

## **AIRPROX REPORT No 2014235**

**Date/Time:** 28 Dec 2014 0918Z (Sunday)

**Position:** 5139N 00022E  
(Lambourne Hold)

**Airspace:** London TMA (Class: A)

**Aircraft 1**                      **Aircraft 2**

**Type:**                      A320 (A)                      A320 (B)

**Operator:**                      CAT                      CAT

**Alt/FL:**                      FL116                      FL109

**Conditions:** VMC                      IMC

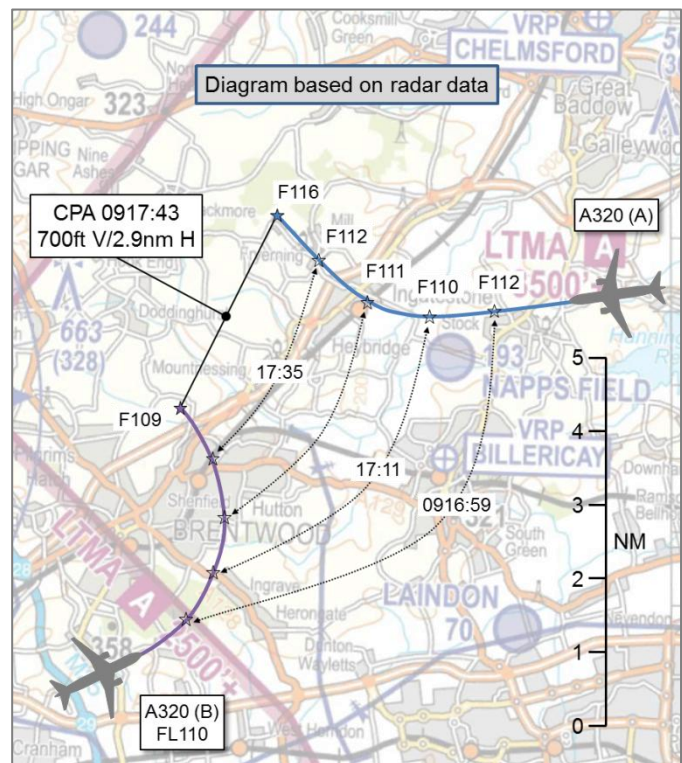
**Visibility:** >10km

**Reported Separation:**

100ft V/3nm H                      100ft V/NK H

**Recorded Separation:**

700ft V/2.9nm H



## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE A320 (A) PILOT** reports being cleared direct to the Lambourne hold. The white and blue aircraft lighting and SSR transponder states were not reported<sup>1</sup>. The aircraft was fitted with TCAS II. The pilot was operating under IFR in VMC, in receipt of a Radar Control Service from 'London Control'<sup>2</sup>. He was cleared to descend to FL110 by 'London Control' and switched to Heathrow Director on passing FL125, whereupon he was immediately issued with an avoiding action right turn on to 330° and 'stop descent', followed by instruction to climb to FL120. Simultaneously, whilst passing FL113, the crew received a TCAS TA, indicating the conflicting traffic was 300ft below them, in the Lambourne hold.

He assessed the risk of collision as 'Low'.

**THE A320 (B) PILOT** reports holding at FL090 in the Lambourne hold, he thought. The blue and white aircraft lighting and SSR transponder states were not reported<sup>1</sup>. The aircraft was fitted with TCAS II. The pilot was operating under IFR in IMC, in receipt of a Radar Control Service from Heathrow<sup>3</sup>. The crew noted a TCAS TA only, due to 'ATC mistake'. The traffic was noticed ahead and 'correct SOPs were demonstrated'. The pilot noted that the incident occurred 'a while ago'<sup>4</sup> and that his recollection of the event was somewhat limited.

He assessed the risk of collision as 'None'.

**THE AREA TC NE CONTROLLER** reports bandboxed as the NE/LAM/LOREL controller. At around 9:15 he thought he saw A320 (B) vacate FL110. Therefore, he descended A320 (A) to FL110 and transferred it to the Heathrow INT controller about 15 miles from the LAM holding area. A320 (A) was following A320 (B), which was already established in the LAM hold. About 20sec later, the controller noticed the STCA<sup>5</sup> had highlighted two aircraft, these were A320 (B) and A320 (A): A320 (B) was at FL110 in the LAM hold, A320 (A) was approaching the LAM hold at FL110. He proceeded to transmit

<sup>1</sup> For a CAT aircraft approaching a hold in the London TMA, it was assumed that all lighting was selected on, as was the SSR transponder with Modes A, C and S.

