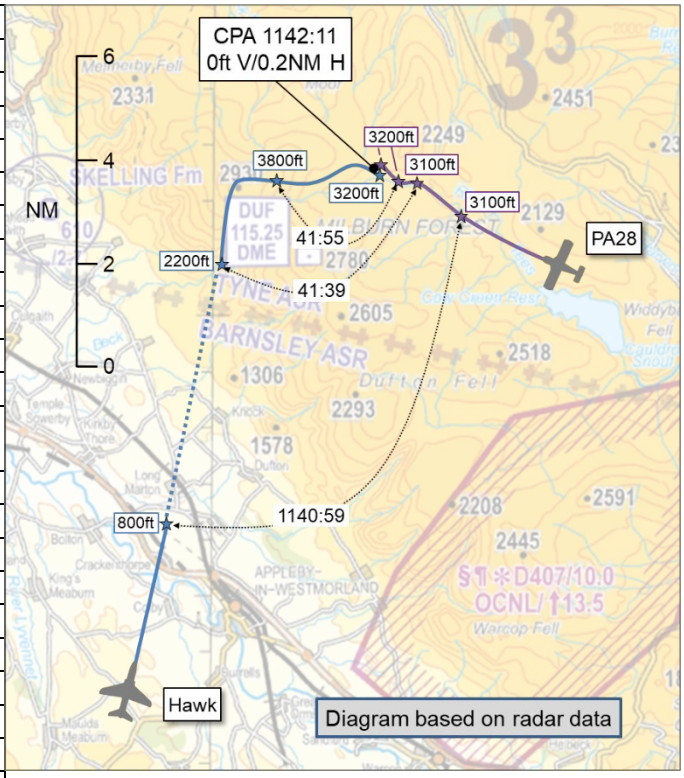
AIRPROX REPORT No 2025078

Date: 06 May 2025 Time: 1142Z Position: 5443N 00225W Location: 2NM NE of Cross Fell Peak

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Hawk	PA28
Operator	HQ Air (Trg)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	LL Common	London Info
Altitude	3200ft	3200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Black	White, blue, red
Lighting	Strobes, nav lights	Ldg, taxi, nav anti-colls, HISL.
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	FL34
Altimeter	Rad Alt	SPS
Heading	090°	NR
Speed	420kts	NR
ACAS/TAS	TCAS I	Not fitted
Alert	TA	N/A
Separation at CPA		
Reported	0ft V/<1000ft H	300ft V/50m H
Recorded	0ft V/0.2NM H	



THE HAWK PILOT reports that, post turn over a mountain peak, the TCAS warned of traffic in close proximity. Whilst the front seat trainee handling pilot stated 'looking', a glance at TCAS showed something within 400ft. Four seconds later, the front seat pilot gained tally and performed a 6g break away from the traffic. The rear seat [pilot in charge] gained tally whilst the traffic passed through the HUD co-altitude, inside 1000ft.

The pilot provided the coordinates and time of the Airprox, noting that they were on a heading of 090° at 1000ft radar altitude, with a light-aircraft heading 330°, and perceived to be on a collision course. Their last call on the Low Level Common frequency was at 1140:48, the other side of the mountain [prior to the] Airprox. The pilot further commented that they cannot make calls for every hill they go over as they are flying at 500mph and going over many hills/mountains. The last call was in an open area, most likely to reach any other aircraft in the local area.

They further reported that, after rolling out over the ridge, when the TCAS alerted the RADALT reading was 840ft with traffic 400ft below, but down a large hill, their altimeter would have read 3450ft on the RPS of 1021hPa. [They noted that the] avoidance manoeuvre was flown at 1000ft AGL, with the [altimeter] reading 2700ft in the turn on 1021hPa (RPS) with the traffic slightly below, and that after rolling out of the avoidance turn the RADALT read approximately 1000ft AGL.

[They surmised that] it appeared that the traffic was flying at about 900ft AGL, which would probably read 3000ft on their [altimeter], but they were well within the Low Flying Area. They would not expect GA traffic to be less than 2000ft *'but that doesn't stop them'*; there could be military traffic there so they were always aware and looking out.

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

THE PA28 PILOT reports that, as they were closing in on [their destination], they started a slow descent to get a better view of the hills as they were coming in to land. In the distance they saw a jet which suddenly turned in their direction and, with no avoidance attempt from the [Hawk] pilot [they believe], they banked steeply to get out of the way followed by a steep climb to increase separation.

THE LONDON INFORMATION FISO reports that they had no recollection of the events, and have gleaned any information by viewing a radar replay of the FID, listening to available RT and viewing the paper strip which was recorded on the day.

