CluedUp

SPRING/SUMMER 2014

Civil Aviation Authority

SAFETY MATTERS FOR GA PILOTS

CIRCUIT CLASHES

Strategies to cope with surprises

INSIDE

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Civil Aviation Authority

NEW BEGINNINGS

We all know general aviation has experienced its fair share of change over recent years, and more is inevitably on the way. However, one constant for us all has to be an unshakeable commitment to safety. *Clued Up* magazine has been providing vital hints, tips, suggestions and case studies for private pilots for the last six years with the sole aim of making recreational flying even safer. As head of the Civil Aviation Authority's new General Aviation Unit, I am pleased to be able to introduce this latest edition.

The changes that myself and colleagues are now discussing with industry groups will begin to make recreational flying simpler without compromising our enviable safety culture. Our goal is simply to cut down the costs and bureaucracy of general aviation, allowing you to do more of what you love – flying. Watch this space for more info.

After an unprecedentedly soggy winter I am sure the vast majority of you are desperate for a decent summer. However, if the unthinkable does happen and the British weather forces you to look further afield to clock up the hours, Rick Goddin gives the lowdown on some of the rules, regulations and etiquette of flying abroad. Those of you who do choose to tough it out in the UK this summer should be aware of some airspace restrictions in place around a couple of major sporting events. The Commonwealth Games and the Tour de France (yes, you read that correctly) are both covered by airspace restrictions, so please take time to read the details on page 20 to avoid running into trouble.

A couple of particular safety issues that are of increasing concern are also explored in depth in these pages. The number of airprox incidents involving military fast jets and light aircraft shows no sign of decreasing. Squadron Leader Pete Brombley gives some vital advice on how GA and military pilots can safely share Class G airspace. Also, renowned flight instructor Irv Lee takes a look at coping with clashes in the circuit.

With features on ATZ operations and Europe-wide changes to radio frequency spacing, as well as the usual analysis of incident and accident reports, this edition, hopefully, has something for everyone. As always, please feel free to let us have feedback by emailing infoservices@caa.co.uk.

Enjoy this edition.

Tony Rapson
Head of the General Aviation Unit
Civil Aviation Authority

> Our goal is simply to cut down the costs and bureaucracy, allowing you to do more of what you love – flying

An electronic version of this magazine is available at **archantdialogue.co.uk/cluedup**
To keep up to date on all airspace safety issues, follow **@airspacesafety** on Twitter.
CAA Flight Operations Inspectorate (General Aviation), Safety Regulation Group, CAA, Aviation House, Gatwick Airport South, West Sussex RH6 0YR ***caa.co.uk***

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What's inside...

Clued Up magazine brings you the latest news in aviation safety, topical issues, advice and contribution from pilots, air traffic controllers and safety experts from across the UK's General Aviation community

The trouble is, a bout of 'air rage' is the last thing any pilot needs – p15

AIRSPACE & SAFETY INITIATIVE

Airspace and Safety Initiative at AeroExpo 2014

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- How to prevent airspace infringements
- The importance of good pre-flight planning and the tools available
- How to join the circuit and land safely
- All GA related matters

www.airspacesafety.com

Meet the CAA's GA Unit

Sunday 1 June – 11.30am - 1.30pm, main seminar hall

The General Aviation Unit will be holding a major briefing event at this year's AeroExpo with Government ministerial presence. The session is open to anyone attending AeroExpo and will be an opportunity to ask questions and help set the agenda. Andrew Haines, Tony Rapson and members of the unit will be on hand to discuss anything and everything in the main seminar room.

For tickets and more information visit **www.aeroexpo.co.uk**
For more information about the GA Unit **visit www.caa.co.uk/ga**

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NATS

Ministry of Defence

Civil Aviation Authority

'Better for GA' unit gets to work

WITH AN AIM of making the UK the best country in the world for general aviation, the new GA Unit has opened for business.

The move is the latest demonstration of the CAA's determination towards being a better regulator by reducing and improving regulation of this key part of UK aviation.

The new unit is dedicated to effective regulation to support and encourage a 'dynamic' GA sector. It will make a key contribution to fulfilling the Government's aspiration for general aviation to enjoy a safety regulation system with the minimum necessary burden that will empower people to make responsible decisions to secure acceptable safety outcomes.

Chief Executive Andrew Haines said: "I have been the first to admit that the way the CAA has regulated the UK's GA sector has sometimes been disproportionate, and is in need of reform. The launch of the unit is a genuine indication of our commitment to regulate in a sensible and proportionate way.

"Of course, where there are clear safety justifications, the CAA will regulate to protect UK citizens, however we also recognise that we need to do that in a way that equally encourages a vibrant GA sector for the UK."

He added: "The new unit will improve efficiency and create greater transparency and accountability. The GA Unit has been set up in conjunction with government ministers Grant Shapps and Robert Goodwill in direct response to the coalition Government's GA Red Tape Challenge, which has made us take a long, hard look at how we regulate the GA sector.

"I am delighted that our work in this area is being strongly supported by such key government ministers and by Patrick Ky, the new Executive Director of the European Aviation Safety Agency (EASA), all of whom are key partners in this important transformation."

Commenting on recent achievements and future work, Tony Rapson, Head of the GA Unit, said: "We have been working with both the Light Aircraft Association and British Microlight Aircraft Association to delegate oversight and support of nationally regulated Permit to Fly aircraft. This will devolve our airworthiness tasks and introduce a more proportionate approach.

"I expect the transitional work to be completed by September this year. We also plan to reduce the burden on maintenance organisations under Part M by removing the requirement for an approval to work on individual aircraft types, saving £1,600 for each type. And we propose to allow many Permit to Fly aircraft to fly at night and in instrument conditions, giving them the freedom they have wanted for so long.

"We also recognise that much of the regulatory burden imposed on the GA sector originates in Europe. That is why my team and I will actively engage with EASA to achieve better outcomes for UK GA. Specifically, we will work with EASA to deliver its general aviation road map, which will reduce regulatory burdens on EASA aircraft."

STAPLEFORD FLIGHT CENTRE

Work already completed to reduce the regulatory burden includes:

- A project to deregulate single-seat microlights
- Allowing handheld radios in Permit to Fly aircraft
- Changing the requirement to reduce the amount of classroom training required for student pilots
- Allowing gyroplanes to be used for self-hire

Other proposed changes are:

- Reducing the requirements for flight testing prototype or modified aircraft to encourage innovation
- Allowing balloon pilots over 65 to continue as the single pilot of commercial balloon flights
- Submitting to EASA a new alternate training syllabus for private pilots that is more in keeping with current needs
- Reducing the number of questions in initial pilot exams to the minimum required

More detail of the achievements so far and future work is available at *caa.co.uk/ga*

Later this year the CAA will also publish a review of the last 10 years' worth of GA safety data. This will influence a wider public consultation on its overall approach to the sector. The results of this will help to develop the implementation of a proportionate and risk-based approach to our wider regulation of the GA community and act as the principal foundation for all future work and decisions.

Tony Rapson added: "I am very grateful for the support the GA community has given to me and my team in setting up the unit and helping us set our priorities. This has to be a partnership if we are to deliver real change."

The GA Unit will be holding a major briefing event at this year's AeroExpo at Sywell Aerodrome on Sunday 1 June 2014 with Government ministerial presence also planned. The session is open to anyone attending AeroExpo and there will be an opportunity to ask questions and help set the agenda. Andrew Haines, Tony Rapson and members of the unit will be on hand to discuss anything and everything in the main seminar room.

TO KEEP UP TO DATE WITH CAA NEWS GO TO *CAA.CO.UK* OR ALTERNATIVELY FOLLOW US ON *TWITTER.COM/UK_CAA*

Aircraft ownership made easier

IF YOU OWN AN aircraft overseen by the LAA or BMAA then spare a thought for the work they do in airworthiness – and in bringing new aircraft to the market.

This is because both the LAA and the BMAA have made great progress in having a say in a new approval structure in an updated version of CAP553, which is the document that sets out the British Civil Airworthiness Requirements (BCAR).

The new airworthiness requirements are the first to be wholly developed by a joint approach with bodies of the GA community. It's hoped that because of this, all the grey areas and annoying aspects of previous structures will have been addressed.

The new requirements will bring greater clarity to how aviation companies undertake airworthiness tasks on behalf of the CAA, which says the change brings a more proportionate approach to regulating recreational aviation.

Under the updated BCAR an approved organisation will be able to provide design, construction, maintenance and continuing airworthiness management oversight and support of Permit to Fly aircraft. Additionally, there's a provision for organisations holding this approval to give oversight of other approved organisations on behalf of the CAA.

Costly flight with a drone

YOU'LL NO DOUBT have seen an increase in the number of model aircraft and drones being flown by the public, and the first person has been prosecuted for illegal and dangerous flying of one.

The UAV was flown in restricted airspace over a nuclear submarine facility, as well as too close to a vehicle bridge. The drone ended up in the water near to a submarine testing facility operated by BAE Systems.

How did investigators know? There was a video camera fitted to the device and the footage showed that it had skimmed over the busy Jubilee Bridge over Walney Channel, well within the legally permitted 50 metres separation distance required. The UAV had also flown through restricted airspace around the nuclear submarine facility before it inadvertently landed in the water. The UAV was traced to a Mr Knowles of Barrow-in-Furness, who admitted to building the device himself and operating it on the day in question. Both offences breached the UK's Air Navigation Order and Mr Knowles was prosecuted and found guilty in April. He was fined £800 at Furness and District Magistrate Court and the CAA was awarded costs of £3,500.

The CAA said the conviction sent a message to recreational users of UAVs that the devices are subject to aviation safety rules. Anyone using unmanned aircraft for 'aerial work' requires a 'permission' to ensure safety standards are being adhered to and the operator is fully covered by indemnity insurance. In some cases, they have to sit the PPL Air Law exam.

Anyone using a UAV recreationally can also seek advice from established model aircraft clubs who will have detailed local knowledge of airspace restrictions. There's more information at *bmfa.org*.

ANTONY NETTLE/ALAMY

Laser pen trio prosecuted

LEICESTER CROWN COURT dealt with a case in April involving three young men who pointed a green laser pen at inbound aircraft to East Midlands Airport.

A green laser is 35 times brighter than a red laser and can cause immediate blindness followed by blurred vision.

Alex Aaron Parker (19), Craig Appleby (20) and Luke Walters (21) were caught outside the airport's perimeter fence and the targets on final approach were a Monarch Airbus A320 flight inbound from Lanzarote, a passenger aircraft from Spain and a cargo flight from Switzerland. The trio even pointed at workers in the Air Traffic Control tower.

All three, from Loughborough, admitted endangering the safety of the aircraft by acting in a manner likely to endanger aircraft. Parker was sentenced to seven months detention and Appleby and Walters were each given five months custody, the latter receiving shorter sentences for pleading guilty at an earlier stage than Parker.

Sentencing, Judge Simon Hammond said: "It must be clearly understood if anyone uses a laser on planes coming into land, they must expect custody. The dangers are obvious and pilots have to be at their most vigilant when landing a plane full of passengers."

Pilots are not allowed to fly for 24 hours following an incident and have to have their eyes checked.

Tool troubles

SHORTLY AFTER DEPARTURE from Lee-on-Solent a PA-28 pilot declared Mayday saying he had a mechanical failure, a 'trim runaway' was the phrase used. The AGO pressed the crash alarm and was about to inform the relevant authorities when the pilot cancelled his Mayday call and said he had regained full control of the aircraft, which landed safely with no injuries. A gliding club member had seen 'a spanner' falling off from the aircraft as it took off, and an 11mm spanner was found on the runway.

New ratings for IMC flying

EASA SAYS IT has decided on "a more flexible approach for GA pilots to fly in IMC" from April.

Called a 'Decision' in EASA-speak, it means there are now three new pathways to obtain a rating with the privilege to fly in IMC: there's a competency-based instrument rating (CB-IR), an En-route Instrument Rating (EIR) for private and commercial aeroplane pilots, and the Sailplane Cloud Flying Rating (SCFR) for sailplane pilots.

EASA has now published Acceptable Means of Compliance (AMC) and Guidance Material (GM). This follows the European Commission's proposal in October 2013 to allow the UK CAA to continue issuing the IMC rating for pilots up until April 2019.

