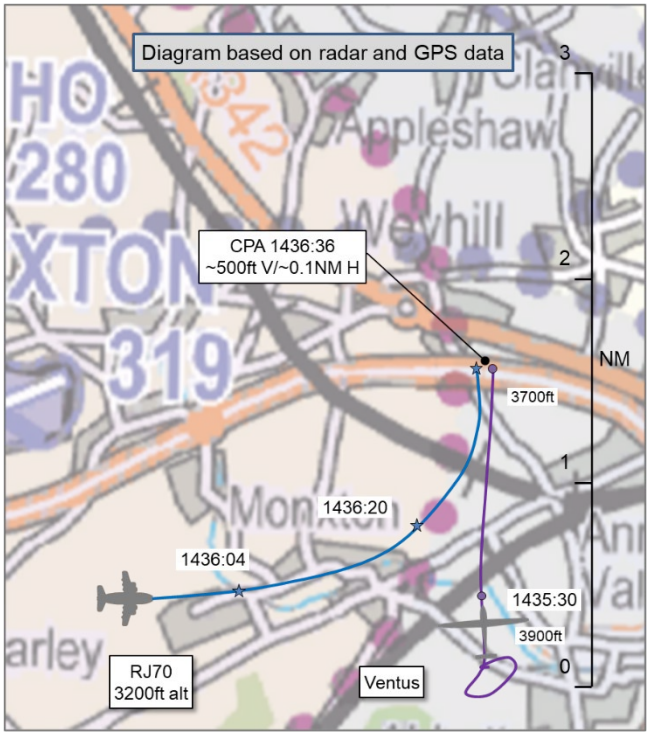
AIRPROX REPORT No 2024132

Date: 19 Jun 2024 Time: 1437Z Position: 5112N 00132W Location: 2.5NM East of Thruxton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	RJ70	Ventus B
Operator	Civ Comm	Civ Gld
Airspace	Boscombe CMATZ	London FIR
Class	G	G
Rules	IFR	VFR
Service	ACS	Listening Out
Provider	Boscombe Down	Gliding channel
Altitude/FL	3200ft	3700ft
Transponder	A, C, S+	Not fitted
Reported		
Colours	White, red, blue	White
Lighting	NR	Nil
Conditions	VMC	VMC
Visibility	NR	>10km
Altitude/FL	2800ft	3600ft
Altimeter	NR	QNH
Heading	360°	002°
Speed	210kt	76kt
ACAS/TAS	TCAS I	FLARM
Alert	None	None
Separation at CPA		
Reported	150ft V/200m H	600ft V/0.6NM H
Recorded	~500ft V/~0.1NM H	



THE RJ70 PILOT reports that, after having flown overhead the virtual transponder at BDN at 2800ft AGL on approximately 050° heading, ATC had called a glider operating to the east of the airfield. Nothing was sighted but as they had begun to turn to the left back towards BDN, approximately 40° into the turn approaching north, a glider was seen above the starboard wingtip. Estimated at approximately 150ft above and less than 200m displaced on a similar heading in a right turn.

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

THE VENTUS PILOT reports that they had been on a closed circuit cross-country task […]. They had climbed in a thermal south of the reported Airprox position and were cruising in straight-and-level flight towards a further thermal between Andover and Hungerford. They heard and saw the [RJ70] as it overtook them on the left approximately 600ft below on a similar heading. Afterwards, the RJ70 had turned left towards Boscombe Down so the Ventus pilot continued on track.

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

THE BOSCOMBE DOWN AERODROME CONTROLLER reports that they had been ADC working one H125 northside with the RJ70 joining the overhead at approximately 2800ft for an ACAS trial. The RJ70 had routed through the overhead southwest-to-northeast. After the joining clearance and information on the H125 northside it proceeded in towards the overhead. Once through the overhead, positioning to the northeast for a northeast/southwest run, the controller had noticed a primary contact in the vicinity of Andover. They called the contact at 12 o'clock 2NM with no height information, a possible glider and had said that they would liaise with ACR to obtain more information. This they did but there had been insufficient time to get the information and pass it to the RJ70 in time to be of use for deconfliction, so did not pass it. Along with this, the height/level information gleaned from 'other sources' would have been sufficiently confusing that they would not be confident that they would have been influencing the pilot to look up when in fact the glider might have been below. With insufficient time and potential

confusion, the controller chose not to pass the information. The northeast/southwest run was completed and at that point the pilot had informed the controller that they had come close to a glider in the vicinity of Andover and would be declaring an Airprox. Several other runs had been completed with deconfliction advice passed on several other contacts to the southwest and northeast of BDN. The trial was completed and the aircraft had landed.

The controller added that they had not been sure at what point the RJ70 pilot had become visual with the glider or the proximity but in recent days as the weather had got better there had been numerous gliding events in the area and numerous lone gliders operating without transponders in the vicinity of BDN but not calling on the LARS frequency. These are a potential hazard particularly when crews are carrying out, what the controller imagines to be, high workload sorties.

The controller perceived the severity of the incident as 'Medium'.

