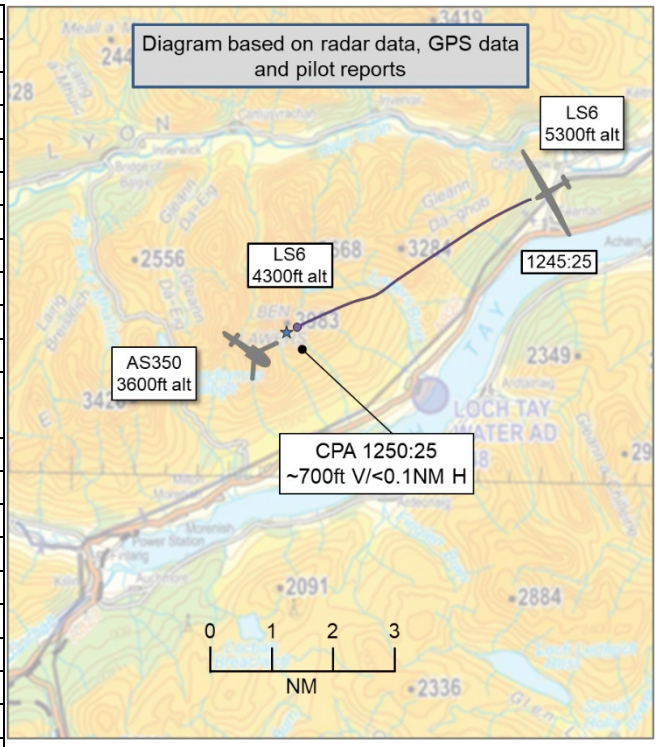
AIRPROX REPORT No 2023129

Date: 22 Jun 2023 Time: 1250Z Position: 5632N 00413W Location: Ben Lawers

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AS350	LS6 Glider
Operator	Civ Comm	Civ Gld
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Altitude/FL	3600ft	4300ft
Transponder	A, C, S	Not fitted
Reported		
Colours	Maroon	White
Lighting	Anti-col/HISL/ Position	Nil
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3750ft	4000-4300ft
Altimeter	QNH (1020hPa)	QNH
Heading	NK	240°
Speed	0kt	50kt
ACAS/TAS	SkyEcho	FLARM
Alert	U/S	None
Separation at CPA		
Reported	300-400ft V/0M H	500ft V/500M H
Recorded	~700ft V/<0.1NM H	



THE AS350 PILOT reports that a load-lifting task to the summit of Ben Lawers – with NOTAM, CANP and CADS in place – had been underway since 0900. During the early afternoon (approximately 1245), just after delivering a load to the mountain side drop site (approximately 3750ft elevation), the groundcrew alerted them via radio that a glider had been directly above their aircraft. On looking up through the pilot's skylight window, a glider had been approximately 300-400ft above the helicopter and appeared to be descending. The helicopter had been immediately placed in a steep dive to contour the mountainside and deconflict from the glider. The glider had been seen to continue descending for a short period before reaching an adjacent peak (approximately 3500ft elevation) whereupon it started circling/thermalling. A call had been made on the low-level common frequency with no response; Scottish Information had been contacted and they confirmed that they had not been in communication with any glider traffic or were aware of any gliders in the surrounding area. The helicopter returned to the lift site landing zone and shut down for a period of time to allow the airspace to clear. The task had been subsequently resumed and successfully completed. On speaking to the client at the end of the job, they said that the glider had been seen to come round the corner, low over Ben Lawers from the east and only sighted immediately before they alerted the AS350 pilot. There had been no NOTAMs for any gliding activity in the immediate vicinity of the job site. There are no nearby gliding sites shown on the CAA charts. The helicopter had been displaying an anti-collision light/position lights/HISL. The helicopter's transponder had been on and set to 7000 Mode C. An [EC] device was on board the aircraft but had not been functioning at the time of the incident (it had worked during the positioning flight in the morning but did not power up later in the day despite being plugged in to the USB charger).

