

# Candid Camera

## Counter meal with Ray & Erica Pike

Topping off a great night, Ray entertained the patrons with an indoor flying demonstration of his Dragonfly helicopter.



Hovering over the tables!

Dining with our mainland guests Ray and Erica Pike (2nd and 3rd L). Great night had by all.

Cliff having a go, much to Greg and Kerry's amusement.



Our newest recruit Daniel having a go — I can see a request for a new model coming up!

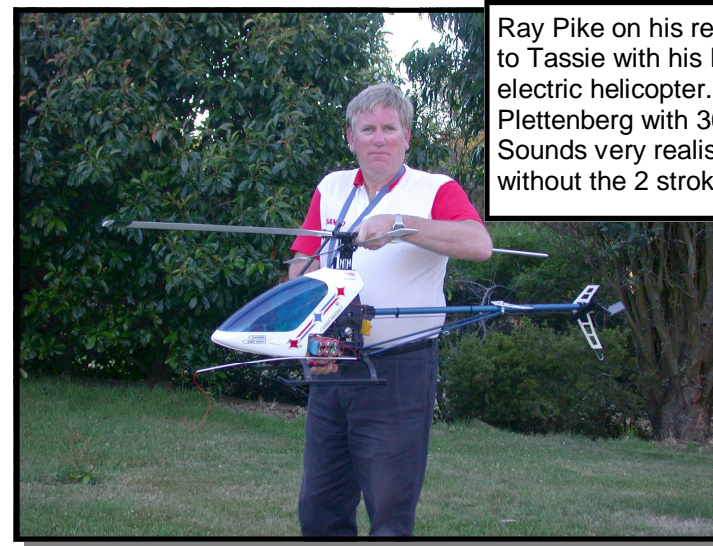


## PROP TORQUE

### COMMITTEE:

<b>PRESIDENT</b>	Peter Kidson	6394 4380
<b>V.PRESIDENT</b>	Merv Cameron	6344 5614
<b>SECRETARY</b>	Geoff Hays	6344 1920
<b>TREASURER</b>	Cliff Walters	6344 9931
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Ray Pike on his recent visit to Tassie with his Robbe electric helicopter. Plettenberg with 36 cells! Sounds very realistic without the 2 stroke buzz.

Official Newsletter of the...  
**LAUNCESTON MODEL AERO CLUB Inc.**  
VOLUME 12

# FEBRUARY

# 2004

**CAPTAIN'S REPORT**  
**Peter Kidson (03) 6394 4380**  
**p.kidson@microtech.com.au**



Hi All.  
 I know it may be a little late but to those of you I have not seen since last year, `Happy New Year` and I hope Santa was kind to you.

At the last meeting the club received a letter from George Carnie letting us know he would be resigning from the committee as of now. Not from the club just the committee I hasten to add. I for one will miss his contributions at the meetings as I'm sure all the committee will. The old boy's not been too well you see and well, lets face it health is far more important, so to George and Kerry I say thank you for your help in running this club of ours and no doubt once you're on an even keel again you'll be back at the field. I think Geoff may have a bit to say on this item so I won't take any more of your time.

Talking about the field, If you've been there recently you may have noticed a slightly different layout of the whole area. It was thought one entrance to the field via the pits was safer. So far it works well. Also we have installed a barrier around the pit area, again for safety reasons. The barrier has notices on just letting people know that it is an area where it's authorised people only. I know it's all about safety but can we really be too careful about the way we handle our planes. Imagine this, having unpacked the car, put the wings on your pride and joy, started the motor and carefully tuned

it, picked up the model and turned around heading for the runway only to bump into a child standing too close and not aware of what's going on. It's not that long ago that Merv caught his fingers in the prop and he would be one of our most experienced flyers.

Safety is an on going issue and should be too but it may mean the premiums we pay for our insurance will always be there too. We can however all do our bit to keep the premiums to a minimum. It's up to us and no-one else.

One other thing I might mention is our new flushing gents toilet. Flushing I hear you ask!! Yes, flushing. Although it's only the flush part that's new the whole thing works and works well and that's what matters. Thanks for your efforts Geoff.

