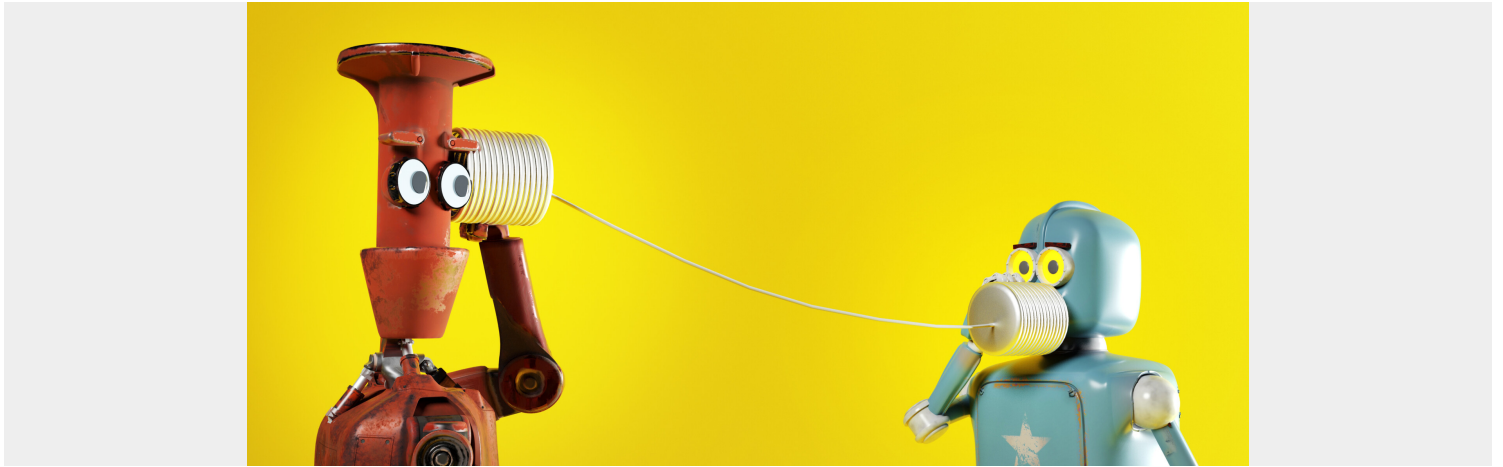


LISTEN UP!

Posted on 28.02.2023 by Steve Forward



Category: [General Aviation](#)

Edition GAFB 95

Editorial

You might have heard, but did you really understand?

As I was compiling the reports in this edition of FEEDBACK it struck me that one of the common themes in a few of the reports was communications and the issues that can arise when we either fail to communicate, mishear/misinterpret information or are not clear in the messages that we transmit ourselves. Aside from the obvious inability to communicate when equipment fails, poor communication, lack of clarity or being at cross-purposes can lead to serious misunderstandings that can have significant safety impacts.

Communication is not just a process of sending and receiving messages, but also a process of interpreting and negotiating meanings, and the meaning you intend is not necessarily the one the recipient takes away with them. Furthermore, communication is always complicated by an almost infinite number of factors such as expectations, attitude, prejudice, history, values and beliefs, moods, likes and dislikes, etc.

Information transfer is most efficient when all communication channels are available (i.e. aural and visual modes such as body language/gestures) – it's thought that we communicate 20% through

aural channels and 80% through visual channels by interpreting gestures, facial expressions, body language etc. We pilots are typically 'visually' focused (a picture paints a thousand words and all that) – what would you rather study, a graphic depiction or a few pages of text? Without all the visual channels being available (such as with R/T or textual documents), quite a complicated process of coding and decoding takes place before a message is received, interpreted and understood – the sender encodes the information and sends a message, the receiver decodes that message into information (hopefully the same information as was encoded!). For just that reason, with R/T we place specific emphasis on the use of standard pro-words with specific meanings that are easily decoded and understood even when transmission methods might be sub-optimal.

