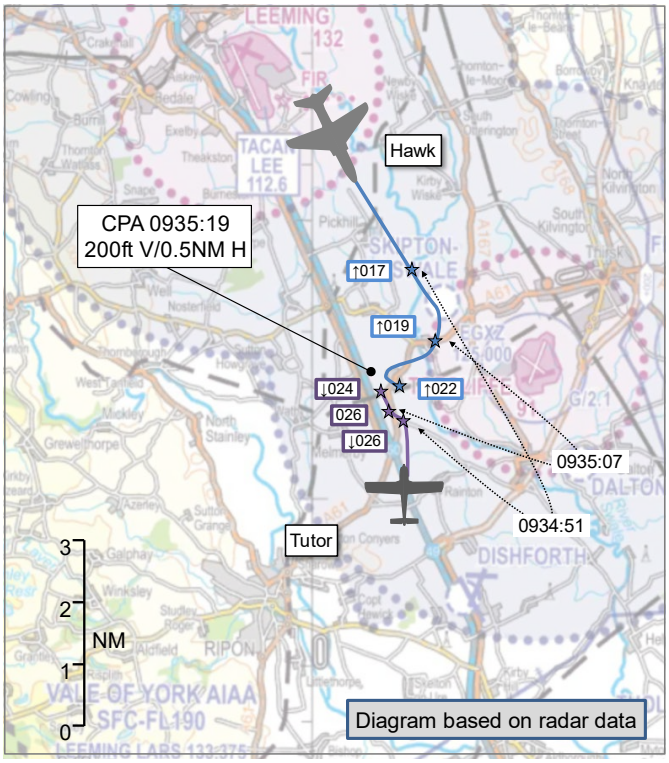
AIRPROX REPORT No 2023243

Date: 25 Oct 2023 Time: 0935Z Position: 5412N 00127W Location: 6 NM S Leeming

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Hawk	Tutor
Operator	HQ Air (Ops)	HQ Air (Trg)
Airspace	Leeming CMATZ	Leeming CMATZ
Class	G	G
Rules	VFR	IFR
Service	ACS	Deconfliction
Provider	Leeming Tower	Leeming T'down
Altitude/FL	FL025	FL024
Transponder	A, C, S+	A, C, S+
Reported		
Colours	Black	White
Lighting	HISLs, Nav, Beacon	Strobes, Nav
Conditions	VMC	IMC
Visibility	NR	NR
Altitude/FL	1200ft	1500ft
Altimeter	QFE (991hPa)	NK
Heading	220°	335°
Speed	250kt	100kt
ACAS/TAS	TCAS I	TAS
Alert	Information	TA
Separation at CPA		
Reported	800ft V/1NM H[1]	NK
Recorded	200ft V/0.5NM H	



THE LEEMING TOWER CONTROLLER reports that upon taking over the ADC position they were aware, having been previously in GRD, that the cloudbase had been reported by the Hawk pilot in the visual circuit as being 1100ft. The FOB states this is the minimum cloudbase to permit fast jets to conduct visual circuits. The controller held the view that conditions were marginal at best and during their brief tenure in the seat, the conditions deteriorated. There were radar recoveries ongoing whilst the Hawk was conducting a visual circuit teach during a circuit priority window. As the conditions had deteriorated in the controller's opinion, they asked the Hawk pilot for an update on the cloudbase. The response was that it was still above 1000ft and that the pilot was content. They pointed out that it was a bit difficult to see the Hawk, as they were growing uncomfortable about integrating instrument traffic. They hoped the Hawk pilot was going to land off the next circuit so they let it go. Hindsight told them that they should have enforced a visual circuit closure as the cloudbase had dropped below the 1100ft minimum. A Tutor on radar had been warned-in and the broadcast had been done, providing the Hawk pilot with the required information. They anticipated the Hawk having to go around having told the pilot that there was one ahead on radar. Unbeknown to them, the Hawk instructor had initiated a practice emergency on the student and they extended downwind and ultimately went wide downwind to initial towards instrument traffic that was likely to still be IMC. As the controller saw the Hawk turn inside the radar traffic they asked whether the pilot was visual. The pilot was not visual with the Tutor and executed an avoiding action climb (they believed through the Tutor's level) before declaring they were free-calling Stud 3 (Approach) and climbing to 3000ft. Subsequent to this, DIR had to take avoiding action against the Hawk with the traffic that was on an intercepting turn onto Talkdown.

