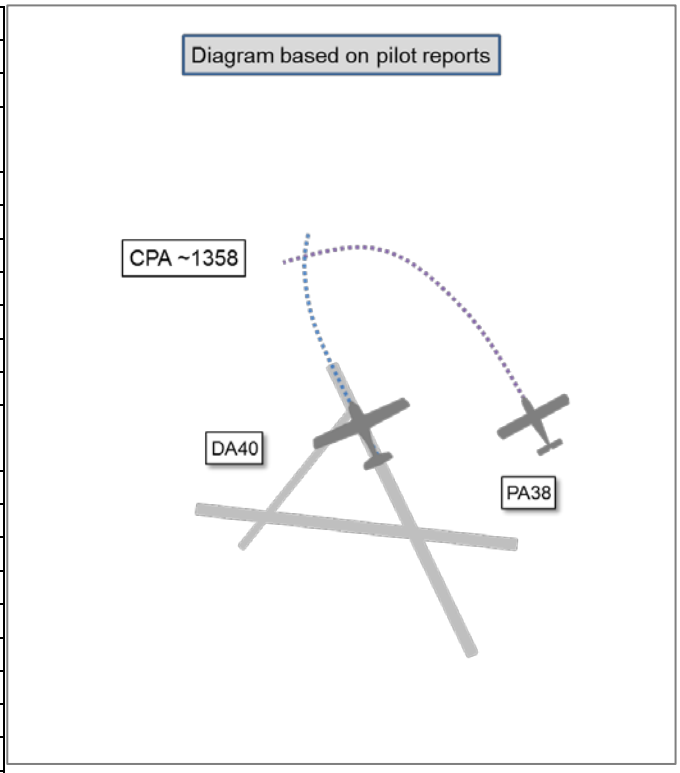
AIRPROX REPORT No 2017047

Date: 02 Apr 2017 Time: 1358Z Position: 5231N 00215W Location: Halfpenny Green (elev 283ft)

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA40	PA38
Operator	Civ Pte	Civ Trg
Airspace	Halfpenny Green ATZ	Halfpenny Green ATZ
Class	G	G
Rules	VFR	VFR
Service	Information	Information
Provider	Halfpenny Green	Halfpenny Green
Altitude/FL	NK	NK
Transponder	A, C, S	A only
Reported		
Colours	White, black, gold	White, blue
Lighting	Strobes, taxy	NK
Conditions	VMC	VMC
Visibility	NK	10km
Altitude/FL	700ft	1300ft
Altimeter	QNH (1023hPa)	QFE (NK hPa)
Heading	070° (right turn)	260°
Speed	70kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	15ft V/100m H	200ft V/¼nm H
Recorded	NK	



THE DA40 PILOT reports departing from Halfpenny Green. He had received and acknowledged a 'Take off at your discretion' call and was visual with a PA28 preceding him departing RW34 which, as reported by the FISO, turned left and was not a factor. No other traffic was in sight at the start of or during his takeoff. Before starting a gentle right turn, he looked out to check the airspace was clear, noted that he would not pass directly above some farm buildings, and commenced the turn. As he lowered the right wing, the conflicting aircraft became visible below in a left turn, and then rapidly disappeared from sight just below and behind. Once he had stabilised on course, retracted flap, and considered what he had seen, he called the FISO and made an Airprox report on R/T. The DA40 pilot reported that after landing at his destination he telephoned to follow up his initial R/T report and was told that the only candidate aircraft the FISO saw was observed to be at normal circuit height. The DA40 pilot noted that he could only speculate that the conflicting aircraft might have been intending to join crosswind from the deadside, but that the very low height suggests that height control by the conflicting aircraft's commander may not have been of the best.

He assessed the risk of collision as 'High'.

THE PA38 PILOT reports conducting an overhead join at Halfpenny Green for RW34 left-hand circuit. He had descended on the deadside to 1300ft and was about to enter the crosswind leg for RW34 when a departing aircraft made a 'non-standard and unauthorised' right-hand turnout.

