

AIRPROX REPORT No 2012161

Date/Time: 9 Nov 2012 1125Z

Position: 5154N 00210W
(Gloucestershire A/D
- elev 101ft)

Airspace: Gloucester ATZ (*Class: G*)

Reporter: Gloucestershire ADC

	<u>1st Ac</u>	<u>2nd Ac</u>
<u>Type:</u>	R44	Bo105

<u>Operator:</u>	Civ Pte	Civ Trg
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<u>Alt/FL:</u>	150ft QNH (1016hPa)	300ft QFE (NR)
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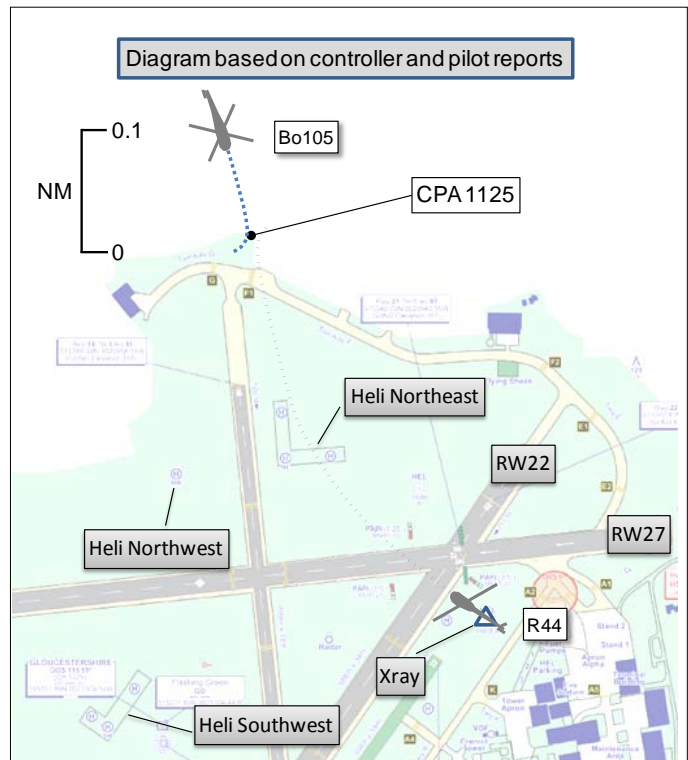
<u>Weather:</u>	VMC CLBC	VMC CLBC
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<u>Visibility:</u>	20km	>10km
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<u>Reported Separation:</u>	150-200ft V 200m H	30ft V/50m H
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Recorded Separation:

NR



CONTROLLER REPORTED

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE GLOUCESTERSHIRE A/D CONTROLLER reports that the R44 pilot taxied but that booking out details had not yet reached him, who enquired whether this was a 'local flight to the north'. The R44 pilot had been given instructions to air-taxi to 'Heli-hold X', but in response to the ADC's question, incorrectly read back 'cross 22 and depart' and immediately transitioned. Pyrotechnic bird-scaring was in progress adjacent to RW18 and another helicopter was hovering at 'Heli Northeast' with the Bo105 pilot flying ccts. As there was no RWY traffic to affect the departure, he elected to allow the R44 pilot to continue his departure. Information was passed on the bird-scaring activity and hovering traffic, which the pilot acknowledged. TI was then passed on the cct traffic, on final approach to 'Heli Northwest', which was not acknowledged. TI was passed to the Bo105 pilot, but as it was passed he was seen to take avoiding action, climbing and turning L, he thought. The R44 pilot then reported having had a 'close encounter with a red air ambulance'. The pilot was advised that he had departed without clearance and Airprox reporting action was initiated.

THE R44 PILOT reports departing Gloucestershire A/D to a private site. He was operating under VFR in VMC in receipt of an A/D Control Service from 'Gloucester Tower' [122.900MHz]. The blue helicopter had a red strobe light selected on, as was the SSR transponder with Modes A and C. The ac was not fitted with an ACAS. He called for clearance for a N'ly departure and was instructed to taxi to 'Xray', a normal procedure. He commented that radio reception was not as clear as usual, that the A/D was busy and that ATC training was being conducted in the Tower, as advised by AFIS information 'Juliet'. Approximately 'half way to 'Xray', he heard his C/S on RT and thought he'd been given clearance to cross RW27 and 22 and take off, a procedure he'd carried out many times before in that direction without incident. He commented that he considered asking ATC to repeat the message, to confirm what he thought had been said, but that the RT was exceptionally busy and, with ATC training taking place as well, he decided not to increase their workload and continued his run. As he started to cross [the RWYs] at low level, ATC advised him 'to be aware of a pyrotechnic team operating on the north east grass area', known as 'Heli Northeast', which was just to the W of

