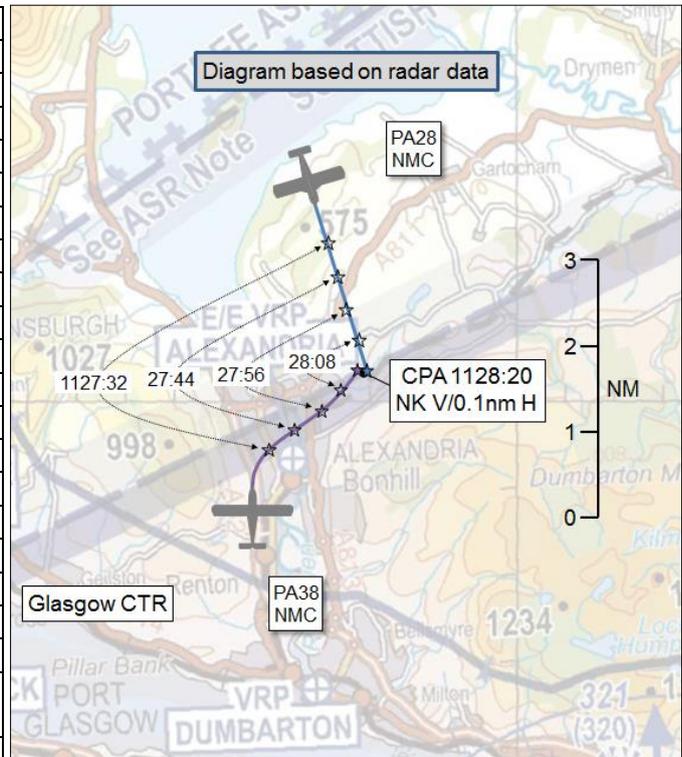


## AIRPROX REPORT No 2017218

Date: 27 Aug 2017 Time: 1128Z Position: 5600N 00433W Location: 3nm S Loch Lomond

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	PA38
Operator	Civ Trg	Civ Trg
Airspace	CTR	Scottish FIR
Class	D	G
Rules	VFR	VFR
Service	Radar Control	Basic
Provider	Glasgow	Glasgow
Transponder	A,S	A,S
Reported		
Colours	White, blue, red	White/black
Lighting	Strobes, beacon	Anti-coll, strobes
Conditions	VMC	VMC
Visibility	10km	10km
Altitude/FL	1800ft	~1900ft
Altimeter	QNH	QNH
Heading	180°	Easterly
Speed	120	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	100ft V/0 ft H	300-400ft V/2-3nm H
Recorded	NK V/0.1nm H	



**THE PIPER PA28 CHEROKEE ARROW PILOT** reports that he was over Loch Lomond and had received permission to enter the Glasgow Control Zone via Alexandria Visual Reference Point (VRP), for a Standard Entry for RW23, to report at Alexandria. He was then asked to hold at Alexandria. He could hear on the radio a PA28 going from Ardmore Point to Dumbarton. He completed one orbit. He also heard on the radio that there was a PA38 on the way out, on a Standard Exit. After that, he was cleared to enter the Glasgow Control Zone and continued into the Zone. The PA38 pilot reported that he was leaving the zone at Alexandria. He was looking back to Alexandria at the zone entry, looking for the PA38. He did not see it. The passenger in the back then said "There's an aircraft there". He turned round and the aircraft was in his one o'clock, at the same level, or almost the same level. He immediately pulled the yoke back and jumped over the top of him and continued en-route. The PA38 continued on its track as if its pilot had never seen him.

He assessed the risk of collision as 'High'.

**THE PIPER PA38 TOMAHAWK PILOT** reports that he was carrying out a training flight. He was overhead Alexandria on a Standard VFR exit route when he became visual with the other traffic. He did not consider there was any risk and he did not need to take any avoiding action.

He assessed the risk of collision as 'None'.

**THE GLASGOW CONTROLLER** reports that she could not remember any detail other than she was busy and that the PA38 pilot did not respond to Traffic Information.

### **Factual Background**

The weather at Glasgow was recorded as follows:

EGPF 271120Z AUTO 22012KT 9999 SCT016 OVC034 17/14 Q1016=

## Analysis and Investigation

### CAA ATSI

An Airprox was reported on the boundary between Class G and Class D airspace near Glasgow Airport, by the pilot of the PA28 as a result of the aircraft coming into proximity with the PA38 while entering the Glasgow Control Zone (CTR). ATSI had access to reports from the PA28 and the PA38 pilots and from Glasgow ATC Management. The area radar and R/T recordings were reviewed for the period of the incident. Screenshots in the report are taken from the area radar. All times UTC.

The PA28 pilot was on a local VFR flight from Glasgow Airport, had very briefly exited the CTR, and was re-joining on a standard RW23 VFR entry route as agreed by locally based light aircraft operators in accordance with a Letter of Agreement (LoA) and the associated procedures in the Glasgow Manual of Air Traffic Services Part 2. The PA28 pilot was in receipt of a Radar Control Service from Glasgow Approach Radar at the time of the reported incident. The PA38 pilot was also on a local VFR flight from Glasgow Airport and was exiting the CTR on a standard RW23 VFR exit route as agreed in the same LoA. The PA38 pilot was in receipt of a Basic Service from Glasgow Approach Radar on the same frequency as the PA28 pilot at the time of the reported incident.

At 1120:07, the PA28 pilot made his initial call to the Glasgow Approach Radar controller when approaching Bishopton; the controller allocated transponder code 2602 and instructed the pilot to report leaving the CTR at Alexandria. The pilot responded with a full and accurate readback (Figure 1).

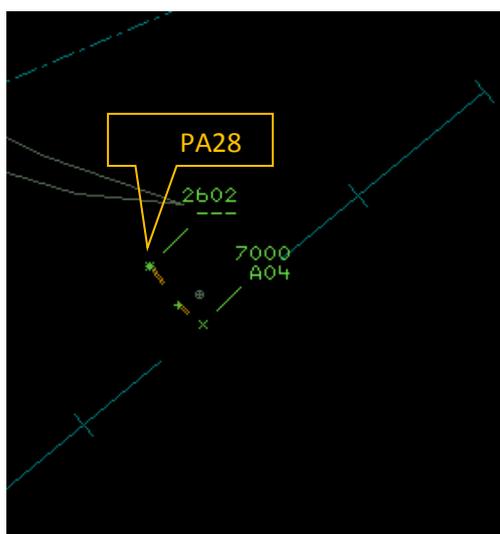


Figure 1 - 1120:07.

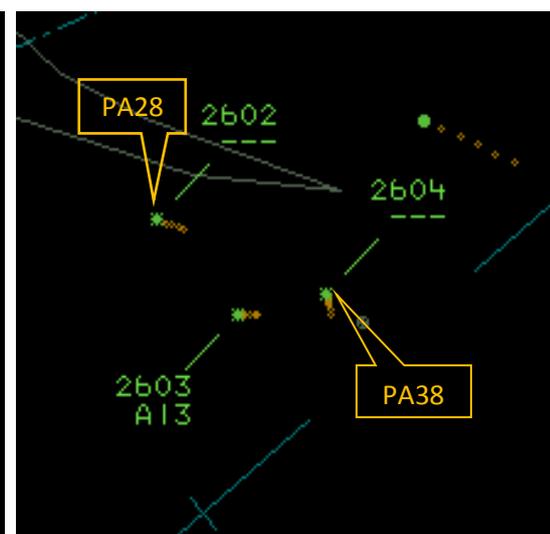


Figure 2 - 1121:40.

At 1121:40 the PA38 pilot made his initial call to the Glasgow Approach Radar controller while on climb out and tracking toward Bishopton. The controller allocated transponder code 2604 and instructed the pilot to report leaving the CTR at Alexandria. The pilot responded with a full and accurate readback (Figure 2).

At 1124:59 the PA28 pilot reported having left the CTR at Alexandria and immediately requested to re-join (Figure 3). The controller was busy dealing with other aircraft and responded with a request to standby. At 1125:49 the controller asked the PA28 pilot to repeat his last message and the pilot repeated the request to re-join at Alexandria. The controller issued a standard VFR entry clearance to re-enter the CTR at Alexandria. The pilot provided a full and accurate readback and advised that they would call at Alexandria.

