

# AIRPROX



THE PUBLICATION OF THE UK'S AIRPROX BOARD

2024



## AIRPROX DIGEST 2024





# Welcome UK Airprox Board 2024 digest

For this year's annual Airprox magazine I thought I would break with the tradition of publishing in the autumn and aim to publish in the spring, just as the traditional GA flying season gets underway.

The rationale behind this is two-fold — firstly, publishing in the autumn means that very few Airprox from the current season have been assessed by the Board, therefore it's difficult to draw any recent lessons. So, with about half of the previous year's Airprox now assessed, we should be able to look back at the recent past and see what the current Airprox trends are. Secondly, publication in the spring gives us all the chance to take a look at what has been happening in the world of Airprox before we launch (pun intended) into the next season's flying and hopefully learn from what has been happening recently.

This year I wanted to revisit the safety barriers involved in the prevention of mid-air collision and talk a bit about how we can all take a bit of time to help ourselves in maximising the effectiveness of these barriers, hopefully then reducing the risk of a mid-air collision but also the likelihood of having an Airprox.

What follows are my thoughts on how we can all usefully spend a little time on the ground, prior to getting airborne, to bolster the performance of the barriers for every flight we undertake. It's not an exhaustive list, but intended to stimulate discussion about things that the UK Airprox Board sees cropping up regularly in Airprox events, and I've included an indication of how well these barriers have been performing in those Airprox from 2023 that the Board has assessed so far.

As with last year's magazine, a combination of a few of the monthly INSIGHT newsletters that we published throughout 2023 is included. There are also some statistics, but these are headline numbers intended to give a feel for the operating environment, rather than an in-depth analysis of the data. If, however, you crave data and analysis, then the full Annual Report for 2022 (the last full year of data) can be found [here](#).

SIMON OLDFIELD  
Director UKAB

Cover Image: Waniuszka (Shutterstock)

# Hope for the best or plan for the worst...

**So, here's a question — how many pilots jump into their aircraft, fire up the electrics and engine, do their checks, pop the destination into the nav box and head off on track? How hard can it be? Well, potentially pretty tricky if you haven't prepared properly...**

I think it's fair to say that most of us have jumped into our cars, plugged the postcode of our destination into the satnav and set off without a second thought. It's also entirely possible that, on arrival, we would have had no idea if the route we followed was the most direct, the most efficient or the quickest (unless our satnav gave us those options to choose from at the outset).

While this works fairly well when driving a car, with clearly defined roads and the back-up of road signage to reassure us that our satnav isn't taking us in entirely the wrong direction, it's unlikely to be that simple when flying.

There's little doubt that the proliferation of aviation navigational software applications has made a huge difference to pre-flight preparation and in-flight navigation, but has the convenience of this technology led to a temptation to perhaps discard the more traditional forms of pre-flight planning in the belief that 'everything we need will be on the tablet'?

I remember being told early on in my working life about the 5 Ps — **P**rior **P**reparation **P**revents **P**oor **P**erformance — and it's something I remind myself of regularly. So, what has all this got to do with reducing the likelihood of having an Airprox? To answer that I need to refer to the safety barriers schematic (right) that the UK Airprox Board uses and which forms part of every single Airprox assessment that the UK Airprox Board undertakes.

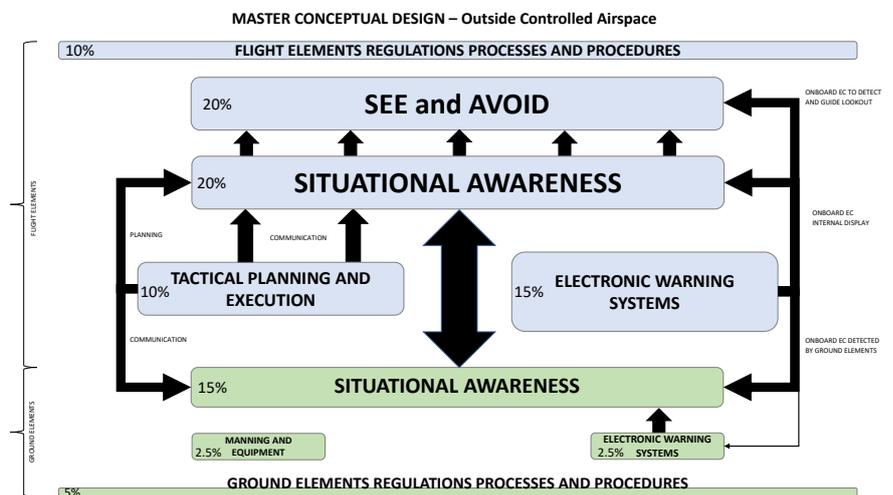
Because most Airprox take place in Class G airspace, the schematic shown here is for 'Outside Controlled Airspace'; the barriers for 'Inside Controlled Airspace' are exactly the same, but the emphasis is slightly different in that there is a greater contribution to the avoidance of an Airprox (or worse) by the Ground Elements (essentially, Air Traffic Control).



Those barriers applicable to the Flight Elements (basically, the pilot and/or crew of the aircraft) are in the top portion of the schematic and the Ground Elements are in the lower portion. You'll notice that the Situational Awareness and See and Avoid barriers in Flight Elements individually contribute more than any other single barrier, so it would seem that we do our very best to maximise the performance of those barriers.

You'll also notice that those two barriers are 'fed' with information from almost all the other barriers. In a nutshell, this means that actions we take to improve the performance of one barrier could actually have a positive effect on some of the other barriers as well.

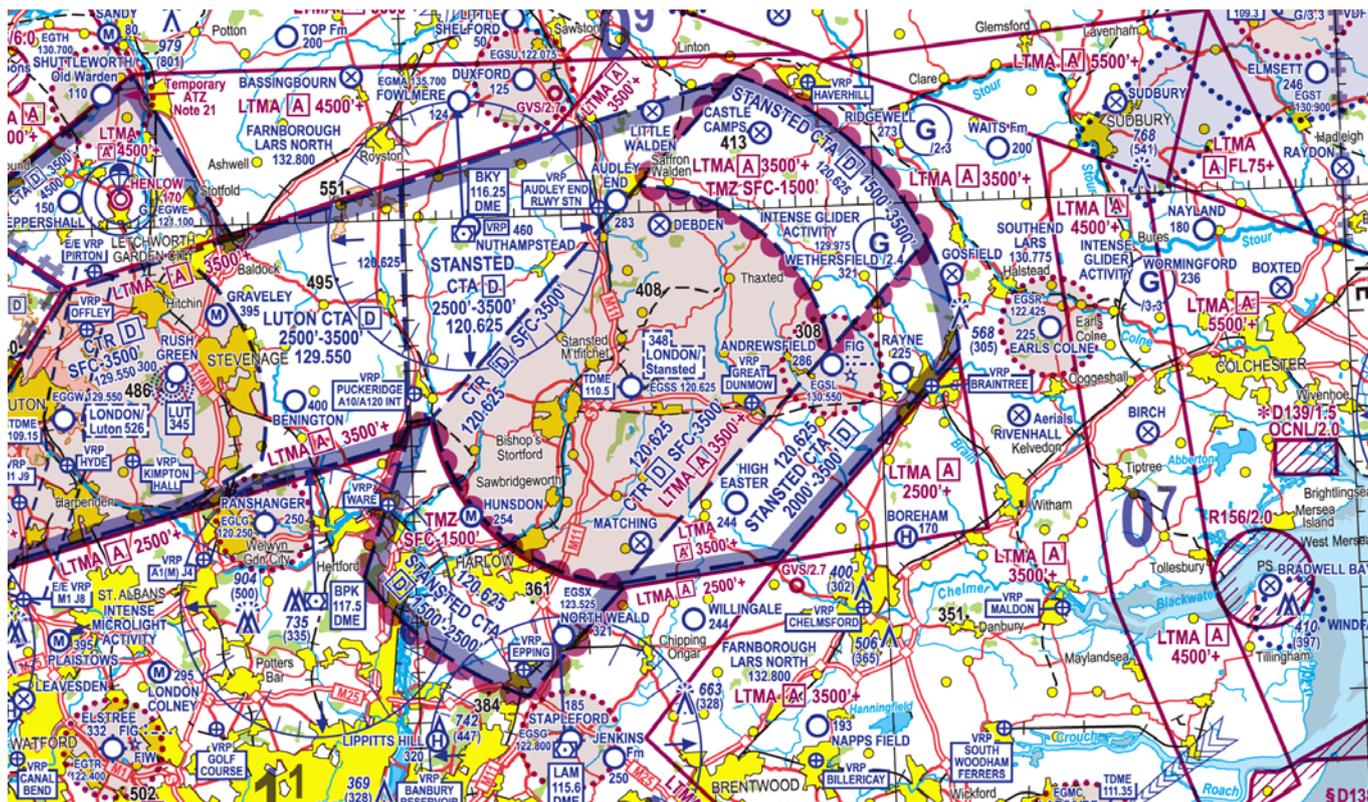
This leads me nicely to the main thrust of this article – planning and preparation. Time spent in pre-flight prep is seldom, if ever, wasted. So how will this help me reduce the likelihood of having an Airprox, you may ask? To answer that question, I'd like to look at some of the barriers from the schematic to the right and discuss how we can perhaps boost the effectiveness of these barriers before we've even set foot in the aircraft.



