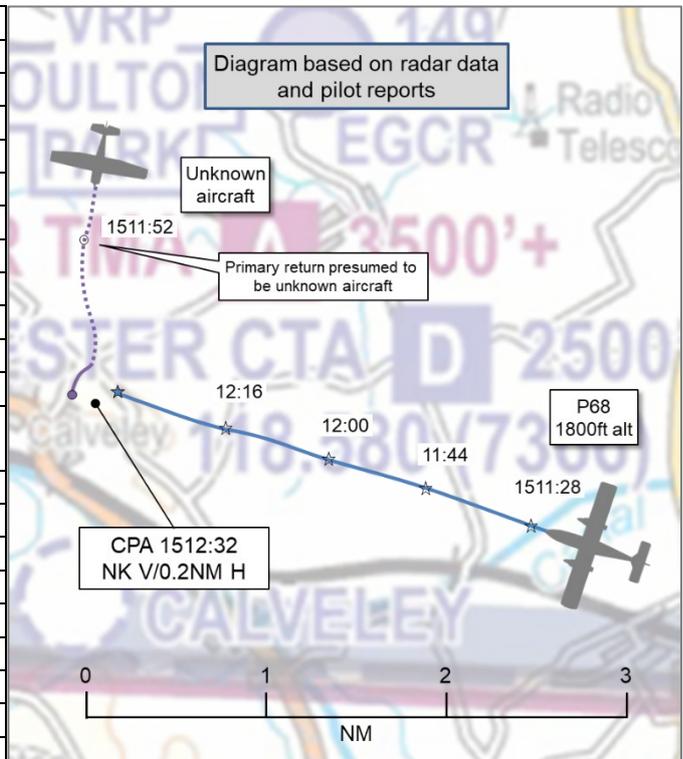


AIRPROX REPORT No 2021223

Date: 02 Nov 2021 Time: 1513Z Position: 5307N 00236W Location: 4.5NM SW Winsford

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	Unk light-aircraft
Operator	Civ FW	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	Unknown
Service	Basic	Unknown
Provider	Hawarden Radar	Unknown
Altitude/FL	1800ft	Unknown
Transponder	A, C, S	Unknown
Reported		
Colours	White, blue	NK
Lighting	Nav, Strobe, Beacon	NK
Conditions	VMC	NK
Visibility	>10km	NR
Altitude/FL	1750ft	NK
Altimeter	QNH (998hPa)	NK
Heading	290°	NK
Speed	139kt	NK
ACAS/TAS	TCAS I	NK
Alert	None	Unknown
Separation at CPA		
Reported	0ft V/500m H	NR
Recorded	NK V/0.2NM H	



THE P68 PILOT reports that an aircraft was spotted in their 12 o'clock position at the same altitude moving right to left. The aircraft was a small single-engine aircraft. They were preparing for a visual approach to [destination airfield] at the time of the incident. They were in contact with Hawarden Radar on a Basic Service. The other aircraft did not show up on their ACAS. They felt that the other aircraft may have just transited through the Manchester low-level route. They report that there had been little or no time for evasive manoeuvres.

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

THE LIGHT AIRCRAFT PILOT could not be traced.

THE HAWARDEN RADAR CONTROLLER reports that they were informed of the reported Airprox via their SATCO who had already provided the relevant details. On the day concerned, no Airprox was reported by [the P68 pilot] on the frequency and they do not recall ever seeing any confliction.

Factual Background

The weather at Hawarden was recorded as follows:

METAR EGNR 021520Z 31007KT 9999 FEW020 SCT023CB 11/06 Q0998
 METAR EGNR 021450Z 30004KT 260V340 9999 FEW020 SCT023CB 12/05 Q0998

Analysis and Investigation

Hawarden unit investigation

For the portion of [the P68 pilot's] flight when the pilot was in communication with Hawarden Radar the aircraft was provided with a Basic Service and was not formally Radar Identified, to which end the ATCO discharged their obligations correctly. As the screen shots indicate (Figures 1 – 6), the aircraft which was believed to have been in conflict with [the P68] was a primary only contact and only displaying on the radar display intermittently. It is not uncommon to observe this type of radar return at Hawarden Radar due to the performance levels and impact of high ground on coverage. At the time of the Airprox the Hawarden Radar ATCO was working other Hawarden traffic, including a pilot in receipt of a Traffic Service, whilst trying to effect coordination with Liverpool Radar using the direct telephone line which was going unanswered. There was no report of the Airprox received by Hawarden Radar either at the time or by the ATSU after the pilot had landed. There was also no concern noted in the pilot's voice as they transferred to their [next frequency].

