

**AIRPROX REPORT No 2021161**

Date: 29 Aug 2021 Time: 1432Z Position: 5250N 00159W Location: 5NM NW Stafford

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	PA28
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	London Info	East Midlands
Altitude/FL	2900ft	2700ft
Transponder	A, C	A, C, S
<b>Reported</b>		
Colours	White, Blue	Silver, White
Lighting	Nav, Strobe, Landing	Beacon, Landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3000ft	2700ft
Altimeter	QNH	QNH (1026hPa)
Heading	290°	135°
Speed	130kt	95kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
<b>Separation at CPA</b>		
Reported	150ft V/30m H	Not Seen
Recorded	200ft V/0.3NM H	



**THE P68 PILOT** reports that the other traffic came from the front and slightly from the left; flying in the opposite direction and slightly lower. The aircraft was obscured by the instrument panel and they saw it relatively late. They had just started a slow descent and spotted the plane roughly 4sec before it passed, however they judged that they were not on a collision course and would have had time to take avoiding action if necessary.

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

**THE PA28 PILOT** reports that they did not recall any unusually close encounters during the flight. At the time reported they were in the cruise in Class G airspace routing between East Midlands and Birmingham en-route to the DTY VOR. They were in receipt of a Basic Service from East Midlands Radar. [TAS] was in use and audible alerts were switched on. Having looked back at their GPS track, they could see a slight course deviation to the right at that time. This may have been to avoid another aircraft ahead, or it could just be a coincidence.

**THE LONDON INFORMATION FISO** reports that they were providing a Basic Service to the P68, it came on frequency at 1420 and reported 2NM south of SKINA at 1429 before leaving the frequency at 1436. At no point did the pilot report an Airprox on frequency.

**THE EAST MIDLANDS** were notified about the Airprox 8 days after the event. The controller had no knowledge of the incident and did not submit a report, however, East Midlands conducted an investigation reproduced in part below.

**Factual Background**

The weather at East Midlands was recorded as follows:

METAR EGNX 291420Z 03007KT 350V050 9999 BKN032 16/09 Q1026=

## Analysis and Investigation

### NATS Investigation

The P68 was operating a survey flight and was receiving a Basic Service from London Information and displaying Mode A 1177 (shown on radar as FIS). Safety Investigations reviewed the London Flight Information Service (FIS) frequency 124.6MHz (bandboxed with 125.475MHz) between 1420:06 (all times UTC) until [P68 C/S] left the frequency for [destination] at 1436:00.

[P68 C/S] was indicating altitude 2900ft tracking west and at the time of the reported Airprox, [P68 C/S] came into proximity with an opposite direction aircraft displaying Mode A code 4571 (East Midlands LARS), indicating altitude 2700ft see Figure 1. Mode S data detailed that this aircraft was [PA28 C/S], a PA28.

At 14:32:18 the two aircraft passed each other with a closest point of approach of 0.3NM and 200ft.



Figure 1:CPA occurred 9.6NM southeast of STAFA (24.4NM North of Birmingham).

London Information provide Basic and Alerting Services only and do not use radar. The pilot of [PA28 C/S] was not in contact with London Information, therefore the FISO was unaware of it.

CAP774 – UK Flight Information Services, Chapter 2 Paragraph 1 defines a Basic Service as:

*‘A Basic Service is an ATS provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot’s responsibility.*

*Basic Service relies on the pilot avoiding other traffic, unaided by controllers/FISOs.’*

The pilot of [P68 C/S] did not report an Airprox or potential confliction on the London Information Frequency during this time. The Airprox Board subsequently notified NATS of the Airprox on the 31st August.

The Airprox occurred when [P68 C/S] came into proximity with [PA28 C/S] in the vicinity of STAFA. The closest point of approach occurred at 1432:18 and was recorded on Multi-Track Radar as 0.3NM and 200ft. The incident was resolved by the respective aircraft tracks.

## East Midlands Investigation

East Midlands was notified, via email, of an alleged Airprox between [PA28 C/S] and [P68 C/S]. This email was received on 6th September, with the Airprox taking place on 29th August, 8 days prior. The radar and RT recordings were reviewed immediately and it was confirmed that [PA28 C/S] had been in receipt of a Basic Service from East Midlands.

At the time of the Airprox, the radar controller was operating bandboxed Radar and LARS positions. Traffic loading for Radar was described as low with only one IFR arrival on frequency, LARS on the other hand, was busy with multiple aircraft, including [PA28 C/S] in receipt of a Basic Service and other traffic operating in the vicinity receiving a Traffic Service. This bandboxing resulted in a medium to high workload for the ATCO involved.

[PA28 C/S] initially called well to the west of East Midlands requesting a Basic Service. The Basic Service conspicuity code of 4571 was assigned to the aircraft. It should be noted that, at this point, there would have been multiple aircraft displaying 4571 on radar as this code is assigned to all aircraft not intending to transit CAS in receipt of a Basic Service from East Midlands. In accordance with CAP774, the ATCO was not required to identify or monitor the aircraft, nor was there anything to suggest that in this case, any form of identification took place.

