

Aerobat



February- March 2016

Issue Number 5 Volume 15

Web site

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Facebook

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Cover Picture

Nigel Grace and his beautifully prepared Wiggo scratch built from plans in RCM&E Flies as good as it looks

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From The Editors Desk



A happy new year to all. I hope you are progressing well with your new year resolutions, or have realized that resolution made midnight after a party are most probably not going to be the best life decision you ever made.

The new health and safety rules are almost finished and the flying rules have been amended and are starting to be implemented. I don't know if it's incidental but we seem to have had 3 or 4 mid-air collisions since Christmas so be careful out there.

Only two twilights and the big event, the open day of course, left for the financial year This will be closely followed by the AGM so get ready to put up your hand and be prepared to give back to the club that you all have received so much from. All the things that you take for granted do not happen by magic even with a witch or two in the club.

We have only got about three months before winter will be starting. Then we can look forward to some of Auckland's best flying weather with calm winds and no sun burn. Won't that be fun?

Happy flying
Ross McDonnell Ed.



FROM THE PRESIDENTIAL SUITE

Well here we go again folk, another great year to look forward to. Hope you all had a great Christmas and new year.

From our point of view it should be a little more relaxing than last year what with having to implement our health and safety plan and upgrading our flying rules etc. Those of you who were not at our last meeting will find them in this issue , so please have a good look at them, I will just run through a few of the main ones and reasons for adopting them .

The main problem from our club field point of view is of course the road running along the southern side of the field as more and more traffic seem to be using it as the months go by.

Consequently we are trying to keep our models well away from it, so no flying south of the pilot box apart from gliders who have to be at least 50 meters high while overflying the road. Unfortunately we have to accept that some of the larger aircraft landing from the western end will have to over fly the road as its only 140 metres to the end of the runway.

But these simple steps will we hope, cut the chance of a road accident involving our club down to an acceptable level.

Charging batteries. Insurance issues don't allow us to charge our batteries on or near vehicles etc. or buildings, so we have purchased a 1800 W car Jump Starter Pack, we will keep it fully charged it lives in the shed so if you need it just take it to a clear area away from cars, buildings etc. using your own 12 v charger, plug it in and get charging.

Sorry for having to state the obvious but with electric models we don't connect the battery to the motor until we get to the pits.

I think those are the main ones but have a good look at the rest please.

We also have a First Aid kit and an Industrial size Fire Extinguisher in the shed as well, if you use any of them please tell us so we can re place or re fill the items.

When we forget, and leave clothes gear whatever behind (as most of us do from time to time) we will put the said items in the shed so don't worry they will be safe. At this point in time we have a couple of thermos

flasks and a pullover or jumper whatever they call them these days.

Ok now for the fun stuff.

Hopefully the winds going to drop off for a few months and we can get stuck into our flying. Our next Twilight is due this week and if the weather gods are anywhere near as good as the food Nigel presented to us last time it will be lovely. Fingers crossed really looking forward to it.

Good to see Norm Rodgers back with us last weekend after his bypass operation looking fantastic along with his dry wit as sharp as ever.

We have had a few spectacular crashes even a couple of mid-air collisions that I know of, so it's going to be really difficult for those of us with the unenviable job of working out who to give the magnificent best crash of the year award to this year.

Luckily for me as President on the committee, it's not going to be me.

Our open day is getting closer six weeks to be exact so we have to start getting our heads around that again, even though it only seems like 4 months since the last one. Plus our AGM, I realise it's 3 months away but start thinking about it, anything that you would like to bring up etc.

It's a pity that time flies by so quickly when you are enjoying yourself isn't it, with all the laughing and joking I've been subject to plus a bit of flying of course we have certainly been having a great time over the winter and no doubt with our lot is bound to continue through this coming year, I hope so !!!