Spot the change on charts

BY NOW PILOTS should have seen the new 1:500k and 1:250k VFR charts – if you haven't, you need to update yours to stay legal.

The main changes are how airspace is shown. The class letter of airspace was previously shown in colour against a white background, but now they stand out more easily because the whole box has colour and the lettering inside is white. There's now also a white halo effect around all aeronautical information annotations that are located over land, and on airspace annotations embedded in airspace boundary tints.

Another airspace improvement is the addition of coloured tints on every single airspace boundary – even internal boundaries of controlled airspace. This means it's now much easier to see exactly where airspace begins and ends.

Airspace heights are now written along the leading edges of airspace boundaries so you no longer have to swivel the map round or 'hunt' for where the heights are. It makes it particularly easy to see where a boundary is next to airspace with higher base level. NATS has also made it easier to see who controls what airspace, by removing duplicated controlling authority names.

/ NEWS IN BRIEF

RALLY REMINDER

This year's Light Aircraft Association Rally will again be held over the weekend of 29-31 August at Sywell Aerodrome, Northants. It's always a good event and packed with things to see and do, but don't forget that if you are intending to fly in you will need to book an arrivals slot time and you must read the rally AIC, which is available on the LAA's website (*lightaircraftassociation.co.uk*).

GETTING YOUR MET UP-TO-THE-MINUTE

The Met Office has come up with a range of improvements to provide up-to-the-minute information on its mobile app, mobile website and main website.

They include:

- Hourly forecasts – The Met Office now provides hourly forecasts for the first two days of the forecasting period. Days three-five have forecasts provided for every three-hour period.
- Additional forecast locations – The number of forecast locations have been increased to approximately 7,000.
- International Locations – You can now search for a five-day weather forecast for international locations on both the mobile and desktop site.
- Mobile App Warning Push Notifications – Users will have the option to receive severe weather warning push notifications on their phone every time a weather warning is issued in a chosen area.

For more information, go to *metoffice.gov.uk*

STAYING OUT OF TROUBLE

City Airport & Heliport and Mainair Flying School in Manchester have won the NATS Infringement Prevention Award due to their ongoing efforts to cut incursions into controlled airspace.

The nomination was made by the NATS air traffic control team at Manchester Airport, which has been working closely with both since 2006.

City Airport's operations team has run safety events for pilots and is working with NATS on ways to reduce the risk of airspace infringements in the future.

Mainair Flying School offers its pilots briefings on the use of GPS equipment and navigation, and if any do infringe they are offered extra training, with the lessons learnt then shared with other flying schools.

Chris Copple, Chief Flying Instructor of Mainair Flying School, said: "By teaching students and pilots awareness when flying close to controlled airspace and good navigation planning, we can significantly reduce infringement numbers."

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Project PEGASUS is a joint initiative aimed at reducing the threat from organised crime and terrorism involving aircraft.

NCA National Crime Agency

Border Force

ASSOCIATION OF CHIEF POLICE OFFICERS

Second five-year term for CAA Chair Dame Deirdre

DAME DEIRDRE HUTTON has been reappointed as Chair to the Civil Aviation Authority (CAA) for a second five-year term.

During her time as CAA Chair, Dame Deirdre has overseen a huge amount of organisational change within the CAA. Over the next five years she will continue to steer the CAA's modernisation and change programmes.

Aviation Minister Robert Goodwill said: "I am pleased to confirm this reappointment, which recognises the successful contribution that Dame Deirdre Hutton has made to the Civil Aviation Authority. I am confident that this good work will continue in her second term as Chair."

Dame Deirdre has been Chair of the CAA since 1 August 2009 and previously served as Chair of the Food Standards Agency, Chair of the National Consumer Council and as a member of the Board of HM Treasury. The reappointment process for the position of CAA Chair has been run according to the Office of the Commissioner for Public Appointments (OCPA) guidelines.

Radar frequencies are being eyed up for mobile phone use

WE'VE ALL RELIED on a controller using radar to help us out, but an idea suggested by the Government could see some of the bandwidth of radars used for commercial use.

Civil and military primary radars currently run between 2.7GHz to 2.9GHz but the Government has announced it is eyeing up 100MHz of this band for commercial use.

The CAA has been tasked to look into the idea using funding from the Department for Transport and stresses that at the moment it is only exploratory work to see if it would be safe to do this. There's some concern over commercial organisations being able to share frequencies so close to those being used by radar controllers. This is why the CAA will also have to demonstrate the potential impact of introducing commercial communications services into the band.

Mark Swan, the Director of the CAA's Safety and Airspace Regulation Group, said the project might also be an opportunity to evaluate new surveillance technology. "We need to identify whether wider benefits, in terms of reduced costs and improved performance of surveillance capabilities, could be delivered while meeting the Government's spectrum release aspirations," he said.

Using part of the radar band for other kinds of communication could potentially throw up a number of compatibility issues with the radars operated by civil air traffic control providers, military aviation and naval forces, civil maritime stakeholders and the Met Office.

Some early feasibility validation work with industry has now begun.

Watch out for the Reds

The Red Arrows' 2014 display season is under way, so don't forget to give them a wide berth. One of the easiest ways to check on their temporary airspace restrictions is by checking Notams on the AIS website (NATS), or by calling the dedicated AIS freephone facility on 0500 354 802. Other ways to check are:

- The Aeronautical Information Publication (AIP), AIP Supplements and AICs at *www.ais.org.uk*.
- Check Notams on 020 8745 3451 or 3450 (24-hour facility).
- SkyDemon Light is free to use (*www.skydemonlight.com*) and provides graphical Notams and generates alerts when a planned route crosses controlled or restricted airspace.
- Notams are also available in the form of Pre-Flight Information Bulletins (PIBs) using a live database. PIBs can be accessed through the NATS website *www.nats.co.uk*.

New flight ops head

ROB BISHTON, a senior airline executive with a wealth of industry experience, has taken over as Head of the CAA's Flight Operations department.

He has joined the CAA from Fastjet Plc, where he was Group Operations Director. He had previously enjoyed several prominent positions with easyJet, including Head of Flight and Aircraft Operations and Chief Pilot, and Astraeus Airlines as Director of Flight Operations and Flight Training Manager. Rob is still a current A320 and B737 captain and instructor and was formerly type rated on B757s and 767s. He has also held helicopter type ratings.

Medical system under review

A REVIEW OF MEDICAL services is to look at all aspects of the work of the CAA's Medical Department to ensure UK pilots and air traffic controllers are receiving the most suitable and efficient service possible.

The review will seek the opinions of key stakeholder groups with a full formal public consultation to follow later in the year on any proposals that emerge.

The CAA's Medical Department currently oversees the medical certification process for 16,000 commercial and 30,000 private pilots holding UK issued European Aviation Safety Agency licences as well as the medical certificates for air traffic controllers.


Civil Aviation Authority

Application for Initial Issue of a PPL (A) or (H) or LAPL (A) or (H) and/or a Flight Radiotelephony Operators Licence

1 INTRODUCTION

Forget paper now go online

THE DAYS OF FILLING out paper forms and posting your logbook to the CAA to have a flying licence issued are over.

Instead, pilots can now do it all online and there is one site for private pilots and one for commercial pilots.

Pilots now have to attach an electronic verification form supplied by their flying school, rather than submit their physical logbooks.

Those wanting a Flight Radiotelephony Operator's licence can also use the website, as can those who have completed training for a Light Aircraft Pilots' Licence (LAPL).

Pilots with national or JAR licences can convert them into the European equivalent online too, something you are now obliged to do to continue flying aircraft certified by EASA.

The CAA has worked with AOPA and the BBGA to ensure the online application could work, and it will continue to develop further online forms for other aspects of paperwork.

The sites are *caa.co.uk/commercialpilots* and *caa.co.uk.privatepilots*.

Handheld radio issue resolved

LATE LAST SUMMER the CAA completed a technical review of hand-held radios and concluded that those meeting certain ground-based technical standards may also be used for airborne operation, thus enhancing safety for aircraft which cannot use a fixed radio set.

The approval means that pilots of non-EASA aircraft, which include microlights, kit-built and vintage aircraft, can now use handheld radios outside of Class A, B and C airspace.

The CAA says this result is a great example of its intent to introduce a more proportionate and risk-based regulatory regime for the UK GA sector, and is just a small example of how the new GA Unit is actually doing some real good for pilots.

GA Programme Manager Mike Barnard said that those who can't have a fixed radio set now have a viable and safe alternative. "The latest handheld radios now have equivalent performance capabilities to fixed radios but without the need to modify aircraft systems."

"Allowing their use in flight will greatly improve the ability of pilots to build a mental picture of other airspace users, positively contributing to safety in the GA sector."

Have you checked your licence?

PILOTS WITH UK CAA 'National' (non-JAR/Part-FCL) licences flying 'EASA aircraft', such as Piper PA-28s and Cessna 172s face restricted privileges if they haven't already converted them to equivalent EASA licences.

Although the final conversion date for National non-JAR licences for commercial and private pilots is April 2015, EU regulations mean that pilots who were not in possession of a European licence by April 8 this year will be restricted when operating an EASA aircraft to the privileges of the new European Light Aircraft Pilot Licence (LAPL).

This means the licence privileges are restricted to:

- private VFR operations
- flying single engine aircraft of 2,000kg MTOM or less
- a maximum of three passengers,
- flying without instrument or instructor/examiner privileges.

National licence privileges may be restored upon completion of the conversion process to a Part-FCL licence. An IMC Rating can be restored on the new EASA PPL(A), CPL(A) or ATPL(A) as an Instrument Rating (Restricted) IR(R). The IR(R) cannot be included in a LAPL(A). Pilots wishing to keep IMC Rating privileges must hold a PPL(A) or higher licence.

Pilots flying EASA aircraft with valid JAR licences issued after January 2000, and pilots flying National Annex 2 aircraft (e.g. microlights, amateur-builts, vintage aircraft, and gyroplanes) using either a CAA Licence or an NPPL are not affected.

Clear to renew FAA certificates in the UK

PILOTS IN THE UK who have an FAA Certificate no longer need to travel to the U.S. to comply with identification rules.

In the past, UK pilots have expressed annoyance at the cost of having to fly and travel in person to an FAA Flight Standards District Office in the United States. The CAA has listened and persuaded the FAA that our ID can be verified in the UK at the CAA's public counter at its Gatwick offices on Mondays and Fridays, between 08.30 and 16.00.

The process is only applicable to pilots holding a UK-issued National or EASA licence, who live outside the U.S. and currently hold FAA pilot certificates. Pilots have until October 2018 to have their FAA certificate reissued.

Applicants will need to visit the UK CAA public counter service at Aviation House, South Area Gatwick Airport, West Sussex RH6 0YR in person, with a completed form SRG 2110. There's a charge of £44 and the CAA sends the relevant paperwork to the FAA licensing centre in Oklahoma City.

Still confused? Email *FCLWEB@caa.co.uk* or *foreign-verification@faa.gov* to explain your position.

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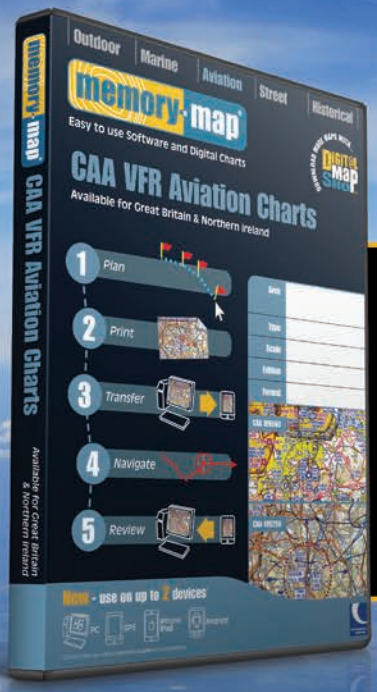

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AIR **RAGE!**

Being cut up or suffering from poor airmanship in the circuit annoys most pilots, but there are ways to deal with it without losing your cool

PHOTOGRAPHS BY SIMON FINLAY/BRIAN BARR | WORDS BY IRV LEE

We've all been there – settled in the circuit, speed, height and track spot on, a good idea of who's where in front of us and thinking about the approach and landing when someone suddenly pops up on the radio and announces they've joined just ahead, or they're coming straight in, or the person in front extends their circuit into the next county...