The traffic believed to be [PA28 C/S] could be seen changing to a 4571 squawk in the vicinity of Stoke on Trent. At the time, [P68 C/S] was believed to be around 4NM SSW of Tatenhill, with the separation between the two aircraft around 18NM. As the aircraft approached one another, the ATCO was busy with other duties. RW09 was in use, which can be more demanding from a workload standpoint as every departure requires individual coordination between tower and radar given the conflicting routes with IFR arriving aircraft. As the scenarios played out, at least 2 departures could be seen from RW09. In order to coordinate these aircraft, controllers make extensive use of the EFPS system to enable electronic silent coordination. This would have entailed some element of 'heads down' whilst the ATCO manipulated the system, although this would not have been for an excessive period of time.

The two aircraft were converging with one another, almost head-on, with [P68 C/S] appearing to be in the 1 o'clock of [PA28 C/S]. The Mode C indicated 200ft separation, with both Mode C readouts appearing steady throughout the approach and subsequent crossover of the aircraft.

It was unclear whether or not the ATCO noticed the close proximity of the two aircraft at the time. In accordance with a Basic Service, the ATCO is not required to pass any form of surveillance based Traffic Information to the pilot and, in this case, the ATCO fulfilled the requirements of provision of Basic Service.

ATCOs have recently been reminded of the dangers of passing too much surveillance derived Traffic Information to pilots in receipt of Basic Services. Namely that this blurs the boundary between the services leading to some pilots receiving a Basic Service expecting more than the service actually provides. In this case, with 200ft between the aircraft, and Mode C not indicating any changes in levels, even if the ATCO had noticed the potential proximity of the two, it would have been a very fine judgement call as to whether they determined that the aircraft were in dangerous proximity and surveillance derived Traffic Information would have been required.

In accordance with CAP774, when in receipt of a Basic Service, the pilot is responsible for avoiding other aircraft. In this case, it was fair for the ATCO to assume that the pilot was exercising sufficient lookout to ensure that they remained clear of the other aircraft. No RT call was made by [PA28 C/S] that they had seen the P68 nor did they declare an airprox. It was unclear from the UKAB's email as to which pilot in the encounter had actually filed the Airprox.

## Conclusion

The ATCO at the time of the Airprox was fulfilling a bandboxed role of Radar and LARS and their workload was medium to high with multiple aircraft on frequency and RW09 in use. A Basic Service was provided correctly to [PA28 C/S], the East Midlands QNH was passed, confirmation that the aircraft would remain outside CAS and a request to report passing Lichfield so that the ATCO could maintain a rough idea of where the aircraft was. In accordance with CAP774, ATCOs are not required to identify or monitor the progress of aircraft receiving a Basic Service and it is clear that in this case, the ATCO did not do so. ATCOs are also not required to pass any form of surveillance derived Traffic Information to aircraft receiving a Basic Service, instead, it is a fair assumption that the pilot would be flying in reasonable VMC and would be maintaining a look out for other traffic. Indeed, pilots remain responsible at all times for avoiding other traffic. Clearly there is a duty of care which CAP774 also mentions. Had the controller noticed the close proximity of the two aircraft and considered that a collision was likely, surveillance derived Traffic Information would likely have been passed. That being said, the radar recording shows neither aircraft climbing or descending, instead both aircraft maintained 2700ft and 2900ft respectively. With 200ft between the two aircraft, and nothing to indicate this changing, the ATCO would be justified in believing that no actual risk of collision existed and therefore allowing the pilot to exercise their own lookout and responsibility for avoiding other traffic.

## UKAB Secretariat

The P68 and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>2</sup>

## Summary

An Airprox was reported when a P68 and a PA28 flew into proximity 5NM NW Stafford at 1432Z on Sunday 29th August 2021. Both pilots were operating under VFR in VMC, the P68 pilot in receipt of a Basic Service from London Information and the PA28 pilot in receipt of a Basic Service from East Midlands.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controller and FISO involved 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first looked at the actions of the P68 pilot. They were receiving a Basic Service from London Information and members reminded pilots that this service was provided without recourse to a radar screen and therefore any Traffic Information would only be given on known traffic, i.e. other pilots also receiving a service from London Information. Although it was not known whether this aircraft was conducting a survey at the time, members noted that they had previously recommended to UK companies that when conducting surveys, additional mitigations should be put in place to prevent MAC<sup>3</sup> and that best practice would be to request a surveillance based radar service from an appropriate ATSU (**CF2**). The P68 was not fitted with a CWS and so the pilot had no situational awareness that the PA28

<sup>1</sup> (UK) SERA.3205 Proximity.

<sup>2</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>3</sup> See Airprox 2019201, 2019208, 2019226

was in the vicinity (**CF3**). The PA28 was obscured from the pilot by the instrument panel (**CF7**) and so they did not see it until late (**CF5**), but once seen, they were concerned by its proximity (**CF6**).

Turning to the actions of the PA28 pilot, they could not recall the incident and members were unsure whether this was because they saw the P68 and were not concerned by it, or had not seen it at all. They were receiving a Basic Service from East Midlands but did not receive any Traffic Information and reported that they did not receive an alert from their TAS either, so had no situational awareness that the P68 was in the vicinity (**CF3**, **CF4**).

