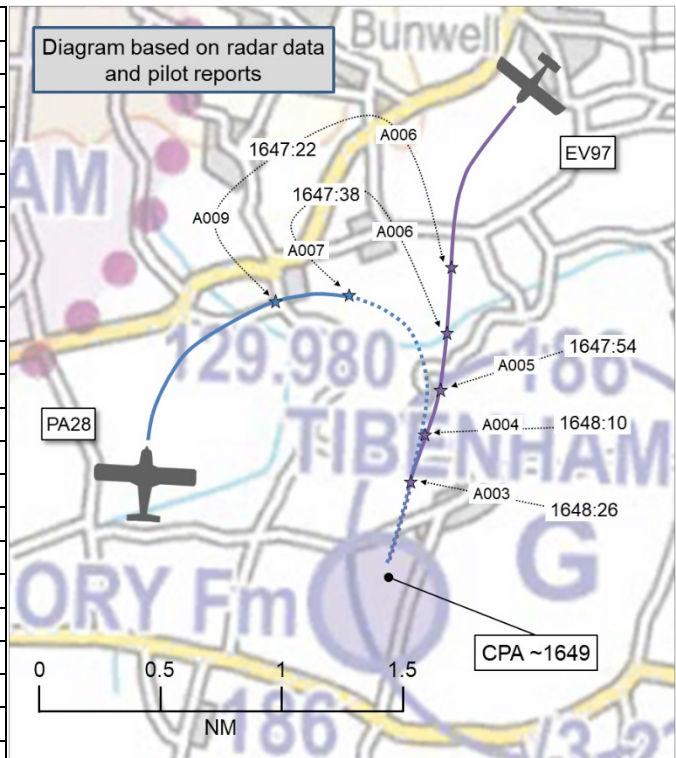


AIRPROX REPORT No 2023198

Date: 28 Aug 2023 Time: ~1649Z Position: 5227N 00108E Location: Priory Farm

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	EV97
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Listening Out
Provider	None ¹	Priory Farm Traffic
Altitude/FL	NK	NK
Transponder	A, C	A, C, S
Reported		
Colours	White	Silver, orange
Lighting	Landing	NR
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	470ft	2000ft
Altimeter	QNH (1014hPa)	QFE
Heading	190°	NK
Speed	80kt	NK
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation at CPA		
Reported	200ft V/ONM H	50ft V/ONM H
Recorded	NK	



THE PA28 PILOT reports that, on final-approach to Priory Farm RW19, they had been making blind-calls on frequency with ‘Priory Micro’ as a prefix. No other traffic was heard on frequency. Traffic below was seen late during their final approach, and a go-around was effected. They then realised that the frequency had been set as 129.800MHz on their radio instead of the correct frequency of 129.830MHz. They completed a second circuit and landed successfully. They apologised to the other pilot who [reportedly] replied "no problem".

The pilot assessed the risk of collision as ‘Medium’.

THE EV97 PILOT reports that they are well accustomed to the use of the radio and procedures at Priory Farm. They had plenty of fuel on board to continue a pleasure flight with their passenger along the coast, a great opportunity for a passenger on such a glorious day. They had flown via Lowestoft, up to Caister-on-Sea and then headed to Priory Farm on a westerly heading. They knew that the day’s conditions would favour RW19 (the usually favoured runway as it avoids a tricky approach over a farmhouse). They were on dual-watch frequency with Norwich (119.355MHz) and Priory Farm (129.830MHz) which had enabled them to listen out for any traffic. Usually, on a nice day, the [radio] can be pretty busy, however, the frequency at Norwich was mainly commercial traffic and nothing on Priory Farm. Once past the landmark of Loddon, they switched the radio to single-watch with the active frequency of 129.830MHz and made traffic calls. The Air/Ground radio [at Priory Farm] is not always manned. They made position reports every 2-3min, right up until they had vacated the runway at Priory Farm.

