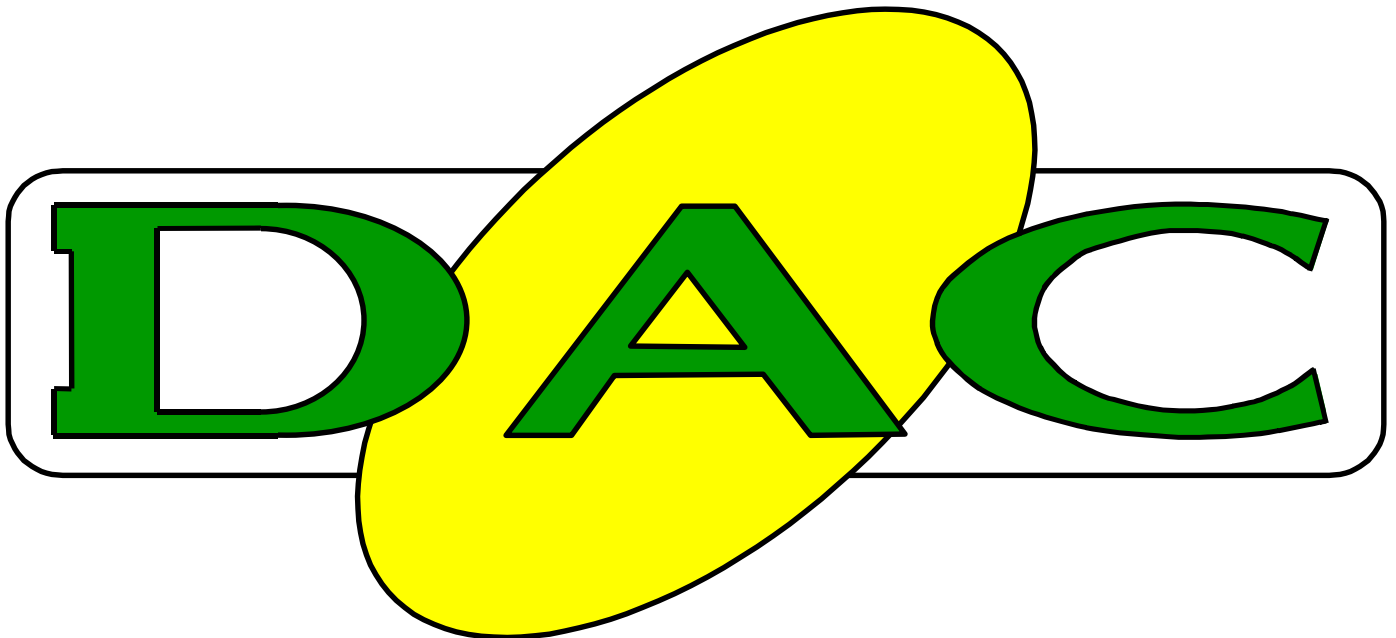


# Newsletter

April 2002

## DONCASTER



## AERO CLUB

NEXT MEETING 15/4/02,  
AT THE CLUBHOUSE,  
8:00pm SHARP

# *President's Report*

Welcome to the April Newsletter.

The unpredictable weather we've been experiencing through recent months seems to be finally settling down – I've actually flown 3 weekends in the last month (IC & Electric), & it's been great to see everyone returning to the field.

We're busily preparing for the VMAA trophy, and I'd like to congratulate everyone involved for their outstanding efforts. The team consists of:

Morgan Hill – Thermal Soaring / Glider & Team Manager

Ian Pullar – 7 cell

Cliff McCiver – Funfly

Graham Kay – Novelty

Kevin Fryer – Old Timer

David Gibbs – ARF Scale Aerobatics

Noel Whitehead – Scale

Boz Student – Musical landings

After a tremendous performance last year with DAC taking first place, I'm sure the competition will be strong. I've seen lots of practice and preparation go into this year's effort, so let's give our team all the encouragement they deserve and wish them the very best. Please come along to the event and support your club / team.

