

CHIRP GA FEEDBACK

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Following the publication of the report 'Close Encounter – Overflying Aircraft' in GA FEEDBACK Issue 50 (Page 3), we received a number of comments on overflying airfields/airstrips. The following cover the major points:

(1)

Report Text: I trust I will not be the only one to point out an error in your response to an item in your recent GA FEEDBACK; the item entitled Close Encounter - Overflying Aircraft.

You state that it is entirely legal to overfly an aerodrome without an ATZ at 500ft AGL. This statement is not in agreement with the Air Navigation Order (ANO). The ANO defines an aerodrome and then ANO Article 12 sets the rules for flight in the vicinity of an aerodrome (any aerodrome, whether with or without an ATZ and whether or not marked on a chart). If a pilot knows, or ought reasonably to know that an aerodrome is present, they should "...conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome or keep clear of the airspace in which the pattern is formed;..."

In the case published in the last issue, it is reasonable to assume that the pilot of the DC3 did not know of the existence of the aerodrome in question, but I am aware of places where pilots generally should know of the existence of an aerodrome, for instance by reference to a current chart, yet they fly in the manner you describe as "entirely legal".

Entirely legal it may be as long as there is no aircraft in the circuit, but as we all know too well, failure to see another aircraft doesn't mean it isn't there. Perhaps the generally wise course is to give known aerodromes a wide or high enough berth to avoid any risk of interfering with traffic there.

Maybe you would like to remind pilots of Article 12.

(2)

Report Text: In the last issue (Page 3) under the above heading you recommend NOT flying through an airstrip's overhead.

Now if you fly to one side or the other you risk crossing/upsetting aircraft landing or taking off, whereas overhead and above the circuit height give the pilot good vision of what's happening below. In my humble opinion it is one of the safer ways to cross. Especially in the crowded SE UK where Air Traffic Zones and other strips constrict one's choice.

Although my own airstrip is marked on charts, it is frequently overflown by aircraft mainly helicopters at various heights. Would you please emphasise that some microlight and light aircraft strips suffer unduly from careless and, I fear, sometimes defiant fly-bys.

As I read it, The Rules of the Air: Section 4 'General Flight Rules' apply to any aerodrome; i.e. not just ATZ airfields.

Whilst being pleased with the improved safety that sensible use of SAFETYCOM has afforded, the current danger is pilots not monitoring it, either through ignorance or possibly listening on another frequency.

CHIRP Comment: These and other comments quite correctly emphasised two important points. The first is the interpretation of the term 'Aerodrome' in Part 33 of the Air Navigation Order; which for conventional aircraft means:

"any area of land or water designed, equipped, set apart or commonly used for affording facilities for the landing and departure of aircraft"

The second point is the wording of the Rules of the Air Regulations; Section 4; Rule 12 in relation to flight in the vicinity of an aerodrome (as highlighted in the adjacent comment).

The key point in Rule 12 is whether an aircraft commander 'knows' or 'ought reasonably to know' of the presence of an aerodrome as defined in Part 33. In the case published in the last issue, based on the information available, the Advisory Board concluded that it could not be assumed that the DC3 pilot would or should have been aware and thus, in such a case, could overfly the airstrip as described.

With the benefit of hindsight, the CHIRP comment should have been qualified to emphasise that in other circumstances, where a pilot should reasonably know of the presence of an airfield, he/she must comply with Rule 12. Infringing the traffic pattern of an airfield that is marked on aeronautical charts is indicative of inadequate planning and/or poor airmanship.

Turning to the second comment, the CHIRP comment in GAFB 50 to avoid flying through the overhead was related to the height of the overflying aircraft in the report (500ft AGL). Transiting overhead an airfield at an altitude which provides separation from joining aircraft or is above the maximum height of an ATZ is entirely appropriate.

USE OF SAFETYCOM

Report Text: On several occasions when using the SAFETYCOM frequency in accordance with the recommended practice, I have heard another aircraft also using the frequency but at a different airfield. This has led to confusion as to how many aircraft were in the visual circuit and their position.

CHIRP Comment: SAFETYCOM is a common RT frequency. For this reason it is most important to begin your RT transmission with "XXXX (airfield name) Traffic..." in order to avoid any confusion such as that described. (CAP 413; Chap 4; Para 6.2.2 refers)

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ROUGH RUNNING ENGINE

Report Text: A friend and I had attended a large Rally in our Ikarus C42. I was the handling pilot on the return leg to our home base. Engine checks appeared normal before lining up on the grass runway. Take off and climb was also uneventful.

