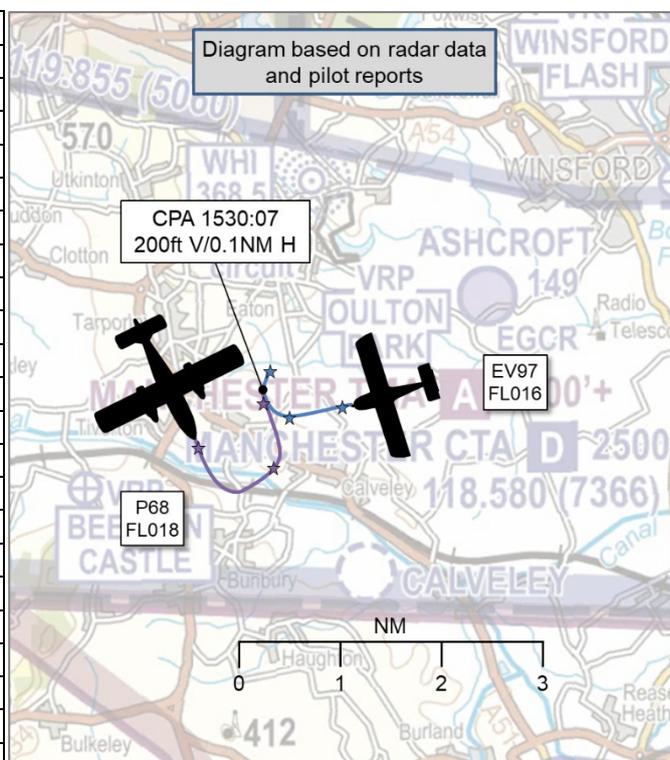


AIRPROX REPORT No 2021079

Date: 10 Jun 2021 Time: 1530Z Position: 5308N 00238W Location: 2NM south Oulton Park VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EV97	P68
Operator	Civ FW	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic ¹
Provider	N/A	Liverpool
Altitude/FL	FL016	FL018
Transponder	A, C, S	A, C
Reported		
Colours	Silver	White
Lighting	None	Nav, Beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1600ft	1460ft
Altimeter	QNH (N/K hPa)	QNH (1017hPa)
Heading	Manoeuvring	360°
Speed	75kt	120kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	100ft V/500m H	150ft V/1NM H
Recorded	200ft V/0.1NM H	



THE EV97 INSTRUCTOR reports that they were conducting dual training involving several turns and advance manoeuvres in the location of the Airprox. They and their student first spotted the P68 at a range of about 2NM to the southwest, at which time it was not converging on them. Less than 30sec later they noticed the P68 turning towards them. The instructor took control and instigated several steep rolls to make them more visible. This action didn't appear to stop the P68 continuing to converge. The EV97 instructor then changed course two or three times; each time to ensure they maximised the separation. At no point did it seem the P68 had seen them. When separation eventually became safe, they set course for Hawksview (adjacent to Stretton) via the Manchester LLR. They contacted Manchester Radar to ask if they were in contact with the P68, Manchester ATCO advised them it was communicating with Liverpool. They remained on frequency with Manchester Radar who provided them with a Radar Control service to enter the Zone for landing at Hawksview. On landing at Hawksview they telephoned Liverpool ATC and spoke with the controller who was communicating with the P68 at the time of the Airprox. The controller advised them that they had made the P68 pilot aware of their presence and confirmed the P68 pilot acknowledged and said they were looking out for them.

