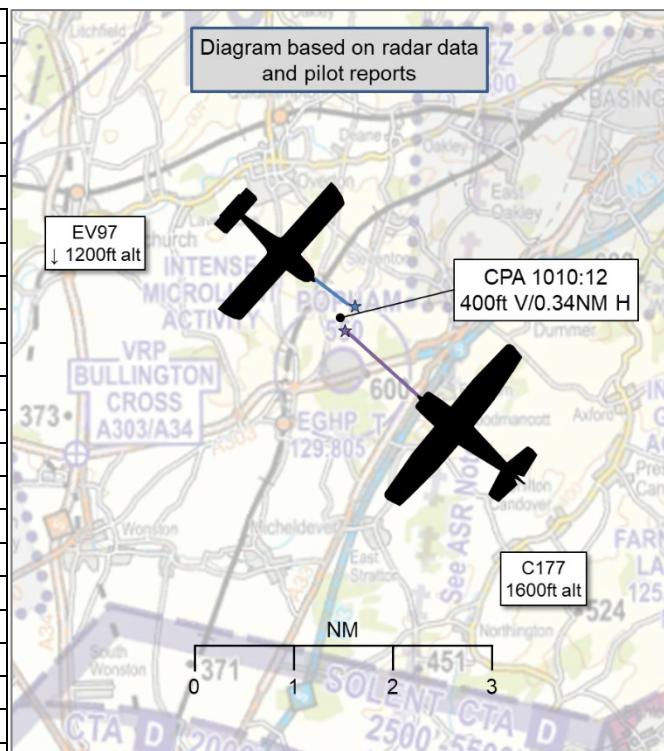


AIRPROX REPORT No 2021105

Date: 11 Jul 2021 Time: 1010Z Position: 5112N 00113W Location: Popham Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EV97	C177
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	Popham	Solent/Farnborough
Altitude/FL	1200ft alt	1600ft alt
Transponder	A, C, S	A, C, S
Reported		
Colours	Silver	Blue, White
Lighting	None	Strobe, Landing
Conditions	VMC	VMC
Visibility	5-10km	5-10km
Altitude/FL	800ft agl	1600ft
Altimeter	QFE (997hPa)	QNH (NK hPa)
Heading	210°	350°
Speed	60kt	128kt
ACAS/TAS	Not fitted	SkyEcho
Alert	N/A	Information
Separation		
Reported	0m V/200m H	0ft V/NK H
Recorded		400ft V/0.34NM H



THE EV97 PILOT reports that they were on a glide approach and turning final in the circuit at Popham. Their passenger spotted an aircraft crossing from the dead-side at circuit height and at the upwind end of the RW. They turned slightly to pass behind the other aircraft and continued their approach. They called Popham radio to ask if the other pilot was in communication with them and they confirmed not. The aircraft crossed from the southeast to the northwest then turned north. They were using RW21 and the circuit was active. They feel that, although there was low cloud, flying through the overhead of an active circuit at circuit height with no communication was unacceptable, particularly when Popham has a busy flying school.

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

THE C177 PILOT reports that their plan was to route through the Southampton Zone via Wickham VRP towards the west of Popham. The weather was VFR with the cloud base scattered at around 1500ft. Solent Radar was unable to give them a transit and they therefore routed to the east of their zone. In planning for this, their option was to seek a crossing of the Odiham MATZ through the western stub with Farnborough Radar. However, they remained with Solent Radar as they were listening to other aircraft in the vicinity heading towards the Isle of Wight. There was also a commercial aircraft inbound to Southampton, and the controller was giving step altitude descents into the airport. SkyEcho alerted them to an aircraft in their 10 o'clock position. Despite looking they were unable to gain an actual visual sighting and assumed, perhaps wrongly that the aircraft was the inbound arrival under the control of Solent Radar, at that time in IMC. The aircraft warning on their SkyDemon device then turned to 'yellow' indicating that the aircraft had now become a greater converging risk. They therefore turned right and climbed as the aircraft appeared to be at the same level. They estimated the cloud base was about 1700ft. They then parted with Solent and requested a Basic service with Farnborough Radar. Their clearance was delayed due to controller workload, and they were number 3 in the controller's queue. They became visual with an aircraft in their 8 o'clock, about 3NM, and assumed this was the aircraft

they had observed on the SkyEcho device. At no time did they think there had been a close Airprox. Their request to cross the Odiham stub to the west was given but by then they had turned onto 350° to avoid entering. This took them closer to Popham aerodrome than they would have liked, and they estimate that they routed to the northeast of the aerodrome, climbing now to 1800ft as the cloud base was higher north of the Solent Zone. In hindsight, a better threat and error consideration would have been to go straight to Farnborough Radar rather than remain with Solent. Ideally a Traffic Service would have been much better, however as the NOTAMs reported reduced services, due to workload issues, they did not request one. In the future they will certainly ask for this service in what is a complex and busy piece of airspace.