They made an initial position report at Loddon, with an intention to join on a long final at Priory should there be no traffic to affect. The frequency was silent. They then continued to give these reports along

¹ The pilot of the PA28 reports that they had (incorrectly) believed that their radio had been tuned to the Priory Farm Traffic frequency.

with their intentions. Once they had the airfield in sight, and were not aware of and had not seen or heard any known traffic to affect, they positioned for final for RW19 and made the appropriate radio traffic call on the frequency 129.830MHz. This was a long final, the airfield was clear and no-one had reported back on the radio, and there was no visual contact with any traffic in the sky. They continued to pilot the aircraft down to short final. Everything was set up and, once again, called short final. [There was] still no response from any other pilot, and [they had] no visual contact with any air traffic. Just as they touched nose-down on RW19, they witnessed a PA28 fly within 20-50ft over the top of them. The [PA28] pilot [reportedly] made a comment on the radio; “*Sorry, I was on the wrong frequency again... going around*”. This was the first [that the pilot of the EV97] had heard from the pilot [of the PA28].

[The pilot of the EV97 opines that] the PA28 pilot had not been familiar with Priory Farm, unaware that Priory Farm operates with radio-free aircraft, and that a good lookout is very important when arriving and departing. [The pilot of the EV97 commented that] they believed the pilot of the PA28 aircraft was unaware of [the EV97] until the last moment.

The pilot assessed the risk of collision as ‘High’.

Factual Background

The weather at Norwich was recorded as follows:

METAR COR EGSB 281650Z 36003KT 300V050 9999 SCT035 19/12 Q1014 NOSIG

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The EV97 could be positively identified from Mode S data. A primary-only return was also observed and was identified as the PA28 by reference to the narrative report provided by its pilot. The diagram was constructed from the radar data and an integration of the pilot’s narrative reports. An appropriate conversion factor was used to convert the observed Flight Levels to altitudes.

The radar returns from the PA28 faded at 1647:38 and the radar returns from the EV97 faded at 1648:26. The tracks of the aircraft after those times are shown in the diagram as approximations. The exact moment of CPA, and the separation between the aircraft, could not be determined.

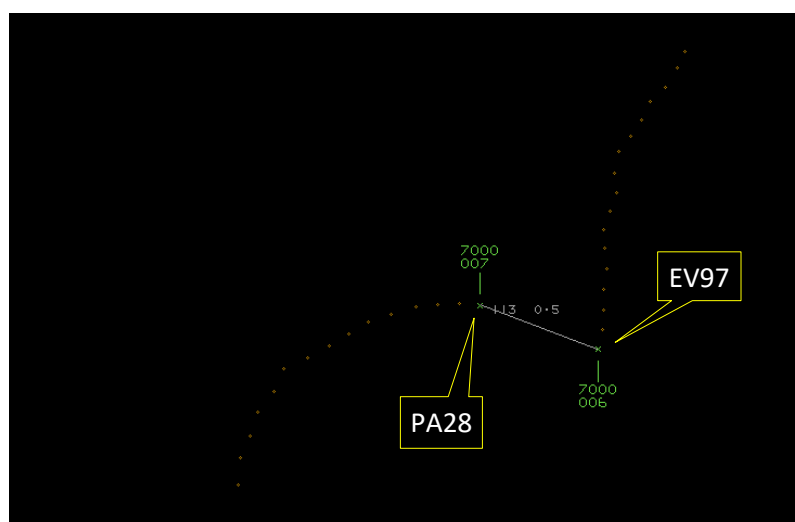


Figure 1 – Aircraft positions at 1647:38

The PA28 and EV97 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.² An aircraft operated on or in the

² (UK) SERA.3205 Proximity.

vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.³

Summary

An Airprox was reported when a PA28 and an EV97 flew into proximity at Priory Farm at approximately 1649Z on Monday 28th August 2023. Both pilots were operating under VFR in VMC, the PA28 pilot not in receipt of an ATS and the EV97 pilot listening-out on the Priory Farm frequency.