The controller perceived the severity of the incident as 'Medium'.

[1] Estimate from TCAS information, the Tutor was not seen.

THE LEEMING TALKDOWN CONTROLLER reports that at approximately 0930 they were conducting an azimuth-only talkdown, on Talkdown 2, working a station-based Tutor. It was their first talkdown of the day and it was slightly challenging due to there being a foreign student flying the aircraft and a slight crosswind, however, the talkdown was going normally. Early into the approach ADC called 'Tutor downwind to initial' on the radar clearance line, which they passed to the Tutor on frequency. This was incorrect as it was a Hawk, not a Tutor. Talkdown 1 (who was not controlling at the time) apparently attempted to correct the error but they [the Talkdown 2 controller] missed this. When the contact then came onto the azimuth screen, it looked like the standard profile of an aircraft routing out to initial, so they saw no need to give Traffic Information. As they were not providing accurate glidepath information, they only knew about the Hawk climbing when Talkdown 1 made a comment on how close the two aircraft were. Due to the high closing speed, an avoiding action turn could have made the situation worse and the aircraft would have been clear by the time they had called the traffic. Therefore, they continued the approach as normal, without providing Traffic Information.

The controller perceived the severity of the incident as 'Medium'.

THE LEEMING SUPERVISOR reports that they were made aware of the deteriorating conditions by the ADC and proceeded to the VCR to assess the conditions. They were therefore in the VCR at the time of the situation developing. The recorded cloudbase at the time was BKN 1200, although the Hawk pilot had reported it to be only more than 1000ft to the north of the aerodrome due to localised rain. The ADC correctly advised the Hawk pilot of the position of the IFR traffic and witnessed the close proximity of the two aircraft. On assessing the visual circuit conditions they closed the visual circuit to Hawks shortly thereafter and subsequently to all aircraft at 1050 when the cloudbase reduced to OVC 007.

THE HAWK PILOT reports that they were the rear seat Captain during this pre-solo check flight. The cloudbase was checked on numerous occasions and ranged from 1100–1200ft, so they assessed the circuit to be fit iaw RAF Leeming FOB. With one Tutor joining the circuit from radar, further Tutor traffic was called approaching 8NM whilst their aircraft turned upwind in the circuit, [0933:03]. Traffic was displayed on the TCAS at the time that agreed with the call. Post the downwind call for a touch-and-go, a minor simulated emergency was initiated in cockpit with the intention of completing a circuit or go-around at circuit height as it was worked through. Traffic was called at 8NM to land at 0933:53, which was not heard in cockpit due to front seat chat on the intercom. Due to the length of time that was taken to diagnose the simulated emergency, the trainee elected to call wide downwind for initial [0934:12]. This was acknowledged by ATC. No call was passed regarding the traffic towards initial.

[0934:31] ATC provided deconfliction to a Tutor that was now in the circuit from radar, stating not above 500ft for Hawk traffic out to initial. The TCAS displayed a contact to their right, 800ft above and descending. There were further distractions in cockpit including the trainee selecting the gear up at a low speed enroute to initial, which they debriefed at the time. The TCAS was clear at 0934:53 as they approached Topcliffe ATZ with no plan from the handling pilot. They took control and turned southwest, away from Topcliffe as they believed they should not enter the ATZ. The TCAS was still clear during the manoeuvre. They requested the position of the traffic at 0935:01. ATC replied '1 mile SW', so the decision was made to climb up and away from Leeming. They entered cloud before regaining VMC seconds later. During the request for position of traffic, the TCAS alerted for traffic, however in a degraded mode which did not provide any pictorial information.

