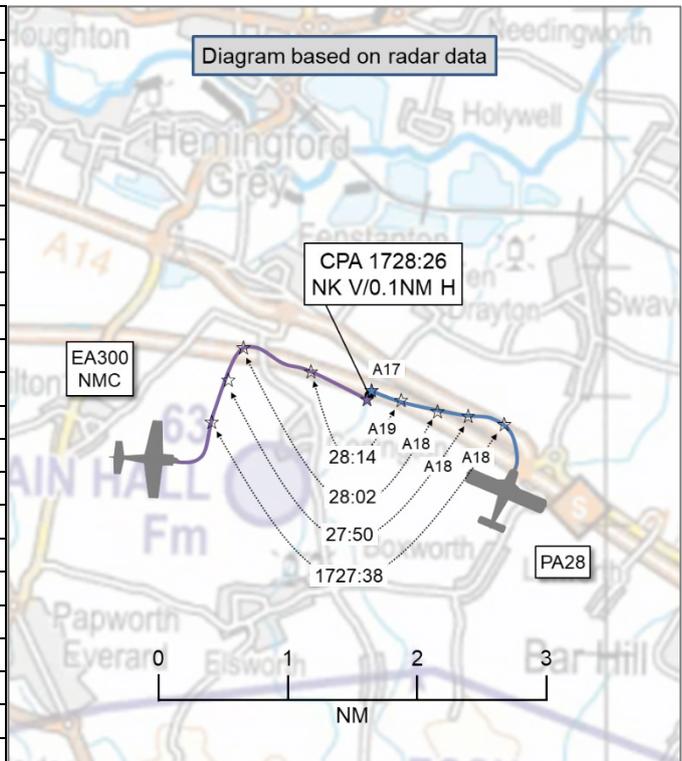


AIRPROX REPORT No 2021083

Date: 09 Jun 2021 Time: 1728Z Position: 5217N 00003W Location: 8NM NW Cambridge

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Extra 300
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Listening Out
Provider	Duxford Info	Fowlmere Radio
Altitude/FL	1700ft	NK
Transponder	A, C, S	A, S
Reported		
Colours	White, red	Yellow, red, blue
Lighting	Beacon	Nav, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	1500ft
Altimeter	QFE (NK hPa)	QNH (NK hPa)
Heading	010°	090°
Speed	95kt	150kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	20ft V/30ft H	100ft V/300m H
Recorded	NK V/0.1NM H	



THE PA28 PILOT reports they were explaining an aspect of the aircraft instruments to their first time passenger when, on looking up, they saw a small aerobatic type in front and slightly to the right at the same level and on a collision course. The PA28 pilot turned right and intended to dive but the other aircraft turned left, increasing the risk of collision. The PA28 pilot rolled back to wings level as the other aircraft continuing to roll to their left; the PA28 pilot then climbed as hard as possible. They thought the other aircraft may have rolled to inverted and descended as the quickest way to avoid collision, but were unsure, by now climbing as hard as possible. On levelling off, the PA28 pilot looked below and behind and manoeuvred the plane to see as much as possible. About 30sec later the passenger said "he's gone now, he's gone behind us" and when asked what was meant they said the other aircraft had returned to fly a parallel track off the starboard wing. The PA28 pilot did not see it.

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

THE EA300 PILOT reports that while practising aerobatics they noticed an aircraft in the 12 o'clock position, opposite heading and slightly above. Immediately after seeing it the EA300 pilot banked right and pulled to climb as the opposite direction traffic turned to the left. They resumed the aerobatic practice after ensuring they were clear of the other traffic.

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

Factual Background

The weather at Cambridge was recorded as follows:

METAR EGSC 091750Z NIL=
 METAR EGSC 091720Z NIL=

Analysis and Investigation

UKAB Secretariat

The PA28 and EA300 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

Summary

An Airprox was reported when a PA28 and an EA300 flew into proximity 8NM northwest of Cambridge at 1728Z on Wednesday 9th June 2021. Both pilots were operating under VFR in VMC, the PA28 pilot listening out on the Duxford Information frequency and the EA300 pilot listening out on the Fowlmere Radio frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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 pilots' descriptions of the event. The PA28 pilot's description was such that members wondered whether they had seen the EA300 first and before the EA300 pilot took avoiding action, the PA28 pilot in effect having to take avoiding action twice. Although the PA28 pilot lost sight of the EA300, it appeared that the EA300 pilot had by that time taken effective avoiding action. Regrettably, neither pilot had SA on the position and closing vector of the other aircraft (**CF1**) with no surveillance based FIS available at that position and time and with neither aircraft fitted with a TAS. Each pilot had seen the other aircraft at a late stage (**CF3**), which was probably compounded by the unfortunate timing of both occupants of the PA28 being 'heads-in' as the pilot explained an aspect of the aircraft instruments to the passenger (**CF2**). Members also questioned why a modern aircraft such as the EA300 was not displaying a Mode C altitude which, although moot to this Airprox, was essential for the effective operation of other aircrafts' TAS equipment. Members reiterated the importance of selecting all transponder modes on, commonly the 'Alt' setting, not only from a legal standpoint but also from the moral standpoint of helping to create a safer environment within which activities such as aerobatics and simple pleasure flights could coexist with an acceptable degree of mitigation against mid-air collision.