At some airfields on busy days it's enough to make anyone see red. The trouble is, a bout of 'air rage' is the last thing any pilot needs – and Mandatory Occurrence Reports and CHIRP Newsletters suggest that such incidents in the circuit are on the rise.

Certainly around a non-controlled airfield, predictability in any pilot's actions is a major safety net for others. At the same time, when one pilot departs (unannounced) from normal practice for whatever reason, it's vital that we are ready to deal with poor airmanship or unusual procedures without becoming distracted ourselves.

Flying around my part of the UK, many airfields and strips have their own circuit idiosyncrasies, permanently amending the ➔

rectangular standard circuit, or they have specific 'avoid' areas so that some part of the circuit has to be flown tighter in, or more often, further out, than the standard circuit procedure.

These local adjustments might be necessary because of regulated airspace nearby (Brimpton with Aldermaston next door), or perhaps to reduce noise for neighbours (the climb out from Compton Abbas 26), a safety issue (Popham's Esso fuel station just before the threshold of 26), or operational reasons (Thruxton's runway 25, with helicopter circuits on one side and fixed-wing on the other).

The solution (either pre-departure phone calls or a few clicks on a webpage) is so simple it's hard to understand why some people still fly to a destination without researching the target airfield and any alternates. Electronic tablets and software are, of course, starting to replace kneepad sheets, but the principles remain the same – thorough pre-flight planning is essential.

Anyone reading internet forums immediately after major UK GA fly-ins will almost inevitably see comments and complaints about pilots flying into well-publicised events, but not complying with pre-published instructions and leaving minor chaos and sometimes fear in their wakes: one example being almost 50 airspace infringements co-incident with a popular aviation event in 2013. And don't think that this, admittedly minority of pilots, save such behaviour for major events – they're likely to exhibit the same attitude throughout the year at their chosen destinations around the country; the only difference is that small single occurrences don't get the same exposure as poor airmanship displayed at busy fly-ins.

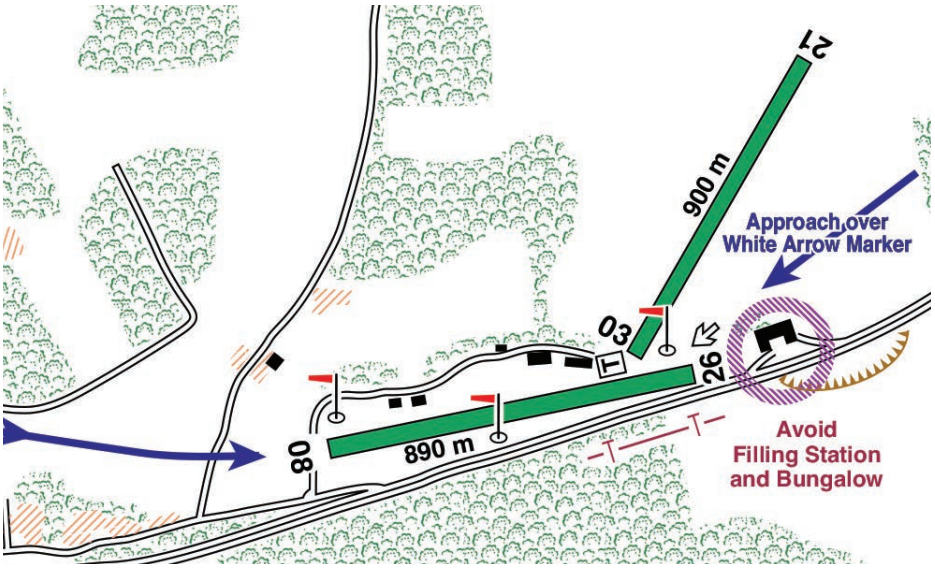
Most pilots have the potential to be distracted by what is perceived as displays of poor airmanship from others, especially in the circuit where the other person might remain in sight for longer than an en-route encounter. It's very easy (and wrong) to over-concentrate on poor airmanship to the detriment of keeping focused on your own flight and losing vital situational awareness as a result. Issues such as an aircraft observed cutting into the circuit at an inappropriate point, or calling 'long Final' at an uncontrolled field with a busy, active circuit, or a relatively slow aircraft observed extending downwind without announcing their intentions yet with faster aircraft behind, all have the potential to distract.

The circuit is always a busy phase of flight, so it's vital to give any distractions the necessary attention and no more, adapting your own flight as quickly as possible to regain a safe environment. A number of recent reports highlight incidents of unexpected traffic transiting through an airfield's circuit. Apart from the obvious need for those pilots to be more diligent in pre-flight planning, such an encounter should not cause other pilots in the circuit to experience landing difficulties a few minutes later.

Once an incident has happened in the circuit, and a plan formed to deal with it (speed adjustment against an aircraft ahead, or leaving the circuit temporarily to settle down), allowing the incident to distract you from your primary task of flying your aircraft is more likely to spoil your day than that of the other pilot.

While many spacing problems in the circuit, no matter how they were caused, can be resolved and mitigated with some speed adjustment, straight and level flight at a speed just above the '1G stall' is perhaps not best demonstrated at 1,000ft on the downwind leg. Small adjustments to speed – often including flap to provide better lookout while doing so – will be quite safe, but it is never wise to fly below approach speed, except in the flare inches above the runway before landing, or perhaps in a Vx climb to clear an obstacle.

Some situations to regain safe spacing against an aircraft ahead might even mean leaving the circuit, perhaps climbing out of it, or extending downwind. A magazine article cannot advise what to do in every specific situation, and to try and do so could cause more problems, but be aware that inflexibility could be a killer, whereas flexibility and fast adaptation might save the situation.



Bottom left: Popham's offest final due to the petrol station **Below:** Fly-ins can end up with numerous complaints of poor airmanship **Bottom right:** Checking out the destination before leaving should be obvious...

Any 'discussion' or official reporting can be done later on the ground, but depending on your course of action to normalise the rest of the flight, you might need to make a call to announce your new course of action to others. For example, seeing an aircraft join by crossing just ahead of you onto base leg when you are downwind might mean you decide you have to extend further downwind than usual. A simple announcement of this and the reason why it is necessary would help the aircraft behind you in the circuit to understand that you are not turning base leg where expected and perhaps it may alert the pilot who caused the disruption to employ better airmanship techniques next time.

Keep any radio transmissions brief and relevant. There's nothing worse than hearing threats and recriminations argued on air; it simply blocks the frequency for appropriate calls. Most of the points raised would be dealt with slightly differently at a controlled field, with the Tower able to sort out priorities, issue instructions, and pre-warn of aircraft joining.

That said, don't drop your guard when under the perceived safety blanket of flying at a controlled airfield; mistakes and 'the unexpected' also happen there. Reading *Airprox* and incident reports often brings this home, and it's not just 'Schadenfreude' or a certain ghoulish interest. The reports make the reader acutely aware of all the little mistakes that not only can happen, but have happened, and thereby increase future safety through shared experience.

A 2013 report shows an aircraft just airborne on runway 27 at Gloucestershire was somewhat surprised to see an aircraft on final for 09, as was the Tower controller when informed. It wasn't even a simple mix up of 'directions', it was the arriving aircraft talking to Shobdon Radio by mistake and flying the Shobdon circuit (09 active) at the intended destination, Gloucestershire (27 active).

On the formal reporting side, making a report shouldn't be seen simply as 'punishment' for some perceived wrongdoing; if a pilot is particularly lax in airmanship standards, a timely non-emotional report of the facts might save a future accident, or add a jigsaw piece into a picture that will need some action. It's worth looking at reporting mechanisms such as Airprox, MOR, and CHIRP and understanding how they can add to everyone's future safety.

Airprox: "An Airprox is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised."
airproxboard.org.uk *(See 'Reports and Analysis')*

Mandatory Occurrence Report: "Any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person. Accidents and serious incidents should also be reported to the Air Accident Investigation Board."
caa.co.uk/mor *(Search for 'General Aviation Reports')*

CHIRP: "The aim of CHIRP is to contribute to the enhancement of aviation safety in the UK ... by providing a totally independent confidential (not anonymous) reporting system for all individuals..."
chirp.co.uk (*Look for 'General Aviation' under 'Newsletters'.* In researching CHIRP newsletters, the very first one of 2014 (#59) actually starts with: "We continue to receive reports, comments and advice about joining, flying and departing visual circuits...." CU

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8.33 CHANNEL **HOPPING**

Change has been coming for some time now for European pilots that will impact all radio use in the skies by 2018. Here's what you need to know

WORDS BY JOHN BRADY

Eurocontrol has changed to 8.33kHz channel spacing because Europe is running out of VHF frequencies due to high demand. The areas where a frequency is used have to be separated to avoid interference: for example, the radio horizon between two airliners flying at 36,000ft is about 860km, so a single upper route sector frequency can consume an area stretching from Calais to Nice and from Brest to the Rhine.

At lower levels, frequencies can be reused closer together, but there are lots of them. Frequency reuse is not really an issue for light aircraft and small airfields – that was recognised by Eurocontrol in their consultation.

How does the new 8.33kHz radio set up work? With the old 25kHz radio, you dialled a frequency and that is what you got. All the frequencies were 25kHz apart and the bandwidth of the receiver was set so you could hear transmissions in the 25kHz of the spectrum you selected. The 8.33 radio is a bit smarter.

The new radios operate on 25kHz or 8.33kHz depending on what you select. If you select one of the current frequencies, such as 132.000, it will operate just like the old radio, but if you select a new one, such as 132.005, it will give you 8.33 functionality.

Some radios have a switch to enable them to operate in 25kHz-only mode to save you having to dial through all the 8.33 channels to get to the one you want – which is useful for the U.S. because it does not use 8.33 – but you need to make sure you have turned that switch back to 8.33 before the system here in Europe changes. Some frequencies will remain designated as 25kHz (such as 121.5, data link and those that use multiple transmitters, including FIS and upper sector frequencies), but most will change to 8.33.

How does it work in practice? If ATC sends you to 132.000 it will be because that is a 25kHz frequency and your radio will function just like the old radio. However, if they send you to 132.005 it will be because it is an 8.33 channel and when you select that your radio will stay on frequency 132.000 but operate in 8.33 mode. If you select 132.010 the radio will change to frequency 132.083, again in 8.33 mode.

So, the first lesson is that the number you dial up on your new radio is not necessarily the same as the frequency it uses! Take a look at the table and you can see that for every 25kHz of spectrum you can have one 25kHz frequency or three 8.33kHz channels, but not both. The 'channels' you select (.005 .010 .015 etc) are named like that for ease of reference, but the corresponding frequencies the radio uses are really 8.33 kHz apart (.000 .0083 .0166, etc). Note that you cannot select 132.020 etc because it does not exist!

The second lesson is that though an 'old' 25kHz of spectrum such as 132.000 can be used for one 25 or for three 8.33kHz channels in this new arrangement, it cannot do both in the same area. You have no need to concern yourself with whether a frequency is 25 or 8.33kHz because when you go to a published or allocated frequency the new radio will sort it out for you.

If you accidentally select 132.005 when you should have selected 132.000 you will be on the right frequency but with a narrower bandwidth, but the chances are that you will be able to communicate. But if you select 132.0 when you should be on 132.005 your radio will be in 25kHz mode and you are likely to cause interference on several 8.33 channels and you may hear transmissions from adjacent frequencies, so care needs to be taken.

Once the frequencies are reallocated and the dates for change in different areas are passed you won't be able to use an old 25kHz radio. The only exception is for radios that can physically only transmit on assigned 25kHz frequencies and about the only equipment that satisfies that for us would be an ELT or PLB on 121.5. CU

IMPORTANT DATES

From Nov 17 2013

- Manufacturers were not able to market radios unless they were 8.33kHz capable.
- No aircraft may receive an initial CofA or permit unless any radios fitted are 8.33kHz capable.
- Any upgrade to aircraft radios must include an 8.33kHz capability.

From Jan 1 2014

- No aircraft may fly Instrument Flight Rules (IFR) in class A, B or C airspace unless it is 8.33kHz capable.
- Aircraft flying Visual Flight Rules (VFR) in class A, B or C airspace cannot fly in areas operating in 8.33kHz channel spacing unless the aircraft radio equipment has the 8.33kHz channel spacing capability.

From Jan 1 2018

- All aircraft radios operated in the EU must be 8.33kHz capable.

