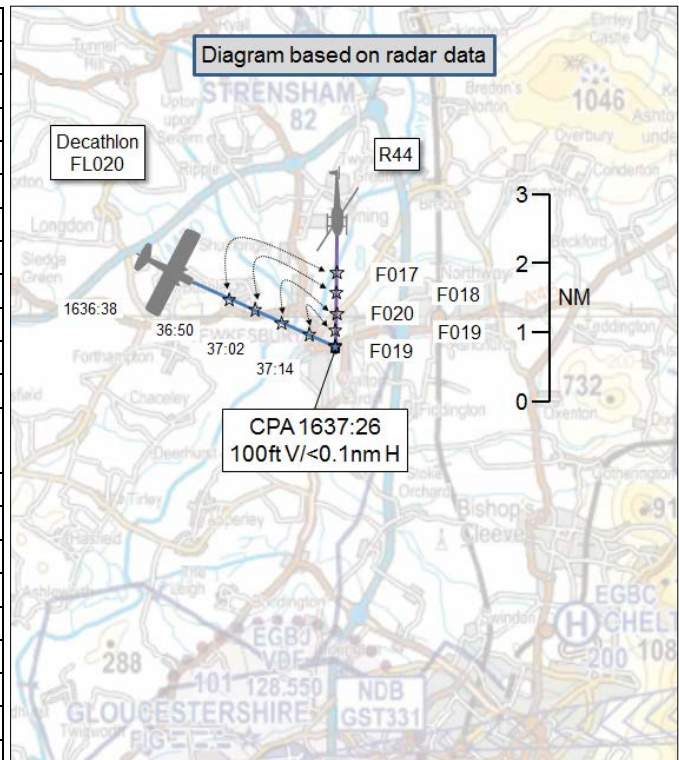


**AIRPROX REPORT No 2017127**

Date: 25 Jun 2017 Time: 1637Z Position: 5200N 00209W Location: Tewkesbury

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Decathlon	R44
Operator	Civ Pte	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Provider	N/A	N/A
Altitude/FL	FL020	FL019
Transponder	A, C, S	A, C, S
Reported		
Colours	Red, white	Red, gold
Lighting	Strobe, landing	White and red strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2050ft	1800ft
Altimeter	QNH (1012hPa)	QNH (1012hPa)
Heading	110°	190°
Speed	104kt	100kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	15ft V/15m H	200ft V/0.4nm H
Recorded	100ft V/<0.1m H	



**THE DECATHLON PILOT** reports being in the cruise a quarter of a mile southeast of Tewkesbury, listening out on the Gloucester frequency, when ‘something caused her to look over her left shoulder’. She glimpsed a red Robinson helicopter just before it passed behind. She then looked over her right shoulder as it flew away, apparently straight-and-level. She noted it was an R44 with a gold logo, flying in the general direction of Gloucester. She reported the Airprox to the Gloucester controller. The pilot noted that the occurrence may have been mitigated if she had contacted Gloucester sooner but that a Basic Service was of limited value, as the controller agency was not obligated to provide Traffic Information. The pilot also noted that visual identification of aircraft on a constant relative bearing was difficult for the human eye and stated that electronic conspicuity together with aids to visual identification in the form of ADS-B and an audible warning to prompt pilots to lookout in a particular direction would be of significant benefit in UK airspace, which has very limited assistance available for GA pilots.

She assessed the risk of collision as ‘Medium’.

**THE R44 PILOT** reports conducting an instructional sortie, in straight-and-level flight having asked the handling pilot (HP) to call Gloucester to rejoin as they got to Tewkesbury. As she turned to the right to speak to the HP, she saw a high-wing, single-engine, fixed-gear aircraft, slightly behind and less than a mile in range, and therefore lowered the collective lever sharply to reduce their height. The HP did not see the aircraft, which passed ahead and above.

She assessed the risk of collision as ‘Medium’.

**THE GLOUCESTER CONTROLLER** reports the Decathlon pilot contacted Gloucester Approach at 1641, requesting whether ‘a red helicopter’ was in receipt of a service. This was confirmed as an R44 inbound to the airfield from a local flight, in receipt of a Basic Service. The Decathlon pilot then

stated that she wished to file an Airprox, having come into conflict with the helicopter near Tewkesbury at 2000ft. She stated that she would file the full report by telephone after landing, stating briefly that the helicopter had 'appeared 200ft below from her 8 o'clock position'. The Decathlon pilot had not contacted Gloucester Approach prior to the incident. The R44 pilot confirmed after landing that she had also taken evasive action.

Following an investigation, it was confirmed that the Decathlon pilot had not made contact prior to her first transmission requesting information on a red helicopter and therefore was not receiving a service. The R44 pilot was in receipt of a non-surveillance Basic Service. It was concluded that there were no ATCO implications because there was no opportunity for the ATCO to provide Traffic Information to either pilot.

