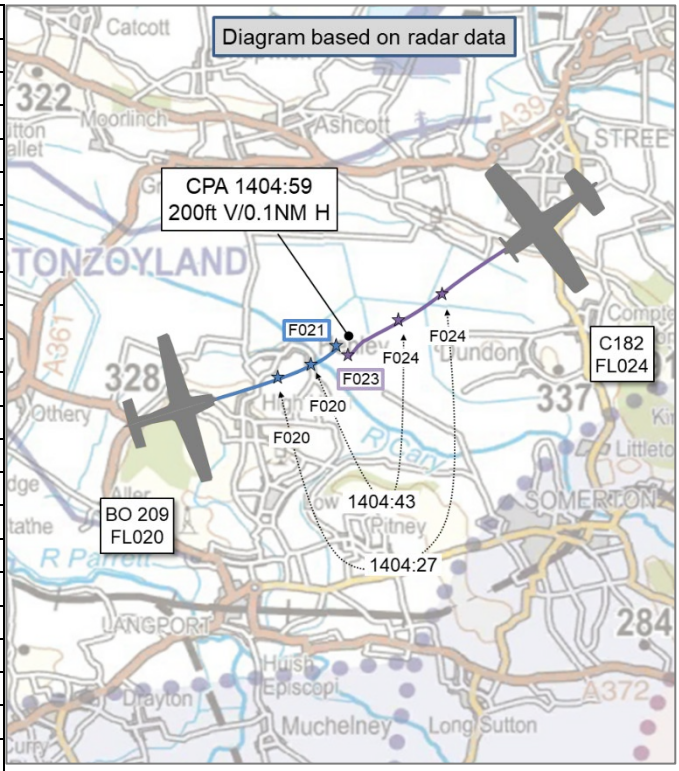
AIRPROX REPORT No 2021212

Date: 12 Oct 2021 Time: 1405Z Position: 5105N 00247W Location: 8NM NW Yeovilton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C182	Bolkow 209
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None[1]
Provider	Yeovilton	
Altitude/FL	FL023	FL021
Transponder	A, C, S	A, C
Reported		
Colours	White, Burgundy	Red, White
Lighting	Landing	Nil
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2400ft	2500ft
Altimeter	QNH (1021hPa)	QNH (1024hPa)
Heading	225°	055°
Speed	125kt	95kt
ACAS/TAS	SkyEcho	PilotAware
Alert	None	Information
Separation at CPA		
Reported	0ft V/250m H	200ft V/500m H
Recorded	200ft V/0.1NM H	



THE C182 PILOT reports that they spotted the other aircraft during lookout half a mile away, dead ahead at the same altitude or slightly below. The other aircraft did not appear on their CWS conspicuity screen, which they knew was working as just minutes earlier it had alerted to another aircraft's proximity (which they subsequently saw). Both aircraft were flying with landing lights on, and the light on the other aircraft was the first thing that they noticed. Had the other aircraft not had their light on, they thought they would probably not have noticed it when they did. They both turned to their respective left and created separation. The pilot opined that no one was at fault, but if the other aircraft had ADS-B-out, this Airprox would have been avoided. Yeovil Radar was very busy, so they did not report it at the time, they struggled to get their QSY call in.

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

THE BO 209 PILOT reports that they were receiving intermittent CWS information on the other aircraft. The landing light of the other aircraft was then seen, they made a turn to the left and the opposing aircraft passed on their right-hand side at a horizontal range of 500-600m.

The pilot assessed the risk of collision as 'None'.

THE YEOVILTON CONTROLLER reports that they recalled a medium intensity session on Yeovilton LARS. They were providing a Basic Service to the C182. The Airprox was not reported on frequency.

THE YEOVILTON SUPERVISOR reports that they were the Radar Supervisor during this event along with a Supervisor under training. Given the Airprox was not called on frequency and that they were only made aware of the incident three days after it occurred, they were unable to provide any further

[1] The pilot reported receiving an ATS from Farnborough, but Farnborough ATC confirmed that they were not providing a service.

significant detail. During the time of the incident there were moderate traffic levels on LARS and Approach. At no point in overseeing either of these positions did they, or the trainee Supervisor see anything unsafe occur.

Factual Background

The weather at Yeovilton was recorded as follows:

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METAR EGDY 121350Z 32007KT 9999 FEW027 BKN030 16/10 Q1025 NOSIG RMK BLU BLU=
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Analysis and Investigation

Yeovilton Occurrence Investigation

Sequence of events:

1357:51 The reporting air system requested and received a Basic Service from RNAS Yeovilton's Lower Airspace Radar Service controller.