He assessed the risk of collision as 'Medium'.

THE AFISO reports that the Airprox occurred during a very busy period with numerous aircraft to depart and in the circuit. During climb out the DA40 pilot radioed that in a right turn he had just had a close encounter. The AFISO was looking to the south to see aircraft on final approach. He

immediately looked to the north and the only aircraft he could see was a PA38 positioned on crosswind.

Factual Background

The weather at Birmingham was recorded as follows:

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METAR EGBB 021350Z 32006KT 270V030 9999 SCT039 13/03 Q1023=
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Analysis and Investigation

CAA ATSI

(Note: there is currently no requirement for an AFISO unit to record R/T, but Wolverhampton Halfpenny Green have elected to do so. However the time code allied with the system is unverified and there appeared to be a variance of about 90 seconds. ATSI have attempted to align the R/T with the area radar recording. All references to time in this report are therefore estimated but considered to be accurate to +/-10 seconds).

The PA38 was inbound to the airfield from the south, and the pilot reported overhead at 1356:15. Although the PA38 could not be positively identified on the radar replay, by a process of elimination, the contact labelled as the PA38 in Figure 1, is considered, with a high degree of confidence, to be that aircraft.

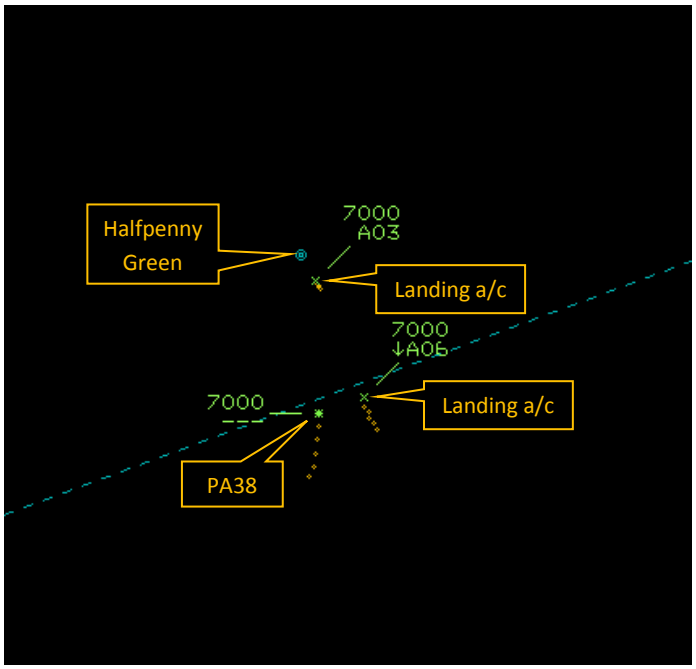


Figure 1 – 1356:15

The Aerodrome Flight Information Service Officer (AFISO) requested the PA38 pilot report downwind which was acknowledged.

The DA40 was number 3 in a sequence of 6 departures during this period, and, at 1356:54, the pilot reported ready and was asked by the AFISO to report lining up in turn (Figure 2).

