

## AIRPROX REPORT No 2012081

Date/Time: 14 Jun 2012 1249Z

Position: 5335N 00003E (3nm  
SW Spurn Pt Lt – 3nm  
NW of the b'dry of D307 -  
Donna Nook)

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: Typhoon T Mk1A Typhoon FGR4

Operator: HQ Air (Ops) HQ Air (Ops)

Alt/FL: FL150 NR  
SAS (1013hPa) QNH

Weather: VMC CAVOK NK CAVOK

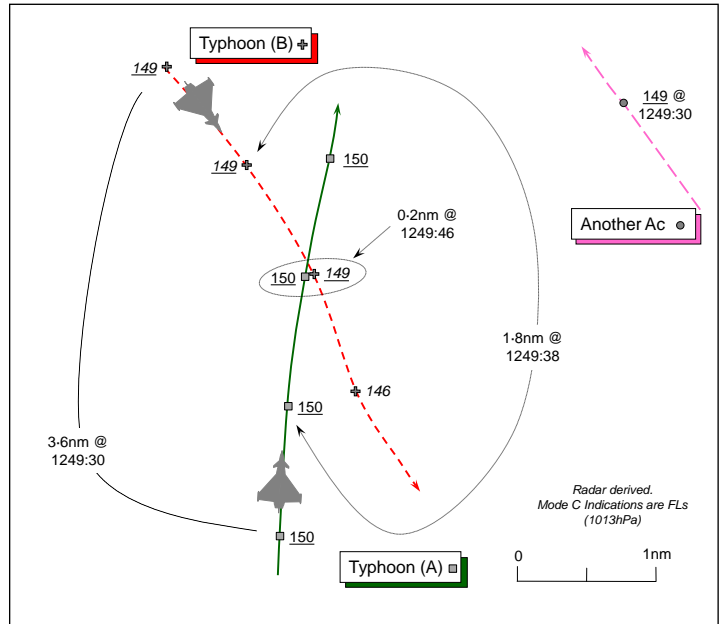
Visibility: 60km 30km

Reported Separation:

300ft V 800ft V

Recorded Separation:

100ft V/0.2nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE PILOT OF THE BAe TYPHOON T Mk1A [TYPHOON (A)]** reports he was departing from Coningsby on a dual training flight to AARA 7 flying the SID2, which terminates at FL150 with a track of 010°. Towards the top of climb, Coningsby DEPARTURES handed them over to London MILITARY on 275.50MHz under a TS. The controller informed them that Donna Nook Range [D307] was active and they elected to route to the N of the range. Flying in VMC level at FL150 at 0.85M, as they began a R turn from N onto E, traffic was called to them in their R 3 o'clock at 5nm and indicating 300ft below. As they looked into the Range pattern to their SE, they saw a Typhoon fly about 300ft beneath them heading N to S; no avoiding action was taken as it was seen too late and was flying away from them when they first saw it. They recovered to straight and level flight and were then told there was traffic 1nm N of them, 300ft below their level heading S. Looking to the N, they saw another Typhoon flying approximately W about 3nm away [shown as Another Ac].

The assigned code was selected with Mode C on; neither TCAS nor Mode S is fitted. The ac has a low-conspicuity grey colour-scheme but the HISLs were on.

**THE PILOT OF THE BAe TYPHOON FGR4 [TYPHOON (B)]** reports he was conducting air-to-surface weapons training in Donna Nook Range and was in communication with Range PRIMARY. A squawk of A7002 [Danger Areas General] was selected with Mode C; Mode S is fitted, TCAS is not fitted.

The pattern for air-to-surface weapons training involves exiting the confines of the promulgated Danger Area into Class G Airspace. During this time, N of the Range heading 170°, he held a radar contact from a range of about 10nm that was becoming a confliction and suitable avoidance was initiated with a L turn. Visual contact was achieved with a Typhoon at a range of about 2nm, which passed 800ft above his ac with no danger of collision.

