

AIR PROX



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WELCOME...

to the annual Airprox Report Magazine 2016

WELCOME TO THE FIRST Airprox Board summer newsletter. We've changed tack this year to try to get information on key issues out in a more timely manner, so I hope this short newsletter will not only be accessible, readable and thought-provoking but also available in a form that can be picked up quickly.

As you can see, we've concentrated on five themes: electronic conspicuity; drones; glider sites, visual circuit ops and emergencies/distractions. Electronic conspicuity was chosen largely because of the latest work done by the CAA to look at potential solutions (CAP 1391) and the time is fast approaching when we all might usefully reconsider fitting such equipment.

Drones have been a rapidly increasing threat for commercial operations in the last couple of years and there is a risk that they will soon become more of an issue in Class G airspace. Avoiding glider sites has been a persistent issue, but it's one that is in the hands of those who fly close to them and especially to avoid flying over them no matter what the weather.

I chose visual circuit operations because I see far too many Airprox where people either lose situational awareness, don't follow procedures, or don't fully understand the overhead join and its likely confliction points; time spent on the ground thinking about the join and subsequent visual circuit is rarely wasted.

Do visit our website at airproxboard.org.uk for more information and access to individual reports.

PUBLICATION CONTENT.

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The trouble with drones

More and more people are using them and the number of close calls is rising as some fail to read the 'Drone Code'

A close encounter with a drone is unnerving – a 'spot' in front of you that might or might not be moving and you think 'what the heck's that?' then, suddenly, your 70kt airspeed causes it to fly by to the left or right.

That experience came from a light aircraft taking off and a drone operator flying nearby to watch what was going on at the airfield; it was probably inevitable that it would eventually fly closer and closer to the end of the runway to watch the action...

Curiosity is natural, and with drones of all shapes and sizes now widely available people quite literally have the chance to extend their horizons – the trouble is not everyone is following the advice and rules, and that's leading to an increasing number of Airprox with drones.

We've all read the stories in the papers of passenger jets reporting near-misses and last year's figures are pretty sobering. Of the 40

Airprox incidents involving objects, 29 were positively identified as drones (the other 11 were either too vague in their description or were described as balloons or model aircraft).

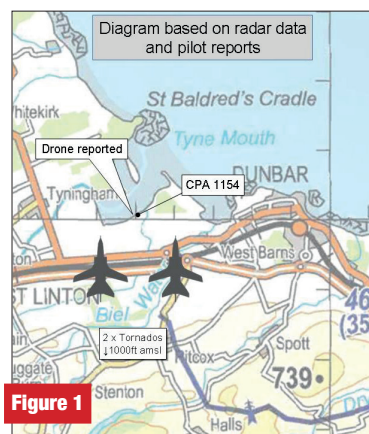
Worryingly, of these drone reports, 13 were risk Category A, the highest risk (just short of a collision), 11 were Category B, where safety was much reduced below the norm, three were Category C, no risk of collision, and the other two were unassessable. So, not only are the numbers of incidents increasing but the close shaves seem to be getting even closer – some of the reports suggest the closest point between the aircraft and the drone was a matter of metres.

All of which suggests that while there's plenty of advice available to people about what they can and cannot do, some people don't seem to have read it.

The CAA will be launching a major drone safety awareness campaign soon to highlight the current rules that stem from the basic Air Navigation Order, Article 94 – Small Unmanned Aircraft.

This is specific in saying that 'the person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flightpath in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.

'If it has a mass of more than 7kg (excluding its fuel but including any articles or equipment installed in or attached to it) [drone operators]



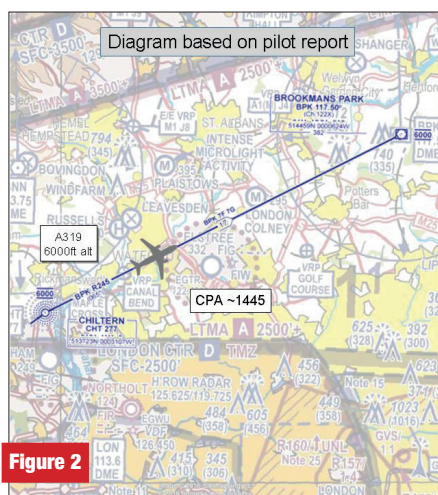


Figure 2

must not fly the aircraft in Class A, C, D or E airspace unless the permission of the appropriate air traffic control unit has been obtained; within an aerodrome traffic zone during the notified hours of watch of the air traffic control unit (if any) at that aerodrome unless the permission of any such air traffic control unit has been obtained; or at a height of more than 400ft above the surface unless it is flying in airspace described in sub-paragraph (a) or (b) and in accordance with the requirements for that airspace.

Put simply for those who don't have the ANO as bedtime reading, the Drone Code says: 'Make sure you can see your drone at all times and don't fly higher than 400ft, always keep your drone away from aircraft, helicopters, airports and airfields, use your common sense and fly safely; you could be prosecuted if you don't. And there's an important rider. 'It is a criminal offence to endanger the safety of an aircraft in flight.'

Here are a few examples of what's been happening: Four (**Airprox 2016042**, **2016049**, **2016050** and **2016062**) were all Cat A encounters with drones near Heathrow (at 4800ft vs an A320; 1800ft vs an A321; 2000ft vs an A320 and 1200ft vs an A320 respectively – and there are plenty of others from major airports around the country.

In the first case (**Airprox 2016042**) the pilot reported that a large drone flew across the aircraft's path close to the right side, missing the right wing by an estimated 5m (Figure 3). The drone was red on top and black underneath and appeared to be about 1m in diameter.

A similar-looking drone appeared in **Airprox 2016019** when it was flown into conflict with an Embraer 135 in Newcastle CTA. In this case the pilot reported an

