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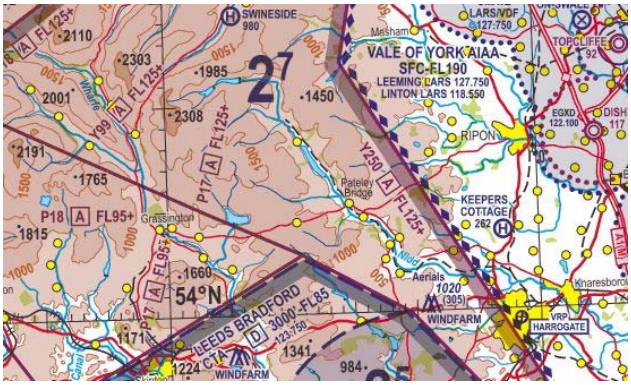
LARS units don't control airspace

Occasionally we hear of aircraft which had been receiving a service from a Lower Airspace Radar Service (LARS) Unit infringing Controlled Airspace shortly afterwards, perhaps during their request call to the ATC Unit controlling the airspace.



Even if they are aware of your intentions to enter controlled airspace, not every LARS unit has a direct telephone line to the ATC unit controlling that airspace. It is always the aircraft commander's responsibility to ensure he has the appropriate clearance, so remain outside controlled airspace until that clearance has been received. It is worth asking your LARS controller well in advance if he or she is able to hand you over to the controlling unit, and if the answer is no, tell LARS you are changing frequency and make the relevant call yourself. In any case, remain outside controlled airspace until positively cleared to enter.

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But the GPS is accurate . . . .

Two incidents reported in the last occurrence digest include reference to the pilot apparently using GPS indications as the primary navigation reference. In one incident controlled airspace was infringed, in the other the aircraft flew outside safe parameters on an instrument approach.

Positions derived from GPS signals are usually very accurate. However, this general accuracy can lead a pilot to believe that the instrument can do no wrong, which sadly is not the case. Since there is no integral monitoring system in most satellite navigation computers, there is no indication to the pilot that the information he thinks he is getting is incorrect. Only use GPS as a back-up to the normal primary means of navigation!

Fuel selection

A report from the BFU (German AAIB) concerns an accident to a Beech A36 which suffered an engine failure on final approach to its destination over a built-up area. The aircraft collided with trees, crossed a road and came to rest against an embankment. The pilot was killed and both passengers seriously injured.

The investigation discovered that the fuel selector was positioned to feed from the left tank. The right tank contained more than 85 litres of fuel, but the left tank contained less than 1 litre and there was no sign of fuel having leaked out around the damaged aircraft.

File photo

In an aircraft with more than one fuel tank, it is essential that the pilot manages the fuel in a safe manner. One of the most important features of that management should be to ensure that the aerodrome approach checks include selecting the fullest tank of fuel. This sets up the aircraft for the pre-landing vital actions, when the selection of that fullest tank must be positively checked.

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.

Aerodrome Traffic Zones

Rule 45 of the Rules of the Air Regulations 2007 refers to flight within Aerodrome Traffic Zones (ATZs). The Rules are specific, and depend on the type of aerodrome and the air traffic service notified as being available at the time.

Evidence suggests, however, that some people may be confused about the representation of ATZs on charts. Where an aerodrome is depicted with the elevation, e.g. 469 feet, this indicates that the aerodrome is 469 feet above mean sea level. ATZs, however, extend to 2,000 feet above the surface and therefore in this example, to fly overhead the aerodrome while remaining outside the zone, the pilot would need to be a minimum of 2,470 feet on the QNH.

Hear no evil . . . .

Readers may have read in last month's occurrence digest of a Cessna which apparently carried out several touch and go landings at an aerodrome without realising that air traffic control had been unsuccessfully trying to contact the pilot for some time. It seems the pilot had had no communications problems earlier in the flight. When later in his flight he heard no reply to his radio calls, he had incorrectly assumed that ATC had closed for the evening.

