

**AIRPROX REPORT No 2025023**

Date: 01 Mar 2025 Time: 1152Z Position: 5053N 00129W Location: 6NM SW Southampton

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	A321	G280
Operator	CAT	Civ Comm
Airspace	Portsmouth CTA	Portsmouth CTA
Class	A	A
Rules	IFR	IFR
Service	Radar Control	Radar Control
Provider	Swanwick	Swanwick
Altitude/FL	FL187	FL180
Transponder	A, C, S+	A, C, S+
<b>Reported</b>		
Colours	Company	White, Blue
Lighting	NK	Nav, Beacon, Landing
Conditions	NK	VMC
Visibility	NR	>10km
Altitude/FL	Climbing to FL230	FL140
Altimeter	SPS	SPS
Heading	NK	NK
Speed	NK	280kt
ACAS/TAS	TCAS II	TCAS II
Alert	None	None
<b>Separation at CPA</b>		
Reported	NR	Not Seen
Recorded	700ft V/3.5NM H	



**THE SWANWICK WORTHING (WOR) CONTROLLER** reports that they were working as WOR Planner. The A321 was on frequency in the vicinity of SAM and had been climbed by the Tactical [controller]. The G280 was underneath, supposedly climbing to FL150, but not on frequency. The controllers were alerted to the loss [of separation] by the flashing track data blocks. The G280 had bust its level and was showing FL17x, the A321 was not yet through FL180. The Tactical controller gave avoiding action to the A321 pilot - a hard right turn and to expedite the climb. The Tactical controller reiterated that it was avoiding action. They (the Planner) phoned TC to see if they had climbed the G280; they said they hadn't and that it wasn't on their frequency. The Tactical controller called the G280 and the aircraft WAS on the frequency; the pilot said they had checked in and taken the instruction to climb to FL180. Neither controller had heard that pilot check in.

**THE A321 SAFETY OFFICER** reports that there had been no obvious issue from their perspective, the aircraft was on a heading and did not receive a TCAS TA or RA. The aircraft was initially cleared to FL250 and, at FL160, was re-cleared to FL300, the aircraft then expedited with a higher ROC to FL230.

**THE G280 PILOT** reports that they were the PIC and also the Pilot Monitoring. They were level at approximately FL140 when they were switched over to London Control. They checked-in level at FL140 and heard climb to FL180. They read back their callsign and climb to FL180. They then climbed to FL180. A few minutes later the controller asked about their climb to FL180 and they [the pilot] said that was what they heard and also that was what they had read back to the controller. They did not know of any potential conflict.

## Factual Background

The weather at Southampton was recorded as follows:

METAR EGGH 011150Z 07005KT 010V130 9999 FEW036 09/00 Q1035=

## Analysis and Investigation

### NATS Investigation

The AC sectors 18-22 were being operated in a bandboxed configuration (WOR) with a Tactical (T) and Planner (P) in position. [A321 C/S] had departed Gatwick and was transferred to the WOR controller by TC SW, climbing to FL150 on a radar heading of 255°, in accordance with the standing agreement. The WOR sector team was also expecting [G280 C/S] to be transferred from TC SW climbing to FL150 on a radar heading in accordance with the same standing agreement.

[A321 C/S] was positioned to the north of reporting point HAZEL and was exiting the London FIR to the south through the WOR sectors, whilst [G280 C/S] was to the south of HAZEL and would be exiting the WOR sectors to the west, which required the aircraft to cross tracks.

[A321 C/S] called onto frequency with the WOR T [controller] at 1148:59 (all times UTC) and was issued climb to FL250 on initial contact. The TC SW controller transferred another aircraft, [non-Airprox aircraft], to the S18 frequency at 1149:24 and, following the pilot's readback, the TC SW controller transferred [G280 C/S] to the S20 frequency in their next transmission, at 1149:30. The pilot of [the non-Airprox aircraft] called onto the S18 frequency with the WOR T [controller] at 1150:05 and reported climbing to FL170 on a radar heading of 195°. The WOR T [controller] instructed the pilot to "*continue on the heading climb flight level one eight zero*". This instruction was read back correctly and the full callsign of [the non-Airprox aircraft] was used in all transmissions.

The WOR T [controller] issued a left turn onto a heading of 200° and climb clearance to FL300 to the pilot of [A321 C/S] at 1150:47. At this time, [A321 C/S] was passing FL154, 8.8NM to the north of [G280 C/S] which the controller was expecting on frequency imminently, climbing to FL150. [G280 C/S] however climbed above the standing agreement level at 1151:08, as [A321 C/S] was initiating the previously instructed turn, there was no deviation alert of any type shown on the AC system.

