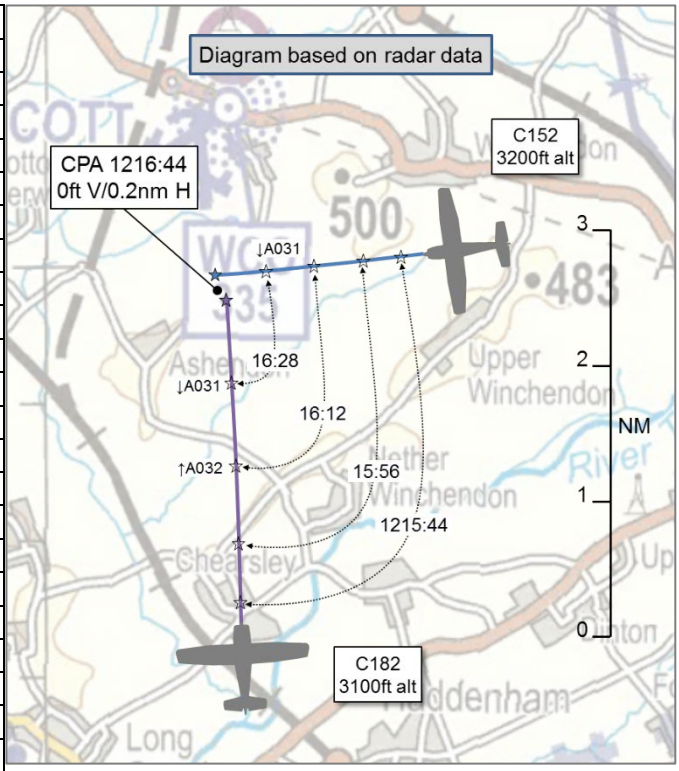
AIRPROX REPORT No 2019290

Date: 21 Sep 2019 Time: 1217Z Position: 5150N 00058W Location: 1.5nm south of Westcott NDB

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	C182
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic[1]	Basic
Provider	Oxford Radar	Brize Norton
Altitude/FL	A031	A031
Transponder	A, C, S	A, C, S
Reported		
Colours	Yellow/blue	White/blue
Lighting	Strobes, beacon	
Conditions	VMC	VMC
Visibility	12nm	
Altitude/FL	3100ft	
Altimeter	QNH (1012hPa)	
Heading	261°	
Speed	90kt	
ACAS/TAS	FLARM	Unknown
Alert	None	Unknown
Separation		
Reported	0ft V/50m H	NR
Recorded	0ft V/0.2nm H	



THE C152 PILOT reports that, when north of Aylesbury, he reported leaving the zone of his departure airfield and changed to Oxford Radar. He changed frequency and listened-out while climbing to 3100ft and aligning himself with his first navigation point (a railway/road crossing point) north-west of Aylesbury. Overhead the navigation point, he then set his heading for the Oxford Airport overhead, commenced timing the leg and listened-out on the frequency before speaking to Oxford Radar. He is very much aware of how busy the airspace can get around Waddesdon, checked for traffic to the north and south of track, and checked Skydemon to ensure that he was not heading towards the Weston-on-the-Green parachute zone. He also asked his passenger to report, and point out, any aircraft. On calling Oxford Radar for a Basic Service, he had his pen in hand and was facing forwards so he could note and write down the squawk code and QNH quickly. The immediate response from Oxford Radar was words to the effect of '[C152 C/S], Oxford Radar, you have an aircraft reporting your altitude headed towards you immediately to your left'. He turned and looked over his left shoulder (approximately his 8 o'clock) and saw the described aircraft fly very close behind him. He turned to his right as it passed behind and saw it depart to the north (approximately his 3 o'clock). It showed no indication of having manoeuvred in heading or altitude to avoid his aircraft. He did not see any persons on board. He did not have any time to manoeuvre to take avoiding action and he estimated the aircraft to have been within 50m of his position when he initially saw it, and passed perhaps two secs later. He replied to Oxford Radar with words to the effect of 'that was close - thank you', and proceeded to receive his squawk code and QNH details.

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

THE C182 PILOT did not respond to any requests to submit a report.

[1] The type of Service was yet to be agreed due to the immediacy of the Traffic Information issued.