Levelling out at about 1,500 feet there was a small hiccup from the engine but it then continued to run smoothly. After another 15 minutes had elapsed the engine stuttered badly before returning to running smoothly again. Alert to the possibility of more engine trouble I slowly climbed to 3,000 feet and objectively scanned our track in case an engine failure occurred. The engine suddenly became very rough and I applied full power in case it was carburettor icing. The engine almost stopped completely at one point and the decision was made to land as soon as possible.

There was an abundance of large fields and I made an early selection of a field orientated into wind. I still had engine power but kept the approach steep in case of a total failure. I made a 'MAYDAY' call on 121.5 and was able to give details of our problem and position. A safe and controlled landing was made onto a rough field which had eight-inch high stubble from an oilseed rape crop. The stubble was soft and there was no damage to the aircraft. Before exiting the aircraft ground runs were carried out and the maximum rpm was about 150 lower than the expected 5,000 rpm. Inspection of the fuel line from the fuel tank focused on the in-line filter. When it was taken off and disassembled, it was found to be very blocked to the extent it could not be blown through when held to the lips. The filter body minus the nylon filter was refitted; the engine then ran at the higher rpm. Satisfied after several more ground runs, a soft field takeoff was carried out with an uneventful flight back to base

Lessons Learned: When leaving a large Rally, there is a pressure to do the pre-takeoff checks without hindrance to those behind you and I am not absolutely certain that the maximum ground rpm (5,000) was achieved. I am not even certain that had I detected this shortfall that it would have been sufficient to alert me to a serious problem. This was not my own aircraft, which is the same type, and I may have just put this down to small differences between individual aircraft. I will take more notice in future.

I had a similar incident 25 years ago which resulted in a precautionary landing; I have forever since been kept aware of the possibility of having to set down unexpectedly and credit this awareness to the safe outcome of this incident.

Opinions amongst my peers are divided as to whether I should have actually made a 'MAYDAY' call. The happy outcome made the emergency services redundant and despite relaying a message via a passing airliner of our safe landing and requesting the emergency services stand down, we were attended by several fire appliances, police cars, a police helicopter who had originally spotted us and landed next to us and a medical emergency helicopter, which was waved off. All these people expressed great humour and kindness and I have no doubt the practice was valuable for them.

They were all on the scene very quickly and would have proved invaluable had there been a mishap. A 'PAN' call may have been appropriate using hindsight but it could just have ended in a crash particularly as the field selected was of unknown quality.

CHIRP Comment: When attending a busy event such as that described, it is easy to put yourself under pressure to complete pre-flight checks/Vital Actions more quickly than normal. Resist the temptation to do so.

It should be noted that fine mesh filters of the type fitted to the engine in this report can become blocked although still appearing to be clean visually. After landing, the prudent course of action would have been to have cleaned/replaced the filter screen before attempting a further flight. Flying without a filter, even for one flight, might permit debris to enter the engine directly with expensive or more serious consequences.

As regards the type of emergency call, the situation described justified a MAYDAY call since a safe forced landing could not be assured. In the event of an accident on landing the reporter might not have been able to upgrade a PAN call. Remember, it is always possible to downgrade a MAYDAY call.

SIGNS OF IMPENDING ENGINE TROUBLE?

Report Text: My friend, an experienced glider pilot but little power experience, and I planned a return flight in a Slingsby T61 motor glider. When inspecting the aircraft before the flight the oil level was about halfway between min and max. The outbound flight was uneventful.

During a brief walkaround inspection prior to our return flight I noticed a small amount of oil on the engine cowl and wing root. The oil level at that stage was very slightly lower than I had seen prior to departure; but I thought that wasn't a problem as the engine had been running and possibly not all the oil had returned to the sump.

During the engine checks the oil pressure was normal. The takeoff, climb and cruise was apparently normal to us (Interestingly a pilot who was following behind us noticed a little white smoke in the exhaust but thought that he would mention it when we had returned to base). I last remembered checking the oil pressure when we had finished climbing, the oil pressure was then reading a bit lower than during the pre-flight engine checks but I attributed that to the oil being hotter after the climb. Shortly after this we encountered some well developed cumulus, so I throttled back to just above idle with Carb Heat ON and climbed as a glider in the thermal lift. We climbed to about 3,000ft ALT and made our way from thermal to thermal towards our base airfield.

At this point, I decided to return to base and intended to do that using some power. I therefore opened the throttle. The rpm initially increased to almost normal cruise rpm then slowly the rpm dropped. I thought that it was a carburettor icing problem so I applied full Carb Heat and made sure the throttle was fully open. The engine stopped. As we were fairly near to the airfield I thought we could probably glide back so for a minute or two I concentrated on monitoring the glide to see whether we were making the airfield or not. Once it was

clear that we were making it with some margin, I attempted to restart the engine. I was surprised to find that the engine would not turn over with the starter. I abandoned attempts to restart and successfully carried out an engine off landing. Subsequent investigation revealed that the engine had seized. Examination of a video taken by my passenger showed the oil pressure noticeably dropping and while we are thermalling the oil pressure dropped to zero; although the engine only seized when I throttled up for the return to the airfield.

