

# CHIRP GA FEEDBACK

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## EDITORIAL

**What did he mean by that?** In the last edition of FEEDBACK I said, “Transponders (when fitted) should always be ON and squawking with Mode C selected”. Absolutely true! But I am grateful to one of our readers for pointing out that most GA transponder control boxes do not have a button marked “Mode C”. Rather, they have a button marked “Alt” for Altitude as seen on this Garmin equipment below.



So, what I should have said is, “Transponders (when fitted) should always be selected to Alt”. The explanation: when a transponder is simply selected to “on” it does not transmit altitude information – it only provides receivers of your squawk with your location in the horizontal plane. However, when you select Alt (or Mode C if your equipment is labelled that way) your transponder transmits both your horizontal location and your altitude (based on 1013hPa) and therefore identifies your position in 3D. In addition to providing ATC with better awareness of your position, it gives you enhanced protection from conflict with aircraft fitted with Airborne Collision Avoidance Systems (ACAS).

**NOTAMs – Good News.** Various aspects of the NOTAM system have frustrated GA pilots (and our professional colleagues) over recent years. Not least among these were the longstanding warnings about Security in hotspots around the world. Therefore the recently announced procedural changes to the CAA’s NOTAM policy, which includes the issue of NOTAMs for Airspace Security Warnings, is most welcome. For details see [Information Notice 2015/102](#). In summary, NOTAMs with permanent information will be incorporated in the AIP within 3 months (90 days) after NOTAM publication. In practice some permanent information may have been incorporated into the IAIP within 56 days (2 x AIRAC). In the case of NOTAMs for Airspace Security Warnings these will have an effective period until the next available AIRAC publication date. A table incorporating text of Airspace Security Warnings is to be added to AIP ENR 1.1.4. and the NOTAM will refer to this in future:

*‘On expiry of this NOTAM details will be included in the UK AIP ENR 1.1.4 Airspace Warnings by the Department of Transport’*

Good news indeed.

Ian Dugmore - Chief Executive

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### COMMENT ON GAFB 61 RE NOTAM SATURATION

**Report Text:** At the risk of being tedious, may I add my tuppence-worth to the item on NOTAM saturation? Intending a short flight in the vicinity of Inverness, I checked the NOTAMs, using the 'Narrow Route' method and then SkyDemon. The first NOTAM was half a page on the subject of the perils of flying in the Ukraine FIR and the second was a long tract about how [ ] Radar measure their radar safe altitudes. The first of these has appeared every day for at least six months, the second every day for (I would guess) over two years. It should surely have migrated to the IAIP by now. And then, throughout the summer I have had to read about supposedly huge gliding competitions which have almost completely blocked the route from the Moray Firth to the Central Belt. On how many days during the NOTAM period, I wonder, have ANY gliders taken off from these sites?

**CHIRP Comment:** The Reporter's concerns about NOTAM Security Warnings and other 'permanent' information are addressed above. NOTAMs about gliding competitions are a different issue. Such NOTAMs do not 'block routes'. Rather they warn that extra vigilance is required. Before departing on a transit flight, a call to the competition site will obtain the latest information about competition traffic and day-tasks which should be interpreted subject to the time and space spreads outlined.

In answer to the reporter's specific question about gliding activity in Scotland (from published annual BGA statistics and competition reports), on an average weekend day ~100 flights of average duration 50 mins may be expected from the six sites within or accessing the Central Highlands and adjacent belts and 40 flights of that duration may be expected midweek from the two sites open then. Being 'all-weather' averages, on a peak day double these movements might arise. Examples of activity levels during competition weeks were as follows: at Feshiebridge 03-18 May and 27 Sept – 05 Oct 2014 and at Aboyne 31 Aug - 06 Sept 2014, on 'sustainable' gliding days (i.e. offering lift) around 20 competing gliders would be launched to attempt 'circuital' tasks of typical length 200km with first launch and last landing separated by 5 hrs or more. It may be expected that additional 'domestic' local training and non-participating cross-country flying would also be carried out from the site before and after the competitors depart.

