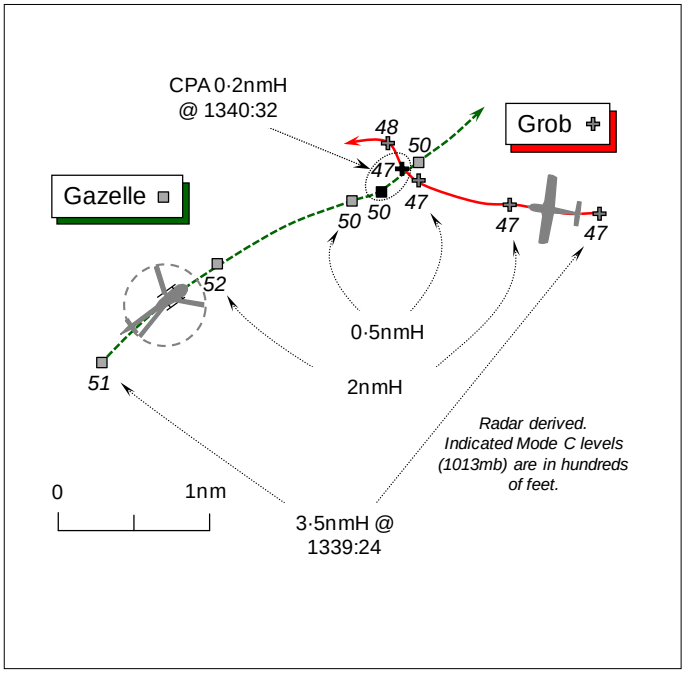
AIRPROX REPORT No 2011029

Date/Time: 6 Apr 2011 1340Z

Position: 5102N 00154W (9nm SW of Boscombe Down - elev 407ft)

Airspace: London FIR (*Class: G*)

	Reporting Ac	*Reported Ac*
Type:	Gazelle	Grob Tutor T Mk1
Operator:	MoD FTR	HQ Air (Trg)
Alt/FL:	5000ft QFE (1011mb)	- QNH
Weather:	VMC Sky Clear	VMC CLAH
Visibility:	50km	10km
Reported Separation:	Nil V/200m H	NK
Recorded Separation:	300ft V/0·2nm H (~370m)	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE WESTLAND GAZELLE HT Mk3 HELICOPTER PILOT reports he was conducting advanced training, VFR to the S and SW of Salisbury under a TS from Boscombe APPROACH (APP), demonstrating a flight test technique. A squawk of A2612 was selected with Modes C and S on; TCAS is not fitted. His helicopter has a white colour-scheme; the white HISLs were on.

Before the Airprox occurred traffic had been previously called by APP out to the E, which had been identified about 5min earlier operating at very low level (about 1000ft) with no confliction. Flying level at 5000ft Boscombe QFE (1011mb) heading 090° at 80kt, APP called two contacts, believed to be to the N of his ac. One was identified going away as no confliction - the other was not identified [seen]. Subsequently, on looking up from the cockpit instruments both pilots saw a white fixed-wing light ac in a banked R turn at 12 o'clock, 300-400m away and slightly below his helicopter. Minimum horizontal separation was 200m as the other ac – the Grob Tutor – resumed its course; he took no avoiding action as the Tutor had already turned away by the time they saw it. He then made a call to APP to state that he was visual with another ac now passing astern, but did not recall having been told about it. The Risk was assessed as 'high' and he added frankly, both student and instructor were looking heads-in at the time of the Airprox.

THE GROB TUTOR T MK1 PILOT reports he had departed from Middle Wallop for a local elementary training sortie, his third of four sorties of the day with a total brakes-off to brakes-on time of 5hr 50min. He does not recall the specific weather conditions although they would have been suitable for the exercise he was teaching, which was Straight and Level 1 & 2 with perhaps 1min of manoeuvring.

During the period that the Airprox occurred he would have been flying between 3000-6000ft amsl whilst operating between the SAM VOR radials of 270° to 300°, from 10nm to 30nm range. Boscombe ZONE was providing a 'listening watch' on 256·500MHz and a squawk of A2612 was selected with Mode C on; Mode S is fitted but TCAS is not.

He does not recall experiencing any event suggesting an Airprox had occurred and his normal practice on seeing another ac is to turn to avoid it or, if appropriate, increase the separation distance.

Whilst they occasionally see other non-Middle Wallop ac in the local training area, he did not recall seeing any other ac on this particular day that had caused him any safety concern.

His aeroplane is coloured white with a blue stripe and all the ac's lighting was on.

THE BOSCOMBE DOWN APPROACH CONTROLLER (APP) reports the Gazelle helicopter was under his control throughout this sortie. The helicopter was operating out to 15nm SW of Boscombe Down at an altitude of 5000ft. At the same time, there were a number of Middle Wallop ac operating in the same area, mostly indicating below FL40 Mode C. There were, however, two ac indicating at about the same level as the Gazelle; one contact manoeuvring 2nm away to the NE and the second, was about 4nm E tracking W. Both of these ac were called to the Gazelle pilot, who reported visual with both ac. As the Gazelle pilot had called visual with the traffic, no further TI was offered. A short time later, the Gazelle pilot reported that an ac had passed close by at the same level. This was identified as the E'ly of the two contacts that had earlier been called to the Gazelle crew.

THE BOSCOMBE DOWN ZONE CONTROLLER did not submit a report.

HQ 1GP BM SM reports that this Airprox occurred between a Gazelle HT Mk3 conducting flight test training in receipt of a TS from Boscombe APP and a Tutor T Mk1 operating under a 'listening watch' from Boscombe ZONE.

'Listening Watch' has been introduced for Middle Wallop based Tutor ac to facilitate coordination when required against Boscombe Down ac operating under IFR. There is no form of flight following or any undertaking to provide an ATS inherent in this 'listening watch', the Tutor crews simply 'check-in' on the ZONE frequency and are acknowledged.

At 1338:47, APP passed TI to the Gazelle crew on other unrelated traffic to the NE of the Gazelle, *"…traffic north east 3 miles manoeuvring believed to be fixed wing flight level 4-5"*, which was acknowledged with *"..looking".* This was updated at 1339:12, *"…unknown contact north north east 2 miles South West"*, with which the Gazelle pilot reported visual 3 sec later.

At 1339:25, APP passed TI to the Gazelle crew on the subject Tutor stating, "*further traffic, east-north-east, 4 miles, west bound, flight level 4-7*." Following this transmission at 1339:29, the Gazelle pilot replied that they were, "*visual with traffic*." When the TI was issued the LATCC (Mil) radar recording shows that the Tutor was 3.5nm ENE of the Gazelle indicating 4700ft Mode C (1013mb), with the Gazelle indicating 5100ft Mode C. [UKAB Note (1): The CPA occurred at 1340:32 with the Tutor turning R through the Gazelle's 12 o'clock at a range of 0·2nm and below it with vertical separation of 300ft Mode C evident.] At 1340:47, the Gazelle pilot stated on the APP frequency, "*gone behind her*."

From an ATM perspective, although the Gazelle pilot reports that they could not recall being informed of the Tutor, it is clear that APP did pass accurate TI about the Tutor. Moreover, the Gazelle pilot immediately reported visual with, *"visual with traffic"*. However, at that time (1339:29) the ac that had been the subject of the previous TI passed at 1338:47, and updated at 1339:12, was approximately 1.2nm N also indicating 4700ft Mode C. Given the amount of background traffic and the similarity of the positions of the aircraft involved, the Gazelle crew may have missed APP stating "*further traffic*" and thought that the TI related to the ac that he had previously called visual with. This hypothesis is consistent with the Gazelle pilot's belief that he had not been passed TI on the subject Tutor and their late sighting of it. Nevertheless, from APP's perspective, the controller passed timely and accurate TI to the Gazelle crew in accordance with CAP774, to which they replied that they were visual.

UKAB Note (2): This Airprox occurred at the base and just below the Boscombe Advisory Radio Area (ARA) promulgated in the UK AIP at ENR 5-2 which gives the lateral co-ordinates of the Area within Class G airspace and the vertical limits of FL50 – FL195. It is noted in Remarks that:

'Considerable test flight activity. Test flight activity often requires the pilots to fly profiles which limit their ability to manoeuvre their aircraft in compliance with the Rules of the Air. Such flights will receive a radar service from Boscombe Down or the Swanwick Military Special Tasks Cell.'

HQ AIR (TRG) comments that the Tutor complied with extant Group Air Staff Orders (GASOs) regarding the requirement or otherwise to operate under a TS. The Tutor pilot was also operating clear of the ARA on this occasion but is not required to. However, following this incident, a local review of procedures, initiated by No1 EFTS, is under way. Unfortunately, segregation of test flights is not always practical and operating under a TS is the next best option. However, this incident highlights that even with perfect TI the system can break down if crews misinterpret the TI given or choose not to take their own separation based upon it. Collision avoidance in this case relied on the 'see and avoid' principle, the flaws of which were exposed here. The ongoing embodiment of a Traffic Alerting System on the Tutor will add a further layer of mitigation and should avoid the concentrating effect of any potential alternative geographical airspace limitations.

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 video recordings, a report from the APP controller involved and reports from the appropriate ATC and operating authorities.

The Gazelle crew had wisely sought to supplement their lookout with a TS whilst engaged in their intensive instructional sortie and it was evident that APP was conscientiously providing a good level of TI to assist the crew's SA. The HQ 1Gp report coupled with the RT transcript and radar recording confirm that the Gazelle crew had indeed been passed comprehensive TI by APP about the subject Grob Tutor when it was 3·5nm away, before they subsequently sighted it 300-400m away and slightly below their helicopter, believing they had not been told about it. As the Gazelle pilot had reported just 4 sec after APP's transmission, *"visual with traffic",* it was understandable that such a reply would have assured the controller that the subject Grob had been seen and that the Gazelle crew would maintain their own separation, making any further update superfluous. Controller Members recognised that all the essential elements of TI were included in APP's transmission, and the Board agreed with HQ 1Gp BM SM's contention that the Gazelle pilot had probably missed or not assimilated correctly the *"further traffic..",* perceiving that the TI related to the ac previously seen. This was most unfortunate but such mistakes can happen occasionally in a busy traffic scenario and which are virtually impossible to guard against. Notwithstanding any assistance from ATC, in Class G airspace it is the pilots' responsibility to see and avoid other traffic; the Board agreed that part of the Cause here was a late sighting by the Gazelle crew.

All involved were undoubtedly doing their best to complete their specific instructional/training assignments as efficiently as possible and there was a fine balance to be struck between achieving the primary training goals of the sortie with the provision of a compatible ATS to enhance the pilots' SA. However, the Board was somewhat surprised that the Grob Tutor pilot had not similarly availed himself of a TS. In the Board's view a 'Listening Watch' contributed nothing to the pilot's SA and Members were surprised that a BS was not being requested at a minimum, or preferably a TS. The Board welcomed the review initiated by No1 EFTS; the HQ Air Trg Member briefed the Members that the Army Flying Grading organisation was seeking an increase in controller manpower with a view to Middle Wallop ATC providing a TS to such flights as the norm.

As it was the Grob Tutor pilot reports that he had not seen the Gazelle at all, or if he did, had discounted it as a factor. It was feasible that the R turn evinced by the radar recording might have been an avoiding action turn but this was conjecture. The Board could assess the Airprox only on the basis of the reports provided and Members concluded that this was a non-sighting by the Tutor pilot. The Board determined, therefore, that this Airprox had resulted from a non-sighting by the Tutor pilot and a late sighting by the Gazelle crew. The radar recording shows that 300ft of vertical separation existed at the closest point of 0·2nm as the Tutor crossed ahead and probably when the

Gazelle pilot had spotted the Tutor. Furthermore, the Gazelle pilot had realised that the Tutor was turning away from his helicopter at the CPA and his ac was passing clear astern so no avoiding action was necessary. This convinced the Members that in these circumstances there was no Risk of a collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Tutor pilot and a late sighting by the Gazelle crew.

Degree of Risk: C.