AIRPROX REPORT No 2013103

Date/Time: 7 Aug 2013 1503Z

Position: 5828N 00508W
(10nm SW Cape Wrath)

Airspace: Scot FIR   (*Class*: G)

	Reporting Ac	Reported Ac
Type:	Tornado GR4	AS350
Operator:	HQ Air (Ops)	Civ Comm
Alt/FL:	265ft amsl	800ft NK
Weather:	VMC CLBC	NK
Visibility:	20km	NK

Reported Separation:

1200ft V/20ft H   Not Seen

Recorded Separation:

NK

Diagram based on radar data and pilot reports
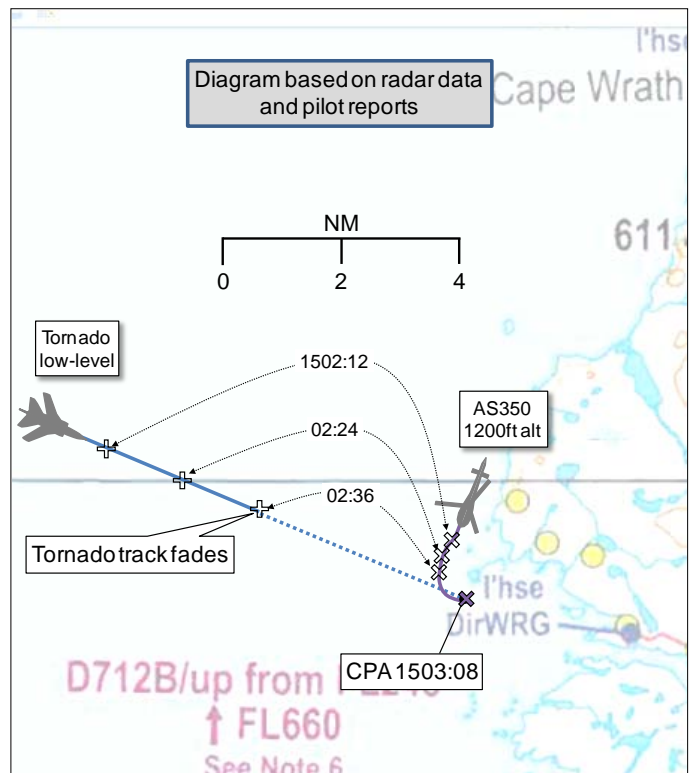
PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO PILOT reports operating autonomously under VFR in VMC, listening out on the low-level common (LLC) frequency whilst in the process of taking a positional fix at low-level. The grey camouflaged aircraft had navigation and obstruction lights set to 'maximum conspicuity' and dorsal and ventral HISLs selected on. The SSR transponder was selected on with Modes A, C and S; the aircraft was not fitted with an ACAS. In level cruise, at 265ft amsl, 400kt, heading 110°, the pilot saw a helicopter appear from behind his canopy arch, just above and to the right of his track at a range of about 1nm. He described the helicopter as being black with a white stripe on top, and having skids and a 'Wescam or similar' slung underneath. He assessed that the helicopter was approximately 1000ft above. Post-flight examination of the Tornado head-up display video placed the helicopter at approximately 1500ft amsl, stationary, pointing in the same direction as the Tornado, and positioned in the middle of the coastal inlet into which the Tornado was heading at the time. The Tornado pilot assessed that the safest course of action was to continue straight ahead at low-level, passing an assessed 1200ft below and 20ft to the side. Once clear, the crew continued with the briefed task. The Tornado pilot stated that he had maintained a listening watch and had made regular calls on LLC during the flight, the last of which had been 4min before CPA with clear line of sight to the helicopter's position. He noted that the positional fixing routine was a potential distraction to his lookout.

He assessed the risk of collision as 'Medium'.

THE AS350 PILOT reports in the cruise at 800ft, heading south at 80kt. The helicopter colour scheme, lighting state and TCAS fit were not reported. The SSR transponder was selected on with Modes A and C. The pilot was operating under VFR in VMC. He did not report the radio frequency selected or whether he was in receipt of an ATS. He stated that he did not see a military aircraft.

Factual Background

The weather at Stornoway was recorded as follows:

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METAR EGPO 071450Z 06007KT 9999 FEW018 SCT042 15/11 Q1018
METAR EGPO 071520Z 06007KT 9999 FEW024 15/11 Q1019
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Analysis and Investigation

UKAB Secretariat

The time of CPA (1503:08) was calculated from radar recordings of both aircraft and by extrapolating the Tornado track on the assumption that its heading and groundspeed remained constant after the track faded at 1502:36. Both pilots were equally responsible for collision avoidance,[1] and the AS350 pilot had right of way[2]. Whilst military fast-jet crews are required to monitor the LLC frequency whenever possible when operating in the UK Low Flying System[3], no such requirement exists for civilian traffic operating below 2000ft agl/amsl.

Comments

HQ Air Command

This incident underlines the importance of effective lookout at all stages of the sortie, including when conducting specific training requirements. On this occasion, a small ac, obscured by the canopy-arch and vertically mis-aligned with the flight-path of the Tornado, was seen and avoided, albeit at a late stage. The Tornado crew adhered to all the mid-air collision mitigation procedures expected of them; TCAS could have enhanced awareness of this potential conflict.

Summary

A Tornado GR4 and AS350 flew into proximity at low-level at 1503 on 7th August 2013. The Tornado pilot assessed that his flight path would take him clear; the AS350 pilot did not see the Tornado.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and radar video recordings.

Military pilot members felt that a combination of factors had resulted in the Tornado pilot filing this Airprox. Firstly, he was probably task-focused on the positional fix, which may have reduced his lookout at that stage of the sortie, and was startled to see a helicopter appear at low-level from behind the canopy-arch. Secondly, having made appropriate calls on the LLC frequency, he had a clear expectation that the helicopter pilot should have heard his transmission (having reported that he was 'line-of-sight' to the helicopter when he made his last call). The Board noted that the LLC is a UHF frequency and that this AS350 was not fitted with a UHF radio, as is the case for almost all civilian aircraft. The Board also noted that, in any case, there was no requirement for the helicopter to monitor LLC even if the aircraft had been fitted with UHF.

Nevertheless, having seen the helicopter at a range of 1nm, about 11sec from CPA at the reported speeds, the Board members agreed that the Tornado pilot had taken the most appropriate course of action in maintaining his track and altitude to pass well clear, below the AS350. The helicopter pilot had no recollection of seeing a military aircraft.

Given the reported separation of more than 1000ft vertically allied to the lack of concern from the AS350 pilot, members felt that normal procedures, safety standards and parameters had pertained.

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[1] Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).
[2] ibid. Rule 11 (Overtaking).
[3] The UK Low Flying System comprises Class G airspace extending vertically from the surface to 2000ft agl/amsl and laterally to the UK FIR boundary. UK Military Low Flying Handbook, dated 8th March 2012.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Sighting report.

Degree of Risk: E.

ERC Score[4]:   1.

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[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.