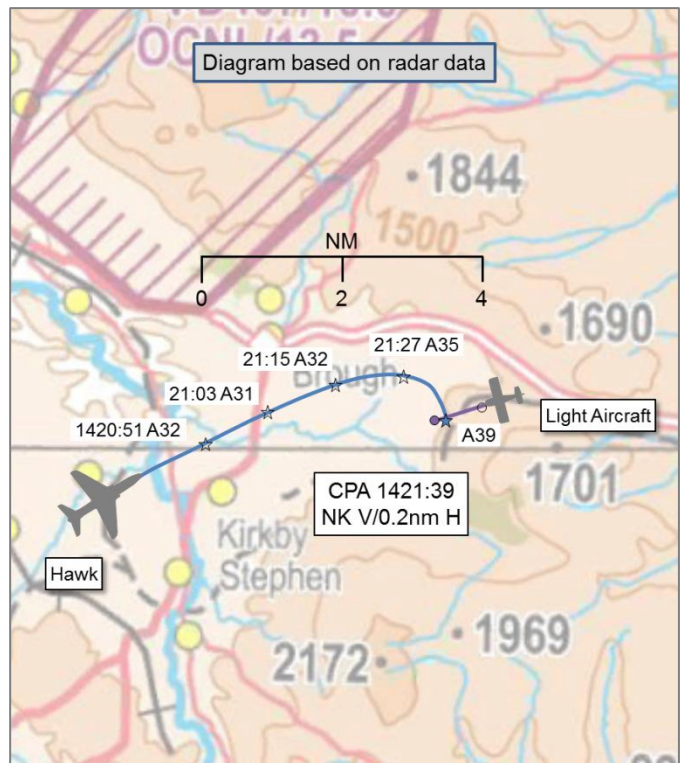


**AIRPROX REPORT No 2015030**

Date: 27 Mar 2015 Time: 1422Z Position: 5430N 00215W Location: Appleby

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Hawk T1	Light aircraft
Operator	HQ Air (Ops)	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	Traffic	
Provider	Leeming	
Altitude/FL	FL037	
Transponder	A/C/S	
<b>Reported</b>		
Colours	Black	Blue/white
Lighting	HISLs	
Conditions	VMC	VMC
Visibility	15km	
Altitude/FL	NK	
Altimeter	NK	
Heading	180°	
Speed	NK	
ACAS/TAS	Not fitted	
<b>Separation</b>		
Reported	0ft V/0.5nm H	NK
Recorded	NK V/0.2nm H	



**THE HAWK PILOT** reports conducting operational training in support of a ground based unit inside airspace which had been NOTAM'ed as a warning. After approximately 5min on task, he recalled that the ground unit alerted him by RT to a Tucano entering the NOTAM airspace from the east. At that point he saw a blue-and-white, low-wing, single-piston-engine light-aircraft entering the NOTAM. He informed the ground unit and then tried to ascertain if it was the aircraft previously identified as a Tucano by the ground unit, or if there were two aircraft in the NOTAM. He manoeuvred to try and keep visual contact with the light-aircraft to ensure it had cleared the airspace. Almost immediately, the light-aircraft pilot commenced a turn towards him and, for the next 10min he thought it seemed determined to point towards him and manoeuvre towards his six o'clock. The manoeuvres appeared to the Hawk pilot to be representative of a fighter manoeuvring towards a 'guns solution' during air combat. He tried to maintain visual contact to remain above the aircraft and gain separation but was hampered by a low cloud-base. At one stage the situation resembled a slow-speed scissors<sup>1</sup>; the Hawk pilot became uncomfortable and, after receiving no response to his wing wagging<sup>2</sup>, attempted to contact the other pilot on VHF and UHF Guard, with no response. At this stage he decided to file an Airprox with Leeming Zone. Eventually, the aircraft left the airspace to the southwest. The Hawk pilot stated that he understood that his airspace was a warning and not an avoid, and that he had not filed because someone entered the airspace without contacting the controlling agency. He had filed because he believed the other pilot's manoeuvring, at low levels below cloud and towards him, was unsafe. He did not try to manoeuvre against the other aircraft at any stage; however, due to the speed difference, he was required to make heading changes to maintain visual contact. This only seemed to encourage more manoeuvring, and he could only surmise that the other pilot believed the Hawk pilot was 'taking part', even after multiple radio calls on Guard.