On reviewing the tape, at the moment they initiated a climb, the TCAS was stating traffic 800ft above, however, the information was in text format, displayed in the bottom corner of the screen and wasn't assimilated by them at the time. An instrument approach was then flown to land.

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

THE TUTOR PILOT reports that during a Surveillance Radar Approach in IMC, circuit traffic was reported as an aircraft wide downwind for initials. The approach to land was continued uneventfully. After the sortie ATC informed them of the proximity of the Hawk of which they [the Tutor pilot] had been previously unaware.

Factual Background

The weather at Leeming was recorded as follows:

```
METAR EGXE 250850Z 32008KT 9999 FEW014 BKN015 10/08 Q0996 BECMG BKN010 RMK WHT BECMG
GRN=
SPECI EGXE 250907Z 31007KT 9999 BKN013 10/08 Q0996 TEMPO 6000 -RA BKN006 RMK GRN
TEMPO YLO1=
```

Analysis and Investigation

Military ATM

An Airprox occurred on 25 Oct 23 at approximately 1040 UTC, approximately 3NM on the extended centreline to RW34RH at RAF Leeming. The Hawk [pilot] was conducting a pre-solo check flight and was established in the visual circuit at RAF Leeming in receipt of an Aerodrome Control Service from the Leeming Tower controller. The Tutor [pilot] was conducting an IFR recovery to RAF Leeming in IMC via a PAR Azimuth-only approach to RW34RH and in receipt of a Deconfliction Service from the Leeming Talkdown controller.

Utilising occurrence reports and information from the local investigation, outlined below are the key events that preceded the Airprox. Where available they are supported by screenshots to indicate the positions of the relevant aircraft at each stage. With the exception of the CPA image, the screenshots are taken from the Unit radar recordings and present the radar presentation of both the Hawk and Tutor available to the Leeming Tower and Talkdown controllers.

Due to the weather conditions, whilst instrument recoveries were mandatory, the visual circuit remained open as the actual cloudbase was greater than 1100ft iaw the RAF Leeming Flying Order Book. In the period preceding the Airprox the Leeming Tower controller checked the cloudbase suitability with the Hawk pilot established in the visual circuit. Whilst patches of light rain were reported, the actual cloudbase was reported as suitable.

The Hawk was conducting visual circuits whilst Tutor 1 [the Airprox Tutor] and Tutor 2 conducted instrument recoveries in the radar training circuit.

Sequence of Events

At 0933:51, Tutor 1 was established at 8NM on the instrument approach. The Leeming Talkdown controller passed this positioning call to the Leeming Tower controller via landline, who in turn broadcast the position of Tutor 1 to the Hawk [pilot], "*Tutor, eight miles, Land*". The Hawk was established downwind having gone around at circuit height to sequence against Tutor 2's previous instrument approach.

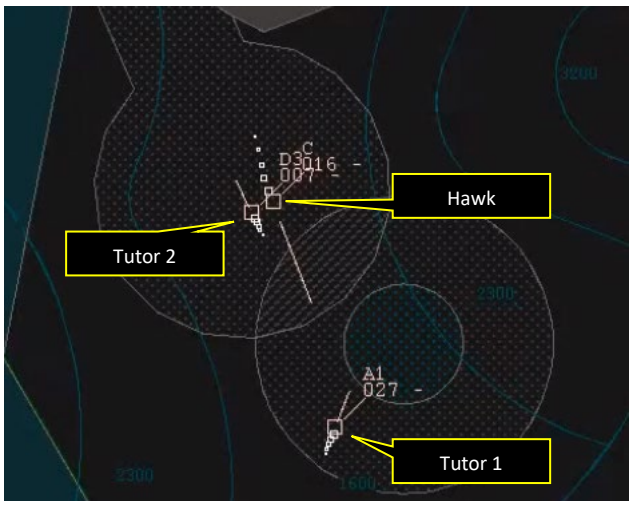


Figure 1 (0933:51). Tutor at 8NM on the instrument approach.