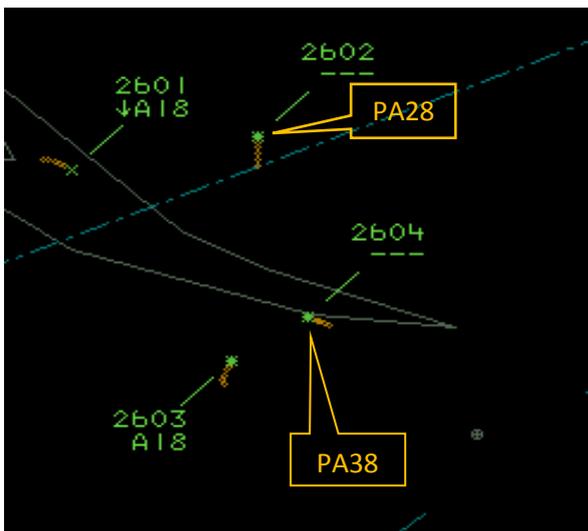


Figure 3 – 1124:59.

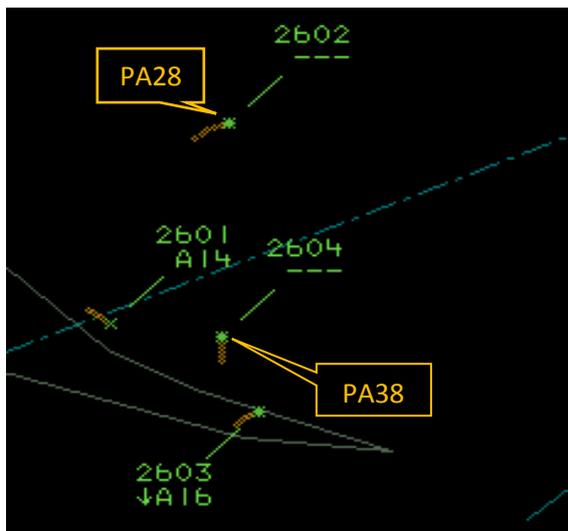


Figure 4 – 1126:40.

At 1126:40 Traffic Information was passed to the PA38 pilot on the PA28 and one other aircraft, no response was received from the pilot. The controller asked the pilot if they had copied the Traffic Information and again received no response from the pilot. The controller then turned her attention to the other traffic on frequency (Figure 4).

At 1127:19 the PA38 pilot reported overhead Alexandria and not visual with the PA28 and other traffic. The controller acknowledged this and a Basic Service was agreed (Figure 5).

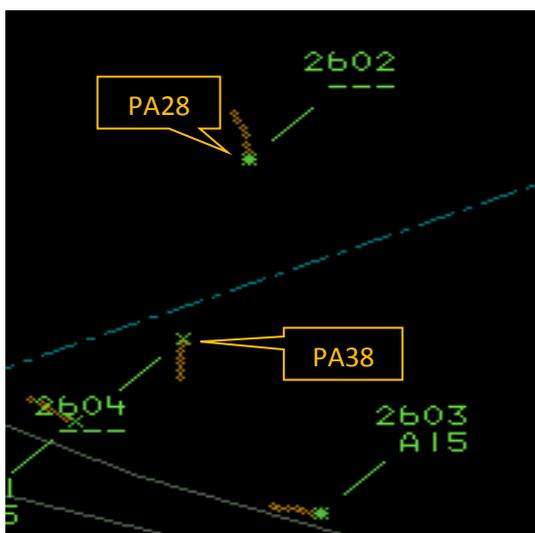


Figure 5 – 1127:19.

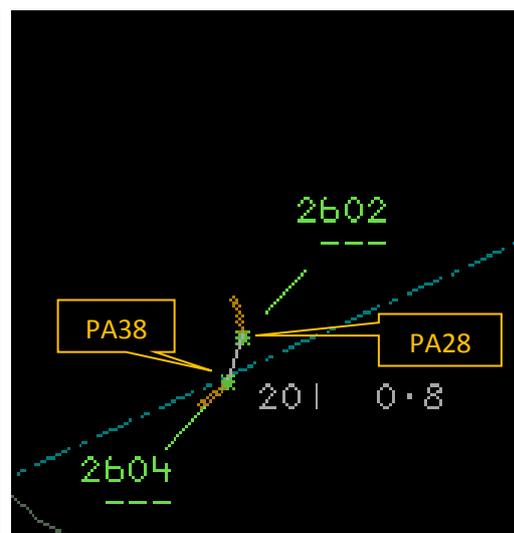


Figure 6 – 1128:06.

