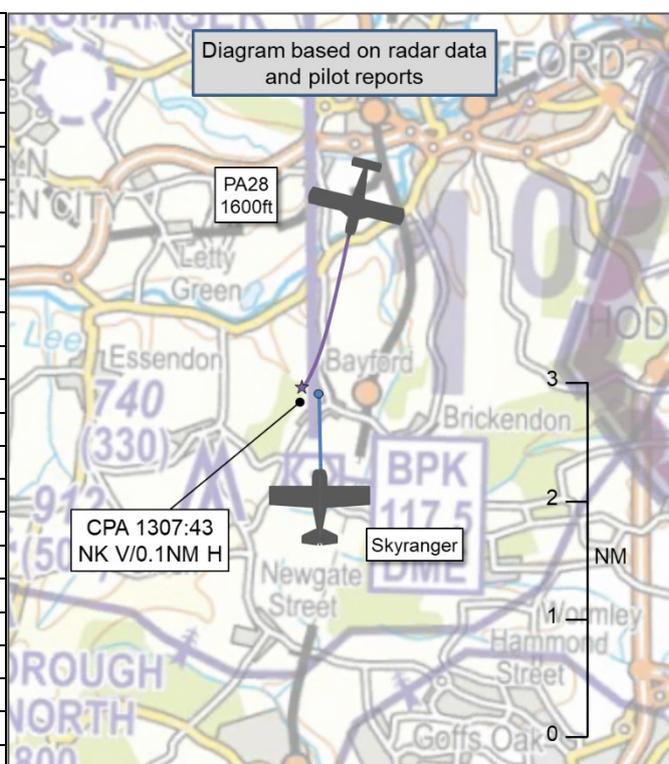


AIRPROX REPORT No 2020103

Date: 31 Aug 2020 Time: 1307Z Position: 5145N 00006W Location: IVO Brookmans Park

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Skyranger	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider		Farnborough
Altitude/FL	NR	1600ft
Transponder	Not Fitted	A, C
Reported		
Colours	White	White
Lighting	NK	Strobe
Conditions	VMC	VMC
Visibility	10km	10km
Altitude/FL	1500ft	2300ft
Altimeter	NK	NK
Heading	352°	260°
Speed	70kt	85kt
ACAS/TAS	Not fitted	Unknown
Alert	N/A	Unknown
Separation		
Reported	10ft V/40/50m H	Not Seen
Recorded	NK V/0.1NM H	



THE SKYRANGER PILOT reports that they were on a heading of approximately 353° and due to turbulence had dropped to smoother air from 1800ft to approximately 1500ft. In the distance, an aircraft was seen, approximately 1-2NM ahead. It appeared to have levelled out at about 1600ft, then turned north and climbed to above 2000ft. Around 3min later the Skyranger was about 4NM directly west of Hoddesdon, outside the Stansted TMZ, heading north. The pilot was changing the radio frequency from London Colney Airfield to Hunsdon Radio, but an input error meant they needed to clear the frequency then re-type it. Once the frequency change was complete, the pilot saw the aircraft appear from behind the line of sight blocked by the starboard wing, cutting across their path. The pilot then banked to the right and slightly down to get out of the way and go behind the other aircraft. The other aircraft continued on course. The pilot noted that they did not hear anything over the radio, possibly due to differing frequencies or changing the frequency.

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

THE PA28 PILOT reports that it was a Bank Holiday and therefore one of the busiest flying days. There were many aircraft in the vicinity at the time, but he didn't particularly remember being in close proximity with any other aircraft. He did not perceive that there had been any risk of collision.

THE FARNBOROUGH LARS CONTROLLER reports that a mix-up with the initial reporting time meant that the Farnborough controller was notified some time after the event and could not remember anything about the Airprox.

