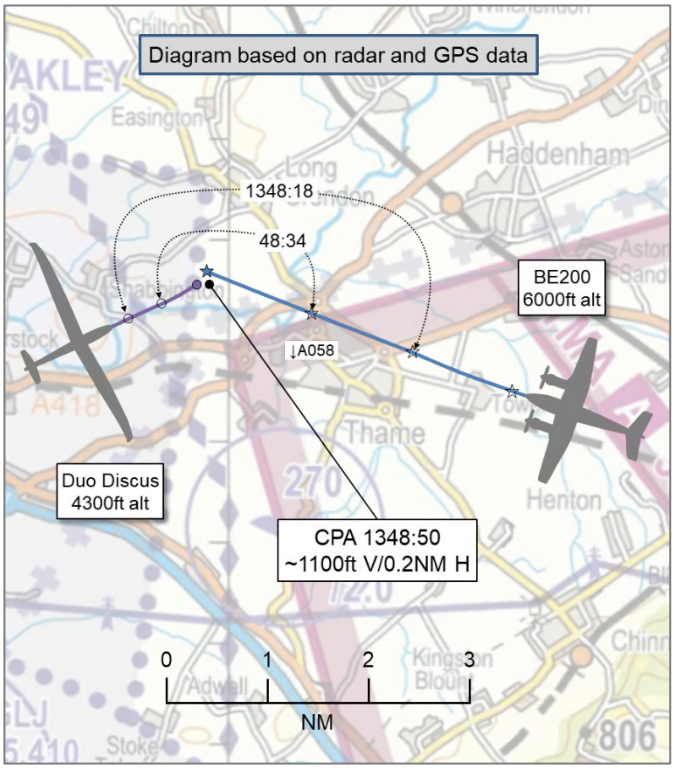
AIRPROX REPORT No 2020092

Date: 03 Aug 2020 Time: 1349Z Position: 5146N 00100W Location: Thame

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	BE200	Duo Discus
Operator	Civ Comm	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic Service[1]	None
Provider	Oxford Radar	Gliding chat
Altitude/FL	5400ft	4300ft
Transponder	A, C, S	Not fitted
Reported		
Colours	NR	White/blue
Lighting	NR	NR
Conditions	NK	VMC
Visibility	NR	NR
Altitude/FL	5400ft	4300ft
Altimeter	QNH (1016hPa)	QNH
Heading	NR	NR
Speed	220kt	71kt
ACAS/TAS	TCAS II	FLARM
Alert	Unknown	Unknown
Separation		
Reported	300ft V/0.75NM H	1000ft V/NR H
Recorded	~1100ft V/0.2NM H	



THE BE200 PILOT reports that the aircraft was positioning to Oxford from RAF Northolt. On passing the Chatham[2] (CHT) NDB, they were given a climb to 6000ft on the London QNH (1016hPa) and instructed to fly direct to Oxford (taken as the OX NDB). They were handed to Oxford Approach and immediately given a traffic advisory against non-transponding traffic at 12 o'clock (neither crew-member could remember the distance given). The traffic was not immediately seen and was assumed to be below them due to the level in relation to the base of the London TMA. Traffic was sighted late and to the north by approximately 0.5-0.75NM, slightly below. The aircraft was at this point in a slow descent towards Oxford having requested a visual right base-leg join for RW01. The glider was in a left hand turn to the north so that the aircraft passed behind & above. It was estimated that the glider was at 5200ft just east of the Oakley disused airfield (the base of the London TMA in that area is 5500ft).

The pilot did not make an assessment of the risk of collision.

THE DUO DISCUS PILOT reports flying a 300km task conducting a cross-country coaching lesson. They were running towards a cloud for a climb, explaining what they were doing to the cross-country student. They heard and saw an aircraft approximately 1000ft above with plenty of lateral separation, crossing in a westerly direction. They were routing between Oxford and Aylesbury, heading towards a good cloud to climb before reaching Aylesbury. The Woolley Down to Aylesbury leg was planned to avoid the NOTAM'd parachuting to the east of Bicester airfield. They did not take any avoiding action.

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

[1] The BE200 pilot reported being under a Radar Control Service but had left controlled airspace and had yet to be informed that they had been placed under a Traffic Service.
[2] Reported by the pilot as CHATHAM; the beacon that they were referring to was, in fact, the CHILTERN NDB.

THE OXFORD CONTROLLER reports that the BE200 was within controlled airspace when it called Oxford. The pilot reported visual with the aerodrome and requested a visual approach. The pilot was cleared for the visual approach and a descent not below 2500ft was issued, together with 2 pieces of Traffic Information on contacts outside controlled airspace. At the time the Traffic Information was passed, the aircraft was inside controlled airspace but the Traffic Information was passed within the spirit of Traffic Information passed in accordance with a Traffic Service, the default service for aircraft inbound to Oxford. All contacts were referred to as possible gliders as they were primary search radar (PSR) only returns. As the aircraft cleared controlled airspace it merged with a PSR return from its left as it was passing FL55 (the base of controlled airspace) in the descent.

Factual Background

The weather at Oxford was recorded as follows:

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METAR EGTK 031350Z 32011KT 270V350 CAVOK 20/07 Q1016=
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Analysis and Investigation

London Oxford Airport

The controller provided timely and appropriate Traffic Information on conflicts outside controlled airspace to an aircraft leaving controlled airspace. A quick 'straw poll' of radar controllers all agreed that they would not expect to encounter a glider in such close proximity to controlled airspace and certainly not at the base level of the airway. The controller did not place the aircraft under a Traffic Service on the RTF as it left controlled airspace, albeit Traffic Information was passed. With hindsight, it would probably have been better to have given a steer left and delayed the descent of the aircraft slightly versus the conflictor on the left, but even then there is no guarantee that the glider would not have turned in a thermal. With the pilot having reported visual with the aerodrome from 15NM away this would have reinforced the controller's mental model that in-flight visibility was good and thus conflicting traffic would have been seen in good time. Finally, the wisdom of the glider tracking along the base of (or very close to) controlled airspace should be questioned.

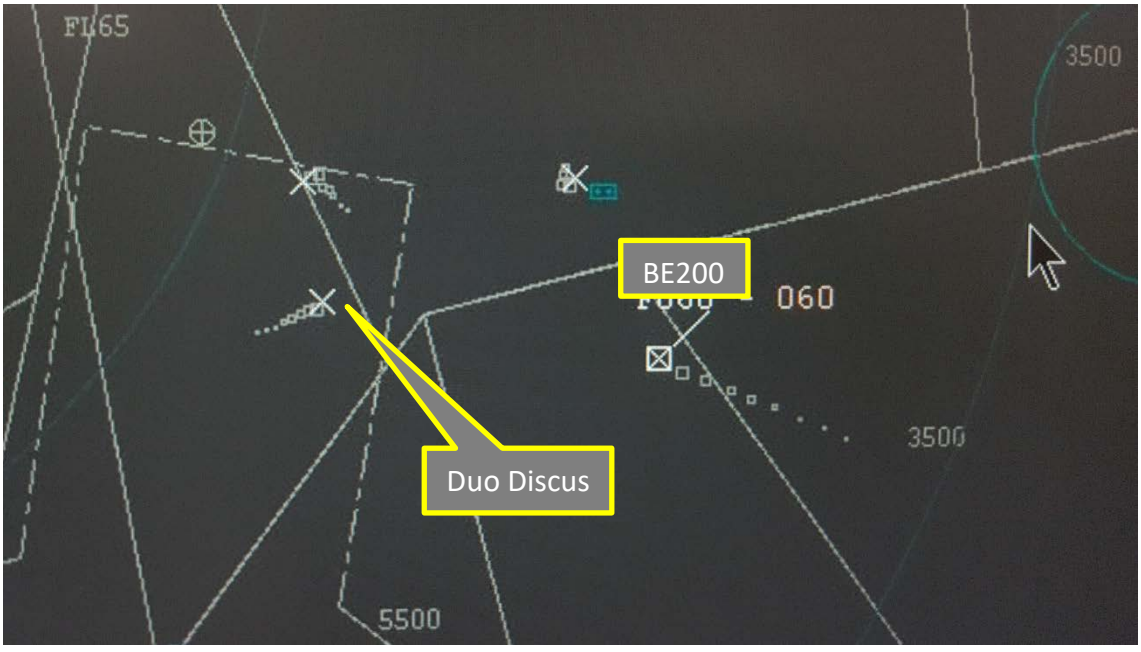


Figure 1 – BE200 pilot reports visual and is cleared for a visual approach and descent.