OK that's about all folks let's have a great 2016 year with lots of happy landings

Looking forward to seeing you down at your field

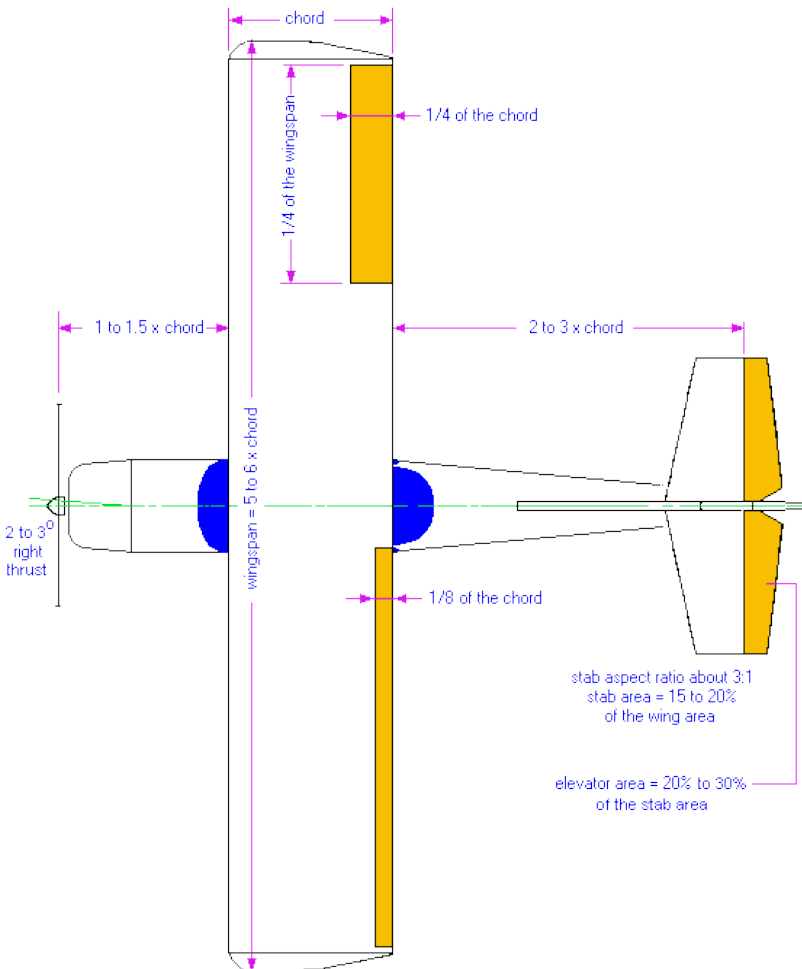
Pete Denison



AIRCRAFT DESIGN 101

With foam and other cheap building materials and more and more members are "having a go" at building their own models I thought it was time to re-present some basic guidelines from an earlier Aerobat. Unfortunately these refer to IC engines but enough has been written in these columns to be able to convert to electric if required. This system uses the cord as a standard measurement.

Some basic rules of thumb may be followed when designing an easy flying trainer model according to the two pictures below:



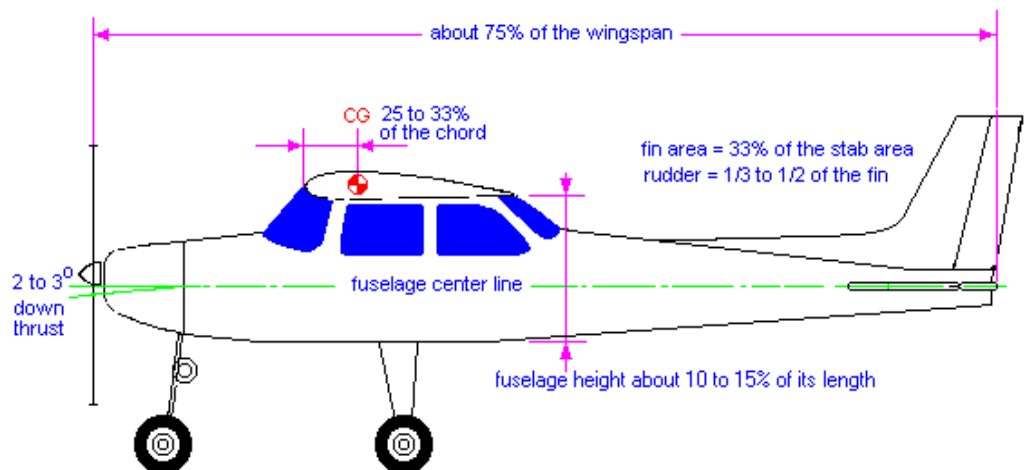
One may start by choosing the desired wing chord or wingspan from which all other related dimensions may be calculated. With high wings the dihedral angle is typically between 3 and 6 degrees. Dihedral should be lower when using ailerons (up to 3 deg). Although not strictly needed, a washout angle between 3 to 5 degrees is advisable in order to improve stall characteristics. The ideal incidence and motor thrust angles are usually found by trial and error. Initially, one

may start with 2 to 3 degrees down and right thrust. The wing's and stabiliser's incidence may initially be set at zero, and may be changed during test flights. Flat bottom wings may need more down thrust than symmetrical and/or semi-symmetrical ones.