Understanding what might go wrong with communication and how to react when it does is therefore an important part of aviation resilience. How will the recipient perceive, interpret and reconstruct the information in a message? Has information been missed or misinterpreted? Are there unresolved uncertainties in the message? What will happen if the message is not received at all? What capacity does the recipient have to process the message? (it's known that one of the first senses to be offloaded when under stress is hearing, and so aural communications must also be tailored to the circumstances of the recipient). The introduction of the 'Student' prefix to callsigns was done with exactly this latter aspect in mind so that students who may be operating at capacity are given extra consideration, time and space to understand and act on any messages from ATC or other pilots.

All of these considerations are important when composing aural- or textual-only messages that will be transmitted without face-to-face contact, and we all need to be sure that on receiving such messages we are clear about their meaning; if not, or there appears to be ambiguity, ask questions, face-to-face if possible! In other words, 'don't assume, check' or, as our American cousins would say, 'assume makes an ass out of u and me'. The CAA have recently issued an updated [Safety Sense Leaflet 22](#) titled 'Radiotelephony for General Aviation pilots' that covers a wealth of useful information about radio communications and is well worth a read.

Safe flying in 2023,

Steve Forward, Director Aviation

I Learned About Flying From That (ILAFFT)

This edition's ILAFFT is taken from USA NASA's [Aviation Safety Reporting System \(ASRS\) 'CALLBACK' Newsletter](#) Issue 516, January 2023 (with associated American terminology and spellings!). The article provides a good illustration of how the pilots' Threat and Error Management (TEM) thought processes should have taken account of the temperature and dew point spread when operating an aircraft that might be prone to carburettor icing, particularly if swapping between aircraft with fuel injectors and carburettors. For more information on carburettor icing see also the CAA [Safety Sense Leaflet 14](#) titled 'Piston engine icing'.

Carburettor Calories

My student and I decided to go out and practice VFR landings before low ceilings arrived later that evening. The temperature was around 4°C and the dew point spread about 4°C. We taxied out to [Runway] XXL and flew two right VFR [visual circuit] patterns, each landing on [Runway] XXR. I flew the first pattern to demonstrate, and the student flew the second pattern. As we came in on final for the second pattern, the engine RPM dropped, and the propeller came to a stop at the end of the ground roll of the second landing. We quickly used the momentum to exit XXR onto Runway XY and hold short of XXL. I stated to Tower that my engine just quit, and the Tower Controller confirmed observing this over the Tower frequency. My student and I were immediately able to get the engine started on Runway XY to taxi back to the ramp.

In hindsight, I realize what likely occurred, but it is speculation. As my student performed the run-up before I took off of XXL, I recall noticing a 200 RPM drop when the student tested the carburettor heat. Having flown a fuel injected C172 a couple times before this flight, I was not in the habit of turning the carb heat on.... I did forget to turn the carb heat on during my first pattern and mentioned this out loud to the student while on final for XXR during my demonstration. The student took the controls for the second pattern while on upwind for XXR. During the student's pattern, our downwind was extended for landing traffic, and he also forgot to turn the carb heat on as he configured for landing. I noticed this, but with this flight being a pre-solo evaluation, I decided to make a note of this for later and did not correct it immediately. While on final for his landing, he pulled the throttle to idle for the entirety of final approach. As we continued the ground roll after his landing, the prop stopped turning about halfway down the runway. I do not recall hearing the engine quit, just that the RPM began to get pretty low. With the weather conditions, I strongly suspect carb icing. The engine didn't have time to warm up either after two patterns in these conditions. To prevent further occurrence, I will be more diligent when switching between aircraft with different systems and identify differences before beginning a flight. I also need to emphasize the landing checklist while on downwind for myself and my students. I am fully aware of the consequences of not turning on the carb heat in conditions where carb icing is prevalent.