**THE LATCC (MIL) LJAO NE SECTOR TACTICAL CONTROLLER (NE TAC)** reports he was providing a TS to Typhoon (A) that had departed Coningsby and climbed to FL150. The ac was due to fly into D323B. He was also working a 3-ship of Typhoons in East Anglia and another ac that was

handed over to LJAO EAST. At the time, there were 2 other tracks prenoted and a PLANNER was in place; he assessed his workload as 'medium to high'.

He had considered obtaining a crossing clearance through Donna Nook Range for Typhoon (A), but noted that it was active with traffic manoeuvring within the range, so he advised the crew that he would not be able to arrange a crossing clearance due to the activity and asked them to confirm that they would be remaining outside the range, which they did.

Meanwhile, the 3-ship Typhoon formation was transferred on to a discreet frequency for GH. One of the formation required a separate squawk, which was allocated and the ac identified and Mode C verified. He then called traffic in Donna Nook to the crew of Typhoon (A) at a range of 5nm some 300 feet below. He then prenoted Typhoon (A) for their work in 323B. It was then that he saw that the range traffic was in Typhoon (A)'s 12 o'clock at 1nm at almost the same level; he called the traffic, which the crew saw and manoeuvred to avoid, he thought. In the next transmission, he passed TI on a second ac wearing a range squawk that was approximately R - 1 o'clock at a range of about 5nm.

**THE LATCC (MIL) LJAO SUPERVISOR (SUP)** reports that at the time of the incident the EAST and NORTH EAST Sectors were split with a PLANNER on NORTH EAST. Traffic levels had been medium to high and the PLANNER had been in place for approximately 15min when the incident occurred. NE TAC had been working a mixture of traffic which, though relatively straight forward, required constant division of attention. He did not directly observe the incident but the pilot of Typhoon (A) called to speak to him after he had landed and stated that he would be submitting a report. The pilot opined that TI had been passed, though perhaps a little late, but the other ac had passed within approximately 300ft of his ac. He also stated that the Donna Nook Range Pattern is flown at 15000ft RPS and the Coningsby SID directs ac to a similar position at FL150, which he believed to be the cause of this incident.

**BM SAFETY MANAGEMENT** reports that this Airprox occurred between Typhoon (A) transiting at medium level in receipt of a TS from LJAO NE, and Typhoon (B) operating VFR in the Donna Nook Air Weapons Range (AWR) pattern, in communication with Donna Nook.

AWR controllers do not provide an ATS to ac utilising the range and have no surveillance capability to provide traffic warnings on non-participating traffic. The AWR controller was not notified of anything untoward by Typhoon (B); consequently, no reporting action was taken.

LJAO NE was manned by 2 TAC controllers and a PLANNER, with medium to high traffic levels on the Sector. Based upon the SUP'S report, the PLANNER had been in place for approximately 15mins at the time of the Airprox. NE TAC described their workload as high to medium, with moderate task complexity, providing ATSS to a 3-ship of Typhoons manoeuvring 50nm SE of the CPA and to Typhoon (A) transiting at medium-level to route beneath EGD 323B. Whilst NE TAC stated in their report that, at the time of the Airprox, it had been 2 hours since their last break, unit manpower records indicate that the controller assumed the control position at 1243:00, having previously been the EAST PLANNER until 1159:00. However, it has not been possible to determine whether NE TAC utilised these 44mins as a break, or as an opportunity to complete non-controlling related duties.

At the time of the Airprox, LATCC (Mil) did not perceive a requirement for occurrence reporting action to include PLANNER controllers; hence NE Planner did not submit a report and their landline tape was not impounded. Furthermore, the transcript provided by LATCC (Mil) did not include NE TAC's landline comms. When an amended transcript was requested, the Unit stated that the tape had been returned to operational use, thus the data was lost. Whilst this has not affected the finding of Cause, it is disappointing nevertheless. In the absence of a transcript of the NE TAC and PLANNER's landlines, the Unit's investigation, based upon the original NE console recording, has been utilised to inform this investigation. Both LATCC (Mil) & ScATCC (Mil) have been reminded over the requirement to conduct all occurrence reporting activities for notified incidents in accordance with BM safety policy.

