

CHIRP

Confidential Human-Factors
Incident Reporting Programme

Aviation FEEDBACK



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GENERAL AVIATION



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Do the ‘right thing’ – not the ‘easy thing’

Raising your head and highlighting personal failures or inconvenient truths takes courage and integrity

Aviation has recently had an enviable safety record. It wasn't always so: it took many years for people to understand fully that we needed to learn from the human as well as the technical frailties in the system and, for that, we first needed data to show where the problems were occurring.

We still need these reports today in order to develop a richer picture about the likely threats and hazards in the human context so that we can gain an understanding and educate others about events that might not otherwise be recorded. Unfortunately, safety reporting has reduced markedly since the start of the pandemic, even when the lower flying rates are accounted for.

In short, aviation safety doesn't work in a data vacuum, reporting is the life-blood of any safety management system. If regulators, manufacturers, flying clubs and other pilots are to understand and manage the risks involved then we need to be altruistic in our approach to reporting so that others can also learn and hopefully avoid similar situations rather than us keeping those potentially embarrassing pearls of wisdom to ourselves.

Raising your head and highlighting personal failures or inconvenient truths takes courage and integrity, but it is always better to do the right thing than the easy thing – hiding things is not conducive to increasing our collective knowledge, as our politicians regularly remind us.



Director Aviation:
STEVE FORWARD

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We at CHIRP provide a fully confidential route for raising concerns and incidents; we don't judge or apportion blame, we're simply interested in improving safety in the air for all – you're safe from embarrassment with us, we take great steps to ensure confidentiality. We've included a copy of our latest CHIRP flyer with this edition of FEEDBACK: if you can, please print one off and stick it on the club noticeboard for all to see!

When I first started flying all those years ago, those "There I was with nothing on the clock but the maker's name" stories that were spun in the tea bar by ancient and wrinkled old pilots were gold dust to a new and sometimes over-exuberant young pilot. Tea-bar conversations have become something of a thing of the past these days as we all lead our very busy lives in which we rush around without pause to reflect.

Although not a substitute, our ILAFFT section is designed to get the discussion going and provoke some thoughts, so why not do the same in your club's newsletters? I'm indebted to the contributor of this edition's ILAFFT entry for their candid story;

it would have been ever so easy for them to just put it down to experience and keep quiet but, instead, they've willingly shared their tale (with a few edits from me to protect the innocent).

What would you have done in the same circumstances? Do you always prepare a Plan B? Do you always brief, if only to yourself, the eventualities and contingencies that you might encounter no matter how short your flight might be?

Threat & Error Management (TEM) sounds a bit like buzzword bingo so what does it really mean? It's all about thinking ahead and trying to anticipate what might go wrong and what you might do to avoid any associated problems – 'Threats' being those external things that might come along to bite us and 'Errors' being those things that we don't get right ourselves. No-one's perfect; we're all human, and making mistakes is part of the human condition, but the key is to try to anticipate where we might have weaknesses or make mistakes and ensure we mitigate against them.

All of this is part of that elusive skill called 'Airmanship', which can sometimes be hard to define and equally difficult to accumulate (much as for 'experience', which some wise sage once defined as "What you get when you don't get what you want"). But in respect of TEM, the very last sentence of CAA [Safety Sense Leaflet 01 'Good Airmanship'](#) has it correct, "Pilots exercising GOOD AIRMANSHIP never sit there 'doing nothing', they always think 15 to 20 miles ahead".

There's a lot in that leaflet, and it's probably overdue a refresh, but well worth a look as the Spring/Summer flying season approaches and we all look forward to launching into the air again. And whilst you're at it, [Safety Sense Leaflet 03 'Winter Flying'](#) has recently been refreshed by the CAA and also has some good gems that are worth reviewing.

Stay safe!

Steve Forward, Director Aviation
(with thanks to Air Cdre (Retd) Dai Whittingham for material from his RAeS blog of 11 Feb 2022)

E10 ETHANOL FUEL USE IN AIRCRAFT – AN IMPORTANT LAA ARTICLE

A number of short- and long-term challenges are presenting themselves surrounding aviation fuel supplies. Prime among them is the increased level of ethanol (E10) affecting use of Mogas in light aircraft. Commencing September 2021, the majority of Mogas (automotive pump petrol) sold in the UK moved to E10 specification, enabling the addition of up to 10% ethanol. This is a significant concern as an estimated 2,500 aircraft and microlights use automotive fuels bought from forecourts and stored in cans. This enables operations from small strips where refuelling facilities are otherwise unavailable.

