



Tale Feathers - September 2003

Wagga Model Aero Club Inc.

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Welcome to the September 2003 edition of 'Talefeathers'. We had some difficulty getting it out to everybody due to problems with membership / mailing lists. Anyway, if you receive this packaged with the August edition, then we didn't have your mailing or email address. Sorry for not getting it to you sooner, but look on the bright side - now you have twice as much as everybody else to read!?!

Apologies to Brian Hicks for inadvertently omitting him from the Committee details in the August edition.

Club Competitions

Numbers participating in Club Comps have been low this year – why? We need to know why you won't participate in Club Comps. Let Ben Taber or Kevin Little know, **please**.

The Presentation of the Club Trophies for the 2002 / 2003 flying year will be presented at the September Club Competition on Sunday 28th September.

Website

You can download your copy of *Tale Feathers* off the Club web site from the documents page. <http://www.waggamac.org.au/documents.html> (or reach it from the *site map* page). We are running into space difficulties mainly due to the volume of pictures on the site. To make room for more current information, we'll be clearing out some of the older pictures. We haven't decided if they'll get moved to another location on the web, or if they'll simply be removed. Guess you'll just have to check the website regularly to find out!?!

R/C Model flies the Atlantic.

I received this in an email from England:

This is an historic announcement and describes the first crossing of the Atlantic by a model aircraft. Maynard Hill has been leading the team and was unsuccessful last year with TAM 1,2,3. The model takes off and lands under human control and an autopilot takes over for the crossing. It relies on GPS for navigation I believe.

I am sure that we will all be reading more about this in the forthcoming months but on behalf of the BMFA, I am sending a message of congratulation on a magnificent technological achievement.

Mike Proctor



The AMA web site now has the following:

The Tam 5 has landed successfully! Former AMA President Maynard Hill and the STAR team were successful in the attempt to fly a Radio Control (RC) aircraft across the Atlantic. AMA president Dave Brown landed the airplane within 35 feet of the designated landing site!

The following two initial record claims for radio-controlled, piston-powered aeromodels have been made to the Fédération Aéronautique Internationale (FAI).

The distance claimed in the category "Distance in a Straight Line F3A -142" is 1888.3 miles for a flight from Cape Spear, Newfoundland, Canada, to Mannin Beach, County Galway, Ireland, during the period August 9-11, 2003.

A claim for the duration record, F3A-141, has also been submitted. The duration of the flight was 38 hours and 23 minutes.

Greetings from Clifden, Co Galway, Ireland.

At 14:08 lcl TAM 5 landed after a flight of 39+Hrs from Newfoundland. Under perfect control it was landed within 6 mtrs of the "spot" and had some 2 ozs fuel remaining which may have lasted a further

40mins? Were we worried! So a dossier is being prepared for a distance record in class F3 and not to mention the "Guinness book of Records."

Great celebrations on both sides of the "pond." Both TAM teams worked with unison to achieve this unbelievable record and you will have to believe me that the sight of a frail model aircraft burbling its way inland at 83 kms/hr in near perfect calm weather was really quite something!

So who is going to do this with an electric aeroplane????



Best wishes to all,

Joe Dible CIAM delegate and President IAC.

See also <http://tam.plannet21.com/>

Without detracting in any way from this marvellous achievement, the Australian designed and built *Aerosonde* RPV successfully flew the Atlantic over 2 years ago. Smaller than many giant scale R/C models, I don't understand why the *Aerosonde* doesn't rate as the **real** 1st R/C aeroplane to fly the Atlantic. (WH)

ARF Hints & Tips (Pt.2)

Oh dear, the worst thing has happened and you've had a close encounter of the ground kind with your ARF – how do we go about repairing an ARF??

It is an irony that while ARF's are getting more people into the air quicker, and thus producing more flyers, they are producing fewer builders. Consequently, it can then be even more difficult when the inevitable happens to actually know

whether it's worth repairing or not, and how to go about it. The absolute best thing you can do is solicit the aid of an experienced builder / repairer (remembering of course that some will attempt repair of what others would not). Anyway, here are a few points to help you make an informed decision.