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

THE P68 PILOT reports that they were conducting an aerial survey in the Liverpool area. A portion of the survey exited and entered Liverpool Class D Airspace at the Oulton Park VRP. A Traffic Service outside controlled airspace was requested and given, with a Radar Control Service when re-entering. On one of the northbound runs they were informed about traffic 12 o'clock, similar altitude, with the response "traffic not sighted". The controller continued to inform them, with the lookout not sighting the aircraft. They thought that the aircraft may have been moving away from the area (eastbound) or had just left the Manchester Low level Corridor (therefore should have been at 1300ft or below with the Manchester listening squawk) due to such a close proximity to the Oulton Park VRP which is a VFR

¹ The P68 pilot reported receiving a Traffic Service but this could not be confirmed because the R/T recording was garbled at this point.

entry and exit lane to Liverpool's controlled airspace. They also had in mind that they were just about to enter controlled airspace and the other aircraft should be remaining outside as they were not receiving a service from Liverpool ATC. They were just about to make a left turn off the survey line, as the aircraft was seen in about the one o'clock position, below, in a left turn away from them, therefore they maintained heading and altitude. They were informed that the other aircraft had been in touch with Manchester ATC and that an Airprox was going to be filed. They responded to say that they would do the same but were as confused as the controller as to what the aircraft was doing in not receiving a service from them in such a condensed part of Class G and so close to Class D airspace.

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

THE MANCHESTER CONTROLLER reports that the EV97 pilot had not contacted Manchester prior to the Airprox. The EV97 pilot freecalled Manchester after the Airprox to enquire if Manchester was working a light twin, the controller informed them they were not. The controller could see, on their radar, the P68 with a Liverpool squawk. The EV97 pilot informed the controller that they had waggled their wings to alert the other aircraft of their position. The Manchester controller contacted the Liverpool controller and advised them of the incident, the Liverpool controller informed them that the P68 was on a survey and they had passed Traffic Information on the conflicting traffic. The P68 had turned and was tracking back towards the EV97, the Manchester controller advised the EV97 pilot to contact Liverpool for Traffic Information, the pilot declined because they were tracking via the low-level route.

THE LIVERPOOL CONTROLLER reports that the P68 pilot was receiving a Basic Service outside Controlled Airspace, just south of Oulton Park. They observed a 7000 squawk in very close proximity to them and therefore passed Traffic Information on the unknown aircraft. A short while later, they received a call from Manchester ATC saying that the [EV97 C/S] was filing an Airprox on the [P68 C/S] when they were both south of Oulton Park. This information was passed on to the [P68 C/S] pilot.

Factual Background

The weather at Liverpool was recorded as follows:

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METAR EGGP 101520Z 22011KT 9999 FEW035 BKN045 25/18 Q1017
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Analysis and Investigation

CAA ATSI

The EV97 pilot was conducting a dual training exercise, involving several turns and advance manoeuvres in the location where the Airprox occurred. The pilot was not in receipt of an ATC Service at the time of the event.

The P68 pilot was conducting an aerial survey flight in the Liverpool area, with lookout being provided by a crew member in the right-hand seat. The detail involved lines being flown that took the aircraft in and out of Liverpool Class D Airspace and the adjacent Class G Airspace, to the south of Liverpool. The pilot had completed several lines prior to the Airprox occurring. The pilot was in receipt of a Basic Service from Liverpool Radar at the time of the event.

The ATSI Investigator had access to reports from, the pilots of both aircraft, the Liverpool Radar controller, and the Manchester Radar controller. The Liverpool RTF recordings and the Area Radar recordings were reviewed for the period leading up to the Airprox. Screenshots in this report have been taken from the Area Radar and are not necessarily indicative of what the Liverpool controller was viewing on their Radar Display, at the time of the event. The levels displayed in the screenshots are flight levels, the QNH entered into the Area Radar display was 1020HpA (1020-1013 = 7HpA x 27ft = 189ft difference).

The Liverpool Radar controller was dealing with inbounds, outbounds and transit aircraft. The RTF loading in the lead up to the Airprox was high. In the interests of brevity, only the RTF relevant to the P68 and the EV97 have been included in this report.