With the end of the membership year fast approaching, it's timely to announce a few changes to the committee. After a number of years of loyal commitment, both Morgan Hill (Contest Director) & David Porter (Vice President & Safety Officer) will be vacating their positions as other commitments are requiring more and more of their time. I'd like to congratulate and thank them both for all their hard work, and contributions to DAC. The other change is that after 2 years as President, and a number of years on DAC's committee, I also have to consider balancing my time with other commitments, and would like to announce my resignation. It's time for someone to come into the role with the capacity and motivation to move us forward with what the future holds. All three resignations take effect from the end of this membership year, and I'd like to thank all the committee members I've worked with for their ongoing commitment and support, and wish all every success in the future.

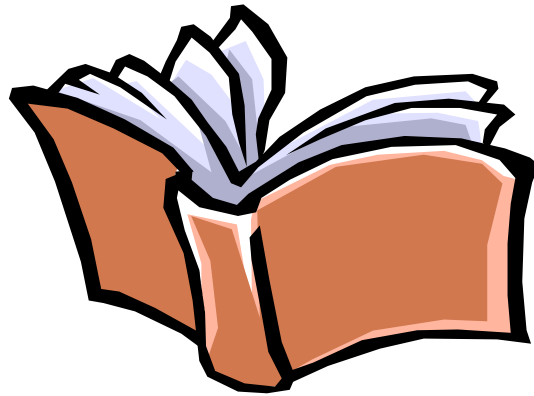
Committee nomination forms with instructions are attached to this newsletter, and I'd encourage those of you who can make the right contributions, to consider the positions available. All nominations must be received before our next AGM, which is scheduled for July 15<sup>th</sup>, 2002.

Our next club meeting is on Monday 15/4/02, starting at 8:00pm sharp in the clubhouse, and I hope to see you all there.

Regards,

Dennis Travassaros, DAC President

*Also in this newsletter...*



- Radio Control Safety Guidelines; an interesting outline from the modeller's perspective, contributed by Mr David Gibbs
  - The Rubber Bandit; an amazing project, article forwarded by Ray Halstead
  - An extract on Lead / Acid batteries; forwarded by Boz Student
  - Committee nomination form for 2002/2003
  - Dear Jake
- Thanks to all for your contributions!!*



DAC Committee

Dennis Travassaros – President, 9844 1453

Richard Page – Secretary, 9882 3008

Graham Kay – Treasurer, 9842 8777

David Porter – Vice President and Safety Officer, 9844 3660

Morgan Hill – Contest Director, 0411 834 999

David Nobes – Control Line and general representation, 9857 4031

Colin Kahn – Electric Flight and general representation, 9841 7106

Neil Spencer – Electric Flight and general representation, 9842 6000

## Radio Control Safety Guidelines

*Doncaster Aero Club  
February 2002*

Safety in radio controlled powered modelling is a serious issue. The penalties for mistakes are high — smashed models (yours and others), personal injuries (lost fingers the most common, many more serious do happen to pilots and spectators) and damaged property (starting with cars).

All these are avoidable through sound operating practices by all involved.

This set of guidelines has been prepared by a group of experienced pilots to aid the awareness of those new to the hobby (and those who seek a reminder) of sound operational practices that minimise the risk of damage to models, people or property. They are not a formal set of rules, and do not replace the club rules that you should also understand and observe.

This is not an exhaustive list. There are no doubt other important guidelines you will learn (and hopefully ask us to add). There are also no doubt alternate ideas on how to tackle the underlying safety issues these guidelines address. The contributors respect that — the important issue is ensuring we operate to sound safety practices at all times.

### FUNDAMENTALS

The 'fundamentals' are operating procedures that any pilot or potential pilot must be fully aware of before bringing their model into the pits for the first time.

