



www.caa.co.uk/gasil

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Distraction

A recent incident involved a light aeroplane which was reported by ATC as infringing controlled airspace by carrying out a non-standard approach into White Waltham aerodrome. It seems the pilot had diverted into White Waltham because the aircraft door had opened in flight. Accidents have happened because pilots have been distracted by open doors just after take-off, and we reported on a fatal one to a Cessna 310 in issue [4 of 2003](#). We do not know when this pilot noticed the problem, but he seems to have dealt with it in a calculated manner, although perhaps not as efficiently as we might have hoped.



File Photo

However, the subject of opening doors perhaps deserves more attention. Certain types have a reputation for being apparently more susceptible than others, but that is all it is, a reputation. There may be a reluctance to report such matters because the pilot feels he or she may be at fault, but the CAA and EASA have no way of knowing if the design of a particular aircraft lends itself to doors coming open (or failing to lock) unless the information is passed to them. An occurrence [report](#) (available on the CAA's web site www.caa.co.uk through 'publications' and 'forms') would provide the necessary information.

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Balloon burns

The BEA (French AAIB) in a recent bulletin include a report of an accident to a balloon in flight. Apparently, the pilot had chosen to change tanks before landing, but experienced difficulty while attempting to fit the connecting tube to the replacement tank. While investigating the reason for his difficulty, it seems some gas escaped from the tube and caught fire, causing serious burns to the body and head of one of the passengers, and the pilot's forearms.

The investigation concluded that the reason for the gas igniting was probably static

electricity from the synthetic clothing of one of the passengers. SafetySense leaflet 16 "Balloon Airmanship", available in LASORS and free for download from the CAA's website www.caa.co.uk/safetysense advises passengers to wear natural fibres, and pilots to wear gloves.

However, the accident should also remind non-balloonists of the potential hazard around inflammable vapours which may be caused by even a tiny spark, such as that from static electricity or an electronic device.

Seat rails

The FAA has recently issued a Safety Alert for Operators (SAFO) on the subject of Cessna seat rails. It is several years since we last reminded engineers and pilots in these pages of the perils of unlocked pilots' seats when the aircraft adopts a nose-up attitude, so perhaps it is appropriate to do so again now.

The most obvious possible problem occurs when the seat locking pins have failed to correctly lock in their locating holes. Hopefully, a positive check of the seat movement before take-off (without exerting too much pressure on the rudder pedals - their mountings have been known to break) would confirm that the location is correct.

However, it has been found that flexing during flight can expand even apparently hairline cracks in the rails to such an extent that the pins may slip out of the holes. Only conscientious maintenance inspection can detect damage to the rails before the cracks grow to a dangerous extent.



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 (01293) 573225 Fax (01293) 573973 e-mail: david.cockburn@caa.co.uk.

Distribution: FOI(GA) Admin, address and fax as above. Telephone (01293) 573525.

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Crew Resource Management

SafetySense leaflet 2 “Care of passengers”, available in LASORS and free for download from the CAA website www.caa.co.uk/safetysense, contains useful information about flying with passengers, and includes a recommendation that the passenger should be involved in helping the pilot by holding items, and looking out.

However, sometimes our passenger is another pilot, and can do more than just help out with lookout. The aircraft commander is of course responsible for the safe operation of the aircraft, and it is logical that we should use the skill and knowledge of that other pilot to help us operate safely. Similarly, if we are flying as someone else’s passenger, we should wish to offer assistance.

Commercial pilots have been trained in Crew Resource Management (CRM), and most Human Factors books used during PPL training contain information about cross-cockpit gradients, personality traits and other matters relating to multi-crew operations such as the ‘risky shift’.

In addition to the personalities of the people involved, the experience (or actually the perceived experience) of a pilot passenger is likely to affect the actions and decisions of a less experienced commander. In previous articles we have written about some of the problems. If, in a problem situation, the commander perceives his pilot passenger to be more experienced, he may either try to

demonstrate his own ability and authority by refusing to involve that passenger, or delegate all responsibility for decision making to him. Accidents have occurred when the commander has delayed making any decision on his own, and the ‘passenger’ has failed to rescue the situation.

Accidents have also happened when a pilot passenger has observed a lapse or mistake by the aircraft commander, but has said or done nothing. This was probably because the passenger believed the commander to be more experienced and so “he must have known what he was doing”. In any case, passengers should always question unusual decisions or actions. Even a passenger with no flying experience should be encouraged to question something which he thinks might be wrong - such questioning has prevented accidents in the past.

However, the safe operation relies on the commander being able to concentrate on operating the aircraft, especially at times of high workload. Passengers should be discouraged from making idle comments while the pilot is concentrating, and instructors know (sometimes by bitter experience) that a pilot passenger needs to exercise careful judgement if he considers it necessary to interject at a critical moment. To the commander, any interjection at a critical time should be treated as a major distraction, and the aircraft flown to a safe height in a safe configuration before attempting to find out what is wrong.

GPS Jamming

As described in AICs, the MoD will carry out GPS jamming trials during the next few months. The first will be around the Sennybridge training area (D203 in mid-Wales) between 7th and 18th September. There will be another over the sea South of Cornwall on 9th & 10th September, and finally another in East Sussex on 14 & 15 October.



VOR selection

Airspace infringements continue to cause concern. Recent occurrence listings include the report of a Cessna 172 pilot who apparently claimed that his infringement of Stansted Control Zone was because he had mistakenly selected the LAM frequency on his VOR instead of the BPK frequency.

We remind pilots that when it is possible to navigate visually, any radio aid should only be regarded as a back-up. System errors mean that even the best VOR equipment should only be considered to have an accuracy of $\pm 5^\circ$, or possibly almost a mile for every 10 miles range from the station.

However, this incident should also remind us that no radio aid should be used until the identification code has been checked. The mnemonic "STIR" is used by many instructors to remind students of the sequence of events when selecting a VOR station (or any other radio aid) for use:

1. S elect the appropriate equipment (VOR in this case)
2. T une the required frequency
3. I dentify from the transmitted code
4. R adial adjust the OBS to determine or select the desired VOR radial or R ead the information if another display is available or a different equipment used



Emergency ADs

EASA produces [bi-weekly](#) summaries of the ADs they have issued or approved, which are available through their web site 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 > Safety Regulation > Operations & Airworthiness > Airworthiness Directives

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

<u>Number</u>	<u>Applicability</u>	<u>Description</u>
EASA 2009-0134-E	ELPROP - 3-1-1P propellers	Propeller hub
EASA 2009-0140-E	Allstar PZL SZD-59 sailplanes	Fuselage frame joints at wing roots (corrected 21/07/09)
EASA 2009-0148-E	Most Helicopters with hoists	D-lok hooks
EASA 2009-0158-E	Eurocopter MBB-BK117 C-2	Tail rotor intermediate gearbox bevel gear
EASA 2009-0163-E	DG 100 sailplanes	Elevator control bearing stand
EASA 2009-0164-E	Eurocopter AS 332	Main rotor head spindles

Following line features

When following a line feature, understandably, most pilots would prefer to keep it in sight. Most helicopter pilots sit in the right hand seat, so perhaps we should not be surprised that a helicopter was recently spotted following a railway line with the railway to the right of the helicopter. Aeroplane pilots would of course prefer to keep the railway line on their left, where they could see it. If we were to adopt the logic of keeping the line in sight as much as possible, an aeroplane and helicopter following the same railway but in opposite directions would be flying directly towards each other with a high risk of collision.

Rule 16 of the Rules of the Air Regulations 2007 is quite specific:

“(1) Subject to paragraph (2), an aircraft which is flying within the United Kingdom with the surface in sight and following a road, railway, canal or coastline, or any other line of landmarks, shall keep them on its left.

(2) Paragraph (1) shall not apply to an aircraft flying within controlled airspace in accordance with instructions given by the appropriate air traffic control unit.”

It may not be convenient for everyone, but the law has been written for everyone's safety.

Fuel consumption

A report from the BEA (French AAIB) concerns a PA28-181 which force landed on an Autoroute between moving traffic. The aircraft was damaged when it came into contact with a lamp standard, and the fuel tanks were subsequently found to be empty.

The pilot apparently explained he had used the Flight Manual fuel consumption figures when calculating his fuel requirements for the flight. However, the figures he had used were those published for 65% power at most efficient mixture setting. The investigation concluded he had actually been cruising at almost full power, probably with the mixture fully rich, which, as one might expect, would have resulted in a much higher rate of fuel use (calculated at 48 litres per hour against the 38 litres he expected).

We frequently remind pilots that light aircraft fuel gauges are notoriously unreliable. However, if the gauges fall to $\frac{1}{4}$ contents, it might be a good idea to land and check, especially if one has little experience in the individual aircraft. Again, especially if the aircraft is unfamiliar, we should take note of actual fuel consumption in the conditions we normally fly; the BEA investigation does not comment on the fact that the pilot had used all but 15 litres of his available fuel on a previous flight, as certified on the refuelling documents.



Flying Displays

A large number of flying displays will take place in the next few months, many of which will include Jet Formations. AIC M61/2009, available like all AICs on the AIS website www.ais.org.uk, contains a list of the Jet Formation displays expected during the next few months. Details of individual Restricted Areas (Temporary) will be contained in separate Mauve AICs, and are also published in NOTAMs, where details of the Red Arrows's intended routes can also be found.

Responsible Person

SafetySense leaflet 20 "VFR Flight Plans", available, like all GA SafetySense leaflets, in LASORS and free for download from the CAA's website www.caa.co.uk/safetysense, mentions the "Responsible Person" with regard to the activation and closure of Flight Plans in the UK. It is for example vital, when returning to the UK and landing at an aerodrome without an operating Air Traffic Service Unit, that the Responsible Person notifies the Area Control Centre if the expected aircraft does not land as expected.

Earlier versions of the SafetySense leaflet stated that in exceptional cases the 'parent AFTN' could be asked to act as that responsible person. This facility has been withdrawn by NATS, and the current version of the leaflet on the website has been

amended accordingly, although the LASORS version has not. We suggest that pilots who intend flying overseas make arrangements with a suitable person well in advance, and double check their availability as the date of flight approaches.

However, we should consider that the concept of a Responsible Person is valid for every flight made in UK airspace. Even if not filing a flight plan, it is important that someone at your destination is expecting your safe arrival, and is able to notify the Area Control Centre (specifically the Distress and Diversion Cell) if you become overdue. The D&D telephone number is listed in GETMET, and some pilots have loaded that number in a mobile telephone they give to the responsible person when they fly (together with the registration of their PLB).

Transponder Mandatory Zones

'Transponder Mandatory Zones' (TMZ) will be established in the vicinity of London Stansted Airport with effect from 24 September 2009.

TMZs are notified for the purpose of ANO 2005 Article 20(2). A TMZ is defined as a volume of airspace where aircraft wishing to enter or fly within the defined area will be required to have and operate secondary surveillance radar equipment. This equipment must include a pressure altitude reporting transponder capable of operating in Mode A and Mode C and with the capability and functionality prescribed for

Mode S Elementary Surveillance, although there is a general exemption to the Mode S requirement for aircraft equipped with Mode A and Mode C and flying under VFR, until March 2012.

The pilot of an aircraft that wishes to operate in a Stansted TMZ without the required serviceable transponder equipment may be granted access to the TMZ subject to specific ATC approval from Farnborough Radar on frequency 132.800 during their hours of operation (0800-2000 Winter (Summer 1hr earlier)) or from Essex Radar on frequency 120.625 at other times.

How to kill yourself in an aeroplane - another opportunity!

When you find that your route takes you close to a deep and attractive valley, fly along it, below the hilltops. This may not seem terribly hazardous if the weather is good, although the danger does increase if you are using a chart with no obstruction details on it.

However, if there is no-one else in the aircraft, you cannot share the enjoyment the flight gives you, so why not record the pilot's eye view on your video camera or mobile phone? You'll need to concentrate on the viewfinder for a bit, but at least the recording will show the accident investigators exactly which of the group of power lines you hit first.

Circuit patterns

Readers will be aware of the [poster](#) in LASORS and free for download from the CAA website www.caa.co.uk/safetysense illustrating the standard 'overhead' join procedure, which is that recommended when arriving at an aerodrome with no other published joining procedure. The poster also illustrates in general the circuit pattern expected.

However, where other procedures are published by the aerodrome, whether in the AIP or in a commercial flight guide, these should be adhered to. We frequently remind pilots that a telephone call to the aerodrome one intends visiting, even if not published as 'PPR', can provide useful safety information as well as advice about local procedures. In addition, an increasing number of aerodromes have websites which give further information.

Where noise abatement procedures have been published, or a particular point or area is otherwise notified to be avoided, check that you understand whether the pattern to be flown is around, or inside, the avoidance area. Where the instructions are ambiguous, the opportunity clearly exists for aircraft to fly different patterns and introduce a risk of collision.

Of course, a pilot should always be watching for others ahead in the circuit. However, calls can be missed and aircraft can be difficult to see, so if there is any possibility of confusion, check before flight, or if necessary on the radio. If there is no Air Traffic Service available, make unambiguous calls if others are suspected of being in the circuit - remember, the most dangerous place for collisions is the final approach!

Turbulence and mountains

An article in an earlier issue concerned a microlight which was flying close to a mountain top when it was affected by the wake vortex of the preceding aircraft. While appreciating the joys of adventurous aviation, we wish to remind pilots that mountainous (or even hilly) areas contain many hazards to aviation even without the presence of other aircraft.

While many of these hazards are listed in AIC 82/2008 (Pink 148) "Flight over and in the Vicinity of High Ground", the interaction of the various air flows meeting around and above the terrain cannot be described in general terms. However, such interactions can affect light aircraft dramatically, causing rapid changes in airspeed and trim forces which to the inexperienced can cause loss of control. The BEA (French AAIB) have recently reported a fatal glider accident which appears to have been a result of the pilot losing control close to a hillside.

If you intend venturing into the mountains, obtain guidance from those with considerable experience of such flying in your own type of aviation.



Vacuum systems

The CAA has recently published an Airworthiness Communication (no. [2009/05](#)) concerning the maintenance of instrument vacuum system components. That AirCom includes the strong recommendation that owners and maintainers of single and twin-engined aircraft fitted with Parker Airborne vacuum pumps should implement the replacement time limits defined in Parker Airborne Service Letter No 58A at the earliest opportunity.

Many will already have complied with that recommendation as a result of an article in GASIL 3 of 2008 following an AAIB [investigation](#) into a fatal accident to a PA-28R, but for those who did not, we re-iterate the advice.



GA Safety Evenings

The first of next winter's programme of safety evenings have been arranged and are listed below. Details of these, and others as they are arranged, are on the CAA's website www.caa.co.uk/safetyevenings.

All pilots and others associated with General Aviation are strongly encouraged to attend an event in their area. These start at 7.30 pm and last just over 2½ hours including an interval. In addition to the main speaker, guests with expertise on associated aviation subjects frequently assist, and those attending have the opportunity to win prizes donated by generous sponsors. Although the emphasis may be slanted towards the host organisation, the content is relevant to all forms of general aviation.

<u>Date</u>	<u>Area</u>	<u>Venue</u>	<u>Telephone</u>
08/10/2009	Little Snoring	Clubhouse - please check beforehand	01263 822868
13/10/2009	Halton	Kermode Hall, RAF Halton	01296 622697
15/10/2009	Sherburn in Elmet	Sherburn Aero Club	01977 682674
04/11/2009	Blackbushe	Bushe Café	077 887 13291
09/11/2009	East Midlands	tbd	01332 810444
01/12/2009	Middle Wallop	tbd	01264 772711
02/12/2009	Perranporth	Flying School Clubhouse	01872 552266
03/12/2009	Kemble	tbd	01285 771025
12/01/2010	Manston	TG Aviation	01843 823656
14/01/2010	Brighton	tbd	01757 289065
02/03/2010	Seething	tbd	07976 661784
04/03/2010	Gransden Lodge	Cambridge Gliding Club www.glide.co.uk	07801 398 714

Tailpiece

There are 3 essentials in aviation - airspeed, height and brains. Any two of these should permit survival, but one on its own is useless.