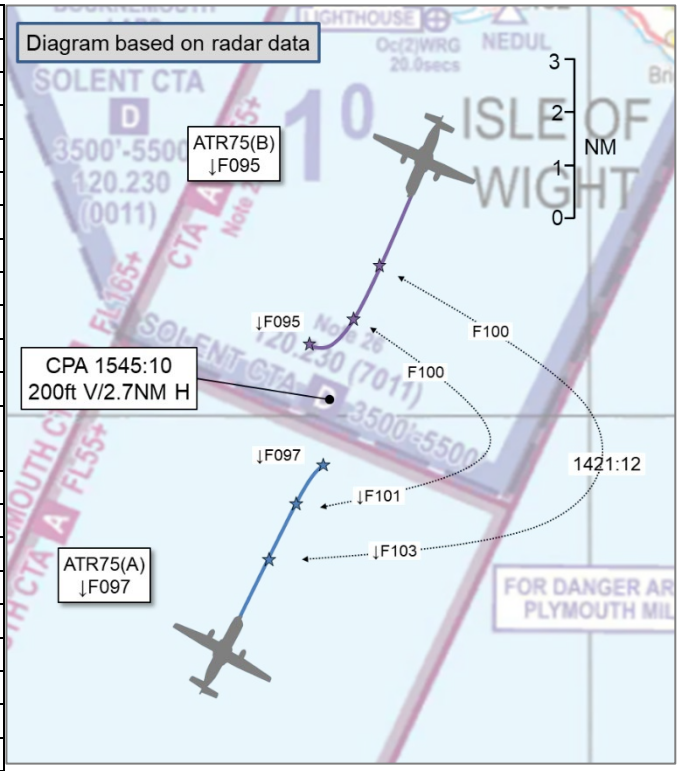
AIRPROX REPORT No 2022033

Date: 20 Mar 2022 Time: 1545Z Position: 5030N 00139W Location: IVO THRED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ATR75(A)	ATR75(B)
Operator	CAT	CAT
Airspace	Airway N63	Airway N63
Class	A	A
Rules	IFR	IFR
Service	Radar Control	Radar Control
Provider	Solent	Swanwick
Altitude/FL	FL097	FL095
Transponder	A, C, S+	A, C, S+
Reported		
Colours	White, Blue	White, blue
Lighting	Nav	Nav, Anti-cols, Landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	FL105	FL100
Altimeter	1013hPa	1013hPa
Heading	025°	180°
Speed	240kt	240kt
ACAS/TAS	TCAS II	TCAS I
Alert	RA	TA
Separation at CPA		
Reported	NK	Not seen
Recorded	200ft V/2.7NM H	



THE ATR75(A) PILOT reports that they were at FL110 and cleared by Solent Radar to route direct BAMTU for the RNP approach to RW02 and to descend to FL70. The PF (Captain under line training) entered the waypoint and initiated the descent. They noted and alerted the PF to traffic on the instruments approaching from below which was indicating -500 and closing, at this point ATC gave an urgent instruction to turn right heading 090° 'avoiding action'. As they started the turn they received a 'Traffic' alert followed immediately by a TCAS RA to 'Descend' with 'descend crossing descend' actioned by the PF while they made the TCAS RA call to ATC. They saw the opposing aircraft pass to their left and slightly above from their perspective in the turn, but due to their seating position in the right seat could not estimate the proximity of the other aircraft. They did not hear the other aircraft on their frequency at any time. Once clear of the conflict they were re-cleared by Southampton to continue descent to altitude 4000ft, direct to BAMTU. It later transpired that the opposing aircraft was actually a company aircraft routing opposite direction working the London frequency at FL100.

The pilot assessed the risk of collision as 'High'.

