Volume 7 issue 7 July/August 2006

Torque Back.

HOBART MODEL AERO CLUB INC.

Club polo shirts.

We have still got a limited quantity of club polo shirts available for sale at a cost of $31.50.

The shirts are available from Garth Wilmot and may be ordered for delivery at the field. Get in early to avoid disappointment!

INSIDE THIS ISSUE:

M.A.A.A. ANNUAL CONFERENCE

The M.A.A.A. Annual Conference and A.G.M. was held in Darwin on the 27th & 28th May and Steve Ralph and Garth Wilmot were the Tasmanian delegates. Steve is probably one of the longest serving members of the Council and his knowledge and input will be greatly missed.
President Mike Close and Competition Rules Secretary Fred Adler were re-elected unopposed.
It was reported that, due to very good claims history, the cost of the insurance premium was further reduced.
In setting fees for 2006/2007 it was resolved to retain the current senior/pensioner membership fee of $100 and to reduce the junior fee to $50.
The bulk of the amount saved in respect of the insurance premium reduction was allocated to the field purchase fund for this year only, and will be subject to review at the next Council meeting.
At this time of the year the weather is beautiful in Darwin with a temperature around 30 degrees but travel to and from is very tiring. Our flight back left at 1.30 a.m. and we spent over 4 hours in Sydney and 7 1/2 hours in Melbourne on the way home. About 40 hours without sleep!

T.M.A.A.A. A.G.M. & GENERAL MEETING.

The meetings were held at Campbell Town on Sunday 4th June.

It was the last meeting , as President, for Steve Ralph who did not nominate for re-election.

Steve has certainly served the T.M.A.A. well in addition to his national duties.

Perhaps he will have more time for flying now.

The following office holders were elected unopposed:

President: Garth Wilmot

Vice-president: Dean Williams

Secretary/treasurer: Garry Anderson

Affiliation fees for 2006/2007 were set as follows:

Senior/pensioner: $110

Junior: $50

Half year:

Senior/pensioner: $60

Junior: $25

The fees are basically the same as last year.

Around the hangar.

After a couple of weeks of frightful weather Sunday14th May (Mothers' Day) provided ideal flying conditions and was a complete contrast to the weather forecast. There was good attendance despite being a special day.

We were quite surprised to have Michael (Figjam) Ralph, Chuck Sutherland and Lyell Glover make an appearance as they seemed to be lying low of late. (Chuck no longer has a girlfriend). Geoff Davis also reappeared after spending some time working interstate.

Ray Maunder flew his new Seagull Spacewalker powered with a 70 four stroke and the model flew very well indeed. This combination certainly provides a very nice package.

Nils Powell has an identical model powered by a Laser 70 four stroke and it flies like a trainer.

Wayne Shephard passed his gold wings test in what must be record time after joining. Wayne has a new Modeltech Twister powered by an OS 70 FS Ultimate and it certainly performs. Wayne has expressed interest in undergoing an instructors course in the near future.

I am very pleased to report that Bernard McKay's health has improved considerably and that he has been flying recently. His positive attitude probably helped a lot.

As is usually the case, the day of the T.M.A.A. meetings coincided with an absolutely glorious flying day. It happens every year, so perhaps we should schedule any major event on that day in the future.

I thought I had a lot of models but I sometimes wonder whether Andrew Hutchinson rivals my collection. Andrew likes the larger models and he seems to come out with something different on most weekends.

Those electric combat wings are certainly making an impact and the number seems to be constantly increasing. Plans are afoot to hold some novelty events for these aircraft—that is, if enough survive mortal combat.

We would like to welcome new members Doug Keating, Nat Vervaart and Jamie Sheehan who are joining for the coming year. I am sure all members will make them welcome and offer any assistance required. It appears that our excellent facilities and relatively unrestricted flying days are proving most appealing to newcomers and our affiliate membership is also increasing. There are at least three other new members in the offing.

We are on the net.

hobartmodelaeroclub.org

Don Sutton has been having a great deal of success with his new Force.46 powered ESM Trainer. His run of bad luck seems to have ended and that new engine seems to be ultra reliable.

