Recreational Aircraft Association of New Zealand (Inc)

November 2022

RAANZ RECPILOT

WELCOME TO THE NOVEMBER RECPILOT ISSUE

This month we have some useful info from the recent RAANZ AGM.

We also have some interesting articles around airspeeds, and a great real-world test into best glide speeds.

Also check out the article on insurance for on condition engines at the end. Could be invaluable for some.

OVERVIEW

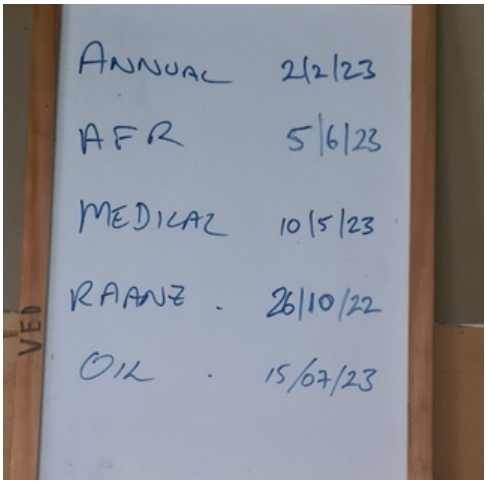
From The Vice President

Scott James | audit@raanz.co.nz

As many of you will be aware, our audit activities have increased in the last couple of years as we work on ensuring compliance with our Exposition. We have carried out audits of our ab initio training, instructor training, head office, and most recently, those who transferred to Part 149 from GA. Thank you to all of you who have taken part. At no stage is any of the audits targeted to specific individuals.

Currency

I received a comment recently from a member, that they hadn't received a reminder email about their RAANZ membership, and therefore had been flying illegally. The email from RAANZ is courtesy and the responsibility to be current (Medical, BFR, Aircraft Annual and RAANZ membership) lies with the pilot. I personally have a small whiteboard that I have in my hangar (and yes – my RAANZ membership has been renewed!). Just something to check quickly before heading out.



In addition to making sure you are current with your membership, please also remember to update your information if it changes. This includes phone, address, and email information. If you have received this newsletter in the post – that means we have no email address for you. Email is now our primary means of communication and you may be missing important update information.

AGM

Thanks to those of you who attended our AGM last week. I personally attended via Zoom, which is never quite the same, but is great if you are unable to travel, and means a time commitment of just a couple of hours.The new committee is now on our website (https://raanz.org.nz/wiki/pmwiki.php?n=Admin.Contacts)

Insurance – Some of you may have noticed a recent change in the Omaka plate that requires all users to have minimum public liability insurance of $1M. Another reason to make sure you read those plates – and something that we will probably start to see at other airfields. While on the topic - in this edition we have reprinted an article that was in KiwiFlyer recently regarding insurance and on-condition engines.

OPERATIONS

I mentioned a few months ago that one essential for the operation of our aircraft is a piece of real estate to take off and land from.

Another essential is Airspeed. Too much can break things and cause a lot of grief. Too little and the aeroplane does not fly.

The aircraft manufacturer has gone to a lot of trouble and done lots of hours to determine what Airspeeds are appropriate for their aircraft. If you think you know more than the manufacturer you are probably wrong.

The Airspeed Indicator will generally be colour coded to provide an easy ready reference for speeds that are appropriate to your type of aircraft. Every type of aircraft will be different, some by not much, some by a lot. If your aircraft does not have pretty colours on the ASI then I suggest you get busy with the Flight manual and a colouring device.

The following should be well-known to most of you but it is worth reviewing.

Critical Airspeeds as shown on the ASI

The above diagram shows what the standard colour codes look like. Just remember all aircraft are different and the one above could well be nothing like yours. The numbers and colours are there for very good reasons.
Vne - Red Line. Not an arc. Operating above this speed may result in structural failure and is prohibited.

From NZ CAA Fatal accident reports in part

At approximately 1217 hours, the aircraft entered a high angle of bank (AoB) manoeuvre, achieving 70 degrees AoB. Five seconds later the AoB increased to 130 degrees and the aircraft began to pitch nose-down. During the resulting descent, the indicated airspeed was recorded at 244 knots (kts), which exceeded the aircraft 'never exceed speed' (Vne). Approximately 30 seconds after entering the high AoB manoeuvre, witnesses observed the aircraft break up in flight and then impact terrain.

The safety investigation identified the following contextual factors.

- The aircraft entered a high-speed descent from an unusual attitude.
- In-flight breakup occurred as a result of rudder flutter, as the aircraft's airspeed exceeded the design limitations

Vno – Upper limit of the green arc. This is the maximum structural cruising speed. Do not exceed this speed i.e. enter the yellow or caution arc except in smooth air.

Vfe – The max speed for flight with flaps extended.
Vs – The stall speed at max weight with flap retracted.

