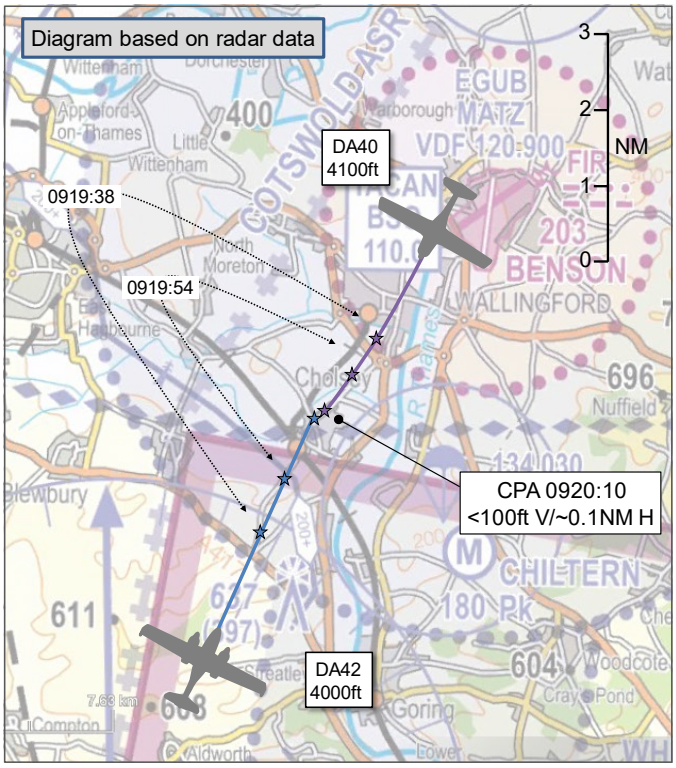
AIRPROX REPORT No 2023038

Date: 03 Apr 2023 Time: 0920Z Position: 5135N 00109W Location: Wallingford, Oxfordshire

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	DA40
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	IFR
Service	Basic	Traffic
Provider	Benson	Farnborough
Altitude/FL	4000ft	4100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White
Lighting	Position, Strobes, Landing	Landing, Nav, Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	4000ft	4000ft
Altimeter	QNH (1030hPa)	QNH
Heading	020°	205°
Speed	160kt	120kt
ACAS/TAS	TAS	PilotAware
Alert	Information	Information
Separation at CPA		
Reported	30ft V/100m H	30ft V/200m H
Recorded	<100ft V/~0.1NM[1] H	



THE DA42 PILOT reports that the aircraft was being flown on a training flight, completing an off-route diversion leg. Autopilot was engaged in HDG and ALT mode. Communication with Farnborough West ATSU was attempted but, due to the congestion and proximity of RAF Benson, a service from Benson Director was requested. Contact was directed to be made with Benson Zone instead with a Basic Service. Whilst enroute from CPT to WCO at 4000ft, the onboard TAS indicated traffic at 1NM at the same level. Both pilots visually searched for the aircraft but only saw it while it was taking a collision avoidance manoeuvre. The estimated CPA was 30ft vertically and 100m horizontally. Benson Zone and Farnborough West were advised of the Airprox. On landing they contacted the pilot of [DA40 C/S] who they knew personally. The other pilot stated that they were flying a reciprocal course WCO to CPT at the same altitude. They also confirmed they saw the lights (not the aircraft) of [the DA42] at a very late stage and took avoiding action. [The DA42 operator] has recently introduced a policy of leaving landing lights on below 10,000ft in order to aid conspicuity. Had the pilot of [the DA40] not reacted quickly there was a strong possibility that a mid-air collision would have occurred. The DA42 pilot noted that they were thankful for the other pilot's quick reactions.