Michael Van Niekerk actually purchased an ARF! Michael has a new 120 FS powered ESM Cap 232 which performs very well. Michael is a prolific builder, but has been pressed for time of late. His numerous work related overseas trips seriously cut down his time in the workshop. I believe he has a scratch built scale project underway. *(continued page 4.)*

H.M.A.C. A.G.M. & General meeting

The Annual general meeting and general meeting were held at the Kelly Field club house on Sunday 18th June.
The meeting was reasonably well attended and the following members were elected to the committee:

President—Garth Wilmot
Vice-president — Erwin Boot
Secretary — Michael Hawkins
Treasurer — Wayne Shephard
Newsletter Editor — Garth Wilmot
Publicity — Gerald Haley
Contest Director —
Michael Gunn
Committee — Peter Hubbard
Committee—Ken Jones

Volunteers for non-committee positions were;
Grounds—Ken Jones
Canteen and catering—Ladies' committee
Building and maintenance—Bob McAllister
Earthworks—Ian Searle
Registrar—Garth Wilmot

A vote of thanks was extended to retiring treasurer Mary Patterson for her services over the past four years.

Membership fees for 2006/2007 were set in accordance with committee recommendation as follows;

- *Senior $190*
- *Country/pensioner $170*
- *Junior $60*
- *Associate $80*
- *Social $15*
- *Country/pensioner Associate $60*
- *Spouse of senior member $145*
- *Dependant son or daughter of senior member $50*
- *New members joining after December 31st Pay 50% of annual fee.*

Members are reminded that all fees become due on 1st July and those members not financial at 31st July will not be permitted to avail themselves of club facilities from that date.
Members are requested to pay promptly as late comers cause considerable extra work for the Treasurer and Registrar.
The newly elected President advised that Stuart Smith had prepared a revised and updated constitution and gave notice of a special general meeting to consider the adoption of the same. Among minor changes was the option to give more flexibility to the committee to allocate duties and responsibilities.

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Members are requested to abstain from chasing or intimidating any of the wedge-tail eagles or hawks which often frequent our field. The eagles at least are protected and should be left alone and admired.

****

Thanks are due to Erwin Boot who provides the printed copies of this newsletter at his own expense. Members and any other interested parties are reminded that the newsletter can be sent by email or downloaded from the web page. If you want to receive by email please advise.

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<u>Plans.</u>

Members who are interested in scratch building are advised that your editor has quite a few plans that may be borrowed strictly for copying. Some of these are transparencies or master copies while others are originals.

Xerox can copy at a very reasonable price and it is suggested that you obtain two copies so that you can use one to cut up for templates. The templates can be stuck to the building material with blue stick glue and just peeled off after the part is cut.

This works out much cheaper than buying Australian plans at very high prices.

H O B A R T M O D E L
A E R O C L U B
I N C .

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The club runs an extensive flight training program on both mode 1 and mode 2 and beginners and or new members are always welcome. A club trainer is available for those that want to get a feel for the hobby before committing funds to the purchase of equipment..

To arrange a free lesson contact Erwin Boot phone 0418127514 .

For sale.

Phoenix Classic trainer in excellent condition complete with GMS .40 engine, 4 servos, flight battery, glostarter and charger, mechanical fuel pump and some fuel. ***$250.***

Trevor Spargo ph 62720159 or email tspargo1@bigpond.com

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Twin plug OS .80 complete with 2 mufflers and engine mount. (collector's item?) ***$120***
OS.25 with muffler ***$30***
Cox .09 with tank mount ***$30***
Sullivan electric starter ***$20***
Multiplex Profi 2000 8ch Tx 36 Mhz ***$150***
Multiplex Europa 6ch Tx 40 Mhz ***$150***

Ralph Crawford ph 62724246

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Garth's Specials.

OS.46AX—Special, very limited quantity ***$150***

JR Quattro radio c/w nicads and charger ***$200***

Miss Dragon ARF –suit two stroke 60/90 0r Four stroke 90/120 ***$265***

ST Aviator 4 ch FM with 4 micro servos ***$120***

Ultrafly Frio 10 outrunner c/w 25 amp esc. ***$135***

Hitec HS 60 servos ***$22.50***

Around the hangar.

Ray McCarthy has advised that he will be moving back to Melbourne in the near future. Until recently Ray served as club president and assisted with the club training program. We thank Ray and Patsy for their contribution to the club.

Quite a few members have been taking advantage of better mid-week weather of late and the field has regularly been in use during the week. We feel sorry for you people who have to work for a living!

David Harcourt has been attending the field much more often lately and has been having greater success with his electric models with Peter Lambert's assistance.

Jim England has the latest Mk II version of the electric Multiplex Twin Star and reports that it is a great improvement on the original.

Kevin Jacobson has almost completed his CMPRO Mosquito powered by two OS 52 four strokes. This model should be really something and we look forward to seeing the test flights.

