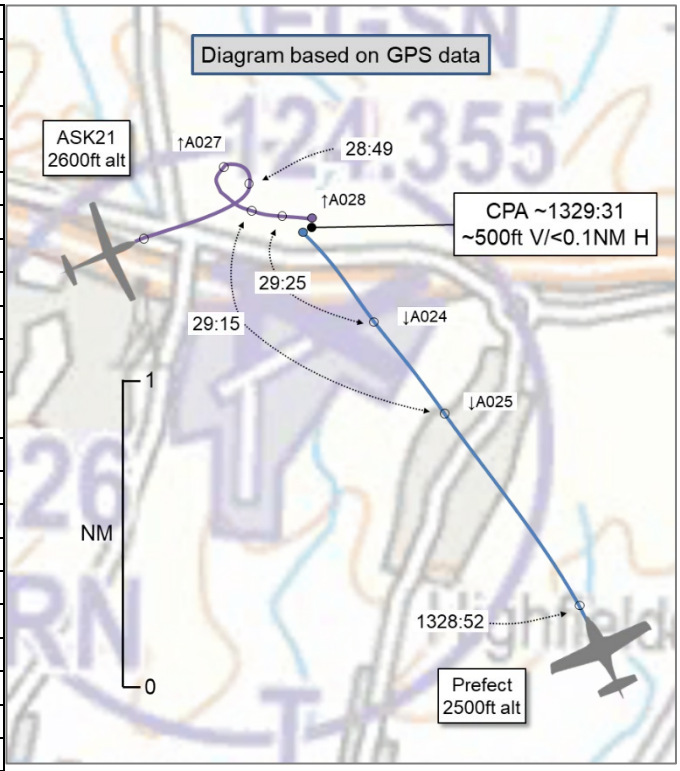
AIRPROX REPORT No 2021186

Date: 16 Sep 2021 Time: ~1329Z Position: 5213N 00002W Location: 0.5NM N Bourn airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Prefect	ASK21
Operator	HQ Air (Trg)	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NR
Service	Listening Out	Listening Out
Provider	Wittering	Gransden Lodge
Altitude/FL	2300ft	2800ft
Transponder	A, C, S	Not fitted
Reported		
Colours	White, blue with red spinner	White, red
Lighting	Nav, Strobes	None
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	2200ft	2500ft
Altimeter	RPS (1012hPa)	NK (NK hPa)
Heading	340°	NK
Speed	180kt	50kt
ACAS/TAS	FLARM	FLARM
Alert	Information	Information
Separation at CPA		
Reported	300ft V/ NR H	200ft V/0m H
Recorded	~500ft V/~<0.1NM H	



THE PREFECT PILOT reports that they had just departed [departure airfield] and were attempting to contact Wittering for a Traffic Service. They had briefed their student to avoid Gransden Lodge glider site laterally rather than vertically as they were aware that the gliders normally operated [up] to the cloud-base , which was 4000ft. They climbed to 3500ft on a heading of 340°, but then requested that the student descend to 2500ft because, as briefed on the ground, it would afford them better visibility of gliders thermalling at the cloud-base. At that stage they had a [TAS] contact to the west, which they were visual with. They then received a [TAS] alert [indicating an aircraft] on the nose at 0.8NM. Both pilots immediately saw the glider and the student had already started a descent. They passed the glider, a two seat white trainer with an orange flash, which was head-on to them but in a right turn through south, approximately 300ft directly beneath it at around 2200ft. Thanks to the [TAS] alert the collision risk was averted and they felt no reason to take control [from their student]. They felt that, had it not been for the [TAS] warning, the risk of collision would have been very high. During the incident they were in the process of trying to establish two-way communications with Wittering and had already transmitted to them without a reply. Shortly afterwards [they were] able to establish two-way contact with Wittering.

The pilot perceived the severity of the incident as 'Medium'.

