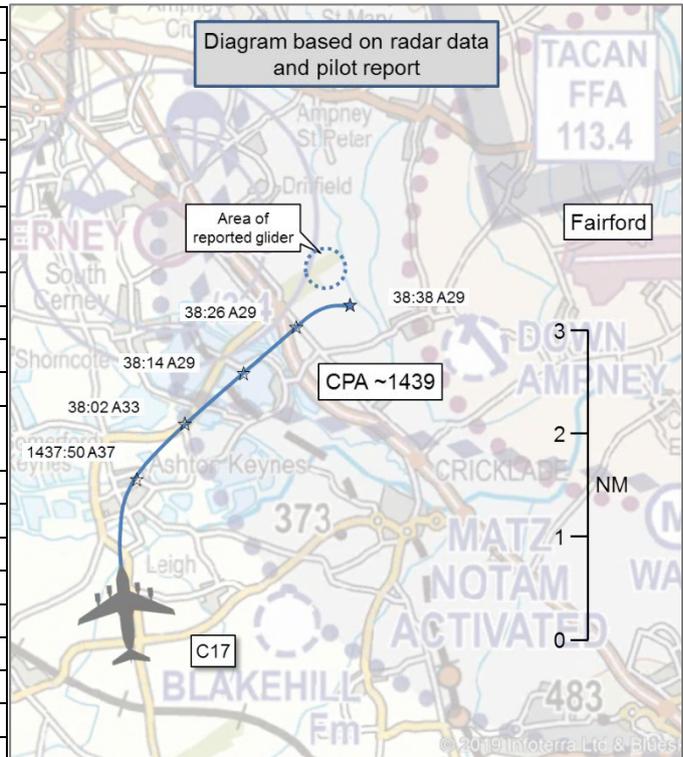


**AIRPROX REPORT No 2019070**

Date: 20 Apr 2019 Time: 1439Z Position: 5140N 00152W Location: ivo South Cerney airfield

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	C17	Glider
Operator	HQ Air (Ops)	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	Traffic	
Provider	Brize	
Altitude/FL		
Transponder	A,C,S	
<b>Reported</b>		Not reported
Colours	Grey	
Lighting	HISLs, landing, nav	
Conditions	VMC	
Visibility	10km	
Altitude/FL	2800ft	
Altimeter	QNH (1029hPa)	
Heading	050°	
Speed	160kt	
ACAS/TAS	TCAS II	
Alert	None	
<b>Separation</b>		
Reported	NK V/0.5nm H	Not reported
Recorded	NK	



**THE BOEING C17 PILOT** reports that they were under a Traffic Service whilst being radar vectored to the ILS RW07 at Brize. At approximately 13nm, capturing the ILS from the south with flaps 1/2, slats extend and gear down at 160kt, they were made aware of potential traffic (not squawking) in their 11 o'clock position by ATC. This guided their eyes to acquire the glider at 1nm (first seen by the Air Load Master (ALM) who was on the flight deck to assist lookout). When visual, the pilot assessed that there was a collision risk and initiated a 40° right-hand level turn to avoid the glider. ATC then vectored them around the contact (and other non-squawking contacts/potential clutter) to regain the ILS. No further incident occurred.

The pilot assessed the risk of collision as 'High'.

**THE GLIDER PILOT** was not traced.

**THE BRIZE APPROACH CONTROLLER** reports that he was bandboxing Approach, Director and Zone at the time of the occurrence. On the Zone frequency he had two zone transits to coordinate, one VFR departure and a Redlands parachute aircraft for entry into Q63. On the Director frequency he had the C17 leaving airways at Q63 via SIREN. When the C17 pilot (squawk 3122) initially contacted him, he instructed the pilot to descend to FL70 to deconflict against the Redlands traffic which was passing FL60 descending. The C17 pilot requested a Traffic Service on leaving controlled airspace. Once clear of Redlands he descended the C17 to 2800ft. At this stage the C17 was still heading west. He left the aircraft on that heading due to a clutter of non-squawking contacts northwest of Redlands, southeast of Fairford. He then turned the C17 onto heading 360°, about 2nm before MALBY. When he told the C17 pilot why he extended them west they replied that they were visual with one aircraft. He then turned the C17 onto heading 050°. At this point an intermittent contact popped up which he then called, right 1 o'clock, 4nm, crossing left-right, no height information. The pilot called visual, to which he replied, do

you require a vector to avoid. The pilot was happy to continue. He requested the altitude of the unknown traffic from the pilot for his situational awareness. The pilot said they were turning to avoid in a right-hand orbit. He replied, roger, report ready for vectors. He believed the separation when the pilot actioned an avoiding-action turn was between 0.5nm-1nm laterally. He called further traffic to the northwest and suggested a heading of 010°, and then vectored the C17 from the north of the centreline to intercept the ILS localiser, calling further non-squawking traffic, but at this time the aircraft was in the Brize CTR. The Brize LARS controller then broadcast on VHF, trying to establish the details of the aircraft in that location.

He perceived the severity of the incident as 'Medium'.

**THE BRIZE SUPERVISOR** reports that he was working LARS beside the Approach Controller and was aware of the inbound and the primary contacts around the Zone. He heard him offer vectors to avoid and feed from the north but the crew declined. He made a broadcast to try and speak to a primary contact operating to the northwest of Brize. He received a reply from a glider pilot who said he was in the Fairford area at around 1700ft. [this was not believed to be the glider involved in the Airprox]. This information was obtained after the C17 had passed so would not have helped.

## Factual Background

The weather at Brize was recorded as follows:

METAR EGVN 201450Z 08006KT CAVOK 22/05 Q1029 BLU NOSIG=

## Analysis and Investigation

### Military ATM

Analysis of the radar replay conducted by the Radar Analysis Cell proved inconclusive because the glider was not seen on radar.

The decision by the Brize Director to vector the C17 pilot away from Redlands was correct and, coupled with Traffic Information, allowed the C17 crew to become visual with the glider. This allowed the crew to take appropriate action to avoid the glider and therefore the controller discharged their duties correctly.

### UKAB Secretariat

The C17 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>1</sup>. If the incident geometry is considered as converging then the C17 pilot was required to give way to the glider<sup>2</sup>.

## Comments

### HQ Air Command

This incident occurred in busy Class G airspace in the vicinity of Brize Norton, where it should be expected to come across other aircraft. The plan-to-avoid barrier was unavailable in this encounter as neither the glider pilot nor the C17 crew would have had any means of knowing the intentions of the other. Furthermore, it is unlikely that the recovery profile of the C17 would have been anything other than tactically managed at the time the aircraft was ready for recovery. The C17 crew were in receipt of a surveillance-based UK FIS and also had the benefit of being equipped with TCAS; however, it seems that the glider was not transponder equipped and so the TCAS barrier was defeated and the ATS barrier weakened. That said, the conditions on the day were favourable for

<sup>1</sup> SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

radar detection and the controller received a primary radar return in the vicinity of the glider and informed the C17 crew accordingly. This permitted the C17 crew to become visual with the glider and, once the relative position and progression of the aircraft had been established by the C17 crew, a turn was initiated to increase separation.

This incident demonstrates the importance of a vigilant lookout, particularly in Class G airspace, coupled with an appropriate ATS. The crew's lookout was cued by ATC and this allowed the crew to visually acquire the glider, in all probability earlier than might have been the case without off-board cueing.

## **BGA**

BGA reported that there was data on some gliders in the Cirencester area on that day, but none at the time of the Airprox or close to its position (near Down Ampney, just outside the Fairford ATZ). They commended the C17 crew for their good lookout in a busy area.

## **Summary**

An Airprox was reported when a C17 and a glider flew into proximity at about 1439UTC on Saturday 20<sup>th</sup> April 2019 near South Cerney. The C17 pilots was operating under VFR in VMC in receipt of a Traffic Service from Brize. The glider pilot has not been traced.

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

Information available consisted of reports from the C17 pilot, radar photographs and reports from the air traffic controllers involved. 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.

The Board first looked at the actions of the C17 pilot. The pilot was in receipt of a Traffic Service from Brize and was given Traffic Information about a non-squawking contact in their 1 o'clock. Following this information the pilot reported visual with the traffic, subsequently reporting it as a glider 1nm ahead and just below. Acknowledging that there was no height information for the non-squawking traffic, members thought that, given the somewhat restricted lookout from the C17 cockpit, the pilot might have been better served by accepting the re-routeing from ATC rather than continue in the hope of visually sighting any threat (**CF1**).

It was apparent to the Board that the C17 pilot had been concerned by the proximity of the glider (**CF3**), and members noted that they had taken a 40° angle of bank turn to avoid the glider after becoming visual. This was considered to be a reasonably steep turn for a large aircraft and was an indication of the crew's concern. This correlated with the pilot's description of the risk of collision as 'high', but the Board wondered whether this could really be the case when the pilot reported the closest point of approach as being 0.5nm. Some members thought that the pilot might have initially been startled by the sudden appearance of the glider and had then subsequently over-estimated the separation once they had taken action. The Board also noted that the C17 pilot would not have received any TCAS warning because the glider was evidently not transponding and was probably not SSR-equipped (**CF2**).

Turning to the actions of the glider pilot, the Board considered that it was unfortunate that they did not have their perspective of the incident despite the tracing attempts of the BGA members. Although the Airprox occurred some 2nm outside the Brize CTR, some members thought that it would have been worthwhile for the glider pilot to have contacted Brize to inform them of their general activities, especially as they were operating close to the RW07 approach. However, other members pointed out that not all glider pilots have an R/T licence and, accordingly, they were not permitted to broadcast on an ATC frequency, which could explain the omission. In this respect, the CAA Airspace advisor commented that there were plans to introduce a limited R/T licence for glider pilots in the near future, which would overcome this problem such that they would be able to communicate with ATC in future.

Turning to the risk, the Board thought that although safety had been degraded, once the C17 pilot had made their avoiding turn there had been no risk of a collision. Accordingly, the risk was assessed as Category C.

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

Contributory Factors:

2019070-Barriers.xlsx			
CF	Factor	Description	Amplification
<b>Flight Elements</b>			
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
1	Human Factors	• Lack of Action	Pilot flew into conflict despite Situational Awareness
<b>• Electronic Warning System Operation and Compliance</b>			
2	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
<b>• See and Avoid</b>			
3	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C

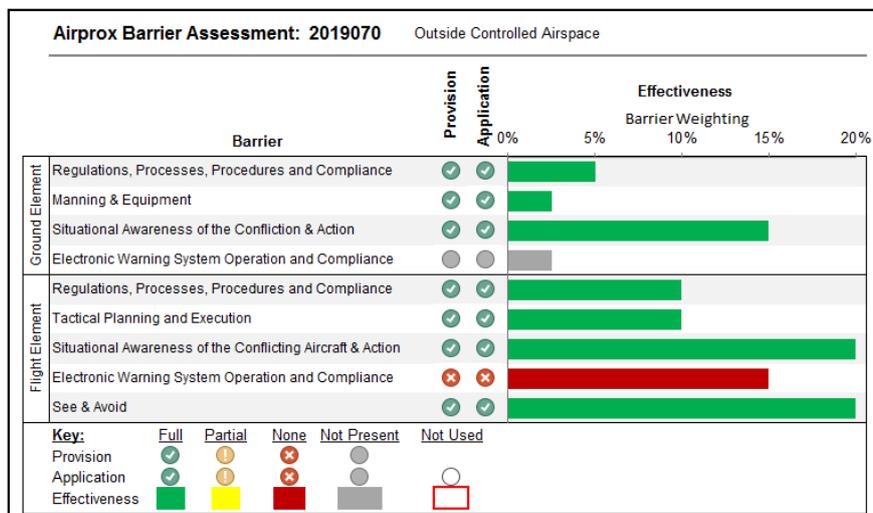
Safety Barrier Assessment<sup>3</sup>

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

**Flight Elements:**

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because although the C17 was equipped with an electronic warning system, the glider was not transponding.

**See and Avoid** were assessed as **effective** because the C17 crew obtained visual contact with the glider at 1nm.



<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](#).