- 1) **Never** turn on your transmitter on at or near the field without putting your transmitter key in the Frequency Keyboard. If in any doubt about which slot, then ask. This avoids any risk of your transmitter interfering with or overriding someone else's on the same frequency — who may be in the air at the time. You would be liable for damage to (or caused by) any model you inadvertently 'shoot down'.
- 2) **Never** fly if you are not a member of a club and carrying current MAAA insurance. Without insurance you would be personally liable for any damage your model causes to people or property. The exception is a maximum of two flights under instructor control when you first attend the field.
- 3) **Never** let go of your model when taxiing/taking off until it is out on the field, your radio aerial is fully extended, and you are fully ready to control the model. On landing, do not turn your transmitter off, put down the aerial or put down the transmitter (to collect the plane) until the model's engine is stopped and the model is turned off. This ensures your radio is under the control of your transmitter, and minimises the risk of interference from other signals (which have been known to cause a fully open throttle on the model while under no control).
- 4) **Never** take your eyes off your model when it is in the air.
- 5) If you do not have a formal Solo rating, never start or attempt to fly your model unless under the supervision of an experienced pilot. The Solo rating is not only about your ability to fly the plane — it is also about airworthiness, airmanship and disciplines that make the environment safe for all involved.
- 6) Dead stick landings are emergency landings. If someone announces a dead stick landing when you are on or near the field, remove and keep your plane off the field until they have landed. If you are on landing approach, go around. If you have a dead stick yourself, announce it loudly and assume you have priority.

## **SOUND OPERATIONAL PRACTICES**

These are recommendations that any pilot should be aware of by the time they are ready for 'solo' rating.

### **Airmanship**

- 1) When you are not using your transmitter and have your key in the keyboard, your transmitter should be in the transmitter pound, or securely locked in a case. It should not be left lying around near your model or in the clubhouse.
- 2) Weather conditions:
  - a) Sun: Note where the sun is before taking off, and ensure you can fly safely without risking flying near or into it.
  - a) Rain: Don't fly when it is raining. The primary risk is water in the transmitter shorting the control electronics.
  - b) Wind: Note the wind direction and strength before taking off and at all times be 'wind aware'. At minimum this means:
    - i) Take-off and land into the wind;
    - ii) Do not fly too far downwind on moderate wind days — there is always a risk of a dead engine and you will not be able to glide back to the field against the wind.
- 2) Don't become complacent over the damage a spinning propeller can do to any part of your anatomy. Never lean over a spinning propeller, or attempt to start your model when it is not adequately constrained.
- 3) Don't fly over your head or behind you.
- 4) Don't fly without sun visor and sunglasses.
- 5) If flying with a neck strap:
  - a) Make sure you know exactly where it is, and that it is secured out of harms way before starting the model's engine. If caught in, or hit by a spinning propeller it can do untold damage;
  - b) Make sure it cannot flop and hit any of the controls on your transmitter (throttle by far the most dangerous) while you are starting, picking up, carrying or putting down the model.
- 6) Never taxi directly towards people or other planes (including the pits).
- 7) Always announce clearly and loudly to others on the flight line when you have a model on or near the field (whether taking off or landing). They have their eyes and concentration 100% focussed on their model.
- 8) If you appear to lose full transmitter contact with a plane in the air (no control whatsoever), shout loudly announcing your frequency in case someone has turned on a transmitter on your frequency.
- 9) If in doubt, ask — whether in the air or on the ground. If you get in trouble in the air shout for help, you have nothing to lose even if it doesn't make it in time.

### **Airworthiness**

- 1) Have new models thoroughly checked out by an experienced pilot, preferably not at the flying field, before flying them. Also make sure you:
  - a) Try hard to pull newly attached control surfaces off — better to find out they aren't going to stay stuck in the workshop, than in the air;
  - b) Lightly smooth the back edges of propellers — in case someone other than you tries to flick start it (and cuts their fingers to bits)
  - c) Fully tighten the propeller nut. Tighten it as far as you can (using something like a 12" spanner) or it will come lose during starting/flight.
- 2) Check your battery charge level before the first flight, and regularly during the day. If you don't have a battery checker, then ask to borrow one. Leave the charge lead accessible so you can get at it during the day.
- 3) On models with rubber band mounted wings, use at least 10, and preferably 12 new rubber bands each time you fly. They are a lot less expensive than replacement models.
- 4) Turn your transmitter on first and the model second — this is critical to enabling radio failure protection on SPCM transmitters, and good practice to ensure servo movement/pushrods are not moved to awkward positions on all radios.
- 5) Any 'dead stick' landing is an emergency landing. And there are no excuses for emergency landings caused by pilot misjudgments or laziness (such as running out of fuel). If you have one, work out why and do your best to ensure it does not happen again.
- 6) If something on the model starts to behave differently to prior experience, then stop and investigate. Things rarely change for no reason, and the reasons they do change are rarely for the better!!
- 7) Don't fly if you have any doubts about the performance of any of the critical components of the plane, particularly:
  - a) An engine that is not behaving correctly;
  - b) Combinations of servos, pushrods and control surfaces that are not moving smoothly and freely;
  - c) Clevises and horns that are not secure, tight, and with 'locks' in place wherever possible

