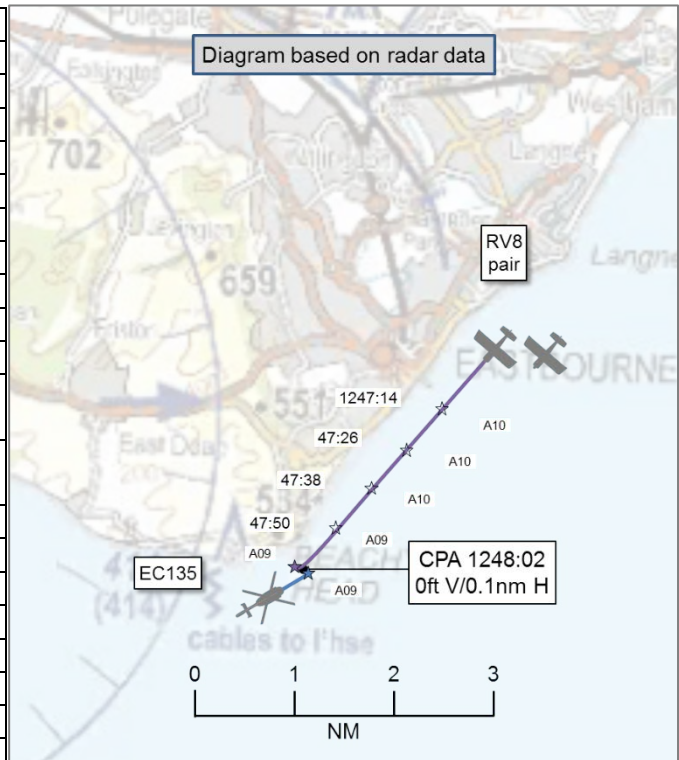


**AIRPROX REPORT No 2018150**

Date: 28 Jun 2018 Time: 1248Z Position: 5044N 00016E Location: Beachy Head

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC135	RV8 formation
Operator	NPAS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	London Info	Shoreham
Altitude/FL	900ft	900ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Black, yellow	Grey, orange (white, green)
Lighting	Nav, HISL, strobe	(No 2 wing and fin strobes)
Conditions	VMC	VMC
Visibility	30km	20km
Altitude/FL	1200ft	1200ft
Altimeter	QNH (1022hPa)	NK
Heading	070°	270°
Speed	15kt	140kt
ACAS/TAS	TCAS I	Not fitted
Alert	TA	N/A
Separation		
Reported	0ft V/175m H	200ft V/300m H
Recorded	0ft V/0.1nm H	



**THE EC135 PILOT** reports conducting a police task at Beachy Head, first on scene for a distressed person at the cliff edge. They had been established for approximately 15 minutes in a 1200ft altitude hover into wind, about 0.5nm off-shore. Both Police Tactical Flight Officers (TFOs) were engaged in the task, talking ground units to the scene. The TCAS gave a late warning of a previously unseen contact indicating same height and at what appeared to be almost zero lateral separation (at the 5nm scale). The pilot and TFOs immediately began lookout in all directions, with the pilot starting to increase airspeed to begin a descent. Within 5 seconds, the front-left-seat TFO saw two single-engine aerobatic-type aircraft in close formation, approximately 300m away on a reciprocal heading just left of the nose. The pilot needed to look around the centre windscreen pillar to see these aircraft, which had been obscured behind it. Avoiding action was taken to the right, away from the oncoming aircraft, as the airspeed increased through 30kt. At the same time, the formatting aircraft deployed a few seconds of smoke and appeared to make an avoiding turn to their right before passing behind. An initial Airprox report was made via the radio to London Information. With the police task still ongoing, a Temporary Danger Area (2nm up to 2000ft) was requested through London Centre.

The risk of collision was assessed as 'High'.

**THE RV8 FORMATION LEADER** reports leading a formation of 2 RV8s with the No2 in echelon-left formation. During a gentle right turn at Beachy Head with both aircraft 'smoke on', a helicopter was observed in the left 10.30 position at a range of 500m and slightly below. No avoiding action was required, and the helicopter passed down the left side. The No2 pilot did not see the helicopter.

The risk of collision was assessed as 'Low'.

## Factual Background

The weather at Gatwick was recorded as follows:

METAR EGKK 281250Z 08011KT CAVOK 25/13 Q1024=

## Analysis and Investigation

### UKAB Secretariat

The EC135 and RV8 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. If the incident geometry is considered as head-on or nearly so, then both pilots were required to turn to the right. At an altitude of 900ft amsl, the TCAS algorithms will give a TA warning at a tau (time to CPA) of 20sec. A closing speed of 155kt (from the reported speeds and radar tracks) would result in a TCAS TA at a range of about 0.86nm/1590m.

## Summary

An Airprox was reported when an EC135 and an RV8 formation pair flew into proximity at 1248 on Thursday 28<sup>th</sup> June 2018. All pilots were operating under VFR in VMC in receipt of a Basic Service, the EC135 pilot from London Information and the RV8 formation from Shoreham.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots and radar photographs/video recordings.

