



AIRPROX *Insight*

DIRECTOR UKAB'S MONTHLY UPDATE

July 2025

AIRPROX OF THE MONTH

Drone dilemma

Are UAV flight operations predictable?



Photo for illustrative purposes: Shutterstock: MarekulisZ

The answer to that question is, for the most part, 'yes'. Drones operating in the Open Category must keep below 400ft AGL – and for flight above this height a NOTAM has to be issued to other air users about the activity.

There are however a couple of issues with this – firstly, the 400ft AGL is measured from where the operator is standing, so we could find the drone is higher than 400ft above the ground we're flying over – for example, we could be flying over a valley floor while the drone operator is actually standing on the ridge line.

The second issue is that crewed aviation can, quite legitimately, fly below 400ft AGL; take-off and landing are, rather obviously, two such occasions but there is also regulation – in the form of [ORS4 No 1496](#) – that permits flight below 400ft AGL under certain circumstances (more on that later).

This quite neatly leads into this month's Airprox for discussion – **2025065**. This involved a DJI M350 drone and a PA-28 over the former Boreham airfield just northeast of Chelmsford. The site is a former NPAS (National Police Air Service) helicopter base (they have since moved) but is still marked with an 'H' on the CAA VFR charts because, as I am reliably informed, helicopters do still use the site.

On the day of the Airprox, however, the site was being used by Essex Police for training on a new drone. The training was restricted to below 400ft AGL (so no NOTAM of the activity was required) but

NPAS had been informed. The PA-28 pilot was on an instructional flight and practising PFLs; the pilot had selected the former airfield at Boreham as a suitable landing site. The drone operator received a warning on their equipment of an aircraft approaching, shortly followed by their observer sighting the aircraft and instructing the drone operator to descend the drone.

The PA-28 was equipped with a transponder, but was not carrying any supplementary electronic conspicuity (EC) equipment. Although it's unlikely that any extra EC equipment would have helped the PA-28 pilot in this case (the drone was not emitting anything that would have been detected by popular EC equipment) the Board does encourage pilots to strongly consider carrying additional EC equipment on every flight.

The drone pilot undoubtedly did exactly what they are required to do should their *'...operation pose a risk to [another] aircraft...'* by descending the drone and moving it out of the way of the piloted aircraft. Equally, the PA-28 pilot was operating in compliance with ORS4 No 1496, which permits (at paragraph 5) pilots flying by day under VFR to be flown at a height of less than 500ft AGL provided they do not fly *'...closer than 500ft to any person, vessel, vehicle or structure...'*

It further authorises (at paragraph 8) *'...aircraft to be flown below the minimum height requirements specified in SERA.5005 and SERA.5015 if it is flown in accordance with*

normal aviation practice and is [...] practising approaches to forced landings [...] and it is not flown closer than 500ft to any person, vessel, vehicle or structure...'

In the event, we were unable to establish the actual minimum separation between the drone and the aircraft, but the drone operator reported it as 240ft vertically and 200m horizontally. The PA-28 pilot never saw the drone.

In theory, requiring pilots of crewed aircraft to remain at least 500ft away from 'any person, vessel, vehicle or structure' and drone pilots to operate (unnotified) to a maximum height of 400ft AGL should keep crewed aviation and drone operations separated in most scenarios. But what we see from this Airprox is that this is not always the case and that it doesn't need somebody to be operating outside the rules and regulations for these encounters to happen.

There are a number of barriers to mid-air collision that were either of no use or failed in this case.

Firstly, there was no involvement from ATC but, even if the PA-28 pilot had sought a service from Southend (the Airprox location was well within the coverage of Southend's LARS) the drone operator hadn't let Southend ATC know about their operation so this could not have been passed on to the PA-28 pilot.

Secondly, there was no opportunity for either pilot to have 'planned to avoid' because the drone activity had not been

advised by NOTAM and the PA-28 pilot was operating on a VFR 'flightplan'.

Thirdly, the PA-28 pilot had no way of detecting the drone (unless they saw it, which they didn't).

This realistically only left the See and Avoid barrier to work, and that relied on the drone operator sighting the aircraft in enough time to ensure that separation could be maintained, which they did.

This Airprox highlights how difficult it is for pilots of crewed aviation to avoid legitimate drone activity. While most drone activity will occur below 400ft AGL, and that which does not will be NOTAMed, pilots of crewed aviation can still fly in the same height band as drones quite lawfully.

It's impractical to NOTAM all drone activity, but it might be worth a look on applications such as Drone Assist (others are available) because many drone operators – but by no means all – do submit their activity on applications such as these.

For drone operators, there is some merit in considering highlighting your activity to the nearest Air Traffic Control (ATC) unit, even when not required to do so – this is all about sharing knowledge such that ATC can pass the activity to pilots that may be talking to them.

