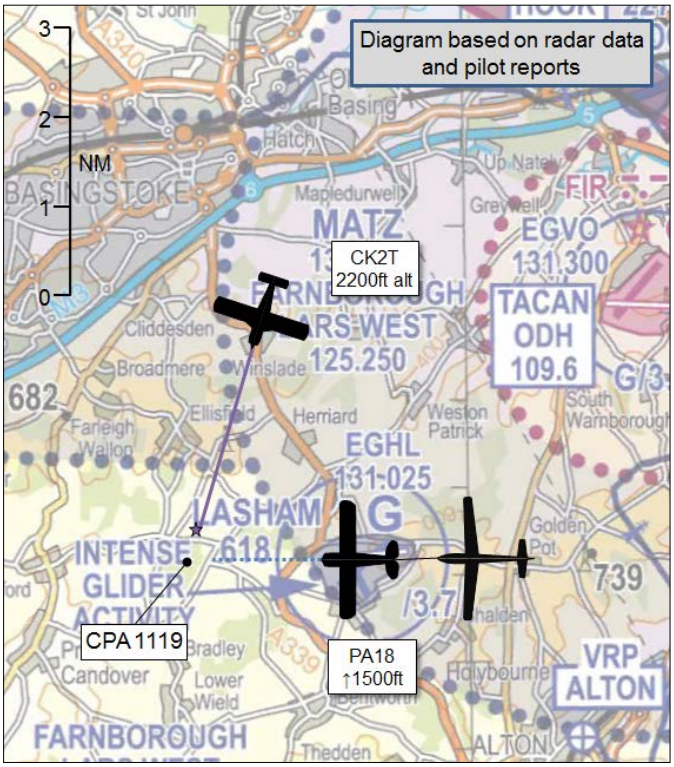
AIRPROX REPORT No 2016193

Date: 29 Aug 2016 Time: 1119Z Position: 5111N 00105W Location: 1.5nm NW Lasham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA18 (+Glider)	Flight Design CT2K
Operator	Civ Club	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider		Farnborough
Altitude/FL	NK	
Transponder	Not fitted	A, C, S
Reported		
Colours	Black, Yellow	White
Lighting	Anti-colls, Strobes	Strobes, Nav
Conditions	VMC	VMC
Visibility	20km	30km
Altitude/FL	1500ft	2000ft
Altimeter	QFE	QNH (1020hPa)
Heading	270°	200°
Speed	70kt	90kt
ACAS/TAS	FLARM	Not fitted
Alert	None	N/A
Separation		
Reported	50ft V/200m H	500ft V/150m H
Recorded	NK	



THE PA18 PILOT reports that he was towing a glider and first became aware of the traffic as it emerged from behind his left wing-tip [going away] some 200m laterally and slightly above, heading SW. He was concerned that the traffic might conflict with the glider winch launch activity, but watched the aircraft continue to the SW, its track taking it about ½ km to the west of the aerodrome. Upon landing, in discussions with other observers (the glider pilot on tow and the pilot of another aerotow combination following behind), it became apparent that there had been a real risk of collision prior to his visual contact.

He assessed the risk of collision as 'Low'.

THE CT2K PILOT reports that he was given approval by Farnborough LARS to route through the Odiham MATZ. He was given a squawk, and a Basic Service, and duly entered the MATZ. He was using his SkyDemon, which gives a 2nm alert around all glider sites and, because it looked like his track would take him directly over Lasham, he altered course to avoid it. Outside of the 2nm 'zone', NW of Lasham, he was cruising at 2000ft when he saw a tow-plane, with a glider, climbing towards him. He immediately started to climb to improve separation and the tow-plane passed below and behind, still appearing to climb. Seconds after it had passed, Farnborough called to alert him to 'multiple gliders in the area' and he replied that one had just passed very close; however, he did not think at the time that it was close enough to be considered an Airprox and so continued his routing to his destination.

He assessed the risk of collision as 'Low'.

THE FARNBOROUGH LARS WEST CONTROLLER reports that nothing was reported to him at the time of the incident and he had no recollection of it.

Factual Background

The weather at Odiham was recorded as follows:

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EGVO 291050Z 31009KT 9999 FEW021 SCT060 18/13 Q1023 BLU=
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Analysis and Investigation

CAA ATSI

At the time of the Airprox the PA18 was towing a glider in the vicinity of Lasham Airfield. The PA18/glider combination were not receiving an ATC service and were using the Lasham glider frequency. Due to the PA18 not being transponder equipped, it was not possible to identify the aircraft or to calculate CPA.

