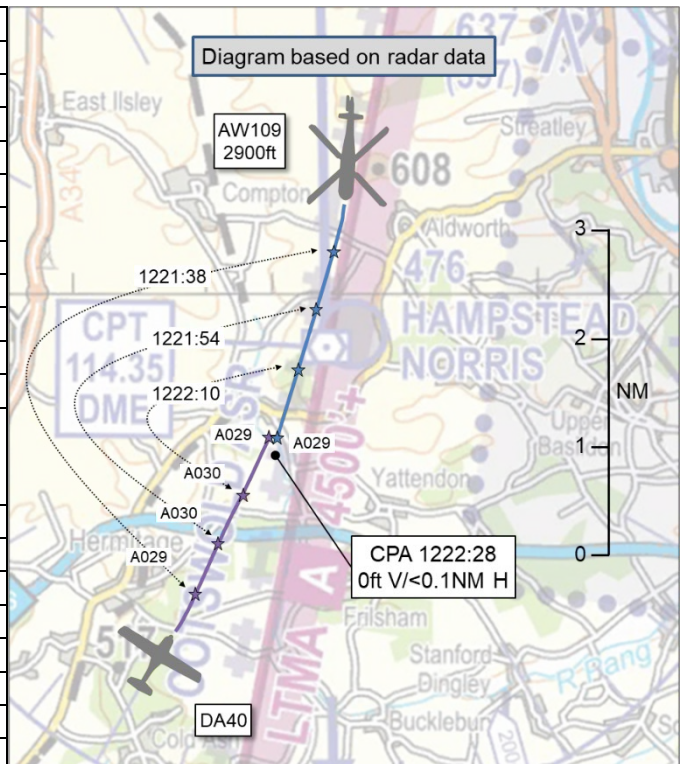


AIRPROX REPORT No 2023167

Date: 04 Aug 2023 Time: 1222Z Position: 5129N 00114W Location: 1NM SSW CPT

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AW109	DA40
Operator	Civ Helo	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Establishing contact	Establishing contact
Provider	Farnborough LARS	Oxford Radar
Altitude/FL	2900ft	2900ft
Transponder	A, C, S	A, C, S+
Reported		
Colours	Grey	White, light blue
Lighting	Landing, anti-col, position	Landing, taxi, nav, anti-col, HISL, strobes
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	3000ft	3000ft
Altimeter	QNH (1018hPa)	QNH (1018hPa)
Heading	"south"	010°
Speed	120kt	115kt
ACAS/TAS	TAS	Not fitted
Separation at CPA		
Reported	0ft V/15m H	150ft V/100m H
Recorded	0ft V/<0.1NM H	



THE AW109 PILOT reports that they were on an IR training flight for vectored ILS approaches. The planned route was via CPT and SAM. They had just passed CPT, and on track to SAM, when the incident occurred. They had changed frequency from Oxford (who had been providing a Traffic Service) to Farnborough, but were not in receipt of any service [at that time], having been told to ‘standby’.

[The pilot of the AW109] was the instructor occupying the left seat, and the student in the right seat was undergoing IR training and wearing goggles to restrict their external view. Completely unexpectedly, they saw a white DA40 aircraft at very close range in the 2 o'clock position. It had been shielded by the centre windscreen structure and the instrument coaming. It was extremely close and appeared to be pitching and rolling away from them. The conflicting aircraft was not seen until the very last moment and there was no time to take any avoiding action. They called Farnborough again, were told to ‘standby’ again. They persisted, explained briefly that there had been an Airprox and that they would be filing a report. The controller acknowledged and offered a Traffic Service for the rest of the time they were on frequency.

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

THE DA40 PILOT reports that they passed in close proximity to a helicopter. Tracking towards CPT VOR/DME, they had spoken to Oxford, collected a squawk, but had not yet been identified on radar. The helicopter was slightly above and to the right-hand side and they turned away, to the left, to avoid it.

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

THE FARNBOROUGH LARS W CONTROLLER reports that they were working Farnborough LARS West, Approach and Zone band-boxed. Approach had been split off but, due to no pending approach

traffic for the next 30min and light traffic on LARS, they suggested band-boxing the sectors to help with breaks.

