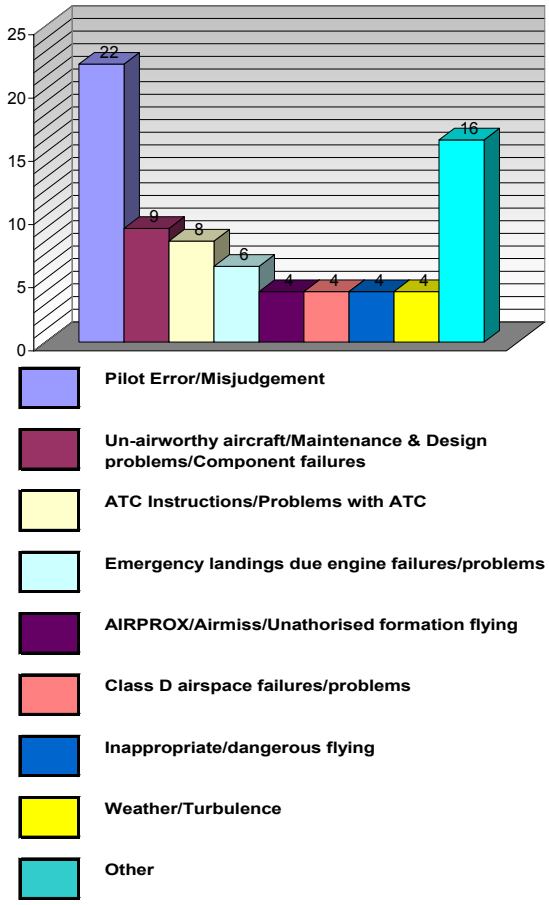
GENERAL AVIATION

CHIRP FEEDBACK

Issue No: 24 Spring 2005

Principal Report Topics - May 04 - April 05



Number of Reports Since the Last Issue:

14

Report Topics Have Included:

- Anti aviation attitude
- Loss of situational awareness
- Use of English Language at foreign aerodromes
- Fuel leaks
- Confusion with ATC instructions
- Poor circuit discipline/lack of airmanship
- Near mid-air collision

WHAT'S IN THIS ISSUE?

REPORTS

"CLEAR PROP" - AND PAUSE

Report Text: The event happened several years ago and concerns the pre-engine start call "Clear prop". At least twice last summer I heard the call "Clear prop" followed immediately by the engine turning over. What happened, or what almost happened, to me illustrates the need for a clear delay between making the call and turning the key.

I was two hours into my tail-wheel conversion on the Piper Cub. The instructor asked me to do the pre-flights and, when ready to start the engine, call for a radio check at which point he would appear.

This was done and I spent the few minutes "free time" getting better acquainted to the cockpit layout. The instructor arrived, approaching the aircraft from behind, climbed in, secured the door and told me to continue. Everything being set, it was "Clear prop", loud and clear, followed by a pause and a look outside (as taught). Before I could turn the key, two very startled faces appeared from under the nose. As the two moved away, I could see they were carrying cigarettes. Perhaps they saw the Cub as a suitable wind-break for lighting-up?

The start-up was forgotten. The instructor went to talk with the two, who were apparently from the parachute club. Perhaps they were having a smoke to settle pre-jump nerves?

We took the Cub for a few circuits but it was soon clear that I wasn't settled, so an early coffee was taken.

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That day I came very close to doing serious injury to two people who were in the wrong place at the wrong time.

The lesson: the "clear prop" call must be followed by a delay if its value, in giving people time to move away, is to be retained.

PRECAUTIONARY LANDING - POLICE INTERVENTION

Report Text: During a local flight with a passenger approx 10nm from my home airfield I noted a rapid drop in the Cylinder Head Temperature readings and an apparent loss of cruise performance. On full application of power it appeared that there was a significant reduction in the aircraft's performance. I was concerned that I may be about to suffer an engine failure and rather than press-on decided to carry out a precautionary landing.