Vso – The stall speed at max weight with flaps extended.

OPERATIONS

Most of our flying occurs within the green arc and the aircraft will handle most conditions it is exposed to while in the Green.

The exception to this is that if we are encountering conditions that require full and abrupt control inputs then we must reduce to not above Va or manoeuvring speed.

Va – is not marked on the ASI but it is wise to have a placard on the panel with this. Va is dependent on the aircraft weight. The lighter the weight the lower the Va will be. Most flight manuals should give these figures.

Some other important speeds that are not marked on the ASI are;

Vx – Best angle of climb speed. I.e. best height for distance. The one you use when you really need to get over something.

Vy -Best rate of climb speed. I.e. gaining height as quickly as possible.

The last two are very similar but are subtly different.

The best glide speed, the first one I always ascertain when moving onto another type, will sit between Vx and Vy and most flight manuals will detail this.

As I mentioned earlier most should be familiar with the various Vees. The designer has done a lot of work generating these numbers and they must be treated with respect. The accident files are littered with reports of speeds being disregarding quite often resulting in bent or broken aircraft or premature funerals.

Administration Notes

Medicals

Following discussion with our Medical Advisor and as permitted for a DL9 medical, the RAANZ Medical Declaration can also be signed off by a registered Nurse Practitioner.

From the NZTA/Waka Kotahi website:

Under law changes that came into effect on 8 November 2018 appropriately qualified nurse practitioners and registered nurses, working within their scope of practice, will also be able to carry out a fitness to drive assessment.

These changes were enacted by the Land Transport Amendment Act 2016. For example, references in section 18 of the Land Transport Act to a 'medical practitioner or optometrist' are replaced by 'health practitioner'.

This change reflects New Zealand's changing health care environment and recognises that, for example, appropriately qualified and competent nurse practitioners and specialist registered nurses have the expert clinical knowledge and skills to assess fitness to drive

AGM

- A wet day, so no fly-ins. Thanks to those who drove in.
- I have yet to write up the minutes and publish the minutes and reports on the website- next week.
- Vivienne Patterson and Simon Paterson (no relation!) join the RAANZ exec.
- Evan Gardiner, Bill Penman and George Taylor awarded life membership for their long service to microlighting.
- Subs will remain at $80 per year covering all RAANZ services.

CAA Part 149 day

- A meeting of all Part 149 groups with CAA- genuine intent from all parties to find ways to better work together for a safe and accessible recreational aviation environment.
- We expect to see a greater sharing of information (accidents/incidents/statistics/trends) and simpler common processes (Fit & Proper Person/Medical/issues management).
- Needs to be turned into action- meeting again in February to move things along.

Membership Changes

Harley Brighouse	Whangarei Flying Club	Advanced National	Upgrade
Peter Flintoff	Manawatu Aviation Club	Novice	Joined
Peter Avery	Gyrate Flying Club	Senior Flight Instructor	Upgrade
Jeffrey Arthur	Fiordland Aero Club	Senior Flight Instructor	Upgrade
Graeme Wilton	Mercury Bay Aero Club	Advanced Local	Upgrade
Alan Ross Gordon	Whangarei Flying Club	Senior Flight Instructor	Upgrade
James Andreae	Mercury Bay Aero Club	Advanced Local	Upgrade
Ollie Brooks	SAC client	Advanced National	Upgrade
Karen Eden	SAC client	Advanced National	Upgrade
Warwick Newman	Associate	Novice	Joined
Charlie Miller	SAC client	Advanced Local	Upgrade
Philip Plane	SAC client	Advanced Local	Joined
Timothy Ransby	SAC client	Senior Flight Instructor	Upgrade
Gilson Silverio	SAC client	Advanced National	Upgrade
Rowan Brunton	Associate	Novice	FRTO
Harry Offer	Canterbury Recreational Aircraft Club	Advanced National	Upgrade
Gregory Francis Allen	Whangarei Flying Club	Intermediate	Upgrade
Peter Frew	Associate	Novice	Exam
Nathan Doel	Associate	Novice	Exam
Cameron Wise-Maas	Associate	Advanced National	Joined
Russell Bayley	Associate	Advanced Local	Upgrade
Harold Prendergast	Fiordland Aero Club	Novice	Exam
Philip Wells	Canterbury Recreational Aircraft Club	Novice	Joined
Murray Belfield	Associate	Advanced National	Upgrade
Murray Bowes	Associate	Advanced National	Upgrade
Phoebe Asquith	Mercury Bay Aero Club	Novice	Joined
Madison Goodger	Mercury Bay Aero Club	Novice	Joined
Elias Bayless	Associate	not issued	Joined
Jeffery Ellesmere-Sly	Associate	Novice	Exam
Edwin Dowden	Gore Aero Club	Novice	Joined
Lyle Hood	Associate	Novice	Joined
Yasmine el Baggari	Golden Bay Flying Club	Novice	Joined
Hamish Rogerson	Associate	Advanced National	Upgrade
Joshua Zyza	Associate	Novice	FRTO
Brett Slater	Associate	not issued	FRTO
Willam Verland	Associate	not issued	FRTO
Andrew Simmons	Associate	not issued	FRTO
Nicholas Odom	Associate	not issued	FRTO

Incident

Bantam B22J

An oil pump failure resulting in a low oil pressure. The oil pump was removed and checked. The manufacturers specifications 0.0015" – 0.008", but the failing pump was 0.020" – 0035" between rotor end body.

