

AIRPROX REPORT No 2014186

Date/Time: 21 Sep 2014 1421Z (Sunday)

Position: 5145N 00109W
(2nm E Oxford)

Airspace: Oxford AIAA (Class: G)

Aircraft 1 Aircraft 2

Type: Tutor Untraced glider

Operator: HQ Air (Trg)

Alt/FL: 2500ft
QNH (1025hPa)

Conditions: VMC

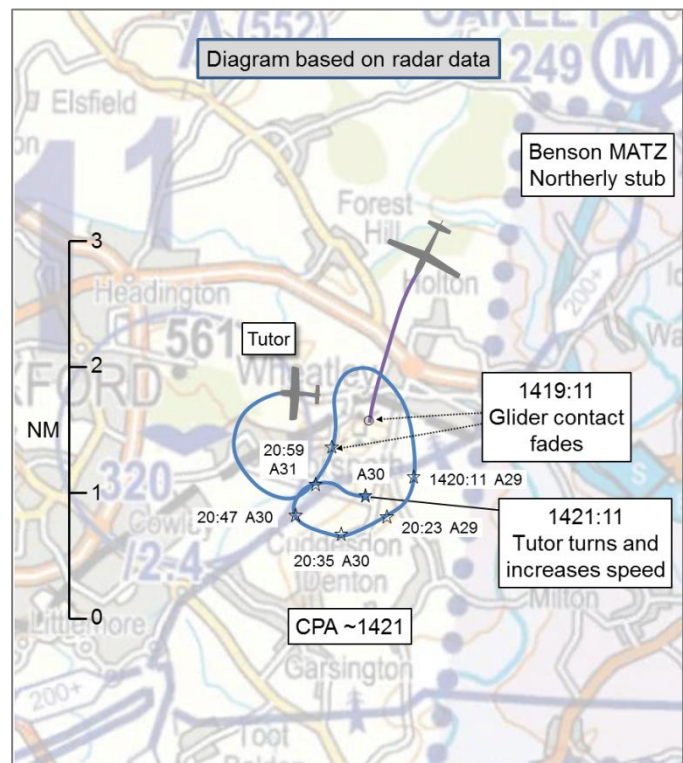
Visibility: 20km

Reported Separation:

0ft V/100m H

Recorded Separation:

NK V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TUTOR PILOT reports conducting an AEF general handling sortie. The predominantly white aircraft had HISLs, navigation and landing lights selected on, as was the SSR transponder with Modes A, C and S. The aircraft was equipped with a TAS. The pilot was operating under VFR in VMC, between 2000ft and 5000ft in the vicinity of Cowley, to the east-northeast of Oxford, and in receipt of a Traffic Service from Brize Radar. Whilst performing gentle climbs, descents and level turns he was made aware of non-squawking traffic converging from the northwest, height unknown; he was unable to spot the aircraft visually, and nothing was seen on TAS. As the traffic approached 2nm, Brize Radar updated the direction of the traffic. The Tutor pilot levelled at approximately 2500ft, at 100kt, and stopped his turn in an approximately northerly direction to increase visual lookout. Nothing was seen until the converging traffic, a white high-tailed glider, passed in the opposite direction down the right-hand side of the Tutor approximately 300m away at the same altitude. The Tutor pilot climbed 500ft and turned both to keep the glider in sight and to gain altitude separation from any similar traffic. He observed the glider turn tightly and climb towards his aircraft and, during approximately the next 360° of turn was concerned to observe the glider pilot appear to attempt to fly in formation to an echelon right position; the glider pilot continued to turn with the Tutor and closed to approximately 10 wingspans. Now extremely concerned, the Tutor pilot applied power and dived away; the glider was observed to turn away shortly afterwards. The sortie was curtailed, an Airprox was reported to Brize Radar, and the Tutor pilot returned to base.

He assessed the risk of collision as 'Medium'.

THE GLIDER PILOT: Extensive tracing action was undertaken but the glider pilot could not be found.

