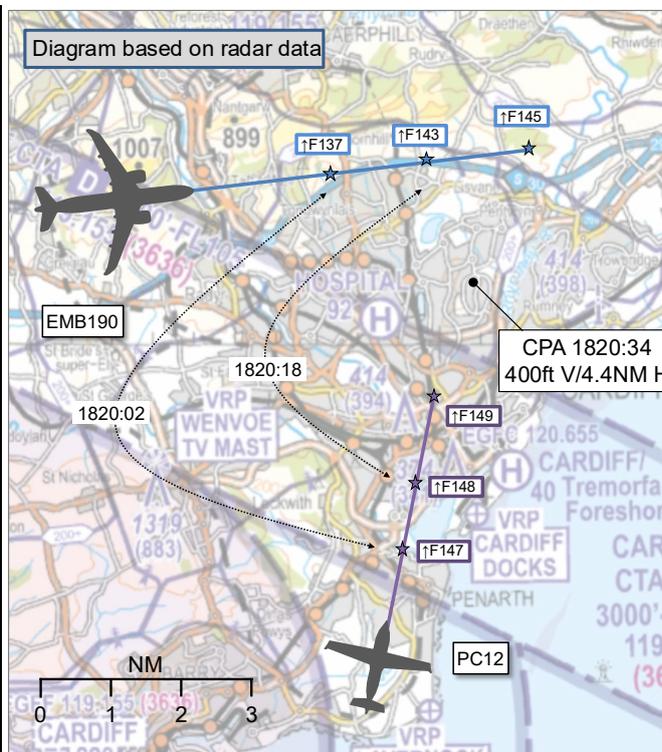


**AIRPROX REPORT No 2025206**

Date: 13 Sep 2025 Time: 1821Z Position: 5132N 00309W Location: Cardiff

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	EMB190	PC12
Operator	CAT	Civ Comm
Airspace	Cotswold CTA	Cotswold CTA
Class	A	A
Rules	IFR	IFR
Service	Radar Control	Radar Control
Provider	London Control	Cardiff Radar
Altitude/FL	FL145	FL149
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours		Orange, Blue
Lighting		Nav, Beacon, Strobes
Conditions		VMC
Visibility		>10km
Altitude/FL	NR	Climbing to FL150
Altimeter		SPS
Heading		360°
Speed		NK
ACAS/TAS		TCAS II
Alert		None
	<b>Separation at CPA</b>	
Reported	NK	NK
Recorded	400ft V/4.4NM H	



**THE LONDON WEST TACTICAL CONTROLLER** reports that they were acting as West Tac when Cardiff transferred [EMB190 C/S] climbing to FL150 within the delegated function, in close proximity to [PC12 C/S] level at FL150 (still on Cardiff's frequency). When passing approximately FL136, the controller asked the [EMB190 pilot] to stop climb at FL140 and put them on a heading of approximately 060°. The pilot advised that they could not stop climb at FL140 and had passed through the level. Due to the West scale at the time, they placed range and bearing on to confirm their own instinct [that separation might be lost]. They revised the left turn to an avoiding action turn heading 050° and the range and bearing indicated a loss of separation (LoS) at 4NM. They advised that the traffic was on the right-hand side of the aircraft, maintaining FL150. The EMB190 stopped climb at FL144. The pilot subsequently questioned whether they should descend to FL140 or continue the climb. As 5NM at this point was established, the controller advised that they could continue the climb to FL190.

**THE LONDON WEST PLANNER** reports that, as the West Planner, the first they heard of this incident was the Tactical controller questioning why Cardiff had transferred the [EMB 190], as it was climbing to FL150 underneath a PC12 also at FL150, but still in contact with Cardiff. The Tactical controller asked the [EMB190 pilot] to stop climb FL140. The pilot responded that they had already passed FL140 but then seemed to level at around FL144. The Tactical controller issued avoiding action to the left to which the pilot responded positively. There was no conflict alert. [The Planner] made no attempt to phone Cardiff afterwards as they had several tasks needing to be dealt with and they were not prepared to get into a conversation with [Cardiff] regarding the reasons for the incident.