Factual Background

The weather at Stansted was recorded as follows:

METAR EGSS 311250Z AUTO 28004KT 230V340 9999 BKN047 16/05 Q1022=

Analysis and Investigation

CAA ATSI

ATSI had access to the reports from both pilots, the Farnborough RTF and the Area Radar recording. All screenshots have been taken from the NATS Area Radar and it should be noted that they are not necessarily representative of the radar picture displayed to the controller at the time of the event. All levels are shown as altitudes. The QNH set within the area radar display was 1022hPa.

The PA28 pilot was on a local flight and in receipt of a Basic Service from Farnborough LARS North at the time of the Airprox. The pilot recalled that the airspace was busy but did not recall coming into close proximity with any other aircraft at the time. The Farnborough RTF was extremely busy throughout the period of the review, with several pilots stepping on each other on the RTF. In the interest of brevity only the RTF calls from/to the PA28 aircraft involved in the Airprox (PA28(A)) and one other aircraft using the same abbreviated callsign, and also a PA28, (PA28(B)), have been included within this report.

At 1234:20 the PA28(A) pilot called the Farnborough controller and requested a Basic Service. There was initially no response from the controller and the pilot repeated their request. At 1234:50 the controller responded that there was a change of controller in progress, that they were aircraft number two in the queue and that their colleague would get back to them shortly. The controller subsequently turned their attention to the number one aircraft in the queue.

At 1235:30 the controller asked the PA28(A) pilot to pass their details. The pilot responded that they were a PA28, with 2 POB, gave their destination, were currently over Potters Bar at 1800ft and requested a Basic Service. The controller instructed the pilot to Squawk 5020, a Basic Service was agreed and the London QNH of 1022hPa was passed. The squawk and QNH were accurately readback by the pilot (Figure 1).



Figure 1 - 1235:30

At 1250:40 the controller received an initial call from an aircraft with a similar callsign to that of PA28(A), in that the first and last two letters of the registration (callsign) were the same (referred to in this report as PA28(B)). This pilot advised the controller that they were a PA28, routing Elstree to Duxford, with 2 POB, and that they were currently south west of Potters Bar at 1800ft. The pilot was instructed to Squawk 5027, and a Basic Service was agreed. The PA28(A) pilot was approximately 15NM northeast of Luton airport at this time.

At 1255:10 the controller called the pilot of PA28(A) and requested their position, explaining that they could no longer see their squawk of 5020 on the radar. The pilot responded that they were just to the west of Royston. There was no response from the controller. The 5020 squawk was showing on the area radar replay at this time but may not have been showing on the radar in use by the controller (Figure 2).



Figure 2 - 1255:10

At 1302:00 PA28(A) and PA28(B) were in proximity to each other (Figure 3).



Figure 3 - 1302:00

At 1304:20 PA28(B) pilot requested a frequency change to Duxford and this was approved. At 1306:30 a primary contact was displayed 3.3NM south of PA28(A) (Figure 4). At this point in time the controller was engaged in a very lengthy initial and subsequent RTF exchanges with another pilot who had requested a service.



Figure 4 - 1306:30

At 1307:20 the primary contact was 1.0NM south of PA28(A) (Figure 5).

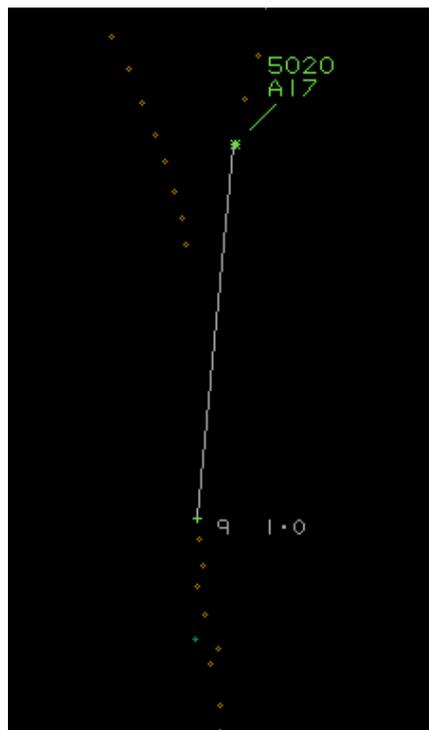


Figure 5 - 1307:20

At 1307:40 the controller made a general broadcast, *“all stations multiple contacts operating in the Brookmans Park area”*, this warning was then repeated (Figure 6).

