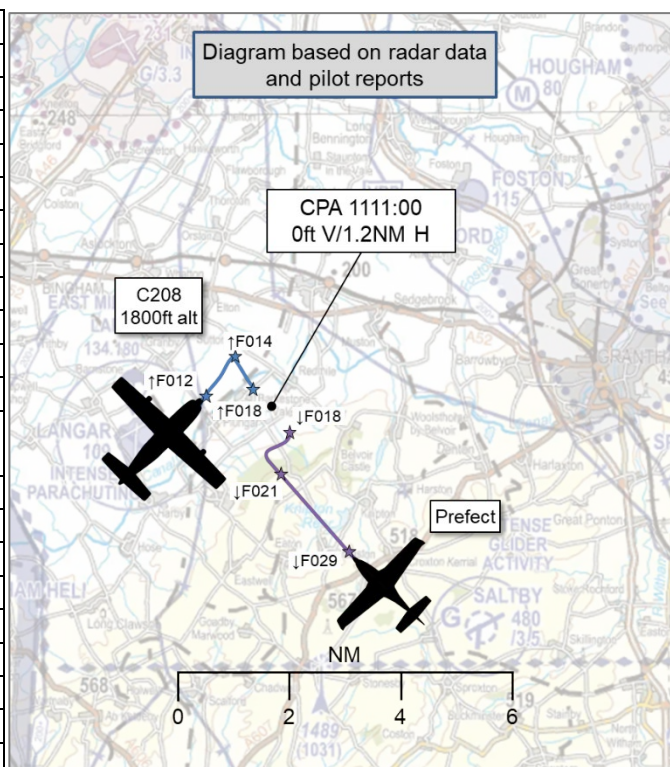


AIRPROX REPORT No 2021084

Date: 15 Jun 2021 Time: 1111Z Position: 5254N 00050W Location: Barkestone-le-Vale

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C208	Prefect
Operator	Civ Para	HQ Air (Trg)
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening	Traffic
Provider	East Midlands	Cranwell
Altitude/FL	1800ft	1900ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Red	White, Blue
Lighting	Nav, Beacon, Taxi, Landing	No reported
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	2000ft
Altimeter	QFE (1020hPa)	NK
Heading	240°	360°
Speed	120kt	140kt
ACAS/TAS	TCAS I	TAS
Alert	TA	TA
Separation		
Reported	0ft V/<1NM H	500ft V/0.5NM H
Recorded	0ft V/1.2NM H	



THE C208 PILOT reports that they were departing Langar to climb onto the run-in, which was 340°, for a 3500ft drop with 15 passengers on board. As they turned back to Langar at 1500ft the TCAS alerted them to a fast-moving aircraft descending and heading towards them. They maintained heading and the aircraft was still coming towards them and descending to their level, so they levelled off to avoid conflict. The aircraft was flying very fast at a high rate of descent, very close to the Langar Drop zone from where they were operating.

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

THE PREFECT PILOT reports that they submitted the DASOR in response to an Airprox raised. They remember the incident which occurred during the instrument recovery at the end of a QFI Check ride. They were receiving radar vectors from Cranwell App and were being vectored to the east of Langar Para-dropping site which was active. As they passed abeam Langar, ATC informed them of traffic in the 11 o'clock and gave them a vector that took them away from the traffic and towards BKH which was the airfield they were recovering to. They saw the aircraft at 0.5NM, straight away and, as it was below and turning west away from them, did not perceive any risk. They were surprised to hear that the para-dropping aircraft had raised an Airprox.

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

THE EAST MIDLANDS CONTROLLER did not report because the Airprox was not reported on the radio, however East Midlands did investigate, the report is included below.