[The PA28 pilot] called on FIS North frequency at 1129 requesting a Basic Service, a PA28 with 2POB, routeing [and position] at 5000ft on QNH1022. [The pilot] changed frequency at 1146.

No further transmissions were recorded from [the pilot of the PA28] on frequency and no mention of an Airprox was made.

Factual Background

The weather at Newcastle Airport was recorded as follows:

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METAR EGNT 061150Z VRB02KT 9999 FEW043 16/05 Q1026
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Analysis and Investigation

NATS

Safety Investigations was notified by the UK Airprox Board of a pilot-reported Airprox in the vicinity of Cross Fell in the Pennines between [a PA28], receiving a Basic Service from London Information, and a military Hawk using callsign [C/S]. A confliction was not reported on the frequency.

Information available to the investigation included:

- CA4114 from the London Flight Information FISO (FISO).
- DASOR report from the pilot of [the Hawk] (UKAB Ref No: 2025078 AC1).
- Airprox report from the pilot of [the PA28] (UKAB Ref No: 2025078 AC2).

London Information was operating with a trainee FISO and Instructor in position. [The PA28 was] routeing from [departure] to [destination]. The pilot contacted the London Information (LFIS) frequency at 1129:20, reported VFR and requested a Basic Service. Squawk 1177 was issued with a Basic Service agreed.

[The Hawk was] operating within the Pennines, and displayed squawk 7001 (Military Fixed-Wing Low Level Conspicuity and Climb-out). It first appeared on NODE Radar at 1140:12 at altitude 1100ft, approximately 12NM southwest of [the PA28] on a converging track. The aircraft then displayed low level at around 400ft altitude. The target then disappeared from radar. At 1141:42, [Hawk C/S] re-appeared on radar at altitude 1800ft, 3.5NM west-southwest of [the PA28] which was maintaining 2700ft. [Hawk C/S] then turned east onto a conflicting track at 1141:56 (Figure 1) with a rate of climb (ROC) of 6100ft per minute (fpm) to 3500ft.

Figure 1 – Time 1141:56

[The PA28] was climbing through 2800ft at this time and appeared to enact a sharp left turn followed by a sharp right turn prior to the confliction (Figure 2).

The closest point of approach occurred at 1142:06 and was measured on NODE radar as 0.2NM and 100ft (Figure 2). The radar-derived rate of descent displayed [the PA28] descended 100ft at 1300fpm at this time, followed by an immediate climb on the next radar update.

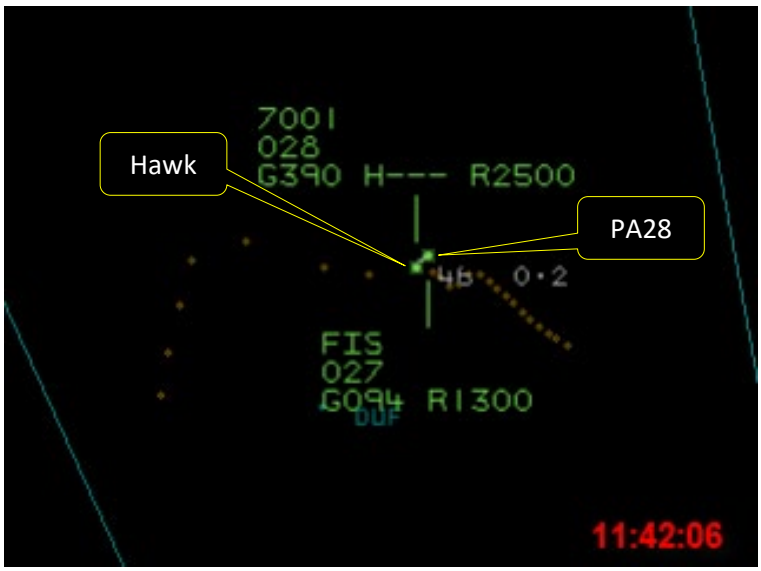

Figure 2 – CPA at 1142:06

Subsequent radar trails suggested [that the PA28] performed an avoidance manoeuvre whilst [Hawk C/S] appeared to turn right and maintain their approximate altitude (Figure 3).

