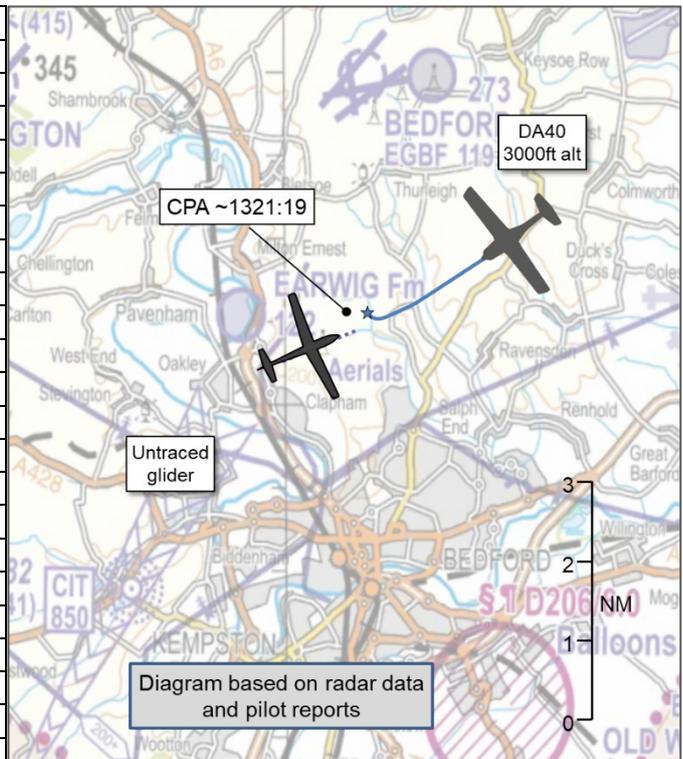


**AIRPROX REPORT No 2020111**

Date: 01 Sep 2020 Time: 1321Z Position: 5211N 00028W Location: 3NM N Bedford

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA40	Unknown glider
Operator	Civ FW	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Listening Out <sup>1</sup>	Unknown
Provider	Cranfield	
Altitude/FL	3000ft	
Transponder	A, C, S	
<b>Reported</b>		
Colours	NK	
Lighting	NK	
Conditions	VMC	NK
Visibility	10km	
Altitude/FL	3200ft	
Altimeter	NK	NK
Heading	NK	NK
Speed	110kt	NK
ACAS/TAS	TAS	Unknown
Alert	None	Unknown
<b>Separation</b>		
Reported	200ft V/0m H	
Recorded		NK



**THE DA40 PILOT** reports flying straight and level at 3200ft 3NM north of Bedford, when a glider was spotted coming directly toward, flying in the opposite direction at the same altitude, about half a mile away. A collision avoidance manoeuvre was carried out by a steep descending turn to the right. The glider was not on frequency with Cranfield Approach and no TAS warning occurred. The glider did not appear to spot the DA40 as its flight path remained completely unchanged and they initially thought it was about 50ft above, but on reflection later assessed that it passed not more than a couple of hundred feet above the DA40. A normal approach and landing was carried out at Cranfield.

The pilot assessed the risk of collision as ‘High’.

**THE GLIDER PILOT** could not be traced.

**THE CRANFIELD CONTROLLER** reports that the Airprox was not reported on the frequency at the time and they had no recollection of the incident.

**Factual Background**

The weather at Luton was recorded as follows:

METAR EGGW 011250Z AUTO VRB02KT 9999 NCD 18/05 Q1020=  
 METAR EGGW 011320Z AUTO 02005KT 9999 NCD 18/06 Q1020=

<sup>1</sup> Although the pilot reported being on the Cranfield frequency, the RT replay indicated that no request for a service had been made at the time of the Airprox.

## Analysis and Investigation

### Cranfield Investigation

The RT recording indicated that a glider had called on frequency approximately 10min before the DA40 departed to the local area. However, position reports and intended routings that were stated by the glider indicate that it is unlikely, although possible, to have been the one involved in the incident. No other gliders were reported to be on frequency around the time of the incident.