Traffic levels and workload remained low for around 20min before the traffic on LARS started to build quite quickly with requests for Traffic Services and zone transits. At the same time, they started to get a stream of about 6-7 inbounds appearing on their EFPS display, all estimating for around 25min time. There was no imminent approach traffic so they were happy continuing band-boxed with the plan to split off Approach again when a colleague would return from their break in 10min. Workload became pretty continuous, edging towards high, with medium-to-heavy traffic on LARS.

Their colleague returned and was getting ready to split the sector when [the pilot of the AW109] reported on frequency and requested a Traffic Service. Their details were taken and they were issued with a squawk of 0431. They had reported they were just north of CPT, so the [Farnborough controller] looked on the radar and saw a corresponding return. Clicking on it, they could see that it was [the AW109] from the Mode S data, and highlighted it ready to give the pilot a Traffic Service. When they selected their squawk, and were identified, the [Farnborough controller] then proceeded to start the handover to split the sector which took quite a while due to the number of items needed to cover, such as non-standard separation with Odiham, radars out of service and unusual wind direction/weather.

At one point during the handover they noticed that [the AW109] that had been highlighted was merging with another contact overhead CPT, but they could not see the altitude on the other contact. They had already merged so it would have been too late to call traffic in any case. Just as they were completing the handover, [the pilot of the AW109] reported something that sounded like "*immediate*" or "*imminent*" which they did not understand so asked them to say it again. The [pilot of the AW109] repeated it and [the Farnborough controller] thought they may have then mentioned 'Airprox'. It was acknowledged and they took down the details that the pilot passed.

[The pilot of the AW109] reported that it was a DA40 at the same level, about 30ft away from them, overhead CPT. [The pilot of the AW109] also reported that they had no TCAS.

[The AW109] had not been identified at the time of the Airprox and [the pilot] had not been issued with a Traffic Service, although they had requested one on first contact. This was due to them not having selected their squawk at the time that the handover to split the sector had started. Although it was a busy time to split the sector, they were aware of the need to split in good time before the inbounds would start to arrive in the next 10min.

THE OXFORD CONTROLLER reports that they were the Oxford Airport Radar ATCO when a phone call was received by the Radar ATCA from Farnborough LARS. The Farnborough LARS ATCO stated that [the pilot of the AW109] had reported an Airprox with [the DA40] in the vicinity of CPT.

[The pilot of the AW109] had [previously been in receipt of] a Traffic Service from [the Oxford controller] but had left the frequency approximately 8NM to the north of CPT to change to Farnborough.

[The pilot of the DA40] was on the [Oxford] frequency and had been given a discrete squawk but was not yet under a service due to their range from Oxford Airport.

Factual Background

The weather at Benson was recorded as follows:

METAR EGUB 041220Z 30008KT 9999 FEW030 BKN037 17/11 Q1018 NOSIG RMK BLU BLU

Analysis and Investigation

NATS FARNBOROUGH UNIT INVESTIGATION

[The pilot of the AW109] called on frequency at 1219:22 reporting at 3000ft (the Mode C at the time indicated 2900ft) and requested a Traffic Service with LARS West. Workload was medium-to-high,

and the controller was in the middle of a long handover to split the sectors when [the AW109], with squawk 0431, was observed to have merged with the DA40, with squawk 4504 at CPT.

Transcript and radar recordings below:



Figure 1 - 1221:52



Figure 2 - 1222:28. AW109 and DA40 at the closest point.

- 1222:36 (AW109 pilot) *"Farnborough Radar descend two five immediate"*
- 12:22:38 (Radar controller) *"Uh just standby"*
- 12:22:39 (AW109 pilot) *"Uh immediate"*
- 12:22:42 (Radar controller) *"Sorry say again"*
- 12:22:44 (AW109 pilot) *"It's an immediate Airprox please"*



Figure 3 - 1222:44. The pilot of the AW109 reported an Airprox.