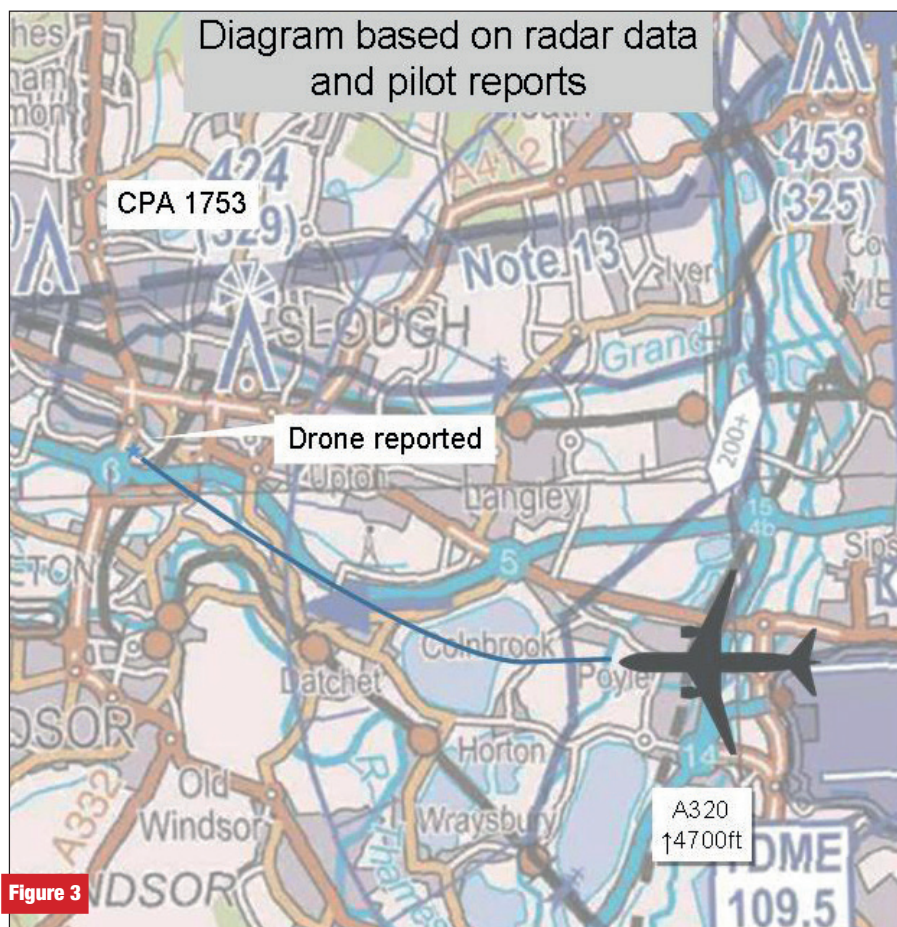


Figure 3

unidentified disc-shaped object that was black beneath and red on top and the size of a large gull that flew 'over their heads'.

In **Airprox 2016020**, an A319 pilot flying from Heathrow at 6000ft heard a drone sighting from the aircraft ahead. About two minutes later the First Officer saw a silver/grey coloured drone in the right 2.30 position and the Captain saw it when abeam the cockpit (Figure 2).

Military aircraft are also coming across

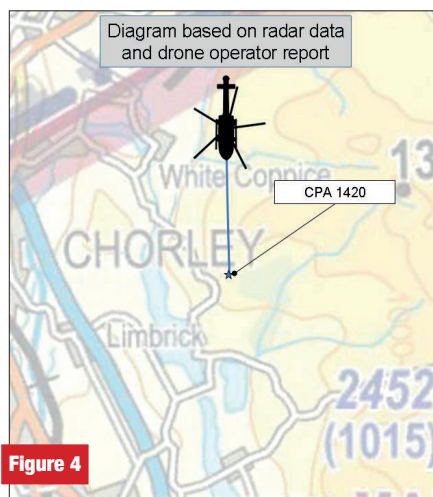


Figure 4

drones, too. In **Airprox 2016005** a pair of Tornados flying in formation and coasting out near Dunbar spotted a UAV that passed between them 500ft laterally at approximately 1500ft amsl (Figure 1).

In this case the speed of the Tornados would have made it very difficult for the operator to detect and avoid the aircraft, but the crews only saw the drone as it passed between them, so here's a thought: should drones carry high-intensity lighting to make them more visible to aircraft?

Most professional/commercial drone operators are, however, well aware of the potential issues. For the first time the Airprox Board dealt with a drone-operator reported Airprox (**Airprox 2016038**).

He was conducting commercial drone operations near Chorley when he heard a helicopter approaching. The operator tried to land his craft but the helicopter appeared over a ridgeline before he could do so, and he was concerned for the helicopter as his drone came into close proximity (Figure 4).

The Airprox board said this was a refreshingly honest report that reinforced the professionalism of commercial drone operators.

Wired for danger

There has been an increase in reported Airprox at gliding sites, but do you really know the risks? Wire cables rising to 3000ft, for instance

Just think about it. Back in the First and Second World Wars barrage balloons were designed to bring down aircraft by using steel cables and it was a pretty effective system – hit a wire with a wing at, say, 100kt and there's really only one outcome unless the pilot is extremely fortunate.

So you'd think that anyone would give a gliding site with winches taking steel cables potentially as high as 3000ft a very wide berth. But in recent years there have been a number of incidents, four in the highest Airprox Category of 'A', which suggest that some pilots aren't aware of the risks, the location of a gliding site or perhaps they've just assumed that because the weather's a bit iffy there won't be any activity or they'll see if there's anything happening at the site as they approach.

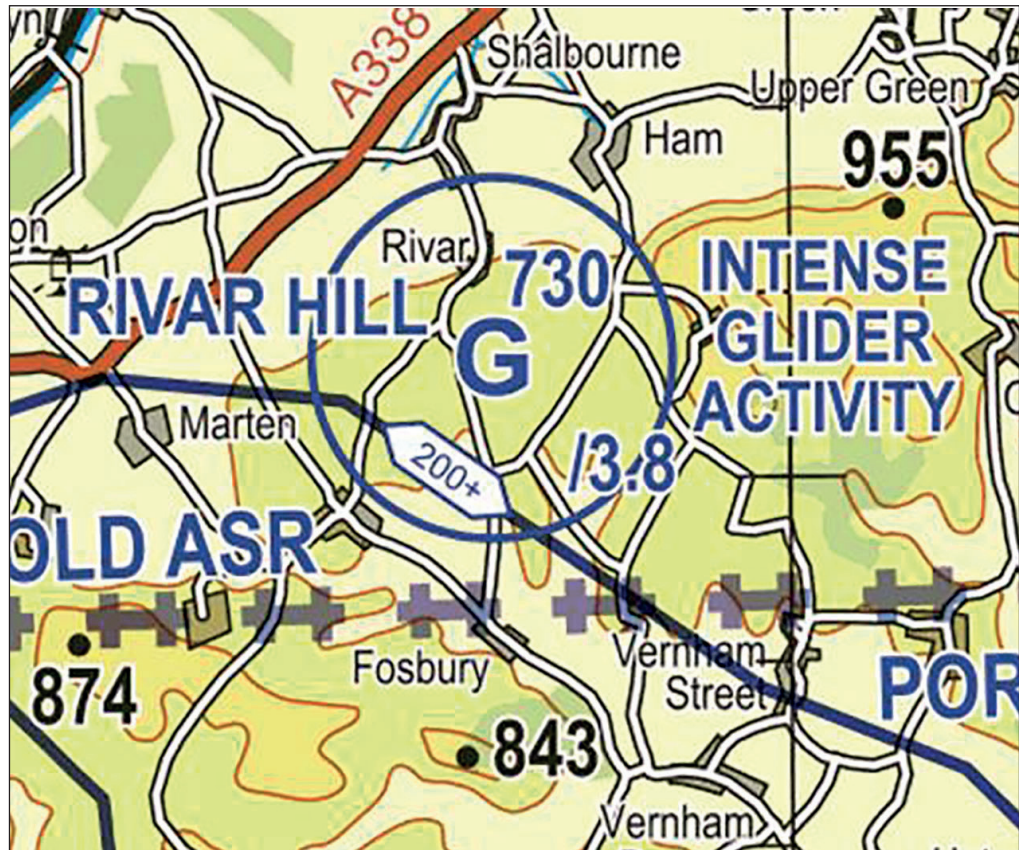
Taking that last point first, it's unlikely you'll spot anything before it's too late. You really can't rely on seeing a winch launch happening as you approach a gliding airfield. Gliders go from the ground to 1000-1500ft in about 20 seconds, so spotting one in the climb is too late to do anything about the conflict.

