

TRANSMITTER

*40 years at Porter's Field
1968—2008*



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Chris Howarth, Richard Symes,
Ian Howard, **Heavy & giant models**
Kevin Dodd, Doug McLlraith

Turbine model inspectors

Kevin Dodd, Phil Collins.

From the Editor.

Welcome to another edition of the Transmitter. Our club turns 40 this year and we intend to make a big event of it. On page 5 you will find a brief history of TMAC compiled by club President Peter Stevenson. I have also added some information on a current connection back to the old Porter's Field in the form of DH 84 Dragon VH-UXG. For more information on the history of Porters Field and the surrounding area go to <http://www.members.optusnet.com.au/belmont.history/history.htm>, and if you would like to read the complete story of Des Porters Dragon refer to Classic Wings magazine Vol 10, No3, 2003.

Phil Gartshore continues his excellent Wobbly Wings series with snap rolls, not a required Wings manoeuvre but perhaps this should be read in the context of the article on the bottom of page 3 (Take More Chances...)

I have worked the grey matter a bit again this month and written a short article on aircraft stability and the importance of correct C of G. Perhaps next issue we may look at how to establish the correct C of G. However I am always looking for people to provide articles so if you feel suitably inspired let me know.

Peter Biddle

All pictures in the Transmitter are taken by the editor unless otherwise noted.

On The Cover
Henry Wong and his all
electric, Broncos themed
Jet Ranger.





From the President

TMAC's 40th Anniversary Celebration

It is TMAC's 40th Anniversary of flying model planes at Porters Field this year.

The actual date of when the Club first formed at the Porters Filed is unknown, however records show it was in 1968.(Refer to the club history on page 5)

We intend to celebrate this occasion, and have set aside Sunday the 19th October 2008 as the day to celebrate the Club's 40th Anniversary.

At our club meetings, it has been suggested that we have a dual celebration. A 60/40 celebration. It was 60 years ago that full sized planes flew at the Porter Field, and 40 years ago that TMAC members flew model planes at the Porter Field. This proposal included a historical viewing of the early beginnings of TMAC through to the current date, as well as some fun physical games, and a feast for all to indulge on.

If any member has an alternative suggestion, and is willing to manage the event, please let your committee know, as approval to the successful proposal will need to be given shortly.

Web Master

Adam O'Callaghan, who has been our web master for sometime has decided to step down due to family commitments. On behalf of the members, I would like to thank Adam for keeping the web up-to-date and ensuring it is always working. Good health to you and your wife, with your new baby.

Roy Syntageros has put up his hand to be our new

web master. Congratulations Roy.

Safety – Pilot to Pilot Communication

The importance of Pilot to Pilot communication at the flight line is imperative to the safety of your fellow member. Please communicate in a clear voice what your intentions are, and be sure all pilots are aware if you are retrieving a model from the strip or crossing the strip. I have received reports of pilots landing on the strip while others are retrieving aircraft. This can easily lead to someone being injured.

Helpers at Events

Warbirds is just around the corner on Sunday the 16th March. It would make the event go much smoother if members helped out on the day, and in particular at the end of the day when cleaning up and putting the equipment back into the bunker. Please let yourself be known to the event coordinator Gregor Kruberg.

Wobbly Wings is on Sunday the 20th April. Instructors, particularly helicopters, are required to help out with the training of pilots for specific manoeuvres. Please let the event coordinator Phil Gartshore know if you are able to help as early as possible.

Field Conditions

With the recent rains, the field is looking picture perfect. I would like to thank the members who contribute in keeping the field in such good nick.

Well done to all the members who help out with Gregor's working bees. Without the runway in good order, we could not fly at all. Thank you Dave Walker for continuing with the great effort in mowing the strip and pits area.

Good Flying
Peter Stevenson

Take More Chances—Enjoy More Crashes

As you gain in skills, you will take more chances. For instance, an outside loop with a trainer! Well, you just learned that the typical trainer will not do an outside loop (outside loop—from straight and level flight, push down; go down and around to straight, and level flight again.)

When your trainer has reached the inverted position and is trying to go up while inverted, it either won't climb or falls off to the side. The likely result is a crash. The definite result is a learning experience.

Don't give in to the temptation to blame your airplane, radio, the wind, the sun, or anything else external. The fault lies with your urge to try something new. Congratulations! You are well on your way to becoming an excellent flier.

