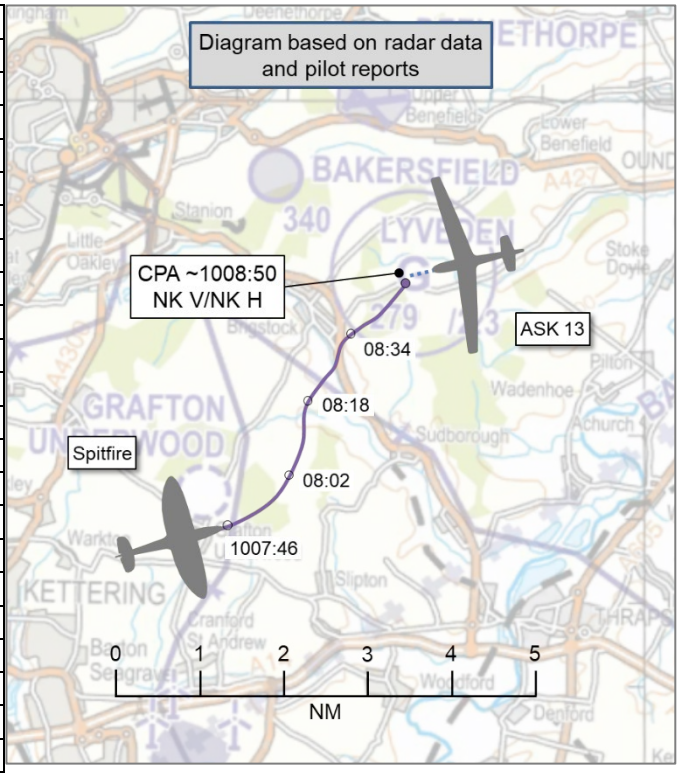
AIRPROX REPORT No 2020099

Date: 06 Aug 2020 Time: 1009Z Position: 5228N 00035W Location: Lyvedon Glider Site

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASK13	Spitfire
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Provider	Lyvedon Radio	Sywell AFIS
Altitude/FL	NK	NK
Transponder	Not fitted	Fitted[1]
Reported		
Colours	Cream/Red/White	Green/Grey
Lighting	Nil	NR
Conditions	VMC	VMC
Visibility	20NM	>10km
Altitude/FL	1400ft	2000ft climbing
Altimeter	QNH	QNH
Heading	250°	NR
Speed	55kt	NR
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	300ft V/200m H	Not seen
Recorded	NK V/NK H	



THE ASK13 PILOT reports that it was the first glider winch-launch of the day at Lyveden airfield and was a training flight. Towards the top of the launch, as the nose of the glider dropped from its 45° nose-up full-climb attitude, they spotted the silhouette of a Spitfire in plan-view in front and above them in an abrupt and apparently evasive climbing turn to port away from them. They aborted the launch at 1100ft QFE to ensure that vertical separation was maintained. They estimate the vertical separation as 300-400ft, horizontal separation as no more than 200m. A witness at the westerly (upwind) end of Lyveden airfield noted that the Spitfire passed directly over the Gliding Club's winch at a height of no more than 1500ft agl - winch launching at Lyveden to 2000ft agl is marked on the latest Southern UK 1:500,000 aeronautical chart. For the Spitfire, not only was there a very real risk of a mid-air [collision] with the glider, but passing over the winch at below the marked winching ceiling posed the additional risk of impact with the winch cable.

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

THE SPITFIRE PILOT reports that they flew several flights in a Spitfire on that day. During one flight, they approached Lyveden gliding site from the SW at approximately 2400ft altitude. They were aware of their position in relation to this site and, before reaching the upwind boundary where the winch would be located, they pulled up in a gentle wingover and departed to the SW; the maximum height was around 4000ft and the weather was good VMC. They were later informed that a glider pilot at the site had contacted the owner of the aircraft; they don't know whether this person was on the ground or being launched at the time they saw a Spitfire. If they were being launched, the glider would have been pitched nose-up and might have appeared to be directly in front of them or nearly so. Although they carry an iPad with SkyDemon, they turn it off when they are in a familiar area to conserve the battery, which has limited endurance. Therefore, they have no GPS record of the flight.

