka 4.

The fuselage on the '5' is markedly more pointed than the '4' and this meant that it would spoil the looks of the thing to put a tow release



With two servos in place the project became green-lighted.



Squeezing a servo into the top of the Foka 5 fin.



Nearly completed tail end.

“Once again Smallpiece’s Super Separator came to the rescue”

on the nose. Once again Smallpiece’s Super Separator came to the rescue, being fitted to the underside of the fuselage on the port side.

With the airframe finished, up came the next challenge - to cover the whole thing with film in order to avoid having to blow the dust off the spray guns. This was to be the first ply covered compound curvature fuselage to suffer such treatment and I wasn’t sure how it would turn out. Filming the fuselage was a fiddly job, spread over two days, and although the result is not quite as good a decent painted finish, you would have to get up quite close to see any difference.

(Of historical interest, the Foka 5 went on become the Cobra 15 and those of my generation might remember that Veron used to do a kit for it all those years ago.)

All that remains is to wait for another gap in the monsoon to see how she flies...

PINNING IT DOWN

It has only been in the last two or three years that I have been introduced to the benefits of the humble self-sealing cutting mat. Initially, I acquired a thin A4 version in order to avoid cutting up the surface of my not inexpensive Sundeala board. But this proved too small for any

Foka 5 airframe completely covered in HK film.



Completed airframe, ready to cover.



View of the underside showing the position of the circular Super Separator.

practical use and so I moved up to A3: better, but still limited in the size of parts that I could cut. Ultimately, I have ended up with three A1 mats, 3 mm thick, butted together which now cover the totality of my worktop and can accommodate most of the wings that I build these days.

Here's the thing: you can quite successfully stick pins into this stuff, which means not only can I cut long pieces of wood, but I can also now build wings directly over it, pinning the parts down as I used to on the Sundeala.

The printed horizontal and vertical lines also have a myriad of uses. For instance, lining up a slab sided fuselage to ensure that it really is straight or cutting right angles in wood or film without having to resort to using any other tools. On top of that, in between stages, a wipe down with a damp cloth restores your workbench to pristine condition and it don't 'arf impress the missus!

(Just in case other cutting mats won't accept pins, it occurs to me that I'd better specify the one I obtained via Amazon: Crystals 900 x 600 mm Slip Resistant Self Healing A1 Size Cutting Mat Grid Art & Craft Design Printed Mat.)



Let's finish with some more shots of the slope soaring Tandem Tutor.

That's it for this time around. Next time the '5' will hopefully have been maiden and I wouldn't be at all surprised if another

project wasn't taking up the space on the bench... ■ **c_williams30@sky.com**



Sorry, folks, but there's no plan for this one. But Chris has put his build log and basic working drawings online if anyone wants to work up their own T31.

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TWINLINER

‘This is your Editor speaking...’ KC imagines himself at the controls of a modern airliner, as neatly replicated by XFly-Model

Words **Kevin Crozier**

Photos **Kevin Crozier, Barry Atkinson**

Having enjoyed piloting XFly-Model’s previous commercial jet, the J-65 biz jet of near 1.8 metre span, fitted with powerful twin 70 mm EDF units, my eyes were immediately drawn to their new pseudo airliner. I had imagined that it was the same sort of size, but I should have paid more attention to CML’s recent back page adverts in RCM&E introducing their new Twinliner, which is a much smaller model. When the kit arrived, I must admit to experiencing a slight twinge of disappointment, it being a little over half the span of the J-65.

But not to worry. It may be small, but the Twinliner is perfectly formed and really does look like a modern jet airliner of the sort that is likely

to take you on your summer holidays this year, should you be so lucky as to be flying to a hotspot abroad. It goes together quickly too: join the wings using two plastic braces, which also attach the panels to the fuselage. Then hook up the twin elevator pushrods to each tailplane half and push said tail halves into their slots situated below the moulded in tail fin. Secure the tail with two screws from the underside of the fuselage. Drop in the main undercarriage legs, each fitted with twin lightweight wheels, into their respective slots and secure with a single small screw and that’s it, assembly done!

Your kettle will hardly have had a chance to boil for a cuppa before the Twinliner is finished and ready to fit your chosen receiver and LiPo. ✈

“Twinliner is perfectly formed and really does look like a jet airliner of the sort that is likely to take you on your summer holidays”



In the cruise Twinliner looks just like a commercial jet airliner. She's fast, too!



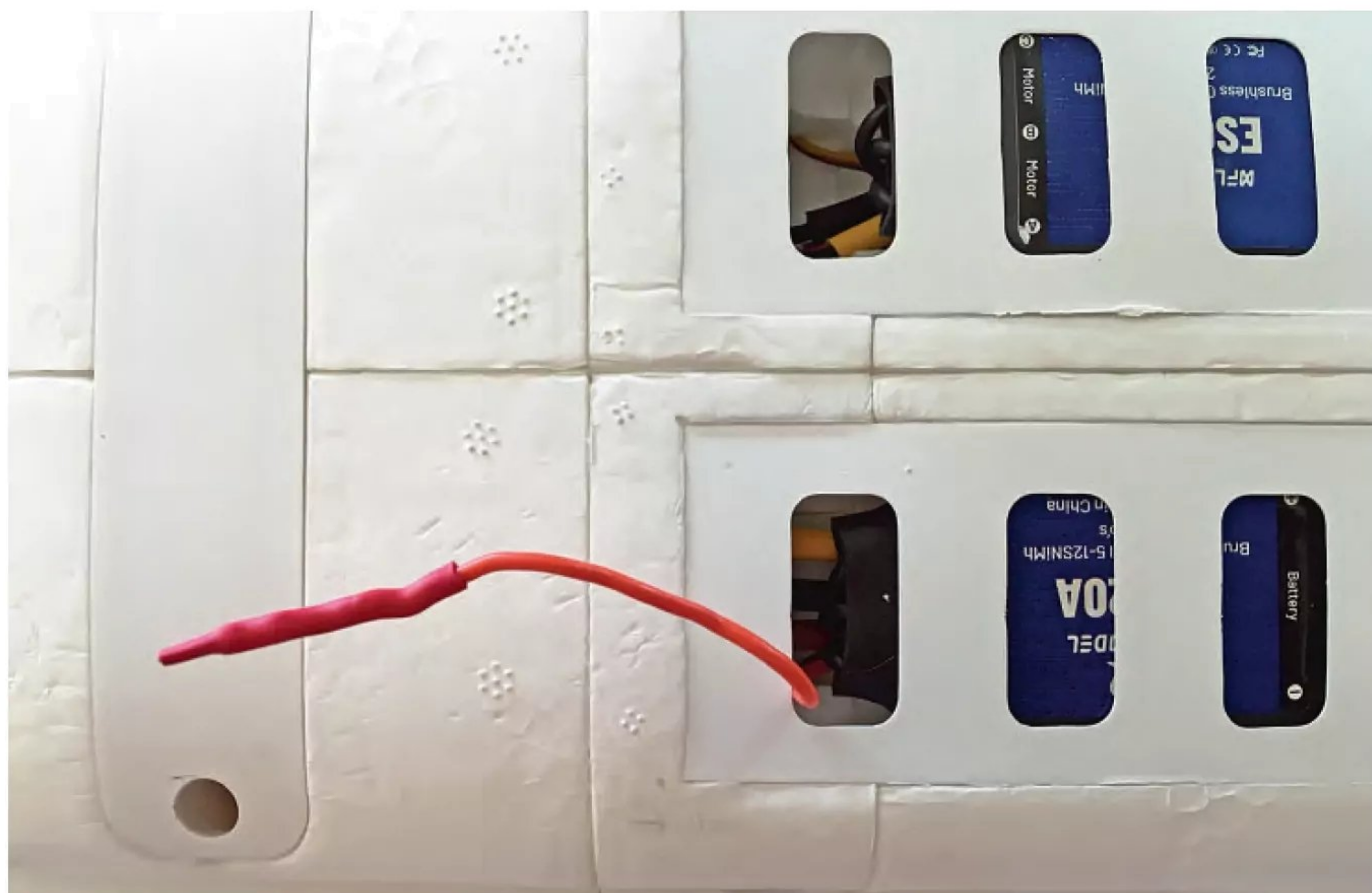
If you would like to replicate your favourite airline, then you'll be pleased to know that a no decal, base white version is also available.



Two braces, fore and aft, keep the wings together and through screws join the panels to the fuselage.



Assembly is swift, starting with joining the long, slim wings.



Twin 20A speed controllers are wired together and ready to use. This red wire is not required but was left dangling and unsheathed. Some heatshrink sleeving was used to cover it up before tucking it behind the cooling vents.

INSIDE THE BOX

Twinliner arrives safely ensconced in one of XFly's closely moulded foam inner boxes, which should ensure a safe transit from the factory to your front door, via their UK distributor CML and your favourite model shop. The long, slim wings are extracted first, each one being factory fitted with a 40 mm 12-blade EDF unit mounted in realistic high-bypass turbofan style nacelles. Next comes the one-piece fuselage with its moulded-in fin and ready connected rudder. Inside the cabin the rudder servo is also connected to the factory fitted steerable nose leg, which sports a pair of small lightweight wheels. Side slots in the packaging contain the two tailplane halves and a small bag of good quality accessories, plus a 32-page bi-lingual instruction manual in English and Chinese. As is usual with XFly instructions each assembly step (very few in this case) is clearly annotated with crisply drawn illustrations and short but well-written notes. You really would be hard pressed to put an XFly-Model together badly.

A CLOSER LOOK

Despite the Twinliner's speedy assembly there are a couple of things worth mentioning, starting with the main undercarriage legs. These have a short right-angled bend at their far end and as you'd expect this drops into an anti-torque slot in each wing. But rather than run spanwise, as is usual, this slot, formed in a plastic moulding, runs chordwise, i.e. from front to back. It doesn't seem to matter though and both legs have absorbed all the take off and landing loads imposed on them with ease.

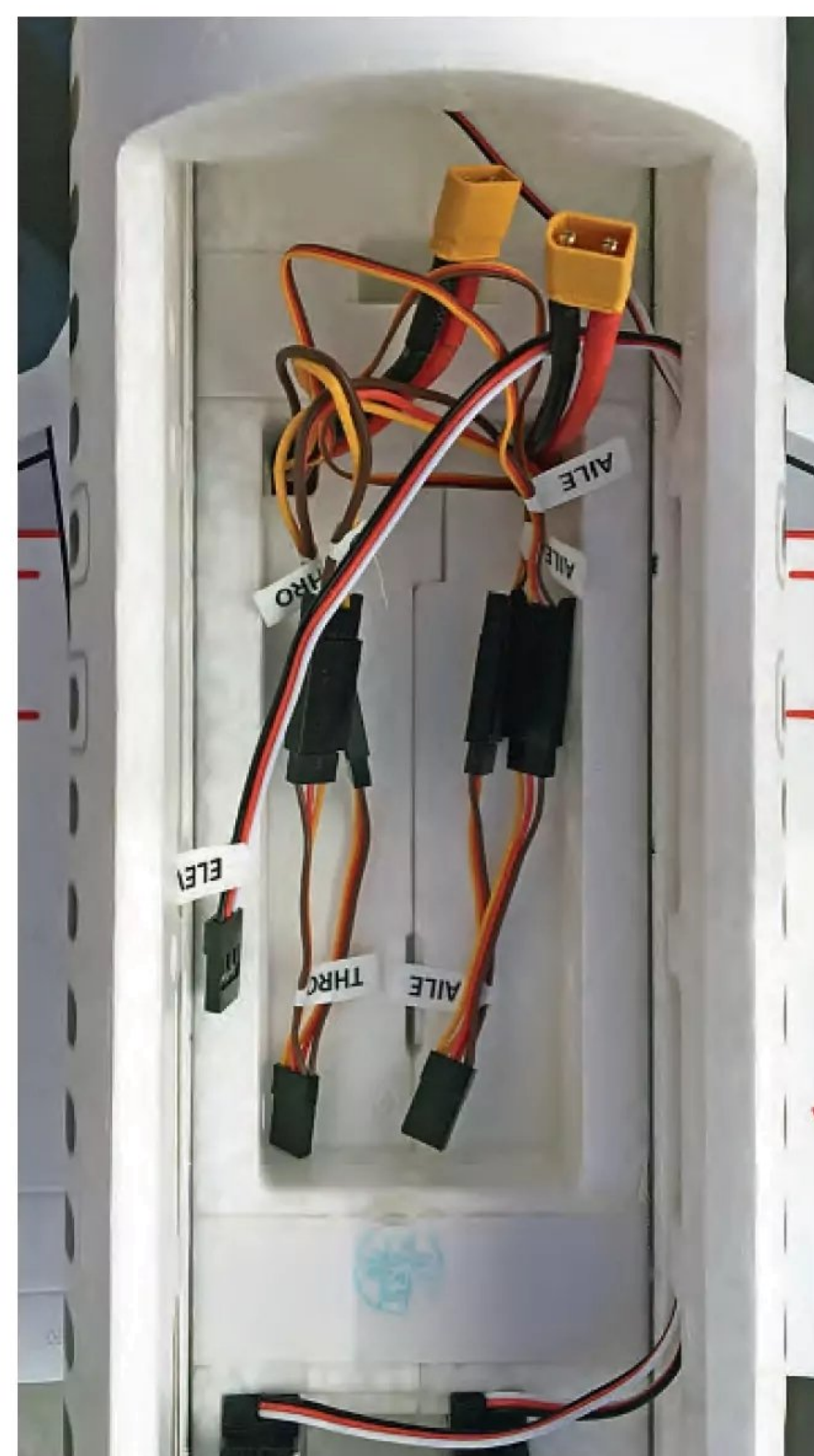
What is more interesting is that each leg is only secured by a single small screw, placed to one side next to the downward going bend, trapping the leg with one side of the screw head. This might seem a recipe for losing an undercarriage leg, but the proof is in the pudding and over many flights each leg has remained securely in place. It does make you wonder if all those saddle clamps and multiple hold down screws that we normally fix undercarriages on with are a tad overkill...?



Torque slots for the main undercarriage legs run chordwise. Each leg is secured with just one screwhead. Absolutely minimalist but has worked well so far.



Each 40 mm, 12 blade fan unit sits in a realistic dummy turbofan nacelle. Quiet and efficient.



Servo connections are well labelled so there's no excuse for getting things wrong when installing your receiver. Note the battery bay underneath the wiring.



On the grass 'apron' and ready for her maiden flight.



An aborted take-off from the short strip was followed by a nice, straight hand launch by clubmate Rob.

The length of each undercarriage leg is well matched to the model, adding to the scale like appearance. Some airliner models that I have seen have been fitted with long, bandy legs and there's a good reason for this, especially if the model is fitted with underslung engine pods like this one; they provide good ground clearance. Unfortunately, whilst the Twinliner's short legs look good when static on the ground and whilst in the air they do rather restrict the model's 'Rise Off Ground' capabilities, as I found out during the test flights. Those 'on the grass' static shots that you see nearby were taken on well mown turf, which wouldn't normally trouble a model of this size fitted with slightly larger wheels and

long legs, but then it would look a bit silly. I'd go as far to say that even the best maintained club flying strips would not be any shorter than the grass you see here but when trying to take off the Twinliner soon bogged down and came to an abrupt halt. Due praise then to my clubmate, Rob, who tried his best to help the cause, even going as far as to mow a special

"...even if you don't have access to a tarmac strip then you can still enjoy flying the Twinliner - just recycle some cardboard instead!"

strip for me at the club mower's lowest setting, but even that didn't work. Hence, for the first couple of flights the Twinliner was hand launched, also undertaken in fine style by Rob. But although I cannot see anyone doing a better job than him, his launches being firm, whilst straight and level, the model had that air of being on a knife-edge between a safe getaway or flopping to the ground due to lack of airspeed. In fact, 'on a knife-edge' is quite an accurate description of the Twinliner as it momentarily rolled sideways after launch whilst building up airspeed. Don't get me wrong, this model is not underpowered - far from it! But like a lot of EDF jets it takes a couple of seconds before the fans start pulling air through at the kinds of volumes needed to sustain flight. So, my advice would be to find a tarmac or concrete strip to fly her from. Or you can improvise, which is what I did next...

I have encountered this situation before, albeit with foam warbirds fitted with big props and short scale-like legs, so I've taken to fitting the back of my car out with two, large, folded over sheets of cardboard, saved from kit outers. I also carry a few smaller sheets of cardboard too and so I was able to fabricate a rudimentary runway from which to take off the Twinliner, albeit with a few bumps where the cardboard overlapped. Powering away over my improvised strip the twin 40 mm fans had the chance to get to work and the Twinliner lifted off



Rotation! Twinliner gets smoothly away on another successful departure.



In the editor's opinion this model is best taken off from the ground, but it needs a smooth runway. KC gets things rolling from his improvised cardboard strip.



If you fly from a concrete or tarmac strip, then you'll really be able to get the best from the Twinliner. Not this one though – it's a quiet country lane.

with ease. So even if you don't have access to a tarmac or concrete strip then you can still enjoy flying models like the Twinliner – just recycle some cardboard instead!

SETTING UP

With previous XFly models I have found that sticking with the recommended control throws and CG position has ensured a good starting point for a model's first flights and so I had no hesitation in following the book again with the Twinliner.

The recommended battery is a 4S 1300-2600 mAh LiPo. Since EDF jets can sometimes be LiPo sapping beasts, I reasoned that it would be best to start with an upper range pack and so I elected to fit one of CML's Voltz 4S 2200 mAh LiPos which have served me very well in EDFs in the past. The LiPo sits in a bay moulded into the centre of the wing and which is just the right size for a LiPo of this size. However, it does mean that the battery cannot be moved fore or aft to alter the CG. Some wide pieces of self-adhesive hook & loop tape are provided to secure the pack, but I also glued in a thin strap to wrap around the LiPo to provide some extra security.

Attention then turned to balancing the Twinliner. It was soon apparent that with the battery mounted in its one and only position that the model was slightly tail heavy. So, I wrapped up a couple of stamp sized pieces of lead roof flashing to act as nose weight and taped them in place just in front of the nose leg to achieve the recommended CG position.

FIRST FLIGHTS

As mentioned previously, when hand launched our Twinliner has a tendency to roll to port as the model picks up speed. However, it is easily caught and once up to flying speed it becomes a fast but easy to handle model jet. But in my view taking off the ground from a smooth

surface (like my cardboard strip!) is the best way to launch this model as it allows sufficient speed to build up so that both the wing and the EDFs are working well before it lifts off. Then the fun can begin...

If you can imagine your holiday airliner at its cruising altitude, maybe being pushed along in the jetstream, and with all those high lift flaps and slats etc. tidied away, then you will expect it to be a fast-flying aircraft. Therefore, it should come as no surprise that in the same sort of configuration, albeit with some drag from the dangling wheels, that the Twinliner is quite a speedy model too. Even when throttled back she is a slippery ship, so I've found that its best to keep her moving and not make turns too tight.

On a couple of occasions, whilst trying to fly her slowly for in-flight photos, I had the distinct impression that she was unhappy and if further provoked she could possibly tip stall, in a similar manner I guess to that low-speed roll after hand launching. The answer is obvious – just fly her like the fast airliner that she is supposed to be and keep the speed up. If you do that, she is a pleasure to fly.

Of course, this does present a bit of a challenge if you wish to fly her in a scale like manner as you'll find yourself restricted to large

and fast racecourse patterns overhead whilst your passengers try not to spill their beverages! But being a small model the Twinliner does get bounced around a bit by any turbulence so chances are that any poor souls onboard would be turning a bit green anyway. So, what the heck, why not give them a real thrill and let's see if the Twinliner is aerobatic.

The answer, with lots of power available from those two super quiet 40 mm fans, is very! All the usual club aeros are well within her reach and she will loop and roll to match any sport model. She even does a respectable inverted pass although that does look a little weird.

Unlike a full-size airliner the Twinliner's wings do not benefit from flaps or slats during landing, so you need to maintain a fair amount of speed whilst in the circuit. But once lined up with the strip she can be throttled back into a respectable glide, at the end of which she can be flared and settles down for an easy landing.

If you are fortunate enough to fly from tarmac then I should imagine that she will look great coming to a halt at the end of a landing and then turning slowly away from the active runway, using the steerable nose leg to trundle back to the terminal – a.k.a. the



A Voltz 4S 2200 mAh LiPo is a perfect fit in the battery bay. A nice feature of these packs are the encapsulated balance wires, protecting them from breakages.



An XT30 to XT60 Y-harness is supplied to connect the twin ESCs to the LiPo.

“This is a fun little model to fly and she is sure to garner favourable comments whenever she is lined up in the pits”

pits. But for me, even over short grass, she just comes to a dead stop and my wannabe ‘Captain Crozier’ daydream must come to an abrupt end as I wander over to retrieve her from the strip.

UNLEADED

This is a fun little model to fly and she is sure to garner favourable comments whenever she is lined up in the pits. But after the first few flights I wondered if her handling could be improved. Usually, for review models, I find that sticking to the recommended set ups in the instructions often results in an easy to handle model and safe maiden flights. It’s then fair to recommend them to our readers, many of whom will be A-cert or possibly B-cert pilots. I consider myself to be a competent B-cert level club pilot so if I find that a model is easy to fly at those settings then most of our readers should be able to fly them too.

However, whilst not difficult to fly, the Twinliner did have an air of being ready to bite, giving fair warning by wagging her tail slightly if slowed down too much in turns. As I say, I usually stick to the recommended set ups for review models but in this instance I wondered if it was worth trying a different CG position. For my aerobatic power models I usually assess the CG by placing the model in a 45-degree climb, rolling it inverted and then releasing the sticks to see whether it climbs or dives on its

DATAFILE

Model:	Twinliner 40MM EDF jet
Model type:	ARTF semi-scale airliner
Manufacturer:	XFly-Model
UK importer:	CML Distribution
	https://www.cmldistribution.co.uk
RRP:	£179.99
Length:	990 mm (39")
Wingspan:	1010 mm (39.8")
Flying weight:	750 g (26.45 oz)
Wing loading:	75 g/dm ²
Wing area:	155 sq. in. (10 dm ²)
Motor size:	1413-KV5000 x 2
ESC:	20A x 2
EDF Size:	40 mm EDF 12-Blade x 2
Servos:	9 g x 2 & 4.3 g x 2
Functions (servos):	Ailerons, elevator, throttle, rudder/steering
CG:	93 mm from leading edge at wing root
LiPo:	4S 1300 - 2600 mAh



A low pass down the strip looking every inch the holiday airliner.



With cleaned up wings a modern airliner is a fast aircraft. So, it’s no surprise that Twinliner is a quick flying bird too!

own. A dive indicates a forward CG and when flown like this the Twinliner headed for earth with a vengeance. This could be caused by the thrust lines of the motors, but I reasoned that it was worth moving the CG back a little bit. Back on the ground I removed the taped-on nose weights and, hey presto, the Twinliner grooved around the turns with much more authority at lower speeds and that distracting tail wagging had all but disappeared. I might try shifting the CG back a little bit more but that would involve adding taped on weight to the tail, which might look a little bit odd. Chances are that I’ll just stick to placing my 4S

packs in the centre of the wing and flying her at the current slightly rearward CG.

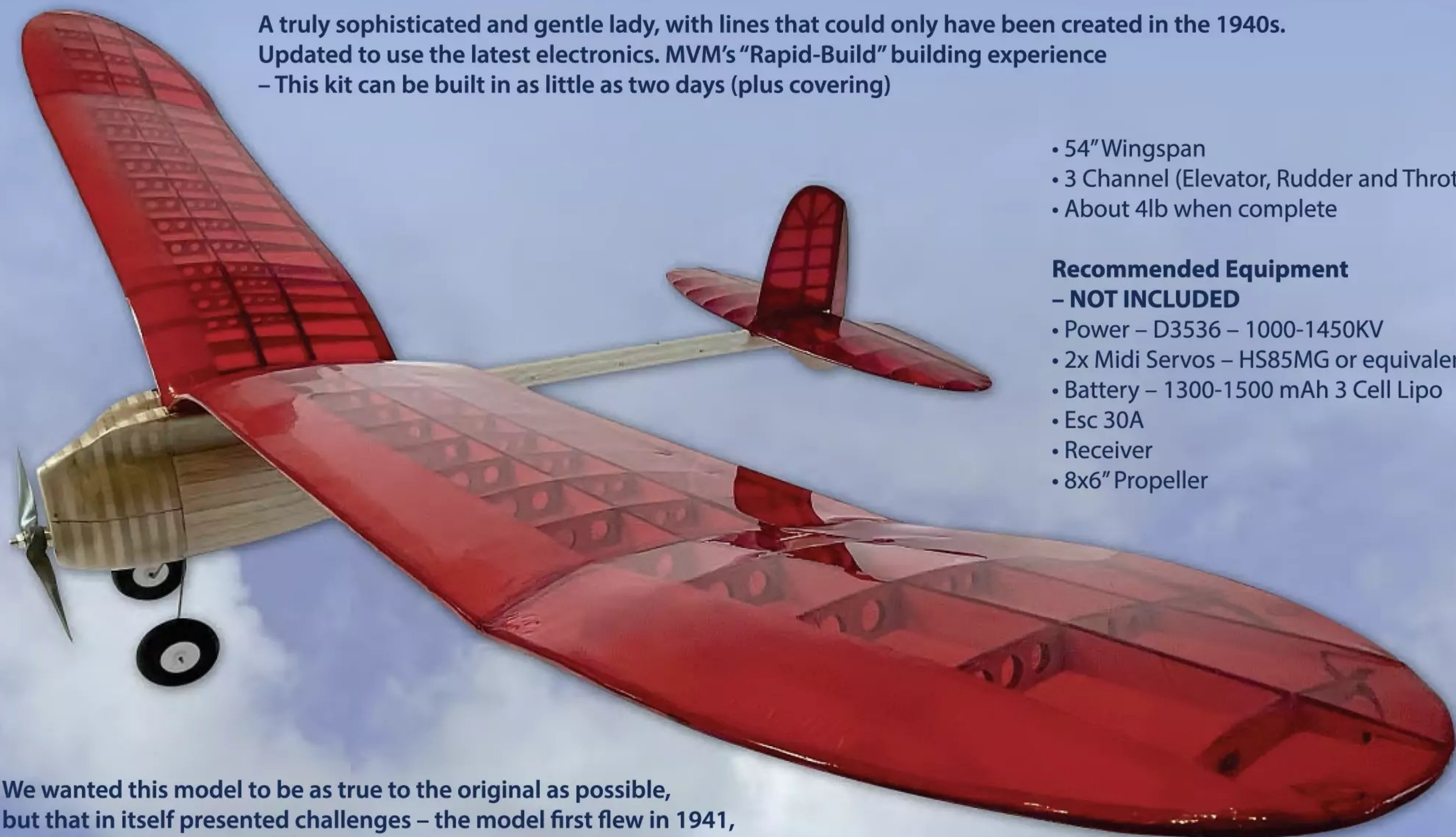
NO TRIMS, HONEST!

When writing this review, I thought I should look at my transmitter’s trims for the Twinliner. Even the best review models usually need at click or two of trim, so I was surprised to see the aileron, elevator and rudder trims all set to neutral. This goes to show how accurate XFly-Model’s mouldings are for this particular aircraft and testament, once again, to the brand’s high standards when manufacturing foam ARTF aircraft. ■



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MVM Delta Rapier *Rapid Build*

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- Carbon tubes
- Power – D3536 - 1000-1450KV
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- ESC 30 – 40Amp
- Receiver
- 9x6" propeller

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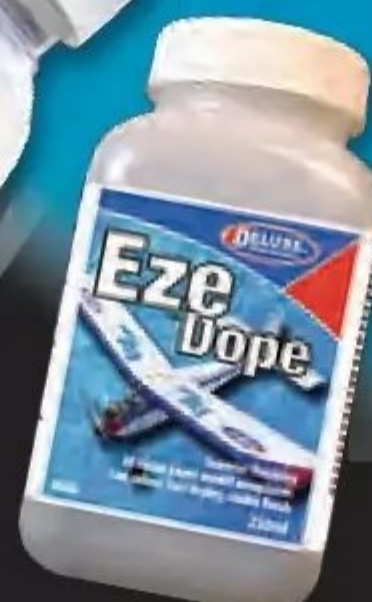
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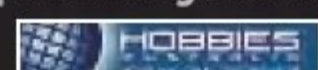


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SCALE INDOOR F/F NATIONALS

Following on from his R/C Scale Indoor Nationals report in the last issue, Danny Fenton stays on for the Free Flight event held at the University of Wolverhampton in late April

words & photos **Danny Fenton**

What a tremendous event the 2024 Free Flight Nationals was!

The first F/F Nats to be held at the Walsall venue was in 2015 and since then the event has gone from strength to strength. With the addition of the Saturday R/C competition, the two-day event now attracts entries from across Europe.

REALISM IN FLIGHT CLASSES

I am not a free flight expert but thought a quick rundown of the basics

may help you appreciate the nuances of the contest:

Open Class: this is split into two further classes, Open Rubber FFX1 and Open CO2 or Electric FFX2. Both have an equal (50:50) static element and a flight element. The flight is judged on take-off, climb, cruise, descent and landing approach. For the flight to qualify the flight must be at least 15 seconds from lift off to touch down. The models must not exceed 250 grams and have a wing loading not exceeding 15 g/sq. dm2.

Indoor Kit Scale FFX4: This class differs from Open in that the model is judged against the kit plan rather than photos and three views. Colour evidence is often the box art, photo or a drawing. Coloured tissue is encouraged and a painted finish will be penalised. Flight judging is as per Open but is weighted three to one in favour of flight.

Indoor Intermediate: These models are judged against documentation similar to Open comprising of a three view and photos, but the documentation is less stringent. The flight is judged as per Open and Kit but



Peter Smart's inspiring Blohm & Voss BV 222. Open - CO2/Elec.



The quality of Tonda Alfery's models is just breathtaking. I really count myself fortunate to have spent time with him and to see his beautiful models fly. This is his Roland C.11a which won the prestigious Open Rubber class.



No matter how many times I see this little Pitts, built by Peter Smart, the more I love it. Open Rubber.

“Intermediate is hoped to provide a stepping stone into the Open class”

weighted such that the flight score is double the static score. Intermediate is hoped to provide a stepping stone into the Open class and allows models to be based on kits but further detailed.

DURATION CLASSES

Three more classes exist which have the flight score based on duration rather than realism in flight.

Peanut Scale: This class is for rubber powered models with a maximum wingspan of 13” or a fuselage no greater than 9”. The flight carries a maximum score of 60 seconds. This can be 60 seconds from hand launch or 50 seconds from take-off. A 10-point bonus is awarded for a successful take off. Competitors get nine flights, with the best two added together, giving a ✈️



Mike Stuart only recently finished his Blackburn Dart. He was a bit surprised at how well it flew considering that Friday night's trimming didn't go so well. Open Rubber.



Richard Crossley's majestic Short Shetland. Open - CO₂/Elec.



Graham Banham's Armstrong Whitworth Ensign. Open - CO₂/Elec.



John Bowerman releases his Kit Scale Fieseler Storch built from the Guillows kit.



Phil Smith and Mike Stuart study a Kit Scale Tiger Moth.



This is a model you don't see very often - a slip wing Hurricane or Hillson FH40. This unusual model was built and flown by C. Greenock in the Intermediate class.

max. flight score of 120 secs/points. The total is the sum of the static and the flight score. From my understanding the static is a max of 50.

Pistachio: This class is not dissimilar to Peanut, but the max wingspan is just 8",



Roel Lucassen flew this lovely Zero in No Cal. This shot shows the way these models are constructed. You better be able to build a flat structure!



Some of Mike Valiant's lovely Peanut scale models.



Richard Crossley's Pistachio class entry was this lovely Focke-Wulf Fw 190.



Another of Tonda Alfery's amazing models, an Avia BH-21R in the Pistachio class. He flew two 60 second maxes with this model.



fuselage length 6". Scoring is the same as Peanut, however there are no bonus points for a successful take off as the large propellers typical preclude the ability to take off from the ground.

No-Cal: The final class is quite different. This is a purely duration class and does not have a static element. The model's wingspan must not exceed 16" and the minimum weight (excluding rubber motor) is 6 grams. The models are two-dimensional profile models, with a motor stick down one side. Each flyer can make six flights, the best two being added together.

INTERNATIONAL FEEL

The Nationals weekend of indoor scale is firmly fixed in the calendar. We get regular competitors from Europe and the USA, which adds a terrific international feel to the event. The meal on Saturday is a great way to meet other modellers, gather ideas and tips on how to improve your own models. A trimming session takes place on Saturday evening, straight after the R/C event



Mats Johansson is such a dedicated modeller. He is like a stick of rock; if you cut him in half the rings would say scale aeromodeller!

completes flying and the dividing boards are fitted in place.

As usual some terrific saves were witnessed and some awful ones too. Even I caught an errant free flight model as it soared over the dividing wall, heading into the pits. The big multi engine models typically had a team of 'catchers' dotted around the hall's perimeter, just in case. At one point Richard Crossley was seen sprinting after his Short Shetland, just catching it before it hit the wall.

Tonda Alfery had an equipment failure, which is very unusual for him. A broken wire deep inside his Fury was the issue. A quick shout out to the assembled masses for a soldering iron resulted in the model successfully flying in a later round. ✈️



Richard Crossley giving some scale to his Short Shetland. An impressive model.



Tonda Alfery waits patiently for the judges to give the green light to fly his Fury in Open - CO2/Elec.



Mats flew his delightful Bristol Scout in Peanut class.



Even Richard can get it wrong. His Shetland was not quite as well behaved as his Coronado and he has a minor panic as the model heads for the wall. Luckily, Richard is nimble on his feet! The Shetland still won the Open - CO2/Electric class.



Pete Fardell concentrating on launching his Comper Swift in the Air Race. It's worth noting that the pilot is a small Santa due, apparently, to Pete building the model at Christmas a couple of years ago.

FRIENDLY & OPEN

What always humbles me is how friendly and open to sharing information the competitors are. They are clearly very talented modellers, probably some of the best in the world, but they are always happy to have a chat.

The pits area is open to peruse the models and chat to the competitors. But beware they may ignore you if they are winding the motors as concentration is needed. The motors are normally wound by counting the turns. Some, however, have a torque meter and stop as soon as the torque to wind the motor increases.

Sometimes the models are released and circle beautifully, only to flick off course due



Tonda's FJ-1 Fury has a barometric sensor that he zeros to the floor atmospheric pressure. When it lands the sensor shuts the motor down, thus avoiding the landing roll ending in the wall.



There was always a crowd around the Alfery pit table.



Another picture of Tonda's Roland C.11a. Winner of Open Rubber.

to a rogue air current from a door or an air conditioning vent. Even the knots unwinding in the rubber motor can cause this, for the model to then crash into a wall. The wreckage is simply picked up and, with a shrug of the shoulders and a grin, marched back to the pits where typically a few minutes repair work has it flying again. Low mass typically means the damage looks worse than it actually is.

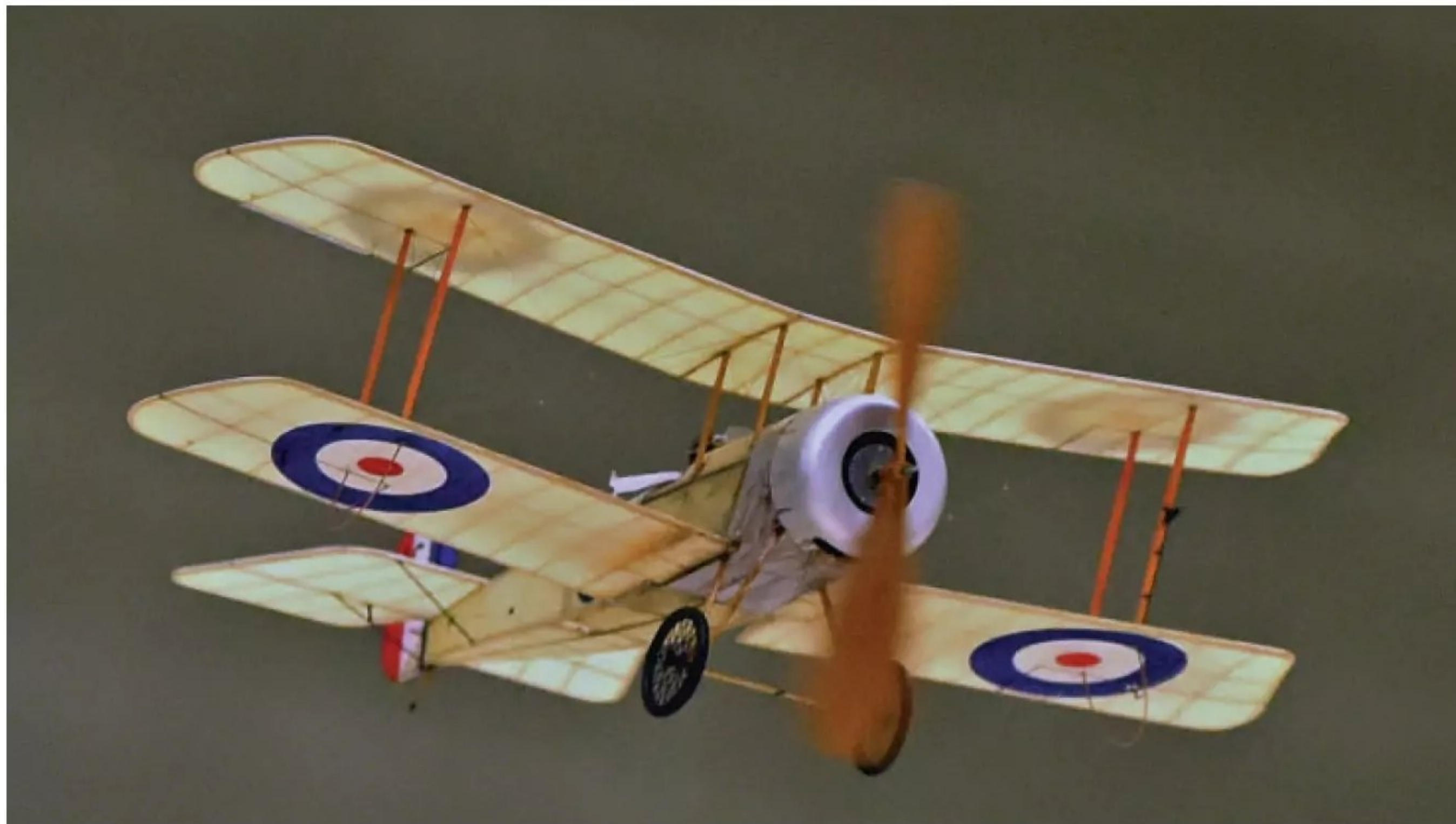
I witnessed Mike Stuart's lovely Blackburn Dart crash into a chair leg, breaking and pushing the leading edge right into the spar. All the tissue crumpled, with the wing loose. I walked over to his table a few minutes later to see how bad it was but it was already fixed and he was winding the motor for another go!

HIGHLY ADDICTIVE

Free flight is very addictive. Unlike R/C, where you can nudge the controls to steer a model



Ted Griffith's Andreasson BA4b.



Another view of the beautiful little Bristol Scout from Mats Johansson.



Richard Crossley divulges some free flight secrets to Andrew White. Andrew competes in R/C but was so taken with the F/F antics that I see a free flight model in his future.

away from the walls, once you release a free flight aircraft it is on its own. So how will it do? The sense of achievement when the model successfully completes a flight is palpable and the ripple of applause that echoes around the hall makes it all worthwhile and you simply have to do it again.

If the flight doesn't go to plan then a tweak to the C of G or the addition of a trimming aid, such as a Gurney flap, is made and you go again. ✈



Pete Smart giving his model a good listening too!

Yet another of Tonda's stunning models, this time his winning Peanut scale Supermarine Spitfire LFIXe.



Phil Smith and Monz Lyons static judge the Hillson FH40 slip wing Hurricane in Intermediate.



Mike Smith and Gordon Warburton inspect Pete Smart's Blohm & Voss BV 222 in Open - CO2/Elec static judging.

TEAM EFFORT

The event was incredibly well run and as always it relies on a team of helpers, timers, scorers and judges. Without this team effort the event simply could not take place.

A big thank you to the Wolverhampton University team for hosting the event at the Walsall Campus and for keeping the prices as reasonable as they can. The university really enjoys hosting the event. It is low maintenance and we are normally very well behaved, requiring little input from staff once set up. For them the event is very different; in fact, one staff member changed his shift rota to attend on Sunday after enjoying Saturday's R/C event.

The next Free Flight Indoor Nationals is pencilled in for the weekend of the 26th and 27th April 2025 so you'd better put it in your diary now!

I think that just about wraps it up from me.

As always if you want to drop me an e-mail, I can be reached at cammnut@gmail.com ■

Scan this QR code to see the full results of the 2024 Indoor Scale Free Flight Nationals or visit: <https://scale.bmfa.org/wp-content/uploads/Scale-Indoor-Nats-Free-Flight-Results-2024.pdf>



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DORNIER FLYING BOAT

I have recently completed and maidenised a Dornier Do-24ATT model.

The full-size is a bit of an interesting beast. The Do-24 is a three-engined flying boat, built originally for use in the Dutch East Indies. 279 were built between 1937 and 1945.

The ATT version started life as a flying boat in 1944 as a Do-24T-3. Until 1971 it was

used in Spain as an air-sea rescue aircraft, at which time it was retired and placed in a museum. It was later rescued from the museum, extensively restored and made flyable. The original wings and radial engines were replaced by newly developed advanced technology trapeze-shaped wings, with Pratt and Whitney turboprop engines. Retractable landing gear was also fitted, making the aircraft an amphibian. Renamed 'Do-24ATT' in 1983, it completed a round-the-world trip to raise money for UNICEF.

The model is at 1:14 scale, giving a wingspan of 7 ft (2143 mm). Flying weight is 8 lb 9 oz (3.9 kg). Photos are by Chris Williams. Construction is based on the Ivan Pettigrew Mini Catalina plan. Power is from three PO-2826 outrunners with a single 3S 5000 mAh LiPo. The P/W ratio of 48 w/lb gives an easy take-off from short grass and a reasonable climb performance. Duration is in excess of 10 minutes with 60% battery capacity remaining.

Martin Hardy



WARBIRD WITH A TWIST

From 'Lockheed Skunkworks', Dumfries Branch' is a Vintage Model Company Messerschmitt Bf-109. It is built using nicely lasered parts and it went together really well. I

then discovered that I had put a twist in the port wing. However, I was able to sort this with a heat gun applied to the covering. Hopefully I will get a chance to maiden it in the near future. The next project is a Vintage Model Co. Piper Cub and that seems to be going together quite nicely as well.

Gerard Edgar

STRETCHED PANTHER

Your magazine arrives in Australia a couple of months after publication, so I may be late to the party! However, here is my Panther, built essentially to the Tony Nijhuis plan featured in RCM&E, July 2023. The main change was a couple of inches additional wingspan. I also moved the aileron servos inside the forward fuselage, connecting the surfaces with Dubro micro pushrods. The canopy is the side of a 'Windex' bottle, covering is doped tissue and Tamiya paints. My thanks to Tony for an easy build and excellent flight manners. The extra wingspan gives a good power off glide.

Mike Grasso



CAP GLADIATOR

This shot is of a Gladiator made from a CAP kit. The airframe was acquired from a friend but is now getting toward finishing. Going from a Merco 61 power train to electric was not so easy, especially with the weight distribution and the rather heavy wood in the CAP kits of old.

Bob Shuttleworth



STRANGE QUARK

You won't see this one in the shops. Here is my own design Strange Quark EDF prototype model. Built 90% from XPS foam sheets (underfloor insulation), with a little balsa and lite ply thrown in. It's covered with 38-micron matt laminating film and finished with DIY store sample paint pots. It has elevon control surfaces, spans 800 mm and weights 870 g, including a 4S 2200 mAh LiPo. Power is from an FMS 50 mm EDF V2. Initial flight tests are very promising with four and a half minutes duration.

John Hutson



1911 DEPERDUSSIN

PART 2



Now fitted with a replacement engine, Ian hopes that the problems experienced during test flights of his 3/4 scale 1911 Deperdussin are a thing of the past.

Ian Turney-White follows up his original article in the July 2023 issue about his giant scale Edwardian aeroplane

words **Ian Turney-White**

photos **Ian Turney-White, Mike Mennell**

When I wrote the original article for my 3/4 scale 1911 Deperdussin it was my intention to complete the article in one piece. I had written the article as the model was being constructed and it was submitted to the Editor when I had carried out three test flights

Sadly, further activities with the Deperdussin didn't go well and when I told editor, Kevin, of my problems he was keen for me to do a follow up article, which you can read here

A FALSE SENSE OF SECURITY

When I next flew the model, everything looked good. The engine started easily, ran well and the take off and flying looked good, with no problems. Possibly, I was lulled into

a false sense of security and so I started to explore the model's flight capabilities, with some steeper wingovers and low passes. Suddenly the engine slowed down and sounded rough, and after two or three seconds it stopped. Typically, the model was in the worst place and with not that much height.