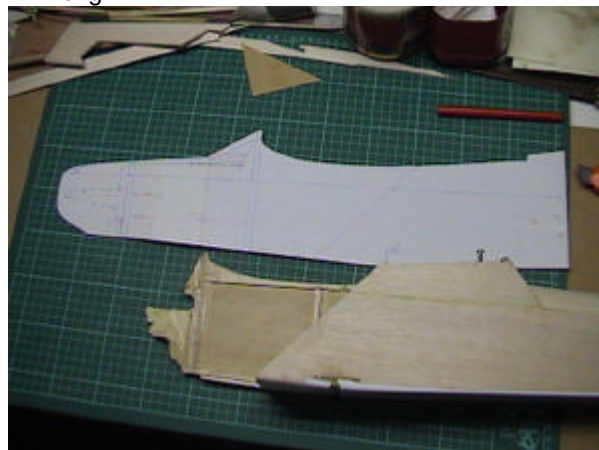
Most ARF models coming out of Asia don't use balsa – rather timbers that more resemble poplar and tend to be more “brittle” than balsa & a little heavier. These timbers can also be “oily” which can affect the final strength of any glue joints – always give them a light sand with 220 carborundum paper before gluing.

- If in doubt, try and look at a completed and structurally sound version the same as, or very similar to, yours so you have the outcome clearly in your mind before you start.
- The critical issue is **structural integrity**. Don't be afraid to peel back the covering to check for cracks or breaks. If fuel has soaked into the structure, you won't be able to glue it. Cut out the fuel soaked areas, or just scrap it and get a new one!!
- Minor cracks in sheeting can be fixed with CA ('super glue') – use a modeling CA (e.g. 'Zap'), not something from “Bag-a-bargain”!?! Push or pull the sheeting back into shape, ensure the edges are closely butted together and wick CA into the joint. Hold it all firmly together until cured, but DO NOT breath the vapour from the CA as it goes off. (Hint – wear plastic gloves or use the plastic backing off any iron-on covering to keep your digits away from the CA)



- If the timber is crushed or there are bits missing, you should splice in fresh material. Use medium to firm balsa at least as thick as the original material. If splicing spars, longrons, etc, make the splice at least twice as long as the thickness of the member being joined – e.g. if joining 5mm

sq spars, the splice should be at least 10mm long.



- Make cardboard templates of the required shape and planned repair.
- Be absolutely certain to maintain the correct alignment of all components – i.e. fuselage, fin, tail plane & wing – and don't build in any warps or twists while carrying out repairs.
- Super critical areas such as the wing centre joint or fuselage sides around the motor bulkhead may be re-enforced with glass cloth and epoxy resin.



- On flat structures, such as most tail planes and fins, peel the covering away from one side, push the damaged leading edge or trailing edge back into shape then CA. Then, glue in another piece (of the same cross section) inside it that spans at least 30mm either side of the original damage. Then replace any damaged diagonal or transverse 'ribs', sand lightly and recover.
- If control surfaces have pulled away, re-install them (replace the hinges if necessary), reglue then pin the hinges – drill a 1.5mm hole through the control surface and hinge plate about 5mm from the hinge joint, push through a toothpick, glue it then trim off flush.

- o ALWAYS have an experienced builder check out your repairs before attempting to fly it again.
- o Be methodical, break down large repairs into a series of smaller sub-assemblies, keep working away at it, and you'll be surprised what you can achieve.
- o For example, you can turn this:



- o Back into this..



And it flies great too!!

Links to check out

The MAAA - Model Aeronautical Association of Australia - <http://www.maaa.asn.au/>

The AMA - Academy of Model Aeronautics (USA) - <http://modelaircraft.org/templates/ama/>

Interesting Electric Developments

Electric F3A Aerobatics

In a first (that I am aware of), Jason Schulman of the USA entered an electric powered F3A aircraft at the very recently finished World Championships in Poland.

