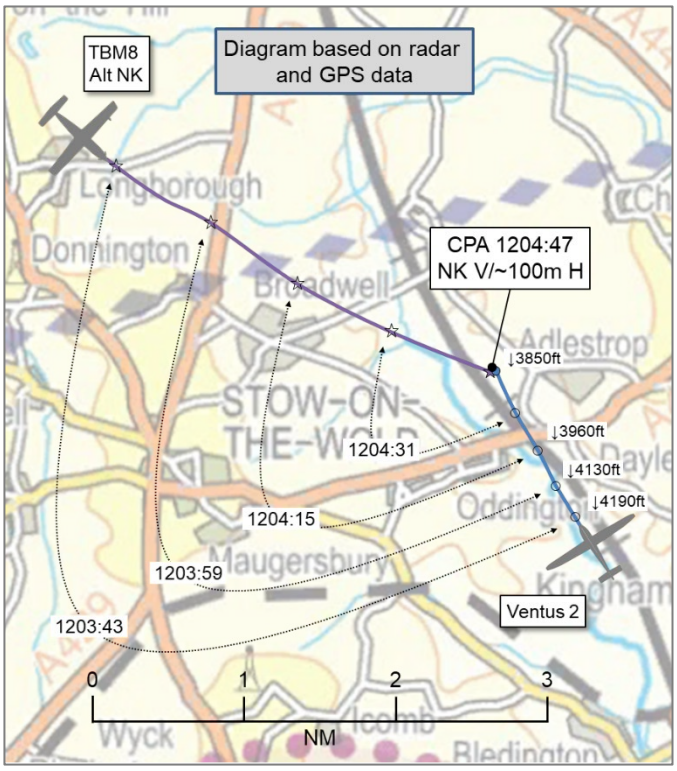
AIRPROX REPORT No 2022138

Date: 14 Jul 2022 Time: 1205Z Position: 5157N 00140W Location: 1NM E Stow-on-the-Wold

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Ventus 2	TBM8
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	Dunstable gliders	Oxford Radar
Altitude/FL	3850ft	NK
Transponder	Not fitted	A, S+[1]
Reported		
Colours	White	White, Black, Burgundy
Lighting	Nil	Beacon, Strobe, Nav, Pulsing wing.
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2500ft	NK
Altimeter	QFE (NK hPa)	QNH (1023hPa)
Heading	350°	'South-easterly'
Speed	70kt	~160kt
ACAS/TAS	FLARM	TAS
Alert	None	None
Separation at CPA		
Reported	200ft V/<0.25NM H	400ft V/500m H
Recorded	NK V/~100m H	



THE VENTUS 2 PILOT reports that [the aircraft they were flying] had no [EC equipment] fitted, so they had borrowed an [EC unit that is compatible with that commonly used by glider pilots] from another club member to use until they decide upon a longer term choice of [EC equipment] installation and other instruments. They state that [they know that the EC equipment] did work, as identified by another club member sharing a thermal on an earlier part of the same flight. They had been trying to gain height in weak lift for possibly 10-15min in thermals in the area of Evenlode and Daylesford Garden Centre, and eventually climbed to about 2700ft altitude and headed north towards a better looking cloud. While flying straight and level they suddenly saw a TBM type aircraft approaching from their left, at a similar altitude, and not that far away. They immediately put the glider into a dive and the aircraft passed directly overhead with what they estimate to be about 200ft separation. They did not see the aircraft make any attempt to change direction or height and, as it passed overhead, they did not recall seeing any registration markings under either wing.

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

THE TBM8 PILOT reports that they were returning, VFR, to [their destination] airport, in receipt of [they recall] a Traffic Service from Oxford radar. The student had completed the re-join brief and was descending to comply with the standard VFR join procedure. During the descent, they became aware of an opposite direction glider in a nose down, descending attitude, passing quickly down their port side approximately 400ft below. The glider did not show on their traffic system and ATC did not pass Traffic Information. They initiated a turn to the right and the glider passed below on their port side. Once clear of the glider, they continued to [their destination].

