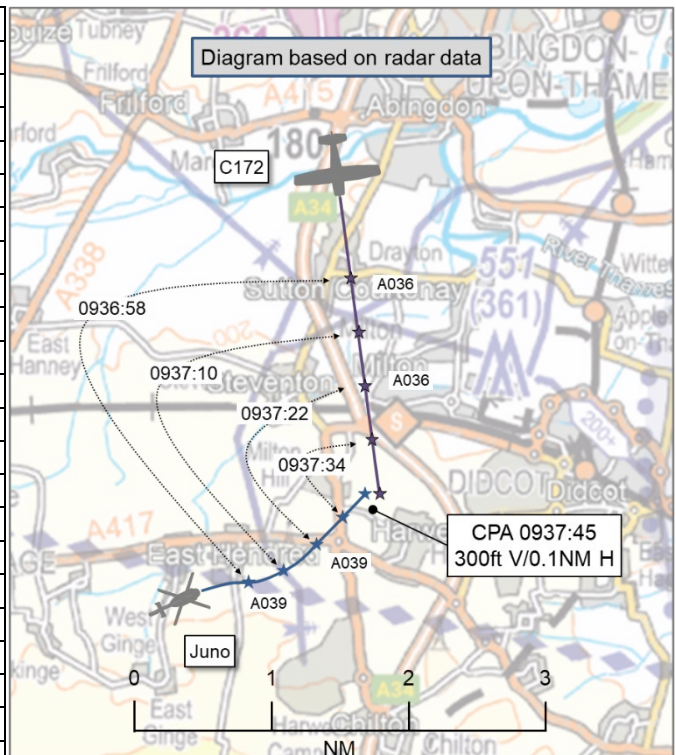


AIRPROX REPORT No 2023071

Date: 12 May 2023 Time: 0938Z Position: 5136N 00117W Location: 1NM West of Didcot

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Juno	C172
Operator	HQ Air (Trg)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic	None
Provider	Benson Approach	N/A ¹
Altitude/FL	3900ft	3600ft
Transponder	A, C, S	A, C
Reported		
Colours	Black and Yellow	White and Brown
Lighting	Strobes/Nav/Landing	Nil
Conditions	IMC	VMC
Visibility	NR	5-10km
Altitude/FL	4000ft	3700ft
Altimeter	QNH (1023hPa)	QNH
Heading	NR	180°
Speed	NR	95kt
ACAS/TAS	TAS	Not fitted
Alert	None	N/A
TCAS Separation at CPA		
Reported	200ft V/0.0NM H	NK V/NK H
Recorded	300ft V/0.1NM H	



THE JUNO PILOT reports that they were on a land-away from [departure airfield] to [destination airfield] with navigation via beacons to conduct procedural holds and an instrument low approach to [destination airfield] then to fly VFR from [destination airfield] to [destination 2 airfield]. On handover from Brize Radar to Benson Approach, they were cleared to join the VOR ILS/DME Hold for RW19, transiting at altitude 4000ft on a Traffic Service. They were IFR with the tops of cloud at approximately 3500ft. They received a traffic notification of another aircraft at approximately 4NM, but cannot recall either the direction or altitude that had been given, and were not visual with the reported traffic. They turned to intercept the Compton 022R in accordance with the directed join procedure. During this time, they noticed an aircraft pass directly below them at approximately 200ft difference in height from the left of the aircraft. There had been no ACAS indication in the aircraft. This had been immediately reported to ATC and position and time noted by the aircrew and had been perceived as an Airprox.

The pilot perceived the severity of the incident as 'Low'.

THE C172 PILOT reports that they were unaware of this Airprox. The following was later added by the pilot of the C172:

They have been informed by their passenger that they did see what they believed to be a military helicopter but did not comment about it at the time. When they saw the helicopter it had been in their 3 o'clock position approximately 2 miles away about 1000ft below; they recall it as a Chinook as it appeared to be in military colours against a grey cloudy background. It appeared to be heading east; the C172 had been heading south which meant that it should pass safely behind them. When first spotted, the helicopter had just cleared the southern boundary of Brize Norton control and the C172 had been at 3700 ft; they assumed the helicopter to be under Brize Norton control.

