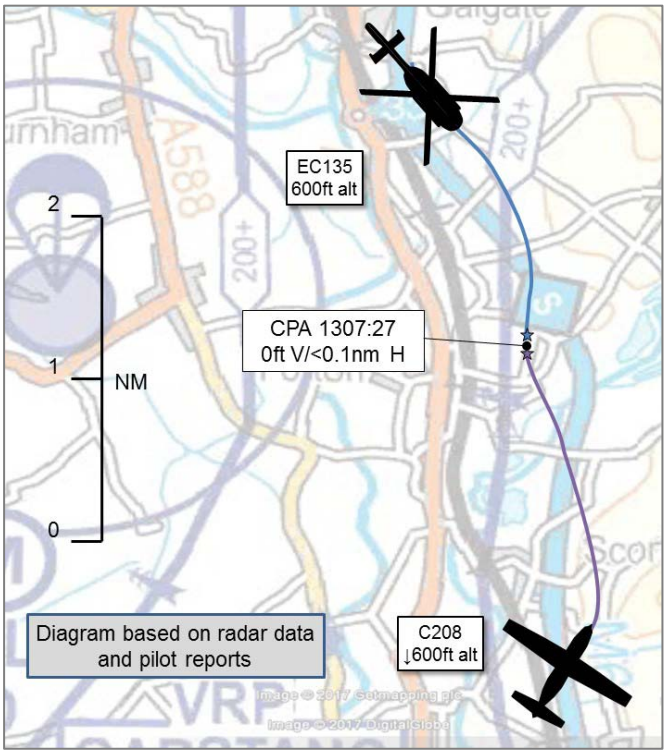
AIRPROX REPORT No 2017057

Date: 09 Apr 2017 Time: 1305Z Position: 5357N 00245W Location: 2nm east of Cockerham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC135	C208 Caravan
Operator	HEMS	Civ Club
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Blackpool	Scottish
Altitude/FL	600ft	↓600ft
Transponder	On/C, S	On/C
Reported		
Colours	Yellow, Blue	White, Black
Lighting	Nav, HISL	Strobe, Nav, Landing, Taxi
Conditions	VMC	VMC
Visibility	4km	5km
Altitude/FL	600ft	900ft
Altimeter	QNH	QFE
Heading	220°	240°
Speed	100kt	110kt
ACAS/TAS	TCAS I	Not fitted
Alert	TA	N/A
Separation		
Reported	50ft V/50m H	100ft V/0.3nm H
Recorded	0ft V/<0.1nm H	



THE EC135 PILOT reports that, due to low cloud and poor visibility, it was necessary to maintain approximately 700ft QNH en route on a Cat A HEMS mission from Hornby to Royal Preston hospital. He was in receipt of a Basic Service from Blackpool Approach because Warton Radar was closed (weekend). As he was approaching Lancaster, he recalled that Blackpool approach reported that an aircraft was deemed to be in his twelve o'clock, but above. The other pilot then reported that he was at 1000ft in IMC. Based upon a TCAS return and cumulative ATC information, he had to assume that the other aircraft was on a reciprocal heading at approximately the same height. He initiated a turn away from track to increase spacing, but was unable to adjust course further to the right (West) of his planned track because Cockerham was notified as active for para-dropping. He recalled that he again reported his position to Blackpool in order to aid in deconfliction with the other pilot who was on the same ATC frequency. He also descended to approximately 600ft QNH to achieve greater vertical separation and reduced his speed. A TCAS TA posted as he was looking out for the other aircraft, so he initiated a turn to the right based upon the indicated position on TCAS. At this point the other aircraft appeared from the haze in his 10 o'clock, slightly above; he saw the aircraft at approximately 0.5nm, but it was very difficult to assess due to the haze (the other aircraft's attitude suggested that it was descending). The aircraft passed down his port side with no further evasive action required. Once clear, he returned to the original planned track. In the relatively short period of time that he saw it, the other aircraft maintained heading and attitude, suggesting that the other pilot may not have seen him. Due to poor visibility, aspect and workload it was difficult to assess lateral separation; the aft-facing paramedic assessed it as approximately 100ft on the beam.

He assessed the risk of collision as 'Medium'.