At 0934:11, The Hawk pilot reported "*going wide for initial*", which the Leeming Tower controller acknowledged and confirmed as "*wide downwind for initial*". This information was then relayed via intercom to the Leeming Talkdown controller by the Leeming Tower controller however, the aircraft type was incorrectly given as a Tutor, "*Tutor wide downwind to initial*". The Leeming Talkdown controller relayed the information call verbatim to the Tutor pilot, therefore also including the incorrect aircraft type.

At 0934:17, [the pilot of] Tutor 2, having completed their instrument approach and climbing upwind, contacted the Leeming Tower controller to join the visual circuit. The join was approved, and Tutor 2 pilot was informed of the Hawk departing wide downwind for initial. The Leeming Tower controller then subsequently restricted Tutor 2 to not above 500ft to facilitate the Hawk's downwind for initial profile.

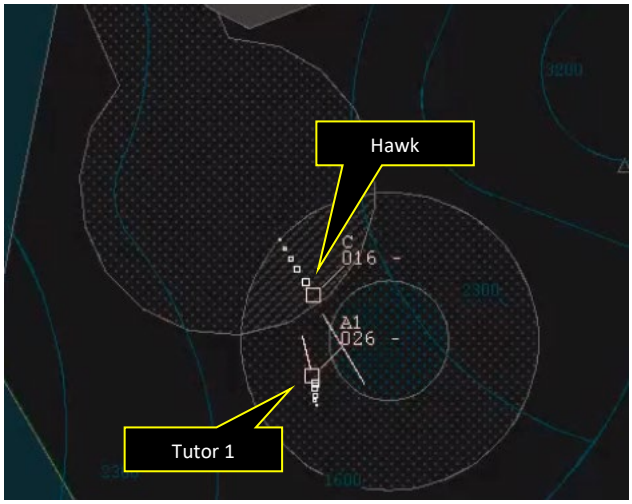


Figure 2 (0935:00). Hawk [pilot] requested position of Tutor 1.
(Separation: 2.1NM)

At 0935:00, the Hawk pilot requested the position of Tutor 1, to which the Leeming Tower controller responded with generic Traffic Information "*south west of you by a mile*". At 0935:16, the Leeming Tower controller followed up the Traffic Information by requesting whether the Hawk pilot was visual with Tutor 1. The Hawk [pilot] reported negative and that they were climbing to depart the visual circuit.

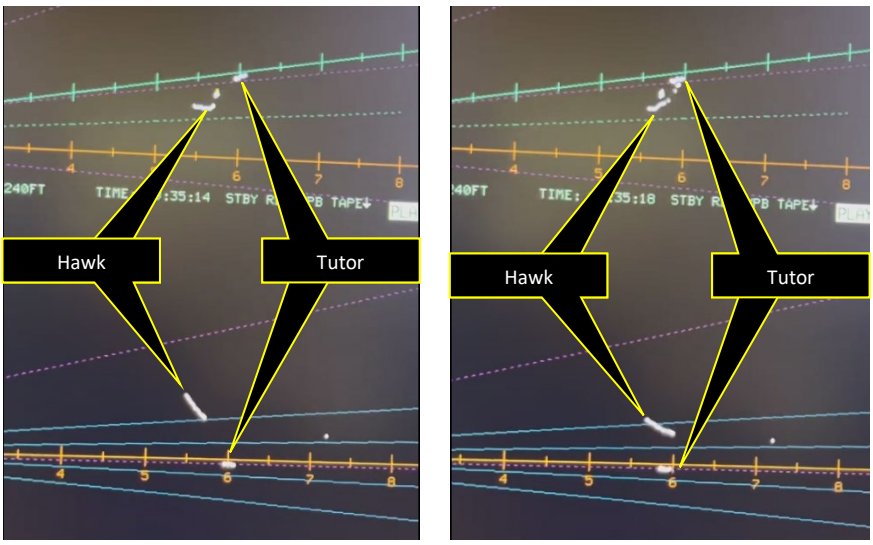


Figure 3 (0935:14) and Figure 4 (0935:18). Presentation to Leeming Talkdown controller. (Separation: 0935:14; 1.3NM, 0935:18; 0.7NM)

