AIRPROX REPORT No 2024015

Date: 28 Jan 2024 Time: 1021Z Position: 5112N 00029W Location: Farley Green

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172	RV9
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Farnborough	Farnborough
Altitude/FL	2100ft	NMC
Transponder	A, C, S	A
Reported		
Colours	White/blue	White/red/black
Lighting	Beacon, strobes	Strobes, nav
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	1800ft	1700ft
Altimeter	QNH (NK hPa)	QNH (1023hPa)
Heading	260°	NR
Speed	100kt	140kt
ACAS/TAS	TAS	SkyEcho
Alert	TA	Information
Separation at CPA		
Reported	100ft V/0m H	200ft V/50m H
Recorded	NK V/<0.1NM H	

THE C172 PILOT reports in straight and level cruise in the 'choke point between Gatwick zone and Farnborough' when they received a traffic alert from their TAS. They scanned the sky and spotted a red RV9 pass directly below them from behind, approximately 100ft or less away. They pulled up to increase separation.

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

THE RV9 PILOT reports on a recreational flight outside controlled airspace to the north of Gatwick. They recalled the visibility being good with a slight haze. [The TAS] was enabled and connected to the navigation app. They did not recall how busy Farnborough was, but noted that often on a Sunday they were busy with GA traffic. They were content to listen out and rely on lookout from themselves and their passenger. At around mid-way between Dorking and Guildford, a contact appeared on the navigation app, ahead and slightly to starboard but no height information was displayed. They both looked for the traffic. They flew a manoeuvre to 'clear the sky' in front but neither of them saw another aircraft. They were firmly engaged in a 180° [lookout] scan from port to starboard and no longer had a view of the output from [the TAS]. Neither of the occupants picked up the other aircraft until the last minute, when they saw a high-wing SEP aircraft above and slightly to the right. They were unsure of the exact range but estimated ½NM. However, when it suddenly appeared, they hesitated because they were close to Gatwick on the port side. In a moment they considered their options. They could ram the stick forward and dive to port. A dive would be essential to avoid controlled airspace by 200ft and 2NM. They could turn to starboard but that [would have] closed the distance between them horizontally. They dismissed the dive to port for fear of an MOR. They glanced briefly at the GPS to check that they were around 2NM outside controlled airspace and noticed in the elapsed time that the corner of controlled airspace was approaching. With their eyes glued to the other aircraft they counted to 15, briefly glanced at the GPS, and executed a turn onto around 240° on the DI. On checking the GPS track there was a slight upward blip in altitude which may well be the point at which they were initially startled into action.

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

THE FARNBOROUGH LARS WEST CONTROLLER reports they were providing a Basic Service to [the C172 pilot], who subsequently reported an Airprox.

Factual Background

The weather at Farnborough was recorded as follows:

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METAR EGLF 281020Z AUTO 14008KT 120V190 9999 NCD 07/05 Q1022=
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Analysis and Investigation

