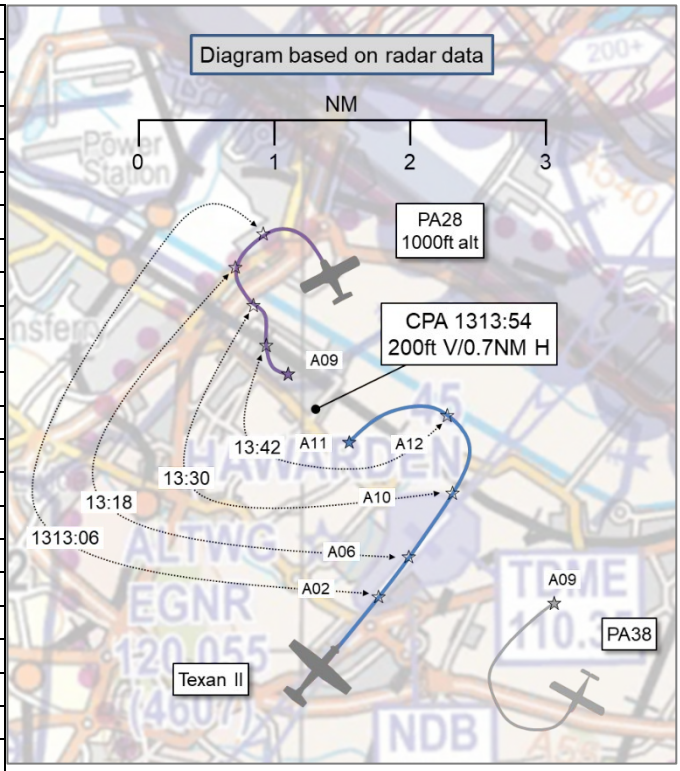
AIRPROX REPORT No 2024263

Date: 23 Oct 2024 Time: 1314Z Position: 5312N 00300W Location: Hawarden aerodrome

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Texan II	PA28
Operator	HQ Air (Trg)	Civ FW
Airspace	Hawarden ATZ	Hawarden ATZ
Class	G (RMZ)	G (RMZ)
Rules	VFR	VFR
Service	Traffic	ACS
Provider	Hawarden Radar	Hawarden Tower
Altitude/FL	1200ft	1000ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	Black/yellow	White/blue/gold
Lighting	Nav, anti-col, nose	Beacon, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1100ft	1030ft
Altimeter	QNH (1028hPa)	QNH (1028hPa)
Heading	220°	040°
Speed	180kt	110kt
ACAS/TAS	TCAS I	SkyEcho
Alert	TA	None
Separation at CPA		
Reported	0ft V/~0.5NM (~925m) H	0ft V/1450m (0.8NM) H
Recorded	200ft V/0.7NM H	



THE TEXAN II PILOT reports commencing a descent on the ILS RW04 against the stream at Hawarden. Civilian traffic in the circuit was called to them that would be remaining clear, orbiting downwind with the mention of a right-hand pattern. Both crew were visual with the called traffic which was, as stated, downwind to the right of the centreline and clear of the approach. Their departure details were a left turn VFR to depart to the west, which would keep them clear of the active side of the runway. The non-handling pilot (and testing officer) lost visual with the light civilian traffic whilst monitoring the final stages of the approach. The low-approach and go-around was executed; the testing officer took control and informed Hawarden Radar of the go-around. At the same time Hawarden Radar called the traffic but this call was stepped on by the go-around call. A left turn was initiated at about 800ft, prior to the river. During the left turn through about 120° downwind, a TCAS alert showed traffic in the vicinity within 300ft, at which point the lateral positioning was not trusted (due to lateral inaccuracies). Traffic information was then passed again by ATC, this time placing the light aircraft on their side of the runway, at which point the turn was tightened to roll out on the departure heading. On roll-out, a light civilian aircraft was seen in the 3 o'clock in a left-hand turn belly-up inside about 0.5NM.