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

THE POPHAM AIR/GROUND OPERATOR reports that the EV97 pilot called final for RW21 and mentioned that another aircraft was very close to them. They replied that no other aircraft pilot had called them on finals, and then looked at the PilotAware screen and noticed an aircraft indication covering the EV97 with a registration of [supplied], but it was not talking to them. The aircraft was flying south-to-north, they called the registration but received no reply. No aircraft had asked for an overflight of the airfield. When the pilot of the EV97 came into the tower to log in, they informed them that they had been at about 600ft on finals and another aircraft had come very close to them.

THE SOUTHAMPTON CONTROLLER reports that the C177 pilot called on the Solent Radar frequency to request a transit at 09:53. The position was in the vicinity of Portsmouth at 1400ft, details were taken and a squawk of 3662 was issued and a Basic Service provided, however a transit was not available due to IFR commercial traffic in the CTA. The C177 pilot was routed to the east of New Alresford VRP, before continuing towards Popham, the service was terminated once clear of the Solent CTA (at time 10:07), and the aircraft was then advised to call their en-route frequency squawking conspicuity. At this point the aircraft had about 7NM to run to Popham.

THE FARNBOROUGH CONTROLLER reports that they were informed of the Airprox 10 days after it occurred, it was not reported on frequency.

Factual Background

The weather at Odiham was recorded as follows:

METAR EGVO 110950Z AUTO 15008KT 9999 FEW015 BKN021 16/13 Q1016

Analysis and Investigation

NATS Investigation Report

An Airprox in the overhead of Popham Airfield at 1011 on 11/07/2021 had been filed by [EV97 pilot], and the Airprox Board alerted Farnborough of the filing. The C177 pilot was in receipt of a Basic Service (BS) from Farnborough at the time of the Airprox but no report of an Airprox was made on frequency.

The Airprox was reported as happening at 1011 in the Popham overhead at 800ft, whilst [C177 pilot] was in receipt of a BS from Farnborough radar. A Popham pilot reported the Airprox.

Farnborough LARS West and Zone were bandboxed at the time, in moderate traffic. RT was relatively constant, and the controller was dealing with Zone crossers as well as LARS tracks.

The C177 pilot called on frequency at 10:08:40 2.5NM SE of Popham at 1700ft and requesting Odiham MATZ penetration. A MATZ penetration, squawk of 0433, QNH1016 and BS were given. The C177 pilot was approaching Popham airfield on a NW track, which would pass the Popham overhead about 1NM to the NE.

At 10:09:30 [C177] is about 1.25NM to the east of the Popham overhead, tracking NW, and still on a 7000 squawk, as the controller had to repeat the squawk due to an incorrect readback. There is an aircraft squawking 7000 seen to the northwest of [C177] at 1300ft, having just departed Popham and was now north of Popham routing southeast on a converging track.

At 10:10:00 [C177] pilot sets the squawk and appears on radar. At this stage, the aircraft are 0.66NM horizontally and 400ft vertically apart according to the raw data. The distances and times are then as follows:

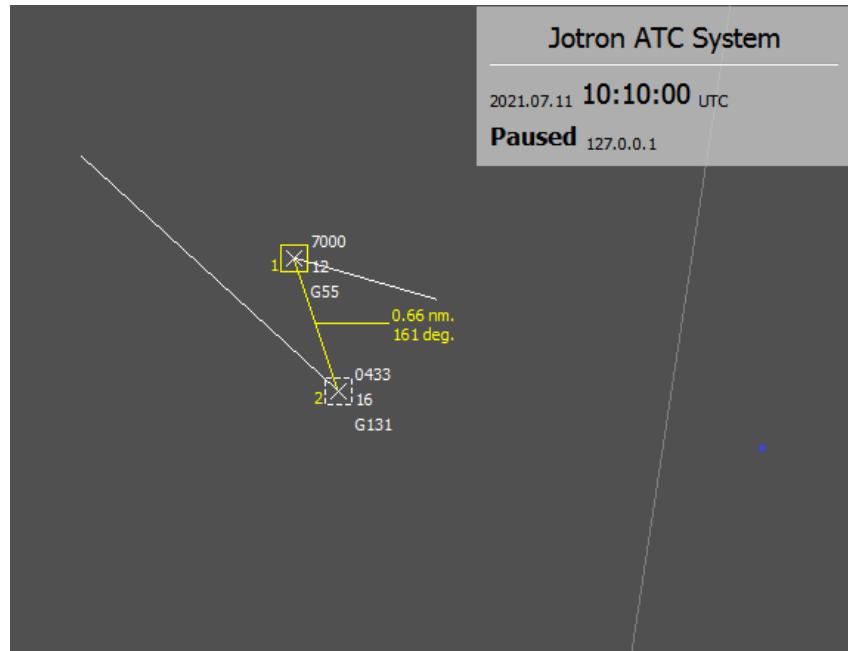


Figure 1: 1010:00 (Sqk 0433 C177, 7000 EV97)