Ray Maunder's Corsair featured on page 10 was unfortunately destroyed recently, due to a radio problem. Ray has a new one on the way.

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Thanks are due to Ian Searle for his contribution of articles and photos for the newsletter. He does make the editor's job a little easier. Ian is a good club member and he also keeps our toilets clean.

Thanks also to Peter Ralph for his photos from time to time.

MODEL AERONAUTICAL ASSOCIATION OF AUSTRALIA INC.

Newsletter

NO. 3/2006

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Manual of Procedures

The Manual of Procedures is a "live" document and is continually being updated. Please check the M.A.A.A. web site from time to time to ensure that you are aware of the latest editions of the documents.

Classification of Junior Member with Respect to Fees

With re-affiliation time approaching it is a good time to clarify the definition of an M.A.A.A. Junior Member. At the 2003 Council meeting it was decided to bring the classification of Junior Member in line with the membership year. A person who turns 18 years of age on or after July 1 will be considered a Junior Member for that membership year. For example, if a person turns 18 on or after July 1 2006, then they will be a junior member for the 2006/07membership year. The junior classification for local and international competitions is still from January 1st.

Frequency Keys & Boards

The M.A.A.A.'s preferred method of frequency control at flying fields is the "Silvertone" © system. The original Silvertone system used 2" of the keyboard to represent 20kHz of frequency bandwidth. These boards were commonly called the "imperial" board. For example, a radio certified for 20kHz bandwidth used a 2" (50.8mm) wide key. This was fine for the 29MHz band but when the 36MHz band became available the total width of the keyboard expanded considerably. The original Silvertone board for the 36MHz band was made in two rows. This required the use of "guard" keys for the frequency in the middle of the band where a 2 wide key would have covered another slot but it was on the other half of the board. Some clubs joined the two half rows to make one long board, but most operated with two separate rows for the 36MHz band.

To overcome the problems associated with the 36MHz keyboard being in two halves and the need for "guard" keys Silvertone released a "metric" version of the 36MHz board approximately half the total length of the "imperial" board. With the "metric" board, 25mm represented a bandwidth of 20kHz. Therefore, a frequency key for 20kHz for the "metric" keyboard was about half the width of a 20kHz key for the "imperial" keyboard.

As part of the requirements for 10kHz operation, the M.A.A.A. required that if a Club decided to allow 10kHz bandwidth radios to be used at their field they MUST adopt and use a "metric" keyboard. This requirement was designed to reduce the possibility of keys being used wrongly between imperial and metric keyboards with the safety implications that would result.

Silvertone also improved the design to remove the possibility of "metric" keys being used with "imperial" key boards by increasing the width of the tang on the back of the new "metric" keys and to widen the tang slot on all new "metric" boards manufactured. This has the effect that the new "metric" (wide tang) keys will not fit into the "imperial" keyboards. This removes the possibility of their use with the "imperial" keyboards, as they would not fit into it.

It is known that there are several early "metric" keyboards with the narrow tang slots in use at clubs and their members still using the old "metric" narrow tang frequency keys. Both the M.A.A.A. and Silvertone recommend, in the interest of safety and to bring each club to a uniform standard, that the older narrow tang "metric" boards be modified to use the new wide tang "metric" key and all members discard the narrow tang frequency keys and use the new wide tang "metric" keys. To change the frequency board requires a fairly simple task of milling the keyboard slots wider to take the new keys. The new wide tang keys are available from Silvertone. For additional visual recognition the metric keys are manufactured from yellow plastic.

To summarise, the M.A.A.A. requires that the imperial keyboard can only be used for 40kHz and 20kHz frequency spacing with keys of 4" and 2" widths respectively. The metric keyboard can be used at 40kHz, 20kHz, and if the club agrees and in line with the M.A.A.A. requirements, 10kHz frequency spacings with yellow keys of 12.7, 25.4, or 50.8 mm respectively.

Insurance - Damage to Model Aircraft

At the 2004 M.A.A.A. Council Conference the M.A.A.A. Council directed that "**the M.A.A.A. insurance policies including the member to member insurance cover excludes damage to model aircraft irrespective of the cause".** The broker has been advised and has confirmed this exclusion.

M.A.A.A. Ratings and Appointments

As part of the M.A.A.A. Flight Proficiency scheme ratings such as Bronze Wings, Gold Wings and M.A.A.A. Instructor are awarded. The M.A.A.A. also appoints Heavy Model Inspectors, Gas Turbine Inspectors and FAI Observers. The Inspector appointments currently have a maximum term of 3 years. The FAI Observer appointment is until they are no longer members of the M.A.A.A.