Let's start with the Regulations, Processes and Procedures barrier for both the Ground Elements and the Flight Elements. We're probably all aware that regulations exist so that the actions of all pilots are more-or-less predictable to others so that we can all fly more safely. They also mean that we know what to expect from agencies on the ground, assuming we all fully understand the differences in what an AGO (Air/Ground Operator), AFISO (Aerodrome Flight

Information Service Officer) or Controller can and cannot do for us.

For example, if we are aware of traffic converging from our right at a similar altitude then we know that the onus is on us to avoid the other aircraft. Equally, we are all required to either conform with or avoid the pattern of traffic at an aerodrome. So how can planning help us to achieve things like this? Well, a good look at our planned route during the preparation stage is a good starting point



noting, for instance, aerodromes along our route – this isn't just to avoid those ATZs that we don't want to enter, but also to avoid the circuit patterns of those airfields that don't have an ATZ. Did you know, for example, that some airfields with an ATZ have circuit patterns that extend beyond the lateral boundaries of the ATZ?

The choice of routeing and a little bit of homework regarding those airfields we intend to pass close to can pay dividends when it comes to avoiding possible interactions with other aircraft. Similarly, if we are intending to land at an airfield that we haven't visited before, or we're going to an airfield we haven't been to in a while, it makes sense to check the published arrival and departure procedures to see whether anything has changed since we last went there — and to know what to expect from other pilots operating in the vicinity.

## ***'Personally, I'd always answer 'yes' to that question'***

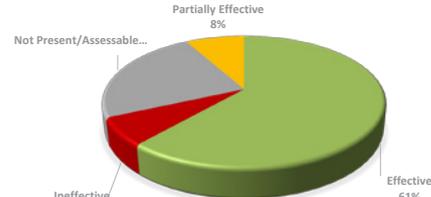
Moving on to the Electronic Warning Systems barriers (both Ground and Flight Elements), decisions on the type of electronic

conspicuity equipment to carry are probably made well before we get to individual flight preparation, but do we always consider this an essential piece of equipment for every flight? If we're just going to conduct a few circuits at our home airfield, do we really need to take it? Personally, I'd always answer 'yes' to that question for a couple of reasons – one is that we can never be certain if our intention to remain within the circuit won't be scuppered by something else happening once we're airborne, meaning we might have to fly further afield than we had originally intended. What if the runway becomes unavailable? What if I need to get out of the way of an aircraft that has an in-flight emergency?

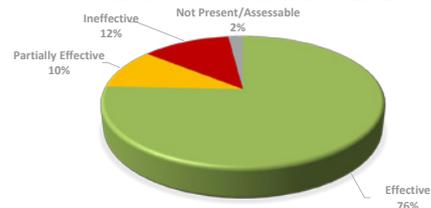
Secondly, it isn't always about whether or not I want to know about other traffic (although that's always useful), it's also about letting other pilots and Controllers/AFISOs know we are there.

So turning on the transponder (if we have one) with all modes (altitude reporting is absolutely vital to other equipment that's 'looking' for you) and carrying any additional electronic conspicuity equipment should be considered an imperative in helping to avoid encountering another aircraft in close proximity, and aiding controllers and/or AFISOs to know where we are and at what altitude. Of course, this latter point also has the advantage of contributing to

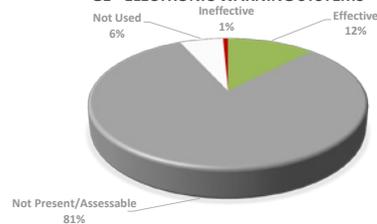
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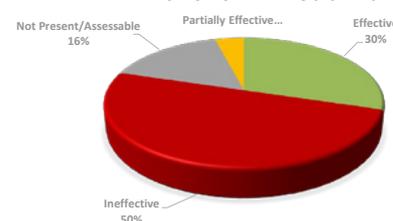
FE - REGULATIONS PROCESSES AND PROCEDURES



GE - ELECTRONIC WARNING SYSTEMS



FE - ELECTRONIC WARNING SYSTEMS



the performance of both our and others' Situational Awareness barriers.

Speaking of which, how can we potentially bolster the Situational Awareness barrier for both Ground Elements and Flight Elements before take off? Well, communication is fundamental in this so we really should be planning to contact agencies along our route and asking for an air traffic service where we can get one.

Talking to ATC not only gives Controllers the opportunity to warn us about traffic that they know to be in the same area as us, but also permits other pilots on the same frequency to hear that we are there and – hopefully – take account of what we are doing or intend to do.

## ***'It's only by reporting we haven't got what we asked for that we'll be able to influence changes'***

It's worth mentioning here that UK Flight Information Services offer a variable amount of Controller involvement and pilots are free to choose which service they think is best suited to their needs. However, do consider how much assistance you might get in terms of traffic information from a Controller or (A)FISO when requesting a service.

A Basic Service, for example, doesn't oblige the Controller to monitor your aircraft, so you shouldn't expect to receive traffic information (though you might get some information if the Controller happens to notice your aircraft very close to another). A better option is usually a Traffic Service, but this can only be given by a Controller (not a FISO or an AGO) with a surveillance system – usually radar.

I know that in some areas it can be difficult to get anything more than a Basic Service, but do consider asking for a Traffic Service and, if the Controller is unable to provide that level of service, it can be reported using a form [FCS1522](#). It's only by reporting those occasions where we haven't got what we've asked for that we will be able to influence changes in service provision.

Where there's no obvious or suitable ATC unit from which to request a service, consider using the low-level common VHF frequency, details of which are contained in the [UK AIP GEN 3.4 Paragraph 3.2.5](#).

On this frequency, pilots can exchange information about their position, altitude and intended routing to assist with real-time deconfliction.

It would seem odd to write an article espousing the benefits of thorough preparation for, and during, a flight without mentioning the Flight Elements – Tactical Planning and Execution barrier, so here are a few thoughts on how to maximise the performance of this barrier.

You'll see from the barrier schematic that this feeds the Situational Awareness barrier; in fact, to some extent, the reverse is also true. Of course, it's important to conduct detailed flight planning prior to any flight, but the level of detail can depend on many factors. A good look at the intended route, asking ourselves 'what if...?' along the way, can really help plan ahead for contingencies. For this I'd always recommend using the CAA VFR paper charts (1:500,000 or 1:250,000) as they display a great deal of information that might not be immediately obvious on our electronic planning aids.

But this isn't where it ends. What about the various inputs we receive once airborne? Is the weather as expected? Will I need to re-route? If so, will I need to talk to somebody? What if my electronic conspicuity equipment is showing a lot of traffic in the direction I want to fly? What if it isn't? All these questions are worth thinking through before getting airborne so that we have a better idea of how we plan to react to any or all of these inputs.

Finally, it would be easy to say that the way to maximise the performance of the Flight Elements – See and Avoid barrier is to spend more time looking outside the cockpit than inside, but this is a little one-dimensional. If we know where to look, then surely it follows that our lookout will be more effective? So how can our planning help us to know where to look?

As I've already alluded to, a solid communications plan will help, but while you're on the ground what about considering what you'll do with information you receive in the air? If we get information from a Controller on traffic nearby, will we just look in that direction or will we take action before we even see the other aircraft (I suspect you can guess my advice on that one!)?

