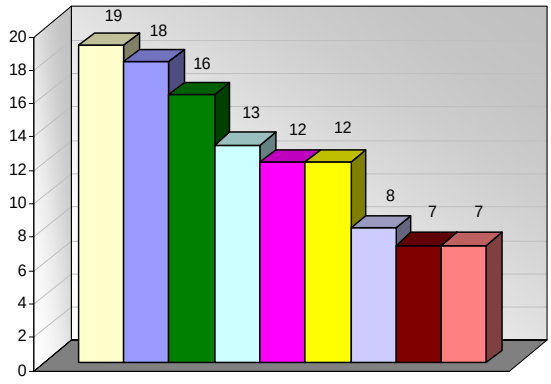
GENERAL AVIATION

CHIRP FEEDBACK

Issue No: 31 Spring 2007

Most frequent GA Issues Reported 12 months to January 2007



Procedures
Use by Reporter, Use by Others, Adequacy

Handling/Operation
Airmanship, Handling of A/c, Operation of Equipment

Aircraft Technical
Propulsion, Design, Systems

Communications - External
With ATC

Situational Awareness
In the Air

Near Miss
Airprox, Near Collision with Terrain, Loss of Seperation

Maintenance
Standards/Workmanship, Base

Air Traffic Management
Level of Service, Seperation

Regulation/Law
Compliance With

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Number of Reports since the Last Issue: 17

Report Topics Have Included:

- Alleged take-off and landing in very low visibility
- Take off with park brake partially applied
- Aerodrome closure during night recovery
- Airfield lighting charges
- Annual Inspection - Poor maintenance standards

REPORTS

SEE AND AVOID - PERHAPS NOT!

CHIRP Narrative: In spite of continued publicity about inadvertent infringements of Controlled/Restricted Airspace by General Aviation aircraft the number of reported incidents continues to rise; the total for 2006 was 634, of which 554 involved NATS Controlled Airspace. Infringements of Controlled Airspace are rated as one of the most serious safety risks by both NATS and the CAA.

Some infringements are the result of inexperience but many occur simply as a result of poor planning or a lack of awareness. The following incident involved an experienced pilot, who having analysed his incident, submitted this report for other pilots' benefit.

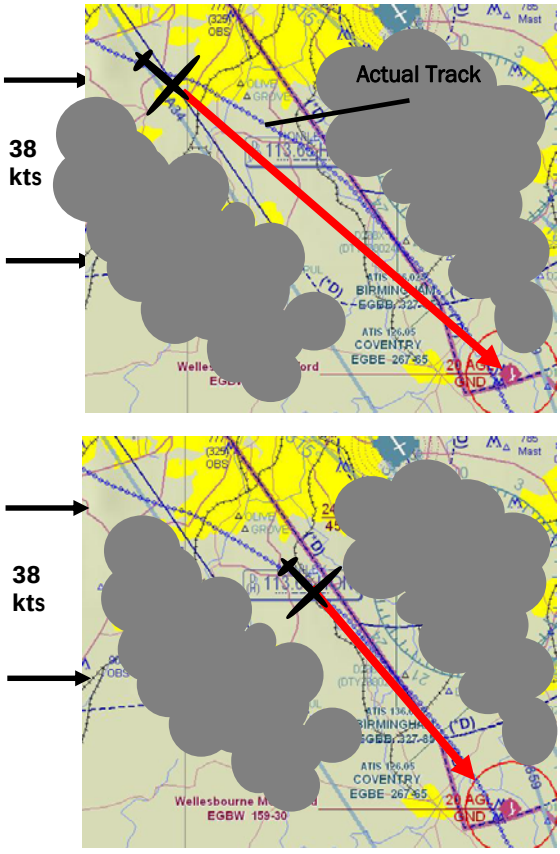
The incident and the contributory factors are well worth five minutes of your time and might save you a similar embarrassment or something worse.

Report Text: Flying south our intended route from overhead Halfpenny Green was to skirt the western edges of the Birmingham western CTA and remain below the CTA lower limit (FL65) before turning towards Turweston. My co-pilot was at the controls during the cruise and I was looking out. Not long after passing Halfpenny Green we met with claggy weather and we decided in order to remain VMC to fly through a gap in the clouds towards Wellesbourne, which we could see in the distance.

We had decided not to call Birmingham Radar during our trip southbound, as we did not want to bother them (on our earlier journey northbound towards Halfpenny Green we had been given a Flight Information Service only, we assumed because of heavy workload, and so we did not want to add to their workload unnecessarily). On arrival at our destination we were told that Birmingham ATC had telephoned to report an airspace infringement, and I immediately phoned them to apologise. I have since plotted out the flight and it can be seen that we made an arc towards Birmingham CTA where there is a section 2,500' and above.

