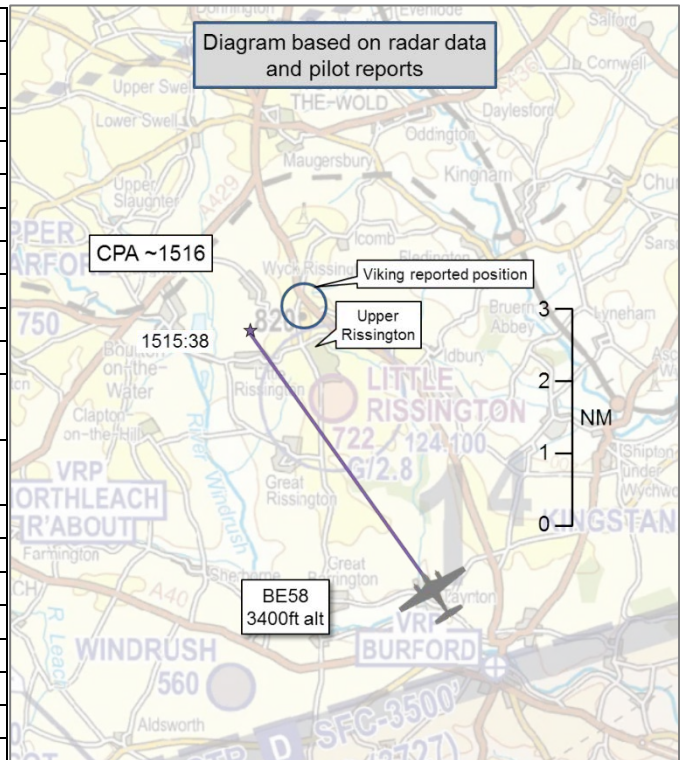


**AIRPROX REPORT No 2019079**

Date: 25 Apr 2019 Time: 1516Z Position: 5153N 00142W Location: Upper Rissington

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Viking	BE58
Operator	HQ Air (Trg)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Traffic
Provider	Little Rissington	Brize Norton
Altitude/FL	NK	3400ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White, orange	White, maroon, black, gold
Lighting	Not fitted	Strobes, 'LED light'
Conditions	VMC	VMC
Visibility	8km	>10km
Altitude/FL	2500ft <sup>1</sup>	3000ft
Altimeter	QFE (NK hPa)	RPS (NK hPa)
Heading	220°	340°
Speed	50kt	185kt
ACAS/TAS	FLARM	TCAS I
Alert	None	None
Separation		
Reported	0ft V/300ft H	20ft V/400m H
Recorded	NK	



**THE VIKING PILOT** reports that he had been soaring to gain height to carry out a stalling exercise, north of the village of Upper Rissington. After carrying out HASELL checks and doing a look-out turn in both directions, he rolled wings level and commenced his patten to demonstrate a stall when the other pilot saw a twin-engine aircraft flying from south to north in the 10 o'clock position at the same height and on a converging course. The other pilot immediately took control and made an obvious avoiding turn to the left. The twin-engine aircraft passed approximately 300ft in front. The Viking pilot stated that had avoiding action not been taken a collision may have occurred. It appeared that the powered aircraft pilot had acknowledged the glider's proximity by taking a turn to the left to give separation.

He assessed the risk of collision as 'High'.

**THE BE58 PILOT** reports that he was in straight-and-level cruise when he saw a glider in the 2 o'clock position at the same level and at a range of 2-400m, heading west. He made an avoiding action hard left turn and saw the glider take the same action to pass behind. He advised the Brize controller of the proximity of the glider and was told no traffic was seen on the radar display. The BE58 pilot stated that there was no indication of traffic on his TCAS and that gliders are very difficult to see when head-on.

He assessed the risk of collision as 'High'.

