AIRPROX REPORT No 2011048

Date/Time: 31 May 2011 1214Z

Position: 5209N 00011E (4nm SW of Cambridge A/D - elev 47ft)

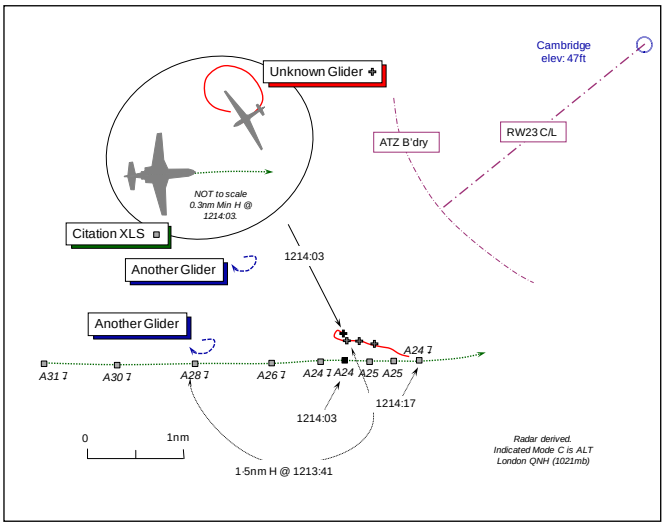
Airspace:	London FIR	(*Class:* G)
	Reporting Ac	*Reported Ac*
Type:	Citation XLS	Untraced Glider
Operator:	Civ Comm	NK
Alt/FL:	2400ft↓ QNH (1019mb)	NK
Weather:	VMC CLBC	NK
Visibility:	>10km	NK

Reported Separation:

100ft-200ft V/200yd H NK

Recorded Separation:

0·3nm H - see Note (3)



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE CESSNA CITATION CE-560XLS (C56X) PILOT reports he was inbound to Cambridge from Oxford under IFR in VMC; his ac was crewed with two pilots. Cambridge APPROACH instructed them to contact TOWER and they had been cleared to join the visual cct to RW23, LH downwind for a visual approach. As they established contact with TOWER, about 4nm SW of the A/D heading 120° at 200kt passing 2400ft QNH (1019mb) in a shallow descent, he spotted a white glider thermalling in his L 10:30 position 0·2nm away nose-on at a similar altitude. The mid-wing single-seat glider was in a RH turn and climbing gently in a thermal. Disconnecting the A/P, he hand flew the ac, making a very gentle turn to the R away from the glider, passing 200yd to the S and 100-200ft above it. Had he done nothing they would not have collided because of their relative flight paths, they would have flown closer than his estimated 200yd horizontally. He does not believe the glider pilot saw his Citation until it was too late as the glider made a distinct wing-wobble at the point he believes the glider pilot might have gained visual contact. At this point he was already positioning his Citation away from the glider that he thought was on the edge of the lateral ATZ boundary, virtually aligned with the centreline of RW23. [UKAB Note (1): Albeit that at an altitude of 2200ft the glider would have been about 150ft above the upper limit of the ATZ.] It was obvious that Cambridge ATC was unaware of the glider's presence and was not in communication with it. The lack of any TCAS warning suggests the glider was either not equipped with a transponder or was simply not squawking.

In his view, it was pure good fortune that placed his Citation in a position that did not require violent avoiding action, hence his assessment of the Risk as 'medium-to-high'.

THE RADAR ANALYSIS CELL (RAC) LATCC (MIL) report that despite extensive tracing action the reported glider could not be traced.

THE CAMBRIDGE AERODROME CONTROLLER (ADC) reports that the Citation XLS had been cleared for a visual approach to join LH downwind for RW23. The pilot reported passing a glider at the start of the downwind leg, which was acknowledged. The Airprox occurred outside the ATZ and the glider was not visible from the VCR. Radar was not available.

ATSI reports that the Airprox occurred in class G airspace at 1214:03, 4·2nm SW of Cambridge A/D. This position is outside the Cambridge ATZ, which extends to a height of 2000ft aal above the A/D elevation of 47ft and is bounded by a circle 2½nm radius centred on the mid-point of RW23.

It is not clear where the glider – which remains untraced - was operating from. A gliding site is situated at Gransden Lodge, which is notified in the UK AIP as a Glider Launching Site, active from sunrise to sunset, with a vertical limit of 3000ft above ground level (altitude 3300ft). Gliders operate daily from Gransden Lodge subject to weather conditions. Cambridge MATS Part 2, Section 1, Page 29, paragraph 10.4 Gliding Sites, states:

> 'Gliding takes place at Gransden Lodge 10nm SW of Cambridge. Gransden shall be considered always active although details are usually faxed to ATC when gliding events are scheduled.'

No information or NOTAM had been received regarding any additional gliding event at Gransden Lodge. [UKAB Note (2): RAC's enquiries through Gransden Lodge did not identify any glider pilots who might have been involved in the Airprox reported by the C56X pilot.]

The Airprox occurred on a Tuesday and the UK AIP promulgates the hours of Cambridge Radar, in Summer, as 0800-1700 UTC and by arrangement . The ATSU reported that the provision of a radar service is subject to the availability of suitably qualified staff. No withdrawal of radar service had been promulgated by AIS NOTAM.

Cambridge APPROACH (APP) was providing an Approach (Procedural) Control Service, without the aid of surveillance radar. The ATSU reports that the APPROACH controller on duty was not radar rated and was therefore only able to provide an Approach Procedural Service.

The 1150 UTC Cambridge METAR: 26014KT 230V300 9999 SCT040 15/07 Q1019=

At 1211:40, the C56X crew called Cambridge APP, *"..Cambridge RADAR good afternoon* [C56X C/S] *in the descent 3 thousand feet Q-N-H 1-0-1-9 information Echo Citation Excel."* APP responded, "[C56X C/S] *Cambridge APPROACH unfortunately non radar this afternoon latest information Echo current Q-N-H correct clear to the Charlie Alpha Mike 3 thousand feet for the no delay procedural I-L-S approach runway 2-3."* This was acknowledged correctly by the C56X crew.

At 1212:13, the C56X crew indicated that a visual approach was acceptable. The C56X crew reported field in sight at 1212:40, and was cleared for a visual approach to join downwind LH RW23, initially not below 1600ft. APP passed TI to the C56X crew on a formation of two Cessna ac W of Cambridge, routeing around the city, not above 1300ft. This was acknowledged by the C56X crew and the flight transferred to Cambridge TOWER at 1213:10.

At 1213:30, the C56X crew called TOWER, *"...in the descent 2 thousand feet just crossing the extended...centreline to the..west."* The TOWER controller instructed the C56X crew to report downwind and confirmed the QNH as 1019mb.

At 1214:16, the C56X pilot reported, *"..TOWER* [C56X C/S] *we just passed a glider probably within 3 hundred feet..altitude 2 thousand 2 hundred extended centreline to the west",* which was acknowledged by TOWER. At 1217:12, the C56X pilot confirmed that the glider was just outside the Cambridge ATZ. The TOWER controller's written report indicates that the glider was not visible from the VCR.

The C56X was in receipt of a Procedural Service. The Manual of Air Traffic Services, Section 1, Chapter 11, Page 10, paragraph 6.1.1, states:

> 'A Procedural Service is an ATS where, in addition to the provisions of a Basic Service, the controller provides restrictions, instructions and approach clearances, which if complied with, shall

achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither traffic information nor deconfliction advice can be passed with respect to unknown traffic.'

ATSI Recommendations:

CAA ATSI recommends that Cambridge ATSU promulgates any withdrawal of the radar service outside of the notified hours of operation by NOTAM.

CAA ATSI recommends that Cambridge ATSU, in the absence of radar, and during the notified of hours of gliding activity, remind pilots, that the Gransden Lodge Gliding Site is active.

[UKAB Note (3): An analysis of several recorded radar sources shows four intermittent contacts likely to be gliders operating just prior to the Airprox to the W and SW of Cambridge. At 1213:41, the C56X is shown descending through an altitude of 2800ft London QNH (1021mb), 5·2nm SW of Cambridge A/D and passing the last known location of a glider that had faded from radar 30sec earlier. The radar recording shows the C56X levelling at 2400ft at 1214:03, the altitude the Airprox occurred, some 4·2nm SW of the A/D whilst passing a contact in the C56X's 9 o'clock at a range of 0·3nm and believed to be glider reported by the C56X pilot, which had previously been tracking W but is shown in a R turn as reported. The glider then fades from radar.]

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included solely a report from the C56X Citation pilot, transcripts of the relevant RT frequencies, radar video recordings together with reports from the air traffic controller involved and the appropriate ATC authority.

It was unfortunate, despite the best endeavours of the RAC at LATCC (Mil), that the glider pilot could not be traced. Although Gransden Lodge is the closest gliding site (GS) to the position of the Airprox, there was no suggestion that the glider emanated from this GS; it could have come from much further afield. However, it is unfortunate that the assessment of this Airprox clearly lacks the glider pilot's perspective of the occurrence and is thus not comprehensive.

The Board noted the unavailability of the Cambridge ASR during the period of this Airprox but controller Members recognised the difficulties of maintaining radar services, especially the training of controllers. The Board was briefed that whilst the CAA is keen to see improvements in the availability of radar services at Cambridge, the unit's own aspiration is to provide a radar service throughout their operating hours and endeavours to do so where possible. The Board endorsed the ATSI recommendations. That said, gliders, with a composite structure are extremely difficult to detect and track on primary radar. The Board appreciated that even if a radar controller had been on watch there was no guarantee that the glider would have been continuously displayed and a warning provided by the controller. As it was in the prevailing good weather conditions the C56X pilot had elected to continue with a visual approach.

The C56X pilot reported that the glider pilot might have seen his ac, based on the latter's percieved wing wobble, but a glider pilot Member thought this unlikely and it was not feasible to draw definite conclusions on that aspect. The Member explained that glider pilots are quite used to flying in close proximity to other gliders in thermals and if the approaching C56X had been seen in good time the pilot might not be at all concerned – even at the minimal distances reported here. Whilst others might consider that the glider was operating without due regard for Powered A/D traffic – on the climb-out to RW23 and at the start of the Downwind leg near the ATZ - the recorded radar data reflects that the glider pilot was operating quite legitimately, some 1½nm clear of the Cambridge ATZ boundary, in Class G airspace where 'see and avoid' prevails and not in close proximity to the ATZ as the C56X thought. Moreover, the C56X pilot was required by the Rules of the Air to give way and avoid the glider in these circumstances, which he did successfully with appropriate regard for the glider pilots limited ability to manoeuvre, albeit that he had spotted the thermalling white glider at a

similar altitude only 0·2nm away nose-on. Nevertheless, pilot Members understood that such ac with a small cross-sectional area, viewed head-on co-alt, are difficult to spot. Therefore, based on the limited information available, the Members agreed unanimously that while this Airprox had stemmed from a late sighting by the C56X Citation pilot, he had seen the glider in sufficient time to manoeuvre away from it in a manner that did not require a robust response. The radar recording suggesting that the horizontal separation he afforded was a little more than the 200yd to the S he reported. Moreover, Members noted his comment that 'had he done nothing they would not have collided', all of which led the Board to conclude that no actual Risk of collision had existed.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the Citation pilot.

Degree of Risk: C.