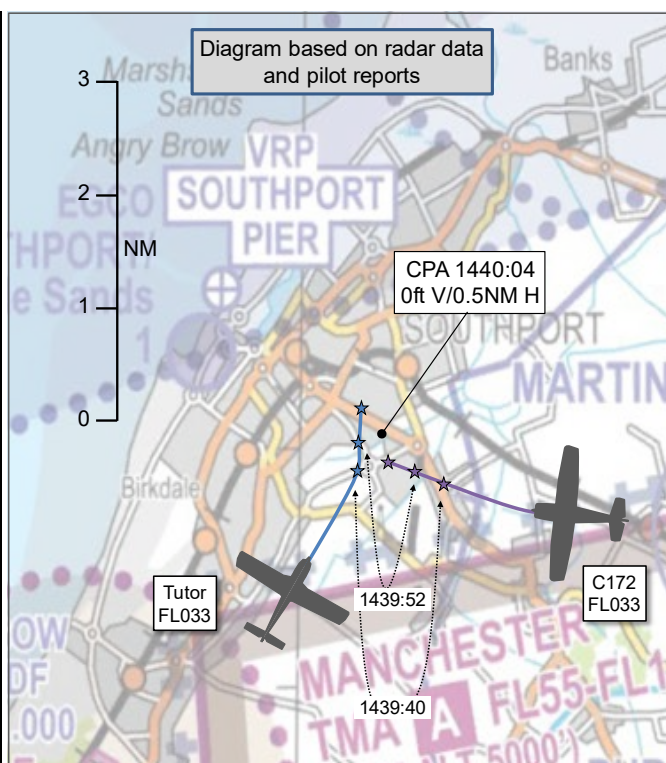


## **AIRPROX REPORT No 2023028**

Date: 07 Mar 2023 Time: 1440Z Position: 5338N 00258W Location: Southport

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	C172
Operator	HQ Air (Trg)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Listening Out
Provider	Warton	Barton/Warton
Altitude/FL	FL033	FL033
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White, Blue, Yellow
Lighting	Nav, Strobes, Landing	Nav, Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3000ft	NR
Altimeter	RPS (1001hPa)	NK
Heading	010°	NK
Speed	80kt	95kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
Separation at CPA		
Reported	0ft V/400m H	0ft V/3-4NM H
Recorded	0ft V/0.5NM H	



**THE TUTOR PILOT** reports that, on climb-out from RAF Woodvale routing north with a Traffic Service from Warton Radar, the crew were informed of 3 aircraft all working the local area within 5NM of their aircraft and at similar or higher altitudes. The crew visually identified another Tutor routing in front of the aircraft approximately 200ft above, crossing right-to-left, and so chose to slow the climb rate to allow the aircraft to pass in front. A second TAS contact also showed an aircraft 200ft above in the 1 o'clock position and a 3rd aircraft 300ft below in the 2 o'clock position. Neither of those aircraft could be visually identified so the pilot levelled at 2800ft and continued north as the best course to avoid the traffic, which all seemed to be heading towards Southport Pier (right-to-left from the aircraft direction).

They received a TAS Traffic Alert for the aircraft that was initially 200ft above but now at the same level. The pilot felt very uncomfortable and made a series of S-turns hoping to see the aircraft causing the TAS alert, which was then spotted passing within a quarter to half a mile of the aircraft's 5 o'clock, same altitude, heading directly to Southport Pier. It appeared that this traffic was at no point visual or aware of the Tutor, made no track correction to avoid and was not speaking to any ATC agency. The crew reported the sighting to Warton ATC and continued north for separation.

The pilot opined that if this aircraft had been in the same position and distance but in front of their aircraft, they would have had to make emergency evasive manoeuvres and possibly would not have had time to avoid, given how late the spot was. Southport Pier is a regular navigation turning point for civilian GA traffic from Blackpool, Liverpool and City Airport and it is a known hotspot for close proximity traffic.