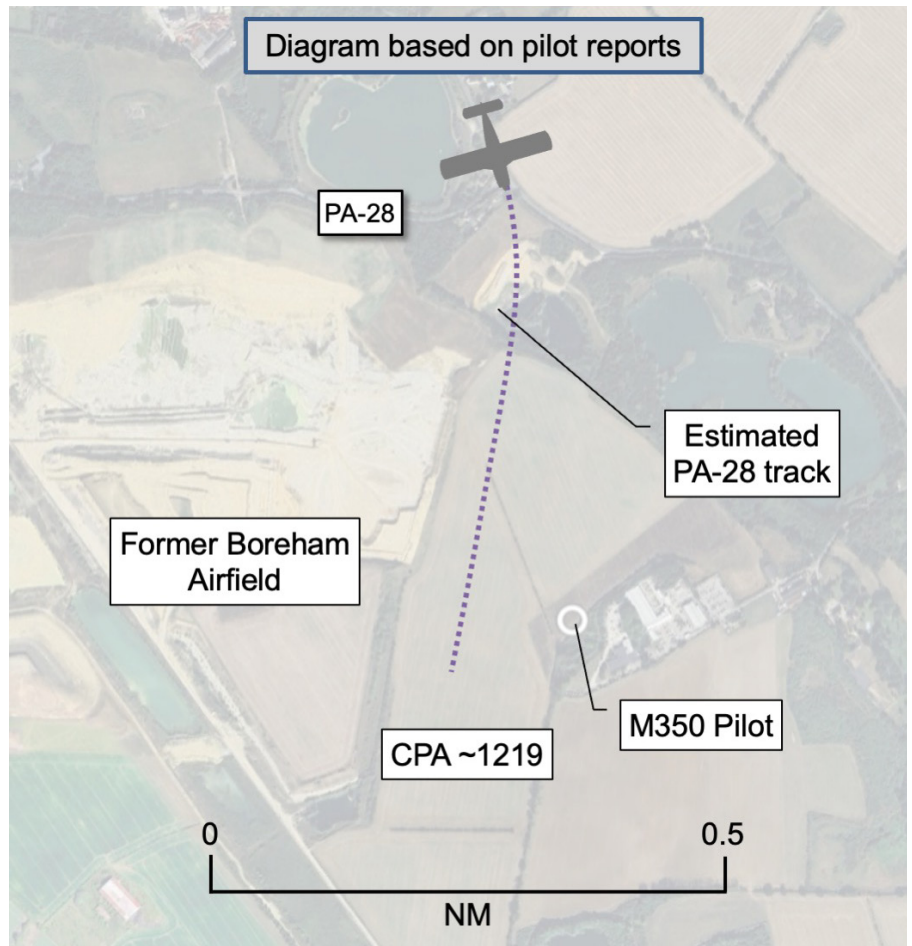
Drones, even larger ones such as the one involved in this Airprox, are extremely difficult to see – analysis conducted by the UKAB shows that the pilot of the crewed aircraft very rarely sights the drone, but that the drone operator almost always sees the aircraft.

This has worked historically because operators have been required to maintain line-of-sight to their drone. In the future, this will not always be the case. It also demonstrates the importance of checking NOTAMs thoroughly before flight. If drone activity is NOTAMed, then it makes sense to plan to avoid it – it's extremely unlikely that a drone will be seen in time to take any meaningful action to increase separation and, if the drone operator hasn't seen or heard the aircraft, then that leaves us very poorly placed.

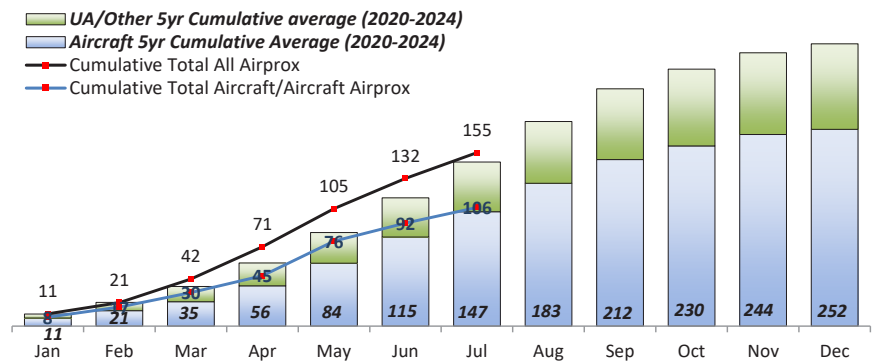
Finally, the drone operation involved in this Airprox was located at a site used regularly for training. It occurred to the Board that it would be useful if known drone training sites were listed in the UK AIP and so the Board made a Safety Recommendation to the CAA in this regard.

BOARD SUMMARY

This month the Board evaluated 33 Airprox, including 12 UA/Other events, nine of which



2025 Airprox - Cumulative Distribution



were reported by the piloted aircraft and three by the drone operator.

Of the 24 full evaluations, ten were classified as risk-bearing – five as category A and five as category B. The Board also made two Safety Recommendations at the July Board meeting, one of which I have already mentioned above. The other followed an Airprox involving a glider and a KC135 where the glider pilot had their transponder selected to 'off' (for a number of reasons). This essentially defeated the KC135's TCAS II equipment so the Board recommended to the CAA that the issuing of a discrete SSR conspicuity code for gliders be considered.

The graphic above shows that, after a bit of a 'bumper' start to the flying season, reporting

has quietened down a fair amount. This is encouraging because it doesn't appear to be simply a matter of June being 'quiet month'.

I am not so naïve as to believe that every Airprox is reported to the UKAB, but I would hope that the reduction in numbers does not indicate a lack of willingness to report. Rather, it shows that we can all learn from others' experiences and take steps to make sure that we all reduce our individual risk.

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