<sup>2</sup> The Area Terminal Control Northeast controller (TC NE).

<sup>3</sup> The Heathrow Intermediate controller (LL INT).

<sup>4</sup> 2 weeks before his report.

<sup>5</sup> Short Term Conflict Alert

to A320 (B), giving the pilot a turn to the right and climb to FL120. The pilot did not reply the LL INT controller rang to say that he had given avoiding action to A320 (A) and climbed the aircraft to FL120.

**THE HEATHROW INT CONTROLLER** reports vectoring aircraft off the stack when he noticed an inbound aircraft passing FL116 [A320(A)], a short distance east of LAM, whilst he had an aircraft established in the hold already at FL110 and just completing the outbound leg [A320(B)]. The pilot of the inbound aircraft called the controller giving a reasonably long first call, which prevented him taking immediate action. The controller then gave an immediate right turn heading 330° and an instruction to stop descent. He passed Traffic Information and gave avoiding action with a climb back to FL120. He could hear TCAS activating in the background. He then passed Traffic Information to the pilot of the aircraft established in the hold, who reported having the traffic on TCAS. Once the aircraft were separated laterally and vertically, the controller instructed the pilot of the inbound aircraft to return to LAM and take up the hold. He estimated that prescribed separation was lost with the aircraft at 2.8nm and 100ft separation at CPA.

## Factual Background

The weather at London/City was recorded as follows:

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EGLC 280920Z AUTO 03007KT 360V060 9999 NCD 03/M02 Q1028=
EGLC 280950Z AUTO 03007KT 350V070 9999 FEW045/// 04/M02 Q1029=

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## Analysis and Investigation

### CAA ATSI

ATSI had access to reports from both pilots, the Heathrow Terminal Control (TC) Northeast (NE) and Heathrow Intermediate (LL INT) controllers, area radar recordings and RTF and transcripts of the TC NE and LL INT frequencies. Swanwick ATSU also provided a unit report.

Both pilots were inbound to London Heathrow operating under IFR in receipt of a Radar Control Service: the A320 (A) pilot from TC NE (which was combined with the LAM and LOREL functions), displaying SSR code 4750; and the A320 (B) pilot from TC LL INT North, displaying SSR code 3526. The A320 (A) pilot was positioning towards LAM. The A320 (B) pilot was established in the hold at LAM at FL110 and its SSR label was garbling with another aircraft in the hold below, at FL80. At 0914:20, the TC NE controller instructed A320 (A) pilot to descend to FL110. A320 (A) was instructed to contact LL INT. At 0916:39, A320 (A) pilot contacted LL INT, at which point, with the 2 aircraft 7.9nm apart, low level STCA was alerting (see Figure 1).

