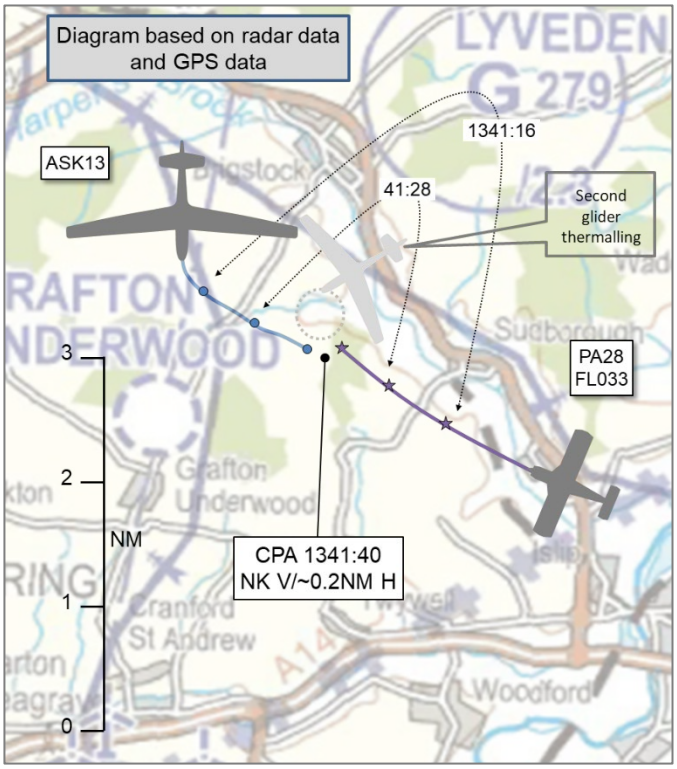
AIRPROX REPORT No 2022126

Date: 07 Jul 2022 Time: 1342Z Position: 5226N 00037W Location: 3NM S Lyveden

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASK13	PA28
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider	N/A	Leicester
Altitude/FL	NK	FL033
Transponder	Not fitted	A, C, S
Reported		
Colours	Red	White, Blue
Lighting	Nil	Nav, Strobe
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	3500ft	3500ft
Altimeter	QFE	QNH (1030hPa)
Heading	080°	320°
Speed	55kt	120kt
ACAS/TAS	SkyEcho	SkyEcho
Alert	None[1]	None[2]
Separation at CPA		
Reported	0ft V/300m H	5-800ft V/50m H
Recorded	NK V/~0.2NM[3]	



THE ASK13 PILOT reports they were local soaring from [departure airfield], following a cloud-line at 3500ft and in lift. Whilst keeping a lookout for other gliders and aircraft they sighted what they thought was a Beechcraft Baron at the same height on a reciprocal heading. They turned to the right to avoid and waggled their wings to try and be more conspicuous to the other pilot. They estimated the two aircraft came within 300m of one another. If they hadn't taken avoiding action, they believed there was a high risk of collision.

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

THE PA28 PILOT reports that there was a lot of gliding activity during the flight. They tracked to the north of Lyveden on the outward leg, and to the south on the return leg. They were keeping an especially good lookout for gliders and avoiding flying close to the cloudbase. For this reason the glider was in sight in good time to take avoiding action if needed. They saw the glider 2NM away in their 12 o'clock around 500-800ft above them. They were happy that they understood what the glider was doing (they used to competition-fly gliders and had about 500hrs gliding time). It was circling left in a thermal, and it is common practice for gliders to join other gliders in a thermal at a similar altitude and turning in the same direction. They considered that there was no issue with their proximity, but they turned right 20° to increase the separation. In retrospect, they thought it possible that the glider pilot, unable to know their intentions, may have believed they had not seen the glider.

The pilot assessed the risk of collision as 'None'.

[1] The SkyEcho was a stand-alone item, used for conspicuity and not for alerting the pilot to the presence of other aircraft.
[2] The PA28 pilot did not remember receiving an alert but confirmed that they were able to receive alerts using both an EFB and through their phone.
[3] Separation assessed by comparing GPS and radar.

THE LEICESTER AIRFIELD OPERATOR reports that the location where this was reported to have occurred was a considerable distance from their area. Therefore it was suggested that this distance was great enough that the involved aircraft would have not been on their frequency. This would also be supported by the radio operator who has no recollection of either seeing or hearing anything in relation to this incident.

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 071250Z 34006KT 9999 SCT041 22/10 Q1029 BLU=
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. Although the PA28 could be seen on radar, the ASK13 could not. However, the UKAB Secretariat was able to obtain GPS data relating to the flight of the ASK13. Whilst the track of the ASK13 could be plotted, height information was not available. This track information was used to create the diagram at the top of this report.