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

**THE C172 PILOT** reports the flight was routing to Southport, south over Royal Birkdale golf course (north of Woodvale ATZ) returning to [airfield]. There were 3 people on board, the pilot and 2

passengers. They spotted a Grob Tutor over Southport, heading north, well clear. If the Airprox involved another Grob Tutor they, nor the passengers on board the aircraft, did not spot the other aircraft. They could not remember whether they were working Barton Information or Warton Radar. They considered that there was no conflict between their aircraft and the Tutor that they were visual with, and so no action was taken.

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

**THE WARTON CONTROLLER** reports that they were on duty as the Approach Radar controller. As there was no report on the R/T at the time they were only advised of the Airprox after the event, so were filing a report based on their best recollection of the event. From memory, the Tutor was climbing out from RAF Woodvale and called on UHF requesting a Traffic Service. They recalled being moderately busy, working VHF and UHF frequencies with 3 or 4 aircraft on a Traffic Service. Once the Tutor had been identified they called 2 or 3 aircraft to the pilot which they believed would pass within 3 miles or 3000ft of them, one of which was on a Barton conspicuity squawk. This aircraft subsequently got fairly close at a similar level, so they then updated the traffic position [they recalled]. The pilot reported visual but advised the other aircraft had not deviated from course and that the other pilot's lookout may have been less than appropriate. The pilot made no further comment on the R/T about the incident.

This report has been written with no information from R/T recordings or radar replays.

**THE BARTON FISO** reports that the C172 pilot did not report anything on frequency.

## **Factual Background**

The weather at Warton was recorded as follows:

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METAR EGNO 071420Z 31008KT 270V350 9999 FEW036 05/M05 Q1001=
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## **Analysis and Investigation**

### **CAA ATSI**

Due to a late Warton investigation, CAA ATSI provided the following notes on the event:

There was no timecode on the Warton RTF so RTF times could not be confirmed. The NATS radars were used to provide screenshots; the radar shows the altitude in flight levels which, given that the Warton QNH was 1001hPa, was in the region of 300ft higher than altitude levels.

The Tutor pilot called the Warton controller at 1438:18 and a Traffic Service was agreed at 1438:38 followed immediately by Traffic Information:

*"traffic northeast of you 2 miles westbound, Tutor 3600ft, further traffic east north east 3 miles westbound Barton traffic indicates 3100ft, further traffic just southwest of Warton southbound passing 3000ft for 2000ft.*

The pilot acknowledged the traffic, advising visual with the Tutor but not the other aircraft.

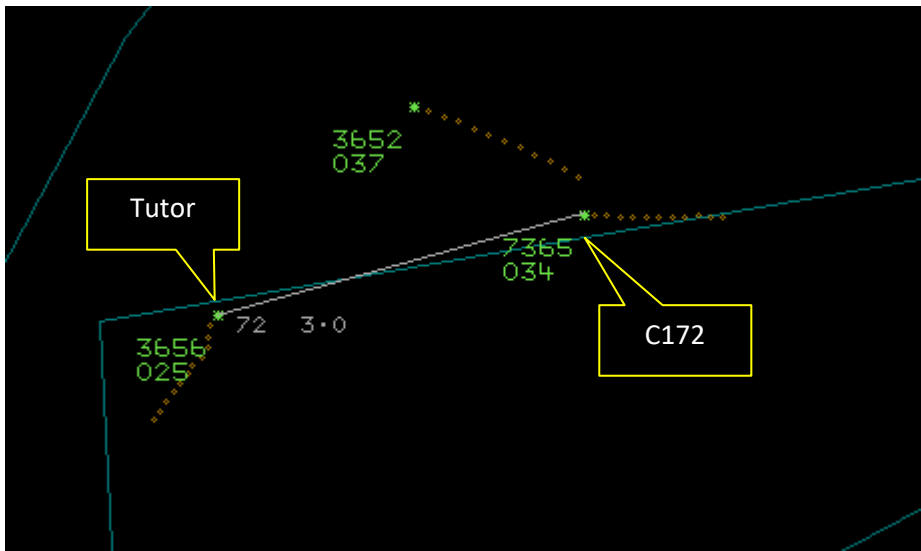


Figure1 - 1438:44, Tutor squawk changed to Warton squawk

The controller then passed reciprocal Traffic Information to the other pilot on the Tutor.