Will our actions be the same for any contacts we see on our electronic conspicuity equipment? Remember, there are still lots of aircraft that don't carry extra conspicuity equipment and, those that do might not be visible to our kit or vice versa,

so let's not get 'sucked in' to looking only for the traffic we know about – there might be something else out there that presents more of an immediate threat.

Pre-flight, think about the most likely areas to encounter other aircraft – an airfield off to the right, a glider site ahead, a ridgeline where the wind direction favours paragliders and the like. All of this can be considered so that, during the flight, we can tailor our lookout to the most likely areas for other aircraft to be operating.

I hope this article has been useful and will generate discussion among seasoned aviators, those just starting out on their aviation journey, and everybody in between. I chose to break the article into 'chunks' that relate to each of the mid-air collision safety barrier, but it's rarely that simple. All the barriers are working all the time, some more than others at any particular point in time.

If you'd like to know more about how the UK Airprox Board assesses safety barrier performance in Airprox, then please do visit our website at <https://www.airproxboard.org.uk/home/>.

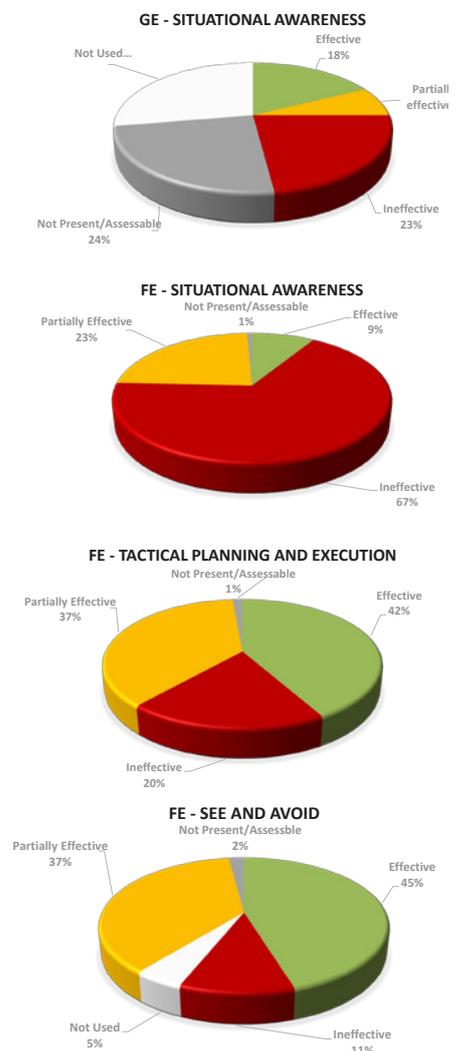




Photo for illustration purposes only

# What might be lurking ahead?

## How about a steel cable? Avoiding issues is all about the preparation

**T**here's little doubt that the proliferation of electronic planning aids has made both pre-flight planning and navigation much more straightforward nowadays, but do we place too much reliance on electronic 'gadgets' to the detriment of the safe execution of every flight?

This month's featured Airprox (2022173) involves a Cessna 401 and an ASK 13 glider which came quite close to each other in the overhead of a glider site.

The Cessna pilot had just departed Kemble and turned right towards their destination. The track took them straight through the overhead of Aston Down glider site and, because this was shortly after take-off, below the maximum height of the winch launch. The glider pilot had only just released the launch cable when they saw the Cessna and had to take avoiding action; for their part, the Cessna pilot reported sighting the glider

and taking action to ensure separation, although the Board was unable to determine how much separation there had actually been.

I'm sure we're all aware that there's no allocated airspace associated with glider sites – they are mostly situated in Class G airspace – and it's down to individual pilots to consider how they want to account for a site while planning. However, over recent times the UK Airprox Board has discussed a number of events where pilots of powered aircraft have flown through, or very near to, the overhead of a glider site.

It should be obvious to most that routing near or overhead an active glider site increases the likelihood of encountering gliders taking-off, returning to land or simply soaring under the clouds, but there's an additional consideration that, while not strictly related to Airprox, is worth noting. Many

cables used for winch-launching gliders are made of high tensile-strength steel, so contact with the cable mid-launch is likely to have catastrophic consequences, not only for the glider but also for the aircraft.

The British Gliding Association (BGA) is rightly concerned about the number of reported overflights of glider sites by powered aircraft and takes every opportunity to highlight the potential dangers.

So, what does this mean when it comes to trying to avoid having an Airprox? Well, avoiding the site obviously decreases the chances of encountering a glider in a critical stage of flight, though we all know that gliders can be met just about anywhere in Class G. Therefore, studying the chart (or referring to an electronic 'gadget') pre-flight should give us information we need to take account of – where the site is relative to our intended track; whether winch-launching takes

place, and if it does the maximum altitude of the winch; likely areas where gliders might be soaring or looking for thermal lift, and a frequency to call the site to establish the level of activity.

Furthermore, for airfields that have glider sites nearby there are often local procedures to enhance everybody's awareness of adjacent activity – in this case there are procedures for the Kemble AFISO to inform pilots of the activity at Aston Down if they are aware that the pilot is routing in that direction. In this example, though, the Cessna pilot hadn't told the AFISO that they intended to route to the north and so the opportunity to warn them of the gliding had been lost.

I'm probably not alone in thinking that gliders can be really difficult to spot from certain aspects, so relying purely on see-and-avoid is probably not always going to work as well as it might with a more visually conspicuous aircraft.

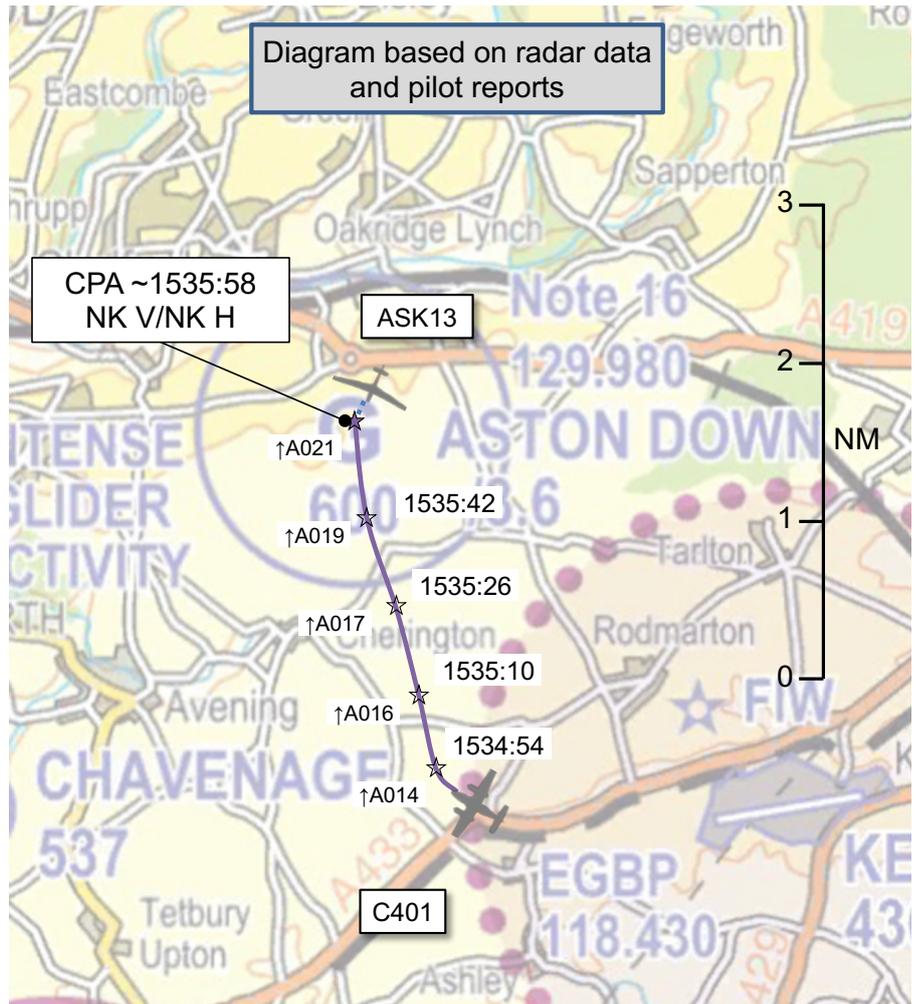
If you carry any form of electronic conspicuity equipment, will it detect – and display – glider traffic to you? If not, does that change how you might wish to plan your route and/or altitudes? Time spent preparing for the flight is seldom, if ever, wasted and I'd encourage everyone to take a good look at what's on or around an intended route during planning and take the time to think about what you might want to make a note of 'just in case it's needed'.