And the danger hasn't passed once the glider releases from the winch. You can't see the cable and, depending on the winch-launch height, the hazard continues for at least another 20-30 seconds as it descends under a small

'The pilot was climbing on the winch and said he was close enough to see the R44 pilot flinch and make a slight turn'

parachute that's effectively invisible. Some glider sites can launch to altitudes of 3000-4000ft.

These maximum launch altitudes are indicated on the 500K and 250K VFR charts with a forward slash and height; for example, Rivar Hill (730asl), not far



from Marlborough in Wiltshire has a maximum winch-launch altitude of 3800ft, as shown on the chart above as /3.8.

In one of this year's Category A events (**Airprox 2016036**) a K-21 two-seat glider

had just released from the winch at 1300ft at Lasham airfield when an unknown light aircraft flew past him 50ft away on a parallel course (Figure 1).

We don't know whether the pilot had seen the glider, but it was clear that he had inappropriately flown through a

promulgated and active glider site (max winch-launch height for Lasham is 3700ft, shown on the VFR chart as /3.7) and into conflict with the K21.

This could have been very nasty, not only if the unknown aircraft had collided with the glider, but also if it had tangled up with the winch cable post release.

In another incident (**Airprox 2016074**) an R44 flew through the Husbands Bosworth glider site in Leicestershire and just missed a Discus glider that was winch-launching.

The pilot said he was close enough to see the R44 pilot flinch and make a slight turn. He was climbing on the winch and if he had not looked for the other traffic he believes that either he would have collided with the R44, or the R44 would have flown into the

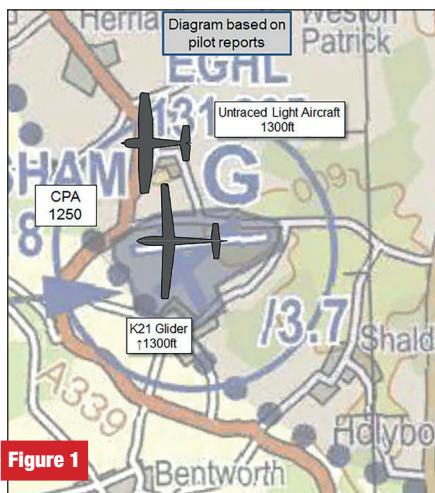


Figure 1

winch cable. He released the cable as soon as possible to prevent the R44 flying into it. Although there were some anomalies regarding reported heights versus the radar replay, it was clear that this was a very close call.

It's not just winch launches that it's worth watching out for, either. There are obviously going to be plenty of gliders soaring at different heights around the site and there is a secondary hazard of tug/glider combinations.

For example, a Category C incident (**Airprox 2016024**) occurred when a Beechcraft 35 encountered a Robin DR400/SZD50 tug/glider combination climbing out of Gransden Lodge in Cambridgeshire (Figure 2).

The BE35 pilot saw the combo and was passing behind when the glider released and turned away from the DR400 (which is normal practice to ensure clearance from the tug). Both pilots in the glider then simultaneously sighted the V-tailed, single-engined aircraft on a reciprocal course perhaps 200-300 metres away and perhaps 200ft below.

The BE35, caught out by the SZD50's manoeuvre, then flew directly under the glider without varying course. From first sighting to losing sight underneath the glider took just five seconds and this incident serves as a timely reminder to give tug/glider combos as wide a berth as possible.

Other recent reported incidents included a glider that aborted a winch launch at Tibenham, Norfolk, when a PA-28 overflew the site (**Airprox 2014013**), an Augusta 109 helicopter that came close to a glider winch launching at Dunstable, to the west of Luton

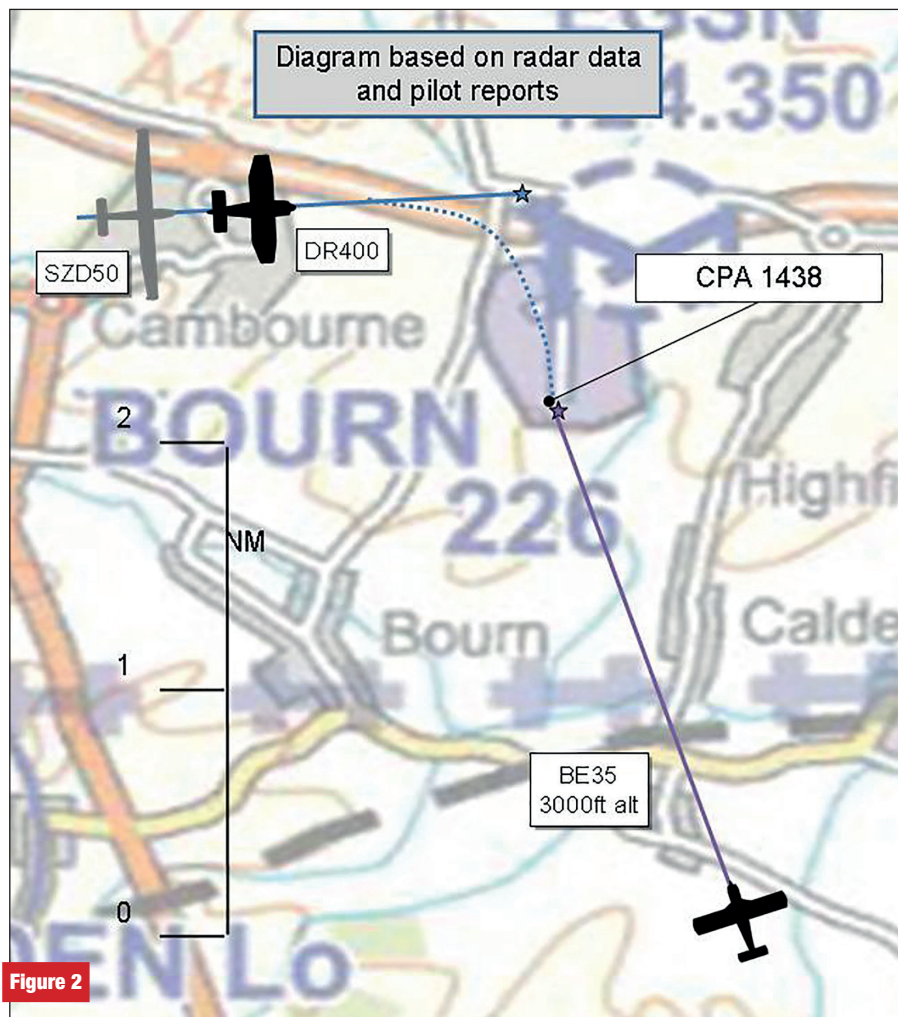


Figure 2

(**Airprox 2014211**) and, again at Dunstable, an MD902 helicopter that came close to a launching glider, **Airprox 2015026** (Figure 3).

But it's not just pilots who need to be aware, there's also a lesson for glider launch teams, particularly where winches are concerned, to ensure that their pre-launch lookout checks are robust,

especially since some of the higher-speed light aircraft can approach very quickly and might not be visible at the start of the launch run if they are low.

It's also worth reminding tug pilots that selecting SSR Mode C/ALT could be beneficial in providing electronic warnings of aerotow combos to pilots who have TCAS fitted.

What comes out of all these incidents is the reminder not to fly overhead glider sites below the promulgated maximum winch-launch height as shown on the VFR chart – the risk of hitting gliders or launch cables is very real.