At 1439:10 the controller asked the Tutor pilot for the rest of their details which were passed.

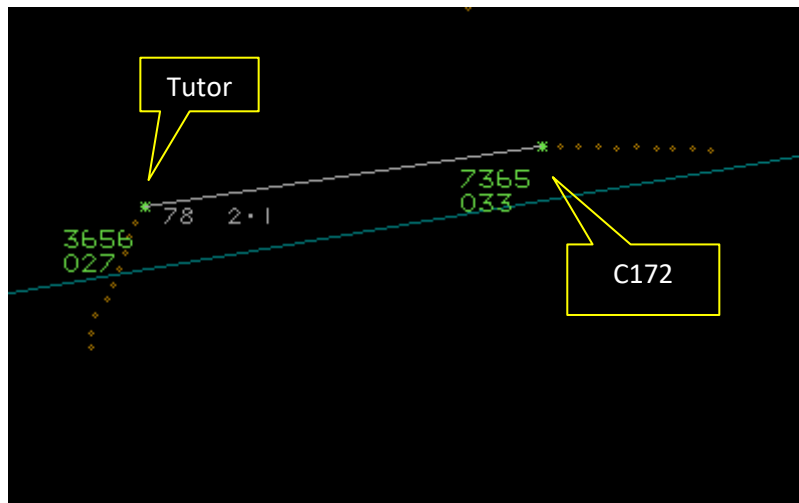


Figure 2 – 1439:10

The Tutor pilot ended their transmission at 1439:29, the controller did not reply, but appeared instead to be speaking to another aircraft whose transmissions could not be heard on the RTF.

