

# GA FEEDBACK

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*One of the most important lessons in aviation worth remembering is that experience alone provides no protection from a simple human error and its effects, as this very honest report details:*

## PLAN THE FLIGHT, FLY THE PLAN

I am embarrassed and ashamed to reveal that I infringed Controlled Airspace without a clearance. Fortunately, there was no conflict but I am fully aware of the potential to have caused an incident. With my airline background and training in human factors/CRM I still succumbed to "get-home-itis".

The purpose of the flight was to deliver the aircraft from a Southern UK airfield to a destination in Ireland. I had made a number of attempts over several days to fly but had been thwarted by weather. The next day dawned foggy and it looked as if I was going to stay another day. About 1130L the fog cleared to allow VFR and a large patch of blue appeared over the airfield. I donned my survival suit, filed a plan etc and got airborne. Just before take off I set up my GPS to the first waypoint I had entered several days before. Due to my unfamiliarity of that part of the UK I was relying very much on my GPS. The first waypoint was LIC NDB, which although I was on a VFR plan was a convenient track from the departure airfield to avoid Birmingham and East Midlands. Once airborne, visibility varied from 10km to 3-5km. I followed my GPS carefully towards LIC. I had an "old fashioned" back-up plan on my kneeboard and I did not notice the difference in the aircraft heading versus the flight plan heading. In all honesty, I was relying totally on my GPS.

About the time I expected to see Coventry off to my left I saw an airfield, which I now believe to be Bruntingthorpe. This seemed to confirm I was on track and I was willing to believe it. As I approached LIC (as I thought), I turned on to a NW heading towards my next waypoint. I called Shawbury for a RIS and told them I was near Stafford. They were unable to locate me initially but after several long RT transmissions in order to get a fix I was advised that I was near East Midlands and to call East Midlands radar ASAP.

By now I was extremely worried and when I called East Midlands radar I was told I had infringed their zone, east

of the field, near Loughborough. I apologised at once. My mind was racing and I sweated when the implications of my actions came to mind. I immediately suspected that I had entered an incorrect numeral on my GPS for LIC. However, I was near overload as I flew to the west and I adjusted my mind to navigating in the "old" manner. From my experience I knew I had to "dump" the previous few minutes and concentrate on aviate, navigate, communicate.

From that point on the flight was uneventful. I checked the Lat/Long I had entered for LIC and to my horror I discovered I had entered one number incorrectly in the longitude. I had not cross-checked the entry previously.

What makes this omission all the more embarrassing is the fact that I am a general aviation instructor. I regularly warn pilots of the hazards of GPS navigation and over reliance on the unit to the detriment of basic airmanship. I even had a pilot referred to me for further training some time ago after he had infringed the go-around area at E###. He had been told to route to ### VOR from the west and he had entered "DIRECT E###" by mistake. Now I know how he felt. The point is, that pilot had around 250hrs experience, whereas I had loads more. Yet I made a similar mistake to him.

What did I learn? Never assume; cross check. GPS is a wonderful tool but I will always, from now on, fly and map read, using GPS as a back up. Humility; perhaps I was arrogant in the belief that I was beyond making a mistake of this magnitude.

I'm sure there are other pilots like me who have made or may make input errors to their GPS. GPS input errors should be emphasised at CAA safety briefings held throughout the UK at flying clubs.

In summary, I didn't think it could happen to me. I have learned a valuable lesson and I will use the experience to enhance my flying and I hope I can convey something positive to other pilots I may meet.

*When entering position information into a GPS, it is very easy to enter an incorrect latitude/longitude. Hence, it is most important to carry out a track/distance check between waypoints, to avoid the type of problem reported. Recommended procedures for the use of GPS are published in CAA (SRG) GA*

A General Aviation Safety Newsletter

from the Confidential Human Factors Incident Reporting Programme

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*Safety Sense leaflet No.25, available on the CAA (SRG) website.*

*Also, the importance of using basic navigation as the principal means of monitoring the flight path, backed up by all available navigation aids, cannot be overstated.*

