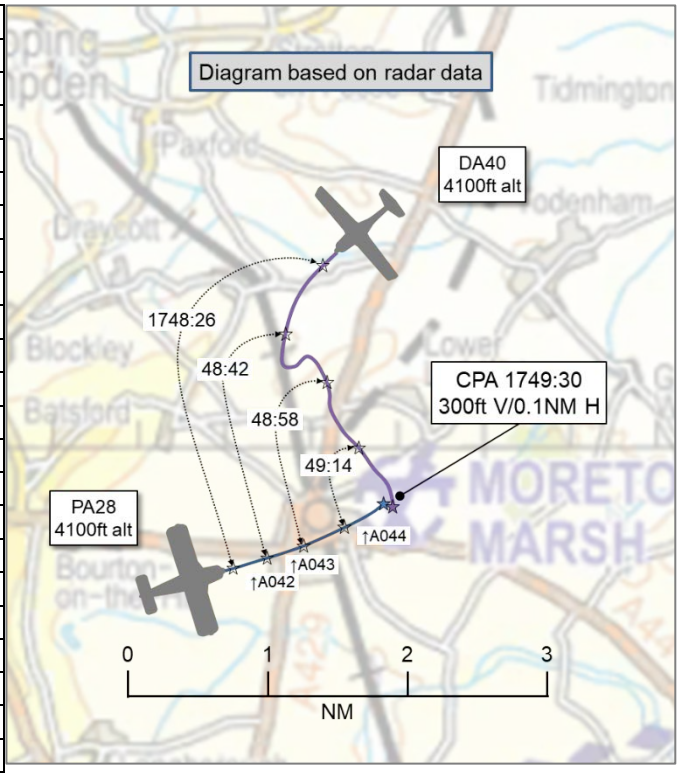
AIRPROX REPORT No 2021014

Date: 16 Mar 2021 Time: 1749Z Position: 5200N 00141W Location: Moreton-in-Marsh

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	DA40
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out[1]	Basic
Provider	Oxford Approach	Oxford Approach
Altitude/FL	A044	A041
Transponder	A, C, S	A, C, S
Reported		
Colours	White/blue	White/blue/green
Lighting	Beacon, Nav	Nav, position
Conditions	VMC	VMC
Visibility	NR	10km
Altitude/FL	4000ft	4000ft
Altimeter	QNH	QNH
Heading	070°	120°
Speed	90kt	NR
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	0ft V/350m H	100ft V/1.0NM H
Recorded	300ft V/0.1NM H	



THE PA28 PILOT reports being on an instructional navigation exercise via the Gloucester overhead and Banbury, receiving a Basic Service from Oxford Approach [they recalled]. They were instructing a PPL student, with another student observing in the rear seat. Tracking 070° at the time, they noticed an aircraft approaching from their left, on a left-right perpendicular track, same level. Instinctive avoiding action was taken by turning left and climbing to position above and behind the oncoming aircraft. Estimated separation was 300-400m laterally (close enough to easily read the registration), same altitude. They opine that, had avoiding action not been taken, the risk of collision was high. Conditions were very hazy (significantly worse than earlier in the day), exacerbated by the low sun. It was reported to ATC approximately 5 minutes after the incident, once they had debriefed it within the cockpit.

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

THE DA40 PILOT reports flying in VMC with a cloud base of 4100ft and carrying out some GH manoeuvres with the student under the hood (first Stalls and then Upset Recovery). After finishing a manoeuvre, whilst heading eastbound, they were carrying out their scan and noticed in their 4 o'clock at a similar level a PA28 heading towards them from the rear at a closing angle of approximately 70° with the sun in the background. The aircraft was behind them at a range of approximately 1NM and it then turned to the left behind their aircraft. They were trying to work out where it had gone as it disappeared behind the tail. It then re-emerged heading northbound. They did not initiate any avoidance manoeuvres as the other aircraft was behind them. The [other] pilot then reported this as an Airprox over the radio. This happened in Class G airspace in the Moreton area. There was no radar available at Oxford and also Brize Radar had shut. They were operating under a Basic Service. They finished their GH and returned to the hold for a procedural NDB approach.

