Model Flying Hawkes Bay

PROPWASH

Club Newsletter # 147 April 2023

MAY	MFHB Activity Calendar May 2023
Sun 7th	Club Day Roys Hill Reserve
Sun 14	Slope Soaring. Mike Shears to advise
WED 17	CLUBNITE AGM Hastings Nat Service club
Sun 21	Club Day GALLOWAY FARM Norswd
Sun 28	Aerobatic training day Galloway Farm. Master class with hamish Galloway.

In this issue.....

Contributers to this issue; Brett Robinson /Barrie Russell / Marty Hughes / Norris Kenwright / Clive Baker / Barry Lennox / Ash / Chris Tutton / Mike Anderson / Russ Nimmo / Stu Sturge / John Sutherland / Peter Chang / E&OE & others.

NDC MAY '23 VINTAGE & SOARING.

May/23	127	VINT	RC Vint and Clas Scale Tex
May/23	128	VINT	RC Vintage Precison
May/23	129	VINT	RC Classical Precision
May/23	130	VINT	RC Vintage Open Texaco

May/23	415	SOAR	Thermal D (F500)
May/23	416	SOAR	Class R, eRES 2M
May/23	417	SOAR	ALES 123 Class N
May/23	418	SOAR	NZ F5K CLASS Q, 4 Rds

From the Editor's Desk May 2021

Greetings All,

Started with slim pickings this month, but thanks to outside contributions we have some interesting content. I'll let you decide. Again a big thank you to our enthusiastic President Marty, who keeps club activities on a roll with our alternative venues. It's a bit like the "Old Days" travelling down Highway 50 to fly, the Roys Hill reserve is only a kilometre shy of the original Highway 50 Field all those thirty plus years ago. Hopefully Awatoto Field will be closer once the immediate clean up locally and of the Ravensdown compound is completed. At least all the slash and wood debris has been removed and the grass is growing green and our field officer Lance has a very positive attitude.

Once again, I would welcome your member contributions, copy, comment, reports, articles and pictures. There have been events this month that haven't made it to the editor's desk. If you're not interested in making the effort and sharing, then I guess I could lose interest too. I hope that won't happen.

LATE NEWS; The club's AGM is scheduled for Wednesday 17th May at the National Services Club in Hastings. Doors open at 7.00pm. Meeting starts 7.30pm. Program to be advised. This is a meeting of major importance, please make an effort to be there.

Prez Sez. May 2021

Hello Members,

So how can it be May already. So much going on ... Where does the time go?
As you will see in the following pages, your club has been busy out and about flying ant different venues. The Roy's Hill Reserve is a fantastic venue to fly at for the electric models and I will continue to slot that little gem into the rotation of venues.
Thanks to the Galloway family, we had a fantastic day flying our noisy 2 strokes on their farm at Norse wood..... Have really missed that.
Graeme Rose hosted the Aero tow event and despite what the rain man told him, he managed to throw down some sunshine and had a very successful event.
The BBQ I have been doing on club days has proven to be very popular and it's a great way to get you all involved however going forward I will have to ask for a gold coin donation to help with the cost.
As for Awatoto, progression is being made. The insurance claim on the shed is in but we ask you keep clear while the insurance company follows due process. The council are making head way into the clean up along the stop bank and around the Deans Shelter. Lance is in contact with the council and we will follow direction as to when we get access to the field. When we get the green light for that we can have a working bee with a BBQ and maybe some of Barrie's world famous Lemonade Scones.
On a personal note I just want to thank you for the support in keeping our club together during this challenging time. We have been going for 75 years and we are still strong. Despite not having a piece of Awatoto grass, we are still a club and a great one. So please, Subs are now overdue and if you haven't paid them, please do. We need them.
See you soon,
Marty President MFHB.

Club Captain reports. Apr 2023

Hello Club Members.

First off I must apologise for being absent from the last couple of bulletins but work had me tied down in other parts of the country and I was a bit out of touch.

So its been a mixed bag to say the least over the last couple of months and I'm sure we have all been affected in some way or other during that time. The club has taken a big hit but continues on as we all must as we work through the problems ahead of us. Asa club it has been great to see people getting together for some fling done thanks to Marty who has gone out of his way to find a flying site or two. The few times I have been able to make it I saw members putting their troubles behind them for a few ours and just enjoying some time behind the sticks and having a catch up with some friendly faces. That's part of what clubs are about. Support, understanding and maybe a bit of help or advice if required.

With not a lot of electric models I have been doing some flying at the Galloways and their field for those that have not yet made the trip is looking in great condition. When the weather is good it's a hard place to beat for a fly of the gas powered planes.

The weekend just gone Rob, Andrew and I went down to compete in the aerobatics competition. Congratulations to Rob for taking out both Clubman and Basic categories against three other competitors. I didn't fair so well but was only 15 points off second place coming in third. The weather was great, the burger not far behind and the company excellent.

Sean Galloway had an interesting engine failure during his first flight shearing of the 4 head studs on his twin DA 100. It kept running until he killed the engine but the cylinder head had punched a hole in the cowl but he got it to the ground without any other real damage. Of interest when inspecting the motor damage after the fact was the condition of the cylinder head. This was a 10 year old motor that has seen uncountable flights but the inside of the cylinder head look like it was fresh from the machine shop. A tiny bit a carbon build up adjacent to the plug but 90% was spotless. This motor has only been run on Red-Line oil but is a great example of how clean they run. The failure has been put down to the tuned pipes and the three blade prop that the motor was swinging putting extra stress on the Alloy head bolts. It will rebuild and with a set of steel head bolts and run for another 10 years.

The AGM is looming up quickly. The club needs some new blood in the committee. These are not executive positions so it just requires you to attend once a month for a couple of hours and help with discussions and input re running of the club. It's not that scary. We need team spirit, fresh ideas, enthusiasm and a will to see the club better itself. Give it some thought and get in touch with Marty or myself if you think you can help.

As for the field which we are all patently waiting on, all I can say is good things come to those who wait. Once that pump station is up and running and those temporary pumps, generators, hoses and cables are out of the way the committee will be able to get things moving. Until then our options are a bit limited. When we do get back to the field I expect we will see a few new models getting maiden flights. I mean what else can you be doing with all your spare time but building.

One last thing to cover is while you have all this spare time go onto the Model Flying New Zealand web page and take a read through the new Rules and Regulations. There have been some changes going on and we should all be up to date with them. That's all from me so until I see you at a field some where some time. Stay safe and consider getting out to one of Marty's temp sites for a fly.

Derek Whelan. Club Captain MFHB.

CLUB ACTIVITY April 2023

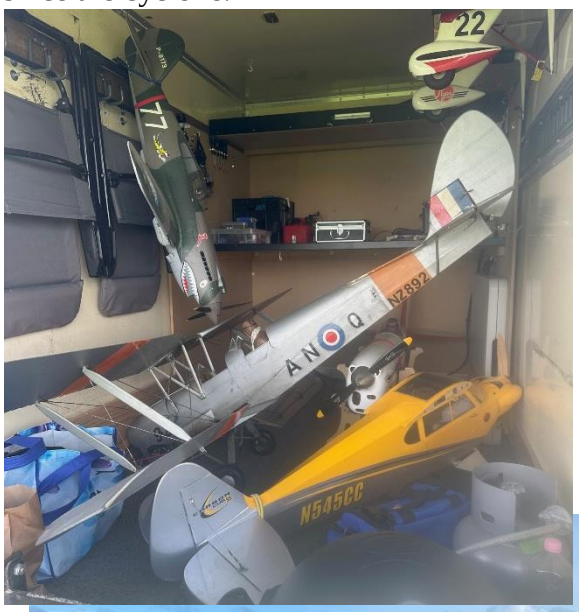
Sunday 2nd April at Roys Hill Reserve. President Marty reports;

The weather was just too good not to make use of the Roy's hill reserve again . The call was made and over 20 pilots arrived with eclectic flight models. The strip was perfect, no wind, blue sky and great people. The first plane had wheels off by 9am and the sky was alive right through until 2pm. The Heli boys came, a few Radians and lots of planes. The area suits multiple disciplines. Lunch time rolled around and Marty fired up his on-board BBQ.

Beef Burgers and Sausages were enjoyed by all who were there. The photos show that MFHB is stronger than ever.
Marty H.

Sunday April 16th took us to the Galloway farm in Norsewood at the southern end of the Takapau Plains. 11 keen pilots turned up to brave the not so favourable conditions but as the day progressed, the conditions improved. The BBQ lunch put on by the Prez was well enjoyed by all as were the morning tea muffins supplied by Rob Little and his wife.

Thanks to the Galloway Family for hosting us for the day. Brilliant day and great to give some engines a run for the first time since the cyclone.



The president all loaded up and ready to roll. He has promised to clean his camera lens before the next photo shoot. Attending pilots in a feeding frenzy as the weather improved.

Another excellent day on the galloway Farm, Norsewood in the Club's temporary flying calendar.

Tuesday 18th April, Shed Morning was held this time at the Napier Sail;ing club rooms at Ahuriri thanks to the negotiations of Barry K an ex-Commodore. Nine members met up to devour my caramel pin wheel scones and discuss current affairs and member's affairs plus took in a tour of the mariner facilities. A gold coin collection to the Napier Sailing Club, Thanks BK.

Thursday 20th, fabulous morning, was going to park for some more testing on the now modified Delta, but instead, Mike S and I decided to head off to Roys Hill Reserve. We had the place to ourselves and flew from the shelter at the top of the carpark in idyllic conditions. A great morning flying, we put about six 2S 800mah lipo batteries through the delta, adjusted the throws, thrust line and settings etc and once set up to our satisfaction it has proved a magnificent flying machine. Then we flew it on a 3S Radian Lipo and wow, what a performace, right up **President Marty's** alley, watch this space there is a lot more to come on this great little machine who's basic design comes from **Norris Kenwright. Thanks Norris.**

We also had fun with our Lidl Gliders chasing eachother and boring holes and the sky.
A great morning's flying.

Tuesday 25th Anzac Day, Brett, Mike, Stan and myself met up at Roys Hill for a pleasant few hours flying until the wind got up briefly after midday. **Brett and I** test flew our large vintage models Satellite and Hi-Fli. Both flew well, but size and battery power might be an issue, more testing needed. **Mike** flew his lidl Glider, **Stan** his Vintage Stardust and **Brett** his Radian. I flew my delta again, but the El Cheapo ESC decided to mis-function so put an end to futher testing. The model does perform well however.

Friday 28th Sent an email out to our wider Vintage group yesterday noting we had access and a great forecast for Roys Hill. Good turnout of eight pilots, started a bit chill but the conditions improved as the morning got on and we had a very pleasant time. I even managed an NDC Vintage E-Texaco event. **Stan** flew his Stardust, **Gavin** his Stardust, good to see **Gavin** back on the flightline. **I** flew my SD as well as the Delta and Lidl. **Anthony** his Playboy and lidl, as did **Russ** his Playboy and **Mike** his ex-Stiver Mam'selle and Lidl. **Danny** flew an assortment of foam and **Brett** with his Radian.

Most models survived, though I got a dose of the flutters with my beloved Stardust later in the morning with the 4S duration battery and the stbd wing departed. The fuselage made it back to earth with only some frontal and motor mount damage. **Anthony's** Playboy decided to do it's own thing and disappeared into the vinyard but was retrieved with minimal front damage and **Danny** found that downwind landings with a late low turn to base don't suit Clubbas. Some pictures of the morning's activities from Brett's camera…..

Right; **Russ** with Playboy and **Gavin.**

Above; My Stardust fluttered !

Above left; Now where do you think this piece goes ?

A thoroughly enjoyable few hours was spent, and all went home happy ! See you next month ?

AROUND the BUILDING BOARDS Apr '23

John Sutherland continues to make progress on his FW190 Dora and writes;

Hi Barrie current progress on the front end of the D13. Phil has done a magic job on the spinner back plate and the spinners both 2 blade and as you see 3 blade setup. Have had a look at the CG position and it currently sits just forward which is good , this will allow for paint etc.

I have to get a weight to see if I have been able to meet the 18Kg that I was aiming for. Cheers John.

Stu Sturge reports on the replacement of his lost YAK

You will all recall that I very carelessly lost my 20cc Yak 54 aerobatic model, when I momentarily looked away from my model, a long way downwind, to check who was passing the landing strip. You guessed it, my model wasn't where I thought it was when I looked back. The rest was, for that model, History!!

On hearing of my misfortune, David Kenright very generously offered me one of his models that he no longer considered that he wanted. I believe it had spent more air miles travelling around the world in packing cases in the last ten years, than flying under it's own steam. On the day that I went and picked the model up, I was guided to a stack of model crates, that David had recently taken out of storage. He assured me that some were full of work related stuff, but most contained models. In the process of freeing the Sukhoi 26 I saw a number of other models that will look great in our skies when David's work commitments allows him the time to get them back in the air. Watch this space.

The model David has given me is a 35cc Sukhoi 26, fiberglass fuselage and foam covered wings. It came complete with servos, and a 35cc OS BGX nitro motor, gummed up with lack of use. As luck would have it, I have a new in box BGX, that could have bolted straight in, however I was not sure that I could sustain feeding such a beast with nitro fuel, so I chose to repower the model with a 35cc RGCF Stinger petrol motor. Because the petrol motor was so much lighter than the nitro motor, Phil Sharpe helped out with some steel motor offsets, turned to the right weight and length to achieve the CofG that was required.

I also took the opportunity to replace the servos with new HV JX 23kg servos and powered the system with 2x 2400 2S Lipo batteries via an AR switch. Robert obliged with making up the appropriate leads.

All this was taking place during the aftermath of Cyclone Gabrielle, so when it came to wanting to fly the model, we had no field. So I arranged a trip to The Galloways strip for Hamish to test fly it. A few mods were recommended by

Hamish, including putting a baffle in the cowl to direct the airflow over the cylinder head, and replace the aileron horns that were a bit sloppy and not holding trim.

So on the third outing, Hamish was happy with the model and I took the controls to try and complete the Clubman schedule. It took two attempts to takeoff for the first round, and the motor cut on the down line after the stall turn. Ewan Galloway helped with the retuning of the motor, and we were back into the second round. I completed the schedule, of sorts, now I have to learn to land!!

Stu.

This space is left blank for all those members who are building something and haven't got round to sharing their good news and progress.

