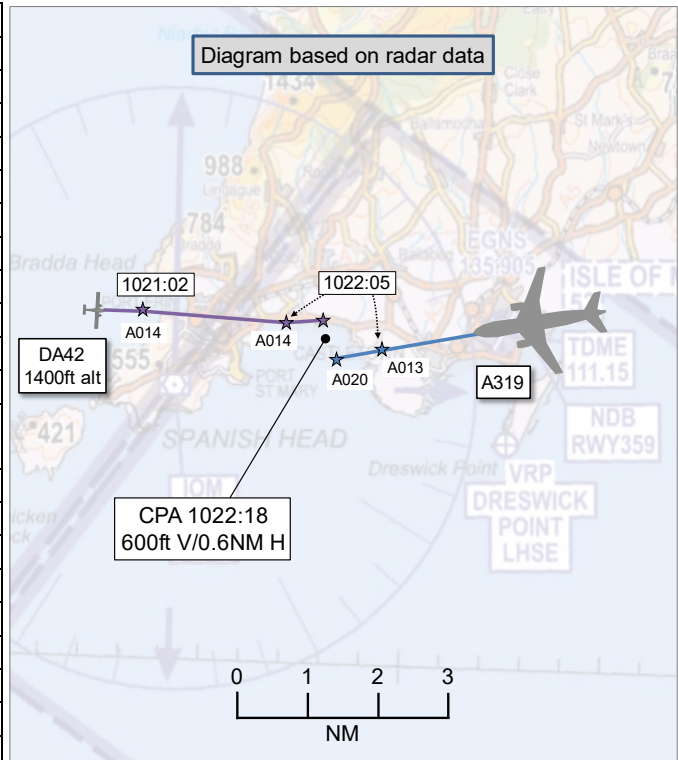


**AIRPROX REPORT No 2023089**

Date: 23 May 2023 Time: 1022Z Position: 5405N 00442W Location: 4NM SW of Ronaldsway

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	A319	DA42
Operator	CAT	Civ Comm
Airspace	Isle of Man CTR	Isle of Man CTR
Class	D	D
Rules	IFR	VFR
Service	ACS	ACS
Provider	Ronaldsway Twr	Ronaldsway Appr
Altitude/FL	2000ft	1400ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	White and orange	White and grey
Lighting	Landing and strobes.	Landing, position and strobes.
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1100ft	1760ft
Altimeter	QNH (1028hPa)	QNH (NK hPa)
Heading	260°	090°
Speed	170kt	120kt
ACAS/TAS	TCAS II	TAS
Alert	TA	Information
<b>Separation at CPA</b>		
Reported	400ft V/1NM H	700ft V/1.5NM H
Recorded	600ft V/0.6NM H	



**THE A319 PILOT** reports departing the [Isle of Man] from RW26 [having been] cleared for take-off at 1021. At approximately 600-800ft QNH (1028hPa) they noticed traffic on the navigation display that appeared around [the] 1 o'clock position and approximately 200ft above their current altitude. As they continued to climb and became level with the traffic, it was then closer to their 12 o'clock position at about 1 mile. They pushed the thrust levers to the [take-off, go-around] (TOGA) position in order to ensure as much separation as possible with the traffic. They estimated that they had passed over the top, or very close to directly over, at between 300 and 500ft according to their traffic collision avoidance system (TCAS). Climb thrust was reselected and 'TIMIS' selected as the next navigation waypoint. They spoke with the air traffic controller and asked if they had "the other traffic on radar", to which [the air traffic controller] replied simply with "yes", they said "we only cleared them by 300ft" to which [the air traffic controller] replied "roger". They then asked what the traffic was, as at no point were they actually visual. They were told "DA42", and that is all that was said. The flight continued as normal from there and the duty pilot was informed on landing.