*Also, motor gliders can be extremely difficult to detect from either a head-on or rear aspect in spite of their considerable wingspan. The common practice of using a substantially white colour scheme on gliders/motor gliders to minimise heat absorption adds to the problem particularly in bright conditions, since, in conspicuity trials conducted by the Royal Air Force, a white colour scheme was shown to be the most difficult to see among all of those tested; this led to military training aircraft being painted in dark colour schemes. While this would not be a feasible solution for motor gliders, pilots of this type of aircraft might consider avoiding flying wings level for long periods when operating in busy airspace to present a more substantial visual target to other pilots in their vicinity.*

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### MORE 'NEAR HIT' INCIDENTS

*Every year, a significant number of close encounters occur between GA aircraft in the Open FIR, often in good weather conditions, in which the miss distance is determined by little more than luck. As the summer approaches, the following reports may offer food for thought in relation to maintaining a good lookout:*

(1)

I was en route in my motor glider in perfect conditions. I was listening to AAA Approach on 1##.## but not working them. Approx 5 miles ESE of BBB, I was horrified to see the UNDERSIDE of a single-engine aircraft no more than 50ft off my starboard wingtip. As the other aircraft rolled wings-level, I recognised it as a blue and white ###. He continued his roll to port diving across and below my flight path. I can only assume that he, as overtaking aircraft, had failed to see me ahead (50ft wingspan!) until the last second or two before collision and had just avoided hitting me by standing on his starboard wing-tip!

When I had recovered from the initial shock, I reported the incident to AAA Approach explaining that I had a vague recollection of part of the other aircraft's registration. AAA Approach quite properly reminded me that we were in Open FIR and responsible for our own separation and asked if I wished to file an Airmiss formally. As I had so little of the other aircraft's registration, as well as not understanding what the procedures entailed, I declined.

This was the closest airmiss I have ever encountered and it could not have been any closer.

I can only assume the other pilot left his head in the cockpit and a guardian angel made him look up at the last minute! My slow cruising speed (60kts) may also have led him to misjudge the closing speed.

*A serious loss of separation such as this warranted the submission of an Airprox Report. Failing to report can mask the potential risk of a collision in some geographical locations. If an incident is reported within the prescribed time period, the Airprox Board is able to review ATSU radar/RTF tapes and other available information to assist in identifying the other aircraft and the cause. The Airprox procedure is detailed in Aeronautical Information Circular 87/2002 (Pink 39).*

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(2)

I wonder how many early solo glider pilots (like myself) will move on to the next page when they see these words: 'Never underestimate the importance of lookout'.

Yes, this is the boring thing we have all heard dozens of times now. And yet, this advice can be easily forgotten once you get rid of the instructor nagging behind your back.

I am speaking from experience here: during the few solo flights which I had had to this point, I was too busy enjoying the flying, and quite a few times I had to slap myself in the face in order to get back to reality and check what is going on around me.

I am saying 'was', not 'am' because after my latest flight things will never be the same again. But this understanding came the hard way.

That Saturday, it was definitely not the early solo type of weather: crosswind gusting 27 kts, loads of windshear, some haze - you name it.

Far from even starting to think about flying on my own, I insisted on having a go with an instructor, and luckily got to fly with a senior instructor of our highly respected club.

We took off normally, released at 2,000 ft after a turbulent and fun aerotow, and found ourselves heading straight for what looked like an area of lift. In seconds, we were established in a very bumpy and narrow thermal averaging +2 - which is, after all, not bad for Spring in the UK.

I was concentrating on trying to get my thermalling technique right. One circle after another, and my eyes were going from the horizon to the vario, and (admittedly, less often than should be the case) to the sides of the cockpit for a quick visual check.

All went pretty nice up to a point where I suddenly saw a Cessna 152, very close and heading straight for us. I turned to the right - expecting him to do the same, of

course, - but the other pilot inexplicably did not follow suit and turned left, getting even closer.

Had I been flying solo, that would have been the end of me. As soon as the situation started to get out of hand, I was at a loss. I started to think about what to do next - think, instead of taking action there and then. And, what was even worse, the other pilot seemed to be doing the same!

