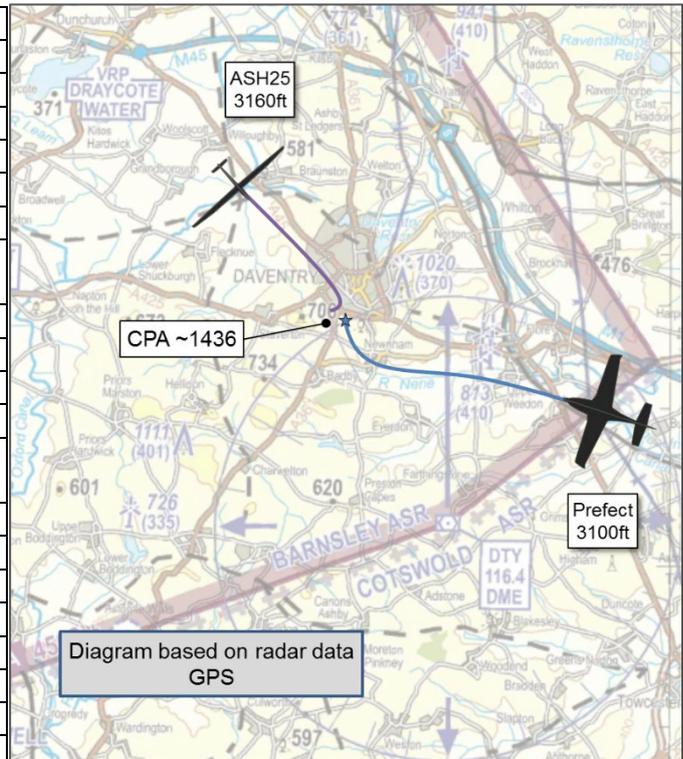


AIRPROX REPORT No 2019060

Date: 11 Apr 2019 Time: 1436Z Position: 5214N 00110W Location: IVO Daventry

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Prefect	ASH25
Operator	HQ Air (Trg)	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	London Information	
Altitude/FL	3100ft	3160ft
Transponder	A, C, S	Off
Reported		
Colours	White, Blue	White
Lighting	Strobes, Nav, Landing, Taxi	
Conditions	VMC	VMC
Visibility	10km	50km
Altitude/FL	3040ft	3200ft
Altimeter	RPS (1023hPa)	QNH (1025hPa)
Heading	Turning	250°
Speed	167kt	60kt
ACAS/TAS	TAS	FLARM
Alert	None	None
Separation		
Reported	200ft V/200m H	100ft V/150m H
Recorded	<100ft V/ <0.1nm	



THE PREFECT PILOT reports that he was conducting a standard medium-level instructional navigation sortie. Having not flown the route previously he had discussed radar service availability with other QFIs, due to the gap in LARS provision in the area. Wittering do not routinely provide a service (they are not a LARS unit) and some QFIs spoke of remaining with Cranwell on a Basic Service once outside their radar cover. In the event, they were handed over to Marham on a Traffic Service, which was downgraded to a Basic Service, then the service was cancelled [due to radar coverage] and they were advised to contact London Information. The sortie briefing was carried out at Barkston Heath with a planned take-off time of 1245z. During the briefing, the weather was identified as a factor, with forecast cloud between 3500-4500ft. The plan was to operate above cloud, except when forced lower by the Daventry CAS (lowest base 4500ft). In the event, the sortie was delayed until 1350z and they departed from Cranwell. The outbrief was repeated, the Glidernet picture was discussed, and the airspace was assumed to be busy. As they approached Daventry from the east, the aircraft had descended from 6000ft to 3000ft (the cloud base was at 4000ft). There was haze below the cloud, visibility to the surface was judged to be in excess of 20km, but it was difficult to judge at their own level. Prior to the turning point two light-aircraft were identified to the left, one subsequently noted on TAS. The student completed some checks and both crew cleared the turn. During the 30° banked right turn, the QFI emphasised the importance of look-out due to the expected traffic and 20secs later the instructor saw a glider in the 1 o'clock 200-300m away at the same level, converging but in a turn. The glider was in a 20° left banked turn, approximately 45° to their heading moving from right to left. The Instructor took control, increased the bank and climbed a few hundred feet to prevent a further reduction in separation. The turn was reversed to regain sight, and the glider was observed to roll out of the turn heading approximately 210°. At this point a call was made to London Information.

He assessed the risk of collision as 'Medium'.

THE ASH25 PILOT reports that he was returning to his base from the north-west, had just changed track onto 250° and was searching for lift. He saw a low-wing single-engine aircraft in his 7-8 o'clock, 500-800ft below and about a mile away, in a right-hand climbing turn. Extrapolating the turn it appeared that the aircraft would pass behind but, after a discussion, they banked right to increase the platform visibility, whilst still keeping the traffic in sight. The traffic then passed behind, at or approaching their level. The traffic appeared to tighten its turn for a few seconds before going behind. They had the traffic in view for 10-15sec, had time to discuss options and decided it was not necessary to manoeuvre to deconflict, therefore he assessed the severity to be low.

He assessed the risk of collision as 'Low'.

THE LONDON INFORMATION FISO reports that the Prefect pilot called on frequency at 1433, at 1437 he reported that he had just had an Airprox with a glider in the Daventry area. He reported that the glider was at the same altitude (reported as 3000ft) with about 300m separation. The glider apparently had made a left turn and by the time the Prefect pilot reported the Airprox he said he was 'well clear' of the other traffic. The glider traffic was not on frequency.