THE ATR75(B) PILOT reports that they were on a scheduled commercial flight. Whilst in the cruise at FL100, approximately 30NM south of EGHI, London ATC instructed them to turn immediately right on to a heading of 270° for avoiding action. As the aircraft was in the turn the TCAS gave a TA, this was immediately followed by London telling them to descend to FL80. The pilot, as commander and PF did not see the other aircraft at any time before, during or after the event. They asked London what had happened and were informed that the opposite company aircraft had been cleared to the same level or to pass through their level by Solent, but that Solent had not informed London. The weather conditions were good, sunny and the sun against them but VMC. The TCAS/VSI display was very dim and difficult to see, however the F/O's TCAS was working correctly and they had seen the aircraft approximately 1000ft above not long before the Airprox occurred.

The pilot assessed the risk of collision as 'High'.

THE SOUTHAMTON CONTROLLER reports that ATR75(B) had been transferred to Swanwick S21 climbing to FL100. ATR75(A) called on frequency inbound to THRED at FL110, the crew requested RW02. The runway in use was RW20 but another aircraft had requested RW02 for departure, despite the wind being southerly at 6kts. The controller was considering giving the pilots of both aircraft RW02, however had to consider a third aircraft which was expecting to use RW20. They decided to use RW02 and told the crew of ATR75(A) to keep best speed for RW02. They then completed the checklist for RW02 and on completing this gave ATR75(A) a descent to FL070. The Swanwick S21 controller called shortly afterwards and as the controller answered the call they saw the two ATR75s approaching each other. They immediately gave avoiding action to turn right onto 090° to ATR75(A). They then told the S21 controller what they had done. This was followed by ATR75(A) pilot reporting an TCAS RA. The controller acknowledged and asked the pilot to report the manoeuvre complete, once they reported complete the controller turned them onto 360°.

THE SWANWICK SECTOR 21 CONTROLLER reports that as the S18/19/20/21/22 tactical [controller] they transferred ATR75(A), at FL110, to Solent early to enable them to get the level change between this inbound and their outbound which was climbing to FL100. A few moments later they [Solent] transferred the outbound to S21 effectively stopping themselves from being able to do this. When the aircraft were approximately 8NM apart (and head-on) the separation monitor showed a red interaction and they noticed that the inbound had left FL110 in the descent. They immediately issued avoiding action, right onto 270° and followed this up with a descent to FL080 because the aircraft were in such close proximity, and then gave Traffic Information. The pilot quickly initiated the turn and separation was regained within 20-30sec.

THE SWANWICK SECTOR 21 PLANNER reports that S21 Tac transferred ATR75(A) to Solent Radar as per coordination at FL110. Almost simultaneously Solent transferred the outbound ATR75(B) to the Tac controller at FL100. A couple of minutes later they noticed a red interaction in the separation monitor and saw the ATR75(A) descending, range about 8-10NM from ATR75(B). They pointed it out to the Tac controller, who had seen it at the same time and commenced avoiding action. They then phoned Solent who appeared to have realised the issue as they answered the phone. Both sets of avoiding action appeared to work well, but there was not enough time to avoid losing standard separation.

THE SWANWICK GROUP SUPERVISOR reports that the Sectors were configured appropriately with SFD Hurn operating with a Tactical and a Planner controller in light-to-moderate traffic levels. At around 1544 they heard the Hurn Tactical Controller state 'we've got a Loss of Separation here'. They monitored the radar display and could see the red STCA event occurring at point THRED between two ATR75 aircraft. They made brief contact with the Sector team to acknowledge the incident, then immediately paged two controllers to relieve the Sector team. Both controllers were relieved with 2-3 minutes of the incident and after checking on their wellbeing, incident reports were requested. Initial investigations from the controllers suggested that the Solent controller had descended ATR75(A) through the level of ATR75(B) without any form of separation.

Factual Background

The weather at Southampton was recorded as follows:

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1520 13005kt 070v190 9999 FEW042 11/00 Q1026
1550 170/04kt 100v210 9999 FEW042 11/M01 Q1026
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Analysis and Investigation

NATS Southampton Occurrence Investigation

ATR75(A) was issued descent prior to being clear of the ATR75(B) which was opposite direction and beneath them, this resulted in avoiding action instructions being issued by S21 to the ATR75(B). S21 planner called Solent to alert them to the situation at which point Solent issued avoiding action

instructions to ATR75(A), separation was lost for 47 seconds with the minimum being 3NM and 200ft.