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### DOOR LOCKED WITH PILOT ON THE INSIDE

**Report Text:** On reading the tech log of a club aircraft prior to flying from [ ] to [ ], I observed that the aircraft door lock key had broken off in the lock (the PA28 only has one door). The obvious implication being that the door could not be locked. However, after shutting down at [ ] I found that I couldn't open the door. A pilot from another aircraft who had parked next to me came to assist and managed to turn the lock to release me. It appears that the lock with the broken portion of the key still inside it had rotated in flight, probably due to vibration. Had I and my passenger been required to exit the aircraft in an emergency we would have been trapped. The broken portion of the key was removed and the return flight and subsequent door operation was conducted without further incident.

Lessons Learned - Don't assume that a minor or insignificant fault will not have major implications.

**CHIRP Comment:** We agree with the Reporter's lesson learned. Always consider the 'what if'!

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#### **Advertisement: Scottish VHF common trial on 135.475**

There is a trial underway in Scotland for military pilots to use the VHF Safety Com frequency (135.475) to inform civilian pilots about their flights. Military pilots have previously used UHF to broadcast their movements to other military users in the Low Flying System. The trial will see military pilots using VHF Safety Com for this purpose with the intention of improving Situational Awareness for civilian military pilots alike. More details can be found on the [GASCo website](#).

### RUNNING OUT OF FUEL

**Report Text:** The day's planned flight from [ ] to [ ] to land, have lunch and fly back. 65 nautical miles each way, the aircraft uses about 10 litres per hour and cruises between 60 – 70kts. I have done this sortie before in this aircraft. Flight time of about 1 hour in each direction, flying wind was a 10kt northerly so a tail wind for the outbound and a headwind for the homebound leg. The aircraft has a sight tube on the cockpit rear bulkhead to show the fuel state. On DI the sight tube was showing 27 litres, the fuel capacity is 30 litres. I decided not to fill the tank as my expected fuel use was about 20 litres. The outbound flight was uneventful although more fuel had been used than expected. There was still showing sufficient for the return even at a higher usage rate. The homebound flight routed close to several airfields that could have provided fuel but the indicated fuel state during the flight appeared fine. When we were abeam [ ] with 20km to run it still showed 8 litres, this should have been plenty. When I reported at the southern VRP at 1000' the engine stopped and the sight tube showed no fuel. It became obvious that we would not make the airfield so I landed in a farmer's field - 2 fields short. The aircraft was undamaged and there was no other damage caused.

Lessons Learned - Sight tube fuel gauges are not accurate and should not be trusted especially below 10 litres. The only reliable way to measure the fuel economy is to fill the tank to the brim, fly for an hour and fill it again.

Fuel usage should be checked at least annually to confirm it has not changed.

**CHIRP Comment:** The runway behind you; the sky above you; fuel in the bowser..... We are grateful to everyone who reports to CHIRP for sharing their experiences. Sight tubes can be more accurate than gauges but they require calibration; they are not accurate if the aircraft attitude in flight or on the ground is different from the calibrated position. The calibration, usually done by adding known quantities of fuel to an empty tank, also needs to take into account the amount of fuel that is unusable at the bottom of the tank. Finally, sight tubes can be difficult to read accurately in flight in turbulence and if they are not positioned where they can be easily seen by the seated pilot. The reporter's suggestion of checking the fuel usage periodically is a good one but actual usage can be significantly different from any controlled test. The weight of the pilot, passengers and luggage are variables and even minor variations in speed, trim and fuel/air mixture can have cumulative and significant effects. Having taken all of these factors into account and produced a fuel plan, it is important to allow a margin. There is little pleasure in returning to base 'on fumes' so in similar circumstances in the future it would be better to set off with full tanks and, having reached the outbound destination, make a realistic reappraisal of the fuel plan for the return.