THE BRIZE RADAR CONTROLLER reports he was the LARS controller, had been in position for about 30min, and was working at a low to medium intensity. He had 3 pilots on frequency, 2 with a Basic Service and the subject Tutor pilot, general handling between surface and 5000ft in the airspace to the northwest of RAF Benson and east-southeast of RAF Brize Norton, under a Traffic Service. A primary contact was seen manoeuvring from the north of the Benson MATZ/stub down its western edge. The controller called it on several occasions to the Tutor pilot, who called visual. The 2 contacts later merged but as the Tutor pilot was visual, it did not cause the controller any concern. The Tutor pilot later called on frequency to say the glider pilot had tried to "formate" with him, he had

tried to move away but was followed, so wanted to file an Airprox. The controller asked the pilot to call Brize ATC when available and he subsequently spoke to the ATCO IC.

THE ATCO IC reports working Approach, Director and Zone. She was seated next to the LARS Radar controller at the time but did not witness the actual event. She did speak with the Tutor pilot several hours later, who informed her of the situation and that he was filing an Airprox.

Factual Background

The weather at RAF Benson was recorded as follows:

METAR EGUB 211350Z 36012KT 9999 BKN045 17/05 Q1025 BLU NOSIG
METAR EGUB 211450Z 36011KT 9999 SCT045 18/06 Q1025 BLU NOSIG

Analysis and Investigation

Military ATM

The Tutor pilot, under a Traffic Service with RAF Brize Norton, was informed of non-squawking traffic, height unknown, but nothing was seen visually or on TAS. Brize updated the traffic at 2nm and the pilot responded by levelling the aircraft at approximately 2,500 feet and flying a steady heading to improve lookout.

The squadron had been monitoring FLARM tracks from the Ops room and described generally low levels of glider activity. Pilots were briefed throughout the day on glider activity and, during the incident Airprox, Ops room personnel tracked a single FLARM equipped glider in the Abingdon vicinity. The glider appeared to land at Lasham but the ops room were unable to make contact with anyone at Lasham to trace the glider.

The Brize LARS controller described a 'low to medium' intensity session with three aircraft on frequency, including two under a Basic Service and the Tutor under a Traffic Service. The controller recalled calling several sets of Traffic Information until the pilot called visual. The primary contacts were seen to merge on radar. The pilot commented upon the glider attempting to 'formate' and declared an Airprox.

Relevant portions of the tape transcript are below:

From	To	Speech Transcription	Time
LARS	Tutor	[Tutor C/S] traffic south west, four miles, manoeuvring, no height information	14:16:41
Tutor	LARS	[Tutor C/S] roger looking	14:16:46
LARS	Tutor	Traffic north north east, three miles, tracking south west, no height information	14:17:20
Tutor	LARS	[Tutor C/S] roger looking	14:17:27
LARS	Tutor	[Tutor C/S] previously called traffic two miles, tracking south west, height un – er - no height information	14:18:01
Tutor	LARS	[Tutor C/S] roger looking	14:18:07
LARS	Tutor	Previously called traffic north east, one mile, tracking south west, height unknown, further traffic, south west, three miles, manoeuvring, height unknown	14:18:48
Tutor	LARS	Er – [Tutor C/S] is looking and nothing on TAS	14:18:56
Tutor	LARS	[Tutor C/S] visual, it is a glider same level – er he's passed by on my right hand side by approximately four hundred meters	14:19:11
LARS	Tutor	[Tutor C/S] roger	14:19:20
LARS	Tutor	[Tutor C/S] traffic west, two miles, manoeuvring, height unknown	

From	To	Speech Transcription	Time
Tutor	LARS	[Tutor C/S] roger and the glider that was previously been reported appears to be trying to formate with me. I am going to descend and descend towards Benson this time. I'm a little bit concerned that he's obviously seen me but wants to get very close and I'd like to report this as an Airprox	14:20:51

At 1418:01, (Figure 1) LARS updated Traffic Information as 2nm, tracking south-west, no height information.

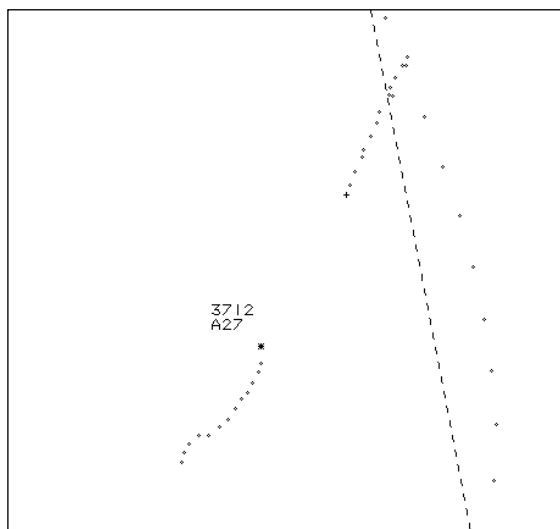


Figure 1: Traffic Information at 1418:01 (Tutor squawk 3712; glider primary only)

The Traffic Information was further updated at 1418:48 (Figure 2) at 1 nm, tracking south west, height unknown.

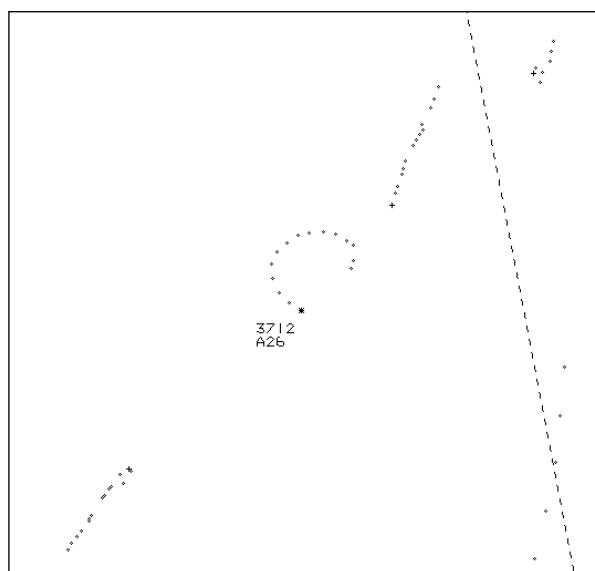


Figure 2: Traffic update at 1418:48

The Tutor pilot reported visual at 1419:11 (Figure 3), estimating 400 metres separation. The primary contact faded from radar at 1419:17 and did not re-appear as the Tutor climbed and manoeuvred, as per the occurrence report.

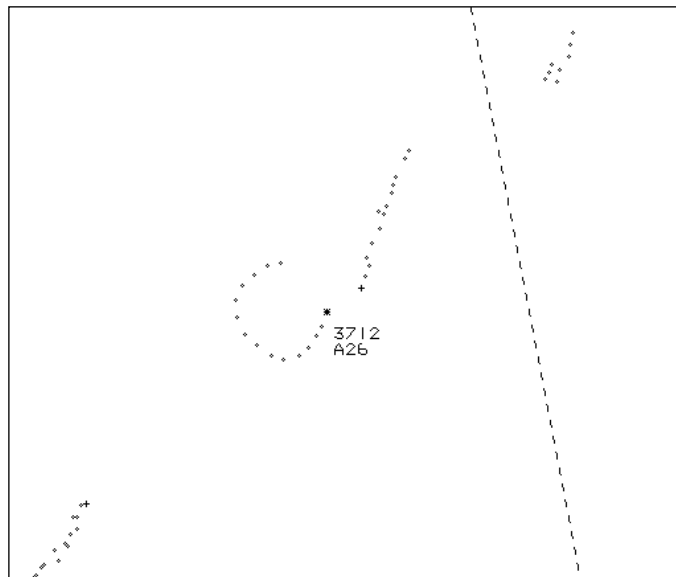


Figure 3: Tutor reported visual at 1419:11

The controller provided an abundance of Traffic Information at 4, 3, 2 and 1 nm, and this allowed the Tutor pilot to get visual with the glider. The Tutor pilot had no TAS readout as the glider was not transponding. The normal barriers to an Airprox in Class G would be Traffic Information from ATC, ACAS/TAS and the 'see and avoid' principle. TAS could not detect the glider. The Tutor was not fitted with FLARM but glider activity had been taken into account when flight planning and dynamic information was available from the Tutor Ops room, who were monitoring FLARM activity. The late sighting at 300 metres confirms the limitations of 'see and avoid'. The Tutor pilot reduced workload to concentrate on scan but the glider target characteristics meant that a slow moving aircraft, possibly not contrasting with the background, was difficult to spot until at close range.

UKAB Secretariat

The Tutor and glider pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision¹. If the incident geometry is considered as converging then the Tutor pilot was required to give way to the glider². If the incident geometry is considered as head-on then both pilots were required to turn to the right³, notwithstanding their overriding responsibility not to collide. Formation flight is only permissible with the agreement of both aircraft commanders¹. The tape transcript indicated that the Tutor pilot informed Brize LARS of his intentions to move away from the glider at 1420:51 and the radar replay indicated that he turned and accelerated away from the glider at about 1421:11. It is considered likely that CPA occurred at some point between those times.

Comments

HQ Air Command

Once again the limitations of see-and-avoid are highlighted by the late sighting of the glider by the Tutor pilot. Due to the inability of the TAS to observe the glider, it was unable to provide supplementary situational awareness in this instance. Notwithstanding this, an appropriate choice of ATS ensured that sufficient warning of a potential conflict was available to the Tutor pilot, allowing him to become visual with the conflicting traffic in sufficient time to take avoiding action. Without further liaison, it is impossible to confirm the suitability of the glider pilot's actions post the initial conflict. However, it is considered unlikely that the glider pilot was attempting to formate

¹ Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

² *ibid.* Rule 9 (Converging).

³ *ibid.* Rule 10 (Approaching head-on).

with the Tutor and the greater likelihood was that his actions were an attempt to manoeuvre within a thermal in order to maintain or gain lift. The inability to communicate intentions, coupled with the unexpected actions of the glider pilot, was sufficient to cause concern to the Tutor pilot, resulting in his early termination of the sortie and return to base.

Summary

An Airprox was reported when a Tutor and a glider flew into proximity at about 1421 on Sunday 21st September 2014. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of a Traffic Service from Brize Radar and the glider pilot most likely not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the Tutor pilot, a transcript of the relevant RT frequency, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first considered the inability to trace the glider pilot and expressed their frustration. They noted that an area-FLARM display was located in the Tutor Operations room and that operations personnel had perceived that the glider in question had tracked towards Lasham before disappearing from the display. Unfortunately, the glider's FLARM information did not include its registration, and a subsequent phone call to Lasham did not result in a glider pilot coming forward to provide details pertinent to the Airprox. Whilst this had hindered the subsequent investigation, Board members also noted that submission of an Airprox report by the glider pilot was entirely voluntary, and that he may not have had cause for concern, may not have seen the Tutor (unlikely), or may have simply decided not to take part in the Airprox process. Members understood that this was intrinsic to Airprox reporting, but reiterated that the function of the Board was simply to improve safety of flight, not to apportion blame, and they encouraged all in the aviation community to assist if called upon to do so. The Board also encouraged all FLARM users to register their unit's FLARM ID in order to facilitate this, and other safety activities.

Turning to the pilots' actions, the Board noted that the Tutor pilot had rolled out of his turn on receipt of Traffic Information from the Brize controller in order to prioritise his lookout. They commended him for doing so, and also commended the Brize controller for a total of 4 Traffic Information calls. The Board noted that the Tutor pilot did not see the glider until it passed abeam, reporting 300m lateral separation on the right; this emphasises the difficulty in visually sighting these small-cross-section aircraft head-on. It subsequently appeared to the Tutor pilot that the glider pilot was attempting to formate on him and, whilst the Board accepted that this was a possibility that could not be ruled out absolutely, members thought it unlikely given the attendant difficulty in maintaining station on a powered aircraft. Gliding members pointed out that even a thermal in the UK can produce rates of climb of the order of 500-1000fpm, and that the glider pilot was likely entering a thermaling turn to the right coincident as the Tutor pilot also turned. Of note, the Airprox occurred at about the time of maximum solar insolation when thermals would be more active. Nevertheless, it was of concern to the Board that the Tutor and glider had passed each other at about 1419:30 (extrapolated from the radar replay) and that it was not until 1420:51, some 1min 20sec later, that the Tutor pilot transmitted "... *the glider that was previously been reported appears to be trying to formate with me.*" Members discussed this apparent anomaly for some time, but were unable to fathom how the Tutor pilot would not have been able simply to accelerate or break away from the glider during this time. They recalled that, in a converging situation, the onus was on the Tutor pilot to give way. Given this responsibility, the fact that the Tutor pilot had the glider in sight at all times during the extended course of their encounter and that it could not be judged as to whether the glider pilot was trying to formate or not the Board unanimously agreed that the cause of the incident was best described as the Tutor pilot being concerned by the proximity of the glider. They considered that it would be misleading to consider this an Airprox event and assessed it as a risk Category E.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Tutor pilot was concerned by the proximity of the glider.

Degree of Risk: E.

ERC Score⁴: 2.

⁴ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.