

AIRPROX REPORT No 2012152

Date/Time: 7 Sep 2012 1343Z

Position: 5449N 00028W
(ivo EGD323A)

Airspace: TRA006 (Class: C)

Reporter: Boulmer

1st Ac Hawk T Mk1
2nd Ac Saab 2000

Operator: HQ Air (Ops) CAT

Alt/FL: 24000ft↑ FL240
(RPS 1015hPa)

Weather: NR VMC NR

Visibility: NR NR

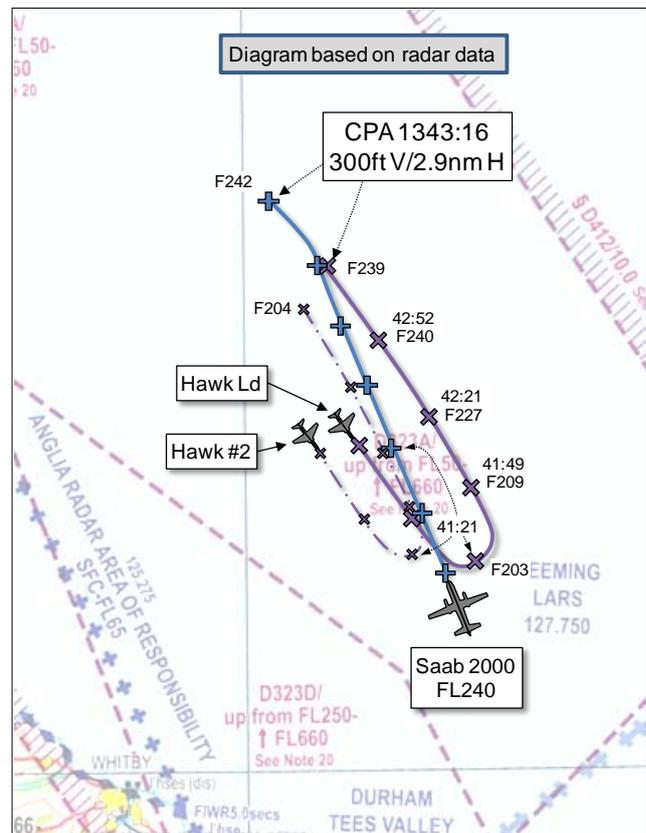
Reported Separation:

NR <1000ft V/5-10nm H

Recorded Separation:

300ft V/2.9nm H

0ft V/3.2nm H



CONTROLLER REPORTED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE SCATCC(MIL) CONTROLLER reports controlling on the Primary Tac S position, working 2 N-bound ac whilst also covering the Planner role. He noticed 3 fast-moving contacts get airborne from [an RAF base] with [Boulmer-allocated] squawks so he called Boulmer for TI and coordination. He was initially told the ac were en-route to the D513 area to manoeuvre; this then changed to D323A. He pointed out his DS traffic [the subject Saab 2000] and attempted to negotiate some coordination. The Boulmer controller agreed to stop off his traffic not above 23,000ft [1015hPa] against his ac at FL240. As the ac 'merged and got closer' he gave TI to the Saab 2000 pilot as "... *coordinated not above twenty three thousand on one zero one five.*"; the pilot reported visual. Shortly afterwards he noticed the conflict alert go off. He passed TI again as he suspected the Saab 2000 TCAS might alert and informed the pilot so. The pilot concurred. On the next radar sweep the Hawk Mode C was indicating FL233 climbing. He gave an avoiding action turn [L on to heading 270°] and then a climb. He called the Boulmer controller who advised him that the Hawk pilot was informed to manoeuvre not above 23,000ft, QNH 1015hPa. He informed the Boulmer controller that he would be filing an Airprox. The ac were within 2.5nm at the same level with the Hawk in the 6 o'clock of the Saab 2000. Shortly thereafter the Hawk descended to below FL230 and the Saab 2000 resumed its track.