**THE EMB190 PILOT** did not submit a report.

**THE PC12 PILOT** reports that they were advised of an Airprox on 13<sup>th</sup> September at the given location. They were departing from Cardiff at the time, under radar vectors, before being released enroute to

point LEKCI. Based on the location given, they believed their heading was 360° and their altitude/Flight Level would have been somewhere below the cruise on the flight, which was FL150. They were not aware of anything at the time, other than ops normal.

**THE CARDIFF CONTROLLER** reports that the [PC12 C/S] and [EMB190] were both outbound on the BCN1A departure going eastbound to LEKCI. The PC12 was the slower traffic and was initially routed southbound to clear space for the faster [EMB190] departing behind. Both aircraft climbed to FL150 and [the PC12 pilot] informed [the controller] that this was their final requested level. Once the traffic appeared to have enough miles in trail, [the PC12] was turned northbound to file in behind the [EMB190]. [The EMB190] was passed over to Sector 23 (S23) London Control passing FL130 climbing to FL150. Meanwhile, [the PC12] had since levelled off at FL150 and increased speed, eroding the intended separation between the two aircraft. The [EMB190] was seen on radar taking a left turn away from LEKCI and it was only at this point they realised that, with the [the EMB190] passing through FL143, the separation was only 4.5NM - less than the prescribed minima for the London sectors. [The PC12 pilot] was given a left turn to pass further behind the [EMB190] but separation had already been lost.

## Factual Background

The weather at Cardiff was recorded as follows:

METAR EGFF 131820Z AUTO 26010KT 9999 -RA FEW028 SCT035 BKN043 14/10 Q1009=

## Analysis and Investigation

### UKAB Secretariat

The EMB190 and PC12 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>

### Cardiff Occurrence Investigation

At the time of this event, the Radar controller was working light traffic in the “boxed” configuration. Cardiff was operating on RW30. Also on frequency were a Bristol departure and a Bristol arrival, but they had no bearing on the incident. When interviewed, the controller stated that they were not fatigued, nor distracted.

[PC12 C/S] was released on a RW30 BCN1A departure from Cardiff and became airborne at 1812:20. Following this, the Tower controller called to say that the [EMB190 C/S] was lined up behind, to which the Radar controller replied '*I'll do what I can*'. On first contact, the Radar controller checked that the aircraft was not operating a CAT A medical flight, which they were not. [The PC12] was then instructed “[C/S] *it will be a left turn initially heading 120°*”. This heading took [PC12 C/S] towards the south of the field. After this, the PC12 was climbed to FL100. Due to a similar routing and the (assumed) speed difference between the two aircraft, the controller’s plan was to turn [the PC12] off the SID to get it out of the way of the following [EMB190]. The PC12 was then to be positioned behind the faster EMB190.

[The EMB 190] was released straight ahead to 3000ft at 1813:58 and was airborne at 1815:20; at this time [the PC12] was south abeam the field, climbing to FL150. [The EMB190 pilot] checked in on frequency and was also given a climb to FL150. [The PC12 pilot] advised that they wanted to cruise at FL150, their original planned level was FL190. Shortly after passing 3000ft, the EMB190 was turned right heading 060°. The PC12 was turned left heading 360°, at the time it was approximately 6NM southeast of Cardiff and the EMB190 was still on the climbout at 4NM northwest of Cardiff.

---

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

In the turn, the EMB190 pilot was instructed to “*resume own navigation direct LEKCF*”. At 1819:32 [the EMB190 pilot] was transferred to S23 as it climbed through FL125. The controller assumed that the pilot would be given higher by LACC before [the PC12] was transferred, also forgetting that the minimum separation required by LACC was 5NM. At this point, [the PC12] was to the south-southeast of [the EMB190], 8NM away at FL145. The PC12 had significantly increased speed as they started to level off. The controller stated that they had previously worked this aircraft on its inbound leg and had found it to be both slow to descend and slow in the cruise. This speed assumption had formed part of the controller’s plan.

The Mode S labels were displayed and the indicated speed of the PC12 in the climb was 150kt. [The EMB190] was indicating 250kt. As they converged, the controller checked the vector lines and from these it was evident that the PC12 would pass behind the EMB190, although the expected distance was not measured electronically. The PC12 was to the south-southeast of the EMB190, 8NM away at FL145 and had started to level out. The indicated speed on Mode S was now 185kt and increasing. The vector lines were checked again and there was also perhaps 10-15° of easterly drift.