THE CRANWELL CONTROLLER reports that they were the Approach controller on duty at the time of the reported incident. At approximately 1105Z they took a handover from Wittering on [Prefect C/S], for SRA recovery into BKH. The aircraft was initially identified and given descent to 3000ft, to remain clear

of Saltby gliding site. Further descent was given to 1500ft prior to checks and further vectors into BKH. At this time, they called traffic just climbing out of Langar, squawking 0033 (PARA) and indicating 1300ft below approximately 3 miles away. They also gave [Prefect C/S] a turn to keep clear as the para drop aircraft climbed through the Prefect's level. The Prefect pilot called visual with the paradrop aircraft and took the turn, keeping well clear of the conflicting track. They continued vectoring the Prefect for eventual handover to BKH SRA. During the recovery, they were also controlling 3 free-calling CWL visual recoveries; it was during this period that they received a phone call from East Midlands Director asking for the callsign of the aircraft squawking 2603 (the Prefect). They asked East Midlands to standby whilst they liaised with BKH to facilitate a MATZ crossing for a pair of Prefects wishing to transit on a visual recovery, but when they returned to the call the line was dead. Shortly afterwards, their departures controller had a call on [VHF frequency] from the para-drop aircraft asking for the callsign of the aircraft, and whether it was in the Langar drop zone. At no time was the Prefect in the Langar drop zone, and their estimate at the time was that it was no closer than 4NM from Langar. As the Prefect pilot had called visual with the drop aircraft at 3 miles, and a turn had been given to remain 1NM clear, they believe there was no risk of collision to either aircraft.

THE CRANWELL SUPERVISOR reports that they witnessed the stated incident, the Approach controller paints a full and accurate picture of events. They also took a call from East Midlands Radar requesting the callsign from the BKH inbound. This was probably as a result of the line dropping out to Approach and before the Para dropping aircraft called Cranwell Departures. This was passed by them and when they asked if any other details were requested, East Midlands said no. With the Prefect pilot receiving a Traffic Service, the Paradrop aircraft was called and the Prefect pilot stated visual. The Prefect pilot was given further turns inbound towards BKH and at no stage did it get anywhere near the paradrop site around Langar. To be no closer than approximately 4/5NM to Langar, they were surprised that confirmation that the Prefect had remained clear of Langar had been needed.

Factual Background

The weather at Cranwell was recorded as follows:

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METAR EGYD 151050Z 12003KT 9999 FEW040 BKN250 17/08 Q1022 NOSIG RMK BLU BLU
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Analysis and Investigation

East Midlands Investigation

East Midlands Airport (EMA) were notified by the Airprox board on 17th June 21, that an Airprox had been filed between a C208 and a Prefect. On reviewing the R/T and Radar recordings, EMA were not providing a service to the C208 at the time, however, a short time after the CPA the C208 pilot called EMA to enquire about whether there were any aircraft operating in the vicinity of Langar. The radar controller replied that they could see an aircraft approximately 3NM east of Langar tracking north. The C208 pilot replied that it was in their zone. No mention of an Airprox was made to the radar controller at the time.

1109:20 The radar recording shows an aircraft squawking 2603 (believed to be the Prefect) passing west abeam of Saltby gliding site. The mode C indicates 5400ft descending with the aircraft tracking towards Langar (Figure 1). 1109:50 An aircraft displaying a 0033 squawk (believed to be the C208) is seen departing Langar on a north-easterly track. Mode C indicates 600ft with the aircraft climbing. At this point, the 2603 squawk is approximately 4.7NM southeast of Langar, still tracking towards and indicating 4300ft descending (Figure 2).



Figure 1



Figure 2

1110:35 Both aircraft have continued on their previous tracks with the 2603 squawk still descending, now indicating 2700ft and the Parachuting aircraft indicating 1700ft climbing (Figure 3). 1110:44 Radar recording shows both aircraft commencing right turns towards one another (Figure 4).

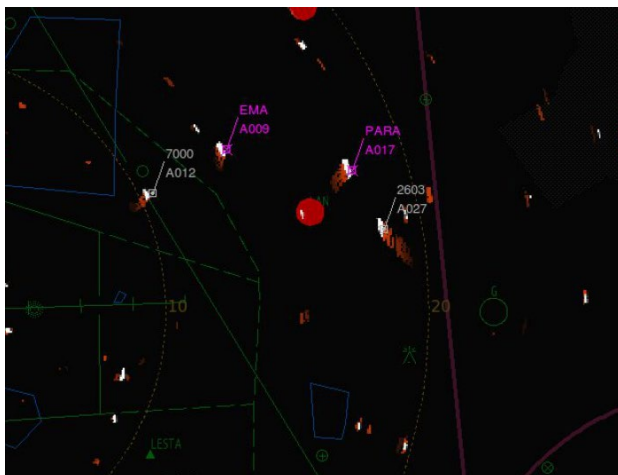


Figure 3



Figure 4

1110:50 The 2603 squawk is approximately 2.2NM east of Langar airfield. 1110:58 CPA occurs with both aircraft in right turns. The separation is 1.2NM and 100ft. The Parachuting aircraft appears to have spotted the 2603 squawk as the parachute aircraft's rate of turn appears to temporarily increase. The 2603 aircraft does not appear to increase their rate of turn, instead rolling out on a track of approximately 020° a short time later (Figure 5).