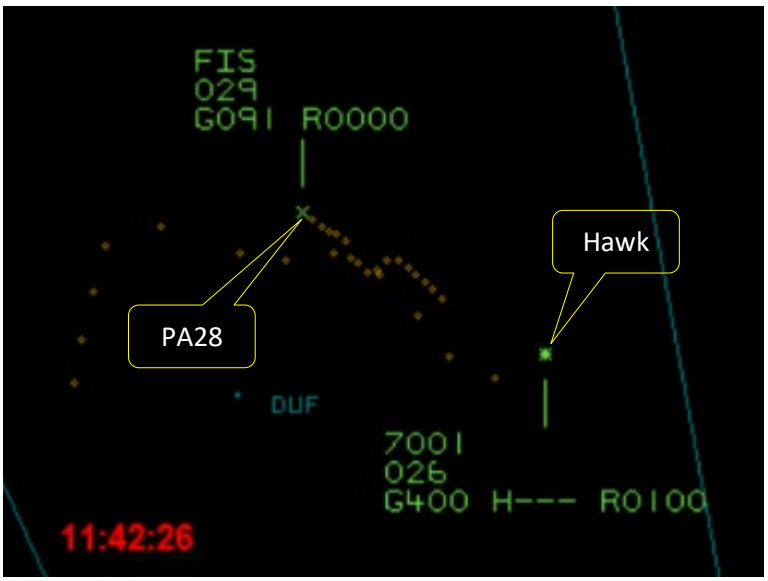

Figure 3 – Post CPA heading alterations on both aircraft.

[The PA28 pilot] reported leaving the frequency at 1145:56. The confliction was not reported on frequency.

NATS concluded that the Airprox occurred when the pilot of [the PA28] observed a Hawk jet turning towards their track and performed a turn and climb manoeuvre to avoid. The pilot of [the Hawk] observed a TCAS alert of [the PA28] and subsequently turned right to avoid. The Closest Point of Approach (CPA) occurred at 1142:06 and was recorded on Multi-Track Radar as 0.2NM and 100ft.

CAA ATSI

With [the Hawk] in the Low Level system and [the PA28 pilot] apparently receiving a non-surveillance based FIS, [the pilot of the PA28] would not have been aware of the presence of [the Hawk].

Hawk Operating Authority

Investigation summary: The detailed narrative aided the investigator with understanding the event and why it likely happened. The incident happened in LFA17, which is Class G airspace. Operating in Class G airspace increases the likelihood of a mid-air collision (MAC) due to the limited communications service.

TCAS warned [the Hawk crew] of traffic in close proximity *"approximately 400ft"* in the vicinity of [Cross Fell Peak] at 1142:02, heading 090°. [They were at] 1000ft radalt [and there was] a light aircraft heading 330°, perceived to be on a collision course.

The third-party aircraft was flying low level and picked up on TCAS. The crew identified the threat and took adequate avoiding action to prevent a MAC event.

The third-party aircraft was not under the remit of [the Hawk unit]. The incident was reported and briefed to all crews as a reminder of the real threat posed by third-party aircraft in the same airspace.

The investigator observed that the crew performed well in identifying the TCAS contact and taking suitable avoiding action.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were positively identified using Mode S data. The Hawk was seen initially heading 010° at low level before temporarily disappearing from the radar display. The PA28 was to the northeast of the Hawk heading 295° (Figure 4).

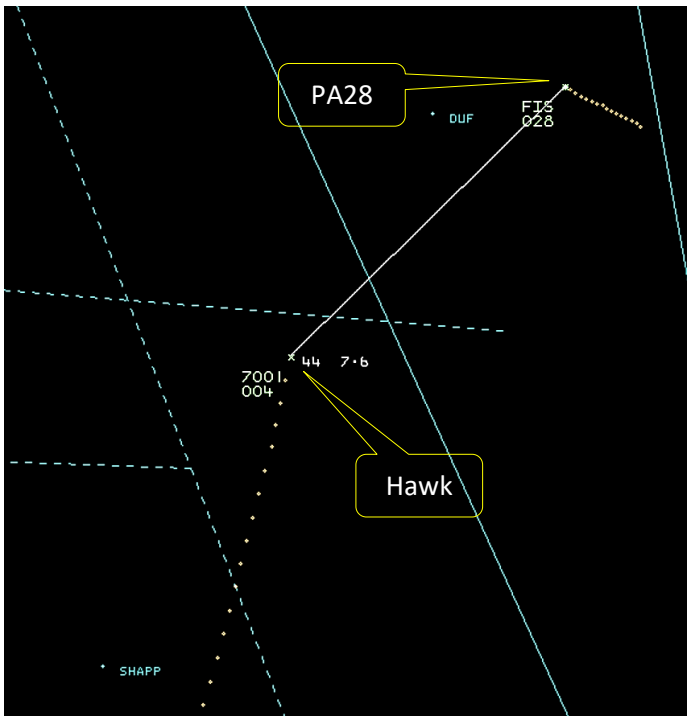

Figure 4 - Time 1140:59

The Hawk reappeared on radar at 1141:39, climbing on an easterly heading and the PA28 had turned on to a westerly heading. CPA was assessed to have been at 1142:11 with 0ft vertical and 0.2NM lateral separation (Figure 5).