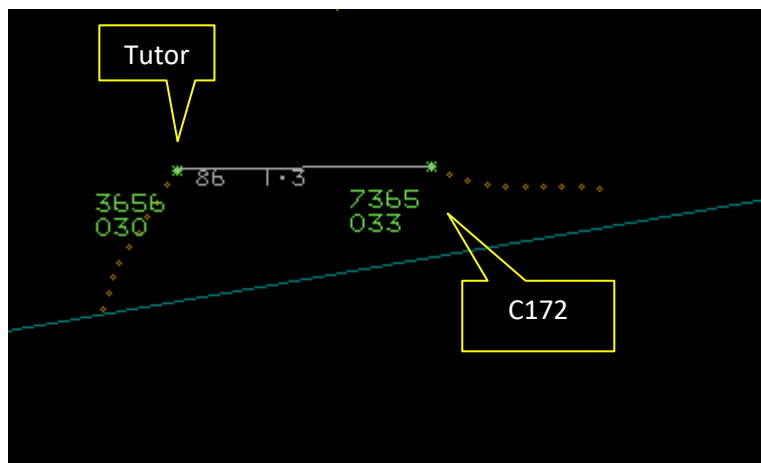


Figure 3 – 1439:29

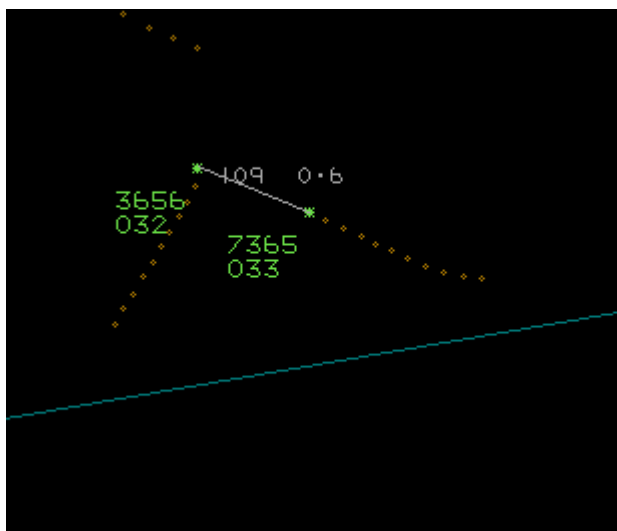


Figure 4 : 1439:52  
Tutor passing ahead of C172

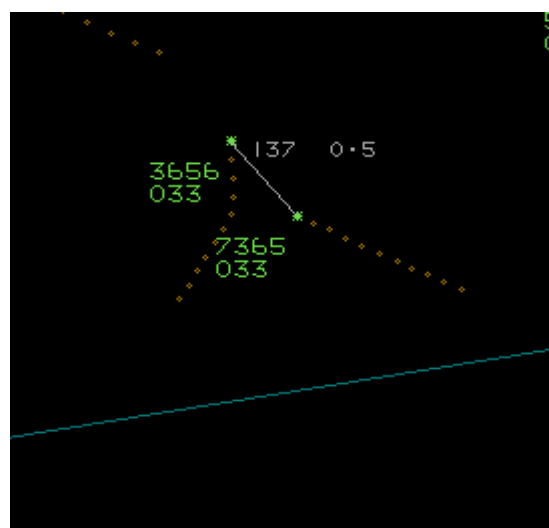


Figure 5 : 1440:04  
Radar CPA

At 1440:23 the Tutor pilot reported being visual with the C172, stating they got within half a mile at the same altitude. The controller reminded them that Traffic Information had been previously passed. The Tutor pilot went on to opine that the C172 pilot did not appear to be looking out.

Updated Traffic Information should have been passed but the controller appeared to be occupied with another aircraft at the crucial point and prioritised that instead.

Warton ATC is reminded of its obligations under Regulation (EU) 2017/373 of 1 March 2017 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 ATM/ANS.OR.A.065 paragraphs (a) through (e), with regards to the initial submission of a mandatory occurrence report and any follow up reports within the specified timescales as defined within Regulations (EU) 996/2010 and 376/2014.

#### Warton ATC Investigation

The Tutor got airborne from RAF Woodvale and called Warton Radar for a Traffic Service (TS). The aircraft was subsequently identified and placed under a TS by Warton Radar, whereupon 3 items of Traffic Information were passed to [the Tutor pilot], one of which was the aircraft that [the Tutor pilot] later reported that [they] had passed close to. This conflicting aircraft was operating VFR and was not receiving a service from Warton Radar. Only 131sec elapsed between [the Tutor pilot] requesting a TS and [them] reporting that [they] had come close to another aircraft. There was no indication at this point that [the Tutor pilot] intended to file an Airprox on this confliction and Warton ATC only found out 2 days later that an Airprox had been filed. On reading the DASOR submitted by the pilot of [the Tutor] and its investigative comments, it would appear that the other aircraft involved was a C172.

#### INVESTIGATION AND ANALYSIS

In conducting this investigation, the DASORs submitted by both the Warton Radar controller and the Tutor pilot have been available, along with the Warton Radar and RT recordings. The Warton Radar controller was also interviewed. [The Tutor pilot] called Warton Radar at 1438 and requested a TS; it should be noted that in the Letter of Agreement between Warton and RAF Woodvale, Tutors operate on a UHF frequency whilst other LARS tracks operate on VHF. Once the Warton Radar controller had observed compliance with setting of the allocated squawk of 3656, [the Tutor pilot] was put under TS and was given Traffic Information on 3 aircraft that were going to pass within 3NM and/or 3000ft. The controller felt that the traffic intensity was 'medium' and was concerned that they would need to attend to other aircraft under service so elected to pass 3 items of Traffic Information

over a 16sec transmission. The first aircraft that the controller called, another Tutor, was an immediate concern and the second aircraft called in, [C172 C/S], was also a confliction; however, the third aircraft was not an immediate threat. In conducting this investigation, there was an initial concern that the pilot of [the Tutor] may have been overloaded with 3 items of Traffic Information being passed immediately by the Warton Radar controller. However, on reading the DASOR of the pilot of [the Tutor], it seems that they were able to take in the Traffic Information without difficulty and, in conjunction with the Traffic Alerting System (TAS), were able to retain good situational awareness of the proximity of all 3 conflicting aircraft and were able to take appropriate action to resolve the confliction with [the C172]. The pilot of [the Tutor] would have relied on the Traffic Information provided by ATC as, apart from other Tutors operating on UHF, all other traffic was on VHF.