He came 4th in the preliminary (FO3 schedule of maneuvers) schedule flights - Being in the top 30, he progressed to the semifinals. He then maintained his 4th position in the next two (PO3 schedule of maneuvers) rounds and being in the top 10 went into the finals. No scores were carried over into the final rounds so it was a brand new comp from that stage on.

It had been windy in the middle of the day and even though Jason had been lucky with his draw on most days he apparently handled the wind quite well. There were some doubts expressed on the *RC Universe* web discussion forum about the ability of the model to handle wind, which have now been disproved.

Unfortunately, the Australian team were nowhere in the results and did not progress to the finals. To my knowledge, Peter Goldsmith is the only Australian to have ever progressed to the Finals rounds in any F3A World Champs.

Final placings were:

1. Christof Paysant-le Roux (France)
2. Quique Somenzini (Argentina)
3. Chip Hyde (USA)

The USA Team won the Team Award from Japan and Schulman finished 7th overall. His electric F3A machine is a LONG way removed from the electric aeroplane I flew in an aerobatics comp in 1985 (and I didn't come last either!).

It weighs 11 lbs, uses a German Hacker C50 13XL brushless motor with 6.7:1 gearbox driving an APC 20"x13" e-prop drawing 65 Amps from 40 Thunder Power Lithium Polymer cells (4 parallel sets of 10 cells in series = 10S4P).

Lithium Polymer Cells - Caution

No doubt some of you have read in the magazines about a "new" cell - the Lithium Polymer (LiPo) cell. Lithium cells are not new - Dave Masterton & I experimented with them way back in 1985 for use in his 6-engined Consolidated B36 cold war bomber which was to be used to defend his F4C Scale World title. In those days, they were very much restricted military technology and just getting the appropriate clearances was a story on its own!! Now days, Lithium cells are common place in portable computers, mobile phones, etc.

There are several different types of Lithium rechargeable cells. I have used Lithium Manganese di-oxide cells (Tadiran brand from Israel) since 1998. Most common in computers and phones are Lithium ion cells (by Sony & others). The LiPo cell is different

again – they are normally packaged in a flat case rather than the traditional cylindrical cells we are used to seeing. Lithium cells have a VERY high energy density and need to be handled differently to Ni Cads and Nimh cells that are most common in R/C use. *As far as I am concerned, LiPo cells are still in the experimental stage – by all means use them, but BE CAREFUL!!*

The following sad tale was taken off a discussion forum on the internet – I have included some of the follow up responses as well as some comments of my own (*shown in italics*). This potential problem APPLIESE TO EVERYBODY WHO USES RECHARGEABLE CELLS (i.e. All of us).

I just lost my car (a '99 Lexus LX 470, two planes, and lots of personal stuff) to a LiPo problem.

I flew my S&B 152 with LiPo cells for the first time today. The LiPo vendor shall be unnamed for now. The plane augered in, I picked up the pieces and placed them on the back seat of my car, AFTER disconnecting the batteries.

I go to fly my 3D (with NiMH). 3 minutes into the flight I hear "your car is on fire". I turn around and my car is in flames, a total loss within 5 minutes by the time the fire truck came.

The only thought I have is when the plane augered in, the LiPos shorted internally. Note I carried it a hundred yards or so with no signs of a short, no heat, no problems. Once they shorted, they ignited and the car was toast. Luckily the dog in the back jumped out when the fire started.

Gone are my car, my S&B 152, my charger (a new Schulze 636+), and my Firecat along with 4 8x1100 NiMH packs, two 3S2P LiPo packs, two 8xFAUP packs. And lots of personal stuff like a pilot's license, medical, credit cards, This sucks big time.

No one was hurt. Thank the powers that be.

LiPo technology is DANGEROUS. Use at your own risk.

Ken



oooOOOooo

Sorry to hear about this. Come on, though, no one has ever seen a nicad or nimh pack catch fire? (I have – it is rare but it can happen. I have also had a NiCd pack explode, but it was not as violent as this LiPo incident) Anything that stores potential electrical energy is dangerous. Last year 1/3 of our field was burned when a nicad pack shorted out somehow midair, catching the weeds on fire. Any battery technology is dangerous, and shrink wrapped packs and manually settable charge rates make ALL R/C batteries 'use at your own risk'.