Landing gear placement on a tail dragger should have the axle coincident with the leading edge of the wing, whereas on a tricycle the main gear should be slightly aft of the **CG** balance point in order to get easier take-offs.

A **tail-heavy** aircraft will be more unstable and susceptible to stall at low speed e. g. during the landing approach. A **nose-heavy** aircraft will be more difficult to take off from the ground and to gain altitude and will tend to drop its nose when the throttle is reduced. It also requires higher speed in order to land safely.

Powered model aircraft performance may also be estimated by calculating the weight / power ratio, also known as **power loading**. A slow and low wing loading (for a beginner), with a weight / power ratio of 440 to 500g/c.c. (270 to 300oz/c.in.) might be good enough, whereas an aerobatics would need about 340g/c.c. (200oz/c.in.) to achieve good performance. This is assuming 2-stroke engines and that the power of different types is proportional to their displacements, (which isn't too far off). As for the aerofoil type, one should consider that a flat



bottom wing gives high lift at upright flight but poor lift at inverted flight. Flat bottom wings (high cambered aerofoils) are mainly used in slow and relatively light

Recommended Engine Size Versus Wing Area

c. c.	c. in.	area sq. dm	area sq. in.
0.8	.049	12 - 16	200 - 250
1.6	.10	15 - 22	250 - 350
2.5	.15	20 - 30	300 - 450
4.0	.25	26 - 32	400 - 500
6.7	.40	32 - 45	500 - 700
10	.60	38 - 55	600 - 850

powered models. They have high lift coefficient but also high pitching moment, so a relatively longer tail moment or larger stab area may be needed in order to achieve a good longitudinal stability (stability in pitch). They also tend to balloon when power is increased or when turning into the wind. Quasi-symmetrical

aerofoils are usually a good compromise giving almost the same lift at both upright and inverted flight. Symmetrical aerofoils are intended for aerobatic models as it behaves equally at both upright and inverted flight.

The control surfaces' max throws also have great effect on the flight stability. With too much throw the model will respond too quickly and may be difficult to control, whereas too little throw will result in poor control, especially at low landing speed. Typical throw settings measured at the control surface trailing edge are:

Elevator and Ailerons 6mm (1/4") up and down.

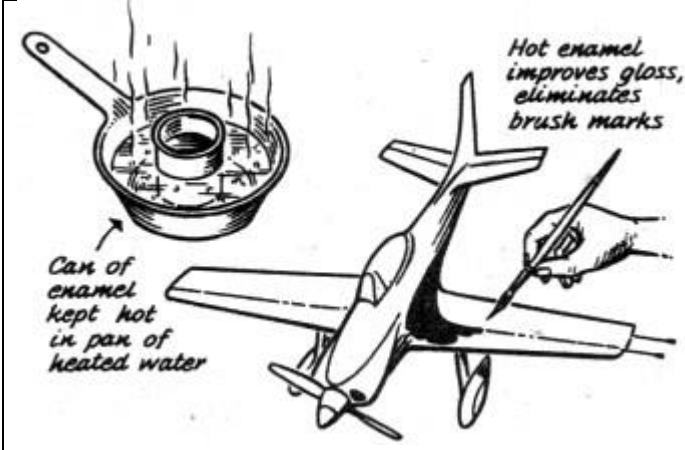
Differential Ailerons 8mm (5/16") up and 4mm (5/32") down.

Rudder 10mm (3/8") left and right.

Those figures are just guidelines and some minor changes may be done during test flights. Faster models will require lower throw settings.

Now you know it all, I wish you the best of building and may the ground not come up and smite thee.