THE BOULMER CONTROLLER reports that as a planned formation of three Hawk ac 'came on channel' he received a phone call from ScATCC(Mil) to coordinate a CAT ac [transiting ivo the Hawk formation] at FL240. It was agreed that the Hawk formation would remain below altitude 23,000ft [RPS 1015hPa]. The Hawk formation was in class G airspace, [operating under VFR] with a TS, but he was content that they would comply with the restriction, being so close to the boundary with upper airspace. Hawk 3 proceeded out to the NE, in his role as target, while Hawk Ld and Hawk 2 established a CAP. The coordination was passed more than once, and the formation Ld pilot acknowledged. Hawk Ld and Hawk 2 then passed underneath the [coordinated] traffic 'in a leisurely climb', at which stage he considered re-iterating the deconfliction instructions; however, Hawk Ld and Hawk 2 SSR transponder Mode C then indicated they were 'level at 20,000ft'. They passed

underneath the [coordinated] traffic and performed a L turn. He then became aware that 'the Mode C of Hawk Ld indicated 240' and issued descent instructions.

THE BOULMER SUPERVISOR reports that the Boulmer Controller was controlling a formation of three Hawks in the area of D323A, which was inactive. The Controller had coordinated against CAT, controlled by ScATCC(Mil), that 'he would not be above 23k on 1015hPa' and that the CAT would not be below FL240. He heard the controller apply the coordination on more than one occasion. At the time of the incident his assistant had just finished handing over and he was starting to brief the replacement assistant on the ongoing activity, at which time the ScATCC(Mil) SUP called and asked 'what the Hawk formation leader was doing'. At this point he immediately spotted the confliction. As he started to communicate the information to the controller he heard him question Hawk Ld as to his height and then issue descent instructions.

THE HAWK T Mk1 FORMATION LEADER reports leading a 3 ac formation of black ac, setting up to conduct a 2v1 ACT sortie. [The ac are normally operated with external lights and HISLs on and the SSR transponder selected on with Modes A, C and S]. As the leader of the fighter pair he was positioning to set up a CAP [with the 3rd ac taking separation in order to generate a range split before turning towards the fighter pair]. The Boulmer Controller informed him that his formation was not to climb above 23000ft on the RPS, in order to coordinate against 'civil traffic in the airspace'. He acknowledged this instruction and continued to position for a CAP. He intended to climb to his briefed sanctuary altitude of 23000ft.

[UKAB Note(1): Unique 'sanctuary altitudes' are briefed to each formation member, such that the sortie can be continued, by maintaining deconfliction in height, should visual contact be lost.]

A few minutes after the coordination call from the Boulmer Controller his wingman, Hawk 2, informed him that he was no longer visual with him. He informed Hawk 2 of his position but he still could not regain visual contact. In order to get his wingman into the correct sanctuary, and to help him gain visual contact, he climbed to 24000ft and cleared his wingman to climb to 23000ft; he had become distracted and forgotten about the previous deconfliction agreement. As his wingman called that he was visual with him the Boulmer Controller asked him to confirm his height. He immediately started a descent to 23000ft and the Boulmer Controller also then instructed him to descend.

THE SAAB 2000 PILOT reports in the cruise at FL240 in a blue and white ac with navigation lights and strobe lights selected on. She was flying in VMC, under IFR, with a RCS from ScATCC(Mil), she thought. The SSR transponder was selected on with Modes A, C and S and the ac was fitted with TCAS. She was informed that there was Military traffic coordinated below her, climbing to 1000ft below her level. She stated that she could 'see the traffic on TCAS' and considered that its RoC might lead to a TCAS TA or RA. She informed the controller and was issued a radar heading in order 'to avoid'. Following this she was also issued a climb instruction, which she informed the controller she was unable to comply with due to technical restrictions. At this point 'the military ac' had been contacted and coordinated. She was then cleared to continue 'on her flight plan'.

He assessed the risk of collision as Low.

BM SAFETY POLICY & ASSURANCE reports this Airprox occurred on 7 Sep 12, between a Saab 2000 operating IFR in receipt of a DS from ScATCC(Mil) Tac S and a Hawk (Hawk Ld) operating as part of a 2v1 sortie, in receipt of a TS from CRC Boulmer WC1. All heights/altitudes quoted are based on SSR Mode C from the radar replay unless otherwise stated.

Information

WC1 reported low task-load with minimal complexity; Tac S reported moderate task-load with routine complexity.