Marty's "Members' Workshops"#8 Apr'23

This month Marty find's another victim, amazing how they try and run for cover when they hear him knocking on their door ! This time he really has found Aladdin's Cave and the Genie popped out of the golden urn to talk to him. Read on, **Marty reports; …….**

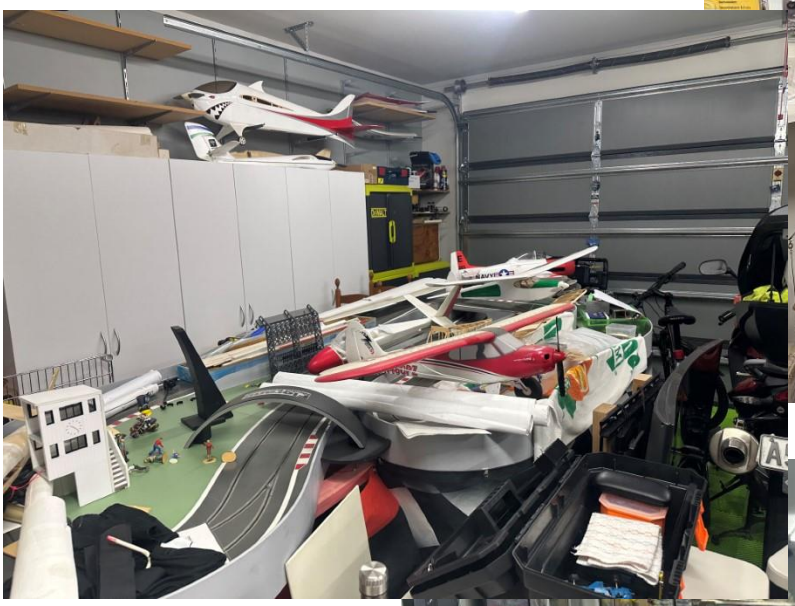
So this month I paid a visit to Peter Chang *or more commonly known as* ***Pedro****. When first entering the holy grail of man caves, you are greeted with the sign " He who dies with the most toys wins "* ***Well Pedro****, you are alive and kicking but I think you have already won.*

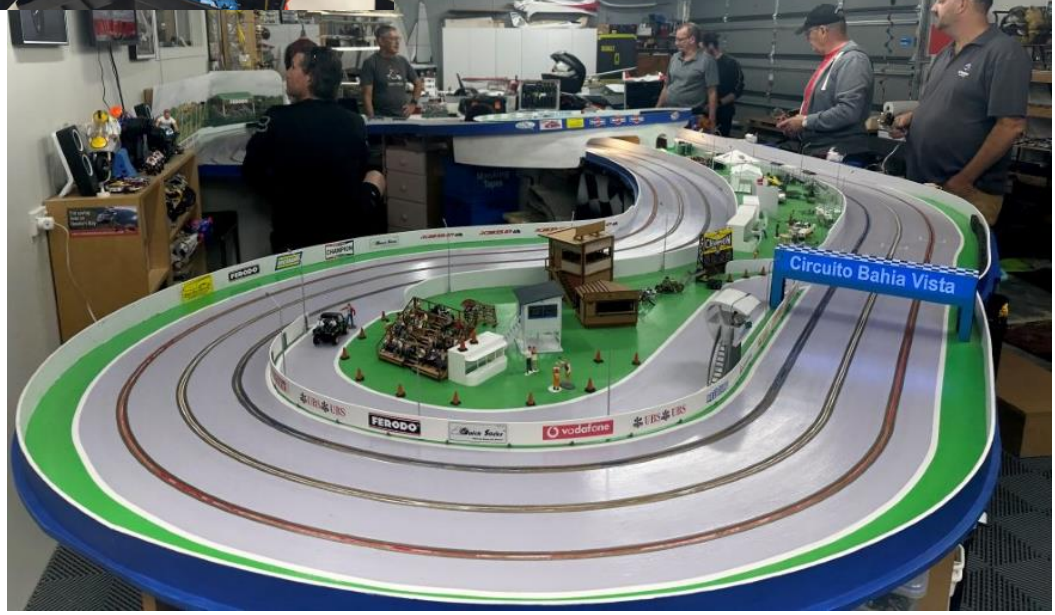
Marty. Hi Pedro*, thanks for letting me share this amazing collection of toys and models with the members.*
Pedro. *That's Okay.*

Marty*. First question I have is … Why so many of everything ??*
Pedro. *Well I guess I'm a bit of a collector. If I see it and I like it, I get it. I've never really been keen on selling things so here they all are.*

Marty. *I know we are a model flying club but let's talk about this man size slot car track that takes up a lot of the man cave .*
Pedro. *Yes, I love reading slot cars with the Hawkes Bay model car club. I built this track and it's one of 6 tracks around Hawkes Bay that we race on. The cars are tuned to race on the wooden tracks and we have about 18 guys in the club. Lots of fun and a great bunch of fellows.*

Marty. *I see the RC motorcycle collection there. Do you race them ?*
Pedro. *Yes I do, not so much around here but I have travelled to Christchurch and Melbourne for the big events. Lots of fun.*



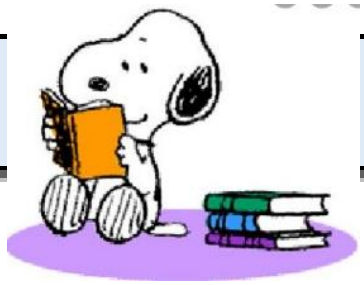


Marty. *So* ***Pedro*** *as I look around the workshop, I see slot cars, RC cars, RC motorcycles, RC boats, RC Sail Boats, RC gliders, RC planes, RC Helicopters, Two slot car tracks and a Motorcycle … This would have to be the most impressive collection I've ever see in my life.*

Pedro *… (Pedro didn't say a word , just gave me a cheeky grin) he was probably thinking about his next purchase.*

Marty Hughes. *Pres. MFHB. April 2023.*

Info & Things April. 2023



Deaf as a post

Comment from Barry Lennox. Chch.

***Yes, that's almost me**. I heartily concur with **Clive Bakers'** lament in the last issue. Hearing aids really do suck!*

I believe my problems started early in the RNZAF, In the first year we did a LOT of shooting, the old Mk4 .303, the Bren Gun and later the FN SLR, which is unbelievably loud. Of course working around the flight-line at Ohakea with Canberras running two RR Avons didn't improve things.

They obviously program and/or pay these ACC consultants well. Mine did some research, and arrived at the opinion that it occurred through normal wear and tear; not early exposure to excessive noise. Needless to say, other audiologists disagree, but the ACC's opinion is magisterial.

It's vital to note they are an "aid", NOT a solution, unlike glasses, which in most cases can restore good vision. They are generally satisfactory in a one-one conversation, or at a lecture, but are quite useless in pubs, cafes, restaurants, and many social occasions. Probably the worst are the coffee bars, "Barista" is obviously an old Italian word meaning "A determined noisemaker" with clattering of cups, banging the coffee puck holder empty, "furnishings " cunningly executed in steel and glass to maximise reflections and minimise absorption, loud "music" and staff yelling at each other. It's hopeless trying to communicate.

I also hope there's a special place in hell for TV programmers who add gratuitous and useless music to many programs, always over the top of sotto voce speech. What for???

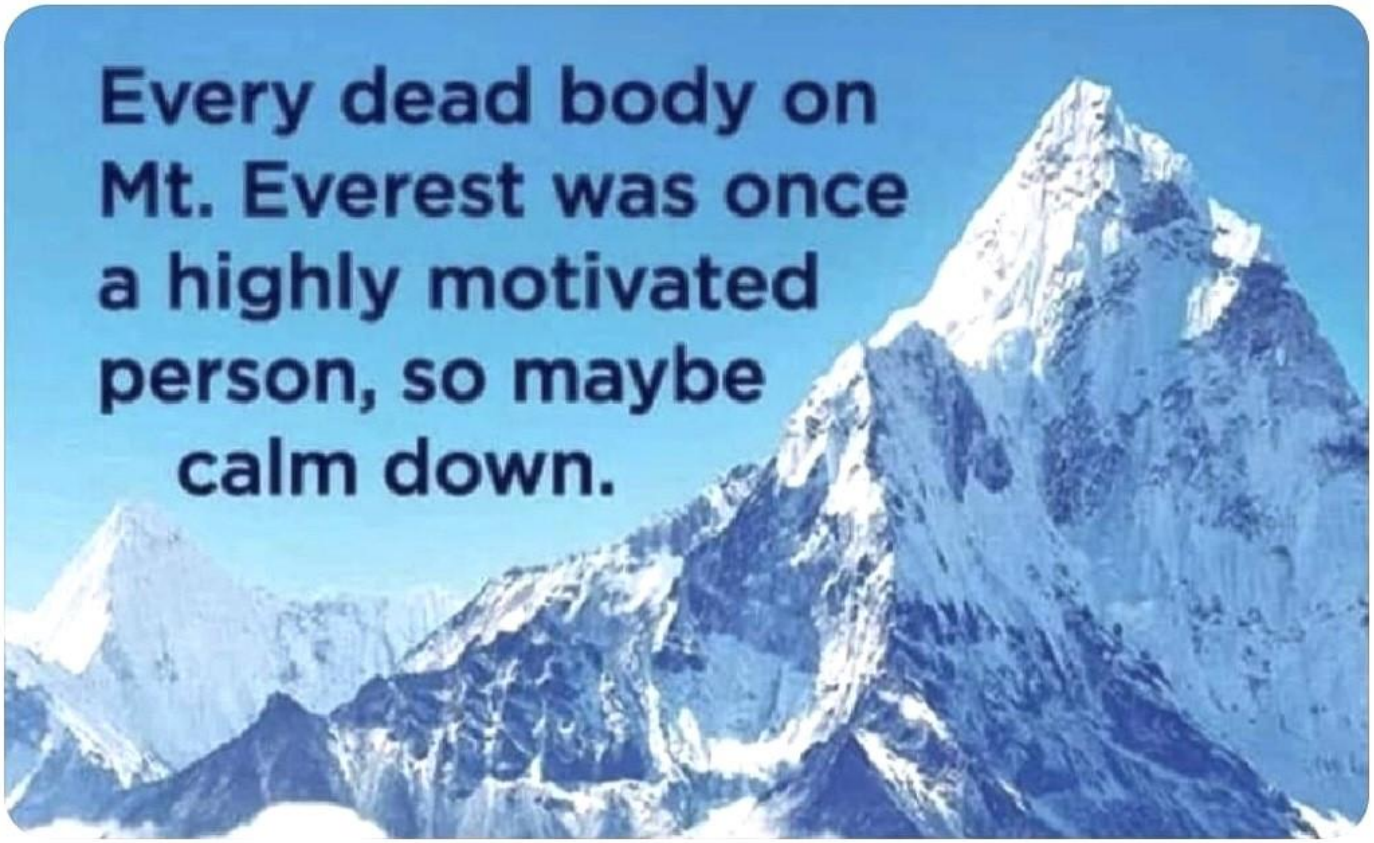
***Please look after your hearing**, it's impossible to fix, unlike most other bits and pits of your fragile body!*

I was amused by Colin Stevens comment written from the UK about Graeme Rose's busty aviatrix who featured last month. He wrote;

Can't help thinking that Graeme Rose's "Rhonesperber" pilot shouldn't push the stick too hard in negative-G manoeuvres, Barrie!

Best Regards, Colin Stevens.

Talking to Dr Mike A. about rehabilitation and motivation and he offered this piece of sage advice I thought worth sharing…



Mmmm, then this arrived from another "caring" friend……!

Bugger.

New Lamps and Transmitters from Old

Once again our National Past President, Barry Lennox has done us proud and graced these modest pages with an excellent original article. With an Editor's grateful thanks, I'm indebted to Barry (with a Why) and heartily recommend this very informative read…….

New Lamps from Old.

For those of you who subscribe to, or casually read, RCM&E , you will have almost certainly read the vintage column articles by Phil Green, Sean Garrity and many other colleagues on converting older "classic" transmitters into much the same, still "retro" radios, but with completely modern innards. Essentially you find a nice old transmitter in great condition, throw out the existing electronics, and replace it with a 2.4GHz transmitter module and a new encoder, based around a small and cheap microprocessor. There's many options for the RF module, and a DIY encoder module, and I'll cover a few of these. All of this is on a couple of websites …

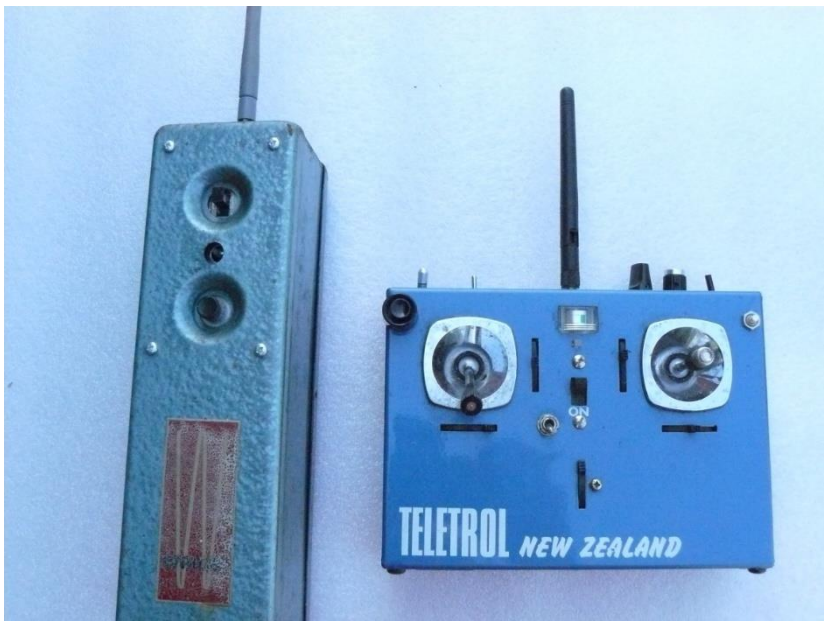
The first is http://mccrash-racing.co.uk/sc/ and the second is https://mode-zero.uk/viewforum.php?f=27

Be warned, the latter site is rather large, has a massive amount of information, and can be difficult to navigate around. I had to spend a couple of hours to get to grips with it

Younger modellers obviously won't recall these, but a great many of these transmitters were beautifully manufactured to very high standards, with quality sticks and switches, with solid metal cases and well predate the plastic "ladies handbag" style of transmitter that crept in around the 1990's. Some of the simple folded metalwork is amazing, I have one where the fit is so perfect you cannot fit a razor blade between the two clamshell halves! (*BTW, Did you know, in Australia, the supermarket bags containing a hot cooked chicken, is known as a "Bachelors Handbag" !!)*

Firstly, I'll just show a few pictures the ones I have converted, or are still underway. Yes, I know, I've heard it…how many transmitters does a man need? That's a woke, judgmental and thoughtless question of course! It's more about giving great engineering a second life, and reducing by a little, the mountain of todays E-waste, and importantly, these things become a little addictive!! Each to his own, I say.

Anyway, the first is an elderly Wright hand-held transmitter. Les Wright produced a few of these in the early 1960's, intended for model boat use, although I have heard one or two braver people used them for slope soaring. It now has a PIC based encoder and a FrSky 2.4 GHz RF module. It is single channel only and can be used in either of the two old modes. Ie; Each button push gives left-right-left-right alternately, or; 1 push for left and 2 for right. This was done several years ago, and used a very small and cheap microprocessor known as a PIC. This was my first project some years ago.

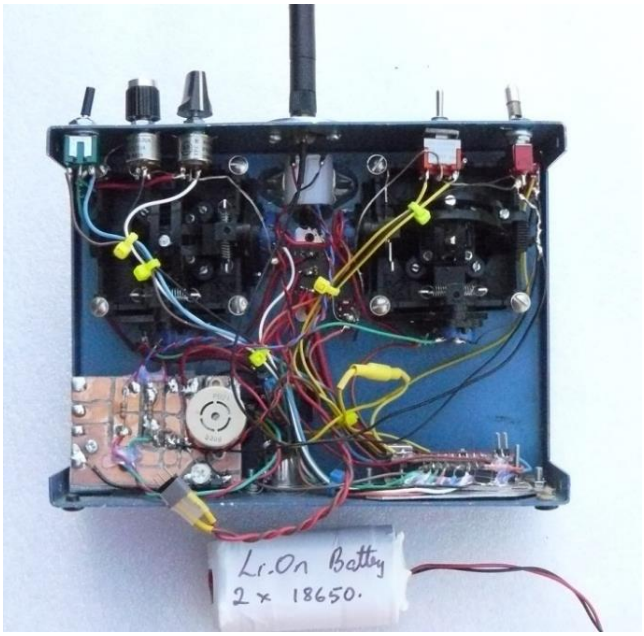


Right; Vintage Wright and 1970's Teletrol transmitters.

The next is a Teletrol transmitter that was in almost new condition. This used the Arduino Nano microprocessor board, and again a FrSky 2.4 GHz RF module. There are pictures of the front and inner here. It was done in a rush, and is somewhat untidy, but the soldering is up to the best HRHS standard. It offers some very nice features, for instance, one I really like is the ability to adjust

throw and exponential in real time via knobs. This software offers a lot of very useful, and easy to use features, and can support up to 7 channels. There are at least two releases of this software, and I prefer the later version, it's optimized for F3A flying, which I don't do, but do like the features it offers.