We have long expressed concerns regarding the use of automotive fuels containing ethanol. The chemical is a powerful solvent which can attack plastic components including fuel lines, seals and carburettor floats. There have also been reports of other airframe

components deteriorating as a result of contact with ethanol from Mogas.

The LAA specifically does not recommend the use of E10 Mogas within our fleet and no aircraft under LAA oversight have been approved for the use of fuels containing E10.

If there is no alternative to the use of Mogas, Super Unleaded fuels may be considered as these contain a maximum of 5% ethanol and in some locations such as the south of England, refining issues may mean that no ethanol is included at all.

This demonstrates another challenge with the use of automotive fuels of any kind in aircraft because automotive fuels are not blended to as stringent specifications as aviation fuel. Their vapour pressure may vary considerably, creating a greater risk of fuel vapour locking. Additionally, we do not recommend that any aircraft is stored with any form of Mogas in the tank for an extended

period. Any Mogas fuel more than a few weeks old should be drained and replenished with fresh supplies.

WHY IS ETHANOL A PROBLEM?

One of the prime worries is material compatibility. Ethanol is a powerful chemical solvent and additionally can cause severe corrosion of metallic components (particularly aluminium). It can chemically attack non-metallic components; resins, rubbers, elastomers etc. It's surprising how many materials are adversely affected by ethanol, and how many of them can be found in a fuel system.

Phase Separation is another concern. Normally the ethanol will be in solution within the petrol, and the concentration will be uniform throughout. However, ethanol forms a very weak molecular bond with petrol and is also highly hygroscopic i.e. it readily absorbs water. Therefore, if the fuel becomes contaminated by water as





a result of exposure to moisture-laden atmosphere, condensation in tanks, or rain water penetration through poorly fitting fuel caps, the water and ethanol combine and separate out as an ethanol rich water layer at the bottom of the tank.

A further complication is that this relationship is temperature dependent, lower temperatures promote earlier separation. So while a fuel sample may be OK on the ground, lower temperatures at altitude could promote separation.

Should separation occur, the

fuel system gascolator may be overwhelmed by the quantity of water/ ethanol, leading to an engine stoppage. Even if the petrol continues to reach the engine, the fuel, now devoid of ethanol, will have a reduced octane rating; removing 5% ethanol will reduce the octane rating by between two and three points, which could lead to engine detonation and damage.

For those who may be interested in the more technical aspects and problems with E10 usage in older engines and fuel systems, the link below is to a presentation given to the

Federation of British Historic Vehicle Clubs by Nigel Elliot (time slice 27:30 to 1:03:50) which provides some interesting insights that apply equally to aircraft engines and fuel systems.



<https://www.youtube.com/watch?v=fBxtjS3TBKA>

I LEARNT ABOUT FLYING FROM THIS (ILAFFT)

What if?

I hope this event may give food for thought to others should anyone else find themselves in a similar situation to that which I experienced one Spring day. I'm a PPL with a night rating, but only VFR, non-instrument. To assist in my navigation I use [electronic navigation app], and I always prepare a PLOG.

On this occasion, I set off from home airfield in VFR, heading west and, on frequency change after take-off, I requested a Basic Service from my en route LARS. Having been accepted, all was well as I settled down to enjoy a nice jaunt in what was a welcome break in some frustratingly dull weather in the preceding weeks.

As the flight progressed, the clouds ahead steadily increased and then started forming a cloud bank ahead so I decided to report to the LARS unit that I was abandoning my route plan due to impending loss of VFR conditions and that I was going en route. The LARS unit responded to free call en route and squawk 7000.

With things deteriorating ahead, I decided to turn 180° and make my way home through what I knew was reasonable weather that I had

just passed through. This seemed a sound idea, a bit disappointing to have missed out on the planned route, but at least I had got airborne and had some fun.

Having made the turn towards my home airfield, to my horror I now found that the weather had also closed in behind and had significantly worsened to the extent that I was not just out of VFR but in total cloud. What to do now? My only option was to climb, so I climbed to 3500ft in Class G airspace which thankfully brought me above the cloud tops in clear visibility.

At least I was no longer IMC and, using my [electronic navigation app] I was able to navigate successfully to my home airfield prior to requesting a rejoin, all still at 3500ft. The rejoin altitude is 1200ft for my home airfield so, with distance in my favour, I decided to descend 'blind', with an MSA of 1300ft, to rejoin my airfield. After what seemed to be an age, I very fortunately reached the cloud base at around the rejoin altitude and was then able to report the airfield in sight. Somewhat chastened, I landed and taxi in.