[1] No Mode C data was received from the TBM8 by the NATS radars.

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

THE OXFORD RADAR CONTROLLER contributed to the investigation carried out by the ATSU which is included in this report below.

Factual Background

The weather at Brize Norton was recorded as follows:

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EGVN 141150Z 33010KT CAVOK 21/07 Q1023 NOSIG RMK BLU BLU
EGVN 141220Z 32010KT CAVOK 22/07 Q1023 NOSIG RMK BLU BLU
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Analysis and Investigation

Oxford ATS Unit Investigation

The controller involved received a handover from the previous controller who reported [to them as part of the handover], at 1158:25, that "[TBM8 c/s] *is Basic Service, there*" and later, at 1158:59 the handing-over controller reported, "[TBM8 c/s] *is there, he's been quite high level but I warned him about the Cotwolds thingy cause he got under that he was under seven-zero*".

The next interaction between the aircraft pilot and the Oxford controller was at time 1205 whereby [the TBM8 pilot] initiated a call to Oxford Radar specifying that they were, "*fifteen miles northwest*, [redacted destination information]", the controller acknowledged this with, "*report five miles to run, QNH one-zero-two-three*" which was again acknowledged with "*wilco*" by the pilot. Almost simultaneously as this exchange was taking place, what is believed to be the position indicator of [the TBM8] seemingly merged with a primary contact which was tracking north/northwest bound. The TBM8 pilot was transferred to [the next frequency] at time 1207. At no time did [the pilot of] this aircraft report an Airprox, nor was there any mention of the event via the RT.

[The investigator notes] that, as per CAP774, controllers are not required to monitor the flight of an aircraft in receipt of a Basic Service, likewise 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.

CAA ATSI

The glider pilot reported that they had been operating around the Evenlode and Daylesford Garden Centre area (trying to gain height) for approximately 10-15min and had eventually climbed to around altitude 2700ft. The pilot was not in receipt of an Air Traffic Service at the time of the Airprox. The TBM8 student pilot was returning to [destination] airport on completion of a local flight. The report received from the instructor would indicate that the student and instructor were of the understanding that they were in receipt of a Traffic Service, however the RTF review has confirmed that the agreement reached with the controller was a Basic Service.

There had been a handover of the controller position between the time of the ATC service agreement being reached and the Airprox occurring. The Airprox was not reported to the incoming controller at the time of the event and, when they were subsequently advised [of it at a later date], they had no recollection. They confirmed that they were unaware of the presence of the glider and that, had they spotted the confliction, they would have passed Traffic Information to the TBM8 pilot under Duty of Care.

ATSI had access to reports from the pilots of both aircraft and Oxford ATC unit management. The area radar and RTF recordings were reviewed for the relevant period. The glider was not visible on the area radar at any point, and the Mode C information on the TBM8 was not displayed at the reported time of the Airprox. The area radar was not the radar that was in use by the Oxford controller and the Oxford unit report has confirmed that a primary-only radar contact, tracking north-

northwest, was displayed on the Oxford radar display at the time of the call from the TBM8 pilot requesting [information relating to destination], and that this contact was merging with the radar contact of the TBM8 at this time. The RTF was busy in the lead-up to the Airprox. In the interest of brevity only the RTF exchanges between the controllers and the TBM8 pilot have been included in this report.

At 1100:00 the TBM8 pilot contacted the Oxford Radar frequency after departure. The pilot advised the Radar controller that they were, "*approaching fifteen hundred feet, on track to the northwest*." The controller responded, "*Basic Service*." Traffic Information was passed on unrelated rotary traffic indicating altitude 2200ft. The pilot confirmed that they were visual with the rotary traffic, and the controller advised the pilot that there was no level restriction. The pilot confirmed that once they were past the rotary traffic, they would be climbing to altitude 5000ft. The controller acknowledged.

At 1125:20 the controller advised the pilot that they were just going under the Cotswold Flexible Use Airspace and that the base was FL75. The pilot responded that they had copied.