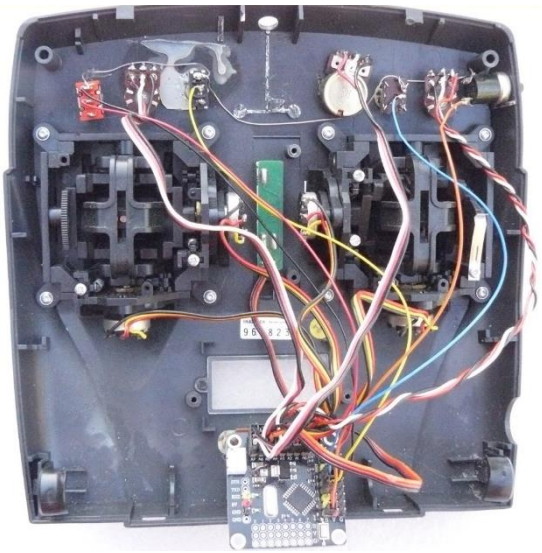
The third is a 3 channel Kraft transmitter that again is in near original condition. It has a simple encoder using the ATTiny85 board (and FrSky RF module) that replicates the original features that you'd expect to find on a basic 1976 transmitter. It is probably the easiest of all, if you want to start with the basics.



Above Left; The Starting point. The stripped out bare-bones inner of a 3 Channel Kraft transmitter
Above Right; Fully modified Teletrol transmitter Note the 2 Li-Ion 18650 cells.

The next is (virtually NIB) Skyleader Clubman transmitter (circa 1973?) that has similar software to the Teletrol, but again is the "F3A" version. This is now a 6 channel transmitter with the "F3A" encoder in a DIY More board.

Next is still a work in progress and was originally a 72MHz Multiplex Pico, that I picked up in a yard sale in the USA for $5. It will probably just have a simple 5 channel encoder.



Above Left; Multiplex Pico front ***Above Right; Multiplex Pico rear, in the process of conversion.***

The last, just for the moment anyway, is the lovely tiny RS transmitter just begging to be converted. RS systems were of the highest quality and many of the components were Mil-Spec rated, and were used in a number of early drone projects, circa 1973. It will probably end up with the most complex encoder yet developed and a multi-protocol RF module. In short it will be more complicated than a complicated thing !

The power requirements are very modest. Most of the electronics runs on 5----7 volts and the neatest way to supply this is two 18650 Li-ion cells They are nominally rated at around 1800-2200 mAh at 3.8 volts each and are 18mm diameter and 65mm long (hence the 18650 nomenclature) I have found they will power a converted transmitter for several hours. You can buy them new from Aliexpress, or Jaycar at a much higher cost, but I get them from dumped “bad” battery packs ex power tools or Laptop PCs. These hold 3-6 cells but I usually find only one, maybe two cells are bad, the others are perfectly good. But please test them first. I test-ran the Teletrol one, and gave up after 7.5 hours.

But for the keen recyclers, here’s a link to scavenging good Li-Ion cells from …. Discarded “vapes”! I’ve seen only one in a Christchurch gutter, but I’m sure there’s better pickings elsewhere!

https://mode-zero.uk/viewtopic.php?f=62&t=1551

So, enough introduction, what do you need.

1) Firstly a donor transmitter that appeals the most. One with mechanical trims would be best for a first project, separate trim pots can be used, but it is more involved, and is best avoided.
2) Rip out the existing RF and encoder PCBs, sometimes the wiring, and certainly throw out the old Nicads that hopefully would have been removed years ago anyway.
3) Clean up the case, remove any congealed castor oil, dirt, etc and clean up any corrosion that may have been caused by damp storage and/or NiCad leakage.
4) Clean up the stick mechanism, check that switches and pots still operate satisfactory, and check the wiring that goes from the stick pots to the old encoder board. Ensure the wire is still flexible, not cracked, well secured at the stick potentiometer, the insulation is sound and there is no dreaded wire corrosion on any wire, most typically the black or negative one, but it can appear on others. If it all appears in very good condition, it can be reused.
5) If in doubt replace what you are not certain of.
6) Decide on what added features you like, and what additional pots and switches you may want to add, and spent some time on planning this out, taking into account desired location, the need to drill holes, the ergonomics and the final appearance you want.
7) Then decide what RF Module you would use. I have used several of the FrSky DHT, but these are becoming harder to find, and much more costly. It was expected that Aliexpress would work this way. Firstly, they suck you in with low prices and free post, then when you become addicted, things change! I'll probably try a multiprotocol module next, which should be largely compatible with most 2.4 GHz systems. There are mainly 4 different protocols. The multiprotocol module simply has all four RF modules built in and the desired one is switched electronically. They can be obtained as a module that will simply plug into, say, Futaba or JR transmitters, or as a "bare-bones" board wrapped in heat-shrink.
8) If you chose to just stick with one system (and maybe you really only need one transmitter?) I believe it's sensible to select the system that offers the largest selection, and cheapest, receivers, and so I would lean towards FrSKY in that case (Not to be confused with FLYSKY !)
9) Then decide what encoder software you wish to use. I'd recommend a simple 3 or 4 channel one to start. The place to start looking at these options is http://mccrash-racing.co.uk/sc/archive.htm Note you'll have to get used to the unusual nomenclature. "Document" is the plain language description, while "sketch" is the Arduino program code (No, I don't know why!) The simple 3 channel one is at http://mccrash-racing.co.uk/sc/data/digispark_3ch_propo_sc_v2.pdf and the F3A 7 Channel is at http://mccrash-racing.co.uk/sc/data/PPM_Enc_7ch_sc_v2_dipswitch.pdf
   Alternatively, a more difficult, but much more flexible choice would be to start with the 7 channel encoder, and only connect up 3 or 4 channels initially. (or only 1 or 2 for that matter)
   The features this encoder has are :

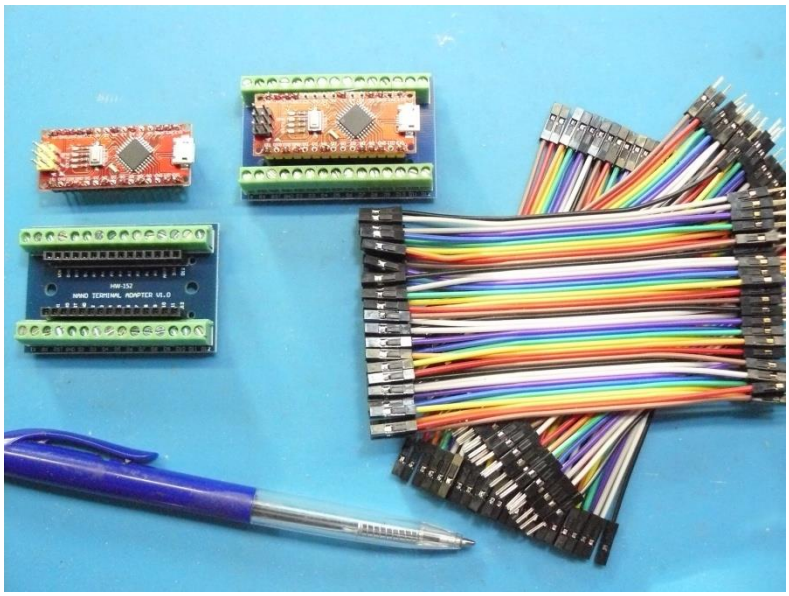
   a. Up to 7 channels, with 6 propo, and one toggle-switched with "servo-slow "
   b. Self-calibrating sticks, saved to EEPROM during power-off - no measurements and presets needed (needs mechanical trim stick units, or resistive mixing of separate trims)
   c. Servo-reversing by holding sticks over on power-up, saved to EEPROM during power-off (throttle does not, for E-Power safety!)
   d. Rates variable from 100% down to 10% via a pot, click for no rates
   e. Expo variable from none to lots via a pot , click for no expo
   f. Single-handed range check mode, flick the ch6 toggle three times to invoke, throttle is held off in range check mode, exit by moving stick
   g. Two-ratio switchable mixer with either 75:25 aileron: elevator for flying-wing elevons, or 50:50 mix for V-tails

h. Servo-slow on switched channel 7 (approx 3 seconds for flaps, retracts etc)
i. Throttle lock-off switch holds throttle closed Auto throttle lock on power-up (on switch on, throttle has to be closed to enable throttle channel, thereafter it acts normally until throttle-lock switch is thrown).
j. Audible warning. A beeper after 10 minutes of inactivity stops you leaving it switched on and ruining the Li-po!
k. Single channel emulation mix built-in, compound (rudder & kick-up elevator) and sequential (rudder). The S/C option is a mix – the sticks remain active during S/C operation – and obeys all the reversing/mix/expo/rates controls.

A pretty neat set of features for a 45-50 year old metal box transmitter !

The choice of encoder software will also determine what microprocessor board you need. The ATTiny 85, or Arduino Nano or the DIY More board. The latter is a more user friendly version of the Nano, and is recommended, as it is populated with standard 3 pin servo/battery pins making it easy to connect to.
OOPS, Stop Press Correction!!! In the last few weeks, it's vanished- gone AWOL from Aliexpress! Nothing stays static these days!
So, the best board to use right now will probably be the Arduino Nano. Unfortunately there can more fine soldering to be done with the bare board, but there is a solution, buy the Arduino Terminal Adaptor board. You plug the Arduino into it, then all the connections can be done via miniature screw connectors. This is much easier to connect to, and modify if required. It would also pay to buy some pre-made leads with pins. I've included a picture of the Arduino Nano, the adaptor board, the 2 mounted together, and the pre-made leads.

All these components are pretty cheap ex Aliexpress, for instance, my recent costs (in NZD) were:
Arduino Nano $3.39
Nano adaptor board $1.46
Set of 80 pre-made leads $3.73
However, costs are constantly changing, up and down, and as I repeatedly say, postage can be all over the place! One of their cunning stunts is to charge $2.05 for the item and then $7.57 for post, another vendor will charge $8.85 for the item and 67c for the post!



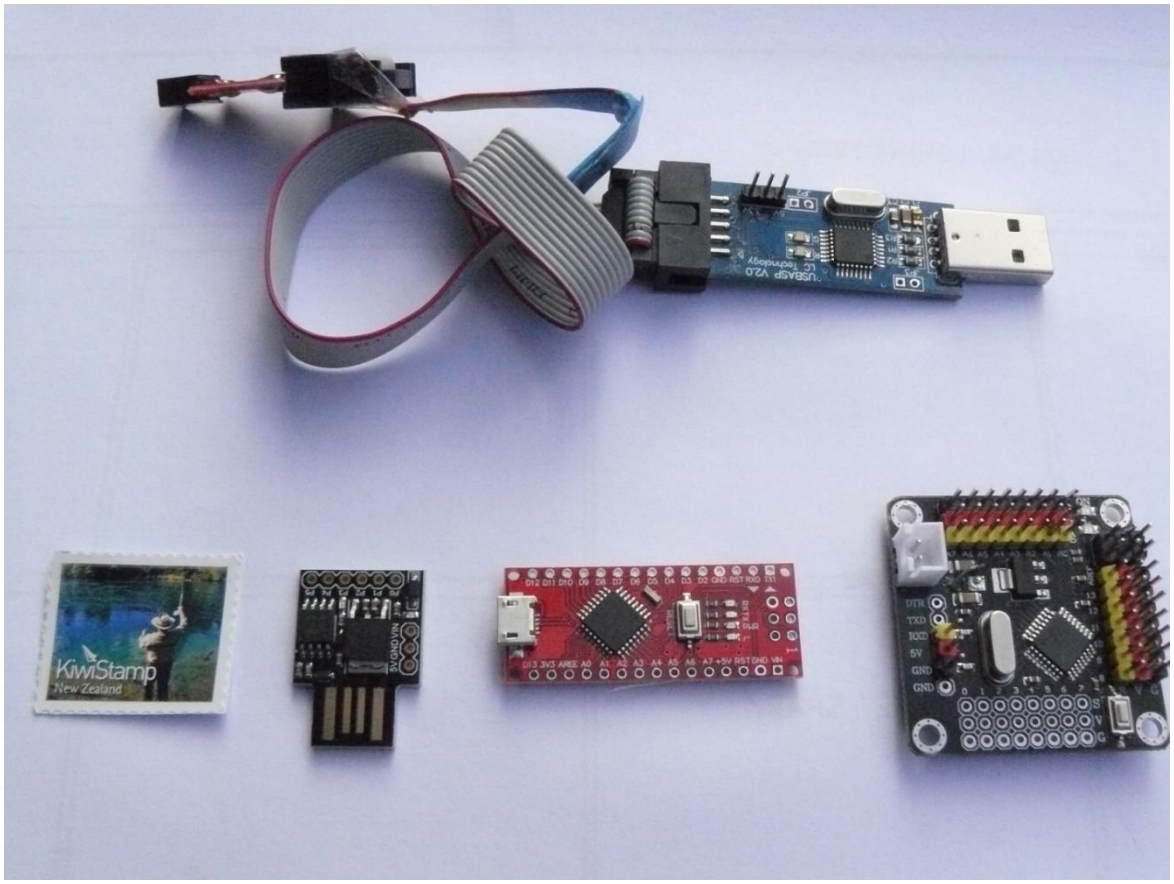
Actually to REALLY stay retro, there's nothing to prevent you using the existing old encoder, ***provided*** that it's still FULLY serviceable and reliable. But they would almost certainly be much larger and much less feature-rich than all the tiny microprocessor-based ones.

Real tigers for punishment will find a number of encoders for ancient and esoteric systems, such as Reed transmitters and Galloping Ghost, all on the McCrash site, under the "archive" tab.

Then you need a few other things.

1. A good soldering iron and the skill to use it.
2. Good eyesight and steady hands.

3. The usual hand tools, small pliers, side-cutters, etc, etc
4. A "USB-ASP" programmer . This can be bought from Jaycar (XC4627 $18.90) or GoGotronics in Christchurch, https://sparks.gogo.co.nz/ for $10, or Aliexpress for $2-4 PLUS post.
5. The required microprocessor board. Best obtained from Aliexpress but sometimes the post can be steep. Carefully compare all the vendors for the TOTAL cost.



The photograph above; shows these parts alongside a Kiwisaver stamp. Top is the programmer, left is the ATTiny85, centre is the Arduino Nano, and right is the DIY More board.

1) Then put it all together. I will not try to repeat the comprehensive instructions and discussions on the 2 excellent websites (http://mccrash-racing.co.uk/sc/ and https://mode-zero.uk/viewforum.php?f=27) But please do take the time to study them for a couple of hours as a minimum ! There is a massive amount of information there, but it's scattered a bit confusingly across a number of threads, more so on the mode-zero site.
2) Then you wire it all up, check and double check, then apply power. And it never hurts to get an independent pair of eyes to check as well.

You may run into problems along the way. The major one I have experienced is getting the USB-ASP programmer working correctly. It requires a driver to be installed and Windows causes some grief with drivers and ports. It works on some PCs and fails on others. I have 3 and one simply will not work! Local software gurus have admitted defeat and Bill Gates won't answer his mail either!

Now, if all this sounds daunting, and you want to start with the basics, I'd recommend you just buy an Arduino Nano, get an "Arduino for Dummies" or similar book from the library, or bookshop, and practice uploading some code into it. The classic ever-so-basic code that every book will start with is to make a LED flash on and off. Yes, trivial, but this easily and safely builds confidence and familiarity with the terminology. And, then all these books will give you more and more advanced projects to get on with, so by the time you have succeeded with 3 or 4 simple ones, you will be feeling much more confident. Note that you NOT need the programmer for this simple stuff. Instead, the Arduino plugs directly into a USB port. If you want probably the best guidebook, it's (in my opinion) "Exploring Arduino" by Jeremy Blum. Make sure it's the 2nd Ed. ISBN 978-1-119-40537-5.

However, for RC encoders there is now a special problem, every Arduino comes pre-loaded with a small internal program, the "bootloader" that allows the simple direct USB connection. Unfortunately, the bootloader causes a 5 second delay on power-up. Meaning the transmitter will NOT operate for about 5 seconds after turning on. This "feature" makes me exceedingly nervous! If the transmitter was accidentally switched off, you've "nothing" for 5 seconds! So, the bootloader has to be removed (That's easy) and that then requires the RC encoder program to be loaded in via the hardware USB-ASP programmer, specified above. Yes, you could ignore this and live with the 5 second delay on power-up. Good Luck !