Between 0935:14 and 0938:18, the relative positions of the Hawk and Tutor 1 as presented to the Leeming Talkdown controller significantly decreased. Whilst the Tutor 1 pilot had been previously informed of the wide downwind to initial traffic, albeit incorrectly described as a Tutor and not a Hawk, there was no updated Traffic Information provided at this point.

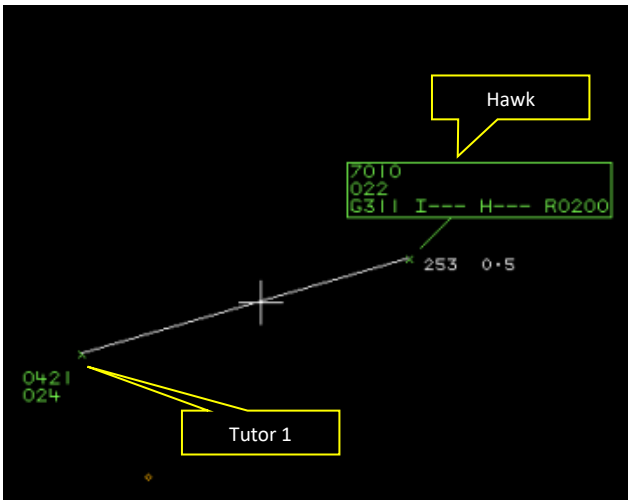


Figure 5 (0935:20). CPA.

CPA occurred at 0935:20 and was recorded as 0.5NM and 200ft separation.

Local BM Investigation

An occurrence Safety Investigation was conducted by RAF Leeming following the event with independent involvement from the RAF Air Safety Investigation Team. The investigation identified the event outcome as a loss of safe separation between non-co-operating aircraft. Several BM related causal/aggravating factors were identified, with recommendations identified where suitable:

a. The Leeming ATC team, primarily the Tower controller and Supervisor, enabled multiple non-fast-jet instrument recoveries to be conducted in contravention of the RAF Leeming Flying Order Book. Whilst the cloudbase allowed the visual circuit to remain open alongside instrument recoveries, the Leeming Flying Order book precludes non-fast-jet aircraft (Tutor) recoveries during this phase. Both the Leeming Tower controller and Leeming Supervisor were unaware of the Leeming Flying Order book entry that outlined this restriction, with the non-compliance being normal practice.

i. Recommendation: Stop Press issued to Leeming ATC personnel and Flying Squadrons highlighting the Leeming Flying Order Book restriction and its immediate implementation.
ii. Recommendation: Station continuous improvement event to discuss the Leeming Flying Order Book restriction language and purpose.

b. The Leeming Tower controller provided generic Traffic Information to the Hawk pilot regarding Tutor 1's position, however this was only when requested. The requirements of RA 3261, to "*provide timely instructions as necessary to assist in the prevention of collisions and to enable safe, orderly, and expeditious flight within and in the vicinity of the Military Aerodrome Traffic Zone (MATZ)"* were therefore not fulfilled. The Leeming Tower controller was operating under a flawed understanding that ultimately sole responsibility for deconfliction against IFR traffic remained with the visual circuit traffic. This was then further exacerbated with the presentation of aircraft vertical position data on the Aerodrome Traffic Monitor being challenging to assimilate due to small label size.