**UKAB MONTHLY ROUND-UP**

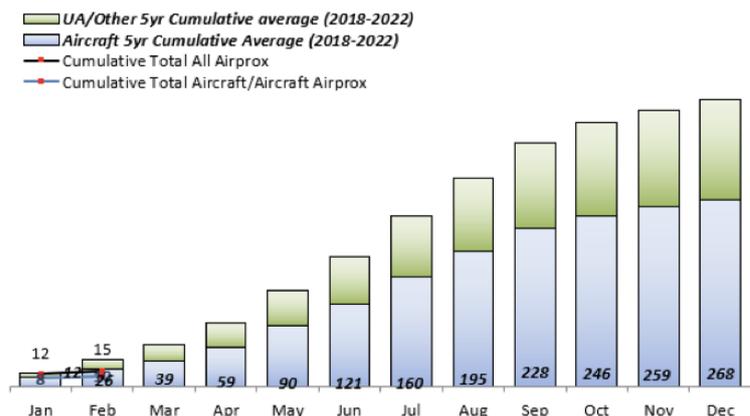
This month we evaluated 23 Airprox, including three UA/Other events (all of which were reported by the piloted aircraft). Of the 20 full evaluations, nine were classified as risk-bearing – four were category A and five category B.

The Board made two Safety Recommendations at its February meeting: that 'The CAA considers reviewing the extant guidance to flight instructors for conducting exercises on quiet frequencies and include a recommendation that the flight be conducted in receipt of an appropriate level of ATS,' and that 'Aston Down and Cotswold Airport work together to establish a mechanism to facilitate the notification of Aston Down's activity to pilots operating to, or from, Cotswold Airport.'

The graphic above shows that it's been a steady start to 2023 in terms of reporting. This follows the trend of



**2023 Airprox - Cumulative Distribution**



previous years and is probably no surprise when one considers the weather across the UK in the early part of the year.

As we all prepare for the season ahead, why not take the time to consider what we can do to ensure that we have an enjoyable, and safe, 2023? Think about what you might do differently from previous years to enhance your awareness of aircraft around you, be that by purchasing some additional electronic

conspicuity equipment (the DfT rebate on certain types of EC equipment is still available until the end of March this year), talking to ATC more often, or simply asking yourself 'what if...?' one more time.

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Picture: Shutterstock.com, iv-olga

# Traffic! Yes, but where....

## Information – how accurate is it and what am I going to do with it when I get it?

Often talk about how crucial situational awareness is in assisting with decision making, but how do we know if the information we're receiving is accurate? Well, as with many things, much depends on not only the source of the information, but also its timeliness. For example, when receiving Traffic Information from a controller or a FISO, do you tend to look exactly towards where the traffic has been announced in relation to you, or do you project 'forward' from the last reported position?

Remember, the moment the Traffic Information is passed, it is historic. In addition, more and more of us are carrying electronic conspicuity (EC) equipment these days, including a means of displaying the information that the unit is receiving (either through the EC unit itself or via a third-party software provider). So, how do we form an accurate mental model of the aircraft around us with these various inputs?

I have chosen Airprox **2022254** to illustrate the importance of this point. A Partenavia P68 and an SR20 were flying near Scunthorpe at a similar level with

both pilots in contact with Humberside Radar – the P68 pilot having only arrived on frequency a moment before the Airprox and the SR20 pilot having been receiving a Traffic Service from the controller for a little while.

Although the P68 was equipped with a traffic warning system it didn't alert the pilot to the presence of the SR20, but as the pilot had just contacted Humberside Radar the controller immediately passed Traffic Information on the SR20 to the P68 pilot. The SR20 was also equipped with a traffic warning system which showed the presence of the P68, and the SR20 pilot had previously received Traffic Information from the Humberside controller on that traffic.

What's interesting, though, is each pilot's reactions to the information that they had. The SR20 pilot, having been informed of the presence of the P68 about two minutes prior to the Airprox and at a range of about five miles, used that information – and the information from their TAS – to try to sight the P68; there was no change in heading or level of the SR20 from the time the pilot received

the Traffic Information to the moment the aircraft paths crossed. The P68 pilot, however, reacted immediately to the information they received by climbing, thus introducing a degree of vertical separation.

This raises the question of when and how to react to information received, and just how accurate it is? The first point I'd like to make is that, on the whole, azimuth information from on-board EC equipment is potentially less accurate than height information.

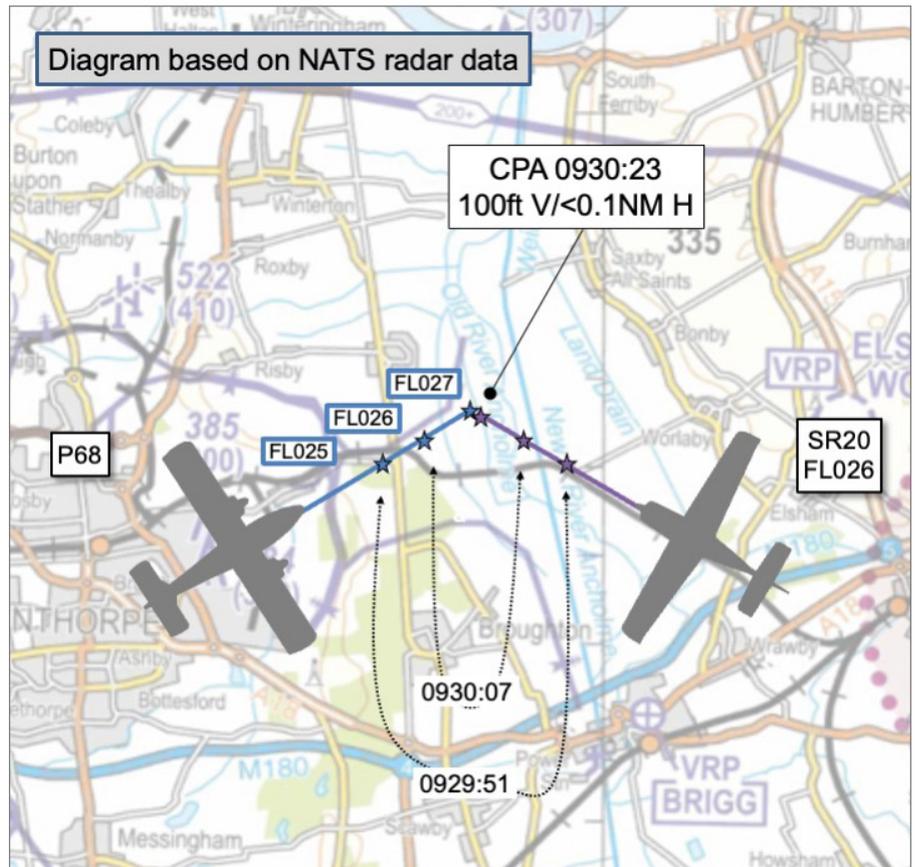
For those of us with experience operating with TCAS II, we should know that normal procedure is to wait for a Resolution Advisory (RA) from the equipment and not to manoeuvre until an RA is received (in case we make the condition worse). We will also know that an RA only ever instructs us to manoeuvre in the vertical plane. However, for those of us flying – in Class G airspace – with a different type of EC equipment, what should we do?

Well, remembering that the azimuth information might be inaccurate, we should continue our lookout scan of

that area on our general level and then concentrate a bit more attention towards the 'threat's' relative altitude. Undoubtedly, once we have spotted the other aircraft assessing the situation then becomes a whole lot easier.

However, we should also consider what we're going to do if we don't manage to sight the aircraft that our EC equipment is telling us is out there. Should we turn? What if we are on the right-hand side in a converging situation? Clearly, each encounter needs to be judged on its own merits but do remember that if the other pilot is required to give way under (UK) SERA.3210, they will also need to know that your aircraft is there – they might not have EC equipment, nor have received Traffic Information, nor have sighted you.