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

**THE DA42 PILOT** reports on return after an aerial survey to the [Isle of Man], they were cleared into controlled airspace to route over Port Erin at 1760ft for a sensor test before descending to circuit altitude to join right-hand downwind for RW26. No Traffic Information was passed from the Ronaldsway Approach controller about [the] departing traffic through their level. [They were in] VMC and flying VFR, [when the] A319 aircraft was sighted as +700ft and 1.5NM south of their position and climbing, [which was] confirmed with [the] traffic displayed [in the] aircraft. They continued for an uneventful landing on RW26.

The pilot assessed the risk of collision as 'None'.

**THE RONALDSWAY CONTROLLER** reports they were providing a Tower and Approach (TWR/APP) Service at [Ronaldsway] during a quiet part of the morning. Due to the low number of aircraft movements, they decided to let their tower trainee continue under on-job training (OJT). All transmissions were made simultaneously on [2 separate frequencies]. [The DA42 pilot] called on the Approach frequency to request VFR entry into controlled airspace. This was granted. [The A319 pilot] called on the Tower frequency for clearance which was delivered and correctly read back. [The DA42 pilot] requested to route via Port Erin (a town 4NM WNW of [Ronaldsway]) and this was granted. As [the DA42] neared Port Erin, [the A319 pilot] (already pushed and started) was given taxi instructions for RW26. These instructions were read back and followed correctly. [The DA42 pilot] reported over Port Erin and was told to join downwind right-hand for RW26. This was read back correctly. [The A319] was lined-up for departure on RW26 and they and the trainee had discussed [the A319] was released and was to be validated and verified by them before transfer to Scottish Control West 2 sector on [their frequency]. They and the trainee had been discussing over the previous couple of days the need and relevance of Traffic Information and they believed that this scenario presented an excellent opportunity for the trainee to get some practise at passing such information. As [the A319] got airborne, they were observing the [DA42] through binoculars and saw [that it] was stable and steady on a downwind heading. They continued observing the situation. [The A319] climbed steadily and stable in a straight ahead direction (so as to comply with local noise restriction procedures) and, with both aircraft completely visible to them at all times, they were completely satisfied that [the two aircraft] would not fly dangerously close to one another. They had fully expected the trainee to pass Traffic Information to the departing [A319 pilot], however this did not happen and they failed to ensure that this information was given. Although they were satisfied that there was no risk of serious incident, they accepted that the crew of the [A319] were not [made] fully aware of the traffic situation to aid their awareness and that this led them to become worried. They accepted that this situation would have been better handled by ensuring that Traffic Information was passed.

This report has not been checked for facts against the recordings of the event.

The controller perceived the severity of the incident as 'None'.

## **Factual Background**

The weather at IOM, Isle of Man, Ronaldsway was recorded as follows:

METAR EGNS 230950Z 35014KT 9999 FEW018 14/06 Q1028 NOSIG=

METAR EGNS 231020Z 35015KT 9999 FEW018 15/06 Q1028 NOSIG=

## **Analysis and Investigation**

### **Isle Of Man Airport Investigation**

This investigation was made with reference to the ATS recordings.

Event: An Airprox was reported by the crew of [the A319] following a departure from RW26 at Isle of Man Airport when a DA42 was joining downwind right for RW26. The Airport was made aware of the occurrence via the Air Accidents Investigation Board (AAIB) during the evening of 23<sup>rd</sup> May as no occurrence had been reported by the Air Traffic Control Officer or the pilot of [the DA42].

ATCS Provision: At the time of the occurrence, ATC was providing services as Tower and Approach combined from the visual control room (VCR). The Approach radar was not open and the Approach function was being provided procedurally by a suitably rated aerodrome controller. The visual control room contains a slave radar display configured as an air traffic monitor (ATM) which can be used for limited purposes approved by the CAA. The aerodrome controller, also a qualified 'on the job training instructor' (OJTI), was providing instruction to an ab-initio student air traffic control officer (ATCO) who was training towards their endorsement in Aerodrome Control. This student has an aerodrome control instrument (ADI) rating and not an approach rating. The circumstances regarding this are covered in the analysis.