**THE BRIZE NORTON CONTROLLER** reports that he was covering the Zone, Approach and Director frequencies as it was a quiet period and that he had only been made aware of the occurrence a week after it occurred because nothing was declared on frequency. An aircraft was routing Oxford to Kemble

<sup>1</sup> Equivalent to an altitude of 3200ft.

and was asked to route to Burford VRP to deconflict with an A330 inbound for RW25 from the northwest. He also had a police helicopter operating at Little Rissington who had been made aware of gliding operations and, despite being on a Basic Service, under duty of care he had called primary contacts believed to be gliders when displaying. He tried to contact Little Rissington but got the answer phone. He passed the Little Rissington frequencies for glider ops and tower to the police helicopter. The B58 pilot called up from the southeast and was issued a Traffic Service, reduced for the overhead, and given a clearance to route through the CTR VFR not below 3300ft to separate against the A330, which would be at 2300ft when in the same area. On leaving the CTR, the BE58 pilot was informed Little Rissington was active with gliding, that there was a police helicopter on scene, and it was suggested not to descend in order to avoid it. The BE58 pilot did mention a glider operating nearby as they passed over the gliding site despite the warning although there were no primary contacts showing on the radar display to call. The event occurred in Class G airspace. The controller informed the pilots under his control of the gliding ops, called traffic when seen to a Basic Service under duty of care and even gave advice for separation. The controller stated that there was nothing more he could have done.

**THE BRIZE SATCO** reports that having spoken with the controller, he was content that he had discharged his duties professionally and with duty of care considerations, iaw regulatory policy and the terms of the Little Rissington/Brize Norton LoA. It was unfortunate that the glider was not painting on radar. Had it been so, then he was confident Traffic Information would have been passed to the transiting BE58. Little Rissington lies within Class G uncontrolled airspace and does not have an ATZ to provide a measure of protection. Class G airspace, by its very nature, can be unpredictable and it was the SATCO's opinion that the NOTAM issued by Little Rissington did not provide an accurate reflection of activity. Whilst it is accepted that gliding activity is somewhat fluid in terms of operating profile, if the NOTAM stated that glider ops were being conducted up to 2700ft and it was known that activity would exceed this vertical limit, why was the altitude not given as the maximum anticipated operating altitude or alternatively why did handling pilots not cap their altitude to that stated in the NOTAM. Had the maximum altitude been stated as being higher, then better SA would have been available to all concerned and more accurate warnings could have been issued. If handling pilots had conformed to the maximum altitude stated in the NOTAM, then this event would not have occurred.

## Factual Background

The weather at Brize Norton was recorded as follows:

```
METAR EGVN 251550Z 20012KT 9999 FEW035 14/06 Q0999 BLU NOSIG=
METAR EGVN 251520Z NIL=
METAR EGVN 251450Z 21014G24KT 9999 SCT036 14/06 Q0998 BLU NOSIG=
```

NOTAM H1394/19 covered activity at Little Rissington, as follows:

```
Q) EGTT/QWGLW/IV/M/W/000/027/5152N00142W002
B) FROM: 19/04/23 08:00 C) TO: 19/04/25 19:36
E) GLIDING. INTENSE ACT WI 2NM RADIUS 515200N 0014136W (LITTLE
RISSINGTON, GLOUCESTERSHIRE). FOR INFO 07786 504892 AND 124.1MHZ
2019-04-0172/AS3
LOWER: SFC
UPPER: 2700FT AMSL
SCHEDULE: 0800-SS PLUS15
```

## Analysis and Investigation

### Military ATM

The Viking pilot, in receipt of a Military Air-Ground Radio Communication Service from Little Rissington was conducting a stalling exercise as part of a return to flight programme. At the top of climb (approx 2500ft) and prior to the stall exercise, he became aware of a twin engine aircraft (later identified as the BE58) on a converging course at the same level. The BE58 pilot, in receipt of a Traffic Service from Brize Zone, had been instructed to climb to altitude 3300ft through the Brize

CTR to allow a departure into the Brize Instrument Pattern at 2300ft. At the time of the incident the Brize Zone Controller was also bandboxing the Approach and Director tasks but noted that it was a quiet period with only 3 speaking units on frequency including the BE58. Approx 2min prior to the incident, the BE58 pilot was warned about gliding at Little Rissington and a Police Helicopter operating in the same area. Traffic Information was passed on the Police Helicopter at a range of 2nm. Shortly after this exchange, the BE58 pilot reported coming close to gliders and the Brize Zone Controller reported that there was nothing showing on their radar display. The Radar analysis cell was unable to identify the Viking on radar replay but relevant portions of the RT transcript are reproduced below.

To	From	Speech Transcription	Time
BE58	Brize Zone	[BE58 C/S] apologise Radar Control inside Controlled Airspace remain Victor Mike Charlie	15:12:54
Brize Zone	BE58	Radar Control remain Victor Mike wilco [BE58 C/S]	15:12:59
BE58	Brize Zone	[BE58 C/S] now leaving controlled airspace Traffic service	15:13:17
Brize Zone	BE58	Traffic service thanks [BE58 C/S]	15:13:20
BE58	Brize Zone	[BE58 C/S] roger and suggest you maintain Three Thousand Three Hundred feet until passed little Rissington they have police ops on scene and gliding	15:13:22
Brize Zone	BE58	Okay we'll do that [BE58 C/S]	15:13:31
BE58	Brize Zone	[BE58 C/S] Police helicopter right one o'clock two miles manoeuvring indicating Two Thousand feet below	15:14:36
Brize Zone	BE58	That's copied we're good Victor Mike and looking [BE58 C/S]	15:14:46
BE58	Brize Zone	[BE58 C/S] resume own altitude selection	15:15:34
Brize Zone	BE58	Okay wilco we just passed close by gliders same altitude but no other conflicts	15:15:39
BE58	Brize Zone	[BE58 C/S] roger nothing was showing on my display	15:15:47
Brize Zone	BE58	Okay	15:15:48

The Brize Zone Controller had warned the BE58 of gliding at Little Rissington and passed appropriate Traffic Information on the Police Helicopter operating in that area. Given this fact, it is reasonable to assume that had the gliders been showing on radar, the Brize Zone Controller would have passed Traffic Information on them.

### UKAB Secretariat

The Viking and BE58 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 converging then the BE58 pilot was required to give way to the Viking<sup>3</sup>.

### Comments

#### HQ Air Command

As neither crew had access to CADS, the plan to avoid barrier was not available. The NOTAM that was published for intense gliding activity within a 2nm radius Little Rissington (LR) extended to 2700ft AMSL (2000ft AGL). The Viking pilot climbed above the notified 'intense' gliding activity for a stalling exercise, perhaps requiring the extra height for this manoeuvre. The NOTAM was never intended to advise that all gliding activity would be conducted below 2700ft; however, it may have been interpreted this way by Brize ATC and the BE58 pilot. It is also acknowledged that had a greater altitude been placed on the NOTAM, the Airprox may not have occurred. It is worth noting

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

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

that the Viking pilot reported their vertical position as height AGL, not altitude AMSL. This supports the assessment that the Airprox aircraft were co-altitude.

In any case, the BE58 was advised to maintain 3300ft until past LR. This may have given the BE58 pilot an impression that gliders would likely not be encountered at this altitude. The Brize controller discharged their duties appropriately but was hindered by lack of true SA due to no primary or secondary radar return being displayed by the Viking. It is also unfortunate that, upon calling LR, the controller was connected to the answerphone. Work has been undertaken to ensure that Runway Caravan mobile at LR is monitored at all times.

As each aircraft was communicating with different agencies, deconflicting using ATC was not possible. Whilst the BE58 was fitted with TCAS and the Viking was fitted with FLARM, neither could detect the other and therefore deconflicting using ACAS/TAS was not possible. This left see-and-avoid as the only available barrier and it is fortunate that each aircraft spotted the other, albeit at reasonably close range, and were able to deconflict visually.

The process for submission of gliding NOTAMS at LR is under review.

## Summary

An Airprox was reported when a Viking glider and a BE58 flew into proximity at about 1516 on Thursday 25<sup>th</sup> April 2019 near Upper Rissington. Both pilots were operating under VFR in VMC, the Viking pilot in receipt of an AGCS from Little Rissington and the BE58 pilot in receipt of a Traffic Service from Brize Norton.

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

Information available consisted of reports from both pilots, 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.

Members first discussed the pilots' actions and noted that the Viking pilot was operating outside the NOTAM. This was not to say that he should not have been, but rather that he was not under any protection that the NOTAM might have afforded. The Viking pilot was operating on the Little Rissington AGCS frequency and hence did not have SA on the approaching BE58 (**CF4**).

For his part, the BE58 pilot was in receipt of a surveillance based FIS from Brize Norton but the radar was not capable of detecting the Viking (**CF2**) and hence the controller could only pass generic Traffic Information of gliders in the Little Rissington area (**CF1, CF4**). Neither pilot's traffic warning system was compatible with the other aircraft (**CF5**) and hence neither pilot was aware of the proximity of the other aircraft until at a late stage (**CF4**). Notwithstanding questions regarding use of unverified data, members noted that a FLARM display would have indicated the presence of the Viking and that in the Board's opinion this potentially life-saving mitigation should be considered for use by Brize Norton Air Traffic Control given the frequency of glider flights in and around the Cotswolds. The Board noted that such an arrangement already exists at RAF Leeming.

Members discussed ATM coordination and noted that the Brize controller's attempt to contact Little Rissington was met with an answer-phone (**CF3**); consequently, the opportunity to pass mutually beneficial information had been missed. In this respect, some members suggested that it would perhaps be advantageous for Viking pilots to change to a Brize Norton frequency once outside the Little Rissington visual circuit so that coordination would not be required but the Board stopped short of making such a recommendation in recognition of the advantages of remaining on the local frequency when conducting certain activities in the low overhead.

In the event, although each pilot saw the other converging aircraft at a late stage (**CF6**) both were able to take avoiding action. That being said, and taking in to account each reported separation at CPA and

the speed of the BE58, after some discussion members agreed that safety had been much reduced below the norm and that this situation was best described as a Category B incident. The Board agreed that with the technical barriers of surveillance and TAS not functioning, this incident served as a timely reminder of the paramount importance of a robust and effective lookout, no matter what service was being provided by ATC or equipment carried in the aircraft.

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

### Contributory Factors:

2019079			
CF	Factor	Description	Amplification
<b>Ground Elements</b>			
<b>• Situational Awareness and Action</b>			
1	Contextual	• Situational Awareness and Sensory Events	Only generic, late or no Situational Awareness
2	Human Factors	• Conflict Detection - Not Detected	
3	Human Factors	• ATM Coordination	Inadequate or ineffective
<b>Flight Elements</b>			
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
4	Contextual	• Situational Awareness and Sensory Events	Pilot had no, only generic, or late Situational Awareness
<b>• Electronic Warning System Operation and Compliance</b>			
5	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
<b>• See and Avoid</b>			
6	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

Recommendation: Nil.

### Safety Barrier Assessment<sup>4</sup>

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

#### **Ground Elements:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the Viking glider did not appear on the Brize radar display and consequently the controller could not detect its proximity to the BE58.

#### **Flight Elements:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the BE58 pilot had been passed generic Traffic Information on gliders in the vicinity of Little Rissington.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because neither aircraft's electronic warning system was compatible with the other aircraft.

<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

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

<b>Airprox Barrier Assessment: 2019079</b>		Outside Controlled Airspace						
Barrier	Provision	Application	Effectiveness					
			Barrier Weighting					
			0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Confliction & Action	⚠	✗					
	Electronic Warning System Operation and Compliance	○	○					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Tactical Planning and Execution	✓	✓					
	Situational Awareness of the Conflicting Aircraft & Action	⚠	✓					
	Electronic Warning System Operation and Compliance	✗	✗					
	See & Avoid	⚠	⚠					
<b>Key:</b>			Full	Partial	None	Not Present	Not Used	
Provision	✓	⚠	✗	○				
Application	✓	⚠	✗	○		○		
Effectiveness								