A radio failure is not usually regarded as a serious emergency. However, if the pilot is unaware of the failure, serious problems can arise. We might think we have missed ATC's call announcing that they are closing, but assumption can be hazardous. Remember that light signals are as much an ATC instruction as a radio call. If you are not receiving radio calls from ATC, unless you know for sure that there is no-one there, it is worth looking at the tower in case a light signal is being used.

EHEST

The European Helicopter Safety Team comprises over 50 participants representing manufacturers, operators, research organisations, regulators, accident investigators and a few military operators from across Europe. EHEST is committed to the goal of reducing the worldwide helicopter accident rate by 80% by 2016, with particular emphasis being placed upon improving European safety, and its deliberations and products are particularly relevant to GA helicopter operations.

EHEST has two working sub-teams:

EHSIT. The Safety Implementation Team has already produced two items of interest to GA pilots and trainers, available free at www.easa.eu.int/essi/:

1) A downloadable video on 'Degraded Visual Environment' ('DVE' – continued flight into bad weather/bad vis.) that is copyright free.

2) A leaflet "HE1 Safety Considerations" on helicopter hazards (DVE, Vortex Ring state, Loss of Tail Rotor Effectiveness and Static and Dynamic Rollover).

EHSAT. The Safety Analysis Team has published a report analysing a large number of the European helicopter accidents which occurred between 2000 and 2005. Of the 311 accidents covered, 103 involved aerial work, and 140 accidents involved other GA operations. 22% of the accidents involved fatalities with 68% of these occurring during the en-route phase of flight. The EHSAT report is downloadable through the portal gateway at: www.easa.eu.int/essi/ and is a useful source of information for Flight Instructors etc.

CAA VFR Charts and update service

Listed below are the publication dates of CAA charts issued recently, and those due for issue in the near future.

ICAO 1:500,000 scale

Northern England and Northern Ireland	Edition 34	5 May 2011

ICAO 1:250,000 scale

Sheet 5	Central England and Wales	Edition 9	2 June 2011
Sheet 6	England East	Edition 10	30 June 2011
Sheet 3	Northern Ireland	Edition 7	28 July 2011

As we have previously advised would be the case, responsibility for the VFR charts "updates" pages has passed to NATS. The updates are now available for download through the AIS website at www.ais.org.uk under the 'VFR Charts' heading. As with the NOTAM pages, users will require a username and password to log in, but there remains no charge for this service.

The updates, including the applicable frequency cards, are updated every 28 days, and should be consulted as part of flight planning.

Stop bars

Those who regularly operate from major aerodromes should be familiar with the 'stop bars' which lie across taxiways which lead to runways. These are lines of red lights which are illuminated whenever it is unsafe for an aircraft or vehicle to move closer to the runway than that point.

Those who do not normally operate from such aerodromes may not have seen a lit stop bar. However, on the occasions when we visit, we must be alert for them, because they are effectively a last line of defence against an inadvertent runway incursion and a potential collision. Whatever we think an Air Traffic Controller has cleared us to do, we must NEVER cross a lit stopbar!

Changing transponder codes

We have in the past warned of the possibility of unnecessarily alerting the Distress and Diversion cell with an unintended transmission of an emergency code while changing the transponder codes on many (usually older) devices. We have therefore advised pilots to select SBY before changing transponder codes on all but the most modern systems.

We have been made aware of yet another reason to avoid transmitting inadvertent emergency squawks, in particular the one indicating unlawful interference with the aircraft's flight. In the current security climate, military personnel who see even a fleeting indication of a 7500 squawk are required to take positive action, which we are led to understand may well result in an interception by a military aircraft. If we select standby before changing our codes we should avoid any such action being taken unnecessarily.

Helicopter formation flight

In a report from the BFU (German AAIB) we read of a Rotorway Exec which was being led by a R44 on a formation flight. The pilot of the Exec was alone in the aircraft. It seems that as the formation was making a frequency change the occupants of the R44 thought they saw the other helicopter climb then disappear. A witness on the ground heard two metallic noises and saw pieces fly off the Exec before it fell to the ground with the rotor apparently static.