[1] The pilot reports being in receipt of a Basic Service from Oxford Approach at the time of the Airprox. However, the pilot had not yet re-contacted the Oxford controller to re-establish an Air Traffic Service.

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

THE OXFORD APPROACH CONTROLLER reports that they were the ATCO working the Tower and Approach positions combined from the VCR (due to staff shortages). At approximately 1755Z, [the PA28 pilot] reported an Airprox on frequency. They requested that the pilot pass the details of the Airprox, which they did. The pilot reported a miss distance of approximately 400m at the same level and identified the other aircraft by its registration. Both aircraft were VFR and receiving a Basic Service from the controller, they recalled.

Factual Background

The weather at Brize Norton was recorded as follows:

```
METAR EGVN 161750Z 34009KT 9999 FEW023 11/06 Q1030 NOSIG RMK BLU BLU=
```

Analysis and Investigation

London Oxford Airport

This Airprox occurred during light to medium traffic levels. The controller was operating Tower and Approach combined on frequency 125.090MHz. [The DA40] took-off from Oxford at 17:09, the FPS denoted that the aircraft was planned to route to the NW for general handling. At **17:12**, [The DA40 pilot] transmitted, "*[DA40 c/s], request Basic Service*", the TWR/APP controller replied, "*[DA40 c/s, Basic Service, no level restriction*" which was read back correctly by the pilot.

[The PA28], took-off from Oxford at **17:07**, the FPS denoted that the aircraft was planned to route on a local flight to the west. At **17:09**, the Oxford TWR/APP controller reported, "*[PA28 c/s], Basic Service, no level restriction*", the pilot initially responded, "*say again*", the original transmission was repeated and then read back as follows by the pilot, "*Basic Service, no level restriction, [PA28 c/s]*".

At **17:24**, [the PA28 pilot] requested a frequency change to Gloucester approach, the Oxford controller asked who had just asked to leave the frequency and [the PA28 pilot] responded. The Oxford controller then instructed [the PA28 pilot] as follows: *"[PA28 c/s], squawk conspicuity and freecall*" which was readback by the pilot. (Note: Gloucester Airport was NOTAM'd as closed at this time.)

At **17:28** [the PA28 pilot] returned to the Oxford frequency and reported, "*nothing heard, switching to Brize Radar 124.275*", the controller again instructed the pilot to "*squawk conspicuity, freecall*" which was acknowledged by the pilot. A short time after this, the aircraft was seen to change to Brize Norton frequency monitoring code, this is seen to change to the Oxford frequency monitoring code at **17:42**. The CPA occurred at **17:49**. [The PA28 pilot] then established contact with Oxford at **17:51** and reported the Airprox.

[The PA28 pilot] had not been in receipt of a service from Oxford at the time of the Airprox. The pilot had selected the frequency monitoring code but, whilst Oxford was operating without the use of radar at this time, there was no real way of Oxford being aware of the aircraft's presence in the area.

[The DA40 pilot] was operating under a Basic Service and therefore it should be remembered that, as per CAP774, the pilot should not expect any form of Traffic Information from a controller under this service and that, whether Traffic Information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller. Both aircraft had been known to depart in westerly or north-westerly directions from the aerodrome but had been airborne some 40+ minutes before the CPA. The Oxford controller had not received any significant position/level updates from either pilot in the time leading up to the Airprox, and so could not realistically be expected to know that the aircraft at the time were flying in such close proximity to each other. It is noteworthy that, due to staff sickness, radar had been largely unavailable (or 'on request') for a large section of the day.

This event occurred in Class G airspace where ultimately, regardless of the ATS being provided, the pilots are responsible for collision avoidance.

UKAB Secretariat

The PA28 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 converging then the DA40 pilot was required to give way to the PA28.[3]

Summary

An Airprox was reported when a PA28 and a DA40 flew into proximity over Moreton-in-Marsh disused airfield at 1749Z on Tuesday 16th March 2021. Both pilots were operating under VFR in VMC, the PA28 pilot was listening out on the Oxford Approach frequency and the DA40 pilot was in receipt of a Basic Service from Oxford Approach.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controllers involved and a report from the appropriate ATC operating authority. 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.

