



Aerobat



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ALL ARTICLES/QUESTIONS/
COMMENTS, SEND AN EMAIL
TO:

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AEROBAT

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From the Editor's Desk...

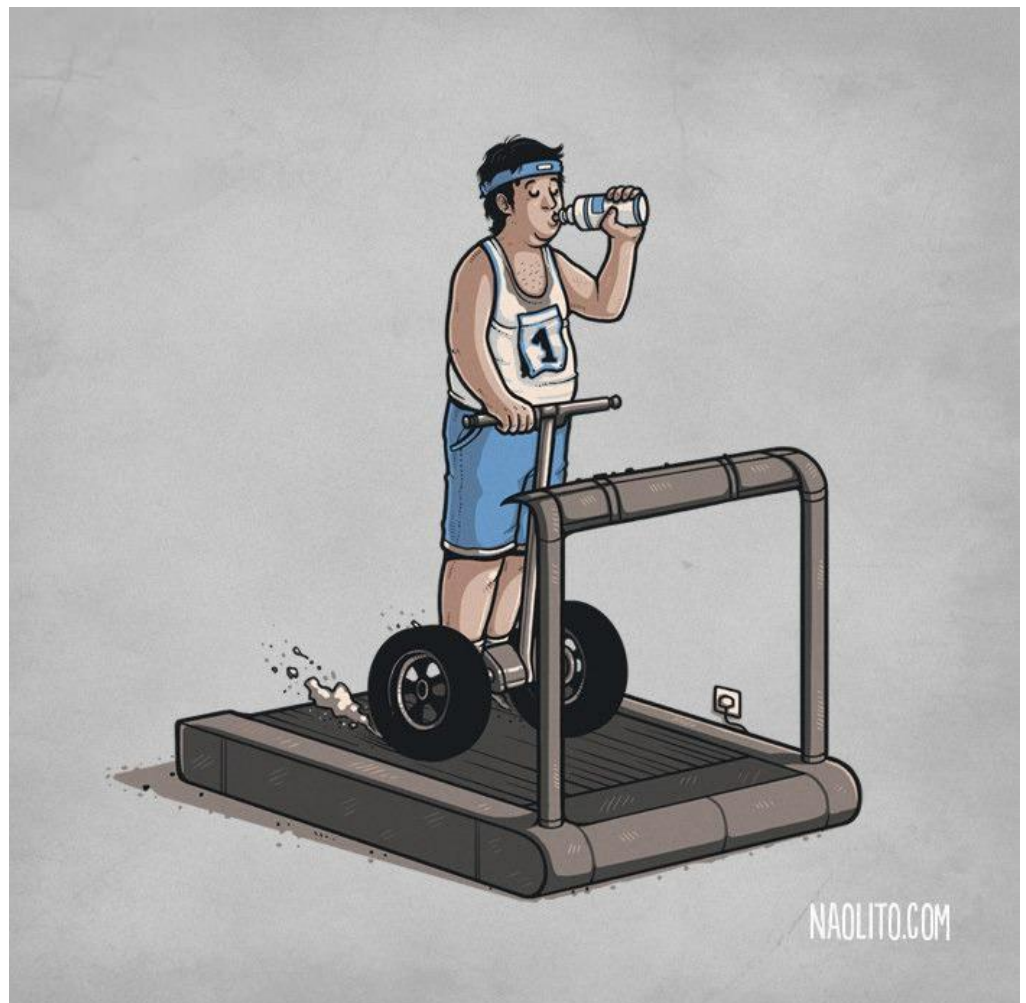
Lazy Editor's Column Postponed Until Next Issue

Front Cover Image: View of Orewa Beach from Above. Shot using GoPro Hero 3 at Victor Eaves Park 09/12/12.

Merry Christmas & Happy New Year

Hayden Purdy

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NAOLITO.COM

From the Presidential Suite

Well here we are again at the end of another year, and the holiday season is upon us again. I think as far as the club goes we have had a good year, we have gained some new “friends” members, which to me is a rather odd formal term, we have also had more members gaining their coveted “wings” badges qualification - surely a good thing for all concerned!

We have dipped our toe into the world of indoor flying, my first thoughts were that it was too small and frantic but after the latest evening I found my flying improving and that I was making use of all of the space and enjoying myself.

The twilight BBQ evenings will now replace the indoor meets, and if you have never attended a twilight session I urge you to do so - they are a brilliant way to spend an evening and not just the flying side of it, the social side just sitting swapping yarns and listening to Ross’s corny jokes, good fun!

With the New Year comes (hopefully) a settled flying season with ample time to indulge in this brilliant hobby of ours. I am hoping to get more of what I call “urban flying” - taking a small electric model and fly from reserves and beaches - I plan to take my Bixler with a camera on it and fly from some spectacular places like Shakespear regional park, or Muriwai.