Subsequent to the Airprox report the pilot offered some retrospective thoughts including that it was thought by other company employees that the TAS onboard the DA42 would have shown the conflicting traffic for a period before the audible alert and the pilot wondered whether they had been distracted; having decided to tune to Benson their attention was temporarily diverted to paperwork to locate the frequency. Once initial contact was made, further re-tuning to the Benson Zone frequency was required. They had chosen to fly at 4000ft to remain clear of controlled airspace above and wanting to be above the cloud layer and the Benson 'zone' below. Finally, the student that they were instructing had required intervention earlier in the sortie, which had been tiring by the time the missed approach had been carried

[1] Taken from the Farnborough radar.

out. They noted that the Airprox had affected them and made them question their own actions from a human factors perspective.

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

THE DA40 PILOT reports that they were routing from WCO NDB to CPT VOR when they were advised of traffic in the opposite direction by Farnborough that was indicating similar level but working Benson LARS. They looked outside and checked [CWS] but the contact was intermittent. Just before the traffic was called again, whilst looking out, they instantly saw a landing and taxi light in their 12 o'clock, so they took control and initiated an avoiding turn. About halfway through this turn the conflicting traffic was sighted passing abeam (their right), maintaining straight and level flight. They reported visual with traffic as they were in the avoiding turn. They had been hesitant to initiate any sort of avoidance when the traffic was first called as they were VMC on top of a cloud layer, and there have been cases where they had been about to do this on previous occasions that would have worsened the risk of conflict so, given the conditions, they were keen to sight the traffic. On hearing the pilot report the Airprox to Farnborough they recognised the other pilot and were able to contact them directly after the incident. They noted that they were grateful that a change in the DA42's company procedure involves leaving landing and taxi lights on below 10,000ft - adopted by some flight training organisations. It was the lights they first saw and which enabled them to take appropriate avoiding action.

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

THE BENSON ZONE CONTROLLER reports that they were working 2 Basic Service transits with another Basic Service transit free-calling for MATZ transit. They were providing a service to the DA42, and had picked the aircraft up just southwest of the CPT VOR, at 4000ft. The pilot requested a Basic Service, which was given. They were working another aircraft to the north and had prenoted this to Oxford. Around this time they became aware of a 2000 (IFR conspicuity) squawk tracking south-westerly. In liaison with the ATC Supervisor, they were distracted by the VCCS panel, as they had to dial in the back-up channel for Zone due to an issue with equipment testing. After this, they picked up a free-calling Basic Service transit aircraft wishing to cross the MATZ towards the southeast, whilst simultaneously sending an aircraft to Oxford on their prenoted squawk and frequency. At this point, [DA42 pilot] said they would like to declare an Airprox that they had had in the Benson overhead and requested details of the other aircraft. The only other aircraft around was wearing a Farnborough squawk and was approx. 3NM southwest of [the DA42]. After some initial confusion, they now believed this aircraft to be the 2000 squawk that they had initially seen to the north, now working Farnborough and 3-4NM southwest of the overhead. They spoke to the UT RA/Dir controller and their Trainer and they first became aware of the aircraft when it appeared to them that 2 aircraft were conducting a 'pairs split' at similar altitude. They believed this is when the Airprox took place. They believed that radar contact had been lost on the 2000 squawk for some time, due to the proximity of the aircraft to the radar overhead, however, it should have been visible on SSR. After speaking to Farnborough radar, the details of the 2000 (now 0435) squawk were obtained and passed on landline to [DA42 operator] to be passed on to the aircraft captain. Additionally, Farnborough radar explained that their aircraft was under a Traffic Service and Traffic Information had been passed from 5NM, with the other pilot becoming visual with [the DA42] and manoeuvring to avoid.

The controller perceived the severity of the incident as 'High'.

