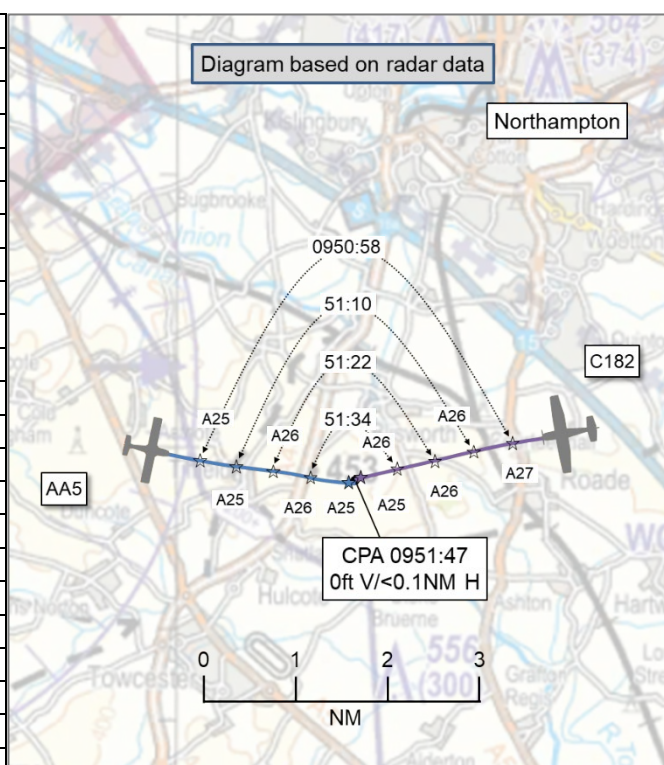


AIRPROX REPORT No 2022120

Date: 03 Jul 2022 Time: 0952Z Position: 5210N 00057W Location: 6NM E DTY VOR

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C182	AA5
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider	N/A	Cranfield
Altitude/FL	2500ft	2500ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	White	White
Lighting	Landing, strobe	Nav, strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2300ft	2600ft
Altimeter	QNH (1019hPa)	QNH (NK hPa)
Heading	268°	098°
Speed	130kt	125kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	Information
Separation at CPA		
Reported	50ft V/50m H	150ft V/30m H
Recorded	0ft V/<0.1NM H	



THE C182 PILOT reports approaching the Daventry VOR, when they briefly looked into the cockpit to change the radio frequency to Brize Radar to ask for a Basic Service. When they looked up, they saw another aircraft, opposite direction, almost at the same level and extremely close and avoiding action was taken by turning to the right.

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

THE AA5 PILOT reports flying with a highly experienced pilot passenger. The planned route avoided all CTAs and the British Grand Prix (GP) at Silverstone with its associated intense aerial traffic. With this in mind, they activated their EC device after passing DTY. They changed to Cranfield, expecting them to be busy with GP traffic. They maintained a listening watch and could see much traffic on SkyDemon, particularly around Silverstone. They then received an alert pop-up of approaching traffic, which they both saw, about 1.5NM ahead. They assessed the aircraft was on a reciprocal heading, but below. They climbed, maintained visual, and were sure the other aircraft would pass left and below. Having assessed minimal threat they continued and, needing to maintain visual, they did not want to make a sharp turn right. The other aircraft passed closer than expected and, equally, made no avoiding action, which prompted the comment that they did not believe they had seen them. The passenger concurred. Cranfield made no comment on the Airprox. They continued their flight. With the other aircraft being high wing, they were unable to get details and, without information, did not feel able to report the incident. On reflection they should have moved right to avoid the potential threat but, when seen, they did not consider the course was such and also needed to remain visual, which would be compromised with a sharp turn, as they made no move either.

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

Factual Background

The weather at Cranfield was recorded as follows:

EGTC 030950Z 23006KT 180V270 9999 FEW015 16/11 Q1019

Analysis and Investigation

UKAB Secretariat

The C182 and AA5 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 C182 and an AA5 flew into proximity 6NM east of the DTY VOR at 0952Z on Sunday 3rd July 2022. Both pilots were operating under VFR in VMC, neither pilot in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots 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.

Members discussed the pilots' actions and noted that the AA5 pilot and pilot passenger had received a warning from their TAS (**CF6**). Unfortunately the pilot had then elected just to climb, which ultimately resulted in the aircraft passing 'closer than expected' (**CF7**) and the C182 pilot taking emergency avoiding action. The Board felt that the AA5 pilot would have been much better placed to turn right, as regulation requires for 2 aircraft approaching head-on 'at about the same level' (**CF1**) and that a shallow bank at range would have achieved an appropriate change of heading whilst being able to maintain visual contact. The Board felt that the plan to climb may have worked if the climb had been appreciable which, from the radar replay information, it was not. It was felt that the AA5 pilot had not modified their plan appropriately (**CF2**) despite having had the situational awareness to do so (**CF4**) and had left the situation to develop until avoiding action had been required (**CF3, CF8**). For their part, the C182 pilot had had no situational awareness (**CF5**), because they had not had an EC device fitted, had not been in receipt of a surveillance-based FIS, and had unfortunately been looking inside the cockpit as they changed frequency, resulting in a sighting at about CPA (effectively a non-sighting (**CF9**)). The Board members discussed the risk and agreed that separation at CPA and the effective non-sighting by the C182 pilot had resulted in a situation where safety had been much reduced (**CF10**). The Board also commented on some aspects of the AA5 pilot's narrative: only activating an EC device for a portion of a flight denied potentially safety-critical situational awareness for that part of the flight where it was not activated; Cranfield could not comment on an Airprox because the aerodrome does not have a radar with which to see track information (and the AA5 pilot did not have a service with Cranfield in any case); an Airprox report in flight does not require any details of the other aircraft to be passed - a simple declaration of 'Airprox' with time, location and callsign will suffice.

¹ (UK) SERA.3205 Proximity.

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

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

	2022120			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
• Tactical Planning and Execution				
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
3	Human Factors	• Late Decision/Plan	Events involving flight crew making a decision too late to meet the needs of the situation	
• Situational Awareness of the Conflicting Aircraft and Action				
4	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
5	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				
6	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
7	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				
8	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict
9	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
• Outcome Events				
10	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:

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the AA5 pilot did not turn right in a timely fashion.

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

Tactical Planning and Execution was assessed as **ineffective** because the AA5 pilot's decision to climb and not turn did not create sufficient separation at CPA.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C182 pilot had no situational awareness of the approaching AA5.

Electronic Warning System Operation and Compliance were assessed as **partially effective** because the AA5's EC equipment alerted but insufficient action was taken.

See and Avoid were assessed as **partially effective** because the C182 pilot saw the AA5 at about CPA, effectively a non-sighting.

Airprox Barrier Assessment: 2022120		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	○	○	[Bar chart: 5%]			
	Manning & Equipment	○	○	[Bar chart: 5%]			
	Situational Awareness of the Conflicting Aircraft & Action	○	○	[Bar chart: 15%]			
	Electronic Warning System Operation and Compliance	○	○	[Bar chart: 5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	⚠	[Bar chart: 10%]			
	Tactical Planning and Execution	✓	✗	[Bar chart: 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	✓	⚠	[Bar chart: 20%]			
	Electronic Warning System Operation and Compliance	⚠	⚠	[Bar chart: 15%]			
	See & Avoid	✓	⚠	[Bar chart: 20%]			
Key: Full Partial None Not Present/Not Assessable Not Used Provision ✓ ⚠ ✗ ○ ○ Application ✓ ⚠ ✗ ○ ○ Effectiveness ■ ■ ■ ■ □							