Recreational Pilot e-zine

Issue 156
August 2020

Guidance for aviation in the current COVID-19 conditions

12 Aug 2020

Guidance previously issued by the CAA on the conduct of all aviation at Level 2 and Level 3 remains in force for the updated COVID conditions.

The Level 3 restrictions cover the Auckland 'Super City' area and besides Auckland International, includes the GA airfields at **Ardmore, North Shore, Parakai, Waiheke Island, Drury, but also covers smaller airfields, all air strips and other aeroplane and helicopter bases**. Routine or recreational aviation activity should not transit between the zones and must in all respects comply with the Level 2 and 3 guidance.

People may only transit into the Level 3 area to return to their home location or to transit out of the Auckland area to return home. For example, it would not be acceptable for a flight to get airborne from Ardmore (Level 3), fly into a Level 2 area to conduct recreational or training activity to either land in the Level 2 area and then return to Ardmore, or to return direct. **A transit from Level 2 areas through the Level 3 area may be conducted but no planned landings are to be made in the Level 3 area except in the event of an emergency.**

Membership changes

James Finer	Stratford Sport Fliers Club	Advanced National	Upgrade
Elise McGregor	Wairarapa Aero Club	Intermediate	Upgrade
Aaron Black	Associate	Advanced National	Upgrade
Jacob Reeves	Canterbury Recreational Aircraft Club	Novice	Joined
Dan Batchelor	Canterbury Recreational Aircraft Club	Advanced National	Upgrade
Rohan Rudd	Canterbury Recreational Aircraft Club	Advanced National	Upgrade
Christopher Uruski	Wairarapa Aero Club	Advanced National	Upgrade
William Leipnik	Feilding Flying Club	Intermediate	Joined
James Gell	Parakai Aviation Club	Novice	Joined
Francois Buys	Parakai Aviation Club	Advanced Local	Upgrade
Kathryn Walters	Canterbury Recreational Aircraft Club	Novice	Joined
Stuart Larson	Canterbury Recreational Aircraft Club	Advanced National	Upgrade
Jan Chisum	Geraldine Flying Group	Advanced National	Joined
Peter Straw	Canterbury Recreational Aircraft Club	Advanced National	Joined
Glynn Berland	West Coast Microlight Club	Novice	Joined
Victor Stark	Waikato Microlight Club	Novice	Joined
Gregory Stott	Southern Recreational Aircraft Club	Novice	Joined
Wayne Munro	Parakai Aviation Club	Advanced Local	Joined
Anya Staal	Canterbury Recreational Aircraft Club	Novice	Joined
Paul Graveling	Gyrate Flying Club	Novice	Joined
Harley Keenan	Associate	Advanced National	Joined
Ratchapol Jeeraruangrattana	Associate	Novice	Joined
Lochlan Richard Flintoft	Canterbury Recreational Aircraft Club	Novice	Joined
Mitchell Falconer	Parakai Aviation Club	Novice	Joined
William Simpson	West Coast Microlight Club	Novice	Joined
Jennifer Essex	Canterbury Recreational Aircraft Club	Novice	Joined
Hamish Brice	Canterbury Recreational Aircraft Club	Advanced National	Joined

Legal Eagle XL ready to fly!

Terry Smith/Hawkes Bay

I have ''scratch'' built this aircraft over a period of some six years as time and monies would allow, as it was just a hobby build.

The aircraft is designed to the American Pt 103 rule by a Mr L Milholland of Texas USA, with construction being 4130 steel fuselage, spruce wood spars and built up ribs and the movable tail sections from ''pop'' riveted aluminium. The seat is from aluminium strips woven and pop riveted together and is very comfortable to sit in. [My wife calls it a deck chair with wings attached] Only the wing and tail surfaces are fabric covered, the fuselage remaining uncovered, although, some builders in the States have chosen to cover their aircraft.

It is powered by a 50hp?? VW conversion which should give it a cruise speed of about 60mph, with the VNE given by the designer as 80mph. Fuel capacity is 5US gallons or about 20Ltrs, or about 1.25 hours flight time. The aircraft which has been given the registration of ZK LLX is yet to fly, just waiting on final inspection and sign off by our local microlight inspector.

From sitting in it whilst the engine is running, I think that suitable warm clothing will be an absolute need to fly it in our winter temps.

Also, many thanks to my wife Molly for her encouragement and patience during this build.

Defect report- Sonex/AeroVee engine

Incident Details

Microlight type/model	Sonex
Place of incident	NZMA
Other aircraft involved	None
Describe the incident	On the 10th July I was in the process of performing a ground run at the hangar to adjust / calibrate EFIS and carburetor mixture Aerovee engine . Followed the startup procedure , turned engine over however it would not start. Opened the throttle slightly more and tried again. Engine started , switched EFIS on . Oil pressure 38psi due to the cold weather set throttle at 1500rpm to obtain smooth running . During the warm up at idle speed the oil pressure momentarily dropped to 25psi and came back up to 38psi . After about 10 minutes running during calibration of the EFIS the oil pressure dropped to zero . Immediately switched off . Upon inspection found that the oil filter seal had blown out just enough to allow a oil leak but still have some oil pressure.
Describe the affect on safety	This could have resulted in a forced landing if it occurred before flight .
Remedial action taken	Removed the engine and dismantled to find the cause. Found that the pressure relief valve spring is 1mm smaller in diameter to the piston and pushed over to one side . The relief piston is hollow with the flat side toward the case seat , the spring therefore sits on-top of the bottom piston skirt. Due to the fact that the spring is a slightly smaller diameter is is possible for the spring to move to one side .Uneven pressure will be applied to the piston creating friction against the case. I have also purchased new springs for the pressure relief valve as well as for the oil cooler bypass valve . No damage to internal engine components . The filter used is a Fram PH8172 with relief valve, as recommended by Sonex . Recommended oil used is 20W50 .
Corrective or preventive action recommendations	I am in the process of making a dowel that will locate into the relief piston and spring to centralize the spring . Keep the engine speed as slow as possible immediately after start-up. Possibly start with EFIS switched on to see if there are pressure spikes. Pictures to follow.

Note- this is the second recent NZ incident involving an AeroVee engine oil filter blow-out and subsequent oil loss. Other similar incidents have been reported in the USA with users correcting the defect by either a dowel insert in the existing piston to centre the spring, or using the aftermarket piston with a thicker wall to prevent the spring from cocking.

Further comment from the reporter-

Here are the OLD piston measurements

OD : 16mm
ID : 13mm
Wall thickness: 1.5mm
Spring OD : 15mm
ID : 12.2mm

From these figures you can see that the spring only has 1mm seating area . With the spring OD 15 mm and bore ID 16mm we can assume that spring could easily shift to one side and theoretically only applying pressure to part of the plunger. This could place additional friction against the case wall causing a pressure spike .

Below is a link of the same issue in the states .
http://www.sonexbuilders.net/viewtopic.php?f=7&t=5088

Some have machined plunger inserts to centralise the spring . I personally think this is not a good idea as there is no way to permanently secure an insert in the plunger . What I have found is that an OE part plunder has a thicker wall than the aftermarket plunger-

Part number 113 198 033 OE relief valve

OD: 16mm
ID: 12.2 mm
This is 0.8mm thicker

Here is an important note : Do not use OE end caps with aftermarket springs . The OE endcaps are longer, due to the fact that the aftermarket spring coils are thicker , coil bind will occur before the plunger opens the relief drain port fully.

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