He assessed the risk of collision as 'Low'.

<sup>1</sup> The pilots turn towards one another at the slowest attainable forward speed, reversing direction on crossing flight-paths, in order to manoeuvre behind the other aircraft and gain a position of advantage.

<sup>2</sup> Rolling rapidly and repeatedly from side to side.

**THE LIGHT AIRCRAFT PILOT:** Tracing action was undertaken over a wide area but the light aircraft pilot could not be found.

**THE LEEMING ZONE CONTROLLER** reports he had been given the Hawk details by Leeming Radar Approach and that the pilot would call him pulling out of low-level for a Traffic Service in the block 'surface to 6000ft RPS' in the Appleby area. He identified the Hawk and agreed a Traffic Service. He then called traffic to affect to the Hawk pilot, "traffic east 5 miles tracking west no height". The Hawk pilot acknowledged. The other contact continued towards the Hawk and the controller passed further Traffic Information, "east 3 miles tracking west no height". The Hawk pilot acknowledged, soon after called visual, and informed the controller he would like to file against the other aircraft as it was 'conducting air combat on him within the NOTAM'ed area'. The aircraft was reported as light GA traffic, blue and white in colour that persisted to remain in his 6 o'clock.

**THE LEEMING SUPERVISOR** reports he witnessed the Leeming Zone controller calling the unknown aircraft to the Hawk pilot until he became visual. He was satisfied that the controller did all he could to assist the pilot in becoming visual with the other aircraft.

### Factual Background

The weather at Carlisle was recorded as follows:

METAR EGNC 271420Z 30012KT 9999 SCT021 BKN035 08/M00 Q1017

The operational training was the subject of a NOTAM:

Q) EGTT/QWELW/IV/BO/W/000/150/5430N00217W005  
 B) FROM: 15/03/27 09:30 C) TO: 15/03/27 17:00  
 E) FORWARD AIR CTL EXER. A FAST JET ACFT WILL CONDUCT HIGH ENERGY  
 MANOEUVRES WI 5NM RADIUS 542932N 0021632W (APPLEBY, CUMBRIA). AIC  
 Y002/2015 REFERS. ACFT MAY BE UNABLE TO COMPLY WITH RAC. OPS CTC  
 JACKPOT CONTROL APPLEBY ON 241.950MHZ OR 131.175MHZ AND 07785 992496  
 OR 01677 456161. 15-03-0461/OPS 2  
 LOWER: SFC  
 UPPER: 15000FT AMSL

AIC Y002/2015 is reproduced at Annex A.

### Analysis and Investigation

#### Military ATM

The incident occurred between a Hawk under a Traffic Service with RAF Leeming and an unknown aircraft on 27 Mar at 1425 at Appleby in Cumbria. The Radar Analysis Cell used a mixture of radars to trace the incident based on the London QNH of 1020 hPa.

At 1420:34, Leeming Zone identified the Hawk, applied a Traffic Service and passed traffic, "east 4 miles, tracking west, slow moving, no height." The controller provided an update at 1420:48, "traffic east 3 miles, tracking west, slow moving, no height."

The CPA was estimated at 1421:40 with 0.2nm horizontal separation; the other aircraft was not transponding. At 1422:24, the Hawk pilot commented that the traffic was, "appearing to fight me inside my NOTAM and...is he squawking?" The controller confirmed that the other aircraft was not squawking and, at 1423:30, the Hawk pilot filed an Airprox.

