

AIRPROX REPORT No 2012014

Date/Time: 16 Feb 2012 1129Z

Position: 5102N 00140W
(8nm SSE Boscombe
Down)

Airspace: Lon FIR (Class: G)

Reporting Ac Reported Ac

Type: Gazelle TB9

Operator: HQ Air (Ops) Civ Pte

Alt/FL: 2000ft 2200ft
QFE (1015hPa) QNH

Weather: VMC CLBC VMC CAVOK

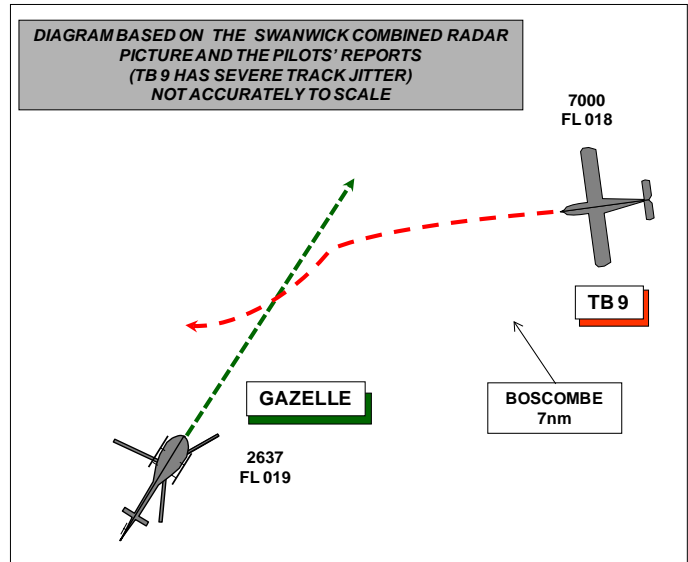
Visibility: 25km 20nm

Reported Separation:

100ft V/200m H 50ft V/150m H

Recorded Separation:

~100ft V />0.2nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE GAZELLE PILOT reports flying a camouflage grey/green ac squawking 2637 with Mode C in receipt of a TS from Boscombe APP; TCAS was not fitted. On completion of the medium level navigation phase of a continuation training sortie the pilot requested radar vectors for a PAR recovery. While being vectored at 2000ft QFE, heading 050° (out of sun) and at 100kt, ATC reported traffic to the E. The crew reported looking and nothing was seen by either aircrew. ATC subsequently re-reported the traffic and the ac captain renewed his attempts to see the ac; on leaning forward to see around the canopy frame he saw a blue and white single-engine light ac in their 2 o'clock position slightly below and in a gentle turn to pass down their R side. The captain and the supernumerary crewmember in the left seat estimated the other ac to be about 100ft below and 2-300m away at its closest point. At no stage did the crew feel the ac presented sufficient risk to take avoiding action but felt that the other ac might have been engaged in avoiding action [on them] when sighted and so they declared an Airprox to ATC, assessing the risk as being medium.

A VFR recovery was subsequently initiated and an in-flight Airprox report made iaw SECTION 1 SPECIAL NOTES 2 of the ERB.

THE TB9 PILOT reports that he was flying a red, white and blue ac on a private VFR flight from Popham to Compton Abbas on a route taking them slightly N of Lockerley, then straight to Compton Abbas and were listening out with them. They were heading 260° at 105kt at about 2200ft in good conditions, with scattered cumulus well above their height, when a camouflage green Gazelle helicopter was first seen about 300m away in their 11 o'clock, slightly above and crossing from L to R. They took avoiding action by banking sharply to the L but the other ac did not seem to react and passed them on their starboard about 150m away. TCAS was not fitted and his GPS does not log data except flight times, so the timings are approximate.

He assessed the risk as being high.

THE BOSCOMBE APP CONTROLLER reported that he was fully briefed on the current airspace and flying situation when he took control of the position. On Boscombe Stud 4 he had rotary traffic arriving for an instrument approach to RW23 from the S. The ac was under a TS and as such had been passed TI on a contact to the E by the off-going controller. The contact was still relevant and closer so he called the traffic again but the Mode C was not displayed. The conflicting traffic continued to converge so he called it again, this time it was inside half a mile with the Mode C then indicating that it was at the same level. Moments later the rotary called visual on the traffic and informed him that he was filing an Airprox so he acknowledged, noted the details and passed them onto the duty ATC Supervisor.

BM SAFETY MANAGEMENT reports that this Airprox occurred between a Gazelle operating VFR in receipt of a TS from Boscombe APP while being vectored for a PAR and a TB9 operating VFR; both ac reported being in VMC.

All heights/alts quoted are based upon SSR Mode C data unless otherwise stated. The radar replay of the TB9s flight path exhibited significant track jitter which affected the assessment of the final stages of the incident sequence; consequently, the respective crew's description of events and assessments of minimum separation have been used to assess the Airprox.

APP described their workload as medium to low at the time of the Airprox, having recently taken control of the position. The incident sequence commenced at 1127:28, prior to a changeover of controllers, with APP passing TI on the TB9 to the Gazelle, stating, "*traffic right, two o'clock, five miles, crossing right left, similar height*"; this was acknowledged by the pilot. While the TI was broadly accurate, the TB9 was not crossing the Gazelle's path at 90° but was on a converging track. The Gazelle maintained a heading of 050° and indicated height of 1900ft throughout the incident sequence.

CAP413 Chapter 5 1.6.1 states that:

'Whenever practicable, information regarding traffic on a possible conflicting path should [include the] relative bearing of the conflicting traffic in terms of the 12 hour clock with the optional prefix 'left or right' as appropriate; distance from the conflicting traffic; direction of flight of the conflicting traffic; relative speed of the conflicting traffic or the type of aircraft and level if this is known...Relative movement and level should be described by using one of the following terms as applicable: closing, converging, parallel, same direction, opposite direction diverging, overtaking, crossing left to right, crossing right to left.'

At 1128:14, APP passed TI to unrelated traffic. At this point, the TB9 was 2.9nm NE of the Gazelle on a converging track from right to left, indicating co altitude with the Gazelle at 1900ft. At 1128:45, having completed the handover of control position, APP updated the TI to the Gazelle as, "*previously called traffic northeast, one mile, manoeuvring, low level*"; however, the Gazelle's callsign at the start of the transmission was garbled, with only the numeric element being audible. Moreover, the numeric element sounded muffled and was spoken rapidly and the TI was not acknowledged by the Gazelle pilot. The TB9 was 1.3nm NE of the Gazelle and on the radar replay, continued to indicate co altitude with the Gazelle at 1900ft. APP reported that at this point, the TB9's SSR Mode C was not showing on their surveillance display.

At 1128:56, APP provided a further (partial) update to the TI on the TB9 stating, "*that previously called traffic now indicating one hundred feet below, descending*"; the pilot replied at 1129:04 that they were, "*err visual with that traffic and err would like to now pass behind us and err will forward an Airprox, standby*". Subsequently, the Gazelle pilot reported that the TB9 was obscured behind the canopy frame and that it was first sighted by the Captain in the, "*two o'clock position, slightly below and in a gentle turn to pass down the right side*" as he leant forward. Based upon the radar replay, the Gazelle's transmission at 1129:04 is approximately the point of the CPA, with assessments of minimum separation being between 150-200m laterally and 50-100ft vertically.

CAP774 requires controllers to update TI if the conflicting ac continues to constitute a definite hazard. It is implicit within the requirement to update TI that the update shall be passed in such time as to enable the pilot to assimilate the information in order to discharge their responsibility to 'see and avoid'. Moreover, CAP774 states that "when passing TI, relative bearings are routinely passed in terms of the 12 hour clock; however, if the ac under service is established in a turn, the relative position of the conflicting traffic should be passed in relation to cardinal points."

Notwithstanding the crew's responsibility to 'see and avoid' and the effect of the canopy frame on their lookout, the ATM aspects of this Airprox warrant further analysis. While the cause of the Airprox was a late sighting by both crews, BM SM contends that the late sighting by the Gazelle's crew was contributed to by the timeliness and accuracy of the TI given by APP.

Based upon the Gazelle crew's report of sighting the TB9 immediately after receiving an update to the TI, it is reasonable to argue that they are referring to the update at 1128:56. Moreover, given the lack of acknowledgement of the TI at 1128:45 and the fact that it is not mentioned within their report, it is reasonable to suggest that the Gazelle crew either did not hear the TI or were unable to determine that the TI was for them. Based upon the initial garbling of the transmission at 1128:45, the latter hypothesis is more likely. However, whilst the TI passed at 1127:28 was sufficiently detailed, it and the updated TI at 1128:14 and 1128:56 did not adequately describe the track of the TB9 relative to the Gazelle, nor were the updated TI calls in the correct format. Moreover, while APP reported that the update provided at 1128:45 was made without the benefit of SSR Mode C data, they described the TB9 as being at, "*low level*"; it has not been possible to resolve this discrepancy. Notwithstanding that the Gazelle crew may not have realised that the TI at 1128:14 applied to them, the inaccuracies of the three TI broadcasts could have contributed to the late sighting of the TB9 by the Gazelle crew.

In terms of the timeliness of the TI, the update to the TI at 1128:45 occurred 19sec/1.3nm prior to the CPA, with the final update occurring about 8sec/0.5nm before. Notwithstanding the relatively low closure speed of the ac involved, updating TI at such close range gives little time for crews to assimilate the TI, visually acquire the conflicting ac and either avoid it, or seek deconfliction advice if they remain unsighted. It is reasonable to argue that the handover of control position between 1128:14 and 1128:45 may have affected the timeliness of the provision of updated TI.

BM SM has highlighted to RAF SATCOs that caution should be exercised when handing over control positions when aircraft are proximate.

HQ AIR (OPS) comments that the crew of the Gazelle received TI that did not specifically indicate the potential for conflict and which did not appear to have given them an appropriate level of concern. Greater adherence to the CAP413 extract above would go some way to addressing this issue, and may have prompted the crew to have taken their own avoiding action. In addition, there is scope for confusion as to responsibilities when being vectored by ATC, who are required not to vector ac into known conflicts; the interpretation of 'vectoring' is crucial and has been a factor in other Airprox events, where crews not under 'own navigation' have seemed to expect vectors that would not put them into conflict. Despite this confusion, the responsibility for collision avoidance remains with the ac commander when under ATSOCCAS, but more assistance from ATC would have been provided had a DS been requested.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Members were informed by the HQ Air BM SM Advisor that, although the Gazelle was placed on a heading by the Boscombe Controller, this was issued before the start of the RT transcript and well before any confliction would have been evident to him.

TI was passed to the Gazelle pilot as required when under a TS and updated, but the initial description was not wholly accurate and could have led the pilot into not assimilating that the traffic (in his 2 o'clock) was heading directly towards a point where the ac would be in conflict.

The TB9 pilot was not in receipt of any traffic warnings or information as he was listening out with Compton Abbas with about 15nm to run to the airfield. One Member thought a call to Boscombe as the ac passed to the S of them might have established that they had traffic in the area [the radar recording showed another ac with a Boscombe squawk in the area].

Notwithstanding these factors, both ac were operating legitimately in Class G airspace where 'see and avoid' pertains; both pilots saw the opposing ac at about 300m and the Board agreed that this was later than optimum. Both pilots did, however, see the opposing ac and the TB9 took effective avoidance, resulting in the Gazelle pilot deciding that none was required; this ensured that there was no risk of collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Late sightings by the pilots of both ac.

Degree of Risk: C.