¹ The C172 pilot had been in receipt of a Basic Service from Oxford immediately prior to the Airprox and the Oxford controller passed information to the C172 pilot before they left that frequency.

THE BENSON APPROACH CONTROLLER reports that they were the Approach controller when [Juno c/s] reported a vertical separation of 200ft from a light fixed-wing aircraft. At this time, the controller had been band-boxed Approach and Director with Zone split out due to high traffic levels. They had been on position for 90min, with an initial workload of medium, increasing to high during the controlling of the Juno aircraft. The ACR (Approach Control Room) had been busy, with the Approach controller working multiple Tutor aircraft conducting cadet sorties, a Supervisor who had been busy conducting prenotes and handovers with multiple agencies, and a Zone controller working Zone traffic. There were multiple [military] callsigns expected around 0945 to conduct VOR hold procedures and the Benson controller had been aware that earlier in the day the military aircraft had requested ILS approaches to RW19. Due to being on RW01RH with a strong headwind (+12kts at times) and being unable to conduct ILS against the stream procedures for visiting aircraft, this had been declined. The military aircraft then opted to conduct VOR holds and an approach to Oxford. At approximately 0932 the Benson controller began to conduct a handover of the Approach control position to an oncoming controller. Due to working multiple aircraft, the high traffic levels in the area and the complexity of sorties, this handover lasted from before the Juno arrived on frequency until after the 200ft separation had been called.

At approximately 0933 the Supervisor conducted a handover with Brize Norton for the Juno pilot, with the Juno arriving on the Approach frequency at approximately 0935. The Benson controller asked the Juno pilot, at the request of the Supervisor, if they required the ILS hold for RW19; they said they did with a low approach and then enroute to Oxford. The Benson controller stated that, due to being on RW01RH, they could not offer them an approach to RW19. They acknowledged this and requested to join the hold for RW19 before conducting an SRA to RW01RH, and then VFR to Oxford. The Benson controller noticed a potential conflicting aircraft to the Juno, so proceeded to provide Traffic Information, stating 'traffic left 9 o'clock 4 miles passing left-right behind indicating 200ft below'. The Juno pilot stated they were looking, but intermittent IMC. The Benson controller then proceeded to call the same traffic to a Tutor pilot they were working. During this the Supervisor had been conducting a handover for the Tutor pilot and, when informed, instructed them to set a squawk for Brize LARS.

Soon after this [the pilot of an uninvolved aircraft] called the Approach frequency from a handover from Brize Norton. The Benson controller answered [the pilot of the uninvolved aircraft] and provided Traffic Information on 2 conflicting tracks. After the Benson controller received a confirmation of the traffic from [[the pilot of the uninvolved aircraft] they were then instructed by the Supervisor to send the Tutor to Brize LARS. During this time in the ACR there were discussions on how they were going to conduct the SRA for the Juno pilot. This had been due to the Zone controller using the SRA console due to the background video being set on the Zone console. Background video results in a lot of clutter on the screen, and the Zone controller and Supervisor were unsure how to turn it off, hence why the SRA console had been used. As the Benson controller heard these discussions they pointed out to the Supervisor and Zone controller that they could use the Director console set next to the Approach console for the SRA; they agreed.

As the Benson controller began to conclude the handover of the position to the oncoming controller, the Juno pilot informed them that they had a light fixed-wing aircraft pass 200ft below them crossing left-to-right. The Benson controller informed the Juno pilot that it had been the same track that had been called to them earlier. They understood and mentioned that it had been pretty close. The Benson controller then asked if the Juno pilot would be reporting an Airprox on that aircraft, which they stated that they were not at that time. The Benson controller then finished conducting the handover and the new controller took over the Approach control position. They noted that the conflicting aircraft had been working Oxford, called them and spoke to the Radar Assistant who liaised with a controller; they mentioned that they did call Traffic Information to their aircraft on the Juno, but they did not get a positive visual call from their aircraft.