THE OXFORD CONTROLLER was requested to supply a report but none was forthcoming. The UKAB secretariat understands that there has recently been a changeover of personnel at Oxford Airport and it is possible that the controller was not informed of the requirement to submit a report.

THE BRIZE CONTROLLER was notified of this event some months after the Airprox due to delays in identifying aircraft 2. The controller has no recollection of the event, but a review of flight strips has revealed that Brize Norton was providing a Basic Service to the C182 pilot between 1209 and 1226Z and that the pilot, after leaving the Brize frequency, free-called East Midlands Airport.

Factual Background

The weather at RAF Benson was recorded as follows:

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METAR EGUB 211220Z 10014KT CAVOK 24/08 Q1010 NOSIG RMK BLU BLU=
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Analysis and Investigation

UKAB Secretariat

The NATS radar recording shows both aircraft operating in the vicinity of Westcott. At 12:15:20, the aircraft are separated laterally by 4nm and vertically by 300ft (see Figure 1).

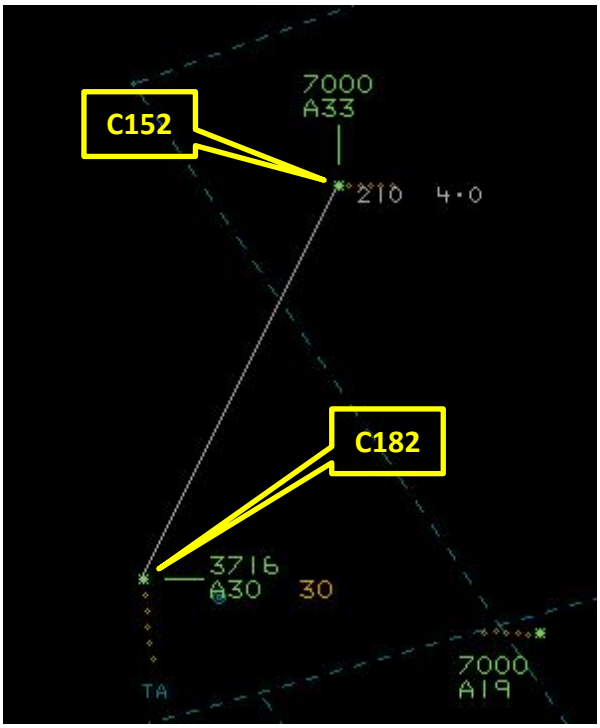


Figure 1 – 12:15:20

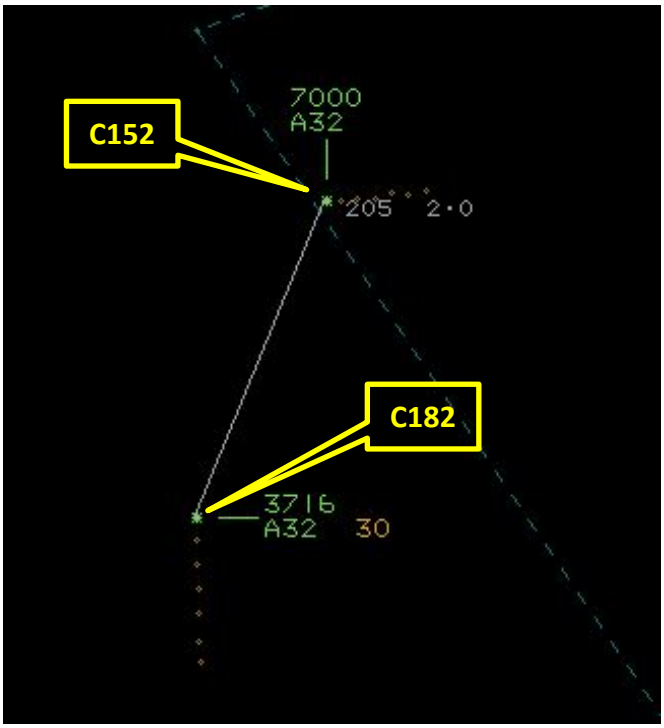


Figure 2 – 12:16:03

Over the next 40 secs, the C152 descends by an indicated 100ft and the C182 climbs by an indicated 200ft, leading to a separation, at 12:16:03, of 2nm laterally with no vertical separation (Figure 2).