So, now hunt around the attics, workshops and man caves for the old transmitters before they go to the tip, A fair number already have sadly, but it's not too late. Remember much old stuff can really increase in value. Recall that Bonhams auction house in NY sold an early Apple-1 PC for a mere US$ 905,000 ! And my first decent car, a 1957 VW Beetle, in good nick, would today be worth several times what I paid for it.

Barry Lennox. April 2023.

Appendix.

To help you navigate around the mode-zero site without getting too lost, I have included below some links that will take you directly to some of the more relevant pages,

http://www.mccrash-racing.co.uk/sc/data/single_channel_encoder_N.doc The single channel system

http://www.mccrash-racing.co.uk/sc/data/digispark_3ch_propo_sc_v2_glider.ino 3 channel ATtiny 85

http://www.mccrash-racing.co.uk/sc/data/digispark_3ch_propo_sc_v2.pdf Page35 description of above

http://www.mccrash-racing.co.uk/sc/data/PPM_Enc_7ch_sc_v2_2022.ino 7 Channel version

http://www.mccrash-racing.co.uk/sc/data/7ch_propo_encoder_20022019b.pdf Page 16 description

http://www.mccrash-racing.co.uk/sc/data/PPM_Enc_7ch_sc_v2_dipswitch.pdf 7 chan using Pro Mini board P16a Full description

http://www.mccrash-racing.co.uk/sc/data/PPM_Enc_7ch_sc_v2_dipswitch.ino The software code for above P17a

https://mode-zero.uk/viewtopic.php?f=41&t=833 Help with USBASP

https://mode-zero.uk/viewtopic.php?f=27&t=738 Digispark 3 channel Propo encoder

https://mode-zero.uk/viewtopic.php?f=27&t=1243 Some more encoders on the way By Mike K

https://mode-zero.uk/viewtopic.php?f=27&t=1632 Yet another encoder board by Mike K. wef 8 Jan 23

https://mode-zero.uk/viewtopic.php?f=27&t=1403 New encoders for Phil G or F3A by Mike K

https://mode-zero.uk/viewtopic.php?f=27&t=1345 More Txs for resuscitation and rebirth (Thanks Barry)… By Wayne…. Part 1 and https://mode-zero.uk/viewtopic.php?p=11360#p11360 by Wayne *[Note… A couple of years ago, I came across a good number of old transmitters that were destined for the dump. I could never sleep properly if that happened, so rescued them. A couple were near-new, but the majority well used and a bid tatty. I have given a few to Wayne Hadfield, a friend who has done a tremendous job in restoring these to a very nearly new condition. You can see the before and after results in the above topic.]*

https://mode-zero.uk/viewtopic.php?f=27&t=1528 Latest version of encoder board 2022

https://mode-zero.uk/viewtopic.php?f=41&t=279 Questions on uploading !

https://mode-zero.uk/viewtopic.php?f=41&t=60 Digispark info on ATtiny85 and ICSP Programming

https://mode-zero.uk/viewtopic.php?f=41&t=661 ICSP Programming

https://mode-zero.uk/viewtopic.php?f=41&t=359 Programmer for Mini-strong board

https://mode-zero.uk/viewtopic.php?f=41&t=499 More on programming DIYMORE board

https://mode-zero.uk/viewtopic.php?f=41&t=833&p=11960&hilit=port+problems#p11960 Help with USBASP and port troubles

https://mode-zero.uk/viewtopic.php?f=41&t=721&p=5767&hilit=port+problems#p5767 ATTiny85 port issues !!

https://mode-zero.uk/viewtopic.php?f=41&t=1287 ProMini programming issues

The END

Editor here;

If any reader has an antique transmitter from the olden days amongst their collection, I would be very happy to take it/them off your hands for conversion to old/new as Barry writes above. They would be ideal for use in our Vintage scene, especially with some input from Professor Lennox or one of our local electronic Gurus.

Give me a call on 06 8353896 or email barrierussell@xtra.co.nz.

Thanx, Ed.

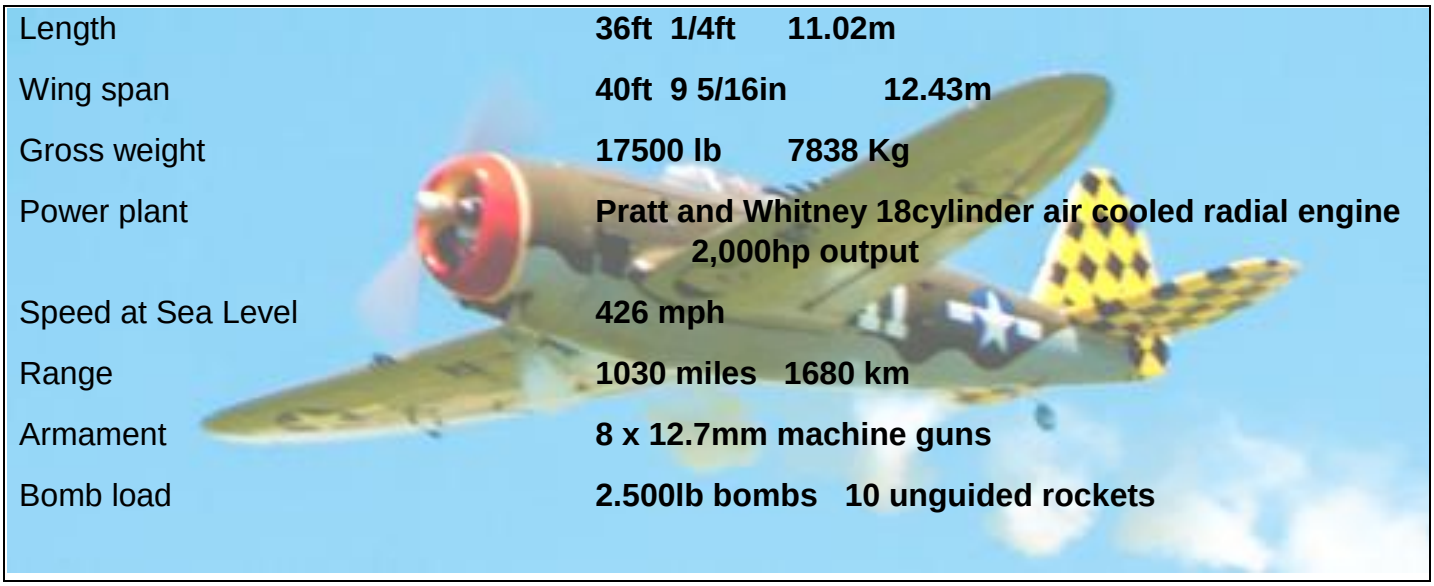
Now there's a thought from the "old days", that might solve our field mowing and maintenance woes.

CLIVE'S CORNER. #9 April 2023

This month Clive continues his series of aircraft full sized and modelled by club members;

The P47,

The Jug / The Republic Thunderbolt / The Fighter Bomber



Length	**36ft 1/4ft 11.02m**
Wing span	**40ft 9 5/16in 12.43m**
Gross weight	**17500 lb 7838 Kg**
Power plant	**Pratt and Whitney 18cylinder air cooled radial engine 2,000hp output**
Speed at Sea Level	**426 mph**
Range	**1030 miles 1680 km**
Armament	**8 x 12.7mm machine guns**
Bomb load	**2.500lb bombs 10 unguided rockets**

The P47 Thunderbolt first went into service on 10 March 1943. Like many aircraft at that time it had gone through several years of development, and when it did go into service it was specified as a short range fighter bomber. To augment its range later versions were equipped with varnished paper disposable fuel tanks. The choice of paper was to deprive the Luftwaffe of every scrap of aluminium.

The dimensions of the P47 are interesting. I have used the figures in Wikipedia simply because they are given to a ridiculous degree of accuracy.

The P47 ended the war having shot down the greatest number of enemy aircraft of all the allied fighters. The Luftwaffe noted right from the first time they met up with the P47 that it was capable of sustaining a large amount of damage in a dog fight

The Jug was an English nickname referring to its portly shape and it certainly looks as though it evolved. It was manufactured by the Republic company who having had a success with Thunderbolt they to somebodies head the retained the word Thunder as part of the name for subsequent aircraft.which became;

The Thunder-chief / The Thunder-screech / The Thunder-streak / The Thunder-flash

The Thunder-ceptor / The Thunder-jet / The Thunder-warrior / and The Thunder-Chief II

Also known as the Warthog

Early models of the P47 were known as the Razor back because of the sharp spine running back from the cockpit. Later models did away this spine and the Gothic bracing of the cockpit glasswork for a bubble canopy with and improved egress for the pilot in the case of emergency.

One thing I have noticed about the Thunderbolt is that it is popular with MFHB spectators and pilots. Part of this I think come from the low-level antics of every Mike, Gavin, and Fraser. But it is a curious design. Radial engines on fighters are bulky and the cowling on the P47 looks even bigger because of its or its elliptical shape.

In the fuselage under the engine there is a big duct which carries the exhaust gases back under the pilot to a turbo-supercharger which occupies the entire fuselage from the pilot back to the tail structure. The gases, which contain considerable unburnt material, are fed into a turbine which drives the supercharger. The supercharger carries out the conventional role of boosting the pressure of the fuel and air intake to the engine especially at high altitude. Further boosting of the engine is achieved by an intercooler which lowers the temperature of the fuel/air mix with more being delivered to the engine.

After the after burner in the turbine the waste gases are ejected into the atmosphere through a large hole beneath the tailplane. The gases are slow moving and no additional speed results. I have never seen this exhaust hole on any of the scale aircraft at Awatoto. And without wishing to rain on their parade but it is unlikely that the full-scale aircraft could create smoke trails. The practice should be cancelled at Awatoto as a result and it is probably time this was done anyway.

Republic claimed that the basis of the design was to keep it as light as possible. It would be interesting to see the justification for the installation of the turbo-supercharger. After all the Pratt and Whitney engine was normally fitted with a supercharger, and the aircraft was normally to be used at low altitude.

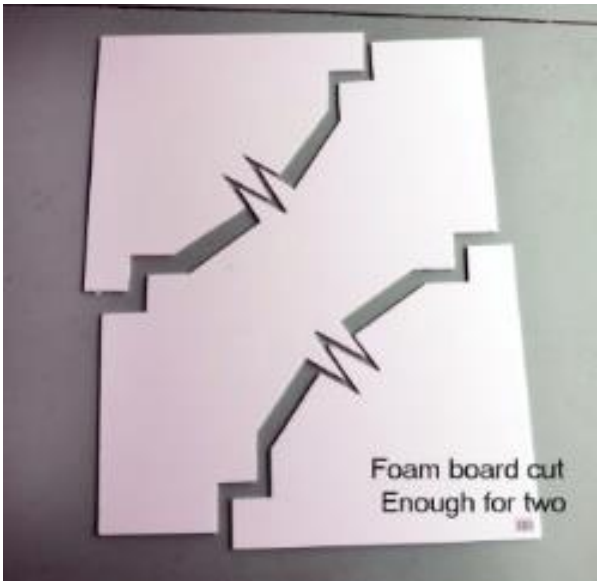
And I am disappointed to find that the story that Thunderbolt cockpit was air conditioned is not correct and that modification was carried out as trial only !

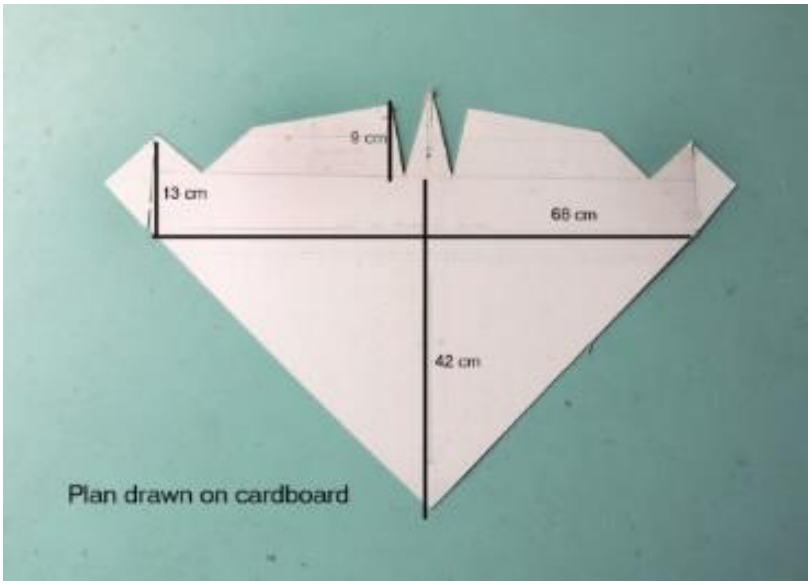
Build a foam board "Delta Flyer"

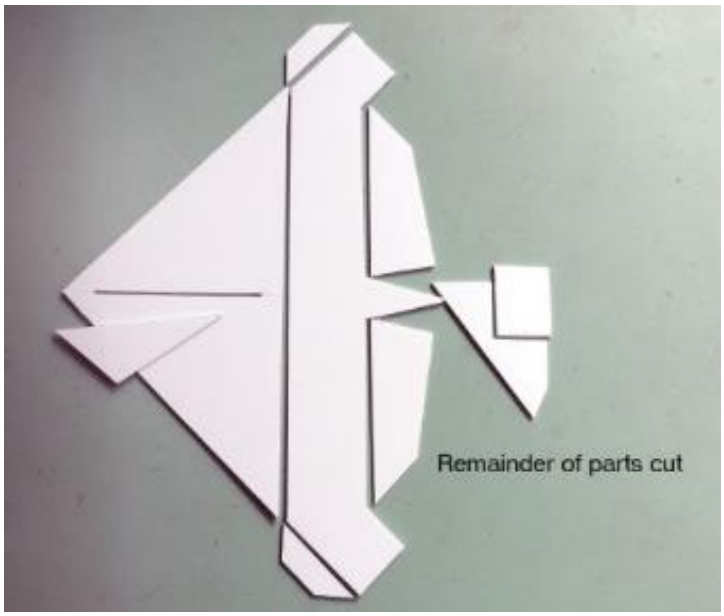
Norris Kenwright *has responded to my plea for copy with this neat pictorial DIY building article, have fun Norris writes;*

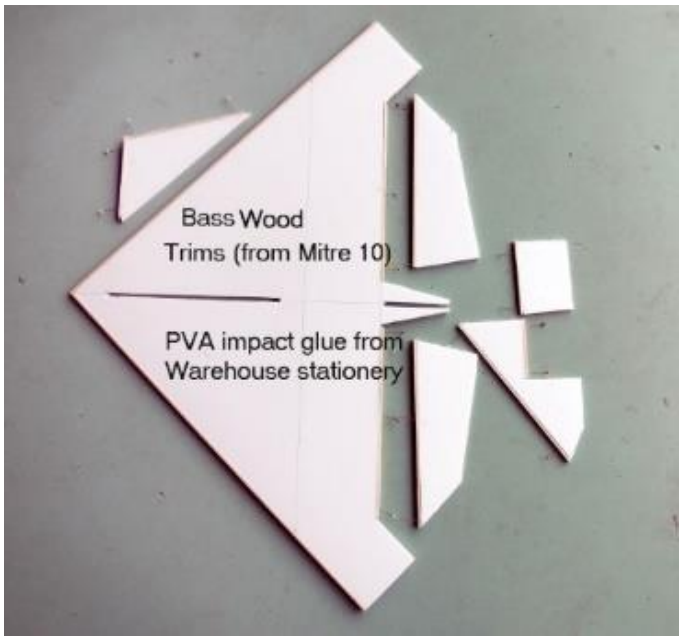
Hi Barrie, This may be a bit trivial but I like building & flying small cheap planes.
Twelve years ago I built & flew a "V Zip Delta"- See the video below. I actually sold it a couple of years later. https://youtu.be/3MltJp-59I0