There have been a few comps since the last newsletter and I'm sure Andrew will update you on the results in his column.

The State Pattern Championships will be on 6th - 7th March at Highclere so if you can make it come along and support us. Anyone that travels to competitions at other clubs does so not only to try to do well but also

*(Continued on page 3)*

**Coming Events**

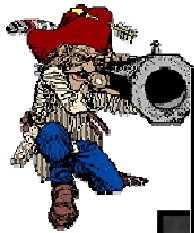


DATE	EVENT	DETAILS	TIME
Mar 6&7	State Pattern Champs	Highclere	9:30
Mar 13&14	State Fly-In	Kelly Field	9:30
<b>Mar 20</b>	<b>Pattern Day</b>	<b>Round 5</b>	<b>9:30</b>
<b>Mar 27</b>	<b>State Fly-In</b>	<b>LMAC</b>	<b>9:30</b>
<b>CD to advise future events</b>			

**Contests to be on the day specified. If weather is not suitable, then the next day, Sunday. If that too is not suitable then the event is cancelled and we move to the next contest scheduled.**

**“Club Day” is the first Saturday in each month.**  
**“Cafe Symmons” will operate each Contest Day and Club Day (Sausage Sizzle on other Saturdays).**  
*(Please come along to both these events. These are important fund raising events for your club . Ed.)*

# WANTED



## Contest Directors Report

Andrew McEntyre  
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No article available at time of publication but Andrew will no doubt have a bumper article for March. Ed.

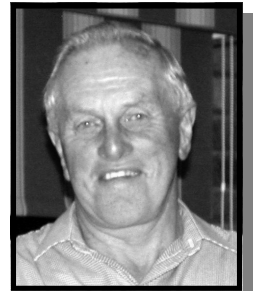
represents LMAC in no small way. I'm told there will be a contingent of mainland flyers there again this year but not as many as last year. Still it should be a great comp.

Thats about it from me for this time..See you at the field,

**Pete**

## SECRETARY'S REPORT

Geoff Hays  
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Well the New Year has surely begun, 2004, the old year has well and truly slipped into the past, end of year functions were held and now two Competitions have already heralded in the New Year.

A Pattern Comp in January and the 7 Cell Electric Glider Championships on the 21<sup>st</sup> Feb, and what a great day it was too. Andrew will surely give you all the details in his column.

There are a few things to report on from the recent committee Meeting held on the 2<sup>nd</sup> Saturday this month at the field, and incidentally subsequent meetings will be held on the 2<sup>nd</sup> Saturday instead of the 1<sup>st</sup> as this is Club day and we would like to leave it at that and not encumber a free day of club flying with a meeting.

Firstly at last meeting we were saddened to receive a letter of Resignation from George Carnie due mainly for health reasons and the rather urgent need to prioritise the things in his daily life schedule.

The Club has benefited greatly by the input of George and his expertise in many matters which an organization like ours needs to deal with .

He will for the short time continue with the publication of Prop Torque, so we will be looking for someone with the skills in this area to come forward and indicate a willingness to serve the Club in this way, there is no need for this person to be on the Committee necessarily as information can be passed on, also George will continue servicing our Club Web Site [www.lmacrc.com](http://www.lmacrc.com) ( have you visited this site as yet ? ) it is very well done and is an indication of George's skill in this medium. Our grateful thanks from all of us must go to George he is a much valued member of our Club.

We have been notified that HMAC are unable to host this years State Flyin scheduled for 13-14<sup>th</sup> March, so after some discussion it was decided to cancel our planned events of the 27<sup>th</sup> March and hold this event at Symmons Plains

instead. The State Flyin attracts "hopefully" fliers from all Tasmanian Clubs for a day or possibly two of fun flying and togetherness.

We usually have a few events that have some form of points allocated to them in order to arrive at a winning Club to hold the perpetual Shield for the next 12 months, NWA currently are the holders and it would be fun to try to obtain it to hang in our Club House, but then who knows who will get it until it is competed for, you never know it might go down South for a change.