Now, how does a beginning flier get out of a difficult

situation? The answer, my friend—it depends. In the above outside loop situation, the experienced flier would stay in inverted flight and level off. Then either give up to do a half-inverted inside loop, or do a half roll to level flight. This comes with experience—experience in getting out of tight situations. The flier who never gets into a difficult situation—that is, never takes a chance—never progresses.

Is there a general method for getting out of trouble? Yes, only one. Before you try it, think about it and think about things that can go wrong. Remember the "three mistakes high" rule. You might want to discuss your attempts with an instructor beforehand. You definitely want to discuss your new maneuvers with someone more experienced afterward. If only to brag or find out what went wrong.

Oh, one more thing. Please make sure your attempts are safely out over the field, never near the pits.

By Bob Karaseiwicz—The AMA Insider, November 2007



From the Secretary.

Main Sign at the Field.

We are updating the main sign at the field. The wording has been reviewed and updated to provide the emphasis required for the club. This includes emphasizing that operations are under CASA regulations, membership requirements, hours of operation, and safety restrictions. A sign writer has been engaged to deliver the replacement sign, and you should see it erected in the next month.

40th Anniversary Year 2008.

This year marks the 40th year for the club. The club calendar shows an event planned for October, and work has commenced on taking ideas from members and agreeing on the format of the event. In addition, we are planning to release some memorabilia in the form of a commemorative badge and special Polo Shirt, which members will be able to purchase. We are also looking at letting other clubs know about our achievement, including sending out a flyer, and putting an article into the MAAQ publication, Airflow. You will also see that Peter Biddle, our Editor, has changed the artwork on the Transmitter to reflect this special year.

Warbirds Day 16th March.

The Warbirds day is again on this year and will be ably coordinated by Gregor Kruberg. This is a great spectacle with lots of warbirds on display by scale modelers from TMAC and beyond. We do however require assistance from members to make these events run smoothly, and share the work, so that we don't see just a few working frantically to get the jobs done. Please see if you can find the time to come out and assist where possible. Jobs that need extra hands include setup first thing in the morning (from 7.30am), running the BBQ breakfast and on throughout the morning, and the cleanup and putting away at lunchtime.

Wobbly Wings 20th April

This event provides assistance to members who are working towards their fixed wing Gold Wings award. This is an important part of the way that TMAC demonstrates to its insurers that we are proactive about safety and the competence of our members in operating model aircraft. MAAQ Instructors will be on hand to coach members on individual manoeuvres. The full sequence will be demonstrated by a carefully selected victim, or volunteer. Participants will receive a MAAA Pilot log

book, which outlines the manoeuvres. Come along and get some "no pressure" assistance on those manoeuvres you have been struggling with. Working towards and achieving Gold Wings will make you a better pilot. This will also help you to work towards the Wings Testing day in July.

Safety at the Field

Just a reminder that we all need to focus on safety when at the field. Yours truly dodged a bullet recently. After a heavy landing a couple of weeks earlier which popped out the landing gear plate and put the spats through the wing, I had repaired the damage and recovered my pride and joy. After assembling the model, checking that the re-installed bits were all in place and tightened, I starting the engine, checking the mixture, and took off. I checked out the model and all was OK. Having repaired the undercarriage, I decided to test it out and flew half a dozen touch and goes followed by a couple of Cuban eights just for fun. I landed safely and wheeled the model back to the pits, satisfied with the my repairs. In the pits, I dropped the tail wheel onto the ground from an inch or so above the ground, at which time the rear of the wing fell onto the ground also. I had managed to complete an entire flight without installing the wing bolts. Dummy! Please, please stay focused and take care out there. Check and check again. Happy flying!

Regards Phil Gartshore

Meet the Committee

Yours truly The Editor—Peter Biddle

I have been involved in aviation for most of my life. I started off in control line down at the local park.

From there, and while still at school I took the giant leap into rebuilding a wrecked DH82 Tiger Moth along with best mate Graham Orphan (now editor of Classic Wings Magazine) This was completed in the mid 80s as VH-BEX and I flew this for many years around SE Queensland. In 2003 I



sold my share back to Graham and the aircraft moved to New Zealand. While between aeroplanes I have become involved in model aviation again over the last 3 years with TMAC and have been the editor for the last 18 months. Why TMAC? Because I like the clubs' association with aviation history.

TMAC

A Brief History – Porter's Field by Peter Stevenson

Early 1950s

Model aeroplane flying at Porters Field began in the early 1950s, when Stan Porter allowed his friend Jack Richters to fly model aeroplanes, on his property, and who also taught Jack to fly full size aircraft, the Gypsy Moth.

