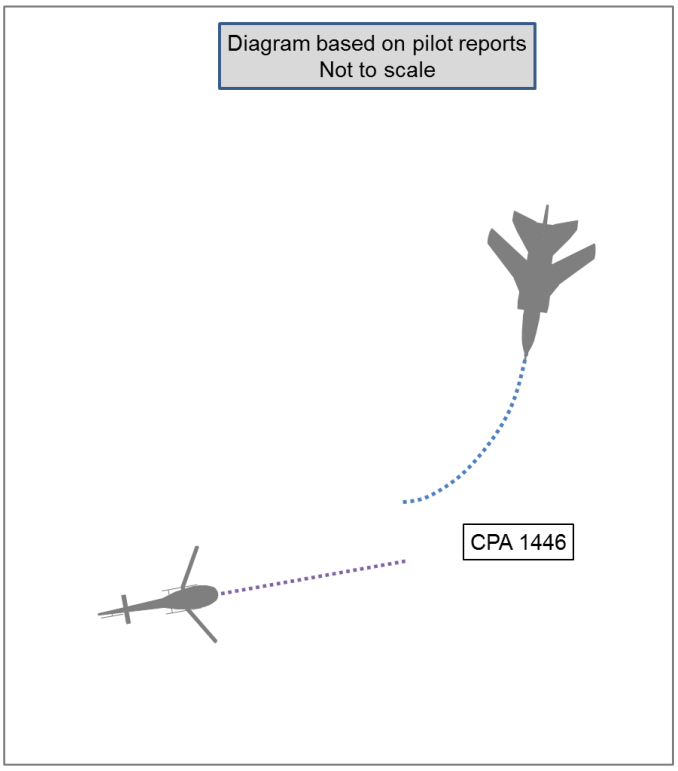
AIRPROX REPORT No 2014037

Date/Time: 10 Apr 2014 1446Z

Position: 5545N 00545W (1.5nm NW Gigha Island)

Airspace: Scot FIR (*Class*: G)

	Aircraft 1	*Aircraft 2*
Type:	Tornado	AS355
Operator:	HQ Air (Ops)	Civ Comm
Alt/FL:	600ft RPS (1010hPa)	~1000ft QNH (NK hPa)
Conditions:	VMC	VMC
Visibility:	40km	>10km
Reported Separation:	500ft V/<500m H	'slightly below' V 'a few hundred m' H
Recorded Separation:	NK	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO PILOT reports conducting a low-level tactical formation sortie. The grey camouflaged aircraft had navigation, obstruction, formation and strobe lights selected on, as was the SSR transponder with Modes A, C and S. The aircraft was not fitted with a TAS or ACAS. The pilot was operating under VFR, in VMC, below a 4000ft cloud base, not in receipt of an ATS. Whilst in a right-hand navigational turn, passing through heading 220° at 500kt over the sea, he saw a small, dark-blue, 'Robinson R22 type' helicopter 'at very late notice', slightly high in the 1 o'clock position at a range of 500m. The Tornado was manoeuvred hard into the turn and descended to avoid the helicopter. The helicopter was flying straight-and-level and was not seen to manoeuvre. Visual confirmation of safe avoidance was made, and the route was continued with no further complications. The pilot noted that this was a high-workload sortie, and that previous aircraft manoeuvres had resulted in a displaced formation, leading to a reduction in mutual lookout between elements.

He assessed the risk of collision as 'Medium'.

THE AS355 PILOT reports conducting a ferry flight. The blue aircraft had position lights, strobe light and HISLs selected on, as was the SSR transponder with Modes A, C and S. The aircraft was not fitted with a TAS or ACAS. The pilot was operating under VFR, in VMC, not in receipt of an ATS but listening out on a Scottish Information RTF. At a position 1.5nm north of Gigha Island, heading 080° at 100kt and about 1000ft, he saw a grey Tornado to his left, coming from the north, just as it broke away to its right and flew behind him. He noted that he was not in touch with Scottish Information as he had tried previously and couldn't get in contact.

He assessed the risk of collision as 'potentially disastrous'.

Factual Background

The weather at Islay and Prestwick was recorded as follows:

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METAR EGPI 101450Z 28013KT 250V320 9999 FEW025 11/07 Q1020
METAR EGPK 101450Z 24013KT 9999 FEW035 12/06 Q1020
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Analysis and Investigation

UKAB Secretariat

Both pilots shared an equal responsibility not to collide or to fly into such proximity as to create a danger of collision[1]. If the geometry of closure is considered to be 'converging' then the Tornado pilot was required to give way[2], which he did.

Comments

HQ Air Command

With neither aircraft fitted with a TAS or ACAS nor pilots in receipt of an ATS (acknowledging that any kind of ATS in the location of the Airprox was likely to be limited due to the terrain) the only effective barrier remaining was lookout. On this occasion it appears that the Tornado pilot was the first to visually acquire the other aircraft (albeit late) and immediately took action to resolve the conflict and increase separation – a manoeuvre that highlighted his aircraft to the helicopter pilot. Once again this incident serves as a reminder that effective lookout is crucial to the avoidance of MAC.

Summary

An Airprox was reported when a Tornado and an AS355 flew into proximity at about 1446 on Thursday 10th April 2014 at a position about 1.5nm northwest of Gigha Island. Both pilots were operating under VFR in VMC and neither were in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings and a report from the appropriate operating authorities.

The Board first assessed the actions of the pilots involved and quickly determined that the cause of the Airprox had been a late sighting by both pilots. Not being within ATS coverage, and with neither aircraft having electronic aids to collision avoidance, both pilots were relying exclusively on 'see–and-avoid'. The Tornado pilot did not see the helicopter until it passed through his field of view during his right-hand turn, and the AS355 pilot did not see the Tornado until its pilot broke away from him. The Board postulated that the reasons for the late sightings could have been that the Tornado pilot might have been concentrating his lookout on regaining formation integrity as he manoeuvred, whilst the AS355 pilot might have been in a state of low-arousal given his apparently benign flight conditions and low complexity transit task. This was not to criticise either of the pilots but rather to emphasise the importance of effective all-round lookout at all times. In addition, members noted that, weather and task permitting, by remaining above 2000ft, airspace users would avoid the majority of military low-level fast-jet traffic and they heartily encouraged those conducting simple transits to consider this as an option.

Given the difficulties of seeing a grey camouflaged Tornado against the sea and a relatively slow-moving helicopter on a constant bearing, the Board opined that an effective mitigation would also have been provided if one or both aircraft had been fitted with a TAS or ACAS; in this respect, the Board was heartened that the previously cancelled Tornado Collision Warning System (CWS) was now planned for introduction to the Tornado fleet during the current fiscal year.

The Board felt that the conditions and dynamics of the event were pertinent in assessing its risk. Although the Tornado pilot had reacted correctly to the presence of the helicopter, his closing speed and late sighting reduced his ability to achieve an appreciable increase in separation. Indeed, the

[1] Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions) and as reflected in Military Flying Regulations.
[2] ibid., Rule 9 (Converging)

Board considered that neither pilot had been in a position to achieve timely and effective collision avoidance, and that safety margins had been much reduced below the norm.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by both pilots.

Degree of Risk: B

ERC Score[3]: 4

[3] 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.