All that is left is for me to wish you all a HAPPY CHRISTMAS and a peaceful NEW YEAR!!

Wayne Drinkwater



Mosquito Launch



Ardmore Airport, September 29th 2012

It seemed ironic, that having just completed our new de Havilland Mosquito display at the Museum that I should receive an E-mail from Wayne Drinkwater, a museum member and former trustee, who now resides in New Zealand. The E-mail contained some stunning photographs of KAI 14, a new build Mosquito that has just taken to the air after an eight year construction project. Wayne was at the launch show and here shares his impressions of that day

As most of you will know by now, the world's only airworthy D H Mosquito flew for the first time in September this year and I was fortunate enough to be at the launch show.

The new "Mossie" was conceived about 8 years ago when a few members of the NZ Warbirds Association were discussing the aircraft they would most like to own / build and one guy in particular left the chance discussion with a firm idea in his mind. Almost immediately he set about a worldwide search for any 'Mossie' information he could find and, although there were several mosquito parts in NZ, there were no airworthy airframes. Due to the fact that, being of an all wood construction, the integrity of the wood and glues used on the original airframe could not be guaranteed, so a new build was the only way.

The first task was to create a mould, or more precisely a 'buck', over which the fuselage would be formed. The buck was created from drawings and old photographs and took around 2-3 years. The fuselage of the aircraft is actually made in two halves from a mix of ply, balsa, and joined together not unlike an Airfix kit.

The first fuselage went to Canada and having proved the process, the next task was to find a 'backer' someone



with enough resources to fund the project (not for the faint hearted or shallow pocketed). That person turned out to be a well-known aviator and warbird collector from the United States Jerry Yaeger. The whole project was then handed over to Avspecs an award winning restoration team headed by Warren

Denholm and based at Ardmore Airport here in Auckland. The results of 8 years labour and an estimated \$3million (NZ) was showcased on the 29th September 2012.

The show was to feature several De Havilland aircraft and anything British, which is how my wife Trudy and I got to go to the show. Trudy's daily driver is a 1974 Austin Mini Clubman and we are both members of the Auckland Mini car club.

Ardmore is about an hours drive south of our home on the Hibiscus Coast, so it was an early start as

all show cars had to be on site by 7.30am. Setting off at 6am, anticipating Auckland's usual traffic, we made good time and set up in our designated area. The show reminded me of the War and Peace Show with many military vehicles and encampments of German soldiers busying themselves cleaning and preparing their equipment, whilst only yards away 'dads army' were practicing their drill with wooden rifles and pitchforks. Soon the crowds were filing in and the first of the visiting aircraft were landing and taxiing up to the crowd line.

We were treated to several of De Havilland's finest flying close to the crowd line. At one point I counted 8 Tiger Moths in formation being followed by 4 Chipmunks (a favorite of mine as I had my first ever flight in one at Manston in 1971). We saw the Mosquito take off from the far side of the airfield and were told he was to complete some flight tests as the aircraft had less than 3 hours on the clock. Its flight characteristics were still being assessed for type approval.

Meanwhile there was some spectacular flying put on by a very slow and low DH Beaver. How it didn't fall out of the sky I do not know as the pilot seemed to have it hanging on the point of a stall before smartly whipping it around on a sixpence. Then the announcement was made to look to our right and get our cameras ready

Coming in low and fast, just above the tree line was the unmistakable shape of the Mosquito. He banked over in a perfect pose for the cameras, thundered past and

oh that noise!! Actually it's wrong to call it noise; it's definitely a "sound". Writing this a month later it still makes a shiver run down my spine. AWESOME is the only word that can half describe two Merlins, on full 'nana', passing overhead at treetop height.

I have never been to an air show where people were clapping and cheering. The aircraft rolled hard right and pulled up, ready to come around again. On the second pass the pilot, Keith Skilling, brought her in from our far right and again, for me, an air show first as the crowd fell totally silent, I mean really eerily silent, as if everyone was straining their ears to savor those Merlins. Sure enough, low and just above the trees again, the shape came in silently and fast until it was upon us. As before



the ground shook and people cheered and clapped as it flew past banked over showing the beautiful sleek lines that we had all come to see. We were treated to three flights of the Mosquito that day and on the last flight she flew in formation with her stable mate, a De Havilland Vampire. I went home a very happy man that day. I saw the Vampire fly 2 years ago and quipped I could die happy having seen a living breathing Vampire, but seeing the Vampire and a Mosquito together!!

Word is that another 'Mossie' is in production so in 2015 there could be another 'launch show'. KA114 is making the most of the remaining time here in NZ as she is destined to go to the United States as soon as a practical way of shipping her there has been sorted out.