WIZIWIG	WHAT YOU SELECT ON THE DIAL			WHAT THE RADIO GIVES YOU	
Frequency	The number you see	25kHz Frequency	8.33 kHz Channel	Frequency	Functionality
132.000	132.000	132.000		132.000	25
	132.005		132.005	132.000	8.33
	132.010		132.010	132.083	8.33
	132.015		132.015	132.0166	8.33
132.025	132.025	132.025		132.0250	25
	132.030		132.030	132.0250	8.33
	132.035		132.035	132.0333	8.33
	132.040		132.040	132.0416	8.33
132.050	132.050	132.050		132.0500	25

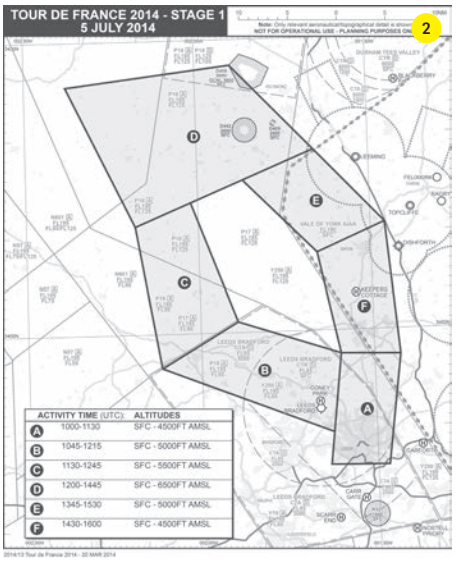
VIVE **LE SPORT!**

It's another summer of sport in the UK with the Tour de France starting in Yorkshire and the Commonwealth Games taking place in Scotland – while it will be good for sports fans, it does mean there will be some airspace restrictions

More and more pilots are becoming interested in cycling these days, perhaps because of the Wiggins/Froome/Cavendish Tour de France factor, or maybe just because it's fun (and good for the health...). But whatever the reason, cyclists or not, pilots are going to have to watch the Tour a bit more closely this year because it's starting in Yorkshire before heading down to Cambridge and London – and that will mean some airspace restrictions.

It's the first time since 2007 that the Tour has been in the UK and its spectacular Grand Départ will take place in Leeds on Saturday 5 July. From there the first stage sees the riders heading north from Leeds through the Yorkshire Dales to a sprint finish in Harrogate (one for Cavendish, hopefully).

On Day Two (Sunday 6 July) the York to Sheffield route will challenge the peloton with a blend of iconic climbs and countless short, sharp hills. Finally, the riders will set off from Cambridge to the Mall in London on Monday 7 July before the Tour heads back over the Channel.



These routes will affect a number of GA aerodromes such as Duxford, Andrewsfield and North Weald. Airports such as Leeds Bradford, Stansted and London City will also be affected. At the request of the organisers, airspace restrictions will be put in place during the three days to protect the event and ensure the safety of the TV broadcast helicopters.

To minimise disruption to general aviation in the height of summer, rather than have a large area of temporary restricted airspace RA(T) covering the entirety of each stage lasting the whole day, the airspace restrictions will roll with the riders as they progress through each stage, with mini RA(T)s being turned on and off throughout the course of each day. This will keep disruption localised for a minimum amount of time. Generally, the restrictions will extend from surface level to between 4,500-6,000ft.

Needless to say there will be a big increase in helicopter activity in and around the RA(T). Police and medical rotorcraft will be engaged in operations connected with the event, while a fleet of seven AS350 'Squirrels' operated by Hélicoptères de France will be providing the TV images and additional VIP flights.

The CAA has been working with the aerodromes most affected by the Tour route – Cambridge, Stapelford, Duxford, Andrewsfield, North Weald and Wethersfield – to ensure airfield managers, air traffic controllers and resident flight training organisations fully understand the restrictions. CAA airspace specialists will also be on hand at the Airspace & Safety Initiative stand at this year's AeroExpo at Sywell to field any questions from pilots.

The full Tour de France AIC was due to be published on 15 May 2014, and will be available at www.ais.org.uk. The specific details of the RA(T)s will be NOTAMed as normal. Pilots flying in Yorkshire, Cambridgeshire and Essex at any time between 5-7 July will need to double check NOTAMs before take-off.

For more general information on this year's Tour de France go to letour.yorkshire.com or letour.fr/le-tour/2014/us

1. The riders of the Tour de France will be a great sight in the UK, but there will be some airspace restrictions **2.** This is how the restrictions will look, but they will be 'rolling' and not all day **3.** The camera ships will potentially be operating up to 4,500-6,000ft **4.** Their low-level flying as they follow the riders is quite exceptional

TOUR DE FRANCE PICTURES: AMAURY SPORT ORGANISATION

> Airspace restrictions will roll with the riders as they progress

5. As with London 2012 there will be a Prohibited Zone (the circle, to protect the stadium, picture 6) and a larger Restricted zone through which pilots will be able to transit **6.** Hampden Park Stadium, Glasgow – one of the Games venues

THE COMMONWEALTH GAMES – A PILOT'S GUIDE

Rather like the London 2012 Olympics, there will be security restrictions in place around the Commonwealth Games in Glasgow between 13 July and 6 August 2014.

There will be a small Prohibited Zone around the main Games venues, which will exclude all air traffic apart from commercial passenger operations into and out of Glasgow Airport, as well as helicopters operated by the emergency services and the official broadcaster.

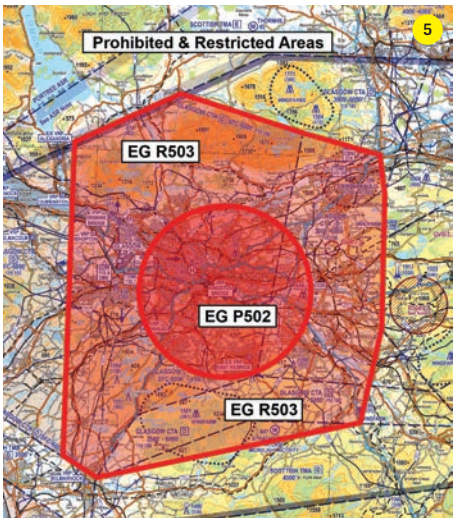
This will be surrounded by a larger Restricted Zone (21 July-3 August), into which general aviation aircraft will be able to fly providing they have 'notified' the flight with air traffic control at least two hours before they take-off. Pilots will be able to do this on two dedicated phone lines (see box left).

The Restricted Zone will be subject to capacity constraints and so pilots may be required to delay their flight. While in the Zone pilots must remain in constant radio contact with air traffic control and be flying an aircraft equipped with an SSR transponder.

There will be additional restrictions affecting Commonwealth Games events taking place outside Glasgow, such as the triathlon in Strathclyde Country Park, the diving in Edinburgh and the shooting events at Barry Buddon. Pilots flying in central Scotland during July and early August should pay particular attention to NOTAMs.

The Ministry of Defence and Police Scotland will be responsible for monitoring and enforcing the Commonwealth Games airspace restrictions. Aircraft that do not comply with the procedures may be subject to interception by military aircraft. A guide to military interception procedures is available at *www.airspacesafety.com/commonwealth*

Cumbernauld and Strathaven airfields are located within the Restricted Zone but are being allowed to remain operational under certain set conditions. Full details of the Commonwealth Games airspace restrictions, including a downloadable leaflet, is available from *www.airspacesafety.com/commonwealth*. Follow @airspacesafety.com on Twitter for updates. CU



HOW TO GET INTO THE RESTRICTED ZONE

To enable pilots to fly through the Restricted Zone, an airspace booking cell known as HERMES will be established at Glasgow Airport air traffic control (ATC).

Pilots wishing to fly through it can request permission from HERMES to enter the Restricted Zone up to 24 hours in advance and a minimum of two hours prior to the intended time of entry into the zone. Approval will be subject to capacity of air traffic control.

Pilots may make requests for permissions for more than one flight at a time provided that entry into the airspace falls within the 24-to-two hour timeframe.

Pilots who have been granted permission will be issued with a unique permission number and a discrete squawk code, which is specific to the flight. The permission number is to be passed to Glasgow air traffic control on initial radio contact and the squawk is to be used for the duration of the flight within the Restricted Zone.

If the unique permission number and aircraft registration do not match, the aircraft will not be given clearance to enter the Zone.

HERMES operating hours and contact details

HERMES is open to issue permissions:

05:00-21:00 (UTC), 20 July-3 August 2014

A permission can be requested by telephone on the following numbers: 0141 840 8098 or 0141 840 8099

Information required by HERMES

The following information must be given to HERMES by the pilot when requesting a permission to enter EGR503:

- Estimated zone entry time
- Name of pilot
- Date of birth
- Address
- Telephone number
- Email address (if relevant)
- Means by which the pilot would prefer to be contacted
- Names of passengers
- Dates of birth of passengers
- Aircraft owner
- Aircraft type
- Aircraft registration (and callsign if different)
- Departure and destination aerodromes
- Intended route through EGR503
- Purpose of flight (commercial/private)

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ATZs – FRIEND OR FOE?

For some people in transit an ATZ can 'get in the way' of the flight, while for others they are to be avoided altogether, but they can also be useful allies

PHOTOGRAPHS BY SQN LDR GARY COLEMAN, KEITH WILSON and SIMON FINLAY/BRIAN BARR
WORDS BY IRV LEE

UK airspace became (only slightly) less cluttered a few years ago as some Aerodrome Traffic Zones (ATZs) disappeared from the air charts. The reason? PPL training became legal at suitable unlicensed airfields, and to cut costs (eg the annual CAA inspection) a number of training airfields that did not need a licence for any other reason became unlicensed, and thereby lost their ATZs.

But these airfields did not become less busy and certainly my airfield, Popham, never having had an ATZ, is far busier with traffic than most others nearby that do have one. The message is not to confuse the lack of an ATZ around an airfield as meaning 'little traffic'.

As is common with UK airspace, straightforward simple advice always has 'riders', 'ifs' and 'buts'. One thing, however, is sure – an aircraft must not enter an ATZ without radio contact to gather information to ensure safe flight within – this would include runway and circuit direction and known traffic there.

Licensed and Government/Military airfields are given a small measure of protection in the UK by an Aerodrome Traffic Zone (ATZ), which is legally required for certain operations to take place. Their dimensions are fortunately pretty standard and depend on the main runway length and extend vertically to 2,000ft above airfield ground level. While most have a radius of 2nm, this can increase dependant on the length of the runway. But that's not a problem because the standard VFR chart has all ATZs and their horizontal extents are clearly marked the same way on it.

While military ATZs must be considered 'H24' (active 24 hours per day) unless NOTAM'd otherwise, normal airfields have an ATZ that exists only for the AIP-published (or NOTAM'd) hours of operation. (The AIP – the bible of all you need to know about airfields, navigation beacons and airspace – is available free on the AIS website www.ais.org.uk). One or two (for example Lyneham) may not exist unless activated by NOTAM.

Although some pilots might think it is best to avoid an ATZ completely, that's not always the best way to tackle them, especially if the airfield has full Air Traffic Control (eg a Tower callsign). For example, if passing round the NW corner of Heathrow CTR, I ask Wycombe Tower for an ATZ transit. Using the airfield as a turning point ensures avoidance of the Heathrow CTR and gives me an undisputed waypoint, plus ATC know exactly where I am too. If (though I've never known it personally) ATC can't easily accommodate a transit, perhaps due to gliding operations or an emergency in progress, only then would a 'Plan B' come into effect.

But for those who would rather miss the ATZ, does that mean 'no call'? Put yourself in the shoes of both the pilots flying into or from the airfield, and the radio operator there in particular, whether Air/Ground, AFISO, or full ATC. Without radar, all these people are trying to build a picture of traffic in the area nearby as well as in the ATZ, and your call can only help in this process.

Nor do you have to limit this airmanship point merely to airfields with an ATZ because pilots and radio operators at any busy airfield will be trying to build similar mental pictures. The 'call if passing nearby' idea ➔

1. Even if an airfield looks quiet it will have an ATZ for a reason and even if passing close by it's good practice to call **2.** Watch out for instrument approaches, which can start 10 miles out **3.** Don't plan a route to avoid ATZs, they can be useful waypoints

can also extend all the way out to nearly 10nm distant, if the ATZ is marked with a flèche on the air chart.