- 1222:49 (Radar controller) *"Okay I'll be back with you very shortly"*
- 1223:36 (AW109 pilot) *"Farnborough can we descend to two five"*
- 1223:38 (Radar controller) *"Descend to two five, sorry, I was splitting the sector. I can get back to you now"*
- 1223:40 (AW109 pilot) *"I'd like to report an Airprox please on a DA40, distance between us probably about 30ft, we were heading north he was heading south, we have no TCAS had no visual of him and obviously we didn't get a Traffic Service because you were busy."*
- 1223:57 (Radar controller) *"Roger that's all copied. I'll get that all filed now and yeh we were busy splitting the sector and it suddenly got very busy, so you are identified as Traffic Service."*

The radar and RT recordings were reviewed. Farnborough LARS West, Approach and Zone were band-boxed at the time in medium-to-heavy traffic levels. The controller report stated they were aware that multiple Farnborough IFR arrivals were due in approximately 15min, and they wanted to split the sector early in anticipation of the increased workload. Due to multiple interruptions and several non-standard items of relevance, the handover was longer than usual. The controller's 4114 detailed *"I then proceeded to start the handover to split the sector which took quite a while due to the number of items needed to cover such as non-standard separation with Odiham, radars out of service and unusual wind direction/weather."*

The NATS4118 form further detailed, 'The controller stated they were aware that multiple Farnborough IFR arrivals were due in approximately 15min, and they wanted to split the sector early in anticipation of the increased workload. The handover was commenced at 1220:20 as a colleague returned from a break, and due to multiple interruptions and several non-standard items of relevance, the handover was longer than usual as detailed in the controller's 4114 form, finishing at 1222:43.'

The controller was getting ready to split the sector when [the pilot of the AW109] reported on frequency north of CPT requesting a Traffic Service. The controller issued a squawk of 0431 at first contact which was read-back by [the pilot of the AW109], but they were not identified, and a service had not been agreed between the pilot and controller.

The controller's report stated *"Clicking on it I could see that this was [the AW109] from their Mode S and highlighted them ready to give them a Traffic Service when they selected their squawk and were identified. At one point during the handover, I noticed that [the pilot of the AW109], who I had highlighted, was merging with another contact overhead CPT, but I could not see the altitude on the other contact, and they had already merged so it would have been too late to call traffic in any case"*.

[The pilot of the AW109] reported an Airprox at 1222 overhead CPT. The pilot of [the AW109] advised that the aircraft was an opposite direction, northbound DA40, and that there had been 30ft between them.

OXFORD AIRPORT INVESTIGATION

Oxford was operating with a single Radar controller aided by a Radar ATCA. Staffing had allowed for the Director/RAD2 position to have been manned had it been deemed necessary. In the time surrounding the Airprox, the Oxford Radar controller had been working in moderate traffic conditions but with heightened complexity owing to increased co-ordination demands in regard to attempting to organise Brize Norton transits and Oxford ATZ transits. There was also increased workload with [an uninvolved pilot] operating VFR in the fixed-wing circuit at Oxford but wishing to activate their IFR flight plan (a procedure which is non-standard at Oxford).

[The pilot of the AW109] had tracked south, towards CPT, operating under a Traffic Service from Oxford Radar.

At 1218, whilst approximately four miles west of Benson aerodrome, the [AW109] pilot requested a change of frequency to Farnborough LARS. The pilot was instructed by the Oxford Radar controller to 'squawk conspicuity' and to free-call Farnborough. Shortly after this, the aircraft was seen to have been squawking 2000, then, at time 1220, the squawk momentarily changed to 0140 and then settled on 0431. It is therefore inferred that around this time the crew was in receipt of a service from Farnborough LARS.

[The pilot of the DA40] first made contact with the Oxford Radar controller at 1221, whilst approximately 3 miles southwest of CPT. The Oxford Radar controller acknowledged their call, allocated a discrete squawk of 4504, and obtained the aircraft's level. No service was allocated at that time.

Immediately after the initial interaction between [the pilot of the DA40] and Oxford Radar, the Oxford Radar controller engaged in a phone conversation with the Oxford Tower controller regarding a departure release. At that moment in time, the controller's workload would likely be considered as moderate moving towards high. Post event, it was noted and highlighted to the controller involved that (with the benefit of hindsight) had Director/RAD2 been opened prior to this incident that [the pilot of the DA40] would have been identified, placed under their requested service (Traffic Service) and Traffic Information passed on the presence of [the AW109] which may have aided in the crew's situational awareness.