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

THE PA28 PILOT reports being the sole occupant and pilot in command. The flight was conducted for post maintenance positioning which included a short period of air testing west of the field prior to requesting joining instructions from Hawarden Radar. Having been cleared to right base for RW22 they transferred to Tower and were cleared to continue to final approach with the request to keep the speed up due to a Texan II carrying out an ILS to RW04 which was at a range of 4NM. They complied with this and, on being cleared for touch-and-go, were asked for an early right turn. In response they maintained high speed but with a reduced rate of climb and a shallow angle of bank to ensure that their flight path routed south of the housing and industrial estate on the east side of the field, thereby

providing the best noise abatement available in the circumstances. The shallow turn was continued as a continuous climb into the right-hand downwind leg. On levelling off, they obtained visual contact with the Texan II in the 3 o'clock as it commenced its initial climb out. On reporting downwind, they were informed that the Texan II would be turning left. At that point they expected it to turn and stabilise on a heading that would have either taken it across their path or, given its performance, allow it to pass overhead. As they reached the Dee estuary and prepared to turn base it became evident that the Texan II had commenced its left turn. It appeared to stabilise at the same altitude and then levelled its wings onto a heading directly towards them. At this point they did not know if the Texan II [pilot] had them in sight and, as they were almost on opposing headings, they felt they were no longer in a position to give way by passing behind it and thus prepared for it to break right as per the Rules Of The Air. However, the Texan II continued its path toward them leaving them with no other option but to break hard left and provide as much room as possible between them. As they started to roll they were aware the Texan II [pilot] had re-commenced their left turn. [The PA28 pilot], on completing their turn, rolled wings level to ensure they had visual contact with the [Texan II], which by now was clear to the right and on a reciprocal heading to the downwind leg. Having satisfied themself that the risk of conflict was gone they continued the approach and landing. Whilst not wishing to provide a cause for this event, they felt that the fact that both aircraft were on different frequencies (the Texan II being on Radar) did not allow the Tower controller the opportunity to provide better separation. They felt that in future it would be safer to have ILS traffic transfer to Tower when the circuit was active. However, as a resident owner based at Hawarden and as an instrument rated pilot, they stated that for them the root cause of the incident lay in the decision of Liverpool ATC to veto the use of its airspace by aircraft wishing to utilise the RW22 ILS for training purposes. Having aircraft carry out instrument approaches in tail wind conditions using an offset ILS with a steeper than normal glideslope whilst also being integrated with VFR traffic working in the opposite direction was only going to result in more incidents like this. They requested that the situation be reviewed by all parties as soon as possible.

The pilot assessed the risk of collision as ‘High’.

THE HAWARDEN RADAR CONTROLLER reports they were vectoring [Texan II C/S] for an ILS approach to RW04, the opposite runway in use due to the restrictions imposed on them by a Liverpool safety directive for utilising their airspace for training traffic. The VFR fixed-wing circuit was active, left-hand for RW22. They gave [the] Tower [controller] a 13 mile call on [Texan II C/S] for the ILS RW04 after they had asked for the ILS to be switched over from RW22 to RW04 and informed the ATCO that [Texan II C/S] would be departing to the west after the low-approach. When established on the ILS they believe they asked the pilot of [Texan II C/S] to reduce to minimum approach speed as they passed Traffic Information on the circuit traffic on climb-out from RW22 who would be turning into the left-hand circuit. They then, through the window, noticed another aircraft which had just carried out a touch-and-go and was on climb-out. They queried with the Tower ATCO if that traffic was going into the right-hand circuit as [Texan II C/S] was now at around 4 miles for a low-approach and they knew there wouldn’t be enough room for that aircraft to follow the noise abatement procedure for the left-hand circuit. The Tower ATCO confirmed the circuit traffic was going into the right-hand circuit and had already turned right and so then gave them a low-approach clearance for [Texan II C/S] for RW04. Once they had passed this clearance to the pilot, they went back to the Tower ATCO to confirm that the aircraft in the right-hand circuit would be orbiting at the beginning of the downwind leg as the [Texan II C/S] was turning right, which they then corrected to turning left. As [Texan II C/S] was carrying out the low-approach, they noticed the aircraft in the right-hand circuit had continued downwind and had just started to orbit at the end of the downwind leg. They immediately passed Traffic Information to the pilot of [Texan II C/S] about the PA28 orbiting over the River Dee at the end of the downwind leg/right base. They believed the pilot didn’t hear this information as the pilot had transmitted at the same time, to inform them that they were going around. They then passed the Traffic Information again, to which the pilot then said they were visual and “it was close”. They believed the pilot of [Texan II C/S] turned sharply to the left to avoid the orbiting circuit traffic and tracked southwest. After subsequently talking to the Tower ATCO, there was confusion over the direction [Texan II C/S] was going after the low-approach, the Tower ATCO heard them say it was turning right but did not hear their correction of it turning left and the ATCO didn’t recall them earlier saying that [Texan II C/S] was departing to the west. As the Tower ATCO thought [Texan II C/S] was turning right, they had instructed the aircraft in the left-hand circuit RW22 to orbit at the beginning of the downwind leg and not the aircraft in the right-hand