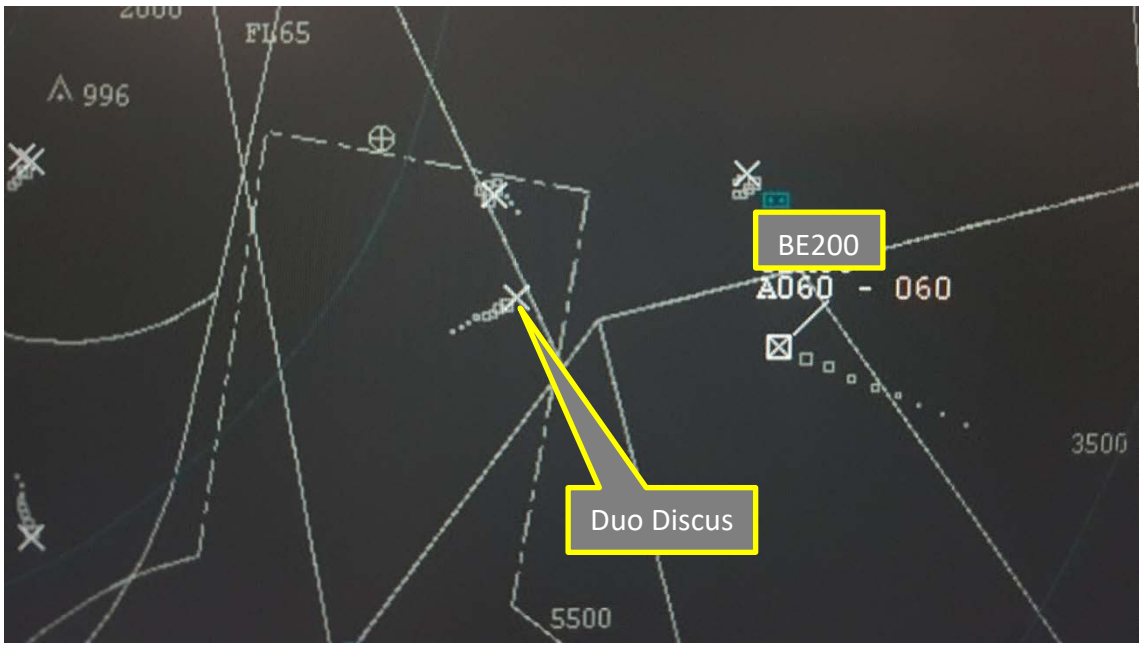


Figure 2 – Traffic Information passed on 2 x Gliders.

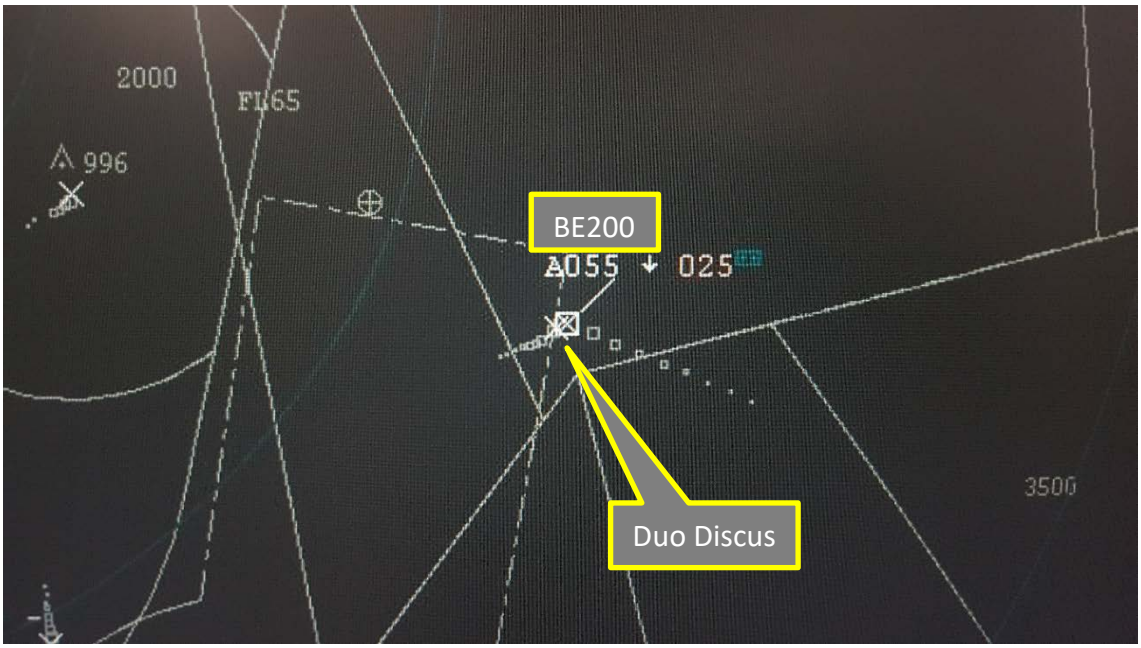


Figure 3 – CPA. Base of controlled airspace FL55

UKAB Secretariat

The BE200 and Duo Discus pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[3] If the incident geometry is considered as converging then the BE200 pilot was required to give way to the Duo Discus.[4]

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

Comments

BGA

The glider GPS data file confirms that the glider was about 1300ft below the base of controlled airspace and, combined with the radar data, that it was 1100ft below the BE200. We commend the Oxford controller for passing Traffic Information on the primary contacts; it is puzzling why the BE200 pilot's estimate of vertical separation should be so different, and on what basis the London Oxford investigation concludes that the glider was 'tracking along the base of (or very close to) controlled airspace'.

This was an exceptionally good soaring day, with cloud base above 5000ft over a wide area. On such days, gliders may be encountered anywhere within Class G airspace up to, and occasionally above, cloud base. We would hope that ATCOs at Oxford who frequently deal with gliding traffic would be aware of this.

Summary

An Airprox was reported when a BE200 and a Duo Discus flew into proximity at Thame at 1349Z on Monday 3rd August 2020. The BE200 pilot was operating under IFR in VMC and in receipt of a Traffic Service from Oxford Radar. The Duo Discus pilot was operating under VFR in VMC and was not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS log files, a report from the air traffic controller involved and a report from the appropriate 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 Oxford controller and agreed that their prioritisation of the passage of Traffic Information – albeit it was generic as the controller had had no height information on the primary contacts (**CF2**) – to the BE200 pilot, ahead of other tasks, was the correct course of action in the circumstances. However, and notwithstanding that the controller was working 'within the spirit of……a Traffic Service', members felt that instructions had been issued to the Beech 200 pilot without first having agreed an Air Traffic Service with the pilot (**CF1**). This had been contributory to the Airprox in that, had the controller delayed issuing instructions until the aircraft had been outside controlled airspace and placed under a UK FIS, the Beech 200 would likely have had even more vertical separation from the glider than had been the case. However, it was also acknowledged by the Board that the controller would have been wishing to allow the pilot to commence their descent into their destination as there were limited track miles in which they could have done so.

The Board then discussed the actions of the Beech 200 pilot. Members heard that the pilot had been unsure of the kind of Air Traffic Service that they had been under; they had received the first passage of Traffic Information while still within controlled airspace, leading them to believe that the glider may have also been within controlled airspace as there had been no height information attached to the Traffic Information (**CF3**). The Board lamented the lack of compatibility between the TCAS equipment carried by the Beech 200 and the FLARM carried by the Duo Discus [the equipment was confirmed by Board members with knowledge of each specific aircraft, due to neither pilot reporting that element] as this had undoubtedly reduced the situational awareness of the Beech 200 pilot (**CF4**). However, the Board noted that the pilot had used the Traffic Information from the Oxford controller to cue their lookout, and that they had become concerned when they had sighted the Duo Discus below them (**CF5**), although the Board could not consolidate why the Beech 200 pilot's estimation of the glider's altitude, and therefore the vertical separation, differed significantly from the actuality.

Turning to the actions of the Duo Discus pilot, the Board discussed the potential opportunities that the glider pilot had had to alert others to their presence. The glider had been FLARM-equipped, but this had been incompatible with the TCAS fitted to the Beech 200 and the SSR equipment used by the Oxford controller. A glider pilot member questioned why the FLARM 'picture' [available through numerous internet websites] had not been made available to the Oxford controller in some form, as the member was aware that this facility is in use at some airfields. This view was addressed by advice from a CAA advisor that FLARM-derived information is incompatible with current, approved and assured, systems but that work was ongoing within the CAA to better understand how secure and assured information from sources other than SSR can be used to improver controllers' situational awareness. Another Board member proffered that the glider pilot could have called Oxford or Benson and informed them of their position and intentions, but it was not known to the Board if the glider pilot had possessed an RT licence permitting them to communicate on the radio with Air Traffic Control Units. A lengthy discussion then ensued regarding of how best different airspace users can inform others of their activity, but no single solution or advice that could be employed by all airspace users could be found. Collectively, the Board's general view was that it is better to communicate than not – in the interests of Flight Safety – and that no pilot should be reluctant to communicate with an Air Traffic Control Unit as it would benefit themselves and others to do so. In the event, the Duo Discus pilot had not been in communication with an Air Traffic Control Unit and, with a FLARM that was incompatible with the transponder carried by the Beech 200 (**CF4**) had not had any situational awareness of the presence of the Beech 200 until they saw it passing above them (**CF3**).