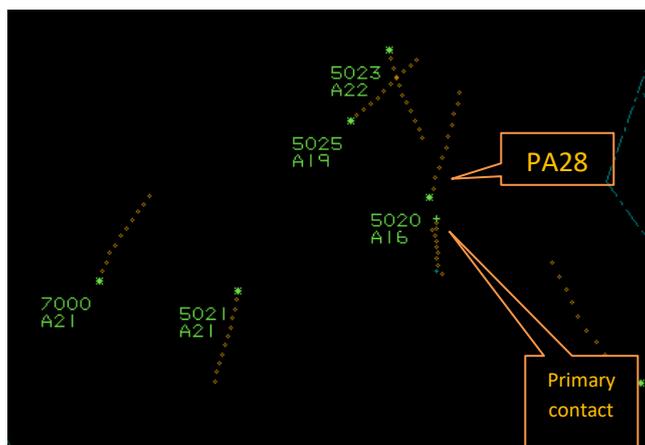


Figure 6 - 1307:40 (BPK area)

At 1307:42 CPA occurred, with the aircraft separated by 0.1NM laterally, vertical separation could not be measured.



Figure 7 - 1307:42 (CPA)

At 1308:40 PA28(A) pilot requested to change to the Elstree frequency, the controller sounded slightly confused and asked the pilot to confirm their full callsign. When the full callsign was confirmed the pilot was instructed to squawk conspicuity and the frequency change was approved.

The pilot was in receipt of a Basic Service and as such the controller was not required to monitor the flight. The frequency was extremely busy throughout the period of the review, with several pilots stepping on each other on the RTF. Despite being extremely busy, the controller appeared to be making attempts to monitor the flight and asked the PA28(A) pilot to report their position when they believed that the allocated transponder code was no longer being displayed.

The controller was engaged in a very lengthy RTF exchange with another pilot just prior to the Airprox occurring. As soon as this exchange was complete and two seconds prior to the Airprox, the controller issued a generic traffic warning to all pilots operating in the Brookmans Park area. There was another aircraft with a similar callsign on frequency at the same time as the PA28(A) (the first and last two letters of the aircraft registrations were identical, resulting in the same abbreviated callsigns being used by both pilots). The unrelated aircraft with the similar callsign left the frequency 3min and 24sec before the Airprox occurred. It's possible, but could not be confirmed, that the controller may have removed the Flight Progress Strip for the unrelated aircraft from the bay at this point and stopped attempting to monitor the flight of the PA28(A).

The CAP 413 contains ATC procedures to be followed where callsign confusion is likely to occur and places a responsibility on controllers to warn the pilots concerned and, if necessary, instruct

one or both aircraft to use alternative or full callsigns while they remain on the frequency. The pilots were not instructed to use their full callsigns and it's possible, but again could not be confirmed, that the controller may not have been aware that the two aircraft were using the same abbreviated callsign until the PA28(A) pilot requested to leave the frequency and the controller asked them to state their full callsign.

The Airprox occurred in Class G airspace with the PA28 pilot in receipt of a Basic Service, and as such the controller was not required to monitor the flight. However, the controller did make attempts to monitor the flight, and immediately prior to the Airprox occurring, passed a generic warning to the pilots of all aircraft operating in the Brookmans Park area as the PA28, that there were multiple contacts in this vicinity.