For the purposes of the timeline below, the ATCO on the job training instructor will be referred to as [the trainer] and the student ATCO trainee will be referred to as 'trainee'.

The 'ADC' position [on the] voice communication control system (VCCS) interface had both the Approach frequency and Tower frequency selected. These frequencies were not duplex cross-coupled at the time of the occurrence. Duplex cross-coupling means that the transmissions received on one frequency are broadcast simultaneously on the other frequency, however, when transmitting, both the [trainer] and trainee were transmitting on both frequencies.

Timeline;

1008:54 – The [DA42 pilot] called Ronaldsway Radar on the Approach frequency for re-join VFR, reporting their position as 24NM south west of the IOM VOR/DME.

The [trainer] gave VFR clearance to enter CAS.

1010:50 – [The A319 pilot] called the Tower for 'push and start' on the Tower frequency.

The trainee responded with approval to push and start.

1015:10 – [The A319 pilot] called for taxi.

The trainee responded with a clearance to taxi to holding point A1 for RW26.

1016:49 – [The DA42 pilot] called on the Approach frequency entering CAS (IOM CTR) requesting to route via Port Erin for a sensor test before a VFR join.

The [trainer] approved this.

Port Erin is located approximately 1NM north of the extended centreline of RW26 at a range of 5NM.

1018:48 – [The A319 pilot] was instructed to line-up and wait on RW26.

1020:06 – [The A319 pilot] was given take-off clearance for RW26.

1021:04 – [The DA42 pilot] reported "approaching Port Erin".

The aircraft was positioned 0.5NM north-northwest of the IOM VOR and 1NM north of the extended centreline of RW26.

The [trainer] instructed [the DA42 pilot] to join "downwind right RW26" which was read back.

1021:23 – [The pilot of another aircraft] called the Tower and requested taxi for a VFR flight to [their destination].

The trainee responded with a clearance to taxi to A1 for RW26.

1021:28 - The radar contact for [the A319] first appeared on the ATM on departure from RW26.

[The DA42 was] joining downwind with [the A319] departing from RW26.

These transmissions conclude at 1022:00.



Figure 1 - 1022:00. The A319 appeared on the radar screen co-alt with the DA42.



Figure 2 - 1022:17Z radar display depiction (redacted).

1022:17 - With reference to the ATS recordings, this was the time of the closest point of approach between [the A319] and [the DA42]. This was approximately 0.75NM at the same indicated altitude. A redacted screenshot of the radar display is shown at Figure 2.

1022:46 – [A319 pilot] called the Tower asking "is there is any traffic on your radar".

The trainee responded, "affirm" and [the A319 pilot] responded, "we may have hit a few birds on departure and we just cleared that traffic by 300ft by the looks of it on our TCAS".

The trainee responded, "[aircraft callsign] roger".

1023:18 – [the DA42 pilot] reported downwind for RW26.

This transmission was still on the Approach frequency. The trainee instructed [the DA42 plot] to report final for RW26.

1023:30 - The trainee asked [the A319 pilot] to report their passing flight level to verify Mode C. This was passed and [the A319 pilot] was instructed to contact Scottish Control. The [A319 pilot] then said, "may I ask what the traffic was?" and the trainee responded by saying that it was a DA42.

1023:55 - The trainee transmitted on the Approach frequency instructing [the DA42 pilot] to re-contact them on the Tower frequency which was acknowledged.

1024:08 – [the DA42 pilot] called on the Tower frequency and was instructed by the trainee to report final for RW26.

1024:25 - The trainee gave [the DA42 pilot] a clearance to land.

1025:40 - The trainee gave [the DA42 pilot] taxi instructions, having landed. [The DA42 pilot] acknowledged this and then transmitted, "for your information for that [A319] traffic, we had them visual probably 800ft above 3 miles horizontally".

This was acknowledged by the trainee.