A low-level Short Term Conflict Alert (STCA) was displayed to the WOR T [controller] at 1151:52, at which time the Mode S Selected Flight Level (SFL) of [G280 C/S] was also displayed in the Track Data Block (TDB) showing FL180, however this was not immediately visible as there was garbling with an unrelated track.



Figure 1

The WOR T [controller] moved the TDB to assess the STCA activation. Coincident with this, another unrelated aircraft called onto frequency with the WOR T [controller]. Upon completion of this pilot calling onto frequency, the WOR T [controller] issued avoiding action to the pilot of [A321 C/S] to turn right onto a heading of 280° and expedite their climb to FL300 at 1152:01. At this time, the WOR P [controller] telephoned the TC SW controller to see if [G280 C/S] was still with them and was informed they were not. The pilot of [A321 C/S] read back the instruction, however, did not repeat the “avoiding action” element; the WOR T [controller] reiterated that the instruction was avoiding action.



Figure 2 - Separation minima were eroded during the avoiding action instruction, at 1152:08.

The pilot of an unrelated aircraft, [A319 C/S], called onto frequency and was responded to by the WOR T [controller], minimum separation occurred during this R/T exchange. Minimum separation occurred at 1152:28 and was recorded on the Multi-track system as 3.5NM and 700ft where 5NM or 1000ft were required.

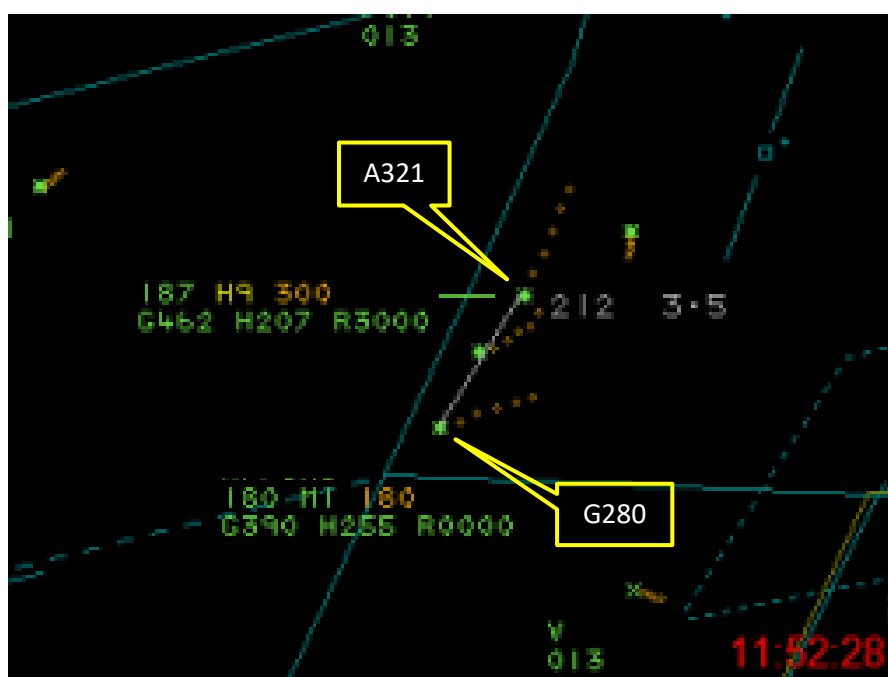


Figure 3 - CPA

Vertical separation was restored during the readback by the unrelated pilot, at 1152:32. Upon completion of the readback, the WOR T [controller] called the pilot of [G280 C/S] who responded and stated that they read back their clearance to climb to FL180 which was issued when they checked in on frequency. The pilot of [A321 C/S] reported that they had the traffic in sight and were clear, the controller acknowledged and released the pilot on their own navigation to LORKU.

## Investigation

Information available to the investigation included:

- CA4114 from the S18-22 Tactical (WOR T) controller
- CA4114 from S18-22 Planner (WOR P) controller
- NATS4118 Initial Watch Management Investigation Report
- Interview with the WOR T [controller]
- Airprox report from the pilot of [G280 C/S]

Sectors 18-22 were being operated in a bandboxed configuration with the frequencies cross-coupled. The Traffic Load Prediction Device (TLPD) showed that the expected traffic levels were below the sector Monitor Value and the sector bandbox was appropriate.