c. The Leeming Talkdown controller relayed the generic Traffic Information to Tutor 1 [pilot] of the aircraft departing wide downwind for initial, however no specific Traffic Information was provided. The requirements of RA 3921 to provide Traffic Information or collision avoidance advice dependent on the collision risk assessment were not fulfilled as the Leeming Talkdown controller failed to adequately assess the collision risk posed by the Hawk's profile. The Leeming Talkdown controller operated on the assumption that the Hawk would position behind Tutor 1 and therefore did not perceive a hazard until the Airprox had already occurred. This assumption was supported by the incorrect information received from the Leeming Tower controller that the aircraft departing wide downwind to initial was a Tutor and not a Hawk, and subsequently a different re-join profile was expected.

2 Gp BM Analysis

The Occurrence Safety Investigation conducted by RAF Leeming provided an in depth and accurate investigation outlining several failings within the Leeming ATC operating model. The incorrect application of the Leeming Flying Order Book enabled the conditions for a potentially unsafe scenario to exist. However, had the Leeming Tower controller provided effective and timely Traffic Information iaw RA 3261; to facilitate the safe and orderly sequencing of the Hawk and Tutor 1 the likelihood of an Airprox occurring would have been significantly decreased. Additionally, the failure in collision assessment by the Leeming Talkdown controller removed any subsequent final barrier to ensure that the pilot of Tutor 1 had situational awareness. Ultimately though the responsibility for safe and effective sequencing between visual circuit and instrument traffic remained with the Hawk pilot and Leeming Tower controller.

UKAB Secretariat

The Hawk and Tutor pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3]

Comments

HQ Air Command

This event was subject to a comprehensive Occurrence Safety Investigation that examined the contributory factors from both aircrew and ATC perspectives. This incident highlights just how easily several individually innocuous errors and mistakes can come together at once in a very short space

[2] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[3] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

of time with potentially disastrous outcomes. There are multiple lessons in here for all aircrew and ATCOs alike, including distraction/workload/priorities, situational awareness, rule adherence and local knowledge, task saturation, vital timely information flow and the importance of an ATS within Class G airspace. Circuit activity of mixed types flying IFR and VFR give the greatest opportunity for LoSS and it is imperative that this is carefully managed. Mitigations and local actions have been implemented.

Summary

An Airprox was reported when a Hawk and a Tutor flew into proximity 6NM south of Leeming at 0935Z on Wednesday 25th October 2023. The Hawk pilot was operating under VFR in VMC and in receipt of an ACS from Leeming ADC. The Tutor pilot was operating under IFR in IMC and in receipt of a Deconfliction Service from Leeming Talkdown.

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.

The Airprox had been reported by ATC and so the Board first discussed the role that ATC had to play. They noted that the Leeming Flying Order Book (FOB) restricted the mixing of Tutors and Hawks in the visual circuit in marginal weather conditions and yet on this occasion they had been allowed to continue (**CF1**, **CF5**). Members heard that with the demise of the Duty Pilot position within the Tower, who in the past would have made a joint decision with the ATC Supervisor on matters affecting flying, these decisions now rested solely with ATC personnel, who often did not feel empowered to make such pronouncements. Members were heartened to hear that Leeming had since instigated a number of actions to ensure that all personnel, both ATC and aircrew, were aware of the FOB restrictions and that various training initiatives had been put in place, using this Airprox as an example. Furthermore, the station had made an effort to ensure that in the future, ATC Supervisors were empowered to make decisions on the status of the visual circuit.