So we need as many as possible to come and represent their Club, the event is timed to start at 9.30 AM on the 27<sup>th</sup> March and it will be decided later whether it will need to be over two days or one, it depends largely on what feedback we receive or rollup on the Saturday.

There will be a Military Scale Comp at Wagga Wagga on April 24-25<sup>th</sup>, if any one wants any information on this give me a ring and I will give you a contact address.

The Tasmanian Scale Championships will be held on April 10-11<sup>th</sup> at NWA field at Highclere starting at 10.30 am, this promises to be a big weekend of scale competition and Trevor Pugh the Vice President of the Victorian Scale Aircraft Association will be present at both days flying his ¼ scale Tiger Moth and also speaking at the dinner on the Saturday night. If you are interested in going to this event you can get all the

details from Phil Rayner on 64252022 or Cedric Eaves on 64371353.

Lastly we have been notified of a bad accident in WA recently at the Ocean Springs flying field which had the potential to have been fatal. Briefly, a flyer was at the field alone and he started his 150 cc models engine up for a fly (*no restraining device was in use at the time*) and while reaching for his transmitter his neck strap caught on the throttle stick and advanced it to high throttle.

The prop hit him in the rear end inflicting major damage to that part of his body, there were workers some distance away and he managed to attract their attention who did come to his aid, but by the time an ambulance arrived he had lost a lot of blood, a dislocated and broken hip, chipped bone and the loss of his right butt cheek, nicked the main artery but did not sever it and missed the Sciatic nerve by ½ an inch, after all this he is extremely lucky to be alive.

I will pin the article on the notice board in the Clubhouse for anyone to read, the Committee has decided to discuss the need of restraining devices at their next meeting and make a ruling as to what will be needed. So please take care accidents find (US) we do not have to look for them, we only need to be careless that's all.

Well that is about all from me for this month so as always - Happy landings ( and Take off's as well )

*Geoff Hays.*

*(Continued from page 12)*

being held at Coolum on the Queensland Sunshine coast July 15 to 24 this year. If you would like to see the best aerobatic flyers in the region then I suggest you make the effort to go to Coolum in July.

### **Team Trials for the 2005 World Championships**

In 2005 the following world championships will be conducted;

F1A,B & C – Free Flight in Argentina ; F3A – Aerobatics in France ; F3B Thermal Soaring Gliders possibly in Finland (to be confirmed) ; F3D - Pylon Racing in France.

Team trials are conducted by the various Special Interest Groups to ensure that the best flyers make up the team. All M.A.A.A. Affiliate Members are entitled to try for a place on these teams. If you would like to participate in the team trials please contact the particular Special Interest Group. Their contact details are on the M.A.A.A. web site.

### **Records**

In 2003 two of our members have submitted claims for world records. Chris Callow of Queensland set the F3D Pylon Racing at the world championships and Ray Cooper of Victoria set a world and Australian altitude record for an electric powered aircraft. Congratulations to both pilots for their great effort.

Chris Callow's time for the ten laps of the 400metres FAI pylon course was 57.7 seconds. To put this in perspective the aircraft fly quite a bit further each lap as they have to allow space to turn at each end of the course. So we are looking at well over 4 kilometres in less than a minute, very fast. It is interesting to note that this world record time is not quite as fast as his Australian record of 57.67 seconds that he held at the time of the world champs.

Ray Cooper's 3.288 metre span model climbed to an altitude of 2573metres. In only 12 minutes. A pretty fair climb rate for an aircraft with a 4.3 Kg mass.

On the Australian Record scene John Walker of NSW set an Australian record of 12.45secs (232.7kph) for C.L. Speed – Sports Jet at the SA State Championships. Not resting on his laurels for very long Chris Callow has bettered his Australian and world record with a 56.96 seconds time for the F3D Pylon course at the Queensland State Champs. This new time cannot be recognised as a world record for F3D as world records can only be set at World and Continental Championships.

Hugh Simons, junior member, of NSW also set an Australian record of 12.34 seconds (291.7 kph) for F2A Speed lowering his old record of 12.53 seconds.

Congratulations to all of the record setters, well done.