THE BOSCOMBE DOWN SUPERVISOR reports that they had been supervising when the ACAS Trial with the RJ70 had commenced and the aircraft had been under control of the ADC. On joining the Tower, the Supervisor had spotted potential glider activity, 2 tracks non-squawking, approximately 10NM northeast of Boscombe and quickly ascertained that Boscombe LARS had not been controlling them. One contact tracked slightly closer to Boscombe, between 8 and 9NM northeast. The Supervisor had attempted to gather information on the aircraft height from [a number of glider activity-related apps]. The information datum ranged from altitude in meters, height AGL in feet and altitude in feet and the Supervisor had therefore concluded that they could not provide any accurate supporting Traffic Information. They had been monitoring Tower and had heard the Traffic Information call to the RJ70 pilot as '12 o'clock 2 miles no height information, possible glider'. This had been deemed the safest traffic call with the information to hand. They had then heard the RJ70 [pilot] call that [they] had gained visual with a glider approximately 200ft above when in the turn and the subsequent report of an Airprox.

Factual Background

The weather at Middle Wallop was recorded as follows:

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METAR EGVP 191420Z 08009KT 9999 FEW044 BKN250 20/09 Q1021 NOSIG RMK BLU BLU=
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Analysis and Investigation

Military ATM

As part of the trial, the RJ70 had overflown Boscombe Down at 2800ft AGL on a northeasterly heading, with the intention of then joining the visual circuit. With the RJ70 still established on the northeasterly heading, the Boscombe Down Aerodrome controller observed a primary-only radar return on the Aerodrome Monitor that presented a confliction to the RJ70. At 1435, Traffic Information on the primary contact had been passed to the RJ70 pilot by the Boscombe Down Aerodrome controller, "*traffic believed to be you, has traffic twelve o'clock, two miles, manoeuvring, no height information, possible glider*". The Traffic Information was acknowledged by the RJ70 pilot.

At 1436:34, the RJ70 pilot had reported visual with, and in close proximity to, a glider.

Local BM Investigation(s)

A local investigation was conducted by Boscombe Down and identified the event outcome as a loss of safe separation between two non-cooperating aircraft and as a result of the RJ70 pilot operating under an Aerodrome Service and the Ventus not being displayed to the controller on radar until in close proximity with the RJ70. No further BM-related contributary or aggravating factors were identified. The actions of the Boscombe Down Aerodrome controller were however praised as their timely Traffic Information aided the RJ70 pilot with achieving visual contact.

2 Gp BM Analysis

By calling Traffic Information utilising the Aerodrome Traffic Monitor, the actions taken by the Boscombe Down Aerodrome controller had been deemed suitable and in accordance with UK Flight Information Service provision rules and the Aerodrome controller's duty of care had been fulfilled.

UKAB Secretariat

The RJ70 and Ventus pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] If the incident geometry is considered as overtaking then the Ventus pilot had right of way and the RJ70 pilot was required to keep out of the way of the other aircraft by altering course to the right.[2]

Comments

BOSCOMBE DOWN HEAD OF FLYING reports that they believe there had been good work from ATC and a sharp spot from the student, who had also briefed the event at morning brief. Last week had been particularly challenging from a glider's perspective, with 2 major gliding events on in the region. The [common glider EC] picture had shown a very large number of gliders in clusters, and whilst they do all they can to avoid these in the pre-flight deconfliction planning stage, it is very difficult or impossible to avoid them all. They had taken a rapid decision to procure [glider-focussed EC] licences for all of their [ADS-B focussed EC and EFBs] (already done) and these are already paying dividends. The Boscombe Head of Flying had addressed all staff at morning brief and reminded crews of (1) the high current threat level, (2) the pre-flight planning tools available to them including the [FIDs] in the ops room, and (3) the fact that if crews are uncomfortable at any stage, including mid-sortie or test point, they are absolutely empowered to stop what they are doing and RTB. Finally, they are reviewing the potential utility of other web-based applications which integrate various sources of air traffic information into a centralised display to help aid deconfliction.

BOSCOMBE DOWN HEAD OF TRAINING reports that they had discussed this event with the PIC and had been in the met brief the following day when the student pilot (in the LHS) had shared their experience.

The crew had been aware of intensive glider activity (cross-country routes) but their plan had kept them clear of the promulgated areas. The glider they had seen did not appear to be associated with the main activity on the day and therefore the decision to conduct the serials against the virtual target on the day had been reasonable. [Although] the student briefing crews had been reminded that curtailing training is always an option available to crews if the particular circumstances dictate, this did not appear to have been appropriate on this occasion (the relevant traffic situation near Boscombe had not been anticipated to be abnormal), but the discussion had provided a useful opportunity to reinforce this point.

Regarding the Airprox itself, it does appear that ATC had helped build awareness of the glider amongst the crew and they were exercising TEM as a result. They considered best ground track to remain clear of where they thought the traffic had been and were making all efforts to visually acquire it. However, it appears that despite this they had not seen the traffic until a very late stage (probably after the threat had passed). While they await the findings of the Airprox Board, this had been a useful reminder of the limitations of see and avoid. It had prompted renewed discussion and investigation into additional electronic conspicuity measures that can be implemented across the fleet.