1540:48 ATR75(B) transferred to London: Solent Controller- *'[ATR75(B) C/S] contact London control on one two nine decimal two three zero goodbye*'.

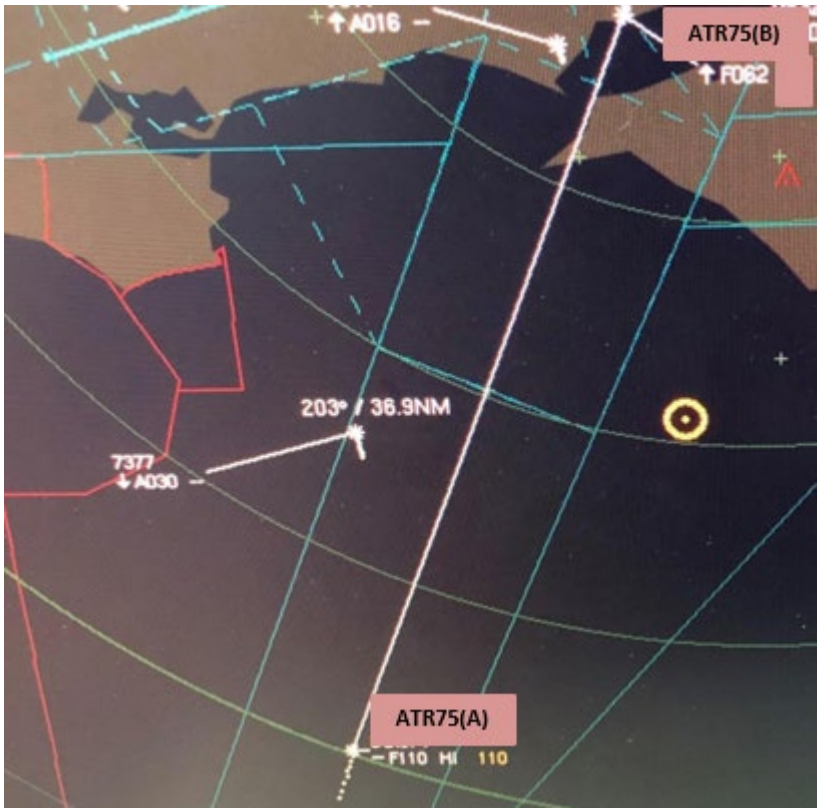


Figure 1 – Radar replay screenshot

1541:20 the S21 controller transferred ATR75(A) to Solent.
1541:29 ATR75(B) checked in on frequency with S21 "*passing FL75 cleared one hundred*." The controller was unable to respond immediately as an aircraft cross transmission cut in.
1541:31 ATR75(A) checked in on frequency with Solent, [ATR75(A) C/S]- '*Solent radar good afternoon [C/S] A T seventy five with Golf QNH one zero two six, Flight level one one zero direct THRED err wondering if err zero two would be available*'.
Solent controller- *'[C/S] Solent radar maintain flight level one one zero, Golf is current standby*'. This was acknowledged.

1541:38 S21 controller stated "*two stations at once, [ATR75(B) C/S], London, route direct to ORTAC and maintain on reaching, there will be company traffic opposite direction, a thousand above in about three or four minutes*."
1542:40 [ATR75(A) C/S]'s request for RW02 was approved: Solent- *'[ATR75(A) C/S] if you keep the speed up runway zero two will be available, RNP approach route direct to BAMTU*'. This was readback by the pilot.
1543:43 Solent Radar issued descent to [ATR75(A) C/S] *'[ATR75(A) C/S] descend flight level seven zero*' and the instruction was readback by the pilot.