Always be prepared to do something to break a potential conflict and remember that vertical separation is just as useful as lateral separation. In this case, both pilots did what was sensible given the information that they had, but it certainly provides food for thought concerning what to do with all the information that we receive and when to act.



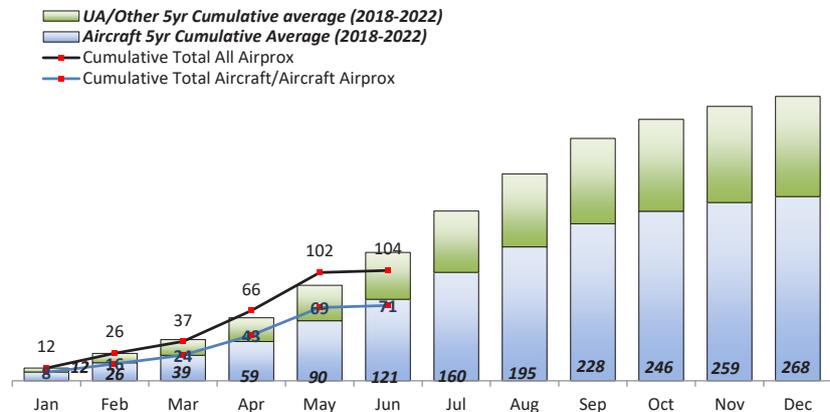
### 2023 Airprox - Cumulative Distribution

#### UKAB MONTHLY ROUND-UP

This month the Board evaluated 26 Airprox, including 11 UA/Other events, eight of which were reported by the piloted aircraft and three by the drone operator. Of the 18 full evaluations, seven were classified as risk-bearing – all category B. The last of the 2022 Airprox should be discussed at the June Board meeting. The Board made one Safety Recommendation at the May meeting: that 'The CAA includes a means on VFR charts to highlight the military airfields that operate Instrument Approach Procedures outside controlled airspace, and that pilots are strongly recommended to contact the ATSU before flying within 10NM'.

What was noticeable in the majority of this month's risk-bearing Airprox was that there was often information available to the pilots which meant that they could have perhaps acted sooner than was the case. While there are clear rules regarding which pilot is required to give way in most situations, these rules are predicated on each pilot being aware of the presence of the other.

The lesson is to always fly defensively and consider your own options for increasing separation should 'Plan A' not be working.

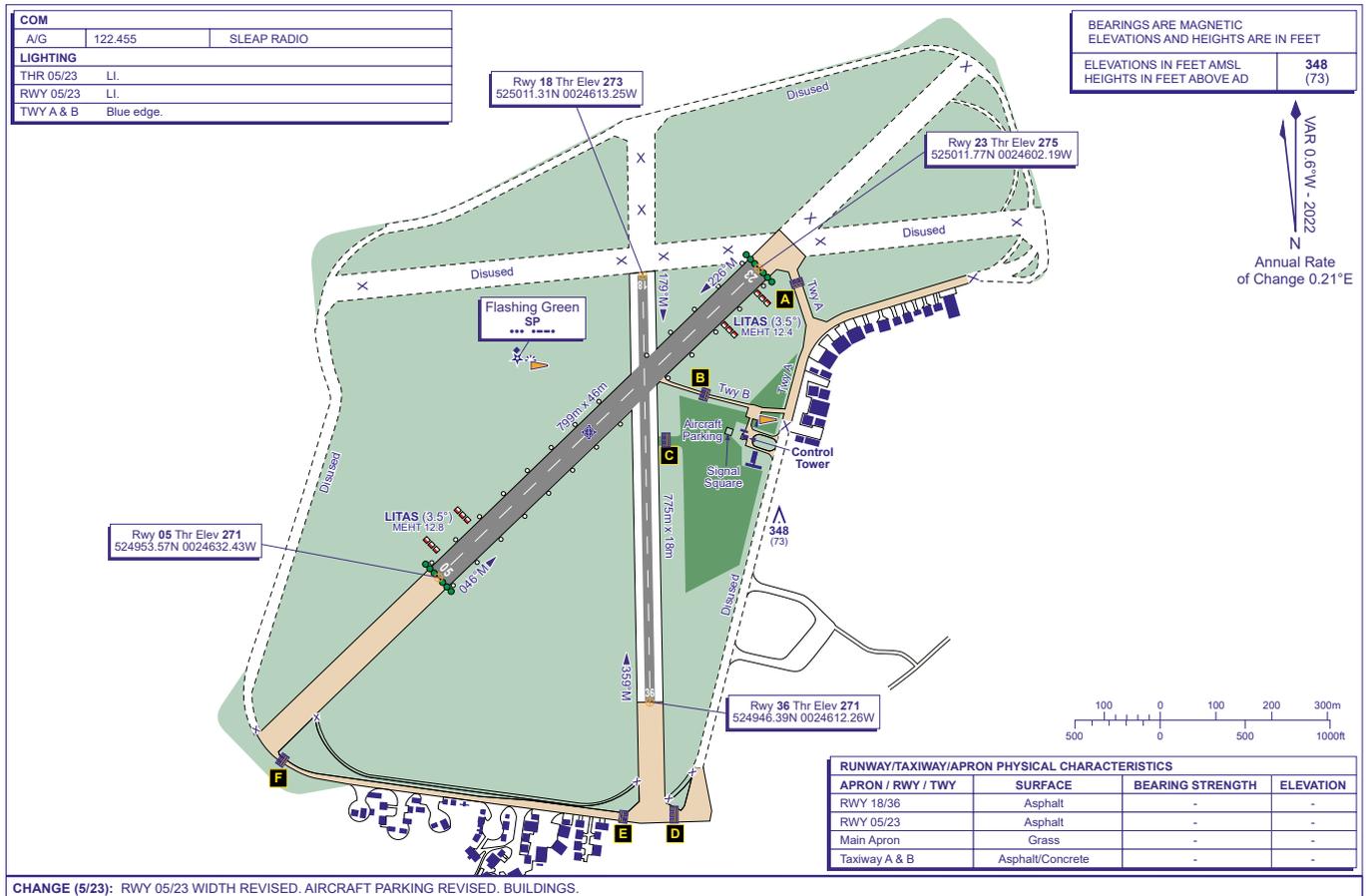


Risk-bearing summary table for May 2023

Airprox	Aircraft 1 (Type)	Aircraft 2 (Type)	Airspace (Class)	ICAO Risk
2022247	A109 (Civ Helo)	Harvard (Civ FW)	London FIR (G)	B
2022254	P68 (Civ Comm)	SR20 (Civ FW)	London FIR (G)	B
2022256	Skyranger Swift (Civ FW)	C152 (Civ FW)	London FIR (G)	B
2022258	Prefect (HQ Air Trg)	Phenom (HQ Air Trg)	Cranwell CMATZ (G)	B
2022264	PA28 (Civ FW)	C42 (Civ FW)	Compton Abbas ATZ (G)	B
2022265	P149 (Civ FW)	AC11 (Civ FW)	London FIR (G)	B
2022269	C152 (Civ FW)	PA28 (Civ FW)	Coventry ATZ (G)	B

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# Appropriate arrivals

## Has something changed since the last time you joined this particular circuit?

Throughout my time flying, I have been asked by controllers on numerous occasions if I was ‘familiar’ with the airfield into which I was arriving. If I’m honest, I rarely responded in the negative, even if I wasn’t sure about a few things, because nobody wants to admit that they might not have been as fully prepared as they should have been, do they...?

Besides, it’s pretty straightforward, isn’t it? What could really go wrong during the approach and landing that would mean that any holes in my knowledge might be exposed?

If you’re wondering why I’m revisiting the subject of arrivals in this month’s article it’s because, from the 14 evaluations that the UK Airprox Board conducted this month, at least three occurred during their ‘arrival phase’.

The example I have chosen is **Airprox 2023025**, but it could equally have been **Airprox 2023013**. In the example I’ve selected, a DR400 and a PA-28 were both approaching Sleaford airfield at around the same time but from different directions. Both pilots made the appropriate calls on joining the airfield, although the report of ‘overhead’ from the PA-28 pilot had been made when they were still at least one mile to the south-west (and I have commented previously on the importance of making accurate positional calls to aid the situational awareness of other pilots).

Unfortunately, when the PA-28 pilot made their slightly inaccurate call of ‘overhead’ the Air Ground Operator (AGO) responded that the Robin was ‘descending deadside’. This had not been the case, as the Robin was still on the live side at that time and so this could well have led the PA-

28 pilot to have looked in the wrong place for the DR400.

