

CHIRP General Aviation FEEDBACK

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EDITORIAL

RT A frequent theme in CHIRP reports is RT frequency selection - dialling the wrong frequency through error in the air or copying down the wrong frequency during planning. A variation for pilots with 2 radios is dialling the correct frequency but not selecting the correct radio for the transmission. Clearly, there is a need to get into the habit of doublechecking the frequency and the appropriate box every time there is frequency change. Even then, there are likely to be occasions when you transmit your message but receive an ominous silence in response. This is a situation when you need to have a pre-planned a series of logical steps to diagnose and correct the problem – or mitigate the risks if there is no easy outcome.

First – recheck the frequency dialled and, if applicable, the radio box in use. Consider going back to the previous frequency and asking for assistance in contacting the next agency. If that is not possible, proceed on the assumption that your transmitter is working or intermittent and make blind calls.

And by the way, don't forget the priorities of flying the aircraft, looking out and navigating. It is all too easy to become absorbed in solving an RT problem that lookout and navigation suffer.

Instructor Selection A recent CHIRP report highlighted the importance of choosing a suitable flying instructor. Ab initio training must be conducted through an Approved Training Organisation (ATO) or a Declared Training Organisation (DTO). Freelance instruction is available for IMC training and refresher training on one's own aircraft. In these circumstances, using an instructor already known or recommended to you is a good option; if that is not possible use a flying school or Club/Association coaching scheme. In every case, personal chemistry is important between instructors and trainees. If you are not happy with the instructor you have chosen or been allocated – get another one.

Carbon Monoxide (CO) The second AAIB [Special Bulletin](#) into the loss of the Piper PA-46-310P Malibu near the Channel Islands in January 2019 indicates that CO poisoning was potentially a causal factor. CO poisoning is an insidious and potentially fatal risk for occupants in any piston-engine aircraft, notwithstanding routine inspections of the engine and exhaust systems. CO detectors are cheap and can be carried on and off aircraft or fixed to sidewalls with Velcro. Simple card detectors are available but do not provide an alert and are little use at night. The best detectors provide a visible and audio alarm. Battery powered alarms designed for use in caravans may offer the most appropriate solution but anything is better than nothing! Also note that CO detectors have a finite life; it is important to replace them after their notional life expiry.

8.33kHz Radios A recent report to CHIRP contained the information that some RT equipment produced around the time of the change to 8.33kHz channel spacing could be set on the ground to use either 25kHz or 8.33kHz channel spacings but once airborne the spacings could not be changed. Subsequently some manufacturers agreed to modify these radios to enable switching while airborne; owners were offered the loan of a switchable set while their own equipment was being modified. Readers who might have a radio that is switchable only on the ground may wish to contact their equipment manufacturers or retailers to investigate options for modifying their radios.

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VFR INTO IMC

Report Text: On the return leg of a long cross-country flight, I noticed that the cloud base began to decrease and a large patchy area of rain showers lay in front of me. I was confident that I would be able to find gaps between the showers to find my home airfield and, if not, I would be able to turn around and fly back the way I had come to divert.

Approximately 5 miles away from my destination I noticed a shower was sitting over the airfield, so I tracked along the edge of it (with the airfield to my right) hoping to see a gap. I had another rain shower ahead of me and another one to my left, but I was still content that the option of turning around was still there.

After making a right turn, I suddenly found myself in IMC. As a non-IMC rated pilot, I knew I had to execute the 180 “get out of trouble” turn we are taught on the PPL syllabus. This is something I had not practised for some time and I felt very rusty. I definitely did not feel in control of the aircraft at this point!

The manoeuvre did work however and it put me back in to VMC. Unfortunately though, my plan of heading back the way I had come from was no longer an option because the rain had enveloped that path. I was now trapped in a pocket of clear sky. Eventually, after a few minutes of circling, a hole opened up and I was able to find a clear path to the airfield and landed safely.