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

THE OXFORD CONTROLLER reports that they were made aware of an Airprox which occurred on the 12th May 2023 where they were the Oxford Radar controller at the time. They recall having a vague recollection of the event in question. They were providing the C172 pilot with a Basic Service which the pilot had requested. Somewhere to the south of Oxford the pilot requested to change frequency and contact Farnborough LARS. Although under a Basic Service and that they were not required to do so,

under a 'Duty of Care' they provided the pilot with some Traffic Information on an aircraft that had been flying on an easterly track at a similar level. Although not an immediate conflict at the time, the Oxford Controller felt that the aircraft might get close after the C172 had left their frequency so wanted to aid the pilot's situational awareness. They recall the pilot mentioning they were VMC at the time and then changed frequency to Farnborough. The Oxford controller assumed that the Airprox actually occurred after the C172 had left the Oxford frequency.

Factual Background

The weather at Benson was recorded as follows:

METAR EGUB 120920Z 02013KT 9999 FEW013 BKN016 13/10 Q1023 NOSIG RMK WHT BLU=

Analysis and Investigation

Benson ATC

The Juno pilot had been confirmed in receipt of a Traffic Service from Benson Approach. Traffic had been called to the Juno pilot at 4NM, crossing left-to-right behind, indicating 200ft below. The Juno pilot stated that they were looking but did not call visual at any point. Approximately 2min later, the Juno pilot reported an aircraft passing about 200ft underneath them. The Benson Approach controller confirmed that this had been the aircraft that had previously been called to the Juno at 4NM. At this point, the Juno pilot had been asked if they were declaring an Airprox, at which point they replied in the negative but stated that it felt uncomfortable. Investigation at Benson ATC found that procedures were followed and that traffic had been called in good time to the Juno pilot. It was noted that it had been a busy session for the Approach controller with multiple Tutors conducting sorties, all requiring a Traffic Service. In addition, the controller had already been on position for approximately 90min and had been expecting multiple visiting Junos to be handed over shortly. A handover had been in progress between the outgoing and incoming Approach controller. Once the Juno pilot had reported the aircraft passing beneath, the Approach controller shortly afterwards had spoken to Oxford (as the aircraft in question had been wearing an Oxford squawk). Oxford confirmed that Traffic Information had been provided to their aircraft regarding the Juno but [the pilot of] their aircraft had not called visual.

Oxford ATC

The C172 pilot reported southeast of Abingdon requesting to leave the frequency. The controller responded: "... just before you leave Basic Service you have traffic to southwest of you eastbound crossing ahead indicating 4000ft." The C172 pilot acknowledged this and reported leaving the frequency. The controller is not required under a Basic Service to monitor the flight, and on this occasion still passed Traffic Information to the C172 pilot as a 'duty of care' before the aircraft left the frequency. The Unit Assessor (UA) had no adverse comment to make on the Oxford Radar controller's actions.

Having reviewed the incident, the Investigator is content with the analysis captured in the UA review with the exception that the C172 had been a southbound transit, it did not depart from Oxford and the phrase "had departed Oxford VFR and" should be ignored. However, this error had no bearing on the subsequent analysis of the incident.

Extracts of a transcript of the incident from the time that the C172 pilot called Oxford Radar until the aircraft left the frequency are:

At 0926:25, the C172 pilot contacted Oxford Radar for a Basic Service enroute to Le Mans. At 0936:41, the C172 pilot requested to change frequency to Farnborough: "Oxford, [a/c callsign] we are now east abeam Abingdon and we would like to change to Farnborough 125 Decimal 25."

At 0936:48, the Oxford Radar controller noted a confliction and advised the C172 pilot of it: *"Okay, just before you go it's only a Basic Service, but I believe you have traffic in your 12 o'clock range of 2NM crossing right left indicating 4000ft"*.

At 0936:57, the C172 pilot reported: *"Ah, that is copied and looking, we are clear on top at the moment"*. At 0937:00, the Oxford Radar controller stated *"[a/c callsign] thanks very much squawk conspicuity and clear enroute, Goodbye"* At 0937:04, the C172 pilot left the frequency stating: *"Thanks, Bye"*.