circuit. Had the aircraft in the right-hand circuit orbited at the beginning of the downwind leg, there would not have been an issue.

THE HAWARDEN TOWER CONTROLLER reports RW22 was in use. [PA28 C/S], a PA28, was joining from the northwest for RW22, [PA38 C/S], a PA38, had just got airborne and was upwind for left-hand circuits RW22, [Texan II C/S], a Texan II, was being vectored for an instrument training approach RW04. [PA28 C/S] and [PA38 C/S] were both on Tower frequency and [Texan II C/S] remained on the Radar frequency for the entirety of its approach. [PA38 C/S] turned final for their first touch-and-go, with [PA28 C/S] on right base. [PA28 C/S] was told they were number 2 to [PA38 C/S] and to report final, [Texan II C/S] was established on the ILS RW04. [PA38 C/S] did their touch-and-go and [PA28 C/S] reported final. They cleared [PA28 C/S] to land but the pilot informed them they were hoping to join the circuit. This was the first time they had heard they intended on joining the circuit as the strip was an arrival strip in an orange strip holder. They considered their options and came to the conclusion that if [PA28 C/S] did a touch-and-go to join the right-hand circuit, with an early right turn it would have turned right with enough time ahead of [Texan II C/S] on the RW04 approach. They gave [PA28 C/S] their right-hand circuit clearance, then cleared them for a touch-and-go with an early right turn in the climb. [PA28 C/S] did their touch-and-go and did an early right turn well ahead of [Texan II C/S]. The [Radar] controller came through when [Texan II C/S] was on a 4 or 5 mile final RW04 and asked if the aircraft that had just got airborne was going into the right-hand circuit. They said that it was and had now made an early turn into the circuit so [Texan II C/S] was cleared for a low-approach RW04. The [Radar] controller acknowledged this and said that [Texan II C/S] was going to be turning right after the low-approach. They believe the [Radar] controller came through again to establish what their plan was with the circuit traffic as [Texan II C/S] was going to be turning right. They said that they were going to hold the right-hand circuit traffic ([PA28 C/S]) at the end of the downwind leg, and the left-hand circuit traffic ([PA38 C/S]) at the start of the downwind leg. As [Texan II C/S] was carrying out the low-approach the [Radar] controller came through to them again and asked about the circuit traffic, saying that [Texan II C/S] was going to be doing a left turn. This was now a confliction with [PA28 C/S] who was holding at the end of the right-hand downwind leg. They gave updated Traffic Information to [PA28 C/S] on [Texan II C/S] and [PA28 C/S] said they were visual. This was just before [Texan II C/S] made a very tight left turn to depart to the southwest. They believe it was at this point that [Texan II C/S] experienced an Airprox with [PA28 C/S]. They were not informed of this and [PA28 C/S] didn't say anything to them either.