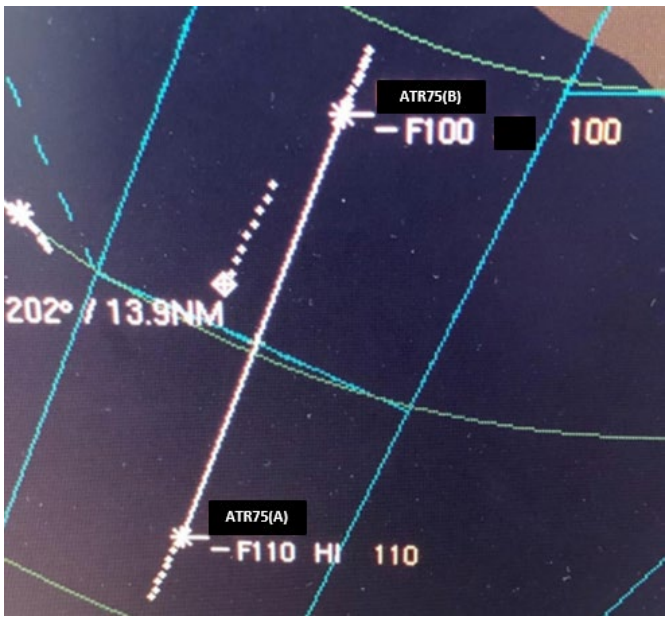


Figure 2

1544:20 S21 controller issued avoiding action instructions to [ATR75(B) C/S] to turn right on to heading 270°.
1544:32 The Planner called Solent and as the Solent controller answered the call, this alerted them to the situation and the Solent controller issued avoiding action '[ATR75(A) C/S] *fly heading zero nine zero avoiding action*'

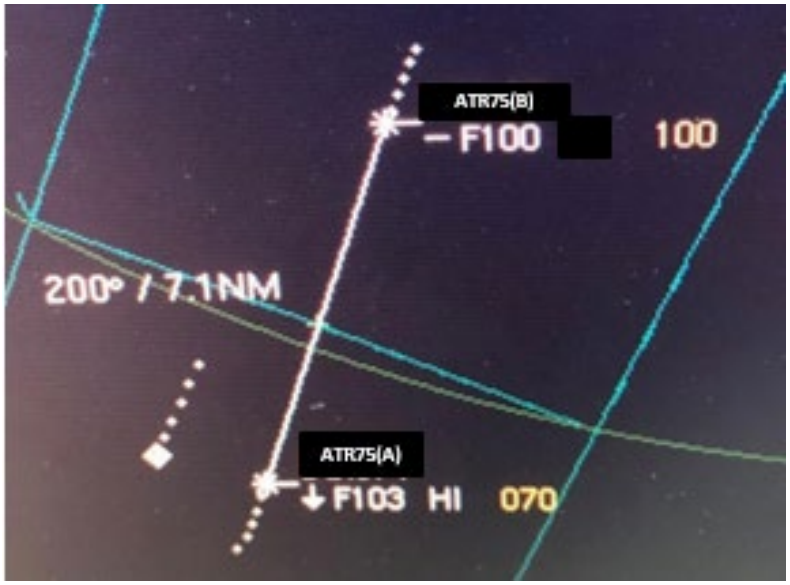


Figure 3

1544:37 S21 controller instructed [ATR75(B) C/S] to descend to FL80 in the hope of achieving separation sooner.
1544:47 Standard separation between the two aircraft was lost (5NM required), Figure 4.