Lessons Learned:

1. I should have been more cautious about the traces of oil on the cowl and wing root that I observed prior to the return flight; but previous experience of minor oil discharges on this aircraft meant that I easily discounted it.
2. I should have carried out more frequent checks of the engine parameters (Oil temp and pressure)
3. I was probably distracted by my passenger who was using a video camera and talking to me during the cruise.
4. When we were thermalling I believe that mentally I switched into glider pilot thinking (even though the engine was still running) and apart from remembering to have the Carb Heat applied almost forgot about the engine. Hence I didn't carry out any checks on the oil pressure whilst thermalling. Whilst thermalling when I wasn't looking out, I was concentrating more on the vertical speed (vario) and ASI to make sure that we were climbing and weren't too close to the stall.
5. On the T61 the oil pressure gauge is on the far right of the instrument panel furthest away from my seat on the left. There are no warning lights; hence if I didn't explicitly make an effort to check the oil pressure, I wasn't going to notice it as part of my normal scan of the main flying instruments.

CHIRP Comment: As the reporter notes there are two good human factors lessons arising from this report. The first and most important is to carry out engine checks at regular intervals throughout every flight and to warm the engine regularly if left at idle power for any period of time.

The second point is to ensure that oil/fluid levels are sufficient prior to every flight and never ignore signs of an oil leak or other potential signs of trouble during a pre-flight check. Maintaining a record of oil contents/top-ups will indicate a leak or an increase in consumption and will also assist in monitoring engine health.

CIRCUIT JOINING PROCEDURE (1)

Report Text: As I crossed the upwind end of the runway in use at the circuit height (1200ft), a C172 was getting airborne from the runway. I expected him to climb underneath and behind me, appearing out to my right in due course.

I was assessing whether I'd reached the point to turn downwind when he appeared down to my left, climbing. I turned downwind and reported such "with one outside me". By that time he was about the same level and on a downwind track.

I continued with him behind, and made a normal approach and landing.

I am aware that some pilots take short cuts in the circuit, but the fact that the other aeroplane turned and climbed so early meant there was likely to be conflict with any aircraft joining crosswind (me) or any aircraft already established D/W.

CHIRP Comment: Both this and the following report involve an important point of principle. An aircraft taking off is not technically established in the circuit pattern and therefore has no priority over other circuit traffic.

In this case the pilot of the C172 should have delayed the take-off or, if this was not possible, should have planned his/her climb out to position upwind and behind the reporter's aircraft crossing the upwind end of the runway.

If it is not possible to maintain safe separation from other aircraft in the circuit after take off, you should clear the circuit and rejoin in accordance with the local procedure.

The same principle applies to an aircraft making a go-round, which could be considered as 'a take-off from an airborne position'.

When taking off from a long runway or climbing in a high performance light/microlight aircraft, be aware that it is possible to conflict with an aircraft crossing close to the upwind end of the runway at circuit height whilst joining the circuit. If such a situation is likely to occur, the pilot taking off should delay the take off or consider reducing the rate of climb when safely airborne to ensure safe vertical separation from the crossing aircraft. If a reduction in the rate of climb is not possible, the pilot should consider turning onto the dead-side to pass behind and upwind of the crossing traffic.

(2)

Report Text: I have a niggling issue but I am not sure of the precise question I should be asking. The CAA advise that, on joining crosswind (directly or from the dead side after an overhead join), one should fly over the runway threshold (upwind end) and make a Crosswind call exactly at this point.

However, if there is departing (circuit) traffic climbing out, the joining aircraft's pilot has to make a decision: Is he/she best-placed to proceed ahead to Downwind, that is, ahead of the (circuit) traffic climbing out, or should he/she position behind the climbing traffic on the downwind leg?

CHIRP Comment: The reporter correctly notes that the recommended circuit joining procedure is to cross from the dead side to the live side of the visual circuit close to the upwind end of the runway but positioning to give way to aircraft already in the circuit pattern (CAA GA Safety Sense Leaflet 6 refers). It should not be necessary for the pilot of a joining aircraft to adjust position for an aircraft taking off for the reasons given in the previous comment.

The CAA recommended RT calls in the visual circuit do not include a 'Crosswind' call, although this might be useful in some circumstances to assist other pilots.

The first designated call is 'Downwind' (See CAP413; Chapter 4; Para. 1.8.1). It is important that this call is made in the appropriate position or, if delayed, prefixed with "Late".

