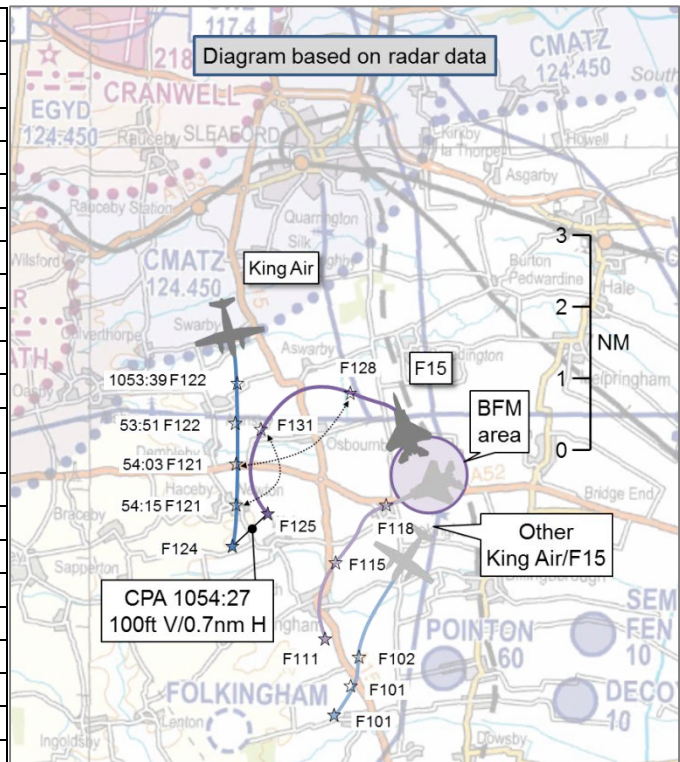


AIRPROX REPORT No 2016010

Date: 05 Jan 2016 Time: 1054Z Position: 5254N 00026W Location: 8nm SE Cranwell

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	King Air	F15
Operator	HQ Air (Trg)	Foreign Mil
Airspace	Lincs AIAA	Lincs AIAA
Class	G	G
Rules	VFR	VFR
Service	None	Traffic
Provider	N/A	Swanwick Mil
Altitude/FL	FL124	FL124
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue/white/grey	Dark grey
Lighting	Beacon, strobe, nav, recognition	Anti-col, position
Conditions	VMC	VMC
Visibility	NK	>8km
Altitude/FL	FL120	FL140
Altimeter	SPS	SPS
Heading	160°	Turning
Speed	170kt	400kt
ACAS/TAS	TCAS II	Not fitted
Alert	RA	N/A
Separation		
Reported	NK	Not seen
Recorded	100ft V/0.7nm H	



THE KING AIR PILOT reports that he was the Captain of a training flight, transiting from the ‘King Air Northern working area’ to the ‘Southern area’. The transit took the aircraft 2 miles to the east of Cranwell on a heading of 200°. Approaching 10 miles south of Cranwell, he and the student visually identified 2 x F15s in tight turning orbits about 5 miles to the east of their position. TCAS showed the aircraft to be manoeuvring either side of their flight level. As the King Air passed abeam them, one F15 reversed its turn and headed towards them; it was lost from view in the 7 o’clock position. A few seconds later the TCAS issued an RA to climb, the student followed the command which then changed to a ‘level off’ and then a further ‘climb’ command in rapid succession. The Captain took control at the second RA change. TCAS showed the conflicting traffic to be remaining in their 5-7 o’clock position. The contact finally manoeuvred back towards the east. The flight was continued and the occurrence reported on landing.

The King Air pilot stated that he acknowledged they were operating in Class G airspace and that under VFR rules he was required to see and avoid. He felt that he had honoured this with the manoeuvring F15s. The turn reversal of the F15 and subsequent approach to his 6 o’clock meant that he had lost visual contact very quickly, due to the limitations of lookout from the King Air. Although not threatened, he noted it was certainly a very uncomfortable position to be in. He felt the F15 pilot had a far greater ability to manoeuvre and was blessed with much greater SA, whereas for the King Air pilot TCAS provided his only form of deconfliction. In this instance he felt the system struggled to cope with such a dynamic situation.