As the PA-28 pilot couldn’t see the Robin, and with no indication as to its position from their electronic conspicuity equipment, the PA-28 pilot decided to orbit for spacing and to give themselves time to sight the DR400. What’s crucial here, though, is that the orbit wasn’t performed in the overhead but, in fact, in the path of the Robin that was turning crosswind.

So, what lessons can we learn from this? The first thing that’s important to note is that at Sleaford, on weekends, the powered-aircraft circuit is a left-hand circuit on all runways, which is different to the published circuit directions for weekdays. A simple ‘rule of thumb’ for joining the circuit is to keep the airfield on the same side of the aircraft as the circuit direction i.e. keep

the airfield on the left for left-hand circuits and on the right for right-hand circuits.

In this case, the PA-28 pilot had the airfield on their right throughout their join and so, when they couldn't see the Robin, they had increased the chances of a conflict with its track. The second thing is to ensure you have planned and thought through your arrival, including a few contingencies, before getting airborne.

The UK Airprox Board often sees Airprox occurring in the 'transition' from en-route to arrival or from arrival to integration into the circuit, and a quick refresh of the airfield's website or its entry in the [UK eAIP](#) might save a few blushes later!

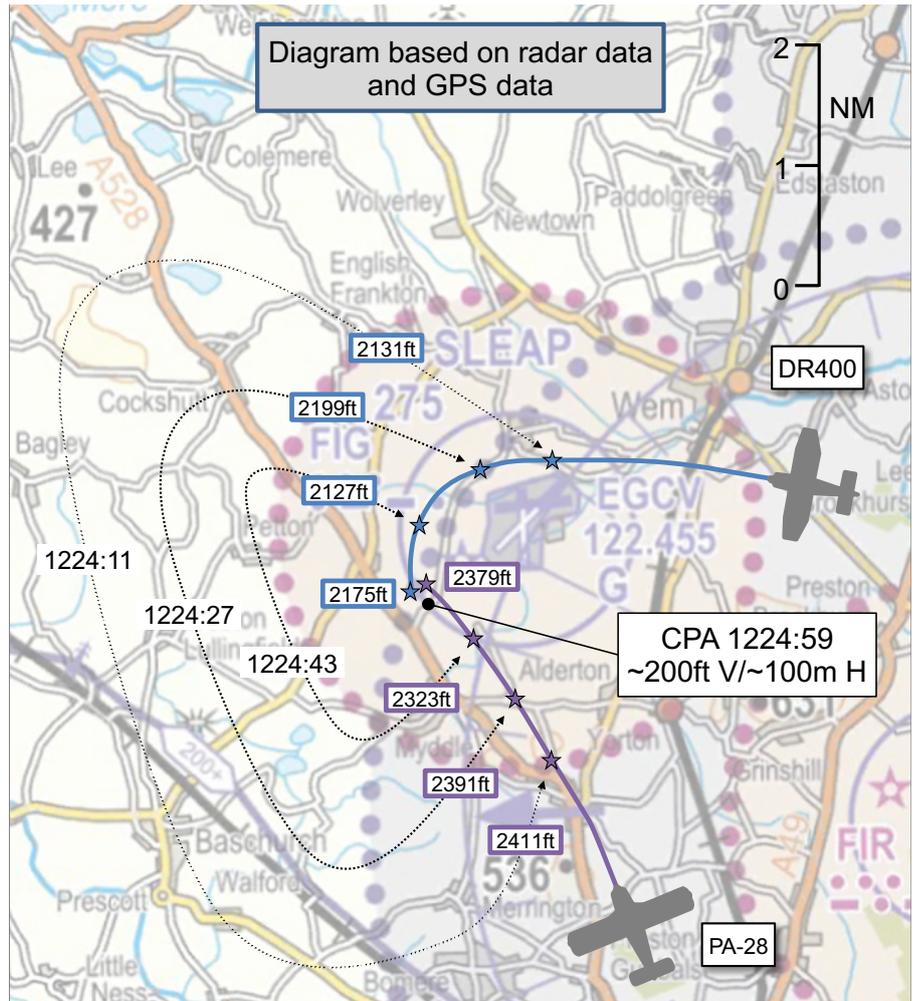
Thirdly, always consider an overhead join (in the overhead!) if at all possible – this is designed to give pilots time to orientate themselves and observe any traffic in the circuit or the vicinity of the aerodrome – and do not underestimate the value of spending time in an orbit in the overhead. While the [Skyway Code](#) has an excellent diagram illustrating the overhead join, it does not really describe the value and reasons for performing an orbit in the overhead.

Finally, remember that at uncontrolled aerodromes (i.e. those with an AGO, AFISO or no radio operator at all) then it is *always* the pilot's responsibility to integrate safely with the other traffic (aided, of course, by any traffic information that they might receive from the AGO or AFISO) and therefore it's essential to build situational awareness on the traffic at or around the aerodrome as early as possible.

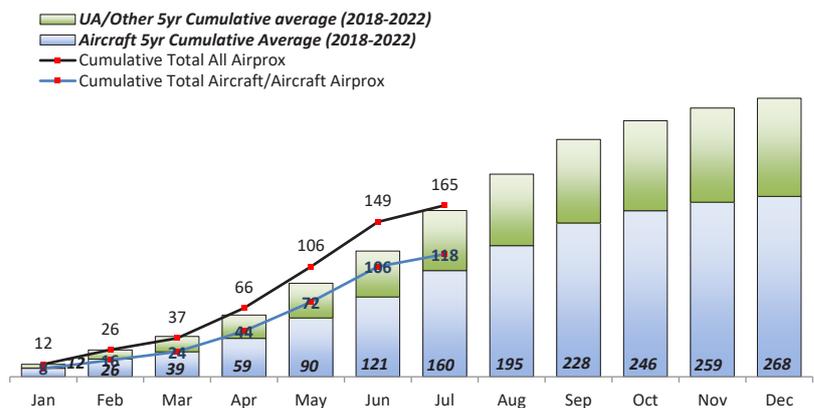
Also I mentioned this last month as well, if what you see out of the window is not what you are expecting to see, or you are not sure of what you should be doing, then don't be afraid to ask. When it comes to safety, there is no such thing as a 'stupid question'...

**UKAB MONTHLY ROUND-UP**

This month the Board evaluated 22 Airprox, including eight UA/Other events, all of which were reported by the piloted aircraft. Of the 14 full evaluations, five were classified as risk-bearing – all category B. With all 2022 Airprox now assessed by the Board, preparation of the annual report (the 'Blue Book') has commenced. The headlines are likely to centre around the incompatibility of the various types of electronic conspicuity equipment available to pilots flying in Class G airspace and, linked to some degree, pilot situational awareness.



**2023 Airprox - Cumulative Distribution**



Last month, I mentioned that Airprox reporting over the first half of 2023 had been significantly higher than the previous year. However, and as the graph demonstrates, this has started to level off in July. I do think that the weather has played a major part in reporting rates – we saw excellent flying conditions in May and June, but July has been rather disappointing in terms of the 'British Summer'.

That said, we can never be complacent, and I expect reporting rates to pick up again as we move into August and September, which are historically the months in which we see the highest number of Airprox reported.

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Photo: courtesy of British Gliding Association

# How much time to react?

## What can I expect my Electronic Conspicuity equipment to show (and not show) – and when can I expect an alert?

**A**s I sat down to consider the topic for this month's article, I received notification of a report into the *Human Factors Effects of Electronic Conspicuity Devices in UK General Aviation*, and as Electronic Conspicuity often features in my INSIGHT articles it feels right to return to the subject in light of the [report](#).

Commissioned by the CAA, with the work undertaken by GASCo in conjunction with Jarvis Bagshaw Ltd, it highlights a number of interesting points regarding pilot reactions to indications of other aircraft on their EC devices, and also suggests a few tips for using such devices.

Therefore, the Airprox I have chosen this month is **Airprox 2023093**, which involved a Ventus glider and a Europa. The Ventus pilot was on 'final glide' to their destination airfield at around 4000ft on a heading of around 150°, while the Europa pilot was transiting north-westbound at around 3800ft.