THE BENSON SUPERVISOR reports that they had been supervising from 0800L. JOTRON radio testing had been notified as happening all morning with no impact on ATC ops, however the checks were preventing UHF frequencies from being used. They were in regular contact with the engineer at the transmitter site throughout the morning, moving between ACR and VCR. They asked to work on the VHF frequencies which would have had an effect on Zone and VCR frequencies. To mitigate, they were in the process of swapping essential frequencies to the MUHF/MVHF channels on VCCS when they were made aware of the Airprox from Zone. The engineer agreed at this point to end the tests for the day as it was clearly an inappropriate time. The Supervisor's interaction with the Zone controller was around the time of the Airprox, although they had made sure to check the controller was not preoccupied before asking to dial in the MVHF on their VCCS panel. They were not made aware of the

Airprox until the Zone controller was informed by the pilot and so did not witness the circumstances. They noted that the controller was an experienced controller, supervisor and private pilot who was not overly challenged by the traffic workload. The nature of a Basic Service meant that, whilst their scan and duty of care was always good, they needed to prioritise other liaison tasks. Farnborough had since informed Benson ATC that their track was visual and sequencing to avoid, so although the sight of the other aircraft would have been a surprise having not been called, the situation was not unsafe. Had the pilot been on a Traffic Service, it still would have been reduced for the Benson overhead and potentially the other aircraft still not called if it had disappeared in poor surveillance cover.

THE FARNBOROUGH CONTROLLER reports that [DA40 C/S] was receiving a Traffic Service at the time of the Airprox. They gave Traffic Information on a contact at 5NM at the same level, 4000ft, opposite direction. At 1.5NM they passed Traffic Information again and the DA40 pilot reported visual with the other aircraft. Several minutes later, RAF Benson phoned to ask for Traffic Information about [the DA40]. They subsequently learnt that [the pilot of] an aircraft RAF Benson had been working reported an Airprox involving the DA40.

Factual Background

The weather at Benson was recorded as follows:

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METAR EGUB 030850Z 03006KT 9999 FEW027 06/04 Q1030 NOSIG RMK BLU BLU=
METAR EGUB 030920Z 02006KT 9999 FEW024 SCT032 07/04 Q1030 NOSIG RMK BLU BLU=
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Analysis and Investigation

Farnborough ATC Investigation

An Airprox was reported outside controlled airspace on LARS West between [DA40 C/S] working Farnborough LARS West under a Traffic Service, with reduced Traffic Information due to ATCO workload, and [DA42 C/S] receiving a service from Benson.

LARS West was operating independently from Approach frequency, but band-boxed with the Farnborough Zone frequency. A pilot-reported Airprox occurred between two aircraft operating outside CAS, one receiving a Traffic Service from LARS West (DA40) and an aircraft working Benson (DA42). The Airprox occurred southwest of Benson by approximately 2.5NM.

At 0916:58 [DA40 C/S] reported onto the LARS freq:

0916:58 – DA40: Erm, [C/S]
0917:04 - ATC: Sorry, I didn't quite get the callsign, say again the callsign slowly.
0917:06 – DA40: [C/S]
0917:08 - ATC: [DA40 C/S], yeah sorry, pass your message
0917:09 – DA40: [C/S] is a Diamond DA40, IFR, 2POB, from [redacted], routing via CPT currently at 4000ft QNH 1031 and erm, 12.2NM north of CPT request a Traffic Service.
0917:29 - ATC: [DA40 C/S] squawk 0435 QNH 1030
0917:34 – DA40: Squawk 0435 QNH 1030 [C/S]
0918:03 - ATC: [DA40 C/S] Confirm your altitude?
0918:07 – DA40: Say again [C/S]
0918:09 - ATC: Just confirm your level
0918:07 – DA40: Erm, 4000ft [C/S]
0918:12 - ATC: [DA40 C/S] Roger Traffic Service. Reduced Traffic Information due to controller workload possible late warning.
09:18:17 – DA40: Reduced Traffic Service [C/S]

Radar data indicated that the pilots were at 5.22NM opposite direction when the following Traffic Information was passed (Figure 1):
0919:07 - ATC: [DA40 C/S] traffic 1 o'clock 5NM opposite direction indicating 4000ft working Benson
0919:12 – DA40: Roger [C/S]