THE C208 CARAVAN PILOT reports that he had just dispatched 11 skydivers from FL110 within Class A airspace under a radar control service from Scottish Control. The exit point was directly

overhead the DZ running in on a north westerly heading. The cloud overhead the planned landing area was scattered and the ground was clearly visible to the Jump Master before dispatching. During the final stage of the climb, the cloud to the east of the DZ had become dense and low. The DZ is coastal with high hills to the near east and the moisture from the sea often quickly condenses over the land and is trapped by the hill range. After dispatching the skydivers, the aircraft descended to the north, then to the east, on a GPS distance arc of 2.5nm from the DZ centre point. There was no cloud or adverse weather above 4000ft. RW24 was designated for landing and, as the aircraft would have to go through IMC, the descent rate was slowed down to 110kts and turns were restricted to rate one. This shallower descent profile meant that the final approach was from approximately 2nm from the runway instead of 1.5nm. He came out of cloud at 1100ft and was lined up with RW24. Within a second of achieving VMC, a helicopter passed in front and perpendicular to him, slightly below and approximately 0.3nm in front. Avoiding action was taken by turning to the rear of the helicopter path; however, the helicopter had already passed his track within a second of making visual contact. He continued on final approach and landed without incident. The helicopter appeared to be tracking the cloud base and did not make contact with the DZ to report that it was passing, despite having several skydivers in the air at the time of the Airprox. The incident was reported by the pilot to DZ Control.

He assessed the risk of collision as 'Medium'.

Factual Background

The weather at Blackpool was recorded as follows:

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METAR EGNH 091250Z 26014KT 4000 HZ BKN004 12/10 Q1018=
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The previous TAF for this period for Blackpool issued at 0801 was:

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AMD EGNH 090801Z 0908/0915 13007KT CAVOK TEMPO 0908/0915 7000 BECMG 0909/0912 27012KT
BKN015 TEMPO 0912/0915 4000 BR BKN007=
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Analysis and Investigation

CAA ATSI

The pilot of the EC135 (a HEMS aircraft) reported being en-route with a casualty from a site to the north-east of Lancaster to a hospital in Preston. The C208 was conducting parachute drops from FL150 into the Cockerham parachuting site (Figure 1).

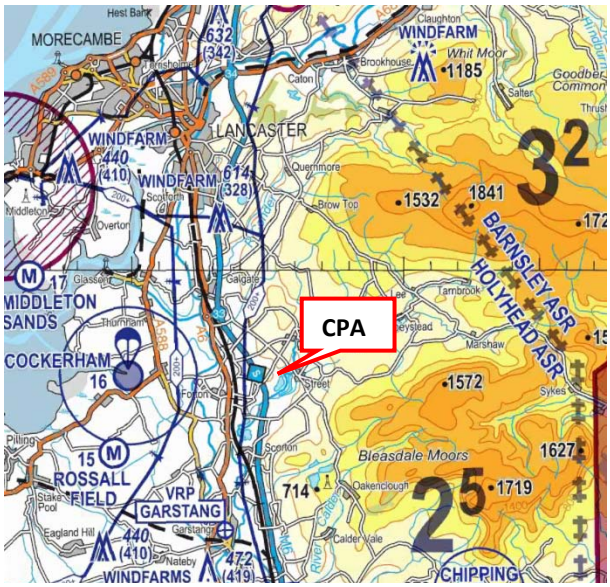


Figure 1

At 1304:40, the C208 was observed in the descent from FL150, with strong primary contacts appearing behind, believed to be the parachutists, near the designated Cockerham parachute jumping site (Figure 2).