One effect of using a large diameter prop is that at slow rpm the prop acts as a very effective airbrake and I could see the model slow up in the air. The resultant 'landing' was untidy, running out of both airspeed and elevator control, but thankfully with no damage to the model. Sadly, I could see that the crankshaft and its pulley were skew-whiff and out of line.

Back home, I removed the engine and reduction drive, and stripped the engine down.



Using a JPX engine required some new parts to be fabricated.

“The engine started easily, ran well and the take off and flying looked good”

The new crankshaft, despite my efforts in getting the crankpins pinned and also getting the two pulleys dynamically balanced, had twisted.

At this point I realised that the original engine's crankshaft wasn't strong enough for my reduction drive. Looking critically at the crankshaft, the centre web and its two crankpins (which are hydraulically pressed into the stronger outer webs/shafts) are off a much lighter construction, which seems really odd. Since then, I have found out that following any prop impact the usual outcome is a twisted crankshaft.

At this really point I was snookered! What should I do?

LOAN ENGINE

I really wanted to complete the test flights, but the original engine was not suitable. I pondered over what else could I use but the options were really limited. I looked at some promising industrial V-twin engines, which would have been good but were sadly far too heavy. I also looked at microlight engines but for a variety of reasons there was nothing suitable. The only option I could think of was to borrow the 425



To minimise the risk of ending up in the wheat surrounding his flying strip Ian performed wingovers to minimise the time the model was over the crop.

cc JPX engine and its reduction drive from my 2/3rd scale Hanriot biplane on a long-term loan, if suitable. In the meantime, I would try and obtain another JPX engine

I made a flat plate mount instead of using the JPX 'bell mount' to reduce overhang and limit the effect of the heavier/stronger engine on the

CG position. I also had to make a new, larger, welded steel silencer and I also fabricated new manifolds to suit the JPX. To compensate for the heavier engine, I left off the dummy Anzani and I also mounted the battery for the electric starter behind the pilot.

Trying the engine at the bottom of my garden, it started easily and ran much smoother than the original engine and seemed to have considerably much more thrust. The CAA paperwork was modified to show the larger engine and the model was checked by my LMA inspector.

SIX TEST FLIGHTS

At my local model club, I was ready to carry on with the required six test flights. The original test flights wouldn't now count seeing as I had fitted a larger engine.

Since I had last flown the model the wheat fields surrounding the airstrip had grown much taller and I thought to myself, 'Be careful.'

The first and second flights went really well, the extra thrust allowing me to fly the Deperdussin around with the engine throttled back. The CG position still felt a bit forward but was not too bad.

Getting ready to start the engine for its third flight, my LMA inspector noticed that one of the Allen bolts that fasten on the electric starter had sheared off. Luckily, I managed to remove the broken part of the bolt and fitted a new one, and everything looked fine. The engine started and ran well, and the third flight was duly completed.

The fourth flight started off well, with the JPX running nicely. I have another JPX engine in a 2/3rd scale 1913 Ponnier monoplane and this engine, and the one borrowed from the Hanriot, had never cut or given me any problems, so much so that I had great confidence in the airframes and motors. To minimise the risk of ending up in the wheat I was flying a bit of a strange circuit, turning at each end of the



Some fabric needed to be removed to undertake repairs to some ribs.

“The fuselage longerons were broken at the cockpit area and the undercarriage was also broken”

runway as tight as I could to get back over the runway as soon as possible, or doing a wingover turn to minimise the time the model was over the crop.

I had flown for about five minutes and was at the upwind end of the runway, turning towards the downwind leg and nearly halfway round the turn, when the engine suddenly stopped in the worst possible position - again! The only option was to carry on with the turn and try and head for the runway, which with a big model and no power was not turning as quickly as I would have liked.

With a bit more height, or if the engine had cut a couple of seconds later, I would have been okay. But as it was, I realised I was not going to get the model back onto the runway. The only thing I could think of was to raise the nose to reduce the speed as it sunk towards the crop. When it sunk into the wheat it was like hitting a brick wall and despite the tail being low the model was immediately flipped over.

The fuselage longerons were broken at the cockpit area and the undercarriage was also broken. I noticed fuel leaking from the tank, which was more than half full, and the ‘ignition on’ buzzer was still active, so it was quickly switched off. The large prop was somehow undamaged. To recover the model it was easier to remove the rear fuselage, tail and wings. To lighten things further I also removed the engine and prop.



A jig was made to clamp up the short longeron replacements, which had a slight curve. Strips of spruce and ash were used to form two laminated glued longerons of the correct width and thickness.



The front and rear parts of the fuselage were clamped to fourteen blocks mounted on Ian's workbench to hold them in the correct position.

I spoke to a friend who has a full-size pilot's licence and he said one of the things a pilot dreads is an emergency landing in wheat or rapeseed, which is unlikely to end well.

BACK HOME

Back at home I checked the ignition battery, which was fine, but I couldn't get a spark. I plugged in my test unit in place of the sensor

and the plugs were sparking merrily. However, the ignition sensor showed some signs of damage. The magnet is fitted in the rear face of the rotating gear wheel (fitted to the engine pulley) and I can only think that when the Allen bolt failed the starter may have moved and momentarily caught the rotating gear wheel, slightly displacing it, just enough to damage the sensor. It's a pity it did not give up earlier rather than wait one and a half flights later...

I was really disheartened but I decided to carefully examine the model and make a list of all the repairs needed.

The rear end of the fuselage and the tail parts were all undamaged. The wings had a few split ribs, needing some fabric to be removed to undertake the repairs.

When a model is damaged, I try and focus my thoughts and efforts on repairing just one item. Once that item has been repaired, I then focus on the next one. I try not to be overwhelmed by all the repairs. It seems to work for me (maybe I'm conning myself!), but we are all different.

The fuselage wasn't going to be easy to sort out. I initially thought about building a new one, but I didn't have enough spruce. Then I wondered if I could splice in replacements for the missing longerons? I first removed the remaining damaged undercarriage parts and the remains of the fuselage front lower fairing. It was quite common for full size longerons and spars to be spliced; the ratio of the slope on the splice would be somewhere between 10 - 15 to 1.



Ian carefully cut the splices in the longerons using a slope of 12 to 1, making sure the angles on the corners were at 90 degrees.

I carefully cut the ends of the longerons using a slope of 12 to 1 and ensuring the angles on the corners were at 90 degrees.

Next was the construction of the short longeron replacements. These had a slight curve in plan view and so I cut out a jig using a piece of 3" x 1" timber with a slight curve on each side and clamped it on each side, using strips of spruce and ash to form two laminated glued longerons of the correct width and thickness. This was repeated for the other pair.

To hold everything accurately, I made about fourteen 'L' shaped wooden blocks. These were fitted over the plan in top view, with thin woodscrews screwed through the plan into the bench top. The front and rear parts of the upright fuselage were clamped to these blocks to hold them in the correct position.

I gradually carefully cut the new longerons to replace the missing longerons, ensuring minimal gaps and matching slopes, which took ages. These were glued up one by one, and over the repair area they were reinforced with a ply strip glued on the inside face.

I added the missing uprights, cross-braces, diagonals and gussets. I also reattached any loose or displaced components whilst the fuselage was jigged up. After being removed from the work bench, the fuselage felt strong and true.

UNDERCARRIAGE

The undercarriage was next, needing me to cut and size to thickness suitable strips of ash, which needed gluing together. The skids were clamped in a jig to get the correct curve and, as originally done, a support frame jig was fitted over the centralised inverted fuselage to hold the two horizontal undercarriage members in the correct position. I gradually trimmed and added the undercarriage legs and skids to the fuselage and horizontal members. When the glue was set, I added the salvaged metal plates but used new Allen bolts and bracing cables - it's much quicker to describe than to do!

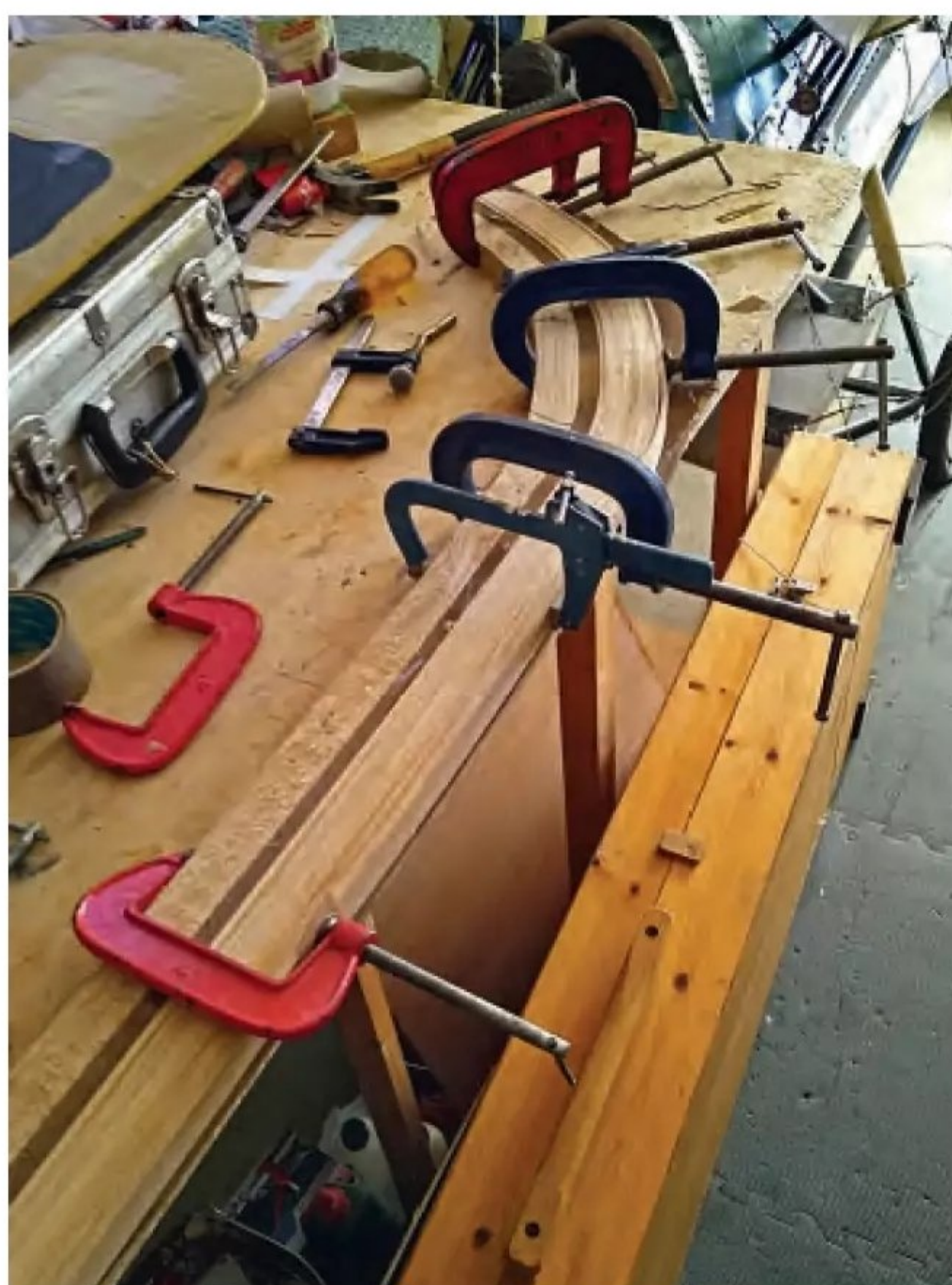
Whilst the fuselage was inverted, I cut out and glued the new half round lite ply formers for the lower front fuselage fairing, followed by the 0.8 mm scarf jointed ply panels.

My next job was the poor pilot, who had lost an eye and all his mid-section, so requiring major surgery. I also moved the rudder servos, the rudder bar, the receivers and radio batteries to a position below the pilot to help move the CG rearwards a touch.

I had to recover the fuselage and odd panels on the wings, but it was good to see it looking more like an aircraft. Nigel at Flightline Graphics kindly supplied me with new masks for the DEPERDUSSIN name on the fuselage sides.

I refitted the engine with a new ignition sensor and a disc to mount the ignition magnet, but first I decided to try hand starting it, which wasn't difficult. The engine ran well and would hopefully be reliable. So, I decided to leave the electric starter off, which allowed me to fit the dummy Anzani engine.

One of the last jobs was setting up and adjusting the wing rigging wires.



The undercarriage needed strips of ash to be cut and sized to thickness before being glued together. The skids were clamped in a jig to get the correct curvature.



Metal plates were salvaged from the original undercarriage but new Allen bolts and bracing cables were fitted to hold it all together.



Whilst the fuselage was inverted new half round lite ply formers were added for the lower front fuselage fairing, followed by 0.8 mm scarf jointed ply panels.

“...now the Deperdussin is as good as before, so I am pleased that I didn't give up”

DIGGING DEEP

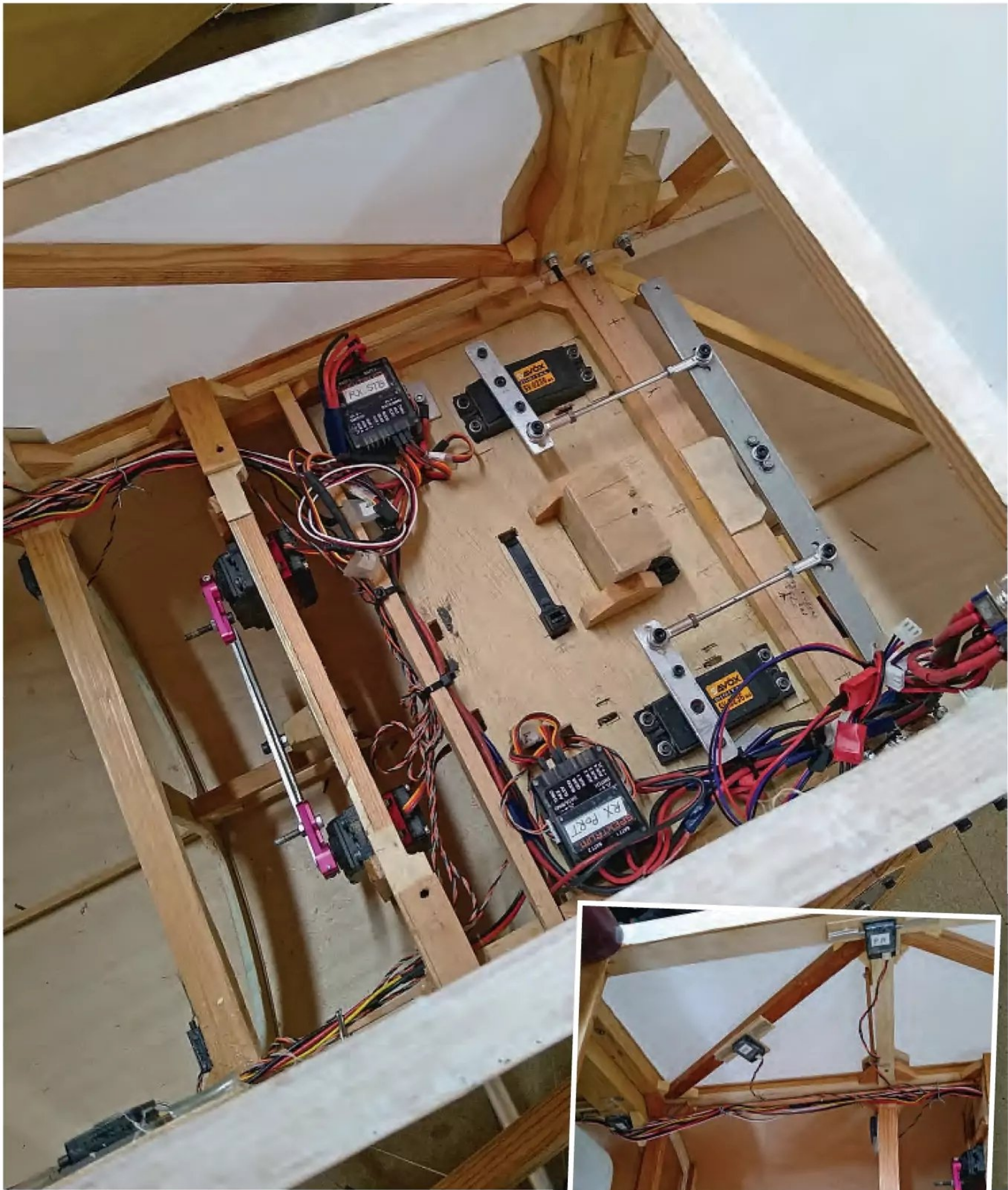
I really could have done without all the work needed to repair the model and the mods needed to fit the JPX engine. I really needed to dig deep and be determined to finish all the work. But now the Deperdussin is as good as before, so I am pleased that I didn't give up.

The remaining three test flight will hopefully be carried out soon. I can console myself that I have been lucky with all my other large model test flights. I just hope that for any future large model test flights my previous good luck returns! ■

DATAFILE

Name:	1911 Deperdussin Popular Monoplane
Type:	Early French aircraft
Designed:	Ian Turney-White
Scale:	3/4
Wingspan:	21 ft 6 in (3.81 m)
Weight:	174 lb 2.6 oz (79 kg)
Functions:	2 x 80 kg servos - wing warping 2 x 40 kg servos - elevators 2 x 25 kg servos - rudder 2 x 4.5 kg servos - throttle & ignition on/off 1 x 9 kg servo - dummy steering wheel 1 x 4.5kg servo - pilot's head
Batteries:	2 x 2S 3800 mAh LiPo for radio 1 x 2S 2100 mAh LiFe for engine ignition

The poor pilot needed major surgery to his mid-section and to replace a lost eye.



The rudderservos, rudder bar, receivers and radio batteries were moved to a position below the pilot to help move the CG rearwards a touch.



Now back in the air, Ian hopes to conclude the remaining three test flights, so clearing it for display at LMA and other model shows.



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New from FMS, this 1500 mm span Cessna 182 is a delightful reproduction of the full-size and is perfectly suited to both the novice pilot and the seasoned enthusiast seeking a top-drawer recreational flyer. With a host of scale features - e.g. intake grille, engine exhaust, multiple realistic antennas, landing gear fairings and electroplated spinner - aesthetic detail is high, further enhanced by 360° transparent cockpit windows, control yokes, instrument panels and dual-row seats, one of which is occupied by a realistic pilot figure. No fewer than seven bright navigation



lights illuminate the aircraft (five wing lights, one tail, one vertical tail) that enhance not only authenticity but practicality, improving visibility when flying under darkened skies. Complete with factory-fitted servos (7 x 9g) and factory-installed powertrain consisting of a 3541-KV840 motor and 40A ESC (with reverse thrust function) the flap-equipped

Cessna is capable of ultra-short take-offs, comfortably achieved from the roughest of surfaces thanks to an oil-damped CNC metal shock-absorbing U/C and wear-resistant tyres. Available in both blue and red colour schemes a six channel Tx, Rx and 4S 2200 – 3200mAh LiPo are required to complete the model.



FMS F-16

£259.99 | www.cmldistribution.co.uk

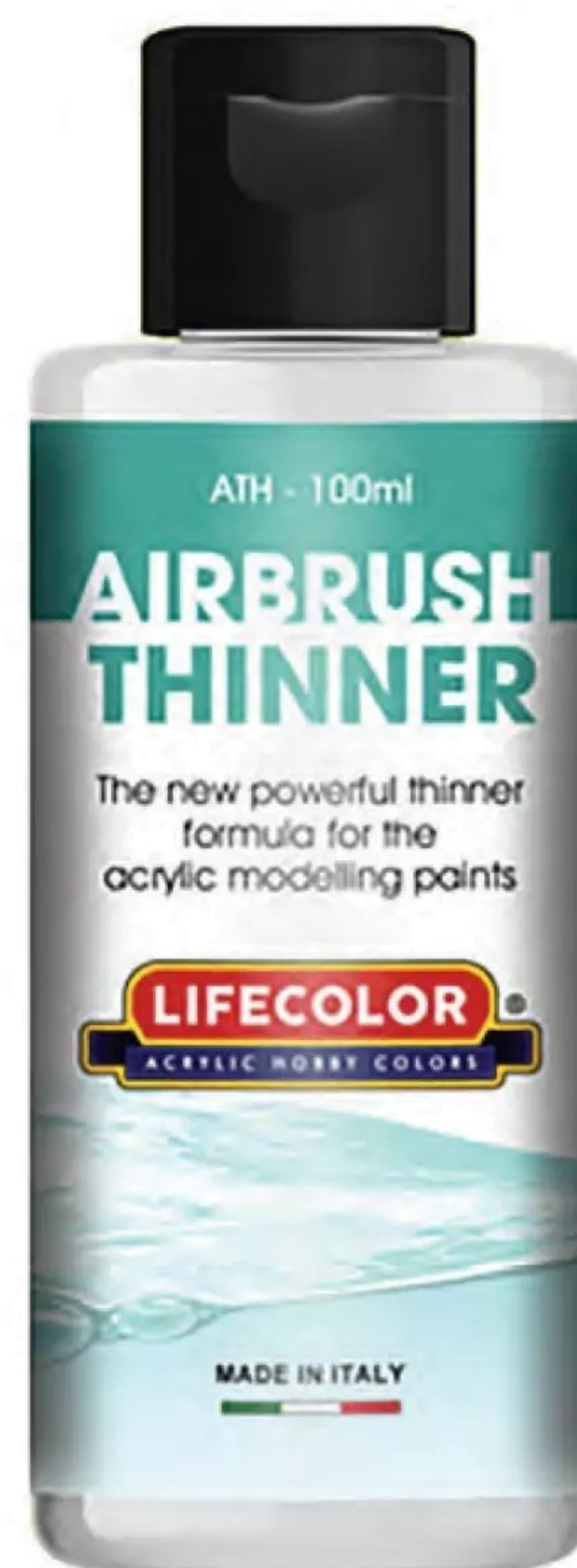
An upgrade of their original Fighting Falcon, this larger 712 mm span EPO EDF from FMS features sleeker contours and more precise detailing, with a substantial improvement in realism across a number of areas. The U/C components are a very faithful representation and offer excellent shock absorption, whilst navigation lights added to the wings, tail, and air intake enhance the ambiance during flight, providing a more authentic appearance in low light conditions. Rudder control has also been added, significantly improving performance and enabling the replication of most jet fighter

manoeuvres, the forces of which are absorbed by the inclusion of embedded reinforcement tubes within the fuselage, wings, horizontal tail and vertical tail. Factory-equipped with a 64 mm 12-blade ducted fan, 2840-KV3150 motor, 40A ESC and 6 x 9g digital servos, the F-16 delivers excellent performance throughout the speed range, its stable low-speed flight performance being a big box-tick for the first time EDF pilot. Available in both battlefield grey and Thunderbirds airshow schemes, the battlefield scheme comes equipped with realistic fuel tanks, missiles and five sets of different stickers to choose from. Requires Tx, Rx and flight battery to complete.

AIRBRUSH THINNER

£7.10 | www.airbrushes.com

Formulated for use with for acrylic modelling paints such as LifeColor, this powerful airbrush thinner from airbrushes.com increases paint fluidity and prevents airbrush clogging. Supplied in a handy 100ml bottle with easy to open flip-top cap.



JPS-3 RACER ARTF

£159.99 | www.jperkins.com

Fast, precise, snappy, rock-solid in high-G turns and beautifully smooth through graceful aerobatics, the arrow-like flying qualities of the JPS-3 E2K pylon racer are second-to-none. A recognised fact, for the model's designer, multiple pylon race champion, Paul Bardoe, flew this very design to victory at the 2022 British National E2K Pylon Racing Champs.

Perfect for intermediate-to-advanced R/C pilots, the 1016 mm span JPS-3 is model flying in one of its simplest yet most exciting and satisfying forms. Assemble the Oracover-covered, balsa and ply pre-built airframe in a matter of minutes, load it up with three servos (for aileron and elevator) plus a 1500 kV outrunner, APC 8 x 8 IC prop, 80A ESC and 4S 2200mAh LiPo, and you'll be ready to punch holes in the sky.



SEAGULL YAK-3 ARTF

£669.99 | www.jperkins.com

Introduced in 1944 the small, light and agile Soviet Yak-3 quickly endeared itself to both pilots and ground crew. With an outstanding power-to-weight ratio and impressive performance it proved a formidable weapon and remained in service with the Yugoslav and Polish Air Forces until 1952. Seagull's Yak-3U mirrors the radial engine version of the fighter, which was built in an attempt to increase the performance of later versions whilst avoiding overheating problems.

Seagull have applied their usual high levels of attention to detail with this kit, which presents assembled balsa and ply airframe components wrapped in matt Oracover film, a striking, crisp, painted glassfibre cowl, quality hardware, sprung JP electric retracts with leg fairings, pilot, cockpit detail, inset trailing edge flaps and more.

Spanning 1600 mm for 20 cc engines (or electric equivalent) and featuring a convenient two-piece wing, this attractive, rarely modelled fighter is both convenient to store and easy to transport.



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SLINGSBY TYPE 23 KITE

Chris Williams introduces part one of his latest Pro-Plan article describing the build of a Slingsby prototype glider

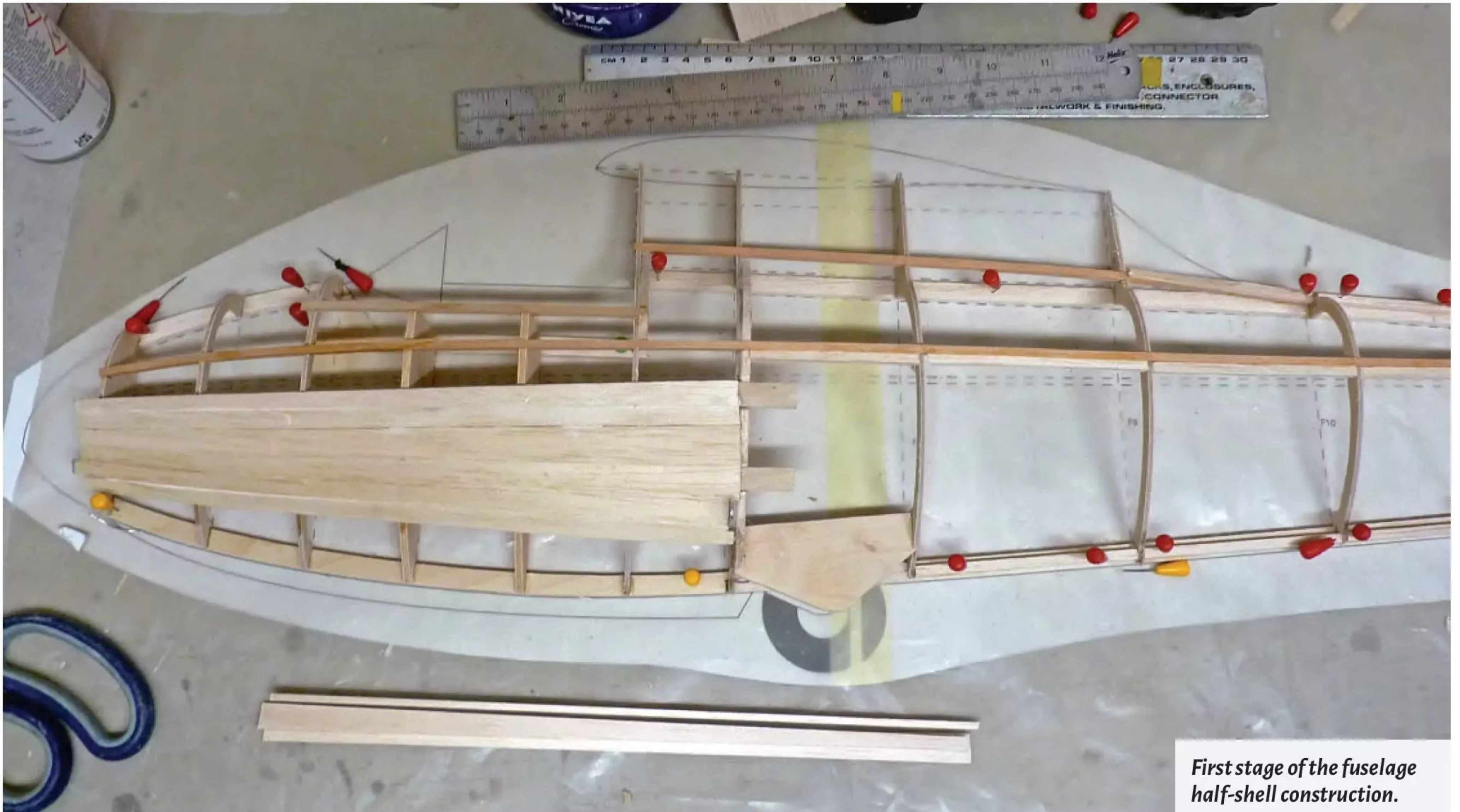
Words & Photos: **Chris Williams**



As has happened before with Chris' large glider plans, the Kite Type 23 is too large to fit on the pull-out Pro-Plan sheets in one issue. The remaining plans will accompany Part 2 of this article in the September issue.

The Type 6 Kite has been much modelled over the years, small wonder with its attractive appearance and gull semi-elliptical wings etc. It was some years later that the Slingsby concern decided to modify the design to improve its aerodynamic qualities by extending the pylon to render the wings further away from the fuselage. This is a model of the Type 23, as it was named, of which one only was built, and it never went into production.

Scaled to have the same dimensions as my previous rendition of the Prefect, this is a very handily sized scale glider whose modest proportions belie its ability to fly. The airframe is almost entirely built from balsa, other than the longerons and spars, plus the ply hatch into which the windscreen brackets must be screwed.



“...this is a very handily sized scale glider whose modest proportions belie its ability to fly”

FUSELAGE

The fuselage is built in the traditional way by first building a half-shell on the board, then adding the other side afterwards. Care must be taken during the process to avoid any twists or bends to the fuselage as construction progresses.

Pin the keels down on the plan, making a joint between the 5 mm ply lower front keel K1 and the adjoining balsa rear keel. Make the necessary joins on the top keel to accommodate the angle of the tailplane mount and the shape of the fuselage.

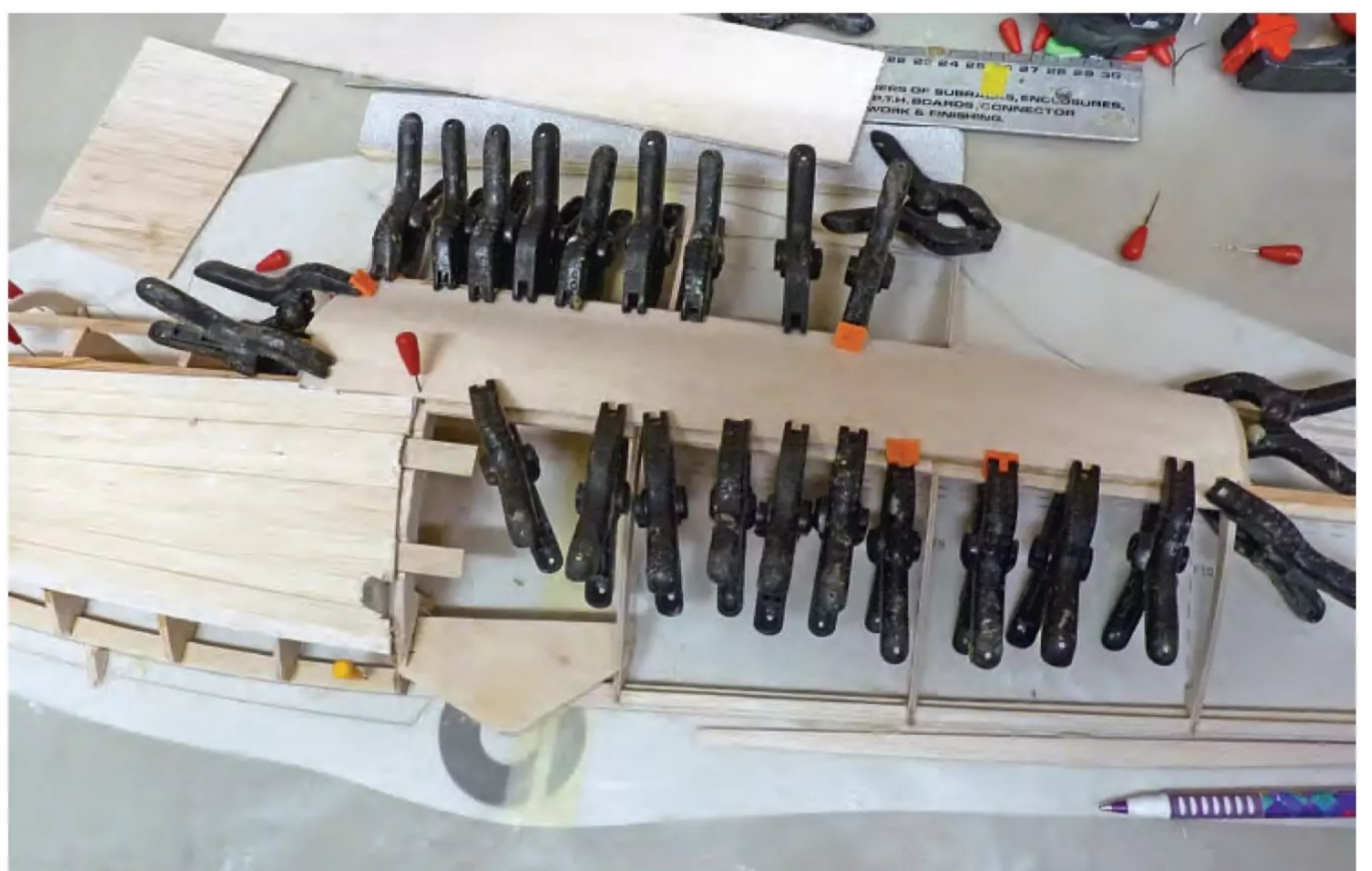
Make up 3 mm balsa laminations on the formers on the areas where there will be a sheeting join.

Cyano in place all the formers and the wheel mount, followed by the 3 mm square spruce longerons. Pre-steam the longerons to shape over the curved areas to eliminate any stresses that might induce a twist when the half-shell is removed from the bench. Start to plank the front of the fuselage with PVA and 2.4 mm balsa, the extra thickness of which will give latitude when final shaping takes place. To speed things up you can PVA the length of the planks and spot CA on the formers for a near instant fit.

PVA in place the 1.5 mm balsa sheet panels, leaving out the areas around the wing pylon and the tailplane mount, for which access needs to be retained. As there is a small concave curve in the panel below the pylon steam this in first before gluing in the panel with PVA. Fit as much of the planking as you can at the front and then, when the glue has dried, remove the half-shell from the board and eye it up for trueness. Now the remaining formers can be cyano'd to the other side and the process repeated.

Finish off the planking by filling in any unplanked areas and also the top of the nose area. Note that the planking process does not have to be super neat as filler and the sanding block will result in the final shape. Fill the joins in the

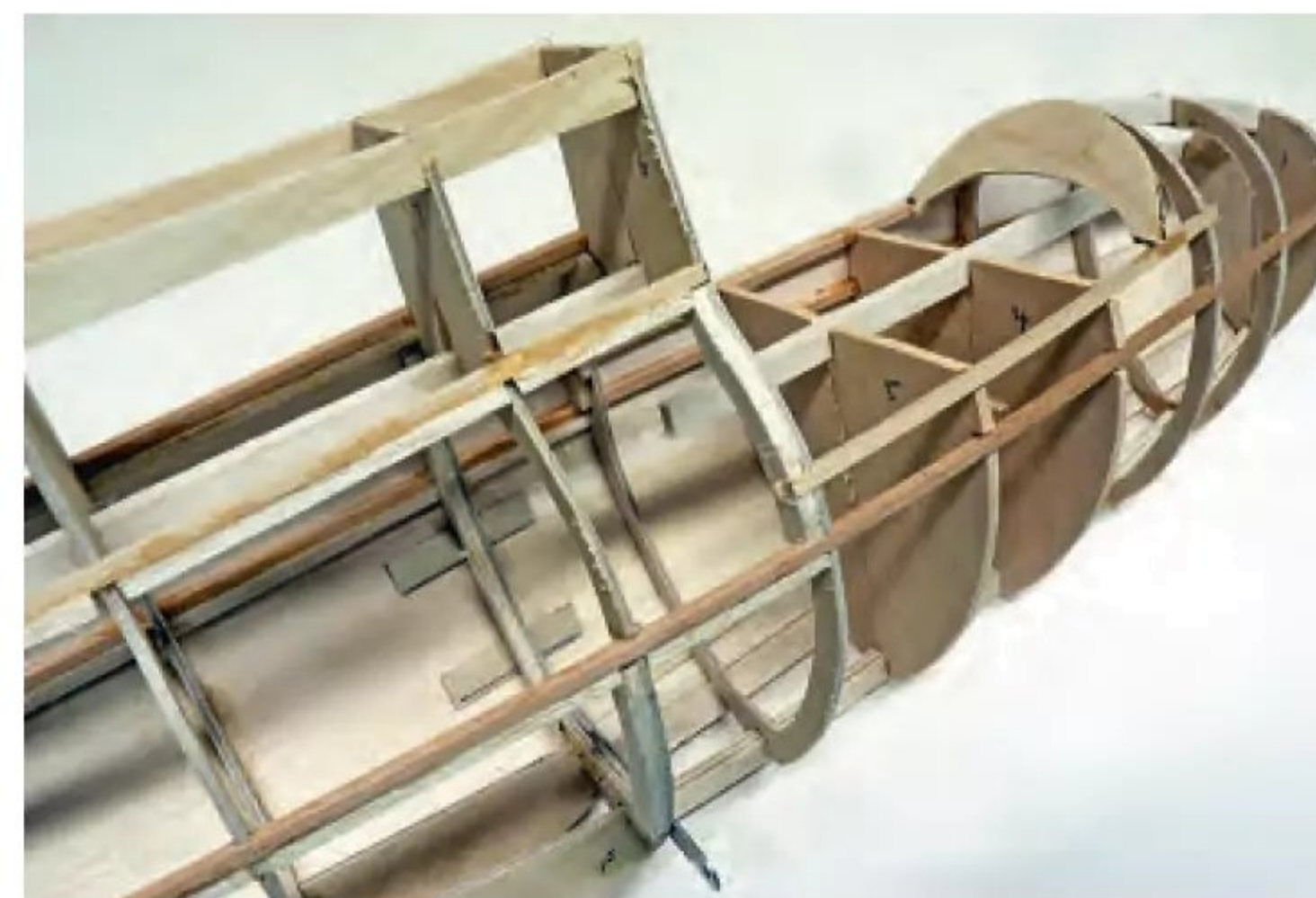
planking with PVA to further strengthen the fuselage. Make up and glue in place the 3 mm lite ply nose profiles, then apply thin cyano to the areas that will receive filler. Then apply filler to the planking and the nose. The nose area will probably need three applications before the shape is achieved. Also, don't pre-sand the planking, just apply the filler with a flexible applicator. Then use a piece of 0.8 mm ply, bent to follow the curve of the fuselage, to achieve a fairly smooth finish. Sand down between applications of filler with an 80-grit sanding block, being careful not to overdo it. Leave the filling and shaping of the join between the front planking and rear sheeting until later. Now the temporary formers F4 and F5 can be removed ✈



After the planking the sheeting continues.



Half-shell removed from the board and ready for the other side.



View of basic front end construction.



View of strut mount and wheel box. Note the ply transfer plates.



Car body filler finishes off the shape of the fuselage.

with pliers and the interior cleaned up, also the keel sections between the wheel box sides.

Pour polyester resin into the cockpit area and ensure that the whole of the planked areas are covered with resin to further strengthen the front of the fuselage. Whilst doing all this remember that the strut mounts protruding from the sides of the fuselage are somewhat vulnerable so take care when resting the fuselage on its side.

TAILPLANE

The tailplane is reasonably simple and quick to construct. Most of it can be glued together with CA. Simply make up the parts, pin the leading edge (LE), centre piece and trailing edge (TE) over the plan and add the 3 x 6 mm balsa ribs. As they are simple rectangles they can be cut from a pre-cut length to size.

The elevator is similar, other than the TE which requires a slot to be cut into the ribs. This is most quickly achieved by gluing two standard hacksaw blades together and cutting the slots out.

At rear end of the fuselage, fill in either side of central spine, after removing a small piece to allow for access to the elevator pushrod. Drill through for the plastic 4 mm tailplane bolt and fix the captive nut in place, securing it with epoxy. Attach the tailplane and check for alignment by placing a straight edge across the cockpit aperture and eying up to see that they are parallel. The elevator activating pin is a piece of 2 mm rod, threaded at one end, which is wound into the hole in the

“The elevator activating pin is a piece of 2 mm rod, threaded at one end”

centre of the elevator with the use of a drill.

After fitting the elevator and rudder servos in the cockpit make up the 3 mm carbon fibre pushrod for the elevator with a 2 mm ball link at one end. Cut out the 2 mm ply guide for the pushrod and temporarily clamp it in place on F14 and check that the elevator is being properly activated. At the servo end a length of 2 mm threaded rod will slide nicely into the carbon tube. Set the elevator level and epoxy the rod into the tube with a clevis fitted to the servo to achieve the correct length.

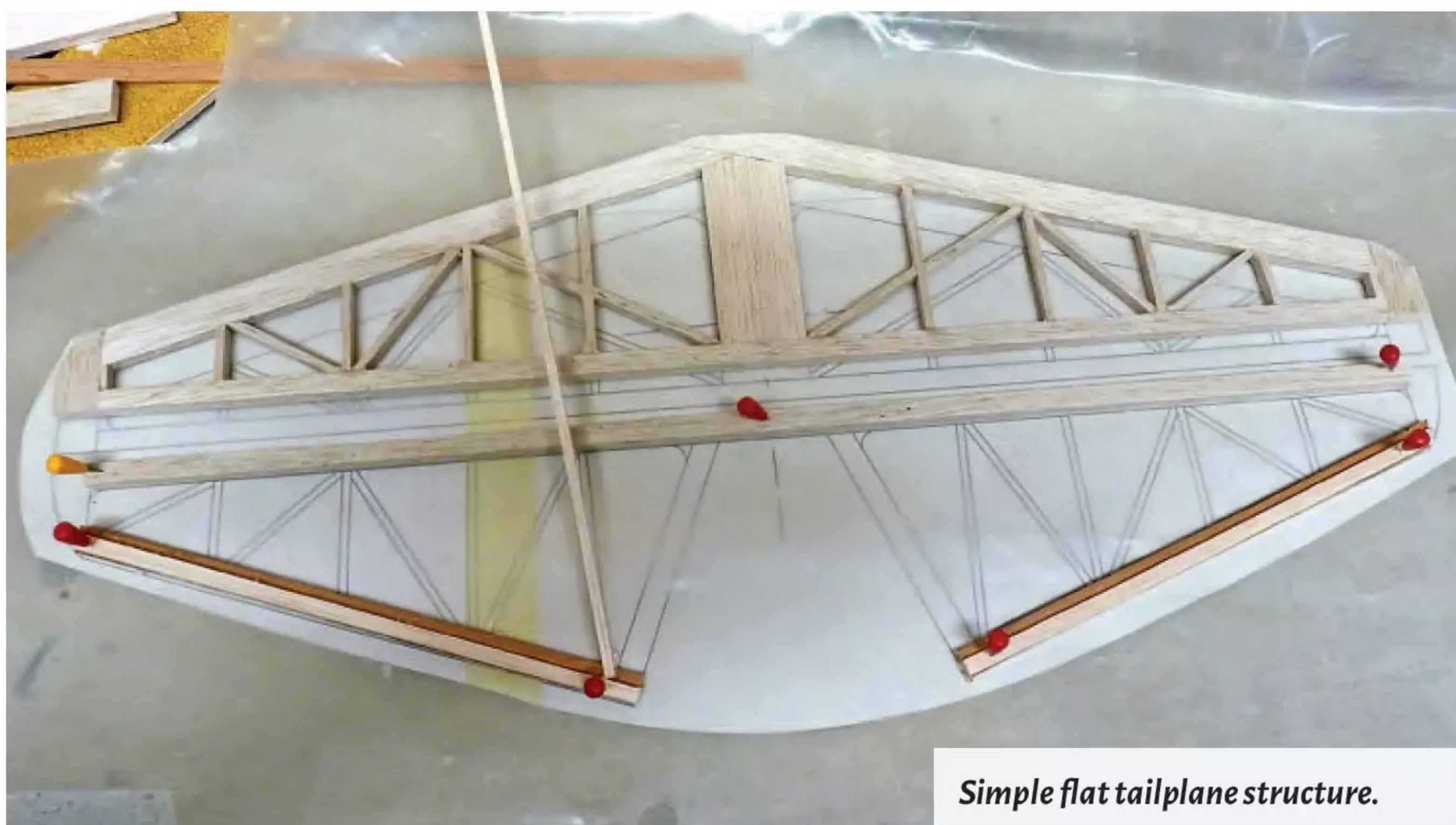
When all this has been achieved the top part of the rear of the fuselage, i.e. the tailplane mount area, can be sheeted before facing off with 0.8 mm ply.

