

GASIL



General Aviation Safety Information Leaflet

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Scottish airspace

An Airprox was recently reported within the Class E airspace of the Glasgow Control Area (CTA). As notified in Safety Notice [SN-2011/010](#), the CAA's Director of Airspace Policy has decided to reclassify the Glasgow CTA to Class D as an interim safety measure, to take effect at 0001(Z) on 16 September 2011 and be subject to NOTAM and AIC action.



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Ballistic recovery parachutes

An AAIB [investigation](#) into a recent accident concluded that some air traffic services personnel may not have understood the consequences of a ballistic recovery parachute being deployed in flight. As detailed in CAA Safety Notice [SN-2011/006](#), it has been decided to produce a standardised form of words for the pilot to use if a ballistic recovery parachute has deployed from the aircraft.

The emergency message (which would be expected to include the prefix MAYDAY) should include the words '*ballistic recovery system deployed*'.



Emergency ADs

EASA produces [bi-weekly](#) summaries of the ADs they have issued or approved, which are available through their website www.easa.eu. [Foreign-issued](#) (non-EU) Airworthiness Directives are also available through the same site, as are [details](#) of all recent EASA approved Airworthiness Directives. CAA [ADs](#) for UK manufactured aircraft which have not yet been incorporated in CAP 747 can be found on the CAA website www.caa.co.uk/ads.

We are aware that the following Emergency Airworthiness Directives have been issued recently by EASA and the FAA; however, this list is not exhaustive and must not be relied on.

Number	Applicability	Description
FAA 2011-18-51 E	Honeywell TPE 331 engines	Main shaft bearings
EASA 2011-0152-E	Thielert TAE 125 engines	Clutch assembly
EASA 2011-0153-E	Tecnam P2006T	Emergency landing gear accumulator
EASA 2011-0156-E	Agusta AB139, AW139	Tail rotor blades

Editorial office: Flight Operations Inspectorate (General Aviation), attn GASIL Editor, Safety Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR.
Telephone +44 (0)1293 573225 Fax +44 (0)1293 573973
e-mail: david.cockburn@caa.co.uk.

Distribution: FOI(GA) Admin, address and fax as above. Telephone +44 (0)1293 573525.

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Flying clothing

There are certain types of flying for which aircraft occupants are required, or are advised, to wear specific items of clothing. For example, the crew of an open-cockpit aeroplane should wear helmets, and the crew of an aeroplane used for spinning training should wear parachutes. In general, SafetySense leaflets [1](#) and [2](#), available free from the CAA's website www.caa.co.uk/safetysense, have always advised all aircraft occupants to wear clothes that cover the limbs and will give some protection in the event of fire, avoiding synthetic material which melts into the skin.



The leaflets also include the advice to take additional warm clothing in winter, in case of heater failure or a forced landing. However, there are many places in the UK where even in summer the temperature can be quite low, and if clothes have been soaked by rain or showers the body can suffer from hypothermia quite quickly in the event of a forced landing, or even a diversion. We need to dress in, or at least have available, clothing which is suitable for whatever environment we might find ourselves in outside the cockpit, and the latest versions of the leaflets now reflect that advice.

GPS Jamming Trials



As detailed in [AIC P 076/2011](#), GPS jamming trials will take place in the Stanford Training Area in East Anglia between 19-23 September and 17-21 October. Satellite navigation signals around and to the North-East of Danger Area D208 may be affected at times during the trials.



Urgency calls

We all know that if a pilot feels that he has an urgent message to transmit concerning the safety of an aircraft, he is encouraged to prefix his radio messages with "PAN PAN". If the aircraft is in distress, the prefix should be "MAYDAY". Either of these prefixes should not only give the caller priority on the frequency, but also make available whatever assistance he needs until the state of urgency or distress is concluded. A rough running engine would normally cause a pilot concern, and a PAN call to a radar unit (or the Distress and Diversion [D&D] cell on 121.5 MHz if the pilot is not in contact with a radar unit) should result in navigation assistance and telephone warnings to a suitable aerodrome, together with an enhanced state of readiness to send emergency services to a field if that should be necessary.