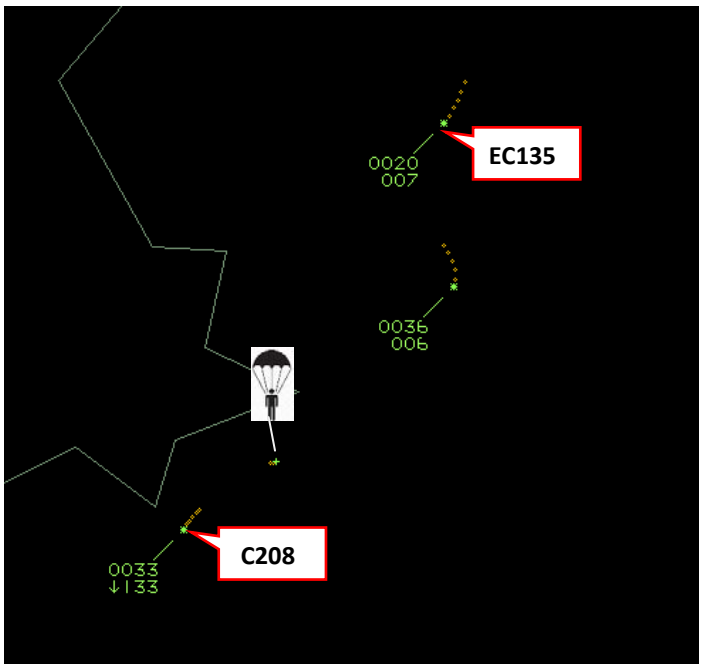


Figure 2 – 1304:40
(note levels indicated are Flight Levels – 108ft to be added for altitudes)

At this time the EC135 was observed to be following the track of the M6 motorway, ultimately remaining clear of the Cockerham parachute site.

At 1306:27 the C208 was below 2500ft, continuing in the descent, clear and to the south-east of the parachuting site (Figure 3).

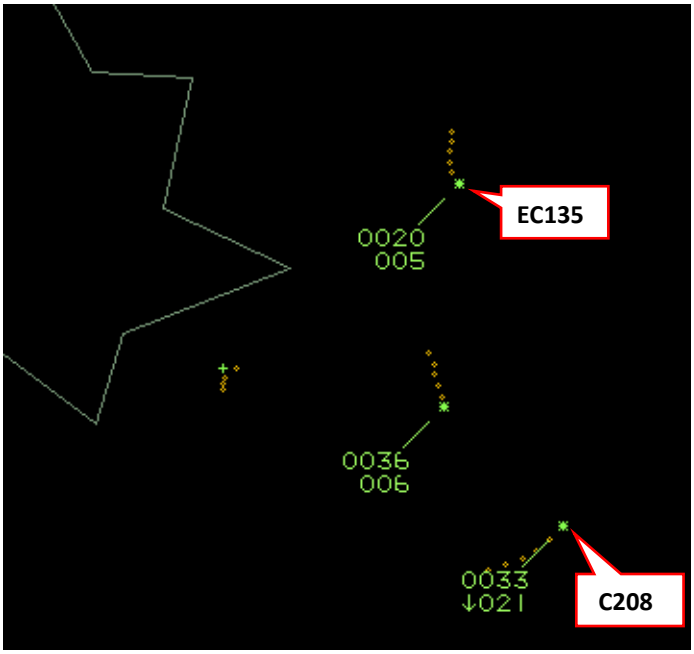


Figure 3 – 1306:27

Figures 4 & 5 illustrate the situation at 1307:03 and 1307:20 respectively.

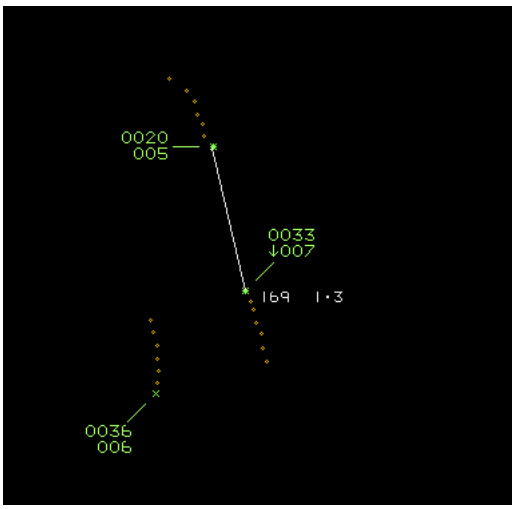


Figure 4 – 1307:23

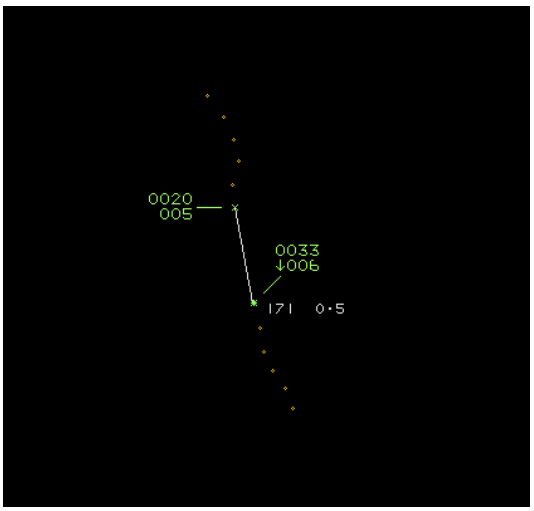


Figure 5 – 1307:20

CPA took place at 1307:27 with the aircraft indicating at the same level and separated by less than 0.1nm laterally (Figure 5).