WINGS

The wings have a gull bend which is achieved simply by building them over two longitudinal

jigs, one under the length of the lower spar and one under the TE of the inner panel. If, like me, you have a small workshop with only one working surface it would pay to make up all the parts in advance. This includes the false LE, both spars, enough pre-cut 0.8 mm ply webbing plates, ribs, aileron spar etc. As the rear of the ribs are so thin it can also be helpful to pre-glue the 0.8 mm ply reinforcing triangles in place before you start.

Commence by laying the TE and the lower spar over the jigs, temporarily taping them in place. Add the root rib, aligning it vertically to the building board, then the rib at the aileron root; this will establish the final shape of the inner panel. Add the remaining R1s, then add the tip rib. Use R2 to establish where the aileron spar will glue to the last R1 and glue the aileron spar to the root and tip ribs. Add the remaining ribs, followed by the top spar. The pre-cut



Simple flat tailplane structure.

SLINGSBY TYPE 23 KITE

TYPE 23 KITE
BY CHRIS WILLIAMS
1:10 SCALE
1.5m x 0.5m x 0.2m

PLEASE VISIT WWW.SLINGSBY.COM FOR MORE INFORMATION
WING RETAINING BOLTS
4mm NUTS
4mm CAPTIVE NUTS
1.5mm Balsa Sheet

Ø6mm x 3mm HATCH
RETAINING MAGNETS

PETG WINDSCREEN

0.8mm PLY SHEETING

3mm LITE PLY BASE

5mm Balsa SHEET KEELS

Nose BLOCK FROM SOLID
POLYESTER FILLER AROUND
3mm LITE PLY PROFILES

TEMP. ATE FOR BATTERY TRAY
ADJUST TO FIT

MPX STYLE
TOW RELEASE

3mm LITE PLY
BATTERY TRAY

1.5mm PLY SKID SIDES CENTRE
LAMINATED WITH 8mm Balsa CENTRE
& ALUMINIUM LINER

2.4mm Balsa
PLANKING

Ø50mm WHEEL IN
2mm PLY BOX

0.8mm PLY
TRANSFER PLATES

2mm PLY FORMERS

1.5mm Balsa SHEET

3mm SQ. SPRUCE STRIP
& LONGERONS

A 2.5m SPAN SCALE GLIDER
DESIGNED BY CHRIS WILLIAMS



Using a vertical marker to line up the fin post before gluing.

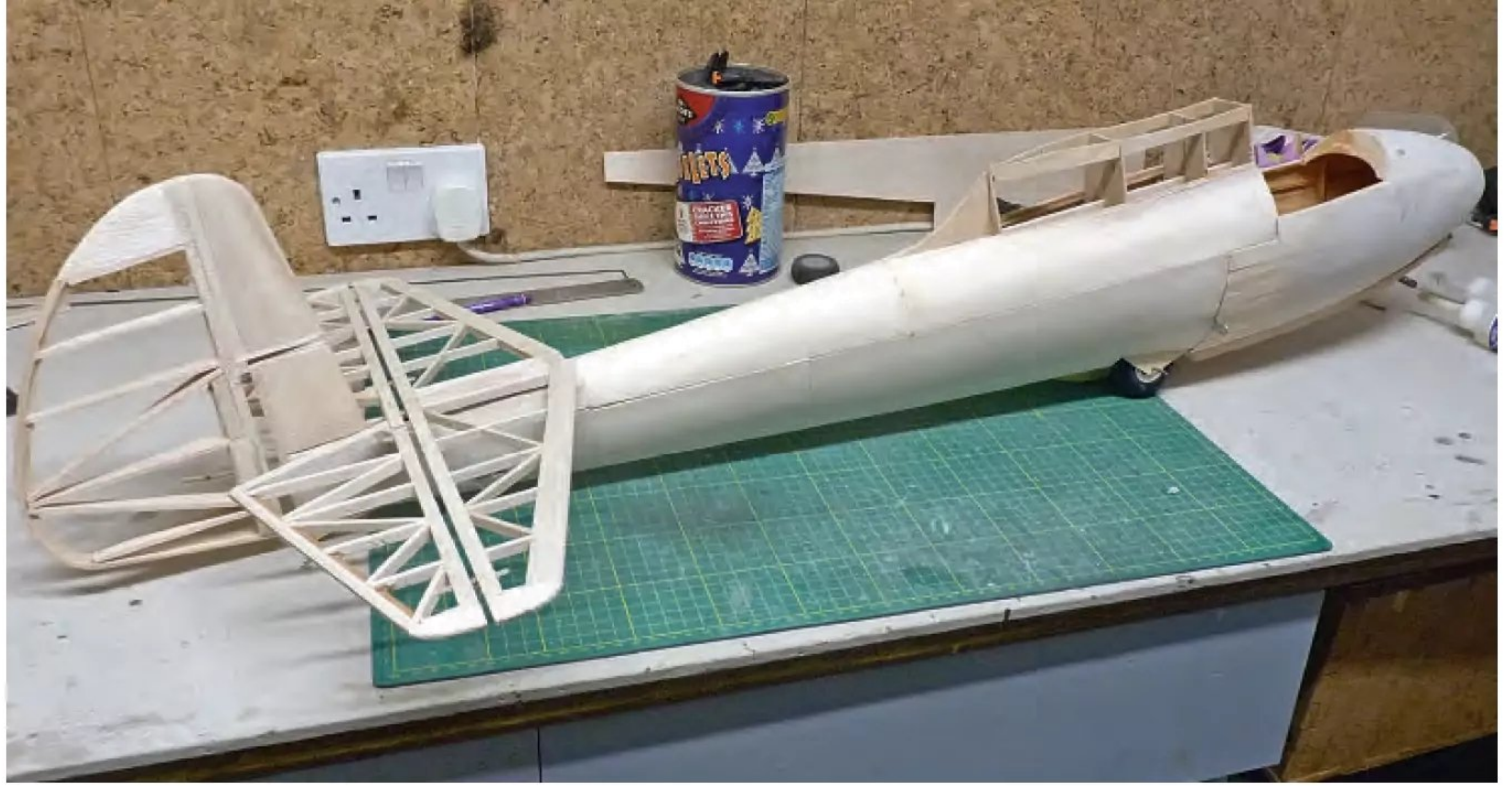
false LE is in two pieces; allow it to overlap at the gull join and cut with a pair of sharp scissors to make a joint. This will later be shaped and adjusted with extra balsa to follow the shape of the gull bend. Making sure that the lower spar is flush with the jig, start to add the web plates. The extra width of the jig should allow you to accurately locate the plates flush with the lower spar. Add the triangular 1.5 mm balsa gusset at the last R1 to help keep the wing straight, after which the wing can be removed from the board and the 3 mm brass tube and ply support epoxied in place, closing off each side with webbing plates.

The next step is to add the sub spars. This is a relatively quick job. Offer up the 3 mm square spruce spar to the front of the web plates and mark with a biro. Cut on the marks with a junior hacksaw and cut next to the existing spar with a knife, prying out the excess balsa. Apply PVA and clamp the sub spar to the existing spar. (Note that at the initial stage the R1s were glued in place with CA, whereas the remaining ribs were CA'd to the lower spar and PVA'd to the aileron spar in order to give time for correct alignment.) Once the glue has dried use a long sanding block to carefully sand the web plates flush with the spars and the false LE and aileron spars flush with the ribs. You will probably notice that the ribs protrude in places. This normally happens and they can safely be sanded flush.

Now the wing is ready for the lower sheeting. Place the wing support jigs J1 - J5 in the appropriate places on the board and lay the wing on top of them, weighing it down so that it sits snugly in place. You might find that the wing will rock back and forth on some of the jigs due to the sheeting on the spars being slightly high. Overcome this by removing enough material from the jig where the lower spar sits, to fix the problem. Clamp two straight edges to the inner panel TE to keep them straight and check that the aileron spar is also level. Apply PVA to the wing and lay over the balsa sheeting, clamping the TE first before the LE and wetting up the balsa at the gull break to ease the process.

AILERONS

The ailerons are built flat to the board. Offer up a 5 mm balsa blank to the aileron spar, mark out and cut approx. 1.5 mm oversize to allow for the chamfer to both edges. Chamfer the bottom edge, then make up and pin the TE to the board. You will notice when you offer up the aileron ribs that they appear to be too short; this is normal for an aileron with an angle LE, but if you are not convinced offer up



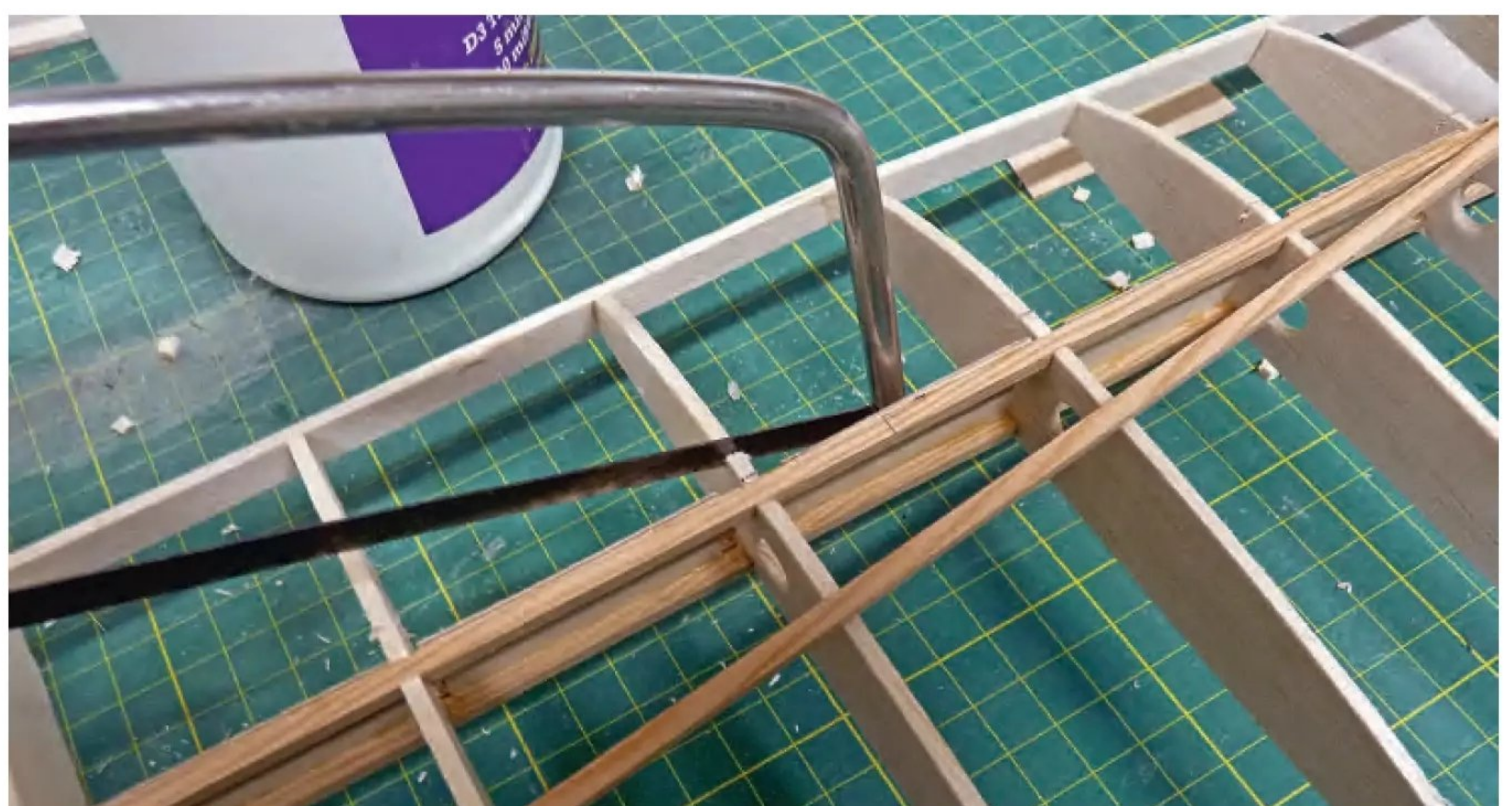
Tail end complete.



Basic wing centre section.



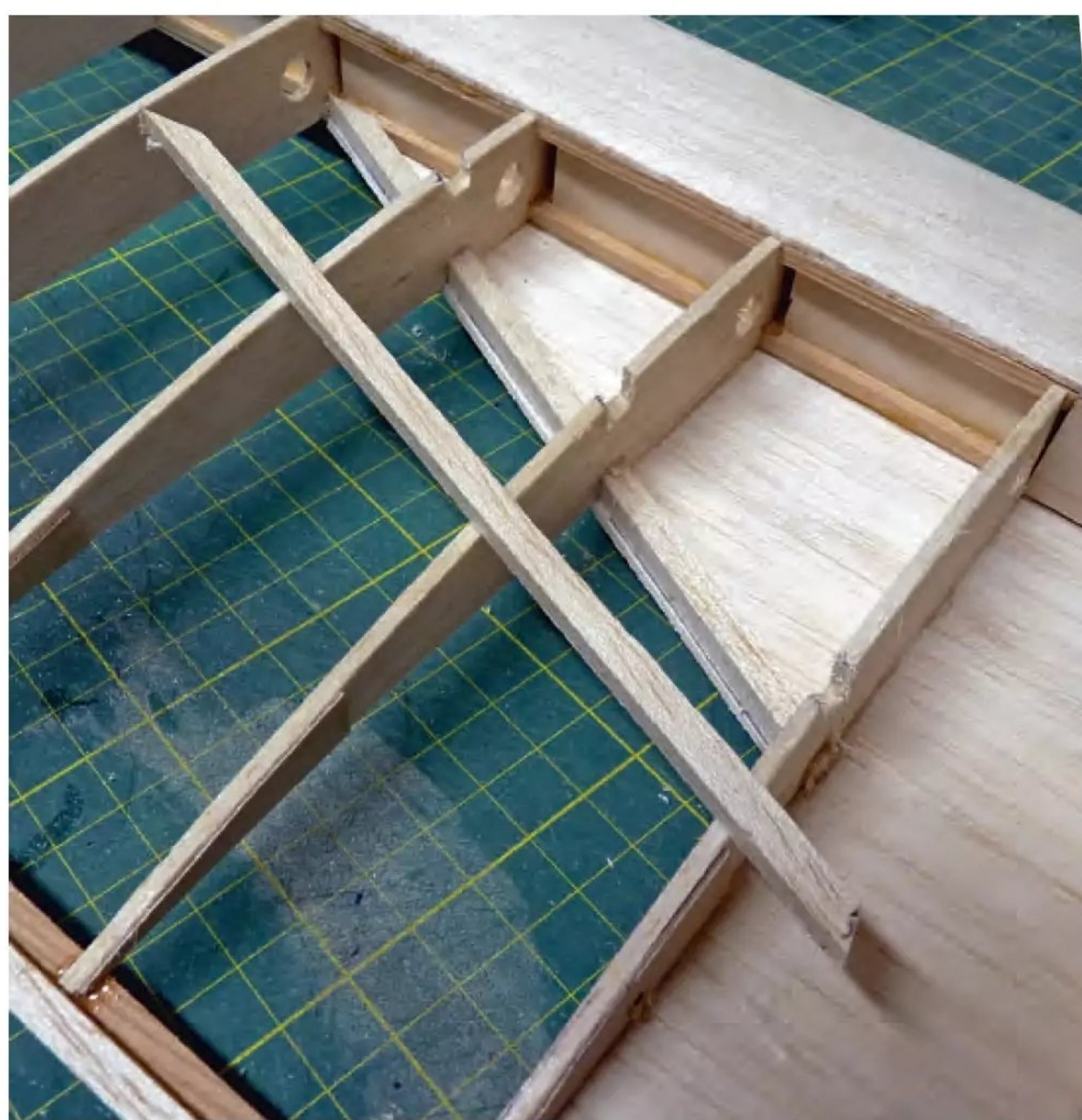
First stage of wing construction with lower spar and trailing edge set up on gull jigs.



Cutting the slots for the sub-spar.



Wing weighed down on jiggling supports to ensure no warps.



Retro-fitting the wing root diagonal.



View of wing centre section attachment.



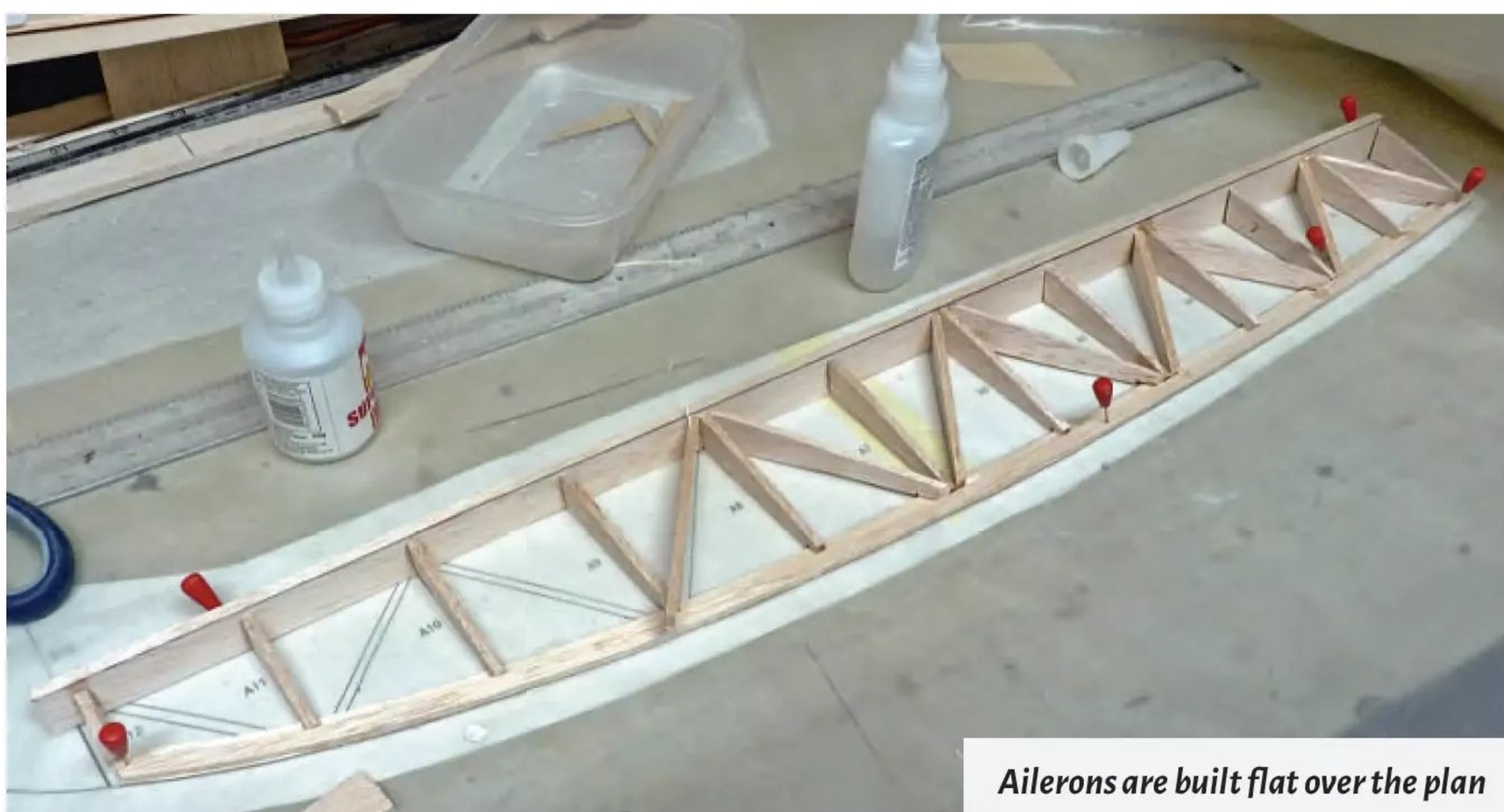
Finalising the fit of the wings to the centre section.

the LE and root rib to the wing to make sure. Cyano in place the root rib and A11 to the TE and LE. Add one of the centre ribs and check with a straight edge that the LE is not bowed, then add the remaining ribs. The diagonal blanks are drawn oversize and will need to be trimmed as you go along.

HATCH

Make up the hatch base from 3 mm lite-ply by offering up to the fuselage and drawing around the sides. Make up the laminated hoop for the cockpit aperture by epoxying three strips of 3 mm around the hoop former and trimming to size once the epoxy has cured. Cyano C1 and C3 in place with the base fitted on to the fuselage.

Now is the time to fit the retaining magnets. Drill pilot holes through C1 and C3, then



Ailerons are built flat over the plan



Basic hatch construction

drill out for the 6 x 3 mm magnets. Epoxy in place the first two magnets into the fuselage, then place two more against them to test polarity. Mark the outside of the new magnets and then epoxy them into C3 with the marks to

the front. Repeat the process at the front. Add C2 and the ply hoop. Make up a card template for one half of the ply sheeting; ply is used to allow the screws for the windscreen brackets to have something solid to screw into. Glue in

DATAFILE

Name:	Slingsby Kite Type 23
Model type:	Scale glider
Scale:	1:5.7
Designed by:	Chris Williams
Wingspan:	2.5 m (98.43")
Weight:	4 lbs (1.8kg)
Wing Section:	HQ 35/12
Functions (servos):	Ailerons (2), Rudder (1), Elevator (1), Tow release (1)

one side with PVA, followed by the other, then trim up the hatch to fit.

STRUTS

The strut internals are very simple: 4 mm carbon tube with 3 mm threaded rod epoxied inside at each end. The strut is faired off on one side with some 4 x 14 mm TE stock. Setting up is simple, too...

Attach the wings to the fuselage, then turn the airframe over and support the centre section to a height of around 30 mm, making sure that the wings roots are flush. Make up the threaded rods, complete with the 3 mm clevises and attach the strut after applying some 5-minute epoxy. Slide the tube up or down to attain equal lengths of threaded rod at each end and repeat for the other side. You should now be able to adjust the clevises to attain the correct dihedral on the wings.



Making up the adjustable struts



Decalage check!



Join us next time as the Type 23 is covered and flies for the first time

Once satisfied, you can use a thread lock on the clevises to ensure that the struts are always horizontal to the direction of flight. At the same time, ensure that the pins on the clevises face rearwards so that they won't become dislodged should the strut pick up a load of cut grass on landing, for example. For simplified operational reasons, i.e. quick rigging, the tailplane struts have been omitted.

One word of caution: test the strength of the threaded rods in the carbon tubes. The prototype suffered a failure in one joint during a spin test, luckily with no consequences other than a radically increased dihedral. If in doubt, use a full-length threaded rod. ■

To be continued in the September issue.

Scan this QR code for construction shots and views of the Slingsby Kite Type 23. Or use this link: <https://youtu.be/gsexR8Bcjyw>



Control Throws	
Ailerons:	20 mm up, 10 mm down
Elevator:	25 mm up, 15 mm down
Rudder:	40 mm each way
Brakes:	Ailerons raise up 28 mm
Coupled Ail & Rudd:	60%
(All measurements taken from the trailing edges)	

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4M-HESC50AV2*	50A, Burst 70A, 5V 5A BEC	£45.95
4M-HESC60A35V2*	60A, Burst 80A, 5V 7A BEC	£47.95
4M-HESC60A40V2*	60A, Burst 80A, 5V 7A BEC	£47.95
4M-HESC80AV2**	80A, Burst 100A, 5V 5A BEC	£62.00
Fly Fun 110A HV	110A, Burst 140A, OPTO, 6-14 LiPo	£129.99
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* XT60, ** XT90 on battery side



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4M-UBEC-15A	15A UBEC, 28A Peak, 9-51V I/P	£29.99
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PO-3541-	810kv, 920kv, 1070kv , 1270kv	£33.49
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	4M-045DH-005	Digital Sub Micro 4.5g	0.5Kg @ 4.8V - 0.10sec/60° 0.6Kg @ 6.0V - 0.08sec/60°	1pcs £4.72ea 5pcs £4.25ea
	4M-056DHVMG-009 (High Voltage)	Digital Metal Geared Only 8mm Thick - 5.6g	0.90Kg @ 4.8V - 0.14sec/60° 1.05Kg @ 6.0V - 0.12sec/60° 1.20Kg @ 7.4V - 0.10sec/60°	1pcs £9.94ea 5pcs £8.95ea
	4M-094DMGB-014	Digital Metal Geared Ball Raced Wing Servo	1.4Kg @ 4.8V - 0.12sec/60° 1.9Kg @ 6.0V - 0.10sec/60°	1pcs £11.54ea 5pcs £10.39ea
	4M-090AH-017	Micro Analog 9g	1.7Kg @ 4.8V - 0.09sec/60° 1.9Kg @ 6.0V - 0.07sec/60°	1pcs £3.99ea 5pcs £3.59ea
	4M-100AMG-022	Micro Analog Metal Geared - 10g	2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60°	1pcs £7.49ea 5pcs £6.74ea
	4M-100DMG-022	Micro Digital Metal Geared - 10g	2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60°	1pcs £9.05ea 5pcs £8.15ea
	4M-094DHVMG-026 (High Voltage)	Digital Metal Geared - 9.4g Ball Raced, 8mm Thick	2.0Kg @ 6.0V - 0.09sec/60° 2.6Kg @ 7.4V - 0.07sec/60°	1pcs £14.99ea 5pcs £14.17ea
	4M-160AH-027	Mini Analog 16g	2.7Kg @ 4.8V - 0.13sec/60° 3.0Kg @ 6.0V - 0.11sec/60°	1pcs £6.29ea 5pcs £5.66ea
	4M-175AMG-030	Mini Analog Metal Geared - 17.5g	3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60°	1pcs £8.73ea 5pcs £7.86ea
	4M-175DMG-030	Mini Digital Metal Geared - 17.5g	3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60°	1pcs £9.99ea 5pcs £8.99ea
	4M-253AB-028	Standard/Mini Size Ball raced - 25.3g	2.8Kg @ 4.8V - 0.12sec/60° 3.3Kg @ 6.0V - 0.10sec/60°	1pcs £6.79ea 5pcs £6.11ea
	4M-410ABH-052	Standard Analog 41g	5.2Kg @ 4.8V - 0.20sec/60° 6.5Kg @ 6.0V - 0.16sec/60°	1pcs £4.73ea 5pcs £4.26ea
	4M-455AH-033	Standard Analog 45.5g	3.3Kg @ 4.8V - 0.15sec/60° 4.0Kg @ 6.0V - 0.12sec/60°	1pcs £6.99ea 5pcs £6.29ea
	4M-556AMG-087	Standard Analog Metal Geared - 55.6g	8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60°	1pcs £12.59ea 5pcs £11.33ea
	4M-556DMG-087	Standard Digital Metal Geared - 55.6g	8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60°	1pcs £15.74ea 5pcs £14.17ea
	4M-620DHVMG-112 (High Voltage)	Digital HV Metal Geared Dual Ball Raced 62g	9.35Kg @ 6.0V - 0.15sec/60° 11.2Kg @ 7.4V - 0.13sec/60°	1pcs £18.89ea 5pcs £17.00ea
	4M-556AMG-118	Standard Analog Metal Geared - 55.6g	11.8Kg @ 4.8V - 0.20sec/60° 13.2Kg @ 6.0V - 0.18sec/60°	1pcs £14.69ea 5pcs £13.22ea
	4M-556DMG-173	Standard Digital Metal Geared - 55.6g	17.3Kg @ 4.8V - 0.18sec/60° 20.4Kg @ 6.0V - 0.16sec/60°	1pcs £17.84ea 5pcs £16.06ea

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1400kv	8x6	810g/ 1.79lbs	55MPH
1800kv	7x3.5	490g/ 1.08lbs	52MPH
2200kv	6x3.5	470g/ 1.04lbs	59MPH

Each Power Pack consists of

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Top letter

For his letter this month Dean Hunter wins a compact e455 multi chemistry AC input charger courtesy of Overlander Batteries: www.overlander.co.uk



WELL RESTRAINED



Some years back I had been flying a WOT4. As was normal the model was restrained by two posts in front of the tail feathers. After several flights I replaced the WOT4 with an WOT4XL. As the XL was a larger model the tail was well behind the restraining posts and my transmitter, glo starter etc. were all the same position as for starting the WOT4...

When the O.S. 160AX in the XL started-very quickly, in typical O.S. fashion - the model shot forward until finally restrained by the posts and my hands!

So, when I looked at page 62 in the May 2024 issue of RCM&E memories came flooding back.

Dean Hunter

Thank you for your letter, Dean and the important safety reminder. We have reprinted the picture here and you can clearly see that the tail of the model is quite some way behind the two restraining posts. With a model of this size any forward momentum is likely to be easily restrained by the pilot, as my clubmate Chris is doing here, but larger aircraft fitted with powerful engines could well be much more of a handful to control if they lurch forward. Anyway, safety first, so whatever a model's size, we are only too happy to remind our readers that you should take up any slack in whatever restraint you use before starting the engine. — KC

LASER ALLOWANCE

In response to Mike Delacole's letter in the May RCM&E. Firstly I did not have the wood pack from Sarik. I bought strip wood from my local model shop and the 1/4" dimension was within 0.002". I was not too worried about this as I could cut my own spars to the required width.

Having spent the last 15 years of my engineering career programming, setting and tool proving 3, 4 and 5 axis CNC machines I think there are two possible reasons for the oversize slot problem that I encountered.

First, it could have been that the burn was too high, resulting in too much material being burnt away. However, I think that a more likely cause would have been that no allowance was made for the width of the laser cut and the laser just followed the true component path. In terms of CNC machining this is corrected by a function called cutter compensation.

This all became more evident when I started on the fuselage. The balsa side is too long to be cut from a single sheet, so an extension piece is provided to be joined to the main piece. Unfortunately, the join was done as an 'S' cut but the laser had travelled the same path for each part so the concave

radii were larger than the convex ones and, of course, the butt joint is not as it should be. Ditto for the tailplane.

Having said all of the above, I was able to work around these problems and have

produced a fine-looking model that I hope to maiden in the next week.

Please find attached a couple of pictures of my plane.

Graham Moore



FRODSHAM DELIGHT

I'm moved to write to commend Webbies (Steve Webb Models).

Finding myself en route to Harlech and glancing at the sat nav for a pitstop, I spied Frodsham at about half distance and swung off through this unprepossessing market town. A small shopping mall with coffee, a Marathon bar and a necessary convenience provided parking 40 yards from Webbies.

I wanted to speak to Steve himself about the BMFA auction, but he was unavailable, although in regular touch with his helpful and knowledgeable colleagues who spun the breeze for a pleasant 20 minutes or so whilst relieving me of 80-odd quid for essentials, all of which were to hand.

An interesting discussion ensued about Harlech and the very-low-tide remains of a P-38 Lightning, known as the Maid of Harlech, and the property I visited there had a good photograph of it.

From a name well known to me as a mail order business, Steve Webb Models is now a tangible entity, well stocked, nicely run and only about five minutes from the M56. As the Red Michelin would have put it, well worth a detour. Almost enough to compensate for the alternating 20 mph average speed cameras and 42 mph traffic across the whole width of Wales.

Bruce Collinson

A CHANCE MEETING



Back in the spring of 1988 I was despatched to Appleton, Wisconsin, USA for work, but the company I visited was significantly behind schedule. So, the duration of my visit extended from a week to approaching a month!

Appleton is located on Lake Winnebago, circa 25 miles from Oshkosh, the latter being the home of the Experimental Aircraft Association (EAA) Aviation Museum and also the venue for the renowned annual air show in July. One of my American colleagues recommended that I should pay the EAA Museum at Oshkosh a visit.

On a free Saturday morning I set out for the Museum, camera at the ready. As I approached Oshkosh, I could see a B-17G Flying Fortress parked on what turned out to be part of the Wittman Regional Airport apron, which serves Oshkosh.

This was too good to miss so I diverted in search of the B-17. It was perhaps half a mile, then there it was to my right, just visible to the side of a hangar with the letters EAA across the front. Without much thought I turned into the car park and proceeded to gather my camera up and head for the boundary fence facing the B-17.

Whilst I was absorbing the view of the B-17 a group of people left the building, bidding their farewell to a gentleman. When they had departed, he came over to me and enquired if he could help. A little embarrassed, I explained that I was on my way to the EAA Aviation Museum but had spotted the B-17 and was keen to get a few photos. He invited me to come in and meet his wife, and have some tea and a chat, after which I could get my photos up close from the apron. We

went into the building and into his office, where his wife was working. He introduced himself as Paul Poberezny, President and Founder of the EAA, and his wife as Audrey. Paul gave me a potted history of the EAA. We chatted for quite some time and I recall him talking about how much he enjoyed his time in England when he was in the military.

Time was getting on when he said he would get someone to show me around the hangar (the EAA Workshop, see picture) and then take me out onto the apron to see the B-17 before I drove onwards to the Museum. I think the gentleman who showed me around the hangar was his son, Tom, although I can't be sure now.

Well, what an Aladdin's cave. Aircraft everywhere and not an inch to spare. The Mustang I am pictured with is now centre stage in the EAA Museum. You will note the name below the cockpit, Colonel Paul H Poberezny.

I think this meeting has to be one of those once in a life-time experiences which I fondly remember. It was a privilege to meet Paul and his wife Audrey. American hospitality at its best. Paul was circa 66 when we met and he sadly passed away in 2013 aged 91.

The bottom line of this note is that the EAA Aviation Museum is a fabulous facility, with beautifully presented exhibits. It opened in 1983 so was quite new when I visited and has now been much expanded. Its address is, fittingly, 3000 Poberezny Rd, Oshkosh, WI 54902.

I hope the foregoing is of interest, albeit concerning full size aviation.

Keith Cherrington

SERVO RULE OF THUMB

About Henkjan Louman's request about servo power (RCM&E May, page 18) here is a rule of thumb ('nosemeter' in French) that works perfectly:

Power of the servo = full all up weight of the aeroplane.

A 10-kilo machine, ready to take off, with batteries on board etc., will be okay with 10-kilo servos (not the weight, the power) on rudder and elevator, and half that value on ailerons, so one 5-kilo servo per aileron.

Of course, you can choose servos with more power. It won't hurt (but beware of the final weight), though not necessary.

Bertrand Choupin



FAMOUS FACES - TEACHING HARRY

Good morning from the Isle of Man.

I thought I would forward this picture of my very good friend, who has now sadly passed, Tony Shortel and his pupil. He was most proud to have taught both Prince William and Prince Harry many years ago, as well as myself and countless others. Being an ex-Fleet

Air Arm and British Airways pilot, who had amassed nearly eight thousand hours as Pilot in Command, Tony certainly had what was known as 'the right stuff'.

Mark Wardle

Unfortunately, we are unable to publish a copy of the picture that Mark sent as we have

been unable to ascertain who the copyright belongs to. However, I can confirm that it shows Mark's friend, Tony, teaching a young Prince Harry using a 35 MHz transmitter. If anyone knows who took such a picture and has contact details for the photographer, then please let us know. — KC



Some of the participants at Bickley's inaugural glider fly-in.

BICKLEY GLIDER DAY

David Ashby files his report from the North Kent club's first glider themed get-together

Words & photos David Ashby

"A man who is tired of gliders is tired of life, for there is in gliding all that life can afford", as Samuel Johnson didn't quite say. Still, it was difficult not to be struck by the diversity on display at Bickley's

late Spring open glider fly-in. The large North Kent club holds a number of themed get-togethers every year attracting flyers from across the South East. Go back 18 years or so and their electric meets were de rigueur, helping fuel enthusiasm and appreciation for

what was then an up-and-coming genre. The more recent electric ducted fan day was memorable too, but gliders, soarers or sailplanes if you prefer, hadn't featured until earlier this year when a warm and sunny May Sunday provided perfect conditions.



Simon Thornton provided aerotow services all day. His scale scratch-built 110" span Pawnee is superb.





The Pawnee's impressive cockpit detail.



Simon Thornton's other tug, a Turbo Porter, is an old TopModel design and uses a DA50 for power.



Simon's Turbo Porter effortlessly hauls up a scale soarer.

"The large North Kent club holds a number of themed get-togethers every year"

SCALE TUGS

Aerotow had been catered for and Simon Thornton, the distinguished and well-known competitive glider pilot, was setting up his two tug aircraft when I arrived. Both machines brought suitably scale profiles to the proceedings but his 110" span scratch-built Pawnee especially. It took over six years to complete, flew for the first time this year and weighs 12 kg with an EME 70 cc petrol twin providing plenty of pulling power. It's a really lovely thing with the fine scale details reflecting all the time and effort and skill invested.

FIRST UP

Malcolm Bull, a Hastings Club member, made the journey from the south coast and kicked off proceedings after the pilot briefing with his FVK Bandit. The 54" span sport hotliner has been around for at least 20 years and has become something of a cult model. RCM&E's Tim Hooper has had three of 'em, so they must be good.

Neil Wallis, from the Caterham Club, saw my Sinbad review in the July 2021 issue and fancied one too. His was also built from the Pichler trad' kit, spans 2.5 m and uses the long shaft outrunner motor specified for the model. It flew throughout the day, sometimes finding some lift but always performing majestically.

I own a Robbe Scirocco, the 4 m span version, so was pleased to see Dave Wray and Dean Tilley with their 3.75 m XS and 4.5 m XL span versions. Whatever the size, this fully moulded multi-purpose motor glider is beautifully made, available in ARTF or PNP formats and flies well from the flat field or hillside. Using six LiPo cells the XL version didn't hang about either.



Malcolm Bull with his FVK Bandit, an early hotliner classic.



Neil Wallis and his Pichler Sinbad, a modern version of Henry Struck's early 1940s design.





Scirocco fans, Dave Wray (left) with the 3.75 m span XS version and Dean Tilley with his 4.5 m XL version. At the flat field or hill, these fully moulded machines are great all-round performers.

SCALIES

Bob Ryan flew his 3.42 m span Grunau Baby using an aerotow. It was built in the mid-1990s by John Harris using the Cliff Charlesworth plan and Bob has added some of his own refinements, including the tow release and re-siting the aileron servos. It's a lovely thing,



That lovely Grunau gets away on the line.



Bob Ryan with his 3.42 m span Grunau Baby.



Neil Wallis' Fournier RF-4 drifts past.



I liked Bob Ryan's neat homemade wing tip protectors that also protect control surfaces and servos from knocks.



FMS' 3 m span Fox has proven popular, although it's better at the flat field than the slope in my opinion (where it could use a bit more mass). Raffle winner Stewart Keeble put this one through its paces.

“Glider pilots never throw anything away. Old airframe bits can always be put to good use, wings especially”

especially when the sun shines through the cream Solartex covering.

CREATIVE

Remember Robbe's Geier? It was a 60" span flying wing design circa 1983. It could be flown as a glider, with IC power using a pod-mounted tractor prop, or electrified with a direct drive brushed motor pusher-prop layout. Steve Brett built the wing during lockdown but, with Robbe's ABS plastic fuselage long since out of production, found himself casting around for a fuselage. His gaze fell on a spare drop tank from his turbine DH Sea Vixen, so that's what he used. It flies very well, especially in Steve's experienced hands.

Glider pilots never throw anything away. Old airframe bits can always be put to good use, wings especially, and Gordon Loames' three-channel electric powered bitsa model was a good example. The wings are 45 years old, having come from a Galaxy Condor; the fuselage was his own design and the result is a useful thermal catcher.

COMPTIME

An informal competition for motor gliders of any type introduced an element of fun just after lunch. Everyone was encouraged to participate and models were broadly divided into three categories - foamies, competition types (F5J etc.) and everything else. Each group enjoyed a 30-second motor run with the last one down the winner. The sky was soon full of models searching for lift and, in some cases, a bit of a miracle.



Steve Brett with his 'lockdown' Robbe Geier. A spare drop tank from his turbine DH Sea Vixen serves as the fuselage.



Gordon Loames flew his 'bitsa' soarer. The 45-year-old wings started life as a Galaxy Condor, the fuselage is an own design.

...quickly followed by the intermediate models.



The foamies (all E-flite Conscendos as it happens) get away during the endurance competition...





E-flite's Conscendo flies better than you'd think. It will also prop hang a bit, as Lewis Chaplin later demonstrated.



Competition category winners. L-R: Steve Brett, Dave Wray and Charlie Johnson.



From the Bromley Club, Derek Collins with his Osprey, a competitive F5J thermal soarer.

As if any were needed, it was proof that E-flite's Conscendo is a great model and an excellent soaring performer in the right hands. And not just soaring; at one point, Lewis Chaplin, who achieved first place in the junior division at last year's Freestyle Masters, demonstrated its prop hanging abilities! Dave Wray was king of the Conscendos when it came to thermal catching though.

NEXT TIME

A warm day with sunny skies, a beautifully manicured field, friendly hosts, a free BBQ tea and coffee - what more could you want? The day ended with a raffle draw for a Phoenix V2 motor glider kindly donated by Rapid RC and agreement all round that this glider gathering should become an annual feature in the Bickley calendar.

Keep a lookout for next year's date at bickleymfc.org and in RCM&E's Going Places events listing. ■

My Dane-RC Leprechaun had a few flights. I think the wing extension kit will be my next project.





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Olaf Haack with his 150% Starfighter.

PALS & PARKJETS

Craig Clarkstone talks about the history and developments of the semi-scale parkjets offered by his company Jetworks

words **Craig Clarkstone**

photos **Craig Clarkstone, Barry Fleming, Olaf Haack, Tobias Gaus, Arif Isyanto, Dominic Green**



Jetworks owner Craig Clarkstone with one of his early shop bought jets.

For those who haven't been noticing what's happening down in Dorset, there has been a renaissance of Parkjet activity and a resurgence of the fabled material called Depron - long thought lost to the world - brought about by one man. We are happy to publish an interview with Craig Clarkstone, a yacht designer by trade, who in his spare time has amassed a small air force of jet designs in sunny Bournemouth.

BOYHOOD MEMORIES

Q: Tell us, Craig, how did you get into model jets?

A: My mum witnessed the golden age of jet aviation and she loved the speed and noise of the jets, especially the Vulcan bomber setting off all the car alarms! I caught the bug from her. Throughout my childhood I'd spend hours on making Airfix kits and I visited airshows and joined the Air Cadets. I remember there were a couple of older boys (now RAF officers) bungee launching gliders at the local playing field. Seeing these impressive craft being catapulted high into the air was an incredible experience. It planted a desire that has stayed with me for years.

Thirty years later, I had almost forgotten my passion for aircraft due to the demands of family life and work. However, Fernando, a colleague at a yacht design firm I worked at, brought a radio controlled ARTF F-22 Raptor into the office and flew it during lunch breaks. His enthusiasm was infectious and he found his niche with Steve Shumate's parkjet plans. It was great fun and it woke the boy within me again with the thrill of aviation. So, I learned to fly R/C.

Fernando's and my planes didn't have long lifespans as we loved showing off. So, we usually ended up making them out of cheap materials and motors. I had tried balsa and also shop bought foamies but I found balsa harder to repair once damaged and EPO foamies would end up costing me money every time I had a bump. I liked Depron because when you crashed it was amazingly repairable. But I didn't like how easily it would start to look scruffy and get damaged.

Q: What made you want to design parkjets?

A: In the early days, Fernando and I flew parkjets almost every weekend, through rain, wind and snow. I enjoyed Depron plane designs and loved the speed of build, reparability and the reuse of electronic components following



Avro Vulcan on a bombing run.

“Depron is more popular than ever on the continent, being manufactured by Selit in Germany”

a spectacular crash! It was like being a child again! There was one particular incident where Fernando was flying his Shumate F-22 Raptor against my Shumate F-14 Tomcat in a mock dogfight. Fernando utilised thrust vectoring on the Raptor so I never managed to get on his six. This wouldn't do, I thought, and so I started thinking of a crafty way to beat him at mock dogfighting.

I wondered what aircraft could beat the mighty F-22 Raptor, so I Googled it and discovered that in the 1980s there was a rival to the Raptor called the YF-23, nicknamed the 'Black Widow'. I set about trying to design a YF-23 but it wasn't an easy task. I started designing the aircraft on the CAD software I use for yacht design on my laptop. I even managed around 10 hours designing it on a transatlantic flight to LA! I built and crashed the same aircraft around 25 times before I got it flying well. It was painful but incredibly rewarding to see how changes in design affected handling.

Q: I heard that Depron is no longer available?

A: Yeah, I heard that too, but it's not true. Depron BV, based in Holland, who were supplying a number of British model shops, stopped trading. However, Depron is more popular than ever on the continent, being manufactured by Selit in Germany. The great news is that Sarik Hobbies have imported it directly and are selling it to the UK public. ✈️



Fernando touches up his Hawk after a quick repair.