On reflection of this flight, I was quite surprised how quickly one can end up in IMC. What started out as simple shower dodging quickly became a desperate situation that required instrument flying skills to get out of. I always thought it would never happen to me and that having an escape plan would be enough.

I think a number of things can be learnt. Firstly, this patchy band of rain showers was in the forecast, I was naive in thinking that I would be able to dodge the showers, especially without an IMC rating. Flying through a narrow gap of showers is not wise, weather is always changing and the option of turning around may not be there.

Finally, I would recommend that any non-IMC rated pilot regularly practise the 180 degree turn in simulated IMC in any type you fly (with a safety pilot of course). When was the last time you practised it? I know that it saved me on this occasion.

CHIRP Comment: This excellent report clearly illustrates the value of the ‘get out of trouble’ turn through 180° turn that is part of the PPL Skill Test. The reporter did exactly the correct thing by concentrating on flying the aircraft. Once that was done and he was in clear VFR he had the option of calling the Distress and Diversion Cell on 121.5kHz, who could provide directions to suitable diversion airfields. However, had the weather precluded a diversion there was the option of a precautionary landing, which is also a valuable part of the PPL syllabus.

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FOLLOWING THE PUBLISHED CIRCUIT

Report Text: After an uneventful flight to [] I arrived overhead for runway [] and began my dead-side descent, making an RT call to advise. I was asked to call downwind. After crossing the upwind threshold of the runway at circuit height I was advised of a Robin aircraft joining downwind. I had visual with the aircraft and made an RT call to advise. I joined the downwind leg behind the Robin and made a downwind RT call. Keeping a good look out and watching the runway I lost sight of the Robin. This is where I made a wrong assumption. I was following the published circuit for runway []. I therefore assumed that the Robin would be following the same circuit, and as this is a faster aircraft, it would be well ahead of me. I turned base and still could not see the Robin. Then the Robin called final, and I was just about ready to also turn final. Obviously, I was very concerned that I had no visual. I made an RT call to say that I was also about to turn final. Thankfully, [] Information were amazing and were able to advise the Robin was directly below me. I had stayed relatively high in the circuit! I made an RT call to advise that I would continue to the dead side and climb to re-join the circuit. As there was no-one behind me, they allowed me to orbit once, and land after the Robin. I learnt a very valuable lesson. I thought I was doing the right thing by slavishly following the published circuit. I should have kept sight of the Robin, followed it, and made an RT call as soon as I'd lost sight and Situational Awareness (SA).

CHIRP Comment: We are grateful for this honest report and fully agree with the reporter’s last sentence – it is vital to use a combination of look-out and listening to the RT to maintain SA in the

circuit - and a prompt radio call when SA was lost could have alerted the Robin pilot to the possibility of a conflict. There is a temptation, particularly with electronic flight aids, to precisely follow published ground tracks in the visual circuit. Certainly, pilots should plan to follow published procedures, whether they are for noise abatement or other reasons. However, it is necessary to conform to the established circuit pattern. If pilots are uncomfortable that the established pattern deviates from the published ground tracks they have the option to go around or leave the circuit. Of course, pilots can only follow the established circuit pattern if they maintain visual contact with the aircraft ahead; flying at the published circuit height will assist in this regard. In this reported incident the FISO is commended for his alertness in preventing a more serious outcome. However, FISOs are not authorised to “allow” pilots to orbit. The correct procedure should have been to go around and re-join the circuit.

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IS THE WIND DIRECTION CORRECT?

Report Text: I am primarily a glider pilot, with a Motor Glider Instructor [qualification] in addition to being a full rated gliding instructor. I was operating a [two-seat self-launching motor glider] at [a coastal aerodrome], with a student doing upper air work exercises, and on completion of the these, I took control to complete downwind checks, circuit and landing on the operational [NE] runway, the wind being reported by the air/ ground controller, as 140 degrees, light and variable. This being the second sortie of the day I received the report that I EXPECTED!