I had a number of suitable sites to choose from as this is a rural area, where much of the crops had been recently harvested. I chose a field on the approach to the town of ### with a road on its southern boundary. The field was newly mown grass approx 700m long and 300m wide and apparently flat, I made this selection on the basis of its size, suitability and location. Immediately prior to landing I made a downwind approach to check the field surface before making the landing. The landing was successfully executed, with the aircraft stopping approx 150m into the field; on coming to a stop my passenger and I exited the aircraft as planned. The aircraft showed no damage and neither my passenger nor I was injured and, save for some flattened grass, no damage to the field.

Some five minutes after landing we were approached by a local resident who asked if we were OK, and could he help. I asked if he knew the landowner he replied that he did and his foreman would be along shortly, he did not see any problem. He advised that we removed the aircraft from the field, as cattle were let into the field early in the morning, he then offered safe storage. With his assistance we removed the port wing and were about to remove the other when the Emergency Services arrived. This consisted of three fire appliances, an ambulance and five police cars. On discovering there was no damage and no injuries the ambulance, two fire engines and three police cars left. The remaining fire engine (retained crew) carried out a small training exercise and finally assisted in helping to clear the aircraft from the field.

In the first instance, the two remaining police officers declared the area to be "A crime scene" and prevented any further de-rigging of the aircraft; I was formally cautioned, as was my passenger and details taken. I was informed that the AAIB had been notified and that we would not be allowed near the aircraft unless they allowed it. I was then breathalysed and detained by the police until the results were shown to be negative. It would appear the other officer was by then told by the AAIB that they had no interest in the matter and I was allowed to carry on with the de-rigging and removal of the aircraft from the field.

The aircraft was taken by trailer from the neighbour's site the next day and subsequently test flown, no engine problem was detected but we have an unresolved problem with the apparent deterioration in climb rate which is still under investigation.

I make this report at the suggestion of our local BMAA (British Microlight Aircraft Association) inspector who is concerned that my experience may put off other pilots from making precautionary landings. I would not wish to stop the emergency services from responding, but in the event of no damage to aircraft, occupants or any other persons or property they should leave the matter at that. It would be useful if this approach could be suggested to the police authorities so that pilots are not under undue pressure to press on regardless, in an attempt to reach airfields if problems arise, or to select sites away from public view.

CHIRP Comment: **Similar incidents have been reported where the full Emergency Services have responded to a precautionary landing in a field.**

In the current security environment, it is perhaps understandable that the police take an increased interest in a light aircraft/microlight arriving 'unannounced' in a field; therefore, it is important to notify both the landowner if known, and the police.

If you have booked out or received some form of ATC service, notify the last ATSU or your departure airfield, if possible. For other cases such as non-radio aircraft, the BMAA has issued advice that pilots conducting local flights should carry the local police non-emergency telephone contact number. As a last resort, it would be acceptable to call '999' stating that it is not an emergency situation

WATCH THE WIND (1)

Report Text: The aircraft, a Cessna 152, was parked overnight, tied down with the control column lock in place; tail of the aircraft was to the forecast wind.

Wind gusted to over 40 knots during the night, when we arrived in the morning wind was still gusting 35 knots and the control surfaces, notably the ailerons were observed to be 'flapping'.

During a subsequent Check A on the aircraft it was discovered play had developed in the aileron controls to the extent that the ailerons could be moved through half deflection without the control column moving and vice-versa. It is my opinion that the aircraft would have been virtually uncontrollable if flown in that condition.

The aircraft was taxied to the on-site engineer who reported that it appeared as if the control cables had

stretched requiring considerable adjustment to reduce the free play to an acceptable level. He commented that he had never seen this effect before in an aircraft parked, or any other aircraft.

I have suggested that aircraft should be parked facing the prevailing wind and that control surface locks be considered in addition to control column lock.