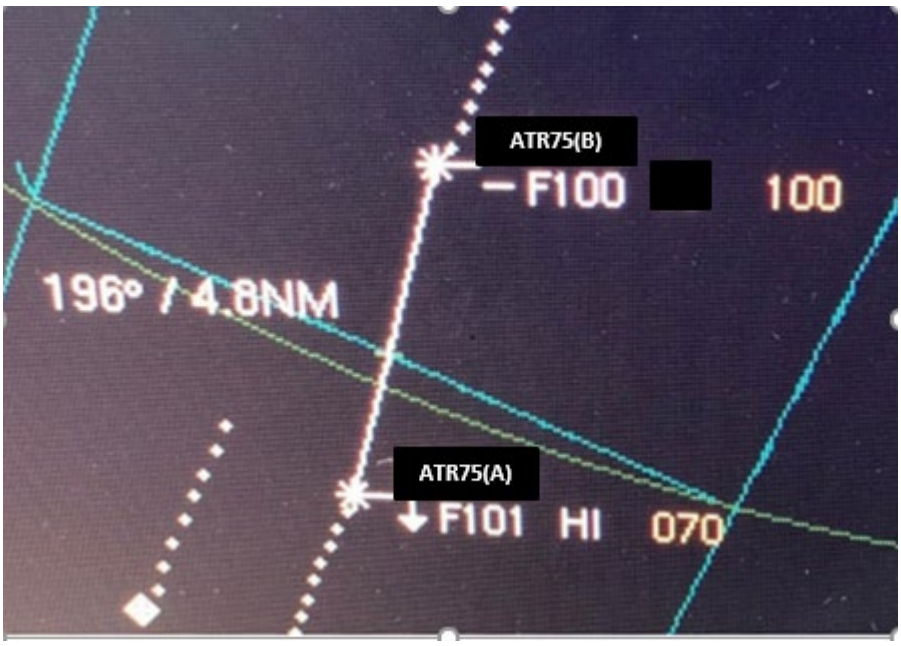


Figure 4 – Separation below 5NM

1544:54 [ATR75(A) C/S] reported a TCAS RA which was acknowledged by the controller.

1545:07 Minimum separation between the two aircraft occurred with 3NM and 200ft.

[UKAB Secretariat Note: At 1545:10 radar separation had reduced further to 200ft and 2.7NM see Figure 7]

Figure 5

1545:15 [ATR75(A) C/S] reported clear of traffic.

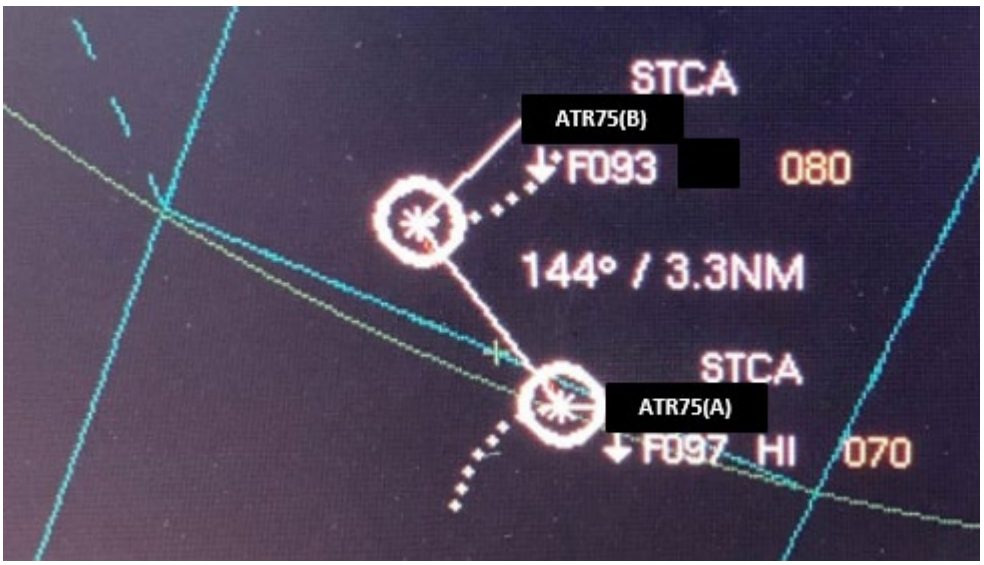


Figure 6

1545:34 5NM Separation was achieved.

Conclusions:

1. Solent issued descent to [ATR75(A) C/S] prior to them being separated from [ATR75(B) C/S], due to not completing an appropriate scan of their strips or radar screen.

2. Solent issued descent to [ATR75(A) C/S] without checking the current level of [ATR75(B) C/S].

3. The Solent controller stated that the requirement to complete a checklist for the runway change contributed to their lack of an appropriate scan.