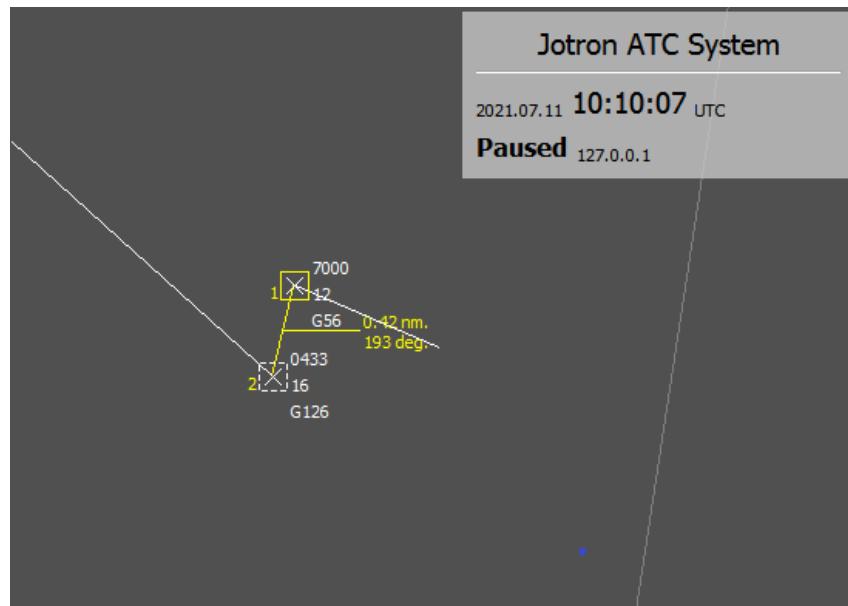


Figure 2: 1010:07

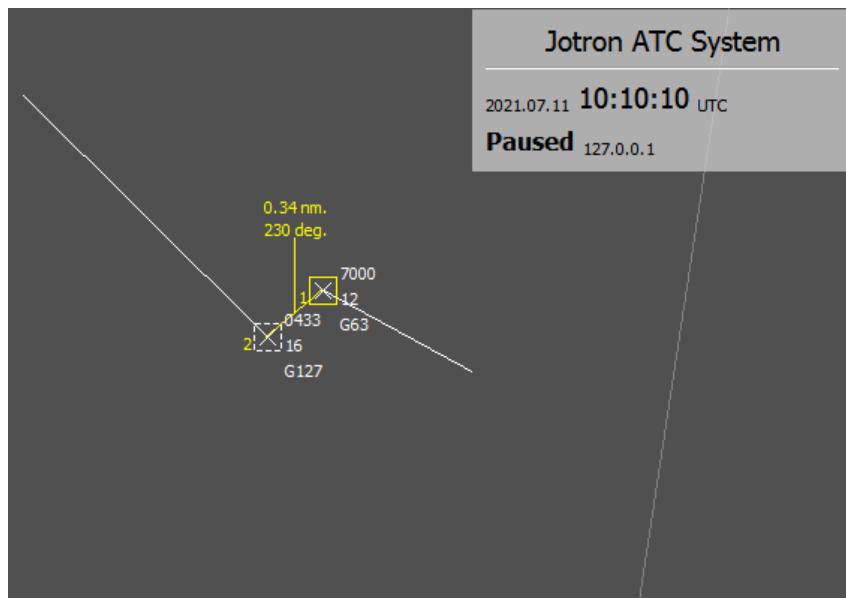


Figure 3: 1010:10 CPA 0.34NM H / 400ft V

No traffic was passed by the Farnborough controller, but [the C177] was not identified by the controller at this point, as EFPS replays show the controller had not validated or verified the Mode A/C readouts, and was dealing with a zone crosser. [The C177] was also 300ft above the traffic departing Popham at all times. Furthermore, the pilot did not switch on to a 0433 squawk until they were less than a mile from the 7000.

The controller's report states that they have no recollection of the event.

The [C177 pilot] called Farnborough radar and requested a Basic Service. By the time the squawk appeared on radar, they were already close to traffic by Popham, and the controller, busy with other tasks, did not validate and verify the aircraft's squawk until it was past Popham.