Comments on Previous GAFB Editions

Comment No 1: Regarding FEEDBACK Edition 94 Report No 4 [GA1321 – Dual-reading ASI] where the pilot of a glider tug reported flying MPH airspeeds believing the indication to be in knots. That type of ASI is potentially lethal; it says 'KNOTS' in large letters in the centre of the instrument face. The inner scale is somewhat obscure although that is the one the decal refers to. The outer scale is clear and obvious but is calibrated in MPH. The 'MPH' sign is small and located near the bottom of the instrument face. This error has no doubt been made thousands of times. I would suggest recommending removal and replacement of these ASIs within a certain timeframe.

CHIRP Response: This is an unfortunate classic Human Factors trap that is waiting to catch the

unwary – what is known as a ‘latent failure’ in safety terms which goes unnoticed until circumstances conspire to raise its profile (in this case, someone rushing to get airborne; instrument markings that were not obvious; and a situation which felt ‘nearly right’ and so alarm bells weren’t ringing). As a known long-term issue with legacy aircraft, replacing the ASI with one that is better marked is certainly one way of solving the problem but may be beyond the short-term finances of some operators so a clear warning placard near the instrument stating something like ‘Outside ring – MPH; Inside ring KNOTS’ may be one way of highlighting the problem if a more permanent solution can’t be sourced.

Comment No 2: [FEEDBACK Edition 94, Report No.5 – Incorrect pressure setting]. Every month there is an infringement from an aircraft departing the circuit with QFE set. Standard procedures at GA airfields are to use QFE for flying circuits and QNH when intending to leave the circuit. I would recommend never using QFE in line with all commercial operations, most other countries including the EU and North America. Altimeter setting errors do not only affect infringements. If QNH is always set, only small changes will be needed which are less error prone. We are using a procedure which is error prone, non-standard and unnecessary.

CHIRP Response: The debate over QNH vs QFE has probably been going on since flying began in the UK. Practically, the use of QNH in mountainous countries such as the US or EU can partially be traced back to the fact that it’s either not possible to set QFE for very high altitude airfields, or to do so would take a long time to wind the altimeter setting from QNH to QFE to set 0ft. In that respect, the UK is in the fortunate position that most airfields are nearer to sea level and so it’s possible to set QFE without much effort. There is a view that it makes sense to do so because, although the use of QNH in the visual circuit holds little fear for those with plenty of experience, it can cause mistakes to be made by those who might be less practised. We already see plenty of Airprox between aircraft in the visual circuit without people having to do mental sums in the air to calculate circuit height when they join an airfield so the use of QNH is not without problems especially with students or when there are mixed traffic patterns at different heights. That being said, although it’s true that QFE has benefits in the visual circuit, it also brings with it the requirement to be diligent about changing settings when leaving or joining the circuit, and there are a number of airfields that are located underneath controlled airspace who do use QNH successfully in an attempt to make airspace infringements less likely so its use is not without precedent.

Comment No 3: Regarding FEEDBACK Edition 94 Report No 6 [ATC825 – Use of Guard channel for practice PANs]. I suggest monitoring multiple RT frequencies while two crew should be a basic competence. In Australia and the USA, single crew, it is normal to monitor and quite probably transmit on two frequencies given the need to be both in touch with ATC centre and local traffic on the CTAF. Monitoring of guard by high-level commercial traffic and low-level GA in remote, oceanic or militarily sensitive regions is valuable and occasionally a life saver but in UK airspace its utility is minimal. I suspect the UK is the only country that offers a triangulation service. Surely with

widespread use of moving maps, transponders and PLBs, triangulation is a historical oddity that could be discontinued.

CHIRP Response: Whether or not ‘chatter’ on Guard is distracting is probably dependent on the circumstances at the time but it seems to CHIRP that it would be relatively simple to set up a VHF Practice Emergency Training Frequency (PETF) that would then remove a significant part of the problem. Some folk have also commented that having a separate PETF may well encourage and give confidence to GA pilots to practise this important feature more often, knowing that they are not in any way interfering with commercial flights. But what is the view of you the aviation community? Let us know and we’ll include your thoughts in any future PETF work!