Once the Hawk pilot had informed the Tower controller that they intended to route to initials, the controller had correctly used the intercom to inform the Talkdown controller. Unfortunately, they had incorrectly described the aircraft as a Tutor, which would have been much slower and had less likelihood of affecting the radar traffic (**CF2**). The Board heard that there had been another Talkdown controller in position (Talkdown 1), who had realised the Tower controller's mistake, and had tried to update the Talkdown 2 controller, but that, absorbed in the task in hand, the Talkdown 2 controller had not assimilated this information and so had maintained their inaccurate situational awareness (**CF4**). Therefore, although the Talkdown 2 controller had passed the Traffic Information to the Tutor pilot, they had unwittingly passed inaccurate information, describing that aircraft as a Tutor (**CF2**) and had not subsequently updated that information as the Hawk closed in on the Tutor (**CF1**). Some controlling members wondered whether the Talkdown 2 controller should have seen the proximity of the two aircraft on the radar; the members were informed that the radar approach conducted by the Tutor had been PAR azimuth only and although the controller should have been looking at both sets of information (azimuth and elevation), they had not been looking at the elevation display and therefore had not seen that the Hawk had been at a similar level (**CF3**).

The Board then looked at the actions of the Hawk pilot. They had been conducting an instructional sortie requiring visual circuits and, although questioned by ATC, had been content that the weather conditions had been suitable for their sortie. When a Tutor had joined the visual circuit, the Hawk pilot had elected to route out to initials and had instigated a practice emergency with the student whilst doing so. Some members wondered whether this had been a suitable time to call a practice emergency, with the deteriorating weather conditions and the Tutor radar traffic. Other members discussed that having discontinued the visual circuit for the first Tutor, the instructor would have been keen to make the time routeing to initials count. Furthermore, members were mindful of the delicate balance required when

instructing, to allow a student to make mistakes from which they could learn, or to take control immediately and risk undermining the student's confidence. Nevertheless, it was agreed that once it had become obvious that the student had been struggling with the multi-tasking, and members thought that putting the gear down had been a good indicator of that, then the instructor should have intervened earlier to bring the situation under control (**CF6**). In the event, both crew members had been too busy dealing with in-cockpit events to hear the ATC call that the Tutor had been at 8NM on radar (**CF7**) and so, although the Hawk pilot had generic situational awareness that a Tutor had been on radar, they had not been aware of its exact position and its proximity to their own position (**CF8**). To compound the situation, the TCAS on the Hawk had been presenting the data on the Tutor in a format that had not given the Hawk pilot sufficiently detailed information (**CF10**). Once the Hawk instructor had asked ATC for Traffic Information on the Tutor and had been told that it had only been 1NM away, the Hawk instructor had initiated a climb and turn to avoid. However, they had not been visual with the Tutor (**CF11**), which had been obscured by cloud (**CF12**).

Turning to the Tutor pilot, the Board agreed that, ultimately, this pilot had been unaware of the situation until after they had landed and therefore could have done little more in the circumstances. The pilot had been passed early Traffic Information on an aircraft leaving the visual circuit to initials, but had been told that it had been a Tutor and this information had not been updated (**CF8**). Furthermore, they reported receiving TAS information (**CF9**), but again this had not provided any further situational awareness and the Tutor pilot, who had been in cloud, had not seen the Hawk at all (**CF11**, **CF12**).

When assessing the risk of collision, the Board took into consideration the reports from the pilots and controllers, together with the radar screenshots. They discussed that neither pilot had seen the other aircraft and that the Talkdown controller had not had the situational awareness that the Hawk had been in proximity to their traffic. Consequently, some members thought that there had been a risk of collision. However, others countered that the Hawk pilot had received enough situational awareness to question the position of the Tutor and, when given the Traffic Information, had taken avoiding action, which had been sufficient to avert the risk. In the end, the latter view prevailed and the Board assigned Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023243			
CF		**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	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
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
	• Tactical Planning and Execution			
6	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• Situational Awareness of the Conflicting Aircraft and Action			
7	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	

8	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
	• Electronic Warning System Operation and Compliance			
9	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
10	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
11	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
12	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: C.

Safety Barrier Assessment[4]

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 Leeming was conducting mixed aircraft circuits in contravention of their FOB and the controllers had not provided accurate Traffic Information.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Talkdown controller had not been aware that the aircraft routeing out to initials was a Hawk, did not assimilate how close the two aircraft were in altitude and did not pass Traffic Information to the Tutor pilot.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the Tutors were conducting IFR recoveries with the visual circuit active with fast-jet traffic.