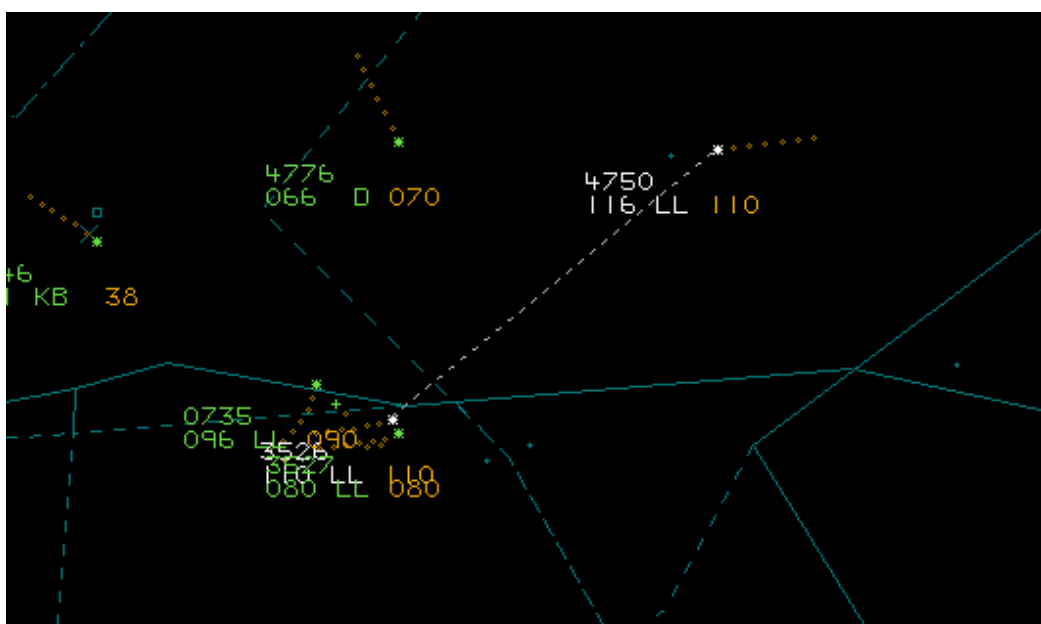


Figure 1: 0916:39

The LL INT controller instructed A320 (A) pilot to turn right immediately heading 330° degrees and to stop descent. At 0917:00 (Figure 2), the A320 (A) pilot was instructed to climb to FL120 and given Traffic Information on traffic in their 10 o'clock same level at 3nm. The controller then reiterated the instruction as avoiding action. A320 (A) pilot read back the instruction to climb and informed the LL INT controller that “we have the traffic”.

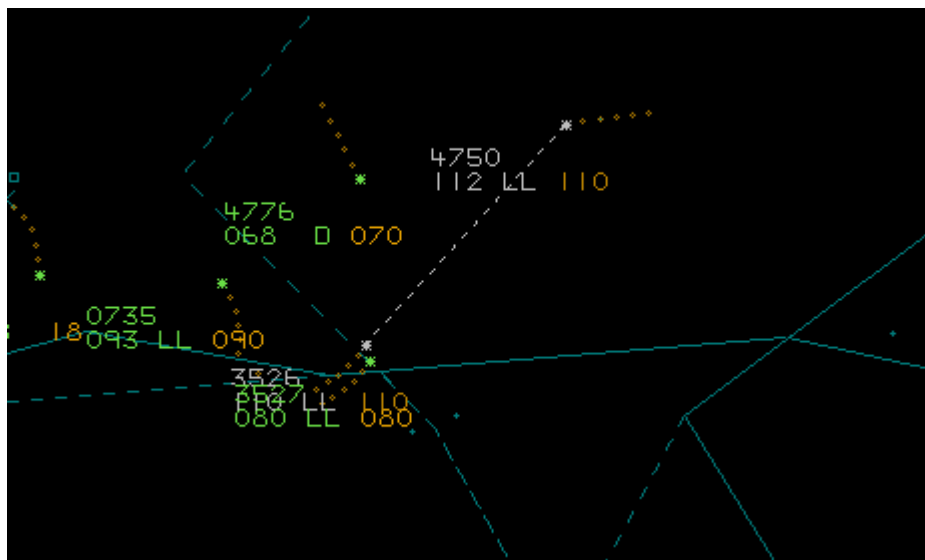


Figure 2: 0917:00

The LL INT controller instructed A320(B) pilot to descend to FL100 and gave Traffic Information on the other A320 as in his 3 o'clock at a range of 2½nm, climbing to FL120. A320 (B) pilot stated that they had A320 (A) on TCAS. CPA occurred at 0917:44, when the two aircraft were 2.9nm/700ft apart; the aircraft subsequently diverged.