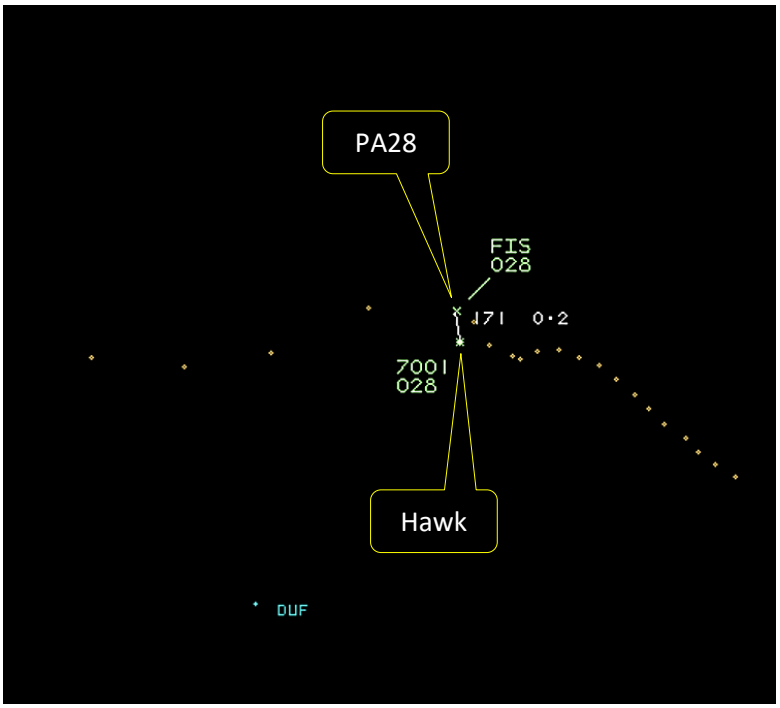

Figure 5 - CPA 1142:11

The Hawk 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] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2]

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

Comments

HQ Air Command

The Hawk crew was conducting low-flying training in LFA17 and consequently was unable to receive an Air Traffic Service and was utilising the Low-Level Common frequency. Having completed a planned turn over a mountain peak onto an easterly heading, the crew was alerted by TCAS of a possible conflict. This aided the handling pilot in visually acquiring the PA28, allowing timely and appropriate avoiding action to be taken. This incident highlights the benefits of using compatible electronic conspicuity systems and the prompt actions of both crews prevented safety margins being further eroded.

AOPA

Whilst flying in this area, not necessarily at low level, it should be remembered that there is the published communication frequency that could be useful for situational awareness.

Summary

An Airprox was reported when a Hawk and a PA28 flew into proximity 2NM northeast of Cross Fell Peak at 1142Z on Tuesday 6th May 2025. The Hawk pilot was operating under VFR in VMC monitoring the Low Level Common frequency, and the PA28 pilot was operating under VFR in VMC in receipt of a Basic Service from London Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the FISO 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 first looked at the actions of the PA28 pilot and noted they had chosen to descend over the high ground enroute to their destination. The Board further noted that the pilot had been in receipt of a Basic Service from London Information and agreed that they may have been better served to have used the Low Level Common frequency due to the regular routeing of military air traffic in the vicinity of high ground when consolidating low level flight skills. During their discussion, members acknowledged that GA pilots were within their rights to fly according to 'the 500ft rule' and wanted to advise pilots to mitigate operation close to other airspace users by briefing their passengers to look out for other low flying aircraft, have their landing and navigation lights on, with their transponder on (all modes selected) and radio selected to the most pertinent frequency. In this case, the Board considered that the selection of the Low Level Common frequency would have been the main mitigation to a proximity event with another aircraft. Members agreed, therefore, that the PA28 pilot had not been effective in notifying traffic flying at low level of their intentions to operate at a similar altitude (**CF2**). Members discussed the general use of the Low level Common frequency by GA pilots, and it was mentioned that the LL Common frequency appeared to be utilised more frequently in Scotland than in England, with this Airprox taking place approximately 18NM south of the border with the Scottish FIR. The Board was keen to encourage pilots to make use of the frequency as appropriate throughout the UK, and wondered if it were possible to incorporate the frequency among a choice of radio frequencies prepared within electronic navigation software. However, this was considered a potentially complex resolution and it was noted that, for the purpose of pre-flight planning, the information was available in the UK AIP Gen 3.4 section, at paragraph 3.2.5. and copied here for ease of reference:

GEN 3.4 COMMUNICATION AND NAVIGATION SERVICES

3.2.5 VHF LOW LEVEL COMMON FREQUENCY

FOR USE WITHIN THE UK LOW FLYING SYSTEM (UKLFS)

a. Available for use by all aircrew, military and civilian, operating in Class G airspace at or below 2000 FT AGL in the UKLFS and should be monitored whenever possible.
b. Pilots should use this channel to broadcast their intentions to help improve situational awareness between all aircrew operating in the same area.
c. The channel assigned is 130.490 and shall be known as the "LL-Common Frequency".
d. The conditions of use are:
  i. Pilots should make use of the LL Common Frequency only when not in receipt of a Lower Airspace Radar Service or other Air Traffic Service, or when operating outside an area where a Frequency Monitoring Code and associated ATC frequency/channel is used.
  ii. Pilots should make blind calls. To prevent clutter the channel must not be used as a chat channel.
  iii. Transmissions should be accurate, clear and concise.
e. Transmission Timing:
  i. When safe and suitable.
  ii. When entering/exiting the UKLFS.
  iii. At turning points or significant heading changes.
  iv. Approaching well-known and recognisable physical features.
  v. Any time it is considered beneficial to the safety of the aircraft.
f. Blind call Content:
  i. Call Sign.
  ii. Aircraft type (and number, in case of formations).
  iii. Position in relation to reference points immediately identifiable to other pilots (using cardinal or inter-cardinal directions).
  iv. Altitude.
  v. Heading.
  vi. Next significant reference point.
g. Details of the UKLFS are shown in ENR 6-20 and ENR 6-21.

Note: Whilst civil aircraft will broadcast their Altitude above sea level based on QNH, military aircraft in the UKLFS will be operating on Radar Altimeter heights and broadcasting their height Above Ground Level. Civil operators should consider their actual height above ground when assessing any potential conflict with military traffic.

The Board agreed that, as the PA28 pilot had been unable to receive the Hawk pilot's R/T transmission, they had not had any situational awareness of the presence of the Hawk aircraft operating in their vicinity (**CF3**). The Board noted that the PA28 had been manoeuvred away from the Hawk once the pilot had seen the Hawk aircraft, and members agreed that the manoeuvre had been only shortly before the point of CPA and that, therefore, this had been a late sighting of the Hawk by the PA28 pilot (**CF5**).

The Board then discussed the actions of the Hawk pilot, and noted that they had made a call on the Low Level Common frequency just over one minute prior to climbing out of a valley whilst northbound. The Board noted that the timing and content of the R/T call would have been particularly significant had the PA28 pilot been operating on the frequency. Members agreed that, had the call simply announced a northbound climb from the valley, then this would not have been as pertinent as an announcement of a right turn onto east (for example). Although it was not a factor in this Airprox, the Board felt that it was a timely reminder of the importance of announcing significant and pertinent manoeuvres when practical. The Board noted that the Hawk's TCAS equipment had provided the Hawk pilot with an alert which had displayed the position of the PA28 (**CF4**) and that the PA28 had been sighted 4sec later, whereupon an avoidance manoeuvre had been initiated. Members agreed, therefore, that the pilot had had late situational awareness of the presence of the PA28 (**CF3**) and, furthermore, a late sighting of it (**CF5**).

The Board briefly touched on the actions of the London FISO and acknowledged that they had not been required to monitor the PA28 on a Basic Service (**CF1**).

In concluding their discussion, the Board noted that both the Hawk pilot and the PA28 pilot had sighted the other aircraft at a late stage and taken emergency avoiding action at the last minute (**CF6**). Members agreed that safety had been much reduced and, as such, the Board assigned a Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025078			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action			
3	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			
4	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
	• See and Avoid			
5	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
	• Outcome Events			
6	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

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:

Situational Awareness of the Confliction and Action were assessed as **not used** because the London Information FISO was not required to monitor the PA28 on a Basic Service.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot had not communicated their intentions on the Low Level Common frequency and had, therefore, also not heard the Hawk traffic in the vicinity.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had no situational awareness of the presence of the Hawk prior to becoming visual with it, and the Hawk pilot had had late situational awareness of the presence of the PA28 from their TCAS alert.

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

See and Avoid were assessed as **partially effective** because both the Hawk and PA28 pilots had seen the other aircraft too late to take timely and effective action.