CHIRP GA FEEDBACK

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LHR Airspace Infringement

Report Text: Like others before me, I managed to infringe Heathrow airspace today - not for long, and only just clipping the North West boundary altitude 2,400ft. Fortunately I was being tracked on radar, with Squawk Mode S, by Farnborough West; the controller was on the ball (unlike myself) and told me to turn left immediately. I was greatly surprised but complied immediately.

I had planned a solo NavEx routing SFD - GWC - ODH - WOD - BNN - LAM - DVR and then back to base. I've done this kind of route often enough before, and have flown that corner many times. I took particular care to check using a ruler that I would not go into the Heathrow zone turning that North Western Corner.

But - Error No. 1, on the ground before takeoff - when I punched the waypoints into my Garmin 530, I missed out WOD. Straight away, that set me up to fly a track Odiham to Bovingdon that would cut into the North Western edge of the Heathrow Zone.

The flight was mainly IMC/VMC on top of broken cloud. I was in contact, in series, with Farnborough East, West & North.

Complicating factor No. 1 - As I flew the Northbound leg between Goodwood and Odiham at 4,000 feet, in & out of cloud tops, Farnborough advised me there was glider activity at Odiham, so I switched to Heading bug and flew to the east of ODH. I then had to descend to 2,400 feet through cloud, and did so before entering the zone that required it. I was now flying a heading bug, and deviating to the East of the planned route.

Complicating factor / Error No. 2: I had 'zoom' on the map on the GPS set at 50 miles - reasonable for the route and set to display airspace boundaries, but at that zoom level, the Garmin 530 does NOT show the boundary for the Class A at Heathrow. At higher zoom levels (20 miles) the boundary is displayed as a dotted green line, and, had I seen it, I would not have infringed, but because I had it set at a 50 mile zoom it was not there on screen to remind me.

Lessons Learned:

1. Check, check, and check again your planned route.
2. Don't rely entirely on the GPS - draw a line on the chart, and fill in a PLOG as you go.
3. When planning to fly close to a boundary of a TMA, set the zoom in the GPS display so that it actually shows the boundary.
4. Talk to the relevant ATC - they are your friends and will keep you out of trouble.
5. Once safely back on the ground, seek out your Chief Flying/Duty Instructor and debrief yourself as I did - he helped me learn from it.

CHIRP Comment: As the reporter learned from this incident, which could have been much more serious if not noticed by an alert ATCO, relying solely on a GPS for navigation particularly when flying close to Controlled Airspace is not good practice.

It is most important to plan your route thoroughly, draw a line on a current aeronautical chart, prepare a PLOG and identify in advance good visual features to use in flight.

It is also important if using a GPS to check that your planned route has been entered correctly; one method is to compare the total GPS distance and, if necessary, the track/distance between each waypoint with your PLOG and/or aeronautical chart.

Just When You Thought You had Covered Every Opportunity For Error.....

Report Text: THE EARLY SENSIBLE BIT: I positioned the club piston-engined aircraft at the fuelling site to re-fuel at the start of the day.

The club uses MOGAS as routine because no supplier of AVGAS would deliver to the remote location down small local roads. The MOGAS is stored under local authority licence in an underground tank and has a metered delivery pump and appropriate hose. Recently the aircraft engine was replaced and we were advised to use AVGAS for a running in period of 50 hours, as the additional lead lubricates the valve stems; 50 hours running would use some 2,000L. To meet this requirement AVGAS was purchased from a neighbouring airfield, transferred in barrels and dispensed using a temporary barrel and a spare hand-pump.

I inspected the barrels which were of known provenance as was the contents, so I was not too concerned that the barrels were neither sealed nor labelled. I sniffed and felt the fuel and confirmed to myself that the one I would use did indeed contain the requisite AVGAS. I have never taken fuel from a barrel without the 'sniff-and-feel' test even if water-testing after de-sealing. I was uneasy though about the hand-pump which was of a type from which I have suspected metal might have been shed in the past; there was no hose-end or in-line delivery filter.

The hand-pump delivery hose was quite short and I was nervous that it could spring or fall from the aircraft tank-filler and so might spray petrol over the cowling of the hot engine which is located immediately ahead of the filler. With the barrel beside and below the engine the result could have been dramatic. There was no ground fire-extinguisher to hand.

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WHERE I GOT IT ALL WRONG: I thought of getting someone to come and hold the hose-end in the filler but no-one was to hand and time was marching on. I looked about and saw what I took to be the solution for me and others using the same set-up. Beside the barrel of AVGAS, and apparently ready for use, was a khaki 5 gallon jerry-can and a funnel. I thought that if I filled the can with the pump, I could then dispense the can into the aircraft using the funnel.

