

GASIL



General Aviation Safety Information Leaflet

www.caa.co.uk/gasil

Issue no. 1 of 2012

Glare

In a recent issue we reminded pilots of the hazards of glare when approaching into a low sun, and as we have done previously, suggested that pilots should consider either selecting a different runway, diverting, or waiting until the sun has gone behind a cloud (or set!).

However, a low sun can affect visibility forward from the cockpit (“in-flight visibility”) in other ways. If the general visibility is reduced by particulates (dust or water droplets), then the in-flight visibility will be reduced when looking towards the sun, even when the sunlight is not shining directly into our eyes. That reduced into-sun visibility will not be reported by met observers, who are required to ignore such reductions in visibility when considering the prevailing (average around the horizon) visibility they report from aerodromes, although a METAR may include a reduced visibility in a particular direction (e.g. “6000 2000SW”) when there is an actual bank of fog, smoke or mist in that direction.



Glare	01	Fatal Accidents	05
Cessna Fuel Selectors	02	Climbing Out After Take-off	06
Airspace Changes	02	Restraint?	06
Emergency ADs	02	Wet Grass	06
Controlled Flight into Terrain	03	Weather Avoidance	07
Some More of These Useless Things	03	AVGAS UL91	07
Familiarisation Training	03	Mandatory Permit Directives	08
GA Fatal Accidents 2011	04	GA Safety Evenings 2012	08

Cessna fuel selectors

We apologise if an article in the July 2011 issue may have been misleading. In passing on a reader's suggestion that pilots should select OFF after shut-down in a Cessna 150/152 to prevent the possibility of the selector becoming stiff to operate, our article implied that such a selection would also prevent fuel flowing from one tank to another if the aircraft was parked on a slope. As has been pointed out by some readers, that is not the case. Nor can a selection of OFF in a Cessna 172 or similar be guaranteed to prevent cross-flow, although selecting a single tank ought to achieve the aim.

Indeed, as others noted, the fuel cock should be exercised during routine maintenance, so perhaps the main reason for a pilot making selections in a simple system would be to familiarise oneself with the action necessary in the event of an emergency.

Airspace changes

AIC Y002/2012 gives details of Controlled airspace to be established around Norwich airport with effect from 08 March 2012 (the effective date of the new CAA 1:500,000 chart of Southern England and Wales).

AIC Y001/2012 gives details of changes to the Manchester Control Zone which will take effect at the same time and return some airspace to Class G.

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 <http://www.caa.co.uk/ads>.

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

Number	Applicability	Description
EASA 2011-0235-E	Socata TBM-700	NLG actuator axle attaching bolt
EAD CF-2011-17R1	Bell Textron Canada 407, 427	Hydraulic servo actuators
EASA 2011-0244-E	Eurocopter AS 350, 355	Position strobe light
EASA 2012-0019-E	Rotax 912S2, S3 & 914 engines	Engine oil pump

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.

Content: CAA staff comment and deductions are based on available information. The authenticity of the contents, or the absence of errors and omissions, cannot be guaranteed. Nothing in GASIL relieves any pilot, operator or engineer of his/her duty to ascertain and comply with ALL applicable regulations and formal documents.

Controlled Flight into Terrain - can you see it?

The AAIB's Bulletin 11 of 2011 includes a [report](#) into an accident to an Agusta A109 in Northern Ireland. It concludes that the helicopter flew at a near constant height, heading and groundspeed into the western slope of a hill in the Mourne Mountains. All 3 occupants on board were killed, and no conclusive causal factors for the accident could be established.

However, witnesses reported considerable hill fog in the area and there was apparently a report from a police helicopter which attempted to reach the crash site shortly afterwards of cloud 'tumbling down the valleys'. The investigation suggests that the helicopter may have encountered several layers of cloud, in which case it is possible that the pilot may possibly have mistaken variations in the tones of grey for dividing lines between ground and sky.