[A321 C/S] and [non-Airprox aircraft] were successive departures from Gatwick; [G280 C/S] departed Farnborough shortly after. All three aircraft were transferred to the AC WOR T [controller] from the TC SW controller, [A321 C/S] and [G280 C/S] were placed on parallel headings of 255° and climbed to FL150 before transfer to the S20 frequency of 129.430MHz, whilst [non-airprox aircraft] was placed on a heading of 195° and climbed to FL170 before being transferred to the S18 frequency of 135.050MHz. [Non-airprox aircraft] and [G280 C/S] were transferred in consecutive instructions by the TC SW controller.

## Call Blocking

The deskside recording of the R/T at the WOR T [controller]'s workstation as the controller would have heard, showed that the pilot of [non-airprox aircraft] called onto frequency at 1150:05, the WOR T [controller] responded with "[full C/S] *roger, continue with the heading, climb flight level one eight zero*" and a clear and correct readback of "*on the heading climb flight level one eight zero* [full C/S]". There was a slight noise at the end of the readback by the pilot, however, this was consistent with the noise occasionally produced at the pressing/releasing of a 'Press to Transmit' switch, there was no clear indication of a possible crossed transmission.

The individual recording of the S18 frequency indicated the pilot of [non-airprox aircraft] calling onto frequency and the controller response as per the deskside recording, with the exception of the slight noise at the conclusion of the pilot's clearance readback, which was not present.

The individual recording of the S20 frequency indicated that the initial transmissions were the same, however, there was some interference indicating a possible crossed transmission; this interference ended whilst the WOR T [controller] said the word "*roger*". The response to the controller's clearance was "*one eight zero, [partial G280 C/S]*", there was again some interference during the pilot's readback.

Call blocking is highlighted in LAC MATS Pt.2 Gen 7.3.1.3, which stated:

Call Blocking is generally associated with cross-coupled operations and takes place when a simultaneous transmission occurs across two cross-coupled frequencies. The controller may be unaware of the second transmission, especially if it lies totally within the duration of the first.

The use of cross-coupled frequencies increases the likelihood of aircraft transmissions being blocked. When operating RTF frequencies cross-coupled, controllers are to ensure that special attention is paid to RTF discipline.

As the desktide recording showed no clear indication of a possible crossed transmission, and a clear and correct readback was obtained, the controller did not have the opportunity to realise that the climb instruction had also been taken by the incorrect pilot.

The pilot of [G280 C/S] believed that they had been cleared to climb to FL180 and, due to the desktide call blocking, there was no challenge by the controller. The Airprox report submitted by the pilot of [G280 C/S] stated 'when we were switched over to London Control. I checked in Level at 140 and heard climb to FL180. I read back our call sign and climb to FL 180. We then climbed to FL 180. A few minutes later the controller asked about our climb to FL180 and I said that is what I heard and also that was what I had read back [to them]. I did not know of any potential conflict.' It is not possible to determine from the RT recordings which part of the controller instruction was received by the pilot of [G280 C/S], however, they either responded to an instruction that was not for them or one which did not contain a callsign.

### Loss of Separation & Recovery

STCA activated at 1151:52 and drew the WOR T [controller] attention to the confliction. As the controller was assimilating the information displayed to them, the pilot of an unrelated aircraft, [A319 C/S], called onto frequency. The WOR T [controller] did not respond to the pilot of [A319 C/S] and instead prioritised an avoiding action heading and expedite climb instruction to the pilot of [A321 C/S] at the first available opportunity, timed at 1152:01. The controller also emphasised that this was avoiding action following the pilot's incomplete readback.

During interview, the controller detailed that they had been expecting [A319 C/S] on frequency earlier. As such, when the pilot called onto frequency again, after the avoiding action instruction to the pilot of [A321 C/S], they issued a heading and climb instruction as it had now become time critical. At this time a 'ROUTE' deviation alert was displayed on line 0 of the TDB showing the aircraft was more than 4NM from the predicted route. RT recordings also showed that the controller had earlier called the pilot of [A319 C/S] in an attempt to establish communication.

Separation minima were regained at 1152:32, during the pilot of [A319 C/S]'s readback of the turn and climb clearance. The WOR T [controller] then called the pilot of [G280 C/S] in order to establish communication and the pilot responded. The WOR T [controller] stated during interview that they did not give Avoiding Action or Traffic Information to the pilot of [G280 C/S] as separation had been restored when they discovered that the aircraft was on frequency. They also stated that the pilot of [A321 C/S] called that they had the traffic in sight and therefore Traffic Information was not necessary.