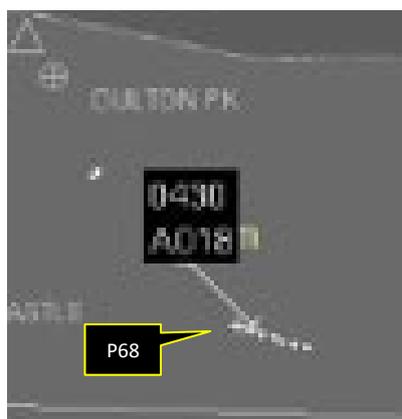


Figure 1
1511:40

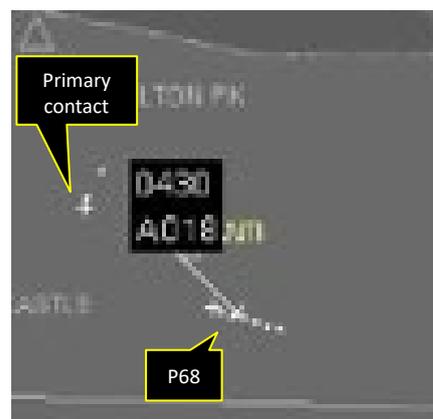


Figure 2
1511:51

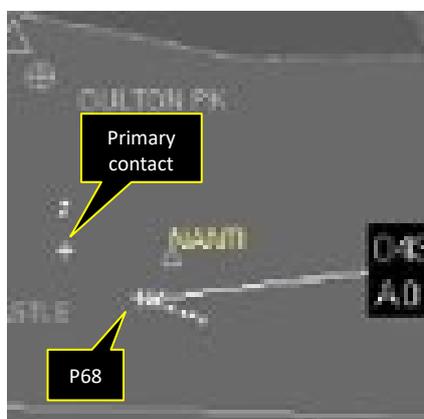


Figure 3
1512:10

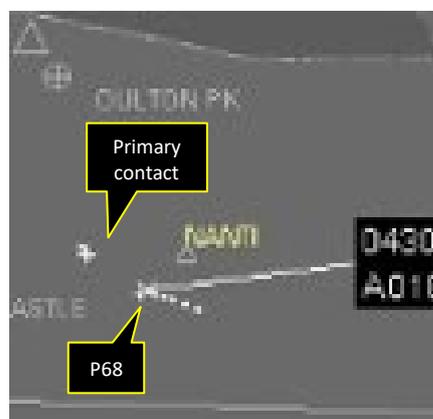


Figure 4
1512:17



Figure 5
1512:24

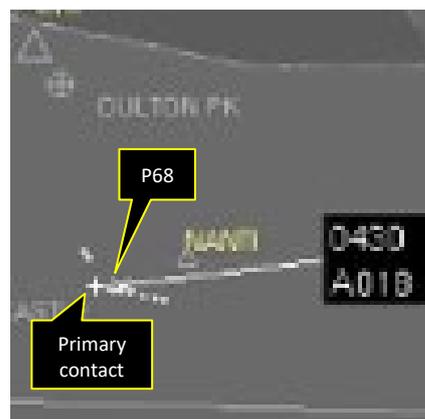


Figure 6
1512:30

Due to the nature of Hawarden's operation being a single controller manning the Hawarden Radar position and, with their attention being focused on traffic operating in the vicinity of Hawarden Airport either on a Basic Service or a Traffic Service, the delays in Liverpool answering the telephone and, primarily due to the poor radar return of the unknown aircraft there was nothing the ATCO could have done differently in order to avoid this Airprox. Had the [P68 pilot] reported the Airprox at the time perhaps some updated Traffic Information could have been passed however this would have been after the event.

Having reviewed radar recording and RTF recording it is felt that the radar ATCO was operating within the bounds of regulatory procedures for the Basic Service being provided to [the P68 pilot] and given the information available at the time they were unable to do anything further to prevent the Airprox.

CAA ATSI

ATSI reviewed the area radar replay and Hawarden RTF and concur with both the details contained within the unit investigation report, its findings and conclusion.