The CPA between [the AW109] and [the DA40] occurred to the south of CPT at 1222:27, the radar returns merged with [the DA40] Mode C reading A030 and [the AW109] Mode C indicating A029. At the time of the CPA, [the pilot of the DA40] (although on a squawk allocated by Oxford) was not in receipt of a service from Oxford Radar. [The pilot of the AW109] had been in receipt of a Traffic Service from Oxford Radar, however, they had left the frequency to contact Farnborough some 4min prior to the CPA.

The Oxford Radar controller identified, and issued [the pilot of the DA40] with a Traffic Service at 1225. No reference was made by the crew of [the DA40] of an Airprox occurrence. The controller did, however, specify "*reduced traffic information*", due to "*controller workload*", highlighting their awareness of increased workload.

Conclusion: At 1222, an Airprox occurred between [the AW109] and [the DA40] in the vicinity of CPT. Neither aircraft was, at the time, in receipt of a service from Oxford. [The pilot of the AW109] was believed to have been in receipt of a service from Farnborough LARS, whereas [the pilot of the DA40] had been issued with a discrete squawk from Oxford Radar, however, they had not yet been identified nor placed under a service.



Figure 4 - 1221:28. Radar display as seen by the Oxford controller.

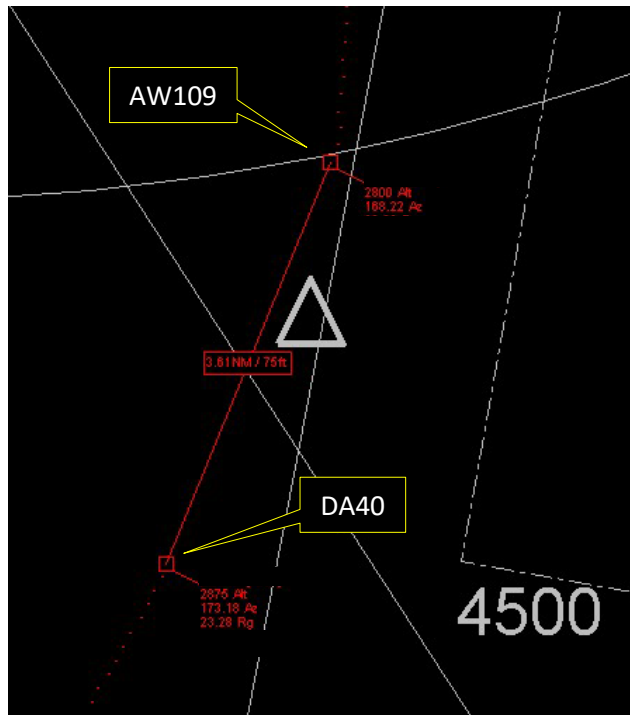


Figure 5 - 1221:37. Raw data not available to the controller. Separation displayed as 75ft V/ 3.6NM H.



Figure 6 - 1222:26. Radar display as seen by the Oxford controller.

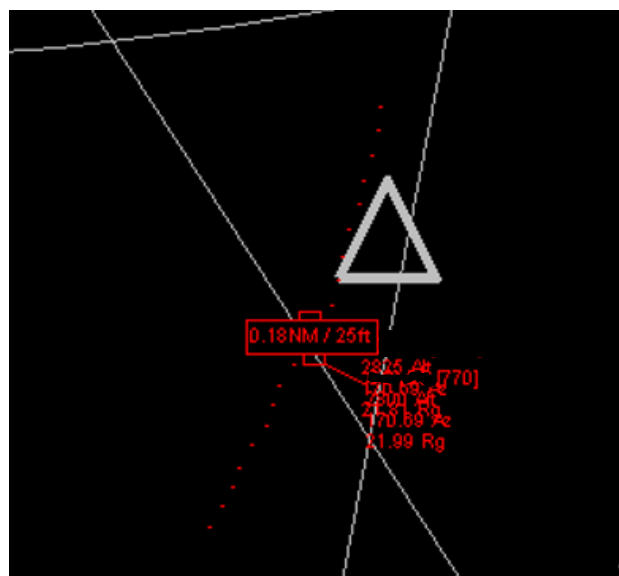


Figure 7 - 1222:31 (after CPA).
Raw data not available to the controller. Separation displayed as 25ft V/0.18NM H.