### UKAB Secretariat

The DA40 and glider 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>2</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>3</sup>

## Comments

### The DA40 Operating Authority

The reported minimum separation, even following an evasive manoeuvre, suggests a very close encounter. Unfortunately gliders are difficult to see, rarely in contact with ATC and are equipped with FLARM which does not indicate to our aircraft. Airprox with gliders happen occasionally - especially in the summer months - and the reliance on just the 'see and be seen' principle means that there are minimal barriers to prevent a collision. The, albeit late, visual sighting of the glider by the captain and his decisive manoeuvre may well have avoided a more serious incident/accident.

### BGA

The BGA and local clubs strongly encourage pilots to contact ATSU's when flying in the vicinity of airfields with IAPs in Class G. It is unfortunate that this pilot chose not to do so. FLARM fitment in powered aircraft is usually straightforward and inexpensive.

## Summary

An Airprox was reported when a DA40 and a glider flew into proximity at location at 1321Z on Tuesday 1<sup>st</sup> September 2020. The DA40 pilot was operating under VFR in VMC and was listening out on the Cranfield frequency. The glider pilot could not be traced.

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

Information available consisted of a report from the DA40 pilot, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first looked at the actions of the DA40 pilot. They were listening out on the Cranfield frequency, but not receiving an ATS and although Cranfield do not have any radar, members thought that had the pilot called for a Basic Service, Cranfield ATC may have advised that there were gliders operating in the area (**CF1**). The TAS on board the DA40 could not detect the non-transpondering glider (**CF3**) and so coupled with the lack of ATS, the pilot had no situational awareness that the glider was there until they saw it (**CF2**). In the end it was see-and-avoid which prevented the incident becoming a

<sup>2</sup> SERA.3205 Proximity.

<sup>3</sup> SERA.3210 Right-of-way (c)(1) Approaching head-on.

much more serious event, the DA40 pilot saw the glider at a range of half a mile away and took action to increase the separation (**CF4**).

A discussion followed amongst Board members about FLARM fitment in the DA40, whilst it may well have alerted the DA40 pilot to the glider, still GA members thought that, notwithstanding the BGA comments, it was an expensive option for light aircraft and that the comment could equally apply to the glider pilot. If the glider had been fitted with EC that provided ADS-B information as well as being FLARM compatible, there was more chance of GA aircraft detecting them. Furthermore, they noted that the CAA was currently offering a rebate on the purchase of many such compatible EC devices<sup>4</sup>.

Members thought it unfortunate that the glider pilot could not be traced, because without their report it was impossible to know whether they had seen the DA40 and were not concerned by the incident, or had not seen it at all. The BGA members noted that a number of recent Airprox in the Cranfield area had prompted them to produce an article for Sailplane and Gliding magazine which urged glider pilots to call ATC units when operating close-by and in particular highlighted Cranfield. Briefly turning to ATC, Cranfield were not aware that the DA40 pilot was listening out on the frequency and were not in communication with the glider, therefore the Board agreed that they did not have a part to play in this Airprox.

In assessing the risk of collision, members quickly agreed that although safety had been degraded, the DA40 pilot had time to see the glider and take avoiding action to avert the risk of collision; Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

	2020111		
CF	Factor	Description	Amplification
	<b>Flight Elements</b>		
	<b>• Tactical Planning and Execution</b>		
1	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate ATS provider
	<b>• Situational Awareness of the Conflicting Aircraft and Action</b>		
2	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	<b>• Electronic Warning System Operation and Compliance</b>		
3	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	<b>• See and Avoid</b>		
4	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

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 Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because neither pilot had called ATC to tell them about their intentions.

<sup>4</sup>For further information see [Electronic Conspicuity devices | UK Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk)

<sup>5</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](https://www.ukab.co.uk).

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the DA40 pilot had no situational awareness that the glider was in the vicinity.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the TAS on the DA40 could not detect the non-transponding glider.

**See and Avoid** were assessed as **partially effective** because despite the late sighting, the DA40 pilot managed to take avoiding action.