Factual Background

The weather at Hawarden was recorded as follows:

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METAR EGNR 231320Z 19009KT 140V220 9999 SCT034 16/08 Q1028=
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Analysis and Investigation

CAA ATSI

The traffic situation was managed well throughout by the Tower controller but there was confusion between Tower and Radar controllers with regards to which direction the Texan II was turning after the go-around, and also in how Traffic Information was being passed to the Texan II [pilot] by the Radar controller. When the Radar controller requested the intentions of the Texan II pilot after the go-around after they had first called up, the pilot had requested and was approved to carry-out a left turn VFR to the west.

Although ATSI was provided with a recording of the internal comms between controllers, it did not include any initial “warning-in” of the Texan II and so any of the pilot’s intentions communicated by the Radar controller to the Tower controller were not heard. The unit investigation, which didn’t include a transcript, only stated that the Texan II was turning to the west.

After a conversation about the intentions of the PA28 [pilot] between both controllers, the Tower controller gave the Radar controller a go-around clearance for the Texan II, and the Radar controller was then clearly heard to say that the Texan II would be going “right low level”. Any subsequent correction to that by the Radar controller at that time was not distinguishable on the recording as

the Tower controller then immediately confirmed that they would orbit their traffic which was in the left-hand circuit RW22 (midpoint downwind). Ultimately, however, a further conversation did take place between the controllers which clarified that the Texan II was to turn left. The two aircraft in the circuit were given Traffic Information by the Tower controller on the Texan II and their positions were such that it would have facilitated a safe left turn for the Texan II on RW04 at that time. However, after the Texan II was seen to go-around the Tower controller cleared the PA28 to roll-out of their orbit to join right base RW22 and therefore was then tracking towards the Texan II's intended routeing. Earlier on final approach, the Texan II pilot had been advised by the Radar controller that there was traffic in the left-hand circuit for RW22 and then following clarification with the Tower about the PA28 pilot's intentions, the controller added that the right-hand circuit was also active. However, this information, which was acknowledged by the Texan II pilot, omitted the runway reference and although the pilot did report "visual", with what could not be determined. Subsequent Traffic Information updates were passed with aircraft positions given in relation to the RW22 circuit (i.e. left-hand/right-hand but with no mention of the runway direction).

It was clear, following the Texan II pilot's comments about coming into proximity with the PA28 to the north of the airfield, that they weren't expecting traffic to be there, and had therefore not actually assimilated that both circuits were active. The Radar controller had continued to pass traffic [information] to the Texan II pilot on the traffic holding to the north, but this was passed as a position in the circuit with no reference to which runway. However, as the Texan II [pilot] was going around, the Radar controller updated them on the position of the PA28, stating that the aircraft was holding on the River Dee. When the Texan II pilot reported that transmission being "stepped on", the controller repeated it and included the information that the traffic was "to the north and west of the airfield" and asked the pilot if they were visual with it. The Texan II pilot eventually replied that they were visual and that "that was quite close".

When it was confirmed that the Texan II was to make a left turn on the go-around, the Tower controller passed good and timely Traffic Information to the pilot of the PA28 giving them sufficient time to acquire visual contact with its pilot stating their intentions to pass behind. The Texan II pilot was not aware of the presence of the PA28 despite Traffic Information having been passed earlier. Continuing to include a reference to which runway circuit the Radar controller was referring when passing Traffic Information on the positions of both circuit aircraft, or just using either the clock-method or cardinal points, may have aided better situational awareness for the Texan II pilot.

UKAB Secretariat

The Texan II and PA28 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] 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.[2]

Occurrence Investigation

The Hawarden investigation found as follows:

SUMMARY	OUTCOME
Event	Airborne conflict occurred between [Texan II C/S] & [PA28 C/S]
Management Control	Procedural error: Poor traffic information. Communication Issues: Poor coordination and traffic information. Resource: Lack of available approach to Runway 22 led to the [Texan II C/S] ILS training approach being conducted to Runway 04 due to the Liverpool Safety Directive.