The Airprox occurred at 0937:45 with the C172 still squawking A4520. At 0941:08, RAF Benson contacted the Radar Assistant to request traffic on the squawk A4520 and had been told that the aircraft was no longer on frequency. They asked whether traffic had been called and said that they had called the traffic several times and the aircraft became visual about 200ft below. The Juno pilot also stated that they would "not reporting an Airprox at this moment". At 0945:05, the C172 pilot changed SSR Code to A0430.

The Juno had been working RAF Benson, squawking A3625, from 0935:41; the Oxford Radar controller had provided Traffic Information on the Juno prior to the C172 [pilot] leaving frequency. The C172 pilot had been content to continue as they had acknowledged the traffic and reported "we are clear on top at the moment". The C172 [pilot] had not been under a service from Oxford Radar at the time of the Airprox.

The Oxford Radar controller is not required under a Basic Service to monitor the C172, and on this occasion still passed Traffic Information to the pilot of the C172 as a 'duty of care' before the aircraft left the frequency. Following the Airprox, RAF Benson contacted Oxford, asked whether the aircraft was on frequency, and stated that an Airprox was not going to be reported "at this moment". Oxford would have waited until an Airprox had been reported before recording such an event where it had not happened with an aircraft under a service.

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 solely NATS radars as Unit radar recording is currently not available at RAF Benson. As NATS radars are not available to the controllers, they may not be entirely representative of what the controller was presented.

The Benson Approach position had been band-boxed with the Benson Director position at the time of the Airprox. The band-boxed operation had been in accordance with local orders and being conducted due to the Benson Approach task initially consisting of medium intensity Tutor operations. In the period preceding the Airprox the Benson Approach controller had commenced a handover, and this had still been ongoing when the Airprox occurred.

The Benson Supervisor had been facilitating both the Benson Approach position handover and band-boxed operation through management of landline calls on behalf of the Benson Approach controller. These included multiple handovers both incoming and outgoing throughout the period.

One of several visiting helicopters expected that morning, the Juno pilot had previously requested an ILS approach to Benson RW19. This had been part of a planned profile to conduct a cloud-break descent via the instrument approach before a VFR transit to Oxford Airport. Due to the surface wind at Benson and restriction on visiting aircraft conducting ILS approaches against the stream, this plan had subsequently been modified to consist of a VOR Hold join for Benson RW19 before converting to a Surveillance Radar Approach to Benson RW01RH.

As a result of an issue with a console, operations within the Benson Approach Control Room were not standard. The Surveillance Radar Approach console had been utilised by the Benson Zone controller at the time, which resulted in the Benson Surveillance Radar Approach controller utilising

the Director console for the Juno's Surveillance Radar Approach. This non-standard console utilisation prevented the band-boxed Benson Approach and Benson Director positions being split back out.

Sequence of Events

At 0934:36, following a radar handover from Brize Norton, the Juno pilot contacted the Benson Approach controller. Transit altitude of 4000ft on the Brize Norton QNH of 1026 was confirmed and a Traffic Service was issued.

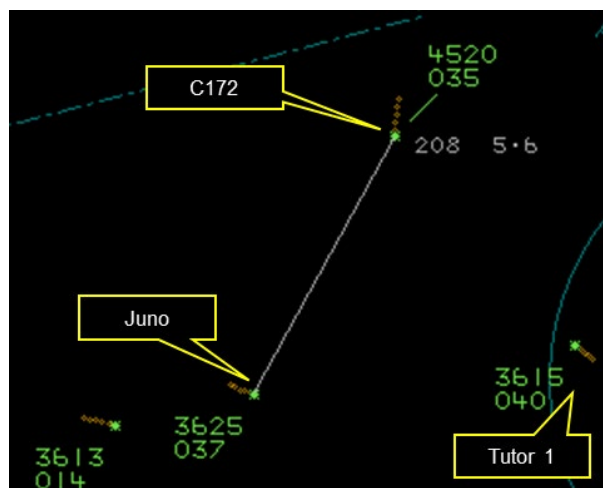


Figure 1 (0935:17). Position of the Juno and C172, on commencement of the recovery profile discussion. (Separation: 5.6NM)

Commencing at 0935:17 and concluding at 0936:00, there were several transmissions between the Benson Approach controller and the Juno pilot to confirm the amended approach profile following the VOR Hold from a Benson RW19 ILS to a to Benson RW01RH Surveillance Radar Approach.