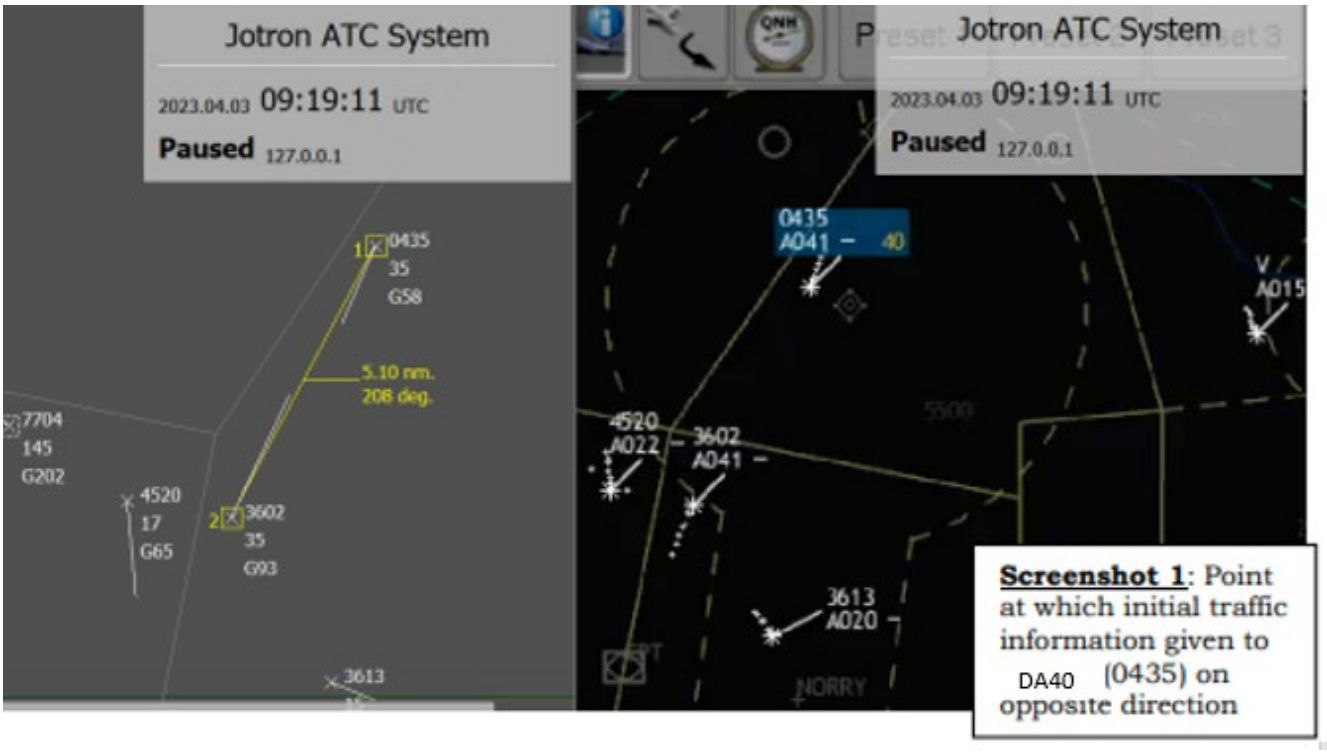

Figure 1

When the radar contacts were 1.15NM, opposite direction, the Traffic Information was updated (Figure 2).

Figure 2

0919:59 - ATC: [DA40 C/S] that traffic is 12 o'clock 1.5NM opposite direction same level.

0920:04 – DA40: In sight [C/S]

The contacts then passed at 0.16NM with the same level indicated Mode C, passing down the right-hand side of each other with [DA40 C/S] tracking south-westerly and [DA42 C/S] tracking north-easterly. This was the minimum observed distance between the two contacts (Figure 3).

Figure 3

Shortly after the event the other aircraft involved called on frequency.
0923:46 – DA42: Farnborough Radar [DA42 C/S]
0923:48 - ATC: Station calling say again callsign and pass your message.
0923:51 – DA42: Good morning, [DA42 C/S] working Benson at the moment, just erm, think was an aircraft with you earlier DA40 [DA40 C/S] probably, just had an Airprox with it, just to give you my details, [DA42 C/S]
0924:10 - ATC: Roger, think that aircraft got visual with you, erm, could you give us a phone call with your details.