At 1158:25 the Oxford unit report states that there was a handover of controller in progress and at this time, the handing-over controller reported to the taking-over controller that the TBM8 pilot was on a "*Basic Service, there*." A few seconds later at 1158:59 the outgoing controller reported to the incoming controller that the TBM8 had been quite high level and that the pilot had been issued with a warning about the Cotswold Flexible Use Airspace because the aircraft was observed to be underneath it at one point. Note: At the time of this exchange the TBM8 was displayed (on the area radar) 30NM west-northwest of Oxford, this would have been at the extremity of the controller's radar display.

At 1200:00 the controller handover had been completed.

At 1203:00 the incoming controller started providing vectors for an instrument approach to the pilot of an unrelated inbound aircraft.

At 1204:00 the controller was passing Traffic Information to the pilot of another unrelated aircraft.

At 1204:30 the TBM8 pilot called advising that they were 15NM northwest of the airfield and requested [destination airfield data]. The pilot was instructed to report 5NM to run.

At the reported CPA time of 1205:10 the traffic picture in the vicinity of the TBM8 was displayed (on the area radar) as depicted in Figure 1 below, with the reported position of the glider marked by the white cross.

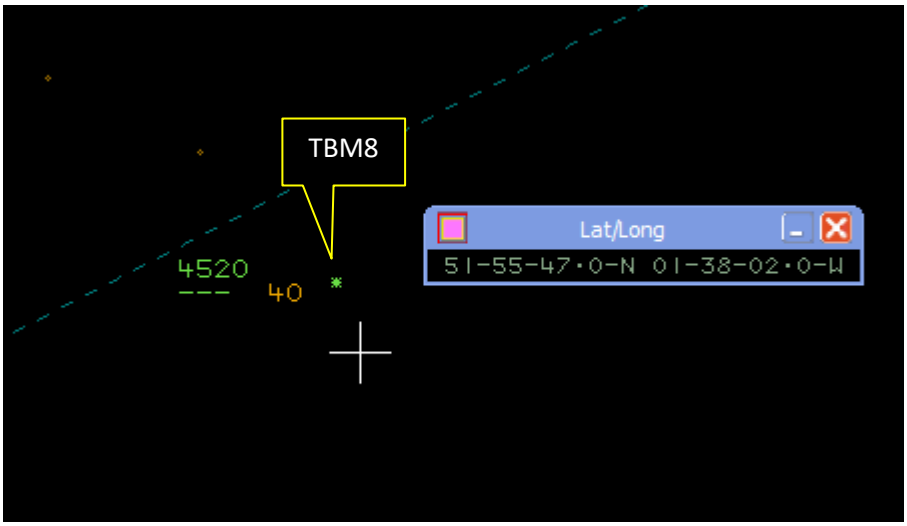


Figure 1 – 1205:10 (reported CPA)

Analysis

The Air Traffic Service agreement with the TBM8 pilot was for the provision of a Basic Service. Under the terms of a Basic Service the controller was not required to monitor the flight of the aircraft.

Controllers are required to issue a warning to pilots if they consider that a definite risk of collision exists ((UK) SERA.9005(b)(2) and GM1 (UK) SERA.9005(b)(2). However, the glider pilot was not in RTF contact with Oxford Radar and the controller was unaware of the presence of the glider.

The TBM8 pilot had been operating at the extremity of the controller display. In the lead-up to the Airprox, the controllers had been dealing with IFR and VFR departures and arrivals, as well as VFR control zone crossers and transits, and as a result they would be required to focus their attention closer to the airfield.

The Oxford unit investigation report does not contain radar screenshots; it states that the replay of the Oxford radar recording resulted in confirmation that a primary-only radar contact was observed merging and garbling with the radar contact of the TBM8 at the point where the pilot had called the controller for re-join instructions.

The Airprox was reported to the controller some time after the event and the controller had no recollection of the event. They stated in their unit report that had they seen the confliction they would have passed Traffic Information under their Duty of Care.