The controller called Traffic Information, as per the provision of a Traffic Service at 5nm and 3nm and the pilot confirmed visual. The normal barriers to an Airprox in Class G airspace worked to

alert the Hawk pilot to the other aircraft, but the other pilot reportedly manoeuvred in such a way as to cause concern. As the Hawk was conducting training with a ground unit in a NOTAM'ed area, the other pilot's actions were considered hazardous and the Hawk pilot declared an Airprox on frequency.

## **UKAB Secretariat**

Both pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>3</sup>. The incident was such that the geometry changed dynamically over time. Aircraft shall not be flown in formation except by pre-arrangement among the pilots-in-command of the aircraft taking part in the flight<sup>4</sup>. Additionally, a person must not recklessly or negligently act in a manner likely to endanger an aircraft, or any person in an aircraft<sup>5</sup>. The PSR faded soon after CPA, and a PSR reappeared some 7.5nm to the west and 5min later as the Hawk SSR turned away from it to the south.

## **Comments**

### **HQ Air Command**

Without a report from the civilian pilot, and with limited ATM information, it is not possible to fully understand all aspects of the incident. A NOTAM had been promulgated for the exercise and the civilian pilot should have been aware of the NOTAM'ed area, and the frequencies available to contact the exercise coordinators. The fact that the civilian pilot was manoeuvring inside the area, appeared to be visual with the Hawk, and did not make efforts to continue his transit and immediately clear the area, implies that his actions were deliberate. There was no response on any of the frequencies used to try and contact the other pilot.

Whilst it is understandable that the Hawk pilot would be keen to remain 'on task' in the NOTAM'ed area, the normal barrier in Class G airspace of 'see and avoid' still holds true and if the Hawk pilot felt that safety was compromised, he could have climbed or manoeuvred to a safer place.

## **Summary**

An Airprox was reported when a Hawk and a light aircraft flew into proximity at 1422 on Friday 27<sup>th</sup> March 2015. Both pilots were in VMC, the Hawk pilot operating under VFR in receipt of a Traffic Service from Leeming Zone. The pilot of the light aircraft could not be traced.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of a report from the Hawk pilot, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

The Board initially considered the actions of the pilots and were unanimous in their opinion that it fell to both of them to refrain from manoeuvring in such a manner as to enter into a situation 'resembling a slow-speed scissors'. In this respect, they were perplexed that the much higher performance Hawk could simply have flown away from the light-aircraft if its pilot had chosen so to do, thereby resolving his concern that the light-aircraft pilot was attempting to 'manoeuvre towards his 6 o'clock'. They noted that the Hawk pilot's rationale for staying in the area was so that he could maintain visual contact with the light-aircraft, but opined that this could probably have been easily accomplished without continuing to manoeuvre reportedly in close proximity to it; they were especially concerned that in doing so, the Hawk pilot may have lost awareness of his reduced speed with the attendant concerns that this brought regarding single-engine jet operations at reduced levels. Unfortunately, in

<sup>3</sup> SERA.3205 Proximity.

<sup>4</sup> SERA.3135 Formation Flights.

<sup>5</sup> The Air Navigation Order 2009, Article 137.

terms of analysis, without any radar recording of the light-aircraft, and lacking any information from the light-aircraft pilot to record his actions, all that could be deduced from the radar replay was that the Hawk pilot had flown a relatively slow-speed and convoluted flight-path that had continued for 5min.

Members agreed that the Hawk pilot had undoubtedly been concerned by the proximity of the light aircraft but, without any further analysis or a report from the light aircraft pilot, they decided that it was not possible to make an assessment of the risk.

The Board also noted that, unlike military and commercial aircraft, most GA aircraft radio functionality was such that it was not possible to listen simultaneously to an in-use frequency and VHF Guard. Consequently, they reminded military pilots that if a call on VHF Guard did not elicit a prompt response, it was unlikely that the pilot had Guard selected and further attempts were probably nugatory. In this respect, the Board awaited with interest any developments regarding the trial of a low-level VHF common frequency (135.475 MHz) currently underway in Scotland.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The Hawk pilot was concerned by the proximity of the light aircraft.

Degree of Risk: D.