The 2 aircraft continue on their respective tracks, on a constant relative bearing to each other (thus reducing the likelihood of visual acquisition for both pilots as there would have been little-to-no relative movement) and both descending by an indicated 100ft; the C152 passes in front of the C182, co-altitude, at a range of 0.4nm at 12:16:39 (Figure 3).

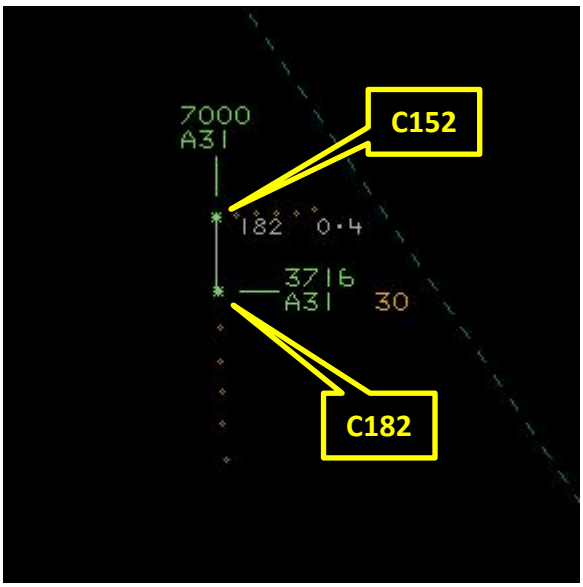


Figure 3 – 12:16:39

CPA occurs some 5 secs later as the C182 passes behind the C152 at a range of 0.2nm as measured on the NATS radar.

The C152 and C182 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 converging then the C182 pilot was required to give way to the C152.[3]

Summary

An Airprox was reported when a C152 and a C182 flew into proximity near Westcott NDB at 1217hrs on Saturday 21st September 2019. Both pilots were operating under VFR in VMC, the C152 pilot in the process of agreeing a Basic Service from Oxford Radar and the C182 pilot in receipt of a Basic Service from Brize Norton.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the pilot of the Cessna 152 and radar photographs/video recordings. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board was heartened to hear that the C152 pilot had been seeking to agree an Air Traffic Service with a local surveillance-equipped airfield. However, members noted that, rather than opt for a Basic Service, which provides no guarantee of monitoring by the controller, the C152 pilot would have been better served in requesting a Traffic Service because, if a Traffic Service is agreed, the controller is then required to maintain situational awareness on the aircraft (**CF1**). Some members wondered if the C152 pilot had perhaps waited slightly too long on the Oxford radar frequency before contacting the controller, but the Board could not determine if this was partly due to RT loading. In the event, the first transmission from the controller was to inform the pilot of the proximity of the C182 and the Board

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

commended the actions of the controller in this regard. However, with no prior knowledge of the presence of the C182 through earlier Traffic Information (**CF2**), and no possibility of a FLARM alert from the C182 (**CF3**), both pilots had had to rely on lookout to detect the presence of the other aircraft. With regard to electronic conspicuity, the Board were heartened to see that the C152 had FLARM fitted because this would provide valuable warnings of FLARM-equipped gliders in the vicinity; however, it would be unlikely to warn of other powered-aircraft unless they also had FLARM. A member commented that other, increasingly affordable, equipment was now available that could detect SSR, and that this incident highlighted the value of such equipment when the only other safety barrier was see-and-avoid. In that latter respect, the Board could not be sure whether or not the C182 pilot had seen the C152 but considered that, on the balance of probability and given the recorded separation at CPA, the C182 pilot had probably not seen the C152 and that the C152 pilot had seen the C182 too late to materially affect the CPA (**CF4**).

When considering the risk, the Board regretted that the C182 pilot had not responded to requests for information because this made the task of analysis difficult without his perspective. The Board took into account that neither pilot had had situational awareness of the presence of the other aircraft, and that it seemed that neither pilot had seen the other aircraft in time to materially increase CPA. Some members considered that chance had played a major part in the 2 aircraft missing each other and therefore a risk category of B was appropriate. However, acknowledging that events had unfolded largely without input from either pilot, other members noted that the C152 crossed in front of the C182 at a range of 0.4nm, after which, the fact that they had come within 0.2nm was effectively after the conflict had been resolved either by circumstance or deliberate inaction by the C182 pilot; ultimately, the C182 pilot was required to give way to the C152, and it could have been that he was comfortable with the separation and simply did not see the need to deviate from his track. Unfortunately, without his perception of the event, it was not possible to conclusively understand which might have been the case and so, after further debate, the Board eventually agreed that, either way, although safety had been degraded, there had been no actual risk of collision. Accordingly, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019290		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Tactical Planning and Execution		
1	Human Factors	• Communications by Flight Crew with ANS	Apt ATS not requested by pilot
	• Situational Awareness of the Conflicting Aircraft and Action		
2	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• Electronic Warning System Operation and Compliance		
3	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• See and Avoid		
4	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C

