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It never rains, but

Thank you to all the readers who pointed out that despite our attempting to rectify our mistake in issue 6 by showing the newest version of our AIS freephone sticker on the front page of the last issue, the sticker itself turns out to contain incorrect information! Unfortunately, several of the stickers had been distributed already without anyone noticing, so please, please, everyone take note and make yet another amendment to your information.



The freephone number itself is correct. However, the London telephone number which is available for use if the freephone number cannot be accessed is 0208 7503939.

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Temporary Controlled Airspace (CAS-T)

The Director of Airspace Policy has announced that with effect from 1 September 2010, CAS-T will be notified as Class D Airspace; applicable access criteria and separation standards apply.

Royal Flights in fixed-wing aircraft will, whenever possible, take place within the

national ATS route structure. Standard ATC procedures shall be applied to Royal Flights when operating in permanent Class A, C and D Airspace. In all other instances, the airspace around the route will be designated CAS-T (Class D).

Dazzle

As the days shorten and the sun's elevation brings it close to the horizon for longer, pilots are more likely to experience glare on final approach. Even though the windscreen may have been cleaned (as it should be) carefully beforehand, it may have become contaminated by dead insects during the flight, and it may be subject to imperfections or minor damage. We continue to recommend, as we have in the past, that if pilots find that visibility on their final approach is affected by sunlight causing dazzle, they should consider either delaying their landing or choosing another runway.

However, both of these options require care in their implementation. Any consideration of delaying one's landing must also include other factors, including the amount of fuel available, the rate that darkness is likely to fall, and the possibility of radiation fog forming as the temperature drops.

When considering use of an alternative

runway, any cross-wind or tailwind will affect not only handling, but the aircraft's landing distance. Is the runway long enough? As [reported](#) in the AAIB's Bulletin 3 of 2010, a Zenair pilot discovered the hard way that any excessive energy on an out-of-wind approach will cause a proportionately greater increase in float and runway use. We must always be prepared to fly a go-around as soon as we notice that we shall not be touching down as close to the threshold as we need to.



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Flying training at unlicensed aerodromes

Further to our recent articles on unlicensed aerodromes, we wish to emphasise that only aeroplanes of less than 2730kg and rotorcraft of less than 3175kg may undertake flying training from unlicensed aerodromes. The commander of the aircraft and the operator of the aerodrome must both be satisfied on reasonable grounds that the aerodrome has adequate facilities for the safe conduct of instructional flights.

In assessing reasonable grounds both parties should consider the contents of CAP 793 "Safe Operating Practices at Unlicensed Aerodromes" and also Appendix 1 to JAR-FCL 1.125 (for aeroplanes) and Appendix 1 to JAR-FCL 2.125 (for helicopters), which have been applicable even at licensed aerodromes since the inception of the JARs. As a reminder, amongst other requirements, the base aerodrome, and any alternative

base aerodrome, at which training is being conducted, must permit the training aircraft to make a normal take-off at the maximum take-off mass authorized under calm wind (not more than 4 knots) conditions and temperatures equal to the mean high temperature for the hottest month of the year in the operating area, clearing all obstacles in the take-off flight path by at least 50 feet, with the powerplant operation and the landing gear and flap operation, where applicable, recommended by the manufacturer, with a smooth transition from lift-off to the best rate of climb speed without exceptional piloting skills or techniques.

If a Registered Training Facility or Flying Training Organisation wishes to relocate to, or operate from, an unlicensed aerodrome, the CAA will require confirmation from the company that this analysis has taken place.

Air Displays and Restrictions of Flying

Many flying displays and other events will be subject to Restrictions of Flying, as detailed (usually with maps) in Mauve AICs. Reminders, usually referring to these AICs, will be given in NOTAMs, together with 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. Air displays and other major events taking place over the next month or so of which we are already aware are listed below, but others are likely to appear in NOTAMs at short notice:

11 September	RAF Leuchars
15 September	RAF Scampton
16 September	Pangbourne, nr Reading
18 September	Southport, Lancs
19 September	South Shields, Tyneside
27 Sep -3 Oct	Open Golf, Celtic Manor, Newport, Sth Wales

Rescue parachutes

In the stalling accident described in the last issue, the rescue parachute had apparently been deployed, but the parachute was still in its packing. Such devices require a certain amount of time, and in the case of a descending aircraft therefore height, to have any effect. Usually, the slower the aircraft is flying the greater the height needed. Know what your safety equipment limits are, and be especially wary when operating outside them!

Control problem

The AAIB's Bulletin 7 of 2010 includes a report into a CT2K whose pilot experienced an apparent rudder problem after take-off. It seems that his rudder pedal limit stops and centring mechanism had been damaged by a mechanical towing aid which had been used to manoeuvre the aircraft on the ground. The investigation quotes the UK type certificate holder for the aircraft that they do not provide for, nor approve the use of, mechanical towing aids for the aircraft type, and are considering releasing a service letter on the subject of ground handling.