Analysis - Training: It was not standard procedure at Isle of Man Airport (IOMA) for training to take place when Tower and Approach are combined. As the [trainer] had commented in their narrative, the traffic situation on Approach had been quiet during the morning and they had therefore elected to allow the trainee to remain in position with an understanding that they would respond to any traffic on the Approach frequency with the trainee dealing with traffic and transmissions on the Tower frequency. This was possible through the standard use of the 'mentor box' device used by [trainers] when providing training. This device prioritises any transmissions from the [trainer] and allows them to over-transmit on the selected frequency by cutting out the trainee's microphone. This was a standard setup of the equipment in use at Isle of Man Airport.

Radios: The voice communications control system panel had both frequencies selected throughout the period of the occurrence although these frequencies were not duplex cross-coupled. This means that pilots' transmissions on each frequency would not be re-broadcast on the other frequency, however, each transmission by the trainee or [trainer] would be broadcast simultaneously on each frequency. For clarity, [the A319 pilot] would have been able to hear the transmissions to [the DA42 pilot] by the trainee/trainer and [likewise for the DA42 pilot], but neither [the A319 pilot] nor [the DA42 pilot] would have heard each other.

Traffic Information: CAP 493 (MATS Pt 1) - Section 1, Chapter 2 (Flight Rules): within Class D Controlled Airspace, the minimum services by the ATC unit when handling both VFR and IFR traffic are to "pass Traffic Information to IFR flights and SVFR flights on VFR flights and give traffic avoidance advice when requested;"

[The A319] was a scheduled airline flight flying IFR. [The DA42 pilot] was flying VFR.

[The DA42 pilot was] joining downwind with [the A319] departing on RW26. While both pilots would have been able to hear all the transmissions being made, and may reasonably be expected to have basic situational awareness based upon this, there was a responsibility on the [trainer] to provide Traffic Information to [the A319 pilot] on the position and intentions of [the DA42 pilot]. The [trainer] had been discussing the subject of relevant Traffic Information with their trainee over the previous few days prior to this occurrence. The [trainer] involved is also the Unit Training Manager and the trainee is a student air traffic control officer who had only recently returned from their ADI rating course and was very early in training. The passing and timeliness of Traffic Information had been a subject commented on in the student air traffic control officer's end of course report as an area to focus on during 'on the job training'. Traffic Information should have been passed prior to the take-off clearance for the [A319 pilot]. The timing of the transmission at 1021:23 by [the pilot of an unrelated aircraft] occurred during another period in which Traffic Information could have been passed, once [the A319] was airborne and with [the DA42 pilot] positioning from Port Erin to join downwind right for RW26. The transmissions between the trainee and [the unrelated aircraft's pilot] lasted 37sec until 1022.00. The closest point of approach between [the A319] and [DA42] occurred at 1022:17, 17sec after the transmissions with [the unrelated aircraft's pilot] finished. During this period, the [trainer] reports observing both aircraft via binoculars and was satisfied the two aircraft were separated, however, following the issuing of the take-off clearance to [the A319 pilot] or during the transmissions to [the unrelated aircraft pilot] by the trainee, the [trainer] should have intervened by passing Traffic Information to [the A319 pilot] using the voice communications control system mentor box.

Findings and observations:

The crew of [the A319] on departure from RW26 were concerned about the proximity of a DA42 joining downwind right for RW26 as they were not aware of its position as a result of Traffic Information not being passed by the Aerodrome Controller (causal).

An ab-initio student air traffic control officer, at an early stage of training, was being mentored by a [trainer] when Tower and Approach services were combined, which is not standard procedure. This resulted in an uncertain operational situation in which communications were being managed in a non-standard way (contributory). [The A319] and [DA42] were not on the same frequency due to the non-standard working practice identified above (contributory).

The [trainer] did not correct or intervene to provide Traffic Information when this had not been passed by the trainee (contributory). The [trainer] had visual contact with both aircraft via binoculars and was satisfied that separation existed (contextual).

