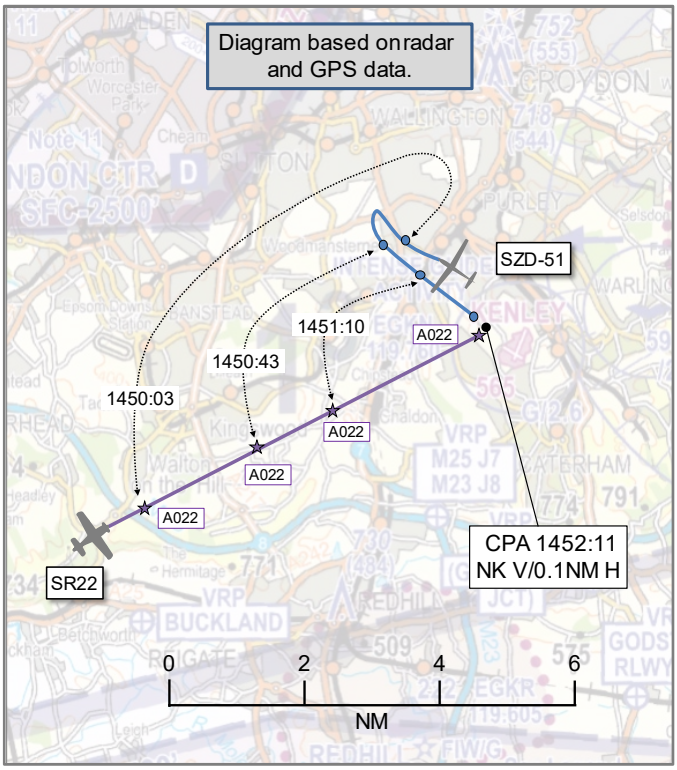
AIRPROX REPORT No 2024035

Date: 06 Mar 2024 Time: 1452Z Position: 5118N 00007W Location: 1NM WSW of Kenley

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	SZD-51	SR22
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Basic
Provider	Kenley	Biggin Approach
Altitude/FL	NK	2200ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White	White
Lighting	NK	Strobe and nav.
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2300ft	2100ft
Altimeter	QFE	QNH
Heading	NR	070°
Speed	70kt	135kt
ACAS/TAS	FLARM	TAS
Alert	None	None
Separation at CPA		
Reported	<50ft V/0m H	NK V/NK H
Recorded	NK V/0.1NM H	



THE SZD-51 PILOT reports that they operate from Kenley airfield during weekdays and notify [the nearby] ATC when they are operational. They took off at 1412 and landed at 1545. The Airprox incident happened roughly one hour into their flight. The conditions were good for gliding, with visibility of at least 25km. The sun was getting low in the west so visibility in that direction was reduced. A strong 'line of lift' had developed over the [gliding site] forming a cloud street with a northwest-southeast orientation. They had been flying back and forth along this cloud street for some time.

When the incident occurred they were flying a straight glide at about 70kt on a bearing of about 160°. Their position was approximately 1km west of the [gliding site] and 1800ft QFE. A light-aircraft suddenly appeared from under their right wing and passed directly under them with less than 50ft separation. They heard the roar of the engine as it passed beneath them and only had sight of the aircraft for a fraction of a second before it passed underneath them. After the incident, they turned slightly left and saw the aircraft alter its course slightly left as it flew overhead the active glider site and headed off in the direction of Biggin Hill airfield.

They thought it was a single engine aircraft. Although they always kept a good lookout whilst flying, they didn't see the light-aircraft as it was heading towards them. It approached them from the sun where visibility was reduced and from just behind their right wing. [They opined that] from the point of view of the light-aircraft pilot, they had the sun behind them and the glider must have been clearly visible in front of them. They must have flown with the glider at a fixed bearing to their aircraft, in other words on a direct collision course with them for some time. [They thought that] the pilot could not have been keeping any sort of lookout. Kenley airfield is not protected with an ATZ but aircraft are not supposed to fly over an active winch launch glider site. The class A LTMA airspace over the airfield starts at 2500ft QNH, which is 1934ft QFE for Kenley airfield. This has the effect of channelling aircraft into a narrow band of a few hundred feet under the airspace. [They further considered that] this was becoming an increasingly dangerous situation, and that they know that designating an ATZ to the airfield would not

solve the problem but it could go some way to making general aviation pilots more aware of [the site's] existence.