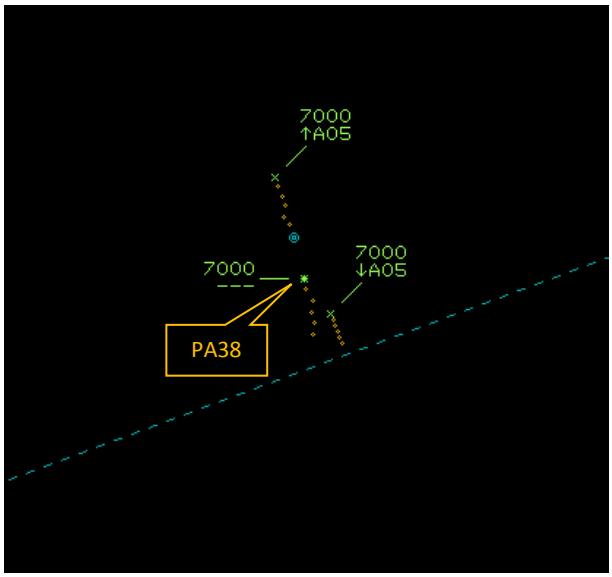


Figure 2 – 1356:54

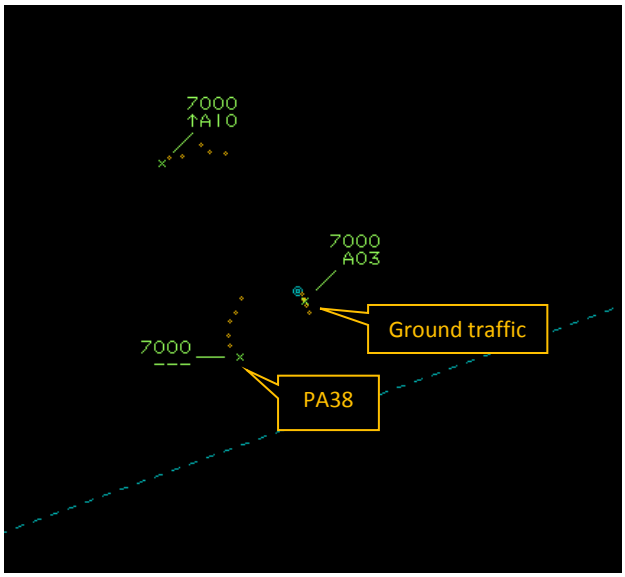


Figure 3 – 1357:40

At 1357:40, following two preceding departures, the DA40 pilot was advised by the AFISO that he could take-off at his discretion (Figure 3).

No further calls were made by the PA38 pilot, and, at 1358:42, radar contact was lost (Figure 4).