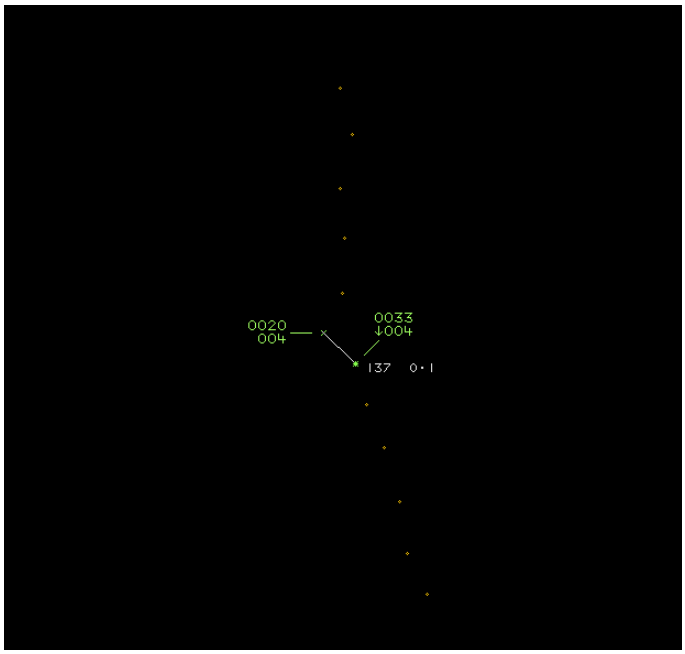


Figure 5 – 1307:27 - CPA

Weather conditions in the area were reported by the pilot of the C208 as *"no cloud or adverse weather above 4000ft"*. However they also reported having to reduce their descent rate as *"the aircraft would have to go through IMC".* They reported coming out of cloud at 1100ft and *"within a second of achieving VMC, the helicopter passed in front of our aircraft…"*

The pilot of the EC135 reported being at an altitude of 600ft and making a turn to the right based upon TCAS information, *"at which point the other aircraft appeared from the haze in my 10 o'clock and slightly above (his attitude suggested that he was descending)".*

In his report, the pilot of the EC135 stated that he had received traffic information from Blackpool ATC on an aircraft which was "*deemed to be in our twelve o' clock, but above*". A review of the R/T from Blackpool could find no record of this or similar transmissions during this period. Further, Blackpool ATC has no access to surveillance information.

The pilot of the C208 reported receiving a *"Basic Service as standard from Scottish".* Again, from a review of the R/T, no evidence of any formal agreement on ATC service was found. The aircraft was given a clearance to climb to FL150, and in the area of operation, would have entered controlled airspace on passing FL95. The Scottish Tay sector controller instructed the pilot to advise when they had released the parachutists and were descending. On leaving controlled airspace by descent prior to the Airprox, no service was agreed between the Scottish controller and the pilot of the C208, and no traffic information was passed.

The Scottish sector involved is primarily responsible for providing Radar Control Services to aircraft in the airway structure, and appropriate services to those same aircraft when they leave or enter controlled airspace from airports in this area. They would not normally provide what would effectively be a Lower Airspace Radar Service, nor a Basic Service to aircraft below controlled airspace, as they have neither the resource nor the remit to do so. The C208 needed permission to climb into this sector's controlled airspace to facilitate the paradrop from FL150 and, although not formally agreed, would be subject to a Radar Control Service when doing so. When not in communications with the Scottish controller, the pilot reported being on the parachute site frequency. It could not be determined at which point the pilot changed frequency between the two, although in the moments just prior to the Airprox when they became VMC, the pilot reported being lined up for Runway 24 at Cockerham, and they subsequently reported the Airprox to the parachute site controller.