Electronic range and bearing marker (ERBM) was used at 1820:12 and showed 5.3NM with expected separation in 33sec of 4.2NM. The ERBM was then turned off. No action was taken and this was checked again at 1820:28. It showed 4.5NM, decreasing to a minimum of 4.1NM, at which point the controller instructed “[PC12 C/S] *turn left heading 350 degrees*”, which was a 10° turn.

The EMB190 had stopped the climb at FL144 due to an attempt by the S23 controller (according to their MOR) to stop it at FL140, that unfortunately could not be met in time. [The EMB190] was also seen to take a left turn to route northeast, which was avoiding action issued by the S23 controller.

The Cardiff controller noted in their report that it was only as [the EMB190] was seen to turn left that they realised that ‘with the [EMB190] passing through FL143, the separation was only 4.5NM - less than the prescribed minima for the London sectors’. It was not clear to the investigator from the replays if the ATCO believed that the EMB190 had already left FL150, climbing slower than anticipated, or if they initially forgot about the 5NM separation requirement for LACC until they saw the turn.

Separation was lost at 1820:18

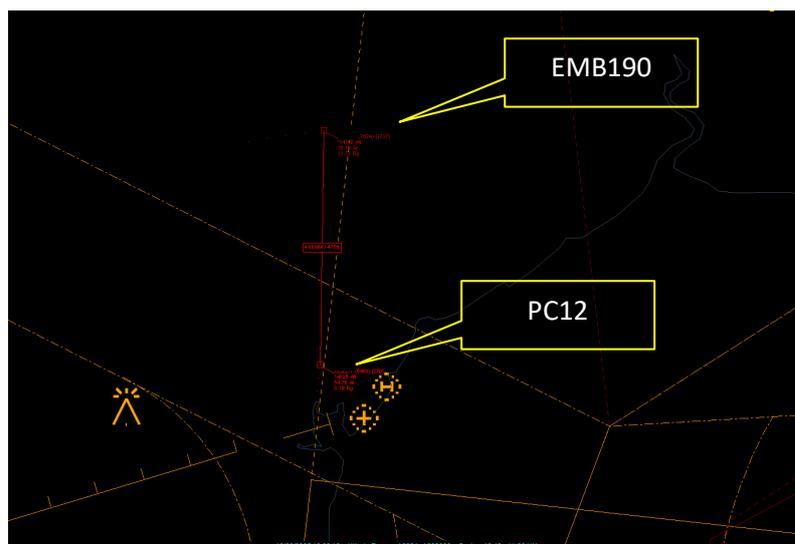


Figure 1 – Separation 4.8NM

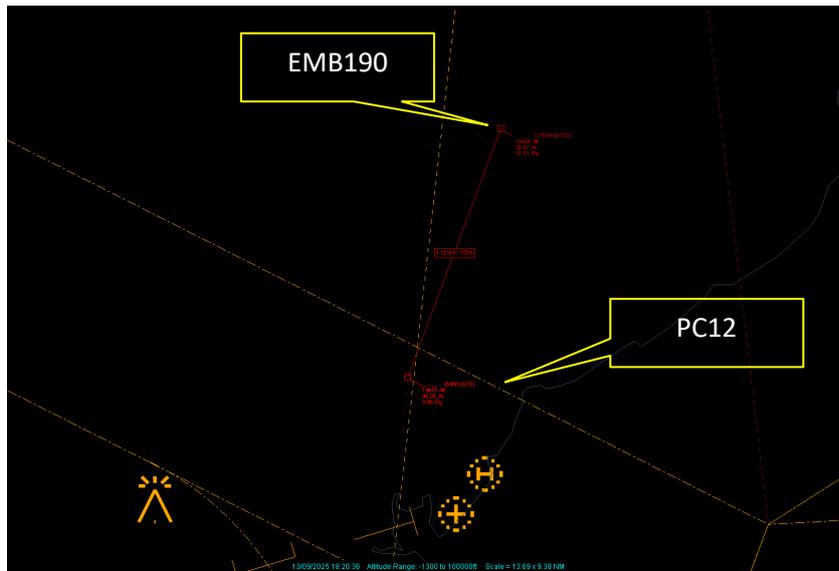


Figure 2 – 1820:36 Separation 4.32NM and 550ft

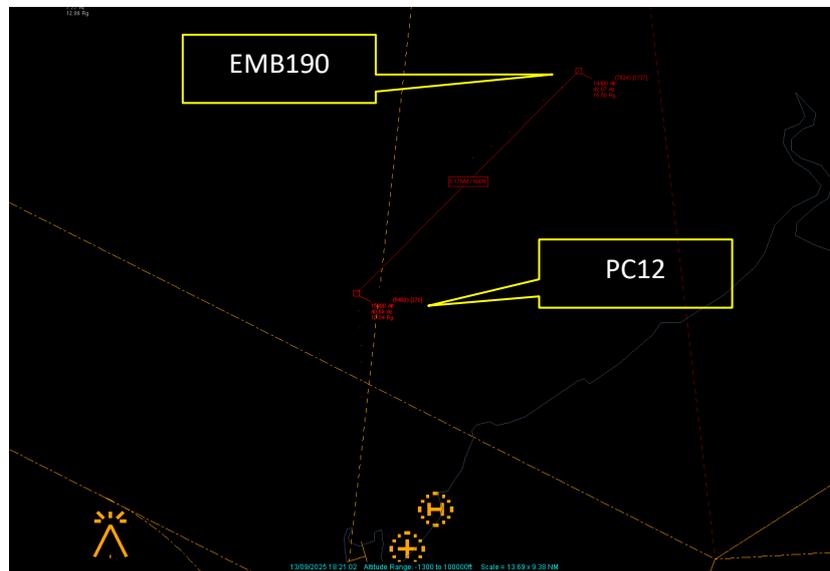


Figure 3 – Standard Separation regained at 1821:02

STCA did not alert on Cardiff Radar as 3NM is allowable by Cardiff ATC. No avoiding action or Traffic Information was issued by the Cardiff controller. At approximately 1821:20, when the LACC controller had assured that separation was regained, they instructed [the EMB190 pilot] to climb to FL190. [The PC12] was observed on the Cardiff radar recording to turn back onto an easterly heading at approximately 1822:25, with [the PC12] 10.36NM behind and 1750ft below. At 1823:37 the Cardiff Radar controller transferred [the PC12 pilot] to LACC 13NM in trail to [the EMB190].

No coordination took place with S23 during the event. The S23 controller advised in their report that there were other tasks that needed to be dealt with. It was the GS West that later advised of the LoS.

### Summary

An Airprox was reported when an EMB190 and a PC12 flew into proximity in the vicinity of Cardiff at 1821Z on Saturday 13<sup>th</sup> September 2025. The EMB190 pilot was operating under IFR in unknown meteorological conditions in receipt of a Radar Control Service from London West, and the PC12 pilot was operating under IFR in VMC in receipt of a Radar Control Service from Cardiff Radar.

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

Information available consisted of reports from the PC12 pilot, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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 actions of the Cardiff controller. Controlling members noted that this whole incident had begun with the Tower controller lining-up a jet immediately behind the turbo-prop with both aircraft requiring routing towards the same point. As a result, the Radar controller had been under pressure to deconflict the two aircraft from the start. Members agreed that the Radar controller's first plan to send the PC12 to the south of the airfield and the EMB190 to the north had been sound, but that once both aircraft had been established in the climb, the controller needed to continually reassess to check the progress. Members noted that the Cardiff investigation found that, whilst the controller used their ERBM tool to check the predicted separation, they had not assimilated that standard separation between the aircraft was going to be lost, with a memory lapse that 5NM separation was required for aircraft going to London Control, not the usual 3NM that would be required for Cardiff's own traffic (**CF4**). Consequently, when the controller had seen from the tool that 4.5NM would be achieved, they had not deemed it to be a problem. Controlling members expressed surprise at this lapse, noting that there was a standing agreement between Cardiff and LACC and this should have been routine for the Cardiff controller. They also noted that the controller had reported being surprised by the PC12's climb rate and speed, but again thought that the controller should have expected that the PC12 would speed up once level. Members opined that the Cardiff controller could have easily resolved the situation even before the two aircraft were on frequency by calling for co-ordination and negotiating a different joining level for either aircraft. Members therefore agreed that the Cardiff controller's instructions had contributed to the Airprox (**CF6**) and that, in allowing the LoS, they had not complied with procedures (**CF1**). It had not been until the S23 controller had issued avoiding action to the EMB190 that the Cardiff controller had realised that there had been an issue, at which point the Cardiff controller also gave a turn to the PC12 pilot, however, standard separation had already been eroded (**CF5**).