The incident sequence commenced at 1335:28 as Tac S initiated coordination with WC1 between the Saab 2000 and the formation of 3 Hawks. Tac S stated that the Saab 2000 was, "*maintaining Flight Level 2-4-0*" and WC1 agreed that their, "*5-1-1 to 1-3 [the Hawks] will not be above FL 2-3-0 when in conflict.*" This was subsequently amended at 1336:16 with WC1 stating, "*Right, we're going to be going onto the Tyne 1-0-1-5 shortly...we won't be above 23 000 feet when in conflict with your traffic, 4-6-1-6 [the Saab 2000].*" Tac S acknowledged this change saying, "*Roger, coordinated, thank you*" with the landline conversation ending at 1336:27. At this point, the Saab 2000 was 41nm SE of the Hawk formation, tracking NW'ly, at FL240; the formation of Hawks were tracking NE'ly between FL161 and 170.

At 1337:46, WC1 passed the coordination agreement to the Hawk formation stating, "*First run, you are not above 23 000 feet, deconflicted with Scottish traffic, Bullseye 2-3-0, 55, tracking 3-4-0, will be a factor.*" The Hawk formation leader initially asked WC1 to, "*standby*" and then, at 1338:48, asked them to, "*say again that traffic restriction please?*" WC1 re-iterated, "*Deconflicted traffic is bullseye 2-3-0, 53. You are not above 23 000 feet against him, first run*", which was acknowledged by the Hawk Formation leader, "*not above 23 000 first run.*" At this point, the Saab 2000 was 24.2nm SE of the Hawks, maintaining its NW'ly track at FL240; the Hawks were continuing NE'ly between FL129 and FL139.

At 1339:08, the Hawk formation split into 2 elements to set up for their 2v1 sortie, with Hawk Ld and 2 tracking SE'ly and Hawk 3 tracking NE'ly. At 1339:49, the Tac S deskside recording detected Tac S's side of the conversation with the ScATCC(Mil) SUP, referred to by the SUP in their DASOR, confirming the coordination that was agreed between Tac S and WC1. At 1340:26, Tac S passed TI to the Saab 2000 pilot on Hawk Ld and 2 stating, "*traffic 12 o'clock, 5 miles, manoeuvring, coordinated below.*" The radar replay shows the Hawks 6.3nm NW of the Saab 2000, tracking SE'ly, Hawk Ld indicating FL185 and Hawk 2 displaying no SSR Mode C. The Saab 2000 pilot acknowledged the TI and then, at 1340:44, reported "*visual*" with the Hawks. At 1341:09, having passed the Saab 2000, Hawk Ld and 2 initiate a LH turn onto a NW'ly track; the Saab 2000 is 2.2nm NNW of the Hawks.

At 1342:16, Tac S accurately updated the TI to the Saab 2000 pilot on the Hawk formation stating, "*that previously called traffic is now in your 6 o'clock, 5 miles, correction, 3 miles, similar heading, it's coordinated not above 23 000 on 1-0-1-5*" which was acknowledged. Tac S then advised the Saab 2000 pilot, "*just in case your TCAS goes, that's all.*" The Saab 2000 pilot replied at 1342:32, "*yeah, it looks like it might go at any second.*" During this transmission, the SSR Mode C of Hawk Ld indicated FL233. As reported by Tac S, after the next sweep of the radar, they noted that Hawk Ld's SSR Mode C indicated that the Hawk had 'level-bust' and at 1342:38, Tac S instructed the Saab 2000 pilot, "*avoiding action, turn left heading 2-7-0 degrees immediately, that previously reported traffic is now in your 6 o'clock, three miles, similar heading, similar level*"; the control instruction was read back by the Saab 2000 pilot. Hawk Ld was 3.2nm SE of the Saab 2000, tracking NW'ly, climbing through FL234.

At 1342:51, as reported by Tac S and the ScATCC(Mil) SUP, Tac S provided additional avoiding action to the Saab 2000 pilot involving a climb, agreeing with them at 1343:00 to climb to FL250.

[UKAB Note(2): The Saab 2000 pilot was initially requested to climb FL270. She stated that she was unable before accepting the climb to FL250.]

The Saab 2000's reaction to the avoiding action turn instruction was evident on the radar replay from 1343:05. The CPA occurred at 1343:08 with Hawk Ld 3.1nm in trail to the Saab 2000 and co-altitude with it. Co-incident with the CPA, WC1 requested Hawk Ld's height and then, without waiting for a response, immediately instructed Hawk Ld, "*you're coordinated not above 23 000, descend.*" During this transmission, it was evident from the radar replay that Hawk Ld had commenced a descent. The pilot of Hawk Ld reported that whilst he was aware of the 'deconfliction arrangement' he had forgotten about it, having become distracted when trying to get Hawk 2 into the correct height sanctuary and visual with him.