The pilot of [the A319] reported clearing [the DA42] by 300ft on TCAS. The radar recordings indicated a closest point of approach of approximately 0.75NM at the same indicated altitude. The pilot of [the DA42] reported becoming visual with the departing [A319] at 800ft vertically and 3NM horizontally (contextual).

Neither the pilot of [the DA42] nor the [trainer] filed an initial MOR or Airprox report. Notification of the occurrence came from the Air Accident Investigation Branch which prompted a retrospective MOR to be submitted by the [trainer] (observation).

## CAA ATSI

Having reviewed the reports, ATSI acknowledged the comprehensive investigation report from the Isle of Man Airport [Ronaldsway]. They had noted the fact that training a trainee whilst in a band-boxed configuration is considered non-standard by the Isle of Man [air traffic controllers] although they could not see that written down in their unit training plan (UTP). However, the trainee was only an aerodrome controller (ADC) trainee having not completed an approach (APP) course. The plan was apparently for the on job training instructor (OJTI), who was Approach (APP) qualified, to respond to transmissions on [the] Approach [frequency] (but did not).

Secondly, situational awareness for both pilots was inhibited, as although they could hear the controller(s) speaking with the pilot on the other frequency, they would not have heard the pilot's transmission, making the passing of relevant Traffic Information even more vital in this situation.

### UKAB Secretariat

The A319 and DA42 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> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>2</sup> An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.<sup>3</sup>

The Isle of Man Airport investigation has provided a radar display depiction of the two aircraft being co-altitude (Figure 1) and a further viewing of the NATS radar replay depicted the A319 at A013 with the DA42 at A014 at approximately the same time, just 5sec later (Figure 3).