At 1127:30 the controller passed Traffic Information to the PA28 pilot on the PA38 and the pilot responded that he was looking for the traffic.

At 1128:06 the aircraft were separated by 0.8nm laterally (Figure 6).

CPA occurred at 1128:20 with the aircraft separated by 0.1nm laterally. The PA38 pilot reported being at approximately 1900ft and the PA28 pilot reported at 1800ft on QNH 1016hPa (Figure 7). The PA38 pilot reported visual with the PA28 as the radar returns merged.

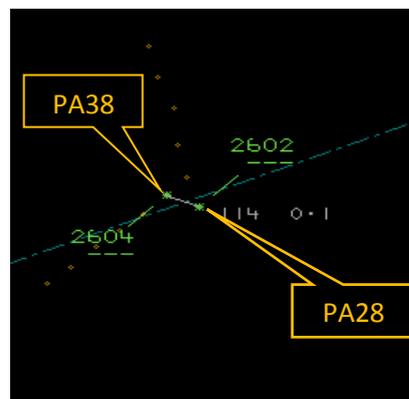


Figure 7 – 1128:20.

At the time of the Airprox, the Glasgow Approach Radar controller was operating as both the Intermediate Radar controller and the Final Director with a moderate workload. Most of the traffic on frequency was VFR traffic and included a Helimed aircraft, CTR transits and local flying club aircraft leaving and re-entering the CTR via the agreed Visual Reference Points. The controller was providing a Basic Service to the PA38 pilot as the aircraft was leaving the CTR and a Radar Control Service to the PA28 pilot as he was re-entering the CTR.

Under the terms of a Basic Service, the controller is not required to monitor the flight and pilots should not expect any form of Traffic Information from a controller. However, where a controller has information that indicates that there is aerial activity in a particular location that may affect a flight, they should provide information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller unless the situation has changed markedly, or is requested by the pilot. However, if a controller notices that a definite risk of collision exists, a warning shall be issued to the pilot.<sup>1</sup> Whether Traffic Information has been provided or not, under a Basic Service the pilot remains responsible for collision avoidance without assistance from the controller. Under the terms of a Radar Control Service within Class D Airspace, the controller is required to pass Traffic Information to VFR flights on other VFR flights and provide traffic avoidance advice if requested by the pilot.

The requirements of a Basic Service were discharged effectively by the Glasgow Radar controller when she passed timely and accurate Traffic Information to the PA38 pilot on the PA28 and the PA38 pilot subsequently sighted the PA28. The requirements of a Radar Control Service within Class D Airspace were discharged when the Glasgow Radar Controller passed timely and accurate Traffic Information to the PA28 pilot on the PA38. However, the sighting of the PA38 by the PA28 pilot was very late and the pilot subsequently filed an Airprox report. The incident occurred on the boundary of Class D and Class G Airspace. Under the terms of a Basic Service the pilot of the PA38 was responsible for his own separation. Under the terms of a Radar Control Service within Class D Airspace, the pilot of the PA28 was entitled to request avoidance advice from the controller should he consider this to be required. The PA28 pilot did not request avoidance advice and remained responsible for his own collision avoidance.

## **UKAB Secretariat**

The PA28 and PA38 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>2</sup>. Because the incident geometry is considered as converging then the PA28 pilot was required to give way to the PA38<sup>3</sup>.

Both pilots were cleared initially on a "standard exit" for RW23. A 'standard exit' is a route agreed between locally based clubs and Glasgow ATC and is published in the MATS Part 2 and in the LoA between those clubs and Glasgow ATC. The Glasgow MATS Part 2 states:

### ***Standard VFR Entry and Exit Routes For Locally Based Light Aircraft:***

*The Flying Clubs and UGSAS have agreed that, whenever possible, their flying training (other than circuits) will be carried out in the Local Flying Area (LFA), clear of controlled airspace (CAS) to the north of the TMA, with entry and exit via Dumbarton and Alexandria. Standard routes to and from the area are agreed by LOA (Reference 8GLA 4/08/05): Aircraft will fly not above 2,000ft QNH.*

*Outbound RW23: South of the south bank of the River Clyde to abeam Dumbarton; west of the River Leven to Alexandria.*

*Inbound RW23: East of the River Leven from Alexandria to Dumbarton; north of the north bank of the River Clyde.*

<sup>1</sup> (EU) 923/2012 SERA.9001 and SERA.9005(b)(2)

<sup>2</sup> SERA.3205 Proximity.