4. Solent reported being too relaxed and therefore not operating as thoroughly as they would usually, this was as a result of being underloaded due to the very quiet traffic scenario.

5. The quick actions of the S21 controller in issuing avoiding action instructions to [ATR75(B) C/S] ensured that separation was re-established as quickly as possible.

6. The Solent controller's attention was drawn to the situation was as a direct result of the quick call made by S21 Planner, this meant that the Solent controller issued avoiding action instructions and separation was achieved as quickly as possible.

NATS Swanwick Occurrence Investigation

The Hurn controllers spotted this within a few seconds (triggered by a red alert in the separation monitor and noticing the Mode C change of [ATR75(A) C/S]). The Hurn Tactical controller gave excellent avoiding action that was timely, very effective (big turn due low & slow) and Traffic Information was also given. The pilot also acted quickly in response to the instruction. These 2 events resolved the loss effectively in minimal time. The Hurn Planner controller also called Solent Radar at the time avoiding action was being issued - judging by the tone of the call, it was this action that caused Solent Radar to spot the incident. There's no doubt that the swift actions of both controllers, their adherence to best practice (Tac controller gave Traffic Information to [ATR75(B) C/S] on first call), the quality of the avoiding action and the immediate response from the pilot all combined to effect a swift resolution.

UKAB Secretariat

Continuing the radar replay to 1545:10 gave a radar separation of 200ft and 2.7NM, see Figure 7.

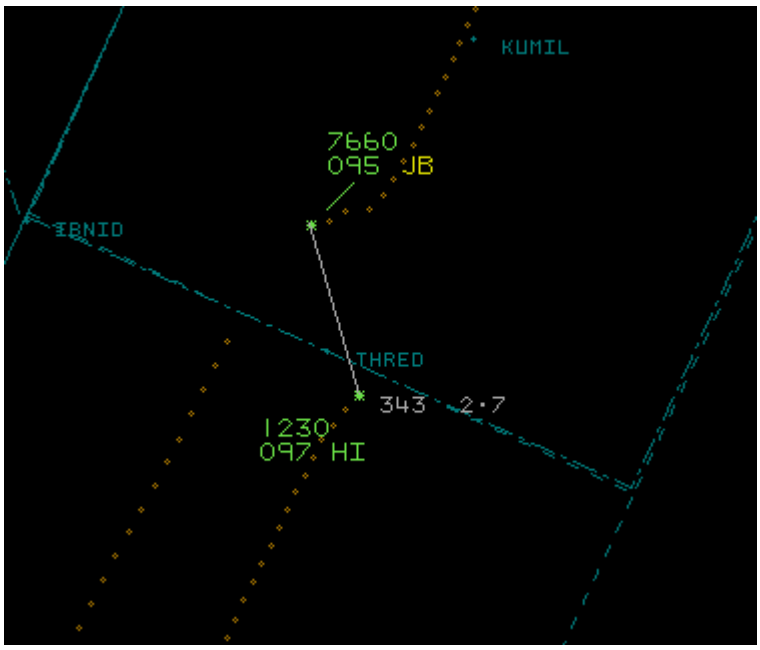


Figure 7 1545:10

The ATR75 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1]

Summary

An Airprox was reported when an ATR75(A) and an ATR75(B) flew into proximity in the vicinity of reporting point THRED at 1545Z on Sunday 20th March 2022. Both pilots were operating under IFR in VMC, the ATR75(A) pilot in receipt of a Radar Control Service from Solent Radar and the ATR75(B) pilot 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, 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.

