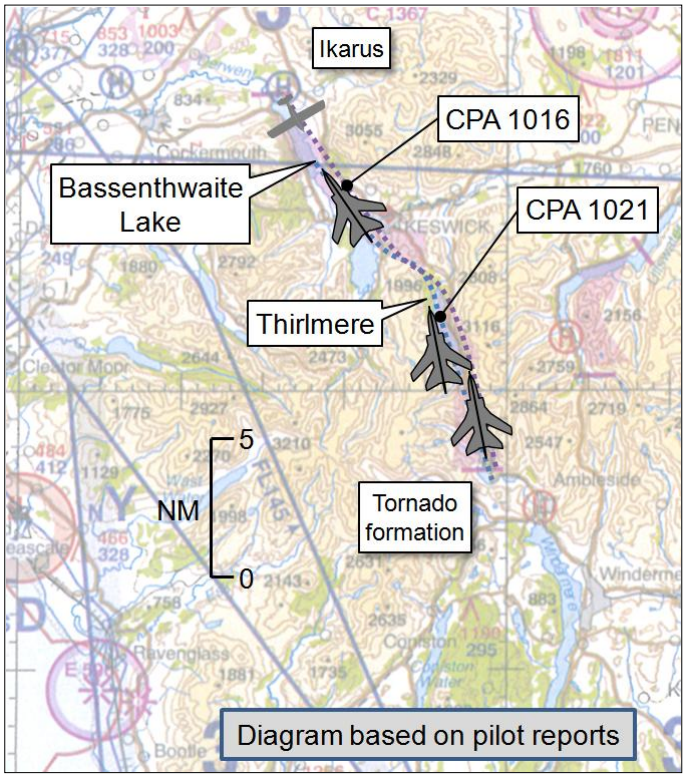
AIRPROX REPORT No 2013065

Date/Time:	30 May 2013 1016Z	
Position:	5432N 00303W (Thirlmere)	
Airspace:	LFA 17 Lon FIR	(*Class*: G)
	Reporting Ac	*Reported Ac*
Type:	Tornado GR4	Ikarus C42
Operator:	HQ Air (Ops)	Civ Pte
Alt/FL:	350ft agl (RPS 1006hPa)	12-1500ft agl NK
Weather:	VMC CLBC	VMC CLBC
Visibility:	20km	10km
Reported Separation:	500ft V/0m H	NK
Recorded Separation:	NK	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE TORNADO PILOT reports conducting a low-level sortie as part of a 3-aircraft formation. The grey camouflaged aircraft had navigation lights and HISL selected on, as was the SSR transponder with Modes A, C and S. The aircraft was not fitted with an ACAS. They were operating autonomously under VFR in VMC with the radios selected to the low-level common frequency and an intra-formation frequency. Whilst flying at low-level through the Lake District 2nm NW of Keswick, heading 355° at 420kt, the crew observed a white, high-wing, single-engine, light aircraft about 0.5nm ahead, flying in the opposite direction, about 500ft above. The crew informed the other formation aircraft, a pair following at low-level about 5min behind, using the intra-formation frequency and put out an information call on the low-level common frequency. The following pair subsequently saw the light aircraft heading S overhead Thirlmere; they assessed it to be 300ft above them under a cloud-base that gradually lowered from N to S. The Tornado crew also spoke to Carlisle A/D, who had no knowledge of a light aircraft transiting S through the Lake District. The Tornado pilot noted that military aircraft operating below 2000ft agl are required to transit from S to N if using the valleys that contain Thirlmere (S of Keswick) and Bassenthwaite Lake (NW of Keswick), which is denoted by a 'flow-arrow' on military VFR charts, but that no such requirement exists for non-military aircraft.

He assessed the risk of collision as 'Medium'.

THE IKARUS PILOT reports transiting S en-route to an A/D in France. The white and red aircraft had the SSR transponder selected on with Modes A, C and S and was not fitted with an ACAS. The lighting was not reported. He was operating under VFR in VMC and was not in receipt of an ATS. Overhead Thirlmere, heading S in level cruise at 75kt and an estimated height of 1200-1500ft in good visibility, he saw a pair of Tornados about 5nm ahead, at low-level. He was not concerned, rocked his wings to signal he had seen them as they approached, and watched as they passed out of sight below and to the R. He noted that he commented on 'what a great sight they were' to the other pilot on board and thought nothing more of the incident.