All of which was pretty scary and not something I would care to repeat. Sitting down with a coffee afterwards, I asked myself what should I have done differently, and who should I have called for assistance? I have never flown

'carelessly' in 14 years, but this was an experience that could have killed. LARS was there to be used but I didn't call them, too embarrassed to admit what had happened or just too caught up in what was going on to think about it?

Did I really check the weather sufficiently well before I set off? Clearly, I missed the deterioration that was probably forecast. But most importantly, what was my Plan B for the route if the weather reduced unexpectedly as it did?

We're told that inadvertent IMC is one of the top risks for UK GA pilots and it's certainly worth a reminder of the need to have thought about what to do in such circumstances before you go flying in poor-ish weather. I had no proper diversion or alternative plan along my route, and I put myself into a position where I rapidly ran out of options.

With the benefit of hindsight and advice since, I believe a full 'confession' of my situation to my home LARS would have been the best course of action at the time, but there's also no substitute for proper planning beforehand to make sure you have options available if circumstances change and you have to deviate from your plan. For me, it was a steep learning curve and an experience I hope not to repeat. I certainly learnt about flying from this.



COMMENTS ON PREVIOUS FEEDBACKS

GA FEEDBACK Ed 89 Report No3 – GA1296 – Airspace infringement QNH versus QFE

Comment No 1 –

I suspect that the QNH vs QFE debate will refuse to lie down for some time yet. However, just to add my tuppence following the article in the most recent CHIRP. I live and fly in France – please don't get me going about the cost, time and general hassle associated with having had to exchange my UK-issued EASA PPL for an EU (i.e. non-UK!) issued licence just so that I can carry on doing what I have been doing without a problem for the past 5 years.

Here, all flying is done on QNH. Indeed, there are so many non-controlled airfields, often with quite lengthy tarmac runways (and often a good restaurant!), for which a QFE is not available even if I wanted one. I have therefore fallen in with the French way of doing things and add 1,000 ft to the airfield altitude, as published on the Visual Approach Chart (VAC), and then add a further 500 ft for the French-equivalent of an overhead join. It's absolutely no problem to do the maths, which is made even easier by the fact that the VAC not only shows the circuit height – usually, but not always, 1,000ft – but also shows the QNH altitude of the circuit.

Even controlled airfields will only offer the QNH, although I assume that they would provide the QFE if it were to be requested. But I have never felt the need and have never heard anyone else asking. No such thing as a regional QNH either, other than as provided by the local FIS if requested. So, below transition height, it's QNH all the way and everyone happily falls into line. Simple and unambiguous. So much so that I had quite put QFE to the very back of my mind until I read the CHIRP article.

Comment No 2 –

I can tell you exactly when the QFE/ QNH debate started. It was 1961. I was at the circuit stage of my flying training on Jet Provosts. We flew from Syerston but our relief landing ground was Wymeswold which had a slightly different elevation and thus circuit height. Quite enough of an adjustment to use up my few spare brain cells. And then one day we were called into the crewroom to be briefed on the new 'American' QFE system. Bliss. I have used it ever since.

The RAF has a very large number of airfields which are at or near sea level and there are similarly large numbers of civilian airfields at or near sea level in Scotland (where I fly) so it doesn't matter much if you use it from take-off to landing. Why would anyone ever use anything else?

But wait - I was watching a YouTube video of a GA accident the other day and it was only after the subject aircraft was turning on to final at - wait for it - 7000ft that I realised that the field elevation was close to 6000ft. I can see that that this might present difficulties for QFE users.

But wait (again) - with modern technology it must be possible to set the field elevation on the electronic altimeter and then the problem goes away. I cannot imagine flying an instrument approach on an altimeter which does not tell you how high you are above the ground (actually airfield). And I can't really imagine trying to teach someone how to fly a visual circuit without something that tells me how high I am.

Fast forward sixty years or so and I am making an approach to Perth. There is FISO 'control' so no one tells you what to do and there are four aircraft in the circuit; no radar

of course and I am doing a Standard Overhead Rejoin on QNH for a right hand circuit. Nightmare! How high am I supposed to be where? How do I monitor my position relative to the ideal glideslope? Do people really fly using this system? No wonder they have to take exams to make sure they understand it!

I believe that many CFIT incidents would not happen if the aircraft concerned was using an altimeter setting which meant that zero on the dial was zero feet above the runway. As for RPS - yes if I am flying below the TA in a jet aircraft, but if I am just going from Lossiemouth to Dundee in a Cessna there are more useful things to have on the altimeter.

“CHIRP Response”

The arguments for and against QFE continue to stimulate debate but we're not aware of any CAA intentions to mandate any universal move away from the use of QFE. That being said, we know that there are a number of airfields that operate using QNH in the visual circuit because of adjacent controlled airspace above and it seems to be up to an airfield operator which one they stipulate for use.