He assessed the risk of collision as ‘Very High’.

THE F15 PILOT reports that his F15 pair were general handling under a Traffic Service in the East Anglia MTA from FL050-200. The flight had been manoeuvring 45nm to the northwest of

Lakenheath for 30 minutes, conducting 1v1 Basic Fighter Manoeuvres. At 10:53:00, the two F15s began an engagement at FL180, descending rapidly. One of the F15s received Traffic Information 25 seconds later, '[C/S], traffic northwest 2nm FL140, track south. Further traffic south 1nm FL100'. This was the first time the F15 flight was notified of the factor traffic. At the time of the call, the F15s were descending through FL140. Due to radio traffic and task saturation, the crews only assimilated the traffic being north of their position, and did not perceive the altitude of the traffic. The lead F15 terminated the engagement, reversed turn direction and started a turning re-join at FL 110 to return to Lakenheath. Neither F15 crew was visual with the King Air. The F15 flight was asked by Swanwick if they were visual with the King Air traffic. They replied that they were not, and were instructed to maintain FL110 for deconfliction until further notice. On landing, the F15 crews were notified that there were 2 King Airs, whose pilots had perceived a potentially dangerous situation from their onboard TCAS system and visual acquisition of the F15 flight. The F15 pilot noted several contributing factors: the King Air pilot did not utilize a Swanwick service or manoeuvre away from known TCAS hits at range; Swanwick did not provide timely advisory calls due to radio congestion and, once the King Airs were identified as factor traffic, did not repeatedly voice concern; the F15 systems did not pick up the King Airs; and the F15 crews did not stop manoeuvring upon receiving radio calls from Swanwick to enable positive deconfliction.

THE SWANWICK MIL CONTROLLER reports that he was in the East Tac left position, working the ICFs and an operating frequency. He had a Tornado formation on the operating frequency, a USAF transport aircraft inbound to Mildenhall and the F15 flight and a singleton Tornado on another operating frequency. The Tornado formation were conducting GH east of Marham to avoid the F15 flight, which was conducting GH to the west of Marham in the Cranwell area. Marham called for coordination; the line was hard to hear so the controller passed the line to the Planner as he finished taking a handover on the single Tornado. The Tornado had been handed over for an AAR towline but was informed the tanker wasn't airborne and so the pilot elected to go to north Wales via the Litchfield corridor. The Tornado route was being amended for this change of plan when the controller looked over at the F15 flight, at FL110, and called traffic north of them at FL130 and south of them at FL100. A couple of minutes later a King Air pilot called and asked if Swanwick Mil were working traffic conducting GH in the Cranwell area. The controller informed him of the F15 flight and was asked if they had 'embellished [intercepted] him'. The controller asked the F15 flight whether this had occurred; they said no, and requested RTB.

He perceived the severity of the incident as 'Medium'.

THE SWANWICK EAST PLANNER reports operating during a particularly busy period. At around 1100, the King Air pilot called to ask the TAC L if she was working a pair of F15s near his location. The F15 flight were general handling in that area in the block FL050-FL200 on a Traffic Service. The King Air was called to the F15 flight iaw Traffic Service rules, albeit slightly late. At the time of the incident, East was a busy sector with 2 TACs and a Planner. The Planner only became aware of the situation when the King Air pilot called to ask if they were working the F15s.

He perceived the severity of the incident as 'Medium'.

THE SWANWICK MIL SUPERVISOR reports that the East Sector was particularly busy with F15, Typhoon and USAF over-flights. He had been busy with administration tasks for much of the morning, dealing with airspace requirements and trying to provide suitable deconflicting tanker slots for later that day. He heard the King Air pilot free-call the East sector but didn't think anything of it (although he didn't hear the initial call due to the Supervisor frequency being set low due to ambient noise issues in the temporary operations room). The East Planner called to point out the King Air, whose pilot he believed had just called to complain about being embellished by a pair of F15s. The Supervisor asked the TAC controller to confirm on RT whether the F15s had embellished the King Air to which they responded 'negative'. After speaking to the King Air pilot, the Supervisor conducted a radar replay: the King Air was called to the F15s at 10nm, while they were performing GH manoeuvres. The formation and King Air then continued in a non-threatening manner to operate in the area and required no further traffic update. It was evident that the TAC controller had been monitoring the situation because attention to the labels was carried out and review of the situation

conducted. At a point where a Marham callsign came onto frequency, a few lengthy transmissions were received and made. The F15s and the King Air changed headings and introduced a more visible threat. The TAC controller was unable to transmit due the Marham pilot's transmission and immediately called the 2 King Airs to the F15s when able; one at 3nm and the other between 3 and 4nm. The F15 pilots responded to the information but continued their descent.