The Airprox occurred in the overhead of Popham. Radar replays show that the aircraft were 0.34NM laterally and 400ft vertically apart. This occurred moments after a Basic Service for [C177 pilot] was requested and accepted by Farnborough.

CAP493 Section 1: Chapter 12: UK Flight Information Services, paragraph 2E.1 under the heading Traffic Information, states: “*Given that the provider of Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller*”. Furthermore, paragraph 2F.1 states: “*Deconfliction is not provided under Basic service.*”

UKAB Secretariat

The EV97 and C177 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 An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.²

Whilst the C177 pilot reported altering their height and heading when they received information from their SkyEcho, UKAB believe this was before the Airprox, based upon the C177 pilot's description of the position of the conflicting aircraft.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Summary

An Airprox was reported when an EV97 and a C177 flew into proximity at Popham airfield at 1010Z on Sunday 11th July 2021. Both pilots were operating under VFR in VMC, the EV97 pilot in receipt of an air/ground service from Popham and the C177 pilot in the process of agreeing a Basic Service from Farnborough.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings 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.

The Board first considered the actions of the EV97 pilot. They were conducting a glide circuit and had no information about the C177 who was not on the Popham frequency (**CF6**). They saw the C177 as they were in a descending turn onto final and they elected to widen their turn to avoid the C177 (**CF9**) before continuing their circuit.

The Board then turned to the actions of the C177 pilot; they had been receiving a service from Southampton and had changed frequency to Farnborough when 2.5NM SE of Popham to request an Odiham MATZ penetration. They did not receive the penetration agreement and consequently chose to turn to avoid the MATZ. This course of action unfortunately meant that they entered the pattern of traffic at Popham airfield. Board members observed that there were several options available to the pilot and that a potentially safer course of action would have been to have either orbited, reduced speed, or continue through the MATZ, rather than flying through the active circuit at Popham (**CF3**). In the event, by choosing to turn to avoid the MATZ, the C177 pilot put themselves into conflict with aircraft in the Popham circuit (**CF4 & 5**). Members commented that the airfield is marked on the aeronautical chart and therefore it would be reasonable to expect that the C177 pilot should have been aware of its presence(**CF6**), they also commented that this particular airfield often has a very busy circuit. The C177 pilot reported receiving an RA from their SkyEcho and saw an aircraft at 3NM, which they believed was the RA report however, the Board opined that their reported visual separation (of this traffic) would probably not result in an RA, leading them to surmise that they had misidentified the conflicting aircraft(**CF7**). Finally, and due to the 0.34NM proximity of the EV97 at CPA, the Board agreed that the C177 pilot had probably not seen the EV97 (**CF8**)

The Board noted that there is a common misunderstanding amongst some GA pilots that they must avoid a MATZ unless they are cleared to enter, the rules are that pilots are to comply with the provisions of the current Rules of the Air Regulations in respect of the ATZ, but because a MATZ is within unregulated Class G airspace a clearance is not required, however, it is still advisable to communicate with the appropriate ATS prior to entering a MATZ.³

The Board then looked at the actions of the Farnborough controller. They were working with bandboxed and cross-coupled frequencies, which is part of the normal operation within that sector at Farnborough. Because they received an incorrect readback from the pilot of the C177 there was a delay in identifying the C177 and agreeing a service. Regardless, the C177 had requested a Basic Service and the controller did not need to monitor the flight (**CF1**). Although Farnborough have an Electronic Warning System (EWS) it is not configured to alert the controller to conflicts within this scenario due to the high number of aircraft that operate in that area and, if configured to alert, the distraction from the high number of false alerts that would occur (**CF2**).

Finally, the Board considered the risk involved in this Airprox. The C177 pilot flew through the Popham active circuit without adequately avoiding the pattern of traffic already in operation. The EV97 pilot saw the C177 and adjusted their glide circuit turn to avoid the other aircraft. As such, the Board determined

³ UKAIP ENR 2.2 Other Regulated Airspace, 2 Military Aerodrome Traffic Zones

that there was no risk of collision, but they considered that safety had been degraded and consequently, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

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
• Electronic Warning System Operation and Compliance				
2	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
3	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				
4	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
5	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				
6	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
• Electronic Warning System Operation and Compliance				
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	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
9	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: C.

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:

Ground Elements:

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

Situational Awareness of the Confliction and Action were assessed as **not used** because the controller did not need to monitor the aircraft under a Basic Service.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the C177 pilot flew through Popham without avoiding the pattern of traffic already formed.

Tactical Planning and Execution was assessed as **ineffective** because the C177 pilot flew though Popham airfield's overhead without allowing a suitable separation from the circuit traffic.

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

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the C177's SkyEcho did not register the EV97 as expected.