1968 TMAC Formed

TMAC was formed when a number of flyers at the Carindale field had a disagreement with other flyers and decided to move on and form the Tingalpa Model Aero Club at the current Porters Field.

The founding members were Jack Richters, Bill McKey, Bruce Jenson and Lionel Perrin.

Jack Richters, was the first President (1968 – 1975), and was the Club's first Life Member. Other club life members are Doug Kent and Will Sipma.

Early Bi-Laws

Part of the bi-laws in the early years of the Club, was the first member to arrive had to put up the wind-sock, and remove all the cow patties from the runway. An essential part of the Club's equipments, was a shovel and wheelbarrow.

Flight Line

The original flight line was positioned on the southern side of the field, near where the current helicopter hovering pad is located. Later it was relocated to the north east corner near the current yellow turning pole, but after a member in 1980 flew his plane into the power line that serviced the dairy shed and cut all power, the flight line was returned to the original position. When the Gateway motorway was built, the flight line moved 100 meters west to its current position on the 20th February 1988.

1984 Porters Field Leased from Brisbane City Council

On the 3rd January 1984, TMAC applied for a lease from the council, as Porters field was now part of Brisbane City Council land. It took a decade of negotiation, but finally the first lease was signed on 29th September 1994. The second lease took effect from 1st September 2000.

1985 TMAC Incorporated

On 3rd December, 1985, TMAC became an incorporated body, with a set of Rules and By-Laws with which to guide the club.

1982 Public Display - Mini Air Show

1982 was the first year TMAC held an air show that was open to the public. It was called the Brisbane Mini Air Show and was opened by politician Tom Burns on 14 November 1982. The 'Tingalpa Model Air Show' held on the 19th March 1989 was known as the first of the big air shows. These air shows were held annually under various names including more recently the 'Gateway Mini Air Show'

2006 BCC Lease Renewed.

On the 8th August 2006, TMAC obtained its 3rd lease with the BCC for a further 5 years from the 1st September 2006 to 31st August 2011.

2008 40 Years Old

In 2008, TMAC will celebrate its 40th year flying model aircraft at its current location, known as Porters Filed.

The Story of VH-UXG

On the 23rd October 1958 Stan Porter lifted off in from Porters field in DH84 Dragon VH-AOR with sons Keith and Des aboard. Shortly after takeoff the aircraft crashed into Bulimba Creek adjacent to the field after hitting a tree. Unfortunately Stan and Keith were killed in the accident but Des survived.

Forty two years later Des became involved in the restoration of another DH84, VH-UXG through Mothcair Aviation Services in Murwillumbah, NSW. Just to add a twist to the story this aircraft was also owned by Stan Porter prior to him owning VH-AOR.

On the 20th March 2004 VH-UXG again took to the air after a complete rebuild by Mothcair.

This aircraft, pictured below at Watts Bridge Airfield is regularly seen around the skies of South East Queensland with Des up front.

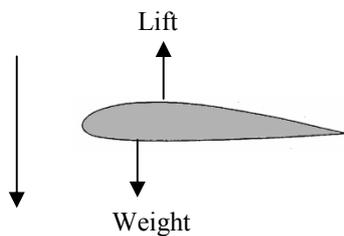


Picture by Anthony Rich

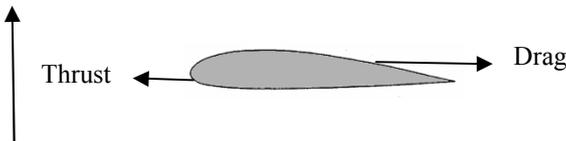
Concepts of Stability—by Peter Biddle

An aircraft's response to a disturbance is associated with the inherent degree of stability built in by the designer. This article will look at how an aircraft responds to changes in relative airflow due to either the effects of the atmosphere or some other disturbance.

The four forces acting on an aircraft in flight are lift, drag, thrust and weight. For level flight lift must be equal to weight and thrust equal to drag. However of these forces thrust is the only one which has a constant position. Lift varies with angle of attack. Drag changes with angle of attack, and position of flaps and undercarriage etc. Weight changes with the consumption of fuel. If weight is forward of lift then pitch down moment is set up.