A Notam had been published regarding a gliding competition in the area and the Europa pilot was fully aware of it. Both aircraft were equipped with PowerFLARM as their EC devices, and the Europa also had a transponder. As the aircraft approached each other almost head-on, the Ventus pilot received an alert from their PowerFLARM of an aircraft at a range of about 800m and so they immediately banked to their left to avoid the source of the alarm. The Europa pilot reported receiving an alarm from their device but with no time to react before the aircraft had crossed flightpaths.

The UKAB often sees Airprox where both aircraft were equipped with EC devices which were incompatible, so it is well worth examining what we can learn from an event that involved two aircraft equipped with the same devices.

Firstly, it's notable that the Ventus pilot appeared to receive their alert before

the Europa pilot received theirs. While we cannot predict exactly when our EC equipment will detect another aircraft, what we can say is that it's important to react to the information it provides as quickly as possible – in this case the Ventus pilot manoeuvred immediately, before they had sighted the Europa.

One of the findings from the above-mentioned report is that the realistic maximum range to visually acquire another GA aircraft is two miles, so for aircraft approaching each other head-on at a closing speed of around 180kt, that is a maximum of 40 seconds before the aircrafts' flightpaths will cross. The lesson here is 'don't delay' – clear your flightpath visually and manoeuvre away from the EC contact.

Secondly, don't assume that because you have detected an aircraft with your EC equipment then the other aircraft's EC

equipment must have detected you (think about the SERA rule for converging aircraft here – the pilot of the aircraft on the left can only give way to the other aircraft if they know that it is there).

The GASCo report found that, on average, EC detects less than 50% of other air users in the UK. This means that a robust lookout scan is absolutely essential for the avoidance of mid-air collisions and that a combination of EC and lookout provides the best defence.

Additionally, don't dwell on the area of the EC contact – given that we know there are a lot of air users that don't carry EC equipment, and that even if your EC equipment is compatible with that of the other aircraft then there is no guarantee of detection and alerting, maintaining a disciplined lookout scan all around your aircraft (as far as is practical) gives the best chance of spotting a threat aircraft.

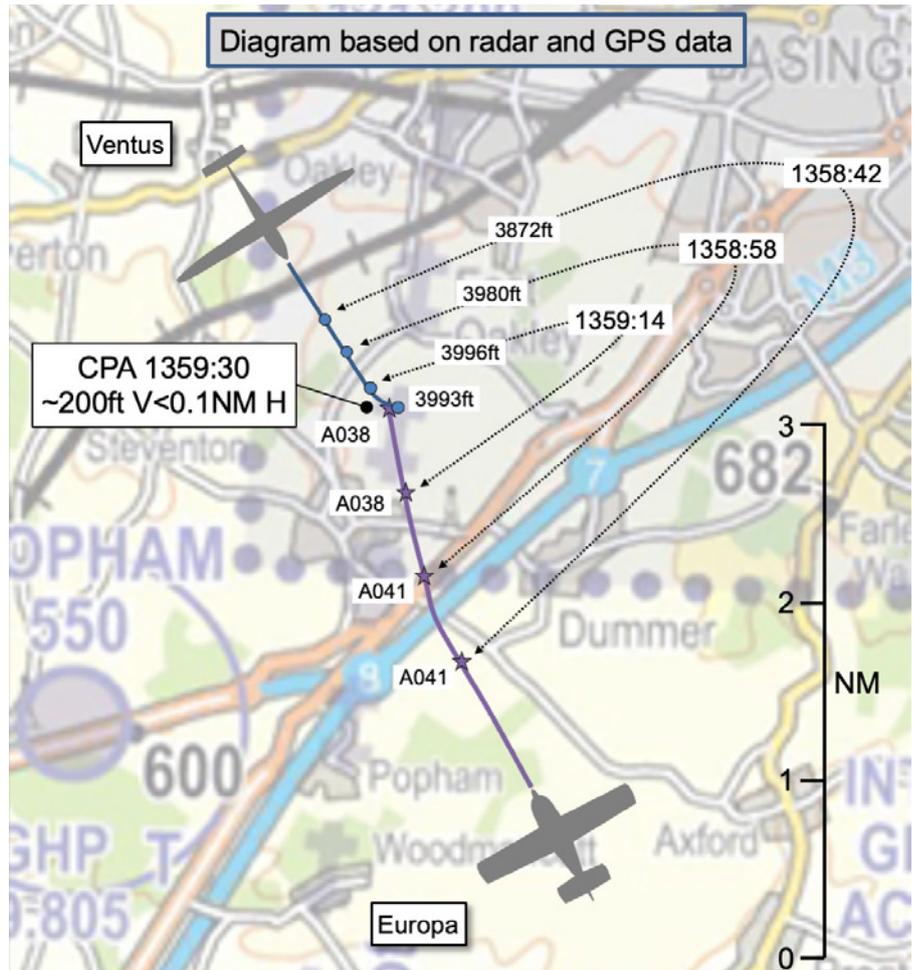
Although not really applicable in the highlighted case due to the short range involved, do remember that you are unlikely to spot another aircraft beyond a range of about two miles, so don't spend time concentrating on the area of the detected aircraft if it is further away than this or clearly doesn't represent a threat to your aircraft (e.g. the other aircraft is obviously well separated in altitude or is not on a conflicting flightpath).

This month's Airprox highlights the benefits of carrying EC equipment, but do watch out for the pitfalls as well. EC is not a panacea but, then again, neither is lookout (due to weaknesses in the human eye and our brain's programming to 'keep things simple' for us). I'd recommend reading the GASCo report as it includes some really useful tips for GA pilots and, for those of us that like that sort of thing, the data behind the recommendations. There is also a short [video](#) if you don't have the time to read through the report.

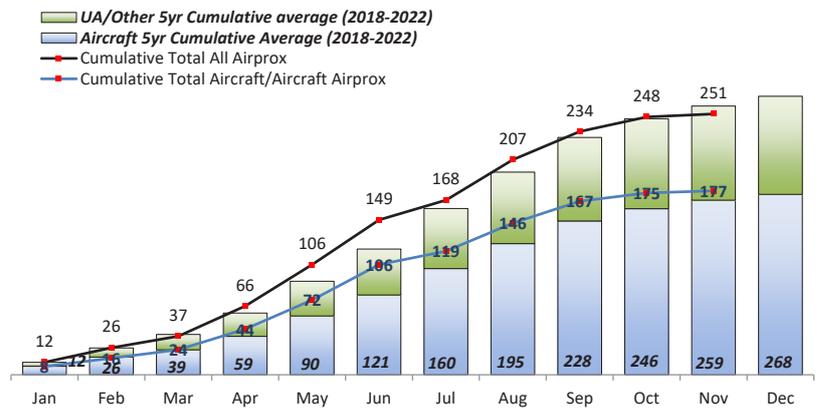
**UKAB MONTHLY ROUND-UP**

This month the Board evaluated 24 Airprox, including three UA/Other events, all of which were reported by the piloted aircraft. Of the 21 full evaluations, nine were classified as risk-bearing – two as category A and seven as category B. The Board did not make any Safety Recommendations this month.

As can be seen from the graphic below, Airprox reporting for the year has started to tail off. This follows the same pattern we see every year – as the weather worsens and the



**2023 Airprox - Cumulative Distribution**



nights close in, fewer Airprox are reported, and this is almost certainly due to less recreational flying taking place.

So, what to do with all the spare time that has been generated by not going flying? Well, once all those other jobs you've been putting off have been completed, what about considering whether your EC equipment levels for next season are what you want or need them to be? As we have seen from the example above, EC isn't a panacea but, used correctly, it can really

enhance your ability to detect and avoid other air users that may be a 'threat' to you.

Remember, if you haven't already applied for an [EC rebate from the CAA](#) then you may want to consider taking advantage of that before the funding runs out on 31st March 2024.

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Photo for illustrative purposes : Shutterstock - Kev Gregory

# UFOs – who knows what’s out there...

## No, not quite what you might be thinking, but Unknown Flying Objects, or to put it another way, known knowns or unknown unknowns?

**W**e know that electronic planning aids can be useful and make pre-flight preparation and in-flight navigation much easier and, dare I say, quicker – but can we be sure that the electronic flight bag shows everything we need to know about? In fact, does a paper chart also show us everything, or are there some things that aren't immediately obvious to us when we refer to these aeronautical publications?