Farnborough LARS West was operating as a band-boxed function with Farnborough Zone frequency, the sector was busy, but the workload was at a manageable level as the Zone frequency remained band-boxed with LARS. A further split of sectors was available should it have been necessary.

CAP774 CH3 para 3.1 states:

> A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the pilot remains responsible for collision avoidance.

[DA40 C/S] was in contact with Farnborough LARS who had identified them. They were operating under a Traffic Service, which had been reduced due to controller workload, a warning of 'possible late warning of traffic' had been issued by the ATCO. [DA40 C/S] was operating on the northern boundary of the LARS West sector, which extends from Benson to the south coast, so to issue a

reduction in Traffic Information when aircraft are operating in a busy workload sector on the edge of radar cover is not unusual.

To reduce a Traffic Service due to controller workload is standard as per CAP774 CH1 para 1.5 and 1.11 ATS. Despite the Traffic Service having reduced Traffic Information, the ATCO called the opposite direction contact at the same level twice, once at 5NM and again at 1.5NM and at 0920:04 the DA40 pilot reported the opposite direction traffic in sight.

Military ATM

Utilising occurrence reports and information from the local investigation, outlined below are the key events that preceded the Airprox. Where available they are supported by screenshots to indicate the positions of the relevant aircraft at each stage. The screenshots are taken from NATS radars which are not available to the Benson controllers and therefore they may not be entirely representative of the picture available.

Conducting the Benson Lower Airspace Radar Service task, the Benson Zone controller was operating at a medium to low intensity, providing a Basic Service to two aircraft, whilst receiving a further two free-calls during the Airprox period.

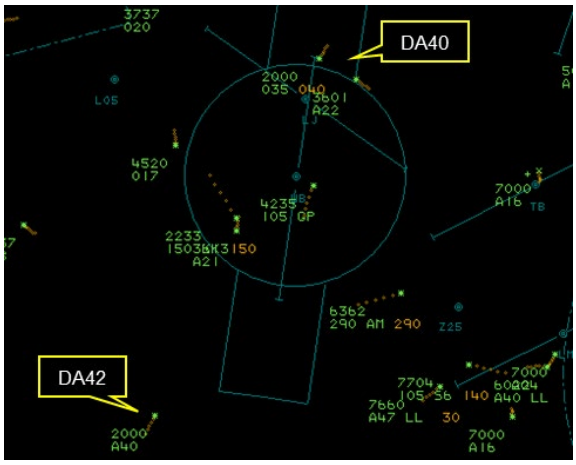

Figure 1 (0916:37). The DA42 contacted the Benson Zone controller.

At 0916:37, the DA42 pilot contacted the Benson Zone controller and requested a Basic Service, to which a Benson SSR code (3602) was issued, and Basic Service applied.

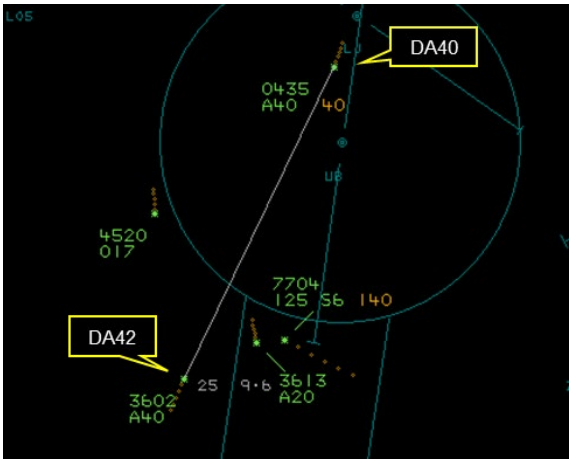

Figure 2 (0918:15). The DA40 SSR code change.
(Separation 9.6NM)

At 0918:35, the DA40 SSR code changed from an IFR Conspicuity SSR code (2000) to a Farnborough LARS West SSR code (0435).