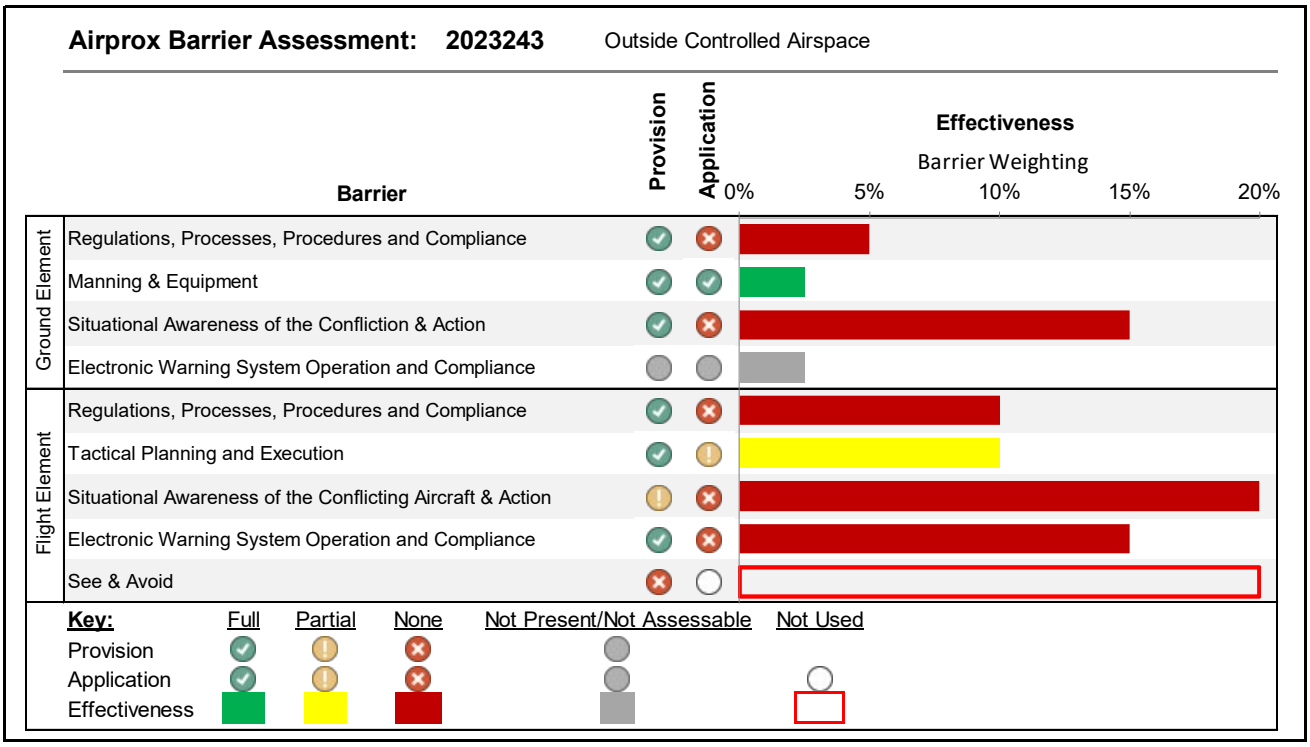
Tactical Planning and Execution was assessed as **partially effective** because the Hawk instructor routed out to initials and initiated a practice emergency with instrument traffic inbound.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Tutor pilot had no situational awareness about the Hawk and the Hawk pilot had only generic awareness about the Tutor.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TCAS on the Hawk did not provide sufficient information about the Tutor to warn the Hawk pilot.

See and Avoid were assessed as **not used** because the Tutor was in cloud, therefore both aircraft were obscured from one another.

[4] 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: 2023243
Outside 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