GA FEEDBACK

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EDITORIAL

In the period since Issue 1 of GA FEEDBACK was distributed in September, there has been an excellent initial response and we have received approximately 40 reports, a selection of which are published in this Issue.

All of the reports have contained useful safety-related information and many have detailed useful 'Safety lessons' that have been learned the hard way.

Please keep the reports coming. Remember that this Programme is principally for your benefit and that of your colleagues in that it provides a means by which knowledge and awareness of safety issues might be increased through other individuals' experiences.

PILOT INCAPACITATION

Reported occurrences of pilot incapacitation in General Aviation are relatively rare, but that does not mean that the problem does not exist. Incapacitation can result from several causes and may have extremely serious consequences in a single-pilot operation, particularly if the problem is not recognised at an early stage. The following report describes the insidious nature of some forms of contamination and the benefit in taking prompt action.

I collected our group PA32 from the Midlands on a Spring morning in 1994 for a day trip, with my wife and small children, to visit relations near the South Coast. On checking the aircraft I examined the 'snag' sheet, which was used to detail any known faults/comments noted by previous pilots and still outstanding. A 'snag' had been noted that stated that the compass fluid was leaking. Inspection of the compass (top centre on the windscreen) showed a small bubble at the top. Conditions were good VMC, the VORs all worked correctly, I was familiar with the route and I also carried a small hand compass in my flight bag. I could check the Direction Indicator against the runway heading prior to departure and with the aid of VORs in flight, so I was quite happy to go ahead.

On climb out I did notice that a prolonged trickle of fluid ran from the compass onto the carpet just in front, and between, the pilot and front passenger seat. I thought nothing more of it. After about 20 minutes my wife complained of feeling sick - very unusual, as she has never experienced airsickness. However, it was a little bumpy so, again, I was not unduly concerned - although I did register the fact that the compass fluid did produce quite a strong smell. A few minutes later she was clearly in some discomfort, shortly followed by a complaint that she was losing the feeling in her legs. She does suffer from mild asthma and it then struck me that she could be suffering from the affect of the smell of the fluid leaking from the compass. I felt fine but, as a precaution, I immediately adjusted all the available fresh air direct to my face. I then diverted to the nearest available airfield and executed what I thought to be a perfect landing just 10 minutes later - only to be told as I turned off the grass runway that I had landed "off the runway". I had, in fact, not noticed that the runway markers had recently been moved and, instead of landing between the markers, I had landed on the nicely cut strip to the right of the right side markers. I still felt fine - although slightly embarrassed!

On explaining my predicament as I taxied to park the aircraft, the airfield could not have been more helpful, instructing me to immediately shut down. They entertained my children, provided first aid for my wife who rapidly recovered in the fresh air, and removed the compass, which we carried home in the external locker - all without charge or landing fee! After an hour or so we completed our journey.

It may be just as well that my wife's asthma probably caused her to be more sensitive to the smell giving me advance warning of the problem - the prospect of heading west on autopilot whilst slowly losing one's judgement does not bear thinking about! I certainly do not recall any aspect of my training (including commercial balloon pilot exams.) that warned of the dangers of noxious fumes from a leaking compass!

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THE BENEFIT OF EXPERIENCE?

Shortly after take-off I was concerned about the sound of the engine. I returned to base and reported this to the Chief Instructor. After Ground run checks, the engine was deemed to be OK. As he had more experience than me, I took off again and at 800' the engine blew a piston! I was able to make hard 180° turn and land back on the 300-metre strip.

Next time if I ain't happy I ain't going!

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AN ASSUMPTION TOO FAR

We are all creatures of habit and regularly make assumptions based upon some previous action(s), assuming that nothing has changed in the intervening period. Aviation history is littered with examples of accidents resulting from assumptions that could and should have been avoided by simple check procedures.

A pilot flew his light aeroplane, a Cessna, to a maintenance organisation to investigate some irregularity in the engine. He left it there and returned a week later to fly it home. The flight home, of approximately 30 minutes duration, was uneventful.