### **Doncaster Specific Practices**

At Doncaster Aero Club's Bulleen Field, the following guidelines also apply:

- 1) At all times there is a circuit pattern in operation (taking off and landing either right to left or left to right. Fly the circuit pattern that pilots already in the air are flying — and if in doubt ask. It is driven by taking off and landing into the wind.
- 2) Note that there is a 'Pattern Line' out over the trees on the far side of the field that the 2 metre model pilots use. This is further out than the normal downwind leg of the circuit pattern, and it is preferable to stay clear of it if possible. You will note the Pattern pilots tend to take turns so only one is up at a time.
- 3) There must never be more than six planes in the air at any time. If there are six in the air, do not start your engine and proceed to take-off.

- 4) Observe the designated noise breaks — listed on the back of the club house door.
- 5) Only fly in front of you, and in front of the flight line. Flying over the pits, clubhouse, control line area or car park is forbidden.
- 6) Experienced pilots will take initiative wherever possible to keep out of the flight path of beginners.
- 7) Have a good look around and talk to an experienced pilot about the field layout. The field is not at 90 degrees to the flight line, and there are gaps in the trees at both ends that are important for landing approaches.
- 8) More experienced pilots can fly power models on Wednesday afternoons, but need a special endorsement to do so.

April 2002

Dear



Jake,

DJ,  
In the past weeks the 'intelligentsia' of the club have been involved in heated discussions regarding the pros and cons of winglets for our aircraft. I am definitely pro.  
Winglets will prevent tip stalling, add to the efficiency of the wing and increase maneuverability. I'm so enthralled with them that I am beginning to believe that they can fight tooth decay and cure baldness as well.  
They were also popular appendages on Chevs and Dodges back in the fifties.  
I think that they should be on tailplanes as well.  
Pro Winglets from Preston

DJ,  
In the past weeks the 'intelligentsia' of the club have been involved in heated discussions regarding the pros and cons of winglets for our aircraft. I am definitely against.  
Winglets will not stop tip stalling but washout will. I don't really care if they do fight tooth decay and cure baldness as I have false teeth and wear a wig.  
I didn't like them on mid 20th century four wheel baroque juggernauts either so there. Just imagine a Pitts Special with winglets, UGH.  
Anti Winglets from Alphington

DJ,  
I'd like to back up my husband's comments. Like him I have no technical knowledge but I just love winglets because they look so cute.  
Wife of Pro Winglets from Preston

DJ,  
I'm a construction engineer that runs a company that specialises in the building of large hangars for commercial aircraft.  
Some years ago the aircraft designers at Boeing decided to modify their aircraft by adding 10 ft to each wing tip. The idea was increase the aspect ratio of the wing and thus efficiency especially cruising speeds and altitudes.  
Due to an unfortunate oversight the extended wings could not be accommodated within a standard commercial hangar.  
To save lots of red faces the design team decided to say nothing and cut off approximately 4 ft from each new tip and mount the cut off pieces vertically at each tip just as if they were designed that way. LO! They had invented winglets and very popular they have become too.  
I'm so keen on them that I've submitted a costing to the N.S.W government so that they can be fitted to the Sydney Harbour Bridge.  
QED from Queenscliff

Dear Correspondents,  
Thank you for your views on this interesting subject.  
I suppose winglets could possibly be useful but only if they could be made to flap vigorously many times a second...

Jake!!!



# Rubber Bandit

What is it?