## Factual Background

The weather at Gloucester was recorded as follows:

```
METAR EGBJ 251650Z 28010KT 9999 FEW018 BKN026 19/13 Q1012=
METAR EGBJ 251620Z 29008KT 9999 VCSH FEW018 BKN026 19/13 Q1012=
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## Analysis and Investigation

### CAA ATSI

The Decathlon pilot reported having just having passed Tewkesbury. In the written report she stated she was listening out on the Gloucestershire approach frequency, but in the recording of the subsequent telephone call to Gloucestershire ATC, the pilot stated that she had still been on Safetycom and was about to change to Gloucestershire's frequency.

The R44 pilot was returning to Gloucestershire but had not yet called the Gloucestershire controller advising this. The Gloucestershire controller was providing a combined Aerodrome and Approach Control Service, without reference to surveillance-derived information. Figure 1 shows the situation at 1636:00, with the Decathlon 7nm north of Gloucestershire Airport.

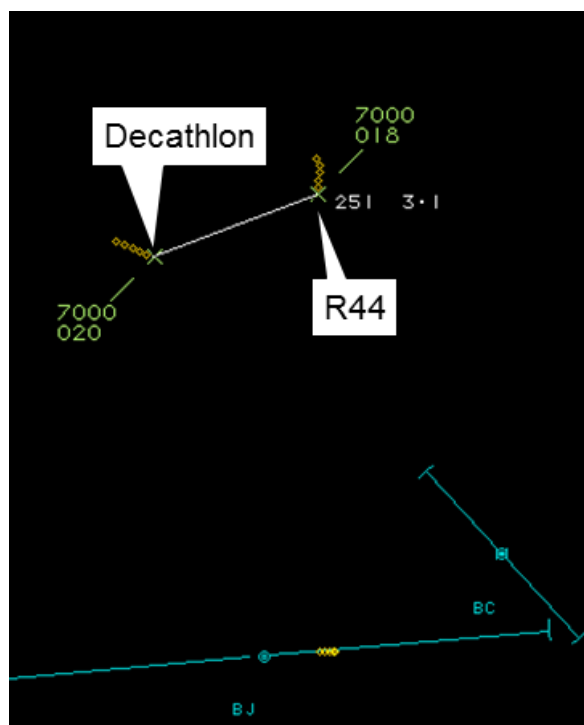


Figure 1 – 1636:00

Neither pilot spoke to the Gloucestershire controller until after CPA. Figures 2 & 3 show the situation as it continued to develop.

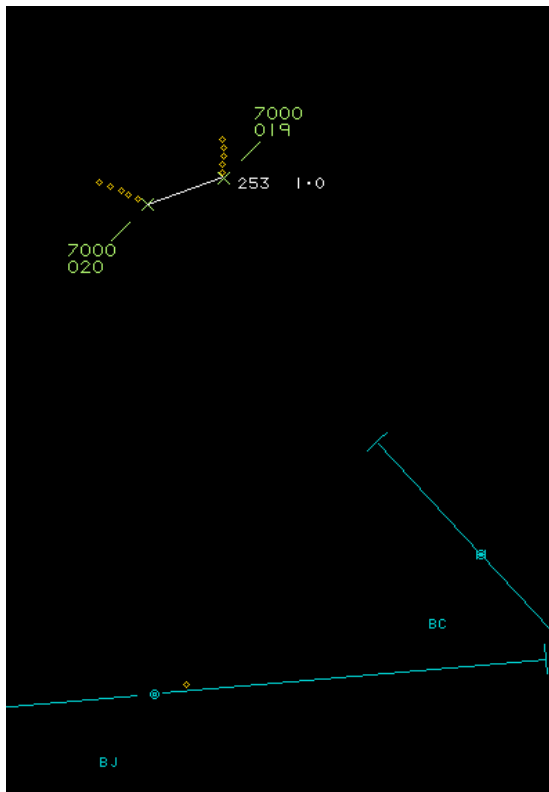


Figure 2 – 1637:00

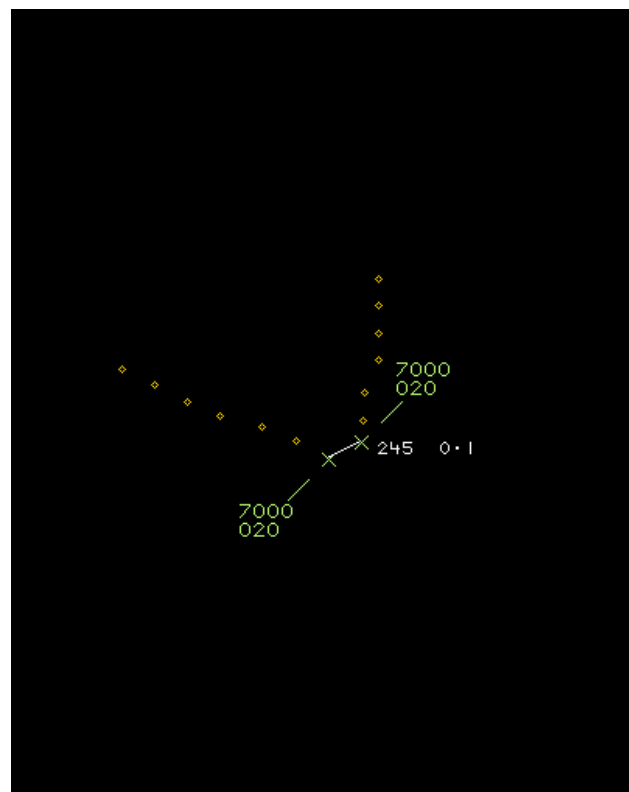


Figure 3 – 1637:22

CPA took place at 1637:26, 6nm north-northeast of Gloucestershire Airport, with the aircraft separated by 100ft vertically and less than 0.1nm laterally.

The R44 pilot called the Gloucestershire controller at 1638:00, reporting overhead Tewkesbury at 1500ft and requesting rejoin. No reference to an Airprox or any other aircraft was made by the pilot. The Decathlon pilot contacted the Gloucestershire controller at 1640:32 to ask about the R44, and advised that she intended to file an Airprox once she had landed at her destination. The Gloucestershire controller was not aware of the position of the R44, nor the presence of the Decathlon in its vicinity.

As both aircraft were being operated in Class G airspace, the pilots were responsible for their own collision avoidance.

### UKAB Secretariat

The Decathlon and R44 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 converging then the R44 pilot was required to give way to the Decathlon<sup>2</sup>.

### Summary

An Airprox was reported when a Decathlon and an R44 flew into proximity at 1637 on Sunday 25<sup>th</sup> June 2017. Both pilots were operating under VFR in VMC, neither in receipt of a Service at the time of the Airprox.

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

<sup>2</sup> SERA.3210 Right-of-way (c)(2) Converging.

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

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the appropriate ATC authority.

Members agreed that this Airprox highlighted the need for a robust and effective lookout at all times, and perhaps emphasised the utility of electronic conspicuity and detection, given that visual acquisition was particularly difficult when it was needed most - in collision geometries. The weather was fine and both aircraft were there to be seen, albeit under the physiological limitations of convergence previously mentioned. Area radar also showed that both aircraft were transponding, which would have provided much needed situational awareness had one or both aircraft been suitably equipped with a TAS. Some members also commented that the Decathlon pilot could usefully have been monitoring Gloucester's frequency rather than Safety Comm given that the latter provided little utility in that area whereas, even under a Basic Service, at least Gloucester might have been able to provide some situational awareness to both pilots, or they may have gained mutual awareness from each other's transmissions.

The Board quickly agreed that the occurrence had been caused by the late sighting of the Decathlon by the R44 pilot and, with the R44 passing behind at first sighting, the effective non-sighting by the Decathlon pilot. Some members felt that the separation was such that collision had only been avoided by providence, but the majority were of the opinion that the R44 pilot's late sighting had afforded sufficient warning to take effective avoiding action, albeit with safety much reduced.

**PART C: ASSESSMENT OF CAUSE, RISK AND SAFETY BARRIERS**

Cause: A late sighting by the R44 pilot and effectively a non-sighting by the Decathlon pilot.

Degree of Risk: B.

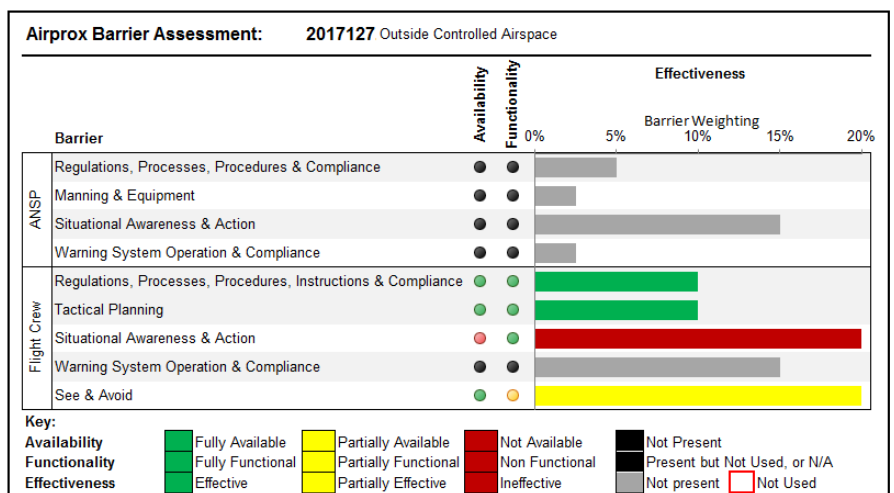
Safety Barrier Assessment<sup>3</sup>

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

**Flight Crew:**

**Situational Awareness and Action** were assessed as **ineffective** because no information was available to the pilots from on-board or off-board sensors, and no action was taken until very shortly before CPA.

**See and Avoid** were assessed as **partially effective** because the Decathlon pilot only saw the R44 at about CPA, effectively a non-sighting, and the R44 pilot saw the Decathlon at a very late stage.



<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).