[1] Reported as 'ON' but no SSR returns observed.

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 060950Z 21009KT 9999 SCT018 BKN024 21/15 Q1016 WHT=
METAR EGXT 061050Z 20009KT 9999 SCT026 24/15 Q1016 BLU=
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Analysis and Investigation

UKAB Secretariat

Analysis of the NATS radar replay revealed a primary radar track approaching the vicinity of Lyveden glider site from the SW at around the time stated in both pilots' reports. The primary track proceeds in a north-easterly direction and overflies the centre of the Lyveden gliding site at around 1009Z (Figure 1) – the time that the glider pilot reports aborting their launch. No height information is available on the primary track and the glider is not detected by the radar. The primary track then continues in a north-easterly direction, away from the glider site (Figure 2).

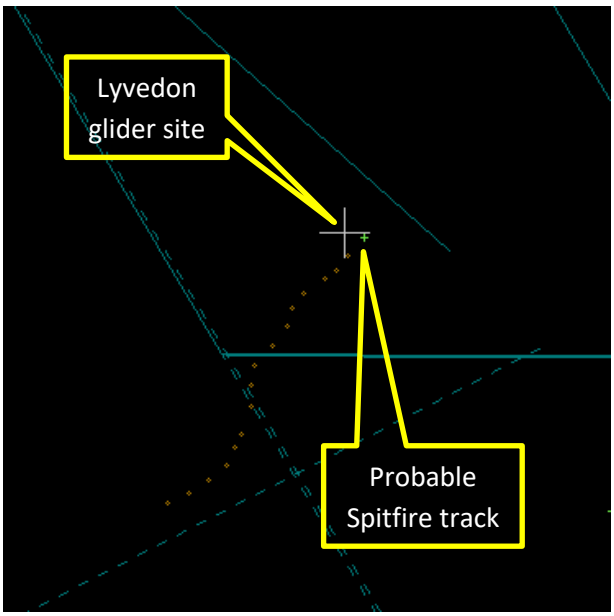


Figure 1 – 1008:54

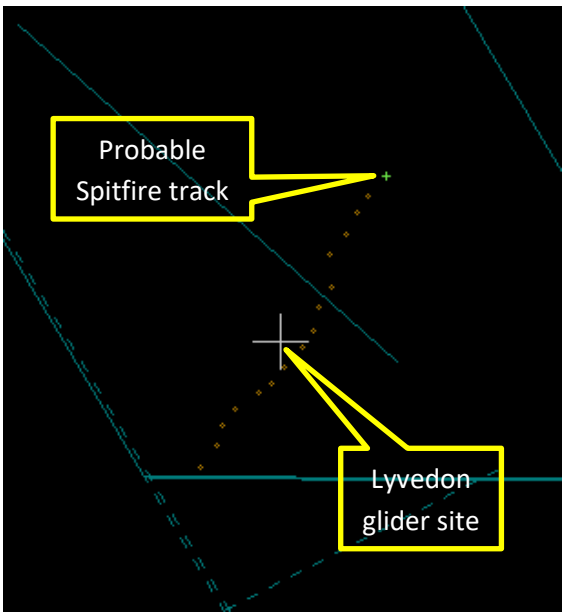


Figure 2 – 1009:28

Further investigation through the Spitfire's operating company confirmed that the aircraft is fitted with a Mode S transponder and that the technical log for the aircraft did not contain any details of unserviceability of that equipment on the day of the Airprox. Additionally, the Spitfire pilot has confirmed that, to the best of their knowledge, the transponder was switched on at the time of the Airprox.