his departure track. His attention was then diverted to their activities and, on clearing them, he started his climb out. When he reached the A/D N boundary, heading 355° at 50kt and about 150m E of RW18, he was confronted with a Bo105 helicopter directly ahead, inbound to the A/D and about 150ft above him. He informed ATC of the incident immediately, whereupon he was told that he had not been given take-off clearance. He noted that, as he crossed the A/D at low level, his view of the incoming Bo105 was obscured by boundary buildings and that his attention was focused on the pyrotechnic team's position.

He assessed the risk of collision as 'Medium'.

He apologised and flew the 5min transit to the private site, where he shut down and telephoned Gloucester ATC. He was informed that they were 'too busy to talk' and, after a further unsuccessful attempt, he conducted his next flying detail and returned to Gloucester A/D. He stated that he had eventually talked with the ATC Controller involved, in order to clarify how the incident had occurred. He was told that the RT call, which he had not heard, was to inform him of the incoming Bo105 and of a pyrotechnic team operating on the N side of the A/D. He queried why the controller hadn't instructed him to stop on hearing his incorrect read-back. The controller stated that, having started his 'run', he was more concerned that he should make him aware of the pyrotechnic team near his intended track. The controller was not aware that he hadn't seen the Bo105. He also queried whether there had been another ac using his call sign, since he had heard it used 'a couple of times', but that its use didn't appear to relate to his flight. The controller could not recall. He stated that he had learned a valuable lesson as to how a number of small errors, individually easily rectified, when brought together, could lead to a chain of events with potentially serious consequences. He also opined that he would have been better advised to ask ATC to repeat the RT transmission, rather than assume its content.

THE BO105 PILOT reports conducting an Operator Proficiency Check (OPC) in the Gloucester A/D RW22 cct, having briefed the student to fly a clear area arrival to Heli Northeast. He was PNF, occupying the L seat, with the student PF in the R seat. He was operating under VFR in VMC with a BS from Gloucester TWR but 'negative R/T' in the cct. The red helicopter had navigation, strobe and landing lights selected on. The SSR transponder was selected on with Modes A, C and S. The ac was not fitted with an ACAS. At approximately ½nm on finals, heading 170° at 60kt, he saw an R44 helicopter, in his L 10.30 position at a range of about 300m, which crossed RW27 from 'point Xray' towards the threshold of RW18, as if to depart the A/D to the N. It became apparent that the 2 helicopters were 'likely to be in close proximity' so he took control, climbed and turned R slightly to effect separation. ATC informed the R44 pilot that he had just taken off without clearance and had also crossed an active RWY (22) without permission.

He assessed the risk of collision as 'High'.

He stated that, in his opinion, had he been flying alone in the R seat a collision would very probably have occurred: an assertion he supported by the fact that the student did not see the R44 until it had passed behind and below them to the N, after the avoidance manoeuvre.

ATSI reports that this Airprox occurred at 1125:08, within the Gloucestershire A/D (Gloster) ATZ, Class G airspace, between a Messerschmitt-Bölkow-Blohm Bo105 DBS-4 (Bo105) helicopter and a Robinson R44 II (R44) helicopter.

Background

The Gloster ATZ comprises a circle radius 2nm, centred on the midpoint of the main RW09/27 and extending to a height of 2000ft aal (elevation 161ft). Other RWYs include 18/36 and 04/22. The Bo105 pilot was operating VFR from Heli Northwest, in the RH visual helicopter cct for RW22 and was on final approach. The R44 pilot had called for lift from the apron on the S side of the A/D (Heliflight one) for a VFR departure to the N. The ATSU was providing a split A/D and APP Control Service from the VCR. Controller training was being provided in A/D control, with a mentor OJTI

retraining an experienced controller. Workload was assessed as medium with RW22 in use. The UK AIP, page AD 2-EGBJ-1-7, paragraph 5, states:

‘(a) Helicopter circuits operate parallel to and inside fixed wing circuits up to a maximum of 750ft QFE, approaching and departing from the helicopter training areas as follows:

Fixed Wing	Rotary
Runway 09/27	Heli Northwest & Northeast
Runway 04/22	Heli Southwest & Northwest
Runway 18/36	Heli Northeast

(b) In order to reduce RT loading and avoid conflict between rotary and fixed-wing circuits, standardised phraseology and procedures are established for helicopter operations. The standardised phrases are assigned the following meanings:

(i) Standard Helicopter Departure: Departure into wind or as required, remaining clear of the fixed-wing runway in use, turning to depart circuit at right angles to runway in use (i.e. beneath downwind leg), not above 750ft QFE, before departing ATZ on required track.