However, I aimed to land further down the runway, of my own volition, to clear the single runway for other traffic. The aircraft took longer to touch down after flaring out and, despite fully closed throttle and careful application of full air brakes (full airbrakes on this aircraft also applies the wheel brakes as well) the energy didn't decay as normal and the end of the runway was looming up rapidly. Fortunately for me a disused runway, now used as a taxiway, was available for me to complete the landing run, as I had slowed the aircraft down sufficiently to make a little faster than normal 60-degree turn, and brought the aircraft safely to a full stop on the taxiway. No damage done.

Lessons learnt. I should have picked up the fact that the aircraft was not descending at a fast-enough rate despite the application of full air brake. Secondly having finally flared out, and then seeing the available runway ahead, I should, with hindsight, have initiated a go-around instead of braking. Third, always make full use of available runway, remember no one asked me to be helpful!

The root cause behind this incident.....yes you guessed it. I was landing at the same time as the sea breeze came inland. 250 degrees 10 kts was my estimate when I looked back at the windsock whilst taxiing back to the parking apron.

CHIRP Comment: Variable and varying winds are common phenomena at coastal airfields and the A/G operator may have been reporting the wind direction and strength from information that had not kept up with the variations. Depending upon where the windsock is in relation to the runway, it may not show the true wind direction and strength but it could have been a more reliable indicator than the A/G operator's report. If available, comparing the aircraft's ground speed as measured on the GPS with the ASI can also provide a useful indication. The reporter correctly highlights the importance of landing on the runway threshold and resisting any self-induced pressure to land long in order to clear the runway expeditiously. Remember that list of useless things in aviation: the runway behind you, the sky above you, fuel in the bowser.....

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USE OF STROBE LIGHTS ON THE TAXIWAY

Report Text: This is more of an issue in the winter months in the UK, but I am constantly being dazzled and blinded on ramps and taxiways by the flashing white strobes (high intensity flashing white lights) of [] aircraft. Being familiar with the type, I know that there is no red beacon fitted, only white strobes, navigation lights, and landing lights. In the USA, instruction is given by approved factory instructors that the strobes should be used whenever the engine is on. However, normal worldwide practice for the use of strobes is for runway and in-air use only. At [], they even have signs at the end of the runway to remind pilots to turn them off when leaving.

I make do with just the navigation lights, turning the landing light on when cleared for taxi, and only use the strobes when entering the runway, turning them off when leaving the runway after landing.

I wonder if pilots of these aircraft in UK and abroad realise that they are causing a (albeit minor) safety issue here, and maybe anyone reading this would change their mind as to how they operate their aircraft.

CHIRP Comment: On any type of aircraft restricting the use of strobe lights to places that are not in close proximity to other aircraft and people is a courtesy to fellow pilots and people working on airfields. From [Skybrary](#):

When installed, strobe lights are usually positioned near the trailing edge of the wing tips and may also be installed on the tail of the aircraft. Strobes are high intensity white lights which flash at a regular interval. They are normally turned on when entering an active runway for take-off and turned off when leaving the runway after landing. Strobes can also be used to provide additional visibility when crossing an active runway during ground manoeuvring.

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NO MARGIN FOR FURTHER ERROR DURING DISPLAY

Report Text: I display a high-performance aerobatic aircraft established on the air show circuit. I have a military and commercial aviation background and prior to starting display flying, I competed within the structure of the British Aerobatic Association. I have been displaying this particular aircraft for 5 years and progressively developed the air show routine, which contains a variety of unusual aerobatic manoeuvres.

Over the years, the display has evolved, such that I would always plan to fly exactly the same sequence of linked manoeuvres, as it gave me more capacity for positioning and any other unforeseen circumstances. Some of the more unusual manoeuvres are executed at the apex of loops or on up lines well above 1100ft allowing sufficient recovery height for unforeseen circumstances.