The Board first considered the actions of the PA28 pilot. Some members wondered whether the PA28 pilot's instructor had been aware of the Gloucester closure NOTAM but had allowed the student to continue with their plan in order to highlight a teaching point. If this was indeed the case, the Board felt that perhaps allowing the student to attempt to contact an airfield that was known to be closed, followed by attempting to contact a different airfield outside their published hours of LARS operation, had been the most appropriate course of action. The Board felt that, had the PA28 pilot remained on the Oxford frequency, then they may have gained situational awareness (SA) on the position of the DA40. Members agreed that, in the event, the PA28 pilot had not had any SA on the presence of the DA40 (**CF5**) and that this had, at least in part, been due to the fact that they had not been on the same frequency as the DA40 pilot (**CF4**). Additionally, without any form of electronic conspicuity equipment capable of detecting the DA40's presence, the PA28 pilot had had to rely on their lookout to detect the presence of potential threats to their aircraft. Some members wondered whether the PA28 pilot had been distracted from their lookout by the various frequency changes that they had been making in attempting to make contact with other agencies. However, the Board could not be certain that this had been the case and so did not assign a contributory factor in this regard. However, members concluded that the PA28 pilot had, nevertheless, sighted the DA40 late and that this had contributed to the Airprox (**CF6**).

Turning to the actions of the DA40 pilot, members noted that they had been on the Oxford frequency, albeit under a Basic Service, for approximately 40min prior to the Airprox occurring. The Board noted that the pilot had remained in the vicinity of Oxford while conducting their air exercises and that they had probably deemed a Basic Service sufficient for their needs on that particular flight. However, and notwithstanding the Oxford controller did not have access to surveillance-derived information (and therefore could not have provided anything more than a Basic Service), the Board wished to remind pilots of the relative advantages of a surveillance-based Air Traffic Service (ATS) over a non-surveillance-based ATS. Members noted that the DA40 had also not been equipped with any form of electronic conspicuity equipment capable of detecting the PA28's presence and agreed that, without any information on the presence of the PA28 from the Oxford controller, they had not had any situational

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

awareness of the presence of the PA28 (**CF5**). As with the PA28 pilot, this had left the DA40 pilot reliant upon sighting any potential threats to their aircraft. In the event, the DA40 pilot had not sighted the PA28 until it had already started to pass behind their aircraft and the Board judged that this effective non-sighting had been contributory to the Airprox (**CF7**).

The Board then discussed the actions of the Oxford Approach controller. Members noted that Oxford ATC had been unable to provide surveillance-based Air Traffic Services due to staffing shortages, and that this had led to the Tower controller delivering the Approach and Tower functions from the visual control room. The Board felt that this had contributed to the Airprox in that the Oxford Approach controller had had no means by which they could observe the relative proximity of the 2 aircraft (**CF1**). Furthermore, because the PA28 pilot had not yet re-contacted the Oxford Approach controller after their unsuccessful attempts to establish a Service with another provider, the Oxford Approach controller had had no situational awareness of the position of the PA28 relative to the DA40 (**CF3**). That said, the Board agreed that the controller had not been required to monitor the DA40 under the terms of the Service being delivered (Basic Service) (**CF2**) and that there was nothing that they could have done to alert the DA40 pilot to the presence of the PA28.

Finally, the Board considered the risk involved in this event. Members noted that the pilots' assessment of the risk of collision differed greatly, but that the DA40 pilot's assessment had been made after the PA28 had already started to pass behind their aircraft. The Board was grateful for the NATS radar data, which enabled a reliable measurement of CPA to be made, and considered that, although the PA28 pilot had seen the DA40 at a relatively late stage and that safety had unquestionably been degraded, it had been in sufficient time for them to remove any risk of collision. Consequently, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021014			
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	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	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late or no Situational Awareness
	Flight Elements			
	• Tactical Planning and Execution			
4	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			
5	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid			
6	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
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

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:

Ground Elements:

Manning and Equipment were assessed as **partially effective** because Oxford ATC was unable to provide surveillance-based Air Traffic Services due to staff shortages at the time of the Airprox.

