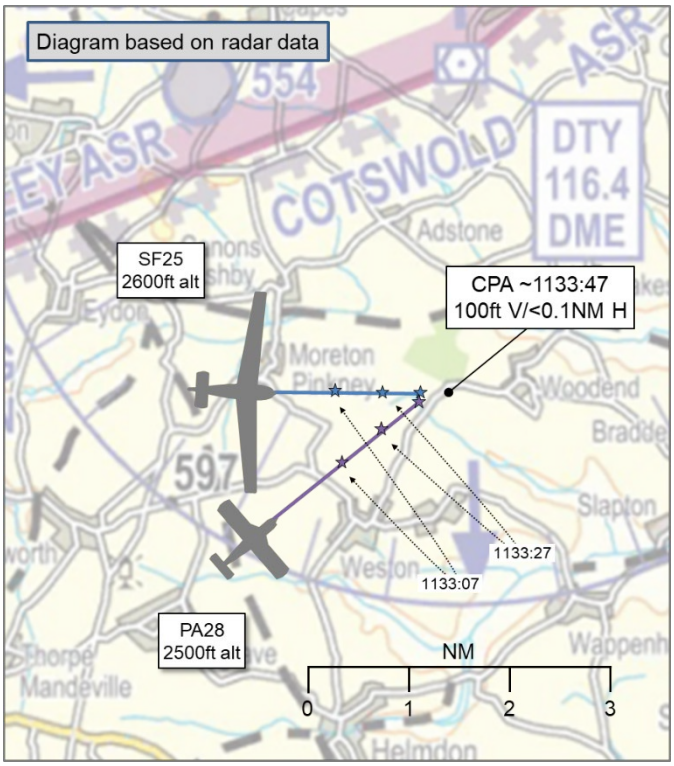
AIRPROX REPORT No 2022271

Date: 06 Dec 2022 Time: ~1134Z Position: 5208N 00107W Location: 3NM S DTY

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	SF25	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Oxford	Oxford
Altitude/FL	2600ft	2500ft
Transponder	A, C, S	A, C
Reported		
Colours	White, Red	NK
Lighting	Strobes	NK
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	2500ft	NK
Altimeter	QNH (1025hPa)	NK
Heading	085°	NK
Speed	80kt	NK
ACAS/TAS	Not fitted	Unknown
Alert	N/A	None
Separation at CPA		
Reported	25ft V/100m H	NR
Recorded	100ft V/<0.1NM H	



THE SF25 PILOT reports that this Airprox was reported by the Instructor as told to them by the student on landing. The student pilot flew a mini nav-ex, the student reported on landing that they had had a close encounter with an overtaking aircraft on the Chipping Warden - Banbury leg. The student saw the aircraft starboard abeam and overtaking at co-alt, they described it as low-wing, single-engined, possibly maroon in colour. They took avoiding action by making a slight left-turn and descending.

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

THE PA28(1) PILOT reports they were conducting a ferry flight and tracking the DTY 063° radial at 3000ft, the aircraft reporting the Airprox was not seen. They noted that there was another ferry pilot flying behind and to the south of them, who reported seeing the SF25 to the north of them, they were on a Basic Service with Oxford and were not given any avoiding instructions, they reported passing the SF25 without needing to make any course corrections, crossing slightly to the north and they waved as they passed.

UKAB Secretariat Note: Although it was first thought PA28(1) was involved in the Airprox, it later transpired the second PA28 was in fact the subject aircraft. Despite requests from the UKAB Secretariat, the second pilot chose not to submit a report.

THE OXFORD CONTROLLER reports that they were informed about the Airprox some time after the event and had no recollection of the incident.

Factual Background

The weather at Oxford was recorded as follows:

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METAR EGTK 061120Z 35007KT 9999 FEW035 05/02 Q1025=
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Analysis and Investigation

Oxford Occurrence Investigation

This Airprox occurred during medium traffic levels. Student [SF25 C/S] first made contact with Oxford at 1116 requesting a Basic Service for a flight with a routing via Upper Heyford and Banbury at altitude 2400ft. [PA28(2) C/S] first made contact with Oxford Radar at 1123 and was also allocated with a Basic Service.

The two aircraft continued to operate under a Basic Service whilst the Oxford Radar controller handled a varied mixture of IFR and VFR aircraft, some of which were in receipt of radar services. Prior to the Airprox [PA28(2) C/S] had been operating on a consistent track which was predominantly easterly, [SF25 C/S] was operating on a consistent east/north-easterly track with the aircraft slowly converging, CPA occurred approximately 2 miles south of DTY with the aircraft indicating 2500-2600ft at 1134.

Both aircraft had been operating under a Basic Service at the time of this Airprox. [SF25 C/S] had requested, and been allocated with, a Basic Service which was readback by the crew. [PA28(2) C/S] first made contact with Oxford stating, "[C/S], Basic, over", details were taken by the controller and the aircraft allocated a Basic Service. This service wasn't read back by the crew, however, as this was the service requested on first contact, it's unlikely that there was any ambiguity in what service the crew felt they were in receipt of. It should therefore be remembered that as per CAP774 the pilot should not expect any form of Traffic Information from a controller under this service and that whether Traffic Information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.

The two aircraft had free-called Oxford Radar for a service, [SF25 C/S] had been on frequency for approximately 18min and [PA28(2) C/S] on frequency approximately 11min prior to the CPA. The Oxford controller hadn't received any significant position/levels updates from either pilot in the time leading up to the Airprox and so couldn't realistically be expected to know that the aircraft at the time were flying in such close proximity to each other and thus even generic Traffic Information would have been difficult to pass appropriately.

Likewise, even though the controller had access to surveillance-derived information it was noted again that both aircraft were operating under a Basic Service and thus the controller wasn't required to identify nor monitor the flight. The CPA occurred whilst the Oxford Radar controller was in the process of transferring an aircraft (who was operating on a Traffic Service) to London Control, and prior to the CPA the controller was in the process of allocating a service to aircraft departing Oxford and so it's understandable why the controller didn't spot the confliction.

It was noted as part of the investigation that the radar's short term conflict alert did trigger when these two aircraft were in close proximity. On discussion with the other unit assessors it is understood that to the best of the unit's knowledge the STCA was disabled on the initial installation of the radar (in excess of 10 years ago). That said, short term conflict alerts had been observed on the radar display despite STCA not being enabled. This was reported by ATC to engineering, on discussions with controllers since this time the STCAs observed had been deemed to be 'nuisance' advisories, seemingly showing when aircraft weren't in positions that would usually be deemed to be a collision risk. It was unanimously agreed that STCAs in the busy Class G environment that surrounds Oxford would act as a source of distraction, rather than enhancing safety in any significant way.

As these aircraft are not Oxford-based, it was not known whether they were equipped with TCAS or any other form of electronic conspicuity.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The SF25 could be identified on the radar using Mode S information, indicating 2700ft (radar QNH 1024hPa). At first it was believed that PA28(1) was the aircraft involved in the Airprox, due to it being maroon and white in colour, as reported by the SF25 pilot. However, following further analysis this aircraft could be identified, using Mode S information, and discounted as it crossed some miles ahead of the SF25, Figure 1. PA28(2) could be identified on the NATS radar via the Oxford squawk and their subsequent landing time. PA28(2) was indicating an altitude of 2600ft.

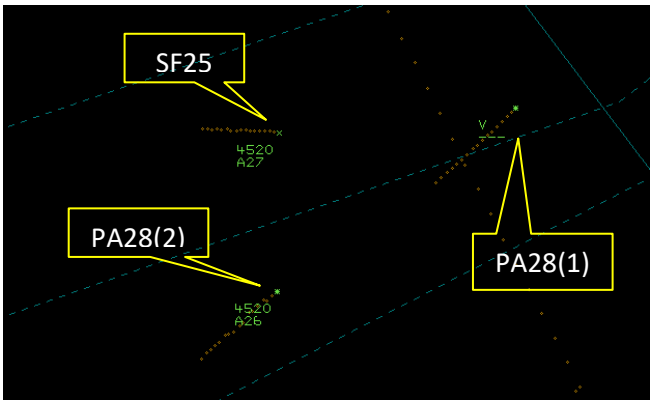

Figure 1 – 1131:19

The two aircraft continued to close until 1133:47 when they were 0.1NM and 100ft apart Figure 2.

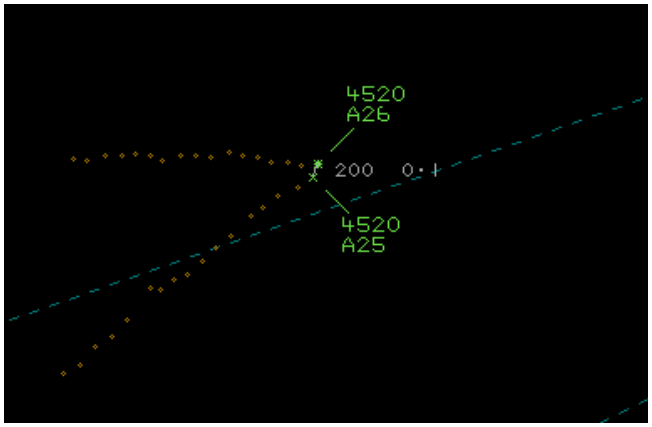

Figure 2 – Radar CPA 1133:47

The PA28(2) then disappeared from the radar until 1134:55 when it re-appeared in SSR only, now wearing a VFR (7000) squawk, to the northeast of the SF25, it is therefore probable that the two aircraft were closer than radar CPA would indicate.

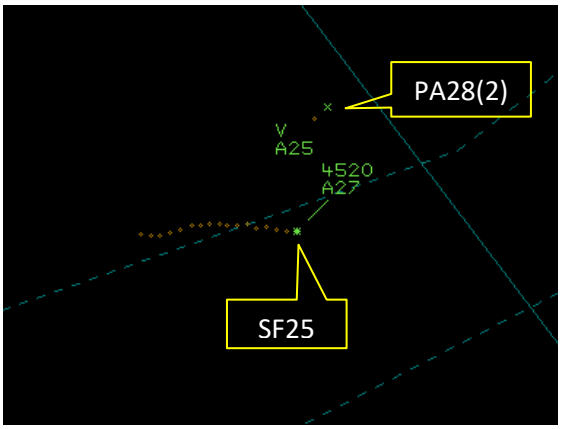

Figure 3 – 1134:55

The SF25 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 overtaking then the SF25 pilot had right of way and the PA28 pilot was required to keep out of the way of the other aircraft by altering course to the right.[2]

Summary

An Airprox was reported when an SF25 and a PA28 flew into proximity 3NM south DTY at around 1134Z on Tuesday 6th December 2022. Both pilots were operating under VFR in VMC, both were in receipt of a Basic Service from Oxford Radar.

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 controllers 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.

The Board first looked at the actions of the SF25 pilot. The pilot had been receiving a Basic Service from Oxford and had called before the PA28 had called on the frequency; noting that it was possible to gain situational awareness from other pilots calling on the frequency, members agreed that this had probably been too difficult for a student on a solo nav-ex. Nevertheless, they also thought that in such circumstances it may have been advantageous to have requested a Traffic Service in order to receive Traffic Information from ATC. Without any such ATS, and without a CWS, the pilot had been without any situational awareness that the PA28 had been in the vicinity (**CF3**). As a student pilot on a nav-ex, the pilot may have been focused on navigation and finding their turning points and whilst this could have been detrimental to the pilot's lookout, members noted that the PA28 had been approaching from behind and therefore would have been obscured to the SF25 pilot until the last moment (**CF6**), resulting in a late sighting (**CF4**). Notwithstanding that the student may not have known how to report an Airprox, the Board wished to highlight to pilots that calling an Airprox on frequency alerts ATC and ensures the necessary action can be taken to preserve any data.

Turning to the PA28 pilot, the Board was disappointed that, despite requests, the pilot had chosen not to participate in the Airprox process. They noted from the pilot's report from the accompanying PA28, that the Airprox PA28 pilot had reported being visual with the SF25 as they had overtaken it. The Board therefore concluded that the PA28 pilot, having seen the SF25, had probably assessed that they would have passed by without needing to take action. However, the SF25 had right of way and it had been for the PA28 pilot to remain out of the way until clear. Members cautioned against not leaving a sufficient margin of separation to allow for any unexpected manoeuvring from the other pilot. In this case, with a separation – as measured on radar – of less than 100ft and less than 0.1NM, they thought that the PA28 pilot had not remained clear of the SF25 by a sufficient margin (**CF2**, **CF5**). Again, via the other PA28 pilot, members heard that the pilot had reported not receiving any Traffic Information from ATC, they reiterated that when providing a Basic Service ATC is not required to provide Traffic Information and is not required to monitor the aircraft either; pilots requiring Traffic information should request a Traffic Service.

The Board then looked at the role of ATC. Whilst cognisant that the controller had not been required to monitor the two aircraft on a Basic Service (**CF1**), and noting that the Oxford investigation reported that the controller had been busy with other aircraft, nevertheless, some controlling members thought that the controller could have been expected to notice that two aircraft, both displaying squawks allocated by that controller, were in close proximity. Furthermore, they were surprised that the unexpected STCA, even if deemed to be a 'nuisance alarm', had not drawn the controller's attention to the area.

Finally, the Board discussed the risk of collision. In making their assessment they considered the pilots' and controller's reports, together with the radar data. Some members thought that the late sighting by

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

the SF25 pilot and minimal separation when overtaking by the PA28 pilot, meant that there had been a risk of collision. However, others countered that that the SF25 pilot had not been expecting to see the PA28 as it approached from behind, and had probably been startled by its sudden appearance and that given that the PA28 pilot had been visual, there had been no risk of collision. The latter view prevailed and the Board agreed that, although there had been no risk of collision, safety had been degraded; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022271			
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			
2	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
	• 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, inaccurate 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
5	Human Factors	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
6	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: C.

Safety Barrier Assessment[3]

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 the Oxford controller had not been required to monitor the aircraft receiving a Basic Service.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot had not overtaken the SF25 by a sufficient margin.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the SF25 pilot had not had any prior situational awareness that the PA28 was in the vicinity.

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

See and Avoid were assessed as **partially effective** because the PA28 had not overtaken by a sufficient margin and it had been a late sighting by the SF25 pilot.