Also, when avoiding glider sites, beware of simply skirting the site by a narrow margin because there are likely to be gliders operating close by soaring within gliding range.

Finally, unless you have positive confirmation from the site itself that they are inactive, always assume that a gliding site will be operational.

The full reports are available at airproxboard.org.uk

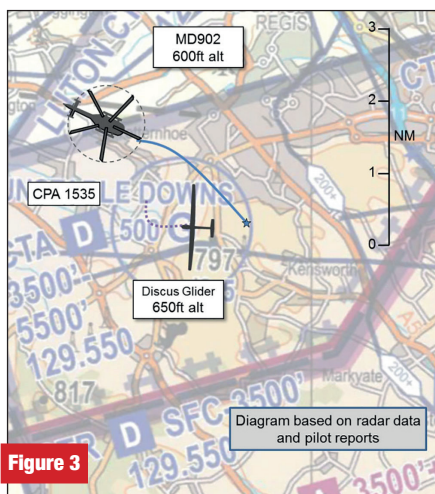


Figure 3

There's something about circuits...

It all tends to go wrong and result in conflict when people fail to follow procedures, circuits are less-than-standard or if situational awareness is lost

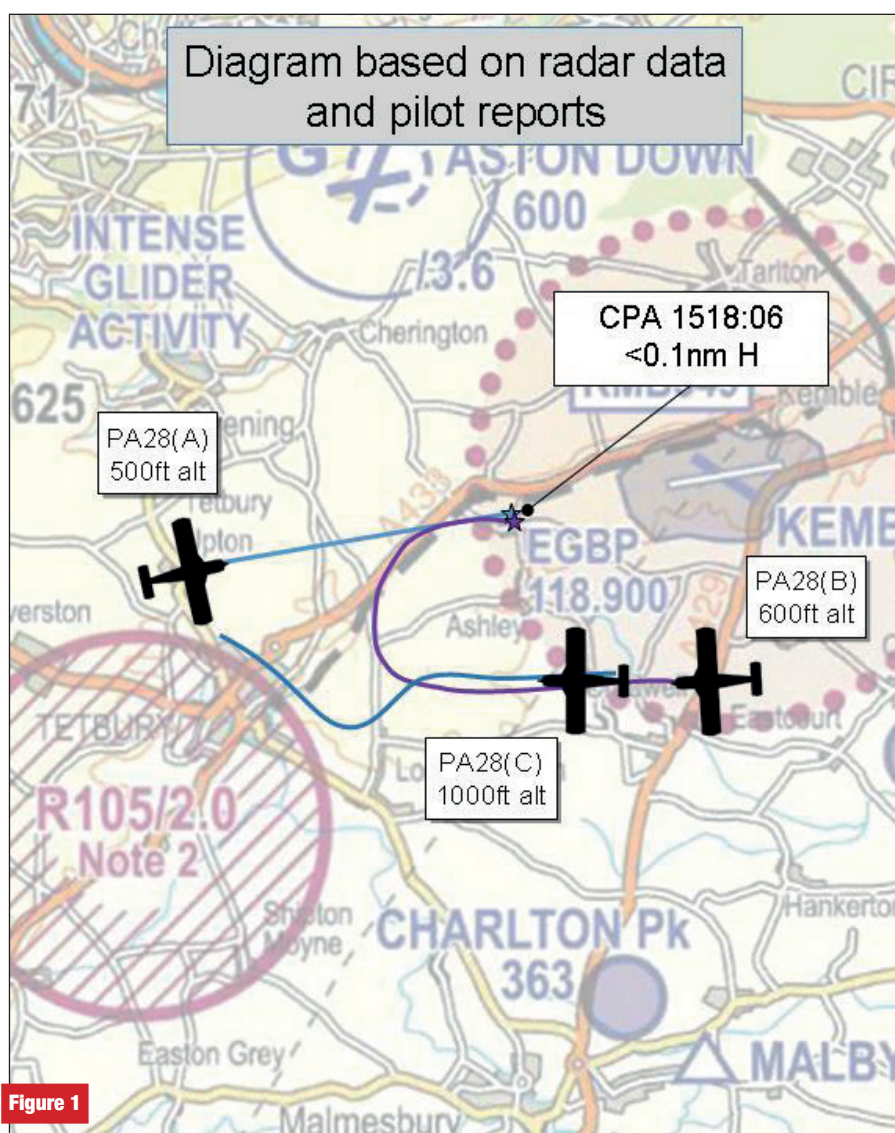
Tricky thing circuits, sometimes – you can meet anything from the ‘must-get-on-the-ground-and-get-home-for-the-barbecue’ pilot to the inexperienced solo student wondering just how far back he or she should extend the downwind leg to allow for the traffic in front. And as for overhead joins... With such a range of abilities and emotions it's no surprise that circuits produce their fair share of Airprox.

At controlled airfields they tend to be rarer for the obvious reason, but at air-to-ground sites it can be a whole different matter, often caused by pilots not following procedures, not integrating properly, or pressing on when they don't have sufficient situational awareness of other aircraft.

At these airfields, integrating into the circuit requires a combination of lookout, knowing where other aircraft are from radio calls and by using standard operating procedures, but it only works if pilots follow the standard procedures, make the right calls in the right place and lookout for other aircraft.

Most pilots have probably had their ‘moments’ when it comes to overhead joins and a handy tip is to keep the airfield to the same side as the circuit direction – you won't go far wrong. In other words, for right-hand circuits keep the airfield on the right as you approach; left-hand circuits – keep it to the left. That way you'll naturally be positioned to turn in the correct direction as you commence your overhead join.

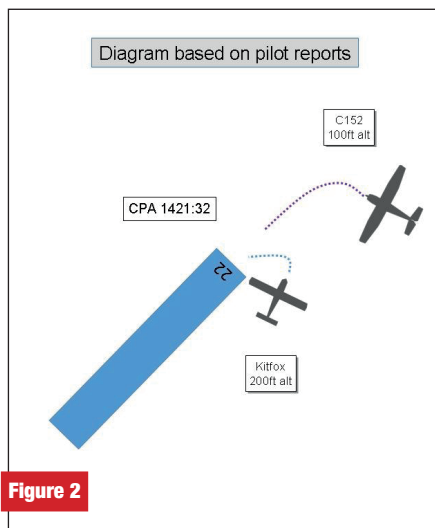
Things tend to go wrong when a circuit becomes less-than-standard. For example, a couple of Airprox have been caused by pilots extending circuits downwind to accommodate other aircraft either in the circuit or backtracking on the runway, but which has led to other pilots losing their



situational awareness of them and ending in conflict. Flexibility is good, sometimes essential, but extending downwind (well outside the ATZ in one case) can cause problems – sometimes it's best to abandon the whole thing and start the circuit again

rather than press on with an approach that bears little resemblance to normal procedures.

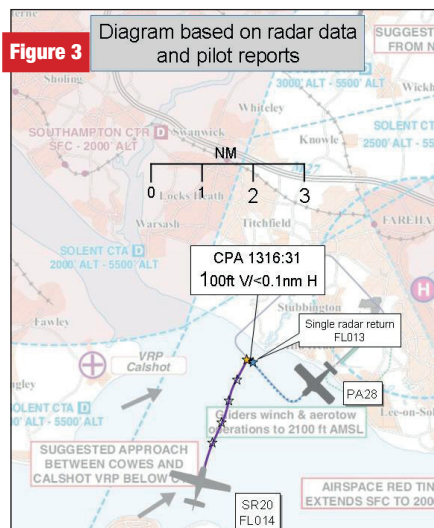
Take an incident at Kemble (Figure 1 above, **Airprox 2016023**). Two PA-28s were downwind (along with another PA-28



that was between the two) and the leading one extended his downwind leg because a bizjet was back-tracking on the runway to get airborne. However, the solo student routed 3-4nm downwind and the trailing pilot, on seeing, he thought, the middle PA-28 seemingly exit the circuit (its pilot was actually also extending downwind) the trailing PA-28 turned base and then finals unaware that the leading PA-28 was approaching the runway. It was only when an astute AFISO asked both aircraft to state their heights that the two pilots realised they were coming into conflict and the trail one manoeuvred away.

At Newtownards (**Airprox 2015203**) which is A/G only and relies on aircraft making calls in the right place and maintaining situational awareness of other traffic, a Cessna 152 and a Kitfox – both conducting instructional sorties – came close. The Kitfox instructor lost situational awareness with the C152 and, unaware that it was already established on base leg ahead, the instructor was caught out when his student unexpectedly turned in early and steeply for a glide approach (Figure 2). The C152 instructor became aware of the Kitfox as it was belly-up and descending on top of them at 100ft; the C152 instructor was able to take avoiding action.

In an incident at Lee-on-Solent (**Airprox 2015194**) a PA-28 pilot had to roll hard left to avoid an SR20 which appeared at close range (100-150ft), crossing from his left-hand side (Figure 3). The Piper was already established in the circuit as the Cirrus joined downwind, having been told by the A/G operator that the PA-28 was in the circuit, but he continued inbound without first sighting the PA-28. Although only downwind joins are permitted at Lee,



joining aircraft should give way to those in the circuit and should establish where the other aircraft are before joining.

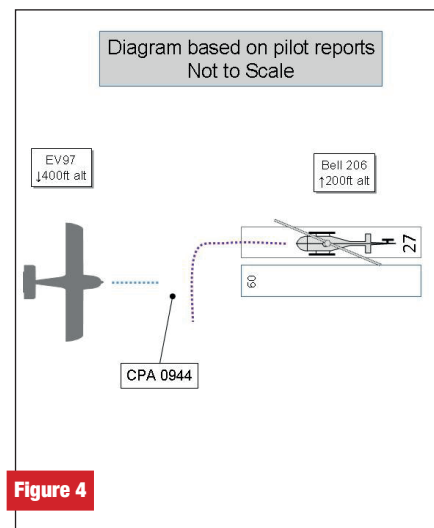
Merging helicopters and fixed-wing aircraft can have its headaches, too. In a case of pilot confusion at Shobdon (**Airprox 2015187**) and despite apparently being told numerous times which runway was in use, a Bell 206 pilot took off on the reciprocal runway and was in conflict with an Evektor EV97 approaching from the opposite direction (Figure 4). The B206 pilot apparently did not assimilate the subsequent information given about the EV97, and turned in front of it as he conducted the 'noise abatement' profile.

In one of a number of incidents at Leicester (**Airprox 2016068**) a Cabri G2

'This was the fourth incident in recent months where fixed-wing and helicopter traffic came into conflict at the airport'

pilot in the helicopter visual circuit was concerned by the height of a PA-38 that was joining 'deadside' to the fixed-wing visual circuit.

The fixed-wing and helicopter circuits are in opposite directions, but height separated by 300ft. This was the fourth incident in recent months where fixed-wing and helicopter traffic came into conflict at the airport which, being A/G-only, has no positive control within the circuit. So it's potentially something of an Airprox hotspot and it has been suggested that circuit procedures are reviewed to see if anything can be done to improve matters. (Stop Press: as a result of these incidents and an associated UKAB



recommendation) Leicester has raised its fixed-wing circuit height to 1200ft to provide a greater degree of separation between rotary- and fixed-wing.

Of course, incidents can happen at controlled airfields. An SR20 and an Evektor EV97 came close in the Gloucestershire Airport visual circuit (**Airprox 2015215**). Gloucestershire has full ATC, and the controller is required to sequence and integrate aircraft, but having allowed the EV97 to conduct an orbit downwind for spacing, the controller didn't provide the information early enough to the SR20 pilot (who was turning downwind from a go-around) and so the SR20 ended up coming close to the EV97.

Airprox 2016045 was a similarly close

encounter between a singleton Hawk and a Hawk formation in the RAF Valley visual circuit. The singleton Hawk was on finals when its instructor pilot decided to go-around due to poor circuit parameters, partly resulting from his preoccupation with the location of the Hawk formation. For their part, the three-ship echelon Hawk formation was joining through initials having made a late 'initials' call due to R/T congestion. The overshooting singleton Hawk did not see the formation as he positioned onto the deadside of the circuit, and flew through them as they scattered to avoid him.

The full reports are available at airproxboard.org.uk

Electronic eyes in the sky

Technology in the cockpit might be one of the culprits leading to close encounters, but recent developments could be of benefit to all

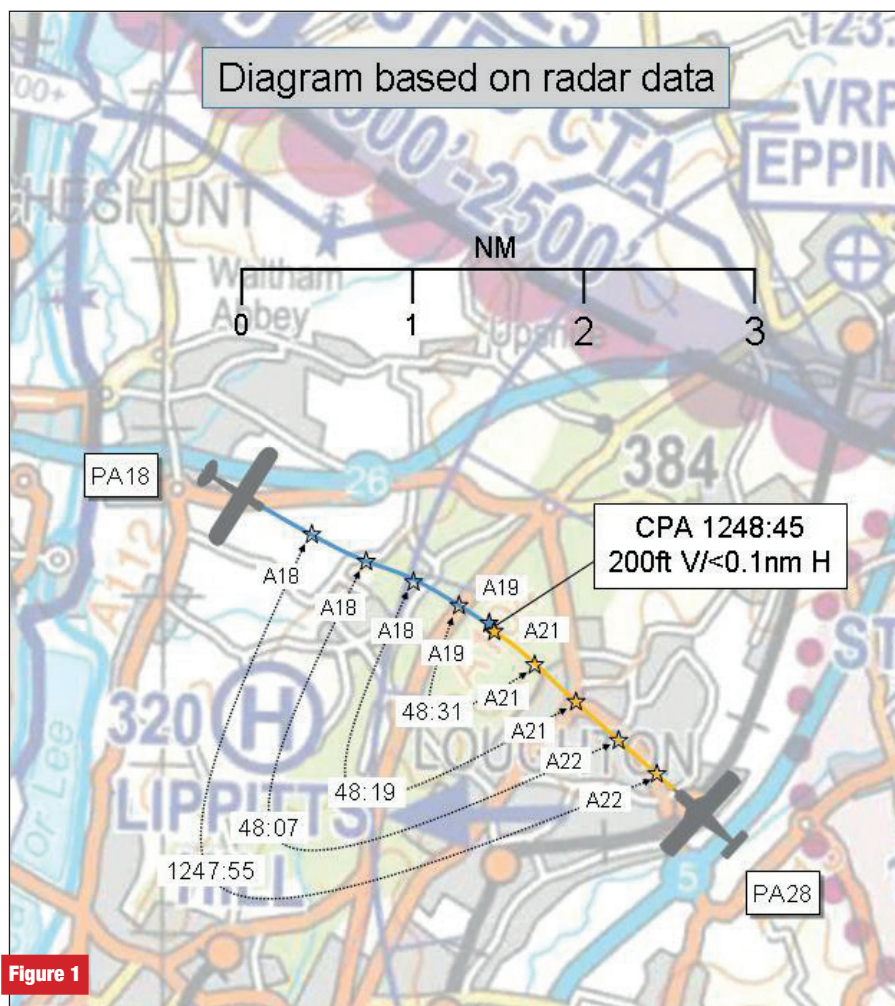
See-and-avoid (ie, keeping a damn good lookout) has stood us in good stead over the years and the UK's accident record as far as mid-air collisions go is pretty good – while they're almost unheard of over here it's a different story in America; have a look at John S. Yodice's AOPA column from August 2015 (aopa.org/news-and-media/all-news/2015/august/pilot/counsel) when you have a moment, it's interesting.