Summary: [The Oxford Airport investigator] is content that there was no Oxford ATCO involvement, or contributory factors, to the event as the only RT exchange at the time was a check-in on frequency requesting a Traffic Service, and a squawk allocation to [the pilot of the DA40]. The ATCO hadn't seen the discrete squawk, or offered any service, by time the aircraft passed each other. As soon as the ATCO had capacity to ident and offer a service to [the pilot of the DA40], they did, which was several minutes later and the [DA40] was approximately 5-6 miles north of CPT at that time.

CAA ATSI

ATSI firstly looked at whether Traffic Information should have been passed to the pilot of the AW109 on the DA40 before changing frequency. Having reviewed the radar replay, it was noted that, at 1218, when the AW109 pilot requested to change frequency, the DA40 was 18NM to the south, and therefore would not have been considered relevant traffic.

ATSI next considered whether Traffic Information should have been passed by the Oxford controller to the pilot of the DA40 on the AW109, and accept the findings in Oxford Airport's investigation report that, at the time, the Oxford controller had not identified the aircraft, nor had placed it on a service, and then was immediately engaged with other tasks.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. It was determined that CPA occurred between the radar sweeps of 1222:26 (Figure 8) and 1222:30 (Figure 9). The diagram was constructed and the separation at CPA determined from the radar data.

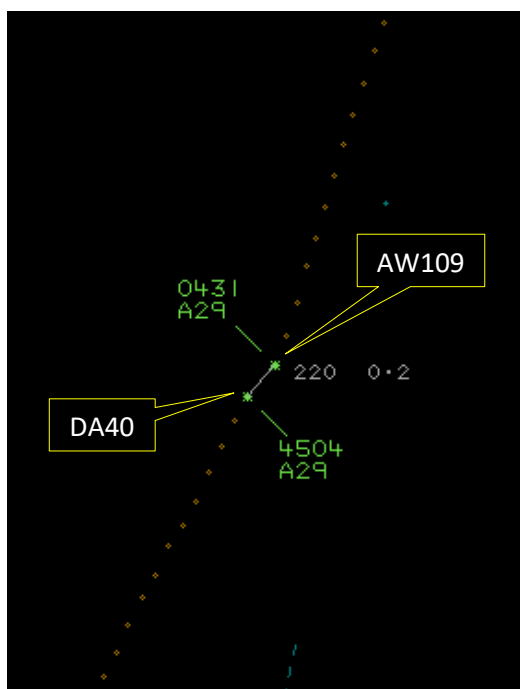


Figure 8 - 1222:26

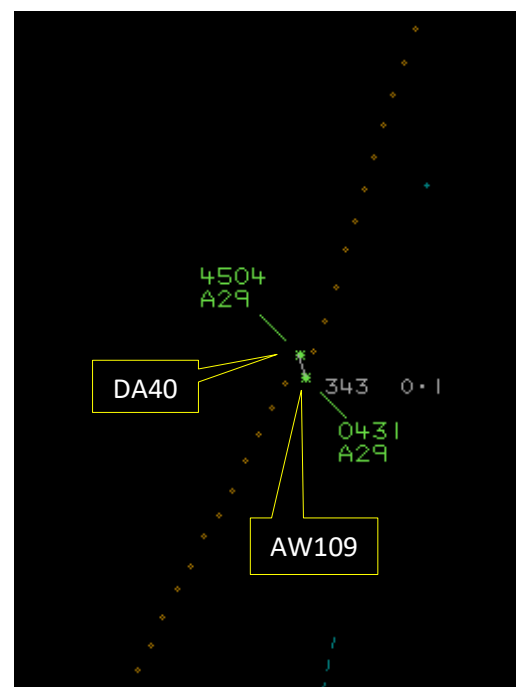


Figure 9 - 1222:30

The AW109 and DA40 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

¹ (UK) SERA.3205 Proximity.