The flèche symbol indicates that traffic on formal instrument approaches may be found anywhere from overhead the airfield to some seven to eight miles away. Formal IFR approach procedures, by their very nature, will route traffic several miles away from the airfield, then turn it to align with the instrument runway. What is sometimes missed by VFR-only pilots is that these instrument procedures are not confined to poor weather, and made even busier with repeated operations for training purposes. Some notified instrument approaches are 'procedural', meaning they may not be covered by radar. Be aware that although the pilots using the instrument procedures are supposed to look out just as much as we are, the pilot flying the approach does need more 'head in the cockpit' time than us and has many more distractions.

So here's a mid-year resolution for every reader – seek out the very readable 'VFR Guide'. Many well-qualified pilots discover it and wonder why they weren't shown it during training. Like many useful guides for the UK pilot, it can be found on the link page of the anti-infringement site FlyOnTrack (*flyontrack.co.uk*). Look for the'Easy Digest' section found on the 'Links' page.

4. At the author's airfield, RAF Halton, there is powered flying as well as gliding operations, which means its ATZ can be very busy **5.** Glider aerotows go to 2,000ft and sometimes higher above the airfield

IT MIGHT BE LEGAL, BUT...

WORDS AND PICTURES BY SQN LDR GARY COLEMAN

There are many things in life you can do that are legal, but that might not be the best idea. Cliff jumping, riding a bicycle with no helmet, using a power drill while standing in a swimming pool or even just driving with a finger in your ear – they are all good examples of the freedoms we enjoy and might be perfectly legal, but they can also be traps for poor judgement.

So what's the connection to aviation? There is one such rule within the Rules of the Air that often opens us to being criticised for poor judgement – Rule 45.

This can lead to some seriously poor judgement when flying near Aerodrome Traffic Zones (ATZs) with an Air Ground Communications Service (AGCS) or Aerodrome Flight Information Service (AFIS); it's even worse when they are connected to an embedded glider site. Why? The status of AGCS and AFIS operators as non-controllers, the status of ATZs within Class 'G' Airspace and the status of the aircraft commander as being 'ultimately responsible' for their aircraft.

It's worth taking a look at Rule 45 in detail:

(2) An aircraft shall not fly, take off or land within the aerodrome traffic zone of an aerodrome unless the commander of the aircraft has complied with paragraphs *(3)*, *(4)* or *(5)*, as appropriate.

(3) If the aerodrome has an air traffic control unit the commander shall obtain the permission of the air traffic control unit to enable the flight to be conducted safely within the zone.

(4) If the aerodrome has a flight information service unit the commander shall obtain information from the flight information service unit to enable the flight to be conducted safely within the zone.

(5) If there is no flight information service unit at the aerodrome the commander shall obtain information from the air/ground communication service to enable the flight to be conducted safely within the zone.

So for an AGCS- or AFIS-served ATZ all the pilot needs to do is get the airfield information and then plough through the ATZ – right? Technically, yes, but if the zone is busy, or the glider site active, then no. Remembering that the flight in the ATZ must be "conducted safely", so if the ATZ, or its embedded glider site, is busy, then that will likely mean keeping well clear!

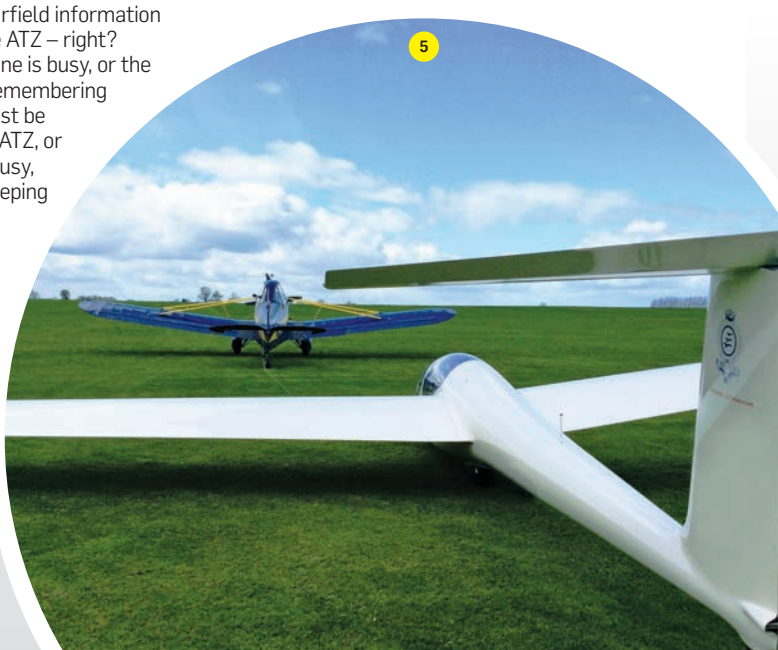
Getting the information may not be the tacit approval that pilots think it gives and the flight may not be able to be conducted safely; as pilots we need to take the information and act sensibly upon it.

A pilot flying a photographic survey of a recently built super-dairy thought it was okay because he had got the airfield information. His chosen area was one mile on the extended centreline of the runway in use, despite being warned that the airfield was busy with both glider and powered traffic and which runway was in use.

"So, I'll pass over the top at 2,100ft AAL then?" is another common retort when the ATZ is busy with circuit traffic. With many airfields using the standard overhead join, this again would be poor judgement as you go 'beak to beak' with an aircraft arriving to join. Furthermore, many glider sites operate winch launches well above the ATZ (remember that CAA charts show Above Mean Sea Level (AMSL) altitudes for winch launch sites). Winching accelerates a glider from 0-60 in less than three seconds and can propel it to 3,000ft in less than a minute pulled by a 4.5mm steel cable – you don't have to hit the glider to seriously ruin your flight!

Advice from an old and bold (bald?) aviator; think before you plan to transit through or near ATZs and you should save yourself from a nasty surprise at some point – just because it's legal, doesn't make it sensible...

And finally... there's always the ANO's Article 137: "A person must not recklessly or negligently act in a manner likely to endanger an aircraft, or any person in an aircraft" that could land the unsuspecting at the end of an uncomfortable telephone call from the CAA's Investigations and Enforcement Team.



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WORKING TOGETHER

An airprox last year involving a light helicopter and an RAF Tornado has again raised questions about how GA pilots can safely share Class G airspace with military fast jets

PICTURES COURTESY OF THE RAF AND AIRBUS HELICOPTERS | WORDS BY SQN LDR PETE BROMBLEY

Being able to operate close to the ground is essential to maintain an effective air force and regular training is necessary to maintain the skill. Low flying over the UK is carried out by the RAF, the Royal Navy and the Army Air Corps. A small amount of low flying is also undertaken by other NATO air forces on a reciprocal basis.

In this airprox over the Scottish Highlands, a Eurocopter AS350 Écureuil was operating along the A9 road, carrying out work with underslung loads and had submitted a military NOTAM (a 'Z NOTAM' is transmitted over a military-only messaging system to military aircrew. They are not published in the UK AIS domain) under the Civil Air Notification Procedure (CANP) system.

The helicopter was heading 150° at 120kt at around 400ft and the pilot had his anti-collision lights and HISLs switched on, but his transponder off. The weather was reported as good VMC with greater than 10km visibility with a layer of clouds about 1,000ft above. The pilot was aware of the Tornado passing his aircraft, but due to a late sighting was unable to take any avoiding action.

The Tornado crew were also flying along the A9 valley at 420kt, 440ft (Rad Alt) squawking Mode3A/7001 with Mode C and S selected on. The aircraft navigation and anti-collision lights were selected on. The crew were aware of the CANP as it came up on their displays and had devised a plan to avoid the location and turn

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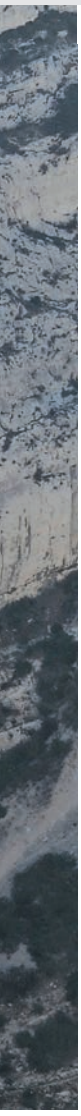
toward better weather to the south. The crew were unaware that they had passed close by the AS350.

The airprox was initially reported by a person parked in a lay-by on the A9 and he alerted the UK Airprox Board (UKAB). The board began tracing action once the AS350 had filed his report and then traced the Tornado. Analysis of the Tornado mission recording revealed the aircraft had indeed had an airprox just over one mile outside the NOTAM area.

It can be appreciated from the Tornado crew's views above that the AS350 was difficult to see. It was only the aircraft's Infra-Red (IR) equipment that detected the AS350, and that was only from seven seconds prior to the closest point of approach. Furthermore, the helicopter's aspect to the Tornado was almost tail-on, and the relative angular motion (less than 1° per second) across the crew's visual



PICTURES FOR ILLUSTRATION PURPOSES ONLY

field of view was very small, making the helicopter even harder to detect visually.

RAF Flight Safety analysis of the footage estimated the miss distance to be in the order of 70ft.

UKAB agreed that the Tornado crew were correct to concentrate on visual lookout rather than rely on internal displays. The facility to display IR contacts in the HUD was not selected and might have detected the AS350. As the airprox occurred outside the CANP, some members thought it might have been helpful to include additional information, such as routing to and from the area. UKAB thought this would be good practice but that it would not always be practical.

The AS350 pilot was entitled to position for a photography task, but the selected height of 400ft increased his likelihood of conflict with a military aircraft. UKAB noted:

The UK AIP ENR 1.1 (General Rules) 1.1-32 dated 7 Mar 13 states:

5.2.7 UK Military Low Flying System

5.2.7.1 Military low flying occurs in most parts of the United Kingdom at any height up to 2,000ft above the surface. However, the greatest concentration is between 250ft and 500ft and civil pilots are advised to avoid flying in that height band whenever possible.

The pilot reported that his transponder was turned off, which as UKAB pointed out, is not good practice. A functioning transponder with Mode C provides improved safety margins for TCAS equipped aircraft and ATC.

All operations in Class G airspace rely upon the 'see and avoid', or 'see and be seen' principle for collision avoidance. Wherever possible, AIP advice to avoid operations in the intensive 250-500ft height band should be heeded.

UKAB were hampered on this occasion because they cannot initiate airprox action unless a member of the flight crew or an ATCO submits a report. Prompt reporting of all airprox occurrences is good flight safety sense and all aircrew, military and civilians must report an airprox as soon as possible (by RT on the regional FIS and say the magic word 'airprox').

Many military aircraft are now equipped with TCAS and many others are being upgraded. All military aircraft squawk Mode 3A/7001 with C when low flying. If you have a transponder, using it with Mode3A/7000 Mode C selected will make you more detectable by TCAS-equipped aircraft. If you have TCAS, use it at least in TA mode; all military aircraft in the Low Flying System are required to squawk so it may assist you in seeing and avoiding.

If you are engaged in unusual activity in Class G below 2,000ft, submit a CANP NOTAM. Include as much detail regarding your activity, including proposed routing between support sites (for refuelling, passenger pick-up etc) in addition to the routine CANP details. Include a contact telephone number whereby military crews can contact your operations to get more information about you and your activity. If you have a VHF frequency you will be working on (or indeed just listening out) include it on the NOTAM. If you do, military crews will strive to call you if they are approaching your working area to improve their situational awareness and thus improve safety margins.

The RAF has many local Airspace Users Working Groups who meet regularly to share information about each other's aviation activities. You can contact your nearest RAF airfield and ask for SATCO or the Station Flight Safety Officer, who will be delighted to include you in future meetings. It's by working together and understanding each other that we can have a flexible and equitable use of the free airspace we all enjoy.

For further advice regarding military low flying and the GA community, have a look at the CAA's Safety Sense Leaflet No 18 (go to caa.co.uk and put safety sense leaflets in the search box) and there's further info at *gov.uk/military-low-flying* CJ

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Above: It can be fast and busy between 250ft and 500ft in places and the advice is to avoid flying in that height band whenever possible **Below:** The view out from the front of a Tornado – imagine that at 420kt

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CHANNEL CHALLENGES

Many of us get the urge to fly abroad – so here's an overview of what you need to know and do

WORDS BY RICK GODDIN | PICTURES BY RICK GODDIN AND AMANDA CURTIN

Whatever you fly, there comes a time after flying around the local area, then venturing further afield to other UK airfields when the curiosity, if not the urge, to visit foreign parts becomes irresistible. This itch for adventure is often accelerated by the reports of others in flying magazines and by pilots in the club who have done it all before – 'it's all a piece of cake' will be familiar to many of us.