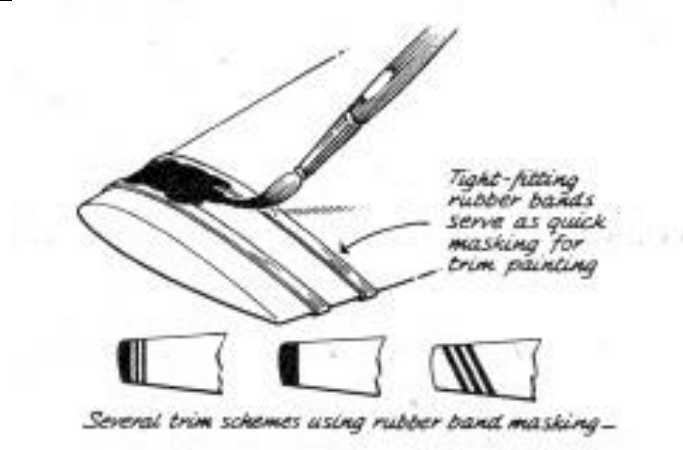
HINTS AND TRICKS



Hot enamel improves gloss, eliminates brush marks

Can of enamel kept hot in pan of heated water

A finishing suggestion to use when brushing enamel, from E. Mayover, Bradenton, Florida, is to place opened can of enamel in pan of water, warm slightly. Heated enamel dries brighter, smoother.



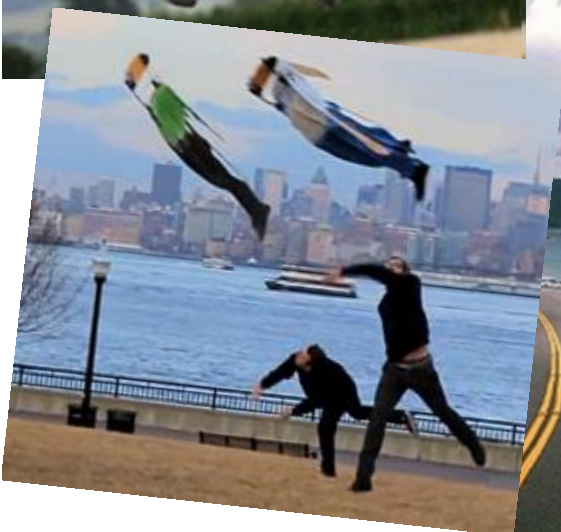
Tight-fitting rubber bands serve as quick masking for trim painting

Several trim schemes using rubber band masking

When simple paint decoration calls for masking in straight lines on wings and tail parts, Rodger Nieswender, Birmingham, Ala., makes use of wide rubber bands. Sharp edges are possible, says Rodger.

STRANGE FLYING MACHINES

With the recent introduction of some very innovative and well flying models at the club lately, and always being one for pushing it, I thought this collection of weird aircraft might be inspirational for that next model.



AROUND THE CLUB



Ian McEwen's Chipmunk



Wayne Drinkwater's Kiosho T33



Looks almost real



See it's not bad manufacture



Ngaire, what a legend



Now this is a flying site with a view

Ngairé's rum muffins as it really happened (You had the official version but now what really happened)

Ingredients:

*1 cup of water
1 tsp baking soda
1 cup of sugar
1 tsp salt
1 cup of brown sugar
lemon juice
4 large eggs
lots of nuts
1 bottle Rum
2 cups of dried fruit*



Sample the rum to check quality. Take a large bowl, check the rum again. To be sure it is the highest quality, pour one level cup and drink.

Repeat.

Turn on the electric mixer. Beat one cup of butter in a large fluffy bowl. Add one teaspoon of sugar. Beat again. At this point it's best to make sure the rum is shtill OK.

Try another cup just in case. Turn off the mixerer.

Break 2 leggs and add to the bowl and chuck in the cup of dried fruit.

Pick fruit off floor.

Mix on the turner.

If the fried druit gets stuck in the beaterers pry it loose with a sdrewsdriver.

Sample the rum to check for tonsisticity.

Next, sift two cups of salt. Or something. Who careshz.

Check the rum.

Now shift the lemon juice and strain your nuts.

Add one table. Add a spoon of sugar, or somefink. Whatever you can find.

Greash the oven and wee in the fridge.

Turn the cake tin 360 degrees and try not to fall over.

Don't forget to beat off the turner.

Finally, throw the bowl through the window, finish the rum, fall into bed.

CHERRY MISTMAS !!

NB. Proposed Revised Flying Rules

Hibiscus Coast Radio Fliers Wainui Road Flying Field Rules November 2015

These rules are in addition to MFNZ rules and regulations and do not replace them.

General Field Rules.