It is therefore not usually a good idea to cancel one's urgency or distress message until a safe landing has been assured. That may be on final at an aerodrome, but if a forced landing is necessary the state of urgency or distress should remain until the aircraft has come to a halt. Even if no other aircraft is available to relay the cancellation message, a telephone call to D&D would be perfectly adequate.

George can take care of us

The BEA (French AAIB) have published their report into an accident to a Cessna 172 in 2005. The aircraft, with three PPL holders on board, was on a long-distance flight from its base North of Paris to Fayence in the South of France. It seems the aircraft flew directly into the side of a hill in IMC, 100 feet below the top, killing all on board.

The report notes that the crew had not visited the met office at their refuelling point, nor was there any evidence of them obtaining weather information from METEO France, although it was possible they had obtained information from another source. When in radio range of Nice Information, the pilot asked for weather information, and was told that there was a lot of low cloud inland, which probably extended towards Fayence.

The investigation concludes that the aircraft was very probably being flown by the autopilot coupled to GPS navigation for much of the flight, including the period immediately before it hit the hill. The report also suggests that the aircraft had been out of sight of the ground for some time. It notes that the pilot had declared he was descending to an altitude of 2,000 feet, which was well below the IFR safe altitude, and below the actual highest elevation within five miles of his track.



According to the investigation, the ground impact was probably due to the decision to continue the flight in weather conditions which precluded VFR flight, coupled with a likely mis-reading of altimeter indications. Possible contributory factors included a desire to reach the destination, and a confidence in the autopilot and GPS fitted to the aircraft.

Accidents such as this highlight the fact that modern technology can be a hazard as well as a help in General Aviation. We frequently remind pilots that a GPS set is only an aid to navigation. Similarly, an autopilot is only an aid to aviation, and must be properly understood and used correctly and within its limits. If a pilot relies on modern technology to operate in conditions that he would be unable to cope with otherwise, the consequences of system failure or human input error may well be fatal.

Student reactions

As we read in the AAIB's [Bulletin 5 of 2011](#), as the Cyclone microlight reached a height of about 100 feet after its initial take-off on a Skill Test, the examiner called for an engine failure drill as previously briefed. The candidate closed the throttle, but the aircraft pitch attitude did not reduce, and although the examiner took control the aircraft landed heavily.

An engine failure drill at such a low height requires rapid and accurate handling to make a safe landing, especially as the aircraft in question, like many other microlight types, has a high thrust line which tends to pitch the nose up when power is reduced. Human factors suggest that a test candidate will be under stress, especially at the start of a test, and therefore may react in an unexpected manner to problems posed. As the examiner himself stated, with hindsight it might have been better to have done the EFATO later in the test sequence.

Considering all these factors, the exercise carries high risks, and the pilot instigating such a simulated failure must always be prepared to take control before the situation becomes irrecoverable.

Student reactions (2)

Another [report](#) in the AAIB's Bulletin 5 of 2011 refers to a weight-shift microlight in which the student applied incorrect control inputs when told to fly a go-around at about 100 feet above ground. The instructor was unable to regain control from the student in time to arrest the rate of descent and prevent the student being seriously injured. The investigation notes the student had previously carried out 20 hours of training in a conventionally controlled aeroplane, and suggests that that prior learning, coupled possibly with fatigue, caused the incorrect control input.

A third [report](#) in the same Bulletin concerns a Thruster whose student pilot had considerable previous experience on weight-shift aircraft and who seems to have made an incorrect control input on take-off. The commander commented that the single central control column made it difficult to shadow the student's control movements.

However, as in the accident referred to in the previous article, these accidents call attention to the hazards of students reacting incorrectly unexpectedly, and the need for instructors and examiners to exercise extreme care, especially when there is little height available to correct such errors.

Rockets

We continue to remind pilots of the importance of checking NOTAMs along their planned and possible alternative routes as part of their essential pre-flight planning. It is also important to take account of the notified activities and consider how to minimise any hazard. From time to time, navigation warnings refer to rocket launching from sites around the country. The UK Rocketry Association has safety rules to ensure that such rocket launching takes place in clear skies, and care is taken to ensure that the planned trajectory avoids any passing aircraft.