The incident sequence commenced at 1246:42 as the crew of Typhoon (A) made their initial call to NE TAC, was identified and placed under a TS, climbing to FL150. Typhoon (A) was 6.8nm NE of Coningsby, tracking NNE'ly with no SSR Mode C evident on the radar replay; Typhoon (B) was 18.6nm NNE, tracking E'ly, descending through FL104 manoeuvring within the confines of Donna Nook AWR.

At 1247:28, NE TAC advised Typhoon (A) that they couldn't provide, "*a transit of Donna Nook..due to traffic operating in that area, confirm you will be remaining clear?*" The crew of Typhoon (A) replied, "*affirm, we will proceed north of Donna Nook and we will be looking to..transit 3-2-3 Bravo low altitude, below 5 thousand feet*", which was acknowledged by NE TAC. At this point, Typhoon (B) was 15.6nm NE of Typhoon (A), in a LH turn passing through N, climbing through FL132; Typhoon (A) was level at FL150, tracking NE'ly.

At 1247:48, Typhoon (A) adopted a N'ly track to pass 1.6nm W of Donna Nook AWR. At 1249:00, NE TAC passed accurate TI to Typhoon (A) on un-related traffic operating within the confines of Donna Nook AWR. This was the TI referred to in the report of the pilot of Typhoon (A) as 'right 3o'clock at 5miles, indicating 300ft below'. Typhoon (B) was 10.4nm N of Typhoon (A), indicating FL149, in a LH turn passing through W. Based upon the Unit's investigation report, having passed TI to the crew of Typhoon (A), NE TAC then attempted to contact CRC Boulmer to obtain a crossing clearance of EGD 323B for Typhoon (A). Whilst this liaison would routinely be conducted by the PLANNER, the Unit's investigation found that NE PLANNER was engaged in accepting a pre-note from another unit. CRC Boulmer stated that CRC Scampton was controlling EGD 323B; consequently, NE TAC terminated the call and immediately contacted CRC Scampton. The Unit's investigation determined that whilst the Planner had completed the pre-note and had the capacity to make the call to CRC Scampton, NE TAC did not request that the NE Planner undertake this task.

At 1249:13, Typhoon (B) rolled out of the LH turn, adopting a SSE'ly track, 4.1nm N of Typhoon (A) indicating FL149. At 1249:14, the unrelated Typhoon 3-ship requested a "*discrete freq for the next 5 mikes*" from NE TAC. Based upon the unit's investigation report, at the time when CRC Scampton answered the landline call from NE TAC, NE PLANNER informed NE TAC of the discrete frequency required by the unrelated Typhoon 3-ship. Prior to passing this frequency to the Typhoon 3-ship formation, NE TAC would have been required to 'go heads-down' to input the new frequency into their comms panel. At 1249:29, NE TAC replied to the unrelated Typhoon 3-ship, instructing the formation to "*re-contact me 2-8-4 decimal 6-7.*"

At 1249:45, NE TAC passed TI to Typhoon (A) on, "*previously reported traffic 12 o'clock, 1 mile [radar replay shows 0.5nm] crossing left-right, same level.*" Based upon their choice of words, NE TAC erroneously believed that the conflicting ac was the subject of the TI passed at 1249:00; however, the subject of this TI at 1249:45 was Typhoon (B). Although not stated in the Unit's investigation report, it is likely that during the 16sec from 1249:29 to 1249:45, NE TAC was engaged with the landline conversation with Scampton CRC with regard to the transit of Typhoon (A) below EGD 323B. The pilot of Typhoon (A) does not mention receiving this TI in their report, stating that as they 'looked into the range pattern to their SE and saw a Typhoon fly approximately 300ft beneath them heading north to south'. Based upon the geometry of the Airprox, this suggests that the pilots of Typhoon (A) saw Typhoon (B) as it passed down their starboard side.