CHIRP, FREEPOST (GI3439), Building Y20E, Room G15, Cody Technology Park, Ively Road, Farnborough GU14 0BR Freefone:(24 hrs) 0800 214645 Fax 01252 394290

confidential@chirp.co.uk



Notice how as the clouds + gap moved from left to right, our concentration on aiming for a fixed ground reference in the distance caused us inadvertently to drift to the right

Our mistakes were:

1. When flying so close to a control area such as this we should have contacted the Radar Controller and not have worried about disturbing him! I should add that I had always found them to be most courteous in the past. Or else we should not have tried to fly so close to the boundary.
2. The wind was approximately 38kts from the west and it can be seen in the plot how it blew us off track towards the Control Area. So we failed to take proper account of the strong wind.
3. We allowed ourselves to be too concerned with flying through an open area between clouds and forgot to keep track of our actual position. It would have been better to have turned around and then headed further west to skirt around the cloud or to have called Radar for an IMC transit through the cloud, keeping further to the west throughout.

Lessons learnt!!

CHIRP Comment: **Two of the reporter's points are worth emphasising:**

The first concerns flying in close proximity to Controlled Airspace and contacting the Radar Controller. If a controller is in R/T contact with an aircraft flying close to the boundary, he is required to direct IFR traffic to maintain 3nm or 1,000-ft separation from that aircraft. However, if the aircraft is not known to the controller, the required separation increases to 5nm or 5,000ft. As the reporter concludes, either contact Radar or plan to avoid CA by at least 5nm whenever possible.

The second point relates to visual navigation. Notwithstanding the effect of cloud movement described in this report, if you point your aircraft at a ground feature some distance ahead in a strong crosswind, your track over the ground will be similar to that described in this report. The maximum drift angle can be easily calculated by dividing the wind speed in knots by your indicated airspeed in nm/min. In this report the pilot was cruising at 165kts, requiring approx 15° heading change to counter the drift due to the crosswind quoted. At a lower cruise speed, say 90kts (1½nm/min), a heading change of 25° would be required.

CLOSE ENCOUNTERS

CHIRP Narrative: **Near miss incidents between GA aircraft can be among the most frightening flying experiences for some or all of the individuals involved and yet they continue to be one of the most frequently reported type of incident. Three such reports follow:**

(1) LOOKOUT, LOOKOUT, LOOKOUT

Report Text: Well down wind in LH circuit when another PA28 appeared in my RH window at the same height and heading straight for me at 80-90 degree angle. I took violent avoiding action to the left expecting a collision; separation was at best - 50 feet? The other pilot called the tower to report a 'Near miss', joined the circuit and landed ahead of me.

The other party awaited me on the ground and was very apologetic. I was very shaken by the incident. We discussed the occurrence with the CFI. The student pilot, returning from a solo navex, was intending to rejoin the circuit on base leg. He admitted that he did not make a radio call, recognised that he should give way to circuit traffic and that extreme caution should be exercised when rejoining the circuit in that fashion (At the time, no overhead joins were permitted). The frightening thing was that he claims not to have seen me until I showed him my belly!

Although the other party accepted that he was in the wrong, the incident did re-emphasise to me the importance of keeping a good look out at all times and to be extra vigilant in areas of potential conflict, such as base leg rejoins.

It is sometimes easy to neglect to look beyond the circuit when established in the pattern concentrating on checks, turning points and landing. Fortunately I did see the other craft at the last minute, but should I have seen him sooner? So whilst I accept no blame for the occurrence I did learn a lesson; the other party learnt several, I hope!

CHIRP Comment: **The reporter makes several excellent points in relation to this extremely close encounter that are worth highlighting. The first is to make an R/T call prior to joining the circuit, maintain a good lookout and give way to other circuit traffic. The second is to maintain a good lookout whilst in the visual circuit; also make your R/T calls in the correct place. The third is that even if you have the right of way, don't assume that the other pilot has seen you; otherwise you could be dead-right!**

(2) Practice Forced Landings

Report Text: I was flying in the vicinity of ### Police Helicopter site with my engine idling and descending for a PFL. A single-engine aircraft appeared in the two o'clock position heading towards us. The range when first identified was approximately 100-200m. The aircraft passed approximately 50-100 feet below us. I then made a left turn to keep the other contact in sight. Climbed back to 2,500' and then headed westerly towards the AAA DME.

My assessment is that the other aircraft was at 1,500' having emerged from the southern end of the ### Class D CTA, possibly travelling along the designated route.

With hindsight it would have been more appropriate to carry out the PFL elsewhere.

CHIRP Comment: **As the reporter has correctly concluded, when choosing an area for carrying out a PFL avoid those through which other aircraft routinely transit. Also, immediately prior to commencing a PFL, carry out clearing turns to ensure that the airspace below your aircraft is clear.**

(3) Avoiding Action, but from What?

Report Text: On a clear and bright day I took off and climbed out of AAA on a south-easterly heading, I was accompanied by a passenger and we levelled off at 2400ft aware of the base of the TMA at 2500ft. Just as I was explaining to my passenger the importance of carrying out a good lookout in a very busy area, my Traffic Collision Alerting Display (TCAD) sounded "TRAFFIC NEARBY". The next second the underside of a white PA28 passed the end of my port wing in a steep anti-clockwise spiral descent, I instinctively turned right and completed an orbit.

My aircraft was fitted with a Monroy TCAD that gives warnings of other traffic in line of sight with the aerial which is situated in the windscreen, which would explain why I had such a short warning. I was also puzzled as to why the other aircraft was carrying out such a manoeuvre. When I looked at the map to pinpoint exactly where the incident had occurred, I found it was precisely over the TMA boundary where the altitude reduces from 3,500ft to 2,500ft, I then concluded the manoeuvre was being carried out so as not to bust the TMA.

Once I was back on the ground I telephoned the neighbouring airfield who confirmed the aircraft was based there, but the pilot, who was an instructor giving a trial lesson, was not available, I then requested that he return my call. My call had not been returned by the next day so I called again requesting a discussion. On the third day I called again, at last I was able to speak to the instructor as well as the CFI, to whom he had reported the incident. The instructor said he was low time and preoccupied with his trial lesson, he also said he had learnt a huge lesson, we both have. We almost became another statistic, 4 people nearly never made it to lunch-time.

I have subsequently installed a full Avidine TCAS, I hope everyone else switches their transponder on.

CHIRP Comment: **This report is a useful reminder that a trial lesson can be a demanding exercise, particularly for an inexperienced instructor, and thus requires careful planning.**

A second point concerns the fitment and operation of TCAD/TCAS equipment. It is most important to understand the capabilities and the limitations of such equipment and to ensure that it is correctly installed. Whilst assisting a pilot to maintain safe separation from other aircraft with an operating transponder, TCAD/TCAS does not reduce the need for a good visual lookout to be maintained at all times.

Carburettor Icing

Report Text: During a cross-country flight, established in the cruise at 3,500 ft, having just entered the AAA (Military Airfield) Zone, the engine began to run roughly. I applied carburettor heat without noticing any improvement. Manifold pressure dropped significantly but IAS remained steady at 125kt.

I made a PAN call to AAA requesting immediate precautionary diversion to land on Runway ## which was immediately to my right; my request was granted. I maintained full carb. heat in the descent and during the approach. I landed and taxied without incident.

After reporting to Operations and phoning my engineer for advice, returned to my aircraft approximately one hour later and did a thorough ground run. No problem being detected, I assumed carb. or induction icing to have been the problem. I flew back to my base airfield without further incident, where I flew several circuits to ensure that the aircraft was operating normally before landing.

CHIRP Comment: **Carburettor icing is one of the more frequent causes of engine failure in the UK, as the UK weather conditions may be conducive to its formation at any time throughout the year. If ice has built-up sufficiently to cause an engine to run roughly, as appears to have been the case in this incident, the selection of CARB AIR HEAT is unlikely to produce an immediate improvement, as the ice will melt relatively slowly and also the water produced as the ice melts will pass through the engine. These effects can sometimes result in a temporary further deterioration in engine performance.**

It is important to remember that CARB AIR HEAT is not a de-icing system; therefore, the key to avoiding the onset of carburettor icing is to pre-warm the air inlet and use CARB AIR HEAT sufficiently frequently to reduce the possibility of ice forming. The CAA GA Safety Sense Leaflet No.14, published in LASORS or available for download from the CAA website (www.caa.co.uk) contains further useful advice on this topic.

Air/Ground Service

Report Text: AAA provides an Air/Ground radio service. With 10 years of air traffic experience and more than 15 years of G/A flying, I have some idea of the level of service to be expected.

On previous occasions I have been told on the R/T "I can't give you that information"' when a request is made for any known traffic. Just one of many occasions when incorrect R/T procedures can lead to a great deal of confusion, particularly as a great deal of flight training occurs at AAA.

On the afternoon in question a local event resulted in aerobatics taking place in the ATZ above the circuit. (Good practice?) The A/G operator was obviously having a difficult time judging by his tone and manner; an INSTRUCTION to join the circuit "not above 1500ft" was being passed to all inbound aircraft. Not only was this not appropriate for an Air/Ground operator, there was obviously confusion among pilots as to which pressure setting the instruction applied to. I recall hearing at least two aircraft reply "not above 1500ft QNH"; the airfield is over 800ft amsl!!

Seems that several of the A/G operators at AAA have little idea of their responsibilities and influence this busy piece of sky.

CHIRP Comment: **The limitations of an Air/Ground Service are clear and unambiguous and are contained in CAP 413 - Radio Telephony Manual, which is available on the CAA website (www.caa.co.uk).**

In summary, an A/G operator is permitted to pass information to assist a pilot in making decisions, but may not issue a direct air traffic control instruction. The pilot remains responsible for the safe conduct of the flight. In the above case, it would have been appropriate for the A/G operator to have informed pilots joining that aerobatics were taking place above the circuit.

SAFETY ALTITUDE OR VMC?

Report Text: I recently flew with a very competent private pilot on a multi-sector, cross country flight. The pilot had an instrument rating and a fair amount of experience of flying in cloud and of performing instrument approaches. We flew through areas providing Air Traffic Control Service, Advisory Service and Flight Information Service. During the flight we maintained an altitude above the Safety Altitude and encountered conditions which were marginally VMC (in and out of cloud) when a descent of a few hundred feet would have achieved VMC.

We later discussed the relative benefits of flying above the safety altitude and remaining in good visibility. As a former commercial pilot and training captain, I contend that all private pilots should be taught to maintain VMC whenever it is safe to do so and only use the instrument rating skills when they are caught out by bad weather or when flying in Controlled Airspace. Is it possible that instrument rating instructors concentrate on teaching the flying skills and miss out on common sense and airmanship?

CHIRP Comment: **As the reporter correctly observes, the relative merits of flying IFR at or above the Safety Altitude when intermittently in IMC versus flying VFR slightly lower and remaining in VMC below the safety altitude in good visibility should be carefully considered and often will depend on the specific circumstances.**

When flying IFR above 3,000 ft amsl, the quadrantal rule should provide protection against other en route IFR traffic; however, this level of protection is less than that provided against all other traffic when operating in Controlled Airspace. Also, it should be remembered that the quadrantal rule does not apply at lower altitudes.

Another factor to be considered is the pilot's Instrument Flying qualification, proficiency and recency. In relation to this, it is relevant to note that the purpose of an IMC rating is to provide a pilot with the training and experience necessary to recover safely in IMC, not as it is sometimes perceived as permitting a pilot to fly in unsuitable weather conditions.

CLEARED TO GO?

Report Text: I am a low hours pilot who completed an IMC rating two months ago. This was my first IFR flight without an instructor and I brought along a friend who is also IMC rated, albeit very low hours also. I was nervous about this flight as it was the first "proper" IFR flying I had done and it had also been two months since my last IMC training.

I taxied to the holding point as cleared and reported "Holding Alpha 1 ready to copy clearance". The airfield was fairly quiet with no traffic on the taxiway behind me or on final. I was instructed to line up and wait. As I rolled onto the runway and was checking up finals for incoming traffic I was given my clearance. I read back the clearance correctly and applied take off power. I had not been cleared to take off.

As I accelerated I asked my friend if I had been cleared to take off, he was unsure. As I made the decision to abort the take off, ATC told me to stop immediately. I complied swiftly as I had realised what was happening. I was informed of my error told to back track and cleared to take off once a large Sea King helicopter above me had cleared the zone.

The rest of the flight was uneventful and upon landing I apologised to the tower for my error. The tower staff were polite in saying we all make mistakes and that there was no major safety issue as both ATC and I quickly saw the problem developing. Although fully aware that this was my mistake I do feel that the combination of nerves, looking for traffic, taxiing and trying to write down a clearance all built up to cause me to believe (briefly) that I had been cleared for take off. Having not been reprimanded harshly, I decided I didn't want to mention the fact that I found being given a clearance whilst rolling a distraction. I do feel, though, that it would be beneficial to all involved if controllers got away from the habit of giving clearances to single pilot planes whilst they are taxiing.

CHIRP Comment: **The Manual of Air Traffic Services - Part 1 Sect 2 Chapter1 Para 12.4 states as follows:**

'A take off clearance shall be issued separately from any other clearance message. If the aircraft is lined up on the runway and a revised clearance or post departure instructions need to be passed, the revised clearance or post departure instructions shall be prefixed with an instruction to hold position.'

If, like the reporter, you think that a take off clearance might have been issued as part of a clearance message but are not sure, the safe option is to hold position and check with ATC.

Also, if a controller issues a clearance instruction at a time that you are not able to write it down, such as when you are taxiing, ask the controller to "Standby". When you are able to receive the information, advise ATC that you are "Ready to copy the clearance".