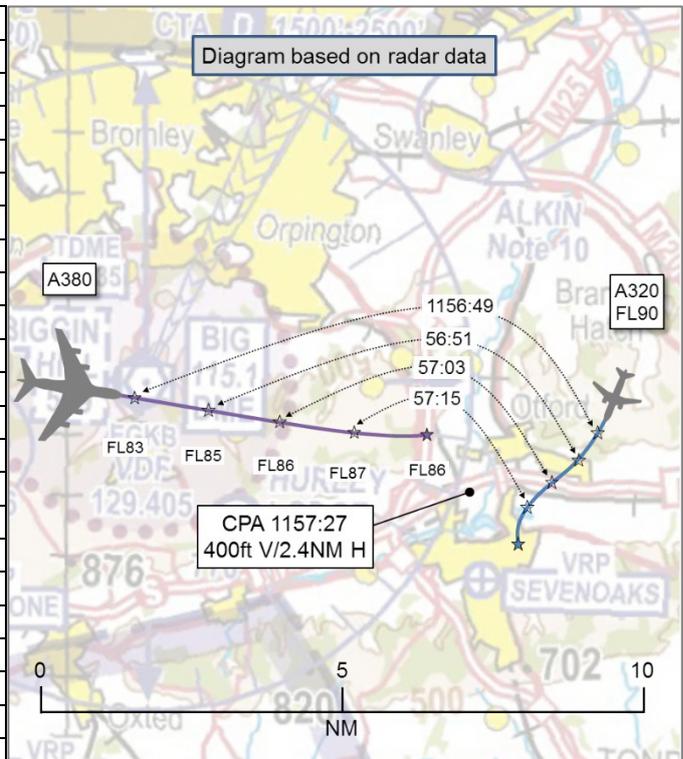


AIRPROX REPORT No 2020020

Date: 09 Feb 2020 Time: 1157Z Position: 5118N 00011E Location: Sevenoaks

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	A380
Operator	CAT	CAT
Airspace	London TMA	London TMA
Class	A	A
Rules	IFR	IFR
Service	Radar Control	Radar Control
Provider	London Int Nth	London Int Nth
Altitude/FL	FL86	FL90
Transponder	A, C, S	A, C, S
Reported		
Colours	Company	Company
Lighting	Strobes, nav	NK
Conditions	VMC	VMC
Visibility	>10km	NK
Altitude/FL	FL90	8000ft
Altimeter	SPS	QNH (992hPa)
Heading	180°	130°
Speed	240kt	210kt
ACAS/TAS	TCAS II	TCAS II
Alert	TA	None
Separation		
Reported	300ft V/3NM H	Not seen
Recorded	400ft V/2.4NM H	



THE A320 PILOT reports that they were holding at the BIG VOR at 9000ft, when ATC ordered them to initiate an immediate turn to the left, on to a heading of 180°. As they complied with the instruction, they received a TCAS advisory “TRAFFIC, TRAFFIC”, with a [company name] A380 only 400ft below them and to the right. No RA was triggered. They complied with the ATC instruction promptly and resumed the hold later, with no further issue. The pilot noted that the event happened in the context of Storm Ciara, with many go-arounds in high winds. This created a high workload environment for both ATC and pilots. The QNH was low and therefore there was a risk of altitude bust if 1013hPa was not set after clearance to a flight level. He thought the A380 had just gone around and perhaps did not set standard pressure setting.

The pilot assessed the risk of collision as ‘Low’.

THE A380 PILOT reports that a missed approach was initiated and ATC cleared them to turn left and climb to 8,000ft to maintain heading of 130°, expect to hold over BIG (Biggin) . The Transition Level was FL80. At 8,000ft and maintaining the heading, ATC instructed them to turn further left due traffic. The QNH setting was 992hPa and later ATC advised them to change to standard pressure setting. Once on standard setting, the aircraft was descended to maintain FL80. They were then instructed to return towards BIG and hold. A second approach was conducted followed with a landing.

The pilot assessed the risk of collision as ‘None’.

