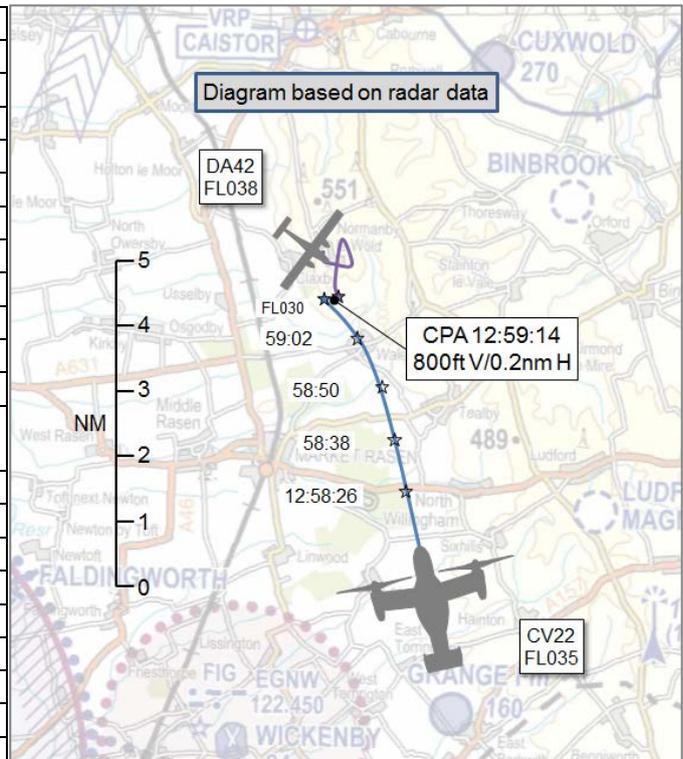


AIRPROX REPORT No 2017040

Date: 16 Mar 2017 Time: 1259Z Position: 5325N 00018W Location: 9nm south Humberside

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	CV22	DA42
Operator	Foreign Mil	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Traffic
Provider	Coningsby	Humberside
Altitude/FL	FL030	FL038
Transponder	A, C, S	A, C, S
Reported		
Colours	Grey	White
Lighting	Strobes, nav	Strobes, nav, landing, taxi
Conditions	VMC	VMC
Visibility	20nm	>15km
Altitude/FL	FL035	3900ft
Altimeter	1013hPa	QNH (1018hPa)
Heading	340°	110°
Speed	225kt	120kt
ACAS/TAS	TCAS I	TCAS I
Alert	TA	None
Separation		
Reported	200ft V/0m H	400ft V/0m H
Recorded	800ft V/0.2nm H	



THE CV22 PILOT reports that he was given Traffic Information on the DA42 by Coningsby Radar and he saw traffic 10nm ahead, which appeared to turn eastbound. The pilot inquired if the DA42 was on the current radar control frequency. Radar informed him they were on Humberside's frequency and were about to hand him off to that frequency. At that time the DA42 turned towards them, co-altitude inside 2nm, and rolled out heading southbound. The CV22 pilot descended 600ft and deviated left to avoid collision. The DA42 passed over them at +200(ft) indicated on the TCAS. The CV22 pilot immediately asked Humberside Radar what the tail number of the DA42 was. Humberside passed the tail number and asked if they were on frequency. There was no response. The CV22 pilot informed Humberside Radar that the aircraft had manoeuvred abruptly towards them causing a near mid-air collision. The CV22 pilot noted that he never heard anything else from the DA42 over the radio.

He assessed the risk of collision as 'High'.

THE DA42 PILOT reports conducting an IR/MEP revalidation flight and, following 2 approaches at Humberside, they were routed to the south of Humberside for General Handling (GH) in Class G airspace under a Traffic Service, wearing a Humberside ATC squawk. The candidate was handling the aircraft and the reporting pilot, the examiner, was responsible for the radio and navigation during that phase of the check flight. At about 1300 UTC, ATC called them and reported traffic to the south, 500ft below. The examiner identified the traffic, judged it to be about 4 or 5 miles from them, and advised ATC that he was visual with the traffic. The candidate was flying visually at this stage of the GH and the examiner pointed the other aircraft out to him. They were manoeuvring but the examiner kept the traffic in sight and ATC gave a second call to report its position as it continued towards them. It was apparent that the other aircraft was not on frequency during this exchange. The examiner confirmed the other aircraft was still in sight and instructed the candidate to fly straight and level while

it passed below them. Once the aircraft had passed the examiner took control and manoeuvred to keep the other aircraft in sight, making sure he was well clear before they continued the GH. The examiner heard the other aircraft's pilot come onto the Humberside frequency and, sometime after, ask for the registration of a light twin, but did not say why. At no time did the examiner think there was any conflict between the two aircraft or any position that compromised the safety of either aircraft. The examiner noted that it appeared that the crew of the other aircraft didn't share that view, perhaps because they saw the DA42 manoeuvring and were not aware that the crew had them in sight. Being on different frequencies did not help the situation. An earlier hand-over from Coningsby or communication via landline, if possible, may have been helpful if the USAF crew were concerned.