To illustrate this point, which I referred to in my [February 2023 Insight](#), I've chosen [Airprox 2023116](#) this month which involved a model jet aircraft and a Hawk. The model was being operated from a site where activity is authorised up to 1500ft, and is published in the UK AIP. The Hawk pilot was one of a formation of aircraft on a low-level transit as part of their task.

The model aircraft site did have a NOTAM warning of UAS swarm activity, and the

Hawk pilot called the phone number provided, only to be informed that the swarm activity wasn't taking place and to refer to a different NOTAM regarding general site activity – this second NOTAM had expired. Subsequently, the Hawk formation routed past the model aircraft site at an altitude of around 1300ft while the model jet was flying at around 1000ft. Fortunately, the approaching formation was spotted by an observer at the site and the model jet operator took avoiding action by rapidly descending the model; the Hawk pilots never saw it.

Here at the UKAB we don't often receive reports of Airprox involving models, so this was welcome because it identified a number of important points. First, the second model aircraft NOTAM was, essentially, a repeat of the information already published in the UK AIP and so, in accordance with the [UK NOTAM Guidance Material](#) paragraph

1.6(n) (which states that a NOTAM will not be issued for general reminders on already published information), the NOTAM was not renewed on expiry.

Many of us involved in aviation are frustrated by the proliferation of NOTAMs that add little in terms of useful information, so it is absolutely right that the UK NOTAM Office doesn't add to this by issuing NOTAMs describing the same information that is already published elsewhere. However (and it is a big however), not everything that is published in the UK AIP is reproduced on the military and CAA VFR charts. To do so would introduce a level of clutter that would make the charts unusable, but that does leave us in a position where we might not be aware that something is published in the UK AIP because there is nothing on the VFR chart to indicate that a site is present; this is the case for model aircraft sites that operate above 400ft agl.

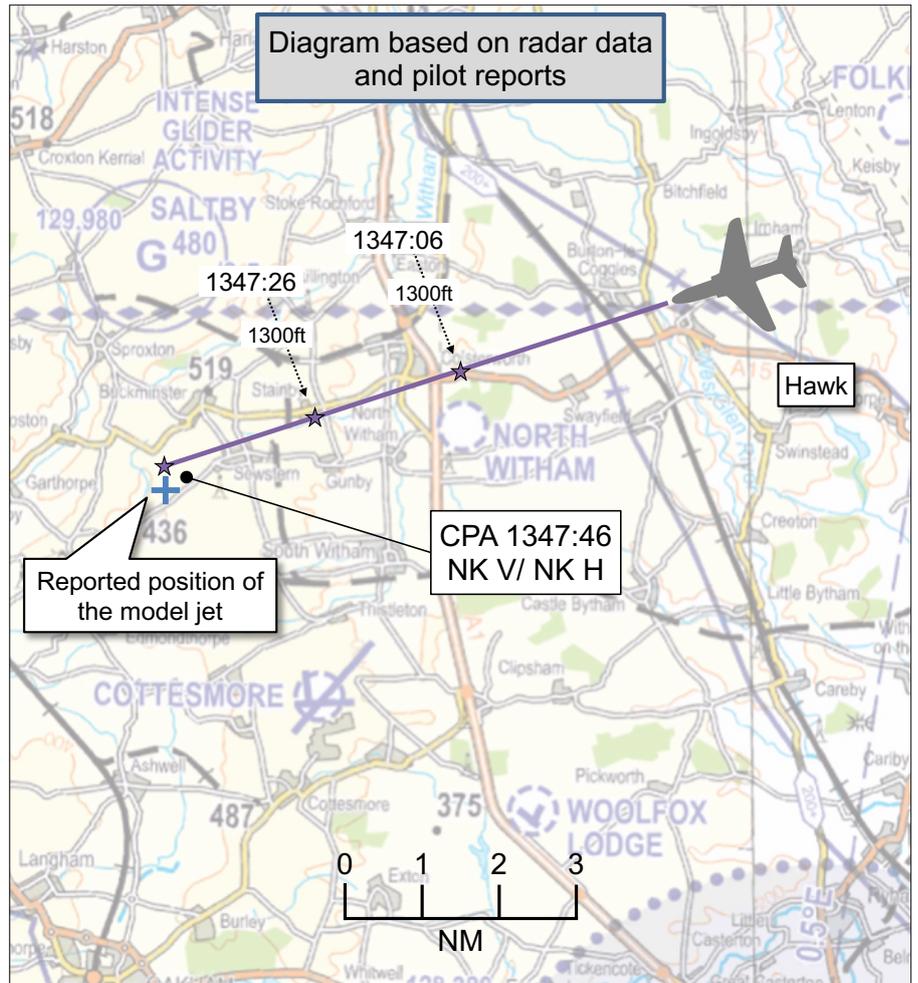
Secondly, during the investigation into this particular Airprox, it was discovered that there are a number of model aircraft sites (23 in fact) where model aircraft up to a mass of 25kg can operate above 400ft agl. While these are published in the UK AIP, none are marked on VFR charts and there is no mention of the size of model aircraft that can be encountered. In addition, and more worryingly, there are also other sites where the Large Model Association (LMA) can operate model aircraft with a mass up to 150kg (yes, 150kg!) – not all of these are listed in the UK AIP and, again, none are marked on the military or CAA VFR charts.

I'm sure you'll agree that encountering a 150kg object in-flight presents a potential risk that would be useful to know about. The British Model Flying Association (BMFA) is well aware of this and has requested NOTAMs to be issued to alert other air users of these sites. However, and as I have already mentioned above, because this information is already published in the UK AIP (well, some of it at least) then the request for a NOTAM is often refused (in accordance with the UK NOTAM Guidance Material).

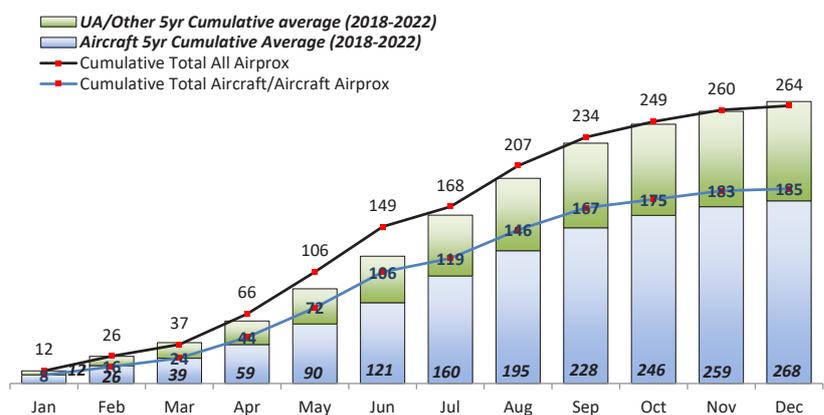
So, what's the answer? Well, the Board felt that it's unreasonable to expect all pilots to know the entire contents of the UK AIP and so made recommendations to the LMA to publish – in the UK AIP – all their sites where models weighing up to 150kg can operate above 400ft agl, and to Defence to consider marking these sites on military VFR charts and on radar overlays for controllers. Although the Airprox involved a model jet and a military aircraft, it could easily have involved a crewed aircraft from any other sector. It might be worth checking whether these model aircraft sites pop up on your electronic planning aid and/or the software that you use for in-flight navigation.

**UKAB MONTHLY ROUND-UP**

This month the Board evaluated 24 Airprox, including ten UA/Other events, eight of which were reported by the piloted aircraft and two by the drone/model aircraft operator. Of the 16 full evaluations, four were classified as risk-bearing – one as category A and three as category B. The Board made five Safety Recommendations this month; three were related to the Airprox of the month as already described above. The other two were related to **Airprox 2023124**, where a glider from Challock and a DA42 joining the Instrument



**2023 Airprox - Cumulative Distribution**



Approach Procedure for Lydd came quite close to each other – this was the third such encounter that the Board has seen in as many years, so it recommended that Lydd and Challock establish a Letter of Agreement and that Lydd considers marking Challock on their Instrument Approach Charts.

Finally, I have included the usual graphic that shows reporting levels over the year. At the time of writing, there were still a couple of weeks to go before the end of 2023 but,

given the weather we all experienced in early December, I don't anticipate many more Airprox reports before the end of the year. I hope 2024 brings you better weather and happy landings.

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