Wayne Drinkwater

Speed Limits



**72 in a 55!
Take him out!**



You Can't Always Say What you Mean...

A farmer named Paddy had a car accident. He was hit by a truck owned by the Eversweet Company. In court, the Eversweet Company's hot-shot solicitor was questioning Paddy.

'Didn't you say to the police at the scene of the accident, 'I'm fine?'' asked the solicitor.

Paddy responded: 'Well, I'll tell you what happened. I'd just loaded my fav'rit cow, Bessie, into da... '

'I didn't ask for any details', the solicitor interrupted. 'Just answer the question. Did you not say, at the scene of the accident, 'I'm fine!''?

Paddy said, 'Well, I'd just got Bessie into da trailer and I was drivin' down da road.... '

The solicitor interrupted again and said, 'Your Honour, I am trying to establish the fact that, at the scene of the accident, this man told the police on the scene that he was fine. Now several weeks after the accident, he is trying to sue my client. I believe he is a fraud. Please tell him to simply answer the question. '

By this time, the Judge was fairly interested in Paddy's answer and said to the solicitor: 'I'd like to hear what he has to say about his favourite cow, Bessie'. Paddy thanked the Judge and proceeded. 'Well as I was saying, I had just loaded Bessie, my fav'rit cow, into de trailer and was drivin' her down de road when this huge Eversweet truck and trailer came tundering tru a stop sign and hit me trailer right in da side. I was trown into one ditch and Bessie was trown into da udder. By Jaysus I was hurt, very bad like, and didn't want to move. However, I could hear old Bessie moanin' and groanin'. I knew she was in terrible pain just by her groans.

Shortly after da accident, a policeman on a motorbike turned up. He could hear Bessie moanin' and groanin' too, so he went over to her. After he looked at her, and saw her condition, he took out his gun and shot her between the eyes.

Den da policeman came across de road, gun still in hand, looked at me, and said, 'How are you feelin?'

'Now wot da hell would you say?'

Understanding Model Airplane Downthrust

INTRODUCTION

How can you estimate the amount of downthrust you need before your maiden flight? Why do you need downthrust in the first place? I got an email a while back asking these questions. Let me try and answer them.

IN A NUTSHELL

The propeller pulls on the nose of the airplane. If the airplane pitches up, that means there is something out of balance with the load it is pulling on. Right? But what could that be?

CENTER OF MASS

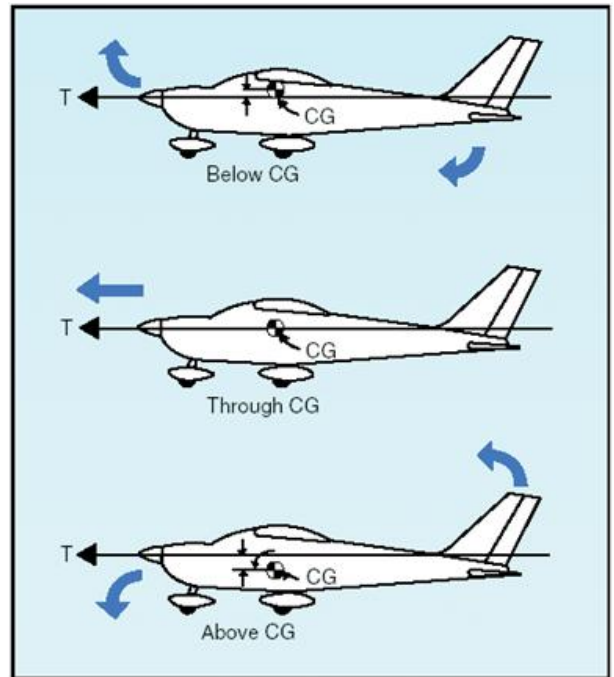
Years ago I used to think that the centre of mass of the model airplane is what determined whether downthrust was needed or not. The centre of mass is the three dimensional balance point of the model airplane.

Measuring it is not hard. Hang the model from three different points in the airframe. I would do a wingtip, the prop shaft, and the tail. Drop a string from the point where the model is hanging. Where the three strings intersect, that is the 3D balance point of the model. This technique can be used to find the 3D balance point of any object.

Once you know the centre of mass, angle the motor mount so that the thrust line goes through it. I used the method once on a problematic model airplane that I was designing. I was having trouble trimming it all out, so I decided to go the extra mile. It worked beautifully.

CENTER OF LIFT

I have heard that it is really the centre of lift that determines the amount of downthrust needed. This makes a certain amount of sense. Lift is the other major force generated by the airplane. It is what holds the airplane up and it acts at a right angle to the thrust line.