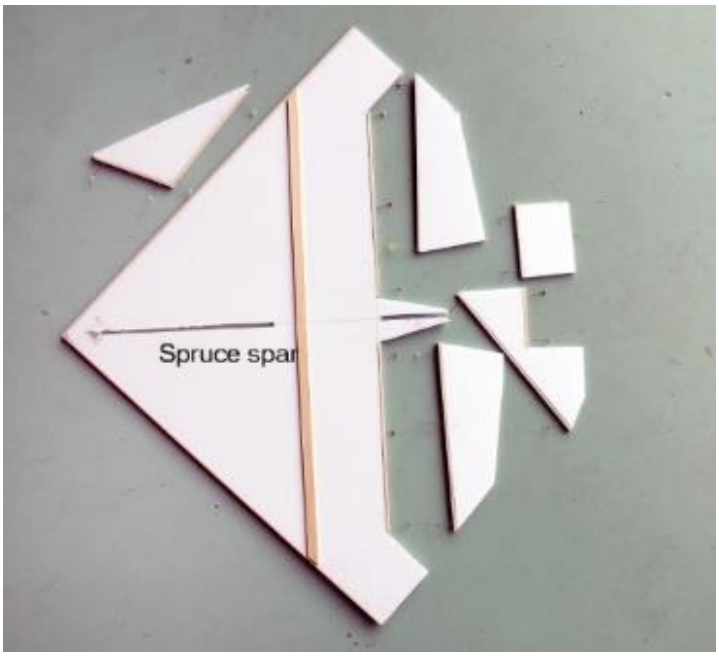
I decided to design and build a similar one about a month ago and designed the "Delta Flyer" – attached file. No video yet. but attached building details
I bought the 5 mm Foam Board from Warehouse stationery for $18. Enough to build two. The following is a pictorial coverage of my build effort. Cheers, **Norris.**