The reporting air system tracked south-west with the squawk of 4370.

A conflicting air system tracked north-east squawking 7000.

The two air systems conflict. Separated laterally by less than half a mile and with Mode C readings indicating a vertical separation of around 300ft.

The reporting air system continued to track south-west. The pilot reported during the investigation that they were startled by the event and their focus was on completing their flight safely, not reporting the incident.

1409:24 The reporting system informed Yeovilton LARS that they were changing frequency to Dunkeswell.

The C182 was in receipt of a Basic Service from Yeovilton. The duty controllers noted no unusual or dangerous traffic actions around the C182. A second aircraft reported the Airprox several days later. Aircrew detected conflicting traffic and took avoiding action; the barrier worked. The radar recordings show the aircraft with less than 0.5NM, but 300ft separation. All aircraft were VMC and pilots were responsible for their own separation, the Yeovilton controller at the time did not witness any activity requiring them to take action with [C182 C/S].

UKAB Secretariat

An analysis of the NATS radars was undertaken, which was not utilised by the Yeovilton controller and therefore not necessarily what could be seen by the Yeovilton controller. The NATS radar showed the C182 displaying 4370 and indicating FL023. The BO209 was squawking 7000 and indicating FL020, the two aircraft were 5.7NM apart (Figure 1).

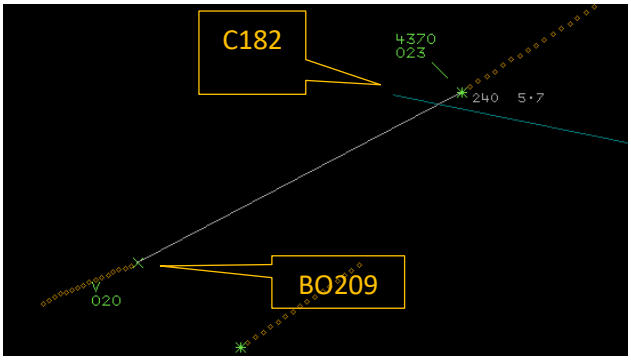


Figure 1 - 1403:28

By 1404:43 the two aircraft had closed to 1NM and were indicating 400ft vertical separation, Figure 2.

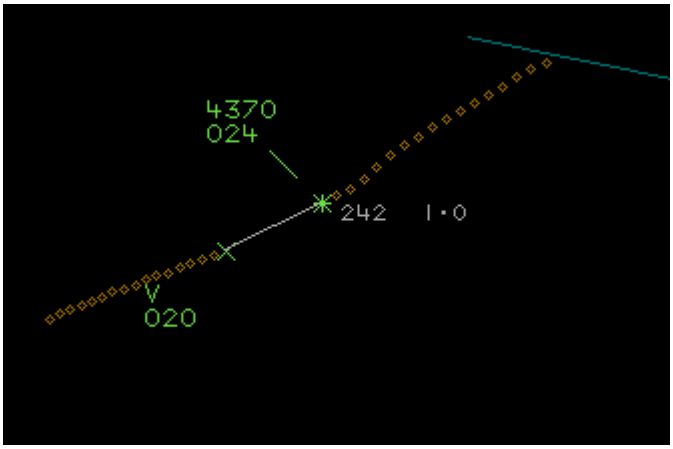


Figure 2 – 1404:43

The two aircraft continued to close until 1404:55 when both aircraft appeared to make a slight turn to the left. CPA occurred at 1404:59, radar separation indicated 200ft and 0.1NM.