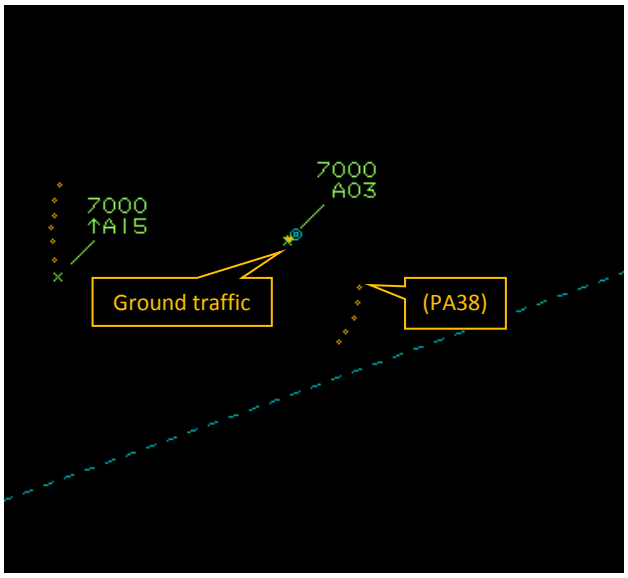


Figure 4 – 1358:42

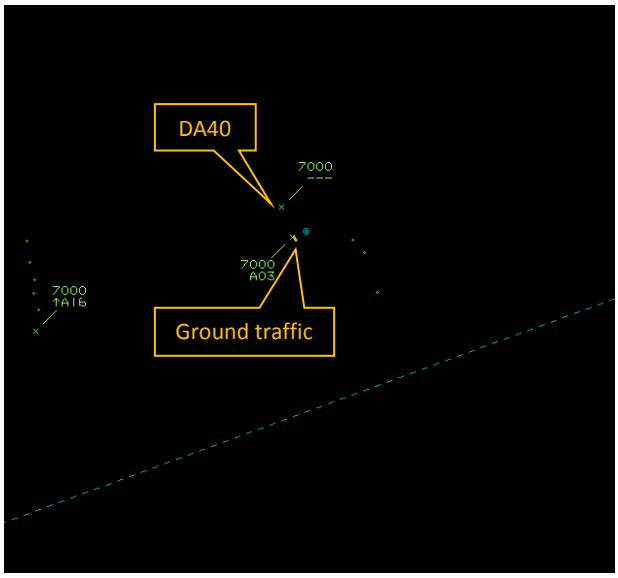


Figure 5 – 1358:56

At 1358:56, the DA40 appeared on the radar replay, but radar contact with the PA38 had not been re-established (Figure 5).

At 1359:22, the DA40 pilot reported in a right turn and having had an encounter with another aircraft which they believed to have been below circuit height. It was not possible to view CPA on the radar replay.

At 1359:45, the PA38 pilot reported downwind, although the aircraft was not visible on the radar replay. At 1400:30, a contact appeared on the radar replay which could not be positively identified, but which was considered to be, with a high degree of confidence, the PA38 (Figure 6).

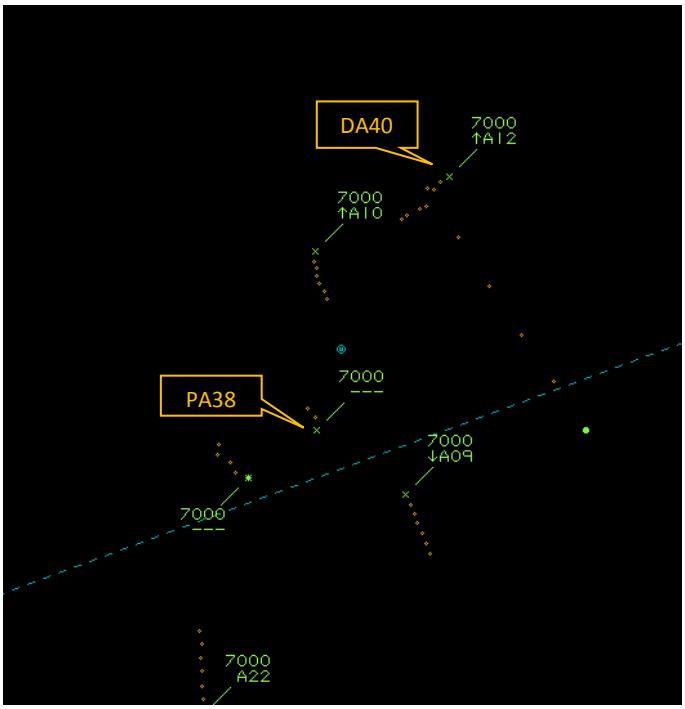


Figure 6 – 1400:30

At 1401:28, the PA38 pilot reported on final approach and was advised that the runway was occupied (Figure 7).

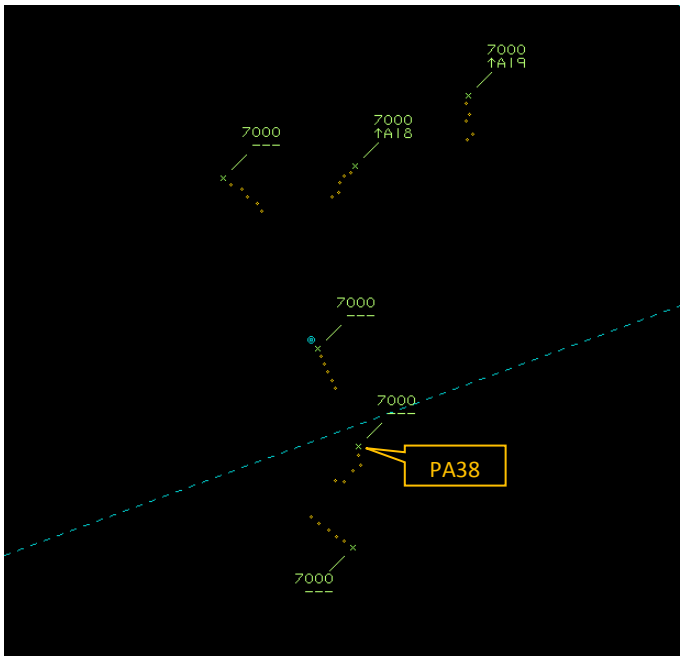


Figure 7 – 1401:28

At 1402:11, the AFISO asked the PA38 pilot whether he intended to go around, which was confirmed by the pilot. The aircraft was seen to complete a further circuit to land.

In analysing this incident, with the evidence available from the radar replay, and having spoken to one of the AFISO on duty at the airfield that day, ATSI believe there is sufficient information to suggest that the PA38 pilot may have made his initial approach to RW28 and not to the runway in use, which was RW34. This is based on the following points:

- The track of the aircraft, and its subsequent disappearance from radar for over 2 minutes, in an area where the secondary radar contacts with other aircraft were visible at reported altitudes as low as 300ft (airfield elevation 283ft), (Figure 8).