Luckily, I had the instructor behind my back. He took over for what he later called "violent avoiding action". Later, on the ground, I tried to visualise the manoeuvre which he had executed, and I doubt I would be able to do anything like it even under normal circumstances, let alone in an emergency.

In a split second, we cleared the Cessna. In another, I received a very quick and emotional airborne briefing on the importance of good lookout.

Indeed, had I been more attentive I would have spotted the other aircraft much earlier, and we could have passed each other at a nice, comfortable distance.

So, to any early solo pilots who might be reading this - please do not grunt when you are being told about how important it is to look out. This can be a life-saver. I know now.

*In the situation described, the Rules of the Air require both aircraft to turn to the right.*

*Have you considered what you would do faced with a similar situation and have you practised an evasive manoeuvre recently?*

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(3)

I was sharing a day's flying with a friend from the flying club, and I was in the right hand seat as a passenger in a single engine Cessna on the second leg of a triangular route from AAA to BBB at the time of the incident. The weather conditions were ideal for flying. Our track conveniently lined us up for a straight in approach to runway ## (the runway in use) and so when we contacted BBB Radio we made a request for this. BBB Radio mentioned other traffic but acknowledged our request for a straight in approach. We heard another pilot grumble and say that he would orbit on the downwind leg.

The flight continued uneventfully until we were on short final and at about 300 to 400 feet. At this point, another aircraft (that I did not have time to identify) passed above us approximately 50 feet higher and travelling substantially faster. This other aircraft was clearly making an approach to land over us! We immediately initiated a go-around and then proceeded to make an uneventful approach and landing. On exiting our aircraft we were immediately accosted by an individual, who informed us what bad manners it was to

barge into a circuit like that and then stormed off. We were too stunned by this action, following on from what had just occurred, to be able to ask about the other pilot who had acted in such a dangerous manner. As both of us being relative novices to flying, the initial reaction was that we were clearly the only people at fault.

On reflection, I can see that what we had failed to do was take into account the difference between an ATC service and an A/G radio service. Virtually all of my flying has been carried out with takeoffs and landings supervised by ATC; in consequence my experience of using an A/G service is limited. An overhead join would have been more appropriate to the situation. Since this incident, I have taken a lot more care in planning flights to new airfields, and preparing myself for any procedures that I might expect. However, whilst it may not have been 'good manners', our approach was not dangerous; we had made our intentions clear and we had maintained a good lookout at all times. The actions of the other pilot were not only dangerous but also in contravention of the Rules of the Air. Possibly this may be viewed as an episode of 'air rage'. I hope for the sake of other pilots that this is an isolated incident.

*The reporter correctly identifies the difference between an ATC and an Air/Ground service. In the case of the latter, the pilot has the sole responsibility for maintaining a safe separation from other aircraft in the visual circuit; this includes the type of joining procedure that he/she elects to carry out.*

*If the conflicting aircraft deliberately overflew the reporter's aircraft, the action was clearly inappropriate. However, some pilots may be under the impression that if they declare a straight-in approach, other aircraft are obligated to adjust their circuit pattern to accommodate this manoeuvre. This is not actually the case. The standard method of joining a circuit is the overhead join. This permits the aircraft joining to identify the other circuit traffic and to ensure safe separation. A straight-in approach that does not take into account other aircraft relies upon the other circuit traffic identifying the joining aircraft. This can be difficult particularly in the case of some aircraft configurations, where the straight-in final approach path might be obscured during the final turn. Moreover, Rule 17 (6)(b)(i), which provides priority to the aircraft at the lower altitude, must be read in conjunction with Para 5 (a) of the same Rule, which requires a joining aircraft to "conform to the pattern of traffic formed by other aircraft". CAA (SRG) Safety Sense Leaflet No. 6 contains useful advice.*

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### A VERY CLOSE CALL OF A DIFFERENT KIND

I had flown this aircraft type for a number of years on a variety of tasks including parachute support. On this

occasion, I was flying this particular aircraft of the same type for the first time.