Although my own aircraft is a 'mid-range' fixed-wing microlight, much of what I'm going to discuss here will, I hope, be relevant to SEP pilots, gyros and other sorts of microlights, even perhaps foot-launched. For a start, the regulatory side of it will be common to all, as will many other considerations such as weather and safety issues.

No matter how many times you have flown over it, the English Channel remains a major psychological barrier. It still looks wider than it ought to and telling ourselves that the engine doesn't know that it's over water is only slightly helpful. What is nice to know is that attitudes to recreational flying in France are much more relaxed, there is often a total absence of landing fees and much of the country is free of complicated controlled airspace.

For the first-time foreign traveller I'd suggest fairly modest ambitions, regardless of your mode of transport – a few days in France, for example, will build confidence and introduce you to the slightly different rituals – so that will be the focus of this piece.

> Attitudes to recreational flying in France are much more relaxed

The UK is in a special position in Europe – we are part of it, but not a complete part, in so far as we don't belong to the Schengen customs area unlike our continental neighbours. The lack of free cross-border movement also means that our border controls are still a feature of travelling, especially when returning to the UK. This latter aspect is now taken more seriously than ever and pilots should take careful note of the current requirements to pre-advise returns to the UK.

I'll summarise the main points you need to take account of from a regulatory viewpoint:

Charts: there is the usual requirement to carry a current chart and my preference is the French 500,000 OACI, available from the usual suppliers. Four of these cover the entire country. Electronic charts are increasingly available and it is tempting to rely on them rather than carry a library of paper ones, but you can never rule out failure of your equipment.

Outbound flightplan: you can leave the UK from anywhere, including the local

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> One thing to ensure on arrival is that your flightplan is closed at the airfield, otherwise it might be assumed that you have gone missing

farmer's field, but a flightplan must be filed to ATC if the flight is planned to cross an international boundary. There's a useful CAA Safety Sense Leaflet (www.caa.co.uk/safetysenseleaflet20) about VFR flight plans and you can file them in a number of ways, the best of which is online through the 'official' AFPEx system or via a third-party company such as SkyDemon. One thing to ensure on arrival is that your flightplan is closed at the airfield, otherwise it might be assumed that you have gone missing. Returning to the UK system is slightly different.

General Aviation Report: a GAR is only necessary in the outbound direction if you are visiting the Common Travel Area (Northern Ireland, Eire, Isle of Man and Channel Islands), which is regulated under the Terrorism Act 2002.

Port of entry in France: because of the Schengen issue you will need to arrive at an airfield that has customs facilities. Cost cuts in France have reduced the numbers of these and in the northern part of France they are now few and far between. Popular destinations with this facility include Calais, le Touquet, Abbeville and Cherbourg, but each has its own notice requirements. You can check this out by looking at the airfield plates in the French AIP, freely available on the internet (www.sia.aviation-civile.gouv.fr) and through a useful and free app, which is called IVAC.

Interception procedures: hopefully you won't need these, but it is a very good idea to carry a copy of the interception procedures because you will need to know what to do when the wing-wobbling jet fighter comes alongside or zooms past you. Interceptions are rare in the UK, but more common on the Continent – particularly near nuclear power stations and sensitive military facilities. The CAA's Safety Sense Leaflet 11 (www.caa.co.uk/safetysenseleaflet11) contains everything you need to know.

Radio and transponder: a functioning radio is needed because it is a legal requirement to make contact with French ATC (this can be Lille Approach or Calais Tower perhaps) when you reach the international boundary. It's also helpful and comforting to keep in touch with a UK ground station on the way across – just in case – and Manston radar is always very helpful. More and more people are using transponders, partly for the safety issue of crossing the drink (selecting 7700 notifies Search and Rescue agencies that you are in distress), but also because most of the arrival airfields have Class D around them. You can, however, usually gain access without a transponder or even telephone them first.

You are now in France and there are no further formalities for going from place to place which differs much from UK practice. The French airfields that have full ATC, such as Calais and le Touquet, will speak to you in English, but quite a few other fields will be labelled as 'FR only' or 'FR A/A only' (air to air). It's useful to have a few usual phrases on your kneeboard – downwind, final, overhead, runway numbers (note that whole numbers are used, so for R30 it will be 'trente' rather than 'trois zero'). If you are flying with chums in other aircraft you can arrive/depart etc as a formation,

Above: Cross-Channel weather can be notoriously fickle, so get a good met briefing
Below: Once in France, Europe is all yours

which is much more usual than in the UK and means that the person in the group with the best French can do all the work!

Returning to the UK, a similar array of documentation is required.

Inbound flightplan: pretty much the reverse of the outbound version and can usually be put into the system for you at the departure airfield, or it can be submitted online from your overnight hotel. On arrival in the UK there is no need to close the plan. Our system works differently to that in Europe in that if no report of non-arrival is made it is assumed that the arrival has taken place. Obviously it's a good idea to tell someone at your destination of your intentions so that a non-arrival can be reported.

General Aviation Report: this is an area where the UK has seriously tightened procedures and there are severe penalties for non-conformity. From France, it must be filed four hours in advance and is now required regardless of whether you are coming into a major UK airport or the local farmer's field. If your arrival point is a small airfield or a private strip the GAR form is intended to provide the Border Force with the opportunity of greeting you on arrival. Diversions are permitted, but if you divert you are now expected to contact the Border Force, who might ask you to wait while they send someone out to your diversion airfield.

Port of departure: the Schengen issue also requires you to leave Continental Europe from an airfield with customs facilities and give whatever notice is required for that purpose.

Weather and safety are even more important matters on an overseas visit. First, conditions over the Channel can vary dramatically from one side to the other, and there can be visibility and lack of horizon issues mid-Channel, so get a good briefing beforehand and be more prepared than usual to turn back. If in doubt, telephone an airfield on the other side for an actual update. You'll find both Calais and le Touquet very helpful in this respect.

So, good preparation and good briefings will take away a lot of the natural anxieties, as will travelling with a group of friends. CU

ABOUT THE WRITER

Rick has travelled extensively in Europe in flexwings and, more recently, in fixed-wing microlights. He is a founding member of Whitehill Farm Aero Club, a subscription-free internet-based club with more than 140 members, formed for the purpose of touring abroad. The club's website *www.wfaec.com* contains a fund of information for those considering flying abroad. A member of the BMAA's Council, he writes regularly for *Microlight Flying* magazine and organises that magazine's Landing Coupons programme along with other microlighting events.

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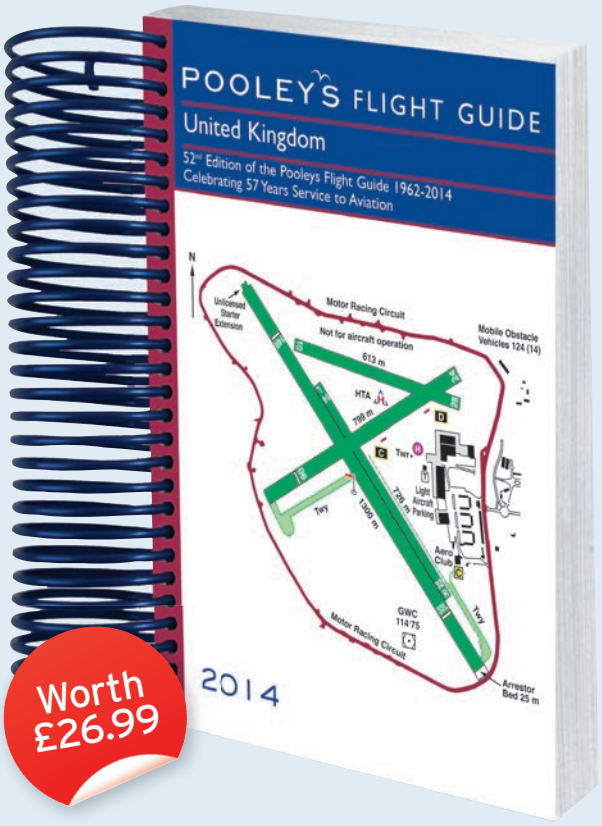

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01

ALL PICTURES BY KEITH WILSON/SFB PHOTOGRAPHIC

Assist pilots in preventing collisions

ONE SAFETY RECOMMENDATION has been made following the mid-air collision between a Cessna 402C and a Rand KR-2 in August 2008 near Coventry Airport. The recommendation has been directed at the CAA to ensure that the requirement in Part 1 of the Manual of Air Traffic Services for Aerodrome Control to issue 'information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions' is suitable, sufficient and complied with.

The Cessna 402C was on an ILS approach to Runway 23 at Coventry Airport when it collided with the Rand KR-2 (G-BOLZ) which was in the visual circuit. The collision occurred in Class G (uncontrolled) airspace. The four occupants of the Cessna (G-EYES) and the single occupant of the Rand (G-BOLZ) received fatal injuries. The AAIB's investigation said that the two aircraft collided because their respective pilots either did not see the other aircraft, or did not see it in time to take effective avoiding action. In the case of avoiding G-BOLZ, the investigation said the time to react would have been reduced by the small size of G-BOLZ and its position relative to G-EYES and the high rate of closure between the aircraft. It also found that insufficient or inaccurate information was provided to the pilots, which did not assist them in fulfilling their duty to take all possible measures to avoid collisions with other aircraft. Also, the Aerodrome Controller's sequencing plan was based on an incomplete understanding of the nature of G-EYES' flight and was unlikely to have been successful. By the time the risk of a collision was identified, it was too late to devise an effective method of resolving the situation. The AAIB also found there were no effective measures in place to give G-EYES priority over traffic in the visual circuit.

"The collision occurred on the runway extended centreline between 1,100 and 1,200ft amsl, approximately 3.0nm from the threshold of Runway 23. It was estimated that G-BOLZ was crossing G-EYES' track at an angle of 43° and that G-EYES was overtaking G-BOLZ at a relative speed of approximately 106kt. G-EYES began to turn to the left immediately after the collision. Its transponder return disappeared from the ATM at 10:36:47 hrs but its primary radar return remained. As the primary radar returns of the two aircraft separated, G-BOLZ's radar return remained stationary and then faded from view. G-EYES continued in a left turn for approximately 180° until its primary radar return disappeared from view at 10:37:13 hrs and the aircraft descended into Binley Woods. No radio transmissions were received from either aircraft after the collision and no obvious attempt was made to recover G-EYES to straight and level flight.

"A witness observed the accident from a position between the runway threshold and the point of collision. He stated that the two aircraft collided, with the left wing of G-EYES apparently passing directly through G-BOLZ, which then broke up, with its wreckage falling almost vertically. G-EYES then turned to its left, its angle of bank increasing up to about 60°, and began to descend. The witness reported that the aircraft was in a nose-low attitude and did not appear to be in a stalled condition.

"Another witness was located 250m from where G-EYES subsequently came to rest in Binley Woods. He heard a "loud bang", followed by an "engine spluttering noise" and then the sound of engine revving. He was unable to say whether it was one or both engines. He watched G-EYES coming towards him and recalled that it did not appear unusual to him and he could not see any smoke coming from it. He reported hearing the engine sound increasing and decreasing a number of times." CU

INCIDENT DETAILS

Aircraft Type
Cessna 402C (G-EYES)
Rand KR-2 (G-BOLZ)

Date and Time
August 17, 2008 at 10:36

Pilots Flying Experience
Handling pilot of G-EYES
CPL, 28 years old, 2,281 hours,
339 on type
Last 90 days, 60 hours
Last 28 days, 2 hours

Pilot of G-BOLZ
PPL, 70 years old, 763 hours,
643 on type
Last 90 days, 7 hours
Last 28 days, 5 hours

02

Lessons after Tutors' mid-air

FIFTEEN SAFETY RECOMMENDATIONS have been made by the RAF Service Inquiry (SI) panel after a mid-air collision between two Grob Tutor 115-E aircraft back in February 2009.