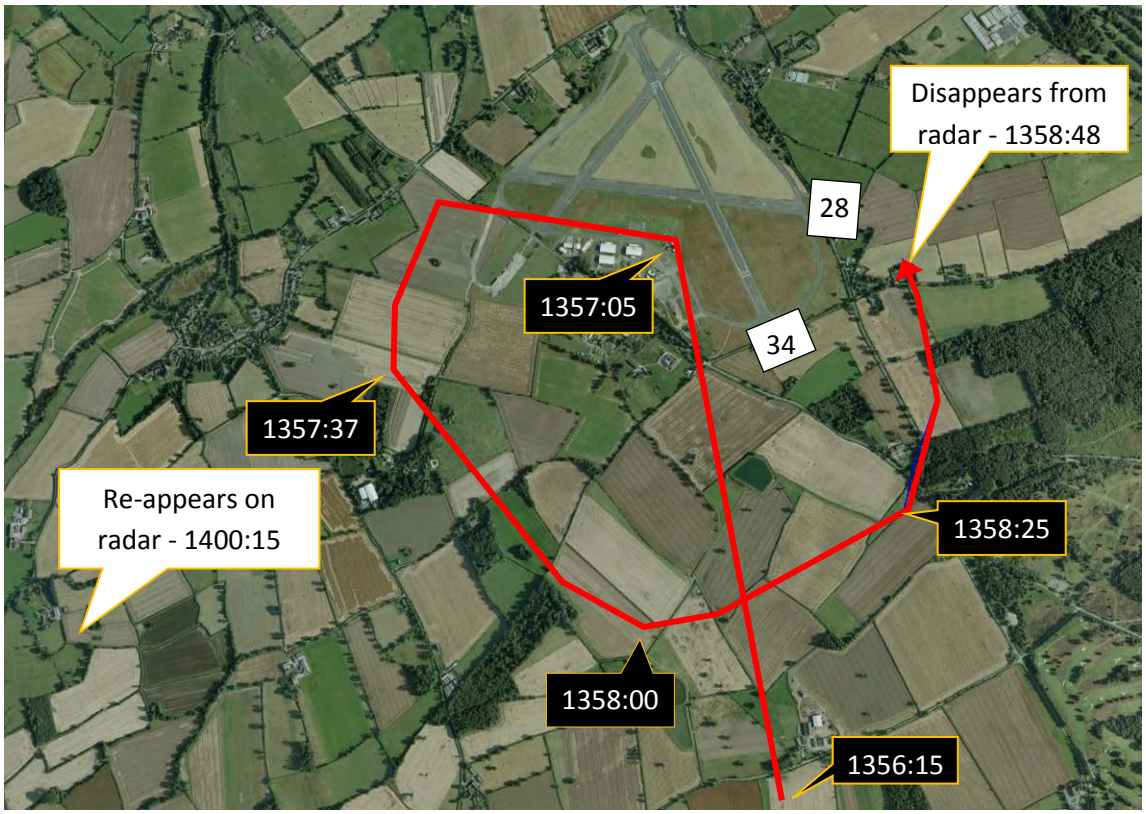


Figure 8 – recorded track of contact believed to be the PA38

- The report from the pilot of the DA40 which stated that the second aircraft was at a level, which in his opinion was below standard circuit height, and below their aircraft. Published procedures for pilots require "*the standard fixed wing circuit height is 1000ft QFE and aircraft shall not join on the Dead-Side below 1300ft QFE".*

Neither of the AFISO's on duty on the day reported seeing traffic at anything other than what they considered to be standard circuit height, following the report from the pilot of the DA40, but neither did they report a positive sighting of the PA38.

The report from the PA38 pilot, which was completed on their behalf by another person, alleged that the DA40 pilot had made a 'non-standard and unauthorised' right-hand turnout. The published procedures for pilots departing the airfield requires that:

> 'No turns shall be made following take-off (except in emergency) below 500ft QFE. Normal departure turns are left-hand onto the required heading. Non standard departures are to be notified to Air Traffic Service'

Unfortunately, the R/T recording obtained by ATSI did not include the initial call by the DA40 pilot for departure information, but commences when the aircraft is at the hold and the pilot reports ready for departure. It is not known whether he had pre-notified a right turn on departure.

In accordance with CAP797 (Flight Information Service Officer Manual):

> 'FISOs may issue advice and shall issue information to aircraft in their area of responsibility, useful for the safe and efficient conduct of flights[1].'

[1] CAP797 – Ch1 Para 1.12

Also:

> 'Whilst generic traffic information provided to a pilot may be useful to indicate how busy the aerodrome environment is, as the pilot gets closer to the aerodrome and is required to integrate with other traffic, specific traffic information is needed in order to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions.[2]'

The AFISO was not heard to pass reciprocal Traffic Information to either the arriving PA38 pilot, nor other pilots at the time.

UKAB Secretariat

The DA40 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[3]. 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 and, except for balloons, make all turns to the left, when approaching for a landing and after taking off, unless otherwise indicated, or instructed by ATC[4].

Summary

An Airprox was reported when a DA40 and a PA38 flew into proximity at about 1358 on Sunday 2nd April 2017. Both pilots were operating under VFR in VMC, both in receipt of an Aerodrome Flight Information Service from Halfpenny Green 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 AFISO involved and a report from the appropriate ATC authority.

Members commented initially on the paucity of information available and after some discussion agreed that the pilots' narratives essentially conveyed 2 very different perspectives. On the one hand, the DA40 pilot had performed a normal take-off to be presented with a PA38 crossing below him from right to left as he passed 700ft altitude, on the other, the PA38 pilot had remained at 1300ft, crossing from the deadside, and the DA40 had turned towards him, in the opposite direction to the circuit pattern. Some members wondered whether the correct aircraft had been identified but were satisfied after examination of the radar recording that this was the case. It was unfortunate that the PA38 had not shown on radar at CPA and members discussed the ATSI contention that its pilot had descended below the base of radar cover in the course of inadvertently making an approach to RW28. Whilst the circumstantial information supported this view and the radar replay showed the PA38 further to the west than would be expected for the downwind leg for RW34, members also noted that the PA38 pilot had made the correct radio calls for his approach to RW34 but none for an approach to RW28. His narrative also was clear, in that he had been crossing from the deadside in the course of a normal overhead join for RW34. Turning to the DA40 pilot, his narrative was equally clear in that he had been in the process of departing the circuit when he saw the PA38 below him as he lowered the right wing to start his turn, and hence below his altitude of 700ft. Unfortunately, the AFISO did not observe the DA40 or PA38 near CPA and was not able to provide additional clarity. Members then discussed the need for integration within the visual circuit and after some debate agreed that it was for a joining pilot, turning and descending towards the visual circuit, to integrate with traffic departing the visual circuit. To that end, members agreed that the Airprox had been caused because the PA38 pilot did not integrate with the DA40. Some members thought that the PA38 pilot's report implied that he had seen the DA40 in time to take action – Risk C; however, it was finally agreed that the information available was insufficient and what little there was had been conflicting, and therefore that it was not possible to make a determination of the risk.