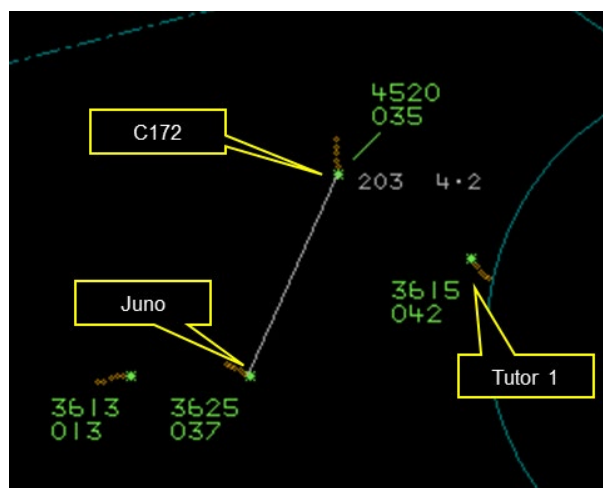


Figure 2 (0936:05). Traffic Information provided. (Separation: 4.2NM)

At 0936:05, the Benson Approach controller provided Traffic Information to the Juno pilot on the C172 *“traffic left nine o'clock, four miles, crossing left-right behind, indicating two hundred feet below”*. The Traffic Information had been acknowledged by the Juno pilot, who reported *“looking”* and that they were *“intermittent IMC”*.

At 0936:19, the Benson Approach controller acknowledged the Juno pilot's report of intermittent IMC and within the same transmission provided Traffic Information to Tutor #1 pilot on the C172.

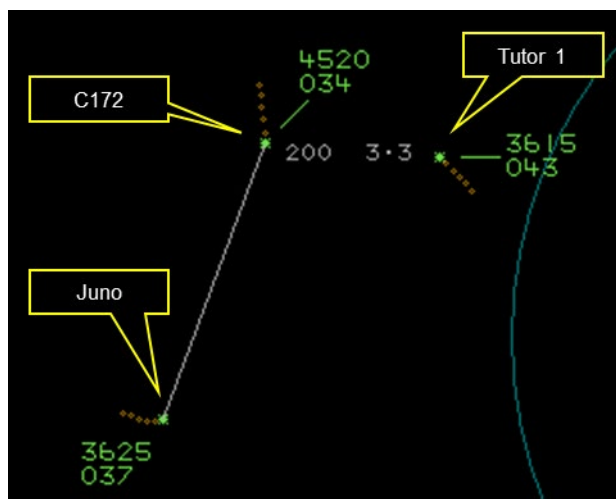


Figure 3 (0936:30). Juno turned inbound for the procedure. (Separation: 3.3NM)

At 0936:30, the Juno pilot intercepted the Compton 022R and turned northeast inbound for the VOR hold. Simultaneously the Benson Supervisor conducting the handover on behalf of the Benson Approach controller provided an SSR Code to the Benson Approach controller. This had subsequently been passed to Tutor #1 pilot to facilitate the continued handover.