Most clubs allow M.A.A.A. Affiliates who are not members to fly at their Clubs but only AFTER they have obtained permission from the Executive of the Club. Many Clubs have rules specific to their location and visitors must be aware of, and comply with these Club Rules. A Club is quite entitled to refuse an M.A.A.A. Affiliate Member access to their field, it is the Club Member's field and they control it, not the State Association or the M.A.A.A., it is the Club Members.

Many Clubs also have restrictions on the number of visits an M.A.A.A. Affiliate Members can make during one year. In general this is to ensure that those using the facilities contribute to the cost of running the facilities. I am aware of a few people in our association joining small country clubs with very low fees and then turning up at the big clubs with the good facilities and flashing their M.A.A.A. card and expecting to be able to fly as often as they like. Please think again, this is a sure fire way of getting a very bad name around the flying fields and Club Executives have every right in asking you to leave their facility. If you want to use good facilities you should contribute to them by joining the club.

#### **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 from a public park.

As you are aware model 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 that 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

#### **World Championships.**

In 2004 we have teams representing Australia at the following world championships; F2 - Control Line – USA ; F5B & C - Electric – UK ; F4C - Scale – Poland ; F3J – Gliding - Canada

All the teams have been finalised and the members are hard at practicing for the big event. We wish them well at the world championships.

There is also an F3A Aerobatics Combined Asia Oceania Continental Championship  
*(Continued on page 13)*

# More on Trainers

by Gerry de Groot

Peter Kidson's excellent articles about trainers suitable for those learning to fly radio control prompted a few thoughts of my own. Now I don't want to take anything away from Peter, but I feel that there is another factor that needs to be aired - that factor is wing loading.

My impression of my own flying training is that I learnt to fly in reverse order: Following advice from a local hobby shop (yes, I know you have heard this chestnut before!) I started off with a heavy, powerful and fast "trainer" with a semi-symmetrical wing section. I eventually soloed on this machine, but only after months of frayed nerves. Later on I discovered a lighter and slower flying trainer (Kadet Senior) and quickly gained confidence.

What has all this to do with wing loading, you ask?

Any aircraft flies because the air is made to flow over the wings by forward motion. The forward motion can be provided by an engine and propeller, or in the case of a glider, by the action of gravity on the weight of the airframe. In either case, the airflow develops an upward force, called "lift"

and in level flight it is the lift that supports the weight of the airframe. A heavier plane needs more lift - it's as simple as that (well almost, I need to make a number of simplifications here).

For a given wing section (aerofoil) and wing size (area), and general geometry the extra lift needed for a heavier plane can only be generated by faster movement of air. In other words, the plane has to fly faster. In the case of an experienced pilot, higher speed is not a problem, in fact it is probably more fun. But what about the novice pilot? At this point it is worth noting that "there are novices and then there are novices". Young trainee pilots generally have much faster reflexes and seem to be able to fly intuitively (well, almost). On the other hand, older trainees, for example the over-50s (and I reluctantly include myself here!) can have a real problem with the quick responses needed to fly a faster aircraft. Result? The older trainee tends to crash more often, and certainly has more near misses.

I think that the answer is to teach the older pilot on a slower-flying aircraft. How so? Well, slower flight generally means easier handling, and

it also tends to mean (though not in all cases) a more stable aircraft. As speed is reduced, the available time that the older pilot needs to think is increased. I suppose by this time you are thinking: a lighter plane will fly more slowly. Not quite! We now need to get back to the concept of wing loading. as it is entirely possible for a small and light model to fly very much faster than a larger, heavier model.

Another problem that crops up is that ARF models and kits are slowly becoming heavier. There are two reasons for this, I think. The first is that larger and more powerful engines are more readily available. The second reason is that we are running out of high quality (very light and strong) balsa wood. For example, "contest grade" balsa of density 4 - 6 lbs/cu ft is now very difficult to obtain and is only practical for rubber powered models or for indoor models. As balsa gets heavier so do the models.