While those mostly fatal issues are rare over here, getting up close and personal with other aircraft is still an issue and the increasing amount of technology in the cockpit is one of the culprits with heads down inside rather than looking out.

But here's the conundrum, could more technology actually help pilots look out? We all know that TAS and TCAS help larger aircraft by offering a good idea of where to look and resolving a conflict, and now that technology is becoming more widespread in GA. Glider pilots have, for instance, been using FLARM (Flight Alarm) for years and it not only points to where the target is, but can also tell you where to look by voice, so you don't have to look down at an instrument in the cockpit.

As you'll probably know, AOPA in the UK has been working with NATS on LPAT, a Low Power ADS-B Transceiver for GA that will provide the minimum functionality needed to make GA pilots visible to other airspace users, and there's further development of electronic conspicuity devices under the CAA's CAP1391 requirements. The systems are based on Automatic Dependant Surveillance-Broadcast (ADS-B) technology which is low cost and can be produced in lightweight, low power units.

There's no question that they work,



although the current devices aren't yet brilliant at talking to each other. But having something telling you when and where someone is will undoubtedly be a great help to avoid conflicts. Take a look at these recent Airprox examples.

A Super Cub (PA-18) pilot was flying straight and level in good VMC, routing south-east to the south-west of Stapleford

ATZ when he suddenly saw a white aircraft approach and pass below his starboard wing, travelling in the opposite direction (Figure 1) (**Airprox 2015169**). He reported the first sighting as 200m and it was all over too quickly to take any avoiding action. He was looking out, but failed to see the approaching aircraft and had no idea where it came from. In **Airprox**

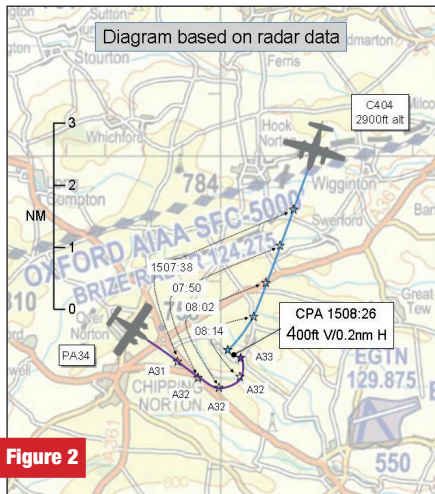


Figure 2

2015154 a Beech 200 was leaving Lasham and flew into proximity with a Silent 2 glider thermalling nearby. The BE200 pilot was busy changing frequencies and only saw the glider very late. The Silent 2 pilot was only aware of the aircraft when he heard the noise of its engines and it appeared in his view banking away. This aircraft regularly uses the busy gliding site and fitting P-FLARM (Power-Flarm) might have assisted in detecting the glider.

At Yeovil, an AgustaWestland A109 encountered a Skyranger microlight at about 2000ft (Figure 3) as the A109 was conducting a procedural approach in cloud layers from 1500-3000ft (**Airprox 2016001**). The A109 had been given Traffic Information on the Skyranger, but as they reached 2600ft the left-hand-seat helo pilot scanned up and right past the central vertical windscreen strut and saw the Skyranger at 1 o'clock, 100ft above and passing 100m down the right-hand side. No avoidance action was observed and none was taken due to the late spot. The right-hand-seat non-handling pilot

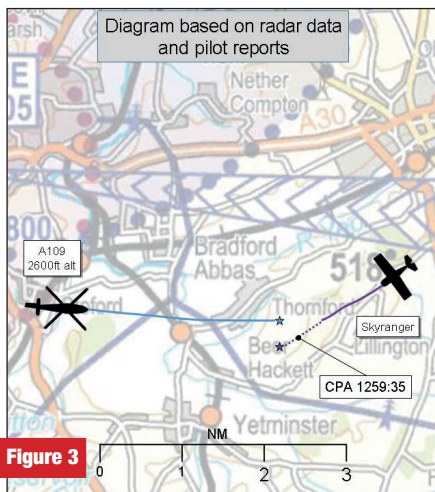


Figure 3

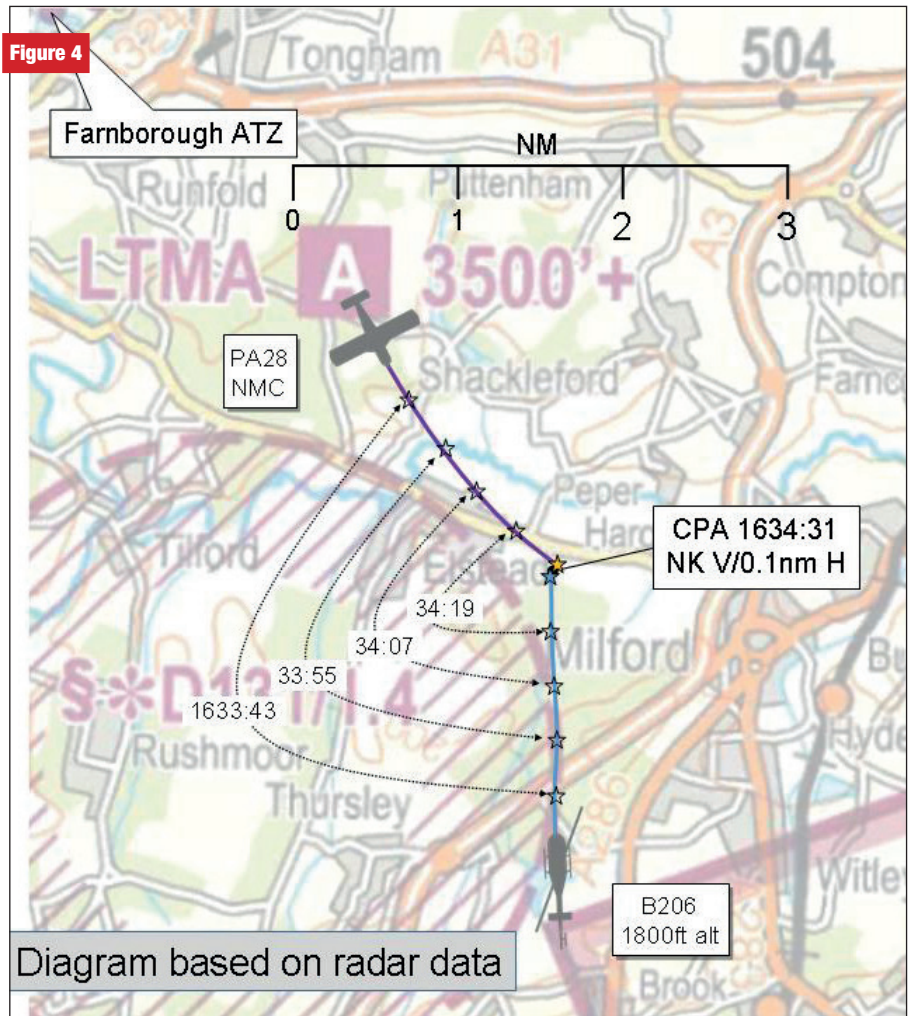


Figure 4

'To show up usefully means setting the transponder to Mode C and it's surprising the number of pilots who have it turned off'