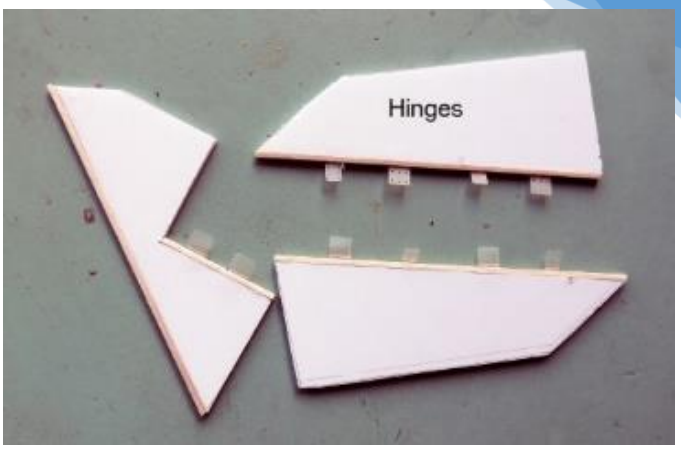


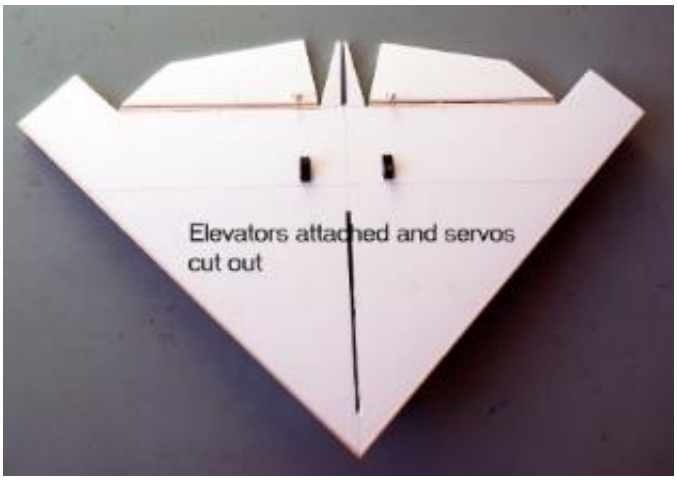


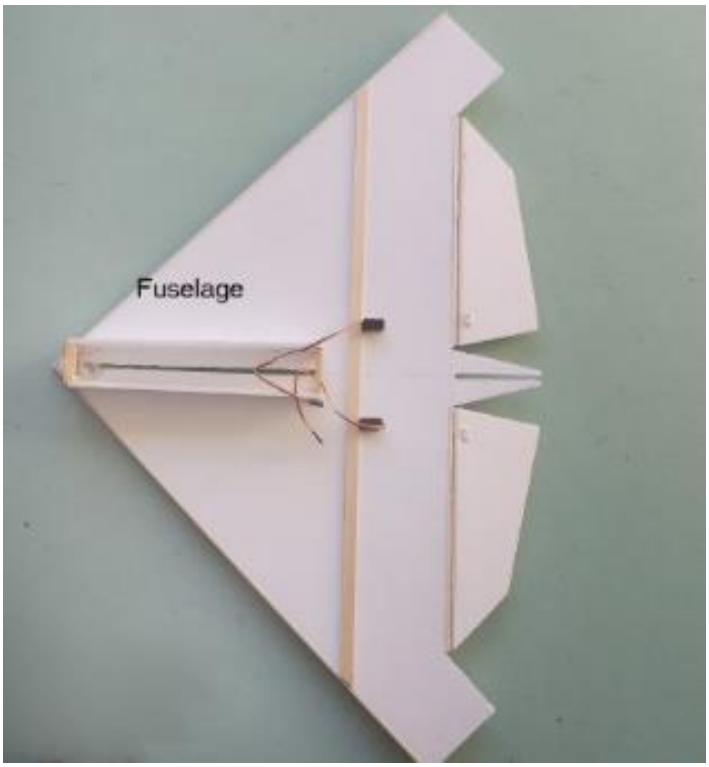


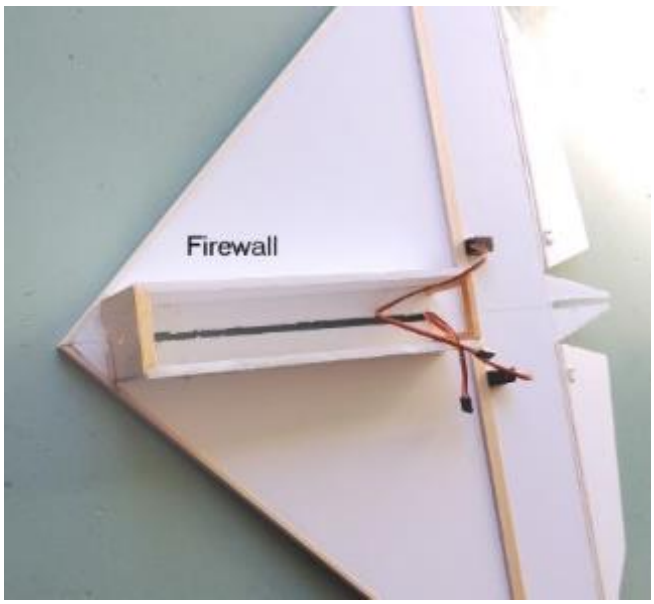


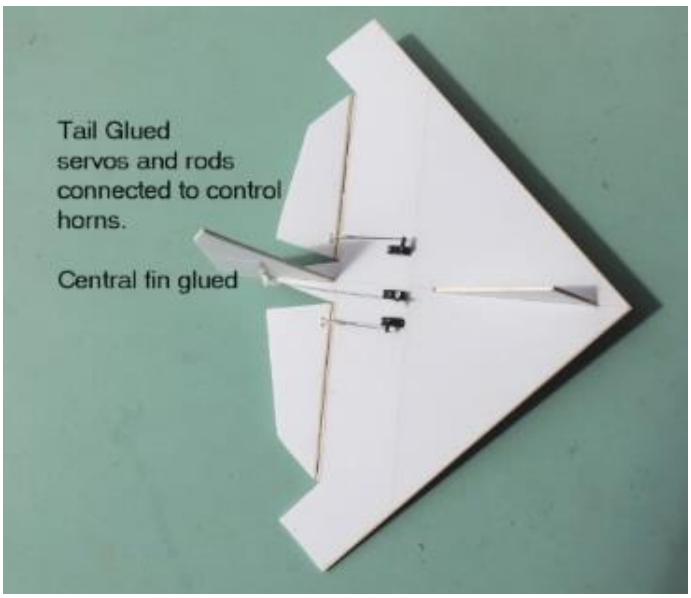

Spruce spar

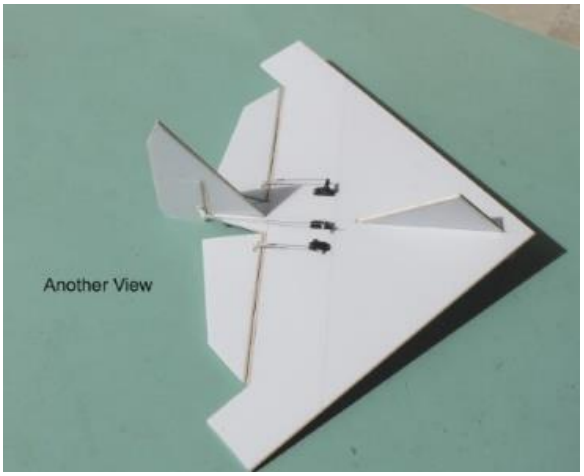

Hinges

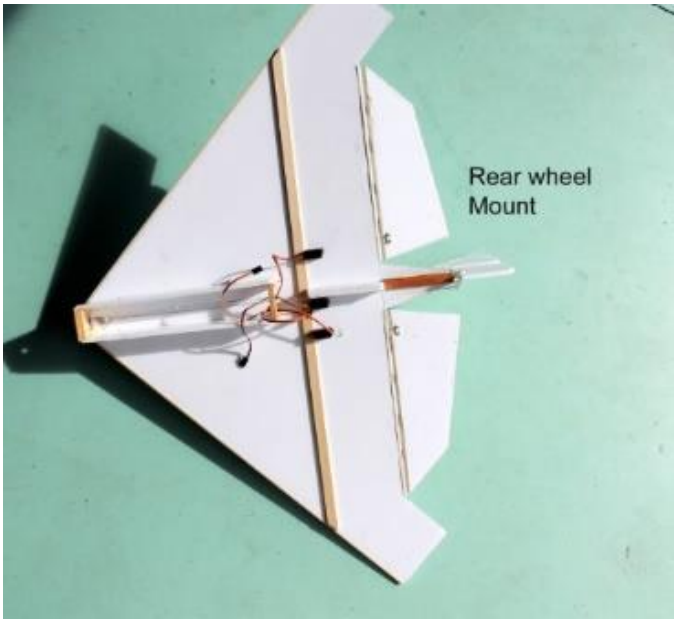

Elevators attached and servos
cut out

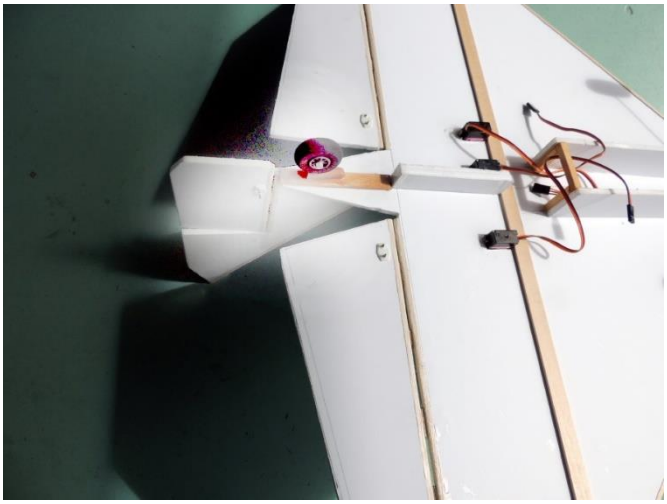

Fuselage

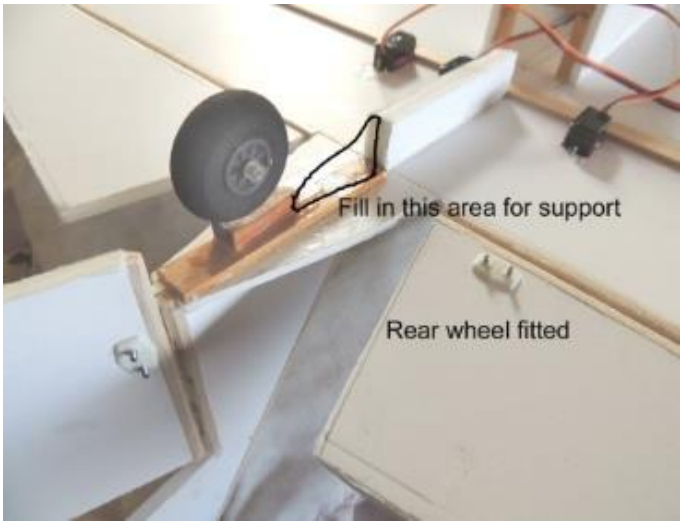

Firewall

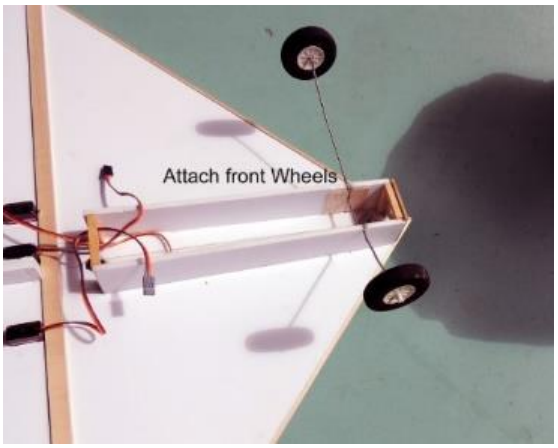

Tail Glued
servos and rods
connected to control
horns.
Central fin glued

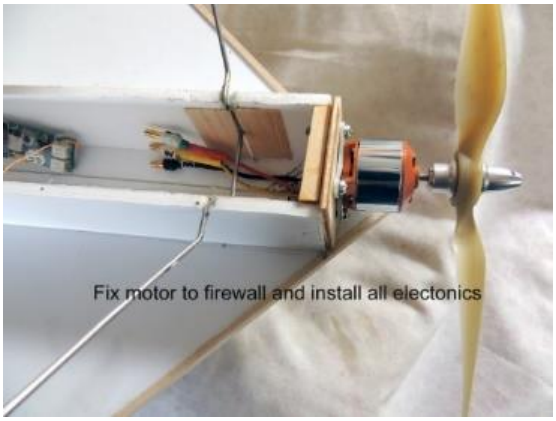

Another View









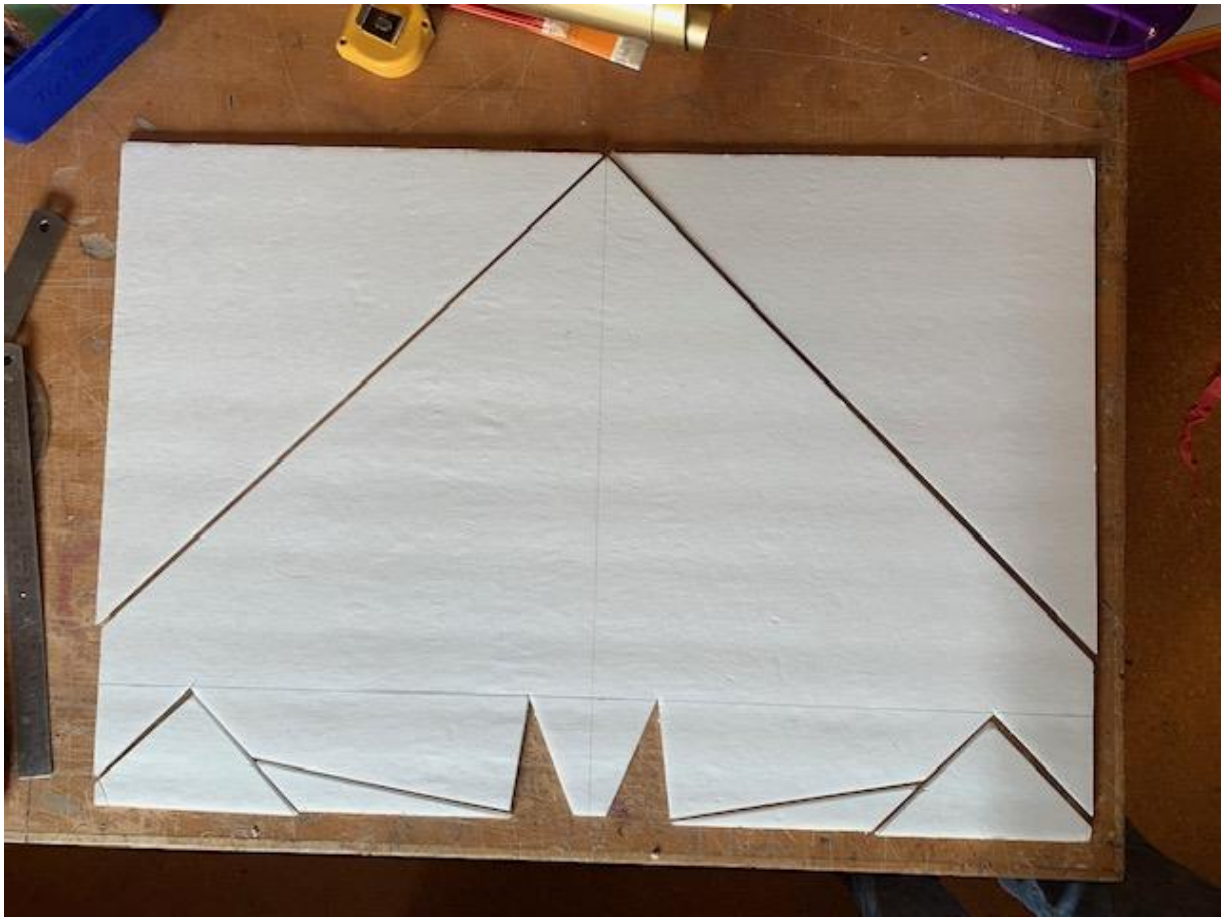


Thanks ***Norris,*** *That's a real neat DIY project for the next unflyable workshop day, they'll be buzzing around Awatoto Field like flies !* ***Ed.*** ***But Wait, there's more ……..***

After receiving the excellent article above on a Friday night followed by a wet weather weekend forecast, idle hands and some spare sheets of foamboard beckoning in the workshop, well I just had to have a go, didn't I ???? Five hours input over the weekend later we were ready to program the beast and go test fly!

I used the lighter /cheaper foamboard from Uncle Bill's as we used in the Clubba FB series, a couple of pieces of lightply and a hot glue gun and some adhesive cloth tape and largely followed ***Norris's*** *dimensions and design with a few mods along the way. I found I could get 90% of the model out of a single sheet (smaller than the sheet that Norris used) as can be seen from the initial cut-outs below. The top two large triangle cut-offs were trimmed and glued to the underside of the wing for double strength and at the same time forming a Kline-Fogleman flat plane airfoil wing section…* https://en.wikipedia.org/wiki/Kline%E2%80%93Fogleman_airfoil

The top fuselage profile, the two wing tip fins and some doublers were cut from a second sheet.
I built the lower fuselage power pod from FB with a liteply firewall but after the first days testing I replaced that with an all liteply box.



Mike and I went test flying and the result was interesting, the first flight I did with Mike hand launching and it was away like a rat up a drainpipe, a bit over controlled, climbed madly under power and glided like a brick power off. It was obvious it need a lot of downthrust and some reflex up elevons so adjustments were made and the next flight was remarkably better. After several control throw and setting adjustments and a couple more washers of down thrust, the delta flew hands off, and depending on the rates used is a pussy cat or a lively beast. All this was done with a, 2S 800mah Lipo and a 9x5 GWS propeller on a Racerstar 2830 /1300kv brushless motor and a 25amp ESC. We are only pulling about 10 amps max, but I want room to use a three cell battery later. Needless to say, on the last landing the propeller broke and it is obvious we need either a folding prop or with a standard prop a fixed undercarriage of some sort so this is when I rebuilt the power pod in liteply and added an U/C nose leg and rear wing tip wire skids. Plus I built in the required down thrust 10 degrees would you believe, and Yes it needs ever bit of it.!
We went out to Roys Hill Reserve today (Thurs 20th), great conditions and got another six batteries and flights through and have to say after final control adjustments we're pretty impressed with the model. The last flight we used a 3S 1500mah Lipo and the performance was sparkling, unlimited vertical, faster, very aerobatic but still easily controlled. Frankly it is a very impressive flying model.

The delta has an interesting property, with power off you can achieve an almost parachute landing with a lot of up elevator and just a small amount of forward movement and still be able to control any roll with the elevons. I think a parachute landing mode could be set up with a separate mix on a switch with an extreme amount of up elevator for that purpose. We have more exploring to do.

Does it need a rudder ? don't know, certainly not for general flying, elevons work fine, but at a later date could be interesting to add one to the central fin and explore the yaw control, then ***Mike*** *will be able to achieve his dream and knife edge it ! I'm about to embark on the Mark 2 build with any mods included from what we've learned. This one will have a folding prop so no need for an undercarriage. Once it's all done and dusted, I'll publish a full report with plan and dimensions plus all the settings, control throws and mixes we have found most suitable. Plus links to the suitable gear we've used.*

Not great pics captured on my phone/camera, but it did fly, and flew well too. For those interested, the beauty of the model is the low cost and speed of the build, a sheet and a half of foam board, a couple of glue sticks, a small amount of lite-ply and some cloth tape, $15 max ! Most of us have suitable gear available and if not what's needed is at the low end of the price scale. Moreover, the build is a very simple exercise, a sharp knife and a hot glue gun and you're into it. And if you do dork it, then another sheet of foam board and a new prop and you're away again. You're not going to break the gear, so how good is that?

See you here next month with the good oil. In the meantime, if you see me flying it, tap me on the shoulder and say … Giss a go mate !
Barrie the editor, mfhb April 2023.

Converting Cheetah or A Lidl Upgrade

Mike Anderson *shares his supermarket glider experiences with us once again, what fun can be had from a bunch of foam with a few add-ons; read on and enjoy;*

Moving on from ANKO (Lidl) glider conversions…..

The 'lockdown' was a good time for me as a model builder…..It coincided with the opportunity to obtain the "Lidl lookalike" glider (sold in NZ by K-Mart as ANKO), and experiment with various modifications, guided by designs published on the Lidl glider Face Book pages.

The result, to date, is my 'squadron' ….. all have flown successfully .. 😊

The front one is the original glider - converted for slope soaring, followed by front mounted motor, an EDF, and a "P-38 lookalike".

The twin boom pusher, the standard twin, and the pylon mounted motor version have all been fitted with drone motors with small 3 blade props.
I find that these motors have more 'grunt' with lower weight when run on 3S (the others were all designed around an 800mAH 2S battery).

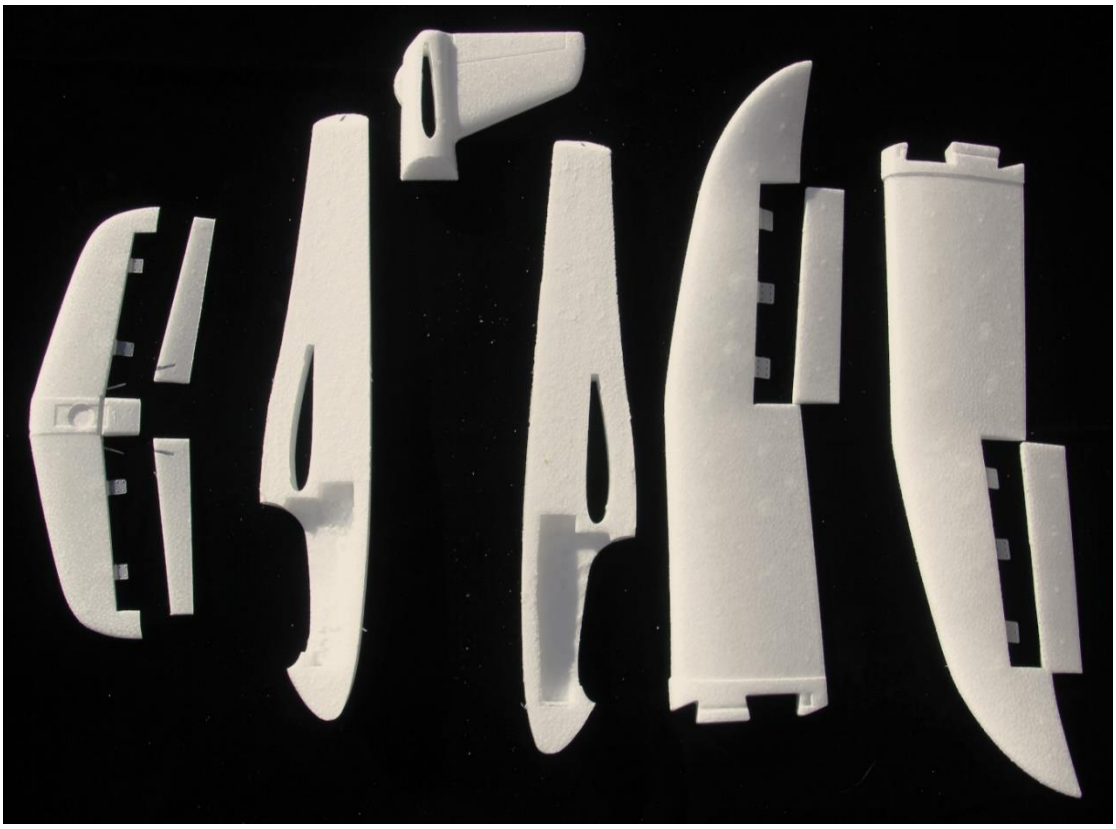
I have experimented with various combinations of dihedral / no dihedral, and ailerons in the original place, or in the outer wing panel. Any, or all of the changes, has resulted in quite different flying characteristics of the final version.

I live across the road from Lake Hawea, and the presence of calm water has led to a float plane version being almost finished and ready for trials. When the wind blows down the lake, there is an updraft against the cliffs (about 500 metres along the road) which is ideal for 'slope soaring'! This has naturally led on to looking at other gliders that can be easily converted.

Discussion with the Hon. Ed. had already identified the "Cheetah" (also referred to as Styrofoam "Model Glider") as a candidate…. I bought 3 from Banggood, for about NZ$15 each, but currently they seem to only be available from Amazon or e-Bay at a much inflated price….
The most obvious feature when first obtained was its very flat glide path.

The wing/airfoil design is much better than the ANKO models, and while the wing has a longer wingspan (99cm) it is more flexible. I converted my first one as follows; Following the techniques, I had developed for the ANKO, I removed the tail section (using a 'V' cut – more surface area when regluing), and split the fuselage long ways with a hot wire. I then hollowed out the cockpit area. Usually, with the ANKO model I would also reinforce the rear of the fuselage with a 4 mm

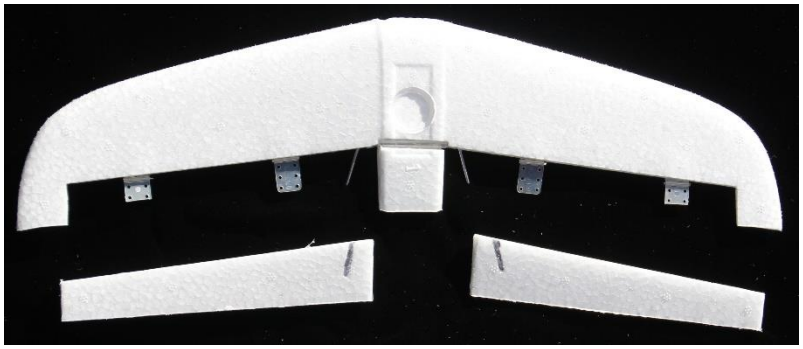
carbon fibre tube, extended into the tail section, but found that this glider was made of different, stronger foam, and has a greater cross sectional area, which made reinforcement unnecessary. Similarly, I didn't need to reinforce the cockpit area with 1/32" ply as I usually did.
However, I may reinforce around the nose/cockpit area when I fit a motor to future models…..

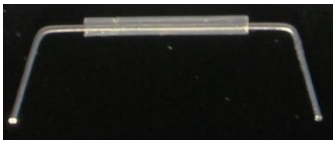


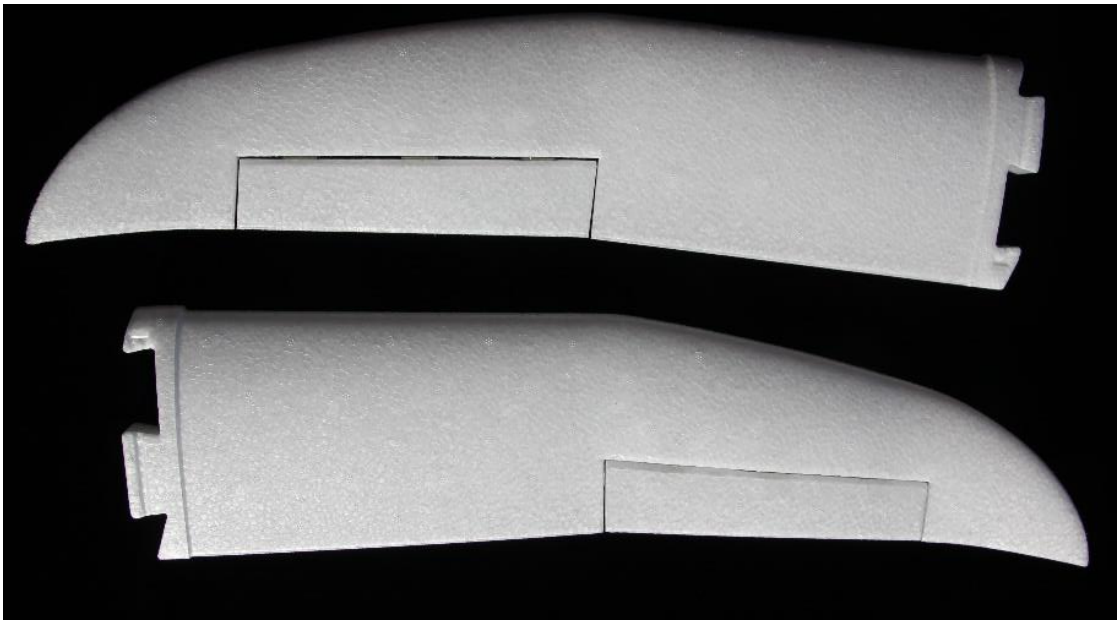
I cut out the ailerons, and elevators, and reattached using nylon hinges, fixed in place with 5 min. epoxy. (protecting the hinge from the epoxy by painting with liquid petroleum jelly (Vaseline)

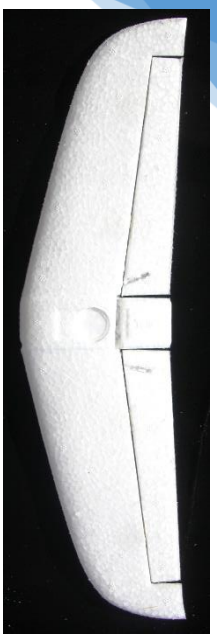
There are interesting discussions on the Lidl Face Book pages about the benefit of using tape for the hinges (and on the bottom surface only!), rather than creating a gap when using nylon hinges, all relating to airflow and turbulence. However, the overall finish of these small gliders with their thick trailing edges etc., in my opinion doesn't justify that degree of 'technical' innovation!