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.

The Board first considered the actions of the pilot of the PA28. Noting that they had tuned their radio to an incorrect frequency for Priory Farm (**CF1**), some members wondered whether sufficient pre-flight planning and preparation had been undertaken, or if there had been a simple mistake when operating the radio unit. Notwithstanding, members agreed that the pilot of the PA28 had not heard the transmissions made by the pilot of the EV97. It was noted by members that the PA28 had not been fitted with an additional EC device and, consequently, were in agreement that the pilot of the PA28 had not had situational awareness of the presence of the EV97 (**CF3**). Members were keen to emphasise the importance of a very thorough and effective lookout, and increased vigilance, when approaching an airfield. Indeed, it was suggested that there had been abundant opportunity to have sighted the EV97 during its 'long-final' approach to the airfield, and as the PA28 had converged with the EV97 during their turn from base-leg to the final-approach leg. Nevertheless, once the EV97 had been sighted, albeit particularly late (**CF5**), members were in agreement that the correct avoiding manoeuvre, a go-around, had been executed.

Members next turned their attention to the actions of the pilot of the EV97. It was noted that the EV97 was fitted with an additional EC device, but members agreed that it would not have been expected to have detected the presence of the PA28 (**CF4**). The pilot of the EV97 had not heard any transmissions made by the PA28 pilot (given that the transmissions had not been made on the Priory Farm frequency) and, as such, it was agreed that they had not had situational awareness that the PA28 had been in the vicinity (**CF3**). It was noted that the narrative report provided by the EV97 pilot had mentioned their use of the radio when approaching Priory Farm. Members applauded their diligence to have made radio calls, even though they had believed that there had not been any other aircraft nearby. Members also noted that the pilot of the EV97 had identified that smaller airfields, such as Priory Farm, may be used by pilots whose aircraft are not fitted with a radio and, consequently, that "*a good lookout is very important when arriving and departing*". It was agreed by members that, whilst approaching Priory Farm, the pilot of the EV97 had had ample time to have sighted the PA28 that had been positioned in the downwind-leg in the circuit. It was agreed that to have not sighted the PA28 until after the moment of CPA, effectively constituted a non-sighting (**CF6**). Some members wondered whether there had been a 'confirmation bias' that the circuit had not been occupied due to the absence of radio calls or an alert from their EC device.

In consideration of the formation of the pattern of traffic with which other pilots should have conformed, or should have avoided, members concluded that both aircraft had arrived at Priory Farm at or around the same time. It was therefore agreed that it had been for both pilots to have integrated correctly with each other, or to have avoided the circuit pattern altogether. However, members agreed that it had been the case that neither pilot had conformed with the other traffic present (**CF2**).

Concluding their discussion, members were in agreement that neither pilot had had situational awareness of the other aircraft and that neither pilot had sighted the other aircraft when joining the circuit. Members agreed that there had been a risk of collision (**CF7**) but it had been the last-minute

³ (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

sighting of the EV97 by the pilot of the PA28, and their urgent avoiding action, that had averted a collision. As such, the Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023198			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
2	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
• Situational Awareness of the Conflicting Aircraft and Action				
3	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				
4	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
5	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
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
• Outcome Events				
7	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 Assessment⁴

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

Flight Elements:

Tactical Planning and Execution was assessed as **ineffective** because the pilot of the PA28 had tuned their radio to the incorrect frequency.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC device fitted to the EV97 would not have been expected to have detected the presence of the PA28.

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

See and Avoid were assessed as **partially effective** because the pilot of the EV97 had not visually acquired the PA28 until after the moment of CPA.

Airprox Barrier Assessment: 2023198		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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✔	⚠	✘	○				
Application	✔	⚠	✘	○	○			
Effectiveness	█	█	█	█	□			