Normally, I use the fuel gauges for reference, but because this task is usually climbing or descending, I had adopted a procedure to mostly base my fuel calculations on flight time. On my 12th trip of the day I managed to miscalculate and ran out of fuel at 9,000 feet about 2 miles from the airfield.

I immediately headed for the Airfield and called 'Running In' to the Drop Zone. The jumpers exited about one mile from the Airfield, I then descended at 80 to 85 Knots to try and cool the engine as little as possible. I kept close to the Airfield intending to make a high approach, but unfortunately two of the parachutists were descending on my desired approach path, and I therefore had to fly round them.

This factor, along with my misjudgement of my glide angle due to the windmilling propeller drag, meant I allowed the aircraft to get too low on approach.

At 1,000 feet I realised I was too low and by 500 feet I had made the decision to land short and roll through the fence at the end of the runway if necessary.

Luckily I managed to get about two seconds of power from the engine by holding the fuel boost pump switch on with my left hand and changing tanks with my right, and this allowed me to cross the fence and make a normal flapless landing.

One of the main factors in this incident was that I did not apply a more cautious approach to a different aircraft until I became familiar with it. Also, I should not have let the distractions affect my approach so much and I should have been more aware of the effect on glide angle of the windmilling propeller.

*An honest report by an experienced pilot and a good example of no matter what your experience always operate with an adequate margin for error. Also, when flying a single-engine type, plan for the possibility of an engine failure at any time and consider the possible effects of no prop wash (reduced elevator effectiveness) and increased prop drag (steeper glide angle).*

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#### COMMENT ON GAFB 14 EDITORIAL ITEM - UNLICENSED AERODROMES

With reference to your December 2002 front-page article 'Unlicensed Aerodromes' ('approaching unlicensed aerodromes in allegedly poor weather'), it speaks of CAA investigation and prosecution, but we wonder which ANO infringement a pilot might be making under these circumstances?

Bearing in mind that GA FEEDBACK concerns itself primarily with GA matters (avoiding the stricter

operational regime of Public Transport), a pilot is permitted to descend under IFR below his minimum height in order to take off or land (Rule 29). For Commercial Air Transport operations, instrument approaches may be carried out only in accordance with an aerodrome's published instrument approach procedure. However, "this restriction does not apply to non-commercial air transport aircraft operating outside Controlled Airspace" at aerodromes without published instrument approach procedures (UK AIP I-1-18).

For a private flight then, it does appear that there is no explicit requirement to follow a published approach procedure whilst conducting an IFR approach with the intention of landing at such an aerodrome. It may even be not too fantastic to suggest that some GA pilots might have already explored this area, aided by the confidence gained in the performance of modern navigation equipments.

*The reporter is correct in stating that Rule 29 permits an aircraft to descend below 1,000ft above the highest obstacle within a distance of 5nm, if it is necessary for the aircraft to take off and land. Also, the constraints of Articles 38 and 39 of the ANO relating to aerodrome operating minima do not apply to non-Public Transport (PT) aircraft, and Article 40, which is related to non-PT operations, references only notified approach procedures.*

*The key issue in relation to private flights is that the permission of the person in charge of an aerodrome (defined as any area of land or water designed, equipped, set apart or commonly used for affording facilities for the landing and departure of aircraft) must be obtained before an aircraft may taxi or manoeuvre on the aerodrome. This is stated in Rule 35. Moreover, CAA (SRG) Aerodrome Standards Department advise that the person in charge is at liberty to place conditions on the use of the aerodrome, one of which could be a minimum visibility below which aircraft may not take-off/land. If such a limitation were to be imposed and notified to pilots, a pilot operating in weather conditions below the minimum declared by the person in charge would place him/herself at risk of being reported to the CAA for operating outwith the limitation. It should be remembered that the person in charge of an aerodrome (including a strip) does have a Duty of Care in relation to third parties.*

*In relation to the comment regarding GPS-aided IFR descents, any pilot contemplating the use of a GPS as an aerodrome approach aid, particularly some of the less sophisticated GA equipment, should review the technical information that is available on GPS performance degradation and susceptibility to error, and the advice in CAA (SRG) GA Safety Sense leaflet No.25 before embarking on such a practice.*