The Airprox was not reported to the Scottish controller.

UKAB Secretariat

The EC135 and C208 Caravan 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].

A parachuting site 'Drop Zone' does not denote the presence of a zone in the sense of an ATZ or CTR. The vertical and lateral limits of a parachuting site are notified in the UK AIP but there is no regulated or controlled airspace associated with these notified vertical and lateral limits, other than such existing airspace which is coincident.

Although not part of this Airprox, the radar recordings (Figures 3 & 4 of the ATSI report) show that the C208 may have had an unreported Airprox with a pipeline helicopter (Squawk 0036) prior to the EC135 incident. This was probably not reported due to neither pilot seeing the other aircraft, the C208 was probably still in cloud.

Comments

Parachute Centre Operating Authority

As the oldest skydiving drop zone in the UK, we have an excellent relationship with medical helicopters and local aircraft that make contact. We operate on the standard skydiving frequency of 129.900. Before we authorise any flights, we inform Warton Radar, London Control, Scottish Control and the military. We also deactivate if the weather puts us on an operational hold. We inform communicating aircraft as to whether our aircraft or skydivers are in the air, how long before we intend to dispatch, which way we are running in, and the descent direction of the

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on.

aircraft. At the time of the Airprox, we did not receive any communication from the helicopter, despite it crossing the final approach path of an active drop zone runway at low altitude. Since Blackpool airport stopped offering LARS, we have noticed an increased number of aircraft flying within our published 1.5nm para dropping area during pre-notified operation.

Summary

An Airprox was reported when an EC135 and a C208 Caravan flew into proximity at 1305 on Sunday 9th April 2017. Both pilots were operating under VFR in VMC, the EC135 pilot in receipt of a Basic Service from Blackpool and the C208 Caravan pilot was not in receipt of a service but was listening out on the Scottish frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board began by discussing the actions of the EC135 pilot. They were unsure where the pilot had obtained the Traffic information on the C208 given that the R/T recordings at Blackpool showed they did not provide it. Some members wondered whether the pilot may in fact have been listening to the para-drop frequency on his second box, or if he had mistakenly recalled the information the he had derived from his TCAS as having come from ATC. The helicopter member commented that he had subsequently spoken to the EC135 pilot and it was obvious to him that, due to the weather conditions and the Cat A nature of the task, the pilot had been working quite hard and that this may have explained why the EC135 pilot did not speak to Cockerham as he transited adjacent to the parachuting site. He also highlighted that although TCAS equipment is accurate in most respects, there is a known target margin of error of +/- 30º in the azimuth and so that would be a factor in the helicopter pilot's situational awareness and subsequent actions.

The Board then looked at the actions of the C208 Caravan pilot. Some members wondered if the C208 pilot was fully aware of the type of service he was under during the various stages of his flight. An ATC member with knowledge of the airspace informed the Board that standard air traffic procedures for aircraft carrying out these operations is to inform the pilot every time they enter and leave controlled airspace thus removing any doubt from the pilots' minds as to the service they are receiving. With this clarified, members agreed that, although descending through IMC without a radar service was not contrary to any regulations *per se*, it was very unwise without talking to an appropriate air traffic unit because of the dangers in encountering other aircraft, as had happened in this incident. In this respect, the Board noted that the C208 pilot had also had a close encounter with another helicopter just before the Airprox in question but had not been aware of this due to his being IMC at the time. Some members wondered why the C208 pilot had not descended to the west of the parachuting site given that it appeared that there were gaps in the clouds (that the parachutists had been dropped through) which might have been used by the C208 pilot to remain VMC before then routing east to the airfield below the cloud for his approach. Other members opined that the C208 pilot had probably not deviated from his usual procedure due to task pressures, time constraints and the repetitive nature of the activity all placing perceived pressure to expedite his landing. Regardless, Board members unanimously agreed that the C208 pilot's autonomous descent through cloud had been an unwise course of action which had been the main factor that had resulted in the Airprox.