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

THE SR22 PILOT reports that on approaching Kenley they tried to assess if it was active by looking at the airfield and seeing if there was any activity on the ground. They never fly over Kenley airfield and on most occasions they are accompanied by another pilot who would obviously assist in the lookout. [On this week] they flew on three days to Biggin Hill, and definitely remembered a glider being sighted on one occasion by their own lookout on their right, below them, and not deemed a conflict. As they were in a descending turn to the left, their vision to the right was limited, and positioning for a right-hand downwind, avoiding noise abatement areas did not help.

The pilot later confirmed that the SR22 has a traffic alerting system which did not give an alert of the glider traffic and that they had a "no conflict" verbal alert from the non-flying pilot in the right hand seat.

THE BIGGIN HILL CONTROLLER reports that they had been informed there was an Airprox reported between a glider and [an SR22] in the vicinity of Kenley. At the time of the occurrence they were on duty and instructing a trainee ATCO. Nothing was reported at the time on the frequency or via a landline.

THE BIGGIN HILL SUPERVISOR reports that the student ATCO warned the SR22 pilot [that the nearby glider site] was active and the pilot promptly acknowledged. No pilot informed or contacted Biggin Hill ATC regarding the occurrence. The radar replay showed a primary contact appear near to [the SR22] after the aircraft had passed Kenley.

Findings and observations, Class G [airspace] 'See and Avoid' Biggin ATC procedures were followed (alerting pilots of the gliding site).

Factual Background

The weather at Biggin Hill was recorded as follows:

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METAR EGKB 061450Z 08006KT 050V110 9999 SCT024 10/03 Q1021
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The following is an extract from the UK AIP entry for Biggin Hill Aerodrome:

a. **VFR Arrival Procedures**

All inbound aircraft should comply with ATC instructions where possible.

i. VFR Arrivals from the North, West and South:

Pilots should make first contact with Biggin Hill Approach at the earliest opportunity, in all cases, no later than 5NM from Biggin Hill Airport. All inbound aircraft shall route as directed by Biggin Hill ATC and be level at circuit height of 1000ft QFE (altitude 1600ft QNH) no later than 3NM from Biggin Hill unless there is conflicting traffic.

Caution: Aircraft joining from the west should avoid overflying Kenley Gliding site.

Analysis and Investigation

CAA ATSI

The closest point of approach was measured as 0.1NM horizontally; vertical separation could not be measured due to the glider displaying on the radar replay as PSR target only.

The SR22 was confirmed to be at an altitude of 2200ft and the glider pilot reported being at a height of 1800ft AGL. The airfield elevation at Kenley is 565ft. This would equate to the glider being at a reported altitude of circa 2365ft at the time of the Airprox.

The glider pilot was on a local flight from Kenley Airfield. The pilot reported flying a straight glide at around 70kt and on a bearing of 160° when they encountered the SR22 1km west of the airfield, at 1800ft QFE.

The pilot of the SR22 was VFR and had just agreed a Basic Service with Biggin Hill Approach a few seconds before the Airprox. The pilot reported being on a heading of 070° at 2100ft, descending and turning. The pilot reported that they did not obtain sight of the glider.

The Biggin Hill service was being provided by a trainee controller under the supervision of an OJTI. The controllers were advised of the Airprox retrospectively and they could not recall any details. The unit investigation report was light on detail. As such ATSI reviewed the NATS radar recording and the Biggin Hill R/T.

At 1451.00 both aircraft were approaching Kenley Airfield, the SR22 from the west and the glider from the northwest. Neither pilot was in receipt of an Air Traffic service.

At 1452.00 the SR22 pilot called Biggin Hill and advised them that they were 7.5 miles west of the field with information Kilo, 1021 hPa set and requested joining instructions. The pilot was instructed to report 5 miles to run for onward clearance, and expect to join right-hand downwind RW21, with a 21 threshold QFE of 1002 hPa. The pilot provided a full and accurate readback. The controller advised the pilot, "*Basic Service, squawk 7047 and the gliding site at Kenley is active*." The pilot responded, "*7047, Basic and copied* (unintelligible word)." On completion of the exchange the SR22 was 6NM west-southwest of Biggin Hill.