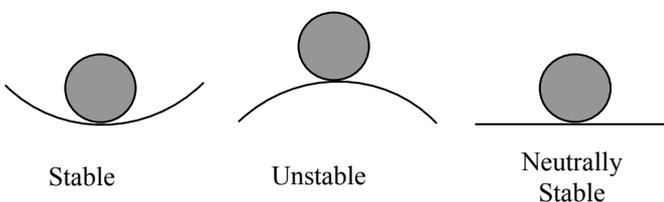
This is a desirable tendency as if the thrust fails (engine stops) the aircraft will naturally enter a glide. As such most aircraft are designed to have this arrangement. If thrust is now arranged to act lower than the drag, a nose up tendency is introduced to produce balanced flight.



Even if balance is obtained, the forces still move in flight. The tailplane can be made to balance the forces again by movement of the elevator. Having ensured that the aircraft can be balanced in normal flight it is probable that the aircraft will be disturbed or deflected from its flight path by some movement of the air. Stability is the ability of the aircraft to return to its original path without assistance from the pilot.

Stability can be defined as either

- Stable or positively stable – where the aircraft returns to its original condition after a disturbance.
- Unstable or negatively stable – where the aircraft tends to move progressively further away from its original condition after a disturbance.
- Neutrally stable – where the aircraft remains in the new condition after the disturbance.



A totally stable aircraft will return, more or less immediately, to its trimmed state without pilot intervention. However such an aircraft is rare and generally not desirable. We usually want an aircraft to be reasonably stable so it is easy to fly. If it is too stable, it tends to be sluggish in maneuvering, exhibiting a too slow response on the controls. Too little stability is also an undesirable characteristic as constant corrective action is required by the pilot. As a general rule an aircraft designed for aerobatics needs to be less stable than one designed as a trainer.

An aircraft's stability is expressed in relation to each of the three axis,

- Lateral stability (stability in roll)
- Directional stability (stability in yaw)
- Longitudinal stability (stability in pitch)

Lateral stability is achieved through a combination of dihedral, sweepback and keel or pendulum effect.

When the wings are banked the lift no longer acts vertically upwards but the weight is still acting vertically downwards. The forces become unbalanced resulting in the aircraft side slipping. This produces a relative airflow slightly from the side of the aircraft. During a sideslip in an aircraft with positive dihedral the lower wing will meet this sideways airflow at a slightly greater angle of attack so producing greater lift and rolling the aircraft back to the wings level condition.

Similarly in an aircraft with swept back wings the sideways airflow resulting from the sideslip caused by the aircraft rolling meets the lower wing in such a manner that the effective camber is thicker than the upper wing. This increased camber produces more lift, rolling the aircraft back to wings level.

When an aircraft with the centre of gravity below the wing (such as in high wing aircraft) is disturbed and one wing dips, the fuselage weight acts like a pendulum returning the aircraft to the horizontal position.

Directional Stability is determined by the fin. If an aircraft is disturbed by the nose being pushed to one side it will continue temporarily along its original path due to inertia. The aircraft will now be traveling slightly sideways (crabbing) and exposing the side of the aircraft to the airflow. The pressure exerted by this airflow on the nose of the aircraft (forward of the centre of gravity) will tend to cause the nose to move further from its original position. The side surfaces behind the centre of gravity however are much larger and include the fin and rudder at the end of the fuselage. This larger force with a much greater moment (or leverage) moves the nose back towards the direction of flight.

Longitudinal stability depends on the location of the centre of gravity, the tailplane area and the position of the tailplane in relation to the wing. When an aircraft's

attitude is changed by a disturbance (say upwards) it will initially continue along its original path due to inertia. Eventually this inertia will be overcome and the aircraft would start to climb. With the nose up the wings would be at a greater angle of attack causing more lift to be produced and so the aircraft would climb.

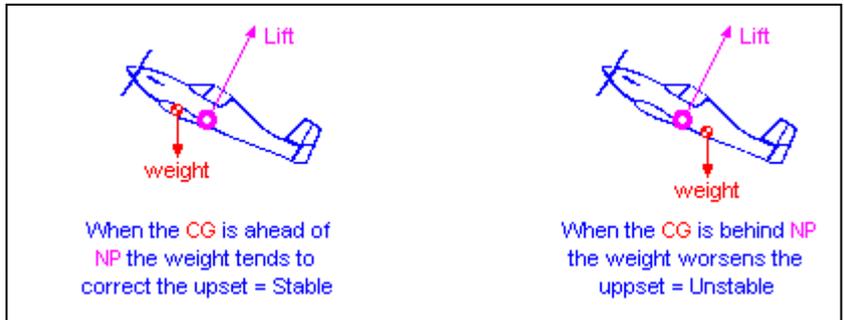
The tailplane is set at an angle such that it is at a smaller angle of attack than the wing. Any change in angle of attack in the wing is also experienced by the tailplane. The change in lift produced by the tailplane is much greater in proportion to that of the wing due to the distance from the centre of gravity and will tend to push the tail back up to its level position where it no longer receives additional lift.