Conclusion

The controller was not required to monitor the flight of the TBM8, and in the lead-up to the event the focus of their attention, in terms of traffic priorities and service delivery, would have been closer to the airfield. The controller confirmed that they were aware of their responsibilities under Duty of Care, however they were not aware of the presence of the glider.

UKAB Secretariat

The Ventus 2 and TBM8 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 TBM8 pilot was required to give way to the Ventus 2.[3]

Comments

AOPA

It is recommended that pilots obtain the best ATC service available to assist in prevention of MAC. In this case the glider wasn't equipped with a transponder and the EC available wasn't compatible, leaving the last barrier of lookout for MAC avoidance. This was a good spot by both the TBM and glider pilots, just allowing time for avoiding action to be taken.

BGA

The difficulties of sighting another aircraft approaching head-on with little relative motion are well-known. Many pilots now opt to permanently switch on forward-pointing high-intensity landing lights, even in full daylight, to aid visual conspicuity in this direction.

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

Summary

An Airprox was reported when a Ventus 2 and a TBM8 flew into proximity 1NM east of Stow-on-the-Wold at 1205Z on Thursday 14th July 2022. Both pilots were operating under VFR in VMC, the TBM8 pilot in receipt of a Basic Service from Oxford Approach and the Ventus 2 pilot 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, a GPS data file, 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 considered the actions of the Ventus 2 pilot and members were encouraged that, in the absence of their own EC equipment, they had been utilising borrowed equipment, and that this would also inform their choice of which equipment would be suitable for their needs when they purchase their own. However, members noted that the EC equipment that they had employed on this occasion had been incompatible with, and therefore unable to detect, the EC equipment carried by the TBM8 pilot (**CF3**). Members went on to discuss the wide variety of EC devices that are available on the market to pilots, pointing out that not all are compatible with one another, and agreed that it is for pilots to decide on their own requirements for additional equipment according to their needs. The Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2023.[4] The Board agreed that, without any EC notification, and as they had not been in receipt of an ATS, the Ventus 2 pilot had not had any avenue through which they would have been able to gain prior awareness of the presence of the TBM8 (**CF2**). A GA pilot member stated that the Ventus 2 pilot had done well in becoming visual with it, albeit at a later than optimum point (**CF4**).

Next, members considered the actions of the TBM8 pilot, again noting that although they had been carrying EC equipment, this had been incompatible with, and therefore unable to detect, the EC equipment carried by the Ventus 2 pilot (**CF3**). The Board agreed that the TBM8 pilot had not had any prior awareness of the presence of the Ventus 2 (**CF2**) and, noting that it can be difficult to visually acquire gliders, especially head-on, members were encouraged that the pilot had become visual with the aircraft, however, this had again occurred at a later than optimum stage (**CF4**). The Board then discussed that there had been no altitude/Mode C readout from the TBM8 pilot's transponder. Members commented that it was possible for pilots to inadvertently deselect this option when activating their transponder, and therefore wished to encourage pilots to take time to ensure they are familiar with the operation of their particular equipment, to ensure that when the aircraft carries serviceable Mode C equipment, the pilot continuously operates this mode, unless otherwise instructed by ATC. [5]

The Board then examined the involvement of the ground element and agreed that it had been unfortunate that the Oxford ATS unit investigation had not included any screenshots from their radar replay, however, members noted that, as the TBM8 pilot had been in receipt of a Basic Service, the Oxford Radar controller had not been required to monitor the flight (**CF1**).

Finally, in assessing the risk of collision, the Board agreed that although the pilots of both aircraft had been carrying EC equipment, these had been incompatible and neither pilot had received an alert. Members commented that, as neither pilot had had any awareness of the presence of the other aircraft, lookout had been the remaining barrier against collision and, whilst the Ventus 2 pilot had taken avoiding action which had reduced the risk of collision, it had not removed it entirely. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF5**). Accordingly, the Board assigned a Risk Category B to this Airprox.

