

## AIRPROX REPORT No 2011017

Date/Time: 8 Mar 2011 1636Z

Position: 5246N 00013E (15nm  
NW of Marham)

Airspace: London FIR      (Class: G)

Reporting Ac      Reported Ac

Type: Typhoon      Grob Tutor TMk1

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

Alt/FL: 6000ft      5000ft  
RPS (1007mb)      RPS (1007mb)

Weather: VMC CLAH      VMC CLAH

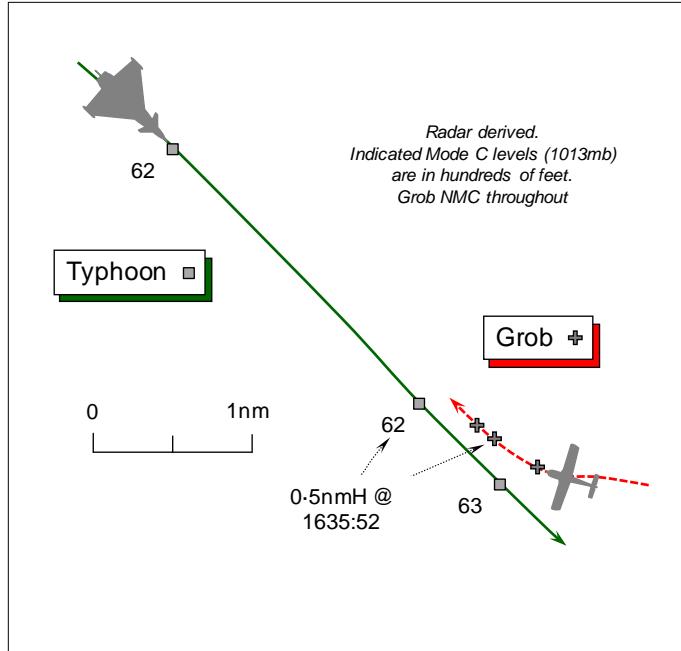
Visibility: 5km      20km

Reported Separation:

500-1000ftV/200m      500ft V/1000yd H

Recorded Separation:

0.2nm H [~370m]



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE EUROFIGHTER TYPHOON PILOT** reports that he had departed on a VFR training flight from Coningsby to Marham for a Practice Diversion (PD) and was receiving a TS from Coningsby APP. The assigned squawk of A1771 was selected with Mode C; neither TCAS nor Mode S is fitted.

After levelling at 6000ft BARNSLEY RPS (1007mb) some 500ft above haze in VMC, steady heading 140° at 400kt, a contact was called at 12 o'clock - 10nm. Unable to gain radar contact on the reported traffic he requested an update from ATC who responded the other ac was '12 o'clock - 3nm, no height information'. Believing it would be safer to check his sensor and look out rather than turning belly-up to an ac closing at high speed from ahead, he split his scan initially from the radar display to outside the cockpit, then focused just outside in an attempt to gain 'tally' and avoid a possible collision. He was unable to detect the reported traffic until out of his peripheral vision he saw a white flash passing his ac to port. He estimated that the other ac – a low-wing single piston-engine propeller-driven light ac coloured white with a blue stripe down the fuselage - passed about 200m away down his port side and some 500-1000ft below him with a 'medium' Risk of collision.

The Sun was low but 30-40° W of the reported ac's 'angle of arrival'. More significant was that he was flying just above the haze layer and he believes the light aircraft was in it. On seeing the other ac – the Grob Tutor - he wagged his wings although the Grob had now passed abeam but received no response. Advising APP that he might wish to report an Airprox, he asked for his position to be noted - 5247N 00012E - and continued with his sortie without further incident.

**THE GROB TUTOR TMK1 PILOT** reports that he was flying a dual training sortie in VMC and listening out on the Sector E frequency of 279.725MHz; he was not in receipt of an ATS. A squawk of A2641 was selected with Mode C; elementary Mode S is fitted, TCAS is not.