This is a hazard which can only really be avoided by flying at a safe height above any possible obstruction ahead, which can be achieved by either climbing to the calculated IFR Minimum Safe Altitude, or altering the route to avoid high ground.

Some more of these useless things in aviation

1. A ground proximity warning system which hasn't been powered up when you're flying close to high ground in less than perfect weather.
2. A satellite navigation system database which hasn't been updated for years.
3. A satellite navigation system terrain map which only indicates ground elevations below 2000 feet.

All of these were identified by the AAIB investigation into the Agusta fatal accident referred to above.

Familiarisation training

We commend readers to a [report](#) in the AAIB's Bulletin 11 of 2011, in which we read of a Jodel D18 whose pilot reported a rough running engine and which then apparently spun during the final turn of a low circuit. The investigation found several aspects of the accident which they considered worthy of comment, but concludes that the aircraft stalled while the pilot, who had limited experience on the type, was attempting to line up on the final approach having flown through the extended runway centreline.

Among the noteworthy aspects was a potential confusion between the carburettor heat control and the choke, and another with the position of the fuel selector. The investigation believes that a lack of familiarity with the aircraft and an attempted approach at an unfamiliar circuit height in crosswind conditions were all circumstances which contributed to the accident, in which the pilot suffered serious injuries.

The pilot's logbook apparently included a certificate to indicate that he had completed differences training with an instructor for tailwheel operation. However, even if an adequate standard in tailwheel operations has been achieved during that training, common sense (let alone JAR-FCL) dictates we must also complete familiarisation training specific to an individual aircraft before flying it as commander. Even once we have become familiar with the aircraft and its systems, it is also vital to build up experience in a progressive fashion before attempting to operate in challenging conditions, such as attempting short-field take-offs and landings or landing a tailwheel aeroplane in anything other than very light crosswinds.

GA Fatal Accidents 2011

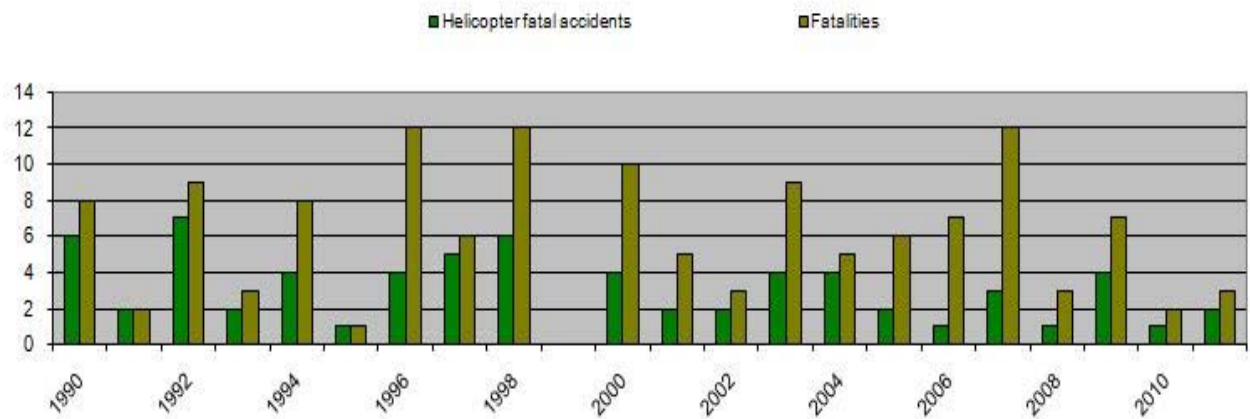
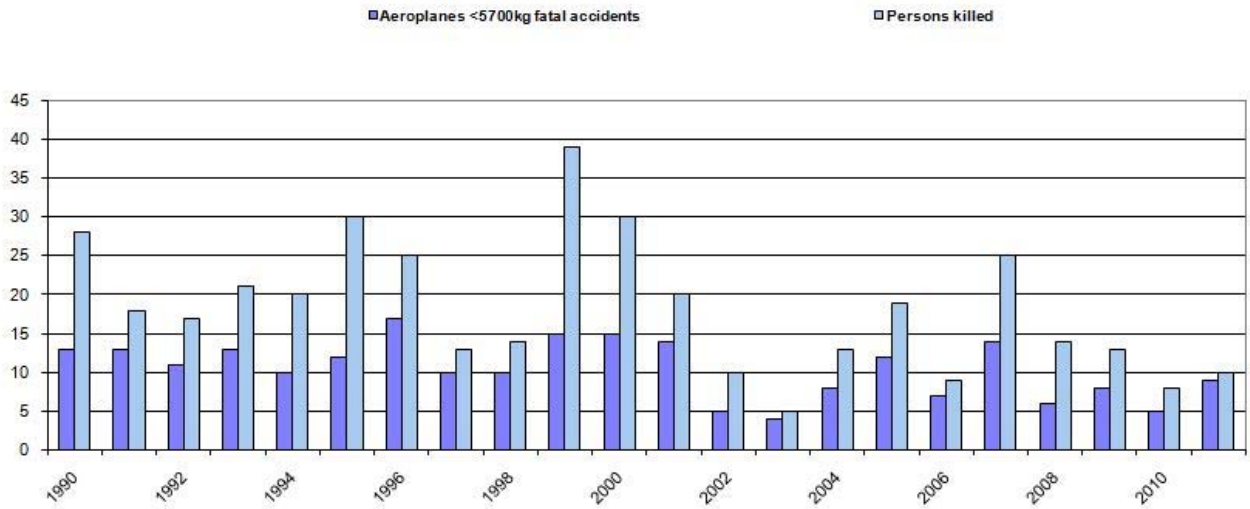
During 2011, there were 10 fatal accidents to UK registered GA aeroplanes in the UK and Europe, including 2 mid-air collisions and one microlight accident. A total of 11 deaths resulted, including one in each of in the collisions. Two fatal accidents were reported to UK registered helicopters, killing 3 people, the pilot of a gyrocopter died in another fatal accident, and a hangglider pilot died during aerotow operations. In addition, a balloon pilot and passenger also died, as did the pilot of a UK registered airship in Germany. 3 more fatal accidents were reported to foreign registered GA aircraft in UK airspace, with 4 fatalities. In the vast majority of cases, the circumstances reported are only provisional, because the accidents are still being investigated, but completed investigations will be reported in bulletins on the AAIB (or the relevant foreign) website and significant points will also be highlighted in future GASILs.

Mid-air collisions between civilian-operated aircraft have been thankfully rare in recent years, but the fact that 2011 saw 2 separate incidents, both close to aerodromes, should remind us of the importance of airmanship, especially in and around the circuit pattern. We must not only follow the published procedures (or a 'standard overhead join' if no specific procedure is published), but we must use our eyes and ears to find all the other aircraft in the pattern before we join it, and keep them in sight thereafter.

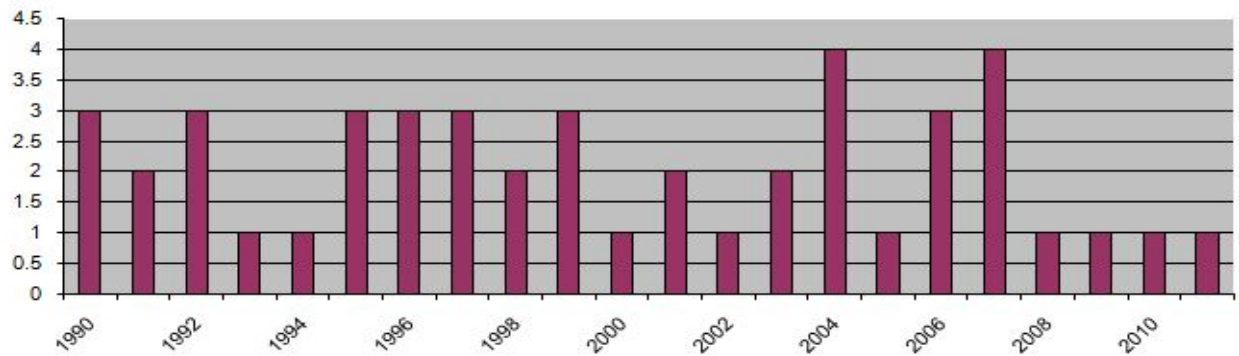
The graphs show the annual numbers of fatal accidents and fatalities to UK registered aeroplanes (non-microlight) and helicopters over recent years, and the number of fatal accidents to microlights. They do not include accidents to foreign registered aircraft. While each graph can be read as showing a generally improving picture, we emphasise that the numbers cannot be considered to have any statistical significance, and more representative figures will appear later, in official CAA publications.

Ty	pe	Reported circumstances
1 Jan	Cameron O-120 Balloon	Rapid descent from high altitude – possible hypoxia contribution. 2 fatal
9 Mar	SA 341 Gazelle	Wreckage found after aircraft reported missing. Foreign reg. Under investigation
13 Mar	Jodel D117	Overshot selected field after engine failure – hit trees & cable. 1 fatal 1 serious
28 Apr	Yak52	Crashed into reservoir. Foreign reg. Under investigation, 2 fatalities
28 Apr	Magni M24C	Loss of control on approach - door had opened after take-off.
5 May	Zenair	Struck trees beside touchdown point – possible wind and /or medical
15 May	Tiger Moth	Crashed in field. Under investigation, 1 fatal 1 serious
12 Jun	Blimp A-60+ Airship	Airborne explosion after uncommanded climb. German investigation.
17 Jun	Piper PA39	Wreckage located after loss of radio contact. French investigation, 2 fatal
4 Jul	Vans RV6/DA-40	Mid-air collision in circuit area. Under investigation. Vans pilot killed.
24 Jul	Robinson R44	Reported crashed in field. Under investigation
29 Jul	Piper PA38	Hit houses after engine failure on take-off. Under investigation. 1 fatal 1 serious
2 Sep	Bolkow Bo 208 Junior	Struck power cables in circuit. Foreign reg. Under investigation
23 Sep	EV-97 Eurostar	Crashed and came to rest inverted. Under investigation.
14 Oct	Piper PA28	Collided with trees on a mountain. French investigation. 2 fatalities
28 Oct	Hangglider	Lost control during aerotow launch. Under investigation.
12 Nov	Piper PA28	Ditched near Channel Islands. Under investigation. 1 fatal 1 serious
12 Nov	Hughes 369	Fire-damaged wreckage located. Spanish investigation. 2 fatal.
18 Dec	Pitts Special/Taylorcraft	Mid-air collision in circuit area. Under investigation. Taylorcraft pilot killed

FATAL ACCIDENTS



Fatal accidents to microlights

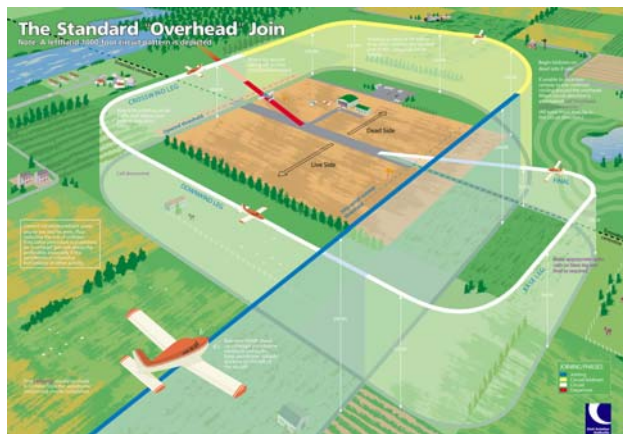


Climbing out after take-off

Several aeroplanes, including many Microlights, achieve high angles of climb at their normal climbing speed. This can occasionally cause concern when they reach circuit height at or before reaching the end of the runway, and another aircraft is joining the pattern on the crosswind leg from the dead side. A similar problem can arise if an aircraft goes around while another is joining.

Rule 12 (1) of the Rules of the Air Regulations 2007 requires a flying machine, glider or airship flying in the vicinity of what the pilot in command knows, or ought reasonably to know, to be an aerodrome to conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome, unless the air traffic control unit at that aerodrome otherwise authorises. An aircraft crossing from the dead side has formed such a pattern.

If your expected angle of climb is so steep that it might possibly produce a collision risk with an aircraft joining over the upwind end of the runway, make a positive check that no such aircraft is approaching, and consider delaying the take-off until it is safe. In any case, it is your responsibility to avoid any which do. However, since nothing absolves the commander of an aircraft from taking all possible measures to avoid a collision, always keep a good lookout (and listen!) and be ready to avoid others, no matter what they may be doing.



Restraint?

Two recent accident reports, [one](#) from the AAIB and one from the BFU, include the fact that the front seat occupants were not wearing the shoulder part of the safety restraints. In both of the accidents, these front seat occupants were seriously injured when their heads came into contact with solid objects.

If the manufacturer has provided a safety device to reduce the risk of serious injury in what otherwise might be a minor accident, it seems less than sensible not to use it. If the restraint limits your use of the flying controls, we suggest the aircraft may not be a suitable type for you to fly.

Wet grass

SafetySense leaflet 7 “Aeroplane performance” is available like all such leaflets free for download from the CAA’s website www.caa.co.uk/safetysense. It explains the conditions affecting take-off and landing performance of GA aeroplanes, and includes a list of factors to be applied to the information contained in Flight Manuals and Operating Handbooks when conditions are not exactly the same as those in which the performance figures in the Manuals were obtained.



One factor sometimes forgotten by pilots, as demonstrated by several accident reports, including [one](#) published by the AAIB in Bulletin 12 of 2011, is that wet grass can increase the landing distance of an aeroplane by 35% over the figures quoted in Manuals. Short wet grass can be very slippery, and distances required may increase by 60% over those quoted. However, it is not always easy to identify the presence of such short wet grass from aerodrome reports and websites; rather like carburettor icing conditions, we should always expect the problem unless and until we can confirm otherwise.

Weather avoidance

We frequently warn of the dangers of flying into unsuitable weather. It is therefore commendable when a pilot decides the weather is deteriorating and turns back to avoid it.

However, even simply reversing track is not always as easy as it may initially appear. First, which way should we turn? Hopefully away from problems such as high ground, the worst of the weather, or nearby controlled airspace.

Second, have we remembered to apply drift the other way? The maximum drift we would experience at 90 knots in a 25 knot wind is almost 18 degrees, and we would experience that if the wind is within 30 degrees of our beam. If we reverse heading instead of reversing track, we may end up flying at 35 degrees off our correct track towards whatever problem lies downwind of us, more if we reduce speed in poor visibility.



However, we should remember that even if we have no passengers, we are not alone in our cockpit. Get the strength of the Air Traffic Services around you. Even if you are not receiving a service at the time, use the facilities available. If you have any concerns about your navigation near either high ground or controlled airspace, talk to whatever air traffic service unit you are in contact with. If you are not currently receiving a service, let London or Scottish Centre help with your navigation until you are comfortable again. Make a PAN call on 121.5 MHz. It may also alert the air traffic service provider to the weather situation, which they might be able to pass on to others if the forecast is incorrect.

AVGAS UL91

Many readers will be aware that a fuel company has recently supplied 91 octane unleaded aviation fuel to certain aerodromes. Although not suitable for high-performance engines, EASA SIB 2011-01 permits this fuel to be used by those aircraft whose engine manufacturer has approved it. Many microlights and LAA types will fit into this category, as will several training aeroplanes, although the fuel is not suitable for high compression-ratio engines such as the 160 BHP versions of the Lycoming O-320.

CAP 747 General Concessions (GC) 2, 3, 4 and 5 allow the engines of several privately-operated aircraft to use motor gasoline (MOGAS) which meets particular specifications subject to certain conditions. Operators are advised to follow the guidance in SafetySense leaflet 4 (like all such leaflets free for download from www.caa.co.uk/safetysense). The leaflet warns that alcohol, which is increasingly being added by oil companies to their motor fuel for environmental reasons, may cause problems in performance and deterioration in materials when added to MOGAS, so in most aircraft the use of fuel with alcohol present is not permitted. AVGAS UL91 does not contain alcohol, nor does it have the limitations on its use in high temperatures and low pressures which apply to MOGAS.



For approval information for aircraft operated under EASA rules, refer to SIB 2011-01, and for aircraft operated under LAA rules refer to AAN LAA-999-413 supplement 5.

Mandatory Permit Directives

The following Mandatory Permit Directives (MPD) have recently been issued by the CAA. Compliance is mandatory for applicable aircraft operating on a UK CAA Permit to Fly. [MPDs](http://www.caa.co.uk/mpds) can be found at www.caa.co.uk/mpds.

Although the CAA has decided to ‘freeze’ publication of CAP 661, all MPDs currently published in that document remain in force. In future, in order to assist users to identify MPDs, the CAA will add the ‘Alphabetical Index’ currently found in the front of the hardcopy of CAP 661 to the MPD webpage. This Index will be updated whenever a new MPD is added to the webpage and will assist users to identify the relevant directives by name/type.

Owners of aircraft with Permits to Fly and their Continued Airworthiness Managers should register to receive automatic e-mail notification when a new MPD is added to the website, through www.caa.co.uk > Publications > Subscriptions > New User Subscription Registration, and choose the ‘Safety Critical Information’ category. Once you have subscribed you will be notified by email every time a new or revised MPD is published on the CAA website.

MPD 2011-010	Nanchang CJ-6A	Tailplane forward spar
MPD 2011-009E R1	Rotax 912, 914	Crankshaft

GA Safety Evenings 2012

GASCo, the GA Safety Council to which the CAA is a major contributor, is organising this winter’s series of Safety Evenings. The evenings are of value to everyone involved in general aviation, whatever they fly, operate or maintain. Logbooks will be signed when requested as proof of attendance. The programme of currently confirmed events is shown below, to start at 1930 unless indicated.

For updated information, see the CAA website www.caa.co.uk/safetyevenings or the GASCo site at www.gasco.org.uk. Organisations wishing to host a future safety evening should contact GASCo on 01380 830584 or by e-mail to ce@gasco.org.uk.

Date	Area	Venue	Contact
21 Feb	LAA Coastal Strut Ipswich	Greshams Sports Club, IP4 3QJ	07710 302821
22 Feb	Norfolk Gliding Club	Tibenham Airfield, NR16 1NT	admin@norfolkglidingclub.com
27 Feb	Stratford on Avon Gliding Club	Snitterfield Airfield, CV37 OEG	chair- man@stratfordgliding.co.uk
13 Mar	Ilchester, Somerset	RNAS Yeovilton, BA22 8HT	07779 288864
14 Mar	White Waltham, Maidenhead	West London Aero Club, SL6 3NJ	01628 823272
15 Mar	RAF Halton, Aylesbury (<i>at 1800</i>)	Nuffield Sports Pavilion, HP22 5PG	01296 656026
26 Mar	Carlisle Airport (<i>at 1915</i>)	Terminal Building, CA6 4NW	01228 573490
27 Mar	Dundee Airport	Tayside Aviation, DD2 1UH	01382 644577
28 Mar	Dyce Flying Club, Aberdeen	Thistle Airport Hotel, AB21 0AF	dockate@gmail.com
29 Mar	Oban Airport (<i>at 1900</i>)	Main Terminal, PA37 1SW	01631 710920
30 Mar	Cumbernauld Airport	TBD	
31 Mar	Ulster Flying Club, Belfast	TBD	
4 Apr	Redhill	TBD	