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 17.

Basic Cause	[Texan II C/S] was unaware of [PA28 C/S] position when the airborne conflict occurred. This is due to traffic information being passed by the [Radar] ATCO that was not concise as the runway was not included on multiple occasions.
Contributory Factor	Communication issues: [Radar] ATCO passing the wrong direction outbound turn for [Texan II C/S] during coordination with the [Tower] ATCO. Although the [Radar] ATCO attempted to correct this at the final coordination the [Tower] ATCO missed the correction as they were giving the readback of the initial outbound information and this led to the [Tower] ATCO setting their traffic situation up for a right turn out by [Texan II C/S].
Ancillary Factor	Due to the Temporary Operating Instruction in force that incorporates the Liverpool safety directive, training approaches are not permitted to Runway 22 (outside the period 0900 – 1100). [Texan II C/S] was carrying out the training ILS approach to Runway 04 when the visual circuit was active Runway 22. This caused confusion for [Texan II C/S] pilot with the traffic information passed as the assumption was that the traffic information was passed in relation to Runway 04.
Root Cause	Errors within the communication between the two ATCOs and passing of traffic information to [Texan II C/S] created a situation where [PA28 C/S] was in confliction with [Texan II C/S], and [Texan II C/S] was not aware of this aircraft.
Human Factors	Lack of Communication: Inaccurate Traffic information passed and errors in the communication between the [Tower] ATCO and [Radar] ATCO which resulted in both ATCOs having different pictures of the traffic situation. Lack of Assertiveness: Traffic information could have been passed better than it was. [Tower] ATCO could have informed the [Radar] ATCO of the intention of [PA28 C/S] to conduct a circuit. [Radar] ATCO may have been able to take action quicker to correct the outbound clearance for [Texan II C/S] when they realised [PA28 C/S] was not where they expected for [Texan II C/S] left turn. Lack of Awareness: [Texan II C/S] pilot was not aware of an aircraft to the west of the aerodrome. Both ATCOs had a lack of situational awareness. Lack of Teamwork: Errors occurred in the coordination between the [Tower] and [Radar] ATCO. Coordination between the ATCOs was 'informal' which led to complacency and errors. Lack of Knowledge: [Texan II C/S] was not aware of an aircraft in the circuit to the west of the aerodrome. Too much Norms: It has been common practice for ATCOs to accept training approaches to Runway 04 when Runway 22 is the declared runway. Common practice within the military is to have one circuit active. [Texan II C/S] was not expecting both circuits to be active. Too much complacency: Both ATCOs were complacent in their coordination leading to errors. It has become the norm to accept training approaches to Runway 04 when Runway 22 is the declared

	runway, which may have led to ATCOs becoming complacent and not giving the risks the full appreciation.
Outcome	Airprox was filed by [Texan II C/S] pilot against [PA28 C/S]

Recommendations from Investigation	Accepted Y/N	Reason if no
Opposite Direction training approaches suspended pending safety review and implementation of new procedures – - HAZID/RA - Procedures published	Y	
[Radar] ATCO: ATC Training Coordinator to brief on Traffic Information, coordination techniques and dynamic thinking/alternative options/assertiveness.	Y	
Standards Bulletin to include: - Traffic information and use of compass direction when passing circuit traffic. - Coordination between ATCOs to use compass direction when specifying turns after Low Approaches. - Readbacks within coordination to be clearly heard, acknowledged, and understood.	Y	
All aircraft to fly the full length of the runway before turning on track: - All ATCOS to be briefed. Alternative missed approach procedures agreed by Letter of Agreement with [RAF Valley] and [RAF Shawbury] to be updated to include the need for aircraft to fly the full length of the runway before turning on track. - Consider the use of VRPs for Hawk and Texan VFR outbound to prevent the risk of tight turns inside circuit traffic.	Y	
Use of Simulator to familiarise ATCOs with opposite runway approaches.	Subject to safety review.	ATCOs are familiar with the procedures, but if any learnings or significant changes come from the safety review and any new procedures then the Sim could supplement the awareness.