The SR22 pilot had made initial contact with the Biggin Hill controller when they were 7.5NM west of the aerodrome, with the aircraft being 6NM west upon conclusion of the R/T exchange. The Biggin Hill controller warned the pilot of activity at Kenley Airfield during this initial R/T exchange. The aircraft subsequently passed 0.4NM to the northwest of Kenley Airfield and 0.6NM to the north of it.

Biggin Hill controllers have access to an Air Traffic Monitor (ATM). The unit report confirmed that whilst their radar replay had displayed traffic in the vicinity of the SR22 after it had passed to the east of Kenley, it did not mention any traffic displayed in the vicinity of the SR22 at the time of the Airprox, which occurred when the aircraft was still 0.8NM west of Kenley.

Note: Kenley Airfield is 5NM west-southwest of Biggin Hill. Notwithstanding that pilots inbound to Biggin Hill should have briefed themselves appropriately, any warning of gliding activity at Kenley by Biggin Hill controllers is likely to be too late for pilots approaching from west of Kenley who have left their initial R/T contact with the unit until they are 5NM from Biggin Hill.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The SR22 could be positively identified from Mode S data, and the SZD-51 could be identified by primary returns and GPS data which verified the pilot's narrative (Figures 1 and 2).

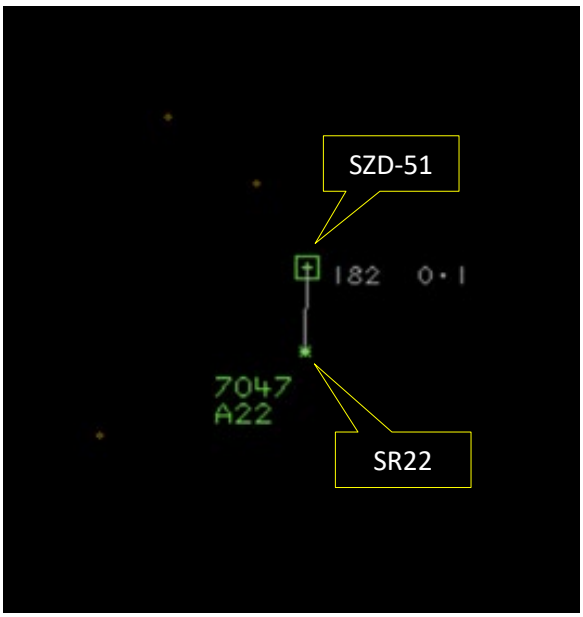


Figure 1 – Radar CPA. Time 1452:11.

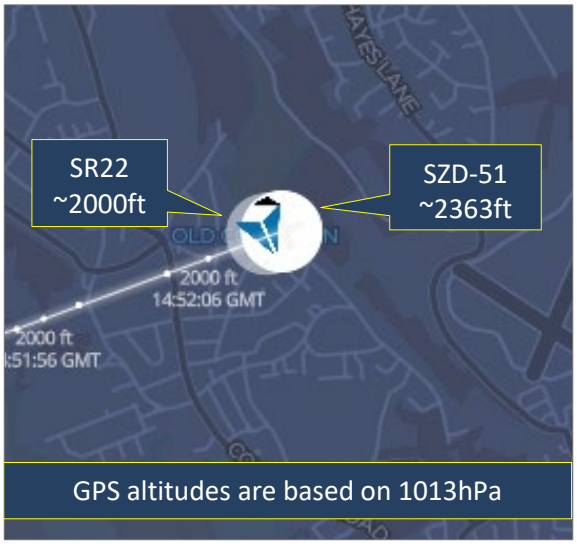


Figure 2 – GPS tracks. Time 1452:11 SR22 appeared to pass under the SZD-51.

The GPS data depicted the SR22 level at 2000ft and the SZD-51 altitude varying slightly above 2300ft (with the analyser altitude readouts based on 1013hPa).

The SZD-51 and SR22 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] If the incident geometry is considered as converging then the SR22 pilot was required to give way to the SZD-51 glider.[2] If the incident geometry is considered as overtaking then the SZD-51 pilot had right of way and the SR22 pilot was required to keep out of the way of the other aircraft by altering course to the right.[3]

Comments

AOPA

This is a congested piece of airspace, due to the vertical restriction of controlled airspace above and laterally with Heathrow and Gatwick airspace. To operate in this area it is wise to obtain an

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[3] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

ATSU service and have some form of compatible electronic conspicuity in addition to that in the glider which would improve the situational awareness for all other airspace users.