As the name implies these ratings and appointments are M.A.A.A. ones and are carried by the individual irrespective of the club or state that they are members of. If you are awarded any of the ratings or appointments and change clubs or states you still hold that appointment or rating. For example, a person who was appointed a Heavy Model Inspector in WA and then moves to Queensland is still an M.A.A.A. Heavy Model Inspector and is authorised to inspect and issue permits to M.A.A.A. Affiliate Members in Queensland or any other state. Provided of course that he is still an Affiliate Member of the M.A.A.A. It should be noted that at the end of his/her three year appointment it is the State Association that he is currently affiliated with that are responsible for renewing his appointment, not the state association that appointed him.

With respect to ratings awarded under the M.A.A.A. Flight Proficiency, if a person was appointed an M.A.A.A. Instructor they retain that rating no matter which State Association they affiliate to. The same applies to bronze and gold wings rating. It is your responsibility to retain the documentary evidence of these rating so that you can prove them if you change clubs. It is up to a Club though if they recognise someone as being capable of instructing on their behalf. Instructing at a Club field is not an automatic right of any M.A.A.A. Instructor.

The M.A.A.A. membership database has provision to record the Flight Proficiency ratings but unfortunately some State Associations do not pass them onto me. If your card is not correct contact your State Association in the first instance

Models Flying near Airports

I have had a report of a small R/C model aircraft being flown very close to a large metropolitan airport. From the description of the model it was quite possibly a "Park Flyer". The relevant State Association was asked to investigate but could not identify the persons involved. There was certainly no club in the area and the model was being flown form a public park.

As you are aware model aircraft should not be flown anywhere near an airport. If you should happen to see anyone with a model aircraft in the vicinity of an airport it would be beneficial to all that they be approached and the suggestion made that they go to a model club where they could get assistance and meet with people of like interests. Please do not get belligerent as diplomacy is generally the better method. People who fly Park Flyers are potential members and where possible we should be directing them towards our clubs. People who fly legally can also suffer if model aviation gets the reputation of being irresponsible

Membership Renewal Time

When you renew your membership for 2006/07 please include your full name including "middle" name as well as your date of birth. This information is vital to ensure the identity of a member with respect to their AUS number especially when rejoining after a break in membership.

Safety with Gates on Properties.

Clubs are requested to ensure that any gates or chains, wire etc that is used to restrict access to their facilities are clearly visible to ensure that people can easily see them. I am aware of some fatalities that occurred in the US where members of the public on motor bikes impacted on low visibility chains etc across access points to flying fields.

Please take the necessary action at your fields to ensure that all gates etc are very visible to ensure we do not have the same accidents in Australia.

Batteries – Transport Safety

Due to the potential of short circuits, batteries for/in models and field boxes should be rendered safe before shipping them.

It is recommended that;

- they not be charged immediately prior to shipping.
- they be unplugged to avoid the possibility of the equipment turning on during transportation because of vibration

etc.

- the ends/plugs are taped with a suitable insulating tape to prevent the possibility of short circuits.
- The batteries are held securely in place to prevent them moving or rubbing against a hard surface during
- transport.

Currently there are several airlines that will not transport models due to the perceived risks. The FAI is currently negotiating with the International Air Transport Association in order to make it easier to ship models by air. We do not need an incident with a battery onboard an aircraft.

60th (2007) Nationals

The 60th Nationals will be hosted by the V.M.A.A. in the Albury/Wodonga over December 2006 / January 2007 period. The V.M.A.A. web site at, www.vmaa.com.au, will shortly have the latest information about the 60th (2007) Nationals. Registration day will Thursday December 28th 2006 but the registration office will be open each day so that those that pre-enter will be able to register the day prior to their event.

The Albury/Wodonga area has been used for previous Nationals and has proved to be been very successful location. Why not start to get organised and enter some events. You will have a great time.

Bandits 12 o'clock high! By: Ian Searle

Wednesday 7 June was a beautiful sunny day with light NW winds. A few of the usual suspects turned up at Kelly Field to fly their various models. About late morning two wedge-tailed eagles were circling up-wind of the field and drifted directly overhead. When they had moved some distance downwind Stuart Smith launched his Electrajet model and climbed to about 100ft. No sooner had he done so than there was a bolt from the blue and a loud "whack" and something fluttered to earth. Stuart managed to regain control of the model and discovered that one of its fins had been surgically removed in the attack. Fortunately, the Electrajet has two tail fins and it flies well enough on one.