Behaviour Assessment
Mistake due to complacency in coordination between ATCOs along with complacency being present when accepting training approaches to Runway 04 when Runway 22 is the declared runway and not fully appreciating the risks associated with this.

The Manager Air Traffic & Aerodrome Services stated as follows :

I believe the investigation has thoroughly reviewed the event scenario, identified all contributory factors, the basic and root causes. I think the recommendations will go some way in applying appropriate control measures to reduce the risk of a repeat occurrence and I will ensure they are implemented in a timely manner.

A safety directive has been immediately published to suspend opposite direction training approaches until the safety review and implementation of new procedures are completed.

Comments

HQ Air Command

With the benefit of a local investigation by Hawarden, it's clear to see how communication was confused between the Hawarden Tower and Radar controllers. This confusion translated to a lack of situational awareness in the Texan cockpit as clear Traffic Information was not passed in a timely manner. The Texan pilot was therefore not given the opportunity to assimilate a plan to depart VFR west and avoid the PA28. They merely followed their departure clearance and were surprised to find conflicting traffic, with TCAS unable to give sufficient situational awareness at the last minute. Instrument approaches against the stream are a potential cause of confliction, so it's reassuring to see the training at Hawarden has been reviewed. These issues, in addition to the restrictions from Liverpool, have been socialised amongst pilots at RAF Valley such that extra vigilance can be applied when visiting Hawarden in similar circumstances.

Summary

An Airprox was reported when a Texan II and a PA28 flew into proximity at Hawarden aerodrome at 1314Z on Wednesday 23rd October 2024. Both pilots were operating under VFR in VMC, the Texan II pilot in receipt of a Traffic Service from Hawarden Radar and the PA28 pilot in receipt of an Aerodrome Control Service from Hawarden Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data, 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 first discussed the actions of the Hawarden Tower and Radar controllers and agreed that they had not been able to achieve effective coordination between the Texan II, on an instrument approach 'against the stream', and the PA28, holding to the northwest in the visual circuit (**CF1**, **CF3**). Controller members expressed their concern when dealing with an approach conducted to a reciprocal runway and opined that such an arrangement, whilst not unworkable, was fraught with potential hazards. Members agreed that clear Traffic Information had not been passed in a timely manner (**CF2**) which had denied the Texan II pilot situational awareness on the PA28 (**CF7**) and confusion between the Radar and Tower controllers had resulted in the Tower controller having incorrect situational awareness on the Texan II departure direction (**CF5**), expecting it to turn right (**CF4**) and setting up the visual circuit to accommodate that (**CF6**). The PA28 pilot had seen the Texan II and, although they had been instructed to report right base, they had been in a position to maintain effective separation on the Texan II, notwithstanding its speed. The Board agreed that theTexan II pilot had not had situational awareness on the PA28 and had been understandably concerned by its proximity when they had received a TCAS warning (**CF8**, **CF9**). The Board was not able to determine definitively why the PA28 TAS had not alerted (**CF10**) but was satisfied that the actions taken by both pilots had resolved any risk of collision, Risk C. Finally, the Board noted that it was for the local ANSPs to resolve issues surrounding the requirement and use of instrument approaches against the stream, but commended Hawarden for their comprehensive and valuable investigation.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024263			
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	• ATM Coordination	Coordination related issues (external as well as internal)	
4	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
5	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
6	Human Factors	• Traffic Management Information Provision	An event involving traffic management information provision	The ANS instructions contributed to the Airprox
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
7	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
8	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
	• Electronic Warning System Operation and Compliance			
9	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
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

Degree of Risk: C.

Safety Barrier Assessment[3]

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 the Radar and Tower controllers did not achieve effective coordination between the Texan II and PA28.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Tower controller had inaccurate situational awareness of the Texan II departure track, consequently did not pass complete Traffic Information on the PA28 and passed clearances that contributed to the Airprox.

[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Texan II crew had very late situational awareness on the presence and position of the PA28.