



Tale Feathers

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Hi Club Members

Welcome to another issue of Tale Feathers.

The usual Disclaimer:

Articles and comments by the Editor and contributors may not necessarily reflect the views of the Club Committee, probably won't be Politically Correct, but will be published anyway.

HOUSEKEEPING

Please remember that this newsletter is an information exchange and an open forum for anybody to have their say.

Please email stuff to me, (a Word, Excel or PDF document) be it technical, human interest, Club stuff, building/flying tips or if you just feel like a bit of a (polite) rant.

Photos (in JPEG format) are always welcome.

(Animal/bird/model photos courtesy of the Editor. A range of Hi-res copies available on request.)

CLUB CORNER

Fun-Fly comp.

The first round of the Fun-Fly competition has been held, although the Chief Judge bailed out before releasing scores. Luke and Jordan will be hard to beat, but it was a bit of fun, which was the main objective.

The field will **not** be closed to normal flying at any stage during the comp, as only one competitor is

flying at a time. Any statement or belief to the contrary is not correct.

Apart from one prototype putting in some clandestine testing late one mid-week day, the Hotts kit promoted by Brendan Tucker has not appeared in force yet, but should be good when it does.

The first round of Comp required a take-off, 3 rolls, 3 loops, 3 rolls and a landing. Landing on or near a (very small) spot gained bonus points. Lowest time won.

WW II

With another major event just 6 weeks away, the recent rains are good for both the grass and the water bill.

Workers needed!!!

Any members with free time and no allocated job yet, please let Jordan or Tony Mac know. Austin Siebels stuck his hand up after re-arranging his overseas travel plans just so he could help. Thanks Austin.

Canteen workers in particular are still needed, particularly as breakfast will be served each day, something which was very popular at Heli Heat Wave and helped increase Canteen funds nicely, so please help if you can.

Jordan's lovely lady, Belinda has just volunteered her services, (thanks Belinda) so I'm sure there are a few others who could spare some time. Even just one

day would help a lot. All canteen workers get a free Saturday night dinner, (and breakfast and lunch each day)

Tony is planning some innovations to make things a bit easier for the canteen workers.

With all the talk about the Club needing to generate funds, it's events like this and Heli Heat Wave that are the best ways to achieve that, so please pitch in when and where you can to help make this a fun and successful event.

Saturday Night Spit-Roast

We can confirm that a spit-roast will be served at the field on Saturday night, 26th April.

Succulent, tender, lamb and pork, roasted to perfection by our imported speciality chef, served with four roast veggies, all for \$15/head, kids 12 and under are free.

How good is that!

We ask Club members to support this dinner if at all possible, so bring the family to meet and mingle with the competitors in a casual, relaxed atmosphere. Please let Tony Mac know your numbers ASAP.

Strip Extension

With the kind permission of the Landowners, the flight strip will be extended for this event by 40 to 50 meters on the southern side. This will provide a useful and safe run-off area for larger models.

A diagonal cross-strip will be marked out in case there is the usual southwest wind change.

Trade Display

Ken Petts from Albury R/C Models, one of our very generous supporters, will be setting up a sales outlet beside the Clubhouse for the event. There may be others, but this is to be confirmed.

Field preparation

Although the field is in excellent condition, there are a few jobs that still need doing. Some more pit line marking, cross-strip and no-fly zone marking will be done between the Easter weekend and Anzac weekend.

A final mowing will happen then, as well as the last minute filling-in of rabbit scratchings.

Any spare hands will make these few jobs a lot easier.

Heli Heat Wave

This was another hugely successful event with 72 entrants flying their little pants off all weekend. Not too many nasties, fortunately. Our American visitor, Neil Maxwell, was very popular with all entrants as

he politely and competently dealt with every enquiry. His flight displays showed why he is held in such high regard by the helicopter fraternity, as even those who don't fly helis could see there was a master at work.

Precision flying at zero feet, as well as stunning aeros.

Those attending considered the Thursday private flying school excellent value and there are plans to try to expand this for next year.

From a safety perspective, there were virtually no issues. Flying was very disciplined with everyone maintaining separation from each other and having 4 main and 3 hovering flight lines caused no problems.

Neil Maxwell is keen to be invited again and has suggested that he might bring some friends (at their cost) with him. That would really up the International flavour.

Brendan, Neil, Scotty plus all the Canteen workers who helped make the event such a success deserve our congratulations.

It was also a real pleasure to turn up after the event to find the field looking so clean and tidy.

Well done.