looked up and saw the aircraft at the same moment – he had been head down for ten seconds completing his checks. The Skyranger pilot did not see the helicopter.

Near Guildford, a Bell 206 pilot received TAS indications and, soon after 'keeping a sharp lookout', saw a PA-28 heading towards him (Figure 4) at short range from his 10-11 o'clock position (**Airprox 2015180**). He turned sharply to avoid it.

Airprox 2015171 is interesting because TAS saved the day unexpectedly. A Cessna Titan was transiting with Brize Radar while a Piper Seneca was practising stalls. The C404 had traffic information on the PA-34 and was happy there was no conflict right up to the point that the Seneca made a sudden lookout turn and turned in front of him (Figure 2). Due to unfortunate

geometry the turn masked the Titan, but the Seneca's TAS displayed it and the pilot was able to roll out and avoid closer conflict.

To show up usefully on aids such as TAS/TCAS/P-FLARM means setting the transponder to Mode C and it's surprising the number of pilots who have it turned off. Using Mode C helps controllers give Traffic Information to other aircraft, so pilots who don't turn it on are effectively denying others another highly effective method of detecting (and therefore avoiding) them...

Further development of electronic conspicuity devices will allow for the various collision and traffic systems eventually to be able to interact across the differing flying communities. The draft process is available at caa.co.uk/cap1391. ■

When the going gets tough

If things start to go wrong for whatever reason lookout can drop down the list of priorities, but that doesn't mean there isn't someone out there...

If you've ever had the engine cough, splutter, sneeze or stop in flight, you'll know how it feels, most other things get shoved straight to the back of your mind instantly as you deal with the situation.

Emergencies and distractions come in all variations and colours from engine failure to the more mundane one of a non-flying passenger seeking the sickbag.

Quite rightly, training kicks in when the

unusual happens and you deal with it, it's the first action of the old adage 'aviate, navigate and communicate'.

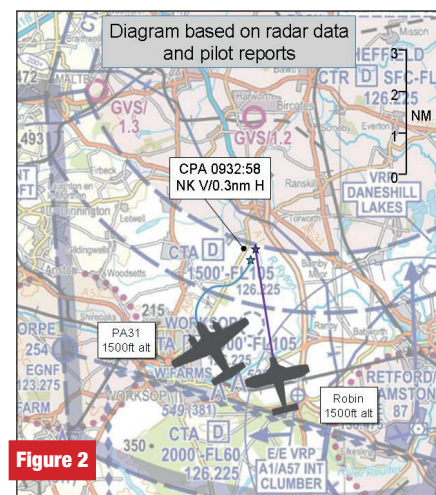
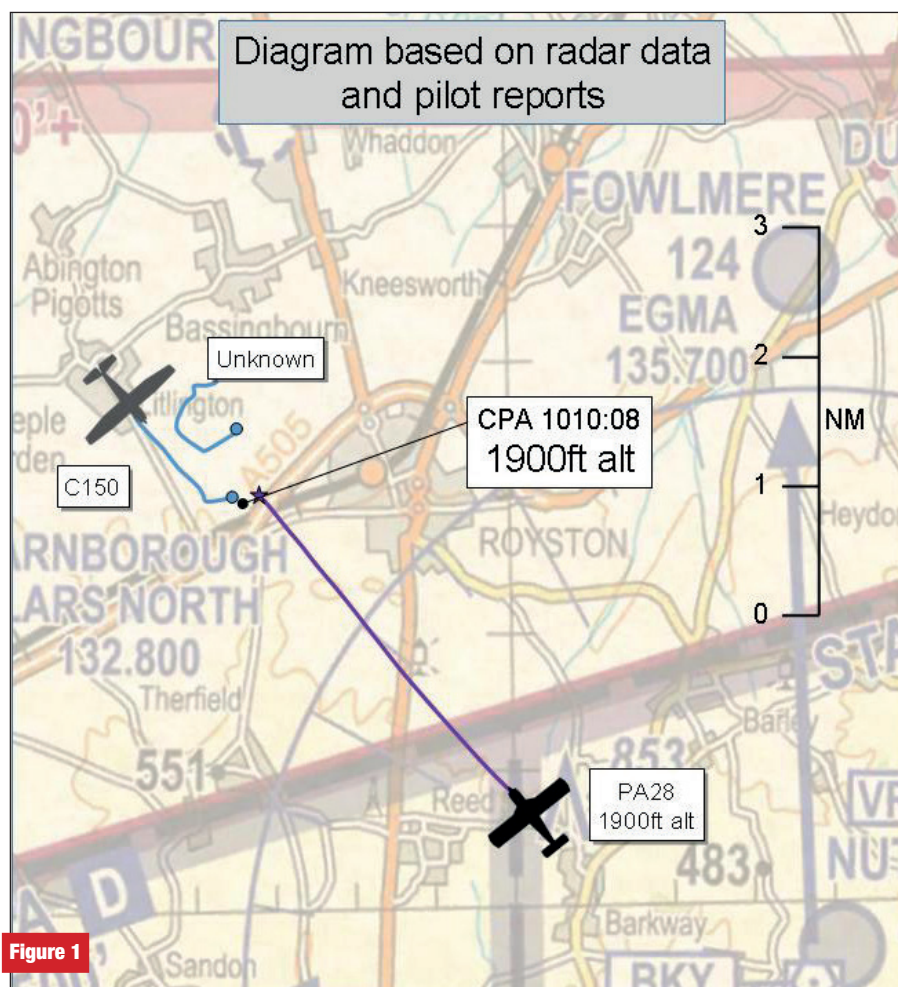
What's sometimes forgotten in the heat of the moment, though, is that lookout remains part of aviate even if things are going a little pear-shaped, and these incidents show how letting lookout lapse can compound things when dealing with a minor emergency or distraction.

It's easy to say from a 1g armchair, but keeping your eyes outside the cockpit during such periods of high workload requires a conscious effort to avoid becoming overtaken by in-cockpit tasks and other associated post-emergency concerns.

For example, a Piper PA-28 pilot's seatback failed while he was downwind at Tatenhill airfield and, undoubtedly flustered after nearly stalling his aircraft, he flew into conflict with a Robin ahead of him (**Airprox 2015166**).