The tailplane deserves special mention with respect to the elevators. I placed a piece of wire in a plastic tube, and then bent the ends. I cut a groove through the rear part of the centre part of the tailplane. After attaching the elevators to the hinges, I cut a small groove for the wire ends to sit in the elevators. I then glued the tubing and the wire ends in place, making sure all were on a level, flat surface.



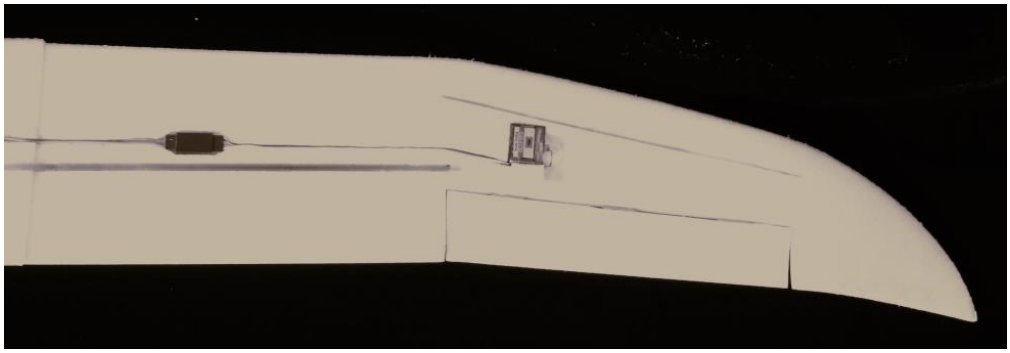






The wings were joined at their centre section and then a 4mm CF tube was inserted out as far as the start of the dihedral, to reduce the flexibility of the centre section.

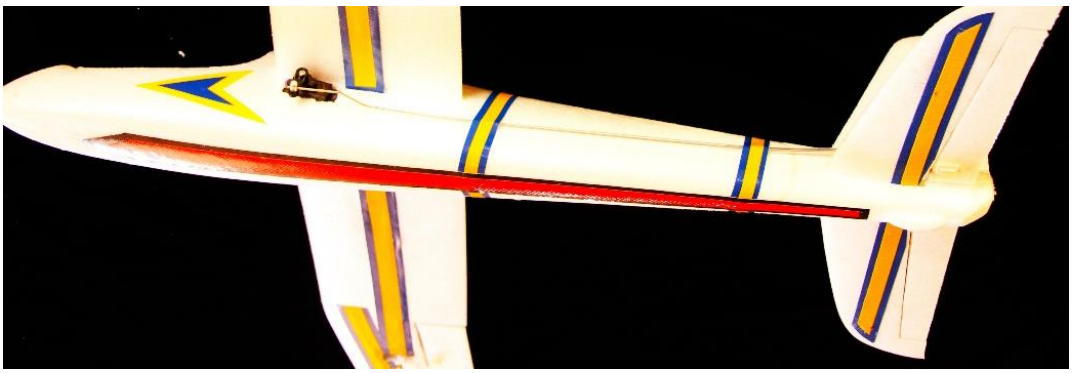
There was still more flexibility than I wanted in the outer panel(s), so I reinforced this with 2 mm CF rod.



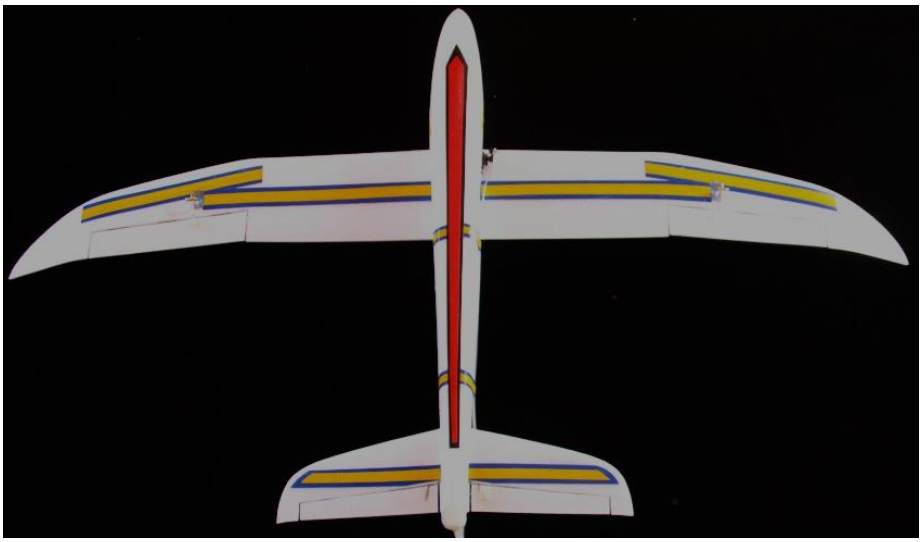
The wing servos were 4 gm miniature ones and these were fitted next.
I elected to use extension leads rather than make up a ‘wiring harness’ and solder a new length, because I find it easier to replace a servo if they can be detached from their lead in wire…..

The fuselage was glued back together, and the wings and tailplane fitted.

I have been in the habit of fitting the elevator servo in the tailplane / rudder area, but it was evident that this model will be tail heavy (I was taught as a rule of thumb that 1 gram in the tail needs 6 grams in the nose), so I elected to fit a 9 gm servo in the fuselage near the CoG. and run an external pushrod along the fuselage, and held in place with tape.



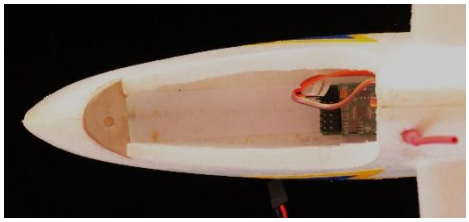
The areas reinforced with the CF were covered in tape for appearance, and I also added more trim using Bear cloth tape…. mainly to help with orientation….

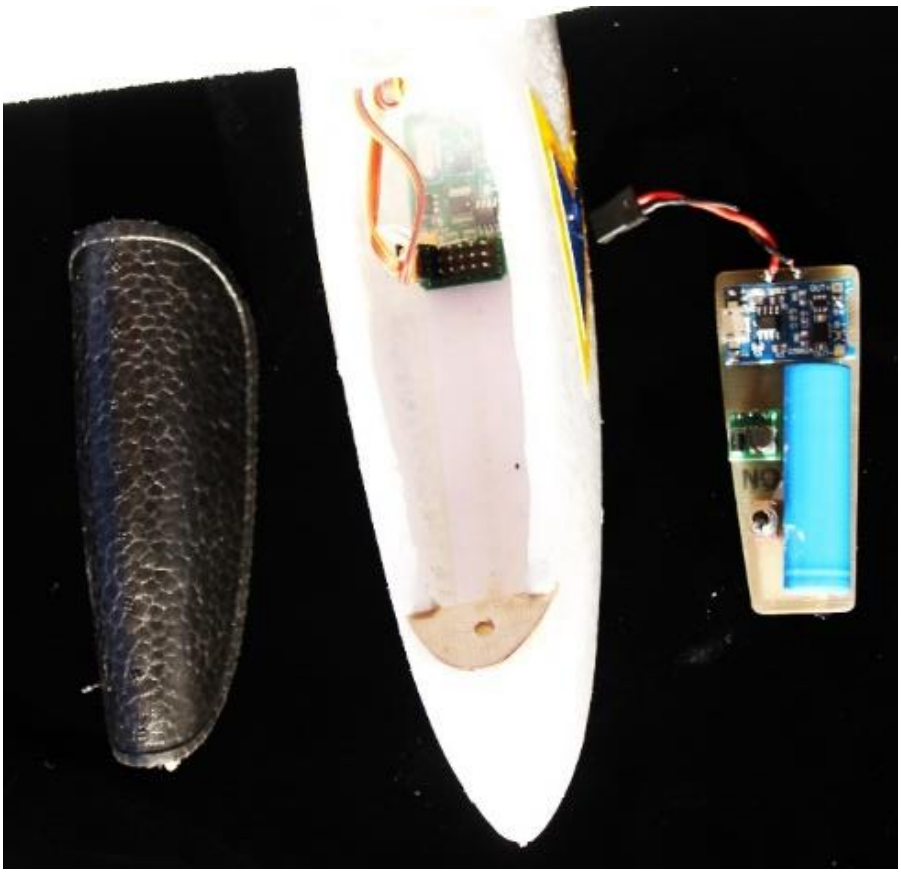


The cockpit cover was hollowed out and restrained in the front by a peg make from a meat skewer.

I also add a piece of 1/32” ply to reinforce the front of the cockpit, where the peg inserts.

The rear of the cockpit cover is restrained by a magnet.





Finally, I inserted the receiver, and the battery.

For my gliders I have prepared a pcb using a 3.7V Li-ion battery, a switch, and a small 3.0V to 5 V converter.
This gives arrangement me in excess of 10 hours flying time, and acts as nose weight for the CoG.

I have included a charger on the pcb, which will recharge the Li-ion back to its max 4.2V via a 5V USB connection, with a red light changing to green when the battery is fully charged. The lot is held in place with Velcro, and I just swap the boards when recharging is due.

What have I learnt from this exercise….?

1. Different gliders are constructed from different foam. I didn't need to split the fuselage (although this technique I find makes it easier to remove the unwanted foam).
   However, in future conversions involving a motor I may reinforce the cockpit area with 1/32" ply as I have done in the ANKO models..

2. Styrofoam is nicer to work with than the foam the ANKO gliders are made from.

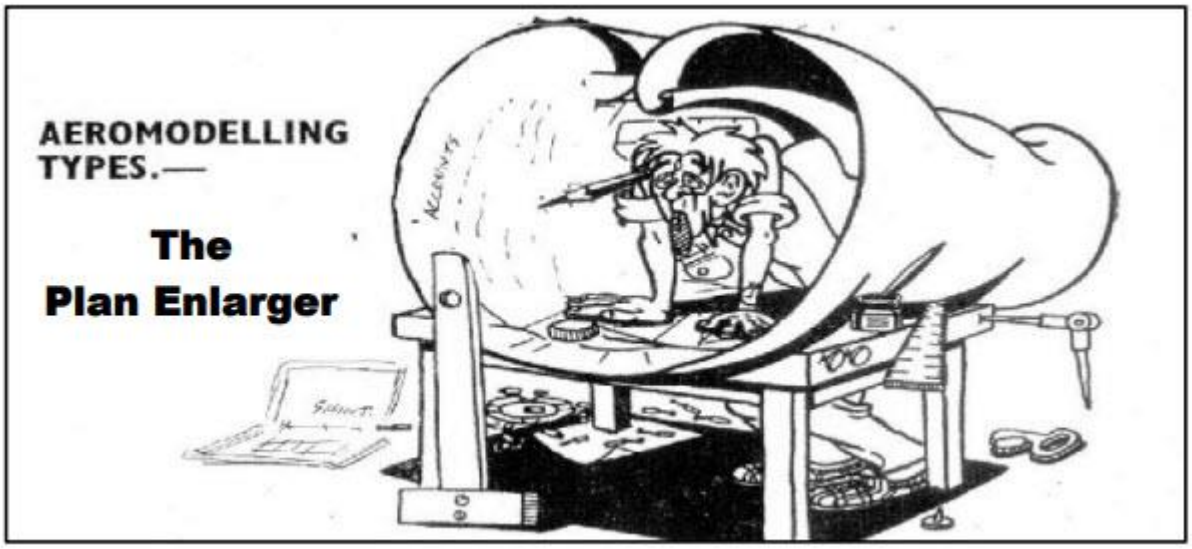
3. The stronger foam and thicker regions in the Styrofoam model, that were a potential fault with the ANKO, eliminated the need to reinforce the fuselage/tailplane region.

4. The techniques that I learnt when converting these foam gliders, has made me an expert in putting any crashed foam plane back together … a bit like doing a 3D jigsaw!

5. I read recently, in one of the Face Book pages, a comment from a flyer ridiculing the need to reinforce the planes at their vulnerable points, saying that he "built his planes to fly, not to crash….."
   I have given this statement much thought, and have decided that I "build my planes to last", as the plane's flying ability always seems to exceed my flying ability….😊

   Mike Anderson. 26.04.2023

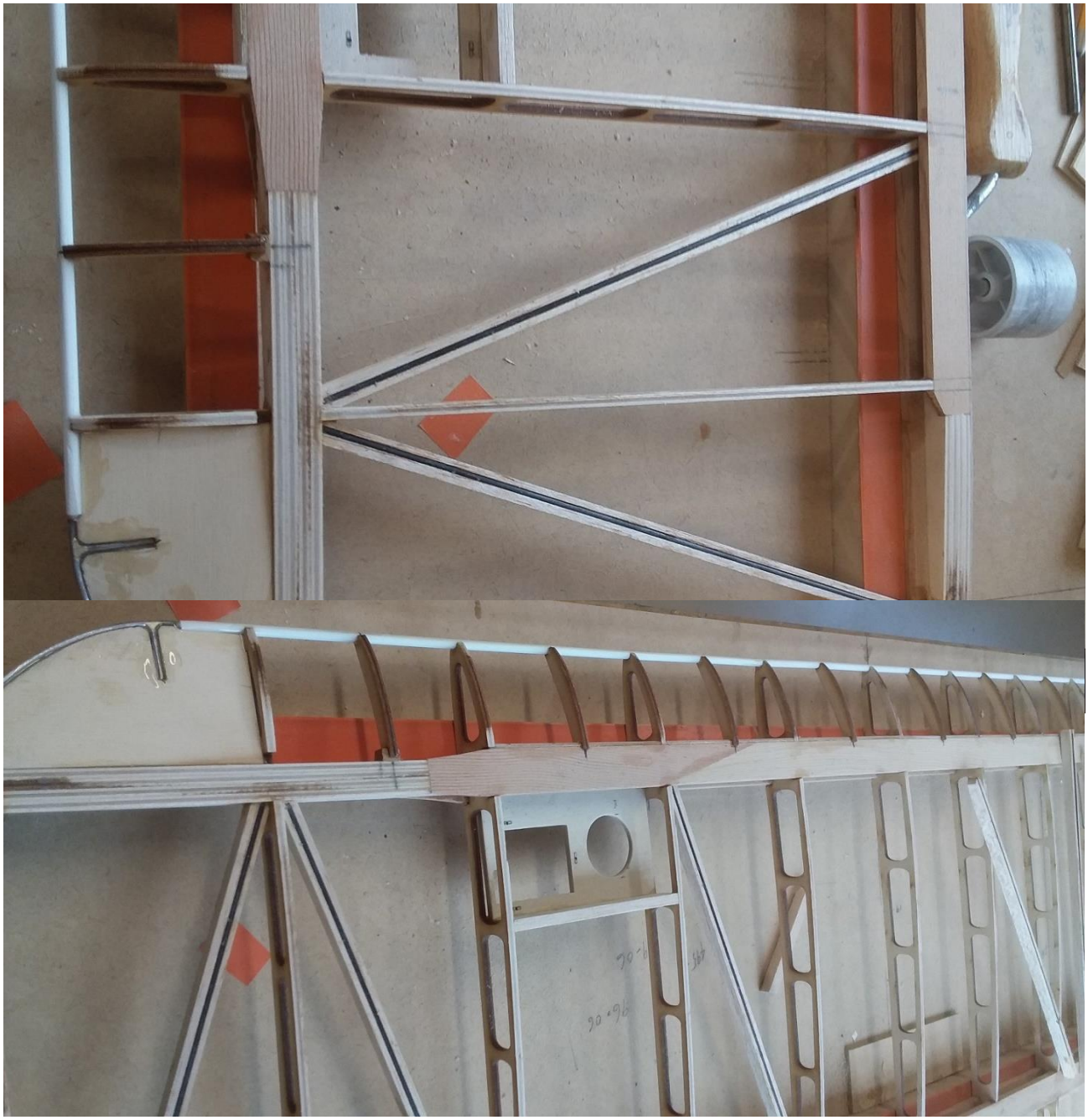
Ed Here,
https://www.aliexpress.com/item/4000663858779.html?spm=a2g0o.order_list.order_list_main.33.21ef1802IfLcFh
I bought mine here from Ali Express as did Des Dew who first put me on to them, just make sure you're ordering the 99cm wingspan model at $14.86 NZ and free shipping.