The Board then considered the cause and risk of the incident. Members agreed that the C208 pilot descending through IMC without talking to an Air Traffic Service Unit had resulted in the reduction of SA for both pilots. As a result, the Board agreed that the cause of the incident was that the C208 pilot had descended through IMC and into conflict with the EC135 under the cloud. Members all agreed that the recorded separation, allied to the necessarily late sighting by both pilots due to the C208 flying in cloud, had meant that, despite the best efforts of the EC135 pilot, there had been a serious risk of collision; accordingly, the Board assessed the risk as Category A.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The C208 pilot descended through IMC and into conflict with the EC135, under the cloud.

Degree of Risk: A.

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:

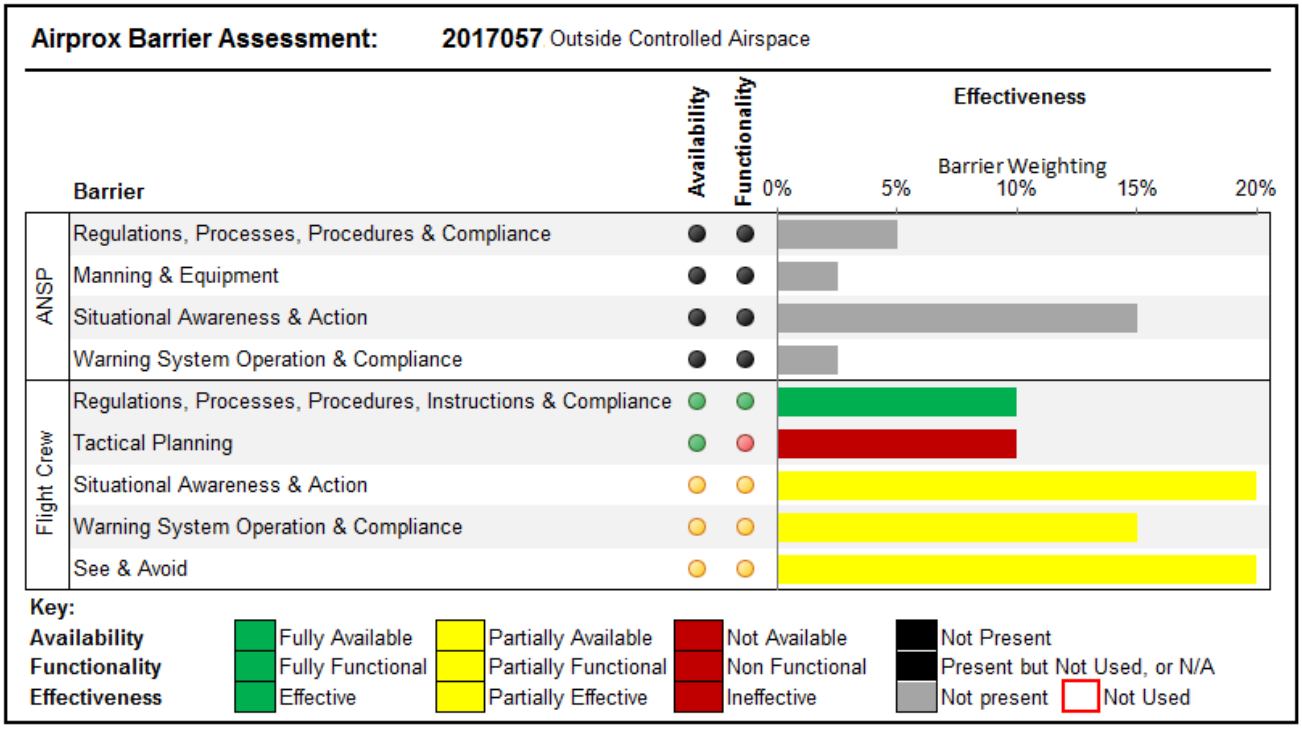
Flight Crew

Tactical Planning was assessed as **ineffective** because the C208 pilot had descended IMC through cloud.

Situational Awareness & Action was assessed as **partially effective** because, although the EC135 pilot was generally aware of the other aircraft through his TCAS indications, the C208 was not aware of the EC135 at all.

Warning System Operation and Compliance was also assessed as **partially effective** because, although the EC135 pilot was able to make some assessment of the C208's proximity and adjust accordingly, the EC135's TCAS TA alert appeared too late for him to take effective associated action.

See and Avoid was assessed as **partially effective** because the EC135 and C208 pilots could only see each other as the C208 popped out of cloud, too close to take effective avoiding action.



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