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

Summary

An Airprox was reported when an AW109 and a DA40 flew into proximity 1NM south-southwest of the CPT VOR at 1222Z on Friday 4th August 2023. The pilot of the AW109 had been operating under IFR in VMC, establishing contact with Farnborough LARS W. The pilot of the DA40 had been operating under VFR in VMC, establishing contact with 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 considered the ground elements, and turned their attention to the actions of the Farnborough controller. The matter of the band-boxed frequencies, and the timing of the plan to split the frequencies into the constituent sectors, was pondered. A member with particular knowledge of Air Traffic Control operations explained to members that a decision to band-box frequencies would be taken when traffic levels were low, and that this would allow for rostered controllers to attend to other tasks or to take the requisite rest periods throughout their duty-period. A decision to split the frequencies would be considered carefully, and would subsequently involve a 'handover' period for the incoming controller.

An advisor with particular knowledge of Air Traffic Management principles commented that the provision of LARS does not necessarily represent a managed traffic scenario. Additionally, the number of pilots that might contact a LARS provider at any particular time cannot be predicted. From the controller's perspective, such traffic is considered pop-up traffic, and any scheduled IFR arrivals would be considered as a priority for the controller's attention.

Members noted that, on the day in question, IFR flights had been scheduled to have arrived and that the decision to have split the frequencies had been enacted 15min earlier in preparation of the increased workload.

Members agreed that the decision to have split the frequencies at that particular moment had been reasonable. However, members also agreed that the unpredicted, and unpredictable, contact made by the pilot of the AW109 had occurred during the subsequent handover period. Members agreed that the delay between the AW109 pilot's initial radio call, and the subsequent agreement of a service (after CPA) had been unfortunate. Members concluded that the scheduling of the controllers at the Farnborough ATC unit had not optimally contended with the volume of requests for an ATS (**CF1**).

Members noted that, although the AW109 pilot had been assigned a squawk upon initial contact, the Farnborough controller had not formally identified the AW109 on their radar screen and had not agreed a service. As such, members were in agreement that the Farnborough controller had not had situational awareness of the AW109 (**CF4**). Members considered the STCA that had been operational at the Farnborough unit. A member with particular knowledge of such systems explained that the squawk code assigned to the AW109 pilot (and indeed the squawk code that had been assigned by the Oxford controller to the DA40 pilot) had been excluded from the select-frame and that the STCA would not have been expected to have provided an alert (**CF5**). It was agreed that whilst the controller had been engaged in the handover (**CF3**), the conflict between the AW109 and the DA40 had not been detected (**CF2**).

Members turned their attention to the actions of the Oxford controller, and noted that they had been contacted by the pilot of the DA40 when they had been approximately 24NM south of Oxford Airport. It was also noted that, subsequent to that initial contact, and the issuance of a squawk code to the DA40 pilot, the Oxford controller had immediately engaged in a task that they had considered to have been of higher priority (**CF3**).

Members reviewed the investigation report provided by the Oxford Airport unit, and noted that the Oxford controller's workload had increased from moderate to high. Members recalled their comments regarding the AW109 pilot and the Farnborough controller, and noted that a curiously similar set of circumstances had occurred between the pilot of the DA40 and the Oxford controller. Again, members noted that, although the DA40 pilot had been assigned a squawk upon initial contact, the Oxford controller had not identified the DA40 on their radar screen and had not agreed a service. Members were in agreement that the Oxford controller had not had situational awareness of the DA40 (CF4) and agreed that the conflict between the DA40 and the AW109 had not been detected (CF2). In consideration of the delay between the DA40 pilot's initial contact, and the subsequent agreement of a service, members assessed that the scheduling of the controllers at the Oxford Airport unit had not optimally contended with the volume of requests for an ATS (CF1).

Members next considered the flight elements, and turned their attention to the TAS fitted to the AW109. It was agreed that it would have been expected to have provided an alert to the presence of the DA40, however, no alert was reported by the AW109 pilot (CF8). Members were in agreement that the pilot of the AW109 had not had situational awareness of the presence of the DA40 until it had been visually acquired (CF7). Members noted that the instructor, positioned in the left-hand seat, reported that their view of the DA40 had been obscured by the windscreen pillar of the aircraft (CF11). The student, positioned in the right-hand seat, had been wearing vision-limiting goggles for the purpose of instrument training. Members agreed that to have sighted the DA40 at such close quarters that it had not been possible to have taken avoiding action effectively constituted a non-sighting (CF10).