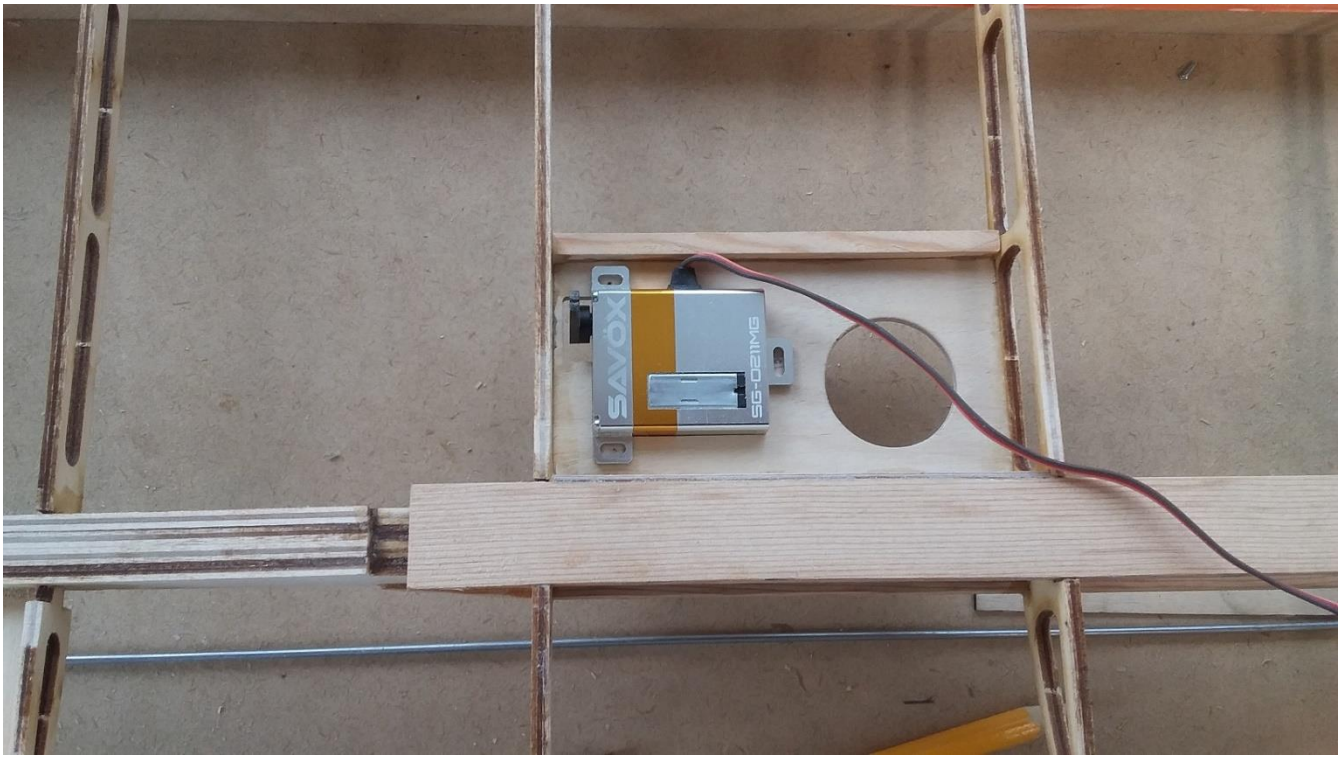
Phil's Rotary Magic. Pt 20 Apr'23

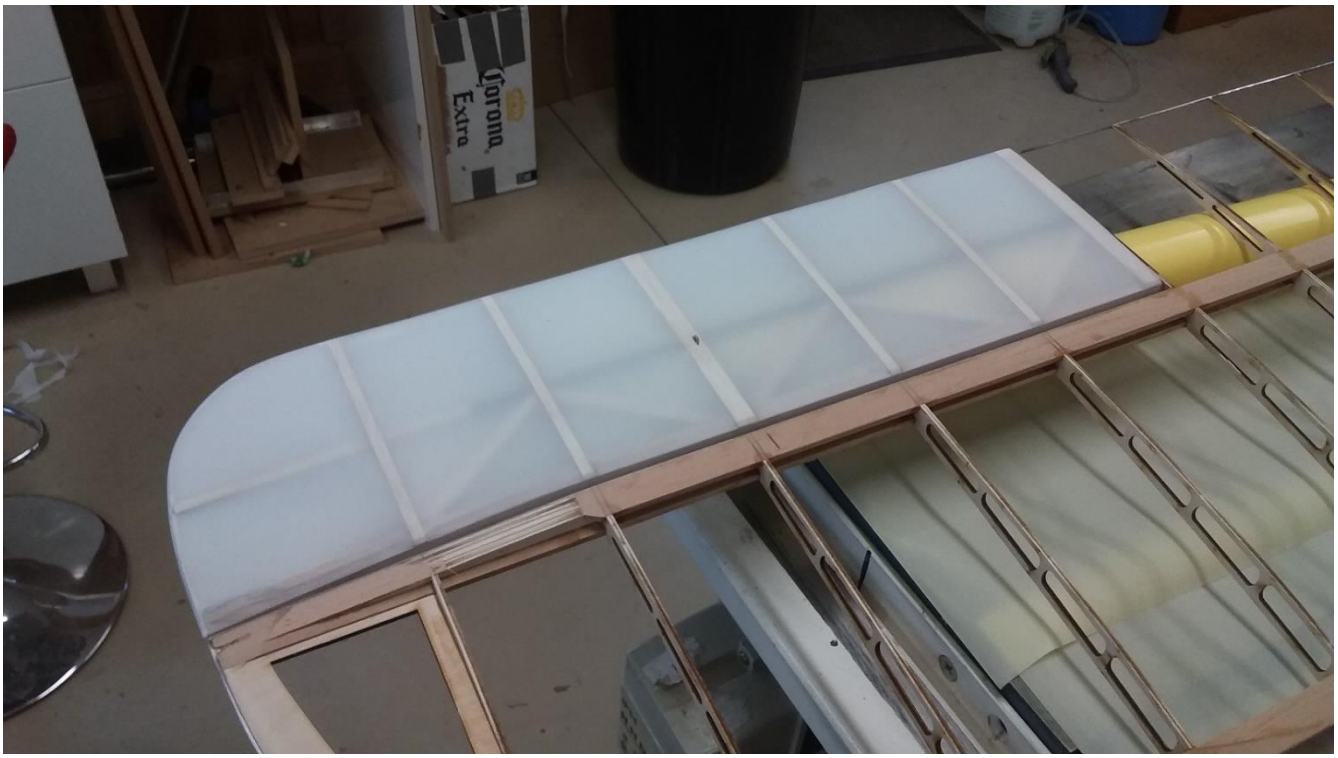
Yes, that man continues to beaver away in his workshop making good progress on the camel, and as usual has another surprise up his sleeve ! Read on…

Hi Barrie, A quick update although not a huge amount of progress on the Camel.
Family for a week at Easter, and then the trip to Wellington meant not too much time in the workshop, making up for it now though. More framing work on the wings and starting to do the cross bracing.



This is 1/4 square balsa, but to add a little strength and stiffness I cut a lengthwise groove and glued in some 2mm carbon rod. I just used my normal Titebond PVA and it has worked very well. I have also completed the spar webbing and the intermediate leading edge ribs. Once the cross bracing is finished I will do the capping and get ready for covering.





STOP PRESS !!

This week I had a little change and got back on the lathe and mill. Gwyn sent me some drawings and material for a reduction drive for his new Fokker D 8 in 1/3 scale. The engine is a Laser 360 which will be converted to petrol. It's almost finished and it will be interesting to see how much thrust it will have. Ratio is 1.9 to 1. **Regards, Phil.**

What can't this man do ? What next …. Just you wait and see, Cheers, Ed.

VINTAGE REPORT April 2023

Continuing Brett's Satellite Build from last month....

Building a Satellite Model for Vintage Classic A Texaco. (Part 3)

Fuselage

Started this process by cutting out and joining sheets for the two fuselage sides. It's a long fuselage (just over 1.5 metres) so made it out of reasonably firm 1/8"balsa sheet. (BIG mistake as will be mentioned later...)
Over the joints and where the rear rubber band dowels would go, pieces of plywood were added for extra strength. The added a plywood/balsa 'block' at the rear of the fuselage and the diagonal internal bracing, each one with a hole in the middle to take a tube for the servo wires to go into.

Once that was done the bottom of the fuselage was added. Metal angles were placed at intervals along the joint to ensure the bottom remained square with the side that was flat on the building board. This needed a heap of pins as a good part of the front of the fuselage is curved. Next came the framing for the wing pylon. As opposed to the pylon on my Lanzo Bomber that was both curved and under cambered, the Satellite pylon was reasonably straight forward to construct.

Once this had all dried the tube for the servo wires was added and glued and then the other fuselage side could then be glued onto the top and pinned to dry.
Then the sheeting went on the pylon with sandwiches of two blocks of ½" balsa with 1/8" plywood centres on both the front and rear part of the pylon for added strength. The rear one had six lightening holes added to try and keep the aft weight down.

The fuselage at this point was now upright on the bench so that that the wing platform could be mated to the pylon (with 15 minute epoxy) and that the correct incidence could be set (1.5 degrees positive.) The elevator is at zero incidence and this required that the rear of the fuselage needed to be 'blocked up' to ensure that the top of the fuselage was level.
Once the pylon sheeting was in place the top went on the rear fuselage, a opening was made near the tail for the servo wires to attach to the ones coming out of the tailplane and also a hatch was made for the front of the fuselage. A circular 1/8" birch plywood motor mount with supports was added to the front to the fuselage at this point. Two ½" balsa 'cheeks' were also then added to the front fuselage sides as well.
Once this was all done the whole fuselage was given a sand and the 'cheeks' faired into the fuselage and rounded at the front.

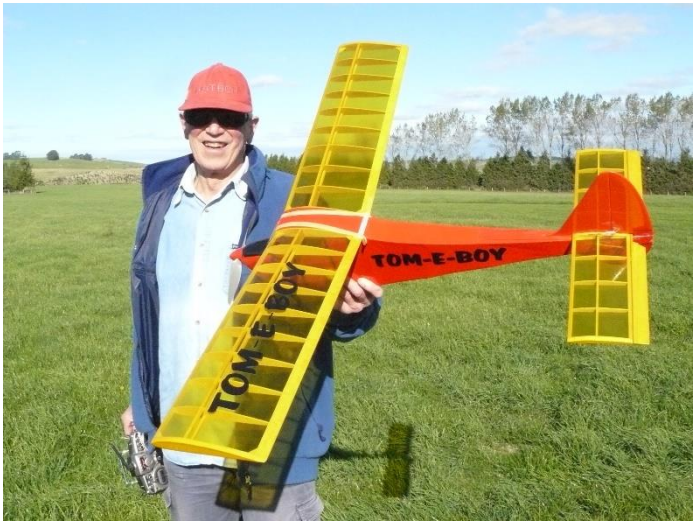
That was pretty well about it for the main construction. All that was then required was to cover the 'beast' and I used a mix of red and white Hobby King and Oracover films and white Hobby King film for the rear of the wing, tailplane and fuselage.

[Model covered image HERE]

Then came the final weigh in.... Wing – 14.8oz Tailplane/Rudder – 9.3oz Fuselage – 24 oz (Ouch!)Due to the long moment arm on the model, I knew it would need a good bit of lead in the nose, what i didn't expect was so much.... some 10 ounces!!!

That then gave a final model weight of 58oz. A tad more that 40-44 I was aiming for.
However, as Barrie pointed out, that even at 58oz, with 8.55sq feet of wing area, I still have a wing loading of only 6.78oz/sq foot. (My big Lanzo has a wing loading of over 9oz/sq foot!!)
I could put holes in the finished fuselage to save a bit of nose weight, but the fuselage will still be relatively heavy – well to me anyway....!
Answer, simple really.... build a new and much lighter fuselage!
Okay, so I'm a tiger for punishment! Update on this next month. **Brett R.** April 2023

Had an email from **Barry L** who spent an afternoon recently flying at the Balclutha MAC on a friendly farmer's paddock about 10k out of town. His co-modelling friend **Graham Langley** to the right here is an E Tomboy fan with his model that flies very well.



Barry flew his Vic Smeed "Cherub" seen here being modelled by **Mrs L.**

https://outerzone.co.uk/plan_details.asp?ID=3841

He also included these two pictures of a Lou Proctor "Antic". Graham's Dad built this superb model in 1976. There's a little bit of ply and balsa, and a LOT of wire and turnbuckles in it. Looks great and still flies well.

http://www.proctor-enterprises.com/products/antics/mono/ant_monoplanes.htm Worth a looksee !

Hi Fli finally made into to the air for some testing at Roys Hill Reserve. My predictions of weighing much less than my target of 50 ounces were unfounded ! Needed a lot of nose weight to get the CofG correct so used a bigger motor, an OS at 6 ounces. Finished weight then was 45.5 ounces and I needed a further

4.5 ounces of lead to get the CG somewhere respectable, hence my target of 50 ounces and a 2S 850mah lipo battery. At 100 inches WS and a huge tailplane there is a lot of aeroplane ! Seen here with **Brett** and his Satellite both out for their first flights. **Ed.**

FOR SALE April '23

From **Chris Tutton** who is rationalizing his hangar collection with some goodies on offer…

For sale;

DA60 petrol engine and Jtech wrap around pitts muffler, new in the box and never been used.
$1050.00 ONO

For sale;

P51 60cc painted aluminium spinner, 140mm diameter. Han477020. Brand new.
$200.00 ONO

For sale;

P51 60cc Electric mains Retracts + Electric Tail Wheel + Robart 5 1/4" 10 spoke aluminium Wheels.
Han477018 Wheels
EFLG750 Electric Tail Wheel
EFLG700 Electric Mains Kit Brand new. **$850.00 ONO**

Phone Chris on 027 5234252.

FOR SALE; *1/3 scale STEARMAN kit by BalsaUSA*

Wing Span: 116 inches (2.95 metres)
Wing Loading: 26-32 oz/ft2
Fuselage Length: 92 inches (2.33 metres)
Flying Weight: 40-50 lbs (18 – 22.5 Kgs)
Engine: 70-120 cc Gas / 215cc 4 Str radial

Kit originally imported some years ago from BalsaUSA by a member of my old club up North. I have added Sierra Giant undercarriage legs which are recommended for the bigger engines being fitted in the Stearman recently. (Several in USA with 250 Valach or Moki radials) Also added numerous fibreglass fairings from Fibreglass Specialties to replace the ABS parts.
Kit has all the hardware required, wheels, cowls, tanks, 8 sheets of drawings, instruction manual for the build. All you need to complete a great classic aeroplane would be an engine, 25 metres of covering, servos and a fair sized shed.

This kit sells for US$2295 on BalsaUSA's web site these days plus a 3rd mortgage to freight it.
Looking for offers around **NZ$1500** and if it sells as a result of this advertisement, I will donate 10% to the MFHB Awatoto Recovery Fund.
Give me a call on 022 3155 905 and come over and have a look at what you get for your money. Great Winter project for a keen builder.

Russ Nimmo, **Poukawa.** **Ps.** If I don't answer the phone, drop me a text and I'll get back to you.

A CLOSING SMILE. April '23

It's starting to worry me, all these "Elderly" jokes that are turning up in my inbox, am I missing something, is there a message there ? Oh well, truth hurtz as they say;

A social worker was talking with 3 elderly folk to determine their impairment levels and asked each of them "

What is 3 times 3?

The first replied "Minus 4"

The second replied "Tomatoes"

The third replied "9"

"Excellent", said the interviewer. "Could you tell me how you got 9"

"Easy, I just added minus 4 and tomatoes" !!!

Till next month and hopefully we'll see you at Awatoto Field.

Barrie the editor mfhb april 2023.

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