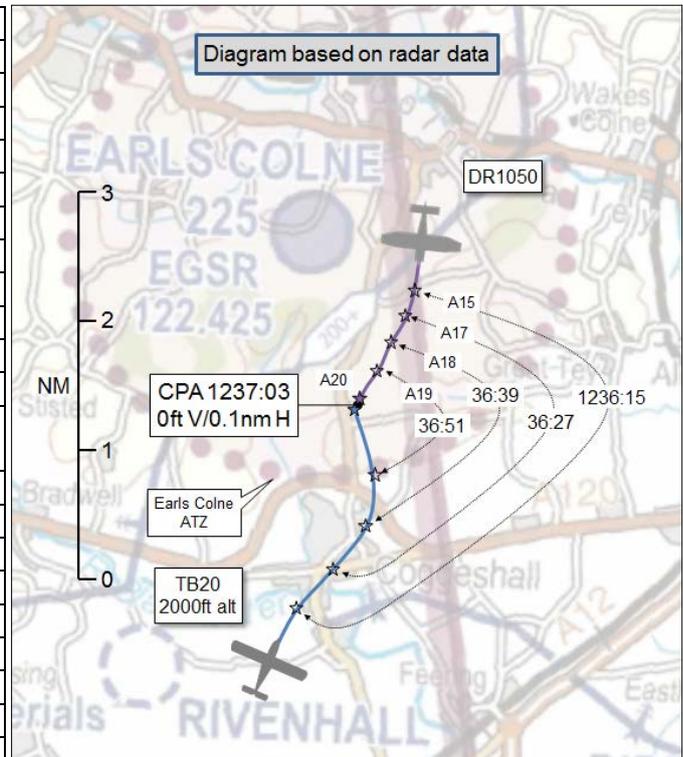


**AIRPROX REPORT No 2016265**

Date: 03 Dec 2016 Time: 1237Z Position: 5153N 00042E Location: Earls Colne ATZ

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Socata TB20	Jodel DR1050
Operator	Civ Pte	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Earls Colne	Earls Colne
Altitude/FL	2000ft	2000ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Blue, white	Blue, white
Lighting	Strobes, nav, landing, taxi	Strobe
Conditions	VMC	VMC
Visibility	10km	>10km
Altitude/FL	1800ft	2000ft
Altimeter	QFE (1018hPa)	QNH (1026hPa)
Heading	030°	205°
Speed	130kt	105kt
ACAS/TAS	PowerFLARM	Not fitted
Alert	None	N/A
<b>Separation</b>		
Reported	50ft V/0.1nm H	100ft V/200m H
Recorded	0ft V/0.1nm H	



**THE TB20 PILOT** reports flying to Earls Colne for the first time. As he approached from the south he changed frequency from Farnborough and called Earls Colne Radio. They advised that they were on RW06RH. He replied that he would be joining overhead from the south at 2,000 feet. As he entered the ATZ heading towards the RW06 threshold for a standard overhead join he was looking for traffic. He expected to see none but suddenly saw an aircraft flying towards him ‘very quickly’. It then passed down his right side about 3 secs later. The pilot noted that he was quite shocked and remembered thinking at the time how lucky he was that the other aircraft wasn't flying directly at him, because the reaction time was so short. The TB20 pilot stated that he had no idea why the DR1050 pilot was flying in the opposite direction to standard overhead joins, in the circuit, at overhead join height.

He assessed the risk of collision as ‘High’.

**THE DR1050 PILOT** reports climbing out of Earls Colne, just about to level out, on a grey but reasonable visibility day. He heard the TB20 pilot previously call for joining instructions so knew he was approaching, but not from which direction. Approaching the first turning point at the junction of the A120 and B1024, the DR1050 pilot saw the TB20 in his 12 o'clock, at the same level, in good time, and initiated a left turn to avoid. The TB20 pilot did not appear to deviate from his course. The DR1050 pilot heard the TB20 pilot say something on R/T, and he replied on R/T that he had seen him.

He assessed the risk of collision as ‘Low’.

**THE AIR GROUND OPERATOR** did not file a report.

## Factual Background

The weather at Stansted and Southend was recorded as follows:

```
METAR EGSS 031250Z AUTO 11009KT 9999 BKN034 07/01 Q1025=
METAR EGSS 031220Z AUTO 11012KT 9999 BKN032 07/01 Q1026=
METAR EGMC 031250Z 09010KT 9999 BKN034 07/01 Q1025=
METAR EGMC 031220Z 10011KT 9999 BKN033 07/01 Q1026=
```

## Analysis and Investigation

### UKAB Secretariat

The TB20 and DR1050 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<sup>2</sup>. If the incident geometry is considered as converging then the TB20 pilot was required to give way to the DR1050<sup>3</sup>. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation<sup>4</sup>.

## Summary

An Airprox was reported when a TB20 and a DR1050 flew into proximity at 1237 on Saturday 3<sup>rd</sup> December 2016. Both pilots were operating under VFR in VMC, both in receipt of an Air Ground Control Service from Earls Colne.

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

Information available consisted of reports from both pilots, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Members first discussed the context of the Airprox and noted that the Earls Colne ATZ was manned with an AGCS and existed in Class G airspace. It was therefore incumbent upon pilots operating in the vicinity of the airfield to maintain a high degree of situational awareness through lookout and assimilation of pertinent R/T, and to adhere to relevant procedures in order to remain predictable. Some members wondered whether it would be prudent for departing pilots to avoid the likely arrival altitude of pilots inbound to the overhead join. A debate ensued, with many members agreeing that whilst this would be a sensible precaution, additional requirements such as this might be considered onerous in the context of Class G airspace. Ultimately it was for pilots to ensure they exercised appropriate airmanship rather than imposing a blanket procedure involving inbound and outbound altitudes. In a similar vein, members also commented that an early indication of the direction of arrival, ideally in the inbound pilot's initial call, could also afford valuable situational awareness to other pilots in the area thus enabling them to modify their intentions if appropriate.

In determining the cause and risk of the Airprox, the Board was greatly assisted by video of the encounter that had been presented by the TB20 pilot. The increasing prevalence of such cameras meant that video and audio recordings could be hugely useful to the Board in assessing the real risk in the absence of any radar recordings; the Board wished to encourage any pilots involved in incidents to send in such recordings to the Board, which would be afforded the same degree of confidentiality as other submissions. After some debate, the Board agreed that the nature of operations in Class G was such that see-and-avoid prevailed. Members noted that the audio recording confirmed that the Jodel pilot had seen the TB20, albeit at a closer range than desirable,

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

<sup>2</sup> SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging.

<sup>4</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

and had manoeuvred to increase separation. The video recording indicated that there had indeed been a conflict in flight paths, but that this had been resolved by the Jodel pilot; although safety had been reduced, there had been no risk of collision.

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

Cause: A conflict in Class G resolved by the Jodel pilot.

Degree of Risk: C.

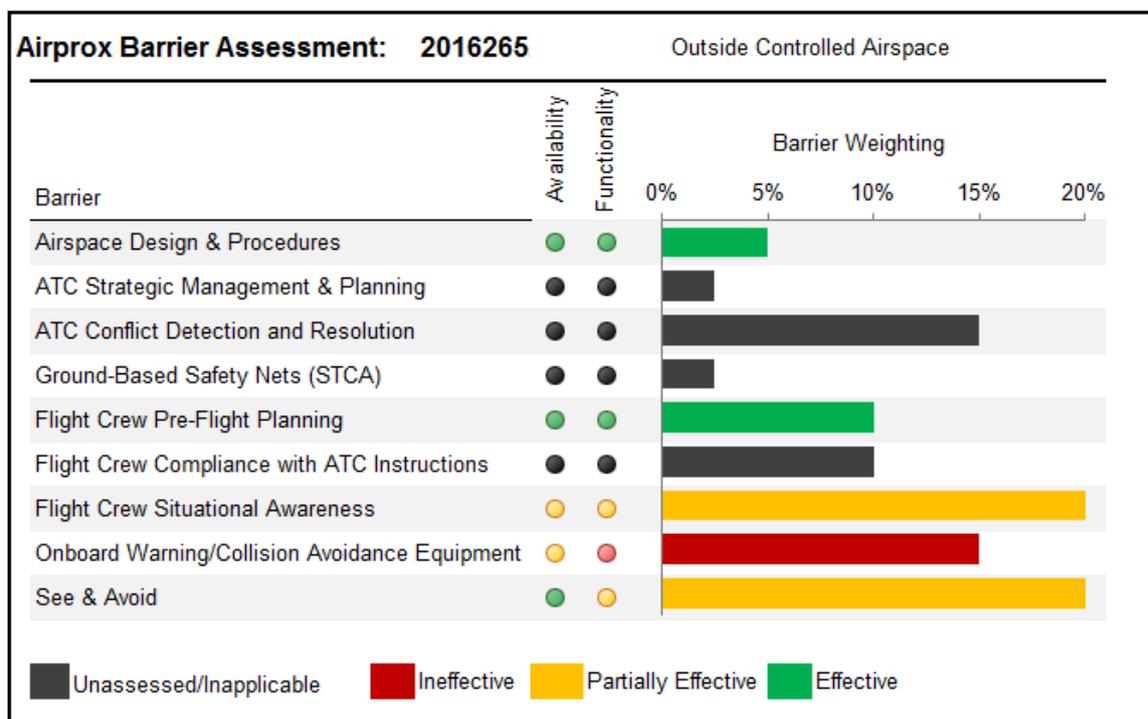
#### **Safety Barrier Assessment<sup>5</sup>**

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** was assessed as **partially effective** because the nature of an AGCS resulted in crews having a limited awareness of other aircraft in the vicinity, dependant on assimilation of R/T from other pilots stating their intentions.

**Onboard Warning/Collision Avoidance System** was assessed as **ineffective** because the TB20 pilot's PowerFLARM did not alert, for reasons the Board were unable to ascertain, and the Jodel was not equipped with a TAS.

**See and Avoid** was assessed as **partially effective** because the TB20 pilot had not seen the Jodel until at about CPA and too late to take avoiding action if required.



<sup>5</sup> Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the following table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace). The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Absent). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident. The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).