BGA

Kenley is near the centre of an east/west corridor of uncontrolled airspace between the Gatwick and London CTRs, close to its narrowest point (where it's about 6NM wide). This active gliding site is listed in AIP ENR 5.1 as having permission to winch launch gliders to 1700ft AAL (2265ft AMSL) although, because of a quirk of CAA charting, this is shown on VFR charts as 2600ft AMSL. After launch, gliders may then fly locally at all altitudes up to the base of the overlying Class A airspace at 2500ft AMSL. Funnelling of east/west traffic transiting outside controlled airspace, combined with Biggin Hill arrivals and departures, poses a self-evident Airprox risk in this area.

There was no interoperable electronic conspicuity between the SZD-51 Junior and SR22, and it's likely that the SR22 was hidden from the glider pilot by the glider's starboard (right) wing from when it was over 3NM away until just before CPA.

ATSUs such as Biggin Hill that are near this and other areas of 'Intense Glider Activity' may wish to install flight information displays that provide instantaneous situational awareness on aircraft carrying the electronic conspicuity system fitted to almost all gliders (including this SZD-51 Junior).

Summary

An Airprox was reported when an SZD-51 and an SR22 flew into proximity 1NM west-southwest of Kenley at 1452Z on Wednesday 6th March 2024. Both pilots were operating under VFR in VMC, the SZD-51 pilot not in receipt of an ATS and the SR22 pilot in receipt of a Basic Service from Biggin Approach.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data, reports from the air traffic controllers involved and reports from the appropriate operating authority. 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 studied the actions of the SZD-51 pilot and noted that, during the left turn, the glider's right wing would have been obscuring their view of traffic on their right. They wondered if the pilot had followed best practice by occasionally levelling the wings to enhance their lookout during the left turn back to the southeast. Members expressed surprise that, despite the low sun, the glider pilot had not seen the SR22 sooner and had only sighted it after it had passed underneath them from the right, effectively not seeing the SR22 in time to avoid it (**CF6**).

The Board further acknowledged that the SZD-51's electronic conspicuity equipment had not detected the SR22 (**CF5**) and that the pilot had not been in receipt of an ATS, and therefore agreed that the pilot had had no situational awareness of the approaching SR22 (**CF4**).

Turning their attention to the actions of the SR22 pilot, the Board discussed the pre-flight planning and noted that the pilot was familiar with the airspace, knowing that overflight of the glider site is best avoided due to the winch launch, but members were concerned about the plan to fly so close to the airfield (**CF3**). Given the narrow airspace around Kenley to Biggin Hill, members discussed the potential for concern in this area and remarked that the SR22 pilot had been notified by Biggin Hill that the area had been active with gliders at the time, which had also been broadcast on the ATIS, and had flown into an area marked on VFR charts as an area of intense gliding activity (**CF2**).

The timing of the SR22 pilot's radio call was also of concern to the Board, and it was agreed that it may have been wiser for the SR22 pilot to have made an earlier call to Biggin Hill to establish an ATS, so as to have been better prepared to evaluate an alternative routeing and/or call Kenley on their second radio to determine the extent of local glider activity. The Board also noted that the SR22's TAS had not

alerted the pilot to the presence of the SZD-51 glider (**CF5**) and that, apart from the timing of the radio call to Biggin Hill, the controller had likely been unable to detect the glider or required to provide Traffic Information to the SR22 pilot (**CF1**). Therefore, the Board determined that the SR22 pilot had only had generic situational awareness of potential glider traffic based on the information available to them (**CF4**). The Board debated the SR22 pilot's lookout and felt that, apart from looking down at the glider site to determine whether there had been any activity, this lookout could also have been extended to looking up and around, especially considering how difficult gliders are to see due to their slim design and low visual cross-section. Members were particularly concerned that the glider pilot involved in this Airprox was not more understanding of this factor, and noted that the SR22 pilot had not sighted the glider on this occasion (**CF6**).

Members considered whether local procedures were of concern, and determined that Biggin Hill ATC had been aware of the gliding activity, as notified by Kenley, and had adequately fulfilled their local procedures by broadcasting that information. They also briefly discussed Kenley's winch cable heights as notified in the AIP versus the cable height recorded on the chart, and it was determined to be of no consequence in this case and safer to maintain the 2600ft AMSL chart notification to positively discourage GA traffic from overflight of the site, rather than the lower requirement imposed on the site of 1700ft AAL which would otherwise be notified as 2300ft AMSL.