CENTER OF DRAG

Applying everything that I know about airplane design, the above two answers do not look quite right. The drag is the main force that the thrust is working against. All diagrams of the four forces acting on an airplane tell you that.

In the typical airplane, especially at high speed, the drag force will be much bigger than any turning moment caused by the centre of mass or centre of lift.

But why did the centre of mass work so well for me years ago? Think about it. With the exception of the motor and battery, most of the airframe of a model airplane has about the same density. Skin friction drag is a big portion of the drag on an airplane. This is just a factor of the surface area. In other words, the centre of drag is probably not too far from the centre of mass.

PITCH BALANCE

Let me tie this into my discussion from yesterday. The down force on the elevator is substantial and will alter the effects of the centre of drag. It also makes it harder to do a simple calculation to figure out how much downthrust you need.

SIMPLE TESTS

I can think of two relatively simple tests that will help you eyeball the right amount of motor downthrust before the maiden flight. Do not expect high accuracy from either method.

First, you can use the centre of mass as a reasonable facsimile. The results might be more accurate if you leave off the motor and battery when you string up the model.

For an even easier and less accurate method, use the centre of lift. You see, the wing is responsible for a large portion of the drag on a flying airplane. It has a large induced drag at low speeds. The wing also has a large surface area that creates a lot of skin friction drag at high speeds.

This is what you can do. Hold the airplane by your fingertips about a third of the way out from the wing root. Pull forward on the prop shaft. Depending on how much the model pitches up, that is a rough idea of how much downthrust you need.

This test ignores the drag from the fuselage and tail, which depending on the model can be substantial. But it is hard to beat for simplicity.

British Army

A fleeing Taliban, desperate for water, was plodding through the Afghan desert when he saw something far off in the distance. Hoping to find water, he hurried toward the oasis only to find a British soldier selling regimental ties.

The Taliban asked, "Do you have water?" The soldier replied, "There is no water, the well is dry. Would you like to buy a tie instead? They are only £10

The Taliban shouted, "You idiot infidel! I do not need an over-priced tie. I need water! I should kill you, but I must find water first!" "OK," said the soldier, "It does not matter that you do not want to buy a tie and that you hate me. I will show you that I am bigger than that, and that I am a much better human being than you. If you continue over that hill to the east for about two miles, you will find our Sergeant's Mess. It has all the ice cold water you need."
"Inshallah."

Cursing him, the Taliban staggered away over the hill.

Several hours later he staggered back, collapsed with dehydration & rasped.....

"They won't let me in without a bloody tie!"

Resistance is futile



Being a Gentleman

The
RULES
TO
ALWAYS



— BEING A —
GENTLEMAN

SAY "PLEASE" AND "THANK YOU" ★ WORK HARD ★ MIND YOUR MANNERS
OFFER A LADY YOUR SEAT ★ DON'T CURSE ★ EXTEND A FIRM HAND SHAKE
KEEP YOUR WORD ★ RESPECT YOUR ELDERS ★ ALWAYS MAKE EYE CONTACT
OPEN DOORS FOR OTHERS ★ STAND UP STRAIGHT ★ STAY WELL-GROOMED
ACT CHIVALROUS ★ READ BOOKS OFTEN ★ HAVE A ROMANTIC SENSIBILITY
SHY AWAY FROM GOSSIP ★ BE PUNCTUAL ★ LOVE WELL ★ STAY HUMBLE

Flying Field From Above





Photos by Rudi Hoffer

Club Calendar

Date	Day	Event	Where/When
12 December 2012	Wed	Twilight 2 Rain date	Wainui 5-00 Pm
19 January 2013	Sat	Derby Day	Wainui Pony Club
30 January 2013	Wed	XC Practice	Wainui pm Pony Club
2 February 2013	Sat	Gliding	Wainui 12 Noon
4 February 2013	Mon	Club Night	Whangaparaoa Guide Hall 7-30 Pm
6 February 2013	Wed	Twilight 3	Wainui 5-00 Pm
9 February 2013	Sat	Gliding Rain Date	Wainui 12 Noon
13 February 2013	Wed	Twilight 3 Rain date	Wainui 5-00 Pm
17 February 2013	Sun	ODE	Wainui Pony Club
26 February 2013	Tue	ODE	Wainui Pony Club
2 March 2013	Sat	Gliding	Wainui 12 Noon
3 March 2013	Sun	Derby Day	Wainui Pony Club
4 March 2013	Mon	Club Night	Whangaparaoa Guide Hall 7-30 Pm
9 March 2013	Sat	Gliding Rain Date	Wainui 12 Noon

Please Note: The pony club has first right on the field, so if there are horses on the field then we do not fly. If there is no horses, then we can fly even if there is an event scheduled