The next issue to be analysed was did the Warton Radar controller fulfil the terms of the TS as per CAP 774, Chapter 3, Paragraph 3.5 which states:

*The controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot.*

Radar and RT recordings confirm that the controller clearly passed Traffic Information on [the C172] but did not pass an update. It could be argued that the phrase “*shall update the Traffic Information if it continues to constitute a definite hazard*” relies on a subjective judgement of the radar controller and, of note, the pilot of [the Tutor] did not request an update. Interestingly, the DASOR report by the Warton Radar controller, submitted 2 days after the Airprox, indicates that the controller thought they had updated the Traffic Information; however, RT recordings confirm that they did not update [the Tutor pilot] after the initial Traffic Information. This may have been because the Warton Radar controller was unaware that an Airprox had been filed and wrote their report 2 days later, from memory, without use of the radar and RT recordings. What actually happened was that when the pilot of [the Tutor] transmitted at 1440Z “[Tutor C/S] visual with that civil traffic – I think we got within half a mile at the same altitude”, the controller replied “Yep – that was the one I called earlier – he’s passing behind you now westbound, not working this unit”.

## RECOMMENDATION

It is recommended that the Warton Manager ATS consults with the ATC Operational Team to provide, without being too prescriptive, outline guidance to controllers regarding the passing of multiple items of Traffic Information and what constitutes a definite hazard when deciding to update Traffic Information.

## OBSERVATIONS

The pilot of [the C172] had decided not to call Warton Radar when flying from [departure airfield] to Southport and back. Whilst the pilot was fully within their rights to transit VFR without any ATC service, the Southport area is a congested piece of Class G airspace that is adjacent to the Warton MATZ and where aircraft from multiple units cross under VFR; Warton is a LARS Unit and would be happy to provide a service and situational awareness to any pilot crossing this area during its hours of LARS service.

The pilot of [the Tutor] obviously decided, after landing, to submit a DASOR and file an Airprox. Warton ATC was not made aware of this until 2 days later; therefore, the Warton Radar controller’s recollections on their DASOR were not as clear as they might have been had they written the report on the same day.

## UKAB Secretariat

The Tutor and C172 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 converging then the Tutor pilot was required to give way to the C172.<sup>2</sup>

### Tutor Sqn Occurrence Investigation

The Sefton coastline adjacent to RAF Woodvale is a frequented line feature for GA operators in the local flying area. Southport Pier (015°/4NM from Woodvale) is a popular landmark for traffic routing in and out of Blackpool and is defined within a Blackpool departure route (St Annes Pier - Southport Pier not above 1500ft AMSL) to minimise incursion into the Warton MATZ. Barton traffic often uses Southport Pier whilst routing to Blackpool as it ensures clearance from the Woodvale ATZ. Tutor aircraft departing Woodvale are usually in the process of contacting Warton Radar in the vicinity of Southport Pier and recovering Tutors will switch from Warton Radar back to Woodvale ATC on recovery at approximately 4NM from the airfield to organise recovery. Therefore, the coastline north of Woodvale up to the Ribble Estuary is a known hotspot for light-aircraft. During May 2023, recommended departure and arrival flow patterns in and out of Woodvale were published in the FOB<sup>3</sup> for each runway primarily to deconflict departing and arriving Woodvale traffic when no Traffic Service is available from Warton (weekends). As the Ainsdale-Birkdale-Southport built-up area is noise sensitive, the coastline features as a departure or arrival routing for all Woodvale runways. A requirement to remain 'feet dry' tends to concentrate Tutor traffic along the coastline route, deconflicting from opposite Woodvale traffic routing to the east of the Ainsdale-Birkdale-Southport built up area.