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

THE LS6 PILOT reports that they had been passing through the Ben Lawers area looking for a climb en route to Killin. As they came around the northern side of the summit (above hill height) they spotted a helicopter hovering/on the ground on the saddle to the west of the Ben Lawers summit. The LS6 pilot

continued past towards Meall Corranaich (to the east of the reservoir) where they found a climb to get them into and out of Killin. On the way back from Killin the pilot reports having kept to the south of Ben Lawers near Loch Tay to ensure they did not come into conflict on the return leg to Tomintoul. The pilot did note that there had been a NOTAM in the area notifying of potential activities however it had not been a restricted zone. At no point did the LS6 pilot think a collision had been likely or imminent and they had not seen the aircraft again after the initial sighting.

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

Factual Background

The weather at Leuchars and Edinburgh was recorded as follows:

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METAR EGQL 221150Z 28005KT 9999 FEW045 19/08 Q1019 RMK BLU=
METAR EGPH 221220Z 29005KT 200V020 9999 SCT041 20/10 Q1020=
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Analysis and Investigation

UKAB Secretariat

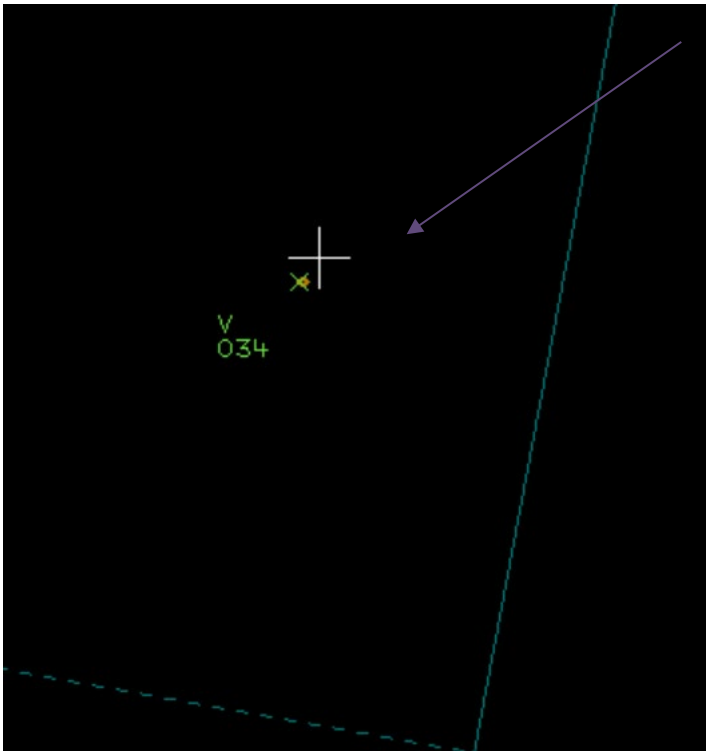

Figure 1: CPA 1250:25 700ft V/ <0.1NM H
White cross indicates summit of Ben Lawers
Purple line shows direction of approach of LS6

A NOTAM describing the helicopter activity had been issued as follows:

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H3500/23 NOTAMN
Q) EGPX/QWELW/IV/BO /W /000/039/5631N00416W003
A) EGPX B) 2306220700 C) 2306222030
E) CIVIL AIRCRAFT NOTIFICATION PROCEDURE - UNDERSLUNG LOADS WILL OPERATE LOW
FLYING AREA 14 WI 2NM RADIUS OF PSN 563107N 0041626W, (BEN LAWERS M HIGHLAND).
MAX HEIGHT 500FT AGL. ACFT MAY BE RESTRICTED IN ABILITY TO MANOEUVRE AND UNABLE
TO COMPLY WITH RAC OPS CTC 01667 464404. 23/06/165/LFC
F) SFC G) 3900FT AMSL
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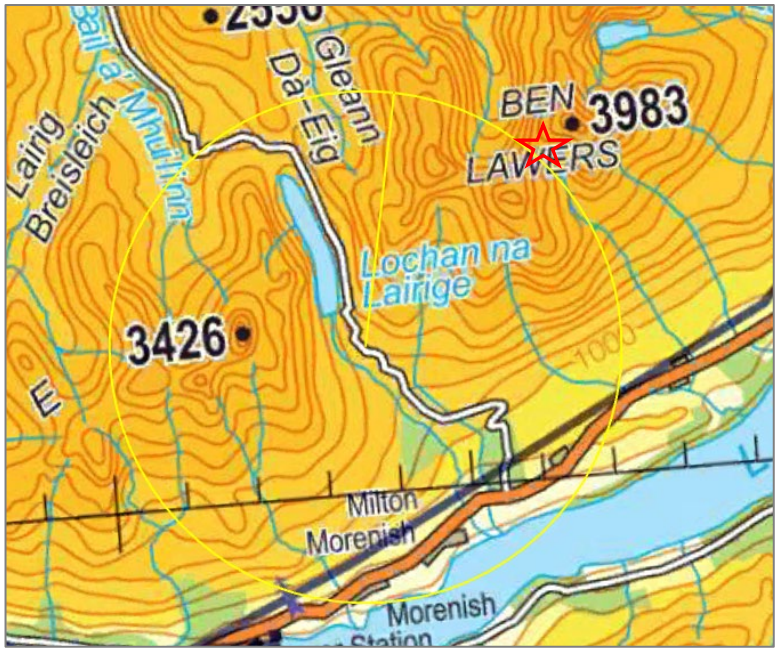