Jeremy Wilson-Bronze Wings

It is with pleasure we note that Jeremy has gained his Bronze Wings after a flight assessment by CFI Bill Lampe.

Well done, Jeremy!

Committee Note:

Next meeting is on Sunday 13th April at 0930 at the Clubhouse.

Total Fire Bans

The really hot weather should be behind us for now, so no more Total Fire Bans. Thanks to all for your support of the Club policy.

Fire Extinguisher training:

The Committee is still looking at this, but with WW II coming up, it may be later in the year.

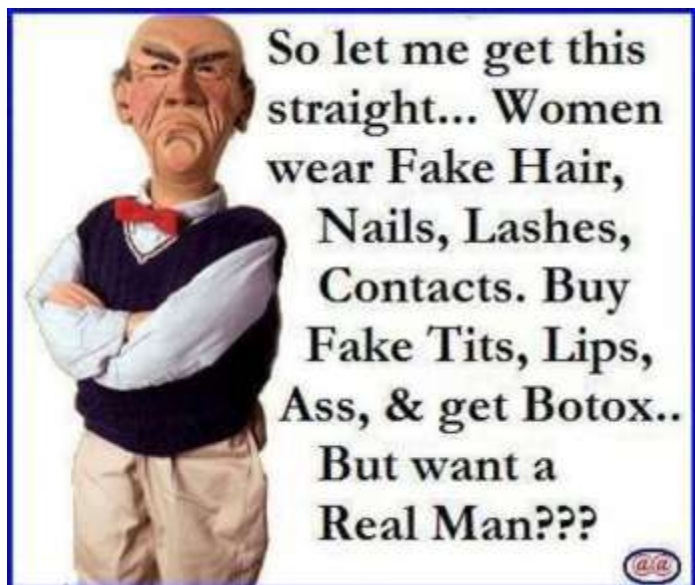
Motion Induced Blindness

I wonder how many pilots are practicing the tips spelt out in the article last month? Try it. It does work.

...And on another subject entirely...



Don't you just love co-operation!



I think that pretty well sums it up!

TECH TALK

To the relief of most, I've temporarily run out of major topics, but never fear, they will be back.

In the meantime, a few short ones.

Thunderstorms

We had very few of these dramatic weather events last Spring, although a few have grumbled through the area in recent weeks.

The only comment to make about the practice of flying when one of these things is close by, is to point out that standing in the middle of an open paddock, pointing a long, thin metal rod up at a threatening mass of black cloud just overhead, has got to be one

of the best invitations to be granted the immortality wish. You know; that's the one where you're always going to be talked about. Perhaps the label of "Biggest dill ever!" wasn't what you were hoping for.

At least with 2.4Ghz, you aren't waving a lightning rod around, doing a Ben Franklin imitation and inviting instant immolation, but you might consider the effects that all that charged, ionized air might be having on the signal!

History of R/C

We are a bit spoiled these days with 2.4Ghz, full-computerised radios with 18+, fully proportional channels. To appreciate how far the hobby has come, I'm going to take a quick (I promise) look at some of the roots of R/C via my own experience.

Single-channel bang, bang.

Early R/C aircraft were just free-flight models with basic rudder-only control to try to keep the thing in sight until the fuel ran out.

I gained my first engine at the tender age of 8, an ED



Bee 1cc diesel, with a tiny fuel tank attached to the back-plate. A 3 to 4 minute run time was possible and this well-made little engine gave long

service in a variety of (small) control-line models before being promoted to act as nose-weight in a series of free-flight models.

One of which was selected as the repository for my first R/C unit, an O.S. Minitron single-channel valve jobbie, acquired in 1959.



O.S. Minitron single-channel Tx & Rx. The Rx needed mounting by 4-point rubber band suspension to eliminate vibration for the sensitive electronics.

Back then, about all you could get over-the-counter was a single channel transmitter and a super-regen receiver, with a rubber-driven escapement controlling just the rudder. This type of receiver would happily respond to almost any transmitter in range and therefore models had to be flown one at a time.

There wasn't much on the Tx. Power switch, antennae on top, tuning lamp and a toggle switch for control.

The Tx needed to be frequently re-tuned to achieve max output, then the Rx was tuned to the Tx signal. Both the Tx and Rx used valves and needed both high and low voltage batteries.