The recommendations come some five years on from the accident. The two Tutors were based at MoD St Athan near Cardiff and had tracked along the coastline on air experience flights. They were piloted by RAF pilots and each aircraft carried an air cadet as a passenger. The collision occurred in uncontrolled airspace in fine weather, in an area that was routinely used by St Athan based Tutor aircraft. The investigation found that neither pilot saw the other aircraft in time to take effective avoiding action, if at all. "G-BYUT appeared on Cardiff radar at 1037:16 hrs, immediately after takeoff while it was still over the upwind end of Runway 26. At 1038:06 hrs, G-BYVN appeared on radar, also while still over the runway, 1.1nm astern of G-BYUT. As G-BYUT passed Nash Point, the aircraft were flying 1.6nm apart, with G-BYUT ahead and about 15° to the right of G-BYVN's track. They were both flying level, with the leading aircraft indicating 100ft lower.

Both aircraft climbed on similar tracks as they approached the accident area over the nature reserve, although G-BYVN turned left into the area somewhat further to the south than G-BYUT. When G-BYUT was above 3,000ft the aircraft flew what was probably an aerobatic manoeuvre, before descending again and entering a turn to the left. As it did so, G-BYVN was approaching from the east; it was below the other aircraft's altitude but still climbing.

"The two aircraft collided at about 2,900ft, with G-BYVN on approximately a westerly heading and G-BYUT closing from the south, probably while still turning to the left. The right wing of G-BYUT struck the aft fuselage of G-BYVN, which detached from the aircraft. The right wing of G-BYUT also detached at, or very soon after, the point of collision. Both aircraft were thus rendered uncontrollable.

"G-BYUT, with its right wing missing, continued in a steepening, descending flight path, and struck the ground in a steep dive, about 500m to the north of the point of collision. Both occupants sustained fatal injuries.

"G-BYVN, with the majority of its aft fuselage and the whole of the tail section missing, also entered a steep dive and struck the ground close to the point of collision. At some point during the descent (but probably in the latter stages, according to eyewitnesses), the pilot separated from the aircraft. The aircraft struck the ground in a steep dive, and caught fire. The pilot's body was found about 23m from the aircraft wreckage; his parachute had not deployed. The passenger was found still within the cockpit. Both occupants had sustained fatal injuries.

Numerous people on the ground witnessed the collision or subsequent descent of one or both aircraft. The emergency services were alerted immediately and arrived soon afterwards, supported by helicopters of the police, air ambulance and RAF Search and Rescue (SAR) units.

Read the 15 safety recommendations online at *www.aaib.gov.uk/publications/formal_reports/6_2010__g_byut_and_g_byvn.cfm* CJ

03

Poor visibility link to Cirrus Channel crash

THE AAIB HASN'T been able to fully determine the cause of a Cirrus SR-22's crash in to the English Channel.

However, the investigation did find that immediately prior to the accident, the pilot was flying in meteorological conditions that were not suitable for flight under VFR and he did not have the qualifications required to operate under IFR.

The aircraft was flying from Blackbushe to

INCIDENT DETAILS

- **Aircraft type**
  Cirrus SR-22
- **Date and time**
  July 21, 2013 at 12:00
- **Pilot's flying experience**
  PPL, 36 years old, 192 hours
  (of which 76 were on type)
  Last 90 days – 2 hours
  Last 28 days – 2 hours

Le Touquet when it disappeared from radar. Small sections of the aircraft recovered later from the sea surface indicated that it experienced a high-energy impact with the surface. The aircraft was being flown in conditions of low cloud or sea fog with little or no discernable horizon.

The Cirrus SR-22 has advanced avionics, including an auto pilot and disengagement of the autopilot in these circumstances would have made it very difficult for the pilot to control the aircraft manually. As a result of discussions arising from this accident and others, the CAA is considering enhancing publicity to the GA community concerning the operation of light aircraft equipped with advanced avionic and ballistic recovery systems.

The investigation didn't rule out pilot incapacitation as a factor because there was no evidence that the pilot used the emergency parachute system or made an emergency radio transmission.

The pilot was concerned about the weather before he departed and had expressed specific concern about the cloudbase. In order to assess the weather, the pilot flew several circuits before departing to Le Touquet. He flew his initial departure from Blackbushe at a height that was consistent with the aircraft operating below the cloudbase in that area. His subsequent climbs, as he flew further south, may have corresponded with improving weather. The initial track to the southeast appeared to have been manually flown, while the constant height and track indicated that he may have engaged the autopilot once tracking towards Midhurst VOR. The autopilot appeared to have remained engaged until the aircraft commenced the descending left turn, then re-engaged once the aircraft was straight and level at the lower altitude. Although the final radar points indicated a slight change of track and variation in altitude, the absence of subsequent returns provided insufficient information to draw conclusions.

Two airborne reports were obtained from aircraft flying approximately three minutes ahead and 12 minutes behind the accident aircraft and on a similar route. One pilot stated that an area of low cloud or fog extended from approximately 8nm off the English coast to about 8nm off the French coast. Aircraft flying under VFR outside controlled airspace at 140kt or less and below 3,000ft are required to maintain 1,500m in-flight visibility, clear of cloud and in sight of the surface. Schedule 7 of CAP 393, 'Air Navigation: The Order and the Regulations' further restricts the holder of a Private Pilot's Licence (Aeroplanes) (PPL(A)) without any instrument rating to a minimum flight visibility of 3km outside controlled airspace.

The pilot gained a Private Pilot's Licence in 2010 and had flown a variety of light aircraft since then. His logbook was recovered from the sea surface and showed that he had accrued a total of 192 hours' flying time, of which 36 hours were on the Cirrus SR20 and 40 hours on the Cirrus SR22. He did not hold an instrument or IMC rating although a passenger who occasionally flew with him reported that he had, in the past, flown through cloud with the autopilot engaged.

During his PPL(A) training he recorded 1.5 hours of instrument flying in his pilot's logbook. Since gaining a PPL(A), he recorded just over four hours of instrument flying, none of which appeared to have been under instruction.

The pilot was only qualified to fly under VFR, but was in conditions that would have prevented him remaining in sight of the surface. Disengagement of the autopilot in the hazy conditions and lack of a discernable horizon would have made it very difficult for him to control the aircraft manually using visual flight techniques. Furthermore, as the pilot did not have an instrument or IMC rating and had only very limited experience of flying on instruments, it would have been be very difficult for him to maintain manual control of the aircraft using instrument flying techniques. CJ

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Auster J5K Aiglet Trainer
October 6 2013
Watchford Farm, near Honiton, Devon
Abandoned take off and overrun

The aircraft was taking off from a 400m grass strip that was wet and soft. The pilot felt that the aircraft was having difficulty leaving the ground and abandoned the takeoff. He believes a combination of factors then led to the aircraft sliding sideways at slow speed into a fence beyond the end of the runway before coming to a halt.

Beagle Auster D5 Series 180
Bovington Camp, Dorset
September 29 2013
Clipped trees with wing

The aircraft had just taken off while towing a glider. As the pilot attempted to climb away, he felt that the engine was not delivering enough power to continue; the glider released and the pilot searched for a suitable place to make a forced landing. A concrete road cut through a spruce forest was selected but, on landing, the right wing clipped a tree, spinning the aircraft round through 180°.

Cessna 182P
Rochester Airport
August 23 2013
Gear collapse on landing

The pilot flew from Popham to Rochester in poorer visibility than he was accustomed to and, as a consequence, had become "rather stressed" upon arrival. The wind at Biggin Hill (18 miles west of Rochester) was forecast to be 130°/14kt so the pilot was expecting to use either Runway 16 or 20 at Rochester. However, on being given Runway 02, the pilot initially confused this for Runway 20 before realising his error and repositioning the aircraft to join what he described as a "busy circuit". On reporting final, he heard no acknowledgement. He continued his approach, but realised he was too high over the threshold and "dived at the runway". He was then distracted by a radio call requesting his position and failed to notice how much his speed had increased. With a rapidly approaching runway, the pilot became fixated on landing the aircraft. Following several bounces, the nose landing gear collapsed and broke away before the aircraft came to a stop. Neither occupant was injured. In a frank and honest report the pilot stated that his poor decision-making and failure even to consider going around was a result of stress and distraction at a critical moment.

Luscombe 8As
Farthing Corner Airfield
July 22 2013
Stub axle failure

The pilot carried out the pre-flight power checks and commenced his takeoff run. He was not happy with the engine performance and after the second bounce he aborted the takeoff. The aircraft landed heavily and the left stub-axle sheared off. The stub axle was found to have failed near the weld. There was evidence of corrosion and a crack that appeared to have been present for some time.

Pierre Robin DR400/100
Kirkbride Airfield
August 31 2013
Struck a steel post close to the side of the runway

The aircraft was backtracking on asphalt Runway 10 at Kirkbride, an airfield that the pilot knew well. He intended to perform a 180° turn to take off on Runway 28; the wind was reportedly from 290° at 10kt. The pilot stated that, as he positioned the aircraft to the right prior to performing this turn, the right brake started to bind and, despite full left rudder and brake application, he could not prevent the right wing from striking a substantial steel fence post at the side of the runway. The roughly 3ft 6in-high post formed part of a fence dividing farmland from the airfield and was about 6ft from the edge of the runway, hidden in tall grass. The aircraft's wheels had not left the runway. The company that recovered and dismantled the aircraft for repair did not see any evidence of brake seizure or binding, but were not able to perform a function check of the brake system.

Piper Cherokee Archer II
Turweston Aerodrome
October 10 2013
Collided with taxiway edge sign

The pilot had backtracked Runway 27 and turned off at Holding Point C to perform an engine power check, before departing for a flight to Fairoaks. During a right turn to position the aircraft into wind, the leading edge of the left wing struck a metal upright supporting a sign, causing damage to the left wing. The extent of the damage was only discovered after the pilot had landed at Fairoaks.

Streak Shadow
Stoke Golding airfield
August 10 2013
Nose landing gear collapsed on landing

The pilot trimmed the aircraft for landing on Runway 26 at Stoke Golding at an indicated airspeed of 60kt then, at a height of 6ft, decided to go around. The Shadow has a throttle lever on the left of the cockpit and a 'sidestick' control column on the right, whereas Piper PA-28 aircraft he had flown previously have a throttle operated with the right hand and a control

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yoke held in the left. Instead of advancing the throttle with his left hand, he pushed the control column forward with his right. Although he realised his mistake, he was unable to prevent the nose landing gear from striking the ground and collapsing. He considered that his lack of experience with the Shadow was the reason for his error.

Zenair CH 701SP
Pentland Firth
September 8 2013
Cabin door detached in flight

The aircraft was performing "gentle manoeuvres" at an airspeed of about 100mph when the pilot noted that both cabin doors were bulging into the slipstream and then, almost instantly, the left door fractured and departed the airframe. The left tailplane skin was later found to be damaged.The pilot is of the opinion that the doors were not rigid enough to resist the aerodynamic forces created by their bubble shape. They were of a later type of door that the manufacturer refers to as 'bubble' doors because they comprise a single transparent panel with a bulge moulded into it; this allows more elbow room and better visibility compared with the standard flat doors. Two types of bubble doors were marketed; the first used the original tubular door frame with the transparency screwed to it and the second used a composite frame. G-IMME was fitted with the later standard during build and had flown some nine hours since then. The Light Aircraft Association regards the bubble doors as an unapproved modification and will be writing to CH 701 owners to point this out. They may also highlight the situation in their magazine *Light Aviation*.

Robin CEA DR300/180R
Wycombe Air Park
September 18 2013
Damaged possibly due to nosewheel shimmy

The pilot was landing on Runway 24 at Wycombe Air Park after a local flight; the wind was from the north at 6-8kt. The aircraft touched down on its main landing gear and the pilot slowly lowered the nose. As the nosewheel made contact with the runway, however, he experienced violent nosewheel shimmy. He applied a burst of power and applied back pressure on the control column to decrease the load on the nosewheel, which arrested the shimmy. He noticed no further abnormalities until he had taxied back to the hangar. After disembarking the pilot noticed a longitudinal crack in the lower right side of the fuselage, running from the engine firewall to the wing front spar. He concluded that the crack was most probably a result of the shimmy, since his landing had been normal on the main gear and fully 'held off'. He considered it possible that, with this tug aircraft being flown by various pilots, damage may have been caused by a previous, and unreported, hard landing.

Cassutt Racer IIIM
near Halfpenny Green Airfield
October 19 2013
Power loss and forced landing

The aircraft was engaged in circuit practice when, on base leg of the first circuit, the engine lost power. Unable to reach the runway, the pilot landed the aircraft in a ploughed field short of the runway threshold. It pitched over inverted and he was trapped in the cockpit until rescued by the Airfield Fire Service. He believes that he may have inadvertently selected the mixture control to fully lean on the downwind leg instead of applying the carburettor heat.