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:

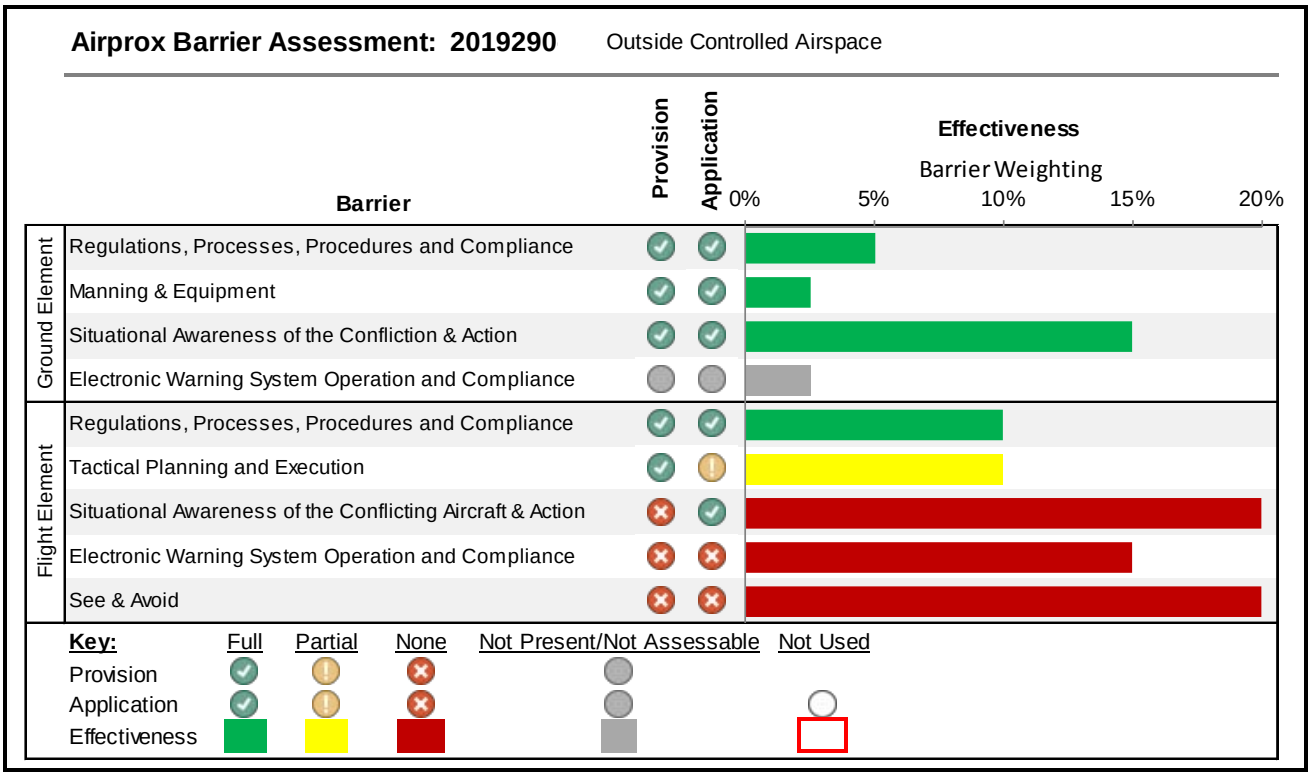
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because both pilots could have requested a surveillance-based Air Traffic Service form their respective controllers.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because, notwithstanding the immediacy of the Traffic information passed to the pilot of the C152 on initial contact with Oxford radar, neither pilot received any prior warning of the other aircraft's presence.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the FLARM on the C152 did not detect the presence of the C182.

See and Avoid were assessed as **ineffective** because the C152 pilot did not see the C182 until it was already passing behind his aircraft, and the C182 pilot probably did not see the C152.



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