...

(iii) Standard Helicopter Circuits: Circuits to/from most upwind available spot, not above 750ft QFE, negative RT, maintaining a listening watch on ADC frequency.’

CAA ATSI had access to RTF recordings for Gloster Tower and area radar recording, together with the written reports from the two pilots concerned and the Gloster Aerodrome controller. A telephone interview took place with the OJTI controller concerned. The area radar recording showed intermittent traffic in the Gloster circuit, but did not show the Airprox encounter.

The Gloster weather was recorded as follows:

METAR EGBJ 091120Z 21010KT 180V240 9999 FEW020 BKN030 11/05 Q1008=

Factual History

At 1111:48 the Bo105 pilot called for taxi prior to commencing an OPC in the RH helicopter cct for RW22. The Tower controller gave him a clearance to air-taxi to holding point Xray and, at 1114:24, he was cleared to cross RW22 for air-taxi to the helicopter training area ‘Heli-Northwest’.

At 1115:45, the Bo105 pilot called at ‘Heli-Northwest’ ready to commence training. The Tower controller responded, “[Bo105 C/S] *is clear for take-off standard helicopter circuits wind two one zero degrees one zero knots*” and this was acknowledged, “*Clear take off standard helicopter circuits based on two two righthand [Bo105 C/S].*”

The R44 pilot had not previously booked out and, at 1123:03, he established two way RT with the Tower and reported, “*er [R44 C/S] R forty four with information hotel at Heliflight one POB ready to lift for flight to the north*”. The Tower controller responded, “[R44 C/S] *Gloster Tower lift air-taxi to Xray*” and this was acknowledged, “*Taxi Xray [R44 C/S]*”.

As the R44 pilot air-taxied to Xray, the Bo105 pilot was in the RH visual helicopter cct for RW22. In addition, another helicopter was operating at the Heli Northeast training area and pyrotechnic bird scaring was in progress adjacent to RW18. The controller had intended to pass essential aerodrome and traffic information to the R44 pilot prior to approving the crossing of RW22 and then a take-off clearance in accordance with the ‘Standard Helicopter Departure’ procedure.

When questioned, the OJTI indicated that after the issue of the appropriate information and clearance, his expectation was that the R44 pilot would have crossed RW22, turning L into wind, making an earlier R turn to clear the cct before then turning N. The controller indicated that, as the R44 pilot had not booked out, he wanted to confirm the flight was local i.e. departing from and returning to Gloster. At 1124:28 the Tower controller transmitted, “[R44 C/S] *confirm it’s a local flight er*” and the R44 pilot replied, “[R44 C/S] *cross er two two to er flight to north*”.

When questioned, the OJTI indicated that the R44 pilot had been air-taxiing quite fast towards Xray (25-30 knots) and when the pilot was asked to confirm it was a local flight, he immediately increased speed and transitioned to cross the RWY. The Tower controller elected to allow the R44 pilot to continue across the RWY and, 5sec after the incorrect transmission, at 1124:40, the controller passed essential aerodrome and traffic information, “[R44 C/S] *the heli-the vehicle at Heli-North will be letting off some pyrotechnics shortly and there’s a Schweizer operating from Heli-Northeast and Heli-Southwest*”. The R44 pilot acknowledged, “*Copied that [R44 C/S] I will be clear of that in a few seconds*”.

At 1124:56, the following RTF exchange occurred:

Tower “[R44 C/S] *are you visual with the er Bolkow on final Heli South*”

[The OJTI could not recall that Heli South had been specified, instead of Heli Northwest. However the R44 pilot had immediately reported the Bo105 in sight.]

R44 “*Visual [R44 C/S]*”

Tower “[Bo105 C/S] *you visual with the departing Robinson*”

[The controller observed the Bo105 taking avoiding action]

R44 “*Yes very close encounter [R44 C/S] with incoming er [Bo105 C/S]*”

Tower “*And [R44 C/S] you weren’t actually given a clearance to cross the runway or depart*”

R44 “*... begging your pardon [R44 C/S] I thought you’d given me clearance*”

The Bo105 pilot’s written report indicated that, when on final at 0.5nm, he had observed the R44 on a N’ly track crossing RW27 and converging. The Bo105 pilot continued to monitor the R44 and judged that it was likely to be in close proximity. The Bo105 pilot elected to avoid the R44 by taking control and climbing and turning slightly to the R.

The R44 pilot’s written report indicated that, after he had lifted and started to cross the runway he received a transmission about the pyrotechnics. The R44 pilot indicated that his attention was diverted to looking for the pyrotechnic activity, following which he started to climb and observed the Bo105 about 150 feet above. He had reported hearing a similar C/S being used a couple of times previously and wondered if another ac had used it. A detailed analysis of the RTF recordings from 1111:00, until 1126:12, when the R44 was transferred to APP, showed that no other ac had used a similar C/S and that the Tower controller only used the R44 C/S when communicating with the R44 pilot as stated above.

The controller asked the Bo105 pilot to contact ATC after landing and at 1126:12, the R44 pilot was transferred to Gloster APP [128.550MHz].

Analysis

The controller cleared the R44 pilot to hold at Xray with the intention of passing aerodrome and traffic information prior to departure. It is not clear why the R44 pilot misunderstood the transmission “*confirm it’s a local flight*” to be an executive clearance, which would have included a take-off clearance and use of the ‘Standard Helicopter Departure’ terminology and surface wind check. The R44 pilot indicated that he had conducted this same procedure many times. It is possible that he may have been conditioned to expect a crossing and take off clearance at this point.

The controller’s normal course of action would have been to correct the read back and reiterate the instruction to hold at Xray. However, the R44 pilot had already started to transition and cross the RWY immediately after making the incorrect transmission. His written statement indicated that, as he crossed the RWY, the Tower controller told him about the pyrotechnics, some 5sec after his incorrect transmission.

The R44 pilot was already crossing the RWY and the controller allowed him to continue. In the limited time available, the controller passed essential information on the pyrotechnics and other ac operating at Heli Northeast and Heli Southwest. The controller then asked the R44 and Bo105 pilots if they were visual with each other.

Conclusions

The Airprox occurred when the R44 pilot mistakenly assumed that he had been given take off clearance and immediately transitioned from air-taxiing to depart, crossing RW22 and into conflict with the Bo105 pilot operating in the 'Standard Helicopter Circuit' for RW22.

The R44 pilot was already crossing the RWY when the controller passed essential TI, asking whether the R44 and Bo105 pilots were visual with each other. Under normal circumstances this would have been passed in a timely manner prior to the issue of a crossing and take off clearance.

The R44 pilot did not book out with ATC in advance and the R44 pilot's first communication with ATC was by RTF requesting lift for departure to the N. This is considered to have been a contributory factor.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, recordings of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controller involved and reports from the appropriate ATC authorities.

The Board first considered the actions of the R44 pilot and agreed with his analysis that a series of relatively small errors, including a lapse of concentration due to familiarity with a seemingly routine procedure, had compounded to result in a serious near-miss with the Bo105. The lack of booking-out notification caused confusion in the ADC's mind, prompting a query over the RT, leading to a misunderstood call and assumption of its content, resulting in commencement of the R44 pilot's T/O. Once the ADC realised the R44 pilot had commenced his T/O, he was faced with the need to make a quick decision to either allow him to continue or to attempt to stop him. He opted for the former course of action and advised the pilot of what he perceived to be the greatest threat, namely the pyrotechnic team at Heli Northeast. ATC Members noted that individual circumstances would indicate a preferable course of action and that the ADC's response allowed the R44 pilot to vacate the A/D; an attempt to halt his T/O had the potential for the helicopter to end up stopping on the busy A/D manoeuvring area and possibly causing further conflict. The ADC then questioned whether the helicopter pilots were visual with one another, with the Bo105 pilot taking avoiding action first and resolving the conflict.

The Board considered this Airprox to be the result of a series of interlinked errors, resulting in the R44 pilot departing without clearance. He had, by his own admission, some misgivings about the clarity of RT before he commenced his T/O and in the process has been afforded the opportunity to learn a valuable lesson. The Board unanimously agreed that although avoiding action was taken, safety margins had been much reduced below the normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The R44 pilot departed without clearance and flew into conflict with the Bo105 on final approach.

Degree of Risk: B.