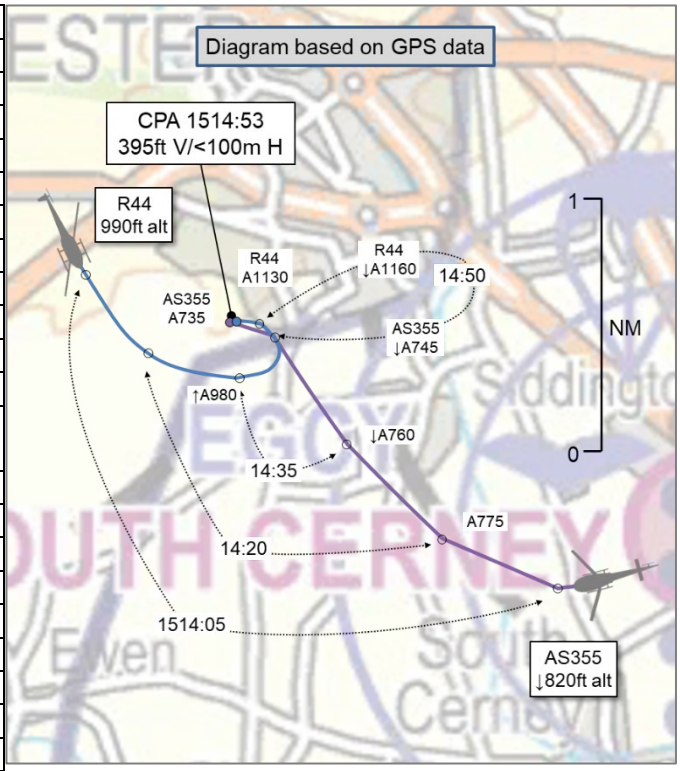
AIRPROX REPORT No 2021248

Date: 21 Dec 2021 Time: 1515Z Position: 5142N 00158W Location: Cirencester

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	R44	AS355
Operator	Civ Comm	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Gloster App	Kemble Info
Altitude/FL	1130ft	735ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Blue	Black, Yellow
Lighting	Red and white strobes	HISL, Nav, Anti-col, Landing
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	700ft agl	300ft agl
Altimeter	QNH (1023hPa)	QNH (NK hPa)
Heading	NK	310°
Speed	80kt	110kt
ACAS/TAS	TCAS I	TCAS II
Alert	None	TA
Separation at CPA		
Reported	100-200ft V/0m H	200ft+V/>0.5NM H
Recorded	395ft V/<100m H	



THE R44 PILOT reports that they had been conducting a pipeline survey and were following a pipe from a position 4NM north of Kemble to its termination south-abeam Cirencester. They had recently changed frequency to Gloster [Approach] as Kemble was closed and could not provide them with a service and they were satisfied that their activities north of the airfield would not affect the traffic making blind calls within the ATZ. They reached the end of the pipeline at the above ground installation (AGI), where they initiated a climb for the dead-leg and started a steep turn to fly a reciprocal track to re-join the pipeline 2NM west of Cirencester. During the turn their observer commented that a helicopter has just flown underneath them. The other helicopter was not on frequency with Gloucester. They wondered whether the other helicopter was also on a pipeline inspection (the colour scheme was familiar from another utility company) as it appeared to be routing to the same AGI. They had no ACAS alert and the other aircraft did not appear on the traffic display at any point. The other aircraft then continued on a south-westerly heading at low level. They did not take avoiding action due to the late sighting and the conflict had already passed. [The R44 pilot opines that] if they did not initiate a climb prior to flying a dead-leg to re-join the main pipeline, and instead continued on-task past the AGI, separation could have been very minimal indeed due to the two aircraft navigating by the same feature at the same height.

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

THE AS355 PILOT reports that their tasking route was: Swindon - Fairford MATZ - South Cerney - Cirencester. They were at their task height of 500ft agl and receiving a Basic Service from Brize Radar, while also monitoring Kemble and SafetyCom frequencies to build situational awareness of local traffic. Approaching approximately 3NM south-east of South Cerney, they gauged 2 aircraft in the Kemble circuit with a pipeline helicopter pilot blind-calling to transit north through the ATZ. Shortly afterwards they heard the pipeline helicopter pilot transmit blind 'leaving the ATZ northbound and changing to

Gloucester Approach frequency'. When overhead South Cerney they signed-off with Brize Radar to continue monitoring Kemble frequency, at the same time noticing a TCAS contact, same level (500ft agl) approaching 2NM ahead. They descended to 300ft agl utilising the twin engine exemption for separation, and had their landing light on, strobes and HISL already flashing. At approximately 1.5NM TCAS lateral separation, 200ft vertical separation on TCAS display, they became visual with the R44, they were head-on but they would pass each other on their port sides with vertical separation. They then started a right turn to complete the survey into the above ground gas installation, at that point the R44 was in their front port windscreen, as if to pass down their port side, aiding lateral separation while maintaining vertical separation. The R44 then turned left and headed directly towards them. They believe they were tracking on the R44 pilot's right-hand side with the right of way, so maintained course and speed with 200ft vertical separation. They were in constant visual contact with the R44 and considered there to never be any danger of a collision. Also, knowing the R44 pilot's base height would be 500ft agl, (200ft above their own) they continued on task maintaining visual contact. The R44 pilot had left the Kemble frequency and was not in contact with Brize Radar, the two local frequencies to the area, and two of the three frequencies they were monitoring, thus they had no opportunity to make them aware of their presence or being visual with them. [In order for them to have been in their current position, they believe that] the R44 pilot would have had to have turned east on leaving Kemble when they had stated that their intentions were to head north.