Members began by discussing the actions of the Solent controller. They had been providing a service to the outbound ATR75(B) and knew that the inbound ATR75(A) was due to come to their frequency shortly, however, they transferred the outbound flight to Swanwick without thinking about any possible co-ordination issues. Controlling members noted that this would not have been a problem, had the controller not then cleared ATR75(A) to descend. The controller had stated that the runway change to RW02 had become a distraction as they completed the necessary tasks (**CF6**), and members noted that the change to RW02 would also have meant that the controller now needed to descend the inbound aircraft much earlier than they would have done for RW20. This probably led the controller to rush the descent of the inbound aircraft without fully recognising the implications to the outbound traffic. Once the Solent controller cleared ATR75(A) to descend through the level of the opposite direction traffic there was always going to be a conflict with it (**CF1**, **CF4, CF7**). That the Solent controller did not give any Traffic Information to ATR75(A) on ATR75(B) (**CF1**, **CF2**) indicated that the controller had not detected the conflict (**CF3**), indeed it seemed likely that they did not realise their error until the S21 Planner called on the landline. Once aware of the situation, the Solent controller issued avoiding action instructions, and the ATR75(A) pilot followed the TCAS RA. As both pilots were speaking to different ATC units a radar separation of 5NM was required, but the geometry was such that despite their best efforts, this could not be achieved (**CF5**).

[1] (UK) SERA.3205 Proximity.

The Swanwick S21 controller reported that they sent the ATR75(A) across to Solent early, with the intent that the Solent controller could deconflict the two aircraft. Members thought that it had been a missed opportunity that the controller (or planner) had not articulated this planned course of action to the Solent controller. Had the two controllers co-ordinated verbally, and had the Solent controller kept both aircraft, they might not have made the mistake of descending the inbound aircraft. If both aircraft were receiving a service from the same controller only 3NM separation was required. Nonetheless, the S21 controller could not have expected that the Solent controller would have commenced a descent at that point, and members thought the S21 controller did all they could to mitigate the circumstances by providing robust avoiding action both vertically and laterally. Likewise, by calling Solent the S21 Planner had probably prompted the Solent controller to look at their radar to see why Swanwick were calling. Both controllers received an STCA alert on their radar screens (**CF8**), although by the time it alerted both had already given avoiding action.

Turning to the ATR75 pilots, members noted that neither crew could have expected that ATC would introduce a confliction and both followed ATC instructions in accordance with the terms of a Radar Control Service, indeed their quick uptake of the avoiding action and the TCAS RA, undoubtedly prevented the situation from worsening. However, those members with experience of flying CAT opined that even when under Radar Control, pilots should still be maintaining a look-out and thought that both crews would have had the other aircraft on their TCAS and probably could have seen the other aircraft visually. The ATR75(A) pilot reported seeing the conflicting aircraft on their TCAS and pointing it out to their PF, but did not take any action, yet questioning the controller at this point may have alerted the controller to the situation earlier (**CF9**). Whilst not advocating manoeuvring visually instead of following a TCAS RA, members cautioned against just waiting for the RA to occur and noted that even a slowing of descent could make a difference. In this instance the ATR75(A) crew received a TCAS RA (**CF10**), which they followed, and ATR75(B) a TCAS TA (**CF11**). Furthermore, the avoiding action issued by ATC meant that the aircraft did not get close enough for the see-and-avoid barrier to be employed.

When determining the risk, members considered the reports from both pilots and the controllers together with the radar replay screenshots. They agreed that, although it had been an unfortunate set of circumstances which had resulted in safety being degraded, nevertheless the avoiding action taken meant that there had been no risk of collision and they therefore assessed the Airprox as Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022033			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
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
	• Situational Awareness and Action			
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
4	Human Factors	• Inappropriate Clearance	An event involving the provision of an inappropriate clearance that led to an unsafe situation	
5	Human Factors	• Separation Provision	An event involving Air Navigation Services separation provision.	
6	Human Factors	• Task Monitoring	Events involving an individual or a crew/ team not appropriately monitoring their performance of a task	Controller engaged in other tasks

7	Human Factors	• Traffic Management Information Provision	An event involving traffic management information provision	The ANS instructions contributed to the Airprox
	• Electronic Warning System Operation and Compliance			
8	Technical	• STCA Warning	An event involving the triggering of a Short Term Conflict Alert (STCA) Warning	
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
9	Human Factors	• Understanding/Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
	• Electronic Warning System Operation and Compliance			
10	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
11	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	

Degree of Risk: C.

