

Elmendorf Aero Club

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PIF 09 – 03

Aircraft Engine Backfire & Carbon Monoxide Hazard

12 Feb 2009

A recent incident in an Elmendorf Aero Club aircraft has alerted administration and safety to the hazards that could exist as a result of an aircraft backfire.

Aircraft N73813 was being flown on a training flight from Elmendorf AFB to the Girdwood airport. Upon landing the instructor pilot and student exited the aircraft for a short intermission from flying. Upon return to the aircraft and engine restart, an unpleasant odor, that of exhaust, began to be noticed in the cockpit. It was assumed that the odor was local and airborne in nature and that after departure it would subside. After the aircraft departed the Girdwood airport the odor did not leave the cockpit and remained detectable. After the approximate thirty minute return flight and landing, both the instructor pilot and student were experiencing light headedness and a mild feeling of illness.

The instructor pilot alerted the Aero Club Safety Officer at which time the process to isolate and inspect the aircraft began.

Lead In – The aircraft N73813 had just been through its annual where the exhaust system had been inspected and found to be serviceable. This incident occurred during the first few flights after annual. The possibility exists that both the instructor pilot and student were exposed to engine exhaust which carries with it, Carbon Monoxide. With long term flight operation the cockpit is a collecting point for these gasses, this type of situation poses a hazard to the pilot and all other occupants of the aircraft. Carbon Monoxide poisoning is cumulative and can result in illness, unconsciousness, and death. In an effort to address this possible hazard the following operational alerts are being put in place.

Resulting Process –

Ground Operation –

If during ground operations an ignition irregularity occurs (switching off vs. L Mag, R Mag), the engine should be allowed to totally stop running. Then a restart should take place according to the checklist.

If the reaction of the pilot returns the key to the running magneto position and an extremely loud (shotgun like) backfire occurs, the aircraft should immediately return for an inspection of the exhaust system.

While taxiing if an abrupt throttle reduction occurs, where a minor burst of repeated backfires occur, the event should be reported to maintenance via a write-up in the 781 forms.

Air Operations –

If during flight multiple backfiring occurs, the aircraft should be inspected upon return or a write should appear as to the event so as to make aircraft maintenance aware for a future inspection.

If the symptoms of carbon monoxide poisoning are detected or suspected, the pilot in command (PIC) should close all vents and heaters and crack a window for ventilation, and land as soon as able.

The safe operation of the Elmendorf Aero Club aircraft as well as the safety of all pilots and their occupants is of paramount concern.

Examination of this information will improve your point of view concerning your commitment to aviation and will help to improve the safety of flying. For further information click on links below.

<http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/CObroforweb.pdf>

http://www.simsysinc.com/asd/asd_kometer_faa_on_co.htm

http://www.aopa.org/pilot/never_again/2001/na0111.html

**This PIF is to be in effect until 28 February 2010 or until
contained dated material has expired**