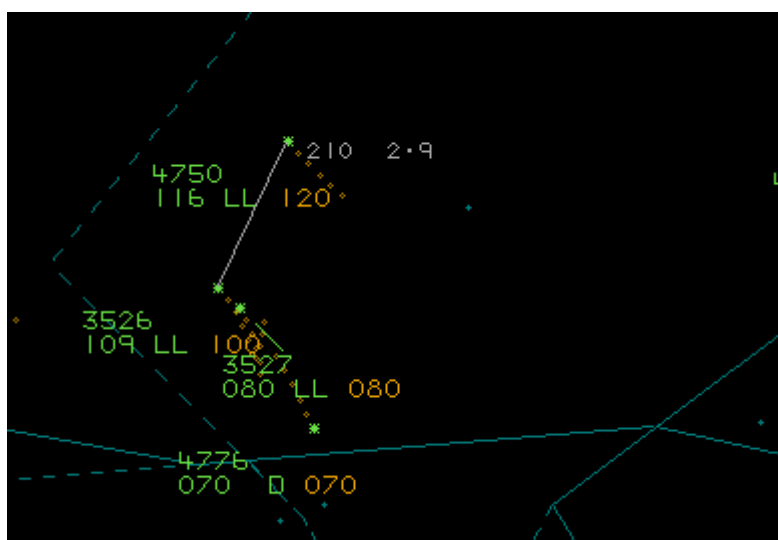


Figure 3: 0917:44

The report from the ATSU stated that the conflict between the two aircraft was highlighted in the vertical stack list prior to A320(A) being transferred to LL INT.

The TC NE controller mistakenly believed that A320 (B) had vacated FL110 and instructed the A320 (A) pilot to descend to FL110. The TC NE controller did not notice the conflict in the vertical stack list prior to transferring A320 (A) pilot to LL INT. The LL INT controller gave avoiding action to the A320 (A) pilot as soon as he called on frequency.

## UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>6</sup>. Notwithstanding ATC instruction otherwise<sup>7</sup>, if the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right<sup>8</sup>. If the incident geometry is considered as converging then the A320 (B) pilot was required to give way to the A320 (A)<sup>9</sup>.

### Summary

An Airprox was reported when two A320s flew into proximity at 0918 on Sunday 28<sup>th</sup> December 2014. Both pilots were operating under IFR in receipt of a Radar Control Service from Heathrow, the A320 (A) pilot in VMC, from the TC NE controller, and the A320 (B) pilot in IMC, from the Heathrow INT controller.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, reports from the air traffic controllers involved and a report from the appropriate ATC authority.

Board members first considered the controllers' actions. They noted that the TC NE controller had perceived that the A320 (B) pilot had vacated FL110 and so cleared the A320 (A) pilot to descend to that altitude as he handed him over to the Heathrow INT controller. Shortly afterwards, the STCA triggered, and the TC NE controller tried to pass avoiding action to the A320(A) pilot, who was in contact with the Heathrow INT controller by that time. Independently, the Heathrow INT controller passed avoiding action to the A320 (A) pilot as soon as he was able and, shortly afterwards, to the A320 (B) pilot as well. Although separation had been lost at CPA (2.9nm vs 3nm required), the Board noted that radar position was subject to error and that the loss of separation had been negligible. It was agreed that the cause of the Airprox was that the TC NE controller had cleared the A320 (A) pilot to the same altitude in the hold as the A320 (B) but that effective and timely action had been taken to prevent the aircraft colliding.

Members agreed that this event hinged around human factors, in particular the perception by the TC NE controller that A320 (B) had vacated FL110. The A320(B) SSR label was garbling with another aircraft below it at FL80, and members wondered whether this may have cause the initial error in perception of the A320(B)'s actual level. However, it was noted that the 'vertical stack list' was available to the TC NE controller, which displayed aircraft callsigns vertically in flight level-order in a separate window and would normally be used to clarify a garbled picture. After some discussion, members agreed that this event simply highlighted the fallibility of human performance, in that a qualified, proficient and conscientious controller had mistakenly cleared 2 aircraft to the same level in proximity with each other. It also highlighted the value of in-depth error-trapping and multiple safety barriers in that automatic safeguards had triggered to alert the controllers about the conflict such that effective action was taken to resolve it.

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

Cause: The TC NE controller cleared the A320 (A) pilot to the same altitude in the hold as the A320 (B).

Degree of Risk: C.

<sup>6</sup> SERA.3205 Proximity.

<sup>7</sup> SERA.8005 Operation of air traffic control service.

<sup>8</sup> SERA.3210 Right-of-way (c) (1) Approaching head-on.

<sup>9</sup> SERA.3210 Right-of-way (c)(2) Converging.