But the key requirement is that everyone should know what is in force at the airfield they are using; this is particularly important for mixed-use airfields where deconfliction between circuit pattern heights for the various types (fixed-wing vs rotary-wing for example) can sometimes be critical.

‘The arguments for and against QFE continue to stimulate debate’



GA FEEDBACK Ed 90 ILAFFT – Can you hear me mother?

Comment No 1 –

Regarding the ‘Can You Hear Me Mother?’ article in CHIRP 90, I do not believe that there is any ‘revert to emergency frequency’ facility in the event of a power failure on the Garmin 430. However, if the ‘COM’ changeover button is held down for two seconds or more, the unit will self-select the 121.5 MHz emergency frequency.

Comment No 2 –

For 29 years I'd been flying a PA28-161 with her original radios but, after I sold her, I often then flew another PA28-161 but with modern avionics. I took the obvious steps of downloading the appropriate Garmin manual and checking that I knew the radio basics. (The GPS was useful but I usually fly with a moving map on a netbook anyway). I also checked that the second box had the new 8.33 frequencies. Sadly I managed to infringe airspace and an MOR was filed against the flight. As in your FEEDBACK report, part of the problem was that I got onto 121.5, in my case because one knob did too many things. And whilst I continued to Aviate, I spent a moment too long trying to Communicate rather than Navigate. The Infringement Coordination Group identified this infringement as “due to a distraction caused by faulty radio equipment” (which was actually my fault not the club's).

Comment No 3 –

In the CHIRP Ed 90 ILAFFT report, it comments on reading the manual and needing to understand all of the equipment within the aircraft, in this case the Garmin 430. I've just read the 266-page Pilot Guide and the only reference to what it would do when there is insufficient voltage, is it will show a message that transmission power has been reduced. The only reference to auto-changing to 121.5 is a small note that suggests it will

do this when there is an internal failure (when two parts of the device stop talking to each other).

As such, it shouldn't be a surprise that they didn't know this would happen, even if they are thankful for the reversion. I think there has to be some recognition that few people will know what each piece of modern electronic equipment will do in every strange situation, so a more holistic approach is needed in what to do when there is a failure.

Yes - the main failure modes should be understood (power failure on a critical instrument, which then has a short battery backup, for example) and having a backup plan, but when there is a complex failure, pilots need to remember to aviate first before trying to diagnose a potentially tricky problem.

Comment No 4 –

I read the item on ILAFFT in your last issue, where your correspondent described a loss of COMS due to electrical failure. I had such a failure years ago and I only noticed it when some of the displays began to flicker. The bulb in the low-voltage light had failed and the popped circuit breaker was hidden behind the control wheel. Since then, I have changed the periodic check “FREDA” to “FREEDA”, with the second “E” meaning “Electrics”. It means that I look at the voltmeter or ammeter as well as the low voltage light.

Your correspondent mentioned that we don't always know what reversionary procedures are available when something fails. One that comes to mind and that many pilots don't know about, is what to do when the intercom fails. When this happens, you may lose the transmission function, but it can be restored to the pilot's side by simply turning off the intercom switch. The suggestion about using a mobile phone is a good one and I know of pilots who have used it. Having an earphone for the phone

helps. The earphone can also be useful if you carry a handheld radio and don't have an adaptor for your headset. The earphone will plug into the handheld and you don't even need to put the earphone in your ear. Just drop it into the cup of your headset and it can be heard easily without the discomfort of it's being stuck in your ear. I hope that this information may be of help.

“CHIRP Response”

The whole idea of introducing the ILAFFT (I learnt about flying from this) section in FEEDBACK was to stimulate debate and contributions so that people could learn from the experiences of others. We're grateful to the readers who responded with their thoughts and ideas from the last edition's entry and hope we can stimulate some more thoughts from this edition's story.

The common theme from the comments above pertain to the old adage ‘Aviate, Navigate, Communicate’ – always good advice when something unusual happens or you feel you're being distracted from your intended plan. Those simple mnemonics like ‘FRE(E)DA can help immensely with the ‘Aviate’ part, and don't forget to lookout as well when things start getting busy.

‘We're grateful to the readers who responded with their thoughts and ideas from the last edition and hope we can stimulate some more thoughts from this edition's story’



Reports

Report No.1 – GA1304 – HANKY Hotspot

Report Text: ATC correctly advise GA traffic to avoid Lasham during gliding activity. However this does create a GA hotspot near HANKY [an IFR routing point – see diagram for approximate position on the VFR chart] as North-South and South-North GA tend to move as far as possible west, and climb, while also avoiding any possible Southampton CTA infringement.