[2] CAP797 – Ch 8 Para 8.15
[3] SERA.3205 Proximity.
[4] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Further discussion dwelt on the requirement to make all turns in the same direction as the circuit direction and when, exactly, that requirement applied. Members agreed that departing straight ahead until at least beyond a normal crosswind position was sensible if: there was other traffic in the pattern to affect; if traffic joining was not visible; or if there was uncertainty as to the position of other traffic. It was also noted that the Halfpenny Green AIP entry included information on the departure track for RW16 but not for RW34 and members wondered whether this could be improved upon. Consequently, it was agreed to recommend that 'Halfpenny Green review their AIP entry to ensure it contains pertinent information with regard to turn direction when departing the visual circuit'.

PART C: ASSESSMENT OF CAUSE, RISK AND SAFETY BARRIERS

Cause: The PA38 pilot did not integrate with the departing DA40.

Degree of Risk: D.

Recommendation: That Halfpenny Green review their AIP entry to ensure it contains pertinent information with regard to turn direction when departing the visual circuit.

Safety Barrier Assessment[5]

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

ANSP:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the AFISO did not pass information on other traffic.

Situational Awareness and Action were assessed as **ineffective** because the AFISO did not detect the conflict.

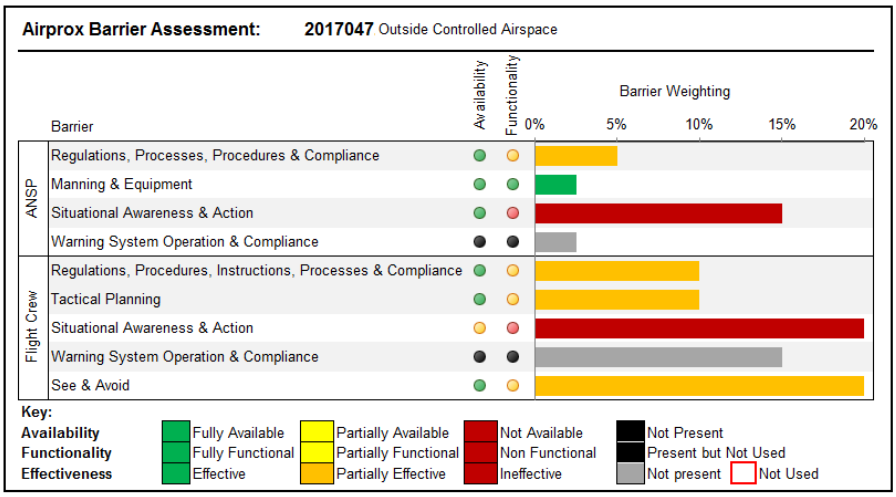
Flight Crew:

Regulations, Processes, Procedures, Compliance and Instructions were assessed as **partially effective** because the PA38 pilot most likely did not remain above 1300ft on the deadside.

Tactical Planning was assessed as **partially effective** because the PA38 pilot most likely did not fly the overhead join correctly.

Situational Awareness and Action were assessed as **ineffective** because the PA38 pilot had information that the DA40 was getting airborne but did not integrate with it.

See and Avoid were assessed as **partially effective** because neither pilot saw the other aircraft until a late stage.



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