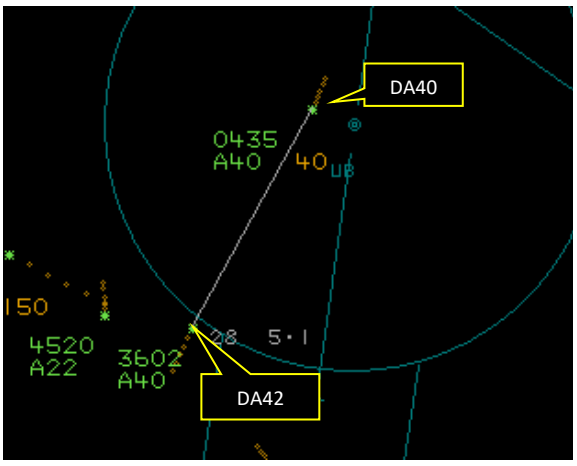

Figure 3 (0919:12). Free-call received by the Benson Zone controller.
(Separation 5.1NM)

At 0919:12, the Benson Zone controller received a free-call for a Basic Service and subsequent MATZ crossing by a microlight to the northeast of RAF Benson.

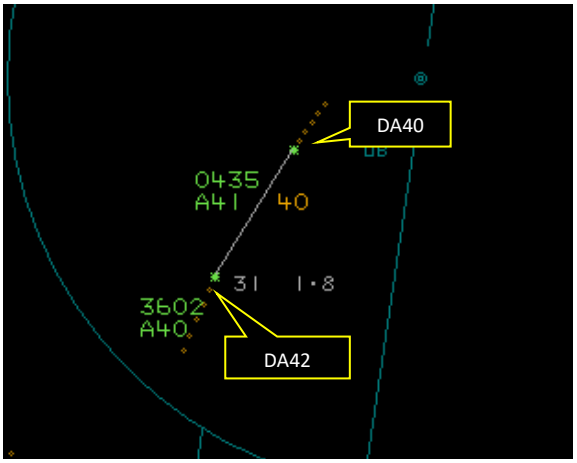

Figure 4 (0919:50). Handover conducted by the Benson Zone controller.
(Separation 1.8NM)

At 0919:50, the Benson Zone controller initiated a handover for an aircraft, previously prenoted, to Oxford Radar.

At 0920:05, the Benson Zone controller responded to the previously received microlight free-call, with Basic Service issued and the QNH passed. No Traffic Information was passed to the DA42 pilot regarding the DA40 by the Benson Zone controller.

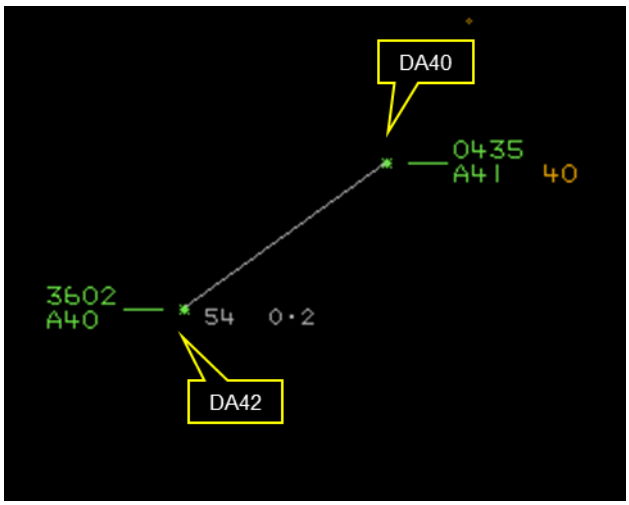

Figure 5 (0920:11): CPA.

CPA [on the NATS area radar] was measured at 0.2NM and 100ft separation.