I departed VFR from Gloucester towards Chichester, en route to Lydd. I had selected this southern route to avoid the new Farnborough CTA, while appreciating that (anecdotally) other GA may also now avoid the Sevenoaks-Farnborough corridor and thus increase GA traffic routing South and North around London/ Gatwick. At 3600ft, I heard Farnborough ATC giving warnings of gliding activity at Lasham. I therefore climbed to 4700ft near Popham, but subsequently had to descend to avoid cloud and to get below the 4500 CTA.

Having a PowerFlarm portable PCAS¹, I was reasonably confident of the 'PCAS' alerting me. When near HANKY I was alerted by Farnborough ATC of an aircraft at my 12 o'clock, i.e. from the South East, but at unknown altitude. Turning left (East) was unsafe both due to gliding and because the approaching aircraft might turn right (East).

Because turning right (West) could take me into a Southampton CTA infringement, I took the only available option and descended. When SE of HANKY and descending to 3600ft, the approaching aircraft appeared from cloud at an estimated 500ft directly above and no more than 0.3NM range. Clearly the other aircraft was skirting HANKY, as I was, in order to avoid Lasham gliders and the Southampton

CTA. The 'PCAS' had only briefly flickered red but this was invaluable and timely.

I recommend considering a low level GA VFR route West of HANKY for glider avoidance, i.e. to separate GA and Lasham gliders, e.g. through the Southampton CTA along the line between West Meon Cross roads VRP and Burlington Cross VRP. Such a GA-only, low-level VFR route through the NorthEast section of the Southampton CTA could reduce risks during gliding activity at Lasham. The incident re-emphasises the importance of using 'PCAS', as already encouraged by CAA.

CHIRP Comment

Airspace in the south of England can be extremely busy, and this report describes well how the need to avoid controlled airspace can sometimes

lead to the funnelling of aircraft near to particularly busy locations.

The problem with setting up low-level corridors is that they can also end up funnelling aircraft into the same airspace and have the opposite effect to that intended; whilst a corridor would help with glider deconfliction if they were excluded (which in itself would be contentious to the gliding community), it would likely increase GA confliction by introducing head-on conflicts between opposite-direction traffic. There's also no obvious line feature to follow in this case, which might pose navigation challenges to some.

Furthermore, low-level corridors such as proposed are likely to be Class D airspace and therefore potentially subject to transponder requirements. All-in-all, setting up a



¹ In fact although PowerFlarm and PCAS (Portable Collision Avoidance System) perform similar functions, they are distinctly different systems. PCAS is similar in function to the industry standard commercial system TCAS (Traffic Alert and Collision Avoidance System), whereas PowerFlarm is an extension of the Classic FLARM system to incorporate transponder Mode-S and ADS-B detection.



low-level corridor might cause more problems than it might solve.

The Solent CTA has a base of 2500ft west of 'HANKY' (see diagram) and so there is plenty of space below this for GA aircraft to route without the need for a specific corridor connecting the suggested VRPs. Nevertheless, CHIRP agrees that the introduction of new airspace formally needs to consider the likelihood of introducing such pinch-points as part of the [CAP1616](#) airspace change process (which is not the case at the moment).

The Farnborough airspace change raised many concerns and we are due a post-implementation review to determine what have been the positive and negative effects of its introduction; CHIRP will add its voice to others seeking a review soon. As part of this, it's important that pilots properly log any problems they have encountered in accessing the airspace, and this can be done using CAA form [FCS1522](#) 'UK Airspace Access or Refusal of ATS Report'.

Finally, whilst the report is of interest to CHIRP in airspace terms, remember that any Airprox should in the first instance be reported to the [UK Airprox Board \(UKAB\)](#) who have access to the tools (radar and audio recordings etc) and connectivity to NATS/CAA to conduct a thorough review of the circumstances in order to provide an objective analysis. The reporter's carriage of electronic warning equipment is to be applauded, and readers may wish to note that the CAA have recently extended their facility for part-funding the purchase of such equipment by GA pilots.

Report No.2 – GA1305 – GA recency

Report Text: There is no doubt at all that currency is important in General Aviation, and after returning to flight following COVID restrictions many of us will freely admit we were a bit rusty. For those of us not fortunate enough to own, or own part of, an aeroplane it was

interesting to see various flying schools and clubs adopt a different approach to a return to flight; some allowing derogations to the usual currency rules with members allowed to fly solo following some basic remote online briefings, others looking for anything from a few circuits to a full check ride.