According to the Hawarden radar screenshots the unknown aircraft was an intermittent primary-only contact between 1511:40 and CPA at 1512:30. However, the controller was providing a Basic Service to the P68, had not formally identified the aircraft (it was on a conspicuity, not a unique, squawk) and they were not required to continuously monitor its track. During this period the controller was also providing a Traffic Service to a training aircraft at Hawarden and dealing with its missed approach instructions and further training requirements, whilst also controlling another inbound, an outbound and a transit aircraft. No reference to an Airprox was made by the pilot of the P68 at the time.

In Class G airspace, irrespective of the air traffic service being provided, a pilot is responsible for collision avoidance.

UKAB Secretariat

An analysis of the NATS radar replay was conducted and the P68 can be seen in the lead up to the Airprox. There is a primary-only contact observed for two radar sweeps 40sec before the Airprox which is believed to be the unknown light-aircraft however this cannot be verified. This primary return disappears and then at 1512:20 a primary return appears on the radar 0.7NM from the P68, 12sec before the measured CPA at 1512:32.

The P68 and unknown light-aircraft 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 converging then the P68 pilot was required to give way to the unknown light-aircraft.²

Summary

An Airprox was reported when a P68 and an unknown light-aircraft flew into proximity 4.5NM SW of Winsford at 1513Z on Tuesday 2nd November 2021. The P68 pilot was operating under VFR in VMC in receipt of a Basic Service from Hawarden Radar. The unknown light-aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the P68 pilot, radar photographs/video recordings and reports from the air traffic controllers 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.

Board members agreed that it had been unfortunate that the unknown light-aircraft pilot could not be traced and so considered the actions of the P68 pilot. Members were encouraged that the pilot had been in receipt of a Basic Service and had been carrying EC equipment, however, a discussion followed regarding limitations of the effectiveness of these aids as a mitigation to a MAC. An ATC member highlighted that there is no requirement for an ATCO to monitor a flight under a basic service (**CF1**) and as such the ATCO had discharged their responsibilities, leading members to agree that a surveillance based service may have been of more benefit to the pilot (**CF2**). It was stated by a GA member that the EC equipment carried on the P68 would have been unable to detect any aircraft that had not been equipped with a working transponder (**CF4**) and that there are many light aircraft which operate in the London FIR that are not transponder equipped. As a result, members quickly agreed the P68 pilot had had no situational awareness regarding the presence of the unknown light-aircraft (**CF3**) and that the P68 pilot had had to rely on see and avoid for collision avoidance. Members noted that the P68 pilot stated that they had only visually acquired the unknown light-aircraft at a late stage (**CF5**) and, when the unknown light-aircraft had been spotted by the P68 pilot, its proximity was such that it had caused concern (**CF6**).

Finally, the Board considered the risk involved in this Airprox. Members reiterated that it had been unfortunate that the unknown light-aircraft pilot had not been traced however, there had been sufficient information for an assessment of the risk to be made and for contributory factors to be determined. Members were satisfied that, when considering the lateral separation between the P68 and the primary return, and details contained within the report from the P68 pilot, that there had been a degradation in safety but that there had been no risk of collision. Consequently, the Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2021223				
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				

¹ (UK) SERA.3205 Proximity.

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

2	Human Factors	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • Situational Awareness of the Conflicting Aircraft and Action 				
3	Contextual	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • Electronic Warning System Operation and Compliance 				
4	Technical	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • See and Avoid 				
5	Human Factors	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 Assessment³

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 under a Basic Service the controller had not been required to monitor the flight.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the P68 pilot had been in receipt of a Basic Service from ATC whereas there had been higher levels of service available which may have been more appropriate.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the P68 pilot had had no prior awareness of the presence of the unknown light-aircraft prior to sighting it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although the P68 carried serviceable EC equipment, it had been unable to detect the presence of the unknown light-aircraft.

Follow this link to the CAAs webpage on Electronic Conspicuity Devices, guidance material and compatibility table:

https://www.caa.co.uk/General-aviation/Aircraft-ownership-and-maintenance/Electronic-Conspicuity-devices/?mc_cid=ce23f03dac&mc_eid=d250bc9f1c

See and Avoid were assessed as **partially effective** because although the P68 pilot had become visual with the unknown light-aircraft, this had been at a late stage with there having been little or no time for avoiding action to have been taken. As such the P68 pilot had been concerned by the proximity of the unknown light-aircraft.

³ 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: 2021223		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 Confiction & 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								