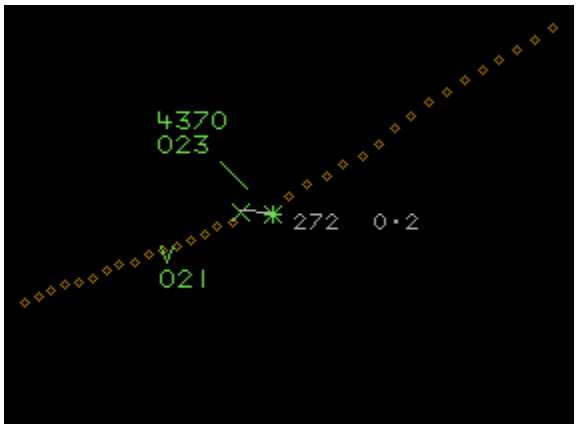


Figure 3 -1404:55

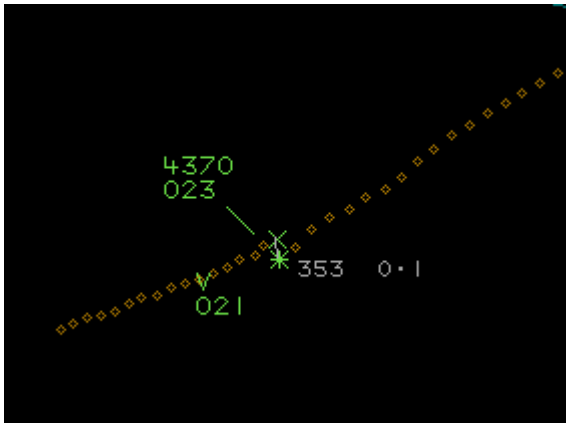


Figure 4 – 1404:59 CPA

The C182 and BO209 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]

Comments

Navy Command HQ

A local occurrence investigation took place, confirming the aircraft (C182) was in receipt of a Basic Service and no Airprox was called on frequency.

The Yeovilton controller was providing a Basic Service in meteorological conditions appropriate for the provision of the service.

As stated in CAP774: providers of a Basic Service are 'not required to monitor the flight' and 'pilots should not expect any form of traffic information from a controller' when in receipt of a Basic Service.

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

Given the intensity of the air picture, the controller would not have been expected to pass Traffic Information for the safe conduct of the aircraft's flight given their spare capacity.

AOPA

This Airprox serves as a useful reminder for pilots to keep landing lights at all times on when flying, to aid visibility to other pilots. It is advisable to use a Traffic Service if one is available and to use a facility that is closest to the route; a Basic Service will not normally give traffic notification as controllers are not required to monitor progress of the flight. Remember, electronic conspicuity, like look out, is fallible and the other aircraft might not be fitted with any form of EC or radio. Finally, pilots are reminded to report Airprox on the RT.

Summary

An Airprox was reported when a C182 and a BO209 flew into proximity 8NM NW Yeovilton at 1405Z on Tuesday 12th October 2021. Both pilots were operating under VFR in VMC, the C182 pilot in receipt of a Basic Service from Yeovilton and the BO209 pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controllers involved. 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 looked at the actions of the C182 pilot. They were receiving a Basic Service from Yeovilton ATC; controllers are not required to monitor aircraft receiving a Basic Service, and therefore do not routinely pass Traffic Information. If pilots require Traffic Information to be passed, they should request a Traffic Service. Furthermore, the EWS on the C182 could not detect the BO209, which was not fitted with an ADS-B enabled transponder (**CF4**). Consequently, the C182 pilot had no situational awareness that the other traffic was approaching (**CF3**). Noting that in this case the landing light appeared to have alerted the pilot to the other aircraft, members commended both pilots for using their lights effectively, noting that it was a quick, low-cost method of improving conspicuity. Members opined that whilst the rate of filament attrition was often cited as a reason not to continually display the landing light, LEDs had dispelled that argument. Indeed, the gliding members noted that new uni-directional LEDs strobes fitted to gliders had proved to be a big success in improving conspicuity. Once visual with the BO209, the C182 pilot took avoiding action, but was concerned by the proximity of the two aircraft (**CF6**).

Turning to the actions of the BO209 pilot, they were not in receipt of an ATS and members thought that this had been a missed opportunity (**CF2**). Although Yeovilton ATC had not provided any Traffic Information, had both pilots been listening out on the same frequency they may have gained situational awareness from the RT. Furthermore, controlling members thought that there was more likelihood of ATC noticing aircraft in proximity if they were controlling both of them. The pilot reported that the CWS on the BO209 was intermittently alerting to an aircraft in proximity (**CF5**) and that this cued them to look for the C182. Once visual, they also took avoiding action.

Members noted that the mixture of EWS available and the differences in what each could detect, together with the fallibility of such systems due to aerial positioning meant that pilots should not view EWS as the ultimate panacea, providing a protective 'bubble' around their aircraft, but instead should use it as an aid to look-out and situational awareness. There followed some discussion around the current situation in the UK with no one system being preferred by the CAA and therefore multiple and in some cases, non-compatible systems being developed. They were told by the CAA advisor that work was on-going but that there was currently no obvious ideal solution. Despite the limitations, members were keen to stress that any one of the available systems were better than none and pilots should do their own research to find which solution was the best fit for their own needs.