The pilot of Typhoon (B) has stated that they obtained radar contact with Typhoon (A) at approximately 10nm range, visually acquired Typhoon (A) at approximately 2nm and initiated suitable avoidance. The CPA occurred at 1249:46, as Typhoon (A) passed 0.2nm W of Typhoon (B) that was indicating 100ft below Typhoon (A).

In terms of the ATM aspects of this Airprox, the dual requirements to liaise with the CRC and obtain a discrete UHF for the unrelated Typhoon 3-ship, combined with the NE Sector workload, conspired to distract NE TAC at a critical point. This distraction significantly delayed the provision of TI to Typhoon (A) on Typhoon (B), rendering the TI nugatory. On that basis, the safety barrier provided by ATM did not function, leaving platform and aircrew based mitigations. In accordance with the Rules

of the Air, the pilot of Typhoon (B) was required to give way to Typhoon (A) and, having obtained sensor and then visual contact with the ac, this was achieved and the conflict in their respective flight paths resolved.

#### Recommendation

BM SM has requested RAF ATM Force Cmd to direct a review of LATCC (Mil)'s occurrence reporting procedures.

**HQ AIR (OPS)** comments that the pilot of Typhoon (B) was attempting to perform a complex weapons delivery profile, which would require a degree of heads-in time; ideally this would be carried out within the confines of the AWR which would have afforded the pilot a degree of protection. However, it has been reported that due to the dimensions of the AWR being insufficient to practice these profiles, ac routinely exit the confines of the range during their manoeuvring. HQ Air has requested a review of the dimensions of AWRs to determine whether Airspace Change Proposals are required to ensure aircrew can practice these profiles within the confines of the AWR. However, although the pilot of Typhoon (B) had radar contact on, and then gained visual with, Typhoon (A), the avoiding action he took was insufficient to prevent causing concern to the crew of Typhoon (A).

### **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 controller involved and reports from the appropriate ATC and operating authorities.

The HQ Air (Ops) Member reiterated a concern expressed by the PIC of Typhoon (A) that the Coningsby SID terminated at FL150 in the vicinity of the Donna Nook AWR pattern, which introduced a potential conflict with any ac operating in the AWR pattern at medium level, as occurred here. A military area controller Member opined that the AWR was too small to contain the range patterns commonly in use, but the Board's low-flying Ops Advisor explained that the promulgated AWR boundaries are delineated solely to encompass any inherent danger from the ordnance in use and not to provide any measure of 'protection' to traffic in the range pattern. The airspace in the vicinity of the range was Class G where 'see and avoid' prevailed; as such it was available for use by all aviators, so good airmanship and sound flight planning dictated how much leeway non-participating pilots should afford the range when transiting in the vicinity. Similarly, pilots in the AWR pattern needed to maintain a good lookout scan for non-participating traffic. However, the Board was reassured to learn that a review of the dimensions of the AWRs was being sought and an HQ Air fast-jet pilot Member advised the Members that Coningsby was also addressing the issue of the SID locally within a local airspace user working group.