At 1105:30, the CT2K pilot made contact with Farnborough LARS West, reported east abeam of RAF Benson and requested to transit the RAF Odiham MATZ. The LARS West controller instructed the pilot to squawk 0460 and a Basic Service was agreed. At 1106:04, the LARS West controller approved the MATZ penetration, and instructed the CT2K to remain outside the Odiham ATZ. The Farnborough LARS controller passed information relating to gliding in progress at Odiham, and also that Lasham were very busy. The pilot acknowledged the information and stated that he would pass west of the Odiham ATZ.

Other than a request for the CT2K pilot to report his altitude at 1110:33 in order for the LARS West controller to verify his Mode C, there was no further communication with him until 1120:38 (Figure 1), when the controller, whilst handing over the LARS West position to another controller, noticed that the CT2K was close to Lasham. At this time, it was 1.6nm north-west of Lasham tracking south. Information was once again passed to the pilot regarding gliding in progress around Lasham, and the controller advised him to keep a very good lookout. In response to this, the CT2K pilot reported that he had just seen three aircraft in close proximity. The PA18 could not be identified nor CPA determined. During the period in which the CT2K transited the area of Lasham Airfield, numerous slow-moving, intermittent primary radar contacts were observed on the area surveillance recordings in the vicinity of Lasham.

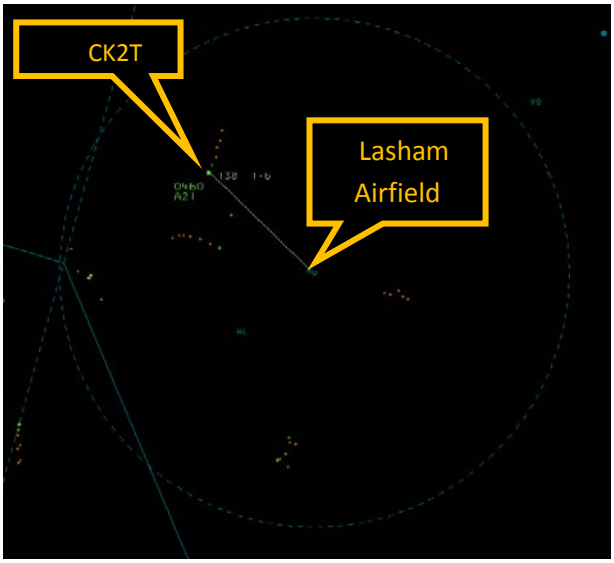


Figure 1 – 1120:38 UTC

Lasham Airfield is notified in the UK AIP as being a gliding site with an upper winch-launch limit of 3700ft. It is marked on the Southern England 1:500:000 aeronautical chart as being an area of intense glider activity. For illustrative purposes the area around Lasham and RAF Odiham is reproduced in Figure 2.

Figure 2 – Southern England and Wales 1:500,000 Aeronautical Chart

In his written report, the PA18 pilot stated that he first became aware of the proximate traffic when the aircraft entered his left-hand peripheral vision from behind, by which time the aircraft was flying away and was no longer a threat. The Farnborough LARS West controller was providing a Basic Service to the CT2K in Class G (uncontrolled) airspace. A Basic Service relies on the pilot avoiding other traffic, unaided by controllers/FISOs. The provider of a Basic Service is not required to monitor the flight and pilots should not expect any form of traffic information from a controller[1].

UKAB Secretariat

The PA18 and CT2K 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]. The CT2K pilot was required to give way to the glider and tug.[3]

Comments

BGA

This incident again reinforces the importance of keeping a particularly sharp lookout when transiting close to gliding sites.

Summary

An Airprox was reported when a PA18 and a CT2K flew into proximity at 1119 on Monday 29th August 2016. Both pilots were operating under VFR in VMC, the PA18 pilot was not in receipt of an ATS and the CT2K pilot in receipt of a Basic Service from Farnborough.

[1] CAP774, Chapter 2, Para 2.1 & 2.5
[2] SERA.3205 Proximity.
[3] SERA.3210 Right-of-way (c)(2) Converging.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC operating authorities.

The Board first looked at the actions of the PA18 tug pilot. They noted that he was less concerned at the time of the Airprox due to the fact that he had not witnessed it himself, but was subsequently influenced by others who thought the encounter had been close. The Board discussed at length the significance of their comments. Noting that the glider pilot on tow had been one of those who had discussed the incident with the tug pilot on landing, some members thought that, had he considered the incident to be close enough to be dangerous, he had the option to de-couple and fly away; that he didn't implied that, although he thought the separation to be less than ideal, it must have been adequate to preclude an actual collision risk. Also, noting that the geometry and separation of two aircraft is difficult to judge from distance, the Board also wondered whether the other observers might have perceived the situation to be closer than it actually was. It was unfortunate that the radar didn't show the PA18's track, and so the exact separation between the two aircraft was not known. Leading on from this, some members to opine that had the PA18 had a transponder fitted, other airspace users in the area would have been alerted to its presence, either through ATC or TCAS; the value of this when towing gliders and being relatively non-manoeuvrable could not be over-stated.