Figure 5

This Airprox occurred in Class G Airspace between a parachute aircraft operating from Langar and an unidentified aircraft squawking 2603. At the time of the incident, Langar had informed EMA that they were conducting parachute dropping in the open FIR up to FL150. This is fairly regular occurrence throughout the summer period with several sorties been flown from Langar throughout daylight hours. EMA and British Parachute Schools Ltd, operating from Langar airfield, have a letter of agreement which defines the procedures between both parties to ensure that the activities conducted at Langar remain safe in relation to the operations within East Midlands Class D airspace. Paragraphs 3.4 and 3.5 are relevant in this incident and are reproduced below.

3.4 ATC East Midlands Airport will pay due regard to the intense parachute operations at Langar airfield and will advise pilots in communication with them accordingly.

3.5 On commencement of parachute operations, the pilot of the aircraft involved will make radio contact with East Midlands on 134.180 MHz and again just prior to the cessation of operations. This will enable East Midlands ATC to give the most up to date information to transiting aircraft.

In practice, any Aircraft which is known, or believed to be, operating near to Langar will be advised by EMA that the parachuting site is active. There is no agreement that EMA will pass information to the parachuting aircraft on conflicting traffic observed on radar. In most cases, the parachuting aircraft will usually maintain a listening watch with EMA and EMA controllers have been known to pass Traffic Information to the parachute aircraft, although this is entirely at the controller's discretion and will only be passed if the ATCO observes a confliction where they believe there is a definite risk of collision. At the time of the Airprox, the C208 pilot was not in receipt of any form of ATS from EMA and, according to the SSR code displayed, the Prefect pilot was receiving a service from Cranwell. To that end, EMA would not have been able nor expected to inform the Prefect pilot of the activity at Langar. The radar recording shows both aircraft turn towards one another, with the parachuting aircraft appearing to tighten their turn. The CPA occurs at 1110:58 and is 1.2NM horizontal and 100ft vertically. After the CPA, the separation between both aircraft rapidly increases, with the parachuting aircraft continuing on a westerly track and the 2603 squawk continuing northerly. The C208 pilot calls EMA RAD to ask about the proximity of traffic to Langar. EMA RAD pass the position of an observed aircraft tracking northbound. At this point the aircraft are both diverging. The C208 pilot reports that the traffic is inside their zone. Reviewing the UK AIP, there is no ATZ published for Langar. In the en-route section, ENR 5.5 publishes details of aerial sporting and recreational activities. In this section, a warning of parachuting activity at Langar is promulgated. This advises a circle of 1.5NM centred on Langar airfield. According to the radar recording, the Prefect was no closer than 2.2NM from the centre of Langar airfield.

An Airprox was reported to EMA by the Airprox Board 2 days after the incident. There was no report on the RT of the Airprox, hence, immediate reporting action wasn't taken by the controller involved. At the time of the Airprox, the ATCO was fairly busy operating a combined LARS / Radar service and was busy vectoring arriving traffic inbound for ILS approaches so it is unlikely that they would have spotted the developed confliction at Langar, in any case, there was no requirement for the ATCO to pass any surveillance derived Traffic Information to the Langar aircraft. Correct ATC actions were followed throughout.

Military ATM

The Prefect pilot was in the recovery phase of their QFI check ride sortie under a Traffic Service from Cranwell ATC and reported that they were receiving vectors to the east of Langar Paradrropping site which was active. They reported that ATC provided them Traffic Information regarding the C208 and a vector away from the C208 which was towards Barkston Heath, their airfield of recovery. They also received a TAS alert and became visual immediately with separation reported as 0.5NM and 500ft and the pilot did not perceive there to be any risk of collision.