The Board finalised their discussion by assessing the reports from both pilots, radar, ATC and local procedures. Members agreed that safety had been reduced much below the norm, and that a collision had been avoided largely by chance (**CF7**) and, as such, assigned a Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024035			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Aircraft Navigation	An event involving navigation of the aircraft.	Flew through promulgated and active airspace, e.g. Glider Site
3	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
5	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
	• Outcome Events			
7	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Safety Barrier Assessment[4]

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 Confliction and Action were assessed as **not used** because the Biggin Hill controller was not required to monitor the SR22 under the terms of a Basic Service.

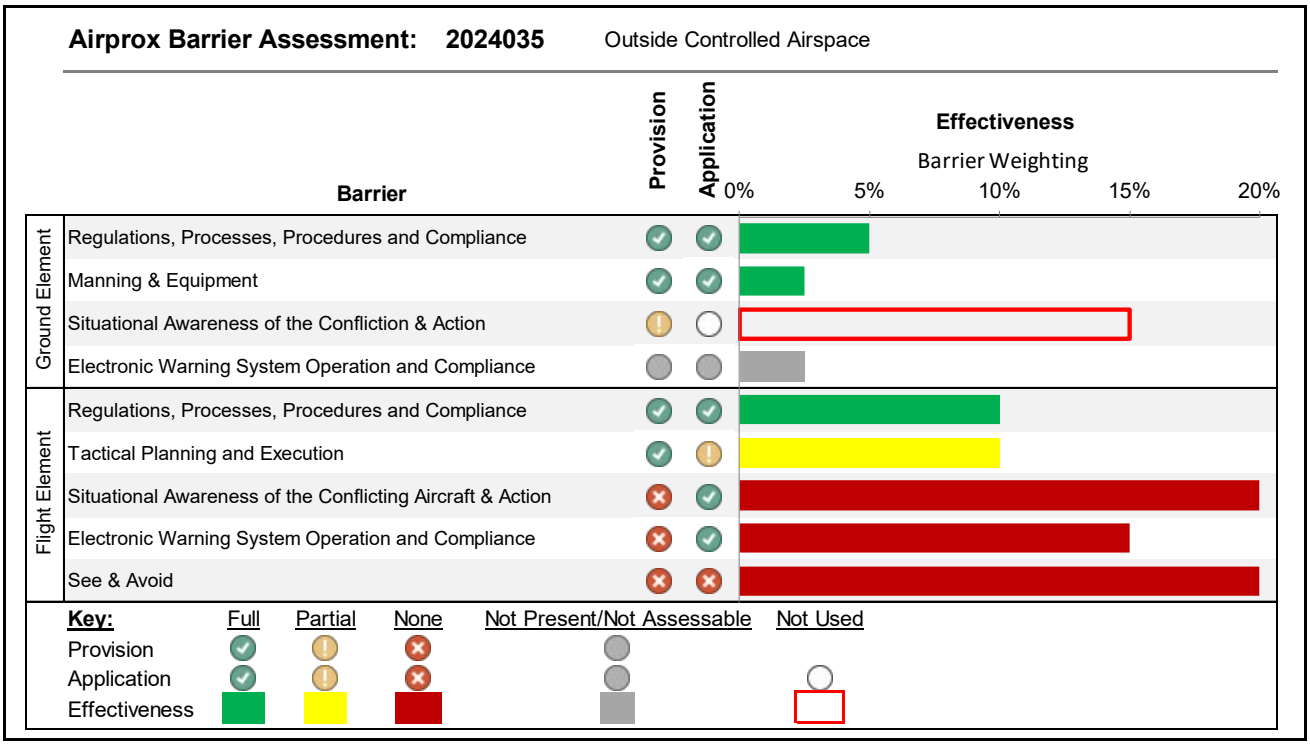
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the SR22 pilot flew into an area of known gliding activity and had not planned to remain sufficiently clear of such an area.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the glider pilot had no situational awareness of the presence of the SR22, and the SR22 pilot had only generic situational awareness from the chart indication and ATC confirmation of glider activity.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the aircraft had incompatible electronic conspicuity devices that did not detect the other.

See and Avoid were assessed as **ineffective** because the SR22 pilot had not sighted the SZD-51 and the SZD-51 pilot had an effective non-sighting of the SR22, being too late to initiate action to increase separation.



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