

AIRPROX REPORT No 2010130

Date/Time: 8 Sep 2010 (Wednesday) 2044Z
(Night)

Position: 5544N 00233W (4nm
SE Galashiels)

Airspace: UKNLFS (Class: G)
Reporting Ac Reported Ac

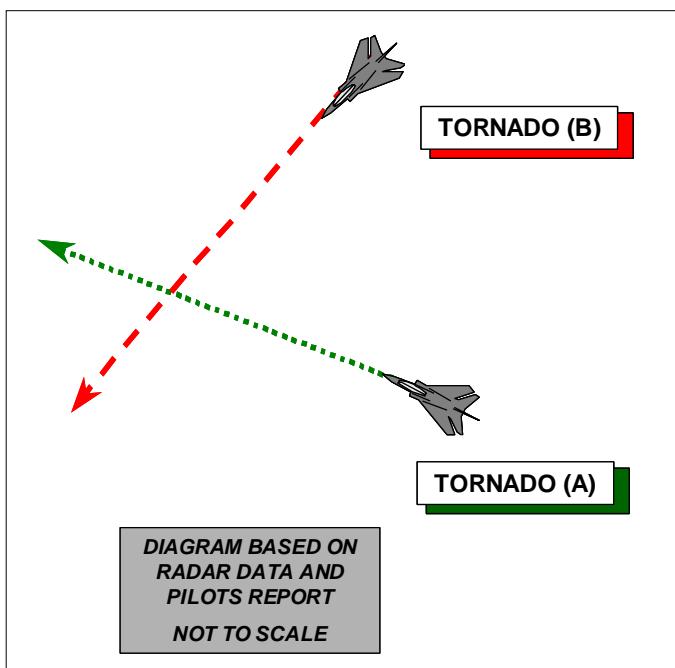
Type: Tornado GR4 Tornado GR4

Operator: HQ AIR (OPS) HQ AIR (OPS)

Alt/FL: 600ft 450ft
(Rad Alt) (N/K)

Weather: VMC CLBC VMC NK
Visibility: 10km NR

Reported Separation:
V 0ft/H NK Not seen



Recorded Separation:

Estimate from FLIR video 0 V/60m H

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO GR4 (A) PILOT reports flying a singleton night training flight with red strobes, obstruction lights and nav lights switched on. Initially they were conducting GH, from surface to 12000ft (QNH 1011mb), under a TS from ScACC (Mil) but were also booked traffic for Night Sector 2A between 1930 and 2045 as per the Lossiemouth Wing Night Deconfliction Plan.

On requesting descent, ScACC (Mil) advised them that terrain avoidance would be their own responsibility below the Safety Alt and they commenced a TFR descent from 12000ft to conduct a 'Show Of Force'. At 600ft agl and 450kt, on a track of 285° at position 5534N 00233W (in Night Sector 2A), an ac was encountered directly in the 12 o'clock crossing from right to left at very close range and at the same height. They immediately climbed out from Low Level, re-contacted ScACC (Mil) and asked if they were aware of any other ac descending into Night Area 2; ScACC (Mil) advised that they had previously been talking to another Tornado [C/S]. After landing the pilot of that ac was contacted by telephone and it was confirmed that he flew the ac involved in the Airprox, but he was unaware of the incident.

He assessed the risk as being very high.

THE TORNADO GR4 (B) PILOT reports that on return from a routine night training flight, he was informed of a close encounter with another Tornado GR4 in Night Sector 2A. Neither crewmember saw the other ac while airborne. At the reported time he thought that they were heading 220° at 450kt in the position reported.

UKAB Note (1): RAF Lossiemouth provided a copy of the Night Deconfliction Plan. This confirms that Area/Sectors 2A and 2B were allocated to Tornado (A)'s unit from 1930 to 2045. The sectors were allocated to Tornado B's unit from 2046-2200.

UKAB Note (2): The UK Low flying handbook at Sect 3 Para 18 states:

'Crossing Boundaries.' Aircrew are to plan to cross boundaries in accordance with the following rules:

- a. Night Sector Boundaries are to be crossed so as to ensure that ac are always operating within their allocated time slots
- b. Ac may leave the UKNLFS by climbing above 2000ft AGL/ASL, direct to airfields or danger areas within the System (when cleared) or by crossing any seaward boundary at low level.

Para 19 states:

'Joining the NLFS. Ac may join the UKNLFS from above 2000ft AGL/ASL, direct from airfields or danger areas within the System or across a seaward boundary.

And Para 25 states:

'DECONFLICITION

FW/FW. Deconfliction of FW ac sorties is achieved by the allocation of sectors to units for fixed time periods for use by single, streams or formations of ac (formation sizes as per the regulations in Sect 1). Units are free to utilise the sectors as they wish, but are responsible for their own deconfliction within the sectors. Where ac from different operating bases require use of the same sectors simultaneously, a deconfliction fax (Annex C) is to be sent by the owning unit to LF Ops Sqn to confirm that coordination has been effected between the units concerned. Use of sectors is possible irrespective of whether the units' activity is associated or independent of the other user(s).'

UKAB Note (3): Although both ac show intermittently on the recording of the Prestwick radar, neither ac shows while at low level. Tornado (B) shows intermittently to the N of (A) but displays only one Mode (C) return, showing an alt of 1900ft amsl at 2043:41, but the contact disappears at 2043:56; Tornado (A) disappears at 2044:17 (entering low-level at approximately the time of the Airprox) and reappears at 2044:43 climbing out of low level in a NNE direction. Tornado (B) reappears at 2046:35,15nm SW of the incident position, tracking SW, level at an alt of 4200ft amsl.

UKAB Note (4): A video of the Tornado (A) FLIR was provided. It showed Tornado (B) pass from right to left, almost at right angles (estimated to be 70° and confirmed by pilots' reports) to Tornado (A)'s track, directly ahead at a distance estimated to be 60m, but does not show the incident time. Tornado (A) is at 595ft agl and at 471kt G/S. Allowing for the crossing angle, at that rate of closure it takes about ¼sec to travel 60m.

HQ AIR (OPS) comments that this AIRPROX occurred as a result of Tornado B entering the night LFS outside its booked and deconflicted time; an investigation was conducted to ascertain the reasons for this. Lessons Identified by the investigation have been implemented to significantly reduce the likelihood of reoccurrence.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, radar photographs/video recordings, and reports from the Tornado operating authority.

UKAB Note (5): The results of a comprehensive RAF Flight Safety/Human Factors inquiry were made available to the UKAB but after the draft Part (A) had been distributed to Members for consideration. The full report of the RAF Inquiry was not distributed to the Board but the Board was briefed on its salient points.

The Board noted that this was a very serious occurrence where neither crew had seen the other ac at the time of the event. Tornado B crew were unaware that an incident had occurred until they were

informed after landing, while the crew of Tornado (A) felt the wake turbulence of Tornado (B) but did not see the ac. Members were briefed on the (procedural) area/time deconfliction system used when operating in the UKNLFS and agreed that these measures, if adhered to, should prevent any conflict between Military users; they will not, however, prevent routine conflicts between Military ac and other legitimate VFR or IFR operations such as Police, Coastguard or other civilian ac operating legitimately, in Class G airspace under the provisions allowed by the ANO (and exemptions).

That being the case, the Board agreed unanimously that the UKNLFS [outside the Highlands Restricted Area] is Class G airspace where 'see and avoid' pertains. In this case, despite that the ac had been appropriately lit, the weather below cloud was good and terrain imagery showed that the ac had most likely not been obscured by the terrain, neither crew had seen the conflicting ac and this, Members agreed unanimously, had been the prime cause of the incident.

One Member observed that from the data available to the Board (not including the findings of the RAF Inquiry) it was not possible to determine the time of the incident or the time of entry into the LFS of either ac. At this stage, the Secretariat gave Members a short résumé of pertinent parts of the RAF Inquiry outlined below.

UKAB Note (6). Based on the data recorded on the respective ac Mission tapes, the RAF investigation established that Tornado (B) had entered Night Sector 2(A) at 2038:21, 7min39sec before its deconflicted (earliest) entry time of 2046:00 and that Tornado (A) was within its deconflicted time 'slot'. This was independently verified from the radar recording which shows Tornado (A) leaving the LFS in the climb (as permitted by LFHB procedures above) at about 2044:43, 17sec before the end of its 'slot'; Tornado (B) can be seen squawking 7001 in the area before the start of its slot (albeit from only one Mode C return). It also determined from the mission tapes that the CPA, where Tornado (B) crossed (A)'s nose, was at 2044:15.

In light of this information, Members agreed that the crew of Tornado B had not complied with the Deconfliction Plan and this was also part of the cause of the Airprox.

Notwithstanding this however, Tornado (A) crew had been in, or emerging from, a high-workload TFR-descent which requires both crewmembers to spend most of their time monitoring ac systems. For the descent they had terminated the radar service from ScACC (Mil), that apparently revealed no conflicts, had been within their deconflicted NLFS time 'slot' and had just passed through a cloud layer, so understandably they would not have expected to encounter any other ac and may have reduced the priority normally afforded to lookout.

The RAF Inquiry revealed that, although correctly qualified, the crew of Tornado (B) was relatively inexperienced and was on a Night EO (electro-optical) familiarisation flight. Although the EO equipment (both FLIR and NVGs) is capable of revealing other ac, the field of view of both is limited, the crew were not fully familiar with its use and their first priority would have been, again understandably, terrain avoidance at low level.

Members agreed however, that fully understanding and adhering strictly to a deconfliction plan is vital if night, low level, military operations are to be conducted safely; they were unable to determine why the crew of Tornado (B) had not afforded sufficient priority to the apparently sound and properly promulgated deconfliction plan.

When reviewing all the information available to them, Members agreed unanimously that, in this incident, there had been an actual risk that the ac would have collided.

The Board noted that the RAF Inquiry had produced a number of recommendations but agreed that consideration and implementation was a matter for the MoD.

PART C: ASSESSMENT OF CAUSE AND RISK

- Cause:
1. Non-sightings by the crews of both aircraft.
 2. The crew of Tornado (B) did not adhere to the deconfliction plan.

Degree of Risk: A.