

August
2017

Flight Lines





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FLIGHT LINES

HAMILTON MODEL AERO CLUB INC.

August 2017

www.hamiltonmac.org.nz

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CLUB NIGHT	Wednesday 9 th August	7.30 pm
VENUE	Beerescourt Bowling Club	
	68a Maeroa Road - Hamilton	

Club Night Theme: Aeronavics with Scott Spooner

Club flying days: TBC

Bulletin Printing *Compliments of Gallagher*

Vice Presidents Report

Gordon

Hello, as our leader is away in swanking around in the USA at the moment (great life for some isn't it?), it befalls to me to write some pearls of wisdom for this month's bulletin.



It has been a quite dismal month weather wise although some weekends have been fine for a change. Those of us who are chained to the workplace will at least appreciate this small mercy! With the Collins rd. flying site being out of action for most flying it was lucky we had scheduled a float plane day (report elsewhere) for this last month. Also the Cambridge club put on an open fun fly day the following weekend.

This temporarily relieved the pressure a bit flying wise, as there is still no progress on restoring the Collins rd. strip. The regular persistent rainfall has meant that the soil is well and truly waterlogged. This makes it impossible at the moment to put any machinery onto the ground to roll and restore the surface. As soon as we have a decent break in the weather without rain and with a bit of wind to dry the surface some progress should be made. Various alternate suggestions have been made but none appear practical at this stage. However, if anyone has any (sensible) ideas please let someone on the committee know. In



the meantime please be patient..... (it's not one of my strong points!. But I'm doing my best.)A bit of flying is still possible of course with anything that does not require a proper runway, good practise for STOL,

hand launch, etc. So, don't let it get you down too much and dust off that model that has been languishing in the corner and go out to have a bit of a whizz and keep your hand in! The Cambridge Model Club put on a Fun Fly day on Sunday 23rd. July and low and behold, the weather was brilliantly fine with no wind, even quite warm! There was a good turnout from HMAC to enjoy the sunshine. Conditions were a little wet underfoot but with good parking in the adjacent driveway that was no problem, except for one longstanding club member who shall remain nameless who thought he could drive into the field across the paddock and promptly got stuck needing a bit of a heave ho to get out again! So, there were lots of general sports flying in the mint conditions. Unfortunately as often seems to happen when the conditions are favorable that's when there is the most crashes occur. There were 3 incidents with airframes written off through various causes. Very distressing if you are unsure what the exact cause was although a full investigation would probably come up with the usual old story...some sort of human error either in the air or on the ground. Thank you to the Cambridge club for opening up their site for the event.



This month's Wednesday club meeting we will have Scott Spooner giving us a rundown on UAV's (bloody "drones" according to the news media!) so come along to catch up with the latest developments, etc.



With all the winter weather I hope there has been some building activity going on so why not bring your latest project along whether finished or not and let everyone have a look. I for one am always very interested to see what other people have on the go and to see how they go about it. There always seems to be something new to be learnt or some easier or better way of doing things, even the simple stuff. It amazes me some of the little ideas modelers come up with that you afterwards think, hey, why didn't I think of doing it that way?? There is generally an easy way and a hard way of doing most things so why not find out and use the easy way.

Remember, as we are now hopefully going into spring there is a number of events and competitions getting underway so have a good look at the calendar and decide which you would like to attend. Then get out, check over and prepare those models you

are going to use. Then the fun bit, go out and do a bit of testing/practise before the event and hopefully everything will then go smoothly and enjoyably. (Perhaps I should practise what I am preaching!) Ah well, do as I say not as I do!

Happy Flying.

Captains Report

Chris

The old saying you don't know what you have got till its gone sure rings true with our air strip. (Actually might have been a Joni Mitchell song).

Some members have taken Cambridge model clubs kind offer up and have been flying off their strip. I myself have not had a full day to commit to flying model aircraft lately and Cambridge although not far it does inhibit a quick trip to the field for an hour or two.



My official hat on I'm hoping the extra aircraft flying at Cambridge are not going to put undue pressure on the club with the locals so please be aware not to fly aircraft with load exhaust / props.

As I'm writing this on the boat heading to the south island, we've had two really good days of fine weather, but not sure if we are going to get a long enough run anytime soon to roll and repair the damage on the field and without overdoing our welcome with the Cambridge guys flying is going to be limited to smaller foamies and the occasional float plane days. The up side, once the field is repaired we will have a nice new bridge to drive over to get to it! OK this is very hard to type on a little phone and on a boat so will have to do.

Keep building models so you will have plenty to fly when the field is good to go and will see you all soon.

Float flying

Gordon

Wow, got the timing right for this one! Perfect flying conditions in the middle of winter, good for the soul!

Pilots kept turning up all morning to make the most of it and by midday we counted 25 planes sitting on the bank making this one of the biggest float plane days in recent times.

As usual there was a bit of everything being flown, big, small , electric, glow, petrol, foam , wood, plastic, etc. and no two the same. The sky became very busy at times but no midair's happened despite the "circuit" seeming to reverse randomly from time to time!

There were two welcome visitors from Matamata club. John Dougherty was having his first foray ever off water with a very nice electric Macchi. It went very well and looked great in the air. John was heard to comment just after his first takeoff, "ha, piece of

cake". He seemed a lot quieter when it was time to land however, ha ha.

Dave Neilson was also over to have a lash and was enjoying himself.



Grants Mirror landing

Another welcome face was Mike O'Grady who is relocating to Te Kawhata so hopefully we will see a bit more of him in the future.

All the other usual suspects were tearing up the sky with the inevitable mishaps. Brad drove his Cessna vertically into the water at speed resulting in lots of broken bits, arrgh!

The Great Escape of the day award goes to Sel for smacking his plane into "Brads" tree, having it fall out towards the ground whereupon he opens the throttle and fly's away! Bet he can't repeat that one!

Warren had his large cub flying beautifully and it looked a real treat slowly wafting around doing touch and goes.

Phil was flat out in the rescue boat all day with the usual stopped motors or damaged airframes, thank you Phil. Without any wind

there was no chance of any wayward planes blowing back to shore.

An apology for not mentioning a lot of the other action, but it is hard to see and remember it all when you are flat out flying all day yourself. (I think we need a fresh reporter)

Smooth Flying

Any full scale pilot will tell you that the secret to smooth precision flying is to have the plane trimmed up, always. This is especially important to formation work, instrument flying, bombing runs, and so on.



Alans WWI Junkers
(Seagull Models)

Keeping our RC aircraft in trim is also important to our flying, although there are some important differences. But, first, what do we mean by "trimmed up"? We generally trim for straight and level flight conditions -- such that if we take our thumbs off the sticks, the plane will continue flying straight and level, within the scope of the stability of the plane. A couple of facts to ponder: 1) A plane

can only be trimmed for ONE flying speed; 2) The more stable the plane, the more trim change occurs when the speed is altered. Note that we're speaking of mostly PITCH (elevator) trim here -- lateral and directional (aileron and rudder) trim will generally not



Barry

change as speed increases -- if they do, you've got other problems, such as warped wings, crooked tailfin, or thrust line problems. In a full size airplane, the trims are located where it's easy to do the trimming, without having to go "hands off" the stick or wheel. Unfortunately, the RC transmitter is not so convenient, and it's just not very easy to constantly be messing with the trim. So most pilots trim for the fastest condition they normally fly, usually full throttle, and full speed. That means that in any slower condition, some back stick is required for level flight. For most of us, this is best -- because pushing on the stick seems to give less precise control than pulling on it. And if your normal flight involves flying around at 1/2 throttle, then by all means trim for that condition, keeping in mind that the addition of more throttle (and speed) will result in a nose up climb. Now, a bit about rudder and aileron trim. Assuming that you don't have warped wings, a

crooked tailfin, or bad thrust alignment problems, the aileron trim should, once you get it set, remain set. That's because the linkage is short, and even if the links shrink or expand, they will both raise or lower the ailerons the same amount. But the rudder link, unless you have a pull-pull system, will deflect the rudder with shrinkage or expansion of the pushrod. And that pushrod is usually pretty long, meaning significant expansion in the heat of the day. If your rudder is offset to one side, your plane will fly oddly, because it will be in a continuous slip, or skid, and may also want to roll to one side. The point here is that you are wise to check the rudder trim (by looking at the rudder) frequently, if not every flight. And if you get airborne and the plane flies weird and wants to roll, it's more likely to be rudder trim than aileron trim that is at fault. This is especially true of trainer type planes because of the high wing dihedral, and is most true of planes using "nyrod" type pushrods -- because the nyrods have a rather large expansion rate compared to other type pushrods. Those of us who have flight instructed in full size planes can quickly recognize the symptoms of out of trim flying -- the plane constantly veering off course in the same fashion (left, right, up, or down) then being abruptly corrected, then veering off again -- the cycle being constantly repeated. In such a situation, the pilot is more fighting the plane than just flying it! And flying an out of trim plane is not an enjoyable experience! If you relate to all this, seek out a more experienced flyer to help you get the beast in trim, and to show you ways to check it for yourself. You might be amazed at how much easier flying your plane can be!

Engine - Air Leaks

Why do old engines run poorly? Why do otherwise good engines sometimes become hard to adjust and difficult to keep running? Why do some engines continually lean out badly when the planes nose is pointed upward?

There are a zillion answers to the above questions - but a good answer for any of them could be an air leak. After all, an engine is

nothing more than an air pump; anything that destroys the efficiency of the pumping action will show up as poor performance, one way or another.



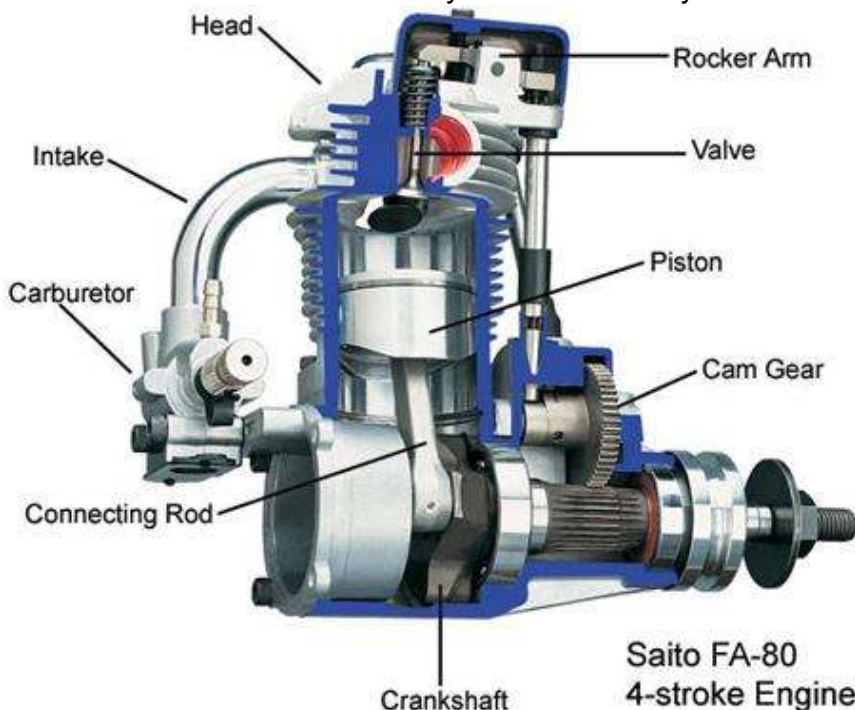
First, some basics - we must understand that unlike a four stroke engine, our two strokes **USE THE CRANKCASE** as a pump. Naturally, we have to have a good, airtight seal in the combustion chamber for good compression. But in a two-stroke engine, we also must have an airtight

seal in the crankcase, also. As the piston moves up to compress the mixture in the combustion chamber, the crankshaft valve under the carb opens, and fresh mixture is then sucked into the crankcase. And as the piston moves down on the powerstroke, at the same time the intake valve closes, and the mixture in the crankcase **IS COMPRESSED**.

Only when the the piston gets down far enough to open the transfer ports is that crankcase pressure released, squirting the fresh mixture into the cylinder under pressure.

So, not only must we have good seals in the top part of the cylinder - around the head gasket, the glow plug, and, of course, the piston itself - but we must also have good sealing in the lower part of the crankcase. This involves the seal on the backplate, on the front bearing housing if the engine has a removable one, and at the front bearing area of the crankshaft. Note that all these are relatively fixable except the last - in nearly all cases, its not the bearing that seals the crankshaft, but the fit between the crank and the housing itself that provides the seal. When an engine is "too worn out" to adjust and run properly, this area may be the culprit. But the major source of air leaks, and the first area to start looking for them, is the carburetor.

First, the carb must be sealed in its connection to the crankcase - usually an "O" ring. The barrel inside the carb must make a good fit inside the carb, or it will leak, on the low-needle side. The needles themselves must be sealed. The fuel intake fitting must be sealed, as must be the one or two screws that hold in the barrel and provide a low speed throttle stop adjustment. Leaks around the carb are doubly bad in that they're hard to find.



Only suction is involved in the carb area - pressure is also involved in the crankcase seal areas, and thus, if there's a leak, you will normally see it in the form of fuel or oil coming out. But around the carb, only suction is involved, and air leaking in will not show! There are other air leak possibilities besides the engine. The fuel feed line is an obvious one, both inside and outside of the fuel tank. And don't forget the pressure line, and its fitting on the exhaust.Ed note: there are some techniques for troubleshooting these, and other engine problems. We'll go into them later.

Coming Events

Aug 2017

[HMAC Club Night Meeting](#)

August 9, 2017 7:30 pm - @ Beerescourt Bowling Club Club Rooms, 68A Maeroa Road (behind the tennis pavilion)

[RC Soaring F3B Competition \(Waikato Champs\)](#)

August 26, 2017 - August 27, 2017 @ Matamata Soaring Site (confirm location with Organisers)

Sep 2017

[MANZ Large Model Rally - Taupo](#)

September 2, 2017 - September 3, 2017 @ Taupo MAC, Centennial Dr Taupo (next to the Taupo Motor Sport Park)

[HMAC Club Night Meeting](#)

September 13, 2017 7:30 pm - @ Beerescourt Bowling Club Club Rooms, 68A Maeroa Road (behind the tennis pavilion)

[HMAC Float Plane Day @ Lake D \(Kainui\)](#)

September 17, 2017 9:00 am - @ Lake Kainui (D), Lake Road, Horsham Downs.

[Cambridge MAC Scale Day](#)

September 24, 2017 - @ Cambridge MAC, 191 Maungakawa Road (Opposite letter box 188)

Flight Lines Deadlines 2017

September Bulletin – 26 th August
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**For further up to date event info please visit:
<http://www.hamiltonmac.org.nz/>**

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