Remember that the weight has to be carried by the lift force, which is not only proportional to airspeed, but also the size of the wing. Now we are ready for "wing loading", since a heavy plane can fly slowly if we have a large wing area to support it. Wing loading is simply the total flying weight divided by the wing area. (It doesn't work quite this way for biplanes, but then if you are flying a biplane you are unlikely to be a novice pilot, anyway).

In general, your trainer should have a lower wing loading than a plane for the more accomplished pilot. If you are buying an ARF or any sort of kit, then the wing area and typical flying weight are usually printed on the box. If the wing loading is not given, then calculate it by dividing the weight by the wing area. The result will be a figure in something like "ounces per square foot" or "grams per square decimetre". I like to work in Imperial measurements so I make my comparisons between models in oz/sq ft.

The following figures are very general and will depend on the model. But my own observations are that a wing loading under 10 oz/sq ft gives a very slow flying model. An example is my OT 'Debby' which has a loading of 9.5. My Kadet Senior had a loading of only 12.5 and was a great trainer. My Great Planes J-3 Cub has a loading of 22 oz/sq ft and although it flies nicely I would not regard it as a suitable trainer. I am currently building a Precedent T-180, which is supposed to be about 17 oz/sq ft. It will be interesting to see how it flies.

So my advice to older pilots looking to change models is to check out the wing loading, as well as all the other excellent tips given by Peter. If the loading is over 16 or 17 oz/sq ft, then look a bit further before you buy.

Gerry de Groot

Launceston Model Aero Club Inc.

*(Continued from page 10)*

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 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 in Victoria 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 ratings so that you can prove them if you change clubs.

The M.A.A.A. membership data base has provision to record the Flight Proficiency ratings but unfortunately some State Associations do not pass them onto me even after being requested.

### **Flying Fields and Motor Bikes**

There have been a few reports about children of members riding motorbikes on and in vicinity of the flying fields. I tend to consider that a flying field should be used for just that, flying model aircraft. A pilot does not need the added distraction of looking to see where a child is on a motorbike when they are flying or more particularly preparing for a landing. It also sends a bad message to others in that it is OK to ride motorbikes at the field. Before long you could have the situation of many kids on motorbikes tearing around the field.

The M.A.A.A. insurance policies are to cover members in the pursuit of model aviation activities, not other activities. I am not sure of the possible consequences for a club and its officials if a person was to be injured on a motorbike at the field and they took legal action against the club, but I am sure it is not good. I would not like to be in the club or on its executive should the problem arise.

I believe that a flying field is for flying model aircraft. If a child wants to ride a motorbike then they should do that at a motorbike club, not a flying club. However the final decisions are up to the club

### **Members Visiting Other Club Fields**

Some members seem to think that once they have an M.A.A.A. Membership card that it entitles them to fly at any M.A.A.A. affiliated Club's field. Wrong. All the M.A.A.A. card does is it indicates that you are an Affiliate Member of the M.A.A.A. That is, a member of a Club that is a member of a State Association that is a member of the M.A.A.A.

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MODEL AERONAUTICAL  
ASSOCIATION OF AUSTRALIA INC.  
**Newsletter**  
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#### Manual of Procedures

The M.A.A.A. Manual of Procedures is on the M.A.A.A. web site.

#### Vale Leo O'Reilly

It is with regret that I advise that Leo O'Reilly M.A.A.A. Life Member and FAI Air Sports Medallist died on Monday 2<sup>nd</sup> February, aged 72 years after a long battle with cancer.

Leo was extremely well known in the modelling world and held executive positions on many Associations including many years on the M.A.A.A. Council. He will be missed in our great sport. I am sure all members of the M.A.A.A. will join with me in extending our sympathies to Leo's wife Clair and his sons, Michael and David.

#### 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 3-year term. 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

*(Continued on page 11)*

## From the Editors

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Hello again,

On January 10, we had a visit from Ray Pike and his wife Erica. Ray is the webmaster of the MAAA website and is well known in modelling circles and flies entirely electric now. Ray has represented Australia at the World F5b champs and has again been selected for the next Worlds held in the UK. Ray is also an FAI representative in Australia. We had a great night out with Ray and Erica and a number of other club members. Some pictures are shown elsewhere in the magazine.