Without the benefit of a radar service to supplement his lookout, the pilot of Typhoon (B) reports that he held an AI radar contact on a conflicting ac - Typhoon (A) - from a range of about 10nm, gained visual contact at a range of about 2nm and his ac had passed 800ft below Typhoon (A) with no danger of collision. For their part, the crew of Typhoon (A) first saw Typhoon (B) about 300ft beneath them flying away to the S and were unable to take any avoiding action as it was seen too late. However, the recorded radar data reflected that the vertical separation based on Mode C was only 100ft as Typhoon (B) underflew Typhoon (A), both ac having maintained level flight immediately before the encounter. The Board was aware that the tolerance applicable to verified Mode C was +/- 200ft adding weight to Typhoon (A) crew's estimate, which was in-line with the upper tolerance. However, the Board could not reconcile the account from the pilot of Typhoon (B), which was not substantiated by the available radar data. It seemed inconceivable to other pilot Members that the pilot of Typhoon (B) would knowingly fly a mere 100ft beneath another ac and, given the significant disparity between the pilot's report compared to the recorded radar data, some Members perceived that the pilot of Typhoon (B) had not seen the ac flown by the reporting pilot. However, the HQ Air (Ops) Member briefed the Board that the pilot of Typhoon (B) had indeed seen Typhoon (A), had

given a 'wing waggle' before they passed and had been entirely content with the extant vertical separation as he underflew it, albeit that it was somewhat less than 800ft.

Conversely, it was evident that the crew of Typhoon (A) without any apparent AI contact on Typhoon (B), had been surprised by the sudden appearance of another ac passing so close beneath them with very little warning from ATC under the TS being provided. The HQ BM report had concluded that the LJAO NE TAC controller had become distracted with other tasks, which had significantly delayed the transmission of TI on Typhoon (B) to the crew of Typhoon (A), effectively rendering the TI of negligible value. Under the TS agreed with NE TAC, the crew of Typhoon (A) could reasonably have expected TI to have been passed to them in sufficient time to make practical use of it to assist them discharge their responsibilities to 'see and avoid' other ac operating in Class G airspace. This had not occurred here and it was evident to controller Members that NE TAC, having identified activity in the AWR pattern, was remiss in not passing TI much earlier through not apportioning his work priorities correctly. In the absence of landline transcripts and a report from NE PLANNER the Board concluded this was indicative of poor teamwork between the NE TAC controller and NE PLANNER. As it was, the TI passed by NE TAC was inaccurate and only transmitted 1sec before the CPA shown on the radar recording, which was wholly inadequate and gave the crew of Typhoon (A) no warning at all that they were about to be underflown at close quarters. In some Members opinion this was part of the Cause; however, others disagreed and following a lengthy debate, the Board agreed by a majority that the late transmission of TI to the crew of Typhoon (A) was a contributory factor in this Airprox.

Plainly all the pilots involved here were operating in Class G airspace and in this situation the pilots of both ac were equally responsible to 'see and avoid' each other. Pilot Members were concerned that Typhoon (A) crew's lookout scan had not detected Typhoon (B) beforehand in the prevailing CAVOK conditions. On the other hand, some Members considered that the pilot of Typhoon (B) had to 'give way' to Typhoon (A) on his R, and a Member suggested that the pilot of Typhoon (B) might have been too intent on maintaining his range profile to the detriment of giving Typhoon (A) a safe berth. However, others recognised the inherent pressure to complete the range detail with as little disturbance as possible whilst keeping all 'the variables' to a minimum but still accomplishing the aim of the sortie safely. Unbeknown to the crew of Typhoon (A), the pilot of Typhoon (B) was aware of the impending conflict, had seen their ac and indicated to them that he had. Unfortunately this 'wing waggle' was not seen by the crew of Typhoon (A), who didn't see Typhoon (B) until it was passing beneath them. Whilst the pilot of Typhoon (B) might have been able to react instantly to any further manoeuvre, it was he who had engineered the eventual separation that was too close for comfort and had caused the crew of Typhoon (A) concern. The Board concluded, therefore, that the Cause of this Airprox was that the pilot of Typhoon (B) flew close enough to cause the crew of Typhoon (A) concern, but in these circumstances no Risk of a collision had existed.

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

Cause: The pilot of Typhoon (B) flew close enough to cause the crew of Typhoon (A) concern.

Degree of Risk: C.

Contributory Factors: Late TI to Typhoon (A) crew.