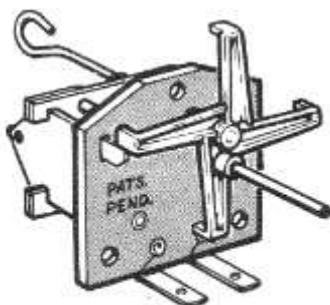
The Tx signal simply turned a relay in the Rx ON or OFF, which in turn caused a solenoid in the actuator (escapement) to activate or release.

Shown is a single-function Bonner escapement, for rudder only. The hook sticking out the other side of the unit was for the rubber-band power supply. If you forgot to wind it up enough before takeoff, then after a while on an active flight, it forgot to work!

Operation

This needed steady fingers and a good memory. The escapement only provided sequential control, which in its most basic form was; Left rudder, neutral, right rudder, neutral, left rudder, etc.

The fun really started when two compound escapements (shown below) were connected to give rudder & elevator, with electrical contacts triggered by pausing briefly at a certain position, (like 355°) to select high or low throttle via another escapement driven by yet more big rubber bands.



"The Single" by Bonner Specialties is self-neutralizing 4-arm escapement which provides stronger action to operate throttle, other auxiliary controls .6-oz, \$5.95. Comet Model Hobby-



Control surfaces were small as the movement was very abrupt and only full deflection was available. Switch

movements had to be very quick or one could easily skip over one or two controls in the sequence, giving the model an entirely unwanted command. Much time was spent on the ground, rehearsing the sequence and timing of the switch movement.

Galloping Ghost-early proportional

The next development of this single-channel control was the intriguing Galloping Ghost setup where the rudder and elevator move all the time, flapping and dancing around. The transmitter pulses the signal on and off based on the stick position. Changes to the pulse width varied the average rudder position, while changing the pulse rate varied the elevator average position.

A special servo translated all this stuff to produce a reasonably proportional control surface movement.

Typically, the rudder and elevator wiggled about 1/4" left and right at center stick but the slow aircraft speeds and small surface sizes did not give the plane time to react to this rate of wiggle.

With a Rand actuator, to open or close the throttle, a Tx button was used to modify the signal further, while leaving rudder and elevator in neutral.

The whole back end of the airplane would "gallop" around, hence the name. Quite reasonable proportional control was possible, although neither batteries nor linkages lasted very long with everything flapping around for the entire flight.

Rand G-G actuator



Reed or Tone control

In some ways a step back from the type of proportional control offered by G-G, reed or tone control went back to full control surface deflection, but offered much smaller airborne gear, particularly the Rx, but its main gain was the number of channels offered.

This was a system that used a different audio tone for each channel, and typically provided between 3 and 12 channels. Imagine a musical keyboard with 12 keys - each note would have a different effect at the receiver.

The receiver had a bank of tiny reeds, one for each channel, each of which vibrated like a tuning fork in sympathy with one of the 12 tones. This vibration was amplified either electronically or with a relay to drive a servo in just one direction.

Therefore each function needed two channels - left rudder was Ch 1, right rudder was Ch 2. Up elev. was Ch 3, down elev. was Ch 4, and so on.

Early units only had one tone generator, which meant that only one control could be used at a time, but later units had a second tone generator to allow a second channel to be used at the same time. The throttle needed a special type of servo that could be "nudged" a little bit at a time in one direction or the other.

Because the flight surface control was back to the bang-bang or full deflection system, the only way to gain trim was to fit another servo like the throttle that could be "nudged" a little in each direction using another two channels. As only 10 channels were available on most sets, trim was only used on elevator.

Transmitters of this type had their faces festooned with two position toggle switches, one switch looking after one control surface plus trim.



OS Minitron 10-channel reed unit. The brick-like things the size of a Li-Po battery pack are the servos. Models had to be seriously big to carry all this stuff.

Periodically, the receiver needed to have its reeds re-tuned to the Transmitter; a bit like tuning a piano, otherwise functions wouldn't work reliably.

In real life, none of these systems were terribly reliable by present day standards, but back then were cutting edge technology.

Proportional radio

With the introduction of fully proportional gear with integrated circuits and 18+ channels, R/C has forged ahead, getting smaller, cheaper and infinitely more reliable than the steam-age dinosaurs I grew up with. Still, that old gear taught me a lot about how to get a model set-up and flying properly.

The move to computer radios and 2.4Ghz is another major improvement, particularly in the ease of setting up a model.

What's next?

Chinese Aviation Philosopher, Confuse-Us says;

You do not need a parachute to skydive. You only need a parachute to skydive twice.

Glide Distance; equals half the distance from your model to the strip following an engine failure.

Tale Piece from the Cat.



Straight Take-offs, Soft Landings and stay away from the tyres.