The C208 pilot had departed Langar to climb to position for a para-drop within the Langar Paradrropping site and, although they were not in receipt of an ATS, they were in communication with East Midlands Radar. They reported that they became aware of the Prefect following a TCAS alert which showed the Prefect was coming towards them descending. The C208 pilot reported that they

levelled off to avoid conflict as the Prefect was still descending towards them and separation was reported as 0ft vertically and less than 1NM horizontally.

The Cranwell Approach controller was providing a Traffic Service (TS) to the Prefect pilot which had been handed over from Wittering for an SRA recovery to Barkston Heath. The controller also provided a TS to three other aircraft, a singleton and a pair, which had free called for visual recoveries during the recovery of the Prefect. The Prefect was descended to standard radar training circuit height in accordance with airspace restrictions around them. Traffic Information and a vector was passed to the Prefect pilot about the C208 after which the Prefect pilot informed the Controller, they were visual and taking the turn.

Figures 6 – 9 show the positions of the Prefect and the C208 at relevant times during the Airprox. The screen shots are taken from a replay using the NATS Radars, which are not utilised by Cranwell, therefore, may not be entirely representative of the picture available to the Cranwell controller.

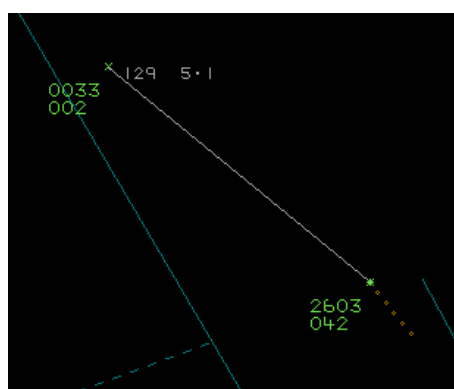


Figure 6: The C208 first appears on the NATS Radars. Separation is 5.1NM and 4000ft.

At the beginning of the provided radar recording the C208 is displayed and both the C208 and the Prefect are transiting west. Four seconds prior to the C208 displaying on radar, a formation had called recovery and were giving their position report to the controller.

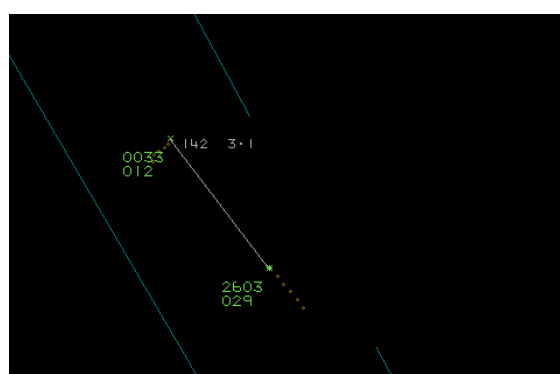


Figure 7: Traffic Information is passed to the Prefect.

Forty seconds after the C208 first appears on the NATS radar, Traffic Information and a turn is given to the Prefect pilot by Cranwell ATC. Separation had decreased to 3.1NM and 1700ft. Immediately prior to passing the Traffic Information to the Prefect, the controller was identifying and passing Traffic Information which was 0.5NM away to the freecalling formation.

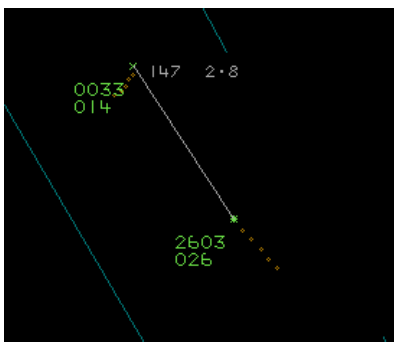


Figure 8: Prefect pilot reports that they are climbing.

Nine seconds later the Prefect pilot reports visual and taking the turn. Separation decreased to 2.8NM and 1200ft.