Also, any battery that has been in a crash needs to be carefully inspected. I've dented cells to the point of shorting out an 800ar pack in a hard crash, rip the shrink off as quickly as possible and check it out...

oooOOOooo

The commercial products that use LiPo technology have many safety devices built into them to protect against fire, etc. These batteries are being used by us with all these devices removed and can constitute a safety problem.

Thank you for posting your incident.. Knowing what might happen may spur others to use more precautions when using this technology.

I know in my case, it will reinforce my efforts to transport, charge, and store my LiPo batteries in a fireproof container. Recently, I've gotten lax and sometimes just leave them in the plane.

oooOOOooo

Boomer, I think we see more fires from banged-up LiPos because their cases are more fragile than the hard-cased cells are.

That, combined with their relatively greater power density, means they are more hazardous than other cell chemistries.

Ken, We are all sorry for you - glad nobody got hurt and your dog's OK. THANK YOU for implicitly warning us, again, that extra care is required with LiPos.

Unless you are experienced with different battery technologies and the associated safety issues, I would counsel you to avoid LiPo cells. Further information is available at these web locations.

- o <http://www.aircraft-world.com>
- o http://www.helihobby.com/html/li thium_polymer_.html
- o <http://members.aol.com/kmyersefo /ampmay03/ampmay03.htm>

From the Committee

New Members - the processes in relation to new members are as under:

1. The application comes to the Committee.
2. Upon receipt of the application the member is sent a letter letting them know their membership will be considered by the Committee (a phone around can be done by the Committee if there are no immediate plans for the holding of a Committee Meeting).
3. Upon the Committee's acceptance of their membership a letter of welcome will go to them and asking for their membership fee.
4. Upon receipt of their membership fees a letter will go back to them with their receipt together with a copy of the Safety Rules, the Club By-laws and attention drawn to the CASA 101 regulations which are displayed on the Notice Board inside the Clubhouse.
5. All new members names are to be included in the minutes of the Club and all new members names are to be put up out at the Club in the Glass Cabinet.

(This process is following procedures set out in the Constitution)

REMINDER TO NON-FINANCIAL MEMBERS - your subscriptions are now due and payable and until you become financial no flying at the Aero Club Field is permitted.

New flyers will be required to make contact with any of the active Instructors regarding tuition and will

need to have their planes checked out prior to going to the field where possible; otherwise the aircraft is to be inspected at the field by instructors or competent solo flyers before the first flight. There will be a list of active instructors displayed at Col Taylor's Hobby Shop and on the Noticeboard at the field.

See also

<http://www.waggamac.org.au/instructors.html>

Coming Events

- o Due to the farmer planting a crop around our landing strip and subsequent concerns about damaging said crop , the 7 cell & F5B comp scheduled for September 13+14 has been cancelled. The Illawarra club (IMAC) will be running an electric comp instead at Wollongong on the following weekend.
- o IT'S BACK - **RIVERINA FUNFLY - SUNDAY 23rd NOVEMBER** - More details in a later Newsletter - our local Club Competition Day will be incorporated in this event.
- o APA - (Australian Pattern Association) Championships will be held at our field on 4th and 5th October. Kitchen hands will be needed!

Bits & Pieces

- o Spotted on the rear wing of an Indy Champ car during TV coverage on 24/8 was the **Futaba** logo.
- o Our Landlord has fixed the front fence on the Olympic High Way.
- o The grass is growing well on the new C/L area and helicopter hovering- who has a C/L model to bring out??
- o Bill Lampe has now been re-appointed by the committee as Chief Flying Instructor

NEXT GENERAL MEETING
08/09/03 starting at 8.00 PM at the
Wagga Leagues Club (general meeting + ??)

Next Club Event – TBA (why not suggest something to an Exec. Member?)

Next Club Competition
Sunday 28/9/03 - starting at 11.00 AM. B-B-Q lunch provided