THE ASK21 GLIDER PILOT reports that they were thermalling and using a cloud street to stay airborne, conducting a training flight. Whilst to the north of the field, heading roughly towards Cambridge, they received a [TAS] warning but hadn't seen anything. They asked the other pilot if they could see the other glider (as another glider was the most likely reason for the warning) but they replied that they couldn't see it. As the warning persisted and they hadn't located the [other] aircraft they decided to turn right. As they turned right they saw the other aircraft pass underneath them and commented that it was unusual to get a [compatible TAS] warning from a light aircraft.

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

Factual Background

The weather at Cambridge was recorded as follows:

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METAR EGSC 161350Z 26007KT 9999 SCT026 22/13 Q1016=
METAR EGSC 161320Z 25006KT 190V290 9999 SCT026 22/13 Q1017=
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Analysis and Investigation

Prefect operating authority

The body responsible for the operation of the Prefect carried out an investigation during which they interviewed the pilot and reviewed radar data and the route flown by the pilot on the day. The investigation resulted in the following findings and observations.

- Both aircraft were initially approaching one another on a head-to-head configuration which made visual detection difficult until the glider pilot turned right, which aided the Prefect pilot's visual detection of the glider.
- Both aircraft were flying in Class G airspace and suitable weather conditions. The relatively small size of each aircraft made visual acquisition late, compounded for the Prefect pilot by the glider's head on aspect (initially) and attention on other gliders indicated by [their TAS]. That said, [compatible TAS] in both aircraft assisted greatly in getting both pilots visual with each other in time to allow the Prefect pilot to take avoiding action.
- Although [the TAS] provided a key warning to both crews of the presence of the other, the Prefect [TAS] initially cued the crew to another glider operating to the west.
- This area is poorly served by LARS provision, and the [Prefect] crew was trying to contact Wittering to receive a service.

Observations; The levels of GA traffic were exceedingly high on that day, with a number of closer than ideal encounters noted by the crew on their return leg. The good airmanship displayed by the Prefect pilot in avoiding operating near the cloud base should be noted. [The TAS] was key in getting eyes on; its fitment on [the Prefect] aircraft should be more widely promulgated to the glider community.

UKAB Secretariat

GPS logs were used by the UKAB Secretariat to construct both the diagram and determine the CPA. The time stamps from the GPS logs at CPA do not exactly align and so some interpolation of aircraft tracks and altitudes between data points was used to determine the time and separation.

The Prefect and glider 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 Prefect pilot was required to give way to the glider.[3]

Comments

HQ Air Command

Operations in close proximity to other airspace users are considered as a discrete threat line in Prefect risk management tools. The combination of good airmanship shown by the Prefect captain and the assistance provided by [their TAS device] to direct lookout prevented a more serious occurrence in this instance. The two aircraft had initially been flying head-on and the relatively small size of each aircraft would have made early visual acquisition difficult. The awareness provided by

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

[the TAS device], coupled with the glider's turn, were key to the glider's immediate sighting by the Prefect crew and subsequent avoiding action taken.

The Local Investigation resulted in 2 recommendations. The first is for the [Prefect operator's] Safety Team to increase awareness to the local and broader gliding community that the Prefect is fitted with [TAS] and the second is to re-emphasise the [TAS] system functionality (single threat displayed at a time and highest threat prioritised) to ensure crews are vigilant to other potential threats, especially near busy gliding sites.

BGA

This incident is a clear example of the real benefits of EC equipment in assisting directed lookout and reducing the risk of MAC. Given that gliders are overwhelmingly fitted with [TAS], we remain very pleased that the RAF has chosen to fit [the same TAS] to their Prefect fleet.[4]

Summary

An Airprox was reported when a Prefect and an ASK21 glider flew into proximity at Bourn airfield approximately 1329Z on Thursday 16th September 2021. 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 DELIBERATIONS

Information available consisted of reports from both pilots, GPS logs files and radar photographs/video recordings. The Board concluded that this Airprox had the Contributory Factors detailed below.

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 discussed this event and assigned risk E where normal safety standards and parameters pertained and there was no risk of collision. They agreed on the following contributory factors.