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### STANDARD OF WORK

**Report Text:** I am writing on behalf of the engineering staff at [ ] and their concern about engineering standards. At present an annual check is being carried out by a licensed engineer on a [ ] in a private, non 145-approved hanger with no workshop manuals or up-to-date paperwork referencing any service bulletins ADs etc. The other worry is the standard of work is well below what is expected. The concerns of the staff are, if none of the engineering staff are involved in the maintenance or can even see the standard of work, who is to say an acceptable job is being undertaken knowing what poor standards are allowed in the maintenance hangar.

**CHIRP Comment:** An Aircraft Continuing Airworthiness Monitoring (ACAM) inspection determined that engineering standards at the reported facility were acceptable. The aircraft had since been moved to a different facility for Airworthiness Directive and final certification work. The assumption that because the work was not being conducted in a Part 145 hangar, the engineer did not have access to appropriate manuals proved to be incorrect. As it turned out, the aircraft concerned was an 'Annex II' type that did not fall under Part 145 regulations. All that said, the reporter was correct to raise his concerns. Although the inspection did not substantiate the reported shortcomings, the concerns were investigated; in other circumstances a similar report could highlight significant safety issues.

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### JOINING DILEMMA

**Report Text:** Approaching North Weald (EGSX) from the north-west I was receiving a traffic service from Luton. With 10 miles to go I descended below 1500 feet to be below the Stansted CTA, secured a 'free-call' message from Luton, changed the squawk to 7010, called North Weald Radio for airfield information and gave a position report. The squawk tells Stansted ATC that the aircraft in question is in radio contact with North Weald. As expected, the active runway at North Weald was 20 with a right hand circuit. This requires the aircraft to be positioned very close to the southern edge of the Stansted SFC-3500 feet CTR airspace. So far, so good.

I was listening out for other traffic and hearing none that was a factor called to say I was joining on a right base. There was then a garbled transmission that included the word 'downwind' and the North-Weald radio operator said there was an aircraft downwind in the circuit. I could not see it; neither could my passenger in the right hand seat, who was a first-time flyer in a light aircraft. My aircraft has TCAS; there was no transponder return from the other aircraft.

Fearing a conflict I made a left turn at about rate one. I recall thinking that it would have to be a very steep turn to keep out of Stansted but intuitively decided not to do that. I was quite alarmed but did not want to transmit this to my passenger, nor did I want to be messing about with 60 degree of bank so close to the ground. I made a call to North Weald, I think that I was 'extending away from the circuit' which I imagine he, like me, understood meant I was going to clip Stansted space. After a few moments I turned back and continued onto a two mile final. The other aircraft was well ahead, already over the runway executing a touch and go. There had been no 'final' call but in response to my own 'final' call and its acknowledgement, there was a transmission addressed to North Weald radio to the effect that 'the radio went very quiet for a while there'. There was a strong gusting cross wind and I can well imagine that the other pilot had been concentrating on aviating and not on communicating. However, the lack of communication, and the lack of a transponder, meant I had had no idea where he was.

I landed and taxied in, expecting to hear those dreaded words, "can you give Stansted ATC a ring on ....." But the North Weald radio operator said nothing, and neither did I, and nothing has happened since.

Thinking about it I still don't know what I could and should have done. In particular, should I have pre-empted a potential issue with Stansted and contacted them myself? There was absolutely no time to call them on the radio at the time, although I would perhaps have had time to punch in 7700 on the squawk had I thought of it.