I have never used a jerry-can before as I know that they can shed paint internally **but I carried on**. I noticed a small label on the top of the can saying 'Petrol' in small red letters, noted that a gallon or so of liquid was in the can already, and proceeded to fuel the aircraft as above. Towards the end of the 2nd can I spilt a little onto my fingers. It felt oily. I stopped and investigated and it was Diesel fuel. I then saw the word 'Diesel' written in marker pen on one side of the can. I concluded that I had just dispensed about a gallon of Diesel into the aircraft Petrol tank.

I reported my action to the club management. We drained the aircraft tank and fuel filter and flushed and refuelled with AVGAS. I ground ran the engine, then test-flew a circuit to confirm serviceability. All was satisfactory and normal flying operations commenced.

WHAT I CONCLUDED: Name all containers properly. Provide appropriate fuelling equipment including a delivery filter and an appropriate hose length. Allow only the proper equipment and appropriate containers allocated for a specific purpose to be at the fuelling point.

My Lesson Learned: I must go on doing what I have always done in my flying career until this incident and take nothing for granted as to the suitability of fuel and fuel-handling equipment. In a little bit of haste I accepted the less-than-satisfactory set-up on the day. I absolutely should not have done and I don't know why I did. I shall be more circumspect about all flying operations henceforth having been, frankly, lucky on this occasion.

CHIRP Comment: **The reporter is to be commended for submitting this frank report for the benefit of others; it is a classic example of what can go wrong when a routine operation is changed, in spite of every apparent precaution being taken.**

One additional point worth remembering; fuels are coloured; in addition to the 'sniff-and-feel' test mentioned above, pour a sample into a clear container and make sure the colour is as you would expect.

A Simple but Very Expensive Trap

Report Text: Having had the misfortune to be involved in an accident on the ground recently I would like to share my experience with fellow pilots, just in case it can help prevent another similar occurrence.

My right foot slipped off the starboard rudder pedal at a crucial moment whilst commencing a turn away from the disembarkation area. Despite a tightly strapped full harness, the unexpected forward lurch of my right hip and shoulder resulted in inadvertently knocking the throttle, increasing the engine rpm setting substantially beyond the normal limit for taxiing. On attempting to pull my right foot back, my shoe heel caught on the rear edge of the starboard pedal, effectively locking the aircraft in a turn to port whilst also rendering me incapable of braking or steering effectively. Less than four seconds later, with my foot still stuck, it was all over.

Some of the design features of my aircraft possibly contributed to the accident. The rudder pedals are offset at an angle inboard and the vertical angle of the rudder and brake pedal does not allow full surface contact with my feet at all times. Also, the handbrake on my aircraft requires pressure on the brake pedals prior to being applied and thus was of no use in this case. The aircraft has a push/pull vernier throttle with a release mechanism that allows an inadvertent increase in power but does not facilitate reduction in power when pilot tries to pull/tug it outwards in an emergency situation.

The accident resulted in the destruction of two aircraft, mine and another which was parked. Fortunately, I had adhered to my rule not to start up or taxi when there are people moving around airside and by God's grace I escaped with nothing but a few scratches.

CHIRP Comment: **This report raises two important Human Factors related issues:**

The first is that GA aircraft types have a wide range of design differences, some of which require familiarisation and/or some degree of compensation by a pilot. It is important to be cognisant of the mode of operation of all of the primary/secondary controls and sufficiently well practiced in their use such that, if a control is required to be operated in an emergency situation, your response will be instinctive and correct.

The second is the importance of always dressing appropriately for a flight, including suitable footwear; this is particularly the case with some homebuilt and SLMG aircraft types which have different rudder pedal configurations similar to that described above.

Close Encounter with Autogyro

Report Text: This was my first cross country flight since gaining my PPL A. It was an uneventful flight and on making radio contact with my destination I made a slight detour to fly over my parents' home.

After making one complete orbit I continued onto a second orbit, as I continued on the second orbit I was focused on the ground, part of the way round I checked around, at which point I made visual contact with a autogyro that seemed to be descending into my path at a 30% angle much closer than felt safe, I immediately banked the aircraft to avoid possible collision. My partner never saw the autogyro. I then resumed on track and landed with no other events.

Lessons Learned: Always expect the unexpected, let others do the sight-seeing and keep a good lookout for those who may not have seen you.

CHIRP Comment: **It is not uncommon for recently qualified pilots to wish to carry out a similar manoeuvre to that described over their family residence. Whilst this is very tempting it must not be done at the expense of good airmanship; this includes monitoring airspeed/**

height and maintaining a good visual lookout throughout the orbit. Also, more than one single orbit can annoy neighbours, who might not be as supportive as close family.

This report is also a reminder that autogyros have different flying characteristics, one of which is the ability to descend at a steeper angle than other light aircraft types.

INCORRECT CIRCUIT JOINING PROCEDURE

Report Text: I was conducting a circuit training detail at an airfield where the circuit height is 800ft aal in an aircraft from one of the locally based training schools.

As we were turning downwind right hand for the runway-in-use from the crosswind leg, the FISO was heard to give traffic information to a Rockwell Commander also locally based, including the position of our C152. This was then followed by the "Downwind for touch and go" call from my student.

The pilot of the Commander reported joining downwind at 1,000'. The FISO told him to keep a good look out as our Cessna was below and in front. We could not see the Commander as it was in our blind spot above and behind. The pilot of the Commander reported he could not see us.

I instructed the student to continue to fly the circuit as normal whilst I tried to get a visual on the other aircraft. At this point I noticed that my student was slightly pitching up the aircraft and we had climbed to 850'. I could see it was his anxiety causing this as he was beginning to tense up, probably as I was becoming anxious as well, not being able to see the other aircraft. The next thing I saw was the Commander sweeping down from above and behind in a steep descending turn through base leg and onto final approach. The Commander completed the landing. Meanwhile we continued with the circuit but by then the actions of the other pilot had provided sufficient distraction for the student that a go-around was considered the safest option and executed.

It has to be noted that on the circuit prior to the incident, a small business jet had joined on a right base whilst we were downwind, my student had spotted the aircraft, was able to see it and adjust his flight path to ensure adequate separation and execute a good approach and landing. When we finally completed the detail, I asked the FISO to note the incident.

The weather conditions were fine visibility was 10k+. There were reports of thunder further east and one could see the sky darkening. A Cb warning had been extended up to 20.00. The wind was approximately 080/12

Lessons Learned: I am even more convinced that following proper circuit procedure is important. If there is circuit traffic then joining traffic should give way to and give consideration to traffic already in the circuit. If the circuit is empty then non-standard joins may be acceptable.

I don't know whether the "Stuka like" dive from behind was an attempt at showboating or a sign of frustration at being behind a slower aircraft but it showed little respect for a known training aircraft and student pilot.

Aircraft coming up high and behind are very unnerving and there is a temptation to try and avoid something you cannot see. This could lead you into trouble. Doing nothing also could lead you into trouble and it is difficult to know what to advise a student in these circumstances. By flying the normal circuit I could only guess that the pilot of the Commander was in a hurry and might try and cut us up on the inside, which he did and which in the end cleared the danger.

Arriving too high in the circuit compromises your ability to see other aircraft in the circuit especially if you are flying a low winged aircraft. The other pilot did not give himself a chance to see traffic in the circuit and therefore put me and my student at risk for some 30 seconds before he darted for the approach.

The circuit is not the place for this sort of aggressive flying. Safety needs everyone to take part.

CHIRP Comment: **The Rules of the Air relating to aircraft joining the visual circuit are quite clear. In spite of this, incidents arising from an inappropriate circuit joining procedure and/or not fitting in with other aircraft in the visual circuit are relatively common and an increasing theme in recent investigations conducted by the UK Airprox Board.**

It is important to report such incidents to permit a proper investigation to be conducted and to obtain the views of both parties involved. This should be done, if possible, by stating your intention to file an Airprox report on the RT frequency in use at the time and subsequently submitting an Airprox Report Form. (Form CA1094, a copy of which can be requested at www.airproxboard.org.uk.)

EN ROUTE WEATHER DETERIORATION

Report Text: A fellow pilot and I had planned to make a local pleasure flight the following day in our VFR only permit aircraft. The following morning the weather was not good enough but the met forecast indicated that the situation was going to improve at about midday although there was a weak front approaching later in the afternoon. Late morning the weather had cleared and so we revised our plan and decided that it was now good enough to go flying. We planned a one-hour flight to a local airfield, Dunkeswell. We had made this flight many times before and were very familiar with the area.

The outbound flight was uneventful and the weather was good with 9999 visibility and FEW012/SCT012. We flew above the cloud tops at about 4,000ft and all was well. We landed, had lunch and met a friend unexpectedly, which extended our stay slightly longer than we had wanted. The weather appeared to be changing with the cloud base lowering, the cloud thickening and visibility dropping.

When we eventually took off it was apparent that the visibility was a lot worse than forecast. As the non-flying pilot on this leg I used my iPhone to obtain updated weather information. The METARs for Exeter and AAA (our home base) were indicating 9999 and SCT012. Neither seemed to match up with the conditions that we were experiencing locally, which seemed more like 5km visibility and overcast at 1,000ft. We signed off with the A/G station at our departure aerodrome and called up

Exeter radar where we were given a squawk. We requested the weather at our destination which was confirmed as 9999 SCT012.

Approaching the north of Exeter the weather became a closer match to the METARs and we used the opportunity to climb to about 3,500ft where the visibility was excellent and the ground was still clearly visible to navigate by. We continued west but agreed between us that if we continued much further we would be starting to stretch the 'in sight of the surface' VFR rule.

It was around this time that Exeter radar asked us if we would be arriving IFR into AAA. We took this as a bad sign of the weather to come. By mutual agreement we decided to drop down below the cloud to see how things were lower down on the understanding that if we didn't like what we saw we would climb back up and return to Exeter.

Upon our arrival below the cloud we found the visibility to be poor and a cloud base of just over 1,000ft agl. With high ground to the north we used a clearly defined road feature along with our GPS to ensure that we were clearly to the south of it. We signed off with Exeter radar and changed to ### Approach. Due to the high ground and our low height we could not make out their responses to our calls. We moved further south into deteriorating conditions, where the cloud base was dropping and it was raining. We were now clear of the higher ground and established communications with AAA. We asked for the weather and were told 9999 SCT012. We were now only 10nm away from our destination and it was getting difficult to find large gaps where the cloud did not come down very close to the surface.

We agreed that it was not possible to continue and due to the now serious nature of our situation I suggested that we declare a PAN. The handling pilot agreed and we did. The ATCO calmly gave us a QDM to the airfield and obtained permission for us to descend over the sea in the military danger area to our south. This latter option was not one that we were going to entertain due to the complete lack of a horizon over the sea.

It was then that I remembered the existence of a private airstrip only a couple of miles away. That horrible sinking feeling came over me as I realised that we had no option but to land quickly as the cloud was descending around us. It didn't take me long to spot the airstrip and we circled it once to check that it was a suitable landing spot. With all looking good we relayed out intentions to the controller who asked us to call him when we were on the ground. Our approach was a bit quick but the strip was more than adequate to cater for our landing roll. We were able to communicate with the controller over the radio, telling him that both we and the plane were fine. We arranged a lift back to base and went to see the ATCO. He was surprised that we could not get back as the conditions over the airfield were not as bad as we had encountered even though we were only about 7nm away. He thought that we had taken the correct course of action in declaring a PAN even though it created some form filling for him.

The plane was recovered without incident the following day in good VFR conditions.

Discussing the incident afterwards we both agreed that we had checked the weather adequately and were unlucky to find the en route situation completely different to the two nearest aerodromes. The F215 had given information about the weak front but there was no evidence of its effects in the Actuals. Whilst we were aware of other airfields available on our return leg it was surprising how quickly the cloud base descended preventing us from making use of any of them. We also agreed that we did the correct thing in declaring an emergency and not pressing on any further even though we were close to home. The other thing that we both said is that if either of us had been alone we would have returned to land at Exeter much sooner. This was perhaps the most chilling part of the experience. One would think that the combined skill and experience of two qualified pilots would have provided a safer flight than had either of us been solo.

Lessons Learned: If there is anything to be gained from our experience it is:

1. Stick to your own personal limits even if you are with another pilot. Do not be afraid to use the phrase 'if I were here alone I would turn back now'. This takes the pressure off the other pilot who is probably thinking the same.
2. METARs are no substitute for understanding the en route weather from the F215.
3. The weather can change very quickly. If you are flying with not much margin then it doesn't take much to turn the situation bad.
4. Do not be afraid to declare a PAN, you get calm assistance straight away.
5. Programme your GPS or annotate your chart with farm and private strips that you know about, you never know when you may need one.

***CHIRP* Comment: Some readers will have undoubtedly experienced a similar situation to that described in this excellent report, an unforeseen en route weather deterioration. For those who have not, it is a situation that many will be faced with at least once in their flying career and is a very salutary reminder that local weather conditions in the UK (and Northern Europe) can vary significantly from those forecast.**

It is therefore most important, particularly if you are only qualified to fly under Visual Flight Rules, that you have a contingency plan to deal with an unanticipated weather deterioration.

In this case, faced with a number of less than desirable options, the reporter and his colleague took the sensible, cautious option to carry out a precautionary landing.

ANYTHING TO REPORT?

Due to associated costs, we are no longer including report forms with GA FEEDBACK. If you would like to submit a report to CHIRP, you can do so by submitting an electronic report via our secure website www.chirp.co.uk or download a report form from our website and post/fax it to us (see P1 for our contact details).