

GASIL



General Aviation Safety Information Leaflet

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If it's not working out . . .

A recent report involved an aeroplane whose pilot assessed that it was not accelerating sufficiently during its take-off run, so he abandoned the take-off. Although the aircraft in question was for some reason unable to stop before the end of the runway, it is important that we all remind ourselves before we line up on the runway what we shall do if the take-off is not proceeding as planned.



It is also a good idea to identify an 'abandon point' especially on relatively short runways, prior to which we can make a positive decision that if the aircraft has not achieved certain parameters we shall close the throttle and apply the brakes. On level ground, it is suggested that if the aircraft has not achieved 2/3 of its lift-off speed by the time it has reached a (previously identified) point 1/3 of the way along the runway, the pilot should abandon the take-off and consider his next actions. If the engine seems to be achieving full power, that may involve reducing the load, and/or perhaps waiting for a stronger headwind or drier runway before making a further attempt. A re-check of the weight and balance and performance calculations might also seem appropriate.

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Closed runway

Many aerodromes are notified in the UKAIP as 'PPR', prior permission required. Although in many cases such permission can be given by radio, we advise pilots to make a telephone call to their destination, even if it is not notified as PPR. There are often details about the aerodrome which affect arriving aircraft but may not be considered worth publishing in a NOTAM.

If permission is required, there is usually a very good reason. A recent incident involved a pilot landing on a runway which was closed for resurfacing. He had not apparently obtained the prior permission which was published as required, nor had he identified the fact that the runway was closed from the NOTAM which had been published. Since he had not made radio contact with the aerodrome either, there was a serious risk that the aircraft might have been damaged by an unseen object or lip on the runway.

Checking NOTAMs is easy through www.ais.org.uk, and many commercial providers offer NOTAM information on their flight planning software. UK airspace is congested and ignorance of the published information which is necessary for safe flight is no excuse.

Incomplete pre-flight checks

As readers of the May Occurrence Digest will have noticed, an aeroplane was reported as apparently being seen taxiing towards the runway with an engine cover rolling behind it. When it stopped at the taxi-holding point it was noticed that the pitot cover was still attached.

Whatever the reason for this particular incomplete pre-flight check, it is generally accepted that distraction is a frequent cause of such errors. Glider and Microlight rigging errors have been identified as being caused by the pilot being distracted, often by a well-meaning person interrupting the process. We need to leave people alone when they are involved in important work and checks; otherwise the pilot has no alternative but to start all over again from the beginning. When, as in many cases, there is a perceived time constraint on the process, the pilot may feel pressure to carry on from where he thought he had got to, rather than start again. Such assumptions have caused serious accidents in the past.



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Fuses

We have in the past suggested that replacing fuses (or resetting circuit breakers) in flight should only be attempted after due consideration, and only once the service protected by the fuse or circuit breaker has been allowed to cool down. The rating of the fuse or circuit breaker should be part of the consideration; for example a blown 60 amp fuse signifies a major problem in the electrical system. Unless absolutely essential, we suggest that any fuse changing should be done after landing.



However, changing a fuse, whether in flight or on the ground, requires that the person changing the fuse (and as licensed pilots we can do that) is able to find a spare of the correct rating. Do we all understand the rating system, and know where the spares are kept in our aircraft?

When it's all (?) over

Most of the Olympics restrictions are due to be lifted on 15th August, and the special chart issued for the period becomes no longer valid. Those of us who have restricted, or perhaps even stopped, our flying during the main Games events will be able to get back to normal. However, we need to think about that return to 'normal'.

The main airspace restrictions, including the Controlled Airspace (Temporary) will be lifted. The large CAA 1:500,000 Southern Chart (Edition 38) will again be the one to use. However, there will still be airspace, such as Weymouth and the prohibited area around the Olympic Park, where restrictions remain, and some new ones, such as Brands Hatch, will come into effect, as described in AICs and NOTAMs, and at www.olympics.airspacesafety.com. Equally importantly, any airspace restrictions which were lifted during the main Games will return to normal activity. For example, Cardington (D 206), Shoeburyness (D138) and Weston on the Green (D129) will revert to being active Danger Areas with effect from 16 August.

After the period of relative quiet in the South-East of England, it is likely that several aerodromes and strips will have organised fly-ins before the weather and darkness become a more pressing issue. Expect more activity, and remember that if we, and other pilots, have restricted or stopped flying recently, none of us will be as practised or capable as we would normally be in late summer. Take even more care than usual and allow for our own and others' mistakes!

Start-up

The AAIB's Bulletin 6 of 2012 contains 2 reports of aeroplanes whose engines accelerated to a high power setting on start-up. Both apparently surged forward. A Pioneer 300 collided with a container, causing substantial damage to the aircraft and injuring the pilot. The other aircraft, a microlight, actually took off and flew for a short time when the student pilot who had started the engine, and who had not strapped himself in, abandoned it in the expectation of an imminent collision with a hangar, suffering serious injuries. The aircraft was destroyed when it contacted the ground again.

The student in the microlight was apparently unable to reduce the engine power setting by manipulating the throttle controls. As articles in previous issues bear out, throttle disconnections are not unknown.

The report on the Pioneer notes that the throttle butterfly valves on its Rotax 912ULS engine were spring biased to the fully open position, and that if the throttle friction nut was loosened sufficiently the butterfly would move to the fully open position under the action of the bias spring. While there are different types of throttle control systems which are intended to prevent the throttle opening in similar circumstances, it is always important to check that the throttle, and its friction device, is set in the correct position for starting.



Every time we start an aircraft engine, we should be ready to stop it again if something goes wrong. That may take some time, so it is also a good idea to ensure that the area in front of the aircraft is clear of obstructions.

LAA Rally Sywell

We expect those who intend flying in the vicinity of Northampton Sywell during the LAA Rally between 30th August and 3rd September to be aware of the increased activity in the area, and the Restriction of Flying Order issued in AIC M092/12. Those intending to visit the aerodrome between 31st Aug and 2nd Sep should follow the procedures detailed in AIC Y107/2012, and we are sure that GASIL readers will do so.

However, previous experience, including reports from Aeroexpo at the same venue earlier this year, indicates that others may not follow the published procedures. In addition to complying with the procedures ourselves, we need to be prepared to encounter those who are not doing so. Despite publicity, some pilots will doubtless be encountered approaching the aerodrome from different directions, perhaps from ignorance, or, dare we say it, perhaps from sheer disregard for the procedures. There will also be pilots who have made navigation errors. Other hazards such as unexpectedly deteriorating weather may increase the risk of collision even more. Safety is paramount, and in accordance with the Rules of the Air, it is the duty of the commander of an aircraft to take all possible measures to ensure that his aircraft does not collide with any other aircraft.

Human factors indicate that a stressful environment may lead to our making errors. In order to reduce the likely stress during our arrival or departure to such a busy aerodrome, we must prepare ourselves physically and mentally for the probability that our approach will be balked at some stage for safety reasons. Physical preparation should include for example the carriage of sufficient fuel to make several attempts to follow the procedures, and then to divert if necessary. However, mental preparation is equally necessary, and our pre-flight planning should include study of not only the published procedures, but also the actions we should take if we are balked at the various stages of those procedures. 'Air rage' is probably as hazardous to our safety as the collision risk from another aircraft blundering into our flight path, and we should attempt, as always, to be as relaxed as possible about the likelihood of inconvenience.

Know your frequencies

Recently, an Air Traffic Radar Controller at an aerodrome asked a pilot to change to a particular frequency for Tower. It seems the controller had made a mistake, and passed the incorrect frequency to the pilot. The Tower Controller was unable to gain two-way communications with the aircraft.

No-one, not even an Air Traffic Controller, is immune from human error. The final approach does not give much time to identify such an error. However, if we as pilots have briefed ourselves about all the frequencies we are likely to use, and have kept up-to-date with NOTAMs and chart amendments from www.ais.org.uk, an unexpected instruction should trigger us to either confirm the frequency we have been asked to select, or be ready for a deathly hush once we have selected it.



The correct action subsequent to losing communication on a frequency change is of course to go back to the previous frequency and tell the controller we have failed to make contact, reading back the frequency we changed to. However, if we have insufficient time to do so, we must remember that there are many possible reasons why it may not be safe for us to land, and if we have not received a required landing clearance (by radio or lamp signal) we should go-around while we attempt to solve our communications problem.

Stop bars

We have in the past advised pilots that no matter what they fly, if they see a line of illuminated red lights across the taxiway in front of them they must stop before they reach it. No part of the aircraft is allowed to cross that 'stop bar' while it is illuminated. Even if Air Traffic Controller issues a clearance to take-off or line-up, that clearance does not allow us to cross the illuminated stop bar. Only after the lights are extinguished can we pass.

Practice forced landings and autorotations

When away from an aerodrome, Rule 5 of the Rules of the Air Regulations requires us to maintain a minimum distance of 500 feet from persons, vessels, vehicles and structures. When practising forced landings, we can sometimes find areas where we can descend below 500 feet above ground while still remaining within the law, in order to confirm as much as possible that the procedure would indeed have resulted in a safe landing.

However, we need to bear in mind that a practice can sometimes end up as reality. Engines have been known to fail to respond, even if the carburettor heat was applied for 30 seconds at normal power beforehand and frequent engine warmings were carried out on the way down. In the last Occurrence Digest we read of a helicopter crew whose practice autorotation turned into a real forced landing. Even if the engine responds as expected, we must also remember that human factors can lead us to continue the descent further than is sensible. We need to be able to climb above all obstructions ahead of us, and a go-around takes a certain amount of time and distance to complete. We must allow a safe margin for that go-around. And if we have come too low, or the engine response falters and we fail to climb as hoped, it is worth remembering that hitting the far hedge during a landing run is likely to cause less damage or injury than hitting it at flying speed during a failed go-around, or stalling into the ground while trying to climb over it.



Hold it there!

The article in issue 5 of 2012 with the above title prompted a reader to point out that it is not just wind which can cause rotor blades to flap and possibly cause damage. He warns helicopter and gyroplane pilots about the turbulence which can be produced by another helicopter if it hover-taxi nearby. The correct application of the rotor brake is vital, and where possible (and certainly if no rotor brake exists) a positive tie-down is advisable.



Flaps again

In a recent issue we drew attention to possible problems if flaps did not retract when carrying out a go-around. Those reading the May Occurrence Digest will have noticed that a BE200 experienced a flap failure to retract while carrying out stall training, which was only simulating flight in the circuit. Would we all be ready for the consequent performance loss in our own aircraft?

Flight logs and GPS

A recent infringement of Controlled Airspace by a student pilot was attributed to the pilot reading the wrong line from his flight plan and log (Plog). It is important that we carry some form of log, and note our actions, so that we can identify where something went wrong if we become unsure of our position, and also so we can reconstruct our flight later. However, the flight plan and log must be constructed in such a way that misreading is as difficult as possible. It helps if we write our actual time of arrival at each point, as we should, so we can identify the next line and read the desired heading from that. However, humans are far from perfect, and the log is not the only means of reminding ourselves what heading we wish to fly and for how long.

Turning points have to be identified from a chart. Many pilots write the next heading, and often the time to fly it, on the chart itself, and that seems to be one way of mitigating the risk of mis-reading a heading from the Plog. In addition, good pre-flight planning should include visualising the complete flight, so that the direction and amount of each turn has been rehearsed on the ground. Finally, loading our planned route into a GPS set and activating it before take-off will allow us, with a quick glance, to check that we are following that route in the air.



And before our readers throw up their hands in horror at the CAA recommending students follow a GPS track, let us emphasise once more that a GPS should not be a primary means of VFR navigation. Certainly students have to learn how to navigate without such aids, in part because of the potential errors described in [SafetySense leaflet 25](#), available like all such leaflets free for download from www.caa.co.uk/safetysense. However, the risk of a pilot, especially a solo student, making the error described above is real, and cross-referring to the planned GPS track is an eminently sensible way to manage that risk. If (and only if) pilots (and their instructors) are properly trained in the use of the GPS set they carry (as described in the Royal Institute of Navigation's GPS Syllabus, available from www.rin.org.uk/), then the technology which the majority of pilots already possess can assist learning, not stifle it.

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 and the FAA; however, this list is not exhaustive and must not be relied on.

Number	Applicability	Description
EASA 2012-0130-E	Aerophile 5500 Gas Balloons	Envelope rip panel
EASA 2012-0129-E	Eurocopter AS332, EC225	Main, intermediate & tail gear box
EASA 2012-0144-E	Eurocopter EC225LP	Main rotor drive epicyclic chip detector

Trim control stuck

We have been made aware of an incident which occurred to an instructor and student carrying out practice forced landing training in a Cessna 152 earlier this year. Having trimmed the aircraft to the airspeed for best glide during the exercise, when the instructor demonstrated the go-around from the approach he found it impossible to move the trim wheel again. Apparently a broken nylon bush had allowed the trim wheel to come off the spindle in flight. The pre-flight check had identified nothing abnormal with the trim system.



Returning to base with the trim set for glide was tiring, but sharing the effort to hold the force apparently rendered it manageable. However, being aware of the trim changes required with flaps set, the instructor opted to make a flapless approach to an into-wind runway. As the instructor notes, while a trim failure may not seem a particularly major problem if it happens in cruise flight, when the seizure occurs at one extremity of its travel it affect the handling considerably!

What do you say?

In their [Bulletin 6 of 2012](#), the AAIB have published a report on a fatal accident to a Tiger Moth last year. With the pilot and a passenger on board, the aircraft was observed to enter a loop from about 1,500 feet above ground. During the manoeuvre it was seen to enter a spin from which it did not recover. Both occupants were seriously injured and the passenger died later in hospital.

The investigation concludes that the pilot was not formally trained in aerobatics and had limited experience of spin recovery. In the report he is quoted as saying he had “carried out loops in the aircraft before, but did not consider that a loop constituted an aerobatic manoeuvre”.

The report draws attention to the advice given in [SafetySense leaflet 19 “Aerobatics”](#), available like all such leaflets free for download from www.caa.co.uk/safetysense. In commenting on spin recovery, it also quotes [Handling Sense leaflet 3](#), Safety in Spin Training, which points out that by far the best action is to initiate recovery *before* a spin develops; that is **centralise the controls as soon as control is lost**. However, if we are deliberately spinning or carrying out extreme manoeuvres we must be prepared for the case where we are too late for this to be effective, i.e. a fully developed spin. The spin recovery action may vary according to type; it is important to read the Flight Manual and follow the recommended technique.

The accident report concludes as follows: “The AAIB has investigated several accidents where pilots have carried out aerobatics with either insufficient training and/or at lower than recommended heights. It is not well understood why a pilot might disregard the recommended safe margins for carrying out aerobatics, although there are a number of possible reasons. Some of these may be: overconfidence, airspace ceiling restrictions in the area in which they are flying, the length of time it takes to climb up to a safe altitude or a wish to be seen from the ground. The reason for the loss of control during the loop could not be determined, but regardless of the reason, the manoeuvre was carried out at too low a height for the pilot to be able to recover from the subsequent spin.”

CAA Comment: Whatever risks we may be prepared to take when we are alone in the aircraft, we have a particular responsibility for the safety of our passengers, as well as that of third parties on the ground and in the air. We ought therefore to pay particular care when assessing the level of risk we accept in our flying with a passenger on board.

Air Displays and Restrictions of Flying

Many flying displays and other events, including those for the Olympic Games, will be subject to Restrictions of Flying this summer, as detailed (usually with maps) in Mauve AICs. Reminders, usually referring to these AICs, may be given in NOTAMs, as will details of other displays, and all are available through the AIS website www.ais.org.uk, which is where all AICs can be found free of charge. Displays and other major events taking place over the next few months of which we are already aware are listed below, but others are likely to appear in NOTAMs at short notice, and checks should be made immediately before flight on the web site or the AIS information line 0500 354802 (+44 208 750 3939 from overseas). Restrictions covering a large area are highlighted in **bold**:

13 Jul - 8 Sep	Weymouth area (Olympic sailing)
25 Jul - 9 Aug	Coventry (Olympics)
25 Jul - 10 Aug	Millennium Stadium Cardiff (Olympics)
26 Jul - 4 Aug	St James Park, Newcastle (Olympics)
26 Jul - 7 Aug	Old Trafford, Manchester (Olympics)
9-12 August	Eastbourne
11,12 August	Hadleigh Farm, Southend (Olympics)
15 August	Cromer
15 Aug - 4 Sep	Egham, London CTR (Olympics)
17-20 August	Weston Park, by RAF Cosford, West Midlands
17, 18 August	Portsmouth
18 Aug - 1 Sep	Isle of Man
19 August	Northampton Sywell
19 August	Whitby, Nth Yorkshire
23 August	Fowey, Cornwall
24 August	Clacton
26 August	Kemble
26, 27 August	Dunsfold, Surrey
27 August	Uffington, Oxon (West of Grove gliders)
27 August	Hoylake, west of Liverpool
29 August	Torbay, Devon
30 Aug- 2 Sep	Bournemouth
31 August	Dartmouth, Devon
31 Aug - 2 Sep	Windsor, London CTR (Olympics)
31 Aug- 2 Sep	Northampton Sywell (LAA Rally)
1, 2 September	Chatsworth, Derbyshire
1, 2 September	Shoreham
2 September	Morecambe
5-8 September	Brands Hatch (Olympics)
6 September	Pangbourne, west of Reading
8 September	Portrush, N Ireland
8, 9 September	Duxford
8, 9 September	Southport
14-16 Sep	Wales various (Rally GB)
15 September	Leuchars
16 September	South Shields
14 October	Duxford

In addition, as part of the Olympic Airspace changes, which are detailed on www.olympics.airspacesafety.com, the London Restricted Zone EGR112 and Prohibited Zone EGP111 are active between **14 July and 15 August**, and the slightly smaller EGP114 is active between **15 August and 12 September**. Pilots should also note that there are extensive areas of Olympic CAS(T) active in SE England between **16 July and 15 August**. Guidance on operating in the Class G airspace adjacent to the Restricted/Prohibited Zones and CAS(T) is provided at: <http://olympics.airspacesafety.com/class-g-safety>.