The investigation concluded that one of the main rotor blades had made contact with the rear fuselage, thereby slicing off the tail rotor. It was not possible to determine the exact cause of that contact. However, the report highlights the pilot's lack of experience, especially on type. It notes the different handling characteristics of the Exec with the helicopter the pilot had recently completed his PPL training on, especially with regard to the trim change after engine failure although no evidence of such a failure could be identified.

Formation flying requires skill which in turn requires training and practice. The concentration required to maintain position on another aircraft, whether in a helicopter or an aeroplane, can leave little capacity for carrying out what might otherwise be routine tasks, and it is easy to forget even the basics. The investigation remarks on the need for the pilot to remove one hand from the controls when changing frequency and, as flying instructors (and many others) know, making a selection with one hand in the cockpit is likely to produce a movement in the hand holding the controls unless the pilot is concentrating on the aircraft attitude. An unintended pitch up when the pilot is working hard to hold position may easily induce a reaction to pitch down, which the pilot would under normal circumstances be aware was likely to lead to unloading the rotor and airframe contact.

Weather

We continue to remind pilots of the importance of studying an aviation weather forecast before flight, which covers the whole area over which the flight is intended to (or might) take place. Aerodrome forecasts (TAFs) for destination and possible diversion aerodromes are an important part of such study, but an area forecast is needed to cover the frequently high ground between aerodromes.

However, conditions change, and in addition to checking actual conditions against those forecast (check METARs conform to the TAFs) we need to be ready for the unexpected. We must also remember that most eventualities with a less than 30% probability will not appear in the forecast, and use our knowledge to consider possible unforecast deteriorations. It is also advisable to check just before flight if possible whether the forecast has been amended since our initial check of the information.

If we are caught out by unforecast weather, as several have been this year, remember the importance of making an early decision, and of remaining in an area of good weather while considering our options. Remember also that an air traffic control radar unit can be invaluable is providing assistance, and that if a radar unit is not easily contactable a PAN call on 121.5 MHz will bring the full power of the Distress and Diversion cell to our assistance.