[4] Electronic conspicuity devices | Civil Aviation Authority (caa.co.uk)
[5] (UK) SERA.13010. Pressure-altitude-derived information.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022138			
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			
	• Situational Awareness of the Conflicting Aircraft and Action			
2	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			
3	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
	• See and Avoid			
4	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			
5	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[6]

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, when providing a Basic Service, the controller is not required to monitor the flight.

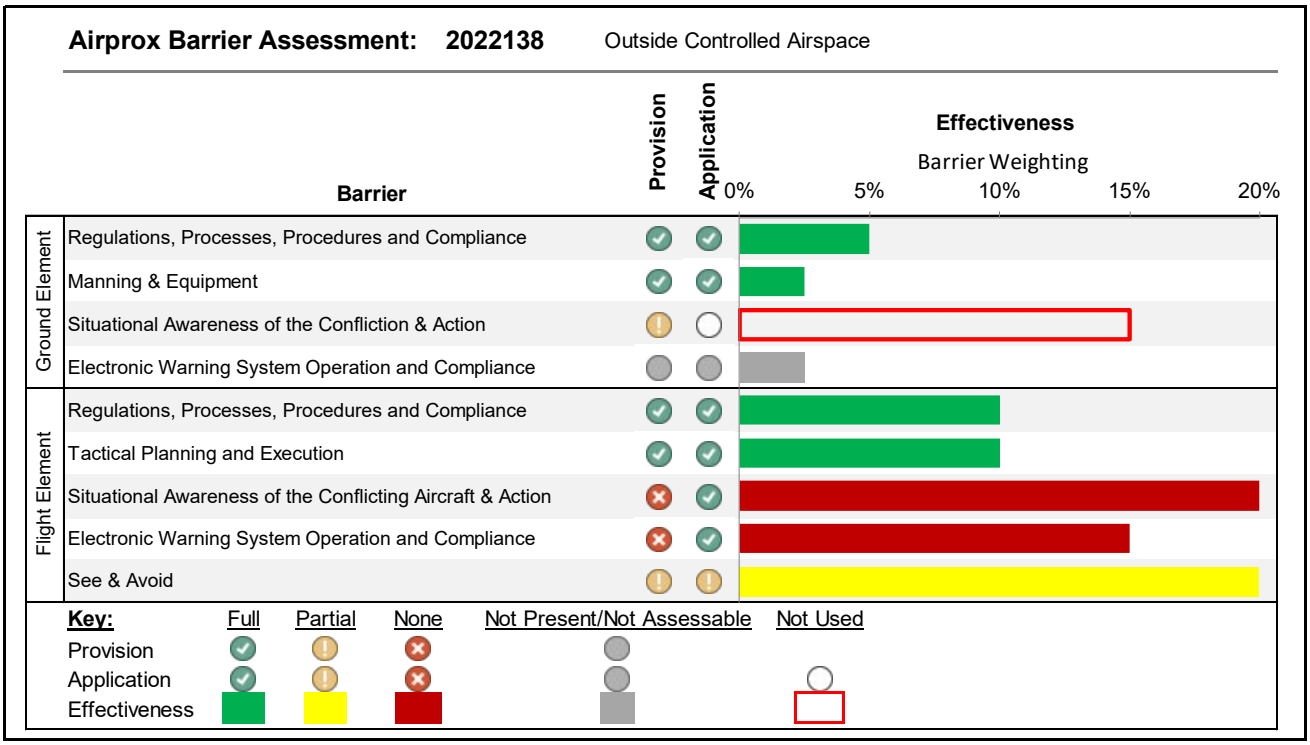
Flight Elements:

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

Electronic Warning System Operation and Compliance were assessed as **ineffective** because, although both pilots had been equipped with EC equipment, neither system had been compatible with the system carried by the other pilot.

See and Avoid were assessed as **partially effective** because both pilot visually acquired the other aircraft at a later than optimum time.

[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: 2022138
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 Confliction & 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