Between 15:23.10 and 15:25.00 the P68 pilot advised the controller that their westbound line was now complete and that they were going to be commencing a northwest–southeast line, which would be exiting and re-entering controlled airspace, the pilot then made a request which was unintelligible on the RTF recording [UKAB note: The P68 pilot stated in a telephone call to the UKAB Inspector that this was their request for a Traffic Service, which was agreed by the Liverpool controller]. The controller responded by passing Traffic Information to the pilot, on traffic unrelated to the Airprox. The first part of the response from the pilot was broken and unintelligible and then the pilot advised that were re-entering controlled airspace on their northwest bound run. The controller asked the pilot if part of their track would take the aircraft into the low-level corridor. The pilot responded with “*negative*” and apologised for inadvertently encroaching on the corridor during a previous run. The controller asked the pilot what the most easterly point of their new line would be. The pilot responded with “*negative*” and that this would be west to east, with the lines quite tight, and that there would only be 5 of them. The controller asked the pilot to confirm that this would be in their current vicinity, and the pilot confirmed that this was correct, and that they were just approaching their first run now. The controller advised the pilot that they could commence their run, and the pilot acknowledged (Figure 1).

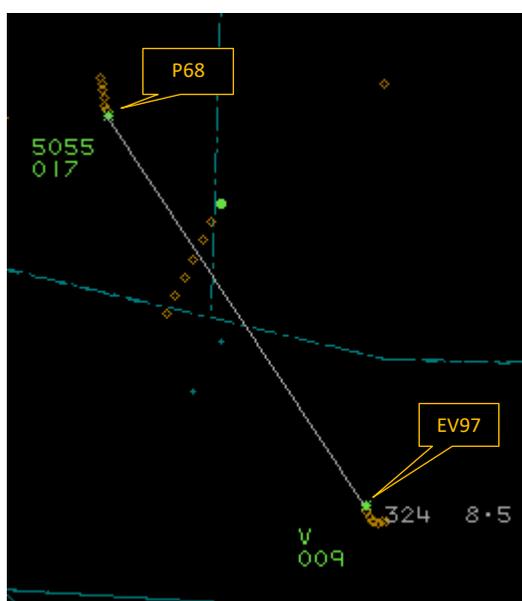


Figure 1 - 15:25.00

At 15:25.00 the P68 pilot advised the controller that they were re-entering controlled airspace on their northwest bound run. The aircraft was observed to continue tracking south until 15:29.10, when the pilot requested a clearance to re-enter Liverpool Controlled Airspace. The pilot subsequently entered a left-hand orbit.

At 15:29.10 the P68 pilot requested entry back into controlled airspace, on a northwest to southeast track. The controller responded that the pilot was cleared to enter Liverpool controlled airspace and advised the pilot that they did not need to obtain a clearance to enter each time, and that the clearance was not above altitude 2000ft VFR. The pilot responded, “*cleared to enter controlled airspace, free run, not above altitude 2000ft VFR*”. The controller advised the pilot that it would be a Basic Service outside of controlled airspace as there was quite a bit of traffic around today (Figure 2).

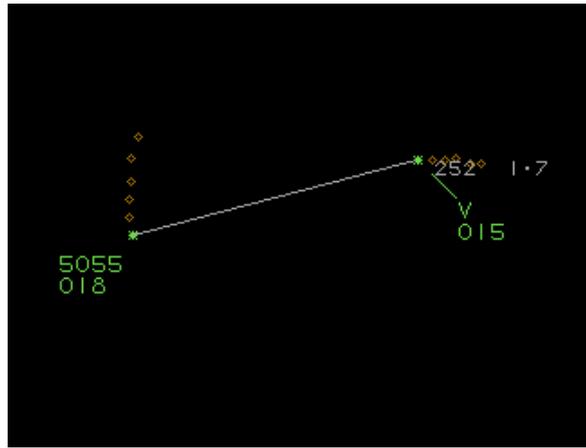


Figure 2 - 15:29.10

At 15:29.40 the controller passed Traffic Information “traffic north of you by half a mile indicating 1700ft”. The pilot responded, “traffic in sight.” The controller responded, “Basic Service, Basic Service.” The pilot acknowledged the Basic Service (Figure 3).

