

**Airprox report number 2019031**

**Summary of Airprox Information from UKAB**

*Date: 22 Feb 19 Time: 1730 Position: 5118N 00042W 3nm NE Farnborough Altitude: 1600ft  
Aircraft: G550 (Civ Comm)*

*The G550 pilot reports on the ILS Approach to RW24 in VMC then they saw a small black object first identified as a bird but noted that it was 'too late' for them to fly. As the aircraft got closer they recognised that it was a drone. They saw the lights of the drone and the lens of a camera as it passed on the left side.*

*Reported Separation: 3-6ft V/10-15m H*

*Reported Risk of Collision:High*

**UKAB Cause/Risk Statement**

*Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the G550.*

*Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.*

**Airprox Reality Check Analysis**

Analysis of this airprox produced a score of 5 using the Airprox Reality Check system<sup>1</sup>.

Altitude	B	401-1640ft	-5
Location	A	Over accessible land (within 10 miles of a road)	0
Photo evidence	C	No photo evidence	0
Eyewitness reports	B	From aircraft pilot(s) only	0
ID of drone & aircraft	B	Drone and operator not identified	0
Electronic evidence	B	Electronic evidence showing aircraft only/ None	0
Description of drone	A	Description matches a multi-rotor drone	10
Light levels	C	Night time with LEDs mentioned	0
Weather	A	No precipitation	0
Wind Speed	A	<15mph at ground level	0
Geozone	A	Not within a Geozone	0
		Score	5

## **ADS-B Data Analysis**



*Reporting Gulfstream G550; red track  
Bell B429; yellow track*

ADS-B data revealed that at the time the reporting aircraft was at the position/ height/ time reported on the ILS for Farnborough runway 24, a Bell 249 Global Ranger helicopter passed over the upwind end of RW24, descending through 1000 feet, heading for the Heli Foxtrot aiming point, between F3 and the West 2 Apron.

Given that it was a few minutes before sunset, and the helicopter was in the brighter part of the sky when viewed from the reporting aircraft, it would have been viewed as a 'black object' (silhouette).

The helicopter was approximately 7.7km ahead of the reporting aircraft, and would have been viewed side-on. The Bell 249 has a fuselage length of 13m, which would appear to be the same size as a typical drone (33cm) viewed from 212 metres. 'A small black object'.

The helicopter would doubtless have been displaying navigation and anti-collision lighting - which could be confused with LEDs on a drone. As the helicopter descended it would have disappeared into the ground clutter and runway lighting, etc.

### **Airprox Reality Check Conclusion**

ARC concluded that it was almost certainly the case that the reporting aircraft misidentified this distant helicopter as being a drone, much closer to them.

This was a classic case of a distant full-size aircraft being mistakenly identified as a nearby drone. In the sky, there is nothing to give scale to an object. Once the human mind leaps to the wrong conclusion about what the object is, the relative distance etc is 'calculated' on this 'wrong' basis.

## **About Airprox Reality Check**

Airprox reports featuring unmanned aircraft are almost always pure eyewitness accounts, which are notoriously unreliable<sup>2</sup>. Airprox Reality Check analyses airprox data using its 'Reality Check System' to evaluate the likelihood of the event actually having involved a multirotor drone.

Airprox Reality Check believes that airprox data relating to drones should be an accurate and reliable indicator of the actual number of times drones come into proximity to manned aircraft, and is committed to achieving that goal.

## **References**

<sup>1</sup> = The Airprox Reality Check system is explained in detail here: <https://www.airproxrealitycheck.org/reality-check-system/>

<sup>2</sup> = There are several studies regarding eyewitness reports in the studies section on our website:

<https://www.airproxrealitycheck.org/studies/>

ADS-B data sourced from The OpenSky Network: <http://www.opensky-network.org>