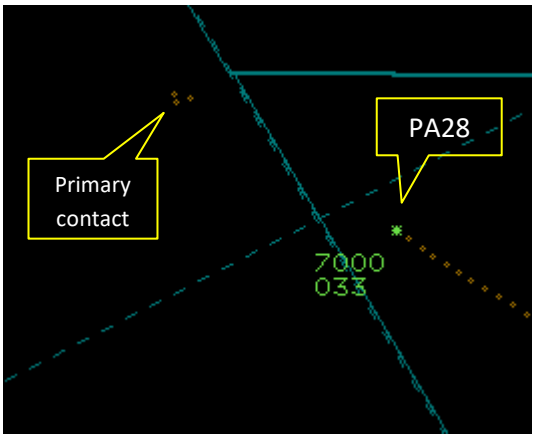


Figure 1: 1340:55

At Figure 1, a primary-only radar contact could be seen in the 12 o'clock of the PA28, this remained on the radar for approximately three radar sweeps before fading, however, it could not be determined whether this was the ASK13 or not. The GPS data available to the Secretariat also showed a second glider thermalling in the vicinity of both aircraft, indicating a height of around 4000ft, although this height information could not be verified either. It is therefore possible that the glider described in the PA28 pilot's report was not the ASK13, but was this second glider.

The ASK13 and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[4] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[5] If the incident geometry is considered as converging then the PA28 pilot was required to give way to the glider.[6]

Comments

AOPA

When flying close to a gliding site a greater density of gliders may be expected nearby at any time during daylight hours, and at any altitude up to cloudbase. Good airmanship would be to give the

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

site a call; frequencies and contact details are in the UKEAIP and popular navigation software. Listening-out on a frequency from an airfield some distance away is of little use. It is interesting to note both aircraft had the same EC equipment but that neither pilot benefited from an alert.

BGA

The PA28 pilot is to be commended for their awareness of glider flight patterns when flying close to a gliding site. However, it seems likely that the glider sighted by the PA28 pilot (which they report as thermalling 500-800ft above them) was not the Airprox glider, whose pilot reports flying wings-level at the same altitude as the PA28.

It is very encouraging that both aircraft were carrying compatible ADS-B EC equipment which continuously broadcasts their altitude and position (i.e. ADS-B out). The K13's ADS-B equipment was not configured to display or warn of nearby 'ADS-B out aircraft' (i.e. it effectively had no 'ADS-B in' capability). On the other hand, the PA28's ADS-B unit was configured to display nearby ADS-B out aircraft via compatible EFB applications, and also to issue voice alerts via the pilot's headset. However, in spite of this comprehensive ADS-B in configuration, it's likely that the PA28 pilot did not sight the K13 at any point, and possible that the PA28 pilot did not receive an ADS-B derived warning of the K13's presence.

Many pilots now opt to permanently switch on forward-pointing high-intensity landing lights, even in full daylight, to enhance their visual conspicuity to other aircraft in front of them.

Summary

An Airprox was reported when an ASK13 and a PA28 flew into proximity 3NM south Lyveden at 1342Z on Thursday 7th July 2022. Both pilots were operating under VFR in VMC, neither was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, GPS track data 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.

The Board first discussed the actions of the ASK13 pilot. A gliding member noted that the pilot had probably been flying along a cloud street, which would have meant they had been flying in the shadow and wings-level with little relative movement for the other pilot to see. The glider had been fitted with ADS-B out, which would have allowed other pilots to detect them, but had not provided any information to the pilot about other aircraft. Members were told that this was becoming common in the gliding fraternity because it was a cheaper option than installing a transponder and allowed ATSUs with Flight Information Displays to see the gliding activity in their area. However, some members questioned the wisdom in this approach because it seemed like a wasted opportunity, given that the equipment was already installed on the glider, and on this occasion should have detected the PA28, but the pilot had no system by which to display the information. Without a CWS, the ASK13 pilot had had no prior situational awareness that the PA28 had been in the vicinity (**CF1**). Fortunately, the see-and-avoid barrier had been effective, once visual with the PA28 the ASK13 pilot had been concerned by its proximity (**CF4**) and had turned away.