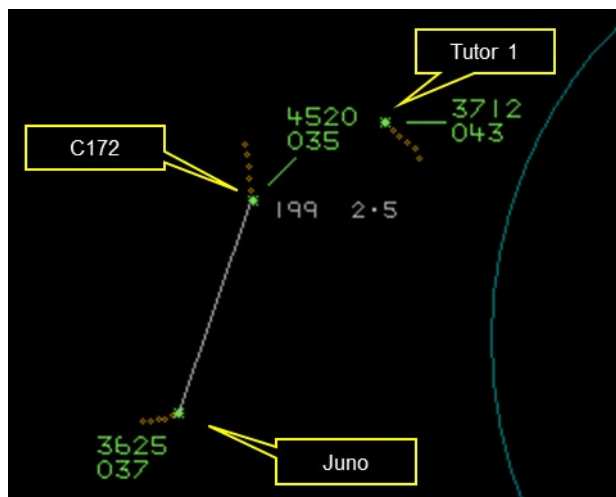


Figure 4 (0936:51). Position of the Juno and C172 on commencement of Tutor #2 contact. (Separation: 2.5NM)

At 0936:51, a further Tutor pilot to the northwest contacted the Benson Approach controller following a handover from Brize Norton conducted by the Benson Supervisor. At 0937:25, the Benson Supervisor had completed the handover of Tutor #1 and provided a frequency to the Benson Approach controller. This had been subsequently passed to Tutor #1 pilot to complete the transfer of control.

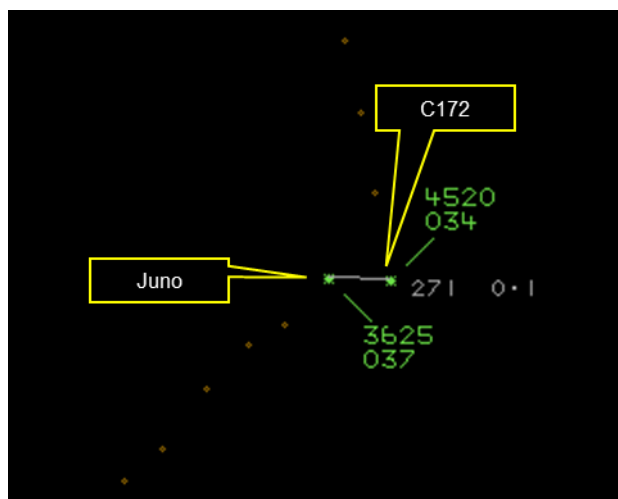


Figure 5 (0937:45): CPA - measured at 0.1NM and 300ft separation.

At 0937:46, the Juno pilot reported to the Benson Approach controller *“for your information we’ve had a err light-aircraft about two hundred foot below us crossing left-to-right”*. This report had been acknowledged and responded to at 0938:05 with *“the track I called you earlier”*.

Local BM Investigation(s)

The RAF Benson local investigation was conducted based upon the evidence provided from both the controller and aircrew reports. Without a local radar replay function, they were unable to assess the Traffic Information provided by the Benson Approach controller for both its accuracy and suitability. However, several BM related causal/aggravating factors were identified that were believed to have contributed to the Airprox:

- a. The Benson Approach controller had been operating at a medium intensity with the complexity of the Juno recovery profile increasing the controller workload.
- b. The Benson Approach controller had been conducting a position handover in the period preceding and during the Airprox, which involved the passage of information regarding several aircraft.

2 Gp BM Analysis

With the ability to review the radar replay, the accuracy and suitability of the Traffic Information provided by the Benson Approach controller can be fully assessed. The Traffic Information provided at 0936:05 had been both accurate and suitable based upon the relative positions and movement of the Juno and C172. The descriptor of ‘crossing left-right behind’ at the point of Traffic Information provision had been accurate and provided a suitable traffic picture to assist the Juno [pilot] in traffic avoidance. However, what the Benson Approach controller did not consider in their Traffic Information had been the inbound turn on the Compton 022R for the procedure and how this would change the relative position of the Juno to the C172.

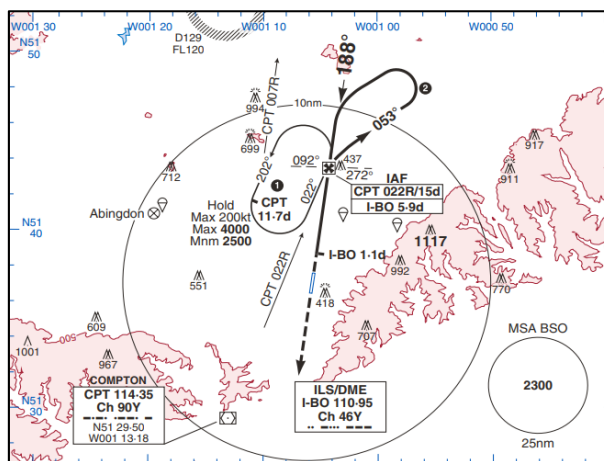


Figure 6 Benson Runway 19 VOR to ILS/DME procedure, with Compton 022R intercept.