Certainly, it was clear to the Board that the CT2K pilot was less concerned by the proximity of the PA18, and members noted that although he reported on the frequency to Farnborough that he had seen three aircraft in close proximity, he didn't consider it to be an Airprox at the time. The Board also noted that the CT2K pilot had reported seeing the PA18 and glider in enough time to commence a gentle climb, which did not suggest that he thought the situation merited more dynamic avoiding manoeuvres. Some members wondered whether the CT2K pilot had indeed seen the subject PA18 and glider, or whether he might have seen the aerotow combination that the PA18 pilot had reported was behind. That the CT2K pilot didn't mention the other tug-and-glider combination made this a possibility, and unfortunately the radar pictures didn't display them either. What was known was the track of the CT2K and, at 1.6nm away from Lasham, the Board agreed that he was entitled to route where he did, notwithstanding that they would always advise keeping a good look-out when transiting close to glider sites.

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

- **ATC Conflict Detection and Resolution** was considered to have been **partially effective** because although Farnborough ATC could not have seen the PA18 on their radar, and despite their not being required to do so under the terms of a Basic Service, they had given valuable generic Traffic Information about likely gliding activity in the region of Lasham.

- **Situational Awareness** was considered to be **partially effective** because neither pilot was aware of the other's close proximity until a late stage, and the CT2K pilot only had generic Traffic Information regarding the likely presence of gliders and tugs.

- **Onboard Warning/Collision Warning Equipment** was considered **ineffective** because although the PA18 had FLARM fitted, CT2K did not have a compatible system.

- **See-and-Avoid** was also assessed as only **partially effective** because only the CT2K pilot saw the other aircraft and took any form of avoiding action.

In assessing the cause of the incident, the Board quickly agreed that the description from the CT2K pilot suggested that he had seen the PA18 and glider at an early stage and had manoeuvred to avoid them. In contrast, sighting the CT2K only after CPA, the Board concluded that the associated surprise and the influence of the other observers after the event had conspired to retrospectively cause the PA18 pilot concern over the proximity of the CT2K. Turning to the risk, members noted

that the glider pilot being towed had not thought it necessary to disengage and had therefore presumably not considered there to be a risk of collision, and that the CT2K pilot had only entered a gentle climb. That the CT2K pilot was also visual throughout caused the Board to agree that there was no risk of collision and they assessed the risk as Category C.

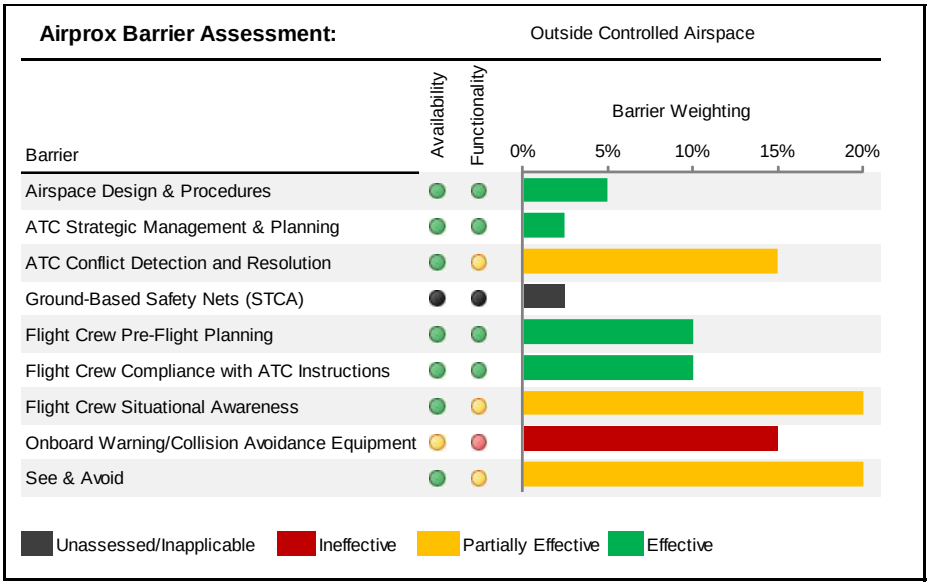
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA18 pilot was concerned by the proximity of the CT2K.

Degree of Risk: C.

Barrier assessment:

Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the following table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace).[4] The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessed/Inapplicable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident.



Barrier Effectiveness		Consequence		
		Non-functional	Partially Functional	Functional
Availability		**1**	**2**	**3**
Completely Unavailable	**1**	1	2	3
Partially Available	**2**	2	4	6
Available	**3**	3	6	9

Key:

Effective

Partially Effective (If the system was partially available but fully functional score availability as 2.5)

Ineffective

Unassessed/Inapplicable

[4] Barrier weighting is subjective and is based on the judgement of a subject matter expert panel of aviators and air traffic controllers who conducted a workshop for the UKAB and CAA on barrier weighting in each designation of airspace.

Barrier	Availability			Functionality			Unassessable / Absent
	Fully (3)	Partially (2)	Not Available (1)	Fully (3)	Partially (2)	Non Functional (1)	
Airspace Design and Procedures	Appropriate airspace design and/or procedures were available	Airspace design and/or procedures were lacking in some respects	Airspace design and/or procedures were not appropriate	Airspace design and procedures functioned as intended	Airspace design and/or procedures did not function as intended in some respects	Airspace design and/or procedures did not function as intended	The Board either did not have sufficient information to assess the barrier or the barrier did not apply; e.g. TCAS not fitted to either aircraft or ATC Service not utilised. Note: The Board may comment on the benefits of this barrier if it had been available
ATC Strategic Management and Planning	ATM were able to man and forward plan to fully anticipate the specific scenario	ATM were only able to man or forward plan on a generic basis	ATM were not realistically able to man for or anticipate the scenario	ATM planning and manning functioned as intended	ATM planning and manning resulted in a reduction in overall capacity (e.g. bandboxed sectors during peak times)	ATM planning and manning were not effective	
ATC Conflict Detection and Resolution	ATS had fully serviceable equipment to provide full capability	ATS had a reduction in serviceable equipment that resulted in a minor loss of capability	ATS had a reduction in serviceable equipment that resulted in a major loss of capability	The controller recognised and dealt with the confliction in a timely and effective manner	The controller recognised the conflict but only partially resolved the situation	The controller was not aware of the conflict or his actions did not resolve the situation	
Ground-Based Safety Nets (STCA)	Appropriate electronic warning systems were available	Electronic warning systems is not optimally configured (e.g. too few/many alerts)	No electronic warning systems were available	Electronic warning systems functioned as intended, including outside alerting parameters, and actions were appropriate	Electronic warning systems functioned as intended but actions were not optimal	Electronic warning systems did not function as intended or information was not acted upon	
Flight Crew Pre-Flight Planning	Appropriate pre-flight operational management and planning facilities were deemed available	Limited or rudimentary pre-flight operational management and planning facilities were deemed available	Pre-flight operational management and planning facilities were not deemed available	Pre-flight preparation and planning were deemed comprehensive and appropriate	Pre-flight preparation and/or planning were deemed lacking in some respects	Pre-flight preparation and/or planning were deemed either absent or inadequate	
Flight Crew Compliance with Instructions	Specific instructions and/or procedures pertinent to the scenario were fully available	Instructions and/or procedures pertinent to the scenario were only partially available or were generic only	Instructions and/or procedures pertinent to the scenario were not available	Flight crew complied fully with ATC instructions and procedures in a timely and effective manner	Flight crew complied later than desirable or partially with ATC instructions and/or procedures	Flight crew did not comply with ATC instructions and/or procedures	
Flight Crew Situational Awareness	Specific situational awareness from either external or onboard systems was available	Only generic situational awareness was available to the Flight Crew	No systems were present to provide the Flight Crew with situational awareness relevant to the scenario	Flight Crew had appropriate awareness of specific aircraft and/or airspace in their vicinity	Flight Crew had awareness of general aircraft and/or airspace in their vicinity	Flight Crew were unaware of aircraft and/or airspace in their vicinity	
Onboard Warning/Collision Avoidance Equipment	Both aircraft were equipped with ACAS/TAS systems that were selected and serviceable	One aircraft was equipped with ACAS/TAS that was selected and serviceable and able to detect the other aircraft	One aircraft was equipped with ACAS/TAS that was selected and serviceable but unable to detect the other aircraft (e.g. other aircraft not transponding)	Equipment functioned correctly and at least one Flight Crew acted appropriately in a timely and effective manner	ACAS/TAS alerted late/ambiguously or Flight Crew delayed acting until closer than desirable	ACAS/TAS did not alert as expected, or Flight Crew did not act appropriately or at all	
See and Avoid	Both pilots were able to see the other aircraft (e.g. both clear of cloud)	One pilots visibility was uninhibited, one pilots visibility was impaired (e.g. one in cloud one clear of cloud)	Both aircraft were unable to see the other aircraft (e.g. both in cloud)	At least one pilot takes timely action/inaction	Both pilots or one pilot sees the other late and one or both are only able to take emergency avoiding action	Neither pilot sees each other in time to take action that materially affects the outcome (i.e. the non-sighting scenario)	