But across the country the 'requirement' for currency varies drastically from 22 days to 90+ days, sometimes limited to the same aircraft, sometimes not, sometimes limited to club aircraft, sometimes flying elsewhere is recognised, sometimes not.

We all set personal minima, at least I feel it's important that we should, and my personal feeling is that I would be uncomfortable if I had been away from flying for more than about six weeks, but there's a bigger question around 'on type' proficiency. Yes, aircraft systems are different, but the principles are the same. I've definitely gone comfortably 3-4 months between flights on the same aircraft.

I know of two flying schools that, post-COVID, have changed their currency requirements to be much more restrictive, notably insisting that flights are performed on the same aircraft to be 'current' but I fear this has an unintentional side effect; people may fly less, which in turn probably makes us less proficient.

I know both I and others have cancelled flights due to availability, which previously would have been resolved by 'take G-ABCD instead' which then leads to flying less frequently - ironic given what is presumably trying to be achieved with 'currency rules'.

Another case in point; I recently undertook a cross-country flight in an aircraft I had far less experience with because I was a matter of days over the 'currency' period for my usual first-choice aircraft, but had flown the other type (despite having less experience overall) two weeks prior. It

was uneventful, and great fun as always, but it makes you wonder what is better for safety and proficiency; flying the better equipped aircraft you've flown many hours in the preceding six weeks, or flying the aircraft you flew the circuit in two weeks prior?

I'm surprised flying schools aren't more aligned in this matter, and there seems to be little advice from organisations like AOPA, LAA, or the CAA, beyond the 90-day rule in law. As for where the ideal balance lies, I don't know. I'm not an instructor, and having spoken to a few about this it seems they all have a view that lies between 30 and 90 days, with most recognising that it's when you last flew, not what aircraft, that's more significant (save for obvious differences like complex types, or tailwheels etc) and it varies drastically from pilot to pilot based not solely on experience but also their mindset in other ways. So, how often is 'enough'? I don't know, but I do know that making it harder to fly doesn't feel conducive to safety either.

“ CHIRP Comment ”

The reporter's thoughtful comments are topical; recency (satisfying the rules) versus currency (actual ability to fly safely) is a subject that's been much debated in recent weeks within safety circles, including for commercial pilots.

Perhaps there ought to be more guidance given to GA about this but, as the reporter mentions, it's probably a very personal thing – currency requirements for someone with next to no hours flying will be a lot different than for someone with thousands of hours and qualifications, personal experience, competence and associated comfort levels. It also depends on the type of sortie that is to be conducted; a simple circuit trip might need a very different level of currency to flying a complicated transit or instrument flight.

As a result, any aspiration to devise a global recency/currency requirement would probably be too difficult to define because of the number of variables and individuality of pilots. Schools and clubs





also have to take into account the views of the owners and insurers of their aircraft and so there might even be bespoke requirements that differ from aircraft to aircraft of the same type at the same club.

All-in-all, it's a very difficult subject for schools and clubs to decide what currency/recency requirements should be imposed in normal times, let alone what might be required after the extended lay-offs that had been introduced as a result of the COVID-19 lockdown so it's perhaps not surprising that there are inconsistencies.

Although this may be a subject that's too difficult to resolve, it's food for thought as a reminder to us all that we need to think about personal comfort levels and capabilities. In past discussions about currency, the concept of the '[Farley Card](#)' has been aired by CHIRP before. This was devised by the test pilot John Farley who used it to make sure that he had covered the essential elements of his personal currency comfort levels over a period of time. The BGA have also developed a [currency barometer tool](#) for glider pilots that has some read-across to powered flight.

Both of these might provide some use to schools, clubs and syndicates as they look at what currency individuals might require. That being said, the use of the Farley Card is a way of constructing a personal tool for regular use but might not be applicable for flying after long lay-offs and pilots should always consider taking a flight with an instructor if they feel rusty. Finally, currency does not necessarily equate to competency, capability or proficiency, and there is always a risk that we might over-estimate our abilities even when current, so care must be taken when we are not well-practised after a lay-off.

Report No.3 – GA1306 – Intense distracting external noise in headset

Report Text: I write to report an event in a motorglider at 3000ft 20nm WNW of Exeter Airport in which I was

subjected to an intensely loud noise in the headset, sufficient to distract and confuse.

The noise was pulsed, too fast to count, but the pulses were audibly separate. There was no musical note, as might be heard in audio feedback. The sound started and stopped instantly, as though keyed. No fading in or out as might be expected if flying in and out of a stationary beam.

A constant noise lasting 20secs implies a very broad beam or active [radar] tracking. The pattern of 10-20secs constant noise then short periods of 2-5secs could be consistent with automatic tracking and then practice manual tracking. The noise was exclusively in the headset. Cockpit silent.