The wedge-tailed eagle (Aquila audax) is a magnificent bird having a wingspan of up to 2.5 meters (over 8 feet) and a very distinctive tail design. The tail shape is perhaps better described as a scalloped diamond as the photograph of this specimen clearly shows. The wing design is even more remarkable (you can tell I am not an evolutionist). It is a low aspect ratio wing of near constant chord, but with seven long pin-feathers. The eagle flies with upswept wings and has an uncanny ability to find the invisible thermals and to use them to stay airborne with a minimum expenditure of energy. They are expert fliers and will soar on thermals for hours. The books say they will climb as high as 2000 metres (6,500 ft) but I remember well seeing two at 12,500 ft in 1969 while cloud seeding over the ranges in NE Victoria. You may well ask what on earth were they doing at 12,500ft? My considered opinion is that they were simply having fun. They are uniquely designed to fly and although man can design, build and fly sailplanes with vastly superior glide angles, we still cannot outfly the eagle. As far as I know, no man-made sailplane has been built that has "pin-feathers".

But that is not all the eagle can do. His wings have adjustable span, dihedral, sweep, camber and angle of attack. How can his tiny bird-brain cope with the complicated control of all these functions while at the same time computing the relative airspeed, altitudes, headings etc to successfully attack a fast flying model? It makes our four-function models pale into insignificance except for the fact that we too can enjoy the miracle of flight.

It is delightful to see the eagles at Kelly Field and perhaps we need to recognise that we are the interlopers in their domain. We might think that there is room for both birds and models (and there is) but at times it is prudent to allow the eagles some space. The Field Guide to Tasmanian Birds (1999) says that there are perhaps only 80 pairs of wedge-tailed eagles in Tasmania. Several of these pairs are found in our valley and visit us fairly regularly. It is quite possible to take a photograph with an eagle and a model in the same frame.

P.S. Have you noticed the Flame Robins at the field lately? Beautiful, but so different to the eagles.

The wedge tailed eagle.

The damaged Electrajet making an emergency landing.

Murphy's Law By: Ian Searle

Everybody knows something about Murphy's Law. The most basic expression of Murphy's Law is that "***If anything can go wrong, it will***". For most people who live in a two dimensional world, Murphy's Law is not much more than a nuisance that we manage to laugh off whenever we are aware of it taking place. But for anyone involved in the three dimensional world of aviation, Murphy's Law is a life or death issue. For example, if it is possible to connect the ailerons of an aircraft the wrong way round, Murphy's Law says that sooner or later someone will. The consequences of such a mistake include the almost certain death of the pilot who next flies that aircraft.

To the aero-modeller, Murphy's Law can also be disastrous. Many of us have seen modellers try to fly their model with the ailerons connected the wrong way round with spectacular results. In fact, I have seen one experienced modeller who has done it twice! (What's that line about only a fool making the same mistake twice?)

Strangely enough, the mischievous gremlin responsible for Murphy's Law has a twisted sense of humour. He sometimes refrains from action in the case of the beginner and the inexperienced flier who seemingly manages to get away with murder. This is usually called beginner's luck, but perversely, it serves to suck the beginner in so that he does not get too discouraged until such a time that he is thoroughly hooked. Once hooked however, Murphy's Law applies with a vengeance.

Recently, Peter Lambert experimented with the air-launching of gliders by mounting a glider above his Junior 60 and releasing it at altitude. On his first effort the power of the Junior 60 was found to be too low and an adjustment to the glider's angle of attack was required. Increasing engine power and adjusting the wing angles made all the difference, so a much higher launch was made.

Guess what? Because the glider was a balsa chuck-glider without radio control, you would expect it to circle around a few times and land somewhere downwind of the launching point, perhaps even in the next paddock. But since Murphy's Law (modified) says that you will have difficulty finding a thermal with a radio controlled glider and conversely, that an uncontrolled glider will always find a thermal, that's exactly what happened. The glider went round in circles but went up and up until it disappeared into the base of a cumulus cloud some 3000 ft or so above the field. Rumour has it that it was last seen over the New Zealand Alps by a pilot flying a 747!

But wait, there's more! A few days later, Peter Allen turned up with an 18 inch wingspan rubber powered free-flight model made of balsa and tissue paper. He wound it up and released it for a 30 second climb and it flew beautifully. It glided round in wide circles but refused to come down. Last seen it was at about 2000 ft drifting north towards Campania. Melbourne, here we come!