The previous Traffic Information description of ‘crossing left-right behind’ no longer provided an accurate traffic picture to the Juno pilot and therefore limited their traffic avoidance ability. Under the requirements of a Traffic Service, the Benson Approach controller had been required to update the Traffic Information to the Juno pilot as the C172 continued to present a definite hazard.² Whilst the Benson Approach controller had been managing a range of tasks, as identified in the local investigation, there had been sufficient time for the Traffic Information to be updated either before or after the Juno pilot’s turn where separation reduced to within 3NM.

On review by 2 Gp BM, it has been identified that whilst pilot interpreted approaches and the ATS provision to support them is a recognised regular practice in the civil aviation environment, it is still a relatively new practice in military aviation. Military Air Traffic Control training focuses on controller issued headings to facilitate recoveries and hence ATS provision teaching is based upon the controller having control over when turns are commenced. This Airprox will be used as the basis for further investigation to assess the suitability of Military Air Traffic Control training when supporting pilot interpreted procedural recoveries.

UKAB Secretariat

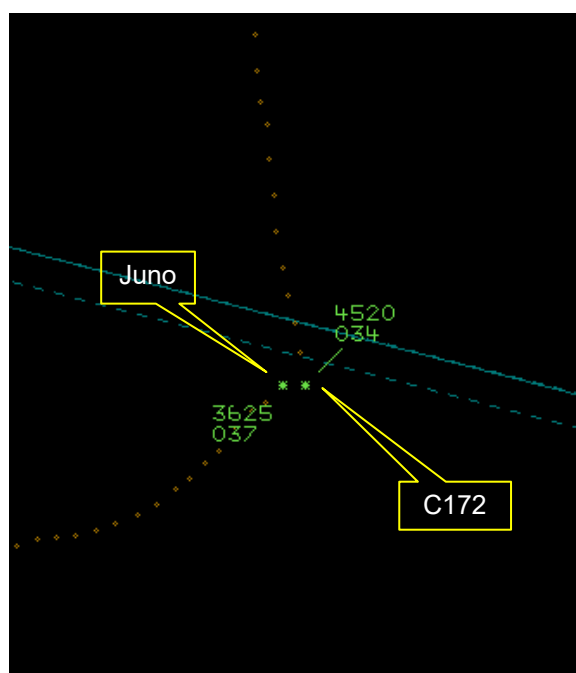


Figure 7 CPA 0937:45 300ftV/0.1NM H

² CAP 774 – UK Flight Information Services, Chap 3 Para 5.

The Juno and C172 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.³ If the incident geometry is considered as converging then the C172 pilot was required to give way to the Juno pilot.⁴

Under a Traffic Service; 'When operating under their own navigation, pilots may alter course as required; however, unless safety is likely to be compromised, pilots shall not change their general route or manoeuvring area without first advising and obtaining a response from the controller.'⁵

Comments

HQ Air Command

The BM Investigation into this Airprox highlighted a potential inexperience of ATC personnel with pilot interpreted approaches. Whilst the Approach controller issued valid and accurate Traffic Information to the Juno pilot on the C172, this had not been updated when the Juno pilot began their turn to intercept the hold procedure. Under a Traffic Service this should have been but had been missed; the Juno's turn had not been anticipated or considered by the controller. The complexity of the Juno's profile, coupled with medium workload and position handover activity, also contributed to this omission. It is unfortunate that the EWS did not alert the Juno pilot to the C172 and, with incomplete Traffic Information from ATC, see and avoid had been the remaining barrier in this incident.