The local investigation conducted by RAF Benson identified the cause of the Airprox as a loss of safe separation between non-co-operating aircraft due to the DA42 pilot having no awareness of the DA40. Several BM-related causal/aggravating factors were then identified that were believed to have contributed to the Airprox:

a. The Benson Zone controller had observed the DA42 and DA40's relative positions and deemed there to be no definite risk of collision iaw CAP 774 Ch 2 Para 8, therefore no Traffic Information/Warning was passed.

b. During the period preceding the Airprox, both the Benson Zone controller and Benson Supervisor were facilitating radio testing which required repeated re-allocation of ATC frequencies. Whilst managed, this activity did present a degree of distraction to the Benson Zone controller.

As a result of the causal factors identified, the following mitigation for local action was proposed by RAF Benson:

Entry within the Benson ATC Standards Bulletin regarding consideration of equipment release/testing and how controller distraction can be minimised.

2 Gp BM Analysis

As outlined in the local investigation, the Benson Zone controller did not assess the interaction of the DA42 and DA40 as a definite risk of collision and hence no Traffic Information or warning was provided. This was a subjective decision dependent upon controller experience and hazard assessment. The Benson Zone controller had multiple tasks during the period preceding the Airprox with the handover and free-call requiring attention. The workload was then further increased with the facilitation of the radio testing and frequency management. Overall, as the controller deemed there to be no definite risk of collision, they fulfilled their Basic Service provision correctly and this Airprox supports the argument for aircrew always selecting a suitable type of service for the conditions and their requirements.

UKAB Secretariat

The DA42 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.[2] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3]

Summary

An Airprox was reported when a DA42 and a DA40 flew into proximity at Wallingford at 0920Z on Monday 3rd April 2023. Both pilots were operating under IFR in VMC, the DA42 pilot in receipt of a Basic Service from Benson and the DA40 pilot in receipt of a Traffic 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 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 discussed the actions of the DA42 pilot. They had described flying an IFR sortie between two beacons, with a student. Some members noted that the route flown had been a common one, used by many flying schools in the area and, as such, the pilot could have foreseen that there had been a strong likelihood that they would meet traffic travelling in the opposite direction. As such, members thought that the pilot could have chosen a different level to transit, given that 4000ft would be likely to be the level used by anyone following a semi-circular rule in the opposite direction. Noting the pilot's comments about the cloud layer and the airspace above them, still members thought that choosing not to fly in whole levels would have provided some in-built separation from anything flying the same route in the opposite direction (**CF7**, **CF8**). The Board noted that the CWS in the DA42 had alerted to the DA40 (**CF12**), which had cued the DA42 pilot to look for it. However, it had in all likelihood provided some information before this point and, noting the pilot's comments about their student, members thought that the instructor had probably not assimilated the CWS warning and perhaps could have been paying more attention to what the student had been doing (**CF10**, **CF11**, **CF13**). The Board agreed that, in the end, the DA42 pilot had not seen the other aircraft until late, after the other pilot had taken avoiding action (**CF14**). Noting that the DA40 pilot had been in receipt of a Traffic Service and had received Traffic Information from Farnborough, where the DA42 pilot, under a Basic Service, had not received any, the Board pointed out that the benefits of requesting the best available ATS were clear to see.

Turning to the actions of the DA40 pilot, the Board noted that they had been routing at a level in accordance with the semi-circular rule, however, they had received information from various sources which should have brought to the pilot's attention that there had been an aircraft routing in the opposite direction at the same level (**CF11**). The pilot had first received Traffic Information from the Farmborough controller at 5NM, in which the controller had told the DA40 pilot that the other traffic was at 4000ft, and members thought that at this point the pilot could have made some adjustment to their level or heading. The pilot also reported having received an intermittent CWS warning shortly afterwards (**CF12**) and members wondered whether the pilot had prioritised remaining on the IFR track over avoiding the other traffic (**CF8**, **CF10, CF13**). The controller had updated the Traffic Information when the other aircraft had been 1.5NM away and the pilot had been told again that the traffic had been at the same level and now, on looking for the other aircraft, they had seen it late and took avoiding action (**CF14**). Members expressed some disappointment in the lack of action by the DA40 pilot, who had received Traffic Information twice and a CWS warning (albeit intermittent), but had taken no action until they had seen the other aircraft less than 1NM away (**CF9**) and noted that it was always better to make a small adjustment to track (either laterally or vertically) early, rather than leaving it until the last moment and needing to take extreme avoiding action.