Cessna 172S
White Waltham Airfield,
Buckinghamshire
September 2 2013
Hard, bounced landing

The aircraft was landing on grass Runway 29, with the wind from the northwest at less than 8mph. Following a "good" final approach at 70kt, with full flap selected, the aircraft bounced on touchdown. Thereafter, the pilot was unaware of any anomalies with the aircraft beyond the fact that the elevator controls felt stiff. After parking, he performed a walk-round inspection of the aircraft and was satisfied that there was no damage. Later, an engineer found rippling of the floor panels and firewall, which accounted for the stiff elevator controls, and evidence that the propeller had struck the runway. The pilot was of the opinion that he should have flown the final approach at a slightly slower speed (recommended final approach speed is 65kt, with full flap) and that he may have flared too early. He also thought that the uneven nature of the runway surface may have played a part.

Piper PA-28R-180
Shoreham
November 14 2013
Heavy landing, landing gear would not completely retract on subsequent takeoff

The aircraft landed heavily at Shoreham following a night flight from Biggin Hill. During the subsequent return flight, the landing gear would not lock into the UP position. The pilot continued the flight with the gear down and made an uneventful landing. A subsequent inspection revealed damage to the left wing upper surface and to the gear itself. The pilot attributed the heavy landing to a false height perception due to the relatively narrow width of the runway at Shoreham.

Pitts S-1S
Peterborough/Conington Airport
October 24 2013
Runway excursion

On touching down on asphalt Runway 28, the aircraft experienced violent tailwheel shimmy and, after about 100m of ground roll, it veered to the left. The pilot applied full right rudder, but this had no effect and the aircraft left the runway, heading

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towards a fence some 25-30m from the edge of the paved surface. He applied full power and right rudder and the aircraft seemed to respond, but the left lower wing struck a fence post, yawing it in towards the fence. The propeller and cowling struck the fence followed by the right lower wing as the aircraft reversed direction and came to a halt. After checking with the control tower that he had been seen, the pilot switched off fuel and electrical power and exited the aircraft. Upon inspection, it was found that the right-hand tailwheel steering link had broken, leaving the spring on the left side to pull the wheel in that direction. The pilot believes that a combination of wear and shimmy had caused the link to fracture.

Slingsby T67C
Wellesbourne Mountford
September 18 2013
Canopy opened in flight

While climbing prior to demonstrating an aerobatic manoeuvre, the cockpit canopy suddenly opened, shattering the perspex. The frame remained attached to the aircraft, which made a safe landing without further incident. Non-incorporation of a modification to improve ease of checking for correct engagement of the latch mechanism or maladjustment of the mechanism are considered as possible factors in this incident.

EV-97 TeamEurostar UK
Gloucestershire Airport
September 22 2013
Landing accident during solo student flight

The student pilot was returning from a qualifying cross-country flight. The weather was good, Runway 27 was in use, and the surface wind was south-westerly at five knots or less. The chief flying instructor, who witnessed the accident, stated that the aircraft's approach appeared normal until the "round-out phase" (flare). The aircraft's attitude then remained slightly nose-down, instead of pitching up into the touchdown attitude, as it neared the runway. Touchdown occurred on the nose landing gear and, following three bounces of increasing magnitude, the nose landing gear collapsed and the aircraft came to a halt. The pilot, unhurt, vacated the aircraft without difficulty. His report stated that he had misjudged his proximity to the ground, and that surprise and some confusion prevented him regaining control of the situation and going around.

Gemini Flash IIA
Redlands airfield, Swindon
November 11 2012
Loss of control on the ground

At the time of notification of the accident, the pilot had informed the AAIB that he had been landing behind another aircraft which unexpectedly performed a go-around. On touchdown, G-MWWK had entered the propeller wash of the preceding aircraft and the pilot had lost control of his aircraft, which tipped on to its left side.

The pilot states that he was taxiing and practising ground manoeuvres when a gust of wind caught under his right wing and the left wing entered some tall grass at the side of the taxiway. He intended to brake sharply to bring the aircraft to a halt, but accidentally depressed the foot throttle, causing the aircraft to tip onto its left side and collapse the left wing. The pilot could not explain his differing accounts of the accident.

Mainair Blade 912S
East Fortune Airfield, East Lothian
September 28 2013
Hit sheep on takeoff

The pilot reported that he began his takeoff roll on the 300-metre-long asphalt section of Runway 11 approximately two minutes after another aircraft had departed. The weather was very good with no wind. As his takeoff progressed, one sheep, followed by several more, jumped an adjacent fence and crossed the runway ahead of him. Although he had been just about to rotate, he aborted the takeoff,

reducing power to idle and braking. The aircraft passed through the middle of the sheep, just missing them. The pilot realised that there was insufficient runway ahead in which to stop, so switched off the engine. The aircraft impacted a concrete roof truss which had been placed across the runway's end. The pilot vacated the aircraft without difficulty, having suffered only minor injuries. A flying instructor reported that although sheep grazed the airfield, they generally stayed clear of aircraft, and had not been problematic. Nonetheless he understood that the landowner had subsequently decided not to keep sheep on the airfield, but to graze other livestock in enclosed areas instead.

X'air 133(1)
Westonzoyland Airfield
October 4 2013
Engine failure and forced landing

The student pilot was undertaking solo circuit practice with his instructor observing from the ground. He had performed one takeoff and landing and backtracked to take off again on Runway 22. The weather was good with a slight south-westerly wind. Having performed the normal pre-takeoff checks, the takeoff was normal until, having cleared the airfield and at a height of about 300ft, the engine vibrated and stopped. The pilot attempted to restart the engine, but it would not turn over. He switched off the fuel and electrical power and concentrated on finding a suitable landing site.

The subsequent touchdown in a grass field was successful but, in the last few metres of landing roll, the aircraft struck a small drainage ditch, causing damage to the landing gear and underside of the fuselage. The cause of the engine stoppage has not currently been determined. CU

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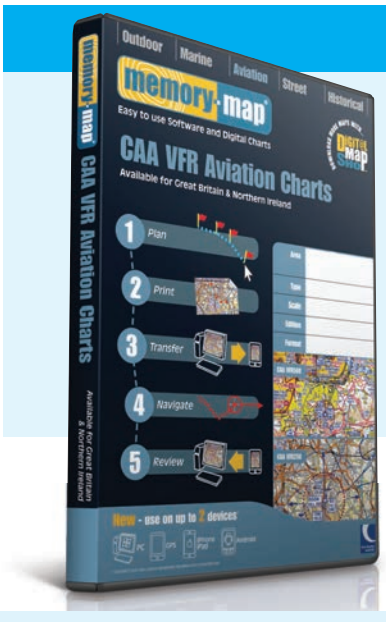

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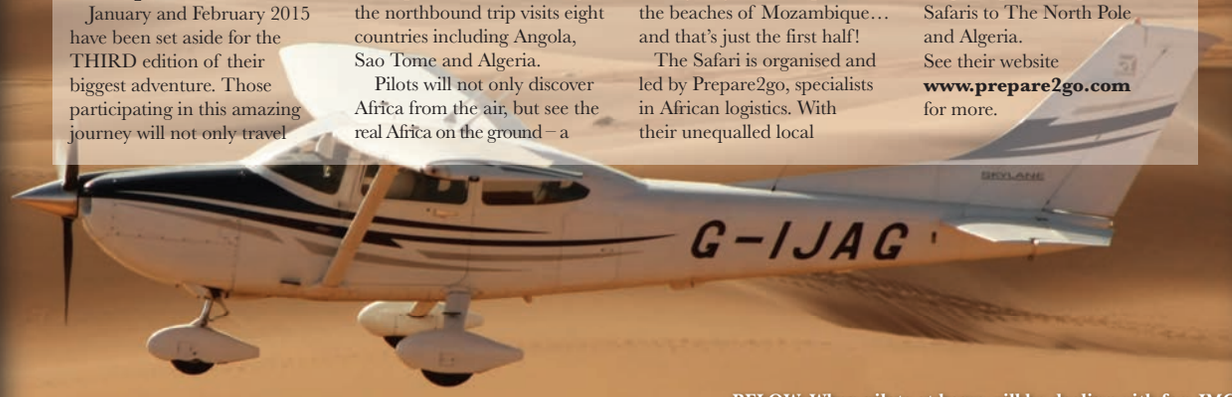

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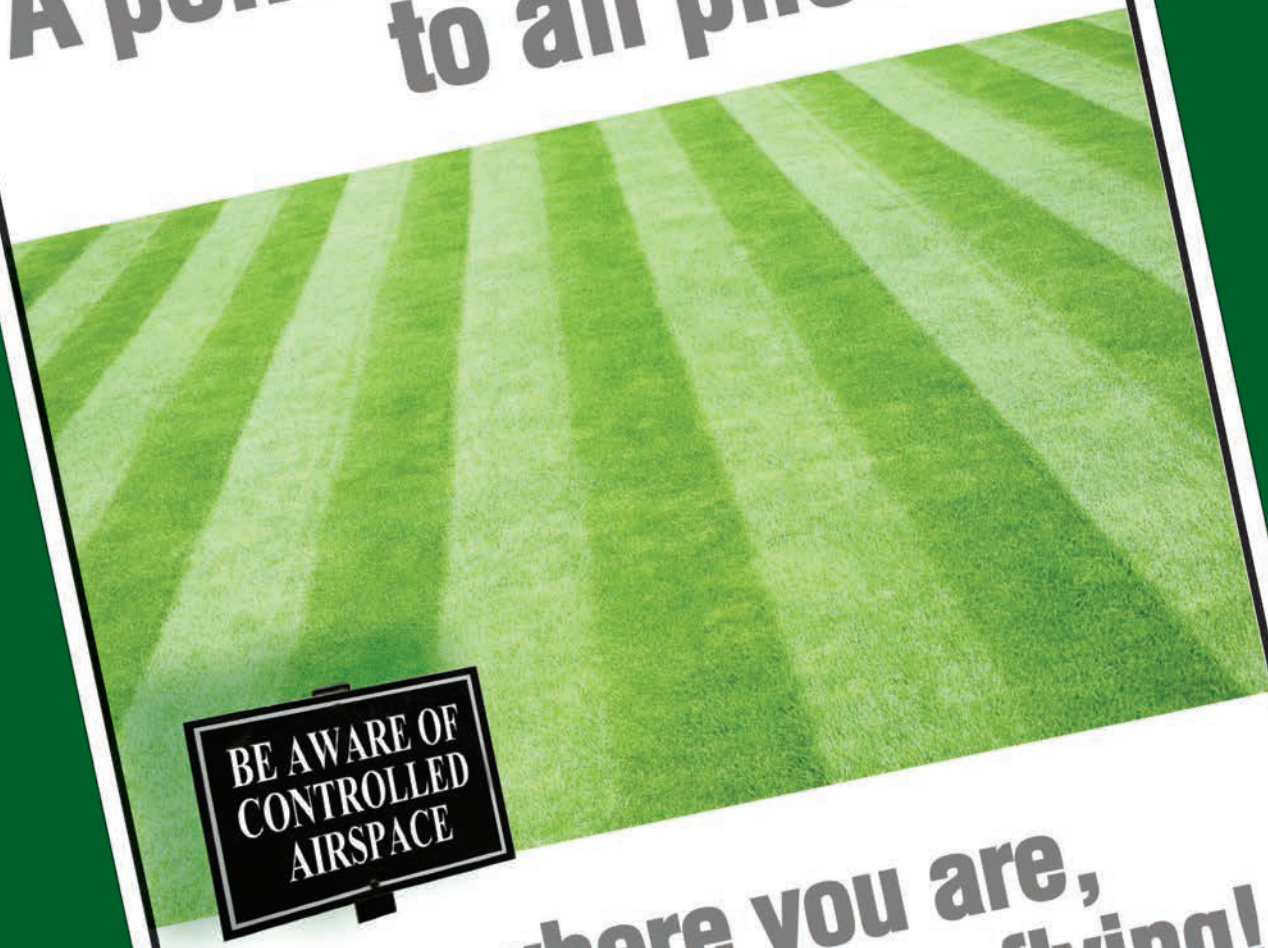

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