Comment No 4 – EC Rebate: Responding to FEEDBACK Edition 94 November 2022, I was interested in the notion of extending the EC rebate to student pilots, and the DfT response in relation to the review in March 2023. As an ATS provider and student pilot, I believe a change of direction in March 2023 would be beneficial. The goal here surely is to provide EC conspicuity for the aircraft airframe, why then do individual pilots need their own EC device, a good proportion of which probably spend most of their time in a flight bag, in the boot of a vehicle? If the goal here is to reduce MAC incidents and airspace infringements, we need registered aircraft owners/operators to fit these devices and make them available to all pilots flying those aircraft. Crunching numbers may allow for one fully funded EC device per airframe, which seems easily audited and accounted for.

CHIRP Response: We agree! CHIRP absolutely supports the purchase and fitment of appropriate EC devices in all aircraft and have represented that view to DfT and the CAA. Compatibility of devices is currently an issue though, with no ‘silver bullet’ being available at present as different sectors of the aviation environment have different needs, but that’s a whole debate of its own.

Comment No 5 – Flight Priority: With regard to the latest GA CHIRP publication [FEEDBACK Edition 94 Report No3 – ATC829 – A/G Operator], I believe there is some significantly misleading information in the report concerning Air/Ground operations. It is stated that *“Although ATCOs have defined priorities for handling such aircraft in controlled airspace (see CAP493 Section 1 Ch 4 Para 10C), these priorities do not extend to Class G airspace and its associated requirements for giving way.”* Having provided ATC in Class G on and off for almost 40 years and currently working for the ANSP with the most ATC units in Class G, I assure you that the Flight Priorities table applies in all classes of airspace not just “controlled”.

CHIRP Response: It’s a fair cop...I take full responsibility for some slightly vague wording that didn’t properly reflect what we were trying to say. [CAP493](#) Edition 10, Section 1 Ch 4 Para 10C ‘Flight Priority Categories’ (as recently amended within [SI 2023/01](#) effective 18 April 2023) do indeed apply when you are under the control of an ATCO irrespective of the class of airspace (for example when under an Aerodrome Control Service in Class G airspace). What I was trying to say was that they do not apply in circumstances when you are not under control in open Class G airspace (irrespective of

whether it's an ATCO, FISO or AGCS) such as operating at an A/G airfield or even in receipt of a Basic Service or Traffic Service in Class G airspace when a controller can only give you information and not instructions relating to emergency services aircraft who also have to adhere to the rules for giving way in such circumstances.

Comment No 6 – Downloading FEEDBACK: I have been a reader, and occasional contributor, to CHIRP since its inception. Originally as a commercial pilot but now, having recently retired, as a private pilot. The current layout is excellent and more engaging than previous incarnations. However there doesn't seem to be a download facility, enabling it to be read offline (such as whilst travelling). If I'm correct, could a download facility be added please? CHIRP is a significant contributor to flight safety, and a first class publication. Please keep up the good work!

CHIRP Response: We're glad that you find that the new website and format for FEEDBACK more engaging. It is indeed possible to download FEEDBACK for reading offline. There are 2 icons within the selection tile for each edition. On the website, click on the 'FEEDBACK Newsletters and Publications' tile, then the 'General Aviation' 'View all' icon. As shown in the graphic, each edition has a tile within which the 'eye' icon is for accessing the electronic version of the newsletter (which can then be read in 'single-column' interactive mode), and the down-arrow icon is for accessing the pdf version (that can then be downloaded to your device for reading offline if desired). On the app, selecting 'Latest FEEDBACK Newsletters' takes you to a similar screen where the orange arrow icon in the tile accesses the most current electronic newsletter and the picture of a document below the arrow accesses its pdf version. We would encourage all our readers (especially flying clubs, associations and other organisations) to download the pdf version of FEEDBACK and send it on to others who might not have our app installed. And if you can, please print off a few copies and leave them on the crew-room/tea-bar coffee table – everyone is encouraged to read and use our material for safety purposes, so you can reproduce or print FEEDBACK without worrying about copyright issues.