A recommendation is to carry out an annual check of the Jabiru oil pump

Rans S7 - Glide Test

Contributed by John Paton

It was a fine mid-June Saturday morning after the first heavy snow fall of the winter, a good time to check out the Fiordland scenery from here at the Manapouri airport. After climbing to 5000ft and cruising past Mt Titiroa and the Takitimu Mnts it was time to head back to the airfield and have a coffee with other aviators at the Fiordland Aero Club rooms.

It seemed a waste to not use the height on the return leg. What to do, stall practice, steep turns, engine failure simulation. I know, the folks at Rans have set the best glide speed at 60 knots for my Rans S7 Courier, and I have been meaning to test that number for several years now.

I turned towards Manapouri on a heading of 300 degrees and cut the power. I trimmed the aircraft for 60kt and recorded the ground speed and vertical descent rate.

Once I was happy with the data recorded, I put on power to warm the engine as the outside temp would be in the negatives. Then I again reduced the power and trimmed for 50kt and recorded the ground speed and sink rate, (both tests are without flaps.)

Results:
Test 1, 60kt glide, 58kt ground speed and vertical descent speed of 700fpm
Test2, 50kt glide, 48kt ground speed and vertical descent speed of 600fpm

I then did some math's to see if Randy's 60kt glide speed was the best. The scenario being the best glide distance from 10,000 ft to sea level under the conditions of the day. So, I calculated how long it takes to descend 10,000ft. Once I had the time in the air, I could calculate using the ground speed how far my S7 could glide.

Summary. Well Randy is right, 60kt has a better glide distance than 50kt.

·60kt glide distance of 13.8nm and 14.28 minutes in the air
·50kt glide distance of 13,32nm and 16.66 minutes in the air

So, what did I learn? If the glide distance in the event of engine failure to the landing spot is of the most importance, then I need to trim for 60kt. However, if I can make it to an emergency landing spot and being in the air as long as possible is important. Then I should trim for 50kt. (would I really want to prolong the experience?)

Yours Flyingrabbiter.

Rans S7 - Glide Test

Insurance For Engines Run On Condition

If you have cause for an insurance claim against a time-expired engine, you are likely to find that whilst the insurance company will provide compensation for accident damage to the engine, additional overhaul costs to enable return to service will not form part of the claim. Bill Beard from Avsure / Crombie Lockwood explains:

One of the main provisions of an aircraft insurance policy is that operation and maintenance of the aircraft must be conducted in full compliance with the CAA Rules. Accordingly, aviation insurers accept the use of engines beyond the manufacturer recommended TBO (time between overhauls) subject to certain manufacturer recommendations and/or CAA approved programmes.

Under the policy terms and conditions, insurance companies will pay for, repair, or make good accidental damage to the insured aircraft. BUT in the case of repairs to an on-condition engine, though different insurance companies may have different views, generally the following ground rules will be applied.

In the case of a total loss – no problem. The company will pay the agreed value including the engine, less the deductible. However, in the event of engine repairs even say following a prop strike, the normal procedure is that the Claims Adjuster will approve a bulk strip (paid for by the insurers). If any damage is found (i.e. crankshaft damage or the like) the insurers may provide for replacement of damaged part(s) caused directly as a result of the accident, subject to age and AD (airworthiness directive) status. If the crankshaft is on its second or third life or has been superseded then settlement may be subject to negotiation. However, as the engine is beyond its TBO it will not be approved for "return to service" without a complete overhaul. The cost of this will be to direct account of the insured/owner as the policy does not cover wear and tear or deterioration.

The long and short of it therefore is that if your time expired engine is damaged, the insurance company will compensate the insured for accident related damage but the cost of the overhaul to enable it to return to service will not form part of the claim.

Likewise, with airframe damage, insurers will only pay for the accident damage. Additional rectification such as corrosion etc. identified during the repair process will be to the account of the insured.

To discuss this topic or any other questions relating to aviation insurance or to seek quotations, contact Arden Jennings or Bill Beard at Avsure / Crombie Lockwood on 0800 322 206.


Recreational Aircraft Association
of New Zealand (Inc)