THE LONDON INT NTH CONTROLLER reports operating as Int Nth with Int Sth cross-coupled and banded. She was using a support (Spt) controller and had requested a Sth split. There were multiple go-around's due to strong cross wind and wind shear. [A380 C/S] had made a missed approach and requested to hold. [A320 C/S] was in the hold at BIG maintaining FL90 so [A380 C/S] was instructed to climb to FL80 and given a heading to continue on, pointing in the direction of the hold. Another aircraft had broken off the approach, was heading north and requested a right turn to avoid weather. After being

given a new heading, the pilot then began giving information on the location of the weather. During this transmission the controller noticed that the [A380 C/S] had bust its level and was in conflict with [A320 C/S]. She waited for the other pilot to stop transmitting and immediately gave avoiding action to the [A320], then avoiding action to the [A380] and instructed the [A380] to stop its climb. The [A380] pilot informed her that they were maintaining 8000ft at which point the support controller instructed the aircraft to descend to FL80 on the standard pressure setting. Separation was regained and the controller carried on working until she was relieved.

THE LONDON INT NTH SPT CONTROLLER reports that he noticed STCA go off at the same time as the Int Nth controller. The Int Nth controller couldn't get in to give avoiding action straight away due to aircraft transmission. The Int Nth controller gave avoiding action. When he got the chance, the Int Nth Spt controller told [A380 C/S] to maintain FL80 on standard pressure setting 1013hPa.

Factual Background

The weather and forecast at Biggin Hill and weather at Heathrow was recorded as follows:

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METAR EGKB 091150Z 20036G53KT 2500 -RADZ BKN007 10/09 Q0992=
METAR EGKB 091120Z 21037G50KT 2000 -RADZ BKN007 10/09 Q0993=
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TAF AMD EGKB 091156Z 0912/0921 21030G43KT 9999 BKN016
    TEMPO 0912/0915 21033G58KT 3000 RADZ BKN009
    PROB40 TEMPO 0912/0915 +RA
    TEMPO 0915/0918 3000 +SHRA BKN014CB
    PROB30 TEMPO 0915/0918 24035G63KT 1200 +TSRAGS
    PROB40 TEMPO 0918/0921 4000 SHRA BKN014CB=
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EGLL 091150Z AUTO 21028G44KT 9999 -RA BKN014 BKN020 OVC032 12/10 Q0990 RERA REDZ TEMPO
3000 +SHRA=
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Analysis and Investigation

UKAB Secretariat

The A320 and A380 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. The required separation was a minimum of 1000ft vertically or 3NM laterally.

NATS Ltd Investigation Report Summary

[A380 C/S] initiated a go around from Runway 27L at Heathrow and was positioned on a heading towards the BIG hold. The pilot was cleared to climb to FL80 although he read back to climb to 8000ft, which was not detected by the [Int Nth] controller. [A380 C/S] subsequently climbed to FL87. [A320 C/S] was in the BIG hold at FL90. Avoiding action was delayed due to the frequency being in use by another pilot, however it was issued to the pilots of [A380 C/S] and [A320 C/S] as soon as possible.

Summary

An Airprox was reported when an A320 and an A380 flew into proximity in the BIG hold at 1157Z on Sunday 9th February 2020. Both pilots were operating under IFR in VMC, both in receipt of a Radar Control Service from London TCC.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. Relevant

¹ SERA.3205 Proximity.

contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board noted that this Airprox occurred in the context of Storm Ciara, a powerful and long-lived windstorm that caused an estimated £1.6 billion in damage and resulted in 13 fatalities across Europe. The Board first considered ATC matters; members were briefed by a UKAB ATC adviser who stated that although the console was being operated in a non-standard configuration (with Int Nth and Int Sth cross-coupled and bandboxed) this configuration had been decided upon as the best for the day, with many aircraft going-around, holding until an abatement in weather conditions or diverting. ATC complexity was described as 'off the scale'. The Int Nth controller had vectored the A380 towards the BIG VOR hold and cleared the pilot to climb to FL80. Unfortunately, the Int Nth controller then did not detect the A380 pilot's incorrect readback (**CF3**) to climb to 8000ft (equivalent to FL88 on the day due to the low pressure caused by the anticyclone). The controller was then operating under the incorrect mental model that the A380 would level-off at FL80 (**CF1**). Shortly afterwards, STCA operated as designed (**CF5**) and the conflict was detected. However, an R/T transmission from another aircraft prevented the controller issuing immediate avoiding action (**CF2**) and standard separation could not be maintained (**CF4**). The UKAB ATC adviser noted that had the other aircraft not made an R/T transmission at that time, avoiding action would have been issued immediately and standard separation would, in all likelihood, have been maintained. As it was, the controllers were well aware of the converging traffic and were able to issue effective avoiding action. Turning to the pilots, members agreed that the A380 crew had not assimilated the instruction to climb to FL80 and had read back '8000ft' (**CF9**). Members wondered to what degree the A380 crew had been aware of the London TMA Transition Altitude (TA) of 6000ft². Consequently they had not set standard pressure setting (**CF7**) which resulted in a level-bust (**CF6, CF8**). The TCAS barrier also came in to play when the A320 crew received a TCAS Traffic Alert (**CF10**) in the course of their avoiding action turn. Members agreed that although the situation was not ideal, the level-bust and separation loss had been identified and appropriate action taken, risk C. The Board also discussed TA at length, noting that a higher TA would alleviate the issue of potential level-busts in periods of low pressure. It was noted that a low pressure system would also, by its very nature, result in the compounding effect of adverse weather conditions and consequent higher ATC workload during a period when level-bust was already more likely. Members recalled that the CAA had undertaken consultations in 2012 and 2016 to consider introduction of a harmonised TA of 18,000ft³ but that delays in the redesign of southeastern UK airspace meant that the implementation had to be delayed to Regulatory Period 3 (2020 to the end of 2024)⁴. Members expressed their hope that an appropriate and acceptable solution could be established in the near-term.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020020		
CF	Factor	Description	Amplification
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	The controller had only generic, late or no Situational Awareness
2	Human Factors	• Conflict Resolution - Provided Late	
3	Human Factors	• ATM Personnel Hear back	

² UK AIP ENR 1.7 para 4.1.

³ CAP1349.

⁴ CAP1417.

4	Human Factors	• Loss of Separation	Standard separation was not achieved
• Electronic Warning System Operation and Compliance			
5	Technical	• STCA Warning	
Flight Elements			
• Tactical Planning and Execution			
6	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
7	Human Factors	• Operation with Incorrect Altimeter Setting	
8	Human Factors	• Flight Level/Altitude Deviation (Level Bust)	
• Situational Awareness of the Conflicting Aircraft and Action			
9	Human Factors	• Flight Crew - Readback	
• Electronic Warning System Operation and Compliance			
10	Contextual	• ACAS/TCAS TA	

Degree of Risk: C.

Recommendation: Nil.

Safety Barrier Assessment⁵

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the Int Nth controller did not detect the A380 pilot's incorrect readback, leading to incorrect SA that the A380 was climbing to FL80. Other R/T resulted in late resolution of the conflict.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the A380 pilot did not assimilate the Int Nth controller's instruction to climb to FL80 and his unchallenged incorrect readback of 8000ft resulted in a climb towards FL88, eventually reaching FL87.

See and Avoid were assessed as **not used** because the separation at CPA was just under 2½NM and this barrier was not utilised.

⁵ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Airprox Barrier Assessment: 2020020		Within Controlled Airspace						
Barrier		Provision	Application	Effectiveness Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Conflicion & Action	⚠	⚠					
	Electronic Warning System Operation and Compliance	✓	✓					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Tactical Planning and Execution	✓	⚠					
	Situational Awareness of the Conflicting Aircraft & Action	✓	✓					
	Electronic Warning System Operation and Compliance	✓	✓					
	See & Avoid	✗	○					
Key:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	●				
Application	✓	⚠	✗	●		○		
Effectiveness	■	■	■	■		□		