

AIRPROX REPORT No 2012034

Date/Time: 13 Mar 2012 1748Z

Position: 5256N 00002W (3nm S Boston)

Airspace: LFIR (Class: G)

Reporting Ac Reported Ac

Type: BE350 C525A

Operator: HQ Air (Ops) Civ Pte

Alt/FL: FL100 FL100↓

Weather: VMC CLAC VMC NR

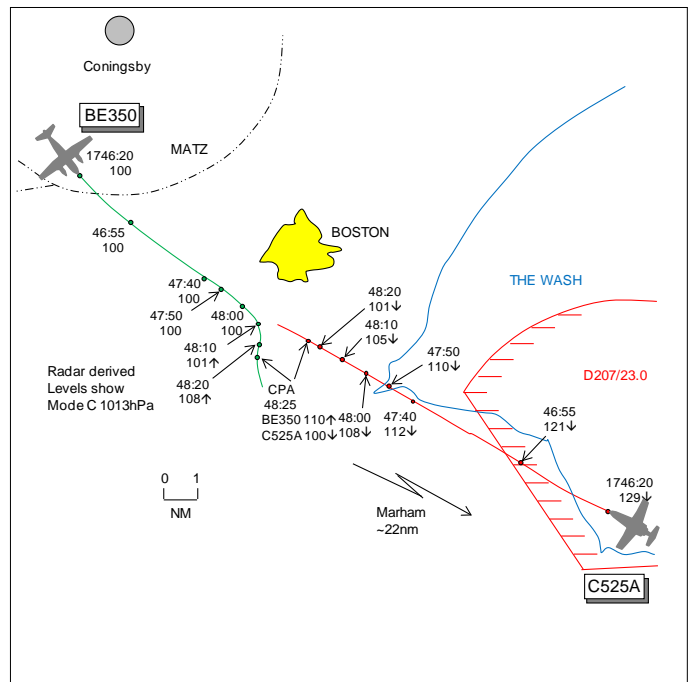
Visibility: 30km >10km

Reported Separation:

Nil V/0-25nm H NR

Recorded Separation:

1000ft V/1-6nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BE350 PILOT reports en-route to Marham and in receipt of a TS from Marham Approach on 233-075MHz, squawking 3660 with Modes S and C. The visibility was 30km flying clear above cloud in VMC and the ac was coloured grey with HISLs, nav, anti-collision and recognition lights all switched on. The flight was transiting to Marham for a PD and instrument approach heading 130° at 220kt and at FL100. A TCAS contact was observed by the PF at range 6nm and both pilots commenced an intensified visual scan. ATC subsequently reported "traffic 12 o'clock 5nm" but the conflicting ac was not visually acquired. They commenced a R turn to deconflict and a TCAS TA was generated with the conflicting traffic seen on TCAS on a reciprocal track 900ft above and descending. A TCAS RA was received when the conflicting traffic was about 300-400ft above descending. They turned R 90° and climbed 1000ft in accordance with the RA instruction to 'climb, climb'. The L wing was then dropped and the conflicting ac was visually acquired by the PF passing approximately 800ft below on a reciprocal track 0.75nm laterally displaced to their L. The PF was unable to positively identify the other ac type. The Marham controller later passed the crew the details of the other ac involved. He assessed the risk as medium.

THE C525A PILOT reports flying solo inbound to Gamston, IFR and receipt of a TS from London Mil, squawking an assigned code with Modes S and C; TCAS 1 was fitted. The visibility was >10km in VMC and the ac was coloured white/blue with strobe, nav and recognition lights all switched on. Heading NW'yly at 250kt he recalled that traffic was reported in his 12 o'clock at around FL100 and he agreed to increase his ROD in order to pass below it. He didn't remember whether a TCAS warning was generated. He did see the other ac in his 10 o'clock, well above his level. Even with his good eyesight and excellent ac recognition the other ac was too far away for him to identify its type. At the time he did not consider an Airprox had occurred so did not make a record of the details for reference. He assessed the risk as none.

THE MARHAM APPROACH RADAR CONTROLLER reports the BE350 flight was in receipt of a TS at FL100 and was given TI on traffic 12 o'clock 5nm opposition direction indicating FL110 but descending; the ac was wearing a Lon Mil squawk. The BE350 crew did not declare they could see the traffic but as the other ac arrived in the vicinity the crew took evasive action on advice from his TCAS; they were not happy with its proximity. On enquiry to Lon Mil, the other ac (C525A) had been told of the BE350, its pilot had reported visual and had continued to descend.