The moral of the story is that if you want to win over Murphy's Law, you must have full and effective control over every model. Peter Lambert's next try was to mount a radio controlled glider on the Junior 60 and launch it at altitude. It worked perfectly, but of course, we haven't yet found a thermal with it.

The next stage is to launch my 3 metre Stepp 3 glider the same way using a slow flying power model to carry it aloft.

We also flew my glider combination three times (Stepp3 on top of Grover's Rover) but there were minor control problems. The GMS 47 is too powerful and has to be run at half throttle, and the combo wants to turn left even though the individual models fly straight and true on their own. At the slow flying speed the ailerons are almost useless, so I am installing a bigger rudder and will try flying it on rudder alone like a three channel model. The release mechanism worked perfectly however and no damage was done.

Mark 1 – lost

Mark 2 - Success

Mark 3 – Will it fly?

Peter Lambert's latest electric Canberra bomber.

Garth Wilmot's Sportsmaster climbs out.

Ray Maunder's ill fated Corsair flies by.

10.

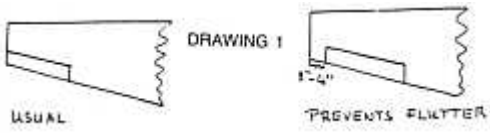
WHY YOUR PLANE FLIES LIKE IT DOES - III
Curing Flutter

By Ed Moorman 2540

Last time we got into flutter. This time, let's look at a couple of things which can prevent it. Just about everyone knows that "springy" controls may let the control surface flutter. I always use a servo in each wing with a straight shot for the pushrod to the aileron. I have seen too many guys have flutter with sloppily set up belcranks. Hey, don't get me wrong, belcranks will work. There are just more places for slop which promotes flutter. I also like cables for rudder. My rudders always have the maximum throw, so a little slop at the servo or any play in the servo gears is multiplied at the rudder. With cables, you can tighten everything up. I have never had a cable operated rudder flutter. I take that back, I did, too. I remember one time that I rushed a test and forgot to tighten up the cables. The rudder had about an inch of play and it had minor flutter, not the violent buzz, but a slow wiggle back and forth. I noticed it on a low fly by, landed and found the loose cables. I tightened up the cables like I should have done before the test and the flutter went away. I have used both single and dual pushrods and also cables on my elevators and haven't noticed any flutter with either setup.

The place I get flutter, when I get it, is on the ailerons, so I always take precautions with them. Flutter occurs at high speed, so if you have a slow plane, you probably won't get flutter. Watch it, however, you may pick up enough speed in a diving turn. Remember last time I mentioned the Fly Baby which got bad elevator flutter in a diving turn. In addition to giants, I fly some 40 sized fun fly aerobatic planes. These little guys use max control throws and can get going pretty fast in a full power, vertical dive, so the conditions for flutter are present all the time. I can say that I have gotten flutter and cured it (boy, that sounds like a disease) and here are my prevention and cures.

From my observations and experiments (crashes), I have found that flutter on ailerons occurs at the end of the aileron out at the wing tip. I also found that if I move them in about 3 to 4 inches from the tip, any flutter tendency goes away. Take a look at the drawing and you'll see what I mean by moving them in.



If you are building a non-scale plane like a giant stick with strip ailerons, cut off the last 3-4 inches and glue it to the trailing edge of the wing. This "fixed" portion of the aileron won't flutter. I used to do this to 60 powered Ugly Sticks.

If your wing and ailerons are already built and you are getting flutter, try cutting off the last 3-4 inches of aileron on a diagonal as shown in the photo. Sorry that I don't have a giant with this mod, but the diagonal cut offs are illustrated on this original, 40-50 sized, twin-tailed design of mine called the Scrambler. I am drawing up a giant Scrambler with plug in wings. I think 80 inches and a G-62 ought to be just right.

Another thing you can do on all control surfaces is to keep all the edges sharp and all lines straight. Look at the drawings of control surface cross sections and notice which are good for preventing flutter.

A and B are the ones I used for years until I started having flutter with pattern planes. After a little research, I started doing a better carving and sanding job like drawing C. On all of my giants which have tail surfaces built from 3/8 square, l use elevator and rudder cross sections like D. You got it, flat with square corners and sharp edges. Saves time, easy to cover, and looks like drawing E. That's right, don't bother tapering the balsa sheeting. Glue it together and sand it square. Remember, flutter loves nice rounded edges and curving surfaces, but it hates straight lines and sharp edges.

DRAWING 2