However, the rockets are recovered by a parachute system. They have been known (unusually) to reach altitudes in excess of 8,000 feet, and the descending rocket takes time to return to earth. Even though the main parachute may not open until a few hundred feet above the ground, the initial descent is controlled by a stabilising system, which may on a windy day allow the returning rocket to cover some distance downwind of its original launch site. There is also the possibility that the rocket may develop a fault which causes the main parachute to open at the highest point of the trajectory, which would keep the descending rocket in the air for longer than it would take a light aircraft to appear over the site.



Picture courtesy of John Wheatley

Pilots should check NOTAMs for any such rocket launches, and avoid the launch site by the published safe margin. We also suggest that the safest option is probably to plan one's flight to fly upwind of the site.

Instructors aren't gods

Flight instructors and coaches are in a privileged position. Their students rely almost completely on their guidance, and it is human nature to accept that guidance without question. However, we must realise that even instructors are fallible, so if something your instructor is doing or advising seems unsafe, it is a good idea to seek clarification from another senior member of the training organisation.

For example, if the organisation's rules require the aircraft to be refuelled as soon as the fuel level drops below a certain amount, it would seem strange for an instructor to tell his student that a lower fuel level was acceptable for flight. It would of course be awkward for the student to confirm this with another instructor, or even to decline to fly until the aircraft was refuelled. However, whose life is at risk?

If the student, as is very likely, were to suppress his misgivings and accept the instructor's word, the flight would take place with a low fuel state. What if the engine stopped from fuel starvation? A forced landing without damage may not require a mandatory occurrence report by the commander, but surely the incident ought to be followed up? After all, a forced landing without damage can never be guaranteed, whether in a helicopter or a fixed-wing aircraft. Human factors may have encouraged the instructor to disregard the organisation's Safety Management System, so he may need additional training. Others may be led astray in a similar fashion and need to be warned.

The CAA's occurrence reporting system is described in [CAP 382](#). However, the form [SRG 1601](#) is simple and is available on-line, and the information and the reporter's details can be kept confidential if required. If the reporter would prefer not to contact the CAA directly, the matter may be the subject of a report to the Confidential Human Factors Reporting Programme at Farnborough, whose Director guarantees confidentiality.

Occupied runways

Rule 14 of the Rules of the Air Regulations 2007 is quite specific. Unless the air traffic control unit at the aerodrome otherwise authorises, a flying machine or glider shall not land on a runway at an aerodrome if there are other aircraft on the runway.

Unfortunately, it seems that the application of the rule causes problems. Some pilots 'forget' the rule entirely. Some continue their approach down to just inches above the surface before applying power for a go-around. Others seem to believe that, just because no-one has actually told them to go-around, they have ATC authorisation. Only a licensed Air Traffic Controller (not a FISO, not an air-ground radio operator) can issue the authorisation to "Land after . . .", which the pilot may do if he considers it safe.



It is of course easy to understand that pilots occasionally experience frustration when an aircraft in front of them has apparently slowed down more than expected on the final approach. Even more understandable is the frustration when an aircraft comes almost to a halt on the runway and then spends an age taxiing slowly to the end. After all, Rule 14(4) requires that a flying machine shall move clear of the landing area as soon as possible after landing.

Despite any feeling of frustration, any action we take when frustrated is likely to be taken without careful thought and may well create a hazard for ourselves or others. If, despite allowing what we consider an adequate gap between ourselves and the aircraft in front, we see that the aircraft in front will not have moved clear in time for us to land, we should fly a go-around early and enter the traffic pattern for a further approach. More importantly, we need to prepare ourselves for the possibility, so that when it happens we can carry out the necessary actions in a calm and considered manner, without causing ourselves undue stress.

Snow has many effects

The AAIB's Bulletin 3 of 2011 includes a [report](#) into an accident to a PA-38 Tomahawk, which we suggest pilots take time to read and consider. It seems the pilot became lost in a snow storm and descended to establish visual meteorological conditions. He noticed he was set to collide with terrain and opened the throttle but there was no response from the engine.



Snow has many effects on light aircraft operations. It packs on leading edges, altering the wing section, reducing lift and increasing drag. It packs in air intakes, and lumps may be ingested into the engine. Any precipitation will reduce a pilot's visual references, but while light rain normally only reduces visibility slightly, any amount of snow reduces visibility dramatically, and even a small number of flakes can be visually distracting.