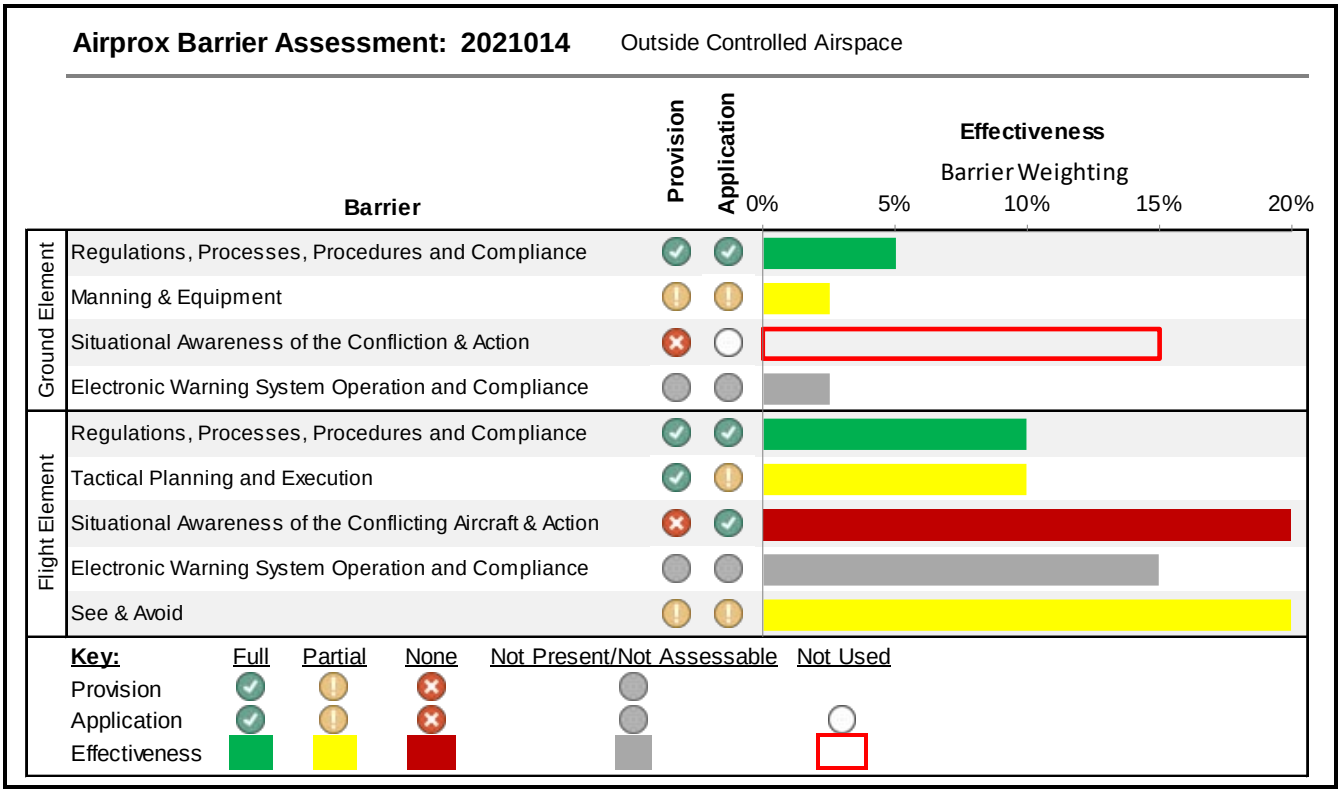
Situational Awareness of the Confliction and Action were assessed as **not used** because the Oxford controller was not required to monitor the DA40 under the terms of a Basic Service.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot had planned to contact Gloucester Approach but was unaware that there was a NOTAM stating that Gloucester was closed, which may have led them to remain on the Oxford frequency.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft prior to the PA28 pilot sighting the DA40.

See and Avoid were assessed as **partially effective** because the DA40 pilot did not sight the PA28 until at or around CPA, and the PA28 pilot only sighted the DA40 immediately prior to CPA.



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