On another note, this is probably one of my last remaining editorial columns. As advised by both Peter and Geoff in their reports, I have decided, with regret, to resign my position from the Committee and that of editor of Prop Torque.

Both Kerry and I have sincerely enjoyed our involvement but their comes a time when one has to prioritise their activities.

It is no surprise to those at the field, that we have not been regular attendees for a while due to some health issues. For this reason I could not commit to being available at the club for meetings and felt it was in the best interests of the club to let someone who actively attends on a regular basis, join the committee and take on the editors position. I can supply the new editor(s) all the graphics used in this publication.

I have been told by a member of another club that he had heard "on the grapevine" that we were resigning from model flying all together—Not True. Hopefully we'll be back at the field soon.

Thank you to all who have contributed to the magazine and to the committee. It has been a pleasure to work with you all. Best wishes to the new editors.

*Put a spark in your life—  
Fly Electric*

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(before March 14)

# Tech Tip

## DIHEDRAL—How Much is Enough?

Like most things in the aerodynamic world, the answer to the above question is- "it depends". It depends on what you want from your plane; how maneuverable or how stable you wish it to be in the rolling axis, whether or not you desire the plane to roll when you deflect the rudder, whether or not you wish the plane to tend to self right when its upset from wings level.

In general, the more dihedral an aircraft has, the more it will tend to self-right to wings level when upset from straight and level flight. This little bit of roll stability makes the plane easier to fly because the pilot doesn't have to be constantly fighting to maintain wings level. Note the top two drawings in the figure - once we are no longer level, the lower wing is effectively a bit longer, and the lift forces on the lower wing are pointed more straight up. Also, since the figure shows a high wing plane, the CG of the plane is offset toward the high wing.

All these situations tend to force the plane back to a wings level condition initially, before the plane begins turning or skidding sideways. But the conditions described above won't last long. Also note that we now have the lift forces on the higher wing pushing sideways; this will cause the plane to skid sideways,

turn, or both. Assuming no corrections from the pilot, what now happens is largely dependent upon the size of the rudder/fin combination! If the fin/rudder area is just right, the skid continues just enough for the dihedral effect of the wing to return us to wings level. Too much area in the fin/rudder, and we turn without skidding. Centripetal force from the turn negates all the self-righting effects, and we fly in balanced flight, but in an ever increasing wing and nose-down spiral - this is called spiral instability. Too little fin/rudder area, and the skid continues even as we pass wings level, resulting in over correction, and the plane rolls and skids, oscillating like a drunken sailor - this is called dutch roll.

Although the above discussion is more important to glider and free-flight pilots, it brings us to look at how dihedral affects a plane in skidding flight - and the good and bad sides of the dihedral effect. Note in the figure what happens to a plane with dihedral when in a skid, or unbalanced flight. This condition can occur with the pilots deflection of the rudder, or when a wind gust hits the plane from the side. The large discrepancy in angle of attack between the two wings causes the plane to roll away from the direction of the skid. The dihedral effect is beneficial in self righting, gives us roll coupling with rudder application, and unfortunately, also gives us roll away from a side wind

(Continued from page 8)

gust. Incidentally, sweeping a wing back also gives us dihedral effect - with about 5 degrees of sweep being equivalent to 1 degree of dihedral. While roll coupling is essential to a trainer with no ailerons, its not good for aerobatic and combat aircraft. Most acrobatic and pattern models will have no dihedral. Military planes, with swept wings for speed, often use negative dihedral to counter the dihedral effects from the wing sweep - the Harrier, A7 Corsair, and C5 transport come to mind. And while trainers usually have quite a bit of dihedral, and are wonderfully stable in normal flight, we've all seen them turn vicious in a gusty crosswind, during take off and

landing, and even while taxiing on the field.

How much dihedral is enough?? For most of us, then, the answer is - Only enough to give us the roll stability we need, commensurate with our flying skills! We must all understand that we're only talking of tendencies here. There are many other variables that have an impact on the characteristics involved -- the designer can juggle these around to get the desired handling. But wing placement is definitely one of the biggies when it comes to establishing how a plane is going to handle.

CLIFF RAMSKILL