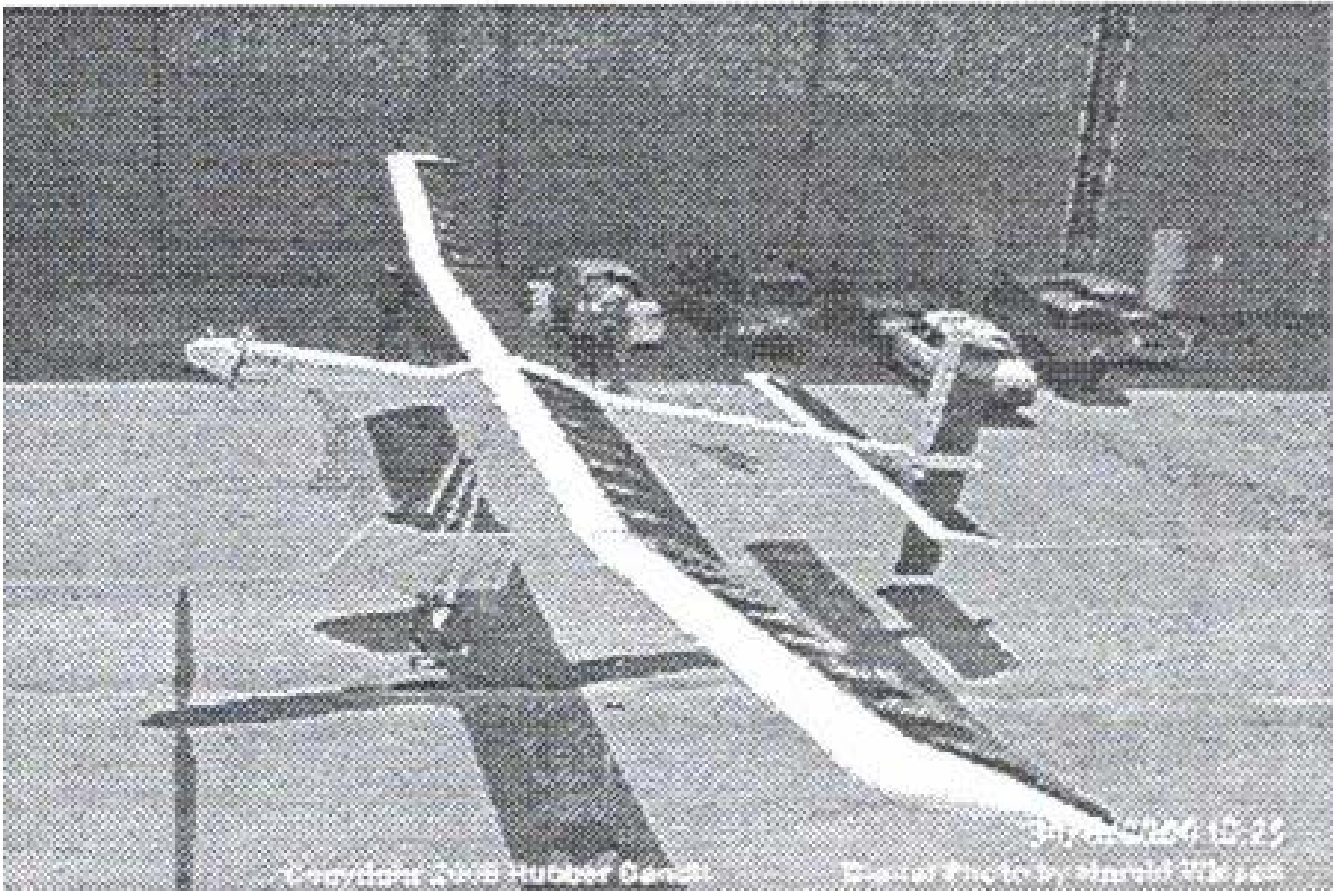
Well picture an aircraft with wingspan of 71 feet, a fuselage 33 feet long, a propeller with an 18 foot diameter and the design characteristics of a model airplane powered by a rubber band! (look closely at the motorcars in the background to get a clearer perspective!!)

Now, picture this aircraft carrying a pilot then a pilot and a passenger to an altitude of 100 feet and cruising at 30 mph for an average distance of a mile.

You have just visualised the Rubber Bandit, 'the largest, and world's first piloted rubber-band powered aircraft' and the dream of George Heaven. The Rubber Bandit public and record setting flights will establish four (4) firsts in aviation history.