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

The Board then discussed the role that ATC had to play. The DA42 pilot had been receiving a Basic Service from Benson and, under such a service, the controller had not been required to monitor the aircraft on radar (**CF2**). Notwithstanding, the controller had been required to pass Traffic Information if they had considered a definite risk of collision had existed. Members noted that the RAF Benson local investigation reported that the controller had assessed the geometry of the aircraft and had not considered that a risk of collision existed and so had not provided Traffic Information (**CF3**). Members disagreed with this assessment and wondered whether the controller had made the judgement early, when the aircraft were still some distance apart, or whether the aircraft were obscured in the radar overhead because at the same level and routing in opposite directions appeared to ATC Board members to be an obvious collision risk (**CF4**). Neither of these scenarios had been reported by the Benson investigation and members expressed their disappointment at the lack of clarity within the investigation. The Benson controller reported that there had been some engineering testing on the radios, requiring the controller to manually dial up the frequency, which the Board noted had become a distraction to them (**CF5**) and members thought that it had been for the Supervisor to ensure that the controller had not become overly distracted by such tasks (**CF1**). Indeed, shortly after the Airprox had been reported, the Supervisor suspended the testing for the day; the Board agreed that it had been unfortunate that this had not happened earlier. The Farnborough controller, who had been providing the Traffic Service, had been required to provide Traffic Information, and had done so in a timely manner at 5NM and then updated that information at 1.5NM, even though the controller had reduced the Traffic Service due to controller workload. Members were in agreement that this passage of Traffic Information had prompted the DA40 pilot to look for the conflicting traffic.

When assessing the risk of collision the Board, considered the reports from both pilots and the controllers, together with the radar replay screenshots from both the NATS area radars and the Farnborough radar. They discussed the lack of action from both pilots, despite the situational awareness provided by ATC and the CWS. They considered that the final separation, at less than 100ft and around 0.1NM, had been such that a risk of collision existed (**CF15**). Some members thought that, due to the lack of timely action, this separation had been largely providential (Risk Category A), whilst others thought that the avoiding action taken by the DA40 pilot had increased the separation, albeit that safety had been much reduced. In the end the Chair put it to a vote and by a small majority Risk Category B was agreed.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023038			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Manning and Equipment			
1	Human Factors	• ATM Leadership and Supervision	An event related to the leadership and supervision of ATM activities.	
	• Situational Awareness and Action			
2	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
3	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
4	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
5	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
	• Electronic Warning System Operation and Compliance			
6	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			
7	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
8	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• Situational Awareness of the Conflicting Aircraft and Action			
9	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
10	Human Factors	• Mentoring	Events involving the mentoring of an individual	
11	Human Factors	• Understanding/ Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
	• Electronic Warning System Operation and Compliance			
12	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
13	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			
14	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
	• Outcome Events			
15	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: B.

Safety Barrier Assessment[4]

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 Benson Supervisor had allowed the radio engineering work to become a distraction to the controller.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because although the Benson controller had not been required to monitor the Basic Service traffic, the controller had become distracted by the engineering work and had not assessed that the geometry of the two aircraft had been a collision risk, despite them both being at a similar level.

Electronic Warning System Operation and Compliance were assessed as **not used** because the Farnborough SSR code had been outside the select frame for STCA to alert (**CF6**).

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the DA42 pilot could have operated in accordance with the semi-circular rule and selected a different level for their

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

IFR transit. Furthermore, neither pilot had changed their heading or level when they had received information on the other aircraft.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had assimilated the information received from their CWS and the DA40 pilot had not taken early enough action on receiving Traffic Information from the controller.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the DA42 pilot had not acted on the information received from their CWS.

See and Avoid were assessed as **partially effective** because the DA40 pilot had managed to take avoiding action, albeit late.