After landing, he took it up again to check the engine a little further. It quit at 300 feet. He managed to make a 180° turn (without stalling or spinning!) and landed safely. The subsequent investigation revealed no fuel.

"How could that be?" he said, "It was full when I took it over there" (to the maintenance shop). Apparently he had not checked the fuel or looked at the fuel gauges on the return trip.

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Human errors occur in all aspects of life and aviation is no exception. The value of maintaining a general awareness when carrying out maintenance actions is shown by this report

A WORTHWHILE INSPECTION

I fly with a Cessna 172 group, and as the only licensed engineer with the group, I maintain it to Light Aircraft Maintenance Standards. The Star annual inspection had been completed by an M3 Approved organisation two weeks prior to this incident. I removed interior roof panels to rectify a harness reel defect. After rectifying the defect I carried out an inspection of the area prior to re-fitting the panels. During this inspection, I found cables to the left wing flap were twisted together in the vicinity of a cable turn-barrel.

The aircraft had flown 4hrs 15mins (10 sectors) since the Star annual. Three of these were multiple circuits at our base airfield.

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TOO RELAXED

The student was an experienced glider pilot, not well known to me, seeking to move on to cross-country flying.

We were coming to the end of what had been a very successful navigation test during which the student had also demonstrated satisfactory skills of selecting and approaching suitable landing fields. Although the student had little experience of this particular Motor Glider, general handling had, so far, been acceptable and so I briefed the student to treat the final landing, at the home airfield, as though it were an off airfield landing. In addition, the student was to be handling pilot until the aircraft stopped on the "runway". All went well for the circuit, approach and hold off:

Then the student relaxed on *(released)* the SPOILER control. I managed to take control from the low speed, ballooned flare, to put the aircraft on the ground "firmly but fairly".

The student had previously flown aircraft with airbrakes and was unprepared for the effect of spoilers (which have a spring - closed action). I was unprepared for a student making, what should have been, a predictable "error", at a critical stage of flight.

The subsequent debrief covered ALL the aspects of the landing. O.K. I got away with it: - this time - and will add it to the list of "Instructor just managed to take control in time".

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Accidents are rarely the result of a single cause, but rather a combination of contributory causes that lead inexorably to the final result. In some cases, accidents are avoided by good decision-making. In others, simple good luck might be the sole difference between an accident and a "nasty experience".

A PERFECT WINTER DAY?

Our group owned aircraft needed ferry-flying from one farm strip to another. We had waited a long time for a break in the weather (December/January) and finally the day came. That Friday was one of those winter flying days, crystal clear skies and brilliant sunshine. I left work at approximately 13:00 and went to see my partner who was picking up his wife. She came out about half an hour later and then we had to drop her off at home (about 10 minutes away). My partner then had to go to the bank and draw some money and then drop it off (40 minutes at the bank). We then delivered the money (another 30 minutes) and took the 20-minute drive to the first farm strip. Since all of the aeroplanes had been put away tidily we ended up being five aeroplanes back in the hangar with one of those in front being worked upon. Time had just slipped by.

We weren't worried too much about the time because the weather was lovely and you could fly until 30 minutes after sunset, right! And the sun was still well up in the sky .....

After a brisk but thorough walk-around I departed at 16:55 local for the 20-minute flight east to the other farm strip. At this point I was quite happy, as I could see 40 miles over the ground and the sun was beaming down.

Five minutes into the flight I noticed that cars had their headlights on, but I wasn't worried because I could still see the sun, and after all I was still allowed to fly 30 minutes after sunset. (Isn't sunset when you can no longer see the sun?)

10 minutes into the flight and I could see the little pools of light thrown down by the streetlights. The cars were now only obvious by their lights rather than the detail/size of the vehicle. During my PPL training I had completed a night flight and a night landing so I was aware of the "landing in a tunnel" syndrome as you approach the ground but this wasn't going to be a problem here, as the farm had no lights.

15 minutes into the flight. The sun had just gone, literally just gone and it was getting dark very quickly. Where the hell had I got the idea from that I could fly 30 minutes after I could no longer see the sun?

How would I find the farm? Well I thought I would be able to see the streetlights in the village and then position myself for a circuit.

The village has no lights. I couldn't find the village anyway and even if I could it was PITCH BLACK now. Those extra five minutes, which would have put me overhead the farm, were enough to make the ground totally black.

It was -4°C at 1500 ft and I was sweating with fear. I had the window wide open and I thought I was on fire ... "This is the end" came right to the front of my mind.

I remembered to concentrate on flying the aeroplane. The aircraft had the basics of instruments but thankfully had navigation lights. The sky was cloud free so I could get a visual reference to keep the right way up.

I had done all of my training at RAF ### which was only 15 minutes away and this was the place I had carried out my one and only night circuit and landing.

I dialled up the only frequency I could remember which turned out to be the approach frequency, pushed the button and spoke.

"G-XXXX would like to divert into your airfield and request airfield data" I said in the most reassuring voice I could muster.

The reply came that they were open for night training and the wave of relief that passed through me was just unbelievable. I closed the window and headed for RAF ### after squinting at the dashboard and setting the Altimeter. The circuit was empty and I had sufficiently composed myself to ask for a right base join. I followed the tower's instructions like I had done this all my life and landed somewhat cautiously on the concrete with my tail-wheeled aircraft. I had absolutely no idea what the wind was doing as I couldn't see a sock (in the dark) but the wind had been almost nil some 20 minutes earlier at the farm so it was probably still nil (but then the sun was shining back at the farm 20 minutes ago as well!)

I picketed the plane down, covered the dashboard that had no night flying instruments fitted and sauntered into the main control building. The landing fee was duly paid with thanks and I stupidly asked if I could borrow the telephone to phone the second farm where my colleague was waiting to pick me up.

I discreetly explained what had gone on in a cool collected manner in front of the man in the control building and then waited for an hour in my sweat soaked T-shirt for my friend to arrive.

I had one attempt to move the aeroplane during the week but eventually it got moved (very carefully) during the sunny part of the day at the next weekend.

LESSONS LEARNED:

1. I thought that sunset was the time when the sun had disappeared completely below the horizon whilst standing on the ground. WRONG. When I got back home I looked it up and the sunset time at London Heathrow for 15 January to 1 Feb is 16:22. Basically I had departed at 16:55, which was already more than sunset +30 minutes, with the intention of making a further flight of 20 minutes. I was tricked by the fact that I could still see the sun and it was still high in the sky.
2. In the winter months the sunset is very rapid due to the position of the axis of Earth in relation to the sun. Also you get a false sense of security since as you "climb up" in your aeroplane the sun falls upon you but the ground is already being thrown into shadow. As you descend through this shadow line it is actually a lot darker than you thought it was because you were up in the sun.

THINGS I DO NOW:

1. If I have to fly late I ALWAYS check the sunset time and if I am returning from a "fly in" or similar I leave in plenty of time.
2. I remember that I can always land back at the start airfield and fly another day. (Perhaps in the above incident I should have taken off, had a look and after five minutes returned to the original field with a little time to spare before it got really dark).

3. I always carry a small torch in the aeroplane (and test it works regularly) so that should I ever have to read my kneeboard or see the instruments at night, I can (but night flying will never happen again with me so I don't know why I do this, just for peace of mind I guess).
4. On my kneeboard I carry a list of all of the frequencies of all of the airfields local to myself so that in the event of getting "caught out" at least I will have a frequency to call them to get the runway info etc. even if I do not carry the appropriate "plate".

I am still bemused that my oversight nearly killed me!

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A DODDLE?

This concerns a straightforward cross-country flight of approximately 50nm. I was asked to take a Cessna to ### for some maintenance to be carried out. I was telephoned later that day to ask if I minded taking along a pilot recently qualified as a PPL for the experience, I agreed.

On the morning of the flight, the weather was probably marginal, but did not concern me. I was due to take my IMC rating flight test in two days time. I'd done this trip several times - a doddle. I suggested the PPL fly to ###, I would do the radio, and fly it back. The aircraft was thoroughly checked and we taxied to the hold. After clearance from ground we were chatting, tower asked us if we wanted VFR *(Visual Flight Rules)* or SVFR *(Special Visual Flight Rules)*, with no hesitation I asked for VFR and then carried on about how punishing the bunkers were at the local Golf Club.

I was in the right hand seat and 'instructed' him to do a normal take off, turn right at 600ft QNH and then climb to 2000ft. The turn was going OK I decided to put on my reading glasses. Whilst looking through my bag I heard "Christ!" Within the time it took me to find and put on my glasses our situation was: in cloud, 45° + angle of bank, airspeed passing 100 knots, going down on climb power. In a panic I grabbed the controls and levelled the wings at 600' QNH (465 QFE). This is serious.

I asked tower for an immediate return to the field. My clearance was for an overhead join. This is when I realise I do not know my exact position, I've got to be North East'ish, I felt my attitude was more important than my position. I caught a fleeting glimpse of a runway threshold, then it's gone. We are trimmed and level at 1000ft. I was getting worried. A calm voice on the radio tells me my QDM is 230°. A very gentle turn onto that heading, and there it is, the runway threshold but we are too high - go around. At 1000ft the field is in and out of view. On final the picture is all wrong, as mostly the circuit was estimated. I gotta get this thing down, I hit the deck with such a 'bejesus' we are back in the air again - go around. Try 600ft. I don't feel confident to land from the right hand seat, it's so awkward. For the third time on final I have it trimmed for 65 knots, the picture looks good, then it happened - the back of my seat broke. I went backwards taking the column and throttle with me, trying to pull myself forward. The stall warning is continuous. I've lost it completely. I could see golfers below us scattering, extremely low I asked the PPL if he thinks he can land it from here. "Yes, no problem" says he, "Wondered what you were doing there". Throughout this ordeal, the PPL was at no time concerned. The result was a very flat landing, vertebrae and metal intact.

I stopped shaking after breakfast the following day and later I took the Cessna to ### - **Solo**.

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ROTAX RECOIL

On the third take-off while doing circuits, at about 800ft a.g.l., I started a left-hand turn. The engine, a Rotax 532, suddenly emitted a high-pitched squeal for about two seconds, then a loud bang and the propeller stopped dead. On the advice of my instructor (both microlight and group A), I had recently been doing a lot of 'upper-air' practice for this kind of emergency and I managed to land without damaging myself (the first priority!), or my aircraft.

Once the engine had been removed I was surprised that it was not a piston-barrel-crankshaft type of seizure of the type that might be expected, but was caused by the recoil start assembly breaking-up and stopping the engine by jamming between the magneto flywheel and its housing.

Now the interesting bit!!

The next day, whilst browsing a very useful American web site about trouble-shooting Rotax engines, I could hardly believe my eyes! There was a complete description of the cause of my problem right down to the strange, but very short noise pilots have reported hearing just before all goes quiet!

On contacting the UK importer of these engines, I learned that there was knowledge in the UK of this happening in the past and the outcome was that they very kindly sold me replacement parts at a reduced price.

I feel that I was very lucky that day so, for other pilots' safety, would it be possible to alert all users of Rotax engines using the re-coil starting system (503, 532 & 582) to check to see if they have the upgraded part fitted (852322).

The Rotax Troubleshooting websites are:
www.ultralightnews.com/news/buzfixb.html
www.ultralightnews.com/news/trrtx3.htm

CHIRP Comment: The information supplied by the reporter has been passed to CAA (SRG) for further investigation.
Copies of the text of the web-site bulletin referenced in the above report are available from the CHIRP Office