Safety Barrier Assessment[2]

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 Solent controller cleared the ATR75(A) to descend into confliction.

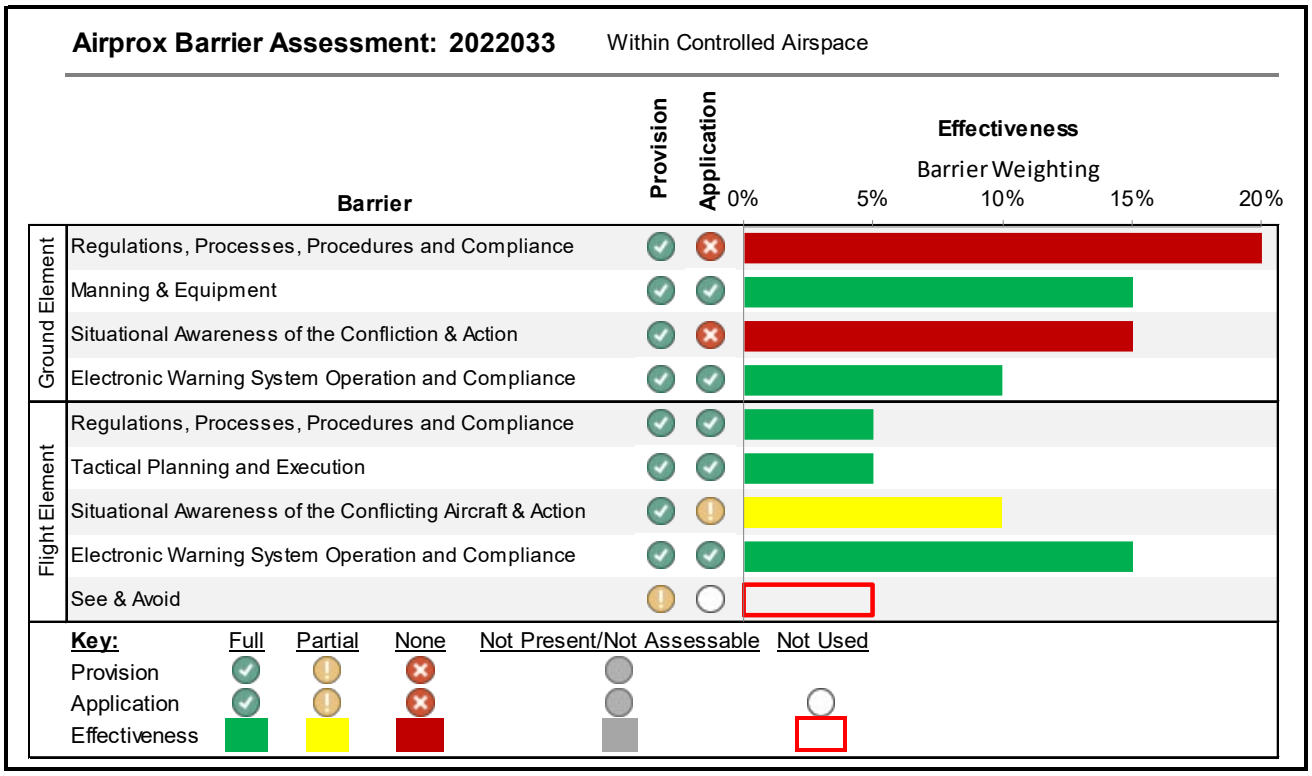
Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Solent controller was distracted by the runway change and did not assimilate that the descent given to the ATR75(A) would put them into confliction with ATR75(B).

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because ATR75(A) pilot had information on their TCAS that could have enabled them to be aware of ATR75(B) prior to their descent.

See and Avoid were assessed as **not used** because the avoiding action given by the controllers and the TCAS RA meant that see and avoid was not needed.

[2] 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: 2022033
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 Confliction & 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:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness