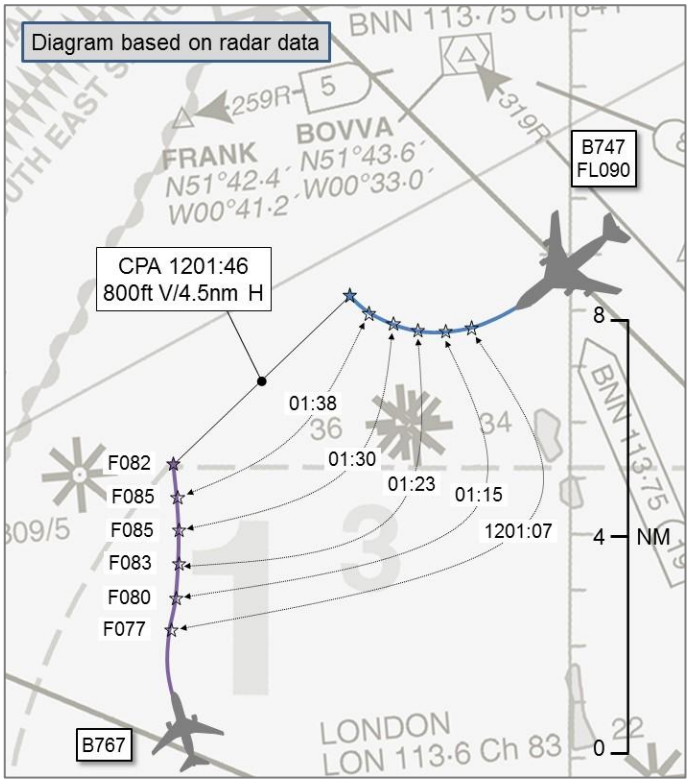
AIRPROX REPORT No 2013156

Date/Time: 5 Nov 2013 1202Z

Position: 5138N 00039W (Bovingdon hold)

Airspace: London TMA (*Class*: A)

	Aircraft 1	*Aircraft 2*
Type:	B747	B767
Operator:	CAT	CAT
Alt/FL:	FL90	NK
Conditions:	VMC	NK
Visibility:	10km	NK
Reported Separation:	600ft V/2nm H	NK
Recorded Separation:	800ft V/4.5nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE BOEING B747 PILOT reports that he was the Pilot Flying (PF), inbound to Heathrow airport (LHR) on an IFR flight under the control of the LHR Radar Director. Strobes and navigation lights were illuminated; SSR Modes C and S were selected. Whilst in the Bovingdon (BNN) hold at FL90 on the outbound leg (298°) ATC issued avoiding action of a right turn onto a heading of 020°. The autopilot was disconnected and the turn was actioned. The only TCAS information was 'proximate' traffic 600ft below at a range of approximately 2-3nm. The conflicting aircraft was not visually acquired. ATC said that the traffic was an aircraft climbing out of LHR at FL84 using a London Control frequency. The controller commented that possibly the crew had not set the standard pressure setting on a day of low pressure (991hPa).

He assessed the risk of collision as 'Low'.

THE BOEING 767 PILOT was a foreign pilot from a foreign airline who declined to file a report.

THE HEATHROW INTERMEDIATE NORTH (INT N) DIRECTOR (DIR) reports that he was on duty as an On the Job Training Instructor (OJTI), training a low-hours student during a 'low-pressure' day (QNH 991hPa). He noticed an LHR outbound (the B767) had climbed above FL80 and showed briefly FL86. They were controlling the B747 in the BNN hold at FL90, which was on the outbound leg. Short Term Conflict Alert (STCA) activated. He considered it necessary to take control from his student and issue avoiding action to the B747 pilot in order to maintain separation. The B767 was then observed to descend to FL80. Standard separation was not lost, and the distance between the aircraft was estimated to be a minimum of 4nm. The B747 pilot completed his approach successfully. The crew mentioned that they had "nothing on TCAS".

THE TC NORTH-WEST DEPARTURES (NW DEPS) CONTROLLER reports that the B767 pilot departed LHR and, having been cleared to FL80, was seen to indicate FL82 and climbing. He confirmed the cleared Flight Level with the pilot, adding that 1013hPa should be selected. The aircraft eventually indicated FL86 prior to descending to the correct flight level. He informed the pilot that he would be filing a report, which he acknowledged.

Factual Background

The Heathrow weather was:

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METAR EGLL 051150Z 27015KT 9999 FEW011 12/10 Q0991 NOSIG=
METAR EGLL 051220Z 28016KT 9999 SCT030 13/09 Q0991 NOSIG=
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Analysis and Investigation

CAA ATSI

ATSI had access to reports from the pilot of the B747, the INT N DIR and the NW Deps controller, recorded area surveillance and transcription of the INT N and NW Deps frequencies.

The B747 pilot was operating IFR on a flight inbound to LHR, in receipt of a Radar Control Service from INT N on frequency 119.725MHz. The B767 pilot was operating IFR on a flight outbound from LHR, in receipt of a Radar Control Service from the NW Deps controller on frequency 119.775MHz. Controller training was in progress on the INT N sector.

At 1153:20 the B747 pilot contacted INT N descending to FL90 in the BNN hold and was told to continue in the hold and that the total delay was between 10-15 min.

At 1159:38 the B767 pilot contacted NW Deps passing 4400ft for 6000ft. He was instructed to climb to FL80 which was read back correctly.