Members first discussed the EC135 pilot's narrative and observed that the reported TCAS 'late warning' may have been perceived as a result of the pilot's high workload and the small range at which a TCAS TA would be generated in the circumstances of the low closing-speed of the aircraft. Notwithstanding, the EC135 TCAS should have displayed 'proximate' traffic from a separation range of about 6nm, some 2 mins before CPA. Some members commented that although circumstances might require them to closely monitor the ground task, emergency-services pilots still had to focus on the flying task, including lookout and monitoring of systems such as TCAS, and not become overly involved in management of the emergency situation. In that regard, members noted that the Basic Service under which all the pilots involved in this incident were operating was of no practical value in mid-air collision risk mitigation, and that a surveillance-based service may have assisted the EC135 pilot. This may not have been possible at the operating altitudes involved, but members felt that it should at least have been requested rather than operating with just London Information.

The Board turned to the RV8 formation's actions and noted that they were entitled users of the airspace, conducting their flight in accordance with regulations. Members also noted that the previous 'right-hand rule', although no longer a Rule of the Air, was referenced in the Skyway Code:

'There used to be a rule in the UK Rules of the Air that stated aircraft following a line feature such as a road, railway or coastline, must fly to the right of that feature. This is no longer a mandatory rule, however it is still considered good practice, particularly if following the coast.'

The RV8 formation would have been flying over land and over the built up area of Eastbourne had they been following the advice, which was clearly not desirable. However, members wondered whether remaining further from the coast would equally have conformed to the spirit of the advice. The issue of promulgation of emergency services task locations to GA traffic in the vicinity has been discussed by the Board in previous Airprox, without being resolved. Members noted again that there was no current method by which a GA pilot already airborne could be notified of the establishment of a TDA other than if they were listening out on the Guard frequency, which was not possible unless their radio had a

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<sup>1</sup> SERA.3205 Proximity.

monitoring facility (and even then was not a common practice amongst GA pilots). Although a hovering helicopter could be inferred as a clue to emergency services activity, in this instance the RV8 formation leader did not see the NPAS helicopter until a late stage. Equally, although the EC135 pilot had received a TCAS warning and started avoiding action, the RV8 formation was also not seen until a late stage. The Board therefore agreed that this mutual late sighting was the cause of the Airprox and noted that the EC135 pilot had had to look around the centre windscreen pillar in order to see the approaching RV8 formation, obscured behind it. Turning to the risk, some members considered that the achieved separation of 0.1nm was such that, allied to the late sightings, safety had been much reduced below the norm (Category B). Others disagreed and felt that, although later than desirable, both pilots had seen each other with sufficient time to take timely and effective avoiding action (or no need to take further action in the case of the RV8 pilot who was already coincidentally turning away). After a lengthy discussion, the latter view prevailed, and the Board agreed that the EC135 pilot’s timely avoiding action and the right turn that the RV8 formation were already in had resulted in a situation where, although safety had been reduced, the risk of collision had been averted (Category C).

**PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A late sighting by both pilots.

Degree of Risk: C.

Safety Barrier Assessment<sup>2</sup>

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

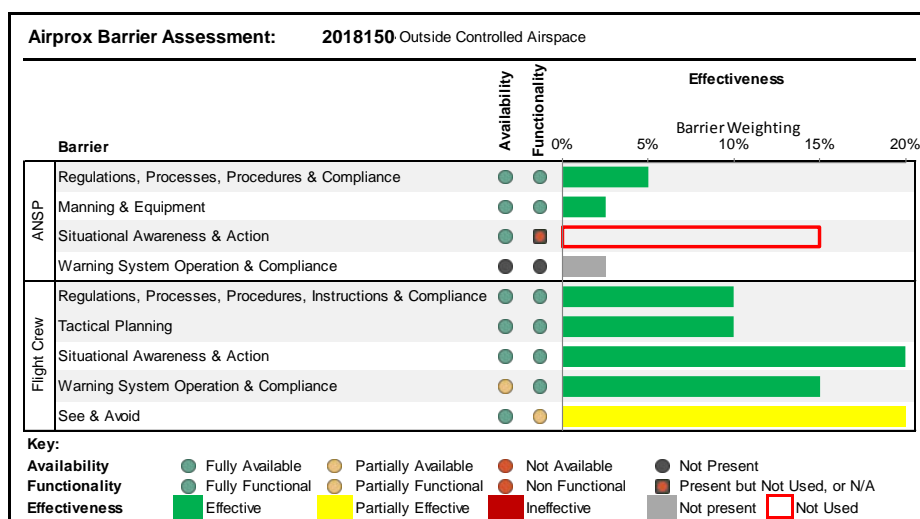
**ANSP:**

**Situational Awareness and Action** were assessed as **not used** because both pilots were in receipt of a Basic Service, which could not have provided SA at their location and altitude.

**Flight Crew:**

**Warning System Operation and Compliance** were assessed as **effective** but only **partially available** because only the EC135 was equipped with a TCAS/TAS.

**See and Avoid** were assessed as **partially effective** because both pilots saw the other aircraft at a late stage.



<sup>2</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).