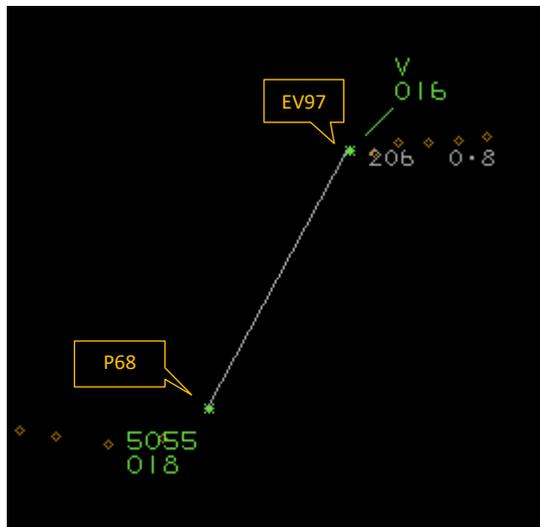


Figure 3 - 15:29.40

At 15:30.07 CPA occurred, the aircraft were separated by 0.1NM laterally and 200ft vertically (Figure 4).

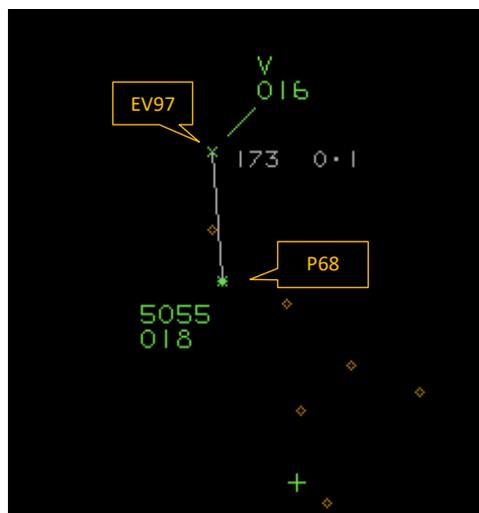


Figure 4 – CPA: 15:30.07

At 15:31.00 the P68 pilot advised the controller that they had just turned away from the traffic and that they were not sure what the aircraft was doing. The controller advised that the aircraft seemed to be general handling in that area and explained that the aircraft was not on the Liverpool Radar frequency. The P68 pilot acknowledged and said that they couldn't understand why the pilot wouldn't be on the Liverpool frequency.

At 15:32.40 the EV97 pilot freecalled the Manchester Radar controller, advised them that they had been carrying out some manoeuvres just south of the Manchester corridor, and had just had an Airprox with a light twin. The pilot asked the controller if they had been working the traffic. After ascertaining some further details of the location, the controller advised the pilot of the callsign of the P68, and that the aircraft appeared to be working Liverpool Radar. The pilot said that they would call Liverpool Radar when they were on the ground at their destination. The controller said that they would let the Liverpool Radar controller know to expect the call.

At 15:37.10 the Manchester Radar controller called the Liverpool Radar controller and explained that the EV97 pilot had just freecalled on the Manchester Radar frequency to report an Airprox, with what they believed to be the P68, and asked the Liverpool controller if they were working the P68. The Liverpool controller confirmed that they were providing the P68 with a Basic Service outside controlled airspace. The two controllers discussed why the EV97 pilot had chosen to call Manchester Radar after the event, and not request a service from Liverpool Radar prior to the event. The Manchester controller advised the Liverpool controller to expect a call from the pilot after landing.

At 15:39.00 the Liverpool controller advised the P68 pilot that the EV97 pilot would be filing an Airprox report. The P68 pilot responded that they would also file a report and asked the controller if they knew the registration of the aircraft. The controller confirmed that they did not know the registration.

The Airprox occurred in Class G airspace to the south of Liverpool controlled airspace.

The EV97 pilot was not in receipt of an ATC service and as such the controller was unaware of the intentions of the pilot.

The P68 pilot was in receipt of a Basic Service from the Liverpool Radar controller.

In accordance with the terms of a Basic Service, the controller recognised that a hazard existed, and passed accurate Traffic Information to the P68 pilot, enabling the pilot to gain sight of the EV97. The controller was denied the opportunity to pass Traffic Information to the EV97 pilot on the P68, due to the pilot not being in receipt of a service from Liverpool ATC.