Figure 9: CPA was measured at 1.2NM and 0ft

The actions of the Cranwell controller were executed as expected for the situation. Whilst Traffic Information is normally expected to be passed by 5NM if it is anticipated that the aircraft are going to get within 3NM of each other, in this situation the controller was providing identification and more time-pressing Traffic Information to another aircraft. The C208 was initially tracking NE whilst climbing and the timely Traffic Information from ATC allowed the Prefect to become visual. The C208 pilot turned left to an eventual SW heading which decreased the separation between the two aircraft. It is also unfortunate that the C208 was not in receipt of an ATS therefore were unable to be made aware that the Prefect was visual with them.

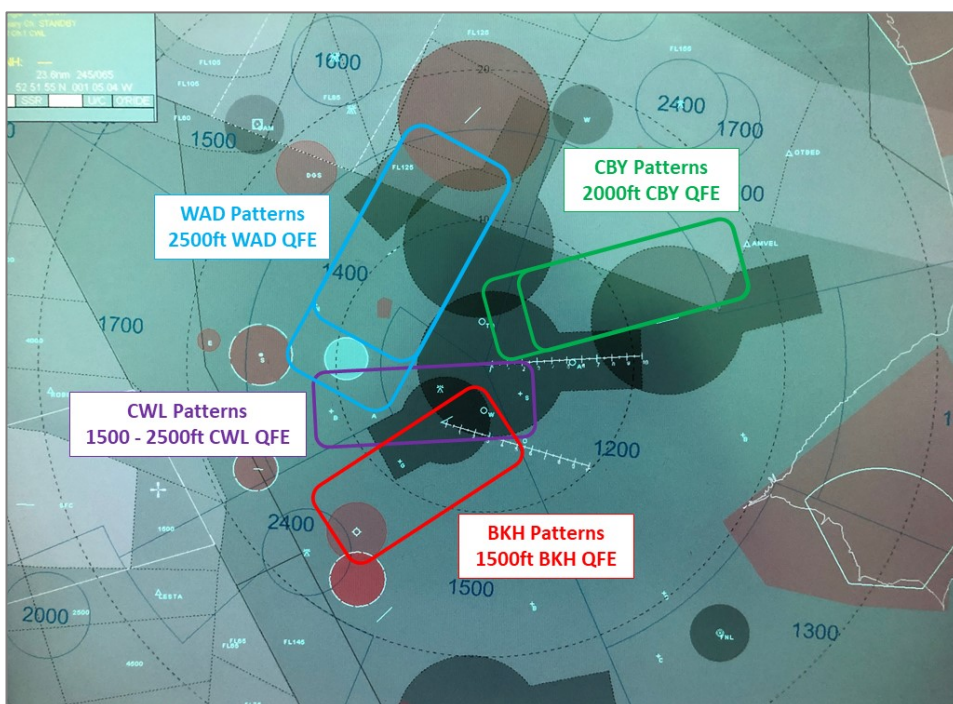


Figure 10: Cranwell radar map depicting radar patterns and local restrictions

UKAB Secretariat

The C208 and Prefect 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

<p>5.5.4 Free-fall Parachuting Drop Zones</p> <p>5.5.4.1 Intensive free-fall parachuting may be conducted up to FL 150 at any of the Drop Zones listed at ENR 5.5 and in several Danger Areas. Listing of a Drop Zone does not imply any right to a parachutist to use that Drop Zone. Some Government and licensed aerodromes where regular parachuting takes place are included in the list but parachuting may also take place during daylight hours at any Government or licensed aerodrome. Drop Zone activity information may be available from certain Air Traffic Service Units (ATSUs) but pilots are advised to assume a Drop Zone is active if no information can be obtained.</p> <p>5.5.4.2 Parachuting also takes place at temporary sites, e.g. for display purposes, and will normally be notified by NOTAM as Temporary Navigation Warnings. Night parachuting may take place at any Drop Zone. Club Chief Instructors will notify in writing all forthcoming night parachuting, at least five working days in advance to Airspace Regulation (Utilisation) (AR(U)), Airspace Regulation, Aviation House, Gatwick, RH6 0YR, to allow AR(U) to take appropriate notification action.</p> <p>5.5.4.3 Visual sighting of free-falling bodies is virtually impossible and the presence of an aircraft within the Drop Zone may be similarly difficult to detect from the parachutists' point of view. Parachute dropping aircraft and, on occasions, parachutists may be encountered outside the notified portion of airspace. Pilots are strongly advised to give a wide berth to all such Drop Zones where parachuting may be taking place.</p> <p>5.5.4.4 Where permission is obtained for drops within Controlled Airspace, dropping aircraft are to have serviceable SSR with Mode C.</p>