Follow this link to the CAAs webpage on Electronic Conspicuity Devices, guidance material and compatibility table:

https://www.caa.co.uk/General-aviation/Aircraft-ownership-and-maintenance/Electronic-Conspicuity-devices/?mc_cid=ce23f03dac&mc_eid=d250bc9f1c

Finally, the Board briefly looked at the actions of the Yeovilton controller. They were not required to monitor the C182 on a Basic Service on the radar (**CF1**) and given that the frequency was busy it was likely that they did not notice the confliction developing. Controlling members thought that had the controller seen the two aircraft approaching, given that they were head-on and only a few hundred feet apart, they were likely to have provided Traffic Information.

In determining the risk of the Airprox, members considered the reports from both pilots, together with the radar replay. Although final separation was less than ideal, because both pilots had seen each other, and both had taken avoiding action, they considered that there had been no risk of collision. However, final separation was such that they thought safety had been degraded and accordingly assigned a Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021212			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
	• Situational Awareness of the Conflicting Aircraft and Action			
3	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
4	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
5	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
6	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment[4]

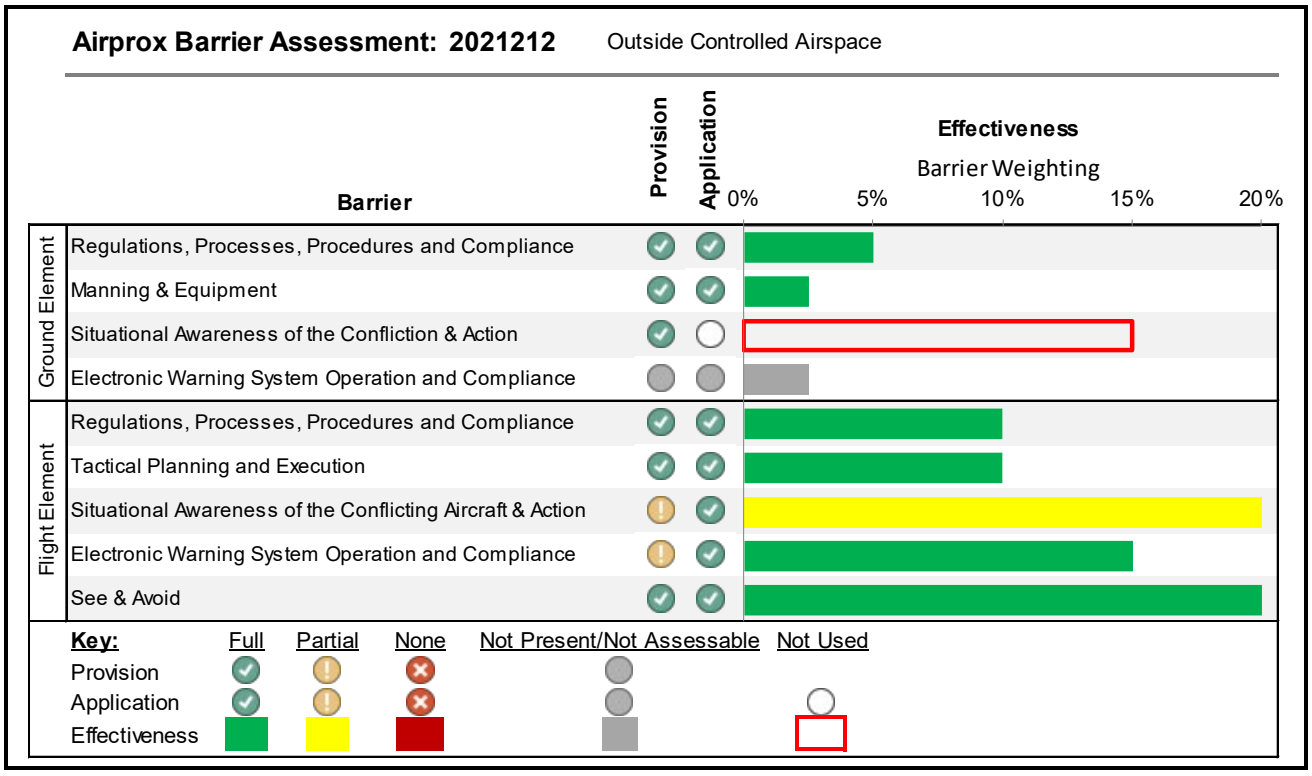
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Yeovilton controller was not required to monitor aircraft receiving a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because although the C182 pilot had no specific situational awareness, the BO209 pilot had generic information from their EWS.



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