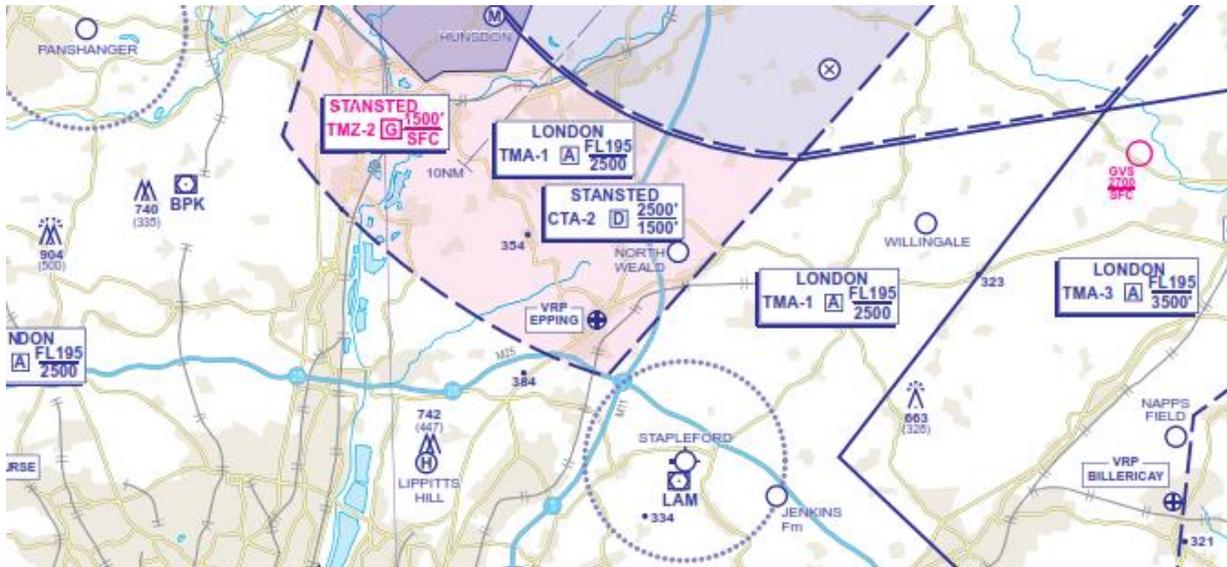
**CHIRP Comment:** CHIRP advice to pilots joining a visual circuit is normally to join overhead. This provides an opportunity to have a good look at the airfield and assimilate the positions of all the relevant traffic. However, at North Weald there is little room for an overhead join between the jet aircraft circuit at 1000ft QFE and the Stansted TMA at 1179ft QFE. Therefore an overhead join is not recommended as a matter of routine there. In the reported incident, positioning for a join on base leg and hearing an aircraft downwind, which might have been jet traffic, the reporter found himself in a tricky spot. He was correct in identifying that he had a responsibility to integrate himself into the circuit pattern already established and to give way to the aircraft on his right. However, turning left in a right hand circuit was not the best course of action since it reduced his chance of seeing the conflicting traffic downwind. His decision not to fly a steep turn was correct if he was uncomfortable performing one at low altitude. Similarly, changing his transponder squawk would have been distraction from flying the aircraft and looking out. On balance, the least bad course of action was to climb to maintain just below 1500ft QNH (1179 ft QFE) and convert from a base leg join to an overhead join. If there was time he might also have called on the radio to determine the exact position of the aircraft downwind and whether it was a jet, thereby establishing how much airspace he had to work in while remaining below Controlled Airspace.

The best way of managing tricky situations is not to get into them in the first place. At North Weald on runway 20, with the overhead join effectively limited, there would be more options available for integrating into the established circuit pattern by planning to join downwind via the Epping VRP. It is also worth noting that, although North Weald is in the Stansted TMZ, it is home to a microlight school that operates aircraft that are not transponder-equipped. Therefore any temptation to rely on TCAS for conflict avoidance must be resisted. A good lookout is essential.

Finally, the reporter was concerned that he may have infringed the Stansted CTR. A useful landmark is the water tower next to the M11 which marks the edge of the CTR. Following any suspected infringement, a

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telephone call to ATC after landing is unlikely to exacerbate the situation; a timely apology can work wonders as well as eliciting immediate reassurance. For more information about North Weald, pilot briefing packs and TMZ briefing notes are available to download as pdfs from their [website](#). There is also a very useful downloadable chart of the area on the [AIS website](#); a portion of it is reproduced below.



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