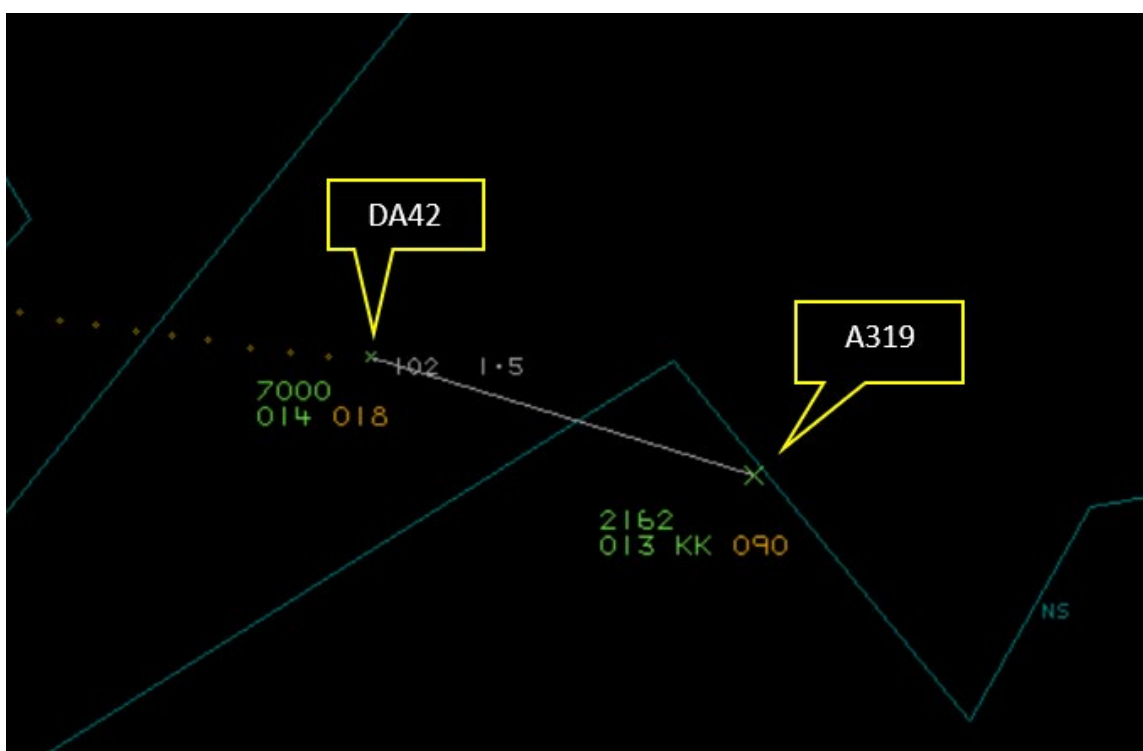


Figure 3 - 1022:05 – separation was 1.5NM and 100ft

The A319 pilot reported that they had increased the climb rate when they had been co-altitude with the DA42 in their 12 o'clock position and, at 1022:18, the radar depicted that the A319 passed with the DA42 on their right-hand side at 0.6NM and 600ft separation (Figure 4).

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

<sup>2</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>3</sup> (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.





would have had generic situational awareness of the position of the A319 (CF4), and that neither the DA42 nor A319 pilots had received Traffic Information on the other (CF3).

The lack of Traffic Information passed to either pilot led members to consider the actions of the Ronaldsway controller. It was noted that the on job training instructor had previously briefed the trainee controller on the importance of passing Traffic Information, but had not prompted or intervened when Traffic Information had not been forthcoming (CF2). Members noted that the training set-up for that morning had been non-standard and that the instructor had been responsible for the trainee and the Approach frequency but had not complied with the airport's procedures (CF1) by not taking control or responding to transmissions on the Approach frequency at the appropriate times. Members further agreed that the situation would perhaps have been considered differently if the trainee controller had completed their 'Approach course' and had not been at such an early stage of their training.

Concluding their deliberations, members were in agreement that the late and generic situational awareness of the A319 and DA42 pilots respectively had been afforded to them by their aircraft's alerting systems. The Board was satisfied that the separation of the aircraft had been such that there had not been a risk of collision, but agreed that there had been a degradation of safety and assigned Risk Category C to this event.

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

Contributory Factors:

2023089				
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>• Manning and Equipment</b>				
2	Human Factors	• Recurrent/OJT Instruction or Training	Events involving on the job training of individuals/ personnel	
<b>• Situational Awareness and Action</b>				
3	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
<b>Flight Elements</b>				
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
4	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
5	Human Factors	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
<b>• Electronic Warning System Operation and Compliance</b>				
6	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
7	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
<b>• See and Avoid</b>				
8	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C.

## Safety Barrier Assessment<sup>6</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 **partially effective** because on job training procedures were not fully complied with.

**Manning and Equipment** were assessed as **partially effective** because there had been no prompt or intervention from the trainer to pass Traffic Information.

**Situational Awareness of the Confliction and Action** were assessed as **partially effective** because no Traffic Information had been passed to either the A319 or DA42 pilots.

### Flight Elements:

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because neither the A319 or DA42 pilots had received Traffic Information on the other aircraft, leading the A319 pilot to be concerned by the proximity of the DA42 as displayed by their TCAS equipment.

Airprox Barrier Assessment: 2023089		Within Controlled Airspace		Effectiveness				
Barrier		Provision	Application	Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	⚠	[Yellow bar to 20%]				
	Manning & Equipment	✓	⚠	[Yellow bar to 15%]				
	Situational Awareness of the Confliction & Action	✓	⚠	[Yellow bar to 15%]				
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 10%]				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]				
	Tactical Planning and Execution	✓	✓	[Green bar to 5%]				
	Situational Awareness of the Conflicting Aircraft & Action	⚠	✓	[Yellow bar to 10%]				
	Electronic Warning System Operation and Compliance	✓	✓	[Green bar to 15%]				
	See & Avoid	✓	✓	[Green bar to 5%]				
<b>Key:</b>		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	⚠	✗	⊘	⊘			
Application	✓	⚠	✗	⊘	⊘			
Effectiveness	■	■	■	■	□			

<sup>6</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).