Craig gives Fernando's model a firm launch.



Another RAF favourite, the Hawker Hunter.



A-7 Corsair on a low pass.



Jonny Pellegrino from Italy with his Yellowjacks Folland Gnat.

3D PRINTING

Q: What made you get into 3D printing?

A: After the first design, I really got the bug and went on to make more and more designs. I enjoyed painting and finishing them. I started adding protective fibreglass on their bellies, making canopies in the oven and I liked the idea of keeping them in tip-top condition, hung on my wall. I started putting balsa leading edges on the wings and intakes to keep them from getting beaten up. But then the noses invariably became quite blunted.

Around 2015 a young graduate joined us at work who had made his entire university project on a 3D printer. I was very interested in this technology and so I borrowed a printer for a while to learn about them.

I immediately printed a Typhoon nose cone and air intakes to protect the Depron from belly landings. I realised I could make bits that are a bit of a pain to make/shape in foam such as

the exhausts and canopies. Then I figured out, through much blood, sweat and tears, how to make decent vacuum forming tools from 3D printed parts.

At this time Fernando had built a fully 3D printed plane in PLA filament and I was keen to see how it flew. However, even with its single layer skin I found it to be heavy and brittle compared with Depron. With a little shock on landing, it would crack along the layers of filament. We found it very difficult to repair and the 3D prints sometimes would wilt if left in the car on a sunny day. As a result, we both came to the conclusion that 3D printing is great, but like most things it's about picking the best material for the job.

Q: So you won't offer fully 3D printed planes in the future?

A: As an industrial designer I keep my eyes on lots of emerging technologies. There is no doubt that 3D printed plastic and metals are a



Arif Isyanto from Indonesia displays his F-14 Tomcat.

growing, game-changing technology. Additive 3D printing filaments have come a long way but, in my opinion, they still struggle to match the triangle of impact durability + heat resistance + creative enjoyment that the Jetworks hybrid planes bring. But I will never say never as in some ways it's easier to design for a 3D printer than multiple pieces of foam within the CAD system as you are not constrained by foam sheets, figuring out how to take a complex shape and make it work.

Everyday items we find in our homes are made of a multitude of materials, as they are best suited to the task. I firmly believe that this is still the case for R/C aircraft. Right now, I believe in the symbiotic approach, benefiting from the individual strengths of both 3D printed parts and Depron, and minimising each of their weaknesses.

JETWORKS FAMILY

Q: Jetworks has developed quite a following. Can you tell us about this?

A: I run it in my spare time and, for me, it's all about the community. I have made dear friends all over the world and we support one another. Many of us spend a lot of time alone in a workshop and Jetworks has become like a family to many. There are people of all ages and professions, from top chefs, retired pilots, truck drivers and even taxi drivers in Myanmar, all connected by their love of jets, the sense of achievement of building their own planes, and with impressive skills in electronics, fabrication, programming and creative painting. The absolute thrill of launching their own creations into the sky and sharing videos of their experiences, both good and bad, is immense. Time and again I hear how people love the friendliness and helpful nature of the Facebook community group 'Jetworks Family'.

As I spend most of my time designing parkjets nowadays, within the Jetworks Family is a team of incredible volunteer test pilots from Scotland, Germany, Greece, Belgium, Indonesia and the USA who are an invaluable source of encouragement and support. They tend to have new planes built quicker and tested before the ink is dry and are the strength behind the community.



EE Lightning, another classic British jet.



Dominic Green—a regular Jetworks test pilot.



RAF Tornado in desert livery.

“Depron is more popular than ever on the continent, being manufactured by Selit in Germany”

Q: How do you manage this with a full-time job?

A: Good question! Sometimes it can be exhausting. Sometimes the website has a technical problem; sometimes people need a lot of help with their first builds and sometimes there are small errors on the plans that I have to update and re-publish. I can spend around an hour a day on admin and when designing a new plane, it can take 80 plus hours of design time, which my wife is very gracious about when I'm deep in a project.

Q: Can you tell us about your jets. Do you have a favourite?

A: My favourites are mostly jet fighters but include some bombers with retracts and two float planes, across different eras. Mainly British and American, but also Russian, Swedish, French and Polish. I love them all, but I love British jets the most as I am proud of the technical prowess and genius of my fellow countrymen. At the moment I am particularly pleased with the new 150% Typhoon model with retracts, aerofoil and lots of details.

Q: Many of your jets have wings without aerofoils on them. How well do they fly?

A: They are incredibly fun to fly. At these lower Reynolds numbers the flat aerofoil has very similar properties to a symmetric aerofoil.



Barry Fleming with his Typhoon Maxx.



It doesn't have to be just flat wings and box fuselages. This impressive HP Victor shows what can be done with Depron.

I prioritise ease of build, fun in the air, scale appearance and a great jet sound. They go fast enough to give you goosebumps as they fly past at over 100 mph just three feet from the ground. Not all of the designs have flat wings; many of my designs have simple aerofoils and they do glide better when coming into land. But most of the time the difference isn't huge and the true measurement of a parkjet is fun and exhilaration.

FUTURE DEVELOPMENTS

Q: So what are you planning for the future?

A: There are lots of exciting developments coming up! Last year I partnered with Sarik Hobbies, who are manufacturing a growing list of kits to purchase. They are such a great company to work with.

I also introduced a new design concept - a Parkjet evolution - called the MAXX range. We take an established jet design, pump it up to 150% scale, and give it retracts, wing aerofoil, a detailed 3D printable cockpit and more control surfaces, to suit a 90 mm EDF. Our first one is the Eurofighter Typhoon, which I am totally stoked about. There are lots more to come!

Q: Thank you so much for sharing your journey with us. We wish you success and look forward to hearing more developments. Where should people go to find out more?

A: My pleasure! You can check out the plans at www.jetworks.online, watch our build videos on www.youtube.com/@jetworks and you will receive a warm welcome at our Facebook Community Group 'Jetworks Family'. ■



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Pilots and models at the 1st Centralised competition in Hurley earlier this year.

F3A IN FULL SWING

With the introduction of new FAI F3A schedules, **Keith Jackson** takes a detailed look at a tricky P25 manoeuvre, plus some interesting new products

Words & Photos: **Keith Jackson** Words & Photos: **Keith Jackson, Mark Hu, Graham & Beryl Gooch**

Finally, after what has seemed like an eternity of wind, rain and more rain, the UK competition scene has kicked off and at the time of writing is now in full swing. The inclement weather took its toll on the early season training days that had been planned to be held at Leicester. My own club was waterlogged until the start of May, which firmly wrecked any pre-season training of the new FAI P25 and F25 schedules.

FIRST EVENTS

The Season Opener was held at Buckminster at the beginning of May with the 1st Centralised event held two weeks later at Hurley, Warwickshire. This competition, hosted by Steve Carefoot and a loyal band of volunteers from the Plane Crazy Model Flying Club, featured a small but high-quality entry, including all the current UK team members flying both P25 and F25 schedules. Needless to say, the top three places went to the UK team members with an excellent standard of flying for so early in the season, alongside having two new schedules to master. A National

FAI F3A : P-25 Calling Card	
P-25.01 Triangle from Top with two quarter rolls, roll, two quarter rolls	K 3
P-25.02 Half Square Loop with roll	K 2
P-25.03 Square Loop on corner with half roll, half roll, half roll, half roll	K 5
P-23.04 Figure Nine with half roll	K 3
P-25.05 Roll Combination with three quarter rolls, three quarter rolls in opposite direction	K 4
P-25.06 Stall Turn with half roll	K 3
P-25.07 Double Immelmann with roll, quarter roll, quarter roll, half roll.	K 4
P-25.08 Humpty Bump with two consecutive half rolls in opposite direction, half roll	K 3
P-25.09 Loop with two half rolls integrated.	K 5
P-25.10 Half Square Loop on Corner with half roll, half roll	K 2
P-25.11 Half Cloverleaf with half roll, half roll, half roll	K 5
P-25.12 Reverse Figure ET with half roll, two quarter rolls	K 4
P-25.13 Inverted Spin two turns, half roll	K 3
P-25.14 Top hat with two quarter rolls. Option: Top hat with quarter roll, quarter roll.	K 3
P-25.15 Figure Z with snap roll	K 4
P-25.16 Comet with two quarter rolls, roll	K 3
P-25.17 Figure S with quarter roll, quarter roll	K 5
Total K 61	

FAI P25 schedule calling card.

League event for the P25 only schedule was also held and this was won by Mike Pole flying his Epilogue using a R220 outrunner motor turning a Falcon 22 x 11 propeller, powered by a 5000 mAh 10S LiPo pack. The Masters class, flying the FAI A-25 schedule was won by Graham Gooch, also flying a BJ Craft Epilogue.

The fourth event of the year was another National League event, this time held at the Ashbourne site, hosted by the Derbyshire Radio Controlled Flyers and run by Competition Director Adrian Harrison. This competition site has been the home of many F3A events over the years and is a great venue for aerobatics, featuring a tarmac runway and a clear horizon to fly against. The competition ran with nine pilots in P25 and one in Masters A25, and these numbers allowed four rounds to be flown, meaning a long day for the organisers and judges.

This event was my first of the year and it almost felt like I'd forgotten this part of my life, having not competed or even flown for more than six months due to the weather issues! One of the highlights of the day for me was meeting



Dan Workman with his own design Halo biplane. Dan came fourth in the P&F competition.



Mike Pole took first place in the P25 National League event with his BJ Craft Epilogue.

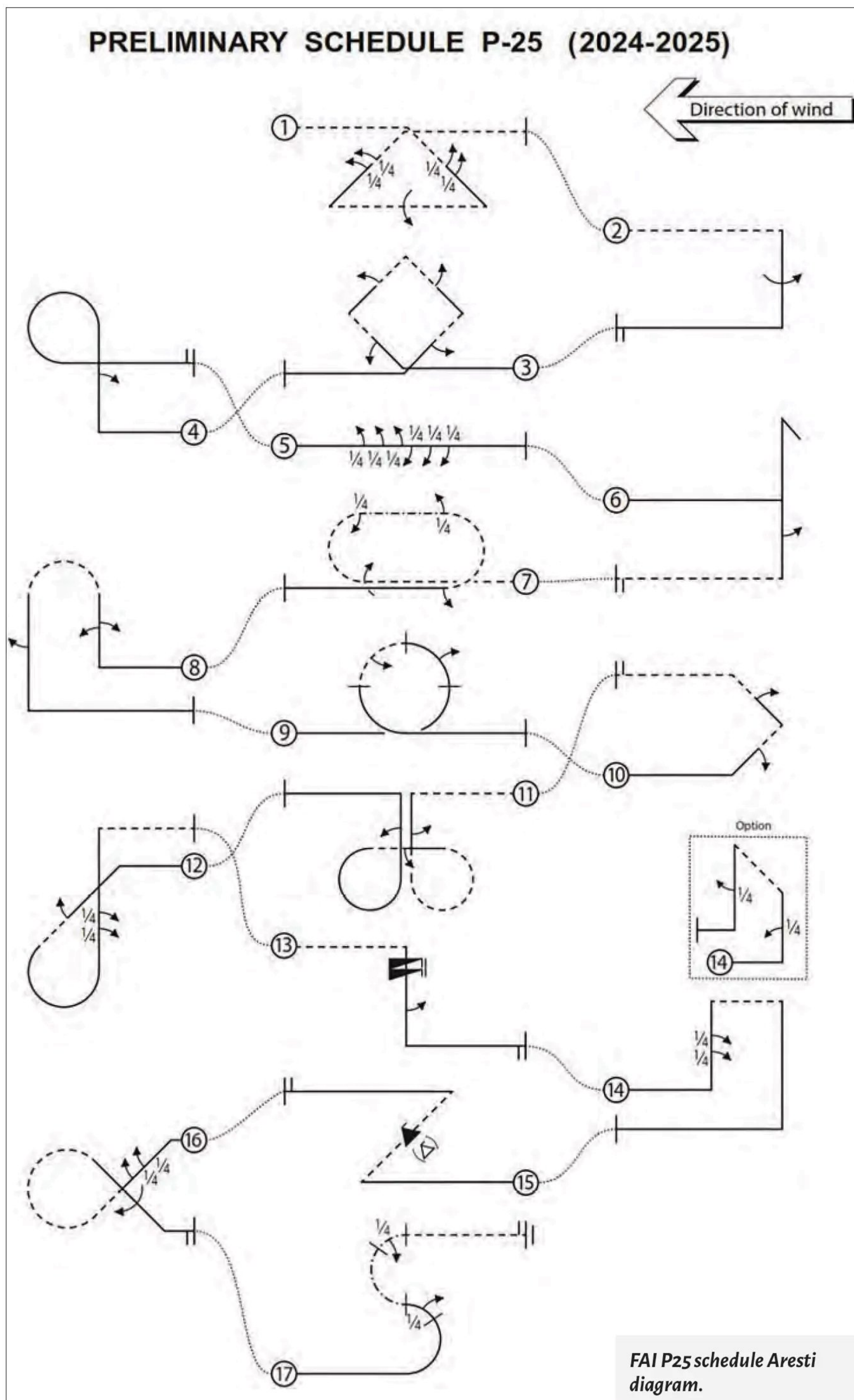
John and Steve Simm again after quite a few decades. We first met in 1997 when I attended my first world championships in Deblin, Poland at very short notice. At the time, John had volunteered at short notice to be the UK team manager. It was great to catch up with both after such a long time and to see Steve was flying to a good standard, eventually taking



Graham Gooch with his BJ Craft Epilogue.



John and Steve Simm, with Steve's 2015 vintage Angels Shadow.





BJ Craft Anthem SB / DualSky CRS3000 contra drive flown by Peter Madden, kept online by caller Yazz Madden.

“...it almost felt like I’d forgotten this part of my life, having not even flown for more than six months due to weather issues!”

fourth spot with his beautiful Angels Shadow powered by a Hacker Q80.

Also in good form were Peter Madden, assisted by daughter Yazz, flying his Adverun contra powered BJ Craft Anthem SB and taking third place overall after steadily improving in the increasingly windy and blustery conditions.

OLD FAVOURITE

The new FAI P-25 schedule for 2024/25 has brought an ‘old favourite’ in a slightly different guise and includes a knife edge section: **P-25.07**

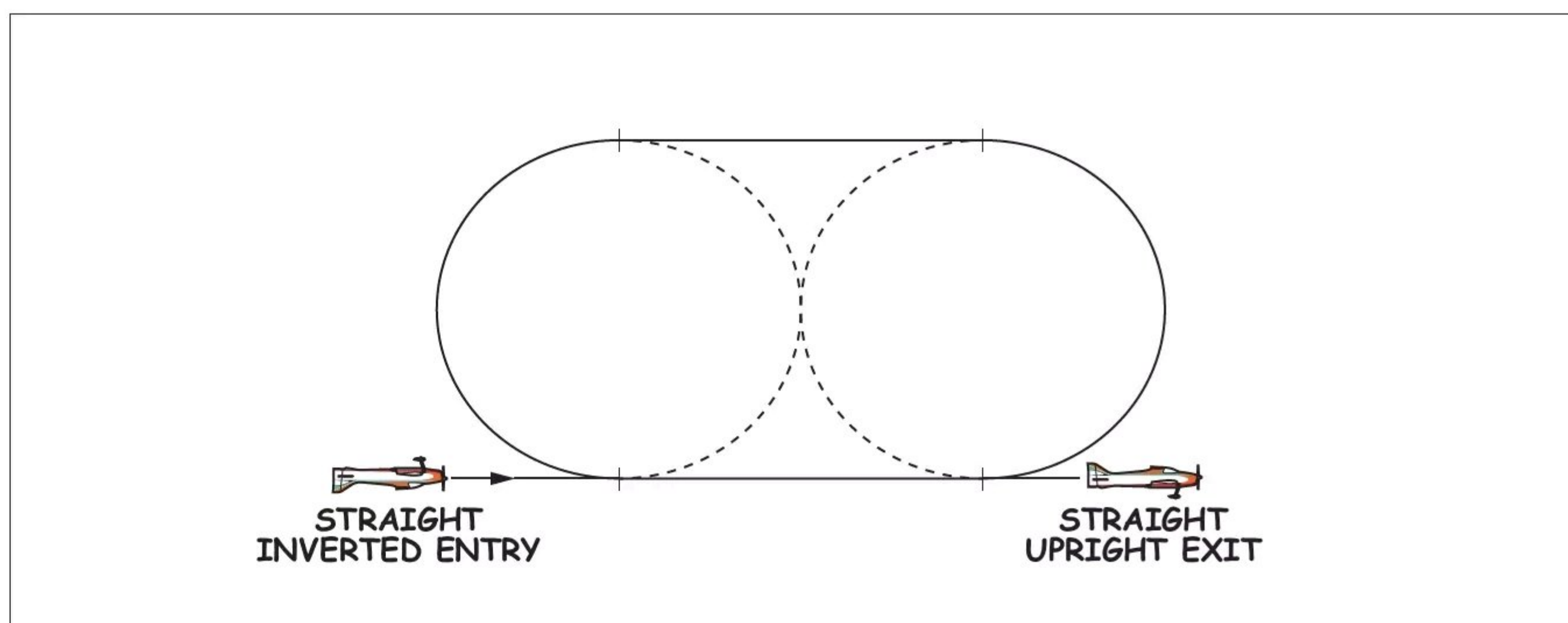
Double Immelmann with roll, quarter roll, quarter roll, half roll.

I say an old favourite, but this manoeuvre is notoriously hard to master and includes several sections that require great accuracy. The overall shape of the Double Immelmann used to be described as two touching circles and broadly speaking this is a good interpretation. However, there is no restriction on the overall width of the manoeuvre so the touching circles should be used as a guide only and not a requirement.

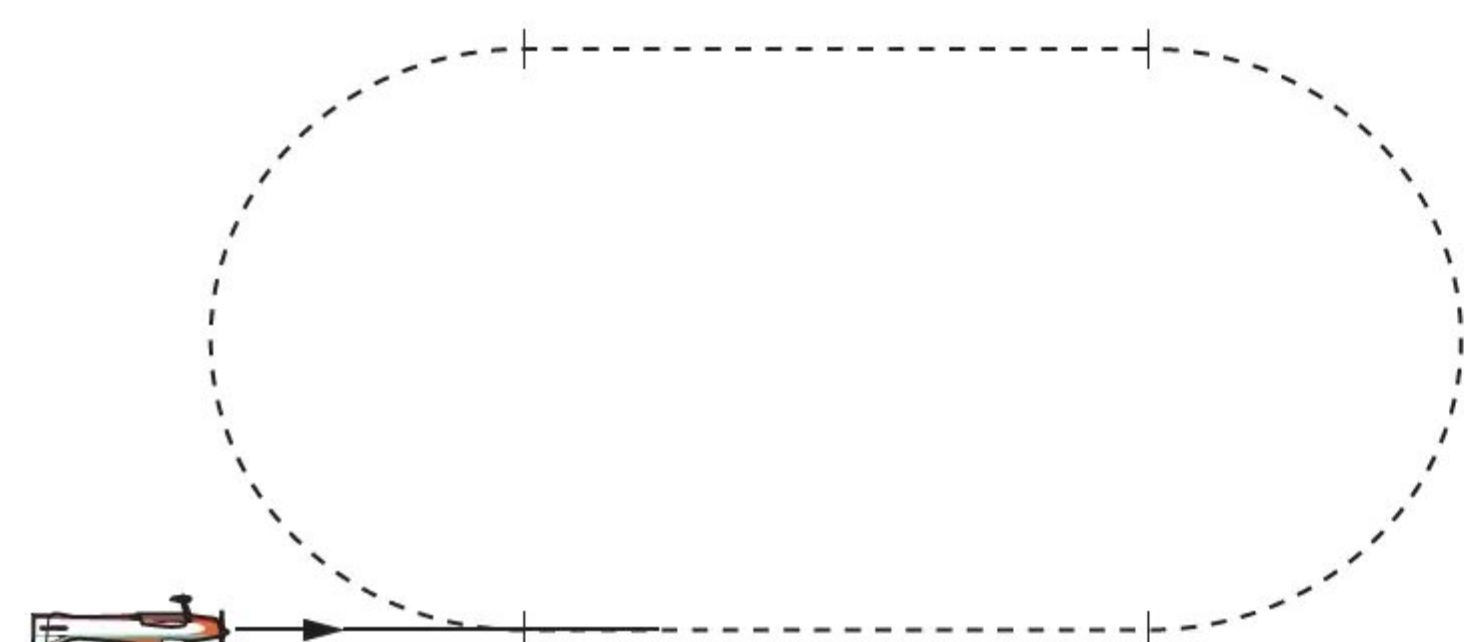
In any case, making the manoeuvre too narrow would make fitting the rolling and knife edge sections in the space available difficult. Conversely, making it very wide would result in a ‘sausage’ shape which is generally frowned upon by judges.

These sections are shown opposite.

If you can get all these sections present and correct, then you will get a perfect 10! However, as a K4 difficulty manoeuvre, it’s pretty hard to achieve this level of perfection!

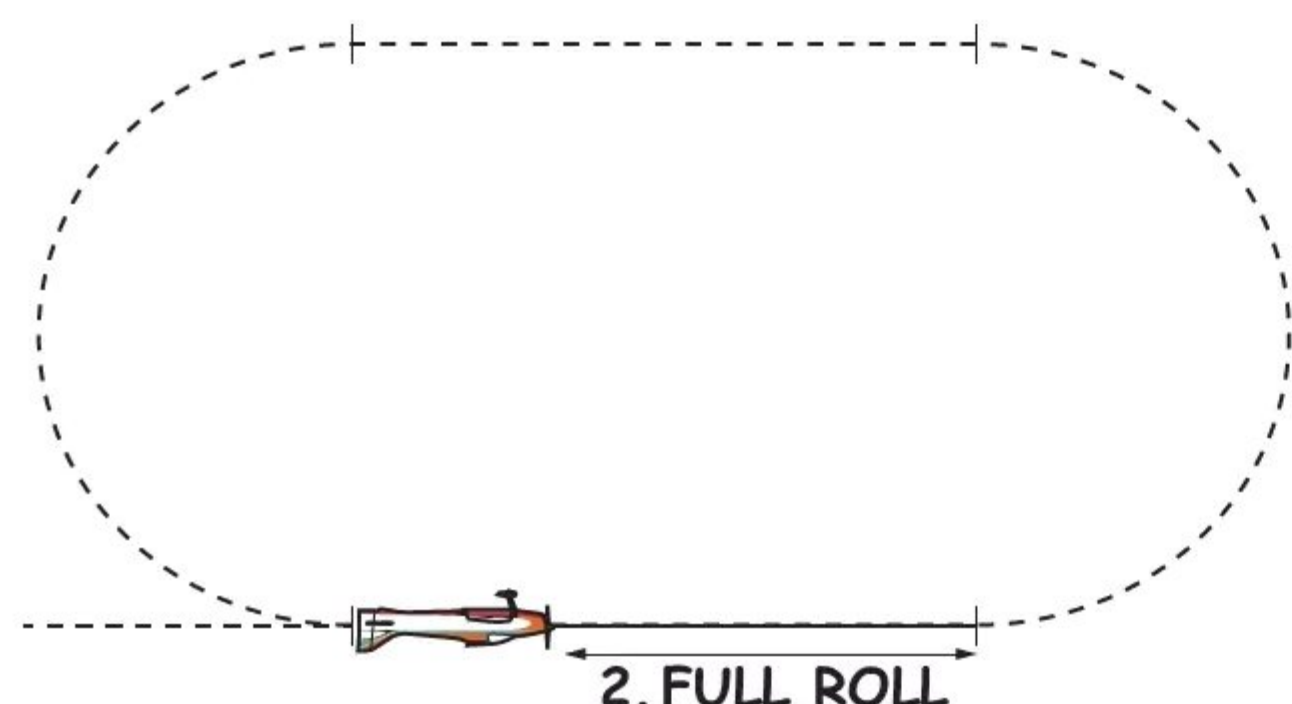


General shape of the Double Immelmann.



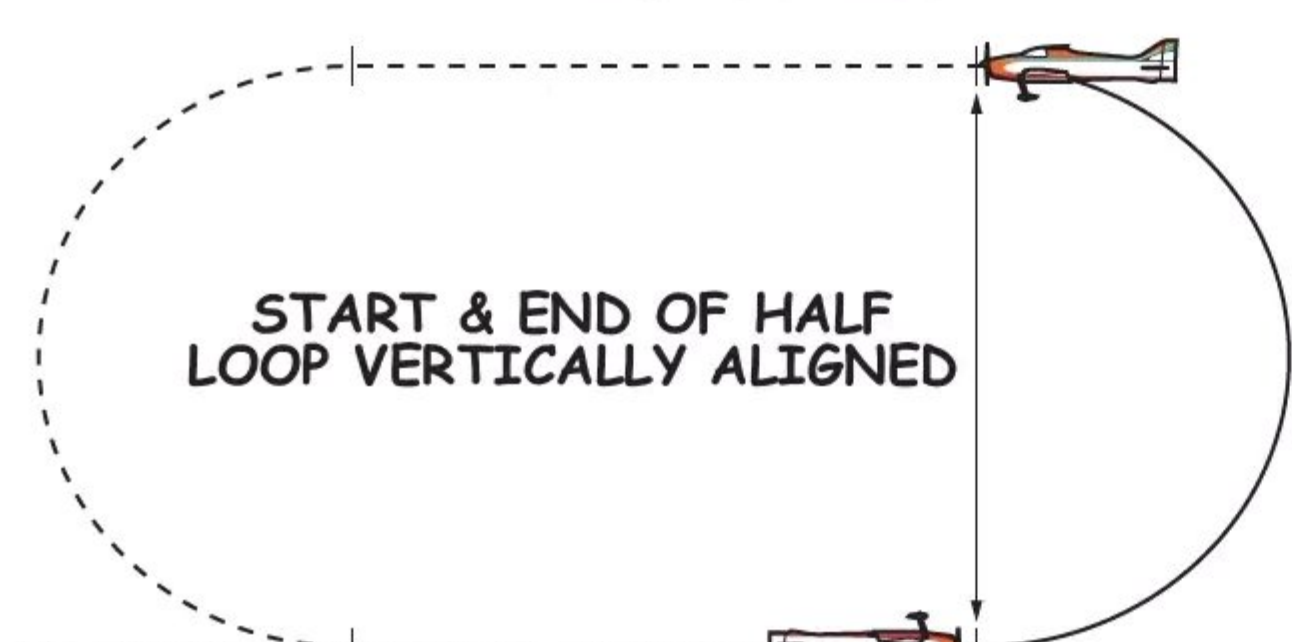
1. STRAIGHT INVERTED ENTRY

1. Straight and level entry. Inverted in this case but all manoeuvres should start this way with the entry a clearly defined horizontal line at the appropriate height and depth.



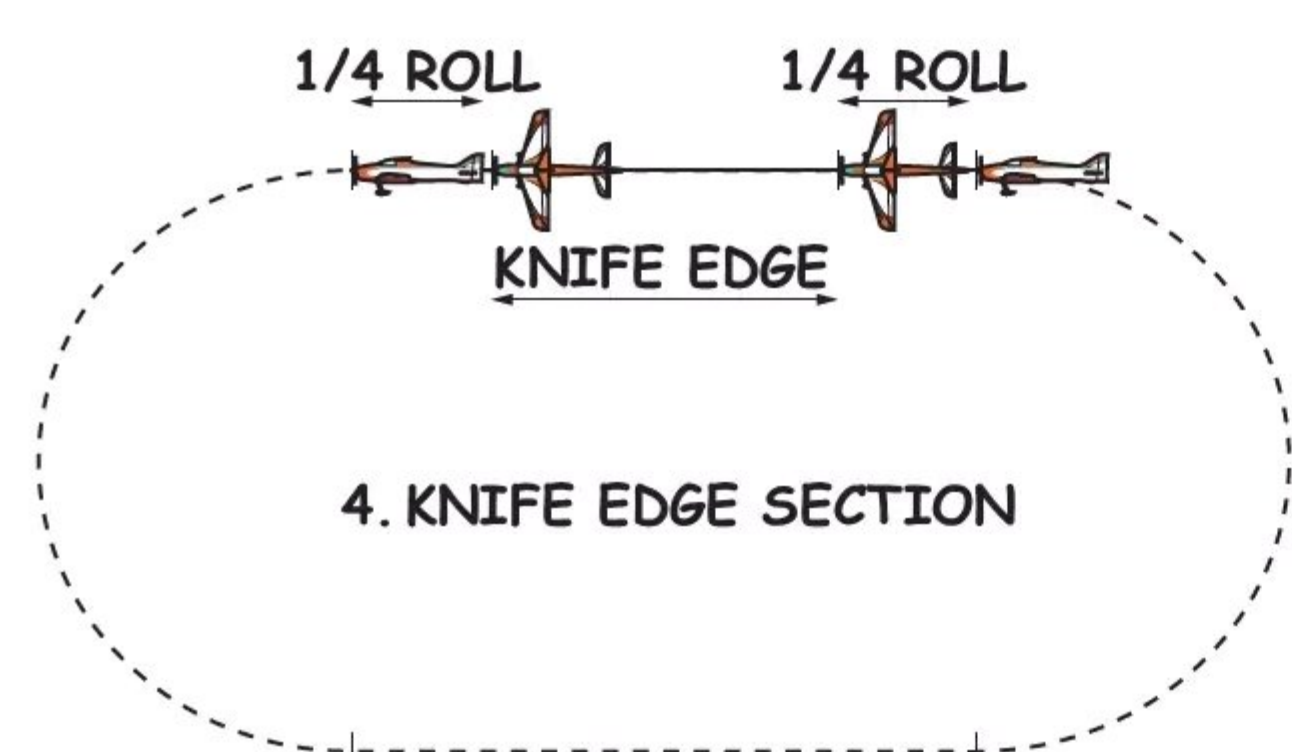
2. FULL ROLL

2. Full roll. Being a full roll, this roll rate doesn't define the rates on the other part rolls. The only requirement of this section is that it ends at the start of the first half loop.



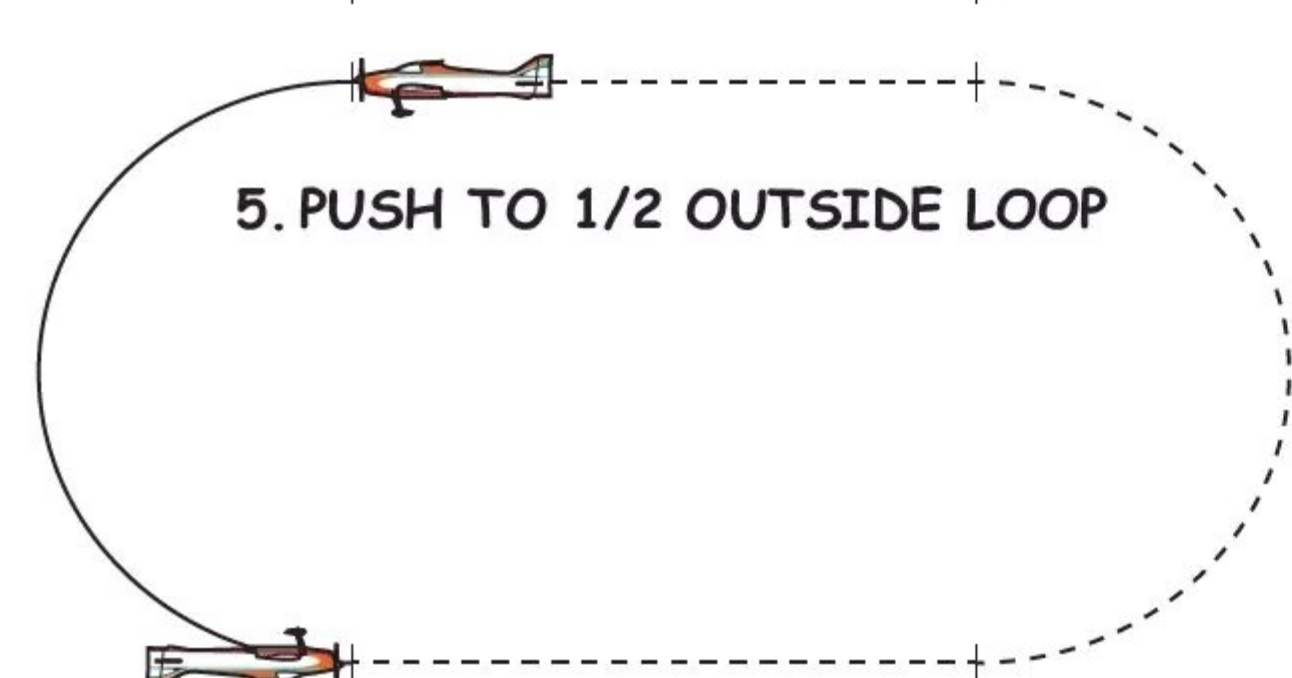
3. PUSH TO 1/2 OUTSIDE LOOP

3. Half outside loop. This starts immediately after the full roll and any hesitation would be penalised. An obvious statement is that the start and end points of the half loop should be vertically aligned. When flying this part, I try to pick points on the horizon to help with the alignment.



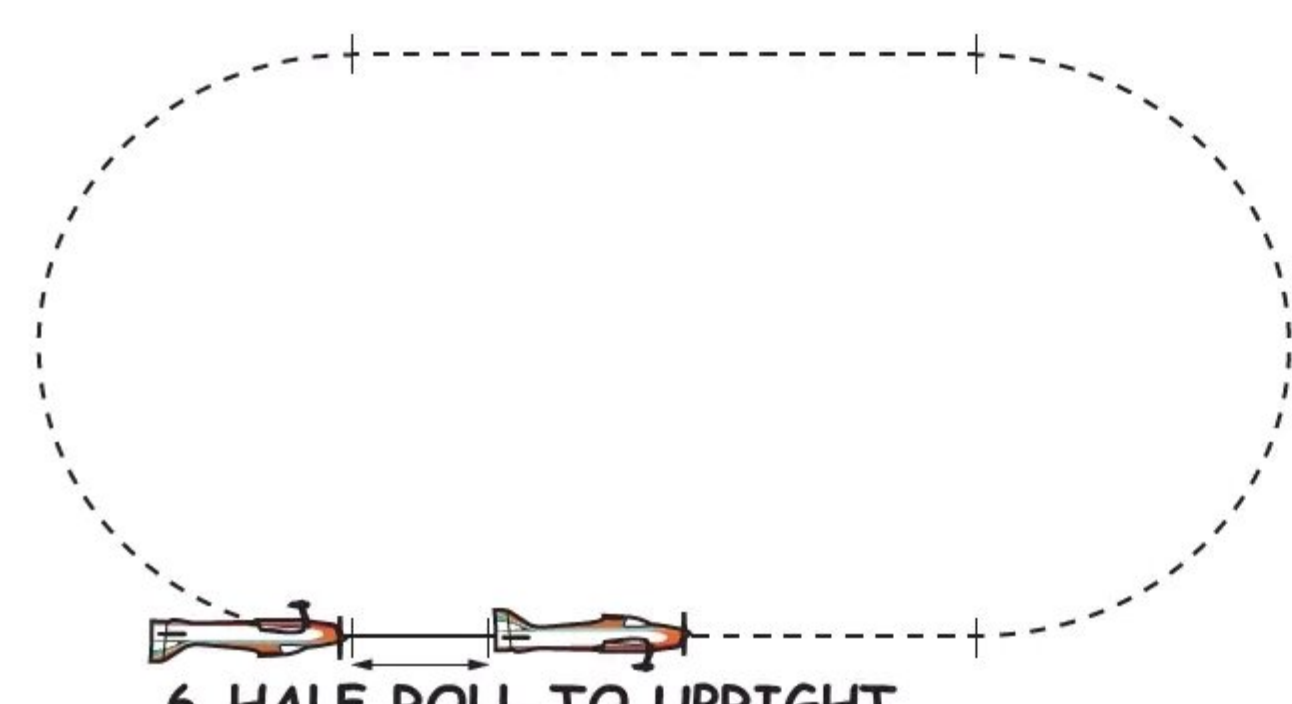
4. KNIFE EDGE SECTION

4. Knife edge section. This starts immediately at the end of the half loop and involves a quarter roll to knife edge, extended knife edge flight, quarter roll back to upright. This section must fit in the top horizontal line between the end of the first half loop and the start of the second half loop. The roll rates into and out of knife edge must be equal; this roll rate does not need to match the rate for the first complete roll. The length of the knife edge section is determined by the pilot. It should be vertically aligned. When flying this part, I try to pick points on the horizon to help with the alignment.



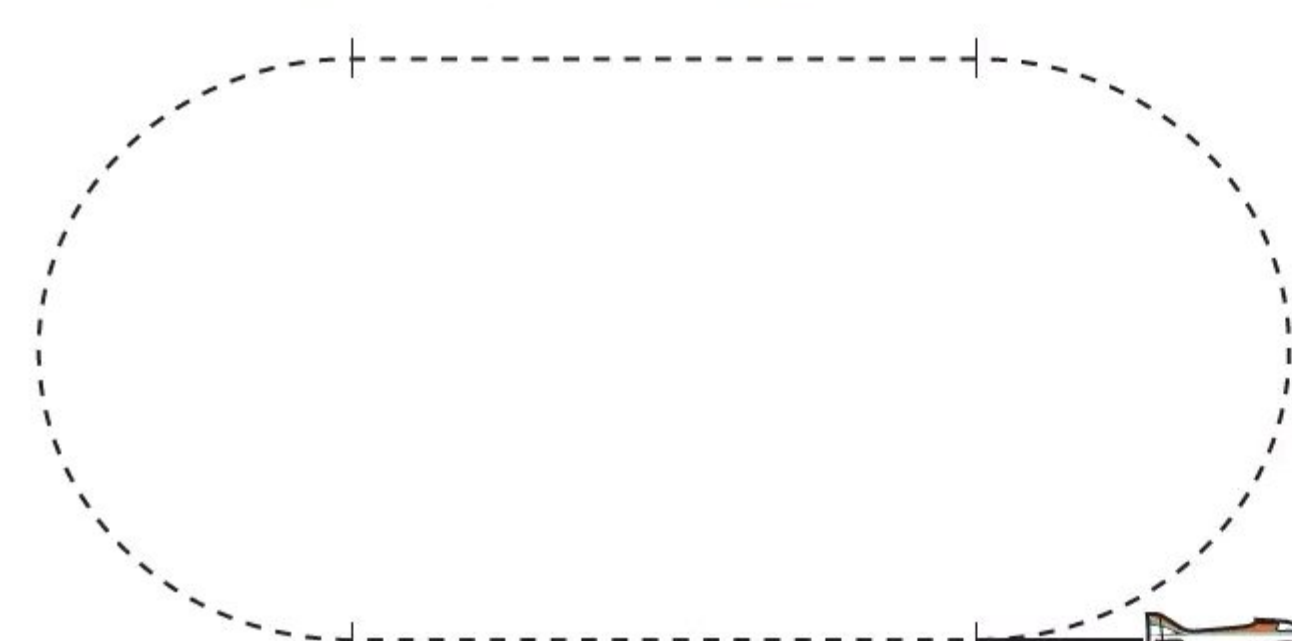
5. PUSH TO 1/2 OUTSIDE LOOP

5. Half outside loop. This also follows immediately after the knife edge section.



6. HALF ROLL TO UPRIGHT

6. Half roll to upright. As previously, this must be flown without hesitation straight after the end of the half loop. The roll rate of this part should match the roll rate in the quarter rolls.



7. STRAIGHT & LEVEL EXIT

6. Straight and level exit. An obvious statement but it shows control and composure.



VLV CONTRA DRIVE

VLV International, based in Cornubi, Australia are a relatively new company run by F3A pilot and entrepreneur Mark Hu, and specialises in high end R/C products, which includes several high-quality items aimed at the F3A market. Their main product relevant to F3A is the VLV contra drive unit and matching ESC, although VLV also market Radio Master transmitter stick gimbal units and Theta servos.

The contra drive unit takes the same form of many of the commercially units available now, being a gear and belt system with a gear ratio of 4.92, driven by a 10 pole 650 kV motor built in the same factory that make Egodrift helicopter motors. The motor fitted to revision 3 of the VLV drive, termed Limited Edition, has been redesigned by Mark to include a heavier stator, a lighter rotor casing and stronger magnets, with the gap between them reduced to just a fraction of a mm. The resulting motor is similar in weight to the original at 279 g but has more torque and a reduced moment of inertia, allowing it to accelerate more quickly when required.

The motor couples to the geared part of the drive unit using a bevelled pinion gear rotating on a titanium shaft for better wear characteristics and lower noise emissions. The main gear is made of Peek, which is a lightweight, low friction plastic material used in high quality servos, and helps with efficiency and serves to reduce noise. The belt driven part of the drive uses an aluminium gear which appears to be cut to the absolute minimum possible in an attempt to maintain strength



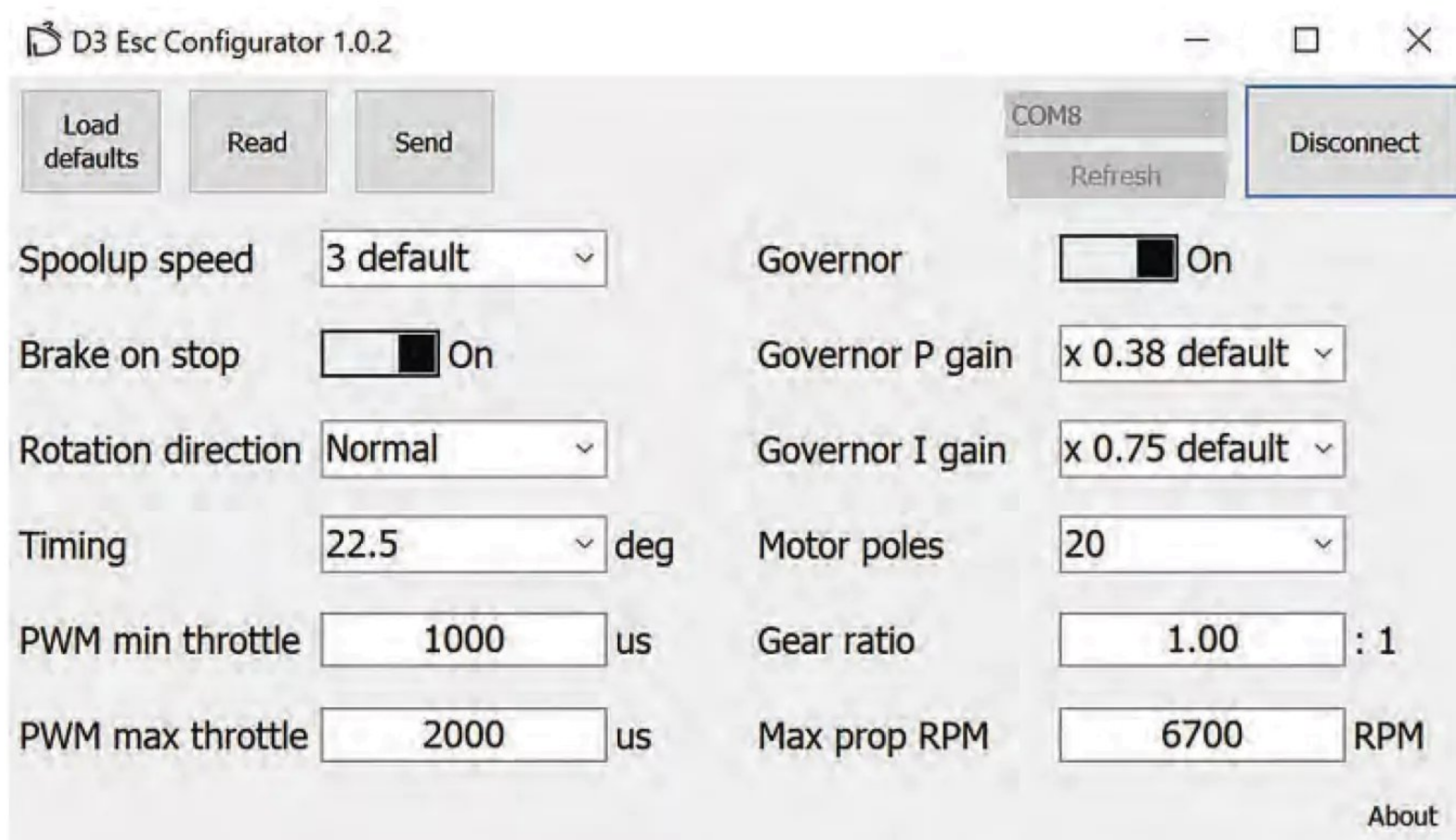
VLV contra drive.



Rear view of the VLV contra drive.



The rear motor disk is from 0.25mm carbon fibre plate and serves to form a cooling fan arrangement.



D3 ESC programming application user interface.

whilst reducing weight. The inner shaft of the drive unit is also made from titanium for strength and low weight.

The drive unit is rather minimal, with the main plates cut from just 2 mm thick carbon fibre. The overall impression is like the M class of a well-known car manufacturer, where every detail is considered in an attempt to reduce weight and improve performance. The final weight of the drive is 462 g.

Finally, a bespoke soft mounting system is employed, allowing the user to fine tune the motor placement within the fuselage.

VLV also supply a matching ESC, which is a modern 32-bit governor style unit rated at 80A continuous with capability for short bursts of 100A and weighing just 80 g. This is anticipated to be a fully programmable ESC by the user, though at the time of writing no application was available. The types of parameters that could be configurable are shown in the form of a potentially comparable D3 ESC programming application.

Bench testing the VLV Limited Edition drive using Falcon 22" x 22" propellers front and back resulted in a ground propeller speed of 3900 rpm, which matches the AP contra drive detailed in my last column but being nearly 90 g lighter!



VLV ESC rated to 80A continuous current.

STUART MELLOR PRODUCTS

Stuart Mellor is better known in UK F3A aerobatics as the longest serving full time judge on the competition circuit, having also competed in Masters F3A for many years previously. Stuart is also an accomplished engineer and lately he has aimed his considerable expertise in design to make several very useful bespoke items that can be manufactured using 3D printing technology.

Stuart employs both a Prusa and a Bambulab XC1 3D printer, using the very tough ASA material to provide some novel products. ASA is stronger and more temperature stable than other cheaper materials and is also very resistant to ultraviolet light, which tends to make plastics brittle. With his in-depth knowledge of Fusion 3D CAD, Stuart has produced several niche products directly aimed at F3A and can produce virtually anything on request.

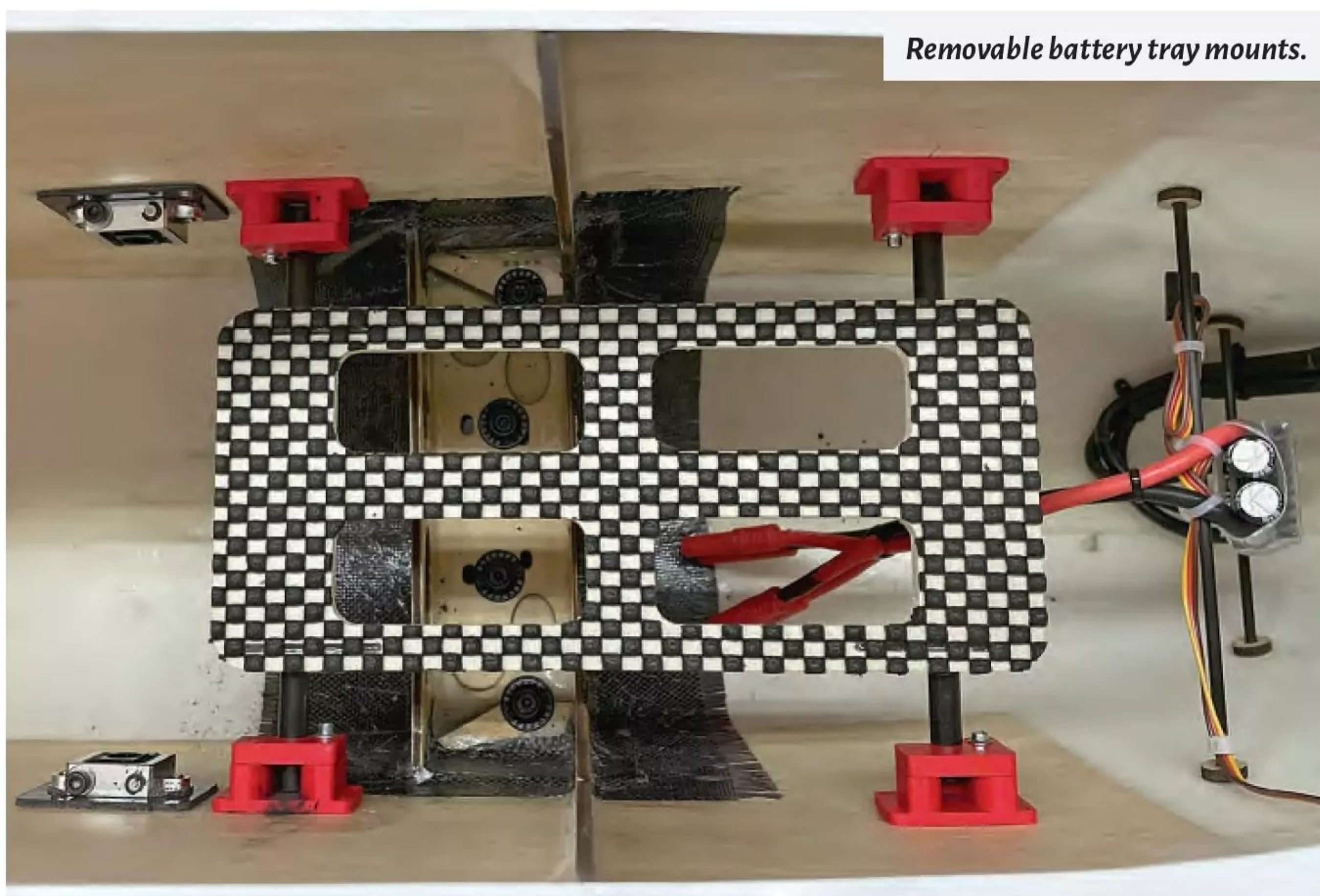
Earlier this year I needed to improve the cooling airflow onto the motor of the contra drive unit in my new Glacial model. The motor unit in the Akiba contra drive is positioned directly behind the gearbox and not in-line with any cooling air from the under-chin cutouts. Consequently, any cooling would have to arrive via the spinner arrangement.



Glacial with the standard contra spinner fitted from AKB Aircraft: akibarc.main.jp



Cooling spinner from Stuart Mellor.



Removable battery tray mounts.

“ASA is stronger and more temperature stable than other cheaper materials and is also very resistant to ultraviolet light”

Cooling spinners are nothing new and have been on the market for many years, though as the demand for contra drive units is small only a few designs and sizes are available commercially for these systems. A neat way to improve cooling via the spinner is simply to use a reduced diameter spinner which then allows air around the edge of the spinner to enter the fuselage directly.

Following my request to Stuart, along with a few dimensions that he needed, a perfectly constructed cooling spinner arrived ready to be fitted to the Glacial. Stuart had sent a couple of units allowing the clearances to be adjusted to ensure a good frictionless fit between the two spinner cones. Further cutouts in the spinner cones enhanced the airflow through the spinner. The resulting spinner worked very well indeed and helped enormously with cooling the Akiba drive.

Another item that Stuart created were the mounts used in the removable battery tray that I fitted into the BJ Craft Anthem Elliptical featured in my April column. Having a removable battery tray helps when planning installations and allows the model's CG to be easily adjusted by shifting the battery location. In fact, Stuart has also gone a step further with this concept and produced a mount incorporating an adjustable ball and socket arrangement to help with installations when the fuselage sides are not parallel.

If you are interested in these products, or in the design services that Stuart can offer, he can be contacted directly via his page on Facebook ■



Adjustable battery tray mount.



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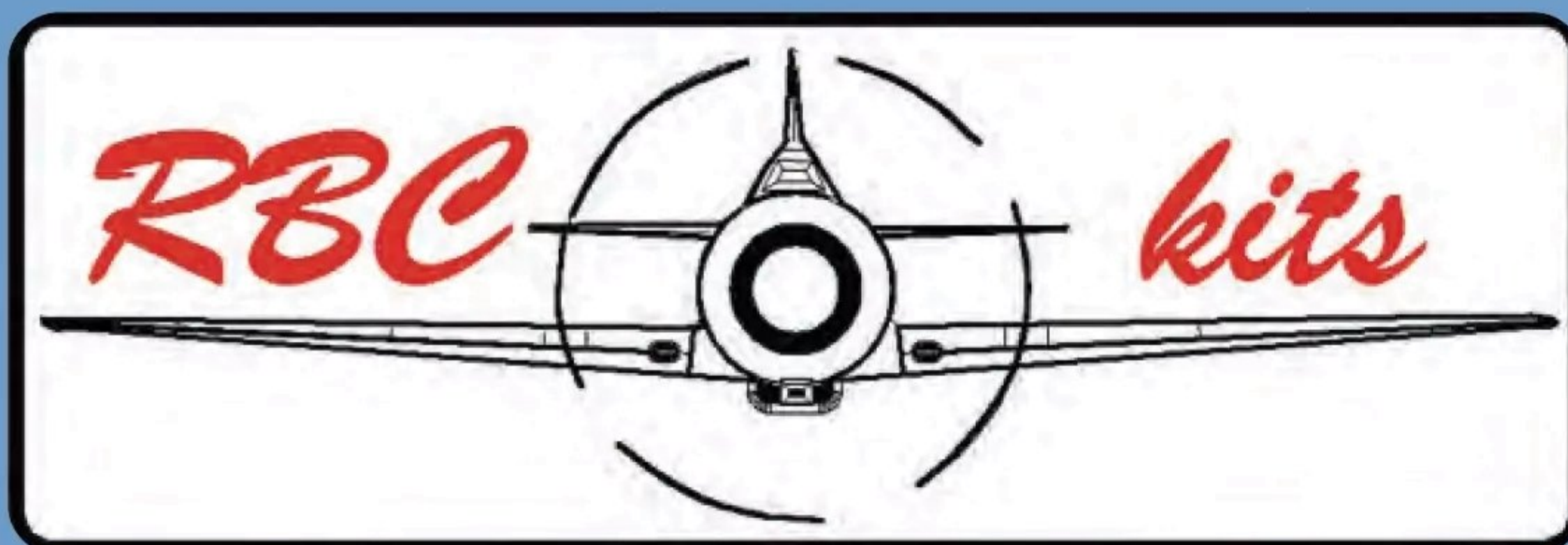
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DERBY DELIGHTS

Dave Goodenough winds back the clock to last Autumn with a report from the Ashbourne scale meeting

Words: **Dave Goodenough** Photos: **Dave Goodenough, Dave Probert**

Twas the 'Season of mists and mellow fruitfulness' when I trundled my trusty model taxi eastwards towards Ashbourne airfield, that altar of wondrous pleasure and dashed hopes, dependant on what state your model was in when returned to your transport after a day's flying, if you lasted that long. Each year, as Autumn begins to colour leaves and kids think about conkers, the Derbyshire RC Flyers hold their flying jamboree and send out their open invitation to 'come and play nicely' with others of the same persuasion. Scale is the name of the game, but that is a mantle that rests lightly on some pilot's shoulders.

Old friends, new faces, all were arriving in greater numbers than we've seen for many a year. Models were disgorged from stuffed car boots, estates, trailers and panel vans, then strewn about the pits in a random and gaudy array of any form of powered aviation you could think of. One's loins were girded, cameras checked and the wandering began...



A bit of a 'Plain Jane' but the Vought Kingfisher is a very well-mannered aircraft in model form.



Terrifying Tigercat. Unfortunately, I didn't find the pilot of this beauty. (Photo: Dave Probert)



It's all knees and elbows! The Illsley PT-22, in Harrison Ford's personal trim, clatters past with its under-clutter on display.

HERMIA'S MATE?

Lysander was 'a young man of Athens' according to Shakespeare, but 'our' Lysander was seen tooling around the airfield, obviously looking for somewhere to drop off another secret agent intent on spreading mischief and mayhem. Simon Illsley's was the rather good-looking Seagull ARTF version, hauled around behind an AXI outrunner/Jeti ESC, sucking electrons from a 10S LiPo pack.

Fossicking in the pits later I found that Simon is a devotee of the 'not like anyone else' type of aircraft. Another model rarely seen at UK flying fields was the ARTF Vought Kingfisher. Not the floatplane version that I knew of, but the

landplane derivative in muted colours. It's one of those models that fly very well yet sits like a wallflower in the sky; it's there but blends into the background.

The other, more colourful model in Simon's mixed bag of WW2 types was the 90" PT-22, another ARTF product from Seagull with lots of presence in the air. The 'tangle of scaffolding' undercarriage is very distinctive and Simon informed me that this bright O.S. 40 four-stroke petrol powered US trainer was modified by dad Graeme to represent actor Harrison Ford's own aircraft, the one he suffered a forced landing with on a golf course a while back.

John Gibb turned up towing a stock trailer with his 'wing' of foamie ARTF models inside. His RV-8 from Flex Innovations was a delight in the air, with the FMS DH Beaver plying the improving conditions with comfortable ease. Also laid before us were the E-flite Cherokee, Aircobra and Viper Jet. Foam models have seemingly become the currency of choice for so many these days and no wonder, seeing the quality and abilities presented at the meeting. Even an old traditionalist like me, steeped in crafted balsa and plywood, nearly had my head turned by these beauties. Nearly, but not quite!



John Gibbs poses with some of his fantastic plastic. Amazing quality and finish on these ARTF lovelies.



John's RV-8 leaves the runway for a sparkling display of furious foam flying.



Chris Poyser fettles his huge Wellington, but it remained table bound all day.

YOU COULDN'T MISS IT!

Hefted up onto a strong tabletop was a 'Wimpey', the Tony Nijhuis designed four metre wingspan Vickers Wellington. Chris Poyser was the assembler and sometime pilot of this warbird, originally built by Tony Hill of All-Electric RC. Chris told me that the pair of Vortex 5362-286 outrunner motors (yes, it's electric) haul the model around well. Unfortunately, it remained pit bound all day, a pity as most attendees longed to see it airborne.

Larger, and demanding a huge acreage of preparation space, was the enormous 60%, 22 feet (6.6m) span English Electric Wren of Richard Curry's crafting. It's a well-known model 'on the circuit' but despite its simple 'barely enough power to fly' origins, you simply can't ignore it when the DLE111 flat twin petrol engine bellows into life. The original, now 100 years old, resides at The Shuttleworth Collection and can be seen flying, barely making it off the runway under the gasping power of its 398 cc ABC flat twin. Richard's big DLE engine probably has more raw grunt than the original aircraft! On take-off and in the air this huge model performs just as curiously as the original, needing stick waving 'has to be flown all the time' inputs to keep it happy. Richard did chuck it about a bit during his flights, but this grand old bird handled it all without her crinoline being ruffled.

Not content with just one large model, Richard was found assembling a pair of big Fokkers. The black and menacing D.VII biplane



Richard Curry convinces the big 'Wren' to do things it was never designed for – but don't tell Old Warden!



The somewhat pole-axed pilot in the Curry 'Wren' wonders where his wings went.



Hang on tight, Jack! Richard flicks whilst his son restrains the beast. The Curry D.VII is a mighty device.

looked 'fit for purpose' as the aerial hunter it was designed to be. Its stablemate, the Dr.1 'Dreidecker', in a startling colour scheme, matched its mate's dogfighting ability, with Richard tossing the big thug all over the sky. With his fellow pilot, son Jack, working the controls of t'other model, these two aircraft joined formation and presented a formidable sight to us poor souls cowering in the pits 'trenches'.



The Fokker D.VII rasps away into the blue, ready to blast Albion's best from the sky.



Wrong way up! The Curry 'Dreidecker' being effortlessly photogenic. What a cracking sight in the air!



A pair of gorgeous Fokkers. The Curry's - Pere et Frere - formate after successes over the trenches.



THEY'RE BREEDING!

Flinging the foam appears to be spreading like a rash. Springing from their kitty baskets came a prowling pride of cats - Grumman Wildcats of a diminutive stature. Five in all and hand launched in rapid sequence, they tore away intent on mayhem, despite having no prey to pounce on; maybe it was down to the catnip lunch? At times one wondered who was flying what model, yet no pilot mistook his moggie for another. Formations were attempted and discarded, with 'perm any three from five' being the nearest they got to each other. 'You can't herd cats' was a fleeting thought as the manic models hared about.

Trojans were once warriors, known for a girt big wooden horse, but in our aviation parlance they are the dumpy and able radial engined North American T-28 trainer, built from the 1950s onwards. Now produced in several sizes as very flyable foam ARTF models, three of these larger versions were ranged in the pits, then flown later in concert, after taking off and tucking up their retracts. A little tubby and ungainly on the ground, once in the air they looked winsome whilst jostling to find formation with each other. If you like foamies or not, these looked great in the air.

Another plastic fantastic was the FMS 1700 Vought Corsair being campaigned by Peter Thompson. Although looking 'just so', as many EPO models do, plus flying reasonably well, Pete's model succumbed to lack of oomph and excess of gravity, in that order. He admitted that he'd been using a different prop than the one specified, ran out of thrust and simply stalled the plane in. Staring at his crumpled Corsair, a final comment came from his lips, 'Too low, too slow, lack of talent!' There, but for the grace of a well-filled LiPo, go the rest of us. ✈



An E-flite Beechcraft D18 joins the circuit to land. A lovely looking 'tween the wars aircraft.



Explain that one away! Peter Thompson carries his crumpled Corsair back to the carrier.



Get up there! After some pre-flight stroking a startled Wildcat is heaved forth to join the joust.



A phalanx of tubby Trojans. These big ARTF T-28s look decidedly impressive and even more so in the air.



We got Mauled! One of the huge amounts of ARTF foamies that danced o'er the Ashbourne tarmac.



Aaron McDermid holds the impressive Nimrod built by mate Graham Dorschell. A real belter in the air.



Gordon Whitehead chats as his lovely Tiger Moth awaits its call to the runway.



A few of the jet model group flown by Aaron. Depron never looked so good.



Gordon's lovely Tiger Moth chunters aloft for a gentle aerial ambling session whilst all around was noise and fury.

FASCINATORS

A group, wing or small squadron of 'not the usual subjects' were spread around one well-travelled individual, the 'jet' model group of Northampton-based Aaron MacDermid. We know that Northampton isn't too far from Ashbourne but our peripatetic pilot found his way to the show via Pontefract! He'd driven up there to fly, found it wasn't for him and set off back to Derbyshire and our little shindig. Aaron flies models designed by Graham Dorschell, crafted mostly from Depron sheet. From Vulcan to Nimrod, via various other aerial devices, many of these models sport pusher prop outrunner power instead of the EDF units you might have thought more appropriate. In fact, Aaron gets up to three times the flight time that ducted fans provide, with little or no effect on the speed of his

planes. How's that for efficiency!

You see one or two of them at most scale meetings, but the distinctive and pretty DH.82 Tiger Moth always pleases the eye. One such example was present in the pits and I caught up with the pilot during the day - it was none other than Gordon Whitehead. He told me that the well-finished model, in silver/maroon DH Flying School livery, hauled by Hacker electric power, is now 23 years old! To me it looked as fresh as the first day out of the workshop. Gordon unfortunately had an out-landing at one point; I didn't find out the reason why but caught him returning from the far edge of the runway. The model looked to be okay and I saw it fly again later in the day.

Tim 'Hooperman' likes to do things differently and his idea of a scale model was a reduced

size Veron Cardinal towed behind a throttled Mills diesel. I caught him 'all of a flap' ambling back to the pits after recovering his Airspeed Courier, that lovely between-the-wars aircraft designed by Neville Shute, better known as an author to most of us. He also put up his deceptively delicate looking Velie Coupe during the day, which is a little cutie in flight. Nieuport 28 biplanes were fast fighters in their day, but not supersonic. Tim's beautiful rendition of a Turkish Air Force example rocketed around the sky with abandon, before he found the throttle stick and wound it back for a greaser of a landing. He'd also had a rummage through the 'Bring and Buy' corner of the pits and, true to form, bought a converted free flight Playboy old-timer, with its clarty and throttled/silenced PAW diesel needing some TLC.



'Hooperman' attempts flight! Tim, in exuberant mood, after a fun flight with his Airspeed Courier. Despite furious flapping he didn't reach take-off speed.



Turkish Nieuport of Tim Hooper rockets past at speed. Very pretty and deceptively quick.



Above: Just passing on the way to the front. Dave Johnson's DB Models 1/3 scale Sopwith Pup wanders upwind.



Left: Worn, lumbering and ungainly, the Storch is all of those. Paul Marsh pours on the available power to unstick the Fieseler.

STRESSED STORCH

If you mentioned Autumn and 'Daddy Long-Legs' in the same sentence you'd be forgiven for thinking insects. But that also describes the German Fieseler Storch, an ungainly looking WW2 'spotter' aircraft that would fly incredibly slowly and take-off and land 'on a pfennig', if you could find one. Gangling in the pits was a dishevelled looking version, seemingly straight from duties over the battlefield. This 'worn and bent in service' model is a recent purchase by Paul Marsh, who was bemoaning the SC 91's lack of available energy when flown at Ashbourne for the first time since its acquisition. To be

fair, this rendition of the Aviomodeli kit looked the part when clawing for air after its take-off, but Paul told me that the throttle was 'on the stop' for most of the flight and had nothing left for anything other than circuits. Whatever its shortcomings, it looked fine in the air, then eventually galumphed down for a landing on that stalky undercart, settling on its arthritic joints like a knackered granddad.

Despite the dark and threatening presence of the Curry Fokkers, Dave Johnson bravely took off into the enemy sky with his third scale Sopwith Pup, from the DB Models kit, the grunt provided by a DLE 55. Bigger models

definitely fly better and the Pup was proof in spades. Largely left alone by the duo of Huns, Dave's Pup performed admirably, despite the pilot's need to keep looking over his shoulder. A smaller SE5a decided to join the joust and rolled forth in a cloud of smoke, before tearing off across the tarmac in a plume of part-burnt oil. His ground crew needed a talking to as the fume enveloped fighter refused at the first jump. A disconsolate Dave Piggott, a fellow DRFC club member, trudged back with the disgraced device tucked under his arm. A change of plugs, or something like it, saw the model join the circuit later for fun and frolics. ✈



Blame the flight crew! The smoky SE5a of fellow DRFC member Dave Piggott makes a break for the airfield's edge but didn't make it and fell at the first fence.



IN THE BALANCE?

Sometimes the 'wanna be different' nature of us crafty types shows up as a lust for 'fringe' models, those that may be scale but are seldom attempted, for whatever reason. The de Havilland Venom has 'been done' before but not as a small 'home brew' foam jobbie. One such 'devisor of the different' is Simon Chaddock, constructor of the tiddly EDF bright mauve and white plaything taken out to the launch point with either pride or fear. With a screech of tortured air Simon tossed his model forth, straight and level - the last time anyone would see it so directed! If there's a way to describe the aerial contortions the Venom performed, they are beyond my grasp of the King's English and my understanding of aerodynamics. Suffice to say, it was never level, seldom appeared to be answering the helm, used more sky than most models several times the size, then arrived untidily 'all of a heap' before Simon did the walk of shame back to the pits. Us audience up in the gallery, having enjoyed the short-lived pantomime, gave utterance to many ribald comments, made comment of a 'wayward C of G', but refrained from offering applause or score cards for performance and presentation.

OBSERVATIONS

Many say that flying R/C models is now the preserve of old codgers. Well, based on the mix of pilot ages at Ashbourne that is patently rubbish. A lot of older brethren certainly, but many younger types were flying there. 'Codgerism' takes many forms, one of which was the use of a nearby 'big roll' of straw as the nearest P***oir! Lord help the animals that get THAT bale! Some say that the rise of foam models is spoiling the hobby but as a 'dyed in the wool' wooden model designer and builder I say, 'So what!' If it takes foam models to get pilots flying, so be it; not everyone enjoys the crafting side of the game. (Sshhh - I'll tell you a secret! I design and build foam models too, but don't tell anyone.)

'This was the best meeting ever!', one chap was heard to say. Scale model flying is alive and well. If you doubt it, find your way to Ashbourne this coming Autumn and join in the fun. The DRFC is 'on notice' that their airfield site is to be redeveloped but with nothing concrete regarding planning the club will no doubt keep the site active for model flying for as long as possible.

I'll be there - will you? ■

Dave Goodenough coetquidan@yahoo.com
Derbyshire Radio Control Flyers
<https://www.drpf.co.uk>

Above & Right:

Simon Chaddock launches his Venom nice and level. It all went 'Pete Tong' after that! It looks repairable - see seagull photo...

Right: Now that's different. Chaddock does things differently. A ducted fan seagull - the mind boggles!



Below: Sleek or what! Dave Probert bucked the fixed wing trend with his lovely scale helicopter.



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If you are planning an aeromodelling event over the next few months, then please send details – **up to 100 words maximum** – to **Beth Ashby** at: **Beth.Ashby@dhpuk.co.uk** If you intend to visit any events listed, then please check with the organisers before travelling in case of any last-minute changes.

JULY

Jul 14

Classic Gliders at The Hole of Horcum, North Yorkshire, YO18 7NR. A relaxed fun day for all types of traditionally built R/C model gliders. BMFA membership required. £5 for non-club members. Location: What3Words - snowmen.ordinary.caps. Walk to slope by 10am. Call Michael Kitchen on 01347 810685 for details.

July 14

Cocklebarrow Vintage R/C, signposted from Aldsworth, Glos. on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford (follow SAM35 signs). What 3 words: positives arrival calculate. All types of R/C up to 1975, sport flying, no competitions. BMFA insurance essential. For more information, please contact Tony Tomlin on 07767 394578 or 02086 413505 or email pjt2.alt2@btinternet.com

July 20

Longham Lake Fly-in, Christchurch & District MFC are hosting a waterplane fly-in at Longham Lakes. All fliers welcome but prop driven electric fixed wing only - no IC or turbines. EDF by agreement. Details of the lake, directions and local rules are at <http://cdmfc.org/html/longham.html>. Flying from 9:00 am – 16:00 pm but weather dependant. Contact Mike on roachfoxwood@aol.com the day before for final confirmation.

July 20 – 21

Pontefract Annual Fly-In at Pontefract Park, southwest corner of junction 32 of the M62, WF8 4QD. Saturday has all-electric, any R/C model type, fun fly (the exception being IC / Electric control line which can be flown on both days). Sunday has Single Channel and Retro Fly-In for all age appropriate IC and electric powered vintage and retro models (ideally up to the late 1970s but we are flexible as long as they fit in with the general theme of the day). To fly you must have insurance and CAA documentation plus any model over 7.5 kg requires BMFA B, LMA proficiency or equivalent certification. Feel free to display your models if you don't want to fly. Free entry, further details and updates at www.singlechannel.co.uk. Further details on finding the site, see map on pandas.bmfa.org. Limited free camping available, contact Phil Green on philg@talk21.com or Shaun Garrity on aroomodeller@gmail.com

Jul 27 - 28

Old Warden Modelling Weekend at Old Warden, Biggleswade, Beds. This year we're inviting other forms of modelling to join us to reflect R/C flying of all types, helicopters, free flight and radio assist, control line, R/C cars, boats, tanks, drone racing, rockets and trains. Trade line, swapmeet/car boot area, bring and buy, R/C trial experience flights, tethered cars, children's build and fly competition, R/C simulator. Weekend camping, available, excellent cafe not forgetting the Shuttleworth Collection and Swiss Garden. For more information visit shuttleworth.org and search 'ModelAir'.

Jul 27 - 28

Large Model Association Sleaf Large Model Airshow at Sleaf Airfield, Shrewsbury, Shropshire, SY4 3HE. See www.largemodelassociation.com for full details.

AUGUST

Aug 3 - 4

Wessex Soaring Association Slope Fly-in, held on first Saturday or Sunday of the month. Slopes approx. 5 miles east of Shaftesbury. Non-powered gliders and e-soarers welcome. BMFA insurance required. Contact Pete for more info at pete.carpenter12@gmail.com or call 07919 903742.

Aug 3-4

PSSA Fly for Fun event at The White Horse, Westbury, Wiltshire. Meet at the White Horse car park. Pilots brief at slope location at 10.30am each day. Proof of BMFA (or equivalent) insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. Note this meeting will only run with locally forecast winds from West through to North. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or go to www.pssaonline.co.uk/about-us/events/

Aug 3

Bickley MFC Boot Sale at Bickley MFC, Church Road, Sutton at Hone, Dartford, Kent DA4 9EX. From 9:00am to 17:00pm. Boot sale for all your modelling bits and pieces. Also, a perfect place to grab a bargain! Non club members £5 to sell. Toilets on site. Camping must be pre-booked at admin@bickleymfc.org. For more information, visit <https://bickleymfc.org/> or contact James Gordon on 07966 439835.

Aug 4

Bickley MFC Scale Open Day at Bickley MFC, Church Road, Sutton at Hone, Dartford, Kent DA4 9EX. From 10:30am to 17:00pm. Scale models of all types welcome except turbines. Informal, relaxed scale fly-in. Toilets on site and camping available if booked in advance at admin@bickleymfc.org. For more information, visit <https://bickleymfc.org/> or contact James Gordon on 07966 439835.

Aug 10 - 11

Elvington Large Model Airshow at Elvington Airfield, Elvington, York, YO41 4AU. See www.largemodelassociation.com for full details.

Aug 11

Skelmersdale MFC Scale Day at 68 White Moss Rd South, Skelmersdale WN8 9TH. Weather permitting we hope to commence around 10 am. This is a low-key event designed around a day of fun. There are prizes for the winners in the categories on the day. You must have your own insurance and be competent to fly to A certificate standard. For more information please contact the organisers on 07811 224286.

Aug 17

Melton & District Open Flying Day & Swap Meet at Long Field Academy, Ambleside Way, Melton Mowbray, LE13 0BN. From 10:00 am to 16:00 pm. Free entry to flying display. Competition is £2 per competitor. Swap meet tables £5 each (4' x 2'). Entry to Swap Meet £3 per person. Visiting pilots are welcome to the open flying event if they hold at least a BMFA 'A' Certificate and insurance and show proof on the day. For further details or for booking a table, please contact meltonmodelclub@virginmedia.com

Aug 17 - 18

British Fun Fly Association Nationals at BMFA Buckminster, Lincs. While this is a formal National Championship, first timers and novices are still very much welcomed and encouraged. To find out more about Fun Fly, the rules and the different classes, take a look at <https://funfly.bmfa.org/> and keep an eye out on the BFFA Fun Fly Facebook group for the latest news.

Aug 17 - 18

PSSA Fly-In at The Bwlch, Nant-y-Moel, Bridgend, South Wales. Kindly supported by the SWSA - <http://a470soaring.blogspot.co.uk/>. Meet at the 'Ice-Cream' car park for 10am each day. Proof of BMFA (or equivalent) insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or go to www.pssaonline.co.uk/about-us/events/

Aug 17 - 18

Greenacres August Fun Fly at WS9 0QQ, off Bosty Lane, in Aldridge near Walsall and follow signs onto the park. Campers and caravans can arrive after 1:00 pm on the Friday before. Water, Portaloos, raffle and catering are all available for a small donation. Visiting pilots fly for £10 on Saturday and £5 on Sunday, but spectators and the public are free! If you have any special requests or requirements please contact Jim Mchugh at jim.mchugh@greenacresmac.co.uk. For more information please visit the club website: <http://www.greenacresmac.co.uk> or Facebook: <https://www.facebook.com/GreenacresMAC>

Aug 18

Cocklebarrow Vintage R/C, signposted from Aldsworth, Glos. on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford (follow SAM35 signs). What 3 words: positives arrival calculate. All types of R/C up to 1975, sport flying, no competitions. BMFA insurance essential. For more information, please contact Tony Tomlin on 07767 394578 or 02086 413505 or email pjt2.alt2@btinternet.com

Aug 24 – 26

August Bank Holiday Fly-in Rolls Royce Hucknall MAC at Underwood, NG16 5GA. What three words - laws.wasp.upgrading. 5 mins Junction 27 M1. Come fly your scale models. All BMFA members welcome, with a competition for best scale model. Camping available but



must be pre-booked. For more information contact Terry at 07971 707585 or email terry.33cway@hotmail.com.

Aug 31 - Sep 1

Southern Model Show at Headcorn Aerodrome, Headcorn, Kent, TN27 9HX. Full flying display both days with Saturday evening fireworks, model boat pond, car racing, bring-and-buy stall, full trade and catering village. Details at www.facebook.com/p/Southern-Model-Show and on-line ticket sales to follow soon.

SEPTEMBER

Sept 7 - 8

Popham Model Show at Popham Airfield, just off the A303, Coxford Down, SO21 3BD. Full flying display on both days, 10am - 4pm. Jets, large models and top class pilots. Supported by traders and a catering village. Model boating lake, Off road R/C car racing, FPV drone racing. Book online at popham-airfield.co.uk

Sept 7 - 8

Wessex Soaring Association Slope Fly-in, held on first Saturday or Sunday of the month. Slopes approx. 5 miles east of Shaftesbury. Non-powered gliders and e-soarers welcome. BMFA insurance required. Contact Pete for more info at pete.carpenter12@gmail.com or call 07919 903742.

Sept 7 - 8

Much Marcle Large Model Airshow 2024 at the Much Marcle Steam Show, Ledbury, Herefordshire, HR8 2LX. See www.largemodelassociation.com for full details.

Sept 8

Scale Gliders at The Hole of Horcum, North Yorkshire, YO18 7NR. A relaxed fun day for all types of traditionally built R/C scale gliders. BMFA membership required. £5 for non-club members. Location: What3Words - [snowmen.ordinary.caps](https://www.what3words.com/snowmen.ordinary.caps). Walk to slope by 10am. Call Michael Kitchen on 01347 810685 for details.

Sept 8

Vintage Fly-in hosted by SAM 35 at RNAS Merryfield, Ilton, Somerset, TA19 9HN. Super 60/ Junior pylon race, Class A, B & C VPD, control line circuit and flying off the peg. Free registration on the day. Contact Louis Hawkins on 07768 862630 or email louis@louishawkins.plus.com.

Sep 14

Tonbridge Gassers and Rubber Fanciers Indoor Flying at Kings Sport Centre, 601 Maidstone Road, Rochester, ME1 3QJ. From 6:30pm until 10:00pm. Freeflight, Lightweight RC and 3D RC timed flying sessions throughout the evening. For more information contact Steve on 0208 942 5000 or Eric on 07763 398 416.

Sep 14

Longham Lake Fly-in, Christchurch & District MFC are hosting a waterplane fly-in at Longham Lakes. All fliers welcome but prop driven electric fixed wing only - no IC or turbines. EDF by agreement. Details of the lake, directions and local rules are at <http://cdmfc.org/html/longham.html>. Flying from

9:00 am - 16:00 pm but weather dependant. Contact Mike on roachfoxwood@aol.com the day before for final confirmation.

Sep 15

Basingstoke Model Aero Club Electric Fly-In 24 at Harrow Way & Manor Farm Lane, Basingstoke, Hants. Gates open 9:00 am with a pilots' briefing at 9:45 am and then the fun starts at 10:00 am. Free entry and car parking, but we hope to get you to buy some raffle tickets. BBQ and drinks also available. BMFA proof of insurance required. Location and contact details at bmac.bmfa.club/events or @basingstokemac on Facebook.

Sep 21 - 22

PSSA Fly for Fun event at The Great Orme, Llandudno, North Wales. Meet at the 'Tank Track' car park for pilots brief 10am each day. Proof of BMFA (or equivalent) insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or go to www.pssaonline.co.uk/about-us/events/

Sep 22

Cocklebarrow Vintage R/C, signposted from Aldsworth, Glos. on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford (follow SAM35 signs). What 3 words: positives arrival calculate. All types of R/C up to 1975, sport flying, no competitions. BMFA insurance essential. For more information, please contact Tony Tomlin on 07767 394578 or 02086 413505 or email pjt2.alt2@btinternet.com

Sept 27, 28, 29

Bring & Fly at Pen Y Berth, Pwllheli, Gwynedd, LL53 7HG. Hosted by the Lleyrn Model Aero Club. As well as our superb grass strip where our club house is, we have fantastic slope soaring sites nearby. We will be serving refreshments, bacon butties etc. at our club site over the weekend. There will be a sales tent for selling model goods. Camping/caravanning facilities are adjacent to our site with a cafe/bar. Public spectators are welcome, trial flights can be arranged as well as training for A tests etc. For further details please contact Frank Pilling on 07867 361905 or visit lleynmac.org.uk

OCTOBER

Oct 5 - 6

Wessex Soaring Association Slope Fly-in, held on first Saturday or Sunday of the month. Slopes approx. 5 miles east of Shaftesbury. Non-powered gliders and e-soarers welcome. BMFA insurance required. Contact Pete for more info at pete.carpenter12@gmail.com or call 07919 903742.

Oct 12

Tonbridge Gassers and Rubber Fanciers Indoor Flying at Kings Sport Centre, 601 Maidstone Road, Rochester, ME1 3QJ. From 6:30pm until 10:00pm. Free flight, Lightweight RC and 3D RC timed flying sessions throughout the evening. For more information contact Steve on 0208 942 5000 or Eric on 07763 398 416.

Oct 19 - 20

PSSA Fly for Fun event at The Great Orme, Llandudno, North Wales. Meet at the 'Tank Track' car park for pilots brief 10am each day. Proof of BMFA (or equivalent) insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. For more information contact Phil Cooke on 07772 224719 email webmaster@pssaonline.co.uk or go to www.pssaonline.co.uk/about-us/events/

Oct 22

PMAC Swapmeet at Chelford Village Hall, Knutsford Rd, Chelford, Macclesfield, SK11 9AS. From 7:00 pm to 9:00 pm, doors open for table holders at 6:30 pm. Tables £10 each (includes entry for one person). Entry £3 per person. Tables limited to 30 only, table booking required. Vehicles greater than 2.1 m tall will need to be advised to the organiser (below) due to parking restrictions. Table bookings required by contacting Tim Cheal on tim.cheal@btinternet.com

Oct 27

Leafields MAC Autumn Swapmeet at Pinxton Miners Welfare, Wharf Road, Pinxton, Derbyshire, NG16 6NY. Doors will be open to the public at 10:00 am and traders are welcome from 08:45 am onwards. Admission is £2 pp at the door for adults with under 15s free entrance. Hot and cold refreshments will be available throughout the course of the morning. Tables are available at £5.00 each and are selling very well so if you wish to wish to book a table please ring Dave Moore on 07793 815654 or email at gyrservices@w3z.co.uk.

NOVEMBER

Nov 2 - 3

Wessex Soaring Association Slope Fly-in, held on first Saturday or Sunday of the month. Slopes approx. 5 miles east of Shaftesbury. Non-powered gliders and e-soarers welcome. BMFA insurance required. Contact Pete for more info at pete.carpenter12@gmail.com or call 07919 903742.

Nov 24

Southern Counties Autumn Swapmeet, Mountbatten School, Romsey, Hampshire, SO51 5SY. One of the largest swapmeets in Southern England with over 50 tables. Please note revised times: sellers with a booking admitted from 8:00am. Buyers from 8:30am onwards. Noon finish. Admission only £4, under 16s free. First table costs £9 (including one admission), additional tables cost £5 each. Refreshments will be available. To pre-book tables only call Mike Stokes on 07702 742647 or for more details visit hmfa.bmfa.org/

DECEMBER

Dec 7 - 8

Wessex Soaring Association Slope Fly-in, held on first Saturday or Sunday of the month. Slopes approx. 5 miles east of Shaftesbury. Non-powered gliders and e-soarers welcome. BMFA insurance required. Contact Pete for more info at pete.carpenter12@gmail.com or call 07919 903742.

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X360 HELICOPTER with transmitter, 5 batteries, 2 spare booms, spare tail blades, spare main blades and more spares - £400 plus £45 P&P approx. or buyer to collect. 07787 574932 (York).

SPEKTRUM DX8G2 transmitter, little use, like new. Boxed with charger and manual - £135 plus postage. E-flite Viper 70, ducted fan jet with flaps and retracts. Spectrum AR636A Safe Rx with little use - £150. Buyer to collect. 07300 835793 (Suffolk).

HANGAR 9 FOKKER DVII untouched, complete ARTF, 63" span, electric or IC - £150 plus P&P. Hangar 9 Jackal 50 with West 52 VI and Mini Pipe, includes servos, in immaculate condition - £150. Buyer to collect. 07300 835793 (Suffolk).

PITTS SPECIAL, 52" span from the Radio Modeller plan. Covered in white Solarfilm, includes Futaba servos and Turnigy motor. Requires your ESC, LiPo and receiver - £75. Buyer to collect. 07866 661269 (Wales).

SEAGULL PC6 PORTER with servos and Irvine .53 engine. No crashes and only a few flights - £200. Hangar 9 Pulse XT40, only two flights, with servos and SC .46 engine - £160. Call Mike on 07875 501354 (Lancs).

CARL GOLDBERG BUCKER JUNGSMANN kit, 68" span, .40 - .60 engines or equivalent four-stroke - £375. 07800 871829 (Haverfordwest).

ARROWS EDGE 540 foam aerobat. Comes with LiPo battery with only three flights. Originally cost £300 plus, will accept £100. Call Reg on 01242 672479 (Glos).

WANTED

KAVAN JET RANGER wooden main rotor blades wanted. Even a damaged set for repair would be welcome. Appreciate any help with this request. Blades are 735 mm

length and a cord of 55 mm. Call Peter on 01722 341212 (Wilts).

XFLY P68 TWIN wanted or other similar ARTF. Must be in good condition. Text 07738 002849 (N.Ireland).

SEBART KATANA 30E canopy wanted in any colour. Call Ian on 07908 972026 (Stockport).

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BUILDING WITH CORREX

Phil Stone first started building in Correx in late 2018 and he has since built countless models using it, five of which have been Hawks. In his article Phil shows to make a Hawk T1 PSS slope soarer from this versatile material. There is a plethora of powered models which can readily

be stripped out and converted to PSS, as well as balsa kits, but for anyone looking to get into PSS on a budget then building an aircraft in Correx may well be the answer. It is a twin-walled, fluted, polypropylene sheet and is generally available in white but also black and a range of other colours too.



SLINGSBY KITE TYPE 23

As with Chris Williams' other designs, this month's Pro-Plan for the Slingsby Kite Type 23 is too large to fit on the pull-out sheet in just one issue so it will conclude in the September edition.

The T.23 airframe is almost entirely built from balsa, other than the longerons and spars, plus the ply hatch into which the windscreen brackets must be screwed.

Next time Chris describes finishing and flying this 2.5 metre span scale glider. The prototype shows no vices, with a long flat glide and no tendency to drop a wing at low speed. Although not fitted with spoilers, the up-going ailerons provide plenty of glide path control.

DORNIER AMPHIBIAN

Join Martin Hardy as he describes his recently completed and maidenied Dornier Do-24ATT amphibian.

The full-size is a bit of an interesting beast, being a three-engine flying boat, built originally for use in the Dutch East Indies. The ATT version started life as a flying boat in 1944 as a Do-24T-3. Until 1971 it was used in Spain as an air-sea rescue aircraft, at which time it was retired and placed in a museum before being extensively restored and made flyable again using new trapeze shaped wings and fitted with Pratt and Whitney turboprop engines.

Martin's model is at 1:14 scale, giving a wingspan of seven feet. Construction is based on the Ivan Pettigrew Mini Catalina plan.



Editor: Kevin Crozier
kcrozier@mortons.co.uk

Publisher: Steve O'Hara,
sohara@mortons.co.uk

Publishing director: Dan Savage,
asavage@mortons.co.uk

Art Editor: Kelvin Clements

Design: Druck Media Pvt Ltd.

Group Advertising Manager:
Sue Keily

Advertising: Mason Ponti - mason@
talk-media.uk - 01732 920499

Karen Davies - karen@talk-media.uk - 01732
442144

By post: RCM&E Advertising, Mortons Media
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Sales and Distribution Manager:
Carl Smith

Marketing Manager: Charlotte Park

Commercial Director: Nigel Hole

Editorial address:
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General enquiries and back issues:
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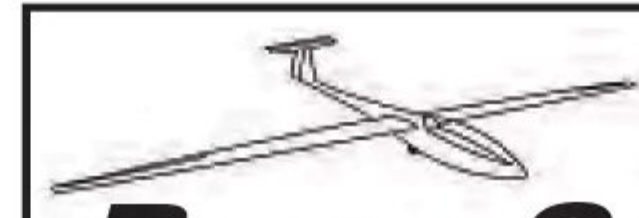
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Partingshot



Red Kite attack

Whenever Mike Freeman's clubmate Adrian Hiley is flying his Dancing Wings electric powered EPP Buzzard the local wildlife take an interest. On this particular occasion a Red Kite took exception to having to share its airspace!

Photo by	Mike Freeman
Camera	Nikon D7500
Lens	Nikon VR 500mm f/5.6
Aperture	f/7.1
Shutter speed	1/2000 sec

ISO	180
Focal length	500 mm
Metering:	Centre weighted
Exposure Comp	0EV

AEROBATIC PERFECTION

PITTS S2B ▽



Blue/White
(Scheme 02)

Orange/White (Scheme 01)



Bulldog
(Scheme 03)

NEW

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EDGE 540 V3 ▽



Red/White
(Scheme 01)



Yellow
(Scheme 02)

NEW

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67in - **£469.95**

73in - **£599.95**

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103in - **£1299.95**



Orange
(Scheme 08)

Blue/White/
Silver/Red
(Scheme 09)



Red/Blue/ Silver
(Scheme 07)



Yellow/
Silver/Black
(Scheme 06)

EXTRA NG ▽

60in - **£399.95**

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SLICK ▽

Green/White/Red
(Scheme 04)



Red/White/Yellow
(Scheme 05)

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Orange/White
(Scheme 05)



Blue/Green
(Scheme 04)

DECATHLON ▽



Yellow/Black/Red
(Scheme 10)

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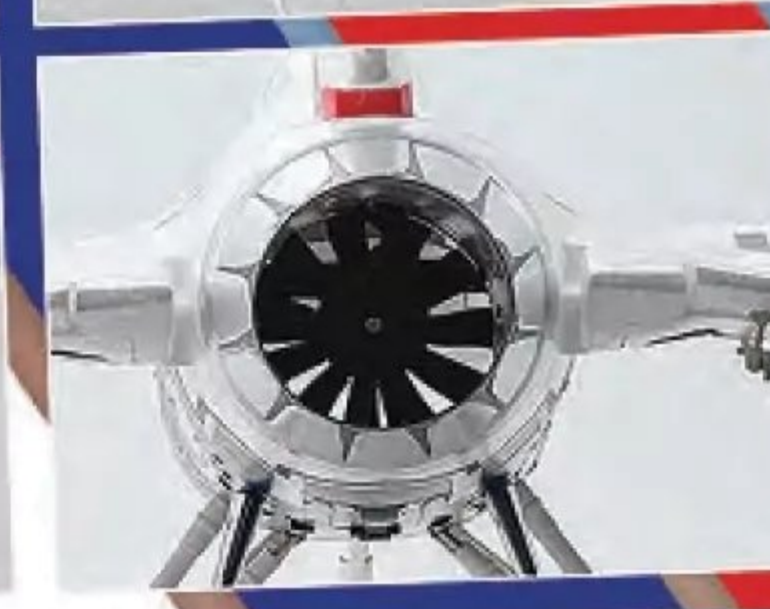


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The F-16 "Fighting Falcon" is an American single-engine supersonic multirole fighter aircraft originally developed by General Dynamics (now Lockheed Martin) as part of the U.S. military's 'Lightweight Fighter' program. Initially designed as an air superiority fighter, it was intended to complement the U.S. Air Force's primary fighter, the F-15 and establish a high-low mix of capabilities. After entering service, with several upgrades, it evolved into a multi-role fighter, categorized as a fourth-generation fighter aircraft.



SPECIFICATIONS:

- Wingspan: 740/712mm / 29.1 in
- Overall Length: 1090mm / 42.9 in
- Flying Weight: around 1350g
- Motor Size: 2840KV 3150
- EDF: 64mm, 12 blades
- ESC: 40A
- Servo: 9g x 6pcs
- Wing Load: 85.4 g/dm² (0.17oz/in²)
- Wing Area: 15.8dm² (244.7 sq.in)
- Assembly time: 10 minutes
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- Radio: 6CH Channel

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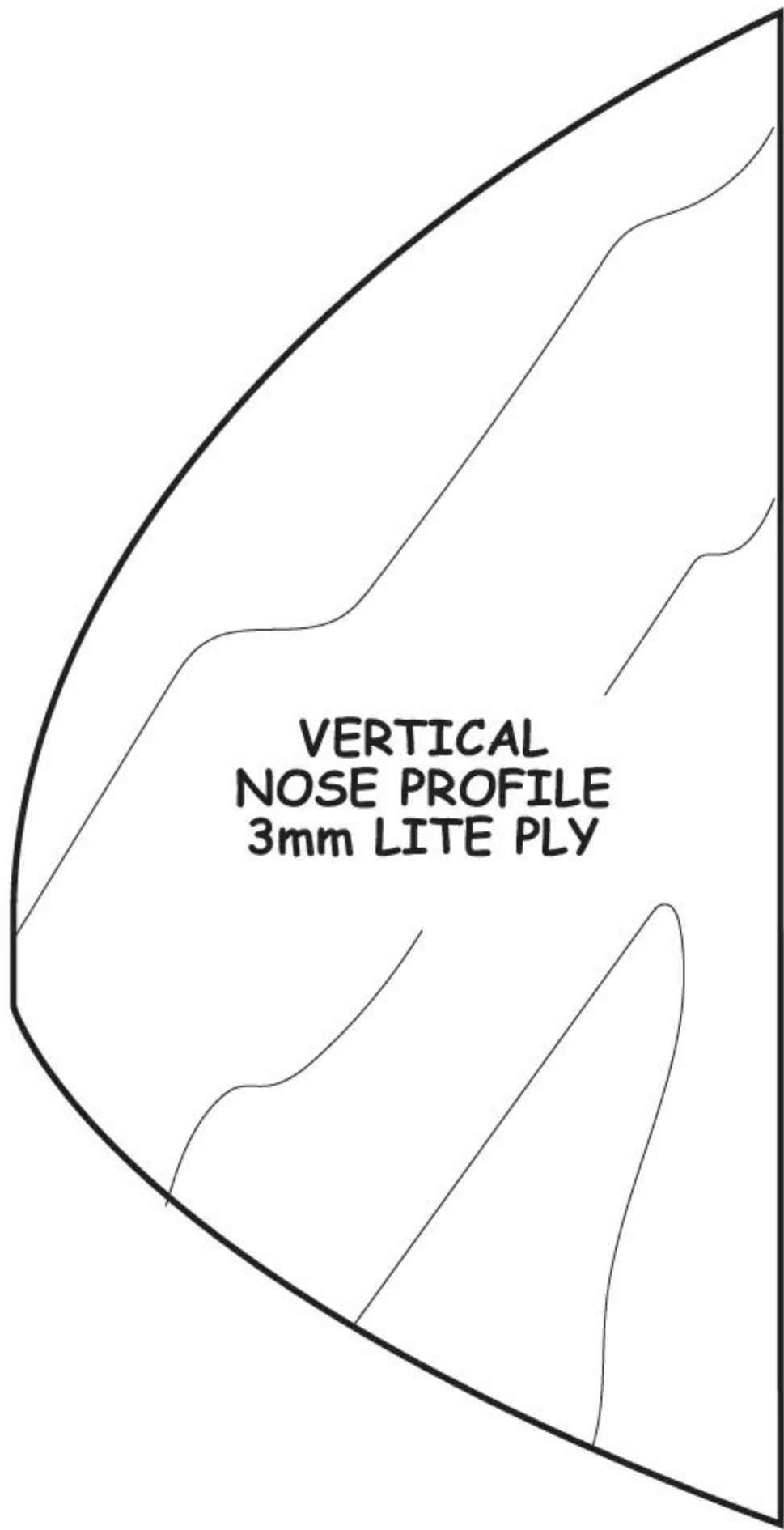


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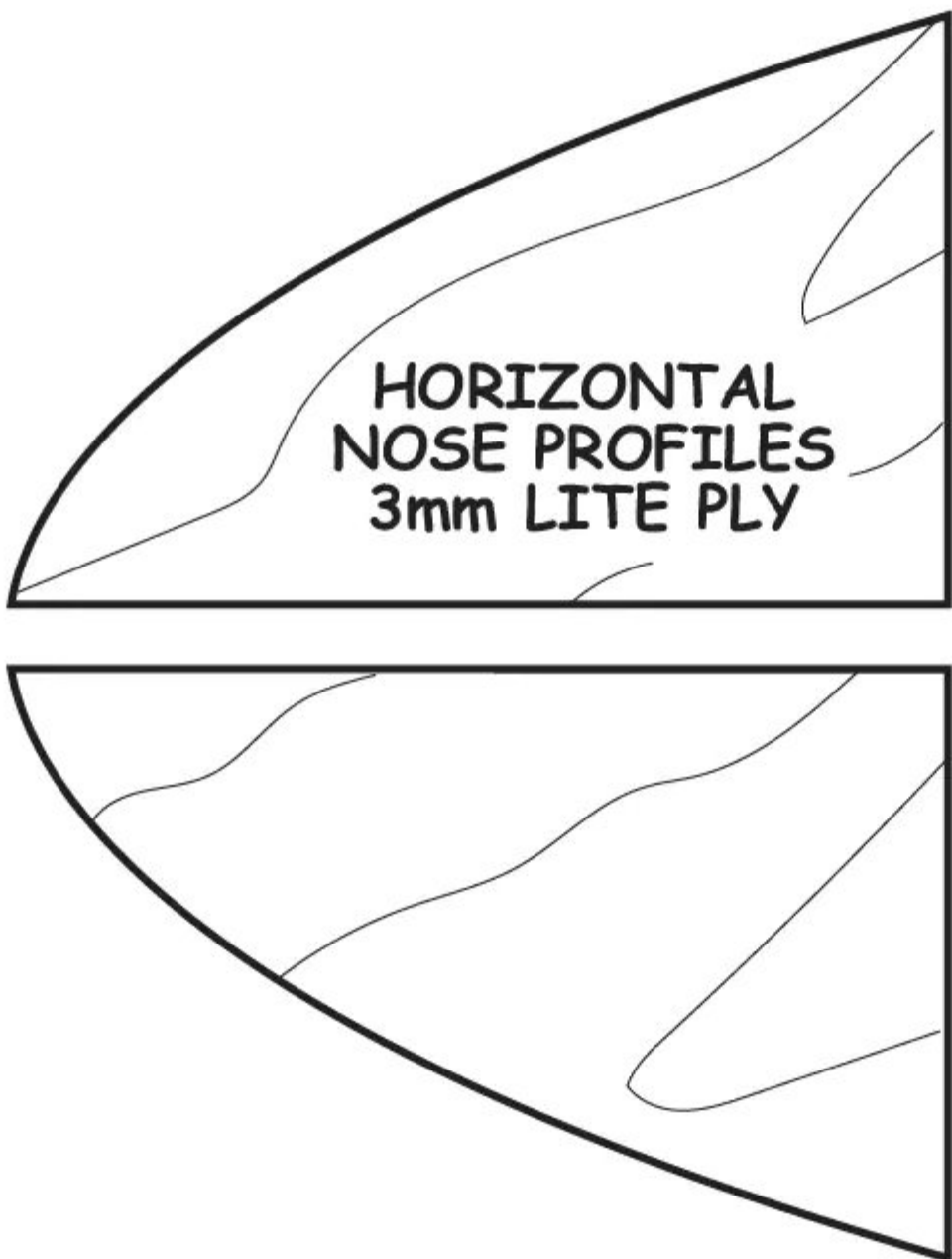
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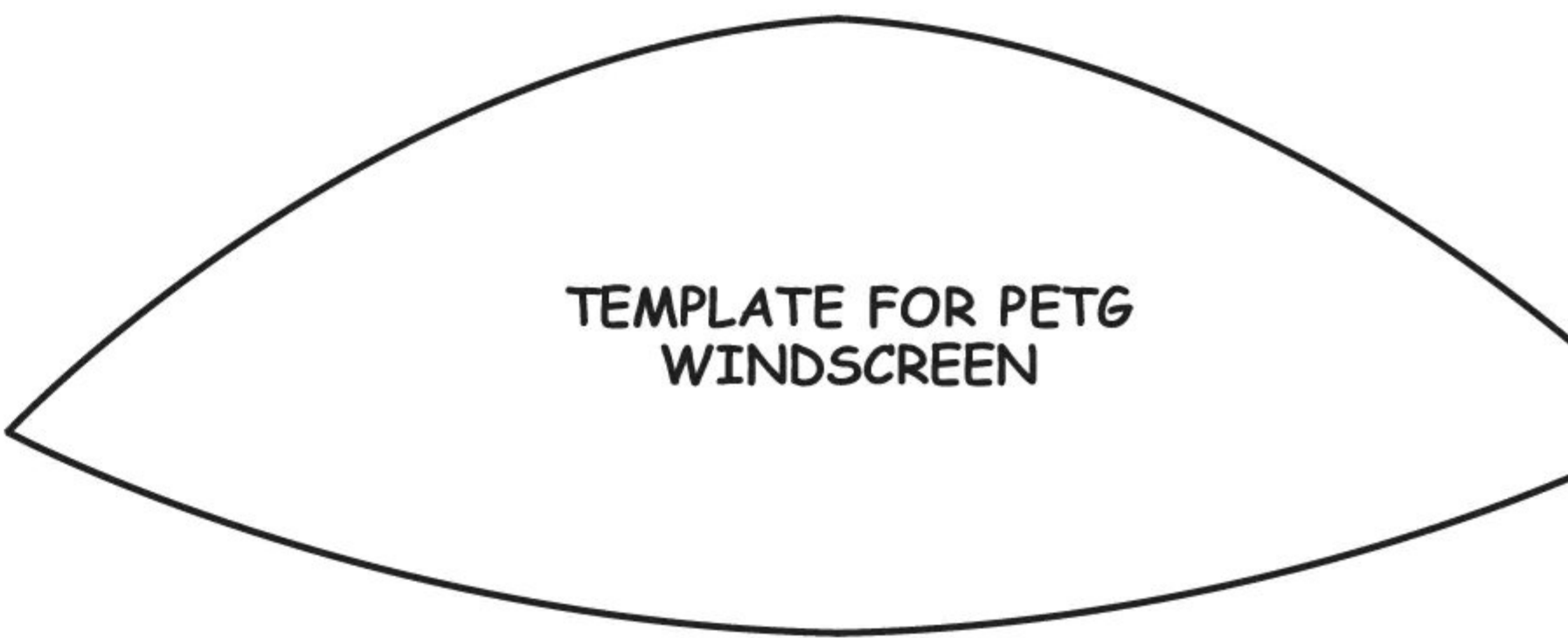
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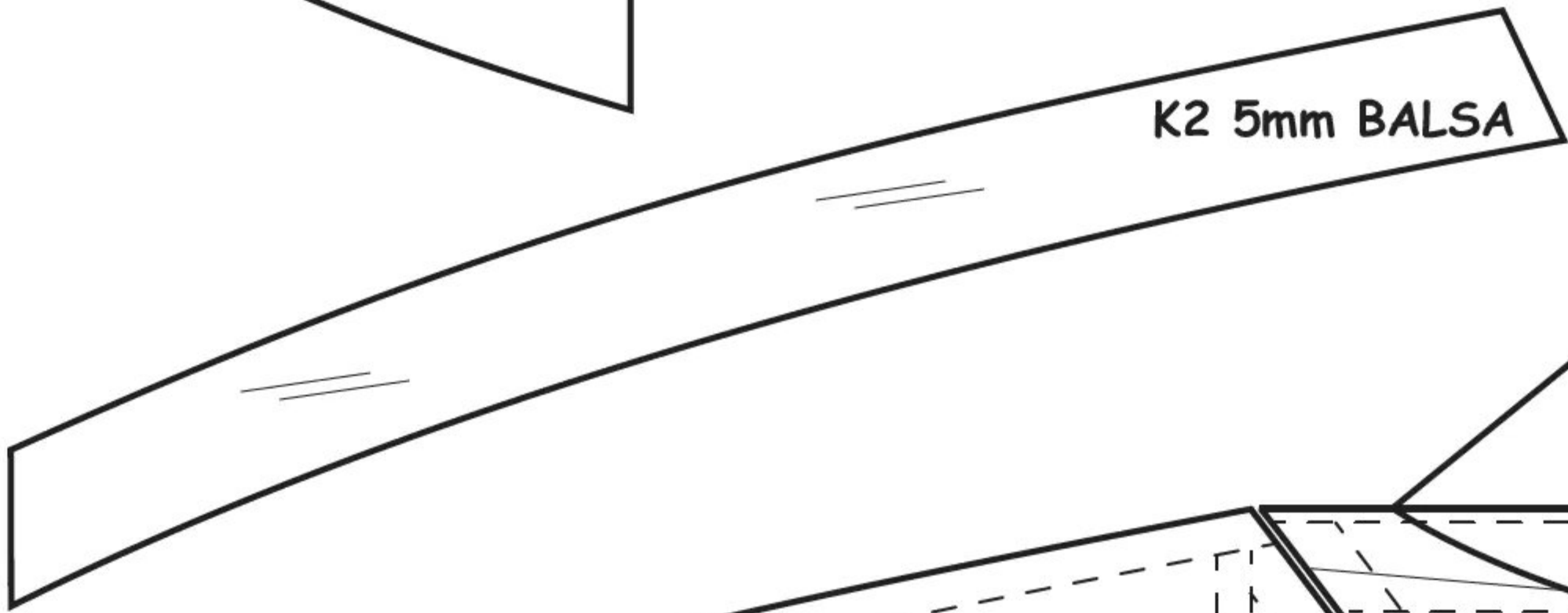
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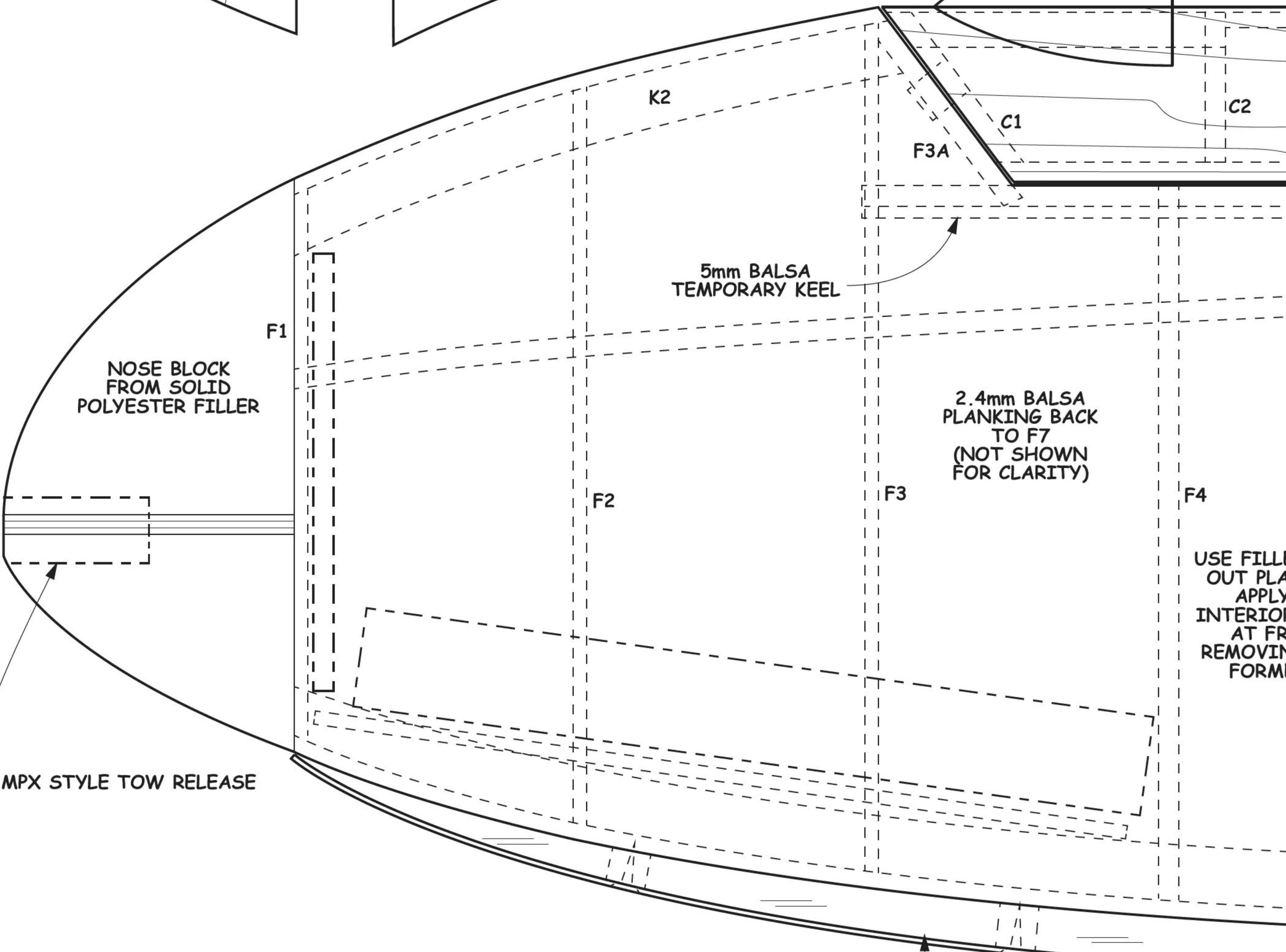
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3mm LITE PLY



TEMPLATE FOR PETG
WINDSCREEN



K2 5mm Balsa



NOSE BLOCK
FROM SOLID
POLYESTER FILLER

F1

K2

F3A

C1

C2

5mm Balsa
TEMPORARY KEEL

2.4mm Balsa
PLANKING BACK
TO F7
(NOT SHOWN
FOR CLARITY)

F2

F3

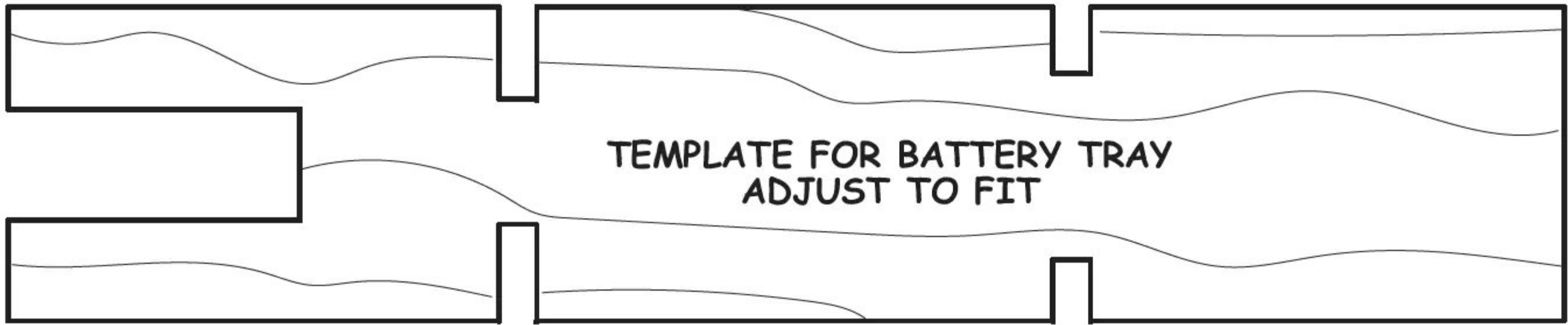
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USE FILLER
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FORM

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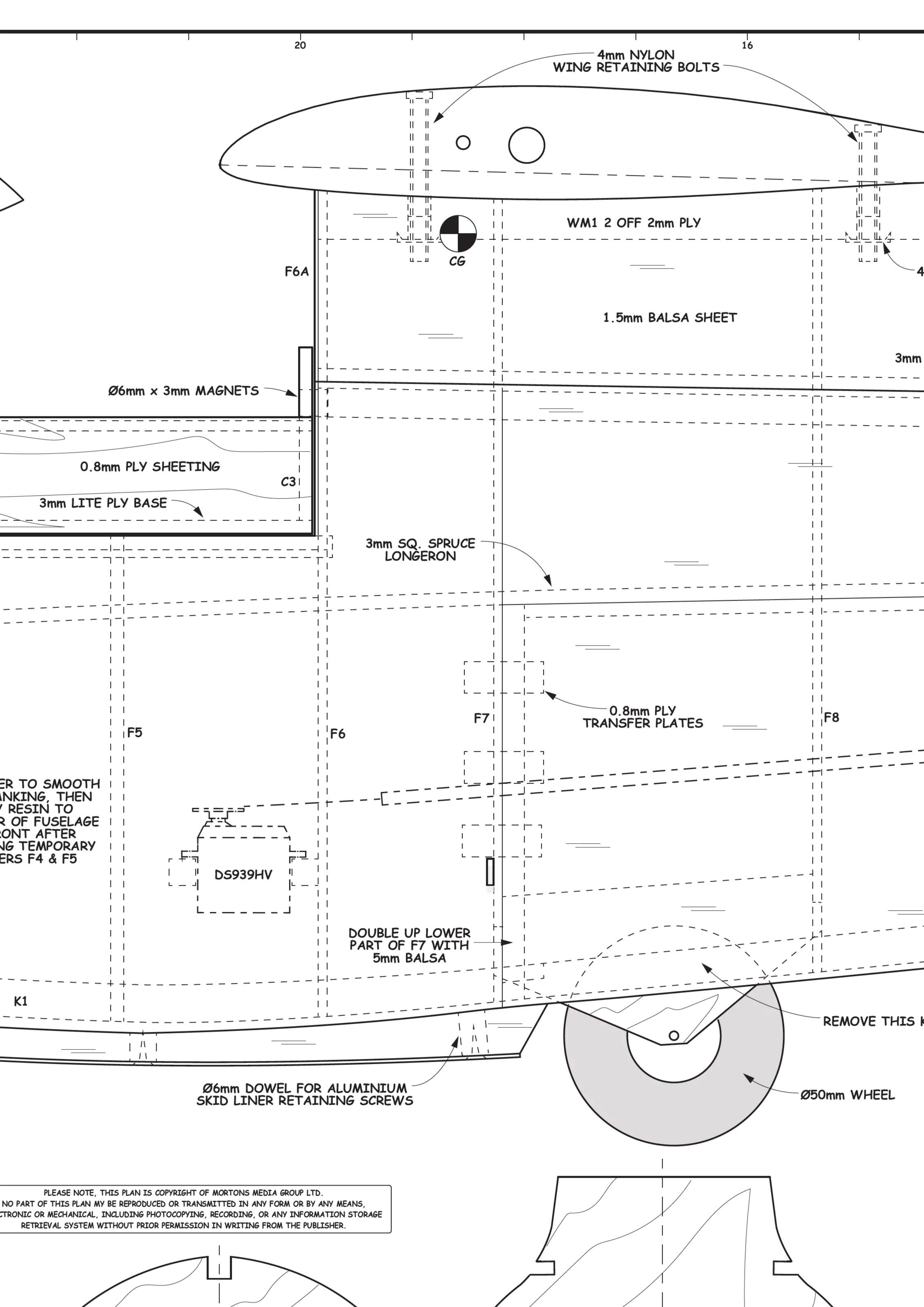
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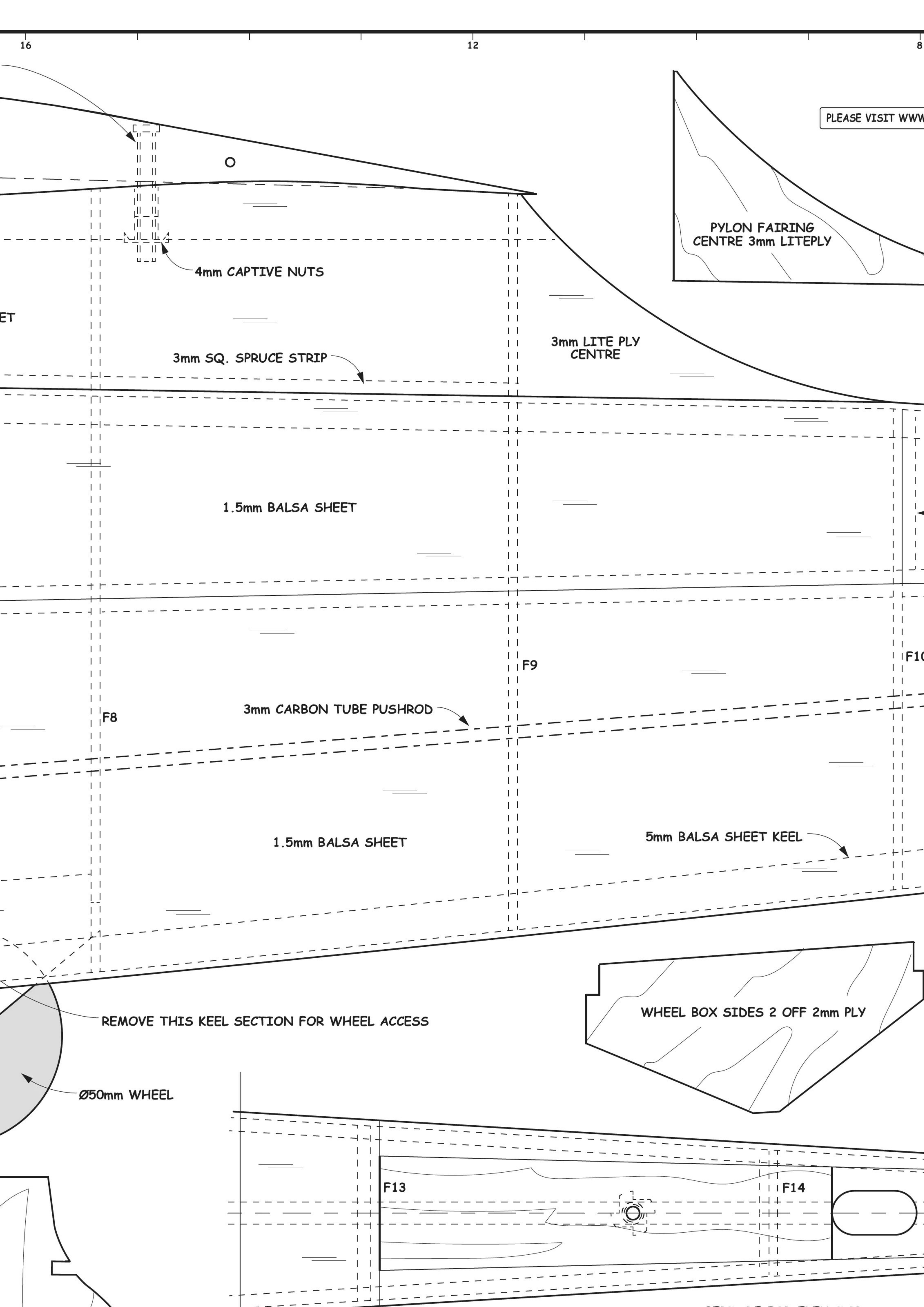


TEMPLATE FOR BATTERY TRAY
ADJUST TO FIT

ELEC



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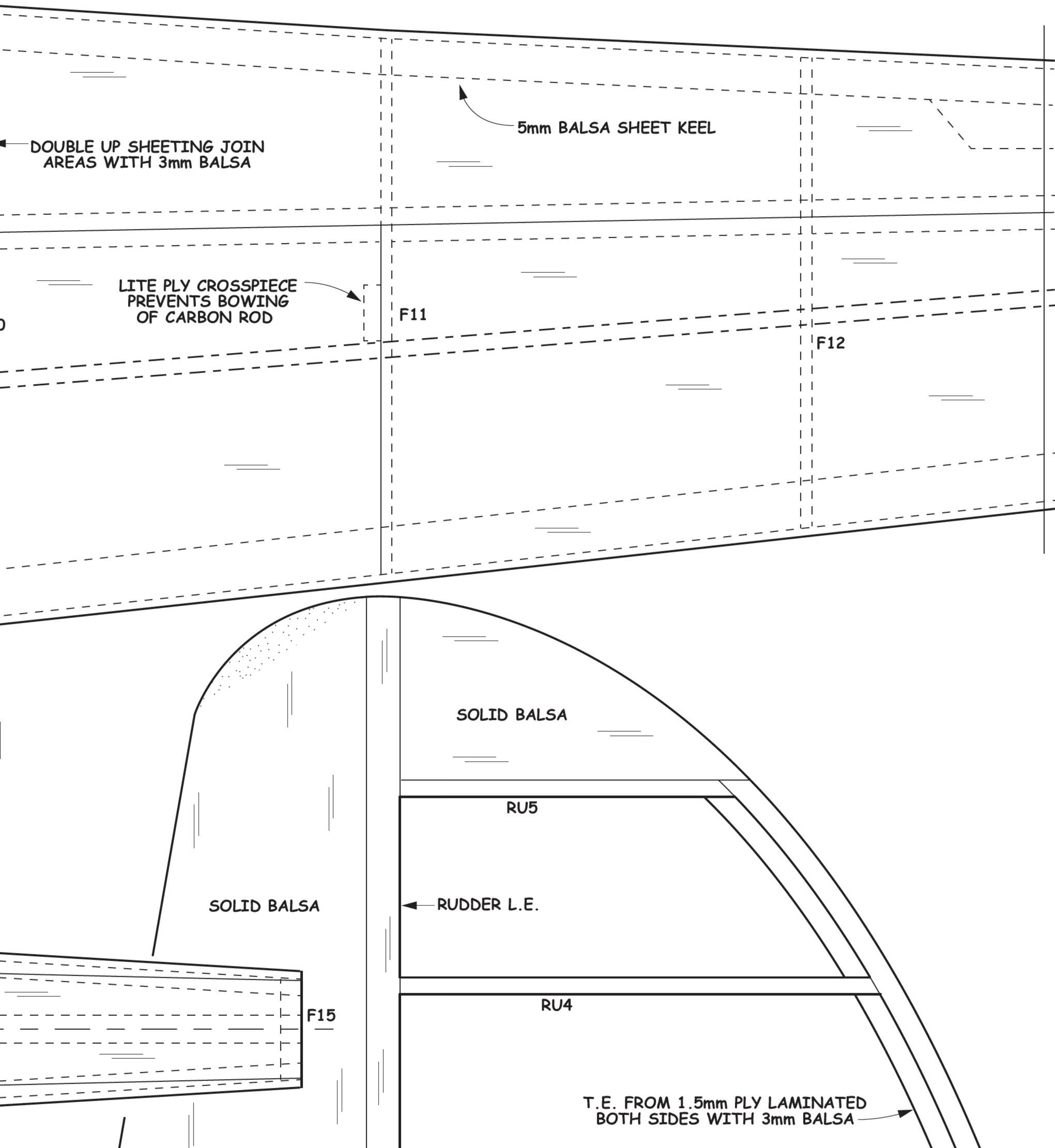


V.SARIKHOBBIES.COM TO VIEW ALL AVAILABLE PLANS

SLINGSBY TYPE 23 KITE

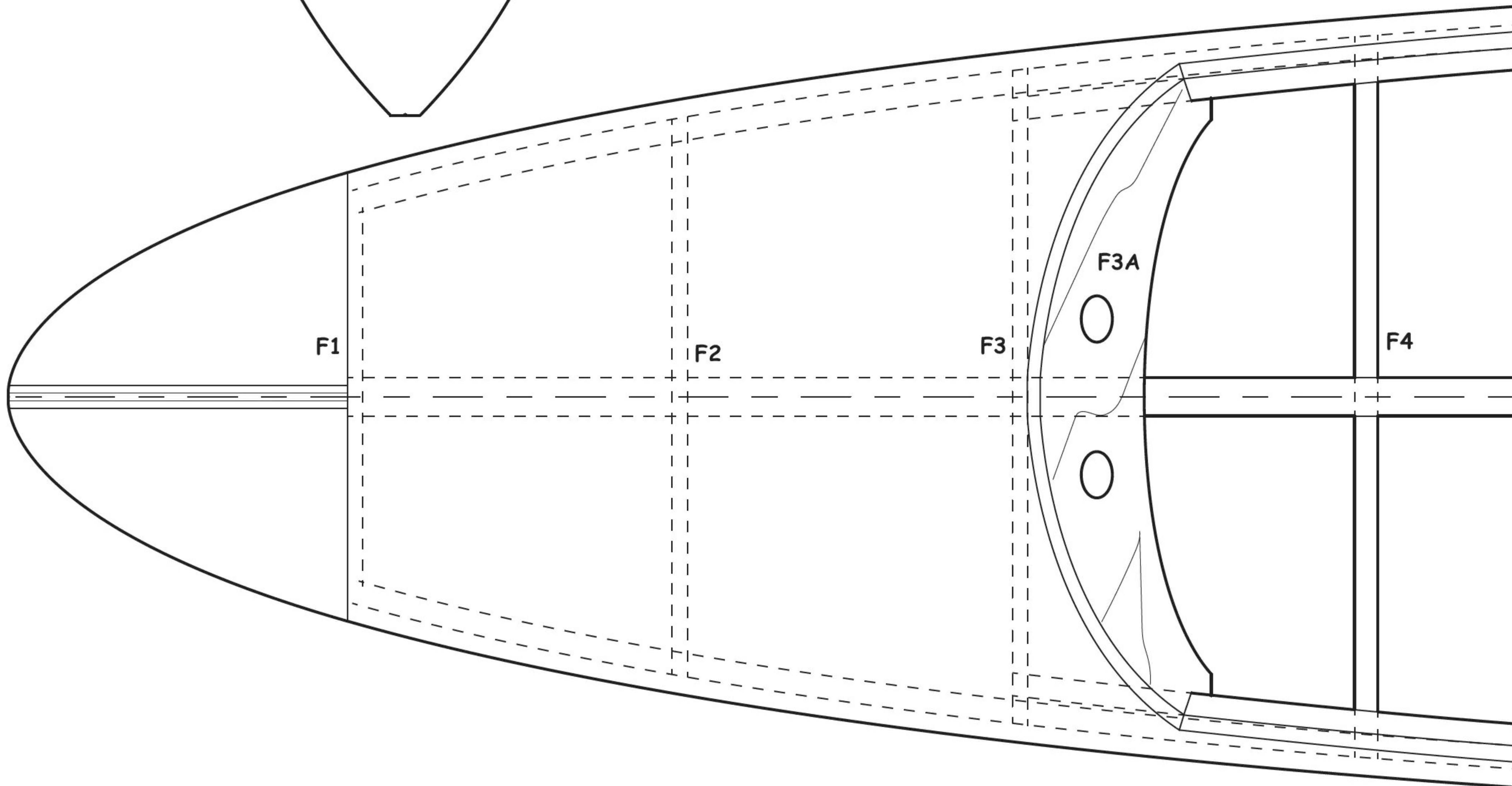
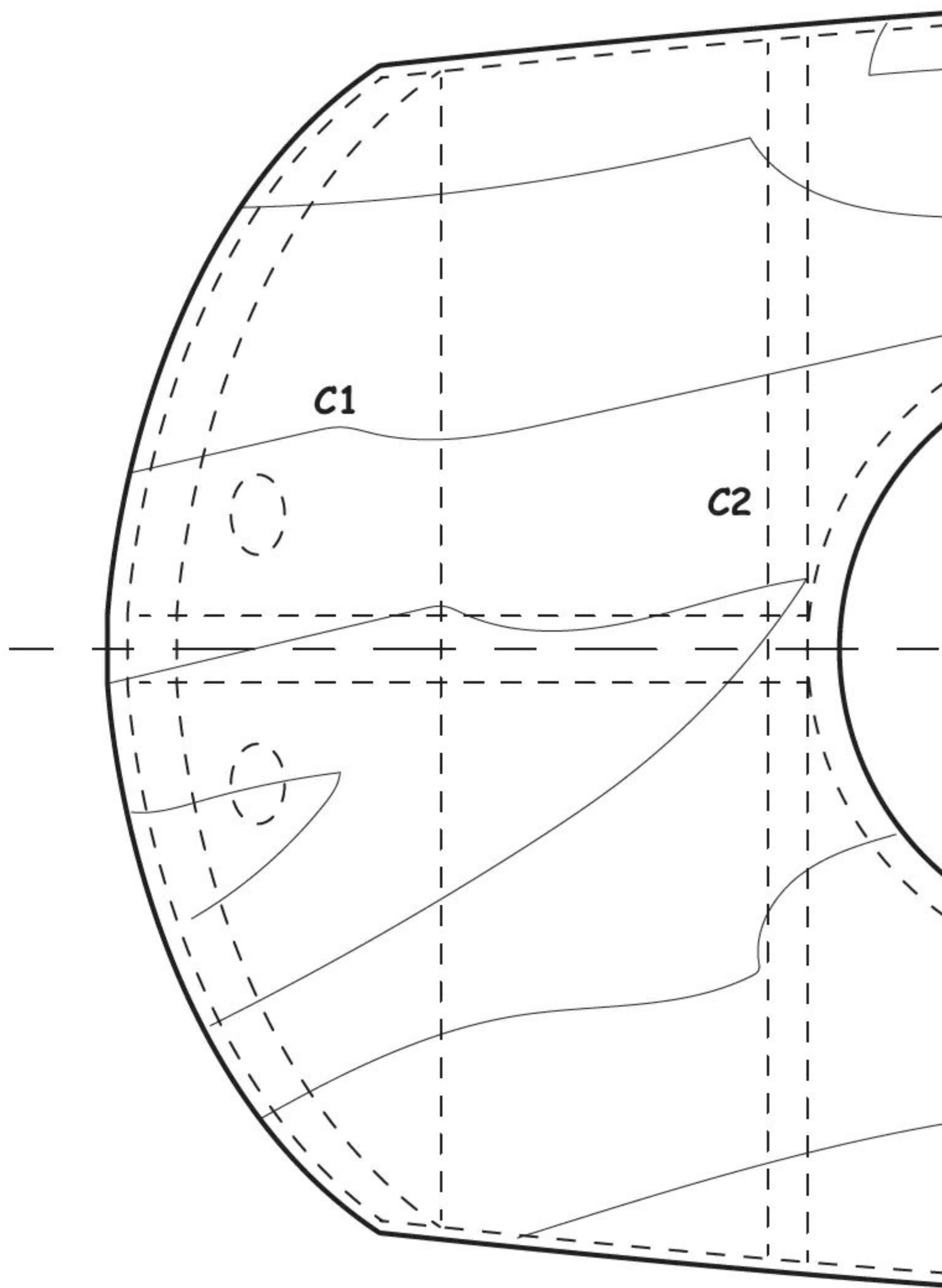
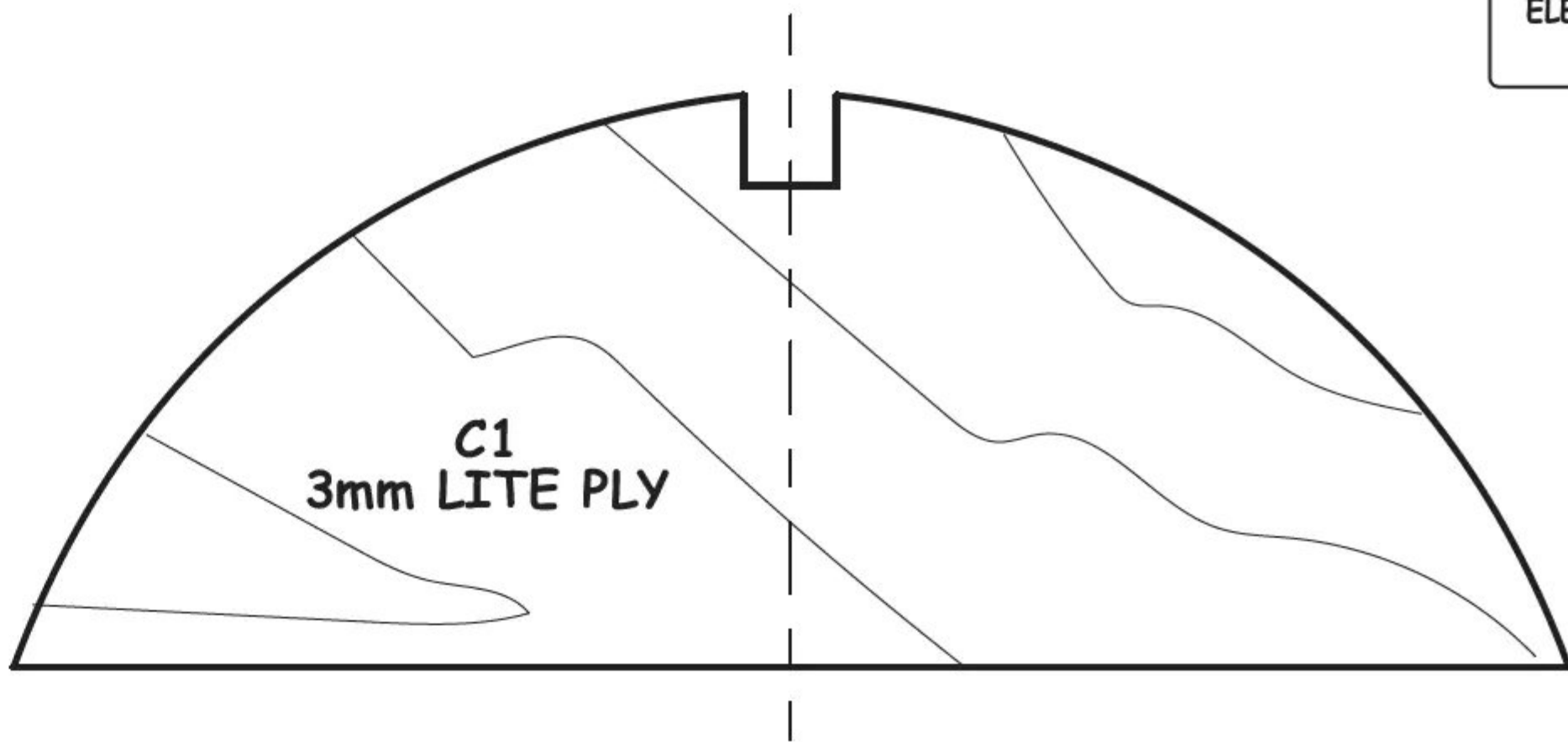
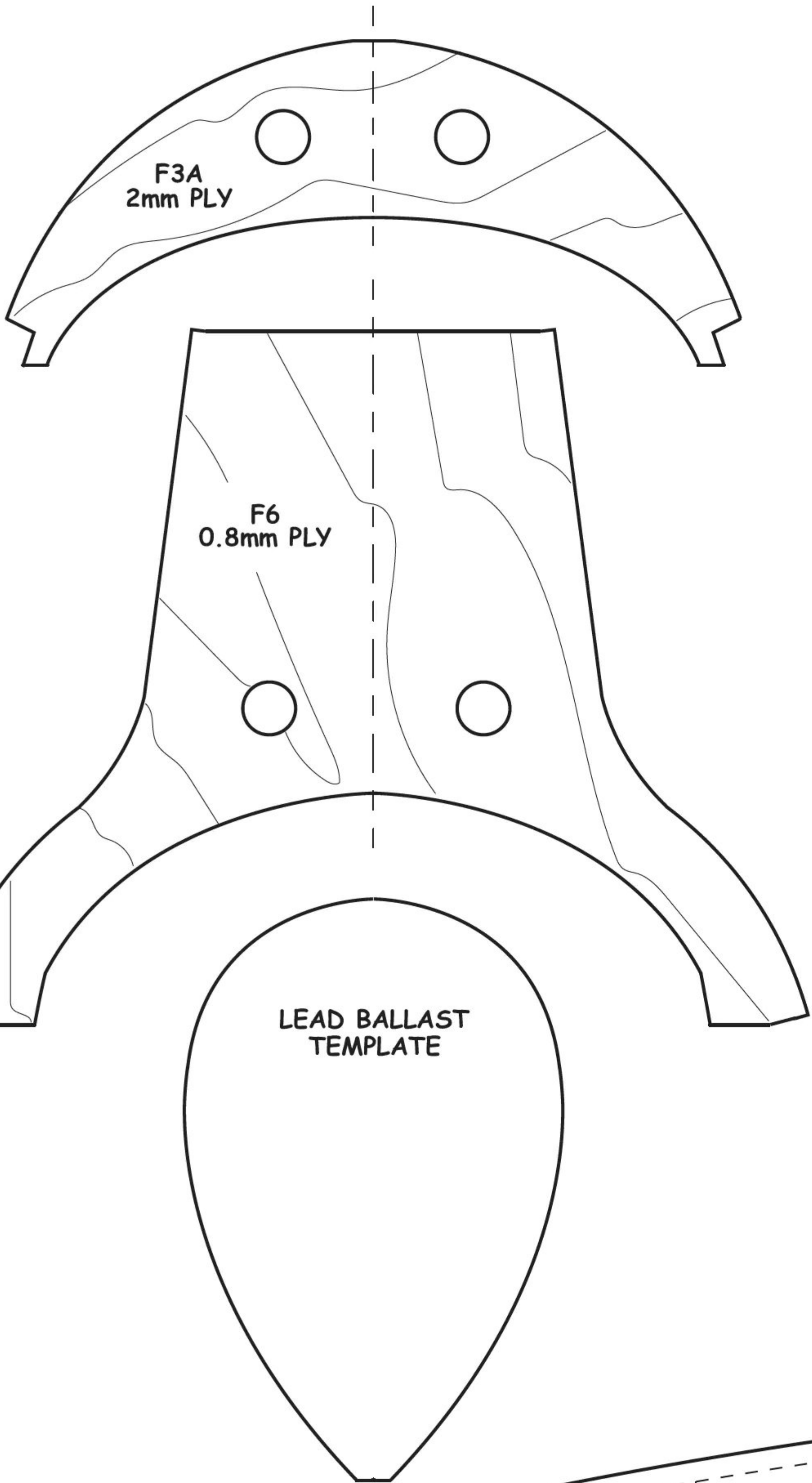
BY CHRIS WILLIAMS

PLAN No: RC2265	No. OF SHEETS: 1 OF 4	First published in RCM&E August 2024
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ELECT

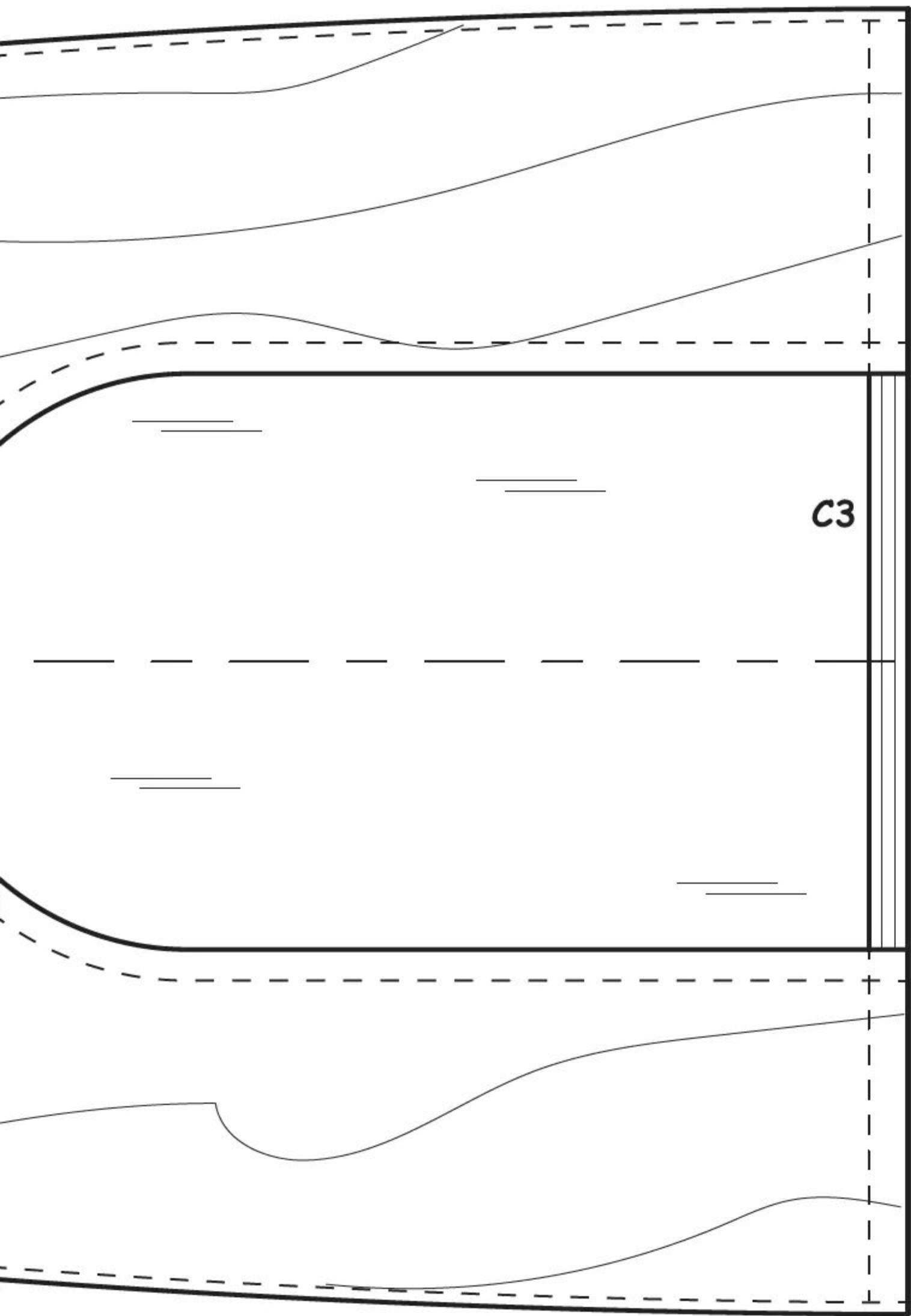
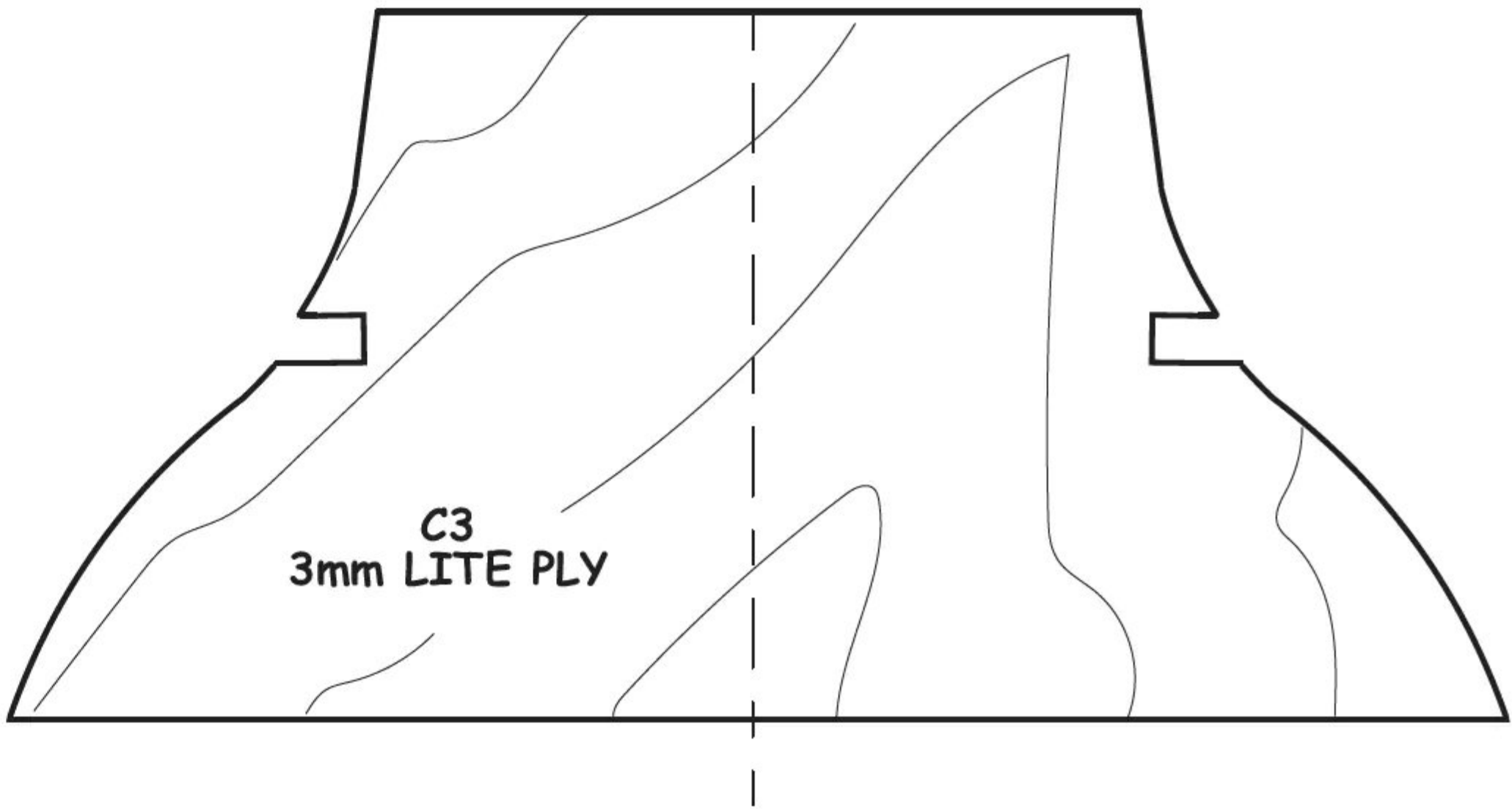
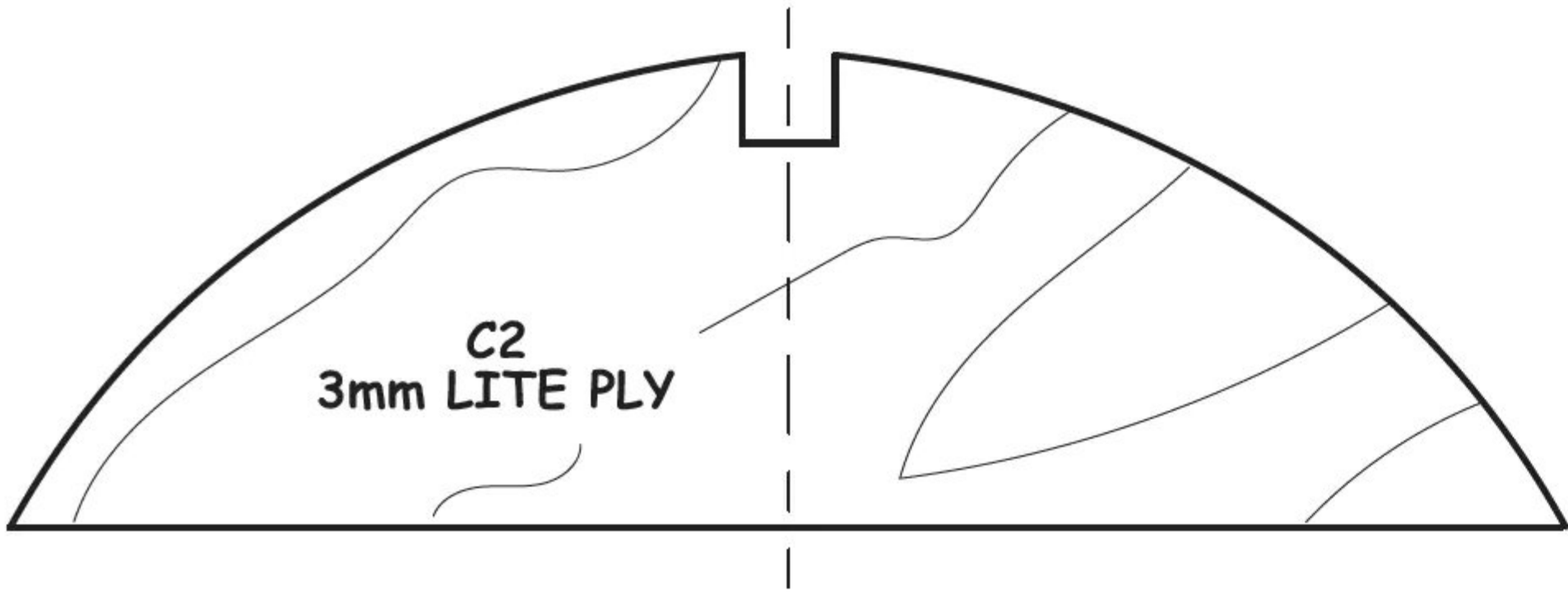


SCALE
MM

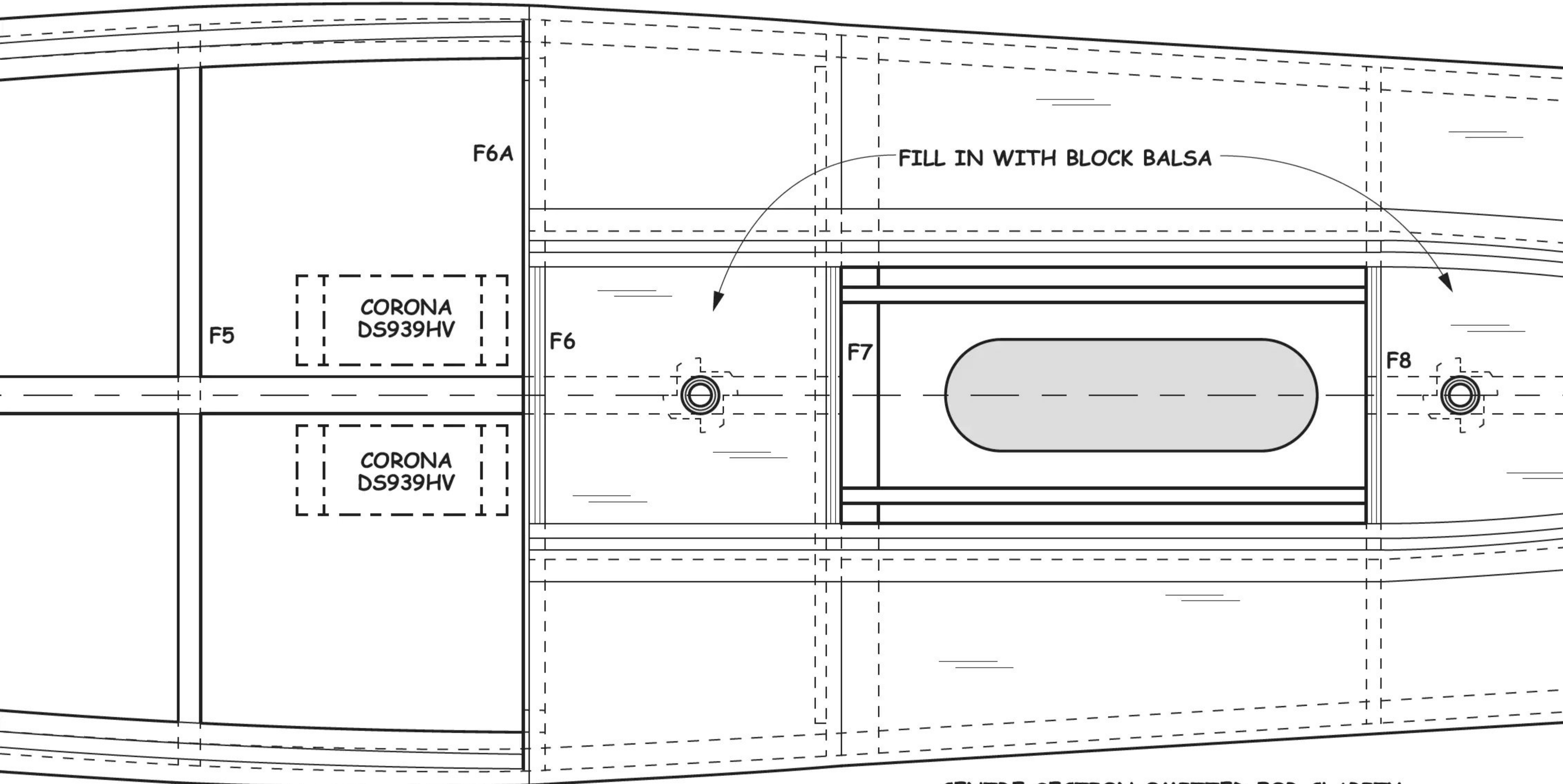
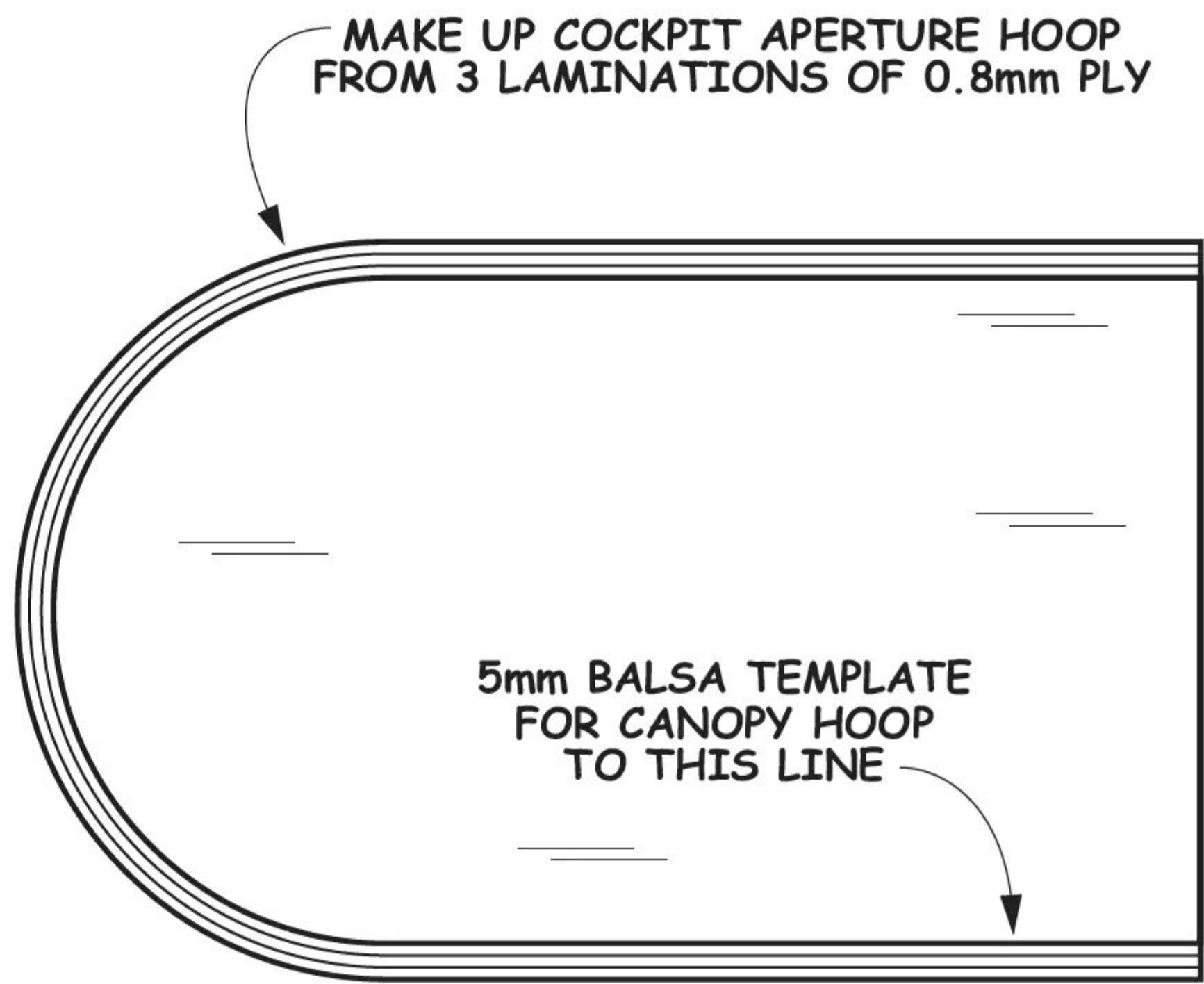
100

200

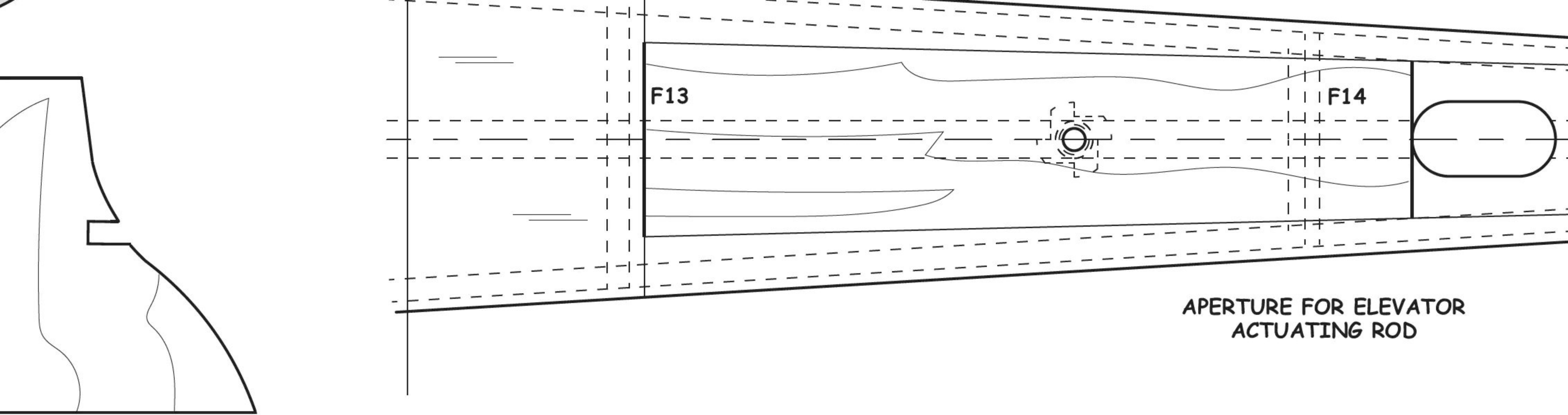
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NOTE

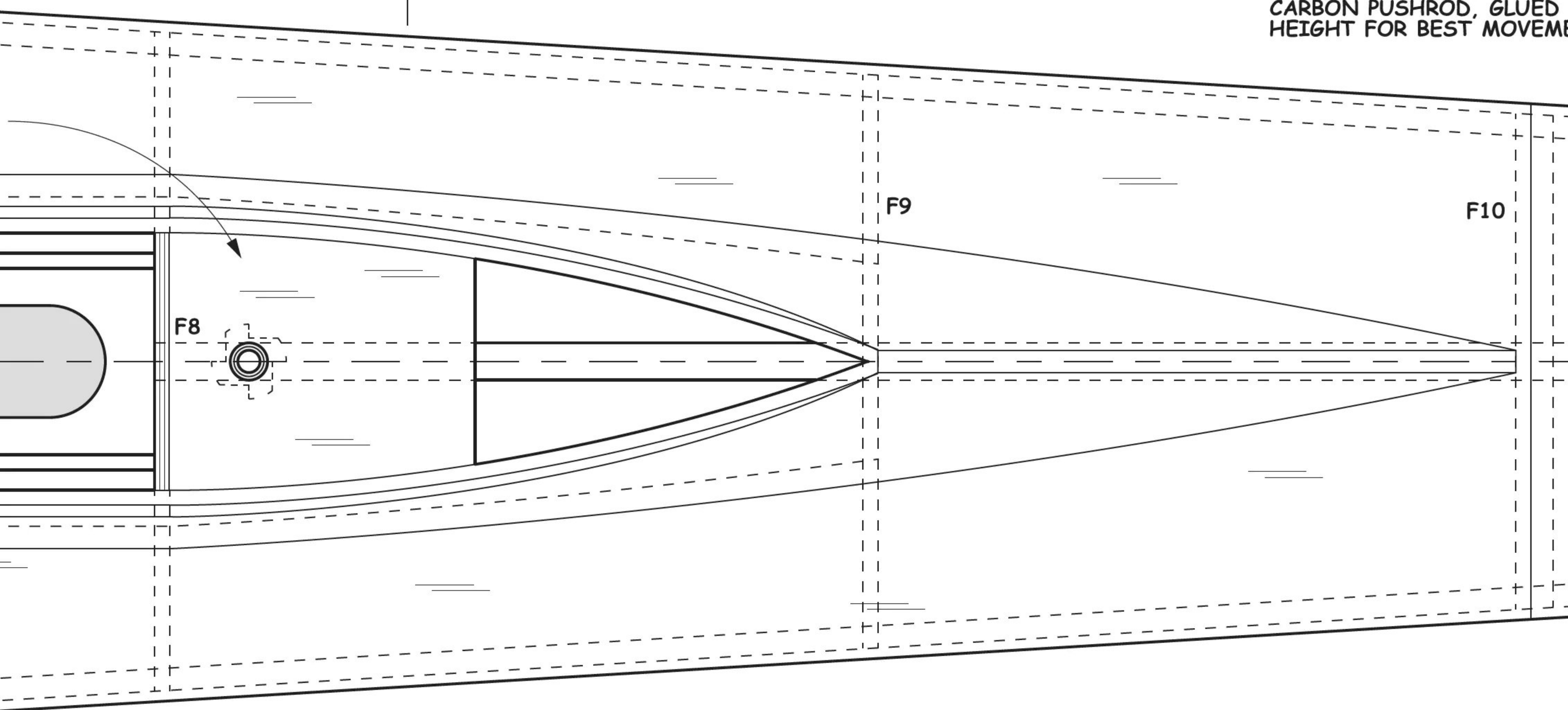
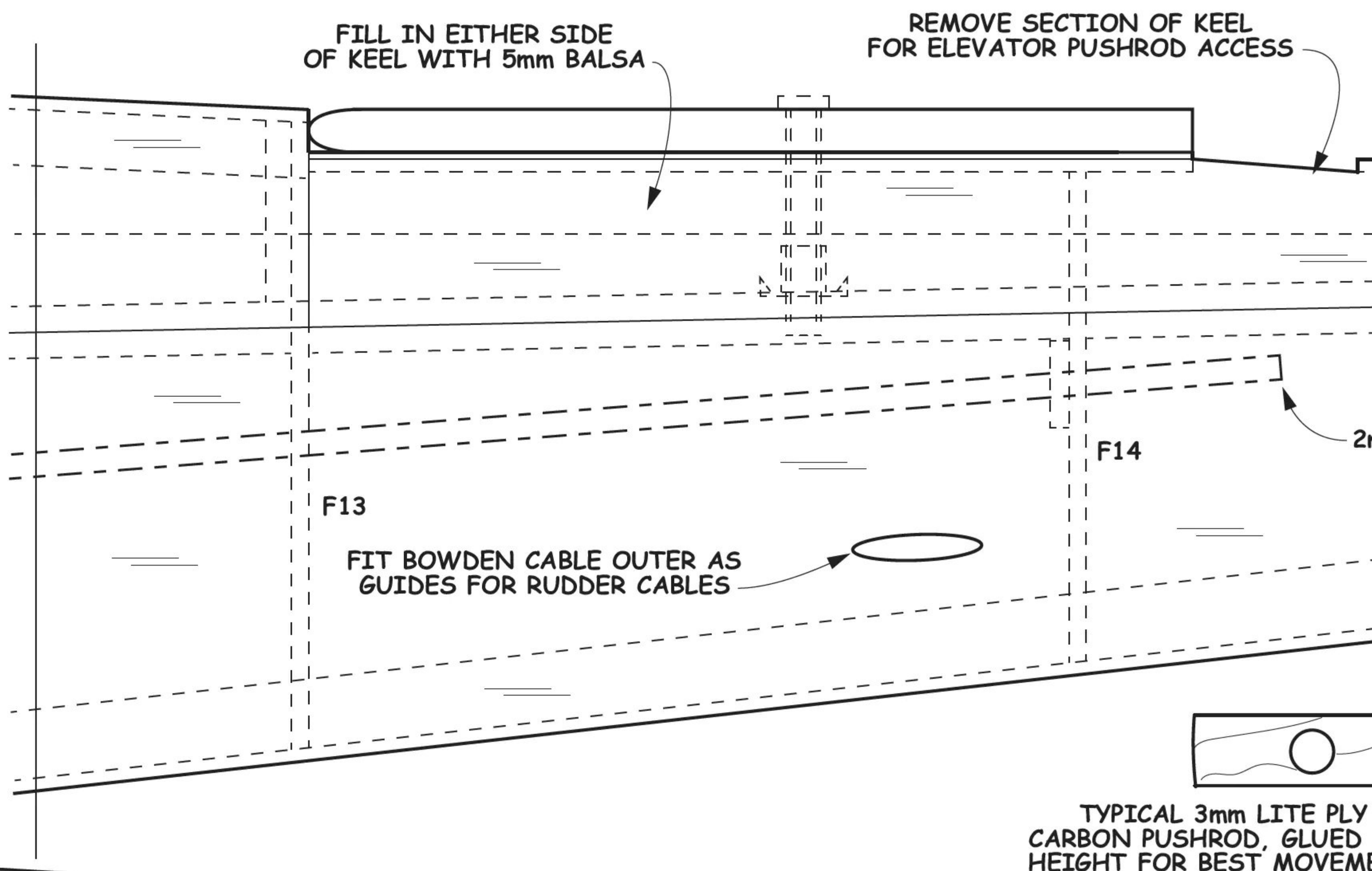


CENTRE SECTION OMITTED FOR CLARITY



NOTE: TAILPLANE SITS AT 1.5° NEGATIVE TO WINGS

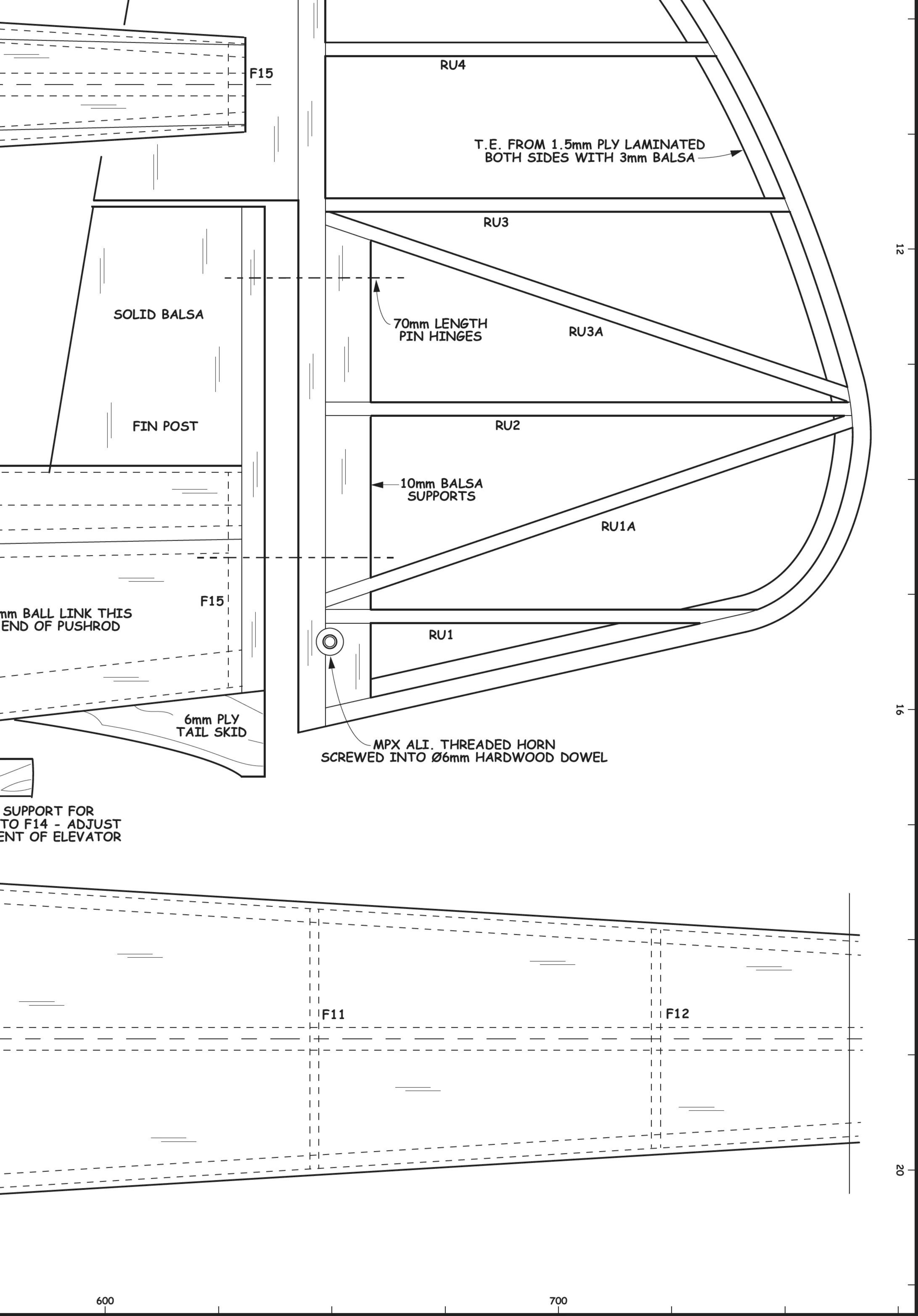
URE HOOP
0.8mm PLY



ED FOR CLARITY

400

500



28

24

500

300

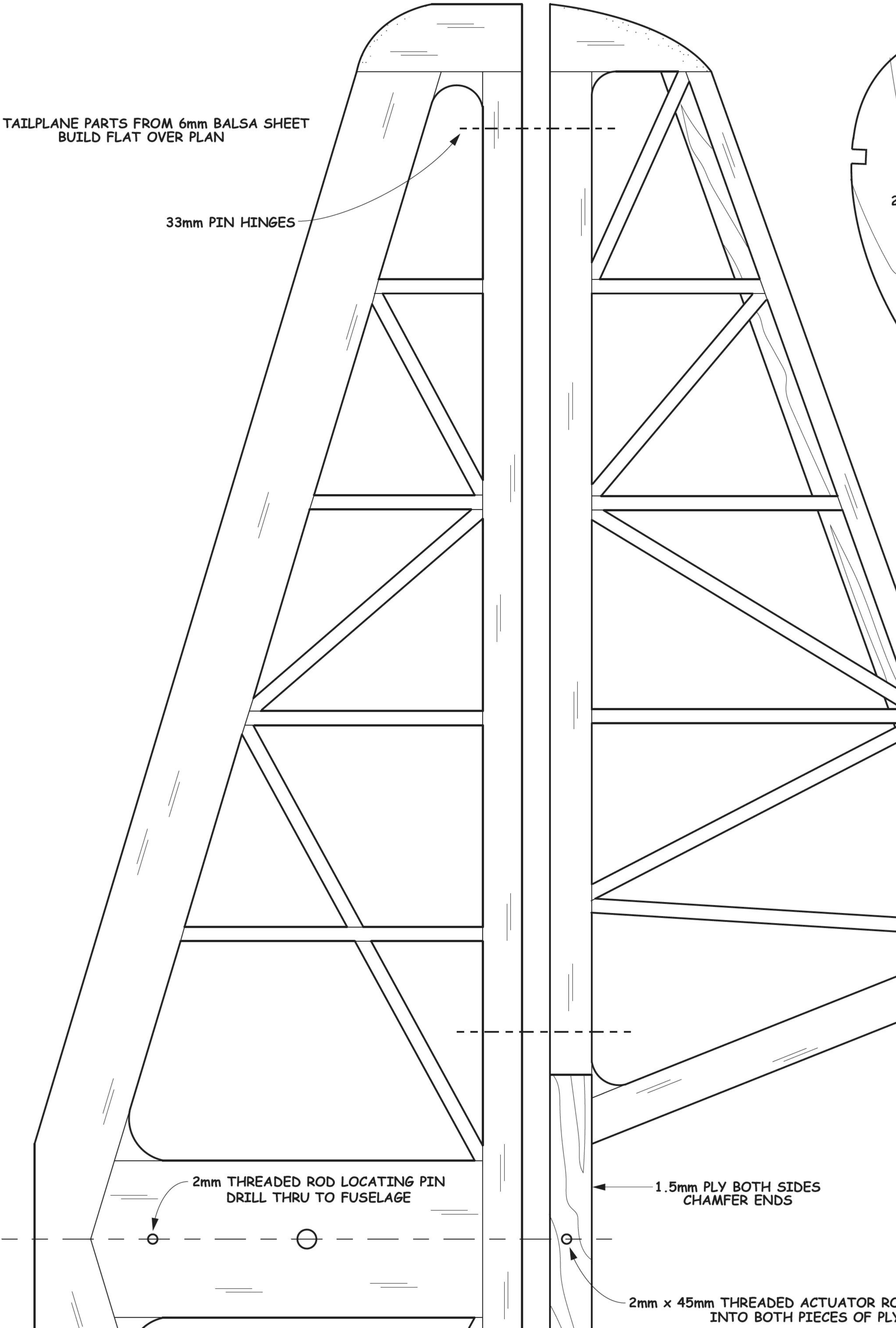
ALL TAILPLANE PARTS FROM 6mm Balsa Sheet
BUILD FLAT OVER PLAN

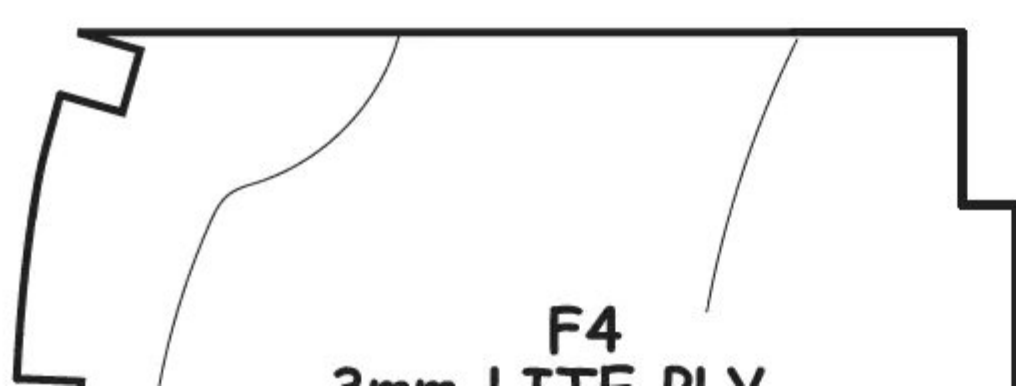
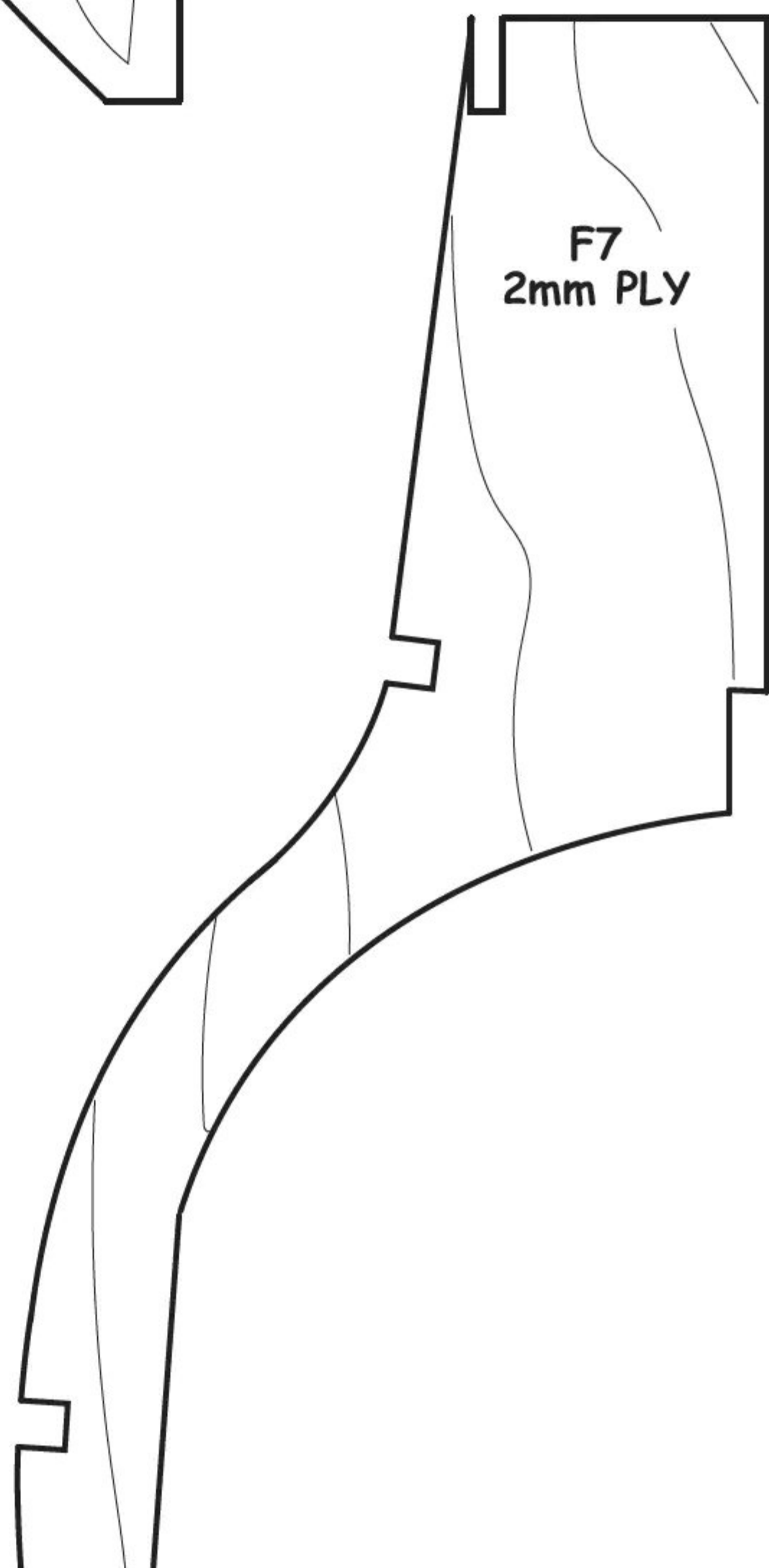
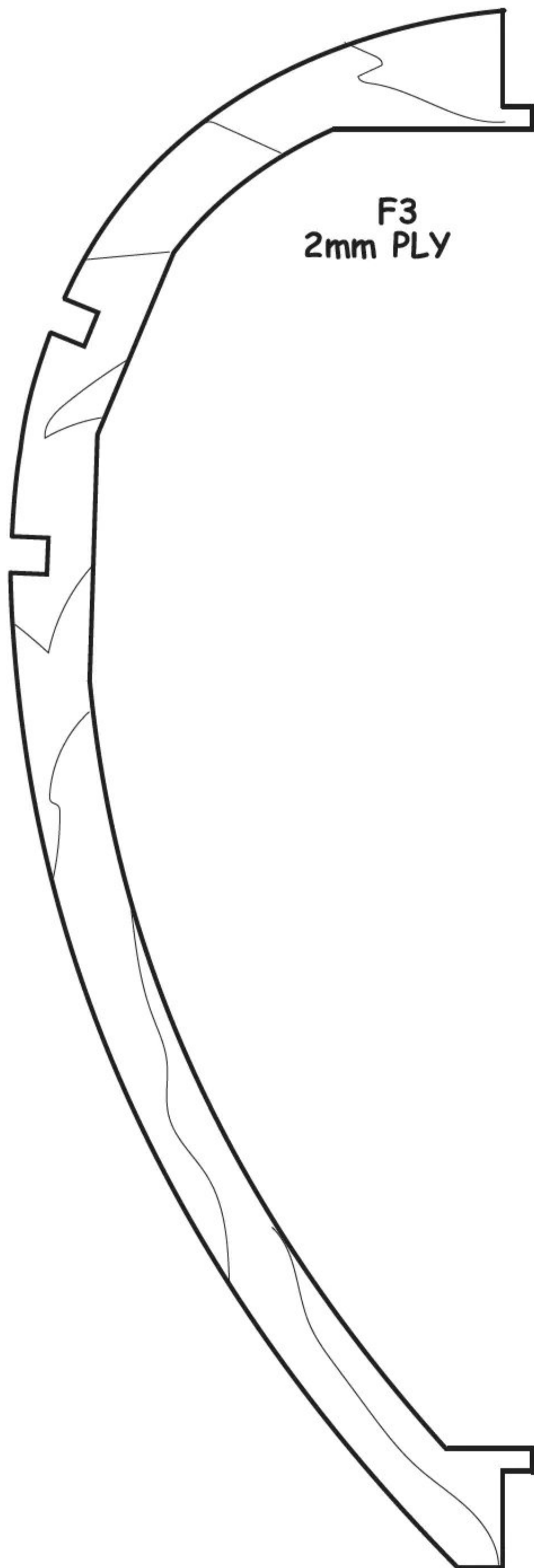
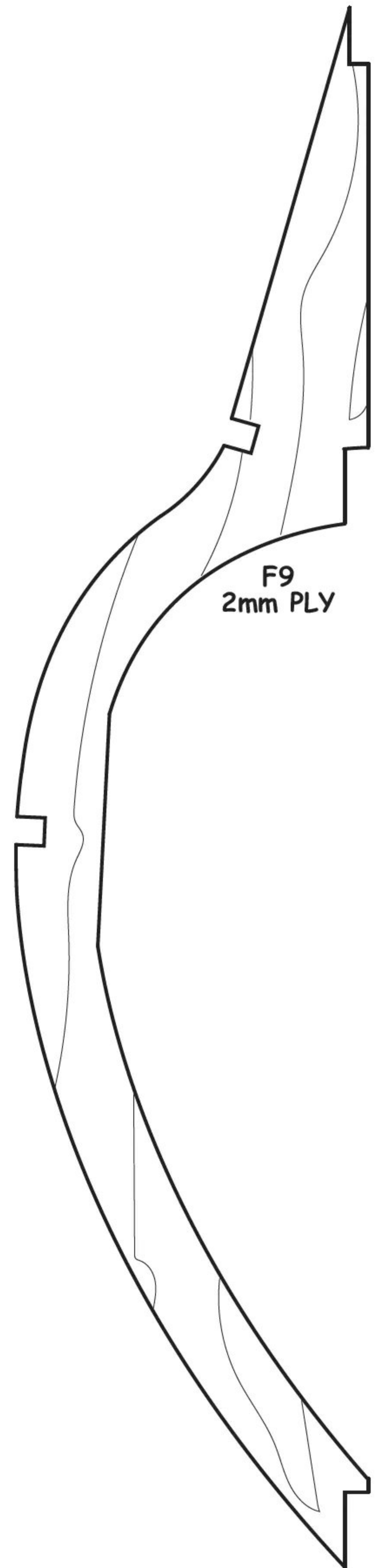
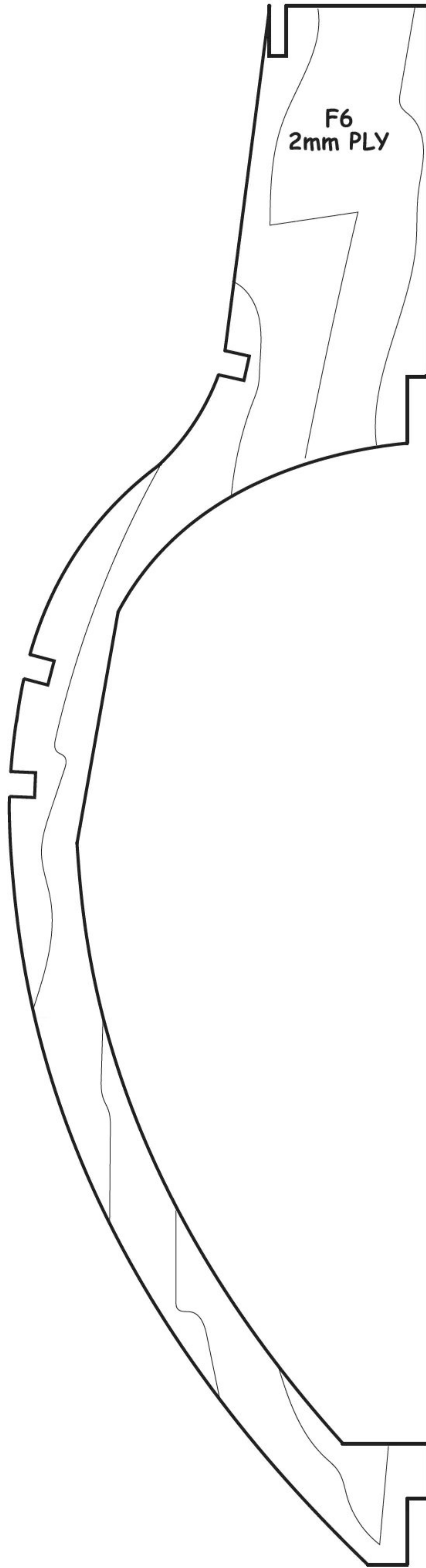
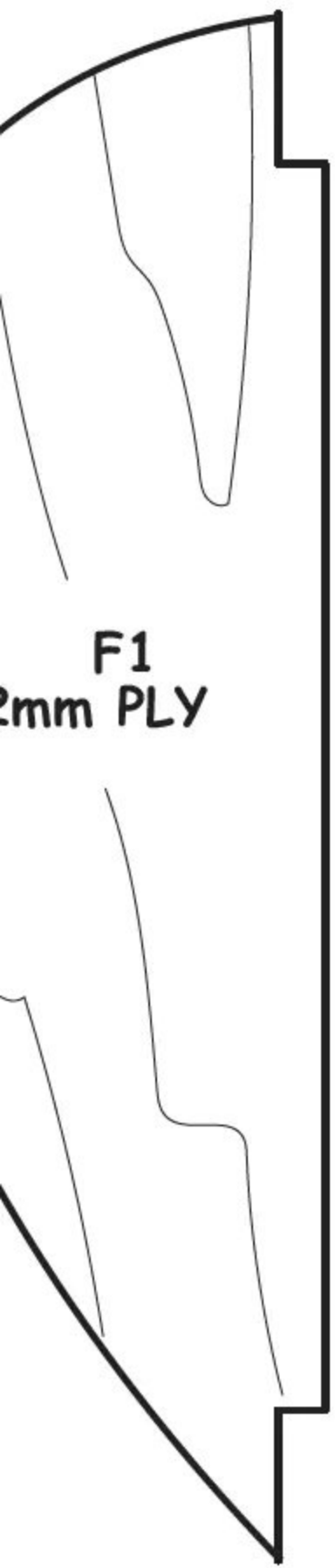
33mm PIN HINGES

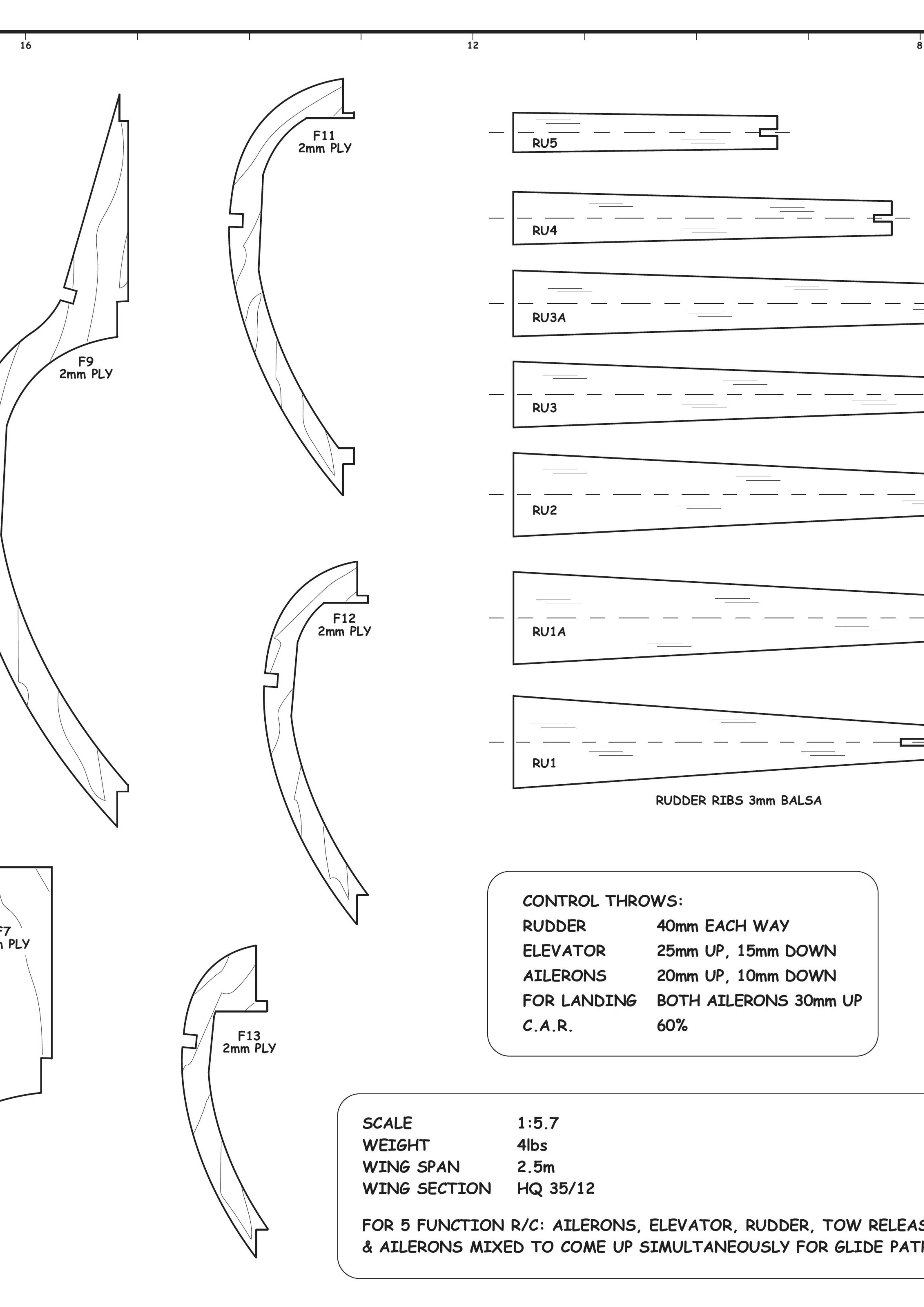
2mm THREADED ROD LOCATING PIN
DRILL THRU TO FUSELAGE

1.5mm PLY BOTH SIDES
CHAMFER ENDS

2mm x 45mm THREADED ACTUATOR ROD
INTO BOTH PIECES OF PLY







F11
2mm PLY

F9
2mm PLY

F12
2mm PLY

F13
2mm PLY

F7
2mm PLY

RU5

RU4

RU3A

RU3

RU2

RU1A

RU1

RUDDER RIBS 3mm BALSA

CONTROL THROWS:

RUDDER	40mm EACH WAY
ELEVATOR	25mm UP, 15mm DOWN
AILERONS	20mm UP, 10mm DOWN
FOR LANDING	BOTH AILERONS 30mm UP
C.A.R.	60%

SCALE	1:5.7
WEIGHT	4lbs
WING SPAN	2.5m
WING SECTION	HQ 35/12

FOR 5 FUNCTION R/C: AILERONS, ELEVATOR, RUDDER, TOW RELEASE
& AILERONS MIXED TO COME UP SIMULTANEOUSLY FOR GLIDE PATH

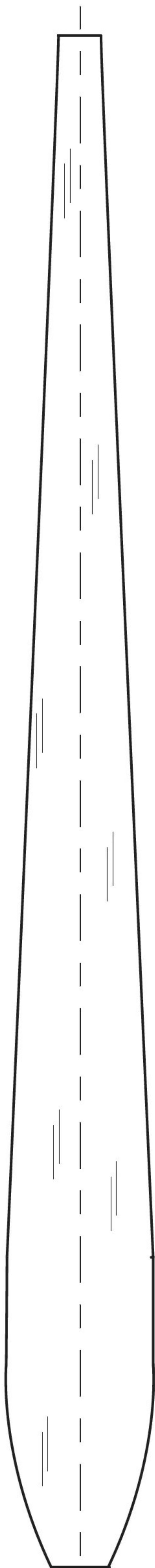
SLINGSBY TYPE 23 KITE

BY CHRIS WILLIAMS

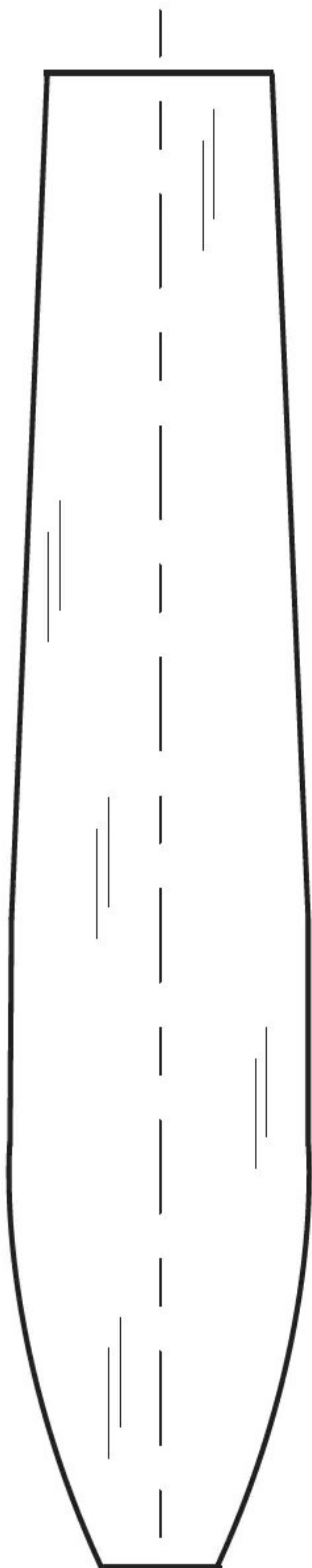
PLAN No: RC2265

No. OF SHEETS: 2 OF 4

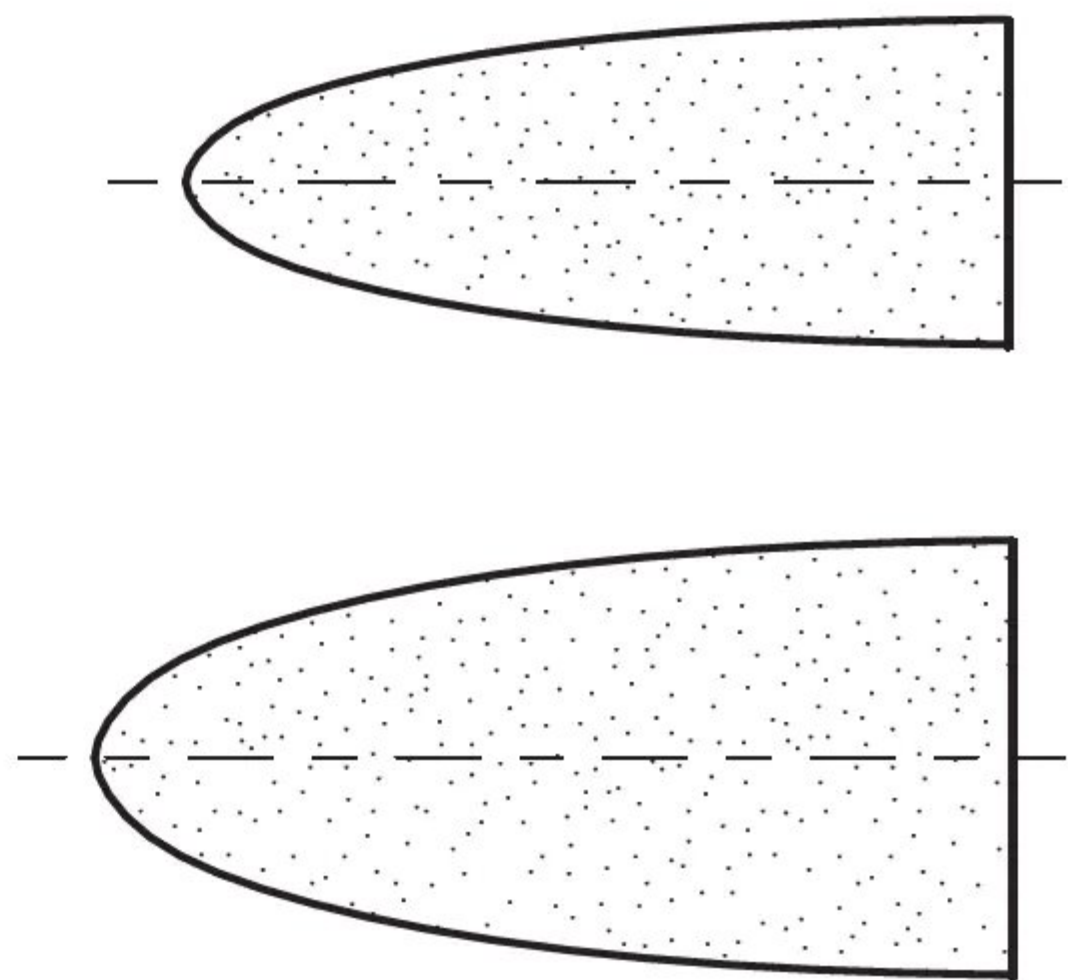
First published in
RCM&E August 2024



RUDDER L.E.
6mm Balsa

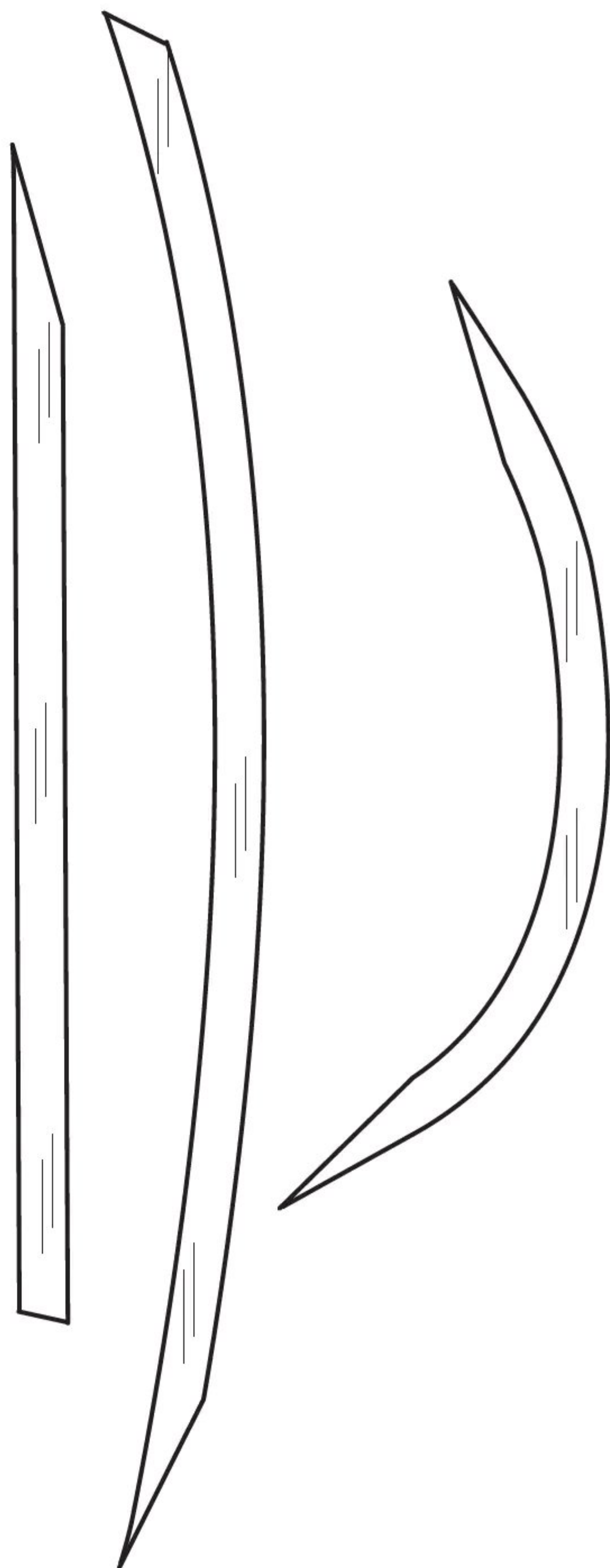


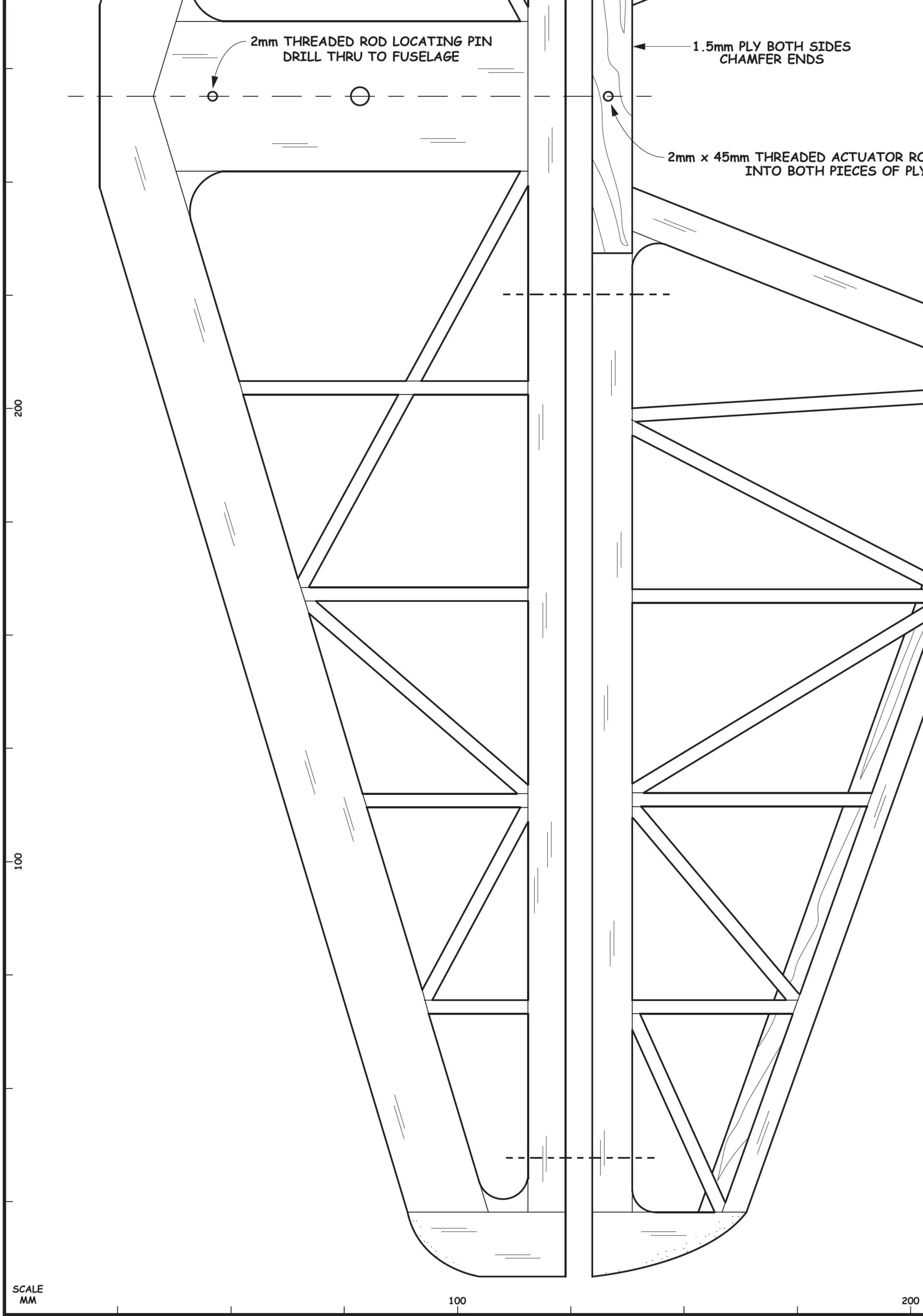
FIN POST
5mm Balsa



TYPICAL PROFILES OF
TOP & BOTTOM OF FIN L.E.

RUDDER T.E. LAMINATIONS
2 OFF EACH 3mm Balsa





DD SCREWED
/

F4
3mm LITE PLY

1.5mm ALUMINIUM
STRUT BRACKET

T.E. FROM 1.5mm PLY LAMINATED
EACH SIDE WITH 3mm BALSA

F5
3mm LITE PLY

F8
2mm PLY

F10
2mm PLY

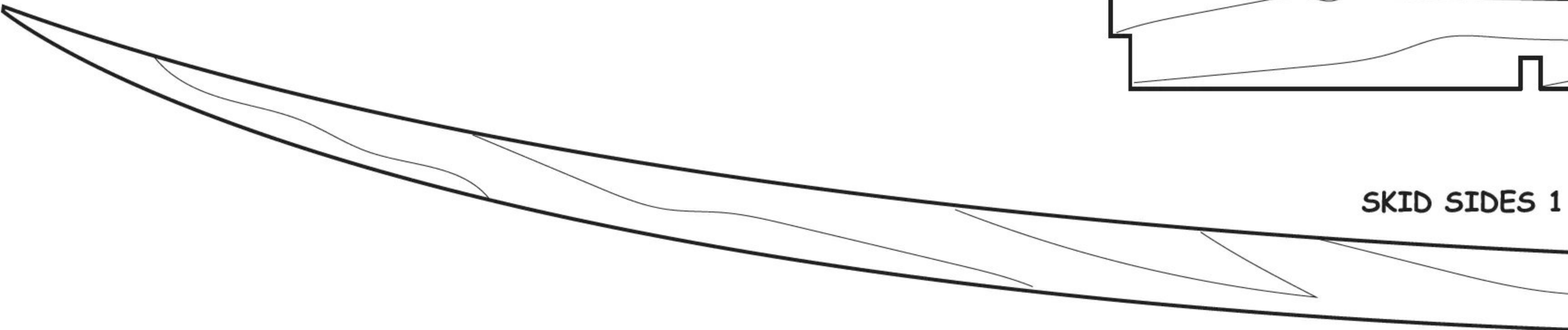
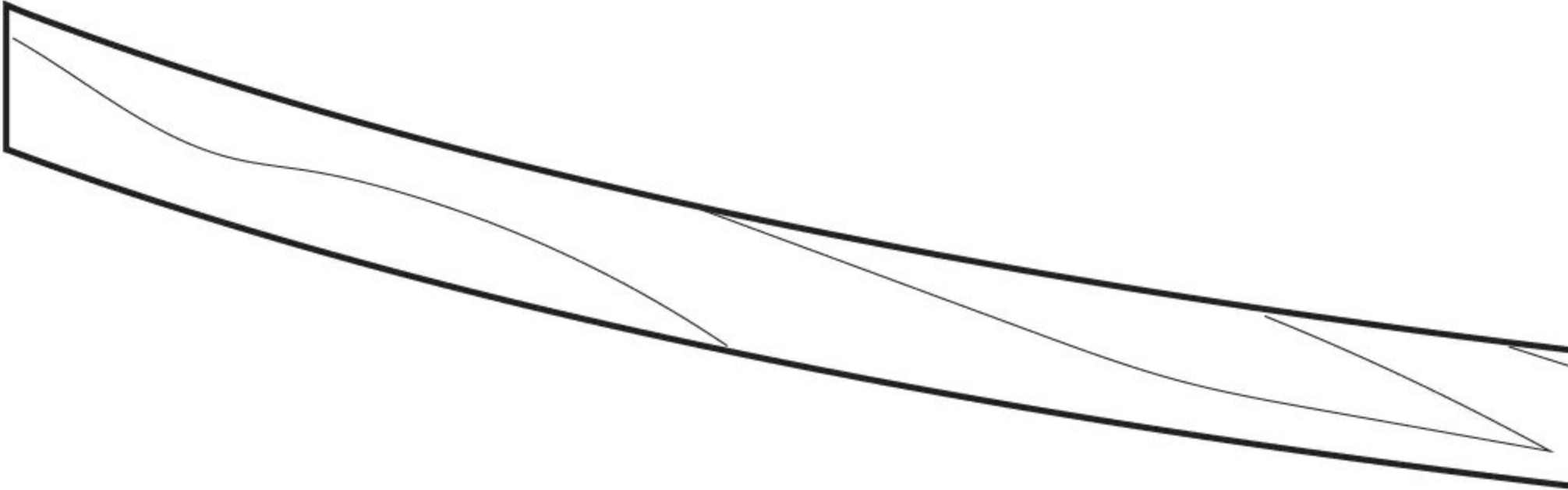
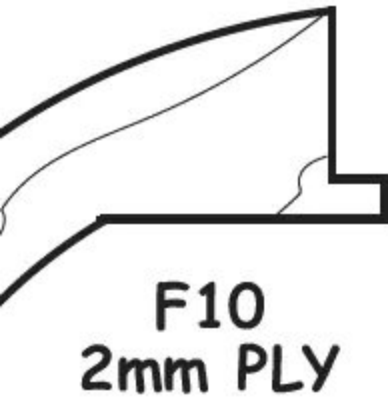
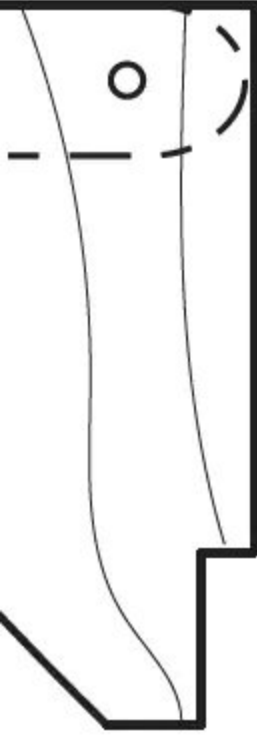
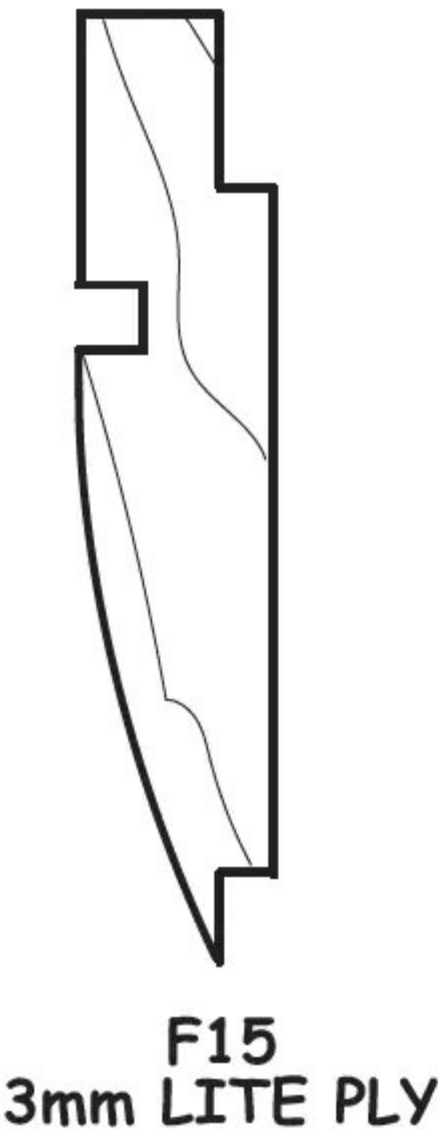
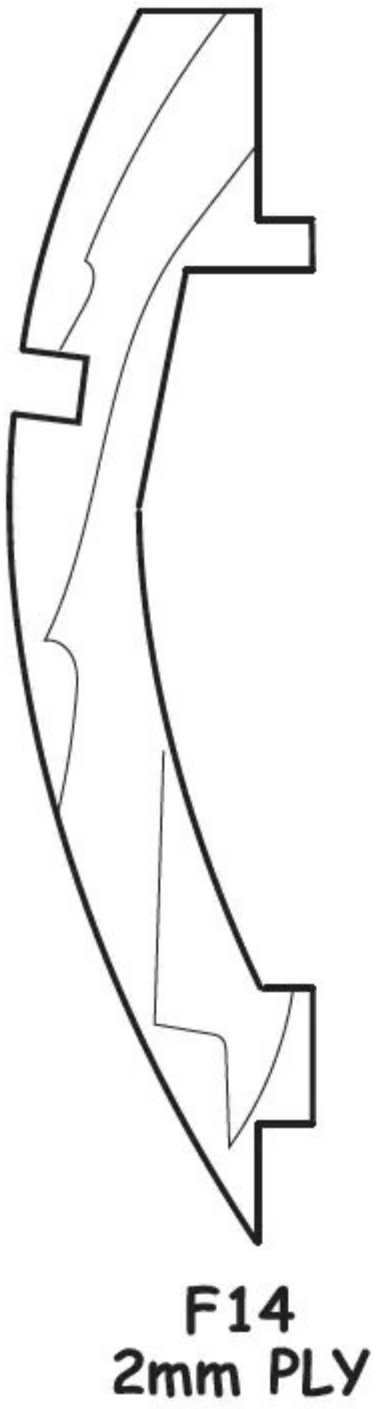
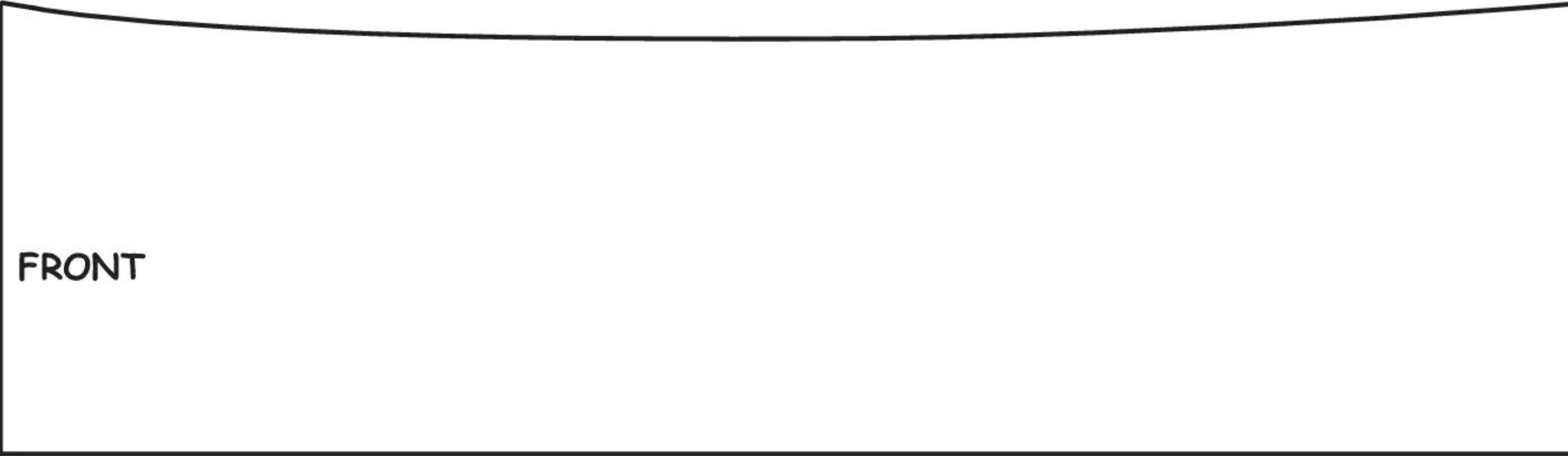
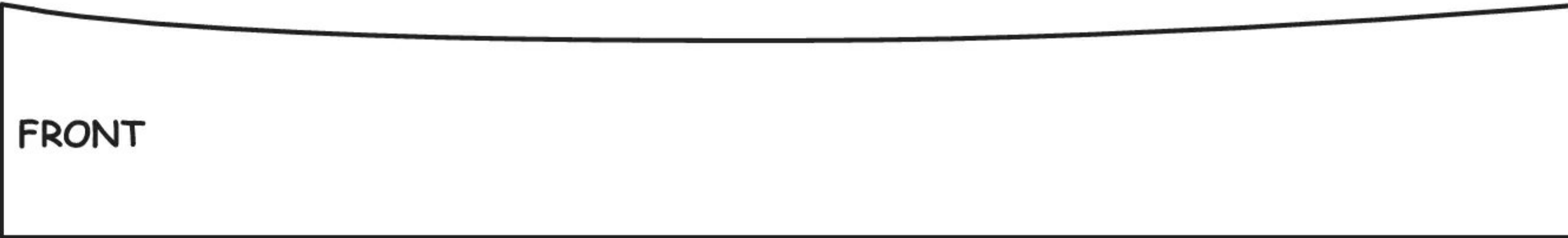
F1
2mm

F15
3mm LIT

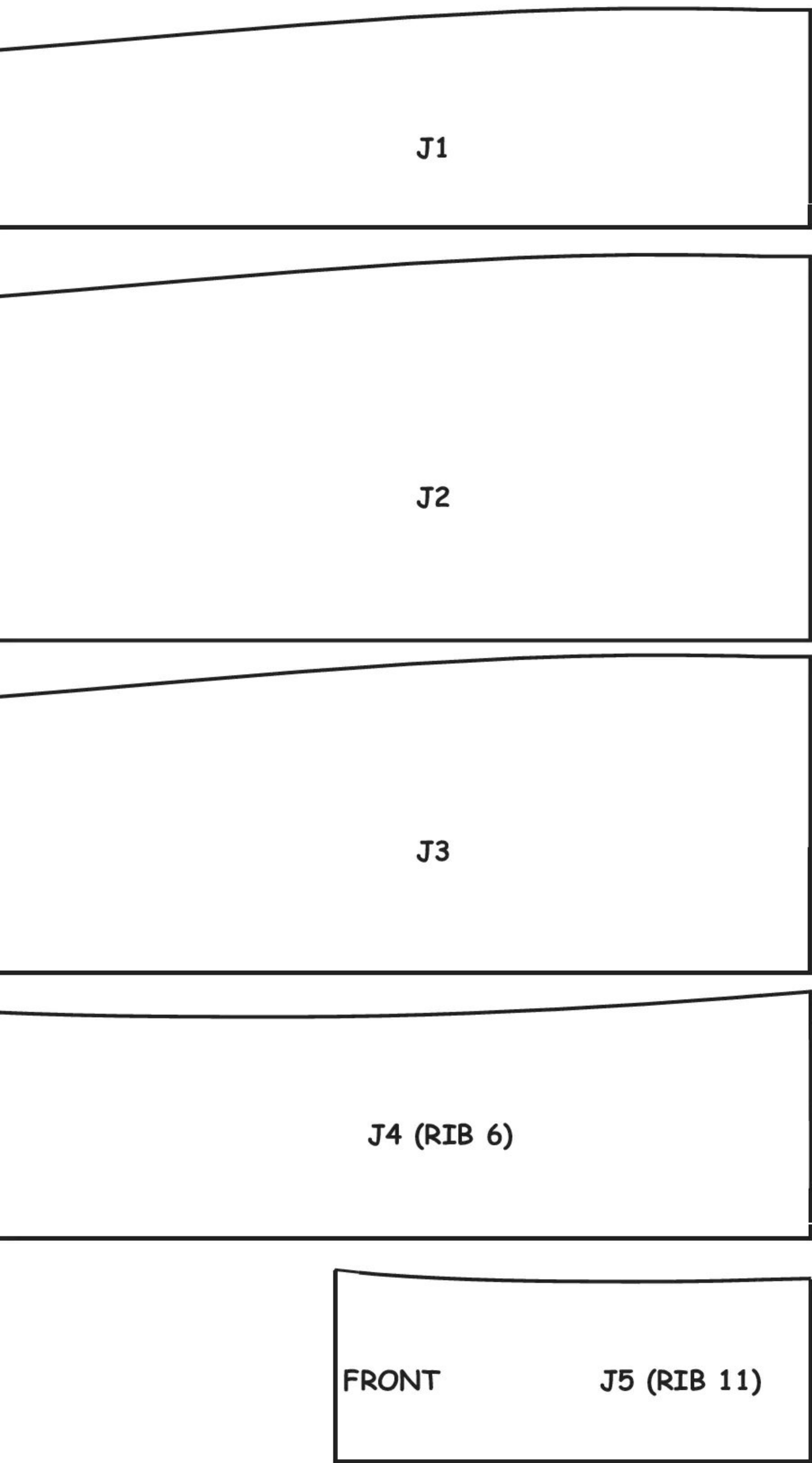
WEIGHT 4lbs
WING SPAN 2.5m
WING SECTION HQ 35/12

FOR 5 FUNCTION R/C: AILERONS, ELEVATOR, RUDDER, TOW RELEASE
& AILERONS MIXED TO COME UP SIMULTANEOUSLY FOR GLIDE PATH

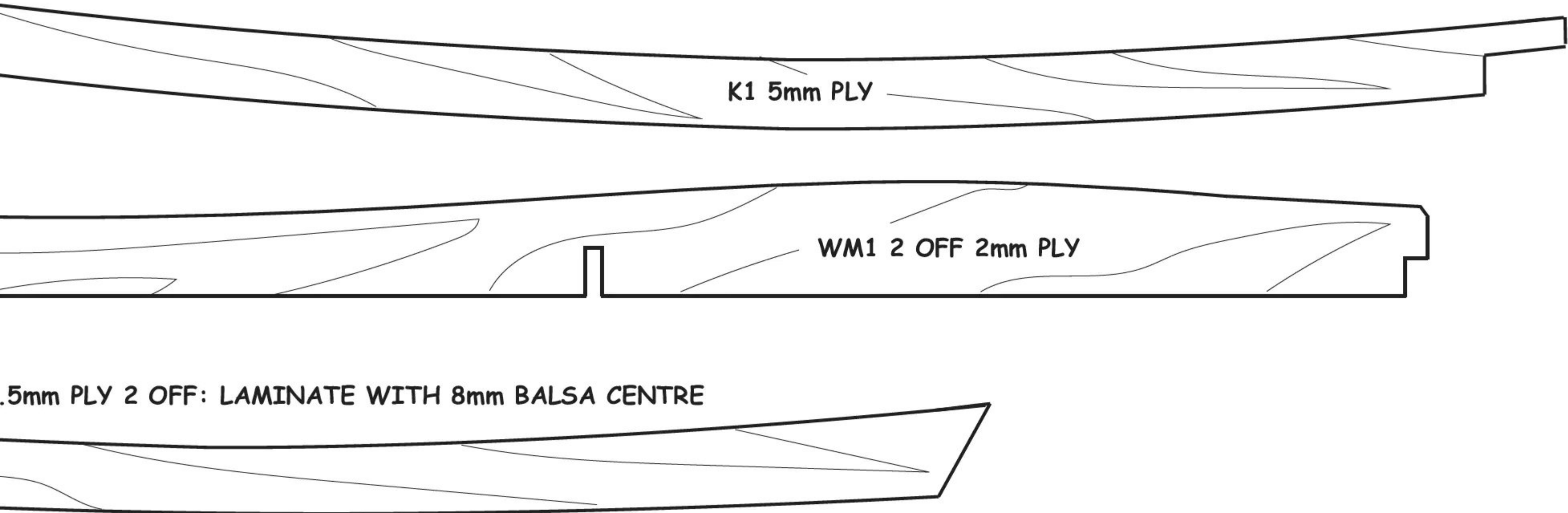
WING SUPPORT JIGS - 3mm LITE PLY



SE
H CONTROL



RUDDER T.E. SECTIONS 1.5mm PLY



12

16

20

600

700