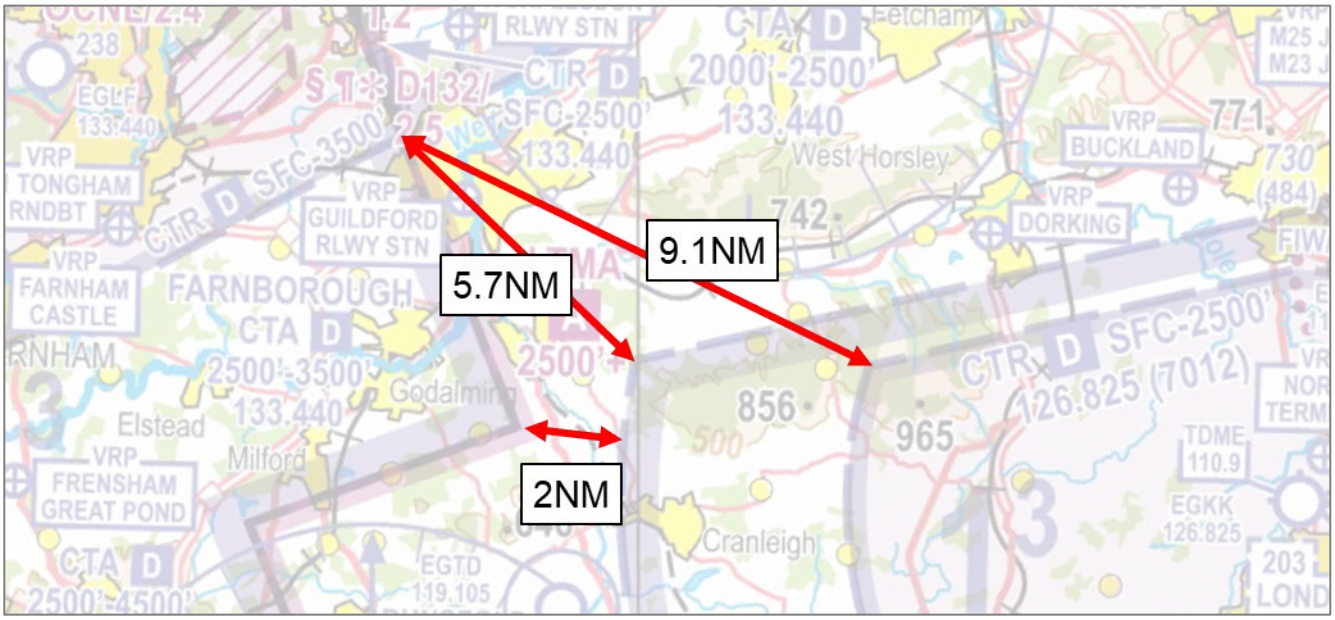
UKAB Secretariat

The C172 and RV9 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 overtaking then the C172 pilot had right of way and the RV9 pilot was required to keep out of the way of the other aircraft by altering course to the right.[2]

The General Aviation Safety Council (GASCo) 'Take 2' initiative[3] states as follows:

> When routing near controlled airspace (CAS), GASCo recommends that pilots plan to remain clear of the horizontal and vertical boundaries of the airspace by a suitable distance that's appropriate for them, their aircraft and the prevailing conditions. As a general rule of thumb 'Take Two' (i.e. 2 nautical miles horizontally and 200 feet vertically) would seem to be sound practical advice but in some cases it might be prudent to allow even more.

The distance between the Farnborough and Gatwick CTRs is 9.1NM, between the Farnborough CTR and Gatwick CTA base 1500ft is 5.7NM and between the Farnborough CTA4 (south of Farnborough airfield), base 2500ft, and the Gatwick CTA, base 1500ft, is 2NM.



[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.
[3] https://www.gasco.org.uk/resources/publications/take-two

Summary

An Airprox was reported when a C172 and an RV9 flew into proximity near Farley Green at 1021Z on Sunday 28th January 2024. Both pilots were operating under VFR in VMC, the C172 pilot in receipt of a Basic Service from Farnborough LARS West and the RV9 pilot not in receipt of a FIS but listening out on the Farnborough LARS West frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the air traffic controller involved. 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 provision of a surveillance-based FIS and noted that a Traffic Service, had it been requested, may have provided much improved situational awareness to both pilots. Members acknowledged that some pilots do not request a Traffic Service on the basis that they believe they will not receive one and that provision of a Traffic Service may not be possible with high traffic levels. However, members reiterated that low, incorrect or missing situational awareness is a common contributory factor to Airprox and that any measure to improve situational awareness, such as requesting a Traffic Service, was worthwhile. The Board wished to remind pilots that an inability of an ATSU to provide the requested level of Service can be reported using the CAA form FCS1522. Returning to the event, members noted that the C172 pilot had been in receipt of a Basic Service, to which the controller had not been required to monitor the flight (**CF1**) and the RV9 pilot had been only listening out, albeit on the same frequency as the C172 pilot. Both pilots had elected to use a TAS, for which the Board commended them, and had received a degree of situational awareness through their EC equipment. The RV9 pilot had seen the C172 at a reported range of about ½NM which, with an overtake of about 40kt, the Board felt had been sufficient time to manoeuvre in such a way as to discharge their responsibility when overtaking other traffic. However, they had appeared to the Board to have been more concerned by the proximity of controlled airspace and the possibility of an MOR. Their subsequent decision to maintain track and fly below the C172 had not resolved the situation (**CF3**) and had been ineffective in terms of overtaking on the right and of remaining clear of the C172 (**CF2**). In this regard the Board agreed that the RV9 pilot had flown into conflict with the C172 (**CF5**) when perhaps an earlier decision to slow down or make a right turn would have resolved the situation. The Board noted that both pilots had received a TAS warning (**CF4**) but the C172 pilot had not seen the RV9 until at about CPA (**CF6**), effectively a non-sighting, in large part because it had been obscured to them, aft and below (**CF7**). Turning to assessment of separation at CPA, and hence risk, the Board questioned the lack of Mode C from the RV9, on the basis that such an aircraft would be equipped with a modern SSR transponder. After further discussion the Board members unanimously agreed that the pilots' similar estimate of separation indicated that in this case safety had been much reduced (**CF8**), Risk B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024015			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution

3	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
	• Electronic Warning System Operation and Compliance			
4	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
5	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict
6	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
7	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
	• Outcome Events			
8	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 Assessment[4]

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because neither pilot was operating in receipt of a FIS that required the controller to monitor their position.