He assessed the risk of collision as 'None'.

THE CONINGSBY CONTROLLER AND SUPERVISOR both report that the Airprox was not reported on frequency and that they were informed of the event a week later. Consequently, neither could recall the circumstances.

THE HUMBERSIDE CONTROLLER did not submit a report to the UK Airprox Board.

Factual Background

The weather at Humberside was recorded as follows:

METAR EGNJ 161320Z 23019KT 9999 BKN024 13/07 Q1017=
METAR EGNJ 161250Z 23017KT 9000 SCT022 12/07 Q1018=

A transcript of the Coningsby Departures frequency was provided, as follows:

From	To	Speech Transcription	Time
CV22	Departures	Coningsby [CV22 C/S] checking in three seven six decimal three five	12.48.54
Departures	CV22	[CV22 C/S] Coningsby zone identified at three thousand five hundred feet on the Barnsley one zero one one, Traffic Service, now readability five	12.48.57
CV22	Departures	Traffic service for [CV22 C/S] copied	12.49.05
Departures	CV22	[CV22 C/S] traffic twelve o'clock five miles crossing left right ahead indicating one thousand three hundred feet above	12.51.04
CV22	Departures	[CV22 C/S] is searching for that traffic	12.51.13
Departures	CV22	[CV22 C/S] correction it's two thousand three hundred feet above	12.51.16
CV22	Departures	Roger [CV22 C/S]	12.51.19
CV22	Departures	Coningsby [CV22 C/S] is now visual with that aircraft	12.51.44
Departures	CV22	[CV22 C/S]	12.51.47
Departures	CV22	[CV22 C/S] reduced Traffic information from all around for the next one eight miles due to limits of surveillance cover	12.52.11
CV22	Departures	[CV22 C/S] copies	12.52.18
Departures	CV22	[CV22 C/S] say again your destination	12.54.09
CV22	Departures	Spadeadam Range for [CV22 C/S]	12.54.13
Departures	CV22	[CV22 C/S] apologies you were stepped on there say again range	12.54.47
CV22	Departure	Err Spadeadam range, delta five one zero for [CV22 C/S]	12.54.50
Departures	CV22	[CV22 C/S] copied thank you	12.54.55
Departures	CV22	[CV22 C/S] traffic twelve o'clock eight miles tracking south indicating four hundred feet above	12.57.46
CV22	Departures	Err [CV22 C/S] searching	12.57.52
Departures	CV22	[CV22 C/S] squawk four two seven two	12.58.15
CV22	Departures	Four two seven two [CV22 C/S]	12.58.18
CV22	Departures	[CV22 C/S] is err coming left err twenty degrees err for that traffic	12.58.39

From	To	Speech Transcription	Time
Departures	CV22	[CV22 C/S] copied	12.58.44
Departures	CV22	[CV22 C/S] that previously called traffic twelve o'clock two miles opposite direction indicating three hundred feet above	12.58.58
CV22	Departures	Yeah [CV22 C/S] copies err visual with traffic, turned right into us	12.59.06
CV22	Departures	Hey Coningsby [CV22 C/S] are you err two way speaking with that aircraft?	12.59.21
Departures	CV22	[CV22 C/S] negative he's working Humberside, your next unit, he appears to have turned north but he's indicating five hundred feet above now	12.59.25
CV22	Departures	Copied err request handoff to Humberside when able	12.59.33
Departures	CV22	[CV22 C/S] roger squawk four two seven two	12.59.37
CV22	Departures	Four two seven two	12.59.39
Departures	CV22	And [CV22 C/S] your speed will take you well clear of that aircraft now	12.59.43
CV22	Departures	[CV22 C/S]	12.59.47
Departures	CV22	[CV22 C/S] contact Humberside one one nine decimal one two five	12.59.49
CV22	Departures	One one niner one two five	12.59.52

Analysis and Investigation

CAA ATSI

The Airprox was reported by the pilot of a CV22 when it came into proximity with a DA42 which was engaged in an instructional flight, general handling approximately 10nm south of Humberside. The DA42 pilot was operating under VFR at the time, and in receipt of a Traffic Service from Humberside radar. The DA42 pilot had completed some Instrument approaches at Humberside prior to the general handling, with the instructor on board subsequently carrying out the navigation and radio calls. The CV22 was on a northbound track heading towards the Humberside area and was in receipt of a Traffic Service from Coningsby Radar prior to the Airprox. (The CV22 pilot subsequently worked Humberside radar).

At approximately 1258:15 (Figure 1), Humberside radar provided Traffic Information to the DA42 pilot (squawk 4250) on the, then unknown, northbound aircraft, with the pilot indicating in his written report that he obtained visual contact with the CV22 (squawk 1774) at a reported range of '4 to 5 miles'. This Traffic Information was subsequently updated by Humberside, although the DA42 pilot remained visual with the CV22.

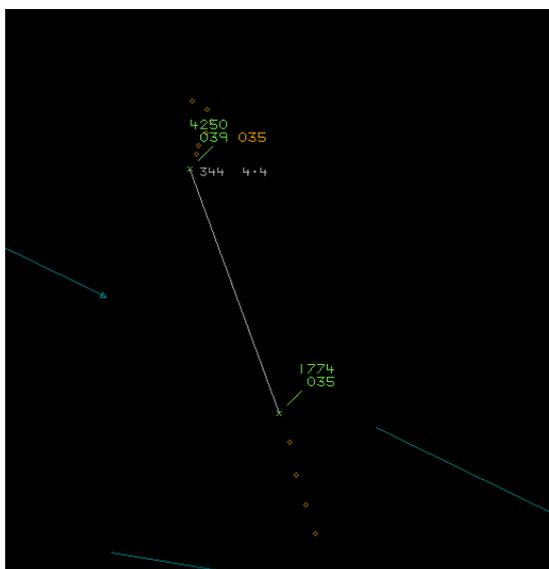


Figure 1 – Prestwick Radar at 1258:15



Figure 2 CPA - Prestwick Radar 1259:11

CPA occurred at 1259:11 (Figure 2), with an indicated 600ft and 0.2nm between the two aircraft. However, allowing for the update rate of the radar and the track and speed of both aircraft it is possible the lateral distance between the two aircraft occurred just after this radar screenshot and that it may have been less than 0.2nm.

Under a Traffic Service the controller is not required to achieve a deconfliction minima but is required to provide timely and accurate Traffic Information, as occurred in this event. Ultimately, as both aircraft were operating in Class G airspace the pilots are responsible for their own collision avoidance.

Military ATM

An Airprox occurred on 16 Mar 17 at approximately 1300hrs UTC, 20nm NW of Coningsby, between a CV22 and a DA42. The CV22 was receiving a Traffic Service from Coningsby LARS while the DA42 was receiving a Traffic Service from Humberside ATC.

Figures 3-6 depict the position of the CV22 and DA42 at relevant times in the lead up to, and at the time of, the Airprox. The screen shots are taken from a replay of the Great Dun Fell radar head and therefore are not necessarily representative of the picture seen by the LARS controller at the time.

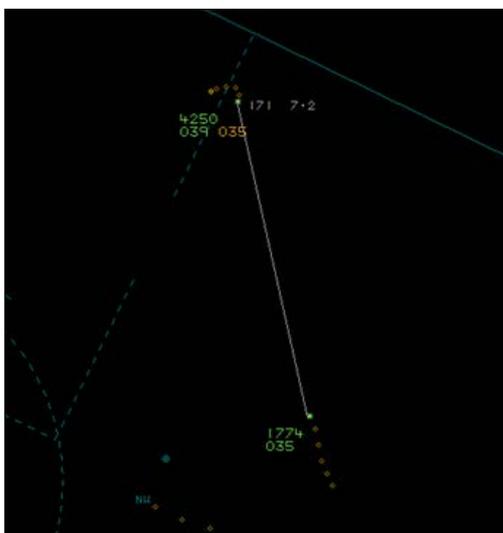


Figure 3



Figure 4

At 12:57:46 (Figure 3), the Coningsby LARS controller passed Traffic Information to the CV22 pilot on traffic 12 o'clock, 8nm, tracking south, indicating 400ft above. The CV22 pilot responded that he was searching but did not call visual with the traffic.

At 12:58:39 (Figure 4), the CV22 pilot told the Coningsby LARS controller that he was coming left 20 degrees due to the previously called traffic.

At 12:58:58 (Figure 5), the Coningsby LARS controller updated the Traffic Information to the CV22 pilot as 12 o'clock, 2nm, opposite direction, indicating 300ft above. The CV22 pilot responded that he was visual with the traffic and that it had turned towards him.

At 12:59:11 (Figure 6), the CV22 and the DA42 passed at their CPA of 0.2nm and 700ft.

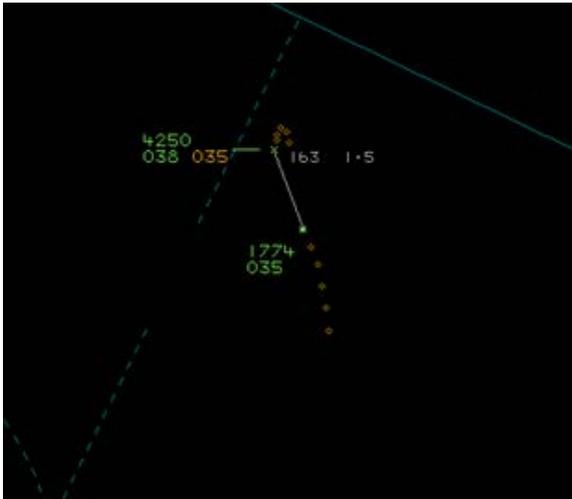


Figure 5



Figure 6

The Airprox was not notified to Coningsby ATC until a week after the incident therefore neither the controller involved nor the Supervisor could recollect the incident and no DASOR narratives were provided. Unit investigation suggested that the controller had commented that the CV22 had got close to a King Air [actually a DA42] but that no Airprox was declared on frequency.

The Coningsby LARS controller passed timely, accurate Traffic Information to the CV22 pilot and updated the Traffic Information when he believed that the traffic posed a definite risk of collision, therefore the Traffic Service was provided iaw CAP 774.

UKAB Secretariat

The CV22 and DA42 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right². If the incident geometry is considered as converging then the CV22 pilot was required to give way to the DA42³.

Occurrence Investigation

The Coningsby investigation established that the Airprox was not reported on frequency by the CV22 pilot and therefore that there were limited recollections. The findings were based on the tape transcript, watch-log entries and information from those in control positions at the time. The supervisors were conducting a handover at the back of the radar room and had no notification of the event. After the event the oncoming supervisor was informed by the LARS controller during a routine conversation in an office that they thought an Osprey (CV22) on his frequency had got close to a King Air [actually a DA42] however nothing had been declared on frequency. As the aircraft in question had been under a Traffic Service and nothing had been reported no further action was taken. On receipt of the request for a transcript, and after the request for further comment, the investigation found that the LARS controller fulfilled their requirements for a Traffic Service, providing timely Traffic Information and limiting Traffic Information for the radar overhead. The Osprey pilot notified a heading change in response to the Traffic Information and it was the fact that the manoeuvring [DA42] then turned toward the Osprey which resulted in the report being filed. The [DA42's] actions could not be predicted by the LARS controller.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

³ SERA.3210 Right-of-way (c)(2) Converging.

Comments

USAFE

Clearly the DA42 pilot(s) did not appreciate the effect that his/their apparently random manoeuvres would have had with regard to the CV22 crew. The Military Occurrence Investigation commented that the DA42's actions could not be predicted by the LARS controller; the same applied to the crew of any aircraft unfortunate enough to be in the vicinity of the DA42.

Summary

An Airprox was reported when a CV22 and a DA42 flew into proximity at 1259 on Thursday 16th March 2017. Both pilots were operating under VFR in VMC, the CV22 pilot in receipt of a Traffic Service from Coningsby and the DA42 pilot in receipt of a Traffic Service from Humberside.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, a transcript of one of the relevant R/T frequencies, radar photographs/video recordings, a report from one of the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

Members noted that both pilots were conducting normal operations in Class G airspace, both operating under VFR in receipt of a Traffic Service and both having seen the other at range. Some members commented that the CV22 pilot had seemed startled at the DA42 pilot's manoeuvring, despite having received Traffic Information on it. They commented that the CV22 pilot had stayed at the same level as he tracked towards the DA42 and felt that he could have taken earlier action to side-step the DA42 should he have felt it necessary. The CV22 pilot transmitted that the DA42 'turned right into us' and some members wondered whether he thought that such traffic would be advised of his presence and that ATC would confer a degree of separation by virtue of his Traffic Service. In this respect, members commented that it was an inherent property of Class G airspace that traffic could manoeuvre without prior notification to other traffic, and that it was incumbent on all users of the airspace to be aware of this and make appropriate allowances. Although under a Traffic Service, which would provide information on other aircraft known to ATC, it still remained the CV22 pilot's responsibility to conduct any avoiding or separation manoeuvres.

For his part, the DA42 pilot was unconcerned by the proximity of the CV22, having received Traffic Information on it and sighted it at a range of about 4nm. Notwithstanding, members commented that he could equally have directed the student to roll out on a heading which did not converge with the approaching CV22. In the event, the conflict was resolved by the CV22 pilot descending and turning left and by the DA42 pilot assessing there was sufficient vertical separation for there to be no need to take avoiding action. Members commented that the incident was one of differing perceptions: the CV22 pilot's report indicated that he perceived that the other aircraft was too close, whereas the DA42 pilot was content that their separation was within VFR norms. The Board agreed that although both pilots probably could have done more to increase separation at an earlier stage, the operation of both aircraft was normal for Class G, see-and-avoid airspace, and that normal procedures, safety standards and parameters had pertained.

PART C: ASSESSMENT OF CAUSE, RISK AND SAFETY BARRIERS

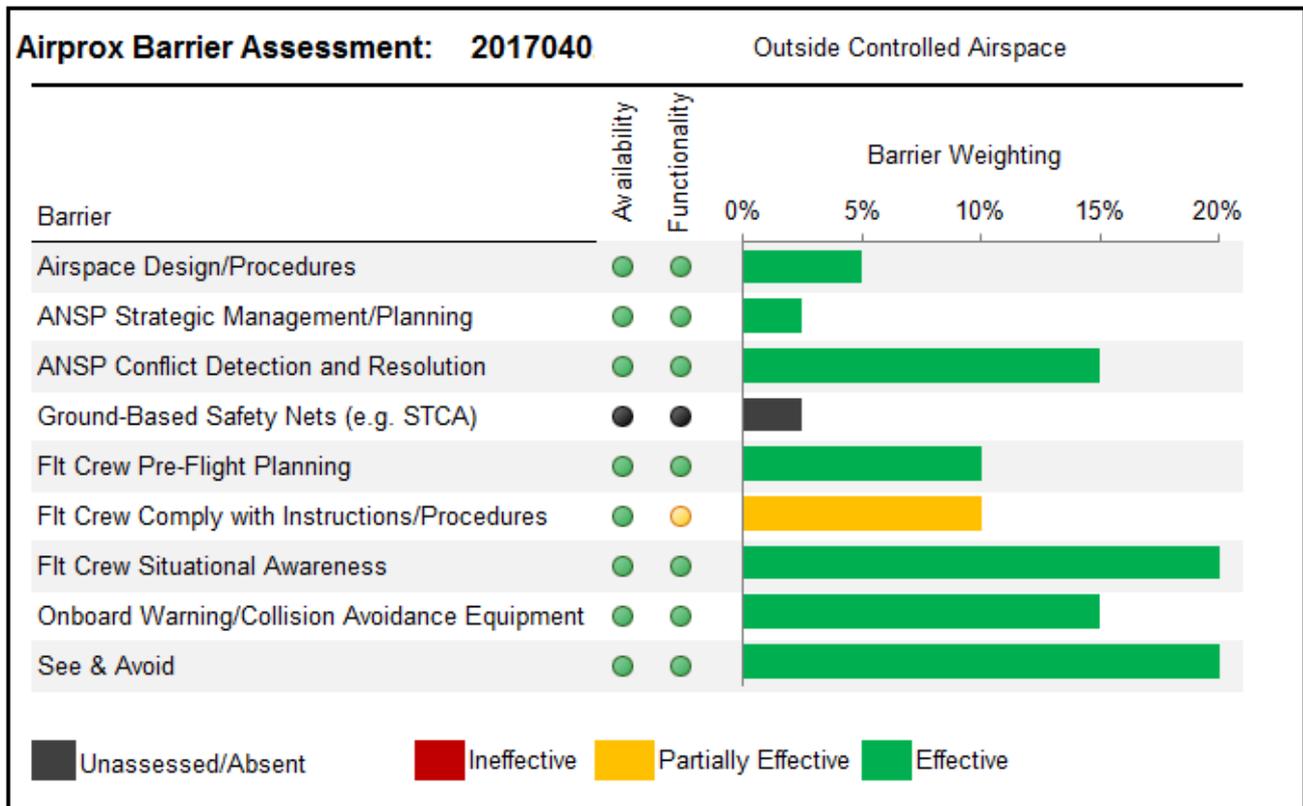
Cause: A conflict in Class G resolved by both pilots.

Degree of Risk: E.

Safety Barrier Assessment⁴

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

Flight Crew Compliance with Instructions & Procedures was assessed as **partially effective** because the CV22 and DA42 crews allowed their aircraft to come into proximity after having obtained Traffic Information and having made visual contact at 10nm and 4nm respectively.



⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).