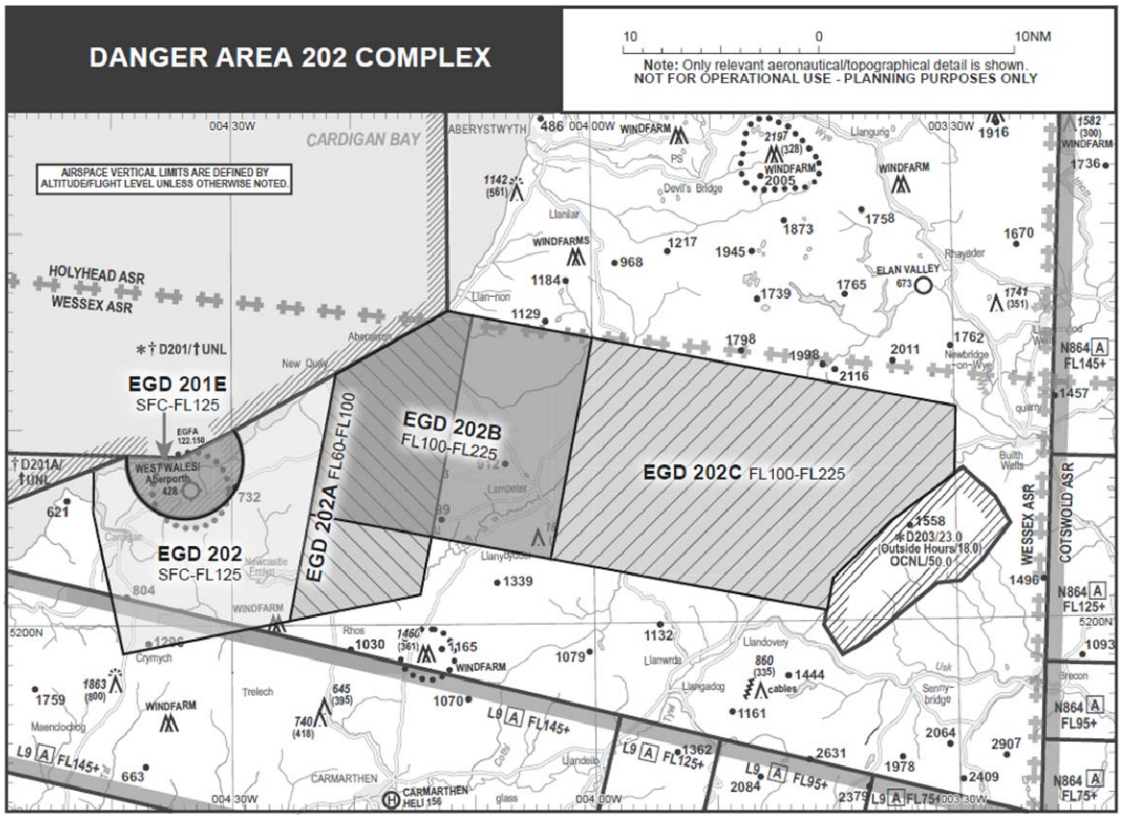
Post-maintenance checks

We have in the past reminded pilots of the need to be particularly conscientious in their pre-flight checks after maintenance has taken place, whether carried out by themselves or by engineers. The desire to fly an aircraft back to a home base which closes soon after the aircraft is ready for collection can exert strong pressure to hurry the checks, but we must remember that everyone is human, and we can all make mistakes.

When in a hurry, an imperfectly attached panel can easily be missed by both engineers and pilots. Whatever the time pressure, take particular care over the checks!

West Wales Danger Areas

AIC Y052/2011 announces the introduction on 28 July 2011 of new Danger Areas D202, 202A, 202B, and 202C which will be activated by NOTAM to accommodate flights by Unmanned Aircraft Systems (UAS). These stretch between West Wales/Aberporth aerodrome and the existing Sennybridge Danger Area D203. Although 202B and 202C have bases of FL100, 202A has a base of FL60, and D202 near Aberporth extends upwards from the surface. At the same time there will be changes to the vertical limits of part of D201, as shown.



Autopilots and electric trims

We have in the past advised pilots that electrical faults can cause unexpected control inputs from autopilots. We advise that pilots should be aware of every method of switching off their autopilots.

However, we should remember that an electric trim system is often connected electrically to that autopilot. As the crew of a Cessna 525 experienced recently, any fault which affects the one can easily affect the other. If a problem requires the autopilot to be disconnected, we suggest that the electric trim should also be disconnected.

File photo

More on ATZs

Readers will have noticed that a number of ATZs have been either disestablished or temporarily suspended in recent months. However, this does not necessarily mean that flying operations from and around the aerodrome has ceased. Circuit flying, take-offs and landings will almost certainly continue at the aerodromes, potentially up to the same traffic levels as before. Keep a good lookout, and comply with Rule 12 of the Rules of the Air Regulations 2007; conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome, or keep clear of the airspace in which the pattern is formed, and make all turns to the left unless ground signals otherwise indicate.

Wrong aerodrome

Many years ago a senior RAF officer became famous when he led a formation of fast aeroplanes for a 'run and break' to land at an aerodrome in the North of Scotland. The leader made all the necessary calls to join the traffic pattern at low level from a point corresponding to a long final position (4-8 miles out from the runway in use), and the Tower controller acknowledged them accordingly. He then looked out the window to watch the spectacle. However, even when the leader called "on the break to land" there was no sign of the formation.

Meanwhile, at an aerodrome some 10 miles further down the coast, the Tower controller there was surprised to be treated to the sight of four jet aeroplanes joining his traffic pattern at high speed without warning. Fortunately there was no collision with any aircraft already in the traffic pattern. Perhaps we should have said the senior officer became notorious!

While such a situation has been known to arise as a result of mis-setting radio frequencies, in this case the cause was a navigation error. Similar navigation errors continue to arise, as readers may have noticed when reading last month's occurrence digest. If no aircraft accident or injury results, we can all laugh about the incident, but hopefully publicising the occurrence will remind others of the possible serious nature of such a navigation error.