### Conclusions

#### Causal Factors

- Sectors 18-22 were being operated in a bandboxed configuration with the frequencies cross coupled.
- The pilot of [non-Airprox aircraft] called onto the S18 frequency at the same time as the pilot of [G280 C/S] called onto the S20 frequency. Due to the NATS RT system design, the WOR T controller was not able to detect a simultaneous transmission and issued a clearance to the pilot of [the non-Airprox aircraft].
- The pilot of [non-Airprox aircraft] provided a full and correct readback whilst the pilot of [G280 C/S] incorrectly responded to the same transmission. The controller was only able to hear the readback from the pilot of [non-Airprox aircraft] due to the RT system.
- When the controller observed the STCA activation they issued avoiding action to the pilot of [A321 C/S] in both the lateral and vertical planes, the expedited climb effectively resolved the situation.

## UKAB Secretariat

The A321 and G280 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>1</sup>

### Summary

An Airprox was reported when an A321 and a G280 flew into proximity 6NM southwest of Southampton at 1152Z on Saturday 1<sup>st</sup> March 2025. The A321 pilot was operating under IFR in unknown flight conditions in receipt of a Radar Control Service from Swanwick and the G280 pilot was operating under IFR in VMC in receipt of a Radar Control Service from Swanwick.

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

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

The Board first looked at the role that ATC had to play in the Airprox. The 18-22 sectors had been banded and, accordingly, the 5 frequencies associated with those sectors had been cross-coupled. The Board was told by controlling members that bandboxing was standard practice throughout ATC when traffic levels were low and that the use of cross-coupling of the frequencies allowed pilots that were actually on different frequencies to hear one another's calls; working in this way reduced the likelihood of pilots transmitting at the same time and made RT discipline easier. Nevertheless, a known problem with cross-coupling was that if two pilots transmitted at exactly the same time, and for the same length of time, it was possible for one call to be completely covered by another. This had been the situation on this occasion; the TC sector had sent over two aircraft, one after the other – again controlling members confirmed that this was normal practice – and both pilots had checked in on different frequencies at the same time. The Board agreed that the WOR controller had only heard the pilot of the non-Airprox aircraft, and the G280 pilot's call had been completely obscured (**CF9**). The controller had then issued a climb clearance to the non-Airprox aircraft, using their full callsign, which had been heard and read back by both the pilot it had been meant for and the G280 pilot, again with the G280 pilot's transmission blocked to the controller by the equipment. Members discussed whether there was an alternative to the cross-coupling of the frequencies, perhaps by having all pilots on the same frequency, but were told that keeping aircraft on the correct frequency for each sector ensured that the correct transmitters were used, as the transmitters were optimized for each frequency according to the area within which RT coverage was needed. Disregarding this could result in aircraft moving out of range of a transmitter and losing RT contact.

Having not heard the G280 pilot's transmission, the controller had then been unaware that the G280 pilot had been on their frequency at all, and certainly had not been aware that the pilot had started to climb (**CF2**). The Board was told that normally, once a pilot checked-in on frequency, the controller 'in-comm'd' the aircraft - acknowledged on the equipment that the aircraft was in communication with them. This action would change the colour of the aircraft's data-block as it appeared on their radar screen, making it easier for controllers to see the aircraft they are controlling. As far as the controller had been aware, the G280 had not been on frequency and this meant that the data-block for the G280 had not been changed to green, the normal colour for an 'in-comm'd' aircraft, thus not highlighted to the controller. To compound matters, the data-block had been obscured to the controller by another aircraft's data-block (**CF1**). Controlling members noted that if a pilot climbed without a clearance, they would usually notice the change in the cleared level on the data-block but, due to the obscuration and the colour, the controller had not noticed that the G280 pilot had changed their level and had begun to climb (**CF3**). Fortunately, the controller had been warned about the situation by the STCA; this had prompted the controller to move the data-blocks around on the radar screen and had alerted them to the G280's climb (**CF4**). The controller had still not been aware that the G280 pilot had been on their frequency, so they issued avoiding action to the A321 pilot, which had to be repeated due to an incorrect readback,

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<sup>1</sup> (UK) SERA.3205 Proximity.



and they then called the TC controller to see whether the G280 pilot had still been on the previous frequency. Fortunately, the avoiding action issued had quickly restored the separation required and shortly afterwards the controller called the G280 pilot on their frequency and established contact.

Turning to the actions of the A321 pilot, they had been unaware of the Airprox and had not remembered the circumstances. Members briefly discussed that the controller had needed to pass the avoiding action twice, but those members with CAT experience explained that receiving avoiding action was an unusual event and would require the crew to decouple the autopilot in order to make the turn. Members did not think that the time taken to relay the avoiding action a second time had caused any material effect on the separation and so did not think it had been a contributory factor.