CF1. The TAS devices that were carried on both of the aircraft were compatible and issued a genuine alert.

CF2. Whilst the pilot of the Prefect was visual with the ASK21 and took appropriate action to ensure separation, the ASK21 pilot only became visual with the Prefect as it passed beneath them.

CF3. Although normal safety parameters were assessed by the Board to have pertained, the separation between the aircraft at CPA was such that it caused concern to the pilot of the Prefect.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021186			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Electronic Warning System Operation and Compliance			
1	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			

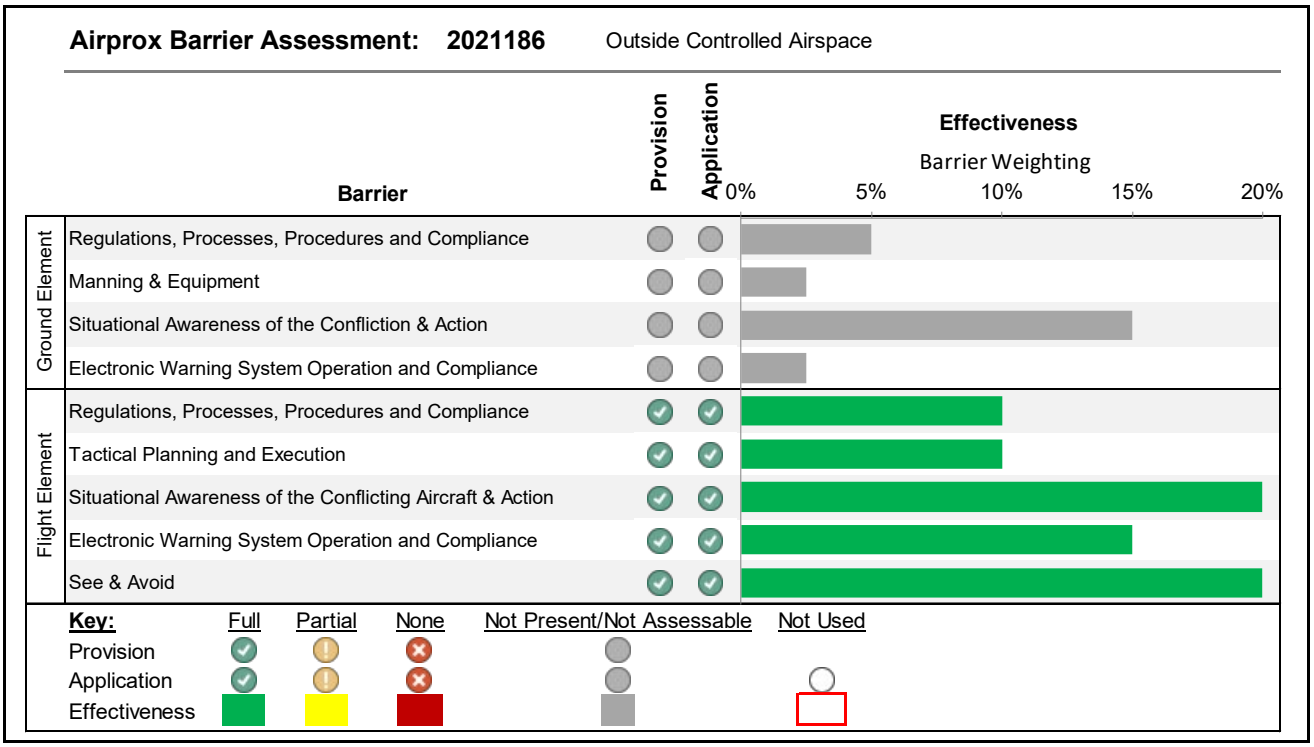
[4] This equipment is in addition to an existing TAS fitted to the Prefect fleet.

2	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
3	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: E

Safety Barrier Assessment[5]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that all relevant barriers to mid-air collision had functioned as intended.



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