AOPA

As this Airprox confirms, effective lookout is enhanced by obtaining the best ATC service available, if traffic isn't seen when first alerted to it, pilots should request further information to assist in mid-air collision avoidance.

Summary

An Airprox was reported when a Juno and a C172 flew into proximity 1NM west of Didcot at 0938Z on Friday 12th May 2023. The Juno pilot was operating under IFR in IMC and in receipt of a Traffic Service from Benson Approach, the C172 pilot was operating under VFR in VMC and not in receipt of an Air Traffic Service.

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 Benson controller, and noted that the first call to the Juno pilot of the C172's tracking had been accurate but that, after the Juno's turn inbound the VOR Hold, they had not identified the changing aspect of the two aircraft to each other and updated Traffic Information as a result (**CF2**). The Board also noted that the Benson controller had been experiencing a medium-to-high workload and that they had been in the process of handing over the control position. Members agreed that this had contributed to their not noticing that the change in aspect of the Juno had introduced a potential conflict between the Juno and the C172 (**CF3, CF4**).

Turning to the situation within the Benson Approach Control Room around the time of the Airprox, the Board noted that the settings on one of the consoles had rendered it unusable for the Search Radar Approach function and that this had occupied the attention of the Supervisor, thus detracting from the

³ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

⁴ (UK) SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

⁵ CAP774 Chapter 3 Traffic Service, paragraph 3.9 Headings.

Supervisor's ability to oversee the Approach task and perhaps interject when the Juno pilot had changed heading to intercept the CPT 022R (CF1).

Members discussed the exchanges between the Benson controller and the Juno pilot, noting that the call regarding the C172 had described the C172 as 'passing behind'. The Board felt that the Juno pilot had not fully assimilated that their turn inbound the CPT 022R would have changed their aspect to the previously called traffic and therefore the 'passing behind' element may have no longer been valid (CF5). The Board also considered that it had been unfortunate that the TAS carried by the Juno had not alerted to the proximity of the C172 (CF6), but could not understand why this had been the case. The Board agreed that these elements had contributed to the Juno pilot only sighting the C172 at or around CPA (effectively a non-sighting) (CF7).

Members then considered the actions of the C172 pilot, opining that the weather had been sufficiently marginal to perhaps have led the pilot to request a Traffic Service to better build and maintain their SA. That said, the Board agreed that the C172 pilot had gained some situational awareness of the presence of the Juno from the Oxford controller prior to their leaving the Oxford frequency, but that this ultimately had not allowed them to become visual with the Juno (CF7).

Members briefly discussed the input of the Oxford controller in this event and wished to praise their actions for proactively issuing Traffic Information under 'Duty of Care' even though this is not required under the terms of provision of a Basic Service; this action undoubtedly provided the C172 pilot with a degree of situational awareness of the presence of the Juno.

When assessing the risk, members considered the reports from both pilots, the controllers involved, the radar replay and reports from the operating authorities. They noted that the separation between the 2 aircraft had been greatly reduced and, although the Juno pilot reported the severity as low and the Benson controller perceived the risk as medium, the C172 pilot had never sighted the Juno and the Juno pilot had only sighted the C172 at or around CPA. Therefore, no avoiding action had been taken by either pilot and providence had played a major part in events, leading to safety having been much reduced (CF8). Accordingly, members assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023071				
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	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
4	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
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
5	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				
6	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				

7	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
• Outcome Events				
8	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 Assessment⁶

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 issues around the use of the SRA console by the Benson Approach controller had required attention from the Supervisor, thus reducing the Supervisor's ability to monitor the actions of the Benson Approach controller.

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the Benson controller, who had been engaged in other tasks, had not recognised that the Juno's turn onto the Compton 022R would change the aspect of it to the C172.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because although the Juno pilot had been alerted to the presence of the C172, they had not fully assimilated that their turn would render the Traffic Information invalid.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the onboard EWS unit for the Juno did not detect the transponder signals from the C172.

See and Avoid were assessed as **ineffective** because the Juno pilot did not see the C172 until at or around CPA, and the C172 pilot did not see the Juno at any point.

⁶ 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: 2023071		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								