Liverpool ATC are reminded of their obligations under Regulation (EU) 376/2014 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018, Article 4, paragraphs 6(d) and 7, to submit a mandatory occurrence report, within 72 hours of when they are first made aware of an occurrence, and to conduct an analysis of the occurrence, in order to identify any safety hazards, followed by submission of follow up reports, in accordance with the 30 day and 3 month timescales contained in Article 11 of the regulation.

UKAB Secretariat

The EV97 and P68 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 If the incident geometry is considered as converging then the P68 pilot was required to give way to the EV97.³

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(2) Converging.

Summary

An Airprox was reported when an EV97 and a P68 flew into proximity 2NM south of Oulton Park VRP at 1030Z on Thursday 10th June 2021. Both pilots were operating under VFR in VMC, the EV97 pilot not in receipt of a service and the P68 pilot in receipt of a Basic Service from Liverpool.

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 Liverpool controller; they were providing a Basic Service to the P68 pilot and were, therefore, not required to monitor the flight. Despite this, they did actually identify the emerging confliction and were proactive in passing Traffic Information to the P68 pilot. This was particularly commendable as it was a busy period.

Considering the actions of the EV97 pilot; the Board agreed that the EV97 pilot would have been better served by communicating with an air traffic agency (**CF2**). This could have provided the EV97 pilot with a greater level of situational awareness, either through Traffic Information or hearing other aircraft pilot's radio transmissions. Equally, communication on the radio adds to the situational awareness of others on the same frequency. As a result and because they had chosen not to communicate with anybody at all, the EV97 pilot had no situational awareness of the P68 (**CF3**). Also, members wondered why the EV97 pilot had not acted sooner to increase the separation between the aircraft as they had reported seeing the P68 at 2NM and could have easily adjusted their track and avoided the situation altogether. Board members wondered if the EV97 pilot may have thought that the other aircraft was visual with them, and they wished to re-emphasize that just because you have seen another aircraft it does not mean that they have seen you.

The Board then looked at the actions of the P68 pilot who had been carrying out a survey task; these flights can result in reduced lookout by the pilot conducting the task whilst maintaining a steady track. However, in this case an observer was assisting the pilot with lookout and the Board commended the crew for this. When the P68 pilot turned onto a northerly track the EV97 was on their right and normally they should have given way to the EV97 (**CF1**) but, it was acknowledged that they were not visual at this point. The Liverpool controller passed Traffic Information to the P68 pilot and, at 0.5NM (**CF4**), the pilot replied that they were visual, however this was actually after the EV97 pilot had initiated their turn away. Unfortunately the Traffic Information received was incomplete, leaving the P68 pilot with limited situational awareness, with this being the case they opted to maintain track to try to acquire the EV97 visually before committing to a course of action in case their turn took them towards the conflicting aircraft's path. The P68 pilot then reported turning away from the EV97 but this was after CPA as the EV 97 pilot had already taken action. Some Board members wondered why survey aircraft often seemed to carry out tasks during known busy periods, although it was acknowledged that some tasks require suitable, clear conditions and daylight.

Both aircraft were transponding however, neither aircraft was fitted with an electronic warning system which could have alerted the pilots to the presence of the other aircraft and cued a lookout allowing earlier (or easier) visual acquisition. This would have been especially beneficial for the P68 pilot and could have further augmented their situational awareness whilst carrying out their task.

Finally, the Board considered the risk involved in this Airprox. The EV97 pilot had seen the P68 at 2NM and the P68 pilot had received Traffic Information on the EV97 and reported visual, albeit late. As such, the Board determined 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:**

2021079				
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	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
• 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 or only generic, Situational Awareness
• See and Avoid				
4	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

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:

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the P68 pilot did not give way to the EV97 because they were not visual until after CPA.

Tactical Planning and Execution was assessed as **partially effective** because the P68 pilot did not adapt their plan when they received Traffic Information about the EV97, and the EV97 pilot was not communicating with a suitable ATS.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the EV97 pilot did not have any situational awareness, and the P68 pilot did not have full situational awareness on the EV97.

See and Avoid were assessed as **partially effective** because the P68 pilot saw the EV97 late.

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: 2021079		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								