As winter approaches and air temperatures fall, we must be prepared to encounter snow at any time when our flying altitude is above or close to the freezing level and precipitation is forecast. Even if no precipitation is forecast, a reduction in visibility below a cumulus cloud ahead may indicate the presence of snow. Avoid it.

Equipment servicing

A recent occurrence report concerns battery servicing intervals. It seems that the maintenance instructions for the battery fitted to the aircraft stated an inspection interval of six months. However, the aircraft manufacturer's maintenance schedule required an inspection every three months.

As with anything connected with aviation safety, where there is an apparent conflict between two requirements, the more restrictive requirement is usually the one to be complied with. In this case the battery should have been inspected every three months.

Jammed transmitter

Pilots who find they are suddenly unable to receive any transmissions from other agencies should consider whether they may themselves have a jammed press-to-transmit switch or relay. It will normally be relatively difficult for the crew of the offending aircraft to confirm the problem. In some cases the radio display may be continuously indicating 'tx' or similar, and in others the pilot's voice may sound different when transmitting externally. However, in general the only way to confirm the problem after failing to receive replies to 'radio checks' is to select different frequencies and experience the same symptoms. This of course jams another frequency and broadcasts the comments from within the cockpit to the world.

Once the problem has been identified, the pilot has usually no other option than to switch off the radio completely, which he should do without delay after broadcasting that he is doing so. Do we know the radio failure procedure for our destination and the airspace in which we are flying? What about light signals?



There is no such thing as a little ice!

The AAIB's [Bulletin 6 of 2011](#) includes a report into an accident to a Gippsland Airvan, in which the pilot was seriously injured. The report concludes that the aircraft probably stalled while turning after take-off, and notes that the lifting ability of the aircraft's wing would have been compromised by the frost which was present on its surface.

Every winter we advise pilots to read and take note of the advice in [SafetySense Leaflet 3](#) 'Winter Flying'. We remind pilots of the need to ensure that every lifting and control surface is clear of any form of ice before take-off. There is no such thing as "a little ice".



File photo

Medical problems?

The ANO sets out what is required of licence holders when there is change in their health and they are no longer fit to act as a member of the flight crew. Information is also printed on the back of JAA medical certificates. However, it may not always be obvious that a pilot's health issue is one that requires reporting. This might be complicated by the potential effects and side-effects of medication used to treat the condition, even if it is bought over the counter at a chemist. Many GPs will be unaware of the level of fitness required to fly an aircraft and the acceptability or otherwise of medications.

If you or your doctor have any doubt about your fitness to fly or need advice regarding medication, you should contact your AME or the CAA. However, you and your GP can obtain [advice](#) on certain illnesses, surgical procedures, associated treatments and the status of your medical certificate, from the medical section of the CAA's website www.caa.co.uk/medical by clicking on 'Documents for download'.

For those flying on the privileges of a NPPL medical declaration, advice can be obtained from an Aviation Organisation Medical Advisor.

CAA Safety Evenings 2011

As last winter, the organisation of this winter's GA Safety Evenings has been taken over by GASCo, the GA Safety Council, to which the CAA is a major contributor. The evenings are of value to everyone involved in general aviation, whatever they fly, operate or maintain, and logbooks will be signed when requested as proof of attendance.

Currently a number of events planned for the next few months are awaiting final confirmation. However, the ones listed here will take place on the dates shown, and further information including organisers' contact details are in GASCo's Flight Safety Bulletin, which contains the hard copy of GASIL. For updated information, including all the other evenings as they are confirmed, see the CAA website www.caa.co.uk/safetyevenings. Organisations wishing to host a safety evening in future should contact GASCo on 01380 830584 or by e-mail to ce@gasco.org.uk.

<u>Date</u>	<u>Area</u>	<u>Venue</u>
5 October 2011	Bodmin	Cornwall Flying Club, Bodmin Aerodrome
16 November 2011	Manston	TG Aviation
17 November 2011	Panshangar	North London Flying School

Thought for the month (and always)

"You may come across birds flying into windows, but they don't fly into cloud."