Turning to the actions of the G280 pilot, they had been sent across to the WOR frequency and had checked-in as normal. The WOR controller had issued a climb for the other aircraft that had also just checked-in, using their full callsign, which had not been similar to that of the G280's, so members were perplexed as to why the G280 pilot would have taken that clearance to climb to be for them (**CF5, CF7**). Some members opined that this incident highlighted the need for RT discipline, noting that, after changing frequency, pilots should take a moment before transmitting to make sure other pilots aren't already transmitting. Members thought that the G280 crew had not been paying close enough attention to what the controller had been saying, otherwise they would have realised that the climb instruction had not been for them (**CF6, CF8**). Although the pilot had read back the incorrect clearance to climb, this transmission had also been blocked by the other pilot reading back their clearance because both transmissions had been the same length in time, so the controller had not corrected the G280 pilot, and they had climbed, oblivious to the problem, until the controller had questioned them about the climb some time later.

When determining the risk, members considered the reports from the pilots and controller involved, together with the NATS investigation and the radar screenshots. Although the controller had not initially been aware that the G280 pilot had incorrectly climbed, once the STCA had highlighted the problem to them they had taken swift action to rectify the situation. As a consequence, although standard separation of 5NM or 1000ft had not been maintained, the radar CPA had been 3.5NM and 700ft and so members agreed that there had not been a risk of collision. However, they had agreed that the situation, with the G280 pilot climbing without a clearance, had meant that safety had been degraded; Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### **Contributory Factors:**

	2025023			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	<b>Ground Elements</b>			
	<b>• Situational Awareness and Action</b>			
1	Human Factors	• Conflict Detection - Detected Late	An event involving the late detection of a conflict between aircraft	
2	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
3	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	<b>• Electronic Warning System Operation and Compliance</b>			
4	Technical	• STCA Warning	An event involving the triggering of a Short Term Conflict Alert (STCA) Warning	
	<b>Flight Elements</b>			
	<b>• Regulations, Processes, Procedures and Compliance</b>			
5	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	<b>• Tactical Planning and Execution</b>			

6	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
• Situational Awareness of the Conflicting Aircraft and Action				
7	Human Factors	• Flight crew response to communications	An event related to the flight crew taking the incorrect action following communication	
8	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	
• Any other events				
9		• Any other event	Any other event not listed elsewhere within the event types list.	Call-blocking occurred due to cross-coupling

Degree of Risk: C.

### Safety Barrier Assessment<sup>2</sup>

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 Conflicting Aircraft and Action** were assessed as **partially effective** because the controller had not been aware that the G280 pilot had checked in on their frequency and that the pilot had reacted to a clearance to climb given to another aircraft. Furthermore, the controller could not see the G280 climb due to the overlapping data-blocks.

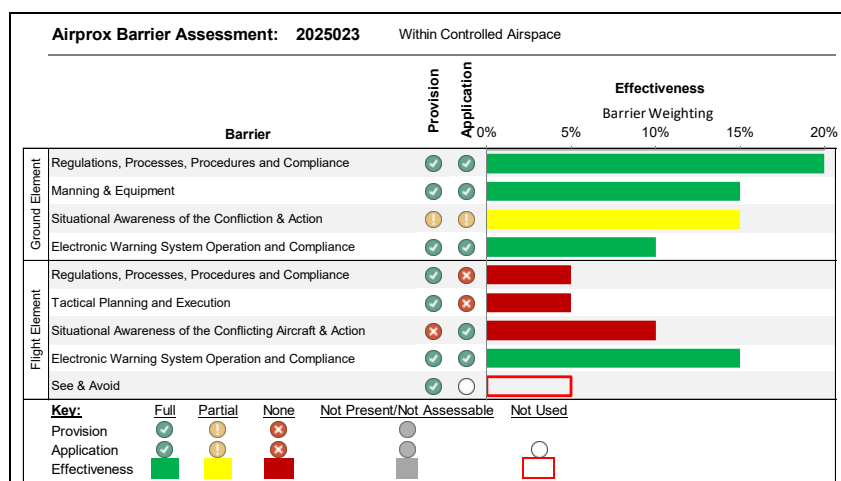
#### Flight Elements:

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the G280 pilot had climbed in response to a clearance for another aircraft.

**Tactical Planning and Execution** was assessed as **ineffective** because the G280 pilot had climbed in response to a clearance to another aircraft and had not maintained their cleared level.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the G280 pilot had not been monitoring the frequency sufficiently in order to have realised that the clearance to climb had not been for them.

**See and Avoid** were assessed as **not used** because ATC took action to regain standard separation before see and avoid became necessary.



<sup>2</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).