BM SAFETY MANAGEMENT reports that this Airprox occurred between a BE350 in receipt of a TS from Marham APP, reduced as Marham were operating SSR only, and a C525A operating IFR, in receipt of a TS from LJAO E/NE.

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated.

Both aircrews report VMC, with the BE350's pilot reporting 30km visibility in nil weather with an undercast of CU and SC cloud with tops at 2500ft.

APP reported that their workload and the task complexity at the time of the incident were low, with only the BE350 on frequency. LJAO E/NE did not report their workload nor task complexity at the time of the incident; however, analysis of the RT transcript showed a moderate taskload with 3 ac on frequency.

The C525A at FL210 was identified by LJAO E/NE at 1733:32, exiting CAS at BANEM and was given own navigation en-route to Gamston [D207, Holbeach Range, was not active]. The incident sequence commenced at 1739:37 as LJAO E/NE instructed the C525A flight to descend to FL100. At this point, the BE350 was 54.3nm NW of the C525A, tracking SSE'ly, climbing through FL097. Whilst the provision of a TS to the C525A outside CAS was agreed, it was not applied by LJAO E/NE; this was neither a causal nor contributory factor in this Airprox.

At 1743:45, LJAO E/NE instructed the C525A flight to descend to FL050. At this point, the C525A was descending through FL168, the BE350 was 37.6nm NW of the C525A, tracking N'ly, at FL099. Based upon their report, LJAO E/NE was aware of the BE350 and utilised a predictive level function to assess the C525A's ROD with reference to the BE350, concluding that the C525A would be 'well below' the BE350 as they passed.

At 1746:17, the BE350 flight called APP on handover from Waddington, was identified and placed under a TS that was reduced on the grounds that Marham were operating SSR only. At this point, the BE350 was 19.1nm NW of the C525A, tracking SE'ly under their own navigation at FL100; the C525A was descending through FL129. From this point, until 1747:50, APP was involved in a continuous exchange of RT with the BE350, completing the initial administrative functions required for the BE350 to conduct their PD to Marham.

At 1746:55, LJAO E/NE passed TI on the BE350 to the C525A stating, "*Traffic 12 o'clock, two-zero miles (radar replay shows 14.1nm), opposite direction, at Flight Level 100*" which was acknowledged; the C525A was descending through FL121. LJAO E/NE's decision to pass TI was based upon their further use of the predicted level function, which showed that the C525A's ROD had reduced, introducing a confliction with the BE350. At 1747:42, LJAO E/NE updated the TI to the C525A stating, "*previously reported traffic, 12 o'clock, 9 miles (radar replay shows 7.3nm), opposite direction at Flight Level 100.*" The C525A was descending through FL112. Shortly after, at 1747:49, the C525A pilot acknowledged the TI, stating that he would, "*expedite through Flight Level 100.*" The C525A had been descending at around 1200fpm; however, at 1748:00 with 4.2nm lateral and 800ft (indicated) vertical separation existing, the ROD increased to approximately 1700fpm, reaching a maximum of approximately 2200fpm at 1748:20. At 1748:25, following the CPA (1000ft/1.6nm), the ROD began to reduce.

CAP 774 Chapter 3 Para 1 states that, in providing a TS, 'the controller is not required to achieve deconfliction minima, and the avoidance of other traffic is ultimately the pilot's responsibility.' The guidance material for CAP 774 Chapter 3 Para 6 states that:

'When providing headings/levels for the purpose of positioning and/or sequencing or as navigational assistance [to ac in receipt of a TS], the controller should take into account traffic in the immediate vicinity, so that a risk of collision is not knowingly introduced by the instructions passed. However, the controller is not required to achieve defined deconfliction minima.'

The BE350's crew reported that they were first aware of the C525A when it appeared on their TCAS display at a range of approximately 6nm, which caused them to intensify their visual scan. APP subsequently passed TI on the C525A to the BE350 at 1747:50 stating, "*traffic 12 o'clock, range of 5 (radar replay shows 6.1nm) opposite direction, Flight Level 110 but looks as if it might be in the descent.*"

At 1747:59 the BE350's crew acknowledged the TI stating that they were, "*coming right to avoid that traffic.*" APP asked the BE350's crew whether they had, "*got it on TCAS?*" to which the BE350 crew replied, "*Affirm (2sec gap) 500 feet above (inaudible) going into him.*" During this exchange, at 1748:06, the C525A pilot informed LJAO E/NE that he was, "*visual with that traffic.*" At this point, the BE350 was 3.6nm NW of the C525A, with the latter descending through FL107. However, the C525A pilot subsequently reported seeing the BE350 in "*my 10 o'clock and well above my level*" which appears to describe the position of the BE350 at around the point of the CPA.

At 1748:10, APP instructed the BE350 flight to, "*continue right turn heading 210 degrees, he's maintaining a north-westerly heading, just currently left of your nose.*" During this transmission, at 1748:14, the BE350's R turn and climb in response to a TCAS-RA becomes evident on the radar replay. At 1748:26, co-incident with the CPA, APP informed the BE350 flight that, "*the ac is ah now passing down your left hand side, indicating Flight Level 95, descending.*" Minimum lateral and vertical separation was 1.6nm and 1000ft. The BE350 crew did not declare on frequency that they had received a TCAS RA until 1749:36.

Through extrapolation of the radar replay, without the BE350's R turn and TCAS RA response at 1748:14, the CPA would have occurred at 1748:30, as the C525A passed 0.2nm down the BE350's port side, indicating 100ft below, descending through FL99. Although the C525A was equipped with TCAS 1, the pilot did not recall whether they received a warning of the proximity of the BE350.

Based upon the available information, the Airprox occurred as a result of a confliction of flight paths within Class G airspace. Whilst the C525A did increase its ROD in response to LJAO E/NE's updated TI at 1747:42, the extrapolation of the radar data suggests that this did not markedly affect the outcome of the Airprox. The confliction was resolved, primarily, by the BE350's turn and response to the TCAS RA.

Marham APP passed timely and accurate TI to the BE350 flight which, alongside the information from their TCAS, allowed the BE350's crew to take decisive action to break the confliction. Marham APP then continued to provide TI to the BE350 to facilitate the maintenance of the crew's SA. LJAO E/NE, informed by the level prediction tool available to them, assessed the ROD of the C525A with reference to the BE350, passing and updating TI accordingly. Notwithstanding that the range information in the initial TI was inaccurate, LJAO E/NE discharged their responsibilities for the provision of TI to the C525A, allowing the pilot of that ac to decide on a course of action to avoid a collision; in this case opting to increase his ROD.

HQ AIR (OPS) comments that the potential for a conflict was spotted early by both controllers and appropriate TI was passed. Both crews actioned this TI as early as reasonably possible and in an effective manner, one by descending and the other by turning. TCAS assisted by providing the initial indication of a conflict to the BE350 crew. As they were in receipt of a TS and the other traffic was descending they sensibly held their lateral avoiding action until the azimuth of the other traffic was confirmed by ATC.

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 ATC and operating authorities.

As the incident occurred in Class G airspace, both crews were responsible for maintaining their own separation from other traffic through see and avoid. Both flight crews had asked for and were provided with a TS and were given timely TI by both ATSU's. LJAO E/NE had used the predictive level function to assess the C525A's ROD, updated the TI and the pilot had reported increasing his ROD. The C525A pilot had then reported on the RT being visual with the BE350, the radar recording showing separation as 3.6nm with the C525A 700ft above. The BE350 crew had seen the approaching C525A on TCAS in a descent and after receiving TI from Marham APP had instituted a R turn to avoid. While turning R a TCAS RA was generated and the guidance was followed, the crew visually acquiring the C525A as it passed down their LHS by 0.75nm and 800ft below. Both controllers had applied the ATS correctly and updated the TI when they both believed that a collision risk existed. One controller Member expressed surprise that neither of the controllers had telephoned the other to determine the intentions of the other flight and to agree coordination if required; notwithstanding that such coordination was beyond the provisions of a TS, he considered it would have been good defensive controllership. However, this was a minority view. Another controller Member opined that there was always the option open to both crews to request an upgrade to a DS if they were unhappy with the service or the situation as it unfolded. At the CPA, the C525 was descending through FL100 and passing 1.6nm E of the BE350, which was climbing through FL110 in response to its TCAS RA. As all parties had acted appropriately during this incident and given the separation distances that pertained, Members agreed that this incident could be classified as a conflict in Class G airspace which was resolved by the crews of both ac.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace resolved by both crews.

Degree of Risk: C.