UKAB Secretariat

The Skyranger 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.¹ If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.²

Summary

An Airprox was reported when a Skyranger and a PA28 flew into proximity in the vicinity of Brookmans Park at 1307Z on Monday 31st August 2020. Both pilots were operating under VFR in VMC, the Skyranger pilot was not in receipt of an ATS and the PA28 pilot in receipt of 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, reports from the air traffic controller 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 Skyranger pilot. They noted that the Skyranger was not equipped with any electronic conspicuity devices and therefore could not be detected by any CWS fitted to other aircraft. Additionally, although the pilot was only undertaking a short flight, still they thought that they would have benefitted from calling Farnborough LARS(N) for a Basic Service (**CF3**), or at the very least listening out on the frequency to hear other pilots' position reports. Members familiar with the area noted that Brookmans Park was used by many GA pilots as a waypoint and was often busy with traffic, as it was on this day; consequently it was a known choke point given that it was both a well-known waypoint and surrounded in 3 dimensions by CAS. Without either an ATS or a CWS, the pilot had no situational awareness that the PA28 was in the vicinity (**CF4**), which left lookout as the final barrier. The EV97 pilot acknowledged that they had become distracted by the incorrect input of a frequency into the radio and GA members urged pilots to consider changing frequencies in stages, pausing between each stage to conduct a thorough lookout to ensure that too much time was not spent looking inside the cockpit (**CF5**). In the event the EV97 pilot did see the PA28, albeit late, and managed to take avoiding action (**CF8**).

Turning to the PA28 pilot, they were receiving a Basic Service from Farnborough, although they reported that they remembered it being a busy day they did not recall being in close proximity to any other aircraft. Although the controller did not give specific Traffic Information to the PA28 pilot, they did provide generic information by giving an 'all stations' call, informing pilots that there was a lot of traffic

¹ SERA.3205 Proximity..

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

in the vicinity (**CF4**). The PA28 was also not fitted with any CWS, although in this incident even if it had been it would not have detected the non-squawking EV97. Once again the final remaining barrier to avoiding MAC was see-and-avoid and the Board thought that it was probable that the pilot did not see the EV97 (**CF7**).

Briefly turning to the part that ATC had to play, the PA28 was under a Basic Service and so the Farnborough controller was not required to continuously monitor it on radar (**CF1**). Furthermore, the RT transcript shows that the controller was extremely busy and so would be unlikely to have been able to monitor all of the aircraft under their control and spot the non-squawking Skyrainger (**CF2**). That being said, they did provide generic Traffic Information by telling all of the pilots in the Brookmans Park vicinity that there were 'multiple contacts' in the area and the Board thought that there was little more they could have done in the circumstances.

In determining the risk, the Board discussed that the separation described by the Skyrainger pilot was probably largely due to startle factor, in that the pilot had looked out of the cockpit and had seen the PA28 looming towards them. However, given that the radar indicated that there was only around 0.1NM separation and the PA28 pilot had not seen the Skyrainger, they thought that this had been a risk bearing encounter. Accordingly, they assessed the event as Risk Category B, safety not assured.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2020103			
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
2	Human Factors	• Distraction - Job Related	Controller engaged in other tasks
Flight Elements			
• Tactical Planning and Execution			
3	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate ATS provider
• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
• See and Avoid			
5	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
6	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
8	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk:

B.

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:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Skyranger pilot could have planned to call Farnborough ATC for an ATS.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the PA28 pilot was given generic Traffic Information by the Farnborough controller warning that the Brookmans Park area was very busy.

See and Avoid were assessed as **partially effective** because the Skyranger pilot managed to take late avoiding action.

Airprox Barrier Assessment: 2020103		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]			
	Manning & Equipment	✓	✓	[Green bar to 2.5%]			
	Situational Awareness of the Confliction & Action	!	✓	[Green bar to 15%]			
	Electronic Warning System Operation and Compliance	○	○	[Grey bar to 2.5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 10%]			
	Tactical Planning and Execution	✓	!	[Yellow bar to 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	!	✓	[Yellow bar to 20%]			
	Electronic Warning System Operation and Compliance	○	○	[Grey bar to 15%]			
	See & Avoid	!	!	[Yellow bar to 20%]			
Key: Full Partial None Not Present/Not Assessable Not Used							
Provision	✓	!	✗	○			
Application	✓	!	✗	○	○		
Effectiveness	Green	Yellow	Red	Grey	White	[Red box]	

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).