However, the report notes that the pilot managed to successfully land the aircraft on

the strip from which it had taken off, after two abandoned attempts. Without wishing to belittle the pilot's skill in making that safe landing, we wish to remind readers of the advice we have offered several times in the past. If we experience control problems in flight, or at any time if we consider our landing might be difficult, we should take time to consider whether to divert to an aerodrome with a longer, wider, or more into-wind runway. While not wishing to be over-dramatic, we should point out that in some circumstances the availability of a professional rescue service might also be advisable.

Escape route?

An aircraft owner has informed us that he recently noticed a disturbing apparent error in his aircraft maintenance. It seems that when he was looking carefully at his canopy jettison mechanism, he noticed that the jettison handle had been secured with locking wire instead of the frangible wire which was the correct material.

Jettisoning a canopy or door in flight is invariably the prelude to the attempted use of a parachute. If the escape route is

obstructed in any way, the consequences could be fatal. Although we have warned of the hazards of inappropriately routed electrical wiring in the past, a jettison handle which cannot be operated is likely to cause even more delay to (or indeed completely prevent) a successful abandonment. Pilots, ensure that your escape route is uncluttered and engineers, ensure the correct type of wire is used for a given situation.

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 web site 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 2010-0160-E	Blanik Sailplanes	Wing main spar
EASA 2010-0172-E	MD900	Main rotor lower hub assembly

Flapping

We often remind pilots of the hazards that the distraction of an open or opening door can cause. However, other noises can be equally disconcerting. Anyone who has heard a loose strap end flapping against the aircraft in the airflow will know how worrying it can sound. To prevent that worry, and the possible consequences of the attendant distraction, the secret as in so many other cases lies in careful pre-flight checks.



Weight and balance

We have reminded readers in the past of the need to ensure that an aircraft is loaded correctly, that the maximum permitted weights (or masses) for take-off and landing are not exceeded, and that the centre of gravity falls within the limits at all times. We have also drawn attention to the need to use the aircraft's actual basic weight as the basis for calculations.

The need to use the aircraft's actual basic weight should suggest to owners and maintenance organisations that any modifications to the aircraft which might result in a change of that basic weight

ought to be followed by a re-weighing of the aircraft, to ensure that it remains airworthy. However, we are aware that many owners and pilots rely on weight schedules which were completed a considerable number of years previously, probably because no major modifications have been made since then.

However, there may be a requirement in the individual aircraft's Maintenance Manual, or even the Flight Manual, for the aircraft to be re-weighed at specific intervals. The failure to comply with that or any other requirement from the manufacturer would of course render the aircraft unairworthy.

Illegal public transport?

The CAA prosecutes relatively few cases each year, around thirty. However, there are some offences which the CAA takes extremely seriously, and for which the Aviation Regulation Enforcement Department is likely to prosecute wherever there is sufficient evidence to proceed. One of these is illegal public transport, and it would be unfortunate indeed if misunderstandings of the law led to an individual or a club gaining criminal record.

If, for example, a member of a flying club were to ask another pilot to take him

to a destination, Article 267 of the Air Navigation Order might allow the cost of the flight to be shared between the club members. However the costs must be borne proportionately between those actually on the flight in question, and if the aircraft was to return from its destination with only one person on board, any costs of that return flight would have to be borne by that one person.

In order for passengers to be carried for valuable consideration, the operator would require an Air Operators Certificate.

Helicopters and wake turbulence

In its Bulletin 7 of 2010, the AAIB has published its report into the accident at Humberside in which the pilot of a Piper Cherokee lost control at a late stage of the final approach, and the aeroplane turned over on landing, seriously injuring him. The investigation concludes that the cause of the loss of control was most likely the wake turbulence of a helicopter which had recently made an approach and which was hover-taxiing close to the runway.

SafetySense leaflet 15 "Wake Vortex", available like all such leaflets from the CAA's website www.caa.co.uk/safetysense, describes the hazard and should be read by all pilots. It includes the advice that, when following a helicopter, pilots of light aircraft should consider allowing a greater spacing than would normally be used behind a fixed-wing aircraft of similar size. This is particularly applicable if the helicopter has been hovering, as it would when landing or taking off. The leaflet points out that AIC P064/2009 'Wake Turbulence', which is in the process of replacement, requires Air Traffic Controllers to provide specific separation distances and/or times between aircraft following each other on take-off or landing, but that VFR pilots are responsible

for their own separation. A lack of warning doesn't mean a lack of hazard!

The AAIB report notes that the turbulence from a hovering helicopter can cover an area out to a distance of 3 times the rotor diameter. As the photograph kindly provided by a reader shows, the turbulence can affect even parked aeroplanes if they are not tied down. Helicopter pilots can reduce the effect of turbulence produced from their own wake by minimizing time spent in the hover close to the paths of other aircraft. For example, they should quickly move well clear of the runway to which they have approached, especially when on the upwind side of it. Where that is not possible, and certainly if still within 3 rotor diameters of the following aircraft's likely flight path, they should place their helicopter on the ground as soon as possible.

Although ideally helicopter operations should be separated completely from aeroplane operations, that is not always possible. Where the two must operate together, wheeled helicopters should ground taxi rather than hover taxi, and to keep the hazard to obvious areas any hover-taxiing should follow the standard taxiways if possible and safe.