He assessed the risk of collision as 'Low'.

Factual Background

The weather at Carlisle was recorded as follows:

METAR EGNC 301020Z 04008KT 9999 FEW016 SCT022 13/09 Q1014

The Tornado formation was correctly authorised and booked in to the UK Low Flying System.

Analysis and Investigation

UKAB Secretariat

The Ikarus and Tornado pilots were operating in Class G airspace and all had equal responsibility for collision avoidance[1]. The pilots were required to manoeuvre their aircraft to the R if approaching head-on and there was a danger of collision[2]. Whilst the Ikarus pilot was required to comply with Rules of the Air 2007, Rule 5(b)[3], the Tornado pilots were required to fly not lower than 250ft[4] agl and to maintain a minimum separation of 250ft from any object. Likewise, the Tornado crews were required to comply with the flow-arrow, to route S to N, but the Ikarus pilot was not. Military flow-arrows exist at many 'choke-points' around the UK, the intent being to prevent fast-moving military low-level traffic routeing in opposite directions through constrained areas. Non-military traffic is not required to conform to the flow-arrow requirements and flow-arrows are not printed on CAA VFR charts.

Comments

HQ Air Command

Air Command commends the crew for their report of the sighting. It reminds crews that civilian aircraft may be found almost anywhere and at any time within what the military term the Low Flying System. The report also highlights some excellent practice such as the passing of specific warnings to the following Tornados as well as general warnings to other users of the Low Flying Area on the Low Flying Common frequency. Equally, it is an opportunity to remind GA traffic that they are most likely to encounter military fast jet traffic between 250ft and 1500ft across the majority of the UK; details are available at www.gov.uk/military-low-flying. There may be some additional value in highlighting the existing flow arrows to GA traffic, but given the significant speed differences, there would be no benefit in requiring compliance with them. Whilst this would reduce closure speeds slightly, it would rob GA traffic of much of their ability to see and avoid.

Summary

An Ikarus C42 and members of a Tornado formation came in to close proximity in the Lake District at about 1016 and 1021 on 30th May 2013. All the pilots were operating autonomously under VFR in VMC in Class G airspace. The Tornado crews were operating at low-level iaw military low-flying regulations.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and a report from the appropriate operating authority.

[1] Rules of the Air 2007, Rule 8 (Avoiding aerial collisions)
[2] Rules of the Air 2007, Rule 10 (Approaching head-on)
[3] The 500 feet rule: Except with the written permission of the CAA, an aircraft shall not be flown closer than 500 feet to any person, vessel, vehicle or structure.
[4] UK Military Low Flying Handbook.

Given the reported circumstances of the incident, the Board surmised that the military crew had filed an Airprox in no small part due to their surprise at seeing opposite direction traffic in an area that was constrained by the surrounding high terrain, by the lowering cloud base and by the military low-flying requirement to follow the flow-arrow. After some discussion, Board members decided that the GA community could usefully be made more aware of aspects of flow-arrows such as their location, orientation and applicability, although they recognised that civilian pilots were not required to abide by their limitations. It was agreed that the CAA be recommended to review education of GA pilots in order to improve understanding of the implications of 'flow arrows' and their choke-point implications with respect to military fast-jets at low-level. It was also noted that flow-arrows had previously been printed on CAA VFR charts but the Board was not convinced that their re-introduction would improve matters.

Although the Ikarus pilot apparently only saw the second pair of Tornados, the Board were content that the separation was such that it did not cause him concern and that, by maintaining their flight paths, all the Tornado pilots had taken effective and timely action to prevent collision. The Board also commended the Tornado crew on their decision to file an Airprox.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Sighting report.

Degree of Risk: C.

ERC Score: 2[5]

Recommendation(s): CAA to review education of GA pilots to improve understanding of implications of military low-flying 'flow arrows'.

[5] 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.