INSTRUCTING STANDARDS AND HUMAN FACTORS

Report Text: After an awesome pleasure flight I enrolled at XXX Flying School to obtain my PPL as quickly as possible. Initially the training progressed very quickly with 2 or 3 lessons a week completed; however at the very end of my course, there was a two or three week gap between available lessons, so I moved to YYY Flying School to complete the last couple of hours and test to get my PPL at soon as I could.

With the benefit of hindsight it is clear that the tuition at XXX was delivered with the sole aim of producing safe and competent pilots. I had lessons with two instructors both of whom were also airline pilots and had nothing to prove. At the time, I suffered from a lack of confidence as I could not see myself ever being as smooth and competent as my instructors and questioned whether I was suitable to be a pilot. I have now flown with several other GA pilots and I realise that I wasn't actually that bad, it was just that both instructors were supremely competent pilots and comparing myself to them was stupid.

Each lesson involved a briefing to discuss the aims and the techniques; the flying was followed by a debrief which normally consisted of me pointing out all my errors and why they had occurred, which both instructors said was an approach they were satisfied with. One instructor was particularly sparse with compliments, contenting himself with comments that my progress was satisfactory when pressed. The two exceptions were when he informed me that he was happy that I could fly my first solo circuit; he responded to my incredulous look by stating that I was a "good pilot". The second was after my first steep turns lesson when he stated that they were very good. However, the only point that both instructors consistently approved of was my eagerness to criticise my own flying.

My experience with the instructor assigned to me at the second school was somewhat different. My initial lesson involved general handling. During the initial climb out the engine coughed but my instructor said we should continue. During a roll out from a steep turn the engine spluttered again and we then made a 'PAN' call due to the rough running engine and immediately returned to base. The instructor was clearly nervous during the return trip and his landing was without finesse.

Back in the school, I was informed that if my navigation was anywhere near as good as my general handling he would put me forward for my test. However, the distress call had meant we didn't do any circuits so the instructor asked me to describe how I fly a visual circuit. He immediately jumped on a couple of contentious points. One was when to apply Carb Heat. (It now occurs to me that maybe he needed to re-establish some face after the 'PAN' and subsequent landing). He stated, "I don't know who told you that but it's completely wrong..." This contradicted the advice of both my previous instructors. I now realise that this was a very important point in my

flying progress and the top of a very slippery pole. At that point I subconsciously decided I knew better than this instructor and over the next few weeks my lack of confidence and consequential cautious approach slowly completed a complete 'volte face' until my confidence massively exceeded my ability. It appears that my thought process had morphed from "I am a real beginner and need to be aware of that at all times" to "I am a better pilot than my instructor".

The navigation exercise went very smoothly although strangely, my instructor insisted on doing the RT. Although the navigation went well we managed to have another 6 or 7 hours flying before I eventually took my test. During this time several other situations arose that further fuelled my inappropriate and new found confidence (i.e. arrogance), including a demonstration by my instructor of how a circuit should be flown, which resulted in a nosewheel-first landing. Not flat, nose wheel first then main gear. Time seemed to slow as the oleo compressed and I waited for the prop to strike the runway, which fortunately it didn't. I was scared at the time but later I became smug about this incident.

After passing my test (even with the examiner's compliments about my self critical approach ringing in my ears) I proceeded to make stupid decision after stupid decision. Some of these decisions could easily have had catastrophic consequences.

It appears to me that whilst the flying instructor's course obviously tests the ability to fly the aircraft and to describe the manoeuvres, it does not seem to take account of the human factors. Some instructors carefully consider their approach and the effect on the student. Other instructors appear to have other priorities, whether this is building up their hours or stroking their own egos, I would argue that either situation has no place in a student's lesson.

From my personal experience I am certain that the instructor's attitude is a most important factor in delivering a cautious and safe ego free pilot as opposed to a super confident accident waiting to happen. If one of my poor decisions had resulted in a fatal accident, would the AAIB have been able to connect the accident to the inappropriate confidence gained from my training? I do not wish to absolve myself of blame or responsibility, but it does appear that some consideration could be given to how training is delivered. The priority must be the student pilot's competency (which must include the ability to accurately assess his own ability). All pilots must have a realistic understanding of their limits.

CHIRP Comment: The relationship between an instructor and student is most important. An instructor must be capable of earning and retaining the respect of any student for whom he/she is responsible.

Regrettably, reports such as this suggest that instruction standards do vary; inadequate instruction can have serious consequences for some students.

It must be remembered that this is a professional relationship in which the student is the customer. If either party is not content, a change of instructor or, if necessary, training organisation is the most appropriate course of action.