## Comments

### HQ Air Command

On check-in with Warton, the Tutor pilot was provided with Traffic Information on 3 contacts in the area, of which they visually acquired one. The Tutor pilot made a sensible plan to reduce the climb rate to deconflict with that aircraft and, with the other aircraft unsighted, to level off at 2800ft. The position of the C172 was not updated by Warton to the Tutor pilot but the TAS alerted on that traffic, now co-altitude. With the traffic unsighted, the Tutor pilot had a few uncomfortable moments and manoeuvred to try to gain visual before they finally sighted the other aircraft behind them. Traffic density assessments have shown that this is not a particularly busy area when compared to other 6FTS operating sites but the hazards of operating in Class G airspace with other light-aircraft users is a well monitored risk within 6FTS and mitigated by the aircraft equipment and operating procedures. When a Traffic Service is not available, Woodvale has ground-based tools that can assist in building a picture of traffic in the local area. Southport Pier is a well-used VRP and pilots should ensure they apply good lookout techniques when flying in such areas; this is enhanced by on-board electronic conspicuity tools and a Traffic Service when available. If/when it is safe to do so, reporting an Airprox on frequency will allow evidence, such as tape transcripts, to be impounded which will better aid investigation and understanding of an occurrence.

### AOPA

As this report evidences, it is useful if pilots report an Airprox on the frequency in use. In a known busy environment, use of a Traffic Service enhances flight safety and assisting in the mitigation of mid-air collisions.

<sup>1</sup> (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> (UK) SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

<sup>3</sup> Flying Order Book.

## Summary

An Airprox was reported when a Tutor and a C172 flew into proximity in the vicinity of Southport at 1440Z on Tuesday 7<sup>th</sup> March 2023. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of a Traffic Service from Warton Radar and the C172 pilot listening-out on the Barton frequency.

### **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 Board considered the actions of both pilots and those of the controller. They noted that the Tutor pilot had received Traffic Information from the Warton controller and although this had not been updated, the pilot had received further information from their TAS, which indicated that the conflicting traffic had been at a similar level. Although it was noted that the pilot reported that they had been concerned by further traffic below them, the Warton controller had given information on 3 aircraft above the Tutor and members wondered why the Tutor pilot had not simply levelled off below the conflicting traffic. They opined that, if concerned, the pilot could have requested an update from the Warton controller. For their part, the C172 pilot reported that they had been visual with a Tutor, but given that they reported that the Tutor had been 3-4NM away, members thought that the pilot had probably been visual with the other Tutor in the area. They noted that the C172 pilot had not been receiving an ATS and, observing that Warton was a LARS provider, thought that the C172 pilot may have been better served requesting a service from them, rather than listening out on an airfield frequency from some distance away. Receiving such a service may have provided the pilot with some situational awareness that the Tutor had been in the vicinity. That being said, members were satisfied that there had been sufficient separation between the aircraft and that there had been no risk of collision. It was therefore agreed that normal safety parameters had pertained and, as such, the Board assigned Risk Category E to this event. Members agreed that the following factors (detailed in Part C) had contributed to, or were outcomes from, this Airprox:

**CF1:** The C172 pilot had not requested an appropriate ATS.

**CF2:** The Tutor pilot could have stopped their climbed below the altitude of the C172.

**CF3:** The Tutor pilot had climbed to the same level of the C172, despite having received Traffic Information from ATC and information from the TAS.

**CF4:** The C172 pilot had received no situational awareness that the Tutor had been in the vicinity prior to becoming visual.

**CF5:** The Tutor pilot had become concerned by the TAS indications and believed the C172 to be closer than it had actually been.

**CF6:** The TAS in the Tutor alerted.

**CF7:** The Tutor pilot could have used the information from the TAS to level off below the C172.

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

2023028				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
1	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
2	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
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
3	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
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	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
7	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

**Degree of Risk:** E.

**Safety Barrier Assessment<sup>4</sup>**

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the Tutor pilot could have stopped their climb below the level of the C172 and the C172 pilot could have called Warton for an ATS.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the C172 pilot had received no situational awareness on the Tutor.

**Electronic Warning System Operation and Compliance** were assessed as **partially effective** because the Tutor pilot could have used the information from the TAS to level-off below the C172.

**See and Avoid** were assessed as **not used** because although the pilots had not been visual at CPA, there had been adequate separation between the two aircraft.

<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).



<b>Airprox Barrier Assessment: 2023028</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				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	✗	○					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	●				
Application	✓	⚠	✗	●				
Effectiveness								