SafetySense leaflet 5 'VFR Navigation', available like all such leaflets through www.caa.co.uk/safetysense, reminds us all that when we are approaching our destination, we should not put aside our chart until we have positively identified the **correct** aerodrome. An 'overhead' join, as illustrated in the leaflet and in the poster which is also available on the same webpage, gives time to confirm our true position, and should be used if no other procedure is published. One reason we discourage straight-in arrivals is the difficulty of making certain we are in the right place!

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

Number	Applicability	Description
EASA 2011-0114-E	**Dassault Falcon 7X**	**Horizontal stabilizer pitch trim**
EAD CF-2011-17	**Bell 407 & 427**	**Hydraulic servo actuators**
EASA 2011-0128-E	**Turbomeca ARRIEL 2 engines**	**Hydro-mechanical metering unit**
EAD CF-2011-19	**Bell 206L series**	**Hydraulic servo actuators**
EASA 2011-0129-E	**Eurocopter EC 225LP, AS332C&L series**	**Intermediate gearbox fairing guttering**

Can't get the call in?

Recently we heard of a pilot who was a little late in making his initial call to the ATC unit controlling the airspace he desired to enter. As frequently happens, the reply was "stand by". When eventually the request for clearance was made, it was answered by "G-xxxx you are clear to enter controlled airspace at xxxx, in fact you have now entered controlled airspace and are under radar control".

The pilot was very grateful to the controller. He believes if the clearance had not been given it was unlikely that his turning circle would have allowed him to remain outside CAS, and admits that he had not only made the initial call too late, but had omitted to note down the DME range at which he should have started to turn away while awaiting the clearance. There but for the grace of God?

Air Displays and Restrictions of Flying

Many flying displays and other events this summer 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. 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:

7-18 July	Fairford (RIAT) - new charts
8-10 July	Silverstone
9 July	Yeovilton
9/10 July	Duxford
9/10 July	Swansea
12 July	Greenock
14 July	Shrivenham (Swindon)
15 July	Shawbury
15-17 July	Cholmondeley (SW of Manchester)
20 July	Culdrose
20 July	Lichfield, Staffordshire
21 July	Cranwell
22 July	Silverstone
22 July	Wittering
23 July	Lyme Regis
23/24 July	Southport
23/24 July	Windermere
30/31 July	Sunderland
5 August	Swanage
6 August	Newcastle (NI)
6 August	Cowes (Isle of Wight)
7 August	Blackpool
7 August	Rhyl (North Wales)
10 August	Falmouth
10 August	Minehead
11 August	Marham
11/12 August	Lowestoft
11-14 August	Eastbourne
14 August	Bristol
15 August	Whitby
17 August	Cromer
17 August	Weymouth
18 August	Dawlish (Devon)
18 August	Fowey (Cornwall)
18-21 August	Bournemouth
19 August	Duxford
19-21 August	Weston Park (near Cosford)
20/21 August	Shoreham
20 August - 3 September	Isle of Man
24 August	Torbay
25/26 August	Clacton
26 August	Dartmouth
27 August	Chester
28 August	Diss (Norfolk)
28/29 August	Dunsfold
29 August	Hoylake (Wirral)
29 August	Uffington (S of Faringdon)
2 September	Linton on Ouse
2 September	Chatsworth (Derbyshire)
3/4 September	Duxford
3/4 September	Portrush (NI)

Mandatory Permit Directives

The following Mandatory Permit Directive (MPD) has recently been issued by the CAA. Compliance is mandatory for applicable aircraft operating on a UK CAA Permit to Fly. MPDs can be found at www.caa.co.uk/mpds and will remain on the website available for download until they are published in CAP 661, Mandatory Permit Directives, which is published twice a year in January and July and can be found at www.caa.co.uk/cap661.

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/subscription > New User Subscription Registration, and choose the 'Safety Critical Information' category.

Number	Applicability	Description
Emergency 2011-005R1	**Pegasus Quik, QuikR, GT450**	**Sail reinforcement degradation**