This season's routine was almost identical to the previous but, as I had done before, I had added in, a choice of two manoeuvres at one point in the routine. The optional manoeuvre was well practised and I had not had any problems executing it until this occasion. I had flown it in a routine the day before and I used it to add some variation to the sequence on a two-day event. The gate height for the original 1/2 looping manoeuvre was 1100 ft and involved a straightforward half loop with the aircraft always in stable, un-stalled flight. The optional manoeuvre I had added, involved an unstable micro push over from inverted 45 and required use of reduced power at certain points. How the manoeuvre is flown is not really relevant. It's the type of manoeuvre which is most relevant and the fact I had just added it with the same gate height.

On the day in question, the particular manoeuvre was not executed correctly and I was left in unstable condition starting at 1100 ft. I was slow to apply full power and subsequently needed to accelerate the aircraft in the vertical, before levelling at much lower level than intended, outside the designated display area and below minima for the area I was now in. It felt very uncomfortable as it was not planned and there was little or no margin for further error.

I manoeuvred back to the display axis, gathered my thoughts omitting the next manoeuvre. Then continued the remainder of the planned routine, which was uneventful. On landing I went to discuss the error with the Flying Control Committee (FCC) in an open manner. I also subsequently discussed it with both of my Display Authorised Evaluators (DAEs).

In analysing what had happened I started by considering both human factors and why I had flown the manoeuvre incorrectly. However, on further reflection it occurred to me that even if the manoeuvre had been flown badly, it should not have put me in a situation with so few escape options. I reflected that my real error was in the planning part of my routine. Some manoeuvres cannot be flown perfectly every time. I had just added an optional manoeuvre at an 1100 ft point and gate height in my routine but had not fully considered the required gate height for an unstable type of manoeuvre if it was not flown correctly. In other words, I had not mitigated the real risk of the new added manoeuvre which in reality required a higher gate height to account for other eventualities.

After the error, I made the decision to continue the display after positioning to a known point. I have since learned that I had several options open to me, which would be without penalty.

1. For me to call Terminate. Have a short break. Reposition and continue.
2. Call terminate and land. Discuss on the ground.

The things I take away from this experience and possible ways to reduce the risk others falling into similar situation.

1. Risk assess individual manoeuvres and mitigate with correct gate heights and escape options if the manoeuvre does not go to plan. Risk and mitigation in my display flying are words I have only started using over the last few years. I do value what they bring to safety and I thought I had used them appropriately in my planning, but I still made a serious mistake in the process.
2. If one flies a fixed routine. Keep it as fixed as possible and don't allow unnecessary choice to creep in, particularly in the air. I think I had a self-imposed, perceived pressure, to fly a slightly different routine on day two of a show. No one has ever mentioned this to me, so it is a self-inflicted pressure I put on myself. On reflection the crowd will never notice the difference so why make it more complex than it needs to be.
3. Avoid switching manoeuvres without detailed reappraisal of gate heights. I allowed this very different type of manoeuvre to creep in with an inappropriate gate height. It worked well in training, but there were very few escape options when I flew it incorrectly, as I found out.
4. In future, if I have to reset my position in a routine for whatever reason, I will consider use of the word "Terminate" on the radio. I now realise that either pilot or FDD can use this at any time. I did not appreciate this and it might be useful to create an un-pressurised break in a routine if required, for whatever reason.

The process of analysing this on paper and discussing with others from the air show community has helped in putting this error behind me and further adapting the way I operate. The FCC and my DAE were very sympathetic to what had happened and we debriefed the incident in a practical way with positive suggestions. They were also concerned for my mental wellbeing and followed up with correspondence over the next few days, for which I am very grateful.

I hope this report will help others avoid similar mistakes, whatever method they use in planning and flying their displays.

CHIRP Comment: CHIRP does not receive many reports from the display community. We are indebted to this reporter for sharing an uncomfortable experience that contains so many lessons about the assessment and mitigation of risk. Display flying is amongst the most demanding evolution possible in an aircraft. Even when planned, practised and honed as professionally as is clear from this report, it can catch pilots out. The reporter has analysed what occurred equally professionally. We would simply add that it was particularly encouraging to read how the reporter, the DAE, the Flying Display Director and the FCC body worked together. Although it is the display pilot who is in the public eye, displaying safely requires teamwork. Kudos to the teams reported here.