CHIRP Comment: **Although the amount of cable stretch reported above is unusually large, any significant free play between the surface and the control stick/handwheel should be investigated immediately, as such a condition is conducive to control surface flutter, which in turn can lead to structural failure.**

It is recommended that a regular check be made of the effectiveness of any internal control lock. Whereas the direction of parking will be dependent on the aircraft type and other circumstances, whenever an aircraft is parked for a prolonged period or if high winds might be anticipated, best practice would be to tether the aircraft as recommended by the manufacturer and fit external control surface locks to prevent any damage of the type reported.

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(2)

Report Text: It was a breezy morning, with the wind averaging around 12kts, as I was taxying my Blade 912 to the hold-point of runway ##.

A sudden and significant gust of wind came from the starboard rear quarter causing the aircraft to instantly turn over onto the port wing. The gust direction was such that the turn over was very fast causing extensive damage to the aircraft and demonstrated the ease with which a trike can be blown over if the wind is not from the optimum direction.

I have little doubt that a contributory factor to the accident was that the wing trim had just been set to "full-on" ready for the take-off, and in these conditions should only have been applied once lined-up ready for take-off.

CHIRP Comment: **The reporter is correct in noting that the wing trim setting contributed to his unfortunate accident, as the trim increases the lifting capability of a flexwing. In addition to not setting the trim until lined up into wind, the correct technique when taxying downwind is to hold the control frame base bar as far forward as possible; this has the effect of lowering the trailing edge of the wing as much as possible.**

SEEP OR LEAK?

Report Text: I always have my microlight inspection carried out by an engineer, as they will notice defects to which I have become accustomed. My engineer had notified me of some coolant stains that I was used to seeing. They are caused by the expansion bottle having no return.

On the day I was short of time having promised to take my son up. I had one hour. I hoped to get ½hr of flying. On the ground I rushed the engine checks, limiting them to topping-up the coolant and areas of known risk.

During the pre-flight checks there was no battery power; this only powers the fuel gauge and engine temperature gauges. Although I had only intended to fly two circuits, I decided to abandon one of these and fix the problem. Problem fixed and pre-flight checks OK; I climbed into the sky. At 500ft the engine power slowly reduced. I cut the throttle and noticed the water temperature was sky high.

Deciding to sacrifice the engine to land into wind; I performed a safe circuit at low power. A loose radiator pipe clip had allowed the coolant to escape. Why did my Rotax 582 not seize?

Which is more risky? Land downwind or seize an engine?

CHIRP Comment: **As the reporter notes, a more thorough pre-flight check might have avoided the subsequent unfortunate situation.**

If faced with a forced landing, using the engine at a reduced power setting to manoeuvre the aircraft into a suitable position from which a glide approach into wind can be flown would be the preferred choice; however, never prejudice a safe forced landing. The effect of even a modest headwind/tailwind on the landing groundspeed can be very significant, both in terms of the severity of damage that might be sustained and the risk of injury; this is particularly so when attempting a forced landing other than at a airfield/strip.

As to why the engine didn't seize, luck was probably the principal reason; however, regardless of whether a seizure has occurred or not, it is important that any overheat event should be thoroughly investigated prior to further operations to ensure that the engine has not suffered damage.

HELICOPTER WAKE ENCOUNTER

Report Text: It was a crisp January morning; I was looking forward to my third solo flight in a PA28.

After the usual check ride and landings, my instructor sent me on my way to practice circuits. It was a perfect day for solo, a gentle breeze was blowing straight down the runway, and the tower warned the few other aircraft in the circuit that there is a novice (me) in the circuit.

At the beginning of my third solo circuit I heard a Jet Ranger requesting permission to start, nothing unusual at this airfield but I do recall the type

registering in my mind because there are no Jet Rangers based at this airfield, I also picked up from his calls that he was fully loaded.