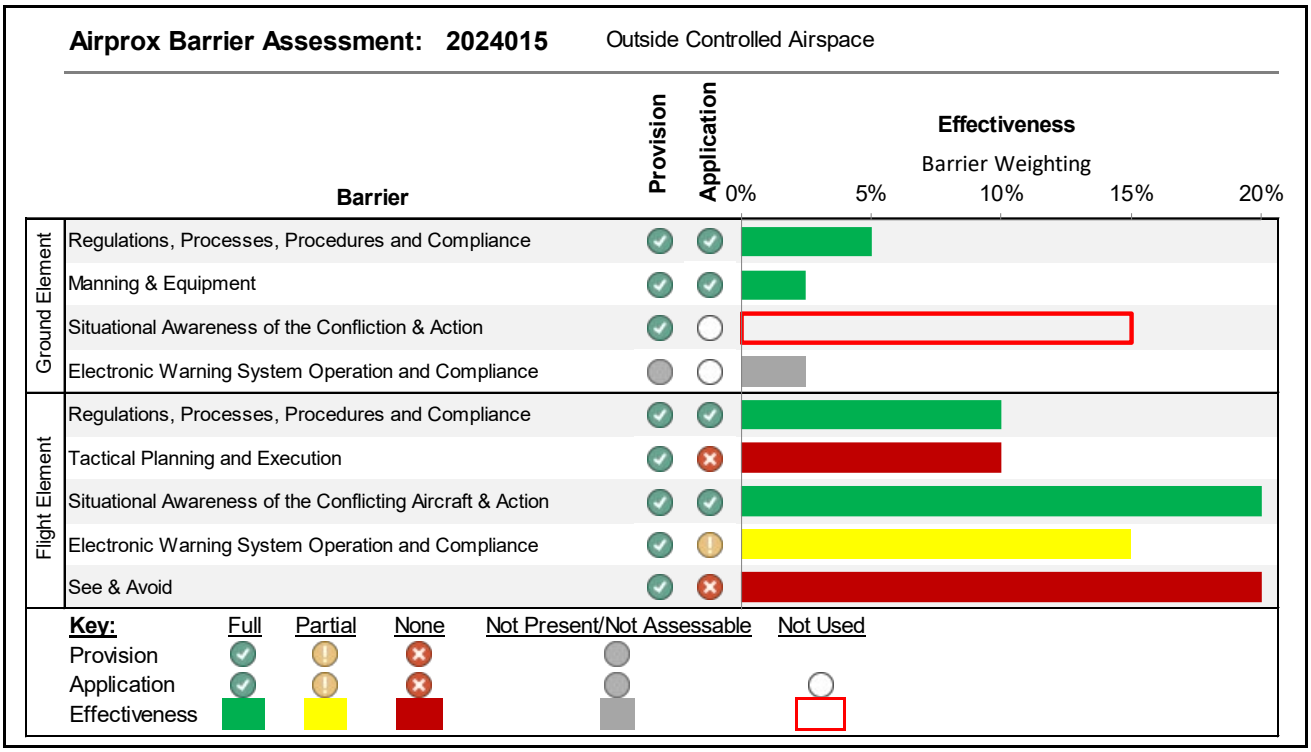
Flight Elements:

Tactical Planning and Execution was assessed as **ineffective** because the RV9 pilot did not take effective action to avoid the C172, which they were overtaking.

Electronic Warning System Operation and Compliance were assessed as **partially effective** because although both TAS provided situational awareness to each pilot, the RV9 pilot did not use this information to assist in overtaking the C172 correctly.

See and Avoid were assessed as **ineffective** because although the RV9 pilot saw the C172 at an estimated range of ½NM, about 45sec before CPA at the reported speeds, they did not avoid the C172 with an appropriate separation at CPA.

[4] 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: 2024015
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