Figure 11: UK AIP ENR 1.1

Designation Lateral limits	Vertical Limits	Operator/User Tel No	Remarks Activity times
1	2	3	4
Parachute jumping			
LANGAR, NOTTS A circle, 1.5 NM radius, centred at 525338N 0005416W	Upper limit: FL150 Lower limit: SFC	Phone: 01949-860878. East Midlands Airport ATC: 01332-852852 Ext 2232. London Control (Swanwick) 01489- 612420.	Activity notified on the day to East Midlands Airport EGNX and London Control (Swanwick). Langar parachuting contact: 129.905 MHz. Alternative contact: East Midlands Radar 134.180 MHz or London Information 124.600 MHz. Hours: Normally during daylight hours.

Figure 12: UK AIP ENR 5.5 Langar Parachute jumping site

*0033	Aircraft Paradropping	Unless a discrete Mode A code has already been assigned, pilots of transponder equipped aircraft should select Mode A code 0033, together with Mode C pressure altitude reporting mode of the transponder, five minutes before the drop commences until the drop is complete and parachutists or loads are known or estimated by the pilot to be on the ground.
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Figure 13: UK AIP ENR 1.6, 2.2.2.2.1

Comments

HQ Air Command

This occurrence was subject to a Local Investigation. The Prefect pilot was descending in preparation for recovery to Barkston Heath (BKH) and the C208 pilot was climbing from Langar. Both aircraft were aware of the other via their Traffic Alert System displays and the Prefect pilot was also alerted to the C208 via a Traffic Service. An easterly wind meant that both Langar and BKH were operating similar runway directions and therefore, there was an increased possibility of a conflict between Langar departing traffic and BKH recovery traffic. The airspace is constricted in that area, with a delayed descent required due to the overflight of Saltby gliding site, and this increases the likelihood of conflict. The Prefect pilot received Traffic Information, called visual with the C208 and was turned east to deconflict. The extant barriers were effective on this occasion and the Prefect crew did not assess that any Loss of Safe Separation resulted. A liaison visit to Langar was undertaken by 3 Flying Training School and education and engagement activity is planned for both Prefect and Langar personnel to highlight each other's operations.

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.

Summary

An Airprox was reported when a C208 and a Prefect flew into proximity at location at 1111Z on Tuesday 15th June 2021. Both pilots were operating under VFR in VMC, the C208 pilot not in receipt of a service and the Prefect pilot in receipt of a Traffic Service from Cranwell.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings 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 began by noting that information relating to Langar parachuting site on and in aeronautical publications was advisory and the site had no additional protection within Class G airspace, the information provided in the UK AIP (see figures 11, 12 & 13 above) advise pilots of the dangers associated with parachutists and advise them to allow a suitable margin from these sites to ensure that parachuting activities can be carried out safely. In this instance the Prefect pilot was operating at an adequate distance from the site. Notwithstanding, the Board were pleased to hear that the CAA have agreed to review the way that the information is displayed in the UK AIP, to better inform pilots of both the responsibilities of the parachuting site users and any pilots intending to transit close to the sites.

Next, the Board turned looked at the specific circumstances that affected this Airprox report. When Barkston Heath is operating on an easterly RW the airspace is quite complex and requires controllers to keep aircraft higher than would be usual before descent to avoid the gliding site (Saltby) and, when vectoring, turning to avoid Langar parachuting site. The controller was vectoring the Prefect for an SRA and had passed Traffic Information to the Prefect pilot on the C208, the pilot reported visual and received a TAS indication. The controller turned the Prefect towards Barkston Heath, as a combined vector away from the C208 and to establish inbound for an SRA approach, at a similar time that the C208 pilot turned onto a southerly heading, which put the C208 on a track towards the Prefect. The C208 pilot had received a TCAS I TA and therefore had suitable situational awareness of the Prefect. Some Board members wondered why the C208 pilot had not contacted East Midlands or Cranwell and was only maintaining a listening watch on the East Midlands frequency (**CF1**), this could have increased their situational awareness further.