It is of crucial importance that an aircraft's **Centre of Gravity** is located at the right point, so that a stable and controllable flight can be achieved. In order to achieve a good longitudinal stability, the centre of gravity should be ahead of the neutral point which is the aerodynamic centre of the whole aircraft. The bigger the tailplane area in relationship to the wing area and the longer the tail moment arm relative to the wing chord, the further aft the neutral point will be and the farther aft the centre of gravity may be, provided it's kept ahead of the neutral point for stability.

If an aircraft is loaded within the correct centre of gravity envelope it will have positive longitudinal sta-

bility. That is critical, because an aircraft with negative longitudinal stability would be impossible to fly for more than a few moments. It would require tremendous concentration to avoid over controlling such an aircraft.

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 takeoff 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.

Hopefully this short article has given you a greater appreciation of some of the design aspects of aircraft associated with stability and helped to reinforce the importance of a correct centre of gravity.

References—

The Private Pilot by C.S. Hames.

Aerodynamics, Stability Concepts—Welcome to Model Aircraft, <http://adamone.rchomepage.com/>

T.A.R.M.A.C

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Sunday, 30th March, 2008

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Mississ Road, HAIGSLEA
14 Kilometres West of IPSWICH
off the Warrego Highway. (follow the signs)

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- * Plenty of water for Float Planes.

Admission by gold coin donation
Hamburgers & Drinks Available

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Barry Donovan on (07) 3201 6489
Or
Trevor Wandt on (07) 3201 8364

Come along and have a Great Day,
The last one was a beauty



Recent TMAC Activities



TMAC WARBIRDS DAY



Supported by The Southern Cross Air Force



Sunday 16th March

Pilot briefing at 0845 hrs

BRING ANY AUTHENTIC WARBIRD
ENJOY A DAY OF FUN FLYING.
BAR - B - Q AND DRINKS WILL BE AVAILABLE.

BREAKFAST AVAILABLE





Information, tips and tricks on wings manoeuvres.

Welcome to the ninth in a series of Transmitter columns aimed at taking the mystery out of performing Fixed Wing Bronze/Gold Wings manoeuvres. The author doesn't claim to be the font of all knowledge and has drawn on all sorts of information from other flyers, publications, and the Internet. The so-called tips & tricks are just that; useful to some pilots but perhaps not to others. Hopefully, they may cause a light bulb to go on in your head for that manoeuvre you are struggling with.

Snap Rolls

This is not a Wings manoeuvre, but I have just about run out of topics to discuss in this column. For a bit of fun, here are some tips on performing a basic Snap Roll.

When I was first interested in doing Snap Rolls, I asked a couple of members who I have seen do what I thought was a snap. My take from what they advised was something like: *You just pull full up-elevator and apply full aileron and rudder in the same direction until you want to stop. That's simply how it's done right—or not...* Scary stuff if you haven't done snaps before, and the result is not particularly elegant.

When a snap roll is done using the traditional technique of cornering the sticks for all three controls, the result is usually described as a "deep snap." What this really means is that the nose of the model moves a long way off the heading of flight in the yaw and pitch axes. When this happens, the model loses a lot of energy, or speed, as the snap is done. So, when you release the sticks to stop the snap, a few undesirable things result:

1. The model usually doesn't stop exactly where you want it to. Because so much airspeed was lost and because the wing was in a deep stall, the model usually over-rotates and ends up stopping past the point at which you wanted to stop. You wanted to stop upright, but the model stops rotating past upright and is more towards a knife-edge position.
2. Even if the model stops at the desired amount of rotation in the snap, the nose will probably be pointed in a different direction than it was heading when you started the snap. The change in heading makes your flying look messy and haphazard.
3. Losing so much energy through the deep snap makes the model wobbly after the exit and it is difficult to make it go where you want it to until it regains speed. If you

are doing a snap roll going straight up, it is almost impossible to do a snap roll and then continue straight up on the same heading after the snap. The heading will be off, and there will be very little airspeed or control authority to make the model go where you want it to. The solution to solving all of the foregoing issues is simply to unload the snaps. "Unload" is a very descriptive term because you are simply unloading the elevator once the snap is started. This technique makes a snap look very much like one done by a full-scale aerobatic airplane, and the technique is almost the same as used in the full-scale aerobatic (IAC) world. It's as simple as 1, 2, 3.