The role of ATC was briefly discussed, the London Information FISO was providing a Basic Service without a radar and therefore had no knowledge that the PA28 was in the vicinity of the P68 (**CF1**). The East Midlands controller was providing a Basic Service to the PA28 pilot; some members opined that East Midlands were usually very good at passing Traffic Information if they detected a conflict, it was unfortunate that on this occasion the controller was busy with other traffic and so no information was passed (**CF1**). Noting the East Midlands investigation comments on the blurring of ATC services, members wished to remind pilots that if they required Traffic Information, they should request a Traffic Service.

When assessing the risk of collision, members took into consideration the reports of both pilots, the controller's reports and the radar screenshots. It was noted that the P68 pilot assessed the risk of collision as low, and, once they had seen the PA28, had assessed that avoiding action was not necessary. The Board therefore agreed that, with a radar separation of 200ft and 0.3NM, there had been no risk of collision. However, they thought that to some extent this separation had been serendipity and because neither pilot had any situational awareness about the other aircraft, safety had been degraded; Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

	2021161			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Situational Awareness and Action</b>				
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
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
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
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
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
<b>• Electronic Warning System Operation and Compliance</b>				
4	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
<b>• See and Avoid</b>				
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	• 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

7	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
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Degree of Risk: C.

Safety Barrier Assessment<sup>4</sup>

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

**Ground Elements:**

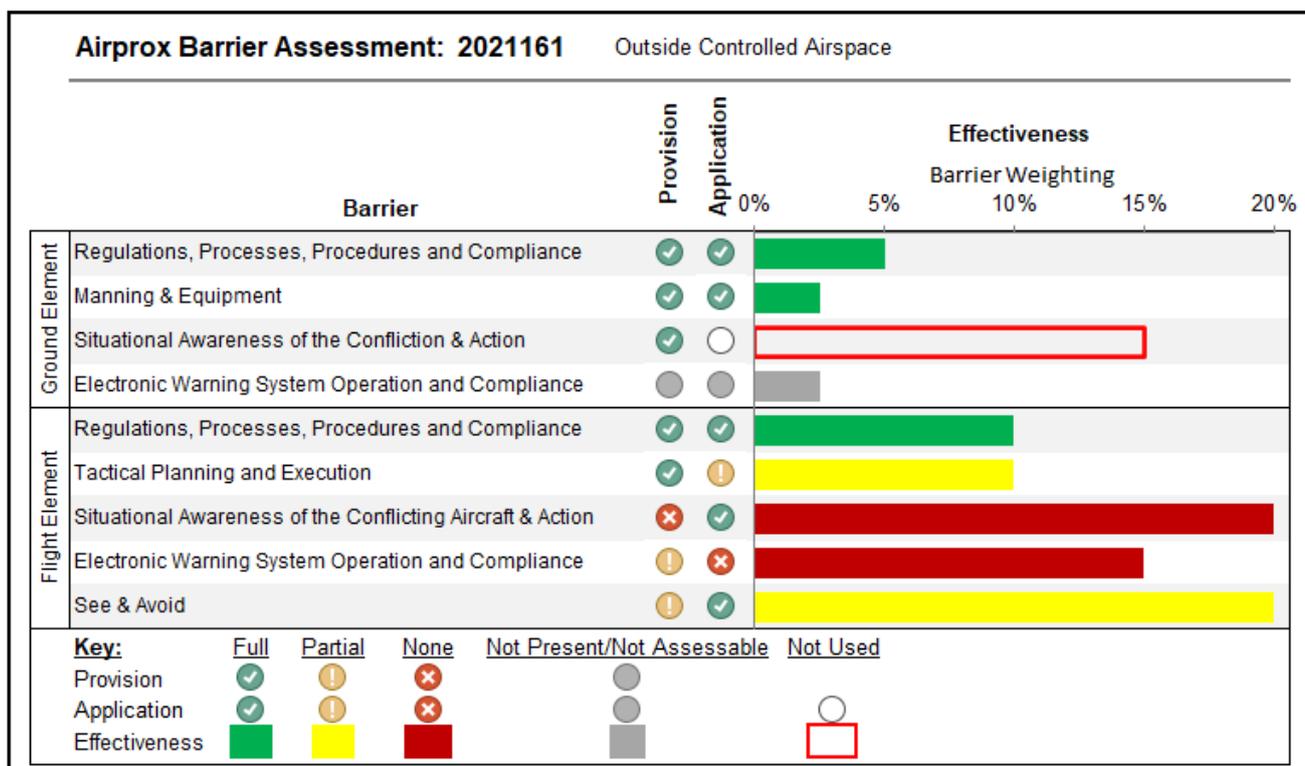
**Situational Awareness of the Confliction and Action** were assessed as **not used** because neither the London Information FISO, nor the East Midlands controller were required to monitor the aircraft under a Basic Service.

**Flight Elements:**

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

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the PA28 pilot reported that they did not receive an alert from their TAS.

**See and Avoid** were assessed as **partially effective** because the P68 pilot saw the PA28 late and was concerned by its proximity.



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