Figure 2: Yellow circle indicates the relevant NOTAM lateral limit.
Red star indicates reported position of the Airprox

The AS350 and LS6 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 head-on or nearly so then both pilots were required to turn to the right.[2] If the incident geometry is considered as converging then the AS350 pilot was required to give way to the LS6.[3]

Comments

BGA

The LS6 had been in the middle of a 325km cross-country flight when it crossed the ridge 0.2km north of Ben Lawers summit. As the helicopter had been below ridge elevation, and on the opposite side of the summit to the approaching glider, neither aircraft would have been visible to the other until a few moments before this ridge crossing, nor would they have been able to receive any radio or EC transmissions from each other before this point. Data from the LS6 barometric flight logger shows that it had climbed about 100ft between crossing the ridge and the CPA with the helicopter 33sec later, then descended about 100ft between CPA and beginning to climb near Meall Corranaich 30sec after the CPA.

Although it was not functioning at the time of the incident, the carry-on TAS device on board the helicopter can be configured to receive transmissions from the EC equipment carried by almost all gliders, and display nearby glider traffic via participating EFB applications. This could provide a useful additional safety barrier in airspace where gliders operate.

Summary

An Airprox was reported when an AS350 and an LS6 flew into proximity at Ben Lawers at 1250Z on Thursday 22nd June 2023. Both pilots were operating under VFR in VMC, neither pilot in receipt of an Air Traffic Service.

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

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar and GPS-derived recordings. Relevant contributory factors mentioned during the Board's discussions are highlighted in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board firstly discussed the scenario in general terms; they considered the extreme nature of the terrain, the point of operation of the AS350 and the direction of approach of the LS6. They opined that early sight by either pilot of the other aircraft had been virtually impossible and a late-sighting had been the most likely outcome. Members noted positively that some situational awareness had been enabled by the CANP/NOTAM established to warn of the lift/load operation. They further noted that both aircraft had been equipped with compatible electronic conspicuity equipment and that unfortunately the unit carried by the AS350 had been unserviceable on this occasion.

Members also commented on the positive contribution made by the AS350 support workers on the ground, having alerted the pilot by radio to the presence of the LS6 and, as the AS350 pilot had been concerned by its proximity, enabled the pilot to act on the late-sighting gained from that contact.

When discussing the risk, members noted that the LS6 pilot had seen the AS350 as soon as the terrain allowed and that, although a helicopter pilot member of the Board noted that had the AS350 been in the act of load-carrying the risk would have been significantly increased due to greatly reduced manoeuvrability, the vertical separation had been such that members were satisfied that there had been sufficient separation between the aircraft, and that there had been no risk of collision. It was therefore agreed that normal safety parameters had pertained and, as such, the Board assigned Risk Category E to this event. Members agreed that the following factors (detailed in part C) had contributed to this Airprox:

CF1: The AS350 pilot had been passed late situational awareness on the LS6 by colleagues via ground-to-air radio communication.