1. Male piloted Rubber Band powered flight
2. Female piloted Rubber Band powered flight
3. Pilot and Passenger Rubber Band powered flight
4. Largest radio controlled Rubber Band powered flight

The project has advanced from the design stage through construction of a 1/25, 1/4, and full scale Rubber Bandit. The rubber band motor is wound by removing the tail portion of the aircraft and winding from the back with the propeller locked as opposed to turning the propeller. The successful taxi testing of just the aircraft fuselage to 27 mph for 1/2 mile with only 33% of the potential rubber band power demonstrates the capability of flight.



# Lead Acid Batteries (what *can* happen)

*This extract came from an overseas safety bulletin, and was sent in by Boz Student. Whilst these batteries aren't that widely used in our hobby, the article makes for interesting reading, and highlights relevant safety aspects.*

I'm sure you've seen the warnings on 12 volt batteries, and like me ignored it.

Let me relate what happened to me at work today (Jan 03, 2002).

We have a 50 kW standby generator. It works very reliably, and up until today, was there for every power failure. At about noon, when it usually does its weekly automatic exercise, I heard a loud bang. I thought it was something simple like a garbage truck dropping a dumpster, something explainable. So I didn't think much about it.

A few minutes later we got a call from someone who works near the transfer switch. A couple of years before, I installed a visual and audible warning for the generator. It's logic system gives a 12 volt output when any alarm is active, such as over-crank, when the generator tries to start, but times out. The alarm was on, so I went up to the roof to investigate the cause. The gen set is located in an outdoor enclosure on the roof deck of a two story building. The battery is in a battery case in the bottom of the enclosure. It appears that when the generator went to start today, a spark in the battery ignited hydrogen gas which caused it to explode.

The inside of the generator enclosure was covered with shrapnel from the battery, the battery box and of course, battery acid. I ran to the hardware store to get baking soda. Five small boxes later, most of the acid was neutralised. The generator maintenance company came in to replace the battery.

## Lessons learnt

- Maintenance Free means: When this thing goes bad, there's not going to be anything left to maintain.
- The lack of refill covers makes the thing a nice pressure cooker.
- Just because the battery is working doesn't mean it's healthy.
- Batteries can explode when they're being used for starter current, not just when jumping them.
- If you have standby batteries, have baking soda nearby.
- If you have be near an exploding battery, be two floors down, in an office, in another building. Worked for me.

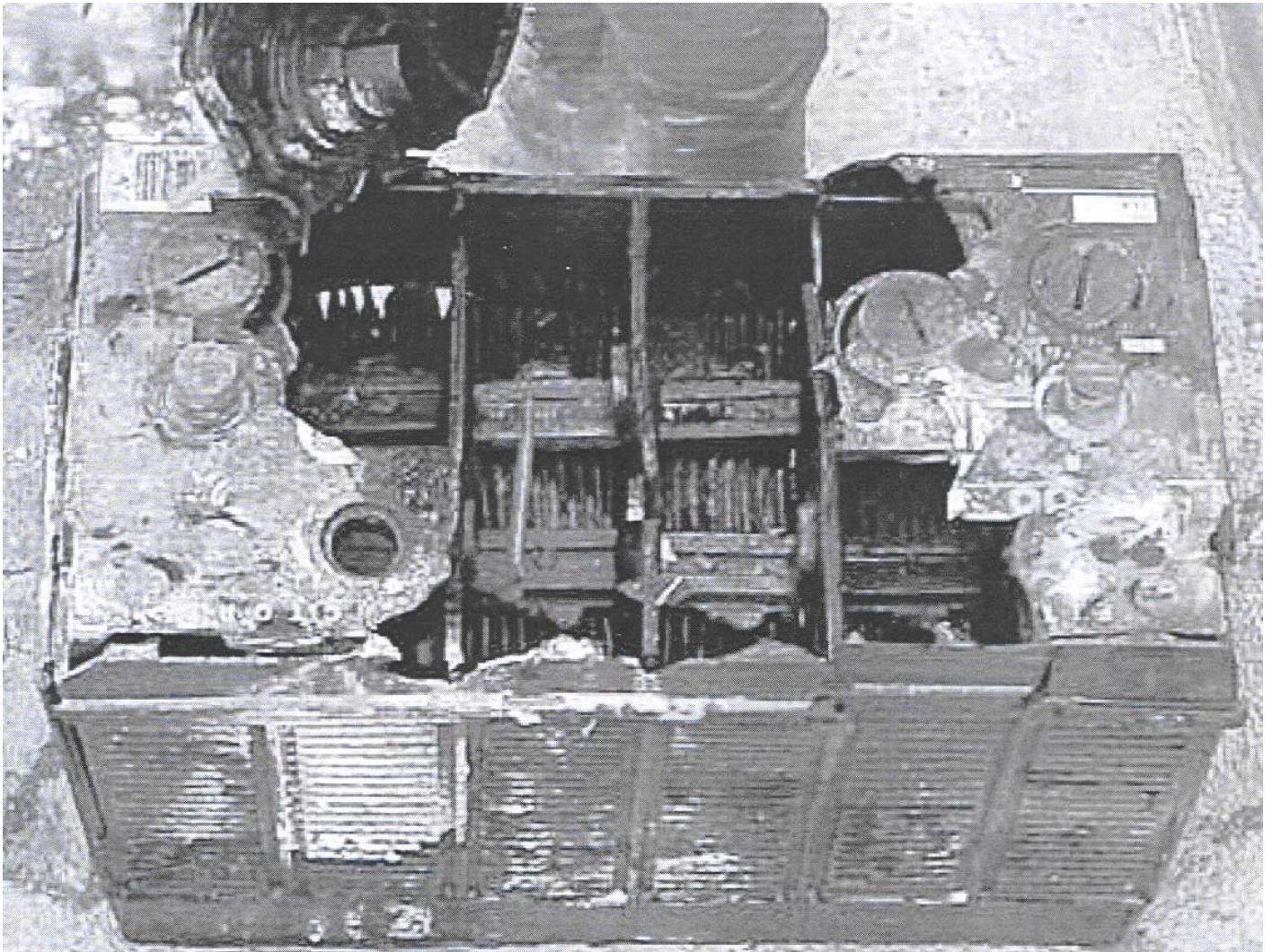
The new battery going in has caps and will need to be refilled, but maybe it won't explode as easily.

11/1/02

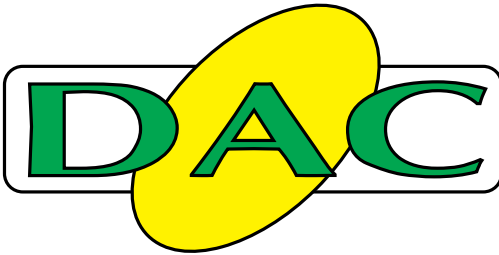
Follow-up note by someone who read the original article.

I work with batteries often as part of solar systems and yes, the threat of hydrogen explosion is very real! Be aware though, that a battery with vented caps is even more likely to explode than the 'maintenance free' one was. The refillable batteries generally outgas more H<sub>2</sub>.

There are at least two things to be learnt here... first, make sure the battery enclosure is well vented and that escaping H<sub>2</sub> (which will rise) will not collect. Second, the main cause for outgassing is excessive charge current... check to make sure the trickle charger is set properly for this battery.



**DONCASTER**



**AERO CLUB**

**Nomination  
Form**

I would like to nominate .....  
(name)

for the position of .....  
(position)

Proposer .....  
(your name) (your signature)

Secunder .....  
(secunder's name) (secunder's signature)

Nomination Consented .....  
(nominee's name) (nominee's signature)

**PROXY FORM**

*To be posted or hand-delivered to reach the Treasurer no later than 8:00pm on 14th July 2002  
Graham Kay, 76 Melissa St, Donvale, VIC 3111*

As I will be absent from the 2002 Annual General Meeting of DAC , I hereby authorise:-  
.....  
(proxy holder's name)

to vote as my proxy.  
.....  
(your name) (your signature)

Executive positions:

- President
- Vice President
- Secretary
- Treasurer
- Events Director
- Newsletter Editor
- Ordinary Members (3)\*.

NOTE: Ordinary Members who are able to represent Special Interest Groups, specifically glider, electric and control-line, are particularly encouraged to stand for committee membership.