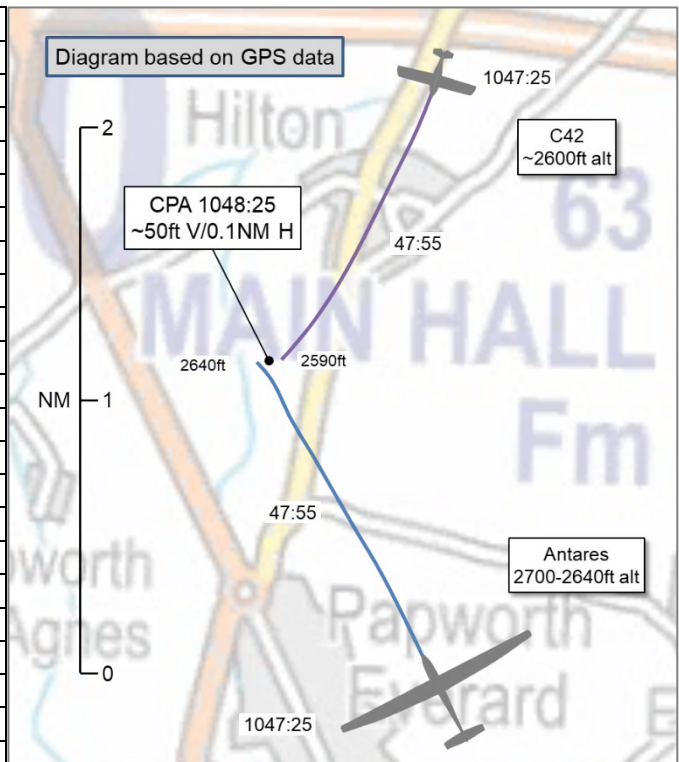


AIRPROX REPORT No 2023075

Date: 16 May 2023 Time: 1048Z Position: 5216N 00007W Location: IVO Hilton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Lange Antares	C42
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider	N/A	Old Warden
Altitude/FL	2640ft	2590ft
Transponder	A, C, S+	A, C, S+
Reported		
Colours	White	White
Lighting	Not fitted	Not fitted
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2715ft	2400ft
Altimeter	QNH (1027hPa)	QNH (NK hPa)
Heading	330°	218°
Speed	85kt	66kt
ACAS/TAS	FLARM	PilotAware
Alert	None	None
Separation at CPA		
Reported	50ft V/75m H	<50ft V/~150m H
Recorded	~50ft V/0.1NM H	



THE LANGE ANTARES PILOT reports flying straight and descending slowly when they saw the other aircraft at less than 100m in the 2 o'clock position, slightly higher and tracking directly towards them. They assessed the collision risk as 'low' but opined that they 'should have seen the other aircraft earlier'. It was unclear whether the other pilot saw them because they did not appear to take any avoiding action and continued on heading.

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

THE C42 PILOT reports when about 1 mile south of the A14 they noted some glider activity on [the TAS] over Gransden Lodge, about 4-5 miles away. They started to alter their track to the right to give more clearance. Keeping a look-out and checking flying activity at Gransden Lodge, they did not see the converging glider until it appeared in the 9 o'clock position about 200-250m away. There was no warning or indication of the glider displayed on [the TAS]. They immediately reduced power and started to descend, turning to the left. At the same time, the glider passed ahead of them and, they thought, turned left, although they were not sure of the turn direction. They then lost sight of the glider. They checked [the TAS], no aircraft were displayed and they then turned to their previous course. During the remainder of that flight and their return flight [the TAS] did pick up aircraft, so they assumed it had been working correctly.

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

Factual Background

The weather at Cambridge was recorded as follows:

METAR EGSC 161050Z 32008KT 290V010 9999 SCT035 14/06 Q1024=

Analysis and Investigation

UKAB Secretariat

The aircraft appeared on the NATS radar replay, with CPA being displayed as follows:

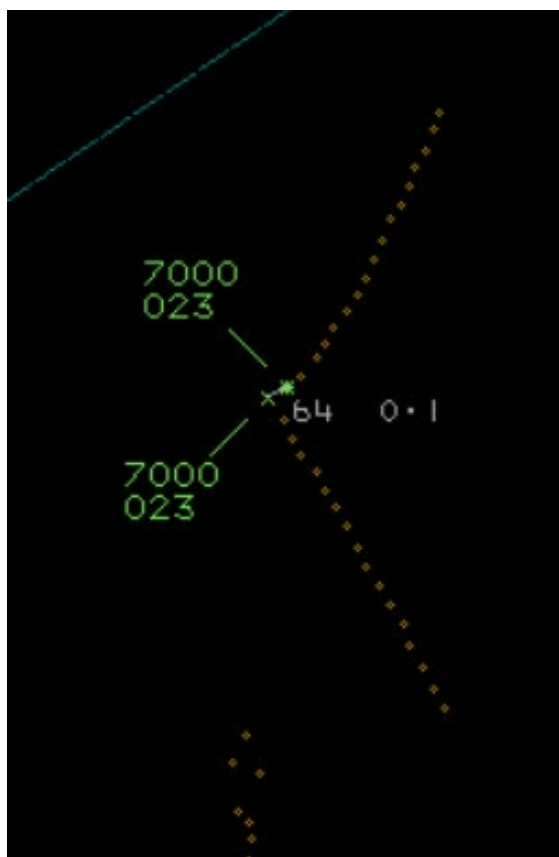


Figure 21 – Radar display at CPA

The Lange Antares and C42 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 C42 pilot was required to give way to the Antares.²

Comments

AOPA

As this Airprox highlights, until there is a common standard of EC, effective lookout is paramount in the avoidance of a mid-air collision.

BGA

The TAS equipment fitted to the C42 should have been capable of warning of the glider's presence. It would be useful to understand why this barrier did not function.

Summary

An Airprox was reported when a Lange Antares and a C42 flew into proximity near Hilton at 1048Z on Tuesday 16th May 2023. Both pilots were operating under VFR in VMC, neither in receipt of a FIS.

¹ (UK) SERA.3205 Proximity.

² (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 photographs/video recordings and GPS data. 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 geometry of the interaction and agreed that the aircraft had been converging, co-altitude and on a constant bearing, thereby reducing the probability of early visual acquisition. In the event, both pilots had seen the other aircraft at a late stage (**CF4**) and, the Board agreed, neither pilots' lookout had been aided by cueing from their EC equipment – the equipment on the Antares having been unable to detect the presence of the C42 (**CF2**) and the equipment on the C42 having been able to detect the Antares but no alert having been reported as received by the C42 pilot (**CF3**). The Board agreed that this lack of situational awareness of the other aircraft's impending proximity had been contributory to the Airprox (**CF1**). The pilots had also been operating in an area with no access to a surveillance based FIS and so could not have increased situational awareness through those means. After further discussion, the Board agreed that the degree of separation at CPA and late sighting had resulted in a situation where safety had been much reduced (**CF5**), and assigned a Risk Category B to this Airprox. Members observed that it was ultimately the rigorous application of an effective lookout that provided the necessary degree of assurance to reduce the risk of mid-air collision in Class G airspace.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023075			
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
3	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
• See and Avoid				
4	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
• Outcome Events				
5	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 Assessment³

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

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the other aircraft before sighting it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Antares TAS was incompatible with the C42 TAS and the C42 TAS did not alert on the Antares when it could have been expected to do so.

See and Avoid were assessed as **partially effective** because each pilot saw the other aircraft at a late stage.

		Provision		Application		Effectiveness				
Barrier						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	■	■	■	■	□					