The pilot assessed the risk of collision as 'None'.

THE GLOSTER APPROACH CONTROLLER had been providing a providing a Basic Service to the R44 pilot, relevant information given by them is included in the CAA ATSI report.

THE BRIZE RADAR CONTROLLER does not recall the traffic situation in the Kemble area. Their understanding is that the AS355 had left the frequency approximately 4min before the event.

Factual Background

The weather at Gloucester was recorded as follows:

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METAR EGBJ 211450Z 13006KT 9999 FEW027 BKN030 06/01 Q1024
METAR EGBJ 211520Z 14006KT 9999 FEW025 BKN032 05/01 Q1023
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Analysis and Investigation

CAA ATSI

The Gloucestershire Approach controller was unaware of the presence of the AS355, (Gloucestershire does not have a surveillance radar other than a primary radar used as an ATM and for the provision of SRAs,) and therefore could not pass Traffic Information. There was no further ATM involvement in this Airprox.

UKAB Secretariat

Both of the aircraft had been below NATS radar coverage at the time of the event, however both pilots had been able to supply GPS data log files for their respective flights and this information has been used to construct the diagram and to measure the CPA.

Brize Radar was contacted to determine what their level of involvement had been and the controller confirmed that the AS355 pilot had left their frequency approximately 4min before the event. The controller does not recall the traffic situation in the Kemble area on the day.

The R44 and AS355 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

[1] (UK) SERA.3205 Proximity.

considered as head-on or nearly so then both pilots were required to turn to the right.[2] If the incident geometry is considered as converging then the R44 pilot was required to give way to the AS355.[3]

Summary

An Airprox was reported when an R44 and an AS355 flew into proximity at Cirencester at 1515Z on Tuesday 21st December 2021. Both pilots were operating under VFR in VMC, the R44 pilot in receipt of a Basic Service from Gloster Approach and the AS355 pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, GPS data files and reports from the air traffic controllers involved. 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 first considered the actions of the R44 pilot and members were encouraged by their awareness of the activities at Kemble airfield. Members discussed the availability of air traffic services in the area and agreed that it may have been the case that, rather than utilising a Basic Service from Gloster approach, due to the location, a service from Brize Norton would have been more beneficial for the pilot (**CF2**). A discussion followed to determine what prior notice the R44 pilot had had regarding the AS355 and it was agreed that they had had no awareness prior to sighting it (**CF4**) and that, when the pilot of the R44 did become visual with the AS355, it had been at a time which would have been too late to have taken any avoiding action (**CF7**). A military advisor showed members an extract from the military low flying planning system, which is available to helicopter pipeline inspection operating companies, which did show that there had been a small overlap in the operating areas for the two helicopters on the day of the Airprox. Members agreed that, as the R44 pilot had had no prior awareness of the AS355 pilots area of operation, it had been likely that this facility had not been fully utilised in planning (**CF3**). The Board then discussed the information that is available to other airspace users detailing activities such as pipeline inspection operations and viewed an example of a NOTAM that had been generated as a result of the helicopter operating companies' submission to the military low flying system. Members agreed that the way in which this information is published is too generic and lacking in sufficient detail to enable other airspace users to accurately determine where this activity is taking place.

Next, the Board discussed the actions of the AS355 pilot and, although the pilot had been maintaining a listening watch with Brize Norton and Kemble, members again agreed that it may have been the case that maintaining the service from Brize Norton that they had been using previously may have been more beneficial (**CF2**). It was noted by members that the TCAS that had been carried on the AS355 had issued a genuine alert (**CF5**) and that the pilot had become visual with the R44 and had manoeuvred to avoid it, however, members stated that the pilot had still flown close enough to the R44 to cause concern to the R44 pilot (**CF6**). The earlier point which had been made regarding the use of the low flying planning system was then revisited and members agreed that, as the AS355 pilot had not been expecting another inspection helicopter in the vicinity, it had been likely that the facility had not been fully utilised by the AS355 pilot (**CF3**). A discussion followed regarding exemptions that are held by pipeline operating companies in relation to the 500ft rule. A helicopter member stated that such exemptions are issued by the CAA and are not exclusive to multi-engine aircraft so the assumption by the AS355 pilot that the R44 would not descend below 500ft may have been incorrect.

The Board next examined the role of the Gloster controller and was satisfied that, under the Basic Service that they had been providing to the R44 pilot, the controller had not been required to monitor the flight.

Finally, the Board considered the risk involved in this Airprox. The members noted that, although the AS355 pilot had been visual with the R44 early and they had undertaken a manoeuvre to provide

[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.

separation, they had continued toward the R44 to an extent that the R44 pilot had become concerned. It was however agree that, had the AS355 pilot deemed it necessary, the AS355 pilot had had the capacity to manoeuvre to further increase separation. The Board then considered the recorded separation and concluded that that there had been no risk of collision, although safety had been reduced. Accordingly, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021248			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Tactical Planning and Execution			
2	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
3	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
5	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
	• See and Avoid			
6	Human Factors	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
7	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C

Recommendation: The CAA reviews whether the Centralised Aviation Data Service (CADS) procedures, (Ref: UK IAIP ENR 1.10) generate the publication of sufficiently detailed information about operations below 500ft to enable other airspace users to accurately determine where the activity is taking place.

Safety Barrier Assessment[4]

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because under a Basic service the Gloster controller had not been required to monitor the flight of the R44.

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the R44 pilot had had no awareness of the presence of the AS355 prior to sighting it.