Factual Background

The weather at Cranwell was recorded as follows:

METAR EGYD 051050Z 14007KT 5000 BR BKN003 08/07 Q0984 YLO2 BECMG 8000 BKN005 YLO1=

Analysis and Investigation

Military ATM

An Airprox occurred on 5 Jan 16 at 1054, 8nm to the southeast of RAF Cranwell. The incident took place between a King Air, not in receipt of a FIS, and an F15, under a Traffic Service with Swanwick Mil.

A portion of the transcript between the Swanwick controller (SWK), the F15 formation and the King Air is reproduced below:

From	To	Speech Transcription	Time
SWK	F15	[F15 flight C/S] traffic northwest two miles tracking south, flight level one two zero, further traffic south, tracking south one mile flight level one hundred	10:53:19
King Air	SWK	Swanwick [King Air C/S]	10:55:28
SWK	King Air	[King Air C/S] Swanwick Mill, pass your message	10:55:33
King Air	SWK	Swanwick [King Air C/S] I'm er well south of Cranwell this time, are you working a pair of F15s in this area?	10:55:36
SWK	King Air	[King Air C/S] affirm, there's a [F15 flight C/S], they're in the block flight level five zero, flight level two hundred	10:55:42
King Air	SWK	Er yeh could you let them know I do not appreciate being embellished and being descended rapidly upon when I have zero visibility and I would like them to give me a call when they land	10:55:49
King Air	SWK	I have almost no visibility behind the nine o'clock on my aircraft so them rapidly approaching and descending is hugely unappreciated	10:56:03
SWK	King Air	I'll pass it on	10:56:11

The Swanwick controller passed Traffic Information to the F15s with 2nm lateral separation and over 5000ft in height separation when 1 minute and 15 seconds prior to CPA. The controller had been involved in calling traffic to other callsigns immediately prior to updating the F15s. The F15 crews then entered a period of high energy manoeuvres prior to splitting. The F15 crews commented on their report that they were not visual with the two called tracks. Had the King Air pilot called Swanwick earlier for a Service, he could have received information on the F15s.

UKAB Secretariat

The King Air and F15 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. The other F15 in the pair passed above and behind another King Air, approximately 3nm south-southeast of the Airprox position, shortly after CPA.

¹ SERA.3205 Proximity.

Comments

HQ Air Command

This situation took place in Class G airspace where the pilots of both aircraft have an equal responsibility for collision avoidance. The F-15s were provided with some early awareness of the King Air from Air Traffic Control but did not see the King Air and continued with their manoeuvring. The Swanwick controller was unable to update this information due to workload and other users on frequency. The King Air did see the F-15s both visually and via the TCAS, and the TCAS did provide some deconfliction advice when the F-15s were behind the King Air and no longer visible. Whilst one could question whether transiting an Area of Intense Aerial Activity without an Air Traffic Service is wise, had the King Air pilot been on the same frequency it is unknown whether any Traffic Information would have enhanced his situational awareness. Had TCAS or some other Collision Warning System been fitted to the F-15s, it may have helped cue them to visually acquire the King Air following receipt of the traffic information. Finally, it should never be assumed that another aircraft's pilot is 'blessed with more SA' than oneself; therefore, if a manoeuvring contact is seen on TCAS, if possible, seek confirmation from ATC of the intentions of the traffic or give it a wide berth.

USAFE

No matter how skilful the controller, working 5 disparate tracks and a number of frequencies, including ICFs, is a challenge and particularly so when long transmissions either block or delay vital messages. Nevertheless, the incident may not have occurred had the King Air pilot made use of a service from Swanwick Mil and/or had the F-15s stopped manoeuvring upon receiving the warning of unknown traffic which they did not see.

Summary

An Airprox was reported when a King Air and an F15 flew into proximity at 1054 on Tuesday 5th January 2016. Both pilots were operating under VFR in VMC, the F15 pilot in receipt of a Traffic Service from Swanwick Mil and the King Air pilot not in receipt of a Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, a transcript of the relevant RT frequency, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Members first considered the F15 pilots' actions and noted that, undertaking Air Combat, they had wisely requested a Traffic Service to offset their likely task-focus; however, a consequent reduction in the crews' capacity as they entered a high-energy descending fight meant that they had probably not initially fully assimilated the Traffic Information call from Swanwick regarding the approaching King Air. Having terminated the combat shortly after as a result of this Traffic Information call, the lead F15 reversed his direction of turn to the left in order to facilitate re-joining with his wingman but neither F15 crew saw the King Air nor were they aware of its proximity through aircraft systems.

Turning to the King Air pilot, the Board noted that he was operating in an area designated for training by the King Air squadron and was operating without an Air Traffic Service, in accordance with his squadron SOPs. It was understood by the Board that the King Air squadron chose not to utilise a UK FIS because the level of RT associated with a surveillance-based service was deemed to be unacceptably detrimental to the teaching task. Members questioned whether this was a wise course of action, particularly in the congested airspace of a promulgated Area of Intense Air Activity; members with flying training experience stated their view that a careful risk assessment was necessary before deciding whether to use an Air Traffic Service or not, and that they generally did use a surveillance based service when possible. It was noted that the King Air pilot stated 'TCAS had provided his only form of deconfliction', which members accepted as correct in the circumstances,

principally because he had chosen not to obtain a surveillance based Air Traffic Service. After some discussion, members agreed that doing so would have afforded him the necessary SA to assuage his concern, that this omission was a contributory factor to the Airprox, and that the use of an Air Traffic Service warranted further consideration. Members therefore resolved to recommend that HQ Air Command review the provision of an appropriate Air Traffic Service within the Cranwell training areas.

In looking at the ATC aspects, the Board noted that the Swanwick controller had passed Traffic Information to the F15 formation, albeit late; military ATC members considered that the Swanwick controller had been overloaded and that it was therefore not possible for him to pass Traffic Information earlier or to increase the rate of Traffic Information. Members wondered whether he could have restricted the service due to traffic density but, in the end, the highly dynamic nature of the F15 flight profile meant that provision of any Traffic Information was, at best, likely to have been generic in nature anyway.

Turning to the cause and risk, the Board noted that the King Air pilot had seen the F15s well before the incident, and was monitoring them, but had been caught out when one of them had unexpectedly turned towards him. Some members thought that the King Air pilot could have built in more separation to the obviously manoeuvring F15s, but others thought that, in the busy airspace of the AIAA, this was probably a moot point. Notwithstanding this and ATC's involvement regarding the later than desirable Traffic Information, after some discussion, members agreed that the interaction between the King Air and the lead F15 had been highly dynamic; with both pilots entitled to operate where they did, they agreed that the incident was best described simply as the result of a conflict in Class G. They also agreed that the F15 closing speed, proximity to, and lack of awareness of, the King Air was such that safety margins had been much reduced below the norm.

Members commented that the King Air pilot had assumed the F15 pilot was 'blessed with much greater SA' when in fact he had been unaware at all of the proximity of the King Air. Members agreed that it was this perception, along with TCAS alerts and the associated irritation at his perception of being embellished, which had resulted in the King Air pilot unwisely voicing his concern on the radio; the purpose of an ICF was to make contact with an ATSU in order to obtain an Air Traffic Service, or in this case declare an Airprox, not to congest an already busy frequency, potentially to the detriment of other users, in order to voice a complaint.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	A conflict in Class G.
<u>Contributory Factor(s):</u>	The King Air pilot did not obtain an Air Traffic Service.
<u>Degree of Risk:</u>	B.
<u>Recommendation(s):</u>	HQ Air Command review the provision of an appropriate Air Traffic Service within the Cranwell training areas.