Factual Background

The weather at Birmingham was recorded as follows:

METAR EGBB 111420Z 03006KT 350V110 9999 FEW039 10/M00 Q1026=

Analysis and Investigation

UKAB Secretariat

The Prefect and ASH25 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right². If the incident geometry is considered as converging then the Prefect pilot was required to give way to the glider³.

Comments

HQ Air Command

This encounter took place in busy Class G airspace and in a known area of glider activity. The Prefect crew had examined options to perform their mission elsewhere, but this was the area of the most suitable weather for the mission aims. The crew had consulted GliderNet and was aware of the level of glider activity displayed on this application and had therefore briefed how they intended to conduct deconfliction with other users of the same airspace. Current procedures require that crews consult 'all available awareness tools' (such as GliderNet, CADS, NOTAMs etc) and should be in receipt of a Traffic Service when it is available. A serviceable TAS is required for all sorties and should be used in accordance with extant 3 FTS Prefect SOPs.

The EC barrier (TAS) is weakened by a lack of transponder carriage by all aircraft and work is underway to fit Prefect with PFLARM to cater for the carriage of FLARM by some gliders. Furthermore, this Airprox occurred in an area where any LARS coverage would have been at the limits of radar coverage (for Brize Norton) and thus it is highly likely that only transponding aircraft would have been detected, so even if the Prefect pilot had been in receipt of a Traffic Service it is unlikely that the controller could have detected the presence of the non-transponding glider.

¹ SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

² SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

³ SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

The Prefect crew relied heavily, therefore, on the lookout barrier and it seems that both pilots became visual with each other at roughly the same time and took appropriate action to maintain or increase separation, neither pilot being particularly alarmed by the proximity of the other aircraft.

This Airprox is yet another example of where lookout was the most effective barrier to MAC because of limitations of the other, partially available, barriers. We must not forget that lookout also has its limitations and therefore strive to strengthen other barriers that may prevent aircraft coming into visual proximity in the first place.

BGA

We commend the Prefect QFI for using GliderNet to improve his general SA.

Summary

An Airprox was reported when a Prefect and an ASH25 flew into proximity in the vicinity of Daventry at 1436hrs on Thursday 11th April 2019. Both pilots were operating under VFR in VMC, the Prefect pilot in receipt of a FIS from London information, the ASH25 pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, a report from the FISO involved and reports 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.

The Board first discussed the fact that the ASH25's transponder was reported as 'off'. They were told that the gliding club that the pilot belonged to was concerned that gliders returning to base whilst wearing a 7000 squawk could cause issues for ATC at the local airport, who would need to apply separation against them for CAT traffic. In an effort to be helpful to the airport they had issued guidance to club members telling pilots to disable their transponders. Since this Airprox the gliding club had reviewed its position and were in the process of writing new procedures which would instruct glider pilots to squawk 7010 when close to, or inside CAS. The ASH25 was involved in two Airprox looked at by the Board this month, although each incident had a different pilot. Whilst lack of a transponder did not materially affect the other Airprox (2019058) the Board agreed that it had been a factor in this Airprox because the TAS in the Prefect would have been able to detect a squawk had the glider been transponding. Although heartened to hear there had been a change of policy, the Board expressed its serious concern and disappointment about the club advising pilots to disable transponders, even though well-intentioned.

Turning to the Prefect pilot, the Board commended him for his comprehensive pre-flight planning and attention to try to ensure an appropriate ATS for his flight. Although the Prefect pilot ended up receiving a Basic Service from London FIS, the FISO would be providing the service without the use of a radar and could only give Traffic Information on traffic that he knew to be in the vicinity; without the glider being on the same frequency he had no knowledge of its presence and therefore could not provide any Traffic Information. Members discussed whether Brize would have been able to provide an ATS in the area, and during this discussion a military member noted that the Prefect nav-ex sorties were going to be reviewed to see whether the routes could be modified to ensure that in future they were within coverage of an ATCU with radar provision. Notwithstanding, in this case, even with a radar service, the glider would have been unlikely to have been detected because its transponder was disabled and so the Prefect's TAS could not detect it either (**CF2**). As a result, the Prefect pilot had no situational awareness about the glider prior to sighting it visually (**CF1**). As it was, the Prefect crew did not see the glider until they were already conducting a turn (**CF3**) and, once visual, the instructor took control and tightened the turn to increase the separation.

For his part, the ASH25 pilot also had no situational awareness of the Prefect until he saw it (**CF1**) and, although fitted with FLARM, this was not able to detect the Prefect's transponder (**CF2**) and so could

not alert the glider pilot to its presence. Nevertheless, he reported seeing the Prefect when it was still about a mile away and, although he assessed it would go behind, he banked right to increase the separation. Having seen the Prefect at range he was not concerned by the encounter and judged it to be a low risk of collision.

The Board then assessed the risk of collision. Some members felt that the separation, which had been derived by comparing the radar with the glider's GPS datalog, indicated that safety had been much reduced (Category B). However, others felt that the glider pilot had described a situation where he saw the Prefect with plenty of time to make a decision on what action to take, and that the combined action of both pilots had meant that there had been no risk of collision. In the end the later view prevailed; although safety had been degraded because the Prefect pilot had seen the glider late, there had been no risk of collision. Risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Contributory Factors:

CF	Factor	Description	Amplification
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
1	Contextual	• Situational Awareness and Sensory Events	Pilot had no, or only generic, or late Situational Awareness
	• Electronic Warning System Operation and Compliance		
2	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• See and Avoid		
3	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment⁴

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any awareness of the other.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although the Prefect had a TAS and the glider a FLARM, the two systems were not compatible.

⁴ 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: 2019060		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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present</u>	<u>Not Used</u>		
Provision	✔	⚠	✘	●	○			
Application	✔	⚠	✘	●	○			
Effectiveness	■	■	■	■	□			