1. No dogs are allowed at the field.
2. No litter of any type to be left at the field.
3. The outer and inner gates are to be kept closed at all times.
4. No member while at the field shall do anything that may endanger themselves or others.
5. Powered aircraft (IC and Electric) after take off Pilots must fly from the pilot box.
6. When an electric winch or bungee is deployed for gliding the pilot box moves to an area behind the launch site.
7. All IC aircraft are to be started in the pits area only and must be restrained or held by an assistant.
8. All electric aircraft are to have their batteries connected in the pits area only.
9. All batteries are to be charged in an open area away from vehicles and buildings.
10. The maximum flying height is 850 feet above the field.
11. Under no circumstances are powered aircraft to be flown south of a line through the pilot box and extending east and west. Gliders must not over fly houses or cars at less than 30 meters above the ground.
12. Cars are to be parked in a safe area designated on the day by the members present. No vehicle is to be driven on to the field during winter months or when hay is being grown.
13. Engine noise must not exceed 96 DBA at a distance of 3 metres.
14. 049 engines (such as cox 049) are not to be used without a muffler.
15. Control line flying is not permitted at this field.

Hours of Flying.

1. No flying is permitted when the Wainui Pony Club or other arranged activities require the use of the field.
2. Christmas Day, New Years Day and Good Friday are Total no fly days.
3. Saturday. Electric flight 8.30 till noon IC and electric aircraft noon till dusk.
4. Sunday. Electric flight 8.30 till 10.30 IC and electric aircraft 10.30 till dusk.
5. Wednesday as per Sunday, but one or two test flight only for IC aircraft.
6. Flying events organised by the club and advertised in the Areobat take precedence over other flying.
7. Flyers by mutual agreement can vary the time of cutover from Electric flight to IC aircraft but IC is not to be flown before 10.30.
8. These rules may be subject to change to meet legal or MFNZ requirements.
9. Other changes can be invoked by the committee provided they are notified to members 30 days prior to their becoming effective.

H.C.R.F. Calendar 2015 – 2016

As our fixed flying times are every Wednesday, Saturday and Sunday morning.

Pony Club Rally days are every Tuesday afternoon at the field starting September 2015.

NB ones with Pony in the day (and in yellow for those in colour,) are Pony Club. **THEY MAY NOT AFFECT US.**

Date	Day	Event	Where/When
1 February 2016	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
3 February 2016	Wed	Twilight 3	Wainui 5-00 pm
4 February 2016	Thurs Pony	Cross Country Practice Evening	Wainui
6 February 2016	Sat	Winch Gliding	Wainui 8.30 am - 12.00 noon
10 February 2016	Wed	Twilight 3 Rain Date	Wainui 5-00 pm
28 February 2016	Sun Pony	Wainui ODE	Wainui All Day
5 March 2016	Sat	Winch Gliding	Wainui 8.30 am - 12.00 noon
7 March 2016	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
12 March 2016	Sat	Open day set up	Wainui 12 noon
13 March 2016	Sun	Open day	Wainui 8-00 am
23 March 2016	Wed Pony	Cross Country Practice Evening	Wainui
30 March 2016	Wed	Twilight 4	Wainui 5-00 pm
2 April 2016	Sat	Winch Gliding	Wainui 8.30 am - 12.00 noon
4 April 2016	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
16 April 2016	Sat Pony	Open Ribbin Day	Wainui All Day
1 February 2016	Mon	Club Night	Whangaparaoa Guide Hall 7-30 pm
3 February 2016	Wed	Twilight 3	Wainui 5-00 pm

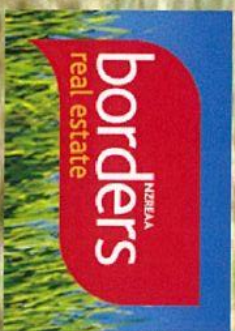
Notice of Annual General Meeting of the Hibiscus Coast Radio Flyers

The committee gives notice that the next Annual General Meeting will be held

At The Guide's Hall, 45 Stanmore Bay Road, Stanmore Bay, Whangaparaoa

On Monday 2nd May 2016 commencing at 7.30pm.

MODEL AIRCRAFT PUBLIC FUN DAY



Sunday

13 March

10am - 3pm

Mainui Pony Club Field

Mainui Road

Silverdale

- *Free admission*
 - *Plenty of parking*
 - *BBQ sausage sizzle*
 - *Hot & cold drinks*
 - *Bonus Vintage Cars*
- Please note - No dogs allowed*

Hibiscus Coast Radio Filers + Contact Nigel 09 420-3182 or Peter 09 426-2455