The Board then discussed the actions of the S23 controller. Members were first told that the separation standard required at all times for LACC aircraft is 5NM for those at the same level, or 1000ft vertical separation. This had been required even if both pilots had been under the control of the same controller. Members agreed that the S23 controller had been presented with a situation whereby the first aircraft had been sent over to their frequency, and the second had been expected at the same level, but the controller had immediately realised that the 5NM separation standard had been likely to have been broken (**CF2**). They attempted to stop the EMB190 at FL140, which would have given them the required 1000ft vertical separation from the PC12, and would have meant that 5NM would not have been necessary. Unfortunately, the pilot had reported that they had already passed FL144, so the controller immediately gave avoiding action to increase the lateral separation, however, by this stage it had been too late to stop the loss of standard separation (**CF3, CF5**). Nevertheless, members noted that the S23 controller had been presented with a situation not of their own making and they thought that the controller should be commended for acting quickly to ensure the situation had not degraded further.

Briefly looking at the actions of both pilots, the Board agreed that in all probability neither pilot had been aware of the LoS at the time of the event. However, members were disappointed that the EMB190 pilot had not submitted a report, because without it, it was not possible to identify whether the pilot had been aware of the position of the PC12 when the S23 controller had issued avoiding action. Both aircraft had departed from the same airfield and so the pilots would probably have had a generic situational awareness about each other, although they may not necessarily have been aware that standard separation had not been achieved (**CF7**) especially given that the separation had been outside the parameters of a TCAS alert. Indeed, members noted that the situation had been entirely controller-derived and agreed that the pilots may not even have been aware of what the required separation standard had been in that area.

When determining the risk of the Airprox, members considered the reports from the PC12 pilot and those of the two controllers, together with the radar replay. Members quickly agreed that there had been no risk of collision with this encounter and some members opined that with slightly more than 4NM

separation, it had been normal operations. However, others thought that with the separation standard for the controllers being 5NM, and less than that achieved, normal safety standards had not pertained; members therefore agreed on a risk category C.

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

### Contributory Factors:

	2025206			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Regulations, Processes, Procedures and Compliance</b>				
1	Human Factors	• ATM Regulatory Deviation	An event involving a deviation from an Air Traffic Management Regulation.	Regulations and/or procedures not fully complied with
<b>• Situational Awareness and Action</b>				
2	Human Factors	• Conflict Detection - Detected Late	An event involving the late detection of a conflict between aircraft	
3	Human Factors	• Conflict Resolution - Provided Late	An event involving the late provision of conflict resolution	
4	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	
5	Human Factors	• Separation Provision	An event involving Air Navigation Services separation provision.	
6	Human Factors	• Traffic Management Information Provision	An event involving traffic management information provision	The ANS instructions contributed to the Airprox
<b>Flight Elements</b>				
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
7	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness

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:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the Cardiff controller had not achieved the required 5NM separation between the PC12 on their frequency and the EMB190 that had been sent over to the S23 frequency.

**Situational Awareness of the Confliction and Action** were assessed as **partially effective** because the Cardiff controller had detected late that they were not going to maintain the required 5NM separation. The S23 controller had been expecting that the Cardiff controller would ensure the required separation was maintained.

#### **Flight Elements:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because both pilots had only generic situational awareness about the other aircraft from the Cardiff frequency.

<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](#).

**See and Avoid** were assessed as **not used** because both pilots were receiving a Radar Control Service.

<b>Airprox Barrier Assessment: 2025206</b>		Within Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				<b>Barrier Weighting</b>				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✗					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Confiction & 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	✗	○					
<b>Key:</b>		<b>Full</b>	<b>Partial</b>	<b>None</b>	<b>Not Present/Not Assessable</b>	<b>Not Used</b>		
Provision	✓	⚠	✗	●	○			
Application	✓	⚠	✗	●	○			
Effectiveness								