Safety in light twins

In the event of an engine failure at any time between starting the take-off roll and coming to rest after landing, commercial airliners are required to be able to either stop on the runway or achieve a safe rate of climb followed by a safe landing. Much flying training carried out in light twin piston-engined aeroplanes is structured to give future airline pilots the planning, flying and decision making skills to operate in that fashion. For example, pilots are conditioned to calculate a decision speed below which, if an engine fails they will automatically select idle power and brake to stop the aircraft on the runway, and above which, if an engine fails, they will apply the necessary control movements and continue the take-off to a safe height.

However, almost no training aeroplane is designed to the performance standard of an airliner. For most light twins, there is a gap during the take-off and initial climb when there is insufficient runway remaining to stop, and insufficient energy to simultaneously maintain control and climbing speed. For a given runway, that gap reduces with headwind, but increases with weight, altitude and temperature.

If an engine fails within that gap, a pilot may feel he is confronted with a highly dangerous situation. However, he is in no worse a situation than every pilot of a single-engined aeroplane. In fact, his situation, if he can remember and apply the basics, is probably less dangerous!

HandlingSense leaflet 1, available for free

download from the CAA website www.caa.co.uk/safetysense gives guidance on safe handling in light twin-piston aeroplanes in the event of an engine failure. The priority, as in any aircraft, is to maintain control. The aeroplane must not be allowed to stall. It must also be able to maintain direction, so sufficient force must be available to balance the yaw couple produced by the drag on the failed side and the thrust on the other. The pilot must produce that force primarily by deflecting the rudder, although a small amount of bank towards the live engine may also assist, as will reducing drag, mainly by feathering the propeller of the failed engine.

At low speeds, the rudder force may be insufficient to balance the couple, so to prevent loss of control the pilot may have to quickly reduce the power on the live engine. Within the performance gap, the combination of achieving a safe airspeed and directional control will invariably mean the aircraft must descend. Like his single-engined colleague after an engine failure, the pilot is now flying a glider (albeit possibly with a better glide angle because of the residual power) and must adopt the same procedure as that colleague. Aim to touch down into wind if possible, and without turning more than about 30 degrees from initial heading.

Of course, every pilot of a light twin knows all this already. However, we wish to remind you all of the importance of preparing yourself for the eventuality, and being ready to act accordingly. Brief yourself before every take-off.



File Photo

Spats

A [report](#) in the AAIB's Bulletin 5 of 2010 concerns a Cessna 172. It seems the hub of one of the main wheels came apart on landing, allowing the outer section of the hub, the tyre and inner tube to depart the aircraft. According to the investigation, the condition of the bolts and threads in the wheel hub suggested that either incorrect fitting or vibration had allowed the wheel nuts to unwind until there were only two or three threads on two of the bolts clamping the hub together.

However, the report points out that it is difficult to inspect a wheel properly when

spats are in place. Often only a small area of tyre and hub can be seen at time, so during the pre-flight inspection the aircraft must be moved, possibly several times, to provide a view of as much of the wheel as possible. Moving the aircraft may also provide an early indication of brake problems.



CAA Safety Evenings 2010-11

As previously announced, the responsibility for organising GA Safety Evenings for the coming season has been taken over by GASCo, the GA Safety Council, to which the CAA is a major contributor. The evenings will continue to be of value to everyone involved in general aviation, whatever they fly, operate or maintain, and logbooks will continue to be signed when requested as proof of attendance!

The events so far confirmed for the coming winter are listed below, and readers in the Staffordshire area should note that the event in Penkridge has been delayed from November to February. Organisations wishing to host such an evening during the coming winter should contact GASCo in the first instance on 01380 830584 or by email to ce@gasco.org.uk.

<u>Date</u>	<u>Area</u>	<u>Venue</u>	<u>Contact</u>
20/10/10	Rochester Aerodrome	Innovations Centre	01634 869969
03/11/10	Shobdon Aerodrome	Airfield Clubhouse	01568 708 369
11/11/10	Bristol International	Bristol & Wessex Flying Club	01275 472514
15/11/10	Sandbach, Cheshire	TBN	01889 508406
16/11/10	Manchester Barton	Clubhouse	nick.duriez@cityairportltd.com
24/11/10	Bournemouth	Bournemouth Flying Club	01202 578558
1/12/10	Shoreham	TBN	TBN
12/01/11	Elstree	Elstree Aero Club	02089 533432
25/01/11	Leeds/Bradford Airport	Multiflight	01132 387130
26/01/11	Sandtoft	Airfield Terminal	01427 873676
27/01/11	North Coates	North Coates Flying Club	01652 618808
23/02/11	Coventry	Coventry Aero Club	02476 301428
24/02/11*	Penkridge, Staffordshire	Haling Dene Centre	01889 882871
22/03/11	Kinross (Portmoak)	Scottish Gliding Centre	TBN
24/03/11	Inverness	Highland Aero Club	01463 713086
26/03/11	Prestwick Airport	TBN	TBN

* Date changed from previous issue