I made my downwind and final calls as taught; the Jet Ranger then made his call that he was taking off. At this point I was not unduly worried, I am used to helicopters taking off and landing when I am in the circuit, they usually fly straight out at 90 degrees to the runway and are a dot in the sky by the time I am climbing out. The tower reminded the helicopter pilot that there is an aircraft on finals, the pilot called "Roger" and lifted off, I made my call that I was visual with a helicopter, being careful not to allow it to distract me, the helicopter flew down the taxiway onto the centre of the runway and climbed out 15° to the right of the runway centre line.

At this point I am slightly annoyed, as the helicopter pilot has now committed me to land, I cannot go around because there would be a danger that I might overfly him, I cannot turn left on to the deadside as I have a tower and an airport building to negotiate at low level, I am lined up for a good landing. I slow my approach a little and I can see the helicopter climbing out, my concentration returns to landing the aircraft. I get in a nice smooth landing; a few seconds later, I have opened the throttle, raised the flaps and, letting the airspeed build up, once again I'm airborne, climbing out, but there is something wrong, the yoke is very heavy and I don't feel as if I am climbing, the nose is up, wings are level, but I am having to really pull on the yoke, I'm pulling back hard, and using the electric trim, but its not having much effect, I abandon the trim and scan the instruments, again; ASI 80kts, no positive rate of climb indicated.

Suddenly the yoke goes easy which worries me even more, I scan the instruments and the Alt and VSI have burst into life ASI 85kts, Alt 400 ft, VSI showing UP, at this point I was more interested in air speed, I now look up from the instruments, to see the Jet Ranger at 15° to my right; he is going for height rather than speed and I am gaining on him, he is well above me at this point. I made my right turn and continued in the circuit then broke out in a cold sweat as the aircraft and instruments settled back to normal.

I assume:

1. I have just experienced flying into the helicopter wake
2. I should have landed and back-tracked the runway allowing the helicopter wake to dissipate.
3. I should have maintained visual with the helicopter.

At this stage in my training and in all my study material I do not recall any references to helicopter wake, it is always in reference to fixed wing aircraft, I have also been lulled into a false sense of security by being used to small light and fast military and commercial helicopters in the circuit.

CHIRP Comment: **GA Safety Sense Leaflet No. 15 - Wake Vortex - includes information about helicopter vortices. More detailed information is given in Aeronautical Information Circular (AIC) 17/1999 (Pink 188).**

Generally, helicopters produce a more intense vortex than a fixed wing aircraft of a similar weight, particularly when generating sufficient lift at low forward speed to support the full weight of the helicopter. Pilots of light aircraft should consider allowing a greater spacing by treating each helicopter as one size higher than that listed in the AIC. Also, it should be noted that when operating at close to maximum weight a helicopter will usually depart into the prevailing wind.

In this incident the helicopter pilot showed a lack of consideration for a novice pilot. Remember, we were all one once!

A good rule of thumb is to stay as far away as possible and if in doubt as to the helicopter pilot's intention, make an early decision to go around or in the situation described carry out a full stop landing.

FIT TO FLY?

Report Text: While taxying back to the hangar I allowed the rotors to strike the hangar doors. The rotors were damaged beyond repair.

Why I was so stupid as to approach the hangar doors with the rotors turning, I will never know.

Why didn't I simply stop them turning first?

I was at a late night party the night before and although alcohol was not an issue, as I had stopped drinking 16 hours before the flight, I did not get a full night's sleep. Whether this was enough to allow a stupid decision to become acceptable, I will never know.

CHIRP Comment: **Taxying in close proximity to hangars with rotors turning can be fraught with risk. This incident is also a salutary reminder of the need to be adequately rested before flying.**

Although apparently not a factor in this incident, all pilots should be aware of the new limit on alcohol that is applicable to all pilots. The limit is 20mg/100ml; this is a quarter of the limit for UK drivers (80mg/100ml).

ACCIDENT TO REPORT?

Call AAIB on 01252 512299

AIRPROX TO REPORT?

Call UK Airprox Board on 01895 815121/2/5

OCCURRENCE TO REPORT?

Call CAA Safety Information Data Department on 01293 573220