Turning to risk, members noted the large disparity between reported separations at CPA. After some discussion, it was agreed that the recorded lateral separation and highly dynamic nature of the EA300 aerobatics was such that safety had been much reduced.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2021083				
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 or only generic, Situational Awareness
• See and Avoid				
2	Human Factors	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

3	Human Factors	<ul style="list-style-type: none"> 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				
4	Contextual	<ul style="list-style-type: none"> 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.

Recommendation: Nil.

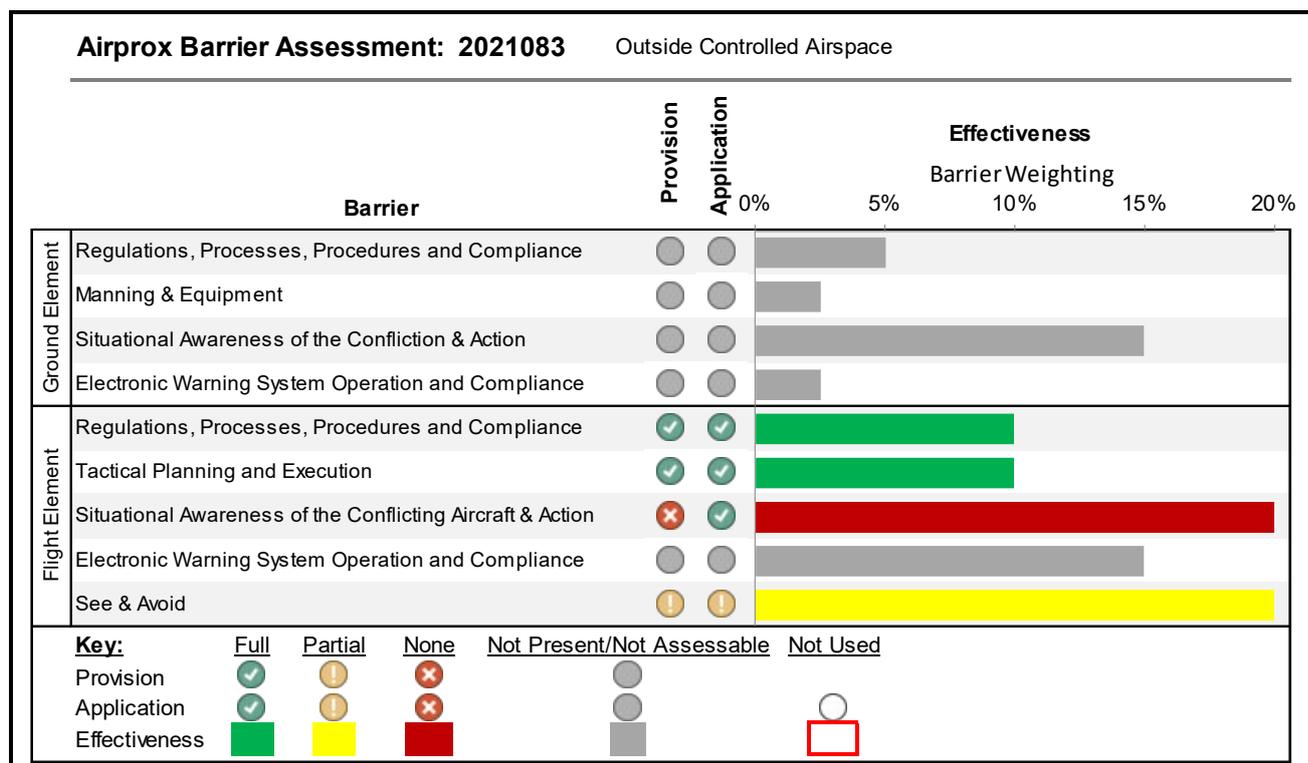
Safety Barrier Assessment³

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the presence or impending proximity of the other aircraft until visually sighted.

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



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