The headset was an old Peltor, as passive as they come, and absolutely not an active noise-cancelling set. The headset contains no batteries or any other energy storage device. I have a lifetime interest in electronics. Feedback within the aircraft was obviously a possibility. Blocking the microphone, switching off a handheld VHF made no difference. After landing, I confirmed that no mobile calls or messages had been received.

Most significantly, what also made no difference was turning the aircraft VHF volume to zero. In that state, there is no path by which electrical energy from the aircraft can reach the headphones. But an external microwave field most certainly could affect the aircraft. Perhaps ours especially because it is a GRP airframe, transparent to Radio Frequencies (RF).

I was aware that there was a military exercise near my route. Plotting my GPS tracklog and the exercise area the next day it was clear that I had entered the area by up to ½NM, but 30mins after programmed completion. Microwave exposure is the basis of a number of military area defence and crowd control techniques and pilots will remember the recent G7 conference in Cornwall where

airspace was closed west of Bodmin. It is at least possible that some of this intruder detection and discouragement equipment is being trained on by our forces. I am confident that the energy source was external to the aircraft.

Exercise Information: The associated exercise to which the reporter refers appears to have been one that involves the training of ground-to-air controllers. These exercises are relatively common and are detailed in the standing [AIC Y042/2020](#). The specific NOTAM information was:

Multiple fast jet aircraft and helicopters will conduct high energy manoeuvres within 20NM radius: 51N 004W (SW Barnstaple, North Devon). Aircraft may operate at speeds up to 450kts IAS and may be unable to comply with RAC. Aircraft shall remain outside of controlled airspace. For further info AIC Y042/2020 refers. OPS CTC 01526 347716. 2021-10-0119/AS3.

HQ Air Command Comment: Our exercise logbook details only the most basic information for exercises (e.g. multiple mixed-wing air system manoeuvring), and paper copies of associated NOTAMs are disposed of once they have expired. Our logbook entry for this exercise doesn't have anything else by way of information but it is very unlikely that an exercise (in Class G airspace) would use any sort of electronic countermeasures outside of a designated range, Temporary or Permanent Danger Area.

“ CHIRP Comment ”

Although the reporter seemed convinced that the noise in his headset was the result of a directed military radio-energy beam, this could not be assumed and was probably unlikely because of restrictions on the use of such equipment in civil airspace.

The HQ Air Command staff confirmed that there are strict rules for the employment of electronic countermeasures, which meant that they could only be used in designated





military range areas (but some conspiracy theorists might argue that they would say that wouldn't they if there was some form of new or experimental technology in use!).

We're not electronics experts at CHIRP, and without any definitive measurements or observations of any signals it's not possible to determine what caused the noise. However, it's known that mobile phones can cause similar interference to car speakers when communicating with and changing cells, even if no actual call is in progress.

The reporter says that they had their mobile phone with them (but that no calls or messages were received) and so there is a possibility that this was the source of the interference. Other high-powered RF transmitters (and even high-power welding kit) can have similar effects due to the speaker/headset wires acting as an aerial even if the equipment is turned off.

Whether this is feasible in the reporter's particular passive headset is not known but, given that the headset was an 'old Peltor', perhaps it lacks the interference protection that more modern units might have?

Report No.4 – GA1307 – Event involving Luton Radar

Report Text: Whilst flying in marginal VFR to Turweston, routing Stapleford, Loughton, Hatfield, Harpenden, Dunstable, Leighton Buzzard with a Luton listening squawk, I requested of Luton Radar a southerly zone transit of Luton Class D - direct from Hatfield (J4 M1) to Turweston. I was given and set a squawk and was identified, cleared to enter and fly not above 2400ft, remaining East of Luton, and placed under radar control. Hatfield is to the SSE of Luton and Turweston is NW of Luton and I was asking for a direct Hatfield to Turweston.

This is an impossible clearance but nevertheless read it back and continued on track. My pilot-non-flying and I were trying to understand how one could comply since to travel to the East would mean backtracking the way we had come and yet we had been cleared to enter [Luton's zone] and I had been radar identified and given a discrete squawk.

Before we had the opportunity to query the clearance, the controller called and said I told you the clearance was to remain East. I indicated to the controller

that this is an impossible clearance for a direct routing. Both myself and the pilot-non-flying had by this time concluded that it was an ambiguous clearance as we were already due South and to remain East would mean to turn 180° and go back the way we had come.