Turning to the actions of the PA28 pilot, members noted that they had been listening out on the Leicester frequency and opined that this could not have provided the pilot with any useful information given that they had been so far away from Leicester. Members recommended that pilots try to call an ATSU for a surveillance-based radar service whenever possible but, in this particular case, the pilot could have called Lyvedon on their frequency for information on gliders in the area and to announce their own presence. The PA28 had been fitted with EC that should have detected the ADS-B out on the glider, but whether it had not functioned, or whether the pilot had simply not remembered, could not be determined (**CF2**). Without an ATS, and possibly without a CWS warning, the PA28 pilot had not had any situational awareness about the ASK13 (**CF1**). Members opined that although the PA28 pilot

reported that they had been visual with the glider, it was likely that they had been visual with another glider given their description of it as being 500-800ft above and thermalling. Therefore, they thought that the PA28 pilot had not seen the ASK13 at all (**CF3**).

When determining the risk, members took into consideration the reports from both pilots together with the GPS and radar data. They noted that although the PA28 pilot had probably not seen the ASK13, the glider pilot had seen the PA28, and had taken timely and effective avoiding action. Although the GPS height data could not be verified, the lateral separation reported by the glider pilot was similar to that indicated by comparing the radar and GPS data, and members thought that this had been sufficient to indicate that, although safety had been degraded, there had been no risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022126			
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	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			
3	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
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

Degree of Risk: C.

Safety Barrier Assessment[7]

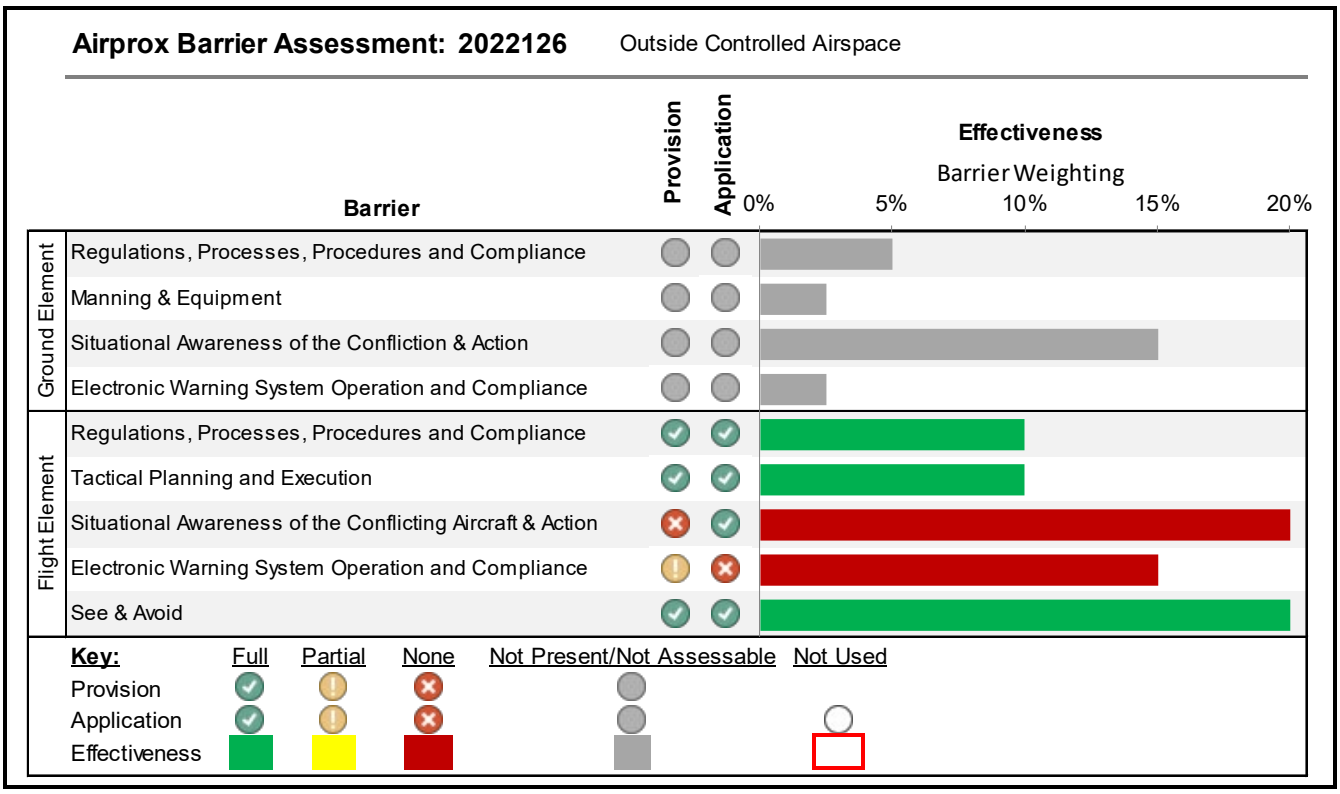
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any prior situational awareness that the other was there.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because an alert would have been expected in the PA28, but none was reported.

[7] 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: 2022126
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