Finally, members discussed the risk associated with this Airprox. The Board took into account both pilots' estimation of separation and the glider pilot's assessment of the risk of collision. Members were grateful to the glider pilot for providing their GPS log files, as this had enabled the UKAB Secretariat to extract the altitude information for comparison with the SSR Mode C readout from the Beech 200. The recorded vertical separation of circa 1100ft (measured from 2 different data sources) corroborated the Duo Discus pilot's estimation, and the Board considered that this therefore represented a situation in which normal safety standards and parameters had pertained and that there had been no risk of collision; Risk Category E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020092		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Human Factors	• ATM Regulatory Deviation	Regulations and/or procedures not complied with
	• Situational Awareness and Action		
2	Contextual	• Situational Awareness and Sensory Events	The controller had only generic, late or no Situational Awareness
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance		
4	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• See and Avoid		
5	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E

Safety Barrier Assessment[5]

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

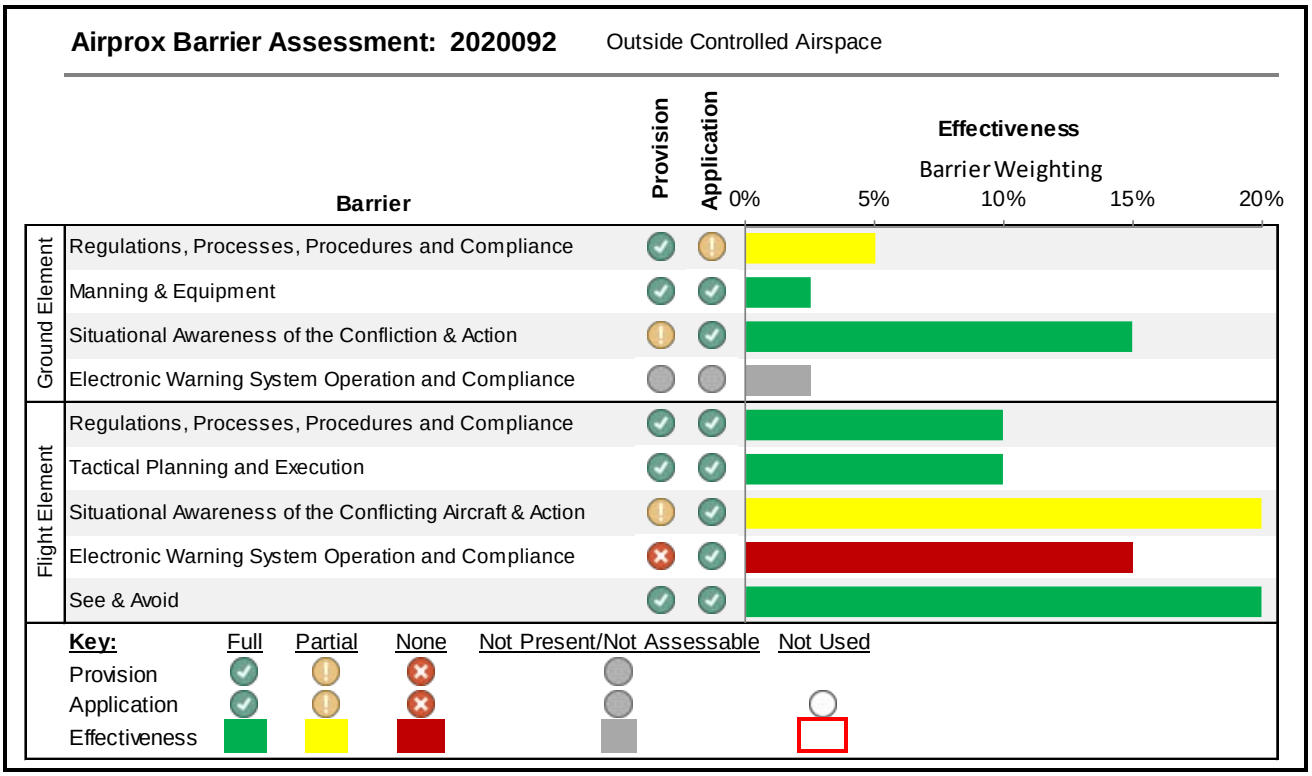
Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the Oxford controller did not agree an Air Traffic Service with the BE200 pilot as they left controlled airspace, but nevertheless issued control instructions to the BE200 pilot.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the Traffic Information passed to the BE 200 pilot had no height information, and the glider pilot had no prior warning of the presence of the BE200.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TCAS II equipment fitted to the BE200 could not detect the presence of the glider, and the FLARM fitted to the glider could not detect the BE200's transponder signals.



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