'At no time was I instructed to fly any headings under radar control'

Around Harpenden I was then told to "Hold Position" - not being a helicopter we began a right orbit. I called explaining we were SE, and Turweston was NW, and re-requested a direct to Turweston. The controller told me he knew where Turweston was and then, in what we considered was a little unprofessional, told us Luton was an International Airport with the implication that we should not be asking to come into the airspace. At no time was I instructed to fly any headings under radar control.





I did not develop the conversation any further on the radio, but re-requested the direct to Turweston as per my first request and, halfway round my orbit, was cleared again direct to Turweston. Whilst I agree that I read back the clearance as per my training but requesting a direct, being allocated a squawk, being identified, and then being cleared to enter and placed under radar control left us pondering the validity of the clearance especially as no radar vectors were given under radar control.

We entered the CTR south of Harpenden, almost due south of Luton and then orbited. With the benefit of hindsight we could have turned 80° starboard and headed directly for Luton's runway and passed to the north of the Luton runway.

Certainly, for previous routings via Luton we have been asked to pass over the landing threshold, but in this case it was unclear to me, and the pilot-non-flying, exactly where the controller expected us to be and, by the time we had sorted out in our own minds that we needed to clarify, the controller had given us a bit of an ear-bashing in less than ideal VFR conditions.

I suppose my expectation, once we had requested a direct from A to B, would have been something along the lines of "unable to clear you direct". "Route via 26 Threshold" "traffic you may see is ..." etc.

“CHIRP Comment”

The diagram shows the reporter's requested route (VRP A1(M)J4 to Turweston) in red and the controller's likely intended route ("...remaining east of Luton") in green. The reporter later stated that they were actually SW of VRP A1(M)J4 and entered the CTR south of Harpenden but, from where the pilot received the routing instruction (Hatfield) they could easily have complied with the controller's instructions with a minor deviation. So, why was there confusion in the reporter's mind, to the extent that they thought they would have to reverse their route?

The controller's instruction "...remaining east of Luton" could conceivably be interpreted in a number of ways: remain east of Luton Town; remain east of Luton Airport; or remain east of Luton CTR. The controller would have been better served by either explicitly stating which of these 'Lutons' they meant, or using VRPs when communicating their instruction, of which there were many options (such as route 'VRP Kimpton Hall to VRP Offley' or similar).

Notwithstanding, it was unwise to simply continue on track after having been given specific routing instructions for a transit of controlled airspace. At the very least, the pilot should have immediately sought clarification of the exact routing required rather than carry on until the controller had to intervene and instruct them to hold at the airspace boundary.

The plan to fly through the Luton departure lanes was somewhat flawed in the first place because these are very busy as commercial aircraft depart and climb; hence why controllers generally direct zone-crossing traffic to route through the airfield overhead where there will be few commercial aircraft at zone-transit levels.

Fundamentally, the pilot could have helped themselves by routing around the Luton CTR and, if not possible, have a 'Plan-B' in case Luton refused their entry into controlled airspace. The reporter commented later that their Plan B had been to route via BNN and Berkhamsted but they did not appear to have considered employing this option when they could not understand what the controller wanted them to do. They also might have given themselves a better chance if they had made their call to Luton at an earlier stage, thereby giving themselves more time to request clarification or make a decision on re-routing if necessary.

Ultimately, pilots must comply with controller instructions when seeking to enter controlled airspace and should not press on with their own route if they cannot understand what they are being asked to do. In respect of such instructions, the pilot mentioned that they never received any headings whilst under radar control but, being VFR traffic, the controller would not give headings, just routing instructions; headings are only given to IFR traffic.

CHIRP

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CHIRP

Confidential Human Factors Incident Reporting Programme

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Anyone closely involved in the operation, maintenance or support of aviation. This includes holders of Student/Private/Commercial pilot licences; cabin crew; glider, microlight and paraglider pilots; drone operators; parachutists and balloonists as well as maintenance/manufacturing engineers, ground handling/security staff and controllers/FISOs etc.

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Submit a report when you wish others to benefit from an important "Lesson Learned"; when other reporting procedures are not appropriate or are not available; when you are concerned to protect your identity (please note that anonymous reports are not accepted); or when you have exhausted company/club/regulatory reporting procedures without the issue having been addressed to your satisfaction.

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The primary way of submitting a report is through our website at www.chirp.co.uk. On selecting the online reporting feature, you will be sent a link to our reporting portal where you will be invited to enter appropriate details in a series of data fields. You can enter as much or as little information as you wish but the more you give, the better we are able to assist. Although online reporting is the most efficient and effective way of submitting a report, you can also make a report by email to: reports@chirp.co.uk, by phone to: 01252 378947, or by mail to: CHIRP, One Kingdom Street, Paddington Central, London, W2 6BD.

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