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ATC UNWILLING TO ROUTE THROUGH CLASS D DURING HEAVY RAIN

Report Text: I had flown my microlight earlier in the day on a VFR flight from [] to [] for a fly-in. The conditions on the outbound leg were good, with a forecast of 30% chance of heavy showers during the day.

The issue arose on the return route through the same routing. The conditions were generally good most of the way along the return route, until we got near to the [] CTA Class D airspace. Heavy rain hung in curtains either side and, quite literally, to the north and south of their zone. On top of this, most of these downpours were so heavy that horizontal visibility through them ahead was impossible, all the way to the ground. Ahead, and literally on a direct track over the top of the [] ATZ lay a totally clear path, with the cloud-base at the very least 2000ft+.

Concerned that the clouds above the heavy showers also looked rather dark and ominous and potentially convective, I advised ATC of this and requested a transit directly through the overhead of the ATZ. It was refused in a wry tone of voice, with the reply of "We have take-offs and inbound traffic", and in what felt like a rather canned reply. There was no acknowledgement of either my comment about the heavy rain, or of a feeling of collaborative thinking and support and what might be done to help my passage.

In the end, this dilemma ended up with me having to taking a very circuitous route under the southern boundary of the 3000ft CTA, at points dropping down to 1000ft or less, to be able to even see ahead horizontally, and while being forced to fly through turbulent air on the fringes of the downpours. At one point, it was like a bucket was being tipped over the canopy, such was the tight squeeze I was having to do between the downpours and CTA. I continued, battling through the turbulent air, finally emerging to the east. I requested a change to en-route and the attitude of the controller was one of 'thank-you, but goodbye'.

My feeling of a complete lack of empathy and understanding from ATC, and what felt like robotic replies of someone just doing their job was far from what I have experienced in other, much busier airspace. During being on the frequency, I heard only 2-3 other communications with other traffic.

Without grinding on too much about an issue that is very much under discussion by the All-Party Parliamentary Group, my understanding is that airspace is for everyone; balloons, light aircraft, microlights and gliders - both commercial and leisure. I found the total lack of understanding by the controller and feeling of 'just doing their job' astonishing.

I was so concerned at the apparent lack of understanding of the controller and dismissive tone of voice that I called their ATC unit when I landed and have as a result written this report.

A senior controller called back and said that, for some reason, their ATC notes detailed that microlights were not allowed to transit Class D airspace. I challenged this, as I have travelled all over the UK and Europe, including some very large airfields without any issue at all, and am also equipped with a Mode-S transponder, on which I was squawking 7000 and could have taken a code as needed. We agreed that many microlights outperform many GA aircraft these days.

In summary, the main points from this incident distil into several issues:

1. The attitude and tone of the controller came across as one of 'doing their job', and not particularly one of teamwork and helping airspace users. This is a customer service role, and surely should be collaborative, trying to help pilots? While words are words, the tone of voice of someone communicates a lot more than this.
2. Confusion as to why [] ATC staff believe microlights are not allowed in Class D. I believe balloons, microlights, GA and all manner of aircraft transit through Class D both in UK and throughout Europe
3. Why the controller failed to even acknowledge or provide any help with routing, despite my asking for help. Although there may have been departures and inbound traffic, I have transited other class D airfields far busier who have been able to accommodate in the local region – and even with jets in the circuit passing alongside in the distance, landing and descending, while I have been happily routed through the ATZ overhead.
4. The controller surely would have had a weather radar in front of him, seeing the obvious predicament I was explaining.
5. Having to fly around the opaque, heavy rain downpours led into other pockets.

I am all for having plan B, and could have turned back, but a little collaboration goes a long way; we are, after all, sharing airspace?