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging.

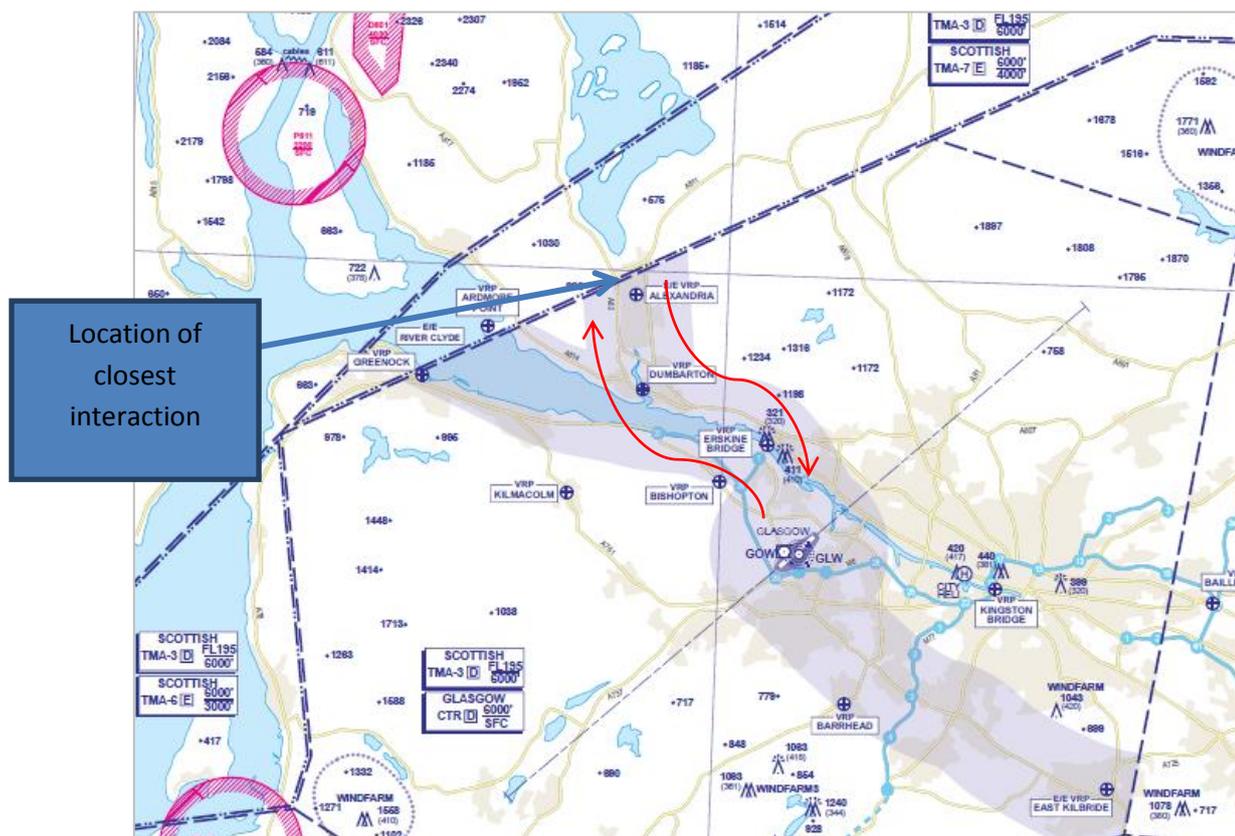


Figure 8: Standard exit and standard entry routes for RW23

## Summary

An Airprox was reported when a PA28 and a PA38 flew into proximity at 1128 on Sunday 27<sup>th</sup> August 2017 close to the northern boundary of the Glasgow Class D CTR. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Radar Control Service from Glasgow and the PA38 pilot in receipt of a Basic Service from the same controller.

## PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, the controller concerned, area radar recordings and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the PA28 pilot and noted that he had been routing on the Standard Exit route from RW23 and had been requested to report leaving the CTR at Alexandria. After reporting leaving the CTR he asked to rejoin at Alexandria. This was approved and a Standard VFR entry clearance to re-enter the CTR was issued, with a request to report again at Alexandria, which he did. Meanwhile, the PA38 was also on the same route from RW23, and was about 90 seconds behind the PA28. He was also requested to report leaving the CTR at Alexandria, which he also did. Members then noted that the PA28 pilot, who had reported Alexandria first, then focused his lookout behind to see where the PA38 was, thinking it would be behind him because he had already past Alexandria. Referring to the standard exit and entry chart, members were struck that there was evident scope for confusion between the town of Alexandria and the Alexandria VRP, about 1nm south. Some members wondered whether the PA28 pilot was referring to the town when he reported whilst the PA38 pilot might be referring to the VRP and hence still be in front of the PA28.

Turning to the PA38 pilot, members noted that Traffic Information about the PA28 had been issued to him and another aircraft's pilot 1min 40secs before the incident. Because the PA38 pilot did not respond to the transmission, the controller asked if he had heard the information but, again, no

response was forthcoming. However, when the PA38 pilot reported overhead Alexandria he added that he was not visual with the PA28 or the other traffic. This indicated to the Board that he had heard the Traffic Information and members were surprised that the PA38 pilot had not sought further updates as he approached Alexandria. The Board then noted that the radar recordings show that, after passing Alexandria VRP, the PA38 pilot had turned right and was tracking approximately along the CTR boundary towards the point that the PA28 would re-enter the CTR on the 'standard routing'. Although the PA38 pilot was entitled to take this routing if he chose, members considered it to be a surprising action if he had assimilated the Traffic Information that the PA28 pilot was inbound. The two aircraft then continued to track towards each other without any apparent change of direction.

Noting the possibility of confusion in the choice of 'Alexandria' as a reporting point on the standard routing, a GA pilot member suggested that to avoid any possible conflicts in the Alexandria area it would be optimal if the route specifically referred to either the town or the VRP, and also for inbound/outbound routes to be vertically separated by 500ft. Acknowledging the wisdom of his latter suggestion in particular, the Board stopped short of making a recommendation to this effect simply because it did not have enough information regarding local restrictions to offer a view. However, it urged the local flying clubs and Glasgow ATC to look again at the standard routing procedures with a view to tightening up the design of the routes and their reference points, and to ensuring that radio calls were explicit about whether it was the town or the VRP which were being referred to.

The Board then turned its attention to the cause and risk of the Airprox. Even though both aircraft were being flown on the boundary of Class D and Class G airspace, both pilots were operating under VFR and it remained their responsibility to 'see-and-avoid' each other. In this respect, the PA28 pilot had only seen the PA38 after being informed by a passenger that it was in his one o'clock at almost the same level because he had been looking for the PA38 behind him at the time. For his part, the PA38 pilot reported that he had become visual with the traffic and there was no need to take any avoiding action. The Board could not reconcile this statement with the PA28 pilot's assertion that he had had to 'jump over' the PA38 at the last minute. Members wondered if the PA38 pilot had seen another aircraft rather than the PA28, especially because he had reported visual with the PA28 as their radar returns merged. Taking this information into account, the Board considered that the cause of the Airprox was a late sighting by the PA28 pilot and a probable non-sighting by the PA38 pilot. As to the risk, it was clear from the radar recordings and the PA28 pilots report that safety had evidently been much reduced. Noting that the PA28 pilot had taken emergency action when in close proximity to the PA38 to avoid a collision, the Airprox was assessed as risk Category B.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A late sighting by the PA28 pilot and a probable non-sighting by the PA38 pilot.

Degree of Risk: B.

#### 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 Crew:**

**Situational Awareness and Action** were assessed as **partially effective** because, although he had been passed Traffic Information about the PA28, the PA38 pilot turned across its flight path.

<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](#).

**See and Avoid** were assessed as **partially effective** because the PA28 pilot only saw the PA38 at a late stage and the PA38 pilot probably did not see the PA28.