Although there was no radar trace to confirm it, it appeared the PA-28 had cut in on the Robin by turning early onto base leg and then finals (Figure 3) – no doubt the PA-28 pilot was understandably fixated on getting onto the ground as soon as possible having just been badly frightened and had lost sight and situational awareness on the Robin it seems.

Near Mayfield VOR a PA-18 Super Cub pilot's radio failed (because he hadn't charged his battery before flight) and he was busy with in-cockpit tasks as he routed



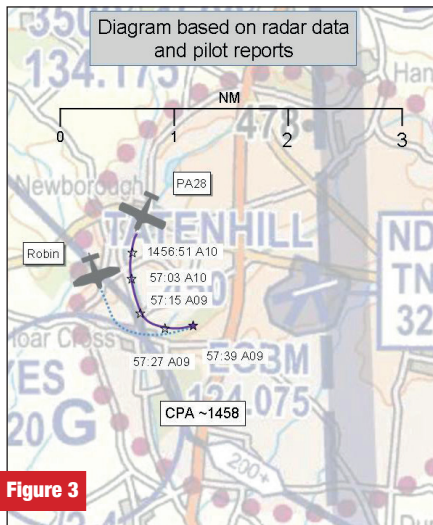


Figure 3

to Redhill, but what he didn't see was the PA-28 heading towards him head-on (**Airprox 2015167**).

In this case the PA-28 pilot was instructing a low-hours student and only saw the Super Cub as it appeared from behind a windscreen strut and he turned hard left to avoid it. The PA-18 pilot said with hindsight that his lookout should have been better, especially at that altitude, around 2000ft in the region of the Mayfield VOR, which he described as a 'honeypot location'. At the closest point the aircraft were only 100ft apart and their closing speed was around 183kt.

Another point that came out of this incident was a warning against the temptation to fly directly overhead VORs (or other prominent features). While it makes navigation easy, there's every possibility that others will be doing the same...

Air sickness played a part in an Airprox between a Piper PA-31 and a Robin, both of which were under the control of Doncaster/Sheffield ATC (**Airprox 2015185**).

The PA-31 was conducting an IFR NDB as the Robin was transiting VFR through the Class D airspace (Figure 2). While the actual cause of the incident was put down to ATC not effectively integrating both aircraft, the Robin pilot's navigation and lookout were affected as he attended to an airsick passenger while trying to work out where he wanted to fly. He couldn't reach the sickbag in a pocket near to his left foot, so he loosened his straps to reach it and diverged from his heading.

In another incident (**Airprox 2015150**) a Piper PA-28 was on a navex near Cambridge and, as he rolled out of a turn,

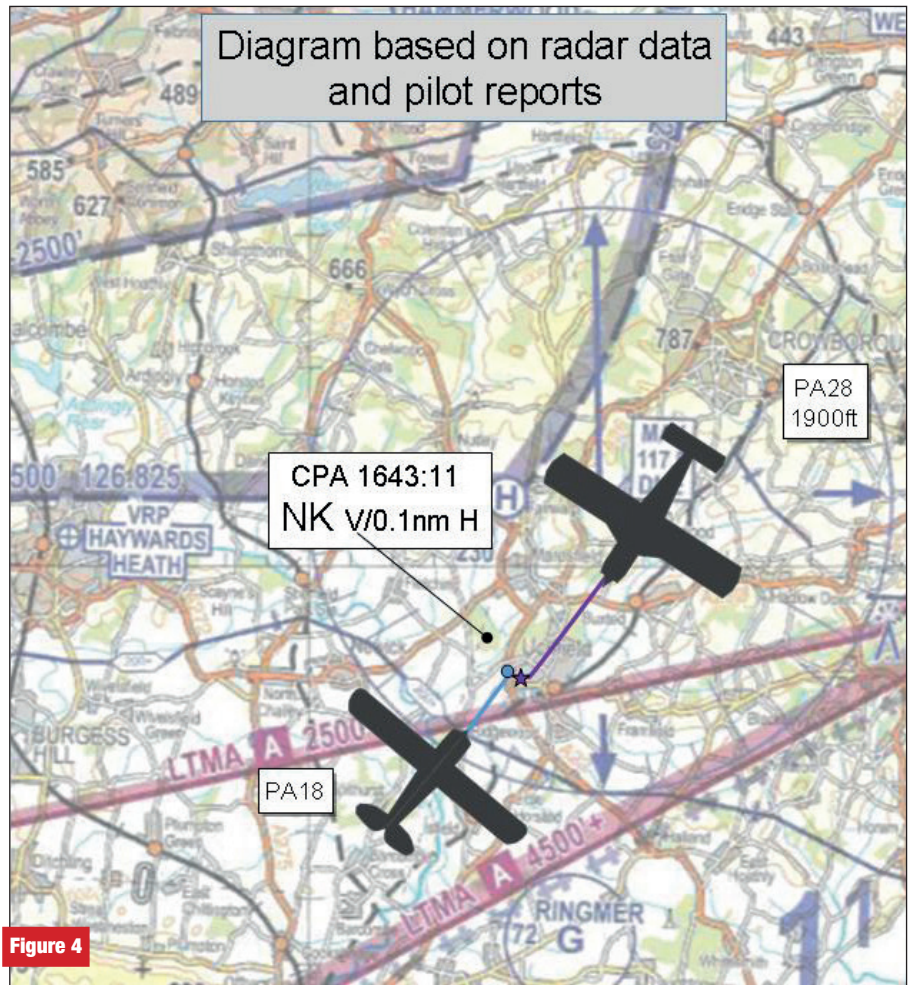


Figure 4

he saw a white Cessna C150 at 10 o'clock at the same altitude, heading roughly east approximately 100 metres away (Figure 1). He began a full-power climbing right turn, keeping his eyes on the other aircraft as he did so. The Cessna, meanwhile, turned gently right and passed behind his aircraft.

The C150 pilot had seen another aircraft in the area and was avoiding it, but radar recordings showed there were actually three aircraft in the same area at the same time. Aircraft 1, the PA-28; Aircraft 2 – the C150; and Aircraft 3 – an unknown manoeuvring aircraft.

Taking into account both pilot reports and the radar recordings, in all probability the PA-28 pilot had seen the C150 crossing left-to-right and carried out the climbing right turn to avoid it, but he didn't see the third, unknown, manoeuvring aircraft. Meanwhile, the C150 pilot saw the unknown aircraft carrying out manoeuvres and avoided it to the right (in accordance with the rules of the air) but didn't see the PA-28.

Preoccupation with navigation is thought to have played a part in

Airprox 2015220 when an Evektor EV97 had just taken off from Ashcroft airfield when a Piper Tomahawk appeared from the bright, low sun near Ashcroft airfield/Oulton Park VRP.

The Evektor pilot pushed his nose down and banked sharply left into a 360° to avoid the Tomahawk which continued straight and level en-route. He added that he was about to change radio frequency when the other aircraft had appeared from the low sun.

The Tomahawk pilot said he saw nothing until approximately one minute from Oulton Park when he became aware of another aircraft to the right passing below his level and already turning towards the south-east.

There have been a number of Airprox in that particular location at the end of the Liverpool/Manchester low-level route, which emphasises that aircraft approaching or leaving tricky bits of airspace might be preoccupied with navigation at the expense of lookout, and in this case, looking out for aircraft operating from Ashcroft airfield. ■