CHIRP Comment: The British Microlight Aircraft Association contacted the airport operating authority who agreed that microlights cannot be excluded from entry to Class D airspace on the basis of being microlights. It seems that the local ATC instructions were an incorrect extension of their long-established non-acceptance of microlights operating at the airport. The airport authority will now submit a change to their procedures to delete the reference to microlights not being allowed in Class D airspace and also from the AIP entry that prevents microlights using the airport. This will take up to 30 days to be processed by the CAA. The controller did not appreciate the severity of the weather; had he understood the pilot's difficulties he would have taken that into account when considering a clearance. It appears from the RT tapes that the pilot may not have made that clear at the time.

Although pilots can access near real-time weather radar information on their phones – and are advised to do so as part of their pre-flight planning – controllers do not generally have access to real-time weather information at their working stations. They are certainly not allowed to use their phones while on duty at their control consoles due to the obvious distraction issue. Readers may be surprised to learn that controllers cannot see weather on their radar displays. Modern radars employ processing techniques that filter out weather returns and the controller would not have been aware of the presence or location of the heavy rain until advised by the reporter. It should also be noted that it is not possible to judge a controller's workload from the number of transmissions on any one frequency.

Given the controller's normal priorities – IFR traffic inbound and outbound to the airport - the reporter could have considered declaring an emergency to be permitted to enter controlled airspace. Many pilots are reluctant to do this because of concerns about the procedures and subsequent investigations. These concerns are misplaced. The declaration of an emergency helps controllers by allowing them to give priority to an aircraft that is in distress or simply running out of options. It is common for pilots under pressure to have difficulty remembering standard RT phraseology; if that is the case, plain

language is perfectly acceptable in an emergency. There is a requirement for controllers to raise a Mandatory Occurrence Report following any declaration of an emergency, but that is all that is required if the situation is resolved.

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CHIRP DRONE & UAS REPORTING PROGRAMME

CHIRP has rolled out a drone safety reporting programme to provide a reporting channel for drone remote pilots similar to that provided for manned aviation. Drones should be treated as just another sector of aviation; safety/hazard reporting processes should mirror those used in manned aviation as closely as possible to foster a cooperative ethos of 'all on the same team'.

Commercial drone operations will be similar to commercial manned operations. Remote pilots and other staff will be expected to report safety issues to their company; the company will forward reportable issues to the CAA. Individuals who are unwilling to report to their employer may wish to report to CHIRP.

Remote pilots flying drones for leisure may wish to report safety issues to seek reassurance or guidance about their actions, for cathartic reasons following an occurrence and/or for altruistic reasons wishing to share an experience.

CHIRP'S ROLE

For commercial drone operations CHIRP's role should be the same as currently performed for manned commercial operations: to provide a safety net for reporters unwilling to use formal reporting systems. Reporters will be encouraged to use company or CAA reporting processes as appropriate. For those unwilling to report openly, CHIRP will forward disidentified reports to the organisation best able to investigate/address the reported issue.

Remote pilots flying drones for recreational or leisure purposes may have no background in, or knowledge of, aviation, airmanship or reporting processes. CHIRP's role will be to guide and educate reporters to become 'air-minded'. Reporters will be encouraged to think of themselves as part of the national aviation community in which the processes, permissions and responsibilities are coherent throughout.

Members of the public wishing to report drones as a nuisance, concern, invasion of privacy etc should contact the police. It is not intended that CHIRP will act as a conduit for such reporting.

Drone reports will initially be assessed by the CHIRP General Aviation Advisory Board. Should the volume of reports require it, we will introduce a Drone and UAS Advisory Board with a dedicated Drone and UAS FEEDBACK newsletter. There is now a bespoke drone and UAS reporting form on the CHIRP website and we have received our first report.

Reports received by CHIRP are accepted in good faith. While every effort is made to ensure the accuracy of editorials, analyses and comments published in FEEDBACK, please remember that CHIRP does not possess any executive authority.

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