The Board were heartened to hear that since this incident the local military units have instigated liaison visits between themselves and Langar to allow both airspace operators to gain a greater understanding of each other's operational requirements to try to both mitigate the safety risks and enhance local relationships.

Finally, the Board considered the risk involved in this Airprox. The Prefect pilot was visual with the C208. Both aircraft had EWS TA information on the other aircraft (**CF2&3**) and the Cranwell controller had turned the Prefect away from the position of the C208. When the Prefect passed through the C208 pilot's 12 o'clock the aircraft were still separated by 1.2NM horizontally (**CF4**). As such, the Board determined that there was no risk of collision and this was normal operations in that area of the airspace. Consequently, the Board assigned a Risk Category E to this Airprox.

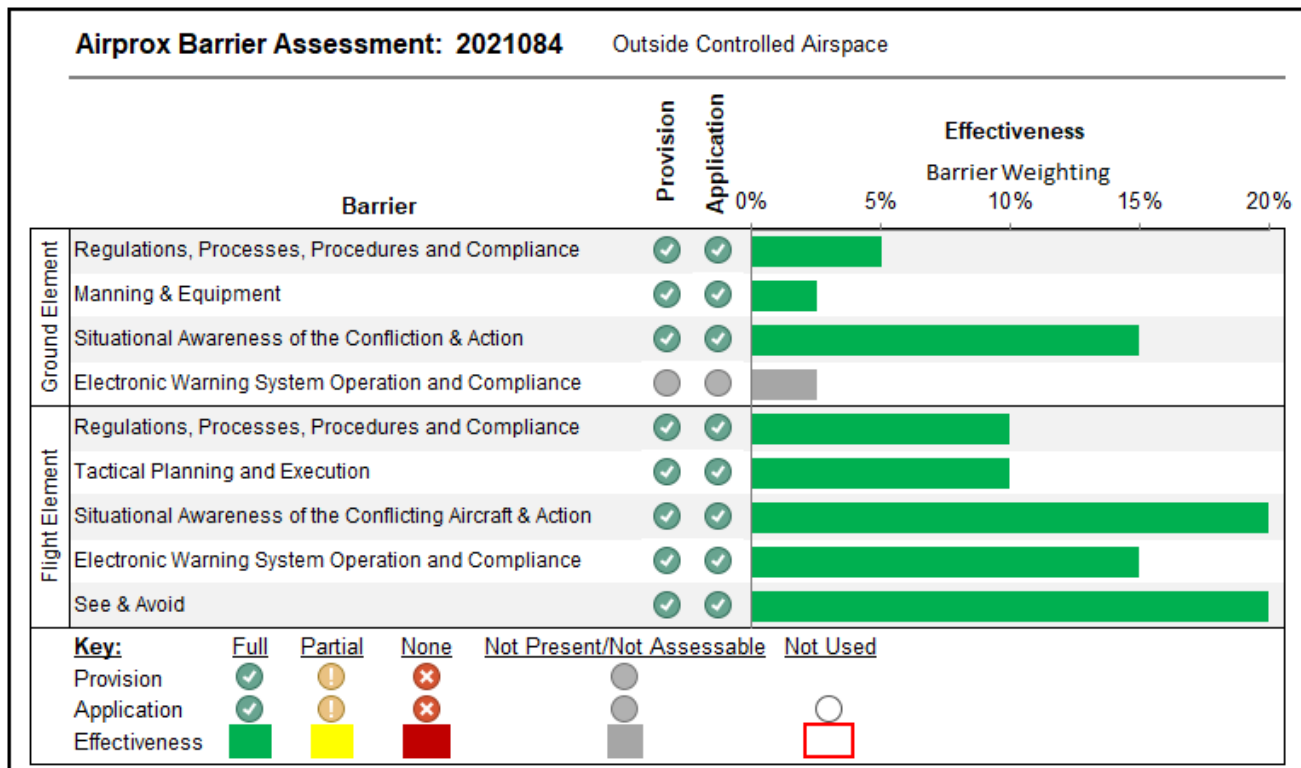
PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

2021084				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
• Electronic Warning System Operation and Compliance				
2	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
4	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment³

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that all the barriers worked as expected.



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