CF2: The AS350 and the LS6 had been equipped with electronic conspicuity equipment that had been compatible, but as that carried by the AS350 had been declared unserviceable, no warning was recorded by either pilot.

CF3: The AS350 pilot achieved a (very) late sighting of the LS6.

CF4: The AS350 pilot was concerned by the proximity of the LS6.

CF5: The nature of the terrain, point of hover of the AS350 and path of flight by the LS6 led to obscuration via terrain for both pilots.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023129			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	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			
2	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			

3	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
4	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
5	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: E.

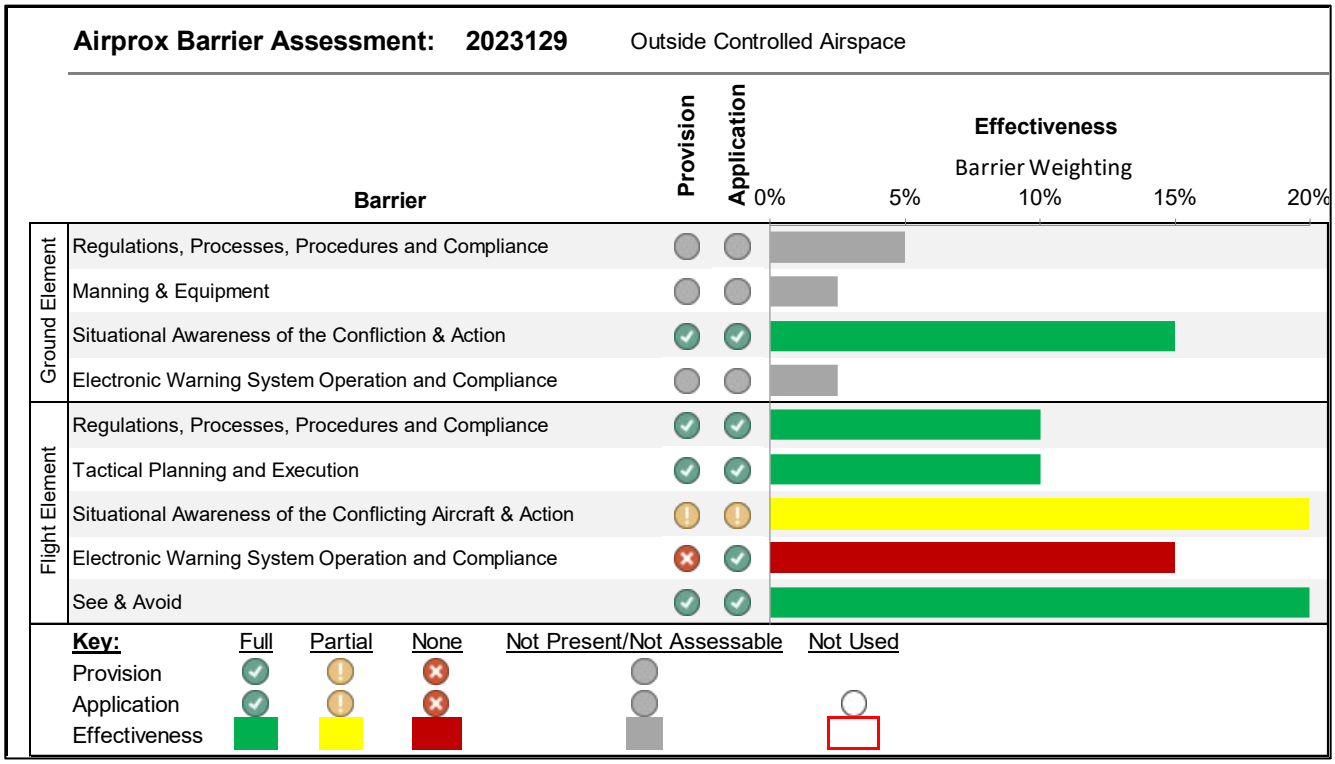
Safety Barrier Assessment[4]

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the AS350 pilot was alerted to the LS6 at a late stage by colleagues on the ground.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although both the AS350 and the LS6 carried compatible equipment, no interaction between the 2 was possible due to the unit on the AS350 being unserviceable.



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