Analysis & Conclusion

Turning first to Tac S' involvement in the Airprox, he appreciated early in the incident sequence the potential conflict between the Saab 2000 and the Hawk formation and agreed sensible and timely coordination. Moreover, conscious of the potential both for a TCAS RA to be generated onboard the Saab 2000 and for the Hawk to 'level-bust', Tac S provided appropriate TI and monitored the situation closely. Consequently, he was able to see the level-bust occur and provide timely and robust deconfliction advice to the Saab 2000 pilot.

CRC Boulmer's investigation identified that WC1 correctly applied the coordination and passed this to the Hawk formation. However, the CRC identified that, given the time period that elapsed between passing the altitude restriction at 1338:40 and the 'level-bust' at 1342:32, best practice would have been for WC1 to re-iterate the restriction; this has been briefed to all CRC WCs. That notwithstanding, Hawk Ld pilot was required to comply with the instruction and, as he has stated, he forgot the restriction having become distracted.

HQ AIR (OPS) comments that in this instance there was no immediate risk of collision as the Saab was already clear to the N when the Hawk Lead pilot started his climb to 24000 feet, although he appeared to be unaware of the proximity of the Saab. It is clear that the pilot of Hawk Lead did not comply with the altitude restriction placed on him by the instruction from the Boulmer WC because he forgot about the restriction when attempting to regain formation integrity (ie getting the Number 2 Hawk pilot visual with his ac). Equipping the Hawk T1 with TCAS is under consideration by the MOD but would not remove the likelihood of a repeat of this occurrence, given TCAS' incompatibility with dynamic formation operations. The incident appears to have been the result of a mistake by the Hawk formation leader, made when he attempted to prevent a conflict with his wingman. However, the comment within the CRC investigation regarding the best practice of a timely reminder of the coordination is valid, and may have prevented the mistake being made. The incident will be publicised to all crews to remind them of the need to be pedantic with altitude restrictions and to consider their formation deconfliction procedures in such circumstances.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities.

Members first considered the actions of the Hawk Formation Leader. It was opined that he was devoting the majority of his effort to managing the formation and its setup prior to commencing the sortie air exercise. Having agreed a maximum altitude of 23000ft with the controller, his workload was increased when his wingman lost visual contact and he then prioritised the visual rejoin before the need to remain below the coordinated altitude. Pilot Members opined that had the Hawk formation leader levelled off and, if necessary, re-briefed sanctuaries in clear, he could have effected a more expeditious rejoin with his wingman whilst also remaining below the cleared altitude. Equally, the wingman had a responsibility to remind his leader of the cleared altitude when the leader briefed him that he would climb to 24000ft, and the opportunity to do so was not taken. A military ATC Member stated that in similar situations it was his practice to coordinate traffic 2-3000ft below, in order to mitigate just this type of incident.

Board Members agreed that the controllers had done all that could reasonably be expected to coordinate the safe and timely transit of the Saab 2000 through the TRA. The lack of reiteration of the coordinated level by the Boulmer Controller was accepted as not being 'best practice' but the majority of Members were of the opinion that he had discharged his duties fully and correctly and that it was the Hawk formation leader's responsibility to remain below 23000ft. Members also discussed the airspace regulations concerning TRAs and it was established that, whilst the airspace was categorised as Class C, ATS in activated TRAs was provided iaw the rules for ATSOCAS. It was noted that the Saab 2000 pilot believed she was in receipt of a RCS whereas she was actually in

receipt of a DS and was therefore ultimately responsible for collision avoidance, as were the Hawk formation members, operating in receipt of a TS.

The Board agreed that sufficient ATS resource had been provided but that the Hawk formation leader did not remain below his coordinated and agreed maximum altitude. Members agreed that, while it was fortunate the Hawk formation leader and wingman did not turn earlier than they did, in the event the conflict was identified and resolved by the controllers and Hawk pilot taking effective and timely action, thereby preventing the risk of a collision.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Hawk Leader climbed above his coordinated altitude and into conflict with the Saab 2000.

Degree of Risk: C.