The ASK13 and Spitfire pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as converging then the Spitfire pilot was required to give way to the ASK13.[3] 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.[4]

[2] SERA.3205 Proximity.
[3] SERA.3210 Right-of-way (c)(2) Converging.
[4] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Comments

BGA

It is very disappointing to see yet another overflight of a gliding site below the maximum launch height, in this case leading to the glider needing to release the cable prematurely. Gliding sites are clearly marked on the paper and electronic maps and the area directly over the site is the most important to avoid. Only a small change of course in pre-flight planning or when en-route is necessary to keep away from the immediate overhead.

Summary

An Airprox was reported when an ASK13 glider and a Spitfire flew into proximity over Lyvedon Glider Site at 1009Z on Thursday 6th August 2020. Both pilots were operating under VFR in VMC; neither pilot was in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 considered the actions of the glider pilot and members quickly agreed that, without any situational awareness of the approaching Spitfire (**CF4**), there was little more that they could have done to prevent the Airprox from occurring. The glider pilot had been in the final stages of a winch-launch and their lookout would therefore have been slightly compromised in front of the aircraft. That said, on sighting the Spitfire and being concerned by its proximity (**CF6**), the glider pilot had taken the only option available to them in releasing the winch cable.

The Board then discussed the actions of the Spitfire pilot. Some members wondered if, having flown that aircraft on a number of occasions on the day of the Airprox, the pilot may have misremembered the circumstances of this particular flight. Their account of their post-event track was inconsistent with the radar replay and their recollection of altitudes did not mirror the glider pilot's account. On this latter point, the Board agreed that without a recorded altitude from the Spitfire's transponder or a GPS file from the glider then it had not been possible to determine the altitude of either aircraft, thus hindering their understanding of how the event had unfolded. The Board discussed the possibility that the lack of transponder returns from the Spitfire had been contributory to this Airprox; however, given that there was nothing on-board the glider that could have detected the Spitfire's transponder signals, members stopped short of assigning a contributory factor in this regard. Nevertheless, the Board felt that the owner of the Spitfire may wish to undertake checks on the serviceability of the aircraft's transponder with local Air Traffic Service Providers on future flights. The Board considered that the Spitfire pilot's choice of routing on the day had increased the likelihood of encountering a glider, and that this had been contributory to the Airprox (**CF1**). Furthermore, there had been no apparent attempt to contact the glider site – either pre-flight or once airborne – from the Spitfire pilot (**CF3**), which may have at least alerted them to the fact that Lyvedon glider site was active with winch-launching on that day. The Board deemed that the Spitfire pilot had not had any situational awareness of the presence of the ASK13 glider (**CF4**) and that, notwithstanding the lack of recorded altitude data from either aircraft, had also not avoided the pattern of traffic formed by the glider launching from Lyvedon (**CF2**). Members accepted that the Spitfire pilot had conducted a manoeuvre intended to keep them clear of the glider site, but that they had not actually seen the ASK13 glider on its winch-launch (CF5).

Turning to the risk involved in this event, the Board was somewhat hindered by the lack of altitude information from either aircraft and also the absence of any GPS data or primary radar return from the ASK13 glider. That said, and in the interests of impartiality, members agreed that the glider pilot's

assessment of vertical separation may have been influenced by a degree of surprise at seeing the Spitfire during their launch and also that the Spitfire pilot may have misremembered the exact profile that they had flown in the vicinity of the glider site. This led to a prolonged discussion over whether there was enough information available for the Board to assign a risk of collision (Category D) or if one or other pilot's account could be deemed to be the more accurate. After considering all the factors involved, members finally agreed that there had been enough information available to assign a risk of collision and that, although safety had been degraded, no actual risk of collision had existed. Accordingly, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020099		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Tactical Planning and Execution		
1	Human Factors	• Pre-flight briefing and flight preparation	
2	Human Factors	• Monitoring of Other Aircraft	Did not avoid/conform with the pattern of traffic already formed
3	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action		
4	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid		
5	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
6	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C