At 1201:20 the radar display indicated that the B767 was passing FL82, 6.6nm SW of the B747 (Figure 1) and the NW Deps controller asked the B767 pilot to confirm that he had 1013hPa selected and instructed him to turn left heading 270°. The B767 pilot read back the instruction to turn onto 270° and read back '1013'.

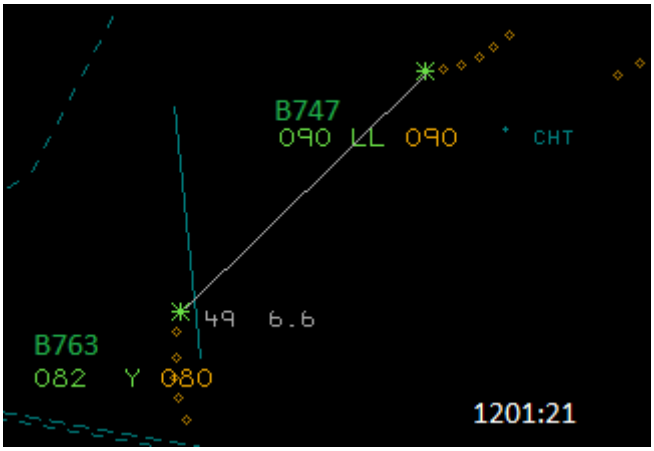

Figure 1.

At 1201:26 low level STCA activated between the B767 and the B747 in the BNN hold. The Mode S from the B767, as obtained from the radar replay, indicated that its Barometric Pressure Setting (BPS) was 991hPa. At 1201:30, the NW Deps controller informed the B767 pilot that his aircraft was indicating FL85 (Figure 2) and to, "*turn left now heading 270 degrees*". At 1201:32 the INT N mentor, having noticed that the B767 pilot had 'bust' his level, took over from his trainee to give avoiding action to the B747 pilot, "*avoiding action, turn right now heading zero two five*". At 1201:36 the NW Deps controller instructed the B767 pilot, "*avoiding action turn left heading 270 degrees*". Traffic Information was passed to the B747 pilot on the B767; the B747 pilot queried the heading. The heading of 025° was re-iterated by the INT N DIR.

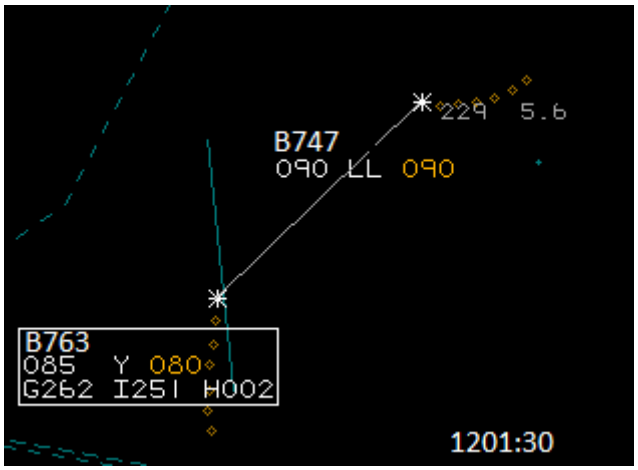

Figure 2.

At 1201:40 the radar replay showed that the B767 was at FL86 and the BPS from the B767 changed to 1013hPa. The B767 pilot descended to FL80 before he asked the NW Deps controller to confirm that it was a right turn to 270°. The NW Deps controller instructed the B767 pilot to fly a heading of north and to maintain FL80 on 1013hPa.

Separation was not lost and the CPA, as measured using the LHR 10cm radar, was 4.5nm horizontal and 800ft vertical (separation required 3NM/1000ft).

Summary

The B747 pilot was holding at BNN VOR at FL90, under the control of the LHR INT N DIR. The outbound B767 pilot was instructed by the NW Deps controller to climb to FL80 beneath this traffic. However, the radar recordings reveal that the aircraft's BPS indicated 991hPa, an altitude difference of 594ft from the standard pressure setting. Consequently the B767 was on a conflicting flight-path with the B747. Prompt and effective avoiding action given by the controllers concerned resulted in standard separation being maintained.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included a report from the B747 pilot, transcripts of the relevant RTF frequencies, area radar recordings, reports from the controllers concerned and reports from the appropriate ATC and operating authorities. The Board was disappointed that the pilot of the B767 had declined to submit a report. However, it was agreed that there was sufficient evidence to discuss this Airprox and reach a meaningful conclusion.

The Board noted that, from the radar replay information, it was apparent that the B767 pilot had had the QNH set instead of the Standard Altimeter Setting. This had caused the pilot to climb above his cleared level (FL80) and into conflict with the B747 at FL90. The Board quickly and unanimously considered that this was the cause of the Airprox.

The Board commended the actions of the TC controllers concerned for their timely recognition of the circumstances which allowed them to take action to ensure that standard separation was maintained. Although no loss of separation occurred, it was recognised that normal procedures, safety standards and parameters had not pertained (the Category E definition) given that an aircraft had been issued with avoiding action in the holding pattern. Consequently, because effective and timely actions had been taken to prevent aircraft colliding, it was agreed that the Risk was Category C.

As a postscript, the CAA Flight Operations advisor commented that with the recent prolonged periods of low atmospheric pressure in the UK there had been a spate of similar 'level-busts', when pilots had not selected the Standard Altimeter Setting. Accordingly the CAA had published a Safety Notice, (SN-2014/004) titled 'Level Busts: Hazards and Defences', to address the situation.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: By not selecting the Standard Altimeter Setting in time, the B767 pilot climbed above his cleared level and into conflict with the B747.

Degree of Risk: C

ERC Score[1]: 50

[1] Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.