The Board next considered the actions of the pilot of the DA40. It was noted that the narrative report that the pilot had provided had not included many details of the encounter for the members to consider. Nevertheless, it was apparent from other information available that the pilot of the DA40 had conducted a flight towards the CPT VOR and had made contact with the Oxford controller at approximately 1221. Members pondered the timing of the radio call to the Oxford controller and agreed that the pilot of the DA40 had been approximately 3NM south-west of CPT, and approximately 24NM south of Oxford Airport, when the transmission had been made.

Members considered the prudence of tracking over, or very close to, a significant navigation point, given that such points would have inevitably attracted other pilots attempting to do the same. It would therefore have been very reasonable to have expected other traffic in the vicinity. Members wished to emphasise the imperative for increased vigilance and to have maintained a very thorough and effective lookout. It was appreciated by members that, under the conditions of the instrument training flight conducted by the pilot of the AW109, the purpose of the flight had been for the student to demonstrate the accuracy of their navigation, and that to have passed in close proximity to the CPT VOR had been necessary.

Returning to the consideration of the DA40 pilot's planned route, some members suggested that it had not been prudent for them to have planned to have tuned their radio to the frequency of a service provider located 24NM away. Members agreed that had sufficient consideration been given to the likelihood of encountering traffic in the environs of the CPT VOR during the DA40 pilot's pre-flight preparation, the potential shortcomings of such a plan may have been identified (CF6). Some members also suggested that changing frequency at that particular moment had introduced an unnecessary increase in cockpit workload at a moment where the pilot's attention may have been better focussed on a more thorough lookout. Further, and notwithstanding that the Oxford controller may not have been able to offer a service at such range, or had been too busy to have attended immediately to a request for service provision (as had been the case), members felt that a more appropriate service could have been selected.

Members noted that the DA40 had not been fitted with an additional EC device and, without there having been a common radio frequency in use between the pilots, members agreed that the pilot of the DA40 had not had any situational awareness of the presence of the AW109 (CF7) until it had been visually acquired. Members were in agreement that the DA40 pilot had visually acquired the AW109 late (CF9) but that they had taken some avoiding action at the last moment to have increased the separation between the aircraft.

Concluding their discussion, members agreed that neither pilot had had situational awareness of the other aircraft, and that both pilots had tracked towards a popular navigation point in particularly congested airspace. Neither the Oxford controller, nor the Farnborough controller, had agreed ATS provision. Additionally, the squawk codes allocated to each pilot had not been in the select-frame for the STCA in use at the Farnborough unit. Members were in agreement that there had been a serious risk of collision (**CF12**) and, despite the last-minute avoiding action taken by the pilot of the DA40, the separation between the aircraft had reduced to the bare minimum, which stopped short of an actual collision because providence had played a major part in events. As such, the Board assigned Risk Category A to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023167				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Manning and Equipment				
1	Organisational	• ATM Staffing and Scheduling	An event related to the planning and scheduling of ATM personnel	
• Situational Awareness and Action				
2	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
3	Human Factors	• Task Monitoring	Events involving an individual or a crew/team not appropriately monitoring their performance of a task	Controller engaged in other tasks
4	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
• Electronic Warning System Operation and Compliance				
5	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
Flight Elements				
• Tactical Planning and Execution				
6	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
• Situational Awareness of the Conflicting Aircraft and Action				
7	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
• Electronic Warning System Operation and Compliance				
8	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
• See and Avoid				
9	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
10	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
11	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
• Outcome Events				
12	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: A.

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:

Manning and Equipment were assessed as **partially effective** because the scheduling of the controllers at the Farnborough and Oxford ATC units had not been optimal for the traffic situation.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the conflict had not been detected by either the Farnborough controller or Oxford controller.

Electronic Warning System Operation and Compliance were assessed as **not used** because the squawk codes assigned to each aircraft had not been included in the select-frame of the STCA in use at the Farnborough unit.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the DA40 had planned their route without having given full consideration to the traffic likely to have been encountered.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had had situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS fitted to the A109 would have been expected to have detected the presence of the DA40 but an alert was not reported.

See and Avoid were assessed as **ineffective** because the pilot of the A109 had not sighted the DA40.

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: 2023167		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 Conflicition & 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							