While in transit in a NW'ly direction between 5000 and 5500ft BARNSLEY RPS, heading 300° in the vicinity of Holbeach, he saw a Typhoon ac in his 1 – 1:30 position at a range of about 2nm, some 500ft above his transit altitude. He had time to make a conscious decision that no avoiding action was necessary. The Typhoon was crossing from R – L flying straight and level and passed through his 12 o'clock at range of about 1000yd and 500 feet above his aeroplane, the pilot rocking its wings to show that he had seen him. He assessed the Risk as 'low'.

Weather conditions were such that visibility was excellent above a haze layer which extended from the surface to 3500ft. His aeroplane as a white/blue colour-scheme and the HISLs and landing lamp were on.

**THE CONINGSBY APPROACH CONTROLLER (APP)** reports that with no inbound traffic and one transit on VHF, APP was band-boxed with DEPs and LARS. He received a prenote from GND for a Typhoon flying from Coningsby to Marham for a PD at 6000ft; the Typhoon was released and the VHF traffic handed over. Following the Typhoon pilot's initial call the ac was identified and the flight placed under a TS, 'reduced' due to radar clutter and the pilot requested to report level at 6000ft BARNSLEY RPS (1007mb). As the Typhoon closed to within 30nm of Marham he commenced the handover, observing an A2641 squawk in the Typhoon's 12 o'clock at 10nm, opposite direction, indicating 1000ft below so he called the traffic. The Marham controller confirmed he heard the TI and they completed the handover. The other traffic was then only 4nm away from the Typhoon and he informed the SUP that he would keep the Typhoon on his frequency until it was clear of the other ac. The Typhoon pilot then called for an update of the traffic and so he reported it at 12 o'clock - 3nm - opposite direction - no height information, as the other ac's squawk was no longer displayed on either the Scampton or Cranwell SSR feeds. As the Typhoon passed the other ac he was asked by the Typhoon pilot to update the position again; he informed him that he was now clear of the traffic and the pilot requested him to note the position and time as he may be filing an Airprox.

**THE CONINGSBY ATC SUPERVISOR (SUP)** witnessed the event and provided a report which corroborated that of APP, confirming that the traffic intensity was low and that the Unit was fully serviceable. As the Typhoon pilot was not visual with the conflictor, APP elected to keep the Typhoon on frequency until it was clear of the confliction. The Typhoon pilot called the possible Airprox as he overflew the contact.

He added that the A2641 squawk is the ATC Cranwell conspicuity code for Cranwell and Barkston Heath traffic entering, exiting or operating below the Cranwell Agreed Airspace. This in conjunction with the pilot's description of the aircraft led him to believe the reported ac was a Grob Tutor operating out of either Cranwell or Barkston Heath.

**HQ 1GP BM SM** reports that this Airprox occurred between a Tutor operating VFR transiting NW'ly between 5-5500ft in the vicinity of Holbeach and a Typhoon transiting to Marham for a PD in receipt of a TS from Coningsby APP.

The Typhoon pilot reports 5000m visibility flying 500ft above a layer of haze, whilst the Tutor pilot reports excellent visibility above a layer of haze which extended from the surface to 3500ft. Moreover, the Typhoon pilot reports that 'the sun was low and at an angle of 30-40 degrees right of the contact aircraft's angle of arrival. This reduced visibility.'

As APP handed the Typhoon over to Marham they noticed the Tutor and at 1634:32 passed accurate TI stating, "*Traffic 12 o'clock, 10 miles manoeuvring, indicating 2 thousand f...err correction 1 thousand feet below.*" At this point the Tutor was approximately 12.1nm SE of the Typhoon indicating 4800ft, with the Typhoon indicating 6300ft Mode C. The Typhoon pilot stated that he attempted to acquire the Tutor visually and by using radar to no avail, prompting him to request an update of TI.

At 1634:51, the SSR return for the Tutor disappears from the radar replay, which accords with the statement made by APP that the SSR label 'was no longer displaying on either the Scampton or Cranwell SSR feeds.' Coningsby ATC has access to both these SSR sources and sets up alternate consoles within the ACR to display each SSR feed.

At 1635:07 the handover between Coningsby was complete and at 1635:29, the Typhoon requested an update of the TI which APP passed as, "*traffic is now at 12 o'clock, 3 miles, opposite direction, no height information [the radar replay shows 4.1nm separation].*" The Typhoon pilot states in his report

that after this update he ‘believed it would be safer to check my sensor and look out rather than turning belly-up to an aircraft closing at high speed in a zone broadly considered to be 12 o’clock.’

The Tutor pilot reports seeing the Typhoon ‘in approximately the 1 to 1.30 position at a range of approximately 2 miles, some 500ft above’. He had time to make a conscious decision that no avoiding action was necessary.’ The Typhoon pilot reports that his first sighting of the Tutor was in his peripheral vision as the ac passed 200m laterally down the port side, between 500-1000 feet below his ac.

[UKAB Note (1): The CPA occurs as the two ac pass port to port, on broadly reciprocal tracks, with a track displacement in between sweeps of about 0.2nm just after 1635:52.]

In this instance, the ATM related safety barriers worked appropriately in that the pilot in receipt of the TS received timely and accurate TI to allow him to visually acquire the conflicting ac or to take appropriate action if he was unable to do so. In this case, having received TI the Typhoon pilot decided to maintain his track in order to try to visually acquire the Tutor; however, his scan was affected by the weather conditions, the relative position of the Tutor and, arguably, the size and colour scheme of the Tutor. The Tutor pilot with the haze below them had the ‘easier’ scanning task which enabled the crew to visually acquire the Typhoon and to decide that no avoiding action was required.

**HQ AIR (OPS)** comments that aircraft operating VFR in Class G will occasionally become proximate. The Typhoon pilot could have adjusted his heading early to maximise separation rather than relying on the expectation that he would definitely get visual.

**HQ AIR (TRG)** comments that the Tutor pilot reports sighting the Typhoon is good time and being content that he had been sighted and avoided by the Typhoon pilot. However, it appears that the sighting was too late to have effected avoiding action had it been necessary. By contrast, the Tutor would have retained some ability to carry out any such avoiding action. Whilst reporting that no avoiding action was necessary, it appears from the radar trace that from the reported sighting at 2nm, a turn to the right was initiated that prevented a direct overflight by the Typhoon, reducing the risk further.

## **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 Typhoon pilot had received prompt and accurate TI from Coningsby APP under the TS, which had ultimately enabled him to sight the Grob Tutor, albeit a fleeting glimpse as it passed 200m away some 500-1000ft below his ac he reported. The Board agreed that the controller had provided a good level of TI here and had conscientiously elected to retain the flight on his frequency during the period that these two ac were at close quarters, which was wise. As it was, the Typhoon pilot was unable to detect the Tutor on radar and was thus entirely reliant on TI from APP and visual sighting to avoid the other ac. Given the difficulties inherent in visually acquiring small light ac, Members agreed that positive action at an earlier stage would have been preferable. The HQ Air fast jet pilot Member reiterated the Command’s view that it might have been wiser if the Typhoon pilot had just jinked 10-15° to the R to ensure that he passed clear rather than relying on visual sighting alone and other pilot Members concurred.

Although the Typhoon pilot reports that at 6000ft RPS he was flying just above a layer of haze, it is often difficult to determine the limits of a haze layer and it would seem he was further above it than he might have thought. The Grob pilot, flying at a maximum of 5500ft RPS, reported he was flying in VMC with 20km visibility; he had sighted the larger Typhoon from a range of 2nm and was not

concerned as he was 500ft below it and did not consider that any avoiding action was warranted whilst he watched it cross about 1000yd (0.5nm) ahead. This was supported by the radar recording, although it seemed that the Grob had indeed turned to the R as the ac closed, which did affect the overall geometry of the encounter. It was unfortunate that the Grob's SSR was lost just before the encounter and it was not clear why this was so because it had been clearly displayed just moments beforehand when the TI was issued at 10nm. In the absence of the Grob's Mode C data it was not possible to verify the vertical separation independently. Nevertheless, both pilots reported it to be not less than 500ft, which was considered to be a safe margin. The Board concluded, therefore, that this Airprox had been the result of a sighting of the Grob Tutor by the Typhoon pilot, but with 500ft vertical separation clear below there was no Risk of a collision.

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

Cause: Sighting Report.

Degree of Risk: C.