Unloaded Snap Rolls

The snap is initiated with elevator only. For a positive snap, first pull hard up-elevator. For a negative snap, push hard down. As soon as there is a visible pitch-up of the nose, move the aileron and rudder simultaneously to full deflection.

At the same instant as you start to move the ailerons and rudder, also start removing the elevator. The object is for the elevator to return to the neutral position at the same moment as the aileron and rudder reach full deflection. A very easy way to look at this is for the left stick (mode 1 pilots) to draw a Tick (✓).



When done correctly, you will see a fast pitch in the direction of the snap, meaning up for positive and down for negative. Immediately, the model will begin to rotate (AKA "autorotation") around the roll, yaw and pitch axes. Because the elevator is unloaded, however, the model won't get as deep into the snap, and it will stop faster, lose much less energy and remain on the original heading it was on before the snap.

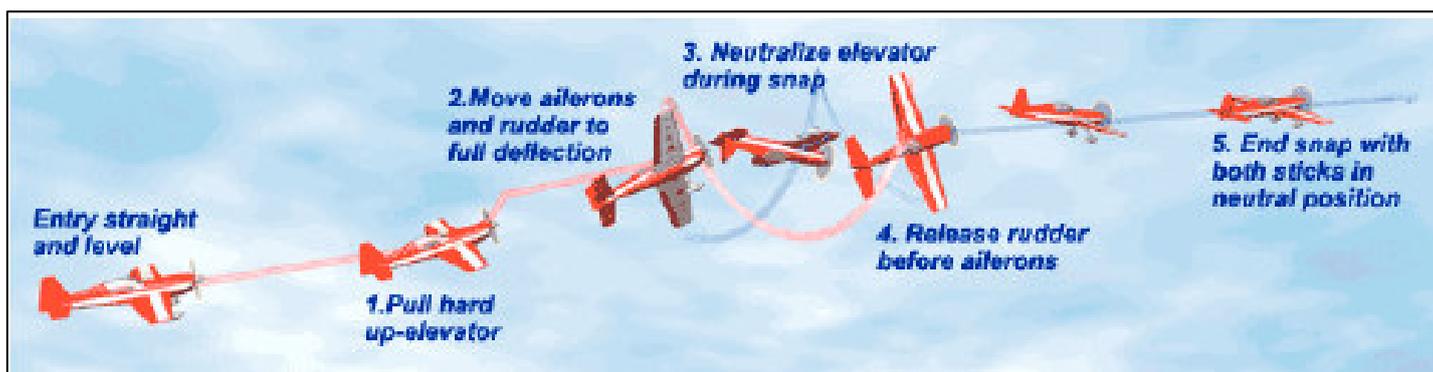
Though this sounds difficult to learn, it very quickly becomes second nature. Practice, Practice, Practice.

Tips for Snap Rolls:

- Practice – 3 Snap Rolls mistakes High.
- Power – Pull back a little on power just before entry.
- Elevators – Follow the "Tick" movement with the left Stick.

Remember to end up with the canopy pointing to the sky, and the wheels to the ground.

Reference: *The art of the Snap Roll – Mike McConville. Model Airplane News, 2006.*





Wobbly Wings Day



Sunday 20th April 2008
9:00am-12:00pm
T.M.A.C.

Having problems getting the wings manoeuvres down pat? Need some help to get started? Is the ground too high when you perform rolls? How about some one-on-one coaching from a MAAA rated instructor?

- Focus on Gold Wings manoeuvres, in particular loops and rolls
- One-on-one coaching at the flight line with an MAAA rated instructors
- Have you particular Wings aerobatic problem solved!
- MAAA Pilot Log Books available on the day



Note: The field will be closed for general flying from 9:00am-12:00pm for safety reasons.

Contact: Phil Gartshore, Secretary@TMAC.asn.au, 0407 070 263

Upcoming Events at TMAC

Monday 3rd March	Meeting	Club General Meeting
Sunday 16th March	Event	Warbirds Day
Monday 7th April	Meeting	Club General Meeting
Sunday 20th April	Event	Wobbly Wings Day
Monday 5th May	Meeting	Club General Meeting
Sunday 18th May	Event	Fun Fly Day

**Next event is the Warbirds Day - Sunday 16th March.
(The field will be closed to general flying)**

Note: For events the field will normally be closed to general flying

If undeliverable, please return to:

The Secretary,
Tingalpa Model Aero Club Inc
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