At an organisational level, they are aware this module does require additional time at levels associated with gliders, but other options have been considered and this is still considered the method that achieves the necessary training while maintaining an ALARP[3] level of risk. It is worth

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] (UK) SERA.3210 Right-of-way (c)(3) Overtaking. MAA RA 2307 paragraph 14.
[3] As Low As Reasonably Practicable.

noting that the aircraft had been flying under a Traffic Service (much as it would be for a radar assisted recovery or similar training) and an additional crewmember is mandated to assist with lookout during these events.

BGA

Where cockpit workload permits, glider pilots who hold a Flight Radio Telephony Operator's Licence (FRTOL) are encouraged to establish radio communication with the controlling authority before entering a MATZ. Although the Ventus was in fact vertically just outside this MATZ at CPA, the Boscombe Down controller was uncertain of its altitude, and did not know this. Under such circumstances, establishing contact with the MATZ controller and passing a position report (including altitude) could usefully increase everyone's situational awareness.

ATSUs near busy gliding areas may wish to install Flight Information Displays that provide instantaneous situational awareness on aircraft carrying the EC system fitted to almost all gliders (including this Ventus), since this includes GNSS-derived altitude. Knowing the glider's approximate altitude in this instance may have assisted the controller.

The EC equipment fitted to almost all gliders warns of impending conflicts with other similarly-equipped aircraft. Although this system has proved effective at mitigating the risk of Airprox with other gliders, basic installations do not detect aircraft equipped only with transponders or ADS-B out ("Mode S+"), as the RJ70 had been in this case. However, recent versions of this EC equipment can optionally add a 1090MHz receiver subsystem, and thereby warn of conflicts with transponder and ADS-B out equipped aircraft. Updating glider EC hardware to add such a 1090MHz receiver subsystem would provide a useful additional safety barrier in airspace with a high density of transponder or ADS-B out equipped aircraft.

Summary

An Airprox was reported when an RJ70 and a Ventus flew into proximity 2.5NM east of Thruxton at 1437Z on Wednesday 19th June 2024. The RJ70 pilot was operating under IFR in VMC and in receipt of an Aerodrome Control Service from Boscombe Down; the Ventus pilot was operating under VFR in VMC and not in receipt of a Flight Information Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data, 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 firstly discussed the actions of the RJ70 pilot noting the nature of the task, the detailed pre-flight preparation undertaken and the Air Traffic Service levels utilised to ensure the highest available level of situational awareness. Members felt that having made the decision to continue with the flight in the knowledge that there had been a number of glider-related activities in the area, there had been little more they could have done to ensure their and others' safety.

Members moved on to discuss the actions of the Ventus pilot. They recognised that the pilot had been operating in Class G airspace and had equipped themselves with electronic conspicuity equipment common to most gliders in the UK, but felt that the pilot could have utilised one of the Air Traffic Service providers in their area (**CF1**) and added readily available upgrades to their conspicuity equipment to allow for greater situational awareness for themselves and others.

The Board renewed their call for the carriage and use of electronic conspicuity devices and felt that it had been unfortunate that in this case the equipment carried by both aircraft had been mutually incompatible and had been unable to register emissions from the other (**CF3**) denying a critical aid to situational awareness and leading the Ventus pilot to have had none at all due to their added lack of a

Flight Information Service (**CF2**) and only generic awareness for the RJ70 pilot enabled by the use of an Aerodrome Control Service from Boscombe Down (**CF2**).

The Board then considered the contribution by the Boscombe Down controller, accepting that they had maintained a positive awareness of the RJ70 and its planned flightpath. Members noted the potential confusion they had experienced in determining an altitude for the Ventus when it had appeared as a primary-only contact and had been unable to correlate the information available to a point that would have allowed an accurate assessment for the RJ70 pilot. However, members noted that their call of bearing alone had enabled the RJ70 pilot to achieve visual contact. The Board was keen to acknowledge the potentially positive contribution that different data sources could offer but expressed frustration that, in this case, the breadth of unassured information available had led to difficulty in narrowing down that required to support their information call.

Concluding their discussion, members summarised their thoughts. It was agreed that the RJ70 pilot had been provided with generic Traffic Information regarding a primary contact and that had led to the pilot managing to visually acquire the Ventus, albeit very late (**CF4**) and the Ventus pilot reports having heard and then seen the RJ70 also very late (**CF4**), judging that its turn away from them negated any threat and allowed them to continue on their flight. Members therefore agreed that although safety margins had been reduced below the norm there had been no risk of collision. As such, the Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Tactical Planning and Execution			
1	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			
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	• 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:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Ventus pilot could have elected to utilise a Flight Information Service from Boscombe Down.

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

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the RJ70 pilot had only generic situational awareness of the presence of the Ventus, and the Ventus pilot had no situational awareness of the presence of the RJ70.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the RJ70 could not detect any electronic emissions from the Ventus, and the Ventus would not have been expected to detect any electronic emissions from the RJ70.

See and Avoid were assessed as **ineffective** because both the RJ70 and Ventus pilots had effectively achieved non-sightings of the other aircraft.