Safety Barrier Assessment[5]

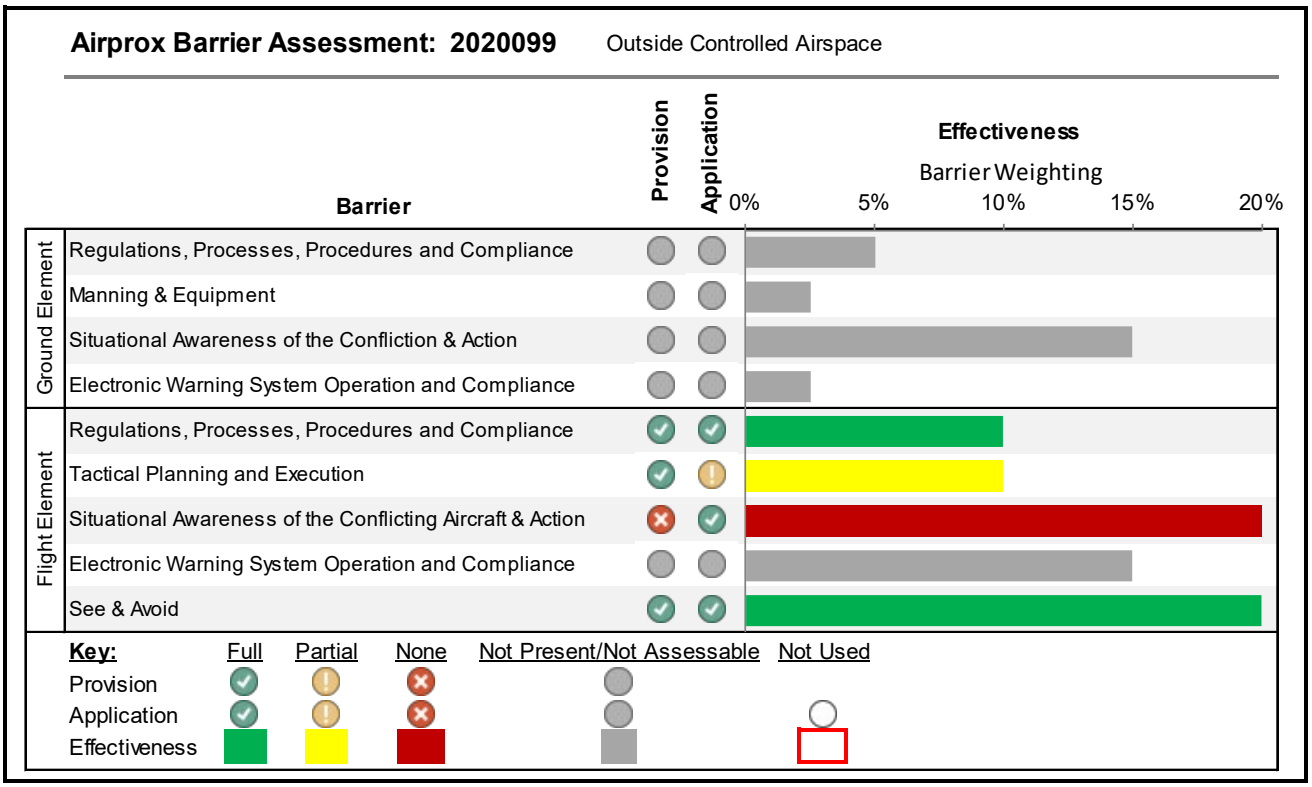
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Spitfire pilot had planned to fly towards the overhead of Lyvedon glider site and, irrespective of